BNSF Ono Lead Track Extension Project

Draft Environmental Impact Report

March 2021

Prepared By

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DRAFT ENVIRONMENTAL IMPACT REPORT

BNSF ONO LEAD TRACK EXTENSION PROJECT

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Table of Contents

ES EXECUTIVE SUMMARY ES-1
ES.1 Project Location ES-1
ES.2 Project Summary ES-1
ES.3 Goals and Objectives ES-2
ES.4 Environmental Issues/Mitigation Summary ES-3
ES.5 Significant Unavoidable Impacts ES-26
ES.6 Summary of Project Alternatives ES-26
ES.6.1 "No Project/No Construction" Alternative ES-26
ES.6.2 "No Project/Existing Land Use Designations" Alternative ES-26
ES.6.3 "Reduced Footprint" Alternative ES-26
ES.6.4 Environmentally Superior Alternative ES-26
ES.7 Areas of Controversy and Issues to be Resolved ES-27
1.0 INTRODUCTION 1.0-1
1.1 Purpose of the EIR 1.0-1
1.2 Compliance with CEQA 1.0-2
1.3 Notice of Preparation/Early Consultation 1.0-2
1.4 Public Review – Compliance with CEQA 1.0-4
1.5 Format of the EIR 1.0-5
1.6 Responsible and Trustee Agencies 1.0-6
1.7 Incorporation by Reference 1.0-7
2.0 PROJECT DESCRIPTION 2.0-1
2.0.1 Introduction 2.0-1
2.1 Project Overview 2.0-1
2.2 Project Location AND Environmental Setting 2.0-2
2.2.1 Project Location 2.0-2
2.2.2 Environmental Setting 2.0-7

2.3 History and Background 2.0-10
2.4 Project Goals and Objectives 2.0-10
2.5 Project Characteristics 2.0-10
2.5.1 Fourth Lead Track Extension 2.0-11
2.5.2 Stormwater Drainage/Water Quality Improvements 2.0-11
2.5.3 Circulation/Roadway Improvements/Modifications 2.0-11
2.5.4 Signal Improvements/Modifications 2.0-12
2.5.5 Utility Modifications 2.0-13
2.5.6 Property Acquisitions 2.0-13
2.6 Project Construction 2.0-13
2.6.1 Phasing and Schedule 2.0-13
2.6.2 Construction Methods 2.0-14
2.6.3 Construction Monitoring 2.0-14
2.6.4 Cleanup 2.0-14
2.7 Intended Uses of this EIR 2.0-15
2.8 Anticipated Agreements, Permits, and Approvals 2.0-15
3.0 BASIS FOR CUMULATIVE ANALYSIS 3.0-1
3.1 Introduction 3.0-1
3.2 General Plan Projections 3.0-2
4.0 ENVIRONMENTAL ANALYSIS 4.0-1
4.1 AESTHETICS 4.1-1
4.1.1 Introduction 4.1-1
4.1.2 Affected Environment 4.1-2
4.1.3 Regulatory Framework 4.1-17
4.1.4 Significance Criteria and Thresholds 4.1-20
4.1.5 Impacts and Mitigation Measures 4.1-21
4.1.6 Cumulative Impacts 4.1-25
4.1.7 Significant Unavoidable Impacts 4.1-25
4.1.8 References 4.1-25

4.2 AIR QUALITY 4.2-1
4.2.1 Introduction 4.2-1
4.2.2 Affected Environment 4.2-1
4.2.3 Regulatory Framework 4.2-9
4.2.4 Significance Criteria and Thresholds 4.2-22
4.2.5 Impacts and Mitigation Measures 4.2-30
4.2.6 Cumulative Impacts 4.2-44
4.2.7 Significant Unavoidable Impacts 4.2-45
4.2.8 References 4.2-45
4.3 BIOLOGICAL RESOURCES 4.3-1
4.3.1 Introduction 4.3-1
4.3.2 Affected Environment 4.3-1
4.3.3 Regulatory Framework 4.3-31
4.3.4 Significance Criteria and Thresholds 4.3-35
4.3.5 Impacts and Mitigation Measures 4.3-37
4.3.6 Cumulative Impacts 4.3-42
4.3.7 Significant Unavoidable Impacts 4.3-43
4.3.8 References 4.3-43
4.4 CULTURAL RESOURCES 4.4-1
4.4.1 Introduction 4.4-1
4.4.2 Affected Environment 4.4-3
4.4.3 Regulatory Framework 4.4-14
4.4.4 Significance Criteria and Thresholds 4.4-22
4.4.5 Impacts and Mitigation Measures 4.4-23
4.4.6 Cumulative Impacts 4.4-27
4.4.7 Significant Unavoidable Impacts 4.4-27
4.4.8 References 4.4-28
4.5 ENERGY 4.5-1
4.5.1 Introduction 4.5-1

4.5.2 Affected Environment....4.5-1
4.5.3 Regulatory Framework....4.5-4
4.5.4 Significance Criteria and Thresholds....4.5-8
4.5.5 Impacts and Mitigation Measures....4.5-9
4.5.6 Cumulative Impacts....4.5-14
4.5.7 Significant Unavoidable Impacts....4.5-14
4.5.8 References....4.5-14
4.6 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES....4.6-1
4.6.1 Introduction....4.6-1
4.6.2 Affected Environment....4.6-1
4.6.3 Regulatory Framework....4.6-7
4.6.4 Significance Criteria and Thresholds....4.6-12
4.6.5 Impacts and Mitigation Measures....4.6-13
4.6.6 Cumulative Impacts....4.6-20
4.6.7 Significant Unavoidable Impacts....4.6-21
4.6.8 References....4.6-21
4.7 GREENHOUSE GAS EMISSIONS....4.7-1
4.7.1 Introduction....4.7-1
4.7.2 Affected Environment....4.7-1
4.7.3 Regulatory Framework....4.7-4
4.7.4 Significance Criteria and Thresholds....4.7-16
4.7.5 Impacts and Mitigation Measures....4.7-20
4.7.6 Cumulative Impacts....4.7-27
4.7.7 Significant Unavoidable Impacts....4.7-28
4.7.8 References....4.7-28
4.8 HAZARDS AND HAZARDOUS MATERIALS....4.8-1
4.8.1 Introduction....4.8-1
4.8.2 Affected Environment....4.8-1
4.8.3 Regulatory Framework....4.8-9

4.8.4 Significance Criteria and Thresholds 4.8-17
4.8.5 Impacts and Mitigation Measures 4.8-18
4.8.6 Cumulative Impacts 4.8-25
4.8.7 Significant Unavoidable Impacts 4.8-26
4.8.8 References 4.8-26
4.9 HYDROLOGY AND WATER QUALITY 4.9-1
4.9.1 Introduction 4.9-1
4.9.2 Affected Environment 4.9-1
4.9.3 Regulatory Framework 4.9-8
4.9.4 Significance Criteria and thresholds 4.9-15
4.9.5 Impacts and Mitigation Measures 4.9-21
4.9.6 Cumulative Impacts 4.9-34
4.9.7 Significant Unavoidable Impacts 4.9-36
4.9.8 References 4.9-36
4.10 LAND USE AND PLANNING 4.10-1
4.10.1 Introduction 4.10-1
4.10.2 Affected Environment 4.10-1
4.10.3 Regulatory Framework 4.10-3
4.10.4 Significance Criteria and Thresholds 4.10-5
4.10.5 Impacts and Mitigation Measures 4.10-5
4.10.6 Cumulative Impacts 4.10-10
4.10.7 Significant Unavoidable Impacts 4.10-10
4.10.8 References 4.10-11
4.11 NOISE 4.11-1
4.11.1 Introduction 4.11-1
4.11.2 Affected Environment 4.11-1
4.11.3 Regulatory Framework 4.11-9
4.11.4 Significance Criteria and thresholds 4.11-21
4.11.5 Impacts and Mitigation Measures 4.11-23

4.11.6 Cumulative Impacts 4.11-49
4.11.7 Significant Unavoidable Impacts 4.11-51
4.11.8 References 4.11-51
4.12 POPULATION AND HOUSING 4.12-1
4.12.1 Introduction 4.12-1
4.12.2 Affected Environment 4.12-1
4.12.3 Regulatory Framework 4.12-5
4.12.4 Significance Criteria and Thresholds 4.12-9
4.12.5 Impacts and Mitigation Measures 4.12-10
4.12.6 Cumulative Impacts 4.12-17
4.12.7 Significant Unavoidable Impacts 4.12-18
4.12.8 References 4.12-18
4.13 PUBLIC SERVICES AND RECREATION 4.13-1
4.13.1 Introduction 4.13-1
4.13.2 Affected Environment 4.13-1
4.13.3 Regulatory Framework 4.13-4
4.13.4 Significance Criteria Under CEQA 4.13-6
4.13.5 Impacts and Mitigation Measures 4.13-7
4.13.6 Cumulative Impacts 4.13-10
4.13.7 Significant Unavoidable Impacts 4.13-11
4.13.8 References 4.13-11
4.14 TRANSPORTATION 4.14-1
4.14.1 Introduction 4.14-1
4.14.2 Affected Environment 4.14-1
4.14.3 Regulatory Framework 4.14-17
4.14.4 Significance Criteria and Thresholds 4.14-22
4.14.5 Impacts and Mitigation Measures 4.14-27
4.14.6 Cumulative Impacts 4.14-36
4.14.7 Significant Unavoidable Impacts 4.14-37

4.14.8 References 4.14-37
4.15 TRIBAL CULTURAL RESOURCES 4.15-1
4.15.1 Introduction 4.15-1
4.15.2 Affected Environment 4.15-1
4.15.3 Regulatory Framework 4.15-2
4.15.4 Significance Criteria Under CEQA 4.15-5
4.15.5 Impacts and Mitigation Measures 4.15-6
4.15.6 Cumulative Impacts 4.15-7
4.15.7 Significant Unavoidable Impacts 4.15-8
4.15.8 References 4.15-8
4.16 UTILITIES AND SERVICE SYSTEMS 4.16-1
4.16.1 Introduction 4.16-1
4.16.2 Affected Environment 4.16-1
4.16.3 Regulatory Framework 4.16-4
4.16.4 Significance Criteria and Thresholds 4.16-8
4.16.5 Impacts and Mitigation Measures 4.16-9
4.16.6 Cumulative Impacts 4.16-18
4.16.7 Significant Unavoidable Impacts 4.16-19
4.16.8 References 4.16-20
5.0 OTHER CEQA CONSIDERATIONS 5.0-1
5.1 Long-Term Implications of the Proposed Project 5.0-1
5.2 Significant Irreversible Environmental Changes that Would be Involved in the Proposed Project Should it be Implemented 5.0-1
5.3 GROWTH-INDUCING IMPACTS 5.0-2
6.0 ALTERNATIVES TO THE PROPOSED PROJECT 6.0-1
6.0.1 Project Summary 6.0-2
6.0.2 Project Objectives 6.0-2
6.0.3 Project Significant and Unavoidable Impacts 6.0-2
6.0.4 Project Alternatives 6.0-2

6.1 "NO PROJECT" ALTERNATIVE 6.1-3
6.1.1 "No Project/No Construction" Alternative 6.1-3
6.1.2 "No Project/Existing Land Use Designations" Alternative 6.1-10
6.2 "REDUCED FOOTPRINT" ALTERNATIVE 6.2-19
6.3 ALTERNATIVES CONSIDERED, BUT REJECTED 6.3-54
6.4 "ENVIRONMENTALLY SUPERIOR" ALTERNATIVE 6.4-54
7.0 EFFECTS FOUND NOT TO BE SIGNIFICANT 7.0-1
7.1 Agriculture and Forestry Resources 7.0-1
7.2 Mineral Resources 7.0-2
7.3 Wildfire 7.0-2
8.0 LIST OF PREPARERS 8.0-1
8.1 Lead Agency 8.0-1
8.2 Applicant 8.0-1
8.3 Lead Consultant 8.0-1
8.4 Technical Consultants 8.0-2

9.0 APPENDICES (under separate cover)

9.1 Land Use Matrix 9.1-1
9.2 Notice of Preparation and Comment Letters 9.2-1
9.3 Air Quality Assessment 9.3-1
9.4 Biological Resources Data 9.4-1
9.5 Cultural Resources Data 9.5-1
9.6 Geotechnical and Paleontological Data 9.6-1
9.7 Greenhouse Gas Emissions Assessment 9.7-1
9.8 Hazardous Materials Technical Memo 9.8-1
9.9 Hydrology and Water Quality Data 9.9-1
9.10 Noise and Vibration Assessment 9.10-1
9.11 Transportation Analysis 9.11-1
9.12 Tribal Communications 9.12-1

LIST OF TABLES

Table Es-1: Summary Of Project Impacts And Mitigation Measures ES-3
Table 2-1: Project Segments 2.0-7
Table 2-2: Summary Of Existing Land Uses 2.0-8
Table 2-3: Summary Of Surrounding Land Uses 2.0-9
Table 2-4: Anticipated Agreements, Permits, And Approvals 2.0-15
Table 4.2-1: Ambient Air Quality Data 4.2-6
Table 4.2-2: Existing Locomotive Emissions (Maximum Pounds Per Day) 4.2-7
Table 4.2-3: Sensitive Receptors 4.2-8
Table 4.2-4: Summary Of Ambient Air Quality Standards 4.2-13
Table 4.2-5: South Coast Air Basin Attainment Status 4.2-20
Table 4.2-6: South Coast Air Quality Management District Emission Thresholds 4.2-23
Table 4.2-7: Locomotive Fleet Mix 4.2-28
Table 4.2-8: Construction-Related Emissions (Maximum Pounds Per Day) 4.2-32
Table 4.2-9: Operational Locomotive Idling Emissions (Maximum Pounds Per Day) 4.2-34
Table 4.2-10: Equipment-Specific Grading Rates 4.2-36
Table 4.2-11: Localized Significance Of Construction Emissions (Maximum Pounds Per Day) 4.2-37
Table 4.2-12: Construction Emissions Dispersion Modeling Results 4.2-38
Table 4.2-13: Construction Health Risk Results 4.2-40
Table 4.2-14: Operational Health Risk Results 4.2-41
Table 4.3-1: Vegetation Communities And Other Areas 4.3-2
Table 4.3-2: Special-Status Species – Potential For Occurrence 4.3-15
Table 4.3-3: RWQCB Potential Jurisdictional Resources Within The Survey And Impacts Areas 4.3-24
Table 4.3-4: CDFW Potential Jurisdictional Resources Within The Survey And Impact Areas 4.3-24
Table 4.3-5: Potential Impacts On Vegetation Communities And Other Areas 4.3-38
Table 4.4-1: Previously Identified Cultural Resources 4.4-9
Table 4.4-2: Addendum 2019 Building Data Summary 4.4-10

Table 4.5-1: Electric Power Mix Delivered To Sce Retail Customers (2017) 4.5-2
Table 4.5-2: Existing Condition Fuel Consumption 4.5-4
Table 4.5-3: Project Construction Energy Consumption 4.5-10
Table 4.5-4: Project Condition Fuel Consumption 4.5-12
Table 4.6-1: BNSF Earthquake Response Protocol 4.6-14
Table 4.7-1: SAR GWP Values (100-Year Time Horizon) 4.7-2
Table 4.7-2: California GHG Emissions Inventory (Million Metric Tons Of Co2e) 4.7-4
Table 4.7-3: Construction-Related Greenhouse Gas Emissions 4.7-20
Table 4.7-4: Project Greenhouse Gas Emissions 4.7-21
Table 4.7-5: Regional Transportation Plan/Sustainable Communities Strategy Consistency 4.7-23
Table 4.7-6: Project Consistency With Applicable Carb Scoping Plan Measures 4.7-25
Table 4.9-1: Drainage Area - Existing Conditions 4.9-2
Table 4.9-2: Volume And Flow Rates: Existing Conditions 4.9-2
Table 4.9-3: Design Option 1: Infiltration Basins Boundary Area And Storage Volume 4.9-24
Table 4.9-4: Design Option 2a 4.9-29
Table 4.9-5: Design Option 2b 4.9-30
Table 4.9-6: Design Options 2a And 2b Comparative Analysis 4.9-31
Table 4.9-7: Hydrology Study & Drainage Devices Summary Table 4.9-32
Table 4.10-1: Roadway Improvements And Impacts 4.10-6
Table 4.10-2: City Of San Bernardino General Plan 2005 Consistency 4.10-7
Table 4.11-1: Railroad Noise Levels – Existing Conditions 4.11-4
Table 4.11-2: Noise Monitoring Results 4.11-5
Table 4.11-3: Summary Of U.S. Epa/Federal Railroad Administration Railroad Noise Standards 4.11-10
Table 4.11-4: Land Use Categories And Metrics For Transit Noise Impact Criteria 4.11-11
Table 4.11-5: Ground-Borne Vibration And Noise Impact For Affected Communities Land Use Category 4.11-14
Table 4.11-6: Construction Vibration Building Damage Criteria 4.11-15
Table 4.11-7: Interior And Exterior Noise Standards 4.11-20
Table 4.11-8: Construction Staging Areas 4.11-24

Table 4.11-9: Typical Construction Noise Levels....4.11-32

Table 4.11-10: Nearest Sensitive Receptors To Project Construction Limits....4.11-33

Table 4.11-11: Railroad Noise Levels – Existing Plus Project Conditions....4.11-41

Table 4.11-12: Typical Construction Equipment Vibration Levels....4.11-47

Table 4.11-13: Railroad Vibration Levels – Existing Plus Project Conditions....4.11-48

Table 4.12-1: Population Estimates (2012-2040)....4.12-2

Table 4.12-2: Household Estimates (2012-2040)....4.12-2

Table 4.12-3: Housing Stock (2020)....4.12-3

Table 4.12-4: City Of San Bernardino Regional Housing Needs Assessment Allocation: (2013-2021)....4.12-4

Table 4.12-5: County Of Employment (2012-2040)....4.12-4

Table 4.12-6: Employment And Labor Force (2019)....4.12-4

Table 4.12-7: Jobs To Housing Balance For County Of San Bernardino And City Of San Bernardino....4.12-5

Table 4.12-8: Residential Property Acquisitions....4.12-12

Table 4.12-9: Existing Employment - Lost....4.12-15

Table 4.12-10: Future Projects Related To Automotive Commercial Uses....4.12-16

Table 4.13-1: Fire Stations In Project Vicinity....4.13-2

Table 4.13-2: Police Districts And Stations In Project Vicinity....4.13-2

Table 4.14-1: Operational Characteristics Associated With Each Los Category For Signalized And Unsignalized Intersections....4.14-24

Table 4.14-2: Roadway Level Of Service Criteria....4.14-24

Table 4.14-3: Trip Generation Rates And Estimates....4.14-28

Table 4.14-4: Construction Trucks Summary....4.14-28

Table 4.14-5: Project And Construction Phase Trip Generation....4.14-29

Table 4.16-1: Sbmwd Projected Water Supplies (AFY)....4.16-2

Table 4.16-2: Conflicting Utility Facilities....4.16-9

Table 4.16-3: Project Operational Water Demands....4.16-15

Table 4.16-4: Project Operational Wastewater Generation....4.16-16

Table 4.16-5: Landfills Serving The Project Site....4.16-18

Table 4.16-6: Project Operational Solid Waste Generation....4.16-18

Table 5-1: Jobs-Housing Balance For San Bernardino County And San Bernardino....5.0-5

Table 6-1: Existing Land Use Designations And Development Capacities....6.0-11

Table 6-2: Comparison Of Proposed Project And No Project/
Existing Land Use Designations Alternative....6.0-11

Table 6-3: Comparison Of Street Vacations For Proposed Project and
Reduced Footprint Alternative....6.0-47

Table 6-4: Comparison Of Acquisitions For Proposed Project And Reduced Footprint Alternative....6.0-48

Table 6-5: Comparison Of Alternatives....6.0-55

Table 6-6: Alternatives Ability To Meet Project Objectives....6.0-56

LIST OF EXHIBITS

Exhibit 2-1: Regional Vicinity Map....2.0-3

Exhibit 2-2: Local Vicinity Map....2.0-5

Exhibit 2-3: Key Map....2.0-17

Exhibit 2-3a: Segment 01....2.0-19

Exhibit 2-3b: Segment 02....2.0-21

Exhibit 2-3c: Segment 03....2.0-23

Exhibit 2-3d: Segment 04....2.0-25

Exhibit 2-3e: Segment 05....2.0-27

Exhibit 2-3f: Segment 06....2.0-29

Exhibit 2-3g: Segment 07....2.0-31

Exhibit 2-3h: Segment 08....2.0-33

Exhibit 2-3i: Segment 09....2.0-35

Exhibit 2-3j: Segment 10....2.0-37

Exhibit 2-3k: Segment 11....2.0-39

Exhibit 2-3l: Segment 12....2.0-41

Exhibit 4.1-1a: Project Site Photographs....4.1-3

Exhibit 4.1-1b: Project Site Photographs....4.1-5

Exhibit 4.1-1c: Project Site Photographs. 4.1-7
Exhibit 4.1-1d: Project Site Photographs. 4.1-9
Exhibit 4.1-1e: Project Site Photographs. 4.1-11
Exhibit 4.1-1f: Project Site Photographs. 4.1-13
Exhibits 4.1-1g: Project Site Photographs 4.1-15
Exhibit 4.2-1: Environmental Justice Communities 4.2-11
Exhibit 4.3-1a: Vegetation Communities 4.3-3
Exhibit 4.3-1b: Vegetation Communities 4.3-5
Exhibit 4.3-1c: Vegetation Communities 4.3-7
Exhibit 4.3-1d: Vegetation Communities 4.3-9
Exhibit 4.3-1e: Vegetation Communities 4.3-11
Exhibit 4.3-1f: Vegetation Communities 4.3-13
Exhibit 4.3-2: CNDDB Plants and Wildlife Locations 4.3-19
Exhibit 4.3-3: USFWS Plants and Wildlife Locations 4.3-21
Exhibit 4.3-4a: Jurisdictional Delineation 4.3-27
Exhibit 4.3-4b: Jurisdictional Delineation 4.3-29
Exhibit 4.6-1: Regional Faults 4.6-3
Exhibit 4.9-1: Topography Map 4.9-3
Exhibit 4.9-2: Hydrology Map 4.9-5
Exhibit 4.9-3 Design Option 1 ..... 4.9-17
Exhibit 4.9-4 Design Option 2 ..... 4.9-19
Exhibit 4.11-1: Noise Measurement Locations 4.11-7
Exhibit 4.11-2: Noise Impact Criteria For Transit Projects 4.11-12
Exhibit 4.11-3: Increase In Cumulative Noise Levels Allowed By Criteria (Land Use Categories 1 & 2) 4.11-13
Exhibit 4.11-4: Land Use Compatibility for Community Noise Exposure 4.11-19
Exhibit 4.11-5: Staging Area 1 ..... 4.11-26
Exhibit 4.11-6: Staging Area 2 ..... 4.11-28
Exhibit 4.11-7: Staging Area 3 ..... 4.11-30

Exhibit 4.11-9: Nearest Sensitive Receptors, Existing Conditions 4.11-34
Exhibit 4.11-10: Nearest Sensitive Receptors, Future Conditions 4.11-39
Exhibit 4.11-8: Sound Walls 4.11-43
Exhibit 4.14-1: Omnitrans Bus Routes 4.14-5
Exhibit 4.14-2: Non-Omnitrans Bus Routes 4.14-9
Exhibit 4.14-3: Metrolink Routes 4.14-11
Exhibit 4.14-4: Bicycle Facilities 4.14-13
Exhibit 4.14-5: San Bernardino Roadway Classifications 4.14-15
Exhibit 4.16-1: Preliminary Utilities Layout 4.16-13
Exhibit 6-1: Reduced Footprint Alternative 6.0-21
Exhibit 6-1a: Reduced Footprint Alternative – Segment 1 ..... 6.0-23
Exhibit 6-1b: Reduced Footprint Alternative – Segment 2 ..... 6.0-25
Exhibit 6-1c: Reduced Footprint Alternative – Segment 3 ..... 6.0-27
Exhibit 6-1d: Reduced Footprint Alternative – Segment 4 ..... 6.0-29
Exhibit 6-1e: Reduced Footprint Alternative – Segment 5 ..... 6.0-31
Exhibit 6-1f: Reduced Footprint Alternative – Segment 6 ..... 6.0-33
Exhibit 6-1g: Reduced Footprint Alternative – Segment 7 ..... 6.0-35
Exhibit 6-1h: Reduced Footprint Alternative – Segment 8 ..... 6.0-37
Exhibit 6-1i: Reduced Footprint Alternative – Segment 9 ..... 6.0-39
Exhibit 6-1j: Reduced Footprint Alternative – Segment 10 ..... 6.0-41
Exhibit 6-1k: Reduced Footprint Alternative – Segment 11 ..... 6.0-43
Exhibit 6-1l: Reduced Footprint Alternative – Segment 12 ..... 6.0-45

ES EXECUTIVE SUMMARY

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ES.1 PROJECT LOCATION

The Project site is in the southwest portion of the County of San Bernardino (County), in the City's southwest portion. The Project area extends approximately 4.3 linear miles along the BNSF Railway Company ("BNSF" or "Project Applicant") corridor adjacent to/west of Interstate 215 (I-215). The Project site is comprised of two dis-contiguous segments (i.e., southern and northern). The southern segment (southern track segment) comprises most of the Project site, is separated from the northern track segment by approximately 1.2 linear miles. The Project area's northern terminus is at the BNSF overpass at State Street/University Parkway and its southern terminus is at West 5th Street, just north of the existing BNSF San Bernardino Intermodal Facility (SBD Intermodal) A Yard (A Yard). Within those limits, the proposed northern and southern track segments are as follows:

- Northern track segment: approximately 0.3 linear miles, MP 76.5 to MP 76.8,
- Southern track segment: approximately 2.8 linear miles, MP 78.0 to MP 80.8, and
- Gap between northern and southern track segments: approximately 1.2 linear miles, MP 76.8 to MP 78.0, where no improvements are proposed.

The Project site is generally north of the City of Colton, south of Muscoy (an unincorporated County community), east of the City of Rialto, and along/west of I-215.

The approximately 41-acre Project area includes existing BNSF ROW and adjacent properties where ground disturbances (including temporary construction staging) and/or property acquisitions would occur. To facilitate descriptions and analyses in this EIR, the Project area has been divided into 12 segments, which are described in **Section 2.3.1**. Segment 1 comprises the northern track segment, while Segments 2 to 12 comprise the southern track segment.

ES.2 PROJECT SUMMARY

BNSF proposes to install a fourth lead track extending the A Yard lead track to two existing Ono Storage Sidings. A continuous lead track would be created, closing the existing gap between the Ono Storage Sidings and improving the flow of trains in and out of the A Yard. The Project does not propose to increase rail line operations; instead it would improve the A Yard's operational efficiency by: improving the A Yard's ability to assemble and hold outbound trains, as well as move around railroad cars without obstructing mainline movements; reducing train congestion along the existing lead tracks; and reducing train idling, as they wait to enter and exit the A Yard. With the proposed improvements, the A Yard would have capacity to assemble and hold outbound trains and switch out the yard without fouling the mainline.

The proposed fourth lead track would be constructed within/along approximately 4.3 miles of existing BNSF corridor generally from the BNSF overpass at State Street/University Parkway on the north to the existing SBD Intermodal. The existing approximately 0.18-mile A Yard lead track, which runs parallel to three existing mainline tracks, would be extended by approximately 3.1miles. Inclusive of the proposed extension, the lead track would total approximately 5.6 miles. Various improvements/modifications (i.e., stormwater drainage/water quality, circulation/roadway, signal, sound walls, and utility) that are ancillary and related to the lead track extension are also proposed. To accommodate the proposed improvements

partial and full property acquisitions would be required outside the BNSF corridor, and City right-of-way (ROW) within the BNSF corridor would be vacated and conveyed to BNSF, the track owner. To accommodate the proposed improvements, the Project would require circulation and roadway improvements/modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs. The Project also proposes to either: (a) reinstate and extend a pre-existing franchise to construct, operate, and maintain a portion of an existing lead track in the City, between 4th Street and the City's northern boundary, as the boundary existed in 1906; or (b) vacate the railroad bed and convey title of the same to the Project Applicant. Project construction is proposed to occur in one phase and is anticipated to begin in approximately the first quarter of 2022 and be completed by the first quarter of 2024. **Section 2.6: Project Characteristics**, describes the proposed Project in detail.

ES.3 GOALS AND OBJECTIVES

State CEQA Guidelines §15124(b) requires that the project description contain a statement of objectives, including the proposed Project's purpose.

The purpose of the Ono Lead Track Extension Project is to enhance the BNSF Intermodal A Yard's efficiency in accommodating train traffic entering and exiting the A Yard and servicing the BNSF east-west corridor to enhance the effectiveness of goods movement. The specific Project objectives are to:

A. Enhance the effectiveness of goods movement by increasing efficiency of train traffic entering/exiting the A Yard in service of BNSF's east-west corridor.

B. Improve safety and operational efficiency for the critical BNSF east-west corridor.

C. Relieve traffic congestion along the three existing lead tracks that serve the BNSF east-west corridor by connecting two existing Ono Storage Sidings located near the State Street/University Parkway Grade Separation.

D. Improve long-term operational air emissions by improved efficiency/reduced train idling, as they wait to enter and exit the A Yard.

E. Maintain adequate local and emergency access to land uses adjacent to/west of the Project site.

F. Reinstate/extend the pre-existing franchise to construct, operate, and maintain an existing lead track in the City of San Bernardino, between 4th Street and the City's northern boundary, as the northern boundary existed in 1906, or in the alternative, vacate the railroad bed and convey title of same to the Project Applicant.

ES.4 ENVIRONMENTAL ISSUES/MITIGATION SUMMARY

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
4.1 Aesthetics			
Impact 4.1-1: Would the Project have a substantial adverse effect on a scenic vista?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.1-2: Would the Project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a State Scenic Highway?	No impact	No mitigation measures are required	No impact
Impact 4.1-3: In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.1-4: Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less than significant	No mitigation measures are required	Less than significant
4.2 Air Quality			
Impact 4.2-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.2-2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Significant	**MM AQ-1**: Prior to Grading Permit issuance, the construction contractor shall provide evidence to the City of San Bernardino Planning Division and City Traffic Engineer that the following measures will be implemented during construction: a) Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		b) Provide dedicated turn lanes for movement of construction trucks and equipment both on and off of the Project site. c) Improve traffic flow by signal synchronization and ensure that all vehicles and equipment will be properly tuned and maintained according to manufacturers' specifications. d) Require the use of electricity from power poles rather than temporary diesel or gasoline-powered generators, as feasible. e) Require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the lead agency shall use trucks that meet EPA 2007 model year NOX emissions requirements. Note that CARB's Truck and Bus regulation specifies that trucks and buses shall be required to have 2010 or newer model year engines by January 1, 2023. f) During Project construction, all internal combustion engines/construction, equipment operating on the Project site shall meet EPA-Certified Tier 4 emissions standards, or higher according to the following: ▪ All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 4 final off-road emissions standards. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by	

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		a Level 4 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. ▪ A copy of each unit's certified tier specification, BACT documentation, and CARB or South Coast AQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. ▪ During construction, the Construction Contractor shall maintain a list of all on-site operating equipment for City verification. The on-site construction equipment list shall specify the equipment makes, models, and quantities. The reporting and maintenance records for each equipment shall be available for inspection and remain on-site for at least two years after completion of construction.	
Impact 4.2-3: Would the project expose sensitive receptors to substantial pollutant concentrations?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.2-4: Would the project result in other emissions (such as those leading to odors)?	Less than significant	No mitigation measures are required	Less than significant
4.3 Biological Resources			
Impact 4.3-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [now Department of Fish and Wildlife] or U.S. Fish and Wildlife Service?	Significant	**MM BIO-1**: Prior to construction activity resulting in ground disturbance, a qualified biologist shall conduct a pre-construction presence/absence survey for burrowing owls. Survey results shall be provided to the City of San Bernardino for review. The pre-construction survey shall be conducted within 30 days of site disturbance on the Project survey area plus a 500-foot buffer. If the survey determines burrowing owls are absent, the Project may proceed without further restrictions related to burrowing owls. If the survey determines burrowing owls are present, protective measures shall be implemented to ensure	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		compliance with the Migratory Bird Treaty Act (MBTA) and other applicable California Fish and Game Code (CDFG) requirements and include, but are not limited to the following: a) Occupied burrowing owl habitat shall not be disturbed during nesting season (February 1-August 31) unless a qualified biologist verifies through non-invasive methods that either (1) the birds have not begun egg-laying or incubation or (2) that juveniles from the occupied burrows are foraging independently and are capable of an independent survival flight. b) If relocation is required, a Burrowing Owl Mitigation Monitoring Plan prepared by a qualified biologist shall be submitted to the City and California Department of Fish and Wildlife (CDFW) for review and approval prior to relocation of owls. The Burrowing Owl Mitigation Monitoring Plan shall describe proposed relocation and monitoring plans. The plan shall include the number and location(s) of occupied sites and details on adjacent or nearby suitable habitat available to owls for relocation. If no suitable habitat is available nearby for relocation, details regarding the creation of artificial burrows (numbers, locations, and type of burrows) shall be included in the plan. The plan shall also describe specific procedures to compensate for impacts to burrowing owl/occupied burrows. Such procedures may include, but are not limited to, the purchase/conservation of off-site suitable habitat that is known to support burrowing owl. Specific ratios would be determined in consultation with CDFW.	

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		c) If burrowing owl must be moved away from the disturbance area, passive relocation techniques shall be used. Owls must be relocated by a qualified biologist from any occupied burrows that would be impacted by Project activities. Required relocation shall be approved by the CDFW. A report summarizing the results of the relocation and monitoring shall be submitted to the City and the CDFW within 30 days following completion of the burrowing owl relocation and monitoring.	
Impact 4.3-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game [now Department of Fish and Wildlife] or U.S. Fish and Wildlife Service?	No impact	No mitigation measures are required	No impact
Impact 4.3-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Significant	**MM BIO-2**: Based on the results of the Project's Jurisdictional Delineation, the proposed Project would permanently impact 0.07 acre of Regional Water Quality Control Board (RWQCB)-jurisdictional waters of the State and 0.12 acre of California Department of Fish and Wildlife (CDFW)-jurisdictional ephemeral streambed (i.e., Feature 1, sparsely vegetated earthen- and concrete-lined ditch; Feature 2, concrete- and riprap-lined ditch and basin). Prior to any ground disturbing activity near the jurisdictional features, applicable permits shall be obtained through the RWQCB and CDFW for impacts to jurisdictional features. The Applicant shall implement/comply with the mitigation required by the resource agencies regarding impacts within their respective jurisdictions. Given the on-site jurisdictional features' disturbed and limited aquatic resource functions, it is expected	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		that permanent impacts to jurisdictional features would be compensated for at a 1:1 mitigation ratio. Potential compensatory mitigation to offset impacts to jurisdictional resources may be implemented through off-site, permittee-responsible mitigation, in-lieu fee program or mitigation bank credit purchase, or a combination of these options depending on availability. The proposed mitigation strategy shall prioritize in-kind and in-watershed options per the regulatory agencies' preferences. The regulatory agencies will make the final determination of the final compensatory mitigation requirements during the permit evaluation process.	
Impact 4.3-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Significant	**MM BIO-3**: Vegetation clearing and ground-disturbing activities shall be conducted outside of the nesting season (January 15 to August 31) to the extent feasible. If avoidance of the nesting season is infeasible, then a qualified biologist shall conduct a nesting bird survey within ten days prior to any ground disturbance, including disking, demolition activities, and grading. Survey results shall be provided to the City of San Bernardino for review. If active nests are identified, the biologist shall establish suitable buffers around the nests depending on the level of activity within the buffer and species observed, and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. Bird nest buffers shall be established by the biologist in consultation with California Department of Fish and Wildlife. Generally, raptor species will have an avoidance buffer of 200 to 500 feet and passerine bird species will have an avoidance buffer of 50 to 300 feet. The biologist shall record the results of the recommended protective measures and shall submit	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		a memo summarizing any nest avoidance measures to the City of San Bernardino to document compliance with applicable state and federal laws pertaining to the protection of native birds.	
Impact 4.3-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.3-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No impact	No mitigation measures are required	No impact
4.4 Cultural Resources			
Impact 4.4-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.4-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Significant	**MM CUL-1**: **Contact Native American Tribe In the Event of a Find**: In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease, the City shall be notified and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the Project outside of the buffered area may continue during this assessment period. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed within MM TCR-1, regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input concerning significance and treatment. **MM CUL-2: Monitoring and Treatment Plan:** If significant pre-contact cultural resources, as defined	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to SMBMI and the City for review and comment, as detailed within MM TCR-1. The archaeologist shall monitor the remainder of the Project and implement the Plan accordingly.	
Impact 4.4-3: Would the Project disturb any human remains, including those interred outsides of dedicated cemeteries?	Less than significant	No mitigation measures are required	Less than significant
4.5 Energy			
Impact 4.5-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.5-2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less than significant	No mitigation measures are required	Less than significant
4.6 Geology, Soils, Paleontological Resources			
Impact 4.6-1: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	No impact	No mitigation measures are required	No impact
Impact 4.6-2: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.6-3: Would the Project directly or indirectly cause potential substantial adverse effects, including	Less than significant	No mitigation measures are required	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction? Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable because of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			
Impact 4.6-4: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	No impact	No mitigation measures are required	No impact
Impact 4.6-5: Would the Project result in substantial soil erosion or the loss of topsoil?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.6-6: Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.6-7: Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No impact	No mitigation measures are required	No impact
Impact 4.6-8: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Significant	**GEO-1: Paleontological Monitoring and Compliance Program.** a) Retain a Qualified Project Paleontologist. Prior to ground disturbing activities, the Owner shall retain a qualified Project Paleontologist, defined as a paleontologist who meets the Society of Vertebrate Paleontology standards for Qualified Professional Paleontologist, to direct all mitigation measures related to paleontological resources. b) Paleontological Monitoring and Compliance Program. After Project design has been finalized to determine the precise extent and location of ground disturbing activities, and prior to ground disturbing activities, the Project Paleontologist	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		shall prepare a Paleontological Monitoring and Compliance Program to be implemented during the Project's ground disturbing activities. The Program shall be prepared in accordance with the standards set forth by current Society of Vertebrate Paleontology guidelines (2010). Prior to ground disturbing activities, the Program shall be provided to the City of San Bernardino. Ground disturbing activities deeper than 5.0 feet below ground surface in areas mapped as high paleontological sensitivity (i.e., older Quaternary deposits) shall be monitored on a full-time basis by a qualified paleontological monitor during initial ground disturbing activities. The Program shall be supervised by the Project Paleontologist in coordination with the City of San Bernardino. The duration and timing of the monitoring shall be determined by the Project Paleontologist. If the Project Paleontologist determines that full-time monitoring is no longer warranted, he or she may recommend to the City that monitoring be reduced to periodic spot-checking or cease entirely. Monitoring shall be reinstated, if reduction or suspension would need to be reconsidered by the Project Paleontologist. The Program shall outline the procedures for construction staff Worker Environmental Awareness Program (WEAP) training, paleontological monitoring extent and duration, salvage and preparation of fossils, the final mitigation and monitoring report, and paleontological staff qualifications.	

		c) Paleontological Worker Environmental Awareness Program (WEAP). Prior to ground disturbing activities, the Project Paleontologist or his or her designee shall conduct construction personnel training regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The WEAP shall be presented at a preconstruction meeting that a qualified paleontologist shall attend. d) Fossil Discovery. In the event of a fossil discovery by construction personnel, all work in the find's immediate vicinity shall cease, and the City of San Bernardino and a qualified paleontologist shall be contacted to evaluate the find before restarting work in the area. If ground disturbing activities bring potentially sensitive geologic deposits to the surface in areas considered to have an undetermined paleontological sensitivity, these areas shall be inspected and further assessed. If it is determined that the fossil(s) is (are) scientifically significant, the qualified paleontologist shall complete the following conditions: e) Salvage of Fossils. If fossils are discovered, the project paleontologist or paleontological monitor should recover them. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case, the paleontologist would have the authority to temporarily direct, divert, or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. 1. Preparation and Curation of Recovered Fossils. Once salvaged, the City would ensure that significant fossils would be identified to the lowest possible taxonomic level, prepared to a	

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the San Diego County Natural History Museum), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the project paleontologist. Field collection and preparation of fossil specimens shall be performed by the project paleontologist with further preparation as needed by an accredited museum repository institution at the time of curation. f) Final Paleontological Monitoring and Compliance Report. Upon completion of ground disturbing activities (and curation of fossils, if necessary) the Project Paleontologist shall prepare a Final Paleontological Monitoring and Compliance Report outlining the results of the Paleontological Monitoring and Compliance Program. The report shall be provided to the City of San Bernardino and shall include discussion of the location, duration, and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated.	
4.7 Greenhouse Gas Emissions			
Impact 4.7-1: Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.7-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	Less than significant	No mitigation measures are required	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
4.8 Hazardous Materials & Wastes			
Impact 4.8-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.8-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.8-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.8-4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Significant	**MM HAZ-1**: **Environmental Site Assessment**. Prior to ground disturbing activities, a Phase II ESA focused on soil and groundwater sampling shall be conducted on the 12 properties identified as environmental concerns identified in the Hazardous Materials Assessment (Kimley-Horn and Associates, Inc., June 1, 2020) and provided to the City of San Bernardino. The sampling shall be conducted by a qualified Phase II/Site Characterization specialist. Upon completion of site characterization activities, the Site Characterization specialist shall recommend remedial activities, if necessary, in consultation with the San Bernardino Environmental Health Division (EHD). This recommendation from the Phase II ESA shall be implemented to the satisfaction of EHD.	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
Impact 4.8-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No impact	No mitigation measures are required	No impact
Impact 4.8-6: Would the project Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.8-7: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No impact	No mitigation measures are required	No impact
4.9 Hydrology and Water Quality			
Impact 4.9-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.9-2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.9-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i. Result in substantial erosion or siltation on- or off-site? ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide	Less than significant	No mitigation measures are required	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
substantial additional sources of polluted runoff? or iv. Impede or redirect flood flows?			
Impact 4.9-4: In flood hazard, tsunami, or seiche zones, would the project result in the risk release of pollutants due to project inundation?	No impact	No mitigation measures are required	No impact
Impact 4.9-5: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than significant	No mitigation measures are required	Less than significant
4.10 Land Use and Planning			
Impact 4.10-1: Would the project physically divide an established community?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.10-2: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Less than significant	No mitigation measures are required	Less than significant
4.11 Noise			
Impact 4.11-1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Significant	**MM NOI 1**: Prior to any ground-disturbing or other noise-generating activities, the Construction Manager shall provide evidence acceptable to the City of San Bernardino Community and Economic Development Director that: ▪ All construction vehicles and equipment, fixed or mobile, shall be maintained in good operating condition and be equipped with all internal combustion, engine-driven equipment fitted with intake and exhaust muffles, air intake silencers, and engine shrouds no less effective than as originally equipped by the manufacturer. ▪ Where stationary equipment, such as generators, cranes, and air compressors, is within 50 feet of a sensitive receptor including offices, the equipment shall be equipped with appropriate noise reduction	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		measures (e.g., silencers, shrouds, or other devices) to limit noise. ▪ Equipment maintenance, vehicle parking, and material staging areas shall be as far away from sensitive receptors (including offices) adjacent to the construction site, as feasible. ▪ Electrically powered equipment instead of pneumatic or internal combustion powered equipment shall be used to the extent possible. ▪ All internal combustion engine idling both on the site and at nearby queuing areas shall be limited to no more than five minutes for any given vehicle or machine. Signs shall be posted at the construction site and along queueing lanes to reinforce the prohibition of unnecessary engine idling. ▪ The use of noise producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only. Use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters. **MM NOI-2**: A minimum of 30 days prior to any ground-disturbing or other noise generating activities, the Contractor shall notify all businesses within 100 feet of the Project site of the planned start date, duration, nature of the construction activity, and the proposed noise abatement measures. The notification shall include a contact telephone number for questions and the submittal of any complaints of excess, unanticipated noise or vibration. **MM NOI-3**: Prior to any ground-disturbing or other noise generating activities, a sign shall be posted at the entrance to the construction site, clearly visible to the public, that contains the Contractor or their	

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		designee's contact name and telephone number to respond in the event of a vibration or noise complaint. If the Contractor or their designee receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City of San Bernardino Community and Economic Development Director. **MM NOI-4**: BNSF (or its designee) shall construct sound walls along the west side of the proposed Ono Lead Extension in areas where a Severe Impact has been identified (see **Table 4.11-9**). The sound wall shall be approximately 8.0 feet high and shall be sufficient to block the line-of-sight from sensitive receptors to the noise source and designed such that any gaps in material are no greater than 10 percent of the barrier's total area. Specifically, sound walls shall be provided along the following locations: ▪ Segment 7: A sound wall approximately 200 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 256 to 258) adjacent to where the proposed residential property full take would occur. Specifically, Property Nos. 29-33 located north and south of Evans Place would result in full private property takes to accommodate the proposed sound wall. ▪ Segment 8: A sound wall approximately 500 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 265 to 270) adjacent to where the proposed property full take would occur. ▪ Segment 9: A sound wall approximately 670 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 288.5 to	

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		295) adjacent to where the proposed property full take would occur. ▪ Segment 10: A sound wall approximately 430 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 307 to 311.5) adjacent to where the proposed property full take would occur. ▪ Segment 11: A sound wall approximately 330 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 313 to 317) adjacent to where the proposed private property full take would occur. The proposed sound walls shall be a minimum of 8.0 feet high and of sufficient height to block the line-of-sight from nearby sensitive receptors to the railway. The proposed sound walls shall be designed such that any gaps in material are no greater than 10 percent of the wall's total area.	
Impact 4.11-2: Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.11-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Less than significant	No mitigation measures are required	Less than significant
4.12 Population and Housing			
Impact 4.12-1: Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Less than significant	No mitigation measures are required	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
Impact 4.12-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Less than significant	No mitigation measures are required	Less than significant
4.13 Public Services and Recreation			
Impact 4.13-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.13-2: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.13-3: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.13-4: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in	Less than significant	No mitigation measures are required	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
order to maintain acceptable service ratios, response times or other performance objectives for parks? Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			
Impact 4.13-5: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for libraries?	Less than significant	No mitigation measures are required	Less than significant
4.14 Transportation			
Impact 4.14-1: Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Significant	**MM TRA-1: Oversized Vehicles**. Prior to Grading Permit issuance, BNSF (or its designee) shall comply with Caltrans, the City of San Bernardino, and other relevant jurisdictions concerning limitations on vehicle sizes and weights. In addition, BNSF (or its designee) shall secure the necessary transportation permits for roadway use. **MM TRA-2: Traffic Management Plan (TMP).** At least 60 days prior to start of site mobilization, BNSF (or its designee) shall submit the TMP to the City of San Bernardino and each affected jurisdiction for review and approval. The TMP, which shall be implemented during all construction phases, shall include traffic and parking management techniques to reduce	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
		construction-related traffic disruptions and congestion around the Project area. The TMP shall at a minimum address the following factors: ▪ Traffic Flow Route and Timing: Local and alternate routes and emergency access. Haul routes based on construction staging areas and City-designated routes. Timing heavy construction equipment and building material deliveries. ▪ Site and Surrounding Property Access: Vehicle access and circulation. ▪ On-site Parking: Construction worker parking lot assignment. ▪ Traffic Control: Street and intersection controls (e.g., flag persons, temporary travel lane closure, etc.).	
Impact 4.14-2: Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.14-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.14-4: Would the project result in inadequate emergency access?	Less than significant	No mitigation measures are required	Less than significant
4.15 Tribal Cultural Resources			
Impact 4.15-1: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource that is: ▪ Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	Significant	**MM TCR-1: Monitoring and Treatment Plan and Native American Monitor/Consultant**: The San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) and City of San Bernardino shall be contacted (see also CUL-1 and CUL-2) if any pre-contact cultural resources are discovered during ground disturbing activities, and be provided information regarding the nature of the find, so as to	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
▪ A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		provide Tribal input concerning significance and treatment. Should the find be deemed significant, as defined by CEQA, a cultural resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with SMBMI, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents SMBMI for the remainder of the project, should SMBMI elect to place a monitor on-site. **MM TCR-2: Provide Records and Consultation:** Any and all archaeological/cultural documents generated as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to SMBMI. The Lead Agency and/or applicant shall, in good faith, consult with SMBMI throughout the life of the project.	
4.16 Utilities and Public Service Systems			
Impact 4.16-1: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Significant	See **MM AQ-1**, **MM CUL-1**, **MM CUL-2**, **MM GEO-1**, **MM HAZ-1**, **MMs NOI-1** through **NOI-4, MM TRA-1**, and **MM TRA-2**	Less than significant
Impact 4.16-2: Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	Less than significant	No mitigation measures are required	Less than significant
Impact 4.16-3: Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less than significant	No mitigation measures are required	Less than significant

TABLE ES-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES			
Impact	**Level of Significance before Mitigation**	**Mitigation Measure**	**Level of Significance after Mitigation**
Impact 4.16-4: Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Less than significant	No mitigation measures are required	Less than significant

ES.5 SIGNIFICANT UNAVOIDABLE IMPACTS

As shown in **Table ES-1** above, no significant unavoidable impacts would occur. The Project includes mitigation measures where necessary to mitigate all impacts to less than significant.

ES.6 SUMMARY OF PROJECT ALTERNATIVES

CEQA states that an EIR must address "a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." [14 Cal. Code of Reg. 15126.6(a)]. As described in Section 6.0 of this DEIR, three project alternatives were identified and analyzed for relative impacts as compared to the proposed project:

- "No Project/No Construction" Alternative;
- "No Project/Existing Land Use Designations" Alternative; and
- "Reduced Footprint" Alternative.

ES.6.1 "NO PROJECT/NO CONSTRUCTION" ALTERNATIVE

The circumstance under which the Project does not proceed and vacant land within the Project site remains in its existing state.

ES.6.2 "NO PROJECT/EXISTING LAND USE DESIGNATIONS" ALTERNATIVE

The circumstance under which the Project does not proceed, but the vacant land within the Project site is developed, based on current plans and consistent with available infrastructure and community services (what would reasonably be expected to occur in the foreseeable future if the Project were not approved).

ES.6.3 "REDUCED FOOTPRINT" ALTERNATIVE

The "Reduced Footprint" Alternative assumes development of the Project site similar to the proposed Project, however, it proposes fewer partial acquisitions or avoids acquisitions through variances, in coordination with the City, where these modifications would cause properties to conflict with development standards concerning minimum lot sizes, minimum setbacks, or minimum street widths.

ES.6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The impacts of the three alternatives are compared to the impacts of the Project in Section 6, Alternatives. As noted above, the Project would not result in any significant impact which would not be mitigated to less than significant. Thus, the environmentally superior alternative is the alternative which results in substantially reduced impacts to either all environmental issue areas or within one or several key environmental issue areas while still satisfying the Project objectives

The "Reduced Footprint" Alternative is the environmentally superior alternative. The "Reduced Footprint" Alternative would result in substantially reduced impacts to seven environmental issue areas, greater impacts concerning eight environmental issue areas, and equivalent impacts to one environmental issue

area. It is noted: this Alternative would result in greater environmental impacts compared to the Project primarily because fewer acquisitions would occur. Fewer acquisitions would result in greater environmental impacts as compared to the Project concerning aesthetics, air quality, energy, geology and soils, greenhouse gas emissions, land use and planning, noise, transportation, and utilities and service systems because the impacts to these existing uses that would be reduced with the Project would be maintained under the Reduced Footprint Alternative. Fewer acquisitions would also increase the number of sensitive receptors (i.e., residential land uses) near the Project site, resulting in greater incompatibilities.

ES.7 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

According to State CEQA Guidelines, the EIR is required to contain a brief summary that identifies: areas of controversy known the Lead Agency, including issues raised by agencies and the public (§15123(b)(2)); and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects (§15123(b)(3)).

Based on the City's review of available information and comments received from the public and other public agencies in the response to the Notice of Preparation (see **Appendix 9.2: Notice of Preparation and Comment Letters**), the following issues may either be controversial or require solution:

- Disturbance of Native American tribal cultural resources,
- Health impacts of siting rail tracks near sensitive land uses, including near communities disproportionately affected by air pollution,
- Noise and vibration impacts on adjacent residences and businesses,
- Safety of rail tracks sited close to residential uses,
- Property value impacts of additional railroad infrastructure on nearby land uses.

These issues have been considered in this Draft EIR, where applicable.

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1.0 INTRODUCTION AND PURPOSE

1.0 INTRODUCTION

The California Environmental Quality Act (CEQA), Public Resources Code §§21000 *et seq*. specifies that before a public agency decides to approve a project that could have one or more adverse effects on the physical environment, the agency must inform itself about the project's potential environmental impacts, give the public an opportunity to comment on the environmental issues, and take feasible measures to avoid or reduce potential harm to the physical environment.

This document is an Environmental Impact Report (EIR) prepared for the City of San Bernardino (herein referred to as the "City") in compliance with CEQA. This EIR evaluates the potential environmental impacts associated with planning, constructing, and operating the proposed BNSF Ono Lead Track Extension (hereafter, the "Project" or "proposed Project"). The Project would install a fourth lead track extending the existing BNSF Railway Company (BNSF) San Bernardino Intermodal Facility A-Yard lead track within/along approximately 4.3 miles of the existing BNSF corridor, to two existing Ono Storage Sidings. The Project also proposes stormwater drainage/water quality, circulation/roadway, signal, and utility improvements/modifications that are ancillary and related to the lead track extension. Partial and full property acquisitions would be required outside of the BNSF corridor to accommodate the proposed improvements. The State CEQA Guidelines are located within the California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, §§15000-15387, while the CEQA Statute is codified as Public Resources Code §§21000-21189.57.

This EIR evaluates the potentially significant, adverse, and beneficial environmental impacts resulting from Project implementation. **Section 2.0: Project Description** details the Project's location, environmental setting, background and history, characteristics, discretionary actions, goals/objectives, construction schedule/phasing, agreements, and required permits and approvals. **Section 4.0: Environmental Impact Analysis**, discusses the Project's affected environment, regulatory framework, environmental impacts, and mitigation measures. Following public review of the Draft EIR, a Final EIR will be prepared, in which the City will respond to public comments on the Draft EIR.

1.1 PURPOSE OF THE EIR

According to State CEQA Guidelines §15121, an EIR is an informational document which will inform public agency decision-makers and the public of the significant environmental effects of a proposed project. This EIR's purpose is to inform decision-makers and the public of the proposed Project's environmental effects, provide environmental information sufficient to evaluate the proposed Project and its potential to cause significant environmental effects, examine methods of reducing adverse environmental impacts, and consider alternatives to the proposed Project. The potential impacts include both temporary construction-related effects and long-term operational effects of Project construction, operation, and maintenance. This EIR addresses the Project's potential environmental impacts using the most current and detailed plans, technical studies, and related information available. This EIR will be used by the City as the lead agency, other responsible and trustee agencies, interested parties, and the general public to evaluate the Project's potential environmental impacts; see **Section 2.9: Agreements, Permits, and Approvals**, for a list of anticipated agreements and required responsible and trustee agency permits and approvals.

1.2 COMPLIANCE WITH CEQA

According to the State CEQA Guidelines §15064(f)(1), preparation of an EIR is required whenever a project may result in one or more significant effects on the environment. An EIR is an informational document used to inform public agency decision-makers and the general public of a project's significant environmental effects, identify possible ways to avoid or minimize the significant effects, and describe reasonable alternatives to the project that could feasibly attain most of the basic project objectives while avoiding or substantially lessening any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project. CEQA requires that state and local government agencies consider the environmental effects of projects over which they have discretionary authority before taking action on those projects.

This EIR analyzes the Project's environmental effects to the degree of specificity appropriate to the current proposed actions, as required by State CEQA Guidelines §15146. The analysis considers the Project activities to determine the short-term and long-term effects associated with their implementation. This EIR discusses both direct and indirect Project impacts, as well as cumulative impacts associated with other past, present, and reasonably foreseeable future projects.

Based on significance criteria, the Project's effects have been categorized as either "no impact," "less than significant impact," "less than significant with mitigation incorporated," or "significant unavoidable impact"; see **Section 4.0**. Mitigation measures are recommended to avoid or lessen potentially significant impacts. If the Project would result in significant unavoidable impacts, despite implementation of feasible mitigation, the decision-makers may approve the Project based on a "Statement of Overriding Considerations." This determination would require the decision-makers to balance the Project's benefits to determine if they outweigh the identified significant unavoidable impacts. State CEQA Guidelines §15093 provides in part the following:

- CEQA requires that the decision-makers balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve the project. If the benefits of the project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."
- Where the decision of the public agency allows the occurrence of significant effects that are identified in the Final EIR but are not avoided or substantially lessened, the agency must state in writing the reason to support its action based on the Final EIR and/or other information on the record. This statement may be necessary if the agency also makes the finding under State CEQA Guidelines §15091 (a)(3).
- If an agency makes a Statement of Overriding Considerations, the statement should be included in the record of the project approval and should be mentioned in the Notice of Determination.

1.3 NOTICE OF PREPARATION/EARLY CONSULTATION

In compliance with the State CEQA Guidelines, the City has provided opportunities for responsible and trustee agencies, interested parties, and the general public to participate in the environmental review process. During Draft EIR preparation, efforts were made to contact various federal, State, regional, and local government agencies and other interested parties to solicit comments on the scope of review in this document. This included the distribution of the Notice of Preparation (NOP) to various responsible

and trustee agencies and interested parties. Pursuant to State CEQA Guidelines §15082, the City distributed the NOP directly to public agencies, special districts, and the public who had requested such notice and was filed with the County of San Bernardino Clerk of the Board of Supervisors. The NOP was distributed on September 20, 2019, with a 30-day public review period occurring September 23 through October 22, 2019. The NOP and NOP comment letters are provided in **Appendix 9.2: Notice of Preparation and Comment Letters**.

During the scoping process, certain environmental issues were identified as having the potential for significant environmental impacts. The issues listed below were identified as "potentially significant impact" in the NOP and are addressed in detail in this EIR; see **Appendix 9.2**.

- Aesthetics,
- Air Quality,
- Biological Resources,
- Cultural Resources,
- Energy,
- Geology, Soils, and Paleontological Resources,
- Greenhouse Gas Emissions,
- Hazards and Hazardous Materials,
- Hydrology and Water Quality,
- Land Use and Planning,
- Noise,
- Population and Housing,
- Public Services and Recreation,
- Transportation,
- Tribal Cultural Resources, and
- Utilities and Service Systems.

The NOP also noted that cumulative and growth-inducing impacts would be analyzed and that alternatives would be considered. The following issues identified as "no impact" in the NOP are addressed in **Section 7.0: Effects Found Not to be Significant**.

- Agriculture and Forestry Resources,
- Mineral Resources, and
- Wildfire.

The City received three comment letters in response to the NOP; see **Appendix 9.2**. Areas of concern identified in the NOP comment letters are summarized below:

- San Manuel Band of Mission Indians (SMBMI) - The Project site is within Serrano ancestral territory and of interest to the SMBMI. The SMBMI requests copies of Project documentation (i.e., Project plans, Cultural Report, and Geotechnical Report).
- South Coast Air Quality Management District (SCAQMD) - The SCAQMD:
    - Requests copies of Project documentation
    - Provides guidance concerning conducting the air quality analysis, mitigation measures, alternatives, permits, and data sources.
    - Expressed their concern about the potential public health impacts of siting rail tracks near sensitive land uses and recommended preparation of a mobile source health risk assessment.
    - Notes that the proposed Project site includes or is near the San Bernardino and Muscoy communities. Because the SCAQMD considers these communities to be disproportionately impacted by air pollution generated from sources, these communities are part of the SCAQMD's AB 617 Community Emission Reduction

Program. The SCAQMD recommends that the Lead Agency review the Community Emissions Reduction Plan for measures to reduce air quality impacts.

- Mr. Raul Raya: Mr. Raya is owner of a commercial use (i.e., Ybarra's Market) with attached residential dwelling unit at 914 Spruce Street. The Market/dwelling is approximately 290 feet south of the proposed fourth lead track. Mr. Raya expressed his concern over various environmental issues including the following among others: safety (due to distance from track and absence of a barrier), improvements that could affect his business and property values, a track addition that would encroach on his property, and shaking (i.e., vibration) from train traffic.

NATIVE AMERICAN TRIBAL COMMUNICATIONS

One California Native American tribe (i.e., San Manuel Band of Mission Indians) requested consultation pursuant to Public Resources Code §21080.3.1. This consultation occurred December 2019; see also **Section 4.15: Tribal Cultural Resources**.

1.4 PUBLIC REVIEW – COMPLIANCE WITH CEQA

PUBLIC REVIEW OF DRAFT EIR

The Draft EIR is available to the public for review at the following locations:

- City of San Bernardino Planning Department
  201 North E. Street, 3rd Floor
  San Bernardino, CA 92401
- City of San Bernardino Website:
  - http://sbcity.org/cityhall/community_development/planning/environmental_documents.asp.
- Paul Villasenor Branch Library (a City of San Bernardino public library)
  525 North Mt. Vernon Avenue
  San Bernardino, CA 92411

In accordance with State CEQA Guidelines §§15087 and 15105, this Draft EIR will be circulated for a 45-day public review period. The public is invited to comment in writing on the information contained in this document. Responsible and trustee agencies, interested parties, and the public are invited to provide written comments on the Draft EIR. All comments should be submitted in writing to:

City of San Bernardino Community Development Department
Attn: Mr. Oliver Mujica, Planning Division Manager
290 North D Street
San Bernardino, CA 92401
Mujica_Ol@SBCity.org

FINAL EIR

Pursuant to State CEQA Guidelines §15088 and upon completion of the 45-day Draft EIR public review period, the City will evaluate all written comments and prepare written responses to comments received during the public review period concerning significant environmental issues.

As set forth in State CEQA Guidelines §15132, the Final EIR will be prepared and will include:

- The draft EIR or a revision of the draft;
- Comments and recommendations received on the Draft EIR either verbatim or in summary;
- A list of persons, organizations, and public agencies commenting on the Draft EIR; and
- The Lead Agency's responses to significant environmental points raised in the review and consultation process.

Additionally, pursuant to State CEQA Guidelines §15088, after the Final EIR is completed, the City will provide a written proposed response to each public agency on comments made by that public agency at least ten days prior to certifying the EIR.

CERTIFICATION OF THE FINAL EIR

The Final EIR will be considered by the City of San Bernardino Planning Commission (as the recommending body) and the City Council (as the decision-making body) certification of the Project's EIR, consistent with State CEQA Guidelines §15090, which states:

Prior to approving a project, the lead agency shall certify that:

- The final EIR has been completed in compliance with CEQA;
- The final EIR was presented to the decision-making body of the lead agency, and that the decision-making body reviewed and considered the information contained in the final EIR prior to approving the project; and
- The final EIR reflects the lead agency's independent judgment and analysis.

Regarding the EIR's adequacy, according to State CEQA Guidelines §15151, "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."

PROJECT CONSIDERATION

After Final EIR certification, the City may consider approval of the proposed Project. A decision to approve the Project would be accompanied by specific, written findings, in accordance with State CEQA Guidelines §15091 and, if necessary, a specific, written Statement of Overriding Considerations, in accordance with State CEQA Guidelines §15093.

1.5 FORMAT OF THE EIR

This EIR's purpose is to enable the City and other responsible and trustee agencies and interested parties to evaluate the environmental impacts of the Project.

This EIR is organized into the following sections:

Section ES.0: **Executive Summary**, provides a Project summary and summary of environmental impacts, and the proposed mitigation measures and alternatives.

Section 1.0: **Introduction**, provides CEQA compliance information.

Section 2.0: **Project Description**, details the Project's location, environmental setting, background and history, characteristics, discretionary actions, goals/objectives, construction schedule/ phasing, agreements, and required permits and approvals.

Section 3.0: **Basis of Cumulative Analysis,** describes the cumulative analysis' proposed approach and methodology.

Section 4.0: **Environmental Impact Analysis**, discusses the existing conditions for each of environmental issue area. This analysis also describes methodologies for significance determinations, identifies the Project's short-term and long-term environmental impacts, recommends mitigation measures to avoid or reduce the significance of environmental impacts, and identifies any areas of potentially significant unavoidable impacts. This section also discusses cumulative impacts that could arise as a result of Project implementation of the proposed Project.

Section 5.0: **Alternatives to the Proposed Project**, describes potential Project alternatives, including alternatives considered but rejected from further consideration, the No Project Alternative, various Project Alternatives, and identifies the Environmentally Superior Alternative.

Section 6.0: **Other CEQA Considerations**, summarizes unavoidable significant impacts, and discusses significant irreversible environmental changes, and growth-inducing impacts.

Section 7.0: **Effects Found Not to Be Significant**, describes potential impacts that have been determined through the CEQA process not to be significant.

Section 8.0: **Consultation and Preparation** identifies the CEQA Lead Agency and EIR preparation team, as well as summarizes the EIR consultation process.

Section 9.0: **Appendices**, contains the NOP, notification documents, and technical studies (available on thumb drive).

1.6 RESPONSIBLE AND TRUSTEE AGENCIES

LEAD AGENCY

The City of San Bernardino is the lead agency under CEQA. This EIR has been prepared in accordance with Public Resources Code §21000 *et seq.* and the State CEQA Guidelines. CEQA requires lead agencies to consider potential environmental effects that may occur with implementation of a project and to avoid or substantially lessen significant effects to the environment when feasible. When a project may have a significant effect on the environment, the agency with primary responsibility for carrying out or approving the project (the lead agency) is required to prepare an EIR.

TRUSTEE, RESPONSIBLE, AND COOPERATING AGENCIES

Other federal, state, and local agencies are involved in the Project's review and approval, including trustee and responsible agencies under CEQA. Under CEQA, a trustee agency is a state agency that has jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. A responsible agency is an agency other than the lead agency that has responsibility for carrying out or approving a project. Responsible and trustee agencies are consulted by the CEQA lead agency to ensure the opportunity for input and also review and comment on the Draft EIR. Responsible agencies also use the CEQA document in their decision-making. Several agencies other than the City may require permits, approvals, and/or consultation in order to implement various Project elements; see **Section 2.9**.

1.7 INCORPORATION BY REFERENCE

Pertinent documents relating to this EIR have been cited in accordance with State CEQA Guidelines §15148 or have been incorporated by reference in accordance with State CEQA Guidelines §15150, which encourages incorporation by reference as a means of reducing redundancy and the length of environmental reports. The following documents are hereby incorporated by reference into this EIR and are available for review online and at the City. Information contained within these documents has been used for various sections of this EIR.

County of San Bernardino General Plan. The County of San Bernardino adopted the County of San Bernardino General Plan (County GP) in 2007. The eight County GP elements form a comprehensive set of planning policies. The Land Use Element designates the general distribution and intensity of land uses within the unincorporated County area. The Circulation and Infrastructure Element identifies the general location and extent of proposed transportation and infrastructure facilities and utilities. The Housing Element is a comprehensive assessment of current and future housing needs for all segments of the County population and a program for meeting those needs. The Open Space Element describes measures for the open space preservation for the protection of natural resources and public health and safety. The Conservation Element addresses the conservation, development, and use of natural resources. The Safety Element establishes policies to protect the community from risks associated with natural and manmade hazards such as seismic, geologic, flooding, wildfire hazards, and air quality. The Noise Element identifies major noise sources and contains policies intended to protect the community from exposure to excessive noise levels. The Economic Development Element established policies to encourage and guide economic development within the County. It is noted, San Bernardino County is updating its General Plan, but as of this writing, the update has not been adopted.

Although the Project site is entirely within the City of San Bernardino, the County GP was used in this EIR as a source of baseline data, and as applicable to the proposed Project. This document is available on the County's website at: https://cms.sbcounty.gov/lus/Planning/GeneralPlan.aspx.

San Bernardino County 2007 General Plan Final Program Environmental Impact Report (State Clearinghouse [SCH] #2005101038). The County of San Bernardino General Plan EIR (County GP EIR) analyzed the potential environmental impacts that would result from County GP implementation. The County GP EIR was used in this EIR as a source of baseline data, and as applicable to the Project.

This document is available on the City's website at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FinalEIR2007.pdf.

City of San Bernardino General Plan. The City adopted the City of San Bernardino General Plan (SBGP) in 2005. The SBGP constitutes the City's overall plans, goals, and objectives for land use within the City's jurisdiction. The SBGP addresses a broad range of issues relating to the community's physical, economic, and social development. It contains an evaluation of existing conditions and provides the long-term goals and policies necessary to guide growth and development in the direction that the community desires. Through the Goals, Objectives, Policies, and Programs it contains, the SBGP serves as a decision-making tool to guide future growth and development decisions. The SBGP contains 13 elements:

- Land Use,
- Housing,
- Economic Development,
- Community Design,
- Circulation,
- Public Facilities and Services,
- Parks, Recreation, and Trails,
- Utilities,
- Safety,
- Historical and Archaeological Resources,
- Natural Resources and Conservation,
- Energy and Water Conservation, and
- Noise.

The SBGP was used throughout this EIR as a source of data, policies, and regulations relevant to the proposed Project. This document is available on the City's website at: http://www.ci.san-bernardino.ca.us/pdf/DevSvcs/General%20Plan%20Document.pdf.

City of San Bernardino General Plan Update and Associated Specific Plans Draft Environmental Impact Report SCH #2004111132, Volume I of III. The City of San Bernardino General Plan EIR (SBGP EIR) analyzed the potential environmental impacts that would result from SBGP implementation. The SBGP EIR was used in this EIR as a source of baseline data and cumulative impacts for buildout of the City. This document is available on the City's website at: http://www.sbcity.org/cityhall/community_development/planning/environmental_documents.asp.

City of San Bernardino Municipal Code. The City of San Bernardino Municipal Code (SBMC) regulates land use and activities within the City's jurisdiction including, zoning regulations (codified in SBMC Title 19). SBMC Title 19 is the primary tool for implementing the General Plan's goals, objectives, and policies. The SBMC is referenced throughout this EIR to establish the Project's baseline requirements according to SBMC regulations. This document is available on the City's website at: http://www.ci.san-bernardino.ca.us/civicax/filebank/blobdload.aspx?blobid=19233.

2.0 PROJECT DESCRIPTION

2.0 PROJECT DESCRIPTION

2.0.1 INTRODUCTION

This section provides the information required by State CEQA Guidelines § 15124, *Project Description*, including a description of the Project's precise location and boundaries, a statement of the Project objectives, a description of the Project's technical, economic, and environmental characteristics, and a statement of the intended uses of this EIR. Additionally, the intended uses include lists of agencies expected to use this EIR in their decision-making processes, permits/approvals required to implement the Project, and related environmental review and consultation requirements.

This EIR analyzes the physical environmental effects associated with all Project components, including construction, operations, and maintenance. The requested governmental approvals are detailed below in **Section 2.9: Anticipated Agreements, Permits, and Approvals**. Governmental approval applications are incorporated herein by reference pursuant to State CEQA Guidelines § 15150 and are available for review at the locations indicated in **Section 1.7: Incorporation by Reference**. All other discretionary and administrative approvals that may be required of the City of San Bernardino (City)/other governmental agencies to implement the proposed Project, are also within the scope of the Project analyzed in this EIR.

2.1 PROJECT OVERVIEW

BNSF Railway Company ("BNSF" or Project Applicant) proposes to install a fourth lead track extending the existing BNSF San Bernardino Intermodal Facility (SBD Intermodal) A Yard (A Yard) lead track to two existing Ono Storage Sidings. A continuous lead track would be created, closing the existing gap between the Ono Storage Sidings and improving the flow of trains in and out of the A Yard. The Project does not propose to increase rail line operations; instead it would improve the A Yard's operational efficiency by: improving the A Yard's ability to assemble and hold outbound trains, as well as move around railroad cars without obstructing mainline movements; reducing train congestion along the existing lead tracks; and reducing train idling, as they wait to enter and exit the A Yard. With the proposed improvements, the A Yard would have capacity to assemble and hold outbound trains and switch out the A Yard without fouling the mainline.

The proposed fourth lead track would be constructed within/along approximately 4.3 miles of existing BNSF corridor generally from the BNSF overpass at State Street/University Parkway on the north to the existing SBD Intermodal. The existing approximately 0.18-mile A Yard lead track, which runs parallel to three existing mainline tracks, would be extended by approximately 3.1 miles. Inclusive of the proposed extension, the lead track would total approximately 5.6 miles. Various improvements/modifications (i.e., stormwater drainage/water quality, circulation/roadway, signal, sound walls, and utility) that are ancillary and related to the lead track extension are also proposed. To accommodate the proposed improvements partial and full property acquisitions would be required outside the BNSF corridor, and City right-of-way (ROW) within the BNSF corridor would be vacated and conveyed to BNSF, the track owner. To accommodate the proposed improvements, the Project would require circulation and roadway improvements/modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs. The Project also proposes to either: (a) reinstate and extend a pre-existing franchise to construct, operate, and maintain a portion of an existing lead track in the City, between 4th Street and the City's northern boundary, as the boundary existed in 1906; or (b) vacate the railroad bed and convey title of the

same to the Project Applicant. Project construction is proposed to occur in one phase and is anticipated to begin in 2022 and be completed in 2024. **Section 2.6: Project Characteristics**, describes the proposed Project in detail.

2.2 PROJECT LOCATION AND ENVIRONMENTAL SETTING

2.2.1 PROJECT LOCATION

The Project site is in the southwest portion of the County of San Bernardino (County), in the southwest portion of the City of San Bernardino; see **Exhibit 2-1: Regional Vicinity Map**. The Project site is comprised of two dis-contiguous segments (i.e., northern and southern), which extend approximately 4.3 linear miles along the BNSF corridor adjacent to/west of Interstate 215 (I-215). The southern track segment comprises most of the Project site and is separated from the northern track segment by approximately 1.2 linear miles. The Project area's northern terminus is at the BNSF overpass at State Street/University Parkway and its southern terminus is at West 5th Street, just north of the A Yard; see **Exhibit 2-2: Local Vicinity Map**. Within those limits, the proposed northern and southern track segments are as follows:

- Northern track segment: approximately 0.3 linear miles, milepost ("MP") 76.5 to MP 76.8,
- Southern track segment: approximately 2.8 linear miles, MP 78.0 to MP 80.8, and
- Gap between northern and southern track segments: approximately 1.2 linear miles, MP 76.8 to MP 78.0, where no improvements are proposed.

The Project site is generally north of the City of Colton, south of Muscoy (an unincorporated County community), east of the City of Rialto, and along/west of I-215.

Exhibits 2-3, 2-3a – 2-3l: Conceptual Design Plans (provided at the end of this section) depict the approximately 41-acre Project area, which includes existing BNSF ROW and adjacent properties where ground disturbances (including temporary construction staging) and/or property acquisitions would occur. To facilitate descriptions and analyses in this EIR, the Project area has been divided into 12 segments, which are listed in **Table 2-1: Project Segments** and depicted on **Exhibits 2-3a - 3l**. Segment 1 comprises the northern track segment, while Segments 2 to 12 comprise the southern track segments. Additionally, **Exhibits 2-3a through 2-3l** depict the locations/alignments and boundaries of the proposed fourth lead track, adjacent areas (i.e., construction staging and proposed ancillary stormwater drainage/water quality, roadway, signal, sound walls, and utility improvements), and the lead track within the proposed reinstated franchise. "Stations" are number labels used to identify a given location within the Project segments. For example, the A Yard, which is at the Project site's southern extent, is within Segment 12 at Station 329; see **Exhibit 2-3l**.

Project Study Area / Alignment

Kimley»Horn

MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 2-1: Regional Vicinity Map

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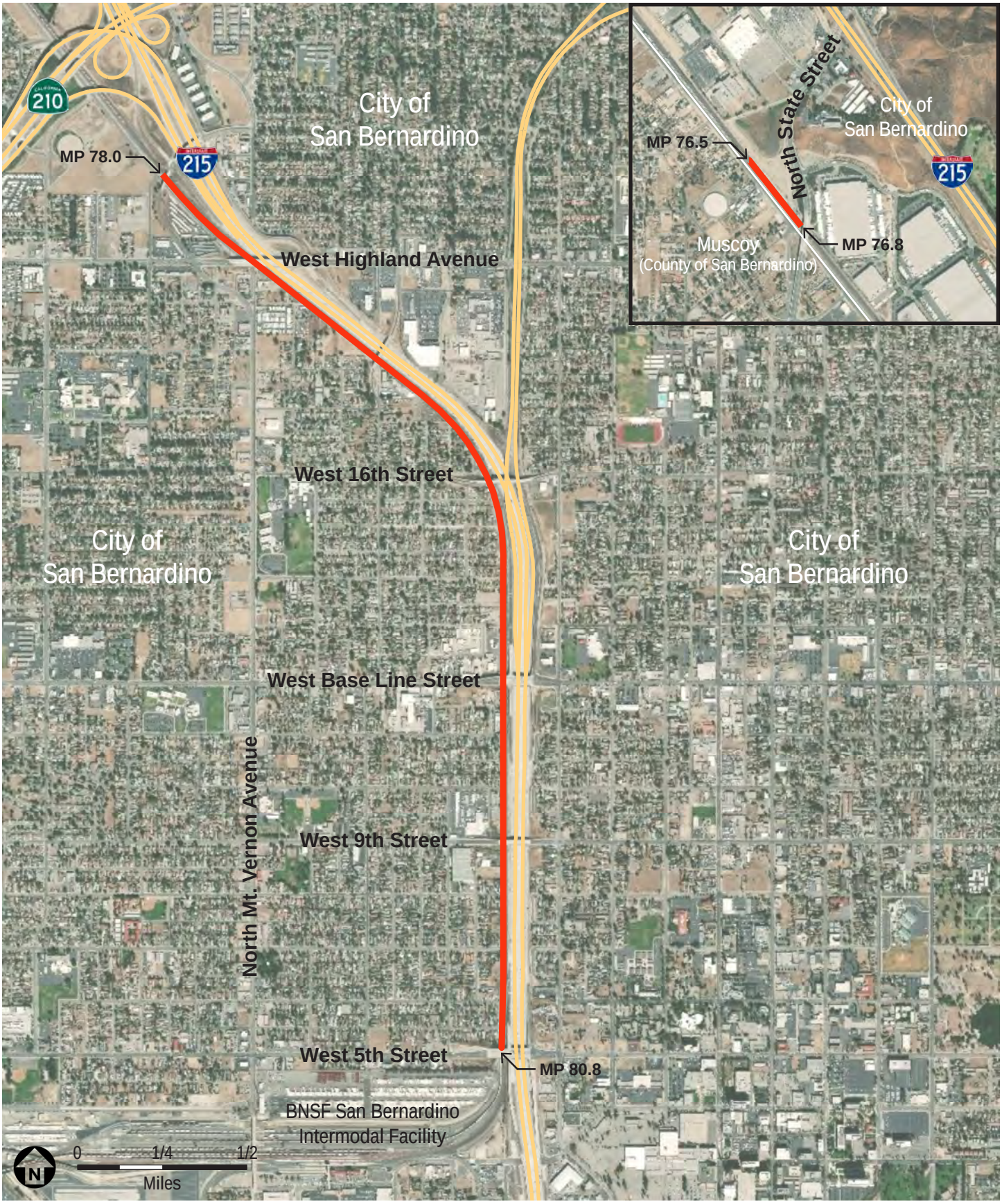

Project Study Area / Alignment

Kimley»Horn

MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 2-2: Local Vicinity Map

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TABLE 2-1: PROJECT SEGMENTS		
Segment[1]	**Station[1]**	**Exhibit 2-3**
01	105 – 119	*Exhibit 2-3a*
02	175 – 190	*Exhibit 2-3b*
03	190 – 205	*Exhibit 2-3c*
04	205 – 220	*Exhibit 2-3d*
05	220 – 235	*Exhibit 2-3e*
06	235 – 250	*Exhibit 2-3f*
07	250 – 265	*Exhibit 2-3g*
08	265 – 280	*Exhibit 2-3h*
09	280 – 295	*Exhibit 2-3i*
10	295 – 310	*Exhibit 2-3j*
11	310 – 325	*Exhibit 2-3k*
12	325 – 340	*Exhibit 2-3l*
1. **Exhibits 2-3a** through **2-3l** provide a key to the Project Segments and includes "Stations," which are a number label used to identify a given location within the Project Segments.		
Source: City of San Bernardino. (2018). *Ono Lead Track Extension Cajon Subdivision (MP 75.14 – MP 80.61) Right of Way Exhibit. Drawing Nos. R100-R111*. Saint Paul, MN: TKDA.		

2.2.2 ENVIRONMENTAL SETTING

The Project site is generally level, with on-site elevations ranging from approximately 1,080 to 1,200 feet above mean sea level. The Project site is within a fully urbanized area comprised primarily of BNSF ROW, commercial, industrial, and residential land uses, vacant lots, and roadways. Vegetation is primarily small patches of disturbed mule fat scrub, non-native grassland, ornamental, and ruderal (disturbed vegetation, weeds).

The Project site consists of the existing BNSF corridor and adjacent properties where ground disturbances (including temporary construction staging) and/or property acquisitions would occur; see **Exhibit 2-2**. The BNSF corridor includes an existing mainline track railroad system with associated improvements. The adjacent properties include industrial, commercial, and residential (single- and multi-family) land uses, vacant lots, and City roadways. Underground and overhead utility lines are present throughout the Project area. Two north-south oriented roadways (i.e., Cajon Boulevard and North I Street) and multiple east-west oriented roadways traverse the Project site/adjacent area.

Appendix 9.1: Land Use Matrix, lists the 103 parcels and City ROW that comprise the Project area. **Appendix 9.1** also details the properties where ground disturbances or property acquisitions are required, their Assessor's Parcel Number (APN), size and land use, and Project segments and stations. To uniquely identify each property, **Appendix 9.1** assigns "Property Identifier" numbers, which correlate to the property labels on **Exhibits 2-3a** through **2-3l**. All northern track segment improvements are wholly within BNSF ROW.

Table 2-2, Summary of Existing Land Uses, summarizes the land uses that are present in the Project area, which include BNSF and City ROW, and residential and non-residential land uses. As indicated in **Table 2-2**,

the Project area totals approximately 41 acres, and most (approximately 78 percent) is developed/improved, while 22 percent is vacant/undeveloped.

TABLE 2-2: SUMMARY OF EXISTING LAND USES			
On-the-Ground Land Use	**Total Acres**	**Acquired Acres**	**Acquired Land Use**
Vacant	8.85	5.29	
Residential	8.43	7.26	43 DU (36 single-family, 7 multi-family)
Commercial	7.86	5.57	6 buildings, approximately 46,000SF
Industrial	7.34	3.62	3 buildings, approximately 32,000 SF
Public ROW	5.30	5.29	
BNSF ROW	0.58	0.18	
Franchise Agreement	2.17	2.17	
Total	*41*	*29*	43 DU & 78,000 SF non-residential
DU = dwelling unit, SF = square feet, ROW = right-of-way 1. Where ground disturbances or property acquisitions would occur.			
Source: City of San Bernardino. (2018). *Ono Lead Track Extension Cajon Subdivision Presentation Booklet*. Saint Paul, MN: TKDA.			

ON-SITE LAND USES

BNSF Right-Of-Way

The BNSF ROW consists of an existing three and four mainline track railroad system with associated signal poles, electrical poles, and cabinets. As described in greater detail in **Section 2.3: History and Background**, the Project rail line is part of BNSF's east-west California freight rail network. Existing rail operations are based on current BNSF rail traffic schedules and infrastructure limitations. Existing rail operations at the Project site result in approximately 15 hours of daily locomotive diesel engine idling based on existing operating conditions. Details concerning average idling time calculations are provided in **Section 4.2: Air Quality**.

The following facilities are in the BNSF ROW:

Railroad tracks consists of steel rails, fasteners, railroad ties, ballast (the gravel trackbed on which the track and ties are laid), and underlying subgrade.

Signals and signal bridges are situated along the BNSF ROW. The signal bungalows and cantilevered signals are located immediately adjacent to North I Street between Magnolia Avenue and West 14th Street, 13th Street and Reece Street, West Baseline Street and 11th Street, and 7th Street and 6th Street.

Overcrossings (over the trackage) are at the following locations: University Parkway, North Mount Vernon Avenue, West Highland Avenue, Massachusetts Avenue, West 16th Street, West Baseline Road, West 9th Street, and West 5th Street.

Various underground and overhead utility lines are present within the BNSF ROW (and adjacent properties), including among others the following: a Southern California Gas Company (SCG) gas line and overhead power lines at 6th Street, Southern California Edison (SCE) Company overhead power lines at 7th Street, and a City water line along Cajon Boulevard.

Stormwater drainage within the BNSF ROW includes two 36-inch culverts that cross the tracks, and an outlet that carries approximately 38.8 cubic feet per second of runoff directly onto the street shoulders. There are no stormwater drain systems on Cajon Boulevard from West Highland Avenue to Spruce Street.

Adjacent Properties

As noted above, the properties adjacent to the BNSF corridor where ground disturbances or property acquisitions are required are depicted on **Exhibits 2-3a** through **2-3l**, detailed in **Appendix 9.1**, and summarized in **Table 2-2.** The adjacent properties include industrial, commercial, and single-family residential land uses, as well as City ROW. In general, the adjacent City ROW is comprised of two north-south oriented roadways (i.e., Cajon Boulevard (Segments 02 and 03) and North I Street (Segments 06 to 11)) and multiple east-west oriented roadways. Generally, Cajon Boulevard and North I Street run parallel to the BNSF ROW, while the east-west oriented roadways are perpendicular. Cajon Boulevard and North I Street are classified Major Arterial and Local Street,[1] respectively. Local Streets are typically two-lane streets that are designed to serve neighborhoods within residential areas. Several variations of local streets exist within the Project area, depending on location, length, and type of land use. Underground and overhead utility lines are also present throughout the adjacent properties.

On-site Zoning

The Project site is wholly within the City of San Bernardino. The City's zoning for the Project site is detailed in **Appendix 9.1**. As indicated in **Appendix 9.1**, the Project site is zoned RS (Residential Suburban) Zone, CG-1 (Commercial General) Zone, CH (Commercial Heavy) Zone, IL (Industrial Light) Zone, and RR (Railroad) Zone.

SURROUNDING LAND USES

The land uses surrounding the Project site are summarized in **Table 2-3: Summary of Surrounding Land Uses** and depicted on **Exhibits 2-3a** through **2-3**l.

TABLE 2-3: SUMMARY OF SURROUNDING LAND USES

Segment	North	South	East	West
1	BNSF ROW, Cajon Boulevard, and residential uses	BNSF ROW, Cajon Boulevard, and industrial uses	I-215	Industrial uses and vacant lots
2 - 12	BNSF ROW, Cajon Boulevard, utility (water tank), and vacant lots	BNSF ROW, BNSF SBD Intermodal A Yard, industrial uses, California Department of Transportation (Caltrans) ROW, and vacant lots	I-215	Industrial, commercial, and single-family residential land uses, vacant lots, and City ROW (alleys and roadways)

ROW = right-of-way

[1] City of San Bernardino. (2005). *City of San Bernardino General Plan Circulation Element*. pages 6-5 to 6-6. City of San Bernardino, CA: City of San Bernardino; and City of San Bernardino. (2005). *City of San Bernardino General Plan Figure C-2 - Circulation Plan*. page 6-21. City of San Bernardino, CA: City of San Bernardino.

2.3 HISTORY AND BACKGROUND

BNSF is North America's largest intermodal carrier, operating more than 2,114 route-miles in California.[2] California is BNSF's western anchor to its Transcontinental Corridor route, linking Northern and Southern California with Chicago.[3] The SBD Intermodal, which is on the Cajon Subdivision, is part of BNSF's critical east-west transportation corridor, extending east from the Ports of Los Angeles and Long Beach. The Transcon Route is an integral part of California's freight rail network and is BNSF's land bridge link to Kansas City, Memphis, and Chicago markets.

The SBD Intermodal handles various types of freight, including consumer products (e.g., food and automobile products), and agricultural and industrial products.[4] The SBD Intermodal is comprised of separate yards, including the SBD Intermodal A Yard at the Project area's southern terminus.

2.4 PROJECT GOALS AND OBJECTIVES

State CEQA Guidelines § 15124(b) requires that the project description contain a statement of objectives, including the proposed Project's purpose.

The purpose of the Ono Lead Track Extension Project is to enhance the BNSF Intermodal A Yard's efficiency in accommodating train traffic entering and exiting the A Yard and servicing the BNSF east-west corridor to enhance the effectiveness of goods movement. The specific Project objectives are to:

A. Enhance the effectiveness of goods movement by increasing efficiency of train traffic entering/ exiting the A Yard in service of BNSF's east-west corridor.

B. Improve safety and operational efficiency for the critical BNSF east-west corridor.

C. Relieve traffic congestion along the three existing lead tracks that serve the BNSF east-west corridor by connecting two existing Ono Storage Sidings located near the State Street/University Parkway Grade Separation.

D. Improve long-term operational air emissions by improved efficiency/reduced train idling, as they wait to enter and exit the A Yard.

E. Maintain adequate local and emergency access to land uses adjacent to/west of the Project site.

F. Reinstate/extend the pre-existing franchise to construct, operate, and maintain an existing lead track in the City of San Bernardino, between 4th Street and the City's northern boundary, as the northern boundary existed in 1906, or in the alternative, vacate the railroad bed and convey title of same to the Project Applicant.

2.5 PROJECT CHARACTERISTICS

The Project's main components are a fourth lead track extension, and ancillary and related stormwater drainage/water quality, circulation/roadway, signal, sound walls, and utility improvements/

[2] State of California Department of Transportation (2018). *California State Rail Plan – Connecting California, Draft*. page 84. Sacramento, CA: State of California Department of Transportation.

[3] Ibid., page 85.

[4] Ibid.

modifications. Partial and full property acquisitions would be required to implement the proposed improvements.

2.5.1 FOURTH LEAD TRACK EXTENSION

The Project proposes a fourth lead track extension consisting of approximately 3.1 miles of new track, with associated roadbed improvements, within/along approximately 4.3 miles of existing BNSF corridor. Stormwater drainage/water quality, circulation/roadway, signal, sound walls, and utility improvements/modifications ancillary and related to the lead track extension are necessary, as described below. The proposed fourth lead track would extend the existing SBD Intermodal A Yard lead track to two existing Ono Storage Sidings. The proposed fourth lead track extension would close the existing gap between the two existing Ono Storage Sidings creating a continuous lead track, improving the flow of trains in and out of the A Yard.

As discussed above, current rail operations at the Project site result in approximately 15 hours of daily locomotive diesel engine idling. The Project does not propose to increase rail line operations; instead it would improve the A Yard's operational efficiency by reducing train congestion along the existing lead tracks and reducing train idling, as trains wait to enter and exit the A Yard. It is anticipated that with Project implementation, daily locomotive diesel engine idling at the existing BNSF corridor/storage tracks would be reduced by approximately 6.5 hours per day or 43 percent (from 15 hours per day to 8.5 hours per day). Details concerning average idling time calculations are provided in **Section 4.2: Air Quality**.

2.5.2 STORMWATER DRAINAGE/WATER QUALITY IMPROVEMENTS

Stormwater drainage/water quality improvements are proposed at numerous locations along the Project route. As originally described in the Notice of Preparation Project Description, the conceptual design involved runoff collected by existing/proposed swales along the tracks' west side, where it would be routed to as many as ten potential infiltration basin sites situated adjacent to/west of the BNSF corridor. Since circulation of the Notice of Preparation, the conceptual design has been revised and updated to involve a total of seven potential infiltration basin sites and two additional stormwater/water quality improvement design options have been developed. As discussed in detail in **Section 4.9: Hydrology and Water Quality**, three storm drain and water quality treatment design options are now being considered: Design Option 1 involves construction of seven potential infiltration basins and minor improvements, while Design Options 2a and 2b involve construction of two bio-treatment basins (basins 3 and 6) and seven storm drain connections. Design Option 1 involves more basins, deeper excavation, and proportionately greater soil export than either Design Options 2a and 2b. Since Design Option 1 would result in the greatest disturbance and earthwork activities, Design Option 1 is the most conservative approach for impact analysis. Therefore, this EIR assumes construction of Design Option 1 (i.e., all nine basins) to evaluate the Project's potential impacts concerning all resource areas. It is noted, while construction of all seven basins is evaluated in this EIR, not all seven basins would be needed/constructed.

2.5.3 CIRCULATION/ROADWAY IMPROVEMENTS/MODIFICATIONS

To accommodate the proposed rail improvements, the Project would require circulation and roadway improvements/modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs, as described below. **Exhibits 2-3a** through **2-3l** include the conceptual design plans depicting the

proposed street vacations, realignments, and cul-de-sacs. No new or modified at-grade rail crossings are proposed.

- Relocate the existing roadway bend at J Street and 17th Street to the southwest and subsequently align the north side of the roadway bend with the proposed BNSF ROW.
- Vacate North I Street from Evans Place to 14th Street. The easterly extents of these cross streets (near the existing intersection with North I Street) would be reconstructed as cul-de-sacs and the remaining ROW between the proposed cul-de-sacs and railroad corridor would be vacated.
- Reconstruct the 11th Street at Harris Street intersection from a T-intersection to a roadway bend, connecting Harris Street to 11th Street's west leg. Vacate 11th Street between Harris Street and the existing railroad corridor.
- Vacate North I Street from 11th Street to 10th Street. The easterly extents of Olive Street and 10th Street (near the existing intersection with North I Street) would be reconstructed as offset cul-de-sacs and the remaining ROW between the proposed offset cul-de-sacs and railroad corridor would be relocated.
- Vacate North I Street from 7th Street to 8th Street and relocate to the west and align with the ROW on the east side of North I Street. Vacate the remaining ROW between North I Street and the railroad corridor.
- Vacate various City ROW remnants that do not impact roadway circulation (i.e., portions of dead-end streets, and remnant portions of ROW resulting from I-215 construction).
- Additional improvements (i.e., street vacations and a cul-de-sac), which are required for the Project but are already in process by others per City of San Bernardino Resolution 2018-20, are as follows:
    - Home Avenue is proposed to be vacated from North I Street to approximately 200 feet west of North I Street. A cul-de-sac is proposed at Home Avenue's new terminus.
    - North I Street is proposed to be vacated from Home Avenue to 14th Street.

  These improvements proposed by others would occur prior to commencing Project construction. Notwithstanding, to provide a conservative analysis, the impacts associated with these improvements are included with the Project's assumed improvements and are evaluated in this EIR.
- Within the BNSF corridor between the SBD Intermodal A Yard and MP 80.8, the Project proposes that City ROW be vacated and conveyed to the railroad track owner.

Easement access would be provided along portions of the vacated roadways and acquired private properties to maintain access to utilities for maintenance purposes.

2.5.4 SIGNAL IMPROVEMENTS/MODIFICATIONS

The existing signal bungalows and cantilevered signals are immediately adjacent to North I Street between Magnolia Avenue and West 14th Street. The proposed signal improvements/modifications include relocating and upgrading as many as four cantilevered signals and relocating or removing seven signal bungalows.

2.5.5 UTILITY MODIFICATIONS

Various utilities exist within the Project area, including underground and overhead distributions lines, telecommunications, natural gas, water, and sewer facilities (i.e., water meters, water hydrants, and telephone poles). The Project's proposed track, soundwall, and drainage improvements would require relocating or modifying these utilities.

2.5.6 PROPERTY ACQUISITIONS

As indicated in **Table 2-2**, the property acquisitions needed to accommodate the proposed rail and ancillary improvements/modifications would total approximately 29 acres. As many as 43 residential dwelling units (DU) (36 single-family DU and seven multi-family DU) and approximately 78,000 SF of non-residential floor area (six commercial buildings totaling approximately 46,000 SF and three industrial buildings totaling approximately 32,000 SF) would be acquired and removed. Approximately 5.3 acres of vacant lands would also be acquired. No General Plan land use designation or zone change is proposed as part of the Project for either the acquired properties or remnant parcels. Property acquisition would occur prior to commencement of Project construction, thus, acquired properties would be unoccupied when construction begins. Where residential DU are displaced, the tenants would benefit from relocation assistance in accordance with the California Relocation Assistance Program. See **Section 4.12: Population and Housing** for a discussion concerning Senate Bill 330.

Partial acquisition of some properties would create remnant parcels that would not be required for the proposed Project. Concerning the remnant parcels, the underlying/existing land use designation and zoning would be retained making these parcels available for reuse/redevelopment in the future consistent with existing designations/zoning. These remnant parcels would not be redeveloped as part of the proposed Project. Therefore, analysis of environmental impacts resulting from their redevelopment would be too speculative for evaluation and no further analysis will be conducted.

2.6 PROJECT CONSTRUCTION

2.6.1 PHASING AND SCHEDULE

Project construction is proposed to occur in one phase and is anticipated to begin approximately in the first quarter of 2022 and be completed by the first quarter of 2024. Construction subphases and approximate durations are:

- Property Demolitions: 19.5 months,
- Utility Relocations: 12 months (three months would overlap with Civil Improvements),
- Civil Improvements (i.e., street relocations/modifications, track corridor, soundwalls, and infiltration basins): 10 months (three months would overlap with Utility Relocations), and
- Track and Signal Construction: 3.5 months.

Inclusive of property demolitions, Project construction would occur over approximately 42 months. However, demolition would occur upon property acquisition, prior to commencing Project construction. Exclusive of property demolitions and accounting for the three-month overlap, Project construction would occur over approximately 23 months. Notwithstanding, to provide a conservative analysis, demolition-related activities are included in the assumed construction activities and evaluated in this EIR.

During peak construction periods, work would be underway at several locations along the BNSF corridor simultaneously, with overlapping construction of various elements. Work hours and the number of workers present at any time would vary depending on the activities being performed. For analysis purposes, it is assumed construction would occur 22 days per month and 13 hours per day. Approximately 20 construction workers per subphase are anticipated. Construction would occur in compliance with San Bernardino Municipal Code § 8.54.070, which restricts construction activities to weekdays between 7:00 AM and 8:00 PM.

2.6.2 CONSTRUCTION METHODS

Pre-construction activities would occur during final design and would include site-specific geotechnical investigations, identification of staging areas, and initiation of site preparation and demolition. Additional studies and investigations to develop construction requirements and worksite traffic control plans would occur, as needed.

Project construction would involve approximately 101,000 tons of debris/materials (import and export) and approximately 217,700 cubic yards of subcut, soil, and concrete (import and export). A typical track construction sequence includes: clearing, grubbing, grading and compacting the rail bed; applying crushed rock ballast; laying track; and installing electrical and communications systems. Excavations greater than 5.0 feet deep are expected at the proposed basin locations, drainage ditches, and utility installations. Property demolitions would include clearing the Project site of existing structures and miscellaneous improvements (i.e., pavement, curbs, signs and above-ground utilities) prior to construction. Demolition debris would be transported to an off-site recycling or disposal facility.

On-site soils would be excavated, repositioned, and compacted to bring the site to finish grade. Underground pipelines would need to be relocated/reinforced in place to accommodate the proposed Project. Methods include trenching to access existing utilities and construct new alignments, cutting and disposal of pipelines, concrete work, and construction of ancillary features. On-site soils could require environmental remediation prior to or during construction. If contamination is encountered, testing and disposal would be conducted pursuant to regulatory requirements.

2.6.3 CONSTRUCTION MONITORING

During Project construction, contractors would be required to monitor and implement various standard practices in accordance with existing laws, ordinances, regulations, and recommended measures to mitigate construction-related impacts. These construction practices would be employed during all elements of construction, including storm water management, waste management and pollution control, and staging area management.

2.6.4 CLEANUP

The construction sites, access roads, and material storage areas would be maintained in an orderly manner. Approved enclosed refuse containers would be used at the construction site of each Project component. Refuse and trash would be removed from each respective site and disposed of in an approved manner. Oils or chemicals would be handled pursuant to regulatory agency requirements, including hauling away to a disposal facility authorized to accept such materials.

2.7 INTENDED USES OF THIS EIR

This EIR's purpose is discussed in **Section 1.1: Purpose of the EIR**. The responsible and trustee federal, state, and local agencies that may rely on this EIR in a review capacity or as a basis for issuance of a permit for the proposed Project or for related actions are, as follows:

- City of San Bernardino
- County of San Bernardino
- California Department of Transportation
- Public Utilities Commission

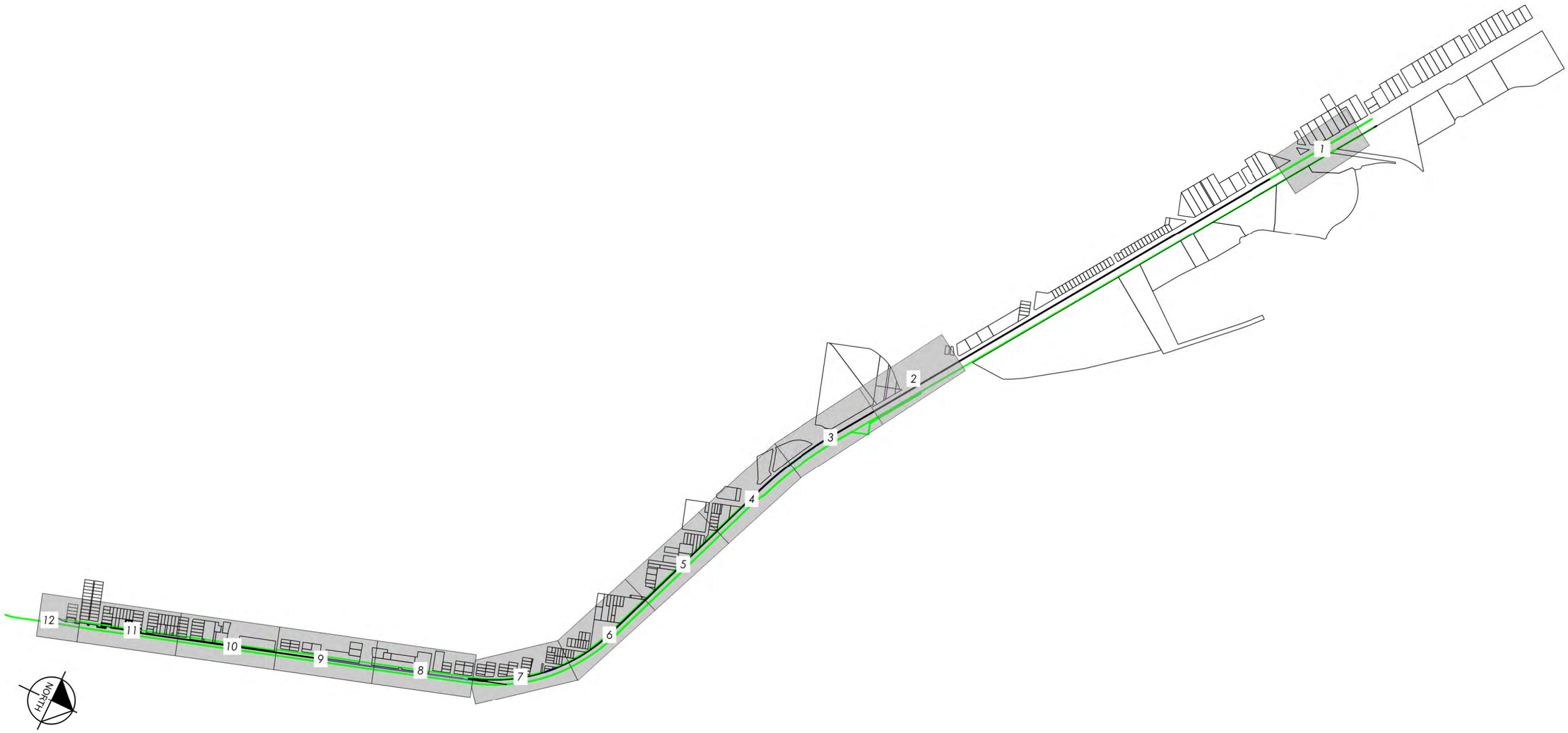
2.8 ANTICIPATED AGREEMENTS, PERMITS, AND APPROVALS

The City of San Bernardino, as lead agency for the Project, has discretionary authority over all Project components. Other agencies in addition to the City of San Bernardino are expected to use this EIR in their decision-making process. To implement the Project, at a minimum, the discretionary permits/approvals outlined in **Table 2-4: Anticipated Agreements, Permits, and Approvals**, must be granted by the City of San Bernardino and others.

TABLE 2-4: ANTICIPATED AGREEMENTS, PERMITS, AND APPROVALS

Agency	Agreement/Permit/Approval	Purpose
FEDERAL		
None		
STATE		
California Air Resources Board		Air quality compliance
State Water Resources Control Board	General Construction Storm Water Permit (Water Quality Order 99-08-DWQ): Notice of Intent and Storm Water Pollution Prevention Plan (SWPPP)	Coverage for construction activities
California Public Utilities Commission (CPUC)	Rail Crossing Modification	Expansion of railroad and highway/rail crossings
Caltrans	Consultation and Encroachment Permit	Activities within state highway ROW
California Department of Fish and Wildlife	Streambed Alteration Agreement	Impacts to jurisdictional features
REGIONAL		
South Coast Air Quality Management District		CEQA review authority
Santa Ana Regional Water Quality Control Board	Water Quality Management Plan	Post construction/operational stormwater discharges
Santa Ana Regional Water Quality Control Board	Waste Discharge Requirements	Impacts to jurisdictional features

TABLE 2-4: ANTICIPATED AGREEMENTS, PERMITS, AND APPROVALS		
Agency	**Agreement/Permit/Approval**	**Purpose**
LOCAL		
City of San Bernardino	▪ EIR Certification ▪ Reinstate and Extend Franchise Agreement ▪ Adopt Resolutions Approving Petitions to Vacate Streets/Alleys (File No. 15.30-434) ▪ Encroachment Permits ▪ Demolition Permits ▪ Miscellaneous determinations regarding street and remnant parcel compliance with City standards following acquisitions	▪ CEQA Compliance ▪ To construct, operate, and maintain a portion of an existing lead track ▪ Street/alley vacations (various) ▪ Activities within City ROW, Utility crossings ▪ Street modifications (various) ▪ Building demolitions (various)
OTHER		
Southern California Edison	Consultation	Utility crossing
California Electric Power Company	Consultation	Utility crossing
Southern Sierra Power Company	Consultation	Utility crossing
Southern California Edison	Consultation	Utility crossing
Comcast/Time Warner	Consultation	Utility crossing
Adelphia	Consultation	Utility crossing
Time Warner Cable/Telecom	Consultation	Utility crossing
Pacific Lightwave, Inc.	Consultation	Utility crossing
Southern California Gas Company	Consultation	Utility crossing
Verizon	Consultation	Utility crossing
AT&T	Consultation	Utility crossing
Pac Bell	Consultation	Utility crossing
U.S. Dept. of Agriculture, Forest Service, Angeles National Forest	Consultation	Utility crossing
CA Department of Water Resources	Consultation	Utility crossing
Metropolitan Water District	Consultation	Utility crossing



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- PR BNSF ROW
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ABBREVIATIONS

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NORTH

GRAPHIC SCALE IN FEET
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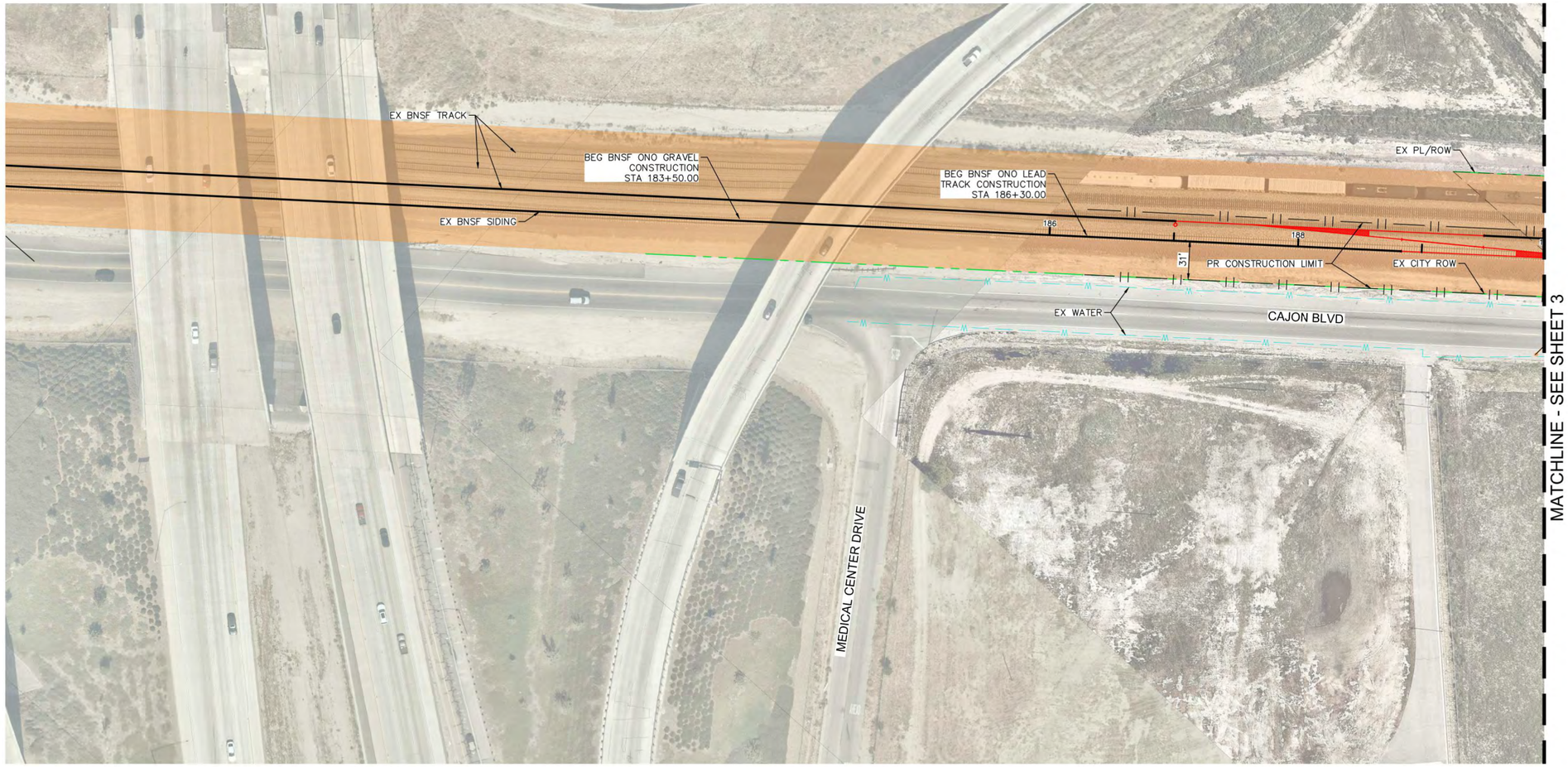

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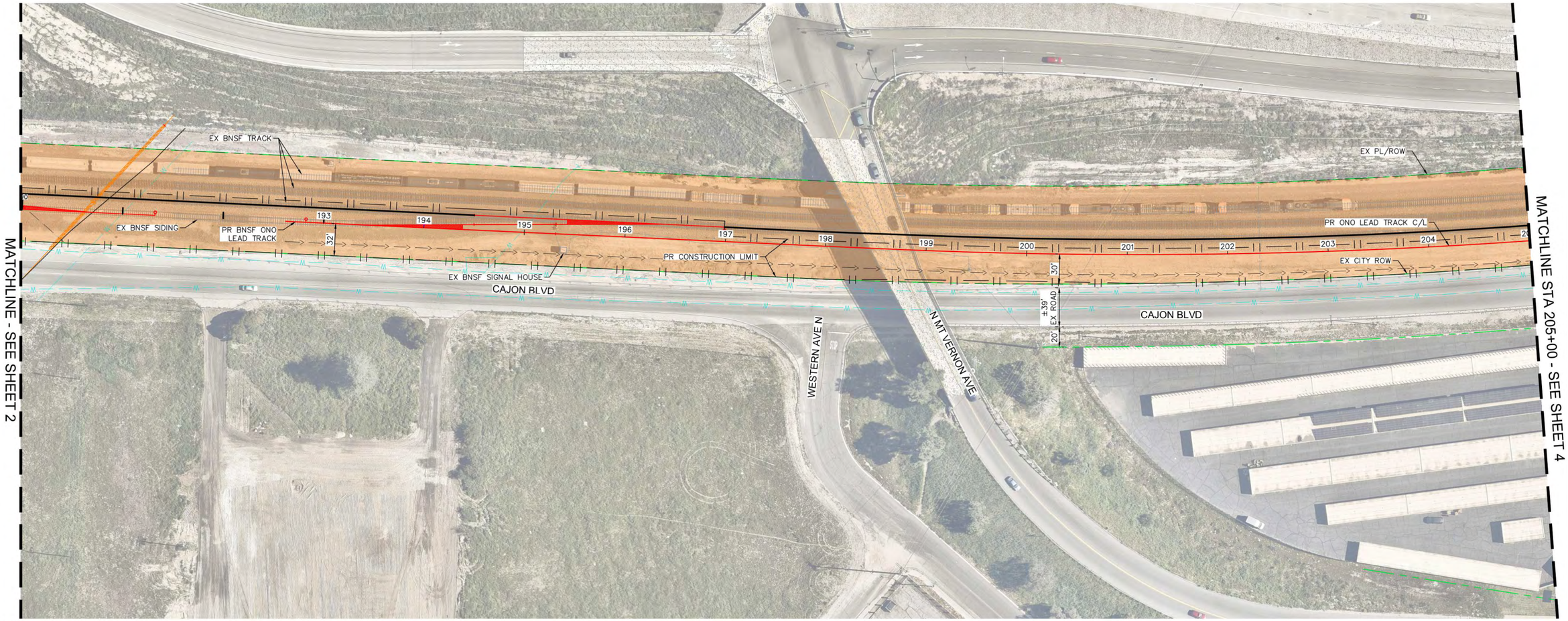

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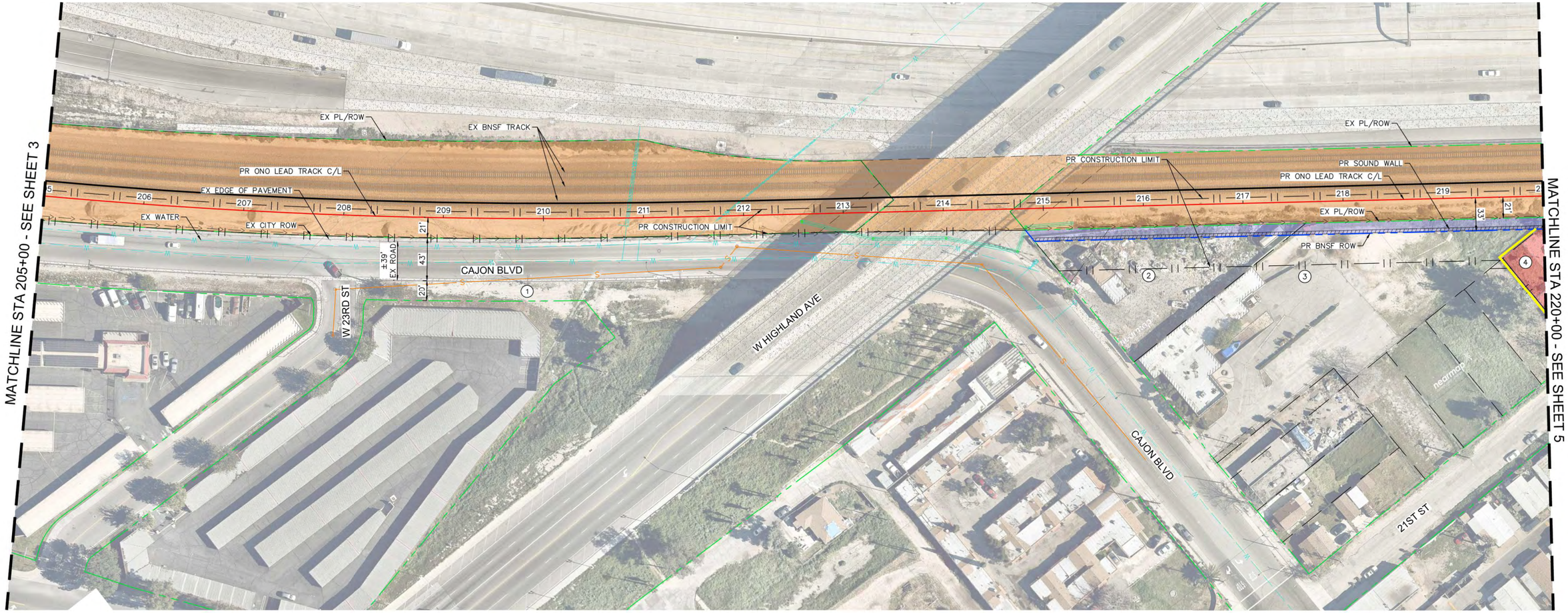

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SEGMENT 4					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
1	N/A	CITY OF SAN BERNARDINO	ROW	NO ACQUISITION ANTICIPATED	
2	0144-011-20-0000	BRELAND	CG-1	PRIVATE PROPERTY-PARTIAL TAKE	REQUIRED SIDE SETBACK IS 10FT, ONLY WHERE STREET IS ADJACENT; OTHERWISE 0FT SIDE SETBACK
3	0144-011-22-0000	GUITERREZ	CG-1	PRIVATE PROPERTY-PARTIAL TAKE	

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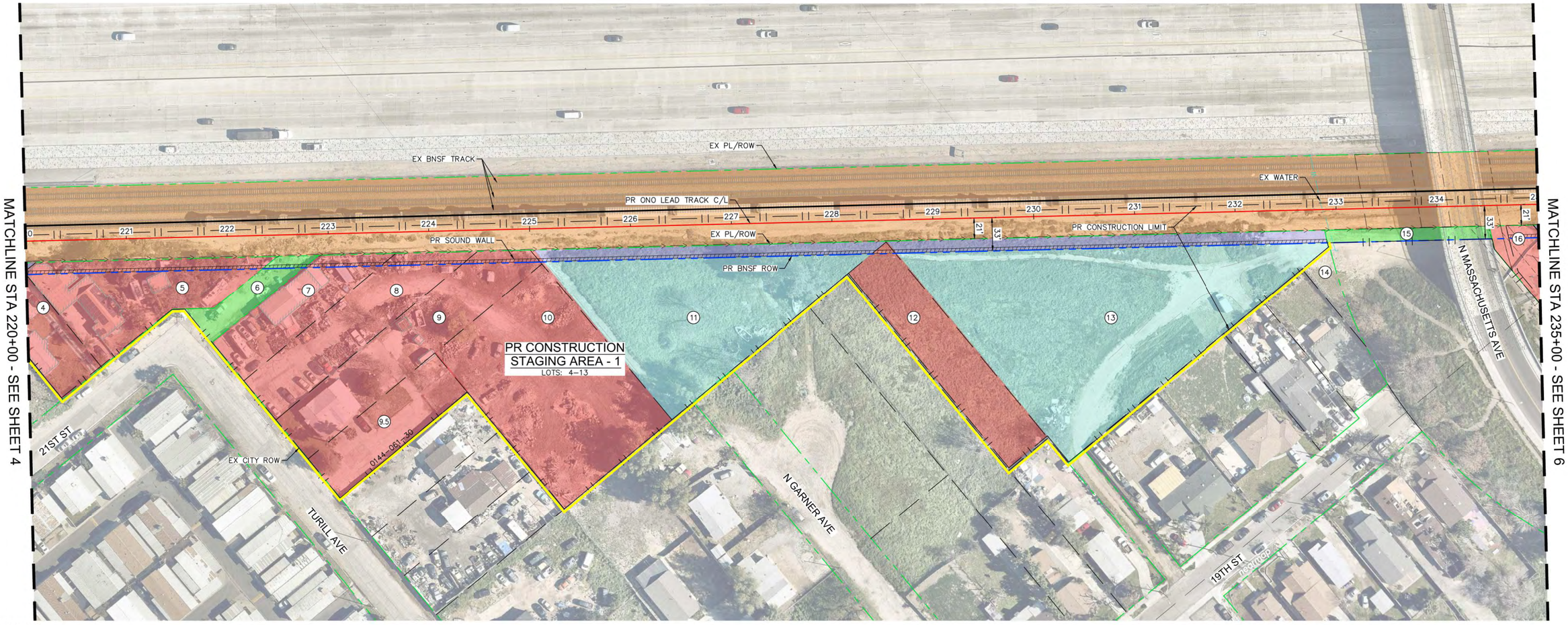

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SEGMENT 5					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
4	0144-011-18-0000	PEREZ	CG-1	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
5	0144-011-17-0000	MENDOZA	CG-1	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT
6	N/A	CITY OF SAN BERNARDINO	ROW	CITY FULL TAKE	
7	0144-061-33-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
8	0144-061-32-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT WIDTH
9	0144-061-31-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT WIDTH
10	0144-061-15-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	LANDLOCKED

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
9.5	0144-061-30-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	PROVIDES EXISTING DRIVEWAY ACCESS TO ADJACENT OWNER
11	0144-061-14-0000	PHAM	RS	PRIVATE PROPERTY-PARTIAL TAKE	MAY BE A PRIVATE FULL TAKE FOR THIS LOT AND SAME OWNER AS LOT 12
12	0144-061-35-0000	PHAM	RS	PRIVATE FULL TAKE	DOES NOT MEET MIN. LOT WIDTH
13	0144-061-07-0000	PHAM	RS	PRIVATE PROPERTY-PARTIAL TAKE	MAY BE A PRIVATE FULL TAKE FOR THIS LOT AND SAME OWNER AS LOT 12
14	0144-061-37-0000	L & M TRUST NO. 2	RS	NO ACQUISITION ANTICIPATED	
15	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	

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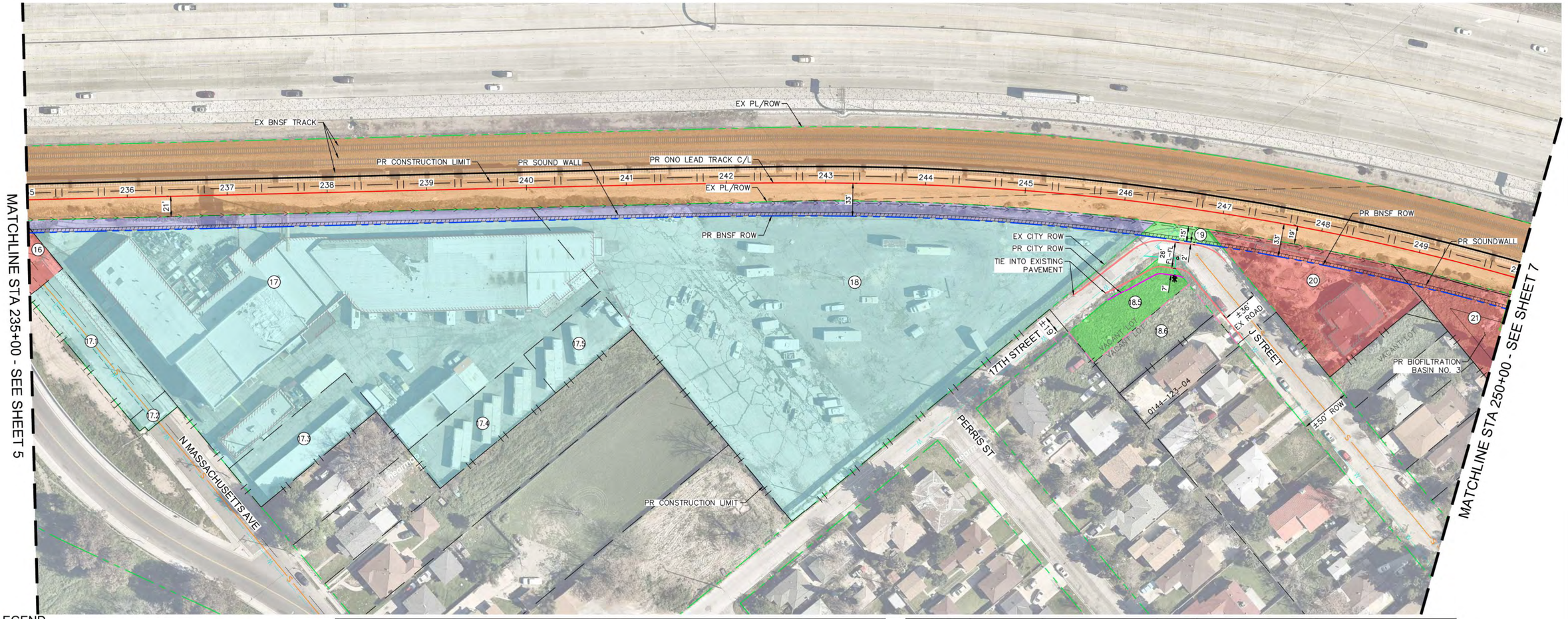

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SEGMENT 6

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
16	0144-061-36-0000	RADI ENTERPRISES CORP	CG-1	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
17	0144-091-10-0000	RADI ENTERPRISES CORP	CG-1	PRIVATE PROPERTY-PARTIAL TAKE	MAY BE A PRIVATE FULL TAKE FOR THIS LOT AND ALL ADJACENT LOTS OWNED BY THE SAME OWNER
17.1	0144-081-10-0000	RADI ENTERPRISES CORP	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	MAY BE A PRIVATE FULL TAKE FOR THIS LOT AND ALL ADJACENT LOTS OWNED BY THE SAME OWNER
17.2	0144-081-27-0000	RADI ENTERPRISES CORP	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	MAY BE A PRIVATE FULL TAKE FOR THIS LOT AND ALL ADJACENT LOTS OWNED BY THE SAME OWNER
17.3	0144-091-09-0000	RADI ENTERPRISES CORP	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	MAY BE A PRIVATE FULL TAKE FOR THIS LOT AND ALL ADJACENT LOTS OWNED BY THE SAME OWNER
17.4	0144-091-13-0000	RADI ENTERPRISES CORP	CG-1	PRIVATE PROPERTY-POTENTIAL FULL TAKE	MAY BE A PRIVATE FULL TAKE FOR THIS LOT AND ALL ADJACENT LOTS OWNED BY THE SAME OWNER
17.5	0144-091-14-0000	RADI ENTERPRISES CORP	CG-1	PRIVATE PROPERTY-POTENTIAL FULL TAKE	MAY BE A PRIVATE FULL TAKE FOR THIS LOT AND ALL ADJACENT LOTS OWNED BY THE SAME OWNER
18	0144-091-01-0000	RADI ENTERPRISES CORP	CG-1	PRIVATE PROPERTY-PARTIAL TAKE	MAY BE A PRIVATE FULL TAKE FOR THIS LOT AND ALL ADJACENT LOTS OWNED BY THE SAME OWNER
18.5	0144-123-46-0000	SUCCESSOR AGENCY/RDA CITY OF SB	RS	CITY FULL TAKE	VACANT LOT, MAY BE COMBINED WITH 18.6 FOR POSSIBLE MERGE
18.6	0144-123-03-0000	SUCCESSOR AGENCY/RDA CITY OF SB	RS	NO ACQUISITION ANTICIPATED	VACANT LOT, MAY BE COMBINED WITH 18.5 FOR POSSIBLE MERGE
19	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
20	0144-131-49-0000	VAZQUEZ	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET SIDE/REAR SETBACK AT NE BUILDING CORNER

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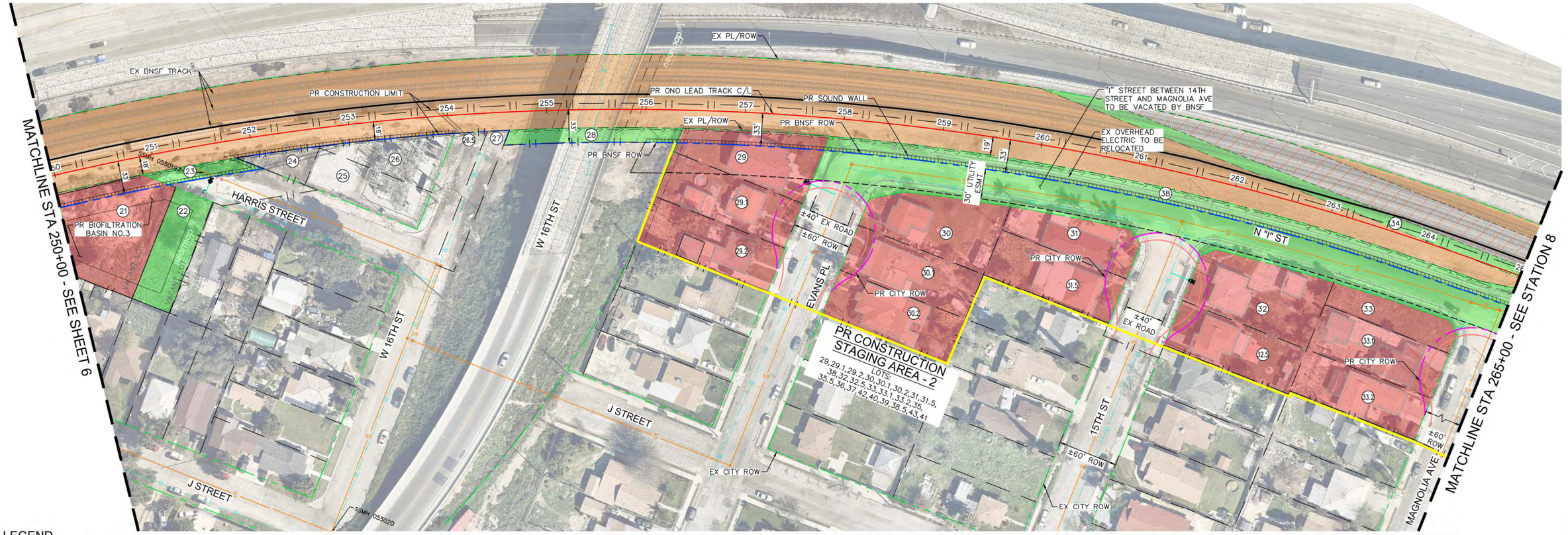

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SEGMENT 7

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
21	0144-131-50-0000	VAZQUEZ	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET LOT FRONTAGE WIDTH. SUGGEST MERGE WITH LOT 22
22	0144-131-21-0000	SUCCESSOR AGENCY/REDEVELOPMENT AGENCY	RS	CITY FULL TAKE	VACANT LOT (IF MERGED, PROVIDES ACCESS TO LOT 21). LOT OWNED BY THE CITY OF SB
23	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	NORTH OF HARRIS STREET ROW
24	0144-131-51-0000	SOUTHERN CALIFORNIA EDISION CO.	RS	NO ACQUISITION ANTICIPATED	POSSIBLE RETAINING WALL TO BE INCORPORATED. SCE PROPERTY IS LOCATED 18.3FT FROM C/L OF PROPOSED LEAD TRACK. REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS.
25	0144-131-10-0000	SOUTHERN CALIFORNIA EDISION CO.	RS	NO ACQUISITION ANTICIPATED	REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS.
26	0144-131-45-0000	SOUTHERN CALIFORNIA EDISION CO.	RS	NO ACQUISITION ANTICIPATED	POSSIBLE RETAINING WALL TO BE INCORPORATED. SCE PROPERTY IS LOCATED 18.3FT FROM C/L OF PROPOSED LEAD TRACK. REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS.
26.5	N/A	CITY OF SAN BERNARDINO	ROW	NO ACQUISITION ANTICIPATED	REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS.
27	0144-163-21-0000	SOUTHERN CALIFORNIA EDISION CO.	ROW	NO ACQUISITION ANTICIPATED	REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS
28	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	WEST 16TH STREET OVERPASS
29	0144-163-19-0000	RAMIREZ	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE/BUILDING IMPACT
29.1	0144-163-12-0000	MATA	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE/BUILDING IMPACT
29.2	0144-163-13-0000	GARCIA	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
30	0144-164-17-0000	CHAVEZ	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT WIDTH
30.1	0144-164-05-0000	HERNANDEZ	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE/BUILDING IMPACT
30.2	0144-164-04-0000	RAMIREZ	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
31	0144-164-18-0000	MORENO	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE/BUILDING IMPACT
31.5	0144-164-11-0000	VARELA	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE/BUILDING IMPACT
32	0144-183-19-0000	GERBARA	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SETBACK
32.5	0144-183-06-0000	BARAJAS	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
33	0144-183-20-0000	ROMERO	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
33.1	0144-183-10-0000	ROMERO	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
33.2	0144-183-17-0000	HARRIS	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
34	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	AREA ADJACENT TO FRANCHISE AGREEMENT, ON RAIL LINE TRACKS
38	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	NORTH I STREET

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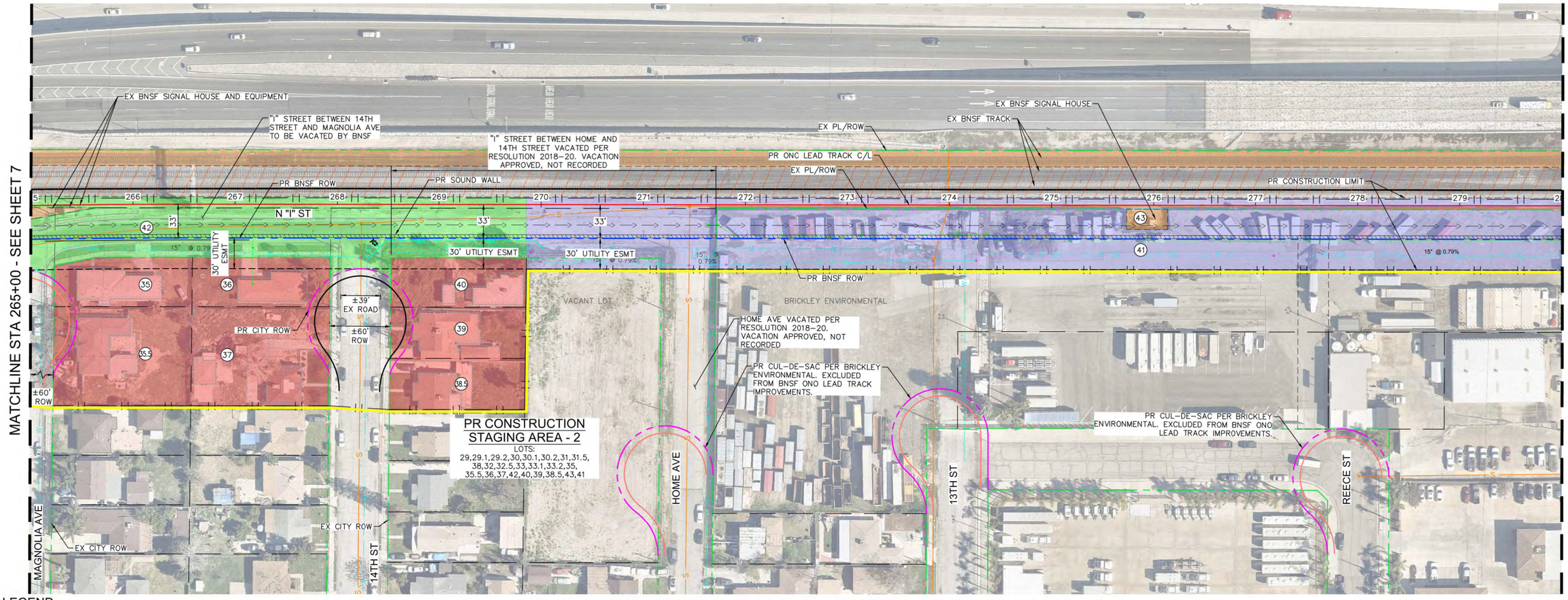

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SEGMENT 8					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
35	0144-184-08-0000	STARLITE MGT III LP	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
35.5	0144-184-21-0000	FERNANDEZ	RS	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT
36	0144-184-09-0000	DE LA GARZA	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
37	0144-184-17-0000	CEJA	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. FRONT AND REAR SETBACK
38.5	0144-221-14-0000	JONES	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
39	0144-221-15-0000	SOTO	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE/BUILDING IMPACT
40	0144-221-16-0000	ORTIZ	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
41	0144-222-54-0000	BRICLEY, THOMAS & KIMBERLY FAM TR 1	CH	PRIVATE PROPERTY-PARTIAL TAKE	PARCEL IS DIVIDED BY HOME AVE WEST (PRIVATE PARTIAL TAKE INCLUDES ROW THAT IS AQUIRED FROM THE VACATION ALONG I STREET)
42	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	NORTH I STREET
43	0144-232-29-0000	ATCHISON, TOPEKA AND STANTA FE RR CO.	CH	BNSF PROPERTY/EASEMENT	BNSF EASEMENT. NO ACQUISITION ANTICIPATED

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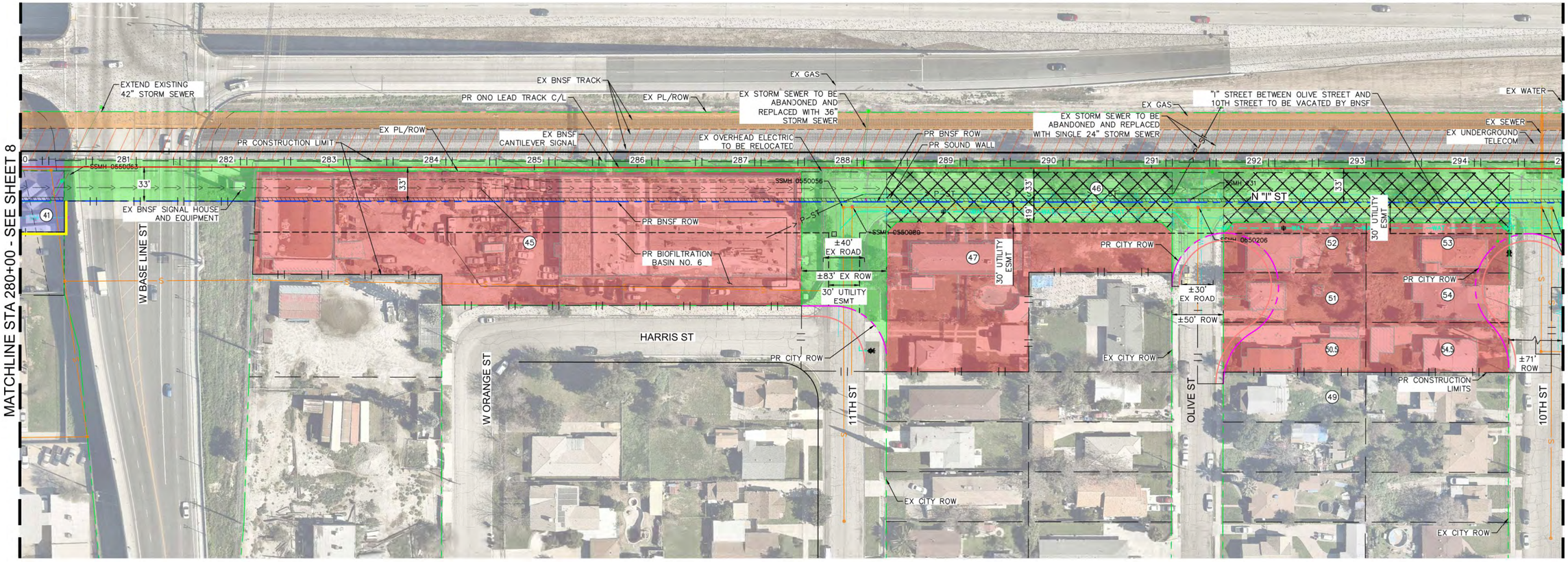

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SEGMENT 9					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
41	0144-222-54-0000	BRICLEY, THOMAS & KIMBERLY FAM TR 1	CH	PRIVATE PROPERTY-PARTIAL TAKE	PARCEL IS DIVIDED BY HOME AVE WEST (PRIVATE PARTIAL TAKE INCLUDES ROW THAT IS AQUIRED FROM THE VACATION ALONG I STREET)
45	0139-092-10-0000	KELLSTROM, TRACEY K TRUST	CH	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT
46	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
47	0139-131-30-0000	MONTECINO TRUST	RS	PRIVATE PROPERTY-FULL TAKE	TRIPLEX (DOES NOT ALLOW ACCESS TO ALL POINTS OF THE BUILDING)
49	0139-132-10-0000	GRADIAS ARTHUR	RS	PRIVATE PROPERTY-PARTIAL TAKE	4.18 SF ROW IMPACT TO LOT
50.5	0139-132-11-0000	AGUAYO	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
51	0139-132-12-0000	GUTIERREZ	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
52	0139-132-13-0000	MORALES	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
53	0139-132-16-0000	GENG	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
54	0139-132-17-0000	EOA EMPIRE LLC	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
54.5	0139-132-18-0000	SAMAYOA	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020 DRAFT.

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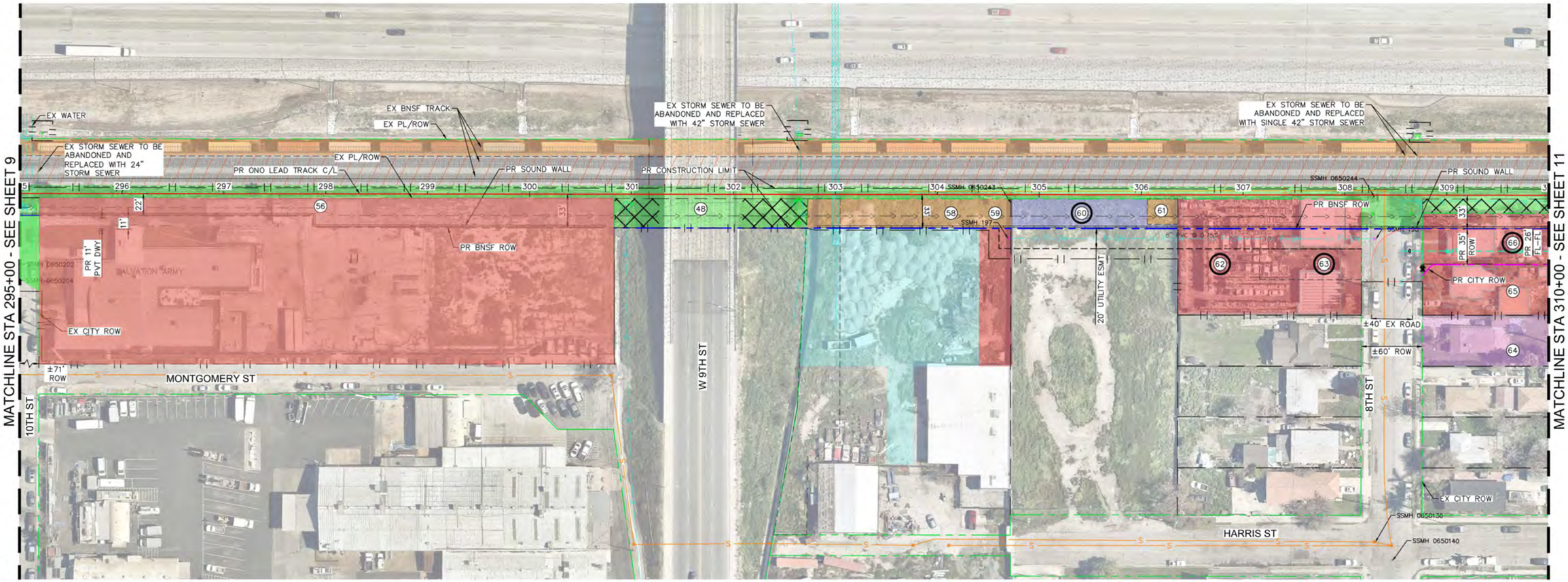

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)
- PRIVATE PROPERTY–POTENTIAL FULL TAKE
- (#) PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION
- (#) UNWILLING SELLER

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

SEGMENT 10					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
48	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
56	0139-202-01-0000	SALVATION ARMY	IL	PRIVATE PROPERTY-PARTIAL TAKE	PROPOSED ROW SECTION REDUCED TO AVOID IMPACTS AND COMPLY WITH 10FT SIDE SETBACK. IN NEGOTIATIONS WITH BNSF
58	0139-262-17-0000	BNSF	IL	ACQUIRED BY BNSF - PARTIAL TAKE	VACANT LOT. PURCHASED BY BNSF. PREVIOUSLY OWNED BY O & A DEVELOPMENT LLC
59	0139-262-05-0000	BNSF	IL	ACQUIRED BY BNSF - PARTIAL TAKE	VACANT LOT. PURCHASED BY BNSF. PREVIOUSLY OWNED BY O & A DEVELOPMENT LLC
60	0139-262-06-0000	SIERRA	IL	PRIVATE PROPERTY-PARTIAL TAKE	VACANT LOT.
61	0139-262-15-0000	ATCHISON, TOPEKA AND SANTA FE RR CO.	IL	BNSF PROPERTY/EASEMENT	BNSF EASEMENT. NO ACQUISITION ANTICIPATED
62	0139-262-07-0000	SANCHEZ	IL	PRIVATE PROPERTY-FULL TAKE	AUTO WRECKING AND STORAGE YARD/BUILDING IMPACT.
63	0139-262-08-0000	SANCHEZ	IL	PRIVATE PROPERTY-FULL TAKE	AUTO WRECKING AND STORAGE ENTRANCE.
64	0139-312-11-0000	BARRERA	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	NEEDED TO COMBINE WITH LOT 65 IN ORDER TO CREATE CONFORMING LOT
65	0139-312-12-0000	JACOBO	RS	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT. IN NEGOTIATIONS WITH BNSF
66	0139-312-13-0000	SIERRA	RS	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT.

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020 DRAFT.

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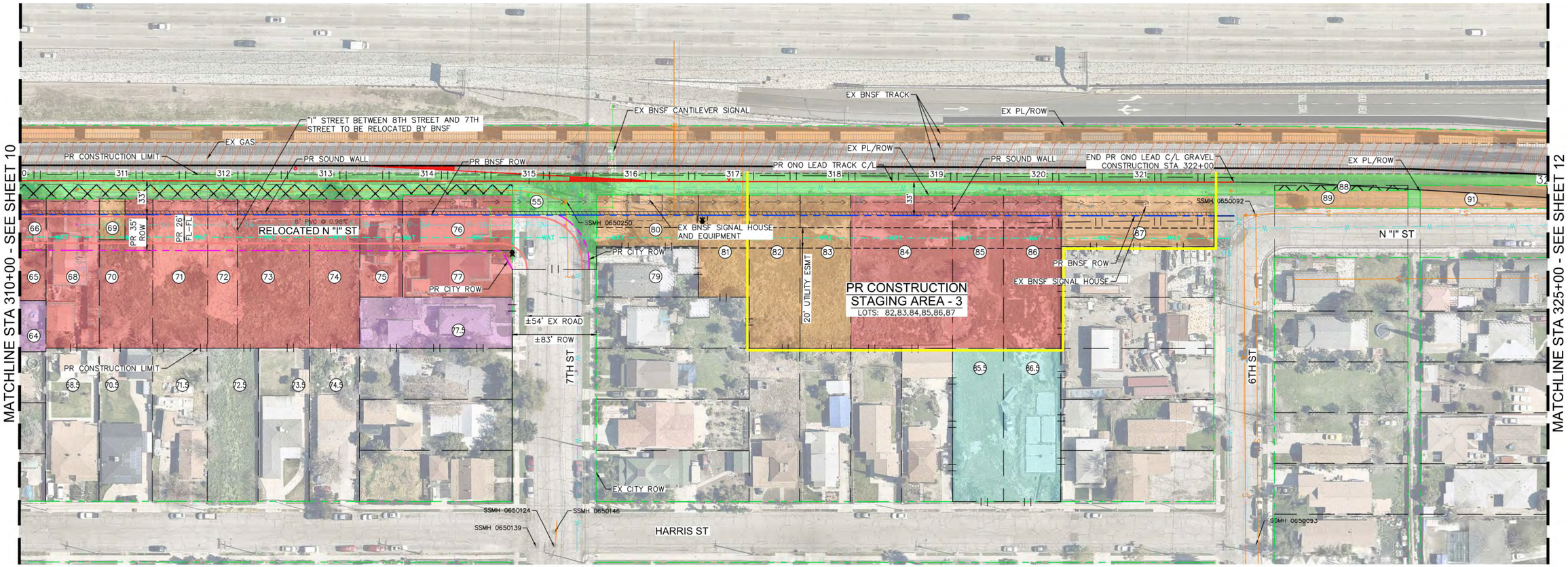

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)
- PRIVATE PROPERTY–POTENTIAL FULL TAKE
- (#) PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION

SEGMENT 11

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
55	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
68	0139-312-14-0000	GUTIERREZ	RS	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT. CITY TO ACCEPT DESIGN VARIANCE OF 96FT LOT DEPTH
68.5	0139-312-07-0000	CANDELARIA	RS	NO ACQUISITION ANTICIPATED	
69	0139-312-26-0000	ATCHISON, TOPEKA AND SANTA FE RR CO.	RS	BNSF PROPERTY/EASEMENT	BNSF EASEMENT. NO ACQUISITION ANTICIPATED
70	0139-312-15-0000	RAMOS	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, DOES NOT MEET MIN. LOT SIZE. CITY TO ACCEPT DESIGN VARIANCE OF 96FT LOT DEPTH
70.5	0139-312-07-0000	CANDELARIA	RS	NO ACQUISITION ANTICIPATED	
71	0139-312-16-0000	VILLA	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, DOES NOT MEET MIN. LOT SIZE. CITY TO ACCEPT DESIGN VARIANCE OF 96FT LOT DEPTH
71.5	0139-312-05-0000	BURDICK	RS	NO ACQUISITION ANTICIPATED	
72	0139-312-17-0000	VILLA	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, DOES NOT MEET MIN. LOT SIZE. CITY TO ACCEPT DESIGN VARIANCE OF 96FT LOT DEPTH
72.5	0139-312-04-0000	KHAN	RS	NO ACQUISITION ANTICIPATED	
73	0139-312-18-0000	SIERRA	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, DOES NOT MEET MIN. LOT SIZE. CITY TO ACCEPT DESIGN VARIANCE OF 96FT LOT DEPTH
73.5	0139-312-03-0000	RAMIREZ	RS	NO ACQUISITION ANTICIPATED	
74	0139-312-19-0000	NDIP Agbor	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, DOES NOT MEET MIN. LOT SIZE. CITY TO ACCEPT DESIGN VARIANCE OF 96FT LOT DEPTH
74.5	0139-312-02-0000	R & A HT LLC	RS	NO ACQUISITION ANTICIPATED	
75	0139-312-20-0000	ROJAS	RS	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT
76	0139-312-21-0000	MOLINA	RS	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT
77	0139-312-22-0000	DURAN	RS	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT
77.5	0139-312-23-0000	PENA	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	NEEDED TO COMBINE WITH LOT 75 AND 77 IN ORDER TO CREATE CONFORMING LOT
79	0138-072-05-0000	915 WEST 7TH STREET TRUST	RS	NO ACQUISITION ANTICIPATED	
80	0138-072-06-0000	BNSF RAILWAY CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, NO ACCESS. BNSF FEE OWNERSHIP
81	0138-072-07-0000	BNSF RAILWAY CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, NO ACCESS. BNSF FEE OWNERSHIP
82	0138-072-08-0000	BNSF RAILWAY CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, NO ACCESS. BNSF FEE OWNERSHIP
83	0138-072-09-0000	BNSF RAILWAY CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, NO ACCESS. BNSF FEE OWNERSHIP
84	0138-072-38-0000	MENDOZA	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, NO ACCESS
85	0138-072-41-0000	MENDOZA	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, NO ACCESS
85.5	0138-072-39-0000	MENDOZA	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	VACANT LOT, COMMON OWNERSHIP WITH 85 & 86
86	0138-072-42-0000	MENDOZA	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, NO ACCESS
86.5	0138-072-40-0000	MENDOZA	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	COMMON OWNERSHIP WITH 85 & 86
87	0138-072-36-0000	BURLINGTON NORTHERN & SF R/R CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, BNSF FEE OWNERSHIP
88	0138-141-29-0000	CITY OF SAN BERNARDINO	RS	CITY ROW FULL TAKE	VACANT LOT, CITY FEE OWNERSHIP
89	0138-141-32-0000	ATCHISON, TOPEKA, AND SANTA FE RR CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, BNSF FEE OWNERSHIP
91	0138-141-30-0000	ATCHISON, TOPEKA, AND SANTA FE RR CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, BNSF FEE OWNERSHIP

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: Transportation Impact Analysis. BNSF Ono Lead Extension. Kimley-Horn. April 2019 DRAFT.

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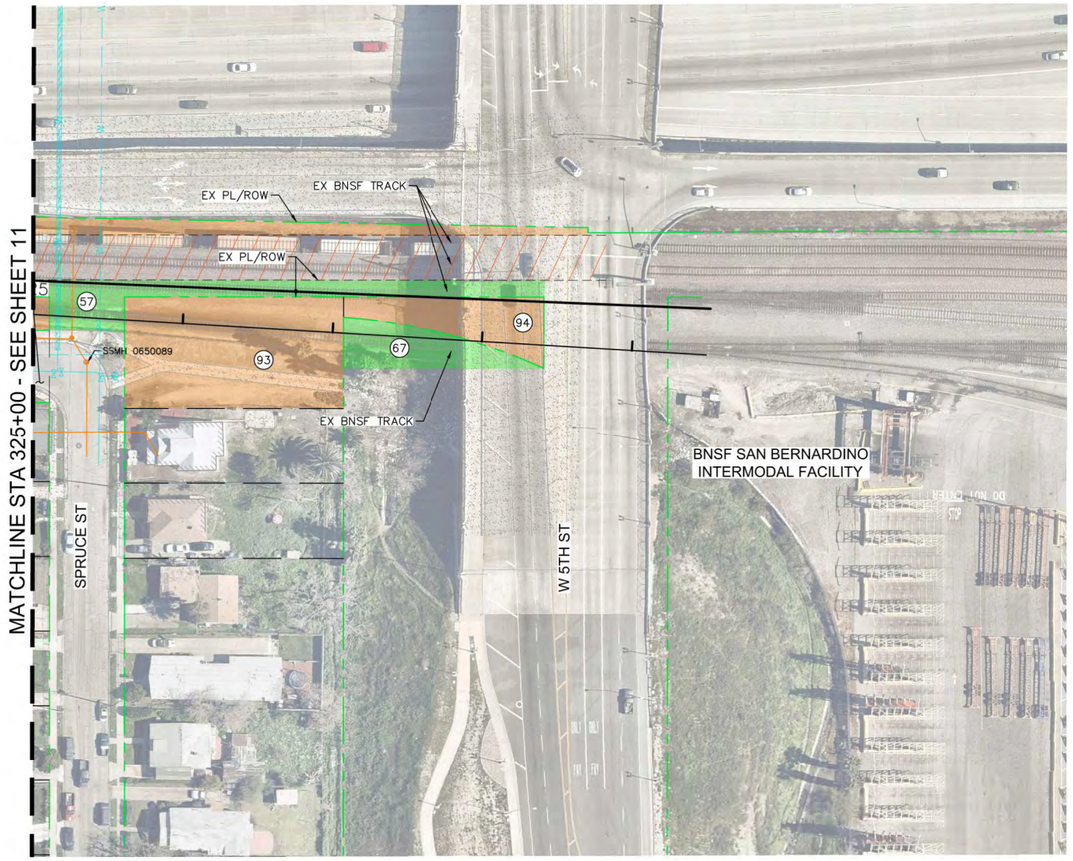

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)
- PRIVATE PROPERTY–POTENTIAL FULL TAKE
- (#) PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

SEGMENT 12					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
57	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
67	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
93	0138-142-13-0000	ATCHISON, TOPEKA, AND SANTA FE RR CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, BNSF FEE OWNERSHIP
94	0138-142-14-0000	ATCHISON, TOPEKA, AND SANTA FE RR CO.	CG-1	BNSF PROPERTY/EASEMENT	VACANT LOT, BNSF FEE OWNERSHIP

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020 DRAFT.

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3.0 BASIS FOR CUMULATIVE ANALYSIS

3.0 BASIS FOR CUMULATIVE ANALYSIS

3.1 INTRODUCTION

State CEQA Guidelines § 15355 provides the following definition of cumulative impacts:

"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

- The individual effects may be changes resulting from a single project or a number of separate projects.
- The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

State CEQA Guidelines § 15130 further addresses the discussion of cumulative impacts, as follows:

- An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.
- If the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR should briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR.
- If the combined cumulative impact associated with the project's incremental effect and the effects of other projects is significant, the EIR must determine whether the project's contribution is cumulatively considerable.
- The EIR may conclude the project's contribution to a significant cumulative impact is less than cumulatively considerable and thus is not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

Pursuant to State CEQA Guidelines § 15130(b), the discussion of cumulative impacts shall be guided by the standards of practicality and reasonableness, and should include the following elements:

1. Either:

   A. A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the Agency, or

   B. A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projects may be supplemented with additional information such as a regional modeling program. Any such

document shall be referenced and made available to the public at a location specified by the lead agency.

2. When utilizing a list, as suggested in paragraph (1) of subdivision (b), factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.

3. Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.

4. A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available.

5. A reasonable analysis of the cumulative impacts of the relevant projects, including examination of reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

To determine the Project's potential cumulative impacts, this EIR uses a summary of projections contained in an adopted plan (i.e., the City of San Bernardino General Plan (SBGP)); see **Section 3.2**. The cumulative impacts analyses are provided in **Sections 4.1** through **4.16**. These analyses describe the potential environmental changes to the existing physical conditions that may occur as a result of the proposed Project together with the SBGP's projected development.

3.2 GENERAL PLAN PROJECTIONS

As previously noted, CEQA allows the discussion of cumulative impacts to be based upon a summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. The SBGP, which was adopted in 2005, contains land use, population, and employment growth projections for the City of San Bernardino ("City" or "San Bernardino") and its sphere of influence (SOI) area at buildout (i.e., the City's planning area). The City's planning area includes 60 square miles of incorporated territory and 11 square miles of unincorporated lands within the City's SOI. Utilizing the SBGP allows for a broad, comprehensive projection of growth within the City's planning area. The City of San Bernardino General Plan EIR[1] analyzed the expected environmental effects of buildout in SBGP EIR Sections 5.1 through 5.15. The SBGP EIR analyzed three main elements: (1) a comprehensive update of the City's General Plan (except the Housing Element); which includes (2) the University District Specific Plan; and (3) Arrowhead Springs Specific Plan (AHS) with associated annexation. There are no unique land use or circulation changes as part of the University District Specific Plan and analyses are reflected in the General Plan Land Use map and designations. The AHS provides standards and guidelines for development of 1,916 acres partially within and partially outside of the City's boundaries. Thus, the SBGP EIR contains supplemental analyses to

[1] City of San Bernardino. (2005). San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. San Bernardino, CA: The Planning Center.

address potential impacts of AHS development. Therefore, the SBGP buildout capacities, as presented in the SBGP EIR and summarized below, form the baseline projections for the cumulative impact analyses contained in this EIR. Concerning buildout, the SBGP EIR concluded the following:

Assuming SBGP build-out at the adjusted level, the SBGP land use plan would accommodate a total of 95,664 dwelling units (DU), which would include 82,714 DU in the incorporated City and 12,950 DU in the City's sphere of influence (SOI). Based on a factor of 3.3402 persons per household, the projected population at build-out for the entire planning area would be approximately 319,241 people, which includes 276,264 persons in the City and 42,976 persons in the City's SOI.

Within the total planning area (incorporated plus SOI), the land use plan also provides for a total of 3,995 acres of commercial and office uses, including 257 acres of mixed-use development (accommodates a mix of commercial, office, and higher density residential development), and 6,065 acres of light and general industrial uses. At build out, the land use plan for the total planning area could generate approximately 355,629 jobs using the adjusted intensity factors (FARs). Build-out statistics are shown in [SBGP EIR] **Tables 3.3-1** and **3.3-2**.

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4.0 ENVIRONMENTAL IMPACT ANALYSIS

4.0 ENVIRONMENTAL ANALYSIS

The following EIR subsections contain a detailed environmental analysis of the existing conditions, potential Project impacts (including direct and indirect, short-term, long-term, and cumulative impacts), recommended mitigation measures, and unavoidable significant impacts. **Sections 4.1** through **4.16** analyze those environmental issue areas where potentially significant impacts may occur, as stated in **Appendix 9.2: Notice of Preparation and Comment Letters**.

This EIR examines environmental factors outlined in State CEQA Guidelines Appendix G Environmental Checklist Form, as follows:

4.1 Aesthetics,
4.2 Air Quality,
4.3 Biological Resources,
4.4 Cultural Resources,
4.5 Energy,
4.6 Geology and Soils,
4.7 Greenhouse Gas Emissions,
4.8 Hazards and Hazardous Materials,
4.9 Hydrology and Water Quality,
4.10 Land Use and Planning,
4.11 Noise,
4.12 Population and Housing,
4.13 Public Services and Recreation,
4.14 Transportation,
4.15 Tribal Cultural Resources, and
4.16 Utilities and Service Systems.

Each potentially significant environmental issue area is addressed in a separate EIR section and is organized into the following subsections:

- "Introduction" briefly introduces the section's purpose, environmental issues that will be addressed, and key source documentation used to prepare the analysis.
- "Affected Environment" describes the physical conditions in the Project's vicinity that exist at the time the Notice of Preparation was published (September 2019) and that may influence or affect the issue under investigation.
- "Regulatory Framework" discusses the laws, ordinances, regulations, and standards applicable to the Project.
- "Significance Criteria and Thresholds" provides the thresholds that are the basis of conclusions of significance, which are primarily the criteria in State CEQA Guidelines Appendix G (14 California Code of Regulations §§ 15000 – 15387).

  Primary sources used in identifying the criteria include the State CEQA Guidelines; local, State, Federal, or other standards applicable to an impact category; and officially established significance thresholds. ". . . An ironclad definition of significant effect is not possible because the significance of any activity may vary with the setting" (State CEQA Guidelines § 15064(b)). Principally, ". . . a substantial, or potentially substantial, adverse change in any of the physical conditions within an area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance" constitutes a significant impact (State CEQA Guidelines § 15382).

- "Impacts and Mitigation Measures" describes potential environmental changes to the existing physical conditions that may occur if the proposed Project is implemented. Evidence, based on factual and scientific data, is presented to show the cause and effect relationship between the proposed Project and the potential environmental changes. The exact magnitude, duration, extent, frequency, range, or other parameters of a potential impact are ascertained, to the extent possible, to determine whether impacts may be significant; all of the potential direct and reasonably foreseeable indirect effects are considered.

  Mitigation Measures are measures that would be required of the Project to avoid a significant adverse impact; to minimize a significant adverse impact; to rectify a significant adverse impact by restoration; to reduce or eliminate a significant adverse impact over time by preservation and maintenance operations; or to compensate for the impact by replacing or providing substitute resources or environment.

- "Cumulative Impacts" describes potential environmental changes to the existing physical conditions that may occur as a result of the proposed Project together with all other reasonably foreseeable, planned, and approved future projects producing related or cumulative impacts.

- "Significant Unavoidable Impacts" describes impacts that would be significant and cannot be feasibly mitigated to less than significant, and thus would be unavoidable. To approve a project with unavoidable significant impacts, the lead agency must adopt a Statement of Overriding Considerations. In adopting such a statement, the lead agency is required to balance the benefits of a project against its unavoidable environmental impacts in determining whether to approve the project. If a project's benefits are found to outweigh the unavoidable adverse environmental effects, the adverse effects may be considered "acceptable" (State CEQA Guidelines § 15093(a)).

- "References" identifies the sources used in throughout the subsection.

4.1 AESTHETICS

4.1 AESTHETICS

4.1.1 INTRODUCTION

This section describes the existing affected environment and regulatory setting concerning aesthetics. This section also identifies potential impacts that could result from Project implementation, and as necessary, recommends mitigation measures to avoid or reduce the significance of impacts.

Aesthetic and other scenic resources include both natural and built-up environments. Impacts could result from substantial adverse effects on a scenic vista, substantial damage to scenic resources (e.g., trees, rock outcroppings, or historic buildings) within a state scenic highway, and/or conflicts with applicable zoning/other regulations governing scenic quality. Impacts could also result from the creation of a new source of substantial light or glare.

The affected environment discussion is based largely on the following documents:

- City of San Bernardino General Plan (SBGP)
- City of San Bernardino Municipal Code (SBMC)

VISUAL RESOURCE TERMINOLOGY AND CONCEPTS

When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person's attachment to and value for a landscape is unique, visual changes to that landscape inherently affect viewers differently. However, generalizations can be made about viewer sensitivity to scenic quality and visual changes. Recreational users (e.g., hikers, equestrians, tourists, and people driving for pleasure) are expected to have high concern for scenery and landscape character. People commuting daily through the same landscape generally have a moderate concern for scenery, while people working inside buildings with limited exposure to the outdoors generally have a lower concern for scenic quality or changes to existing landscape character. For example, warehouse and manufacturing buildings are typically concrete tilt-up structures with minimal window openings. The visual sensitivity of a landscape is also affected by the travel speed at which a person is viewing the landscape (high speeds on a highway, low speeds on a hiking trail, or stationary at a residence).

A landscape's visual sensitivity is affected by the viewing distances at which it is seen. The same project feature can be perceived differently by people depending on the distance between the observer and the viewed object. When a viewer is closer to a viewed object in the landscape, greater detail is visible, and there is greater potential influence of the object on visual quality because of its form or scale (the object's relative size in relation to the viewer). When the same object is viewed at background distances, details may be imperceptible but overall forms of terrain and vegetation are evident, and the horizon and skyline are dominant. In the middle ground, some detail is evident (e.g., the foreground), and landscape elements are seen in context with landforms and vegetation patterns (e.g., the background).

The following terms and concepts are used in the discussion below to describe and assess the aesthetic setting and Project impacts.

Scenic Vista. An area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing. This includes any such areas designated by a federal, state, or local agency.

Scenic Highway. Any stretch of public roadway that is designated as a scenic corridor by a federal, state, or local agency.

Sensitive Receptors. Viewer responses to visual settings are inferred from a variety of factors, including distance and viewing angle, types of viewers, number of viewers, duration of view, and viewer activities. The viewer type and associated viewer sensitivity are distinguished among project viewers in recreational, residential, commercial, and industrial areas. Viewer activities can range from a circumstance that encourages a viewer to observe the surroundings more closely (such as recreational activities) to one that discourages close observation (such as commuting in heavy traffic). Viewers in recreational areas are considered to have high sensitivity to visual resources. Residential viewers generally have moderate sensitivity but extended viewing periods. Viewers in commercial and industrial areas are considered to have low sensitivity.

Viewshed. A project's viewshed is defined as the surrounding geographic area from which the project is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations. "Project viewshed" is used to describe the area surrounding a project site where a person standing on the ground or driving a vehicle can view the project site.

Visual Character. Visual character typically consists of landforms, vegetation, water features, and cultural modifications that impart an overall visual impression of an area's landscape. Scenic areas typically include open space, landscaped corridors, and viewsheds. Visual character is influenced by many different landscape attributes including color contrasts, landform prominence, repetition of geometric forms, and uniqueness of textures among other characteristics.

4.1.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Scenic Vistas

The SBGP designates the San Gabriel Mountains – approximately 23 miles to the northwest of the Project site – and the San Bernardino Mountains – approximately 25 miles to the east – as scenic vistas. Where viewsheds within the Project site are not obstructed by existing development and mature trees, the San Gabriel Mountains and San Bernardino Mountains are visible in the distant background.

Scenic Highway

Refer to **Section 4.1.3: Regulatory Framework** – STATE – California Department of Transportation (Caltrans).

VISUAL CHARACTER

The Project site is in southwestern San Bernardino County, at the southern portion of the City of San Bernardino (City), at elevations ranging from approximately 1,080 to 1,200 feet above mean sea level (amsl). The Project site consists of existing BNSF Right-of-Way (ROW) and adjacent properties where ground disturbances or property acquisitions would occur; see **Exhibit 2-2: Local Vicinity Map**. The Project site's existing conditions are depicted on **Exhibits 4.1-1a through 4.1-1g: Project Site Photographs**.

Segment 01 Northwest

Segment 01 Southeast

Segment 02 Northwest

Segment 02 Southeast

Kimley»Horn

MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.1-1a: Project Site Photographs

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Segment 03 Proposed BNSF ROW Partial Take

Segment 03 Southeast

Segment 04 Proposed BNSF ROW Partial Take

Segment 05 Proposed BNSF ROW Partial Take Northwest

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BNSF Ono Lead Track Extension Project EIR

Exhibit 4.1-1b: Project Site Photographs

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Segment 05 Proposed BNSF ROW Partial Take Southeast

Segment 06 BNSF ROW Full Take Southeast

Segment 06 Proposed BNSF ROW Full Take Northwest

Segment 07 14th Street Proposed Cul-de-sac

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BNSF Ono Lead Track Extension Project EIR

Exhibit 4.1-1c: Project Site Photographs

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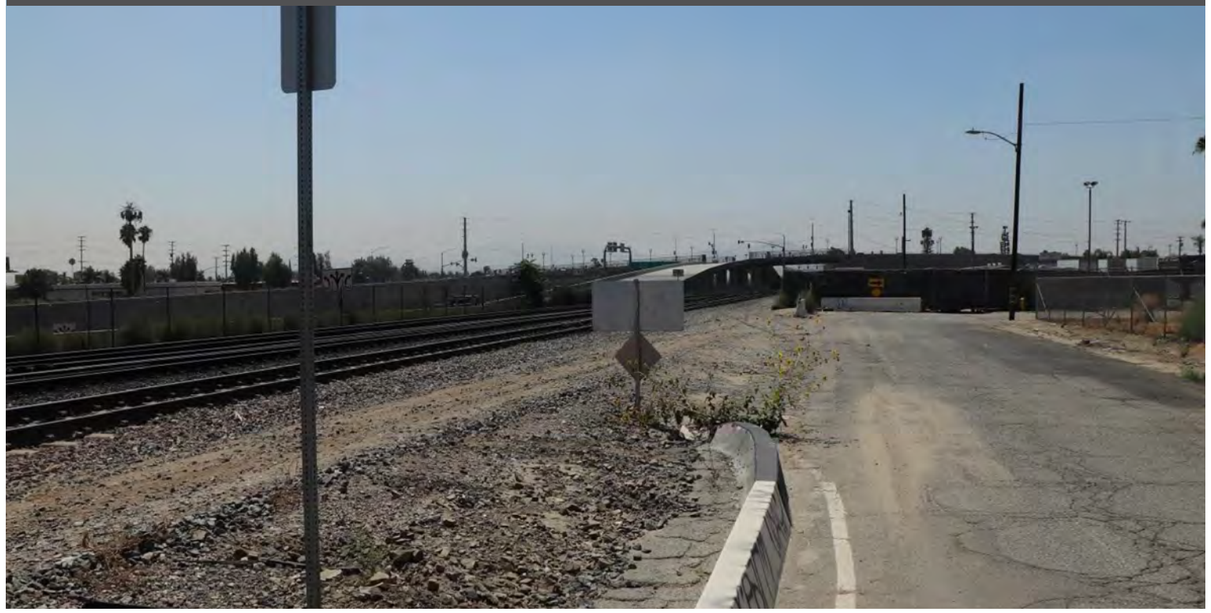
Segment 07 City of San Bernardino Full Take Southeast



Segment 07 Home Avenue Proposed Cul-de-sac

Segment 08 10th Street Proposed Cul-de-sac

Segment 08 City of San Bernardino Full Take North

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BNSF Ono Lead Track Extension Project EIR

Exhibit 4.1-1d: Project Site Photographs

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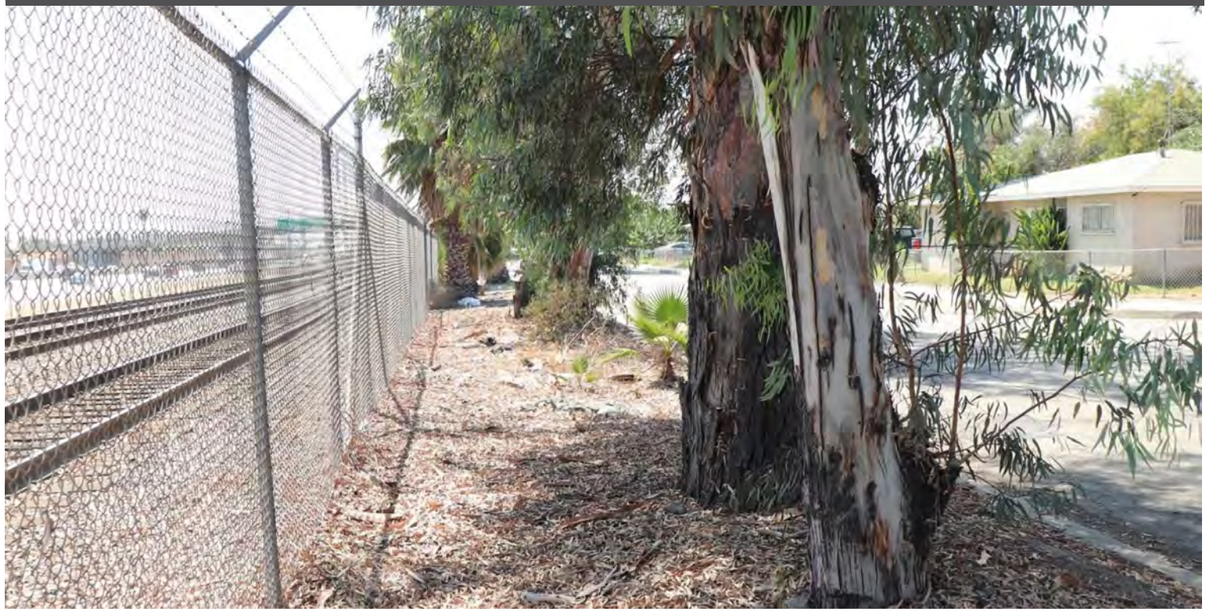
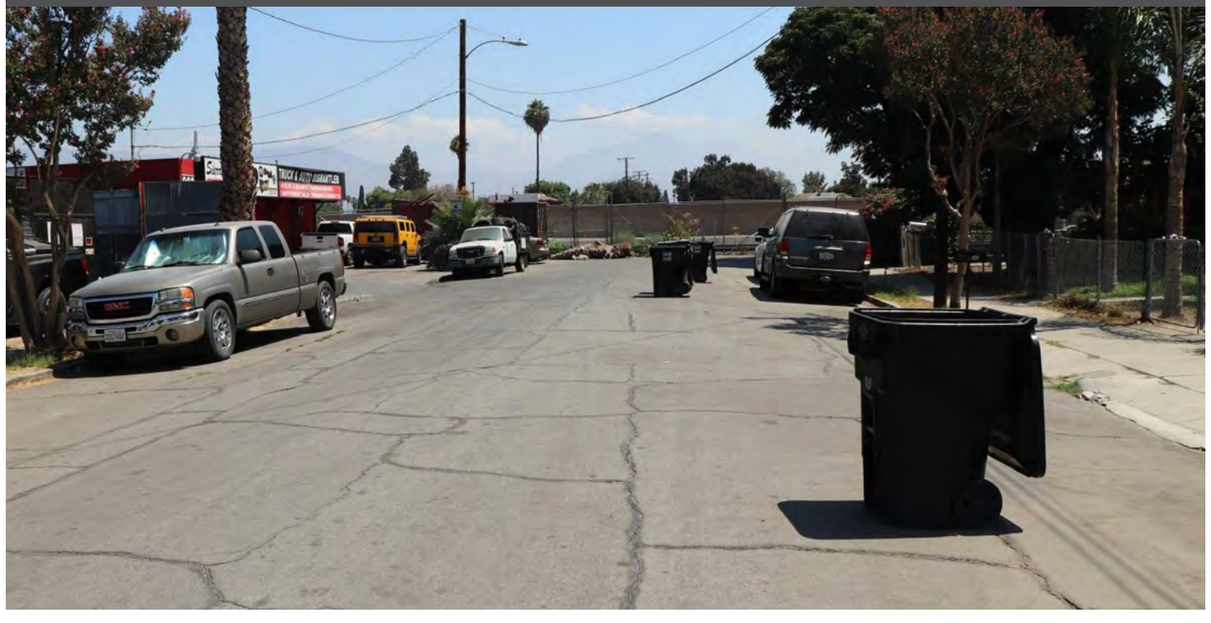
Segment 08 City of San Bernardino Full Take South

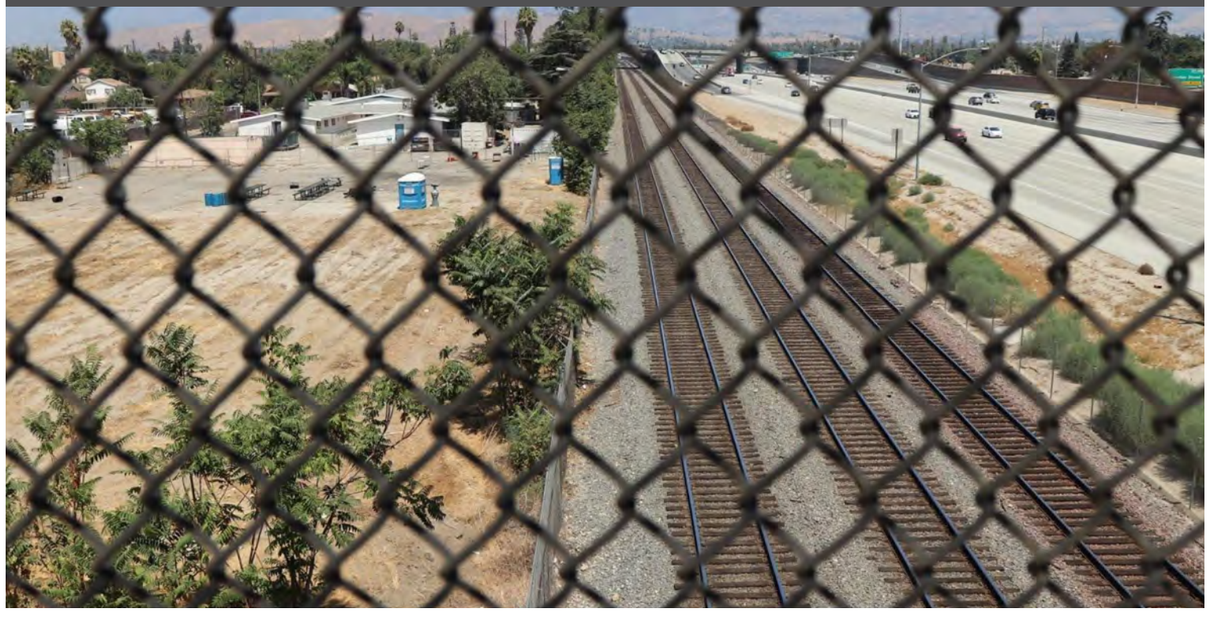


Segment 08 Olive Street Proposed Cul-de-sac

Segment 09 8th Street Proposed Cul-de-sac



Segment 09 Proposed BNSF ROW Partial Take North



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BNSF Ono Lead Track Extension Project EIR

Exhibit 4.1-1e: Project Site Photographs

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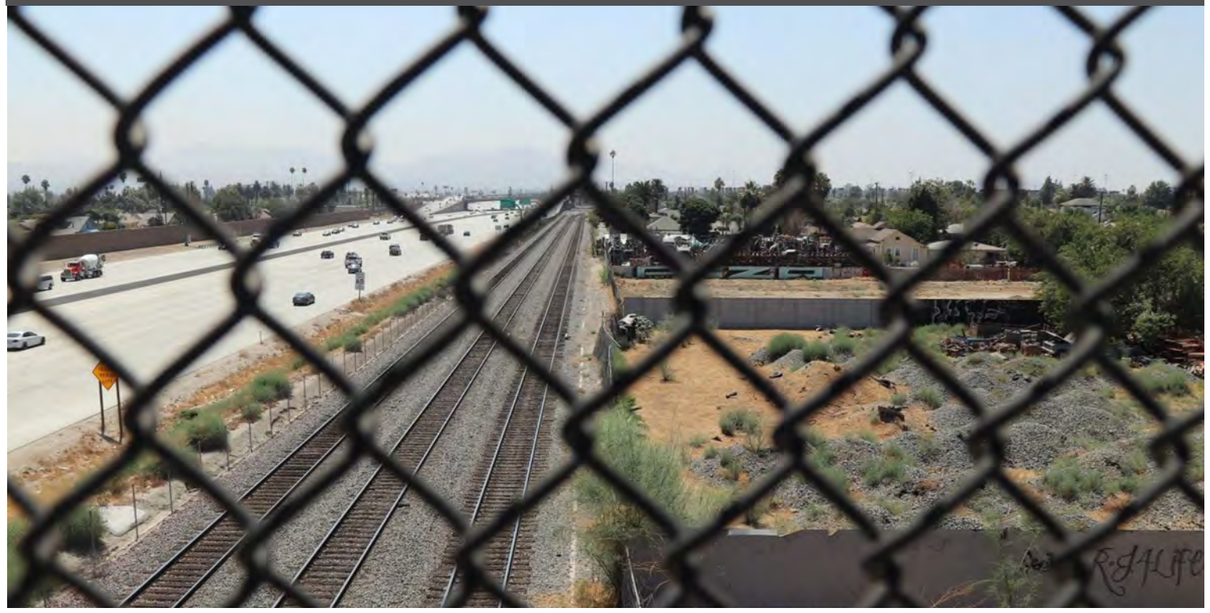
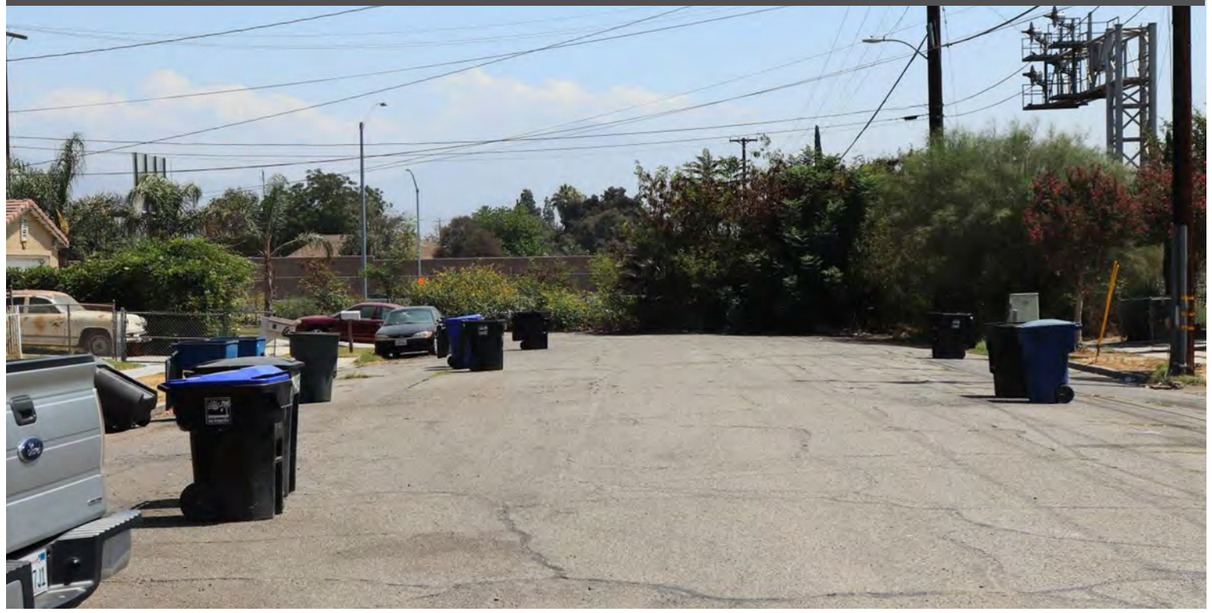
Segment 09 Proposed BNSF ROW Partial Take South

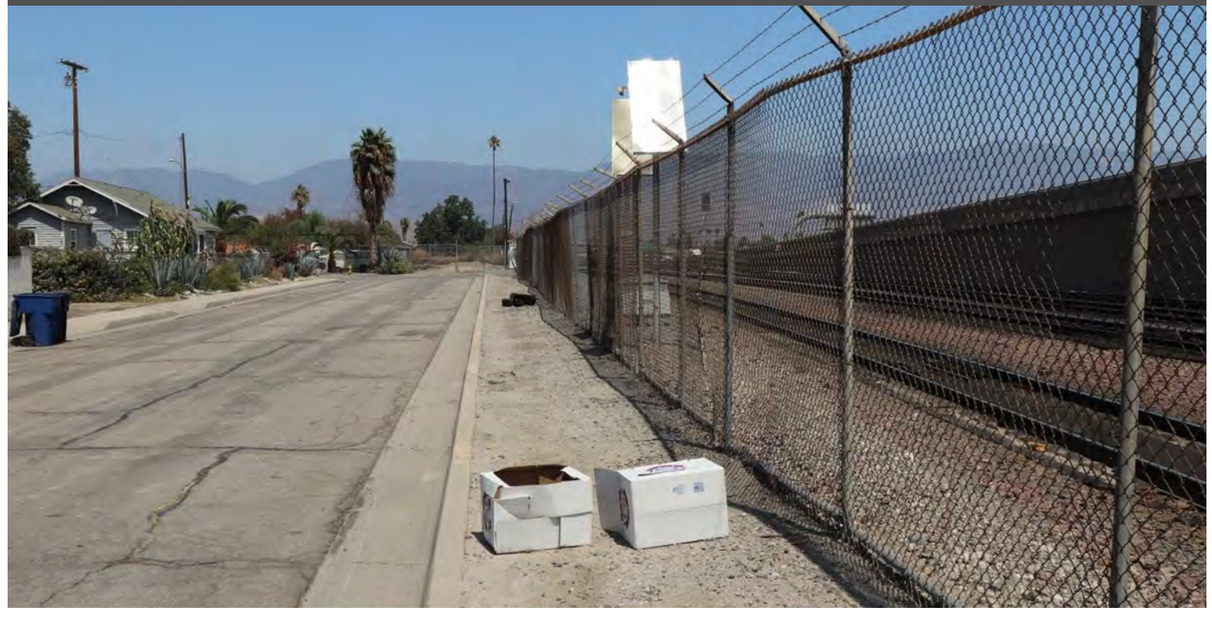


Segment 10 7th Street Proposed Cul-de-sac



Segment 10 City of San Bernardino Full Take South

Segment 10 Existing BNSF Easement North



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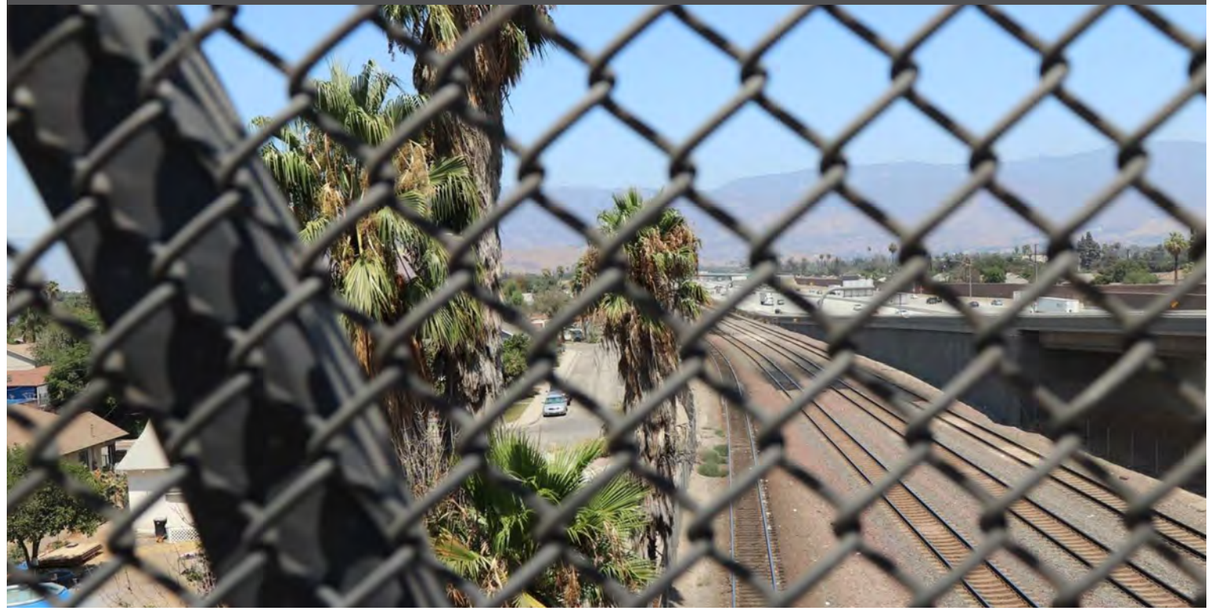
Segment 11 Existing BNSF Easement North



Segment 11 Existing BNSF Easement South

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BNSF Right-Of-Way

Typical uses associated with railways are present within the BNSF ROW. The BNSF ROW includes an existing three- and four-mainline track railroad system with associated signals/signal poles, electrical poles, cabinets, and utility control boxes. Currently, two trains idle between two and three hours while waiting for access into the A Yard. An additional train idles on storage tracks for eight hours, two to three times per week. These trains are visible as they travel along the corridor or idle within it. Underground and overhead utility lines are also present and visible within the BNSF ROW and throughout the area. There are no natural habitats or natural visual resources (such as open spaces, rock outcroppings, or hills) within the BNSF ROW or surrounding area, resulting in little aesthetic value concerning natural visual resources.

Adjacent Properties

As depicted in **Exhibits 4.1-1a** through **4.1-1g**, there are no natural habitats or natural visual resources (such as open spaces, rock outcroppings, or hills) within the adjacent properties or surrounding area, resulting in little aesthetic value concerning natural visual resources. The area's visual character is dominated by developments typical of suburban cities. The adjacent properties are industrial, commercial, and residential (predominantly single-family) land uses, and vacant lots. These are of various architectural designs, scales, and age of construction. None of the structures are historically significant; see **Section 4.4: Cultural Resources**. Additionally, numerous City roadways and gravel/dirt roads traverse the adjacent properties. **Appendix 9.1: Land Use Matrix**, identifies the 109 parcels and City ROW that comprise the adjacent properties where ground disturbances or property acquisitions would occur, their Assessor's Parcel Number (APN), size and land use, and Project segments and stations.

LIGHT AND GLARE

Light and glare in the Project area are typical of that found in urban environments. Sources of light and glare include adjacent commercial, industrial, and residential land uses. Stationary source lighting in the Project area is generated by building interiors and exterior sources (i.e., building illumination, security lighting, parking lot lighting, and landscape lighting) associated with land uses within and adjacent to the Project site. The Project area is also influenced by light and glare from vehicle headlights, streetlights, and other sources that are present throughout the City. Within the existing BNSF corridor, passing locomotive headlights and railcar lighting, and railway signals generate a nominal amount of lighting. These are temporary and directed along the guideway.

4.1.3 REGULATORY FRAMEWORK

This section discusses the Federal, State, and local policies and requirements applicable to the Project.

FEDERAL

There are no Federal laws, regulations, or orders regarding aesthetics relevant to the Project.

STATE

California Department of Transportation (Caltrans)

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program, which is intended to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to state highways. State laws governing the Scenic Highway Program are found in Streets and Highways Code §§ 260 to 263. A highway may be designated as scenic based on certain criteria, including how much of the natural landscape can be seen by travelers, the landscape's scenic quality, and the extent to which development intrudes on the traveler's scenic view enjoyment. The Program's *Scenic Highway System List* identifies scenic highways that are either eligible for designation or have already been designated as such.

According to the Scenic Highway System List, the State Route 30 and State Route 330 segments that traverse the City are "eligible" state scenic highways, but are not yet officially designated.[1] However, there are no state-designated scenic highways near the Project site.[2] State Route 30, now Interstate 210, is approximately 2.9 miles north of the Project site, while State Route 330 is approximately 6.0 miles to the east.

LOCAL

City of San Bernardino General Plan

Land Use Element

The SBGP Land Use Element functions as a guide to planners, the general public, and decision-makers concerning the City's ultimate development pattern. It designates general site development standards and the distribution, location, and extent of land uses, such as housing, business [commercial], industry, open space, natural resources, recreation, and public/quasi-public uses. It also discusses the standards of residential density and non-residential intensity for the various land use designations.

Goal 2.1: **Preserve and enhance San Bernardino's unique neighborhoods.**

Policy 2.1.2: Require that new development with potentially adverse impacts on existing neighborhoods or residents such as noise, traffic, emissions, and stormwater runoff, be located and designed so that quality of life and safety in existing neighborhoods are preserved.

Community Design Element

The SBGP Community Design Element is intended to create distinct community gateways and enhanced corridors to provide a community identity and distinguish San Bernardino from surrounding communities.

Goal 5.2: **Attractively design, landscape, and maintain San Bernardino's major corridors.**

[1] California Department of Transportation. (2018). *Scenic Highway System List*. Retrieved from http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html.

[2] Ibid.

Policy 5.2.2: Require that landscaping be adequately maintained and replaced if removed due to damage or health.

Policy 5.2.4: Screen public facilities and above-ground infrastructure support structures and equipment, such as electrical substations and water wells, through sensitive site design, appropriately scaled landscaping, undergrounding of utilities, and other methods of screening.

Goal 5.3: Recognize unique features in individual districts and neighborhoods and develop a program to create unifying design themes to identify areas throughout the City.

Policy 5.3.7: Establish a program to select and install streetlights that reinforce the character of the particular district.

Goal 5.4: Ensure individual projects are well designed and maintained.

Policy 5.4.1: Aggressively apply and enforce citywide landscape and development standards in new and revitalized development throughout the City.

Policy 5.4.2: Ensure that the design of all public facilities fits well into their surroundings and incorporates symbolic references to the City, including its past and/or present, as appropriate.

Circulation Element

The SBGP Circulation Element is intended to design and improve a circulation system to meet the current and future needs of all its residents. The SBGP Circulation Element identifies the City's scenic highways and routes. The circulation system's scenic highways and routes traverse areas of unusual scenic or aesthetic value. SBGP Figure C-1 depicts the City's scenic highways/routes and indicates two roadways within the City have been nominated for official Scenic Highway status; refer to **Section 4.1.3: Regulatory Framework** – STATE – California Department of Transportation (Caltrans).

City of San Bernardino Municipal Code

SBMC Chapter 19.02. The purpose of SBMC Chapter 19.02 is to promote the public health, safety, general welfare and preserve and enhance the City's aesthetic quality by providing regulations to ensure an appropriate mix of land uses in an orderly manner. This Chapter also specifies that the City is divided into zones intended to consistently implement the General Plan.

Following are the City's zones that include regulations governing scenic quality (i.e., general standards, relating building proportions, massing, height, and structural setbacks) and intended to preserve/enhance an area's scenic character: OS (Open Space) Zone, PFC (Public Flood Control) Zone, and FP (Flood Plain Overlay) Zone, HM (Hillside Management Overlay) Zone, HP (Historic Preservation Overlay) Zone, and Special Purpose Zones.

SBMC § 19.08.050 regulates lighting for industrial development, as follows:

A. Lighting should be used to provide illumination for the security and safety of on-site areas such as parking, loading, shipping, and receiving, pathways, and working areas.

B. The design of light fixtures and their structural support shall be architecturally compatible with main buildings on-site. Illuminators should be integrated within the architectural design for the buildings.

C. As a security device, lighting should be adequate but not overly bright. All building entrances should be well lighted.

D. All lighting should be shielded to confine light spread within the site boundaries.

E. One foot-candle evenly distributed across a parking lot is the required minimum. At entrances and loading areas, up to 2 foot-candles may be appropriate.

4.1.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions concerning aesthetics. The issues presented in the Environmental Checklist have been used as significance criteria in this section. Accordingly, the Project would have a significant effect on the environment if it would:

- Have a substantial adverse effect on a scenic vista (see Impact 4.1-1);
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway (see Impact 4.1-2);
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality (see Impact 4.1-3);
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (see Impact 4.1-4).

METHODOLOGY AND ASSUMPTIONS

The proposed Project is evaluated against the aforementioned significance criteria as the basis for determining the impact's level of significance concerning aesthetics. This analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards (LORS)) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended to avoid or reduce the Project's potentially significant environmental impacts.

This analysis of impacts on aesthetic resources examines the Project's temporary (i.e., construction) and permanent (i.e., operational) effects-based significance criteria/threshold's application, outlined above. For each criterion, the analyses are generally divided into two main categories: (1) temporary impacts; and (2) permanent impacts. Each criterion is discussed in the context of Project components that share similar characteristics/geography. The impact conclusions consider the potential for changes in environmental conditions, as well as compliance with the regulatory framework enacted to protect the environment.

The baseline conditions and impact analyses are based on field observations conducted by Kimley-Horn; review of Project maps and drawings; analysis of aerial and ground-level photographs; and review of various data available in public records, including local planning documents. The determination that a Project component would or would not result in "substantial" adverse effects on scenic resources or scenic quality considers the site's aesthetic resource value and the Project's individual component visual impact (e.g., the nature and duration of the impact). For example, a Project component resulting in a substantial impact on a site with a low aesthetic resource value would likely result in a less than significant impact concerning scenic resources or scenic quality. Thus, new highly visible structures or visual changes in areas with a low aesthetic resource value may not necessarily result in substantial adverse effects on scenic resources/scenic quality.

4.1.5 IMPACTS AND MITIGATION MEASURES

Impact 4.1-1: Would the Project have a substantial adverse effect on a scenic vista?

Level of Significance: Less Than Significant Impact

CONSTRUCTION

Under CEQA, a scenic vista is defined as a viewpoint that provides expansive views of highly-valued landscape for the public's benefit. As previously noted, the SBGP designates the San Gabriel Mountains – approximately 23 miles to the northwest of the Project site – and the San Bernardino Mountains – approximately 25 miles to the east – as scenic vistas. Where viewsheds within Project site are not obstructed by existing development and mature trees, the San Gabriel Mountains and San Bernardino Mountains are visible in the distant background. The Project site and surrounding properties are railroad, industrial, commercial, and residential (predominantly single-family) land uses, and vacant lots. Additionally, numerous City roadways and gravel/dirt roads traverse the Project site. The Project site is not identified as a visually-sensitive area.

Typically, building and structural massing, height, and location have the potential to adversely impact scenic vistas. The Project would install a fourth lead track, with associated roadbed improvements, extending within/along approximately 4.3 miles of the existing BNSF corridor. The Project also proposes improvements/modifications that are ancillary and related to the lead track extension, which are summarized, as follows:

- Stormwater Drainage/Water Quality: new swales along the tracks and as many as seven infiltration basins along the railroad corridor.
- Circulation/Roadways: street vacations, realignments, and cul-de-sacs.
- Railroad Signals: relocating and upgrading as many as four cantilevered signals and relocating or removing seven signal bungalows.
- Utilities: relocating utility lines.

Most of the proposed improvements would be at or near grade (ground level), thus, would not impede any views of distant scenic vistas. Additionally, the proposed improvements involving vertical features (i.e., cantilevered signals, signal bungalows, street lighting poles, and relocated overhead utilities) would

generally involve relocations. None of the Project features would involve new buildings or structural massing and all are at ground level, except the sound walls required as mitigation; see **Section 4.11: Noise**.

For the southern track segment, partial and full property acquisitions would be required outside of the BNSF corridor. To accommodate the proposed rail and ancillary improvements, the Project would require acquisition of approximately 29 acres of adjacent properties where residential and non-residential land uses are located. Project implementation would require removal of as many as 43 dwelling units and approximately 78,000 SF of non-residential (commercial and industrial) land uses. Property acquisitions would result in the removal of vertical features including buildings and structural massing at various heights, which depending on their location and intervening structures, could improve local views of distant scenic vistas (i.e., San Gabriel and San Bernardino Mountains).

Therefore, given the nature and characteristics of the proposed improvements, and since property acquisitions and building removal could improve local views of distant scenic vistas by removing vertical obstacles to the views, Project construction would not have a substantial adverse effect on a scenic vista. A less than significant impact would occur.

OPERATIONS

The Project does not propose to increase line operations or the number of trains, instead it would increase the A Yard's operational efficiency. Currently, two trains idle between two and three hours while waiting for access into the A Yard. An additional train idles on storage tracks for eight hours, two to three times per week. By improving train traffic efficiency, the Project would also reduce the average idle time of trains along the corridor by approximately 50 percent. Thus, these trains would be visible less time along the corridor. Project operations would not have an effect on a scenic vista. No impact would occur in this regard.

Mitigation Measures

No mitigation is required.

Impact 4.1-2: Would the Project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a State Scenic Highway?

Level of Significance: No Impact

CONSTRUCTION AND OPERATIONS

No state scenic highways traverse or are near the Project site. Further, there are no native trees or rock outcroppings on the Project site. As concluded in **Section 4.4: Cultural Resources**, none of the evaluated properties appear eligible for listing in the California Register of Historical Resources (CRHR) and none meet CEQA's definition of "historical resources." Additionally, the Project would not cause a substantial adverse change in the significance of the four previously recorded historical resources. Therefore, the Project would not damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a State Scenic Highway. No impact would occur and no mitigation is required.

Mitigation Measures

No mitigation is required.

Impact 4.1-3: In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project site is in an urbanized area, thus, zoning and other regulations governing scenic quality are relevant to the Project's analysis. As previously noted, the following are the City's zones that include regulations governing scenic quality (i.e., general standards, relating building proportions, massing, height, and structural setbacks) and intended to preserve/enhance an area's scenic character: OS (Open Space) Zone, PFC (Public Flood Control) Zone, and FP (Flood Plain Overlay) Zone, HM (Hillside Management Overlay) Zone, HP (Historic Preservation Overlay) Zone, and Special Purpose Zones. None of these zones are present within the Project site. The Project site is zoned RS (Residential Suburban), CG-1 (Commercial General), CH (Commercial Heavy), IL (Industrial Light) Zone, and RR (Railroad). The Project does not propose any General Plan land use designation or zone change.

Partial acquisition of some properties would create remnant parcels that would not be required for the Project. On these remnant parcels, the underlying/existing land use designations and zoning would be retained. It is noted, these remnant parcels would not be redeveloped as part of the proposed Project, but would be available for future development consistent with their underlying/existing land use designations and zoning. See **Section 4.11**, concerning sound walls.

Therefore, the Project would not conflict with applicable zoning or other regulations governing scenic quality and a less than significant impact would occur. Additionally, the Project would mostly occur within/immediately adjacent to an existing BNSF corridor; thus, would not be aesthetically incompatible with the surrounding environment.

Mitigation Measures

No mitigation is required.

Impact 4.1-4: Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Level of Significance: Less Than Significant Impact

CONSTRUCTION

No nighttime (8 PM to 7 AM) construction activities are proposed, therefore, no construction lighting is proposed, except for security purposes. The security lighting would be temporary and deflected away from adjacent properties and public rights-of-way. Additionally, the security lighting would be compatible with the adjacent residential neighborhoods with similar brightness as the surrounding area's ambient lighting. Therefore, the Project's construction-related activities would not create a new source of substantial light or glare, which would adversely affect the area's day or nighttime views. A less than significant impact would occur in this regard.

OPERATIONS

Within the existing BNSF corridor, passing locomotive headlights and railcar lighting, and railway signals generate a nominal amount of lighting, which is directed along the guideway. The Project does not propose to increase line operations or the number of trains. Additionally, the Project proposes to relocate/upgrade as many as four existing cantilevered signals, however, no new signals would be added. Therefore, the existing lighting associated with passing trains and signals would not increase with Project implementation. The Project would not increase train traffic such that it would add any new or more substantial lighting sources. The lighting associated with the trains and signals is temporary and localized, thus, would not cause glare impacts on nighttime views.

The Project proposes stormwater drainage/water quality, circulation/roadway, and utility improvements/modifications that are ancillary and related to the lead track extension. Except circulation and roadway improvements/modifications, the Project's proposed ancillary improvements/modifications would not generate light or glare. The Project proposes circulation and roadway improvements/modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs, as described in **Section 2: Project Description**. Where streets are vacated and access changed, street lighting would be removed. Where roadways are relocated or reconstructed, street lighting would be relocated or added. The new street lighting would be similar to the existing lighting. The new street lighting would also be subject to City review to verify compliance with City street lighting design standards concerning illumination levels, equipment selection, design requirements, etc. The new/replacement lighting would be similar to existing street lights along Project area roadways, and compliance with City street lighting design standards would be required. The Project's incremental increase in street lights would not create a new source of substantial light or glare.

To accommodate the proposed rail and ancillary improvements, as many as 43 dwelling units (36 single-family, seven multi-family), six commercial buildings (approximately 46,000 SF), and three industrial buildings (approximately 32,000 SF) would be acquired. Property acquisitions would result in the removal of these land uses; thus, their associated lighting would also be removed.

Lighting would be added within the BNSF corridor for safety and security purposes. The lighting would be deflected away from adjacent properties and public rights-of-way. Because all lighting would be shielded/deflected, it would confine light spread to within BNSF property. The Project's lighting would be compatible in intensity and brightness with the surrounding area's ambient lighting. Further, the Project would comply with SBMC § 19.08.050, which contains industrial development standards including concerning lighting.

Because the Project site and surrounding area are largely developed, the lighting associated with the Project would not substantially increase light and glare within the Project site or its surroundings. With adherence to City standards, light and glare impacts and potential lighting spillover would not occur on surrounding land uses or roadways. Therefore, the Project would not create a new source of substantial light or glare, which would adversely affect the area's day or nighttime views. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

4.1.6 CUMULATIVE IMPACTS

For purposes of aesthetics analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**. The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning aesthetics in SBGP EIR Section 5.1, *Aesthetics*. The following is a summary of the expected environmental effects:

- Build-out would alter the visual appearance of the City's planning area. This impact was concluded to be less than significant.
- Build-out would generate additional light and glare within the City's planning area. This impact was concluded to be less than significant.

Development within the City's planning area could have a substantial adverse effect on a scenic vista, substantially degrade the existing visual character or quality of public views of the site and its surroundings, conflict with applicable zoning and other regulations governing scenic quality, or create a new source of substantial light or glare. No damage to scenic resources within a State Scenic Highway would occur, because none traverse the City's planning area. Potential aesthetic impacts would depend upon the development's characteristics and the respective development sites and their surroundings. As with the Project, cumulative development would undergo environmental and design review on a project-by-project basis pursuant to CEQA to evaluate potential aesthetic impacts. Future development would be subject to compliance with existing federal, state, and local regulatory framework concerning aesthetics. Additionally, implementation of project-specific mitigation would reduce potential impacts. As such, cumulative impacts to aesthetics would be mitigated on a project-by-project basis, and in accordance with the City's established regulatory framework.

Therefore, the combined cumulative impacts to aesthetics associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and site-specific mitigation.

Mitigation Measures

No mitigation is required.

4.1.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable aesthetic impacts have been identified.

4.1.8 REFERENCES

California Building Standards Commission. (2016). 2016 California Green Building Standards Code: California Code of Regulations Title 24, Part 11.

California Department of Transportation. (2018). *Scenic Highway System List*. July 5, 2018. Retrieved from http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html.

City of San Bernardino. (2005). *City of San Bernardino General Plan.* San Bernardino, CA: City of San Bernardino Development Services.

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4.2 AIR QUALITY

4.2 AIR QUALITY

4.2.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to air quality, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

Information in this section is based primarily on the *Air Quality Assessment BNSF Ono Lead Track Extension Project* (Kimley-Horn and Associates, Inc., January 2021), which includes the air quality/greenhouse gas emissions calculations for model outputs; see **Appendix 9.3: Air Quality Assessment**. Additional resource information was obtained from available public resources, including among others, the City of San Bernardino General Plan (SBGP).

4.2.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

South Coast Air Basin

The South Coast Air Basin (SCAB or Basin) is a 6,600-square mile area bordered by the San Gabriel, San Bernardino, and the San Jacinto Mountains to the north and east, and the Pacific Ocean to the west. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County. The terrain and geographical location determine the distinctive climate of the SCAB, which is a coastal plain with connecting broad valleys and low hills.

The extent and severity of the SCAB's air pollution problem is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of air pollutants throughout the SCAB, making it an area of high pollution potential.

Climate and Meteorology

The Project site is in the City of San Bernardino (City), which is within the SCAB. The SCAB's climate has been classified as "Mediterranean," implying cool, dry summers and mild winters with moderate rainfall. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is infrequently interrupted by periods of extremely hot weather, winter storms, or Santa Ana winds. The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). December and January are typically the coldest months at all locations while July through September are usually the hottest months of the year. Although the Basin has a semi-arid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by off-shore winds, the ocean effect is dominant. Precipitation is typically 9 to 14 inches annually in the Basin and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

More precisely, the mean annual temperature near the Project area is 64.1°F. The average Project area summer (August) high and low temperatures are 93.7 and 57.6°F, respectively, while the average winter (January) high and low temperatures are 67.3 and 39.4, respectively. There is a wide range in seasonal temperatures, with temperatures exceeding 100°F an average 107 times per year and dropping below 32°F an average 19 times per year.

LOCAL AIR QUALITY

The South Coast Air Quality Management District (South Coast AQMD) has divided the SCAB into air monitoring areas and maintains a network of air quality monitoring stations throughout the SCAB. The Project site is in the Central San Bernardino Valley Monitoring Area (Source Receptor Area [SRA] 34). The nearest monitoring station is the San Bernardino-4th Street Monitoring Station (CARB 36203) in the City of San Bernardino, approximately 1.7 miles east of the Project site. Criteria pollutants monitored at the San Bernardino Station are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns in diameter (PM_{10}), and particulate matter that is 2.5 microns or less in diameter ($PM_{2.5}$). The nearest monitoring station that monitors sulfur dioxide (SO_2) is the Fontana-Arrow Highway Monitoring Station (SRA 34, CARB 36197), located approximately 11 miles west of the Project site and within the Central San Bernardino Monitoring Area. Concentrations of pollutants from the two stations over the last three years show frequent exceedances of air quality standards.

AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

For the protection of public health and welfare, the Federal Clean Air Act (FCAA) required that the U.S. Environmental Protection Agency (U.S. EPA) establish National Ambient Air Quality Standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the U.S. EPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as 1 hour, 8 hours, 24 hours, or 1 year. The different averaging times and concentrations are meant to protect against different exposure effects. Standards established to protect human health are referred to as primary standards; whereas, standards established to prevent environmental and property damage are called secondary standards. The FCAA allows states to adopt additional or more health-protective standards. The following provides a summary discussion of the criteria air pollutants of primary concern.

Ozone (O_3) is a reactive gas consisting of three atoms of oxygen. In the troposphere, it is a product of the photochemical process involving the sun's energy. It is a secondary pollutant that is formed when NO_X and volatile organic compounds (VOC), also referred to as reactive organic gases (ROG), react in the presence of sunlight. O_3 at the earth's surface causes numerous adverse health effects and is a criteria pollutant. It is a major component of smog. In the stratosphere, O_3 exists naturally and shields Earth from harmful incoming ultraviolet radiation.

High concentrations of ground-level O_3 can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments. O_3 also damages natural ecosystems such as forests and foothill communities, agricultural crops, and some man-made materials, such as rubber, paint, and plastics.

Reactive Organic Gas (ROG) is a reactive chemical gas, composed of hydrocarbon compounds that may contribute to the formation of smog by their involvement in atmospheric chemical reactions. No separate health standards exist for ROG as a group. Because some compounds that make up ROG are also toxic, like the carcinogen benzene, they are often evaluated as part of a toxic risk assessment. Total Organic Gases includes all of the ROGs, in addition to low reactivity organic compounds like methane and acetone. ROGs and VOC are subsets of Total Organic Gases.

Volatile Organic Compounds (VOC) are hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and may also be toxic. VOC emissions are a major precursor to the formation of O_3. VOCs often have an odor; some examples include gasoline, alcohol, and the solvents used in paints.

Oxides of Nitrogen (NO_X) are a family of gaseous nitrogen compounds and is a precursor to the formation of O_3 and particulate matter. Nitrogen dioxide (NO_2), a major component of NO_X, is a reddish-brown gas that is toxic at high concentrations. NO_X results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of this air pollutant.

Particulate Matter (PM), also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. U.S. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. U.S. EPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles ($PM_{2.5}$ and PM_{10})," such as those found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. $PM_{2.5}$ and PM_{10} are deposited in the lungs' thoracic region.
- "Fine particles ($PM_{2.5}$)," such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air. They penetrate deeply into the lungs' thoracic and alveolar regions.
- "Ultrafine particles (UFP)," are very small particles less than 0.1 micrometers in diameter largely resulting from the combustion of fossils fuels, meat, wood, and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, its high surface area, deep lung penetration, and transfer into the bloodstream can result in disproportionate health impacts relative to their mass.

PM_{10}, $PM_{2.5}$, and UFP include primary pollutants (emitted directly to the atmosphere) as well as secondary pollutants (formed in the atmosphere by chemical reactions among precursors). Generally speaking, PM_{25} and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood-burning; PM_{10} sources include these same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust.

Numerous scientific studies have linked both long-term and short-term particle pollution exposure to various health problems. Long-term exposures, such as those experienced by people living for many years

in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and also acute (short term) bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short-term exposures although they may experience temporary minor irritation when particle levels are elevated.

Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike O_3). The main source of CO is on-road motor vehicles. Other CO sources include other mobile sources, miscellaneous processes, and fuel combustion from stationary sources. Because of the local nature of CO problems, the CARB and U.S. EPA designate urban areas as CO nonattainment areas instead of the entire basin as with O_3 and PM_{10}. Motor vehicles are by far the largest source of CO emissions. Emissions from motor vehicles have been declining since 1985, despite increases in vehicle miles traveled, with the introduction of new automotive emission controls and fleet turnover.

Sulfur Dioxide (SO_2) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. However, like airborne NO_X, suspended SO_X particles contribute to the poor visibility. These SO_X particles can also combine with other pollutants to form $PM_{2.5}$. The prevalence of low-sulfur fuel use has minimized problems from this pollutant.

Lead (Pb) is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, thus, it essentially persists forever. The health effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage. Lead can also cause neuromuscular system, circulatory system, brain, and gastrointestinal tract lesions. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, dramatically decreasing ambient lead concentrations.

Hydrogen Sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations; especially in enclosed spaces (800 parts per million [ppm] can cause death). Occupational Safety and Health Administration (OSHA) regulates workplace exposure to H_2S.

Odors

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e., irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. Odor quality indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness or may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even at low concentrations. Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs, therefore, are not considered "criteria pollutants" under either the FCAA or the California Clean Air Act (CCAA) and are not subject to National or State AAQS. TACs are not considered criteria pollutants in that the federal and California Clean Air Acts do not address them specifically through National or State AAQS. Instead, the U.S. EPA and California Air Resources Board (CARB) regulate Hazardous Air Pollutants (HAPs) and TACs through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. With District rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At national levels, the U.S. EPA has established National Emission Standards for HAPs (NESHAPs), in accordance with requirements of FCAA and subsequent amendments. These are technology-based source-specific regulations that limit allowable HAPs emissions.

Within California, TACs are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

At the State level, CARB has authority to regulate motor vehicle emissions, fuels, and consumer products. Most recently, diesel-exhaust particulate matter (DPM) was added to the CARB list of TACs. DPM is the primary mobile source TAC of concern. Of all controlled TACs, DPM emissions are estimated to be responsible for about 70 percent of the total ambient TAC risk. CARB has made reducing the public's exposure to DPM one of its highest priorities, with an aggressive plan to require cleaner diesel fuels and cleaner diesel engines and vehicles.

Locally, air districts have authority over stationary or industrial sources. Projects requiring air quality South Coast AQMD permits are evaluated for TAC emissions. The South Coast AQMD limits emissions and public exposure to TACs through various programs. The South Coast AQMD prioritizes TAC-emitting sources,

based on the quantity and toxicity of the TAC emissions and proximity to sensitive receptors. The South Coast AQMD requires a comprehensive health risk assessment for facilities that are classified as a significant-risk, pursuant to AB 2588.

Ambient Air Quality

CARB monitors ambient air quality at approximately 250 air monitoring stations across the State. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Existing ambient air quality levels, historical trends, and projections near the Project site are documented by measurements taken by the South Coast AQMD, the SCAB's air pollution regulatory agency that maintains air quality monitoring stations which process ambient air quality measurements.

O_3, PM_{10} and $PM_{2.5}$ are pollutants of concern in the SCAB. The closest air monitoring station to the Project site that monitors ambient concentrations of these pollutants is the San Bernardino–4th Street Monitoring Station (located approximately 1.7 miles east of the Project site's southern extent). **Table 4.2-1: Ambient Air Quality Data,** presents local air quality data from 2016 to 2018 and lists the annual monitored maximum concentrations and exceedances of federal or State air quality standards.

TABLE 4.2-1: AMBIENT AIR QUALITY DATA

Pollutant	2017	2018	2019
Ozone (O_3) [1]			
1-hour Maximum Concentration (ppm)	0.158	0.138	0.127
8-hour Maximum Concentration (ppm)	0.136	0.116	0.114
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	81	63	63
NAAQS 8-hour (>0.070 ppm)	112	102	96
Carbon Monoxide (CO) [1]			
1-hour Maximum Concentration (ppm)	2.50	2.74	1.29
Number of Days Standard Exceeded			
NAAQS 1-hour (>35 ppm)	0	0	0
CAAQS 1-hour (>20 ppm)	0	0	0
Nitrogen Dioxide (NO_2) [1]			
1-hour Maximum Concentration (ppb)	65.8	57.3	59.3
Number of Days Standard Exceeded			
NAAQS 1-hour (>0.1 ppm)	0	0	0
CAAQS 1-hour (>0.18 ppm)	0	0	0
Particulate Matter Less Than 10 Microns (PM_{10}) [1]			
National 24-hour Maximum Concentration	157.8	130.2	112.7
State 24-hour Maximum Concentration	76.7	63.9	92.2
Number of Days Standard Exceeded			
NAAQS 24-hour (>150 µg/m^3)	1	0	0
CAAQS 24-hour (>50 µg/m^3)	14	5	4

TABLE 4.2-1: AMBIENT AIR QUALITY DATA			
Pollutant	**2017**	**2018**	**2019**
Particulate Matter Less Than 2.5 Microns ($PM_{2.5}$) [1]			
National 24-hour Maximum Concentration	38.2	30.1	60.5
State 24-hour Maximum Concentration	38.2	30.1	60.5
Number of Days Standard Exceeded			
NAAQS 24-hour (>35 µg/m³)	1	0	1
Notes: NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppb = parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter; NM = not measured			
[1] Measurements taken at San Bernardino–4th Street Monitoring Station at 24302 4th Street, San Bernardino, California 92410 (CARB #36203).			
Source: All pollutant measurements are from the CARB Aerometric Data Analysis and Management system database (arb.ca.gov/adam) except for CO, which were retrieved from the CARB Air Quality and Meteorological Information System (arb.ca.gov/aqmis2/aqdselect.php).			

Existing Sources and Emissions

Often, locomotive diesel engines are kept idling to charge batteries, warm engine fluids, and meet other operational needs. Diesel exhaust from locomotive engine idling contains concentrations of criteria pollutants that are potentially harmful to human health. The existing sources and operations are based on current BNSF Railway Company ("BNSF" or "Applicant") rail traffic schedules and infrastructure limitations. Existing rail operations at the Project site result in approximately 15 hours of daily locomotive diesel engine idling based on the existing operating conditions detailed in the *Methodology and Assumptions - Existing Sources and Emissions* Section below.

Table 4.2-2: Existing Locomotive Emissions shows the Project site's existing locomotive emissions calculated per U.S. EPA guideline EPA-420-F-09-025 (Emission Factors for Locomotives), emissions rates specific to BNSF operations along the Project site, and existing operating conditions.

TABLE 4.2-2: EXISTING LOCOMOTIVE EMISSIONS (MAXIMUM POUNDS PER DAY)						
Emissions Source	**Reactive Organic Gases (ROG)**	**Nitrogen Oxide (NO_x)**	**Carbon Monoxide (CO)**	**Sulfur Dioxide (SO_2)**	**Coarse Particulate Matter (PM_{10})**	**Fine Particulate Matter ($PM_{2.5}$)**
Existing Idling Emissions	0.59	15.54	4.41	0.01	0.36	0.35
Source: U.S. EPA-420-F-09-025 (Emission Factors for Locomotives). Refer to **Appendix 9.3: Air Quality Assessment** for model outputs.						

Sensitive Receptors

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term "sensitive receptors" refers to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Sensitive land uses include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects

of air pollutants. Residential dwellings, schools, parks, playgrounds, childcare centers, convalescent homes, and hospitals are examples of sensitive land uses. The Project site is in an urbanized area with mixed development including railroad, residential, office, commercial, and industrial uses. **Table 4.2-3: Sensitive Receptors** summarizes nearby sensitive receptors and their distance from the Project site.

TABLE 4.2-3: SENSITIVE RECEPTORS

Receptor Description	Distance and Direction From Project
Residential Neighborhoods	Adjacent to the west
Residential Neighborhoods	360 feet to the east
Census Tract 6071004103	Within Project footprint
Census Tract 6071004700	Within Project footprint
Census Tract 6071004800	Within Project footprint
St Paul Ames Church	640 feet to the west
Riley School	700 feet to the east
American Institute of Renewable Energy	740 feet to the southeast
First Christian Church	820 feet to the east
St Timothy Community Church	850 feet to the west
Dorothy Ingram Branch Library	980 feet to the west
Universal Church	1,140 feet to the west
Central City Lutheran Mission	1,180 feet to the east
Casa De Oración Camino De Vida	1,280 feet to the west
Inland Empire Job Corps Center	1,300 feet to the west
Holy Land church of God	1,310 feet to the east
Dental Care San Bernardino	1,310 feet to the southeast
Juanita Blakely Jones Elementary School	1,420 feet to the east
Greater Cornerstone Church of God in Christ	1,430 feet to the east
Little Mountain Preschool	1,440 feet to the northeast
Del Rosa Seventh-Day Adventist Church	1,450 feet to the east
Vernon Dental Specialty Group	1,600 feet to the west
Living Faith Full Gospel Church	1,620 feet to the west
San Bernardino High School	1,630 feet to the east
Motel 6 San Bernardino North	1,670 feet to the northeast
Roosevelt Elementary School	1,670 feet to the west
Perris Hill Park	1,700 feet to the east
Shandin Hills Golf Course	1,800 feet to the east
Valley Motel	1,900 feet to the west
Davidson Elementary School	2,060 feet to the east
St Bernardine's Church	2,100 feet to the east
Encanto Park	2,110 feet to the west
Pioneer Park	2,110 feet to the east
San Bernardino Public Library	2,190 feet to the east

Source: Kimley-Horn and Associates, Inc., 2020.

CalEnviroScreen identifies Census Tracts 6071004103, 6071004700, and 6071004800 as disadvantaged communities for environmental justice.[1] These census tracts, and most adjacent census tracts, are rated as being in the 90-100th percentile of combined pollution and vulnerability under existing conditions. **Exhibit 4.2-1: Environmental Justice Communities**, depicts these census tracts in relation to the Project footprint

4.2.3 REGULATORY FRAMEWORK

The Project site's air quality is regulated by several jurisdictions including the U.S. EPA, CARB, and the South Coast AQMD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although U.S. EPA regulations may not be superseded, both State and local regulations may be more stringent.

FEDERAL

U.S. Environmental Protection Agency

At the federal level, the U.S. EPA implements national air quality programs. The U.S. EPA's air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was signed into law in 1970. The U.S. Congress substantially amended the FCAA in 1977 and 1990.

Federal Clean Air Act

The FCAA required the U.S. EPA to establish NAAQS and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. NAAQS identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are O_3, carbon monoxide (CO), nitrogen dioxide (NO_2 is a form of NO_X), sulfur oxides (SO_2 is a form of SO_X), particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively) and lead (Pb). NAAQS are summarized in **Table 4.2-4: Summary of Ambient Air Quality Standards and Attainment Designations**.

Toxic Substances Control Act

The Toxic Substances Control Act first authorized the U.S. EPA to regulate asbestos in schools and public and commercial buildings under Title II of the law, which is also known as the Asbestos Hazard Emergency Response Act (AHERA). AHERA requires Local Education Agencies to inspect their schools for asbestos-containing building materials (ACBM) and to prepare management plans to reduce the asbestos hazard. The Act also established a program for the training and accreditation of individuals performing certain types of asbestos work.

[1] California Office of Environmental Health Hazard Assessment. 2020. Retrieved from https://oehha.ca.gov/calenviroscreen/about-calenviroscreen. (March 13, 2020).

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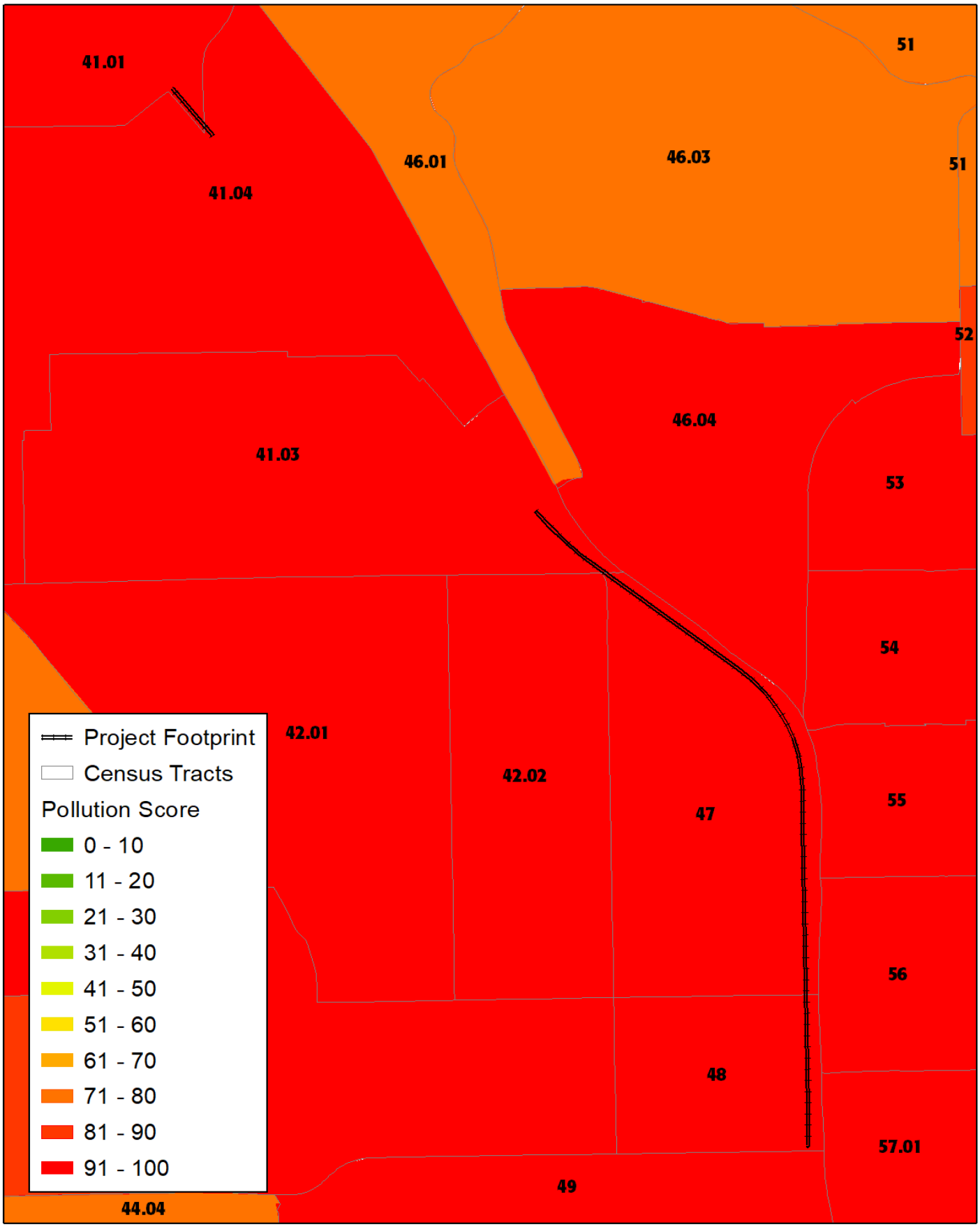

Source: OEHHA - CalEnviroScreen 3.0, US Census - 2019 TIGER/Line Shapefiles:Census Tracts

Kimley»Horn

MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.2-1: Environmental Justice Communities

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National Emission Standards for Hazardous Air Pollutants

Pursuant to the FCAA of 1970, the U.S. EPA established the National Emission Standards for Hazardous Air Pollutants (NESHAPs). These are technology-based source-specific regulations that limit allowable emissions of HAPs. Among these sources include ACBM. NESHAPs include requirements pertaining to the inspection, notification, handling, and disposal of ACBM associated with the demolition and renovation of structures.

TABLE 4.2-4: SUMMARY OF AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]	National Standards[2]
Ozone (O_3) [4, 5, 7]	1-hour	0.09 ppm	–
	8-hour	0.070 ppm	0.070 ppm
Particulate Matter (PM_{10}) [1, 3, 6]	Annual Arithmetic Mean	20 µg/m^3	–
	24-hour	50 µg/m^3	150 µg/m^3
Fine Particulate Matter ($PM_{2.5}$) [3, 4, 6, 9]	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3
	24-hour	No Standard	35 µg/m^3
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm
	8-hour	9 ppm	9 ppm
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppm [11]
Sulfur Dioxide (SO_2) [8]	Annual Arithmetic Mean	–	0.03 ppm
	1-hour	0.25 ppm	0.075 ppm
	3-hour	–	–
	24-hour	0.04 ppm	0.14 ppm
Lead (Pb) [10,	30-day Average	1.5 µg/m3	–
	Calendar Quarter	–	1.5 µg/m^3
	Rolling 3-Month Average	–	0.15 µg/m^3
Sulfates	24-hour	25 µg/m^3	–
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	–
Vinyl Chloride [11]	24-hour	0.01 ppm (26 µg/m^3)	–
Visibility-Reducing Particulate Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent	–

[1] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard),

TABLE 4.2-4: SUMMARY OF AMBIENT AIR QUALITY STANDARDS			
Pollutant	**Averaging Time**	**California Standards[1]**	**National Standards[2]**

then some measurements may be excluded. Measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe carbon monoxide standard is 6.0 ppm, a level one-half the national standard and two-thirds the State standard.

2 National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.070 ppm or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m 3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m^3.

3 Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard.
NAAQS are set by the U.S. EPA at levels determined to be protective of public health with an adequate margin of safety.

4 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. U.S. EPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area.

5 The national 1-hour ozone standard was revoked by the U.S. EPA on June 15, 2005.

6 In June 2002, CARB established new annual standards for $PM_{2.5}$ and PM_{10}.

7 The 8-hour California ozone standard was approved by the CARB on April 28, 2005 and became effective on May 17, 2006.

8 On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO_2 NAAQS however must continue to be used until one year following U.S. EPA initial designations of the new 1-hour SO_2 NAAQS.

9 In December 2012, U.S. EPA strengthened the annual $PM_{2.5}$ NAAQS from 15.0 to 12.0 µg/m^3. In December 2014, the U.S. EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ NAAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

10 National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.

11 CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure below which there are no adverse health effects determined.

Source: CARB 2016.

Emission Standards for Nonroad Diesel Engines

To reduce emissions from off-road diesel equipment, the U.S. EPA established a series of cleaner emission standards for new off-road diesel engines. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006. Tier 3 standards were phased in from 2006 to 2008. Tier 4 standards, which generally require add-on emission control equipment to attain them, were phased in from 2008 to 2015. These standards apply to construction and cargo-handling equipment, but not locomotives (U.S. EPA, 2007).

Emission Standards for Locomotives

To reduce emissions from switch and line-haul locomotives, the U.S. EPA established a series of increasingly strict emission standards for new or remanufactured locomotive engines. The U.S. EPA adopted the standards in two regulatory actions. In December 1997, the U.S. EPA adopted the first emissions regulation for railroad locomotives, requiring locomotive engines manufactured or

remanufactured from 1973 to 2001 to meet Tier 0 standards, 2002 to 2004 to meet Tier 1 standards, and 2005 and later to meet Tier 2 standards.[2] Subsequently, in March 2008, the U.S. EPA adopted more stringent emissions regulation for railroad locomotives.[3] The regulation sets new emission standards for newly-built and remanufactured locomotive engines. The standards for newly-built locomotive engines are implemented in two tiers: Tier 3 standards took effect in 2011 and 2012 and Tier 4 standards took effect in 2015. The regulation also sets new emissions standards for remanufactured Tiers 0, 1, and 2 locomotive engines, phased in from 2008 to 2010.

Nonroad Diesel Fuel Rule

The U.S. EPA's Nonroad Diesel Fuel Rule set sulfur limitations for nonroad diesel fuel, including locomotives and marine vessels (though not for the marine residual fuel used by very large engines on oceangoing vessels). For the proposed Project, this rule affects line-haul locomotives. The California Diesel Fuel Regulations (described below) generally preempt this rule for other sources such as switching locomotives, construction equipment, and cargo-handling equipment. Under this rule, the diesel fuel used by line-haul locomotives was limited to 500 ppm sulfur starting June 1, 2007; and was further limited to 15 ppm starting January 1, 2012.[4]

STATE

California Air Resources Board

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of California's state and local air pollution control programs and for implementing the California Clean Air Act (CCAA) of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts), establishing the California Ambient Air Quality Standards (CAAQS), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The CAAQS are also summarized in **Table 4.2-4**. The motor vehicle emission standards differ depending on various factors including the model year, and the type of vehicle, fuel, and engine.

California Clean Air Act

The CCAA requires that the State's air districts endeavor to achieve and maintain CAAQS for O_3, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus on reducing the emissions from transportation and area-wide emission sources, and it gives air districts the authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors; or (2) to provide for implementation of all feasible measures to reduce emissions. Any

[2] United States Environmental Protection Agency (U.S. EPA), Emission Standards for Locomotives and Locomotive Engine; Final Rule. 40 Code of Federal Regulations, Parts 85, 89 and 92, 1997. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-emission-standards-locomotives-and-locomotive

[3] United States Environmental Protection Agency (U.S. EPA), Control of Emissions of Air Pollution from Locomotive Engines and Marin Compression-Ignition Engines Less Than 30 Liters per Cylinder, Final Rule. 40 Code of Federal Regulations, Parts 9, 85, et al., May 2008.

[4] United States Environmental Protection Agency (U.S. EPA), Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel, Final Rule. 40 Code of Federal Regulations, Parts 9, 69, et seq., June 2004.

planning effort for air quality attainment is required to consider both state and federal planning requirements.

Under the CCAA, CARB is required to designate State areas as attainment, nonattainment, or unclassified with respect to applicable standards. An area's "attainment" designation signifies that pollutant concentrations did not violate the applicable standard. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for O_3, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The U.S. EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme.

Assembly Bills 1807 and 2588 - Toxic Air Contaminants

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. This procedure includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. Under AB 2588, the air quality management district or air pollution control district quantify and prioritize TAC emissions from individual facilities.

Existing sources of TACs that are subject to AB 2588 are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures. In September 1992, AB 2588 was amended by Senate Bill (SB) 1731, which required facilities that pose a significant community health risk to reduce their risk through a risk management plan.

1998 Fleet Average Emissions Memorandum of Understanding

CARB, Class I freight railroads operating in the SCAB (BNSF and Union Pacific Railroad [UPRR]), and the U.S. EPA signed a Memorandum of Understanding (MOU) in July 1998. The MOU's goal was a fleet average in the SCAB equivalent to U.S. EPA's Tier 2 locomotive standard for NO_X by 2010. The railroads accomplished a locomotive Tier 2 fleet-wide average requirement, in which each railroad must demonstrate that it has not exceeded its Fleet Average Target for the preceding year, beginning in 2010. Under the MOU, early reductions are bankable and the two railroads (i.e., BNSF and UPRR) are utilizing this feature by building up emissions credits toward the 2010 fleet-wide average. Because of the MOU's banking and credit provisions, there is no guarantee that the railroads will operate all locomotives meeting the Tier 2 emission standard. BNSF is meeting fleet average agreement with little or no use of credits. The

MOU addressed locomotive NO_X emissions. Under the MOU, locomotive NO_X emissions will be reduced by 67 percent.

2005 CARB/Railroad Statewide Agreement

On June 30, 2005, CARB entered into a pollution reduction agreement with UPRR and BNSF.[5] The railroads committed to implementing numerous actions to reduce pollutant emissions from rail operations throughout the state. In addition, the railroads prepared designated railyard emissions inventories that CARB used for CARB railyard-specific health risk assessments for diesel particulate matter. When fully implemented, the agreement is expected to achieve a 20 percent reduction in locomotive diesel particulate matter emissions near railyards. To do this, BNSF has:

- Phased-out non-essential idling and installed idling reduction devices on California based locomotives, resulting in a reduction in idling by a larger class of locomotives than what is required by regulation, earlier than required by regulation.
- Identified and expeditiously repaired locomotives with excessive smoke and ensured that at least 99 percent of the locomotives operating in California passed smoke inspections.
- Maximized the use of ultra-low sulfur (15 ppm) diesel fuel by January 1, 2007, for locomotives fueled in California, six years before such fuel was required by regulation.
- BNSF has implemented a system-wide Opacity Management Plan, which identifies black smoke from locomotives and schedules these locomotives for repairs.

The Southern California Major Class I railyards covered in the agreement include BNSF's Hobart, Watson, San Bernardino, Commerce Eastern, and Sheila Street yards. The San Bernardino yard is immediately south of the Project site. As required by the Agreement, BNSF has submitted an Idling, Visible Emission Reduction Plan,[6] Review of Impacts of Air Emissions, and Assessment of Toxic Air Contaminants, among other elements, for the designated yards. CARB inspects the railyards, including San Bernardino, yearly for compliance.[7]

California Diesel Fuel Regulations

CARB's California Diesel Fuel Regulations set sulfur limitations for diesel fuel sold in California for use in on-road and off-road motor vehicles. Harbor craft and intrastate locomotives were originally excluded from the rule but were later included by a 2004 rule amendment.[8] Under this rule, diesel fuel used in motor vehicles except harbor craft and intrastate locomotives has been limited to 500-ppm sulfur since 1993. The sulfur limit was reduced to 15 ppm beginning September 1, 2006. The phase-in period was from June 1, 2006, to September 1, 2006; a federal diesel rule similarly limited sulfur content nationwide for

[5] California Air Resources Board, *Statewide Railyard Agreement*, 2005. Available at: https://ww3.arb.ca.gov/railyard/ryagreement/ryagreement.htm.

[6] California Air Resources Board, *Statewide Railyard Agreement, Railroad Submittals, 2005*. Available at: https://ww3.arb.ca.gov/railyard/rrsubmittal/bnsf_emp.pdf.

[7] California Air Resources Board, *Statewide Railyard Agreement, Inspection Reports,* 2010. Available at: https://ww3.arb.ca.gov/railyard/ryagreement/2006_2010_inspection_data.pdf.

[8] California Air Resources Board, Final Regulation Order. Proposed Extension of the California Standards for Motor Vehicle Diesel Fuel to Diesel Fuel Used for Intrastate Diesel-Electric Locomotives and Harbor Craft, August 4, 2005.

on-road vehicles to 15 ppm beginning October 15, 2006. Diesel fuel used in intrastate locomotives (switch locomotives) was limited to 15-ppm sulfur starting January 1, 2007.

Measures to Reduce Emissions from Goods Movement Activities

In April 2006, the CARB approved the *Emission Reduction Plan for Ports and Goods Movement in California*.[9] The Goods Movement Plan proposes measures that would reduce emissions from the main sources associated with port cargo handling activities, including ships, harbor craft, terminal equipment, trucks, and locomotives. The Goods Movement Plan includes discussion of regional intermodal facilities. In December 2006, CARB approved the "Regulation for Mobile Cargo Handling Equipment (CHE) at Ports and Intermodal Rail Yards" (Title 13, CCR, Section 2479) as amended in 2009[10], which is designed to use best available control technology (BACT) to reduce diesel PM and NO_X emissions from mobile cargo-handling equipment at ports and intermodal rail yards. Since January 1, 2007, the regulation imposes emission performance standards on new and in-use terminal equipment that vary by equipment type. The regulation would also include recordkeeping and reporting requirements.

In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, CARB adopted a regulation to reduce Diesel Particulate Matter (DPM) and NO_X emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. The regulation applies to self-propelled diesel-fueled vehicles that cannot be registered and licensed to drive on-road, as well as two-engine vehicles that drive on the road, with the limited exception of two-engine sweepers. Examples include loaders, crawler tractors, skid steers, backhoes, forklifts, airport ground support equipment, water well drilling rigs, and two-engine cranes. Such vehicles are used in construction, mining, and industrial operations. The regulation does not apply to stationary equipment or portable equipment such as generators. The off-road vehicle regulation, establishes emissions performance requirements, establishes reporting, disclosure, and labeling requirements for off-road vehicles, and limits unnecessary idling.

CalEnviroScreen

The California Office of Environmental Health Hazard Assessment (OEHHA) has developed CalEnviroScreen 3.0, which is a mapping tool that helps identify California communities that are most affected by many pollution sources, and where people are often especially vulnerable to pollution's effects. CalEnviroScreen uses environmental, health, and socioeconomic information to produce scores each of the State's census tracts. The scores are mapped such that communities can be compared. An area with a high score is one that experiences a much higher pollution burden than an area with a low score.

According to CalEnviroScreen, the Project site is within Census Tracts 6071004103, 6071004700, and 6071004800, which CalEnviroScreen identifies as disadvantaged communities for environmental justice. These census tracts, and most census tracts adjacent to them, are rated as being in the 90-100th percentile of combined pollution and vulnerability under existing conditions. It is noted that the CalEnviroScreen scores are not an expression of health risk, and do not provide quantitative information on increases in

[9] California Air Resources Board, *Emission Reduction Plan for Ports and Goods Movement in California*, 2006. Available at: https://ww3.arb.ca.gov/planning/gmerp/plan/final_plan.pdf.

[10] California Air Resources Board, *Final Regulation Order. Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yard*, 2009. Available at: https://ww3.arb.ca.gov/ports/cargo/documents/cheregulationamended120309.pdf.

cumulative impacts for specific sites or projects. Further, as a comparative screening tool, the results do not provide a basis for determining when differences between scores are significant concerning public health or the environment.

Assembly Bill 617 – Community Air Protection Program

Passed by the California legislature in 2017, AB 617 is a law that focuses on reducing air pollution in environmental justice communities throughout the State. AB 617 requires a statewide strategy with focused actions for communities heavily impacted by air pollution. These actions include developing community air monitoring plans (CAMPs) and/or community emissions reduction plans (CERPs) to reduce emissions of toxic air contaminants (TACs) and criteria pollutants. The San Bernardino/Muscoy area was among three communities chosen for the program. Only the Project's northern track segment, which extends approximately 0.3 linear miles along/within the BNSF right-of-way, is near Muscoy. However, the Project site is wholly within the CERP's boundary.

The San Bernardino/Muscoy CERP outlines the actions and commitments to reduce air pollution for the San Bernardino/Muscoy community. Implementation of the CERP is estimated to reduce NO_X emissions by 40 to 50 tons per year and PM emissions by 0.5 to 0.6 tons per year. The CERP's goal is to cut NO_X and PM emissions 10 percent by 2024 and 21 percent and 15 percent, respectively, by 2029.

CARB had scheduled a public hearing to approve the CERPs on March 16, 2020. However, given statewide measures concerning COVID-19, the CARB Board Meeting to consider approval of the CERPs has been postponed until further notice. CERP implementation is to take place over approximately five years. Once adopted, the CERP would allow the South Coast AQMD to provide incentive funds to accelerate the replacement of old trucks with technology that is cleaner than required, focus enforcement to ensure rule compliance, develop new rules to reduce emissions, work with land use agencies to develop emissions-reducing policies, and implement school programs to reduce indoor levels of pollution. The CERP does not includes project-specific requirements but would allow the South Coast AQMD and CARB to implement emission-reducing measures. Therefore, no further analysis is warranted.

South Coast Air Quality Management District

The South Coast AQMD was created by the 1977 Lewis Air Quality Management Act. Four county air pollution control agencies were merged into one regional district to better address the issue of improving Southern California's air quality. Under the Act, revised and renamed the Lewis-Presley Air Quality Management Act in 1988, the South Coast AQMD is the agency principally responsible for the SCAB's comprehensive air pollution control. Specifically, the South Coast AQMD is responsible for air quality monitoring and planning and implementing and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the SCAB. Developed programs include air quality rules and regulations that regulate stationary source emissions, including area and point sources and certain mobile source emissions. The South Coast AQMD is also responsible for establishing permitting requirements and issuing permits for stationary sources and ensuring that new, modified, or relocated stationary sources do not create net emissions increases. The South Coast AQMD enforces air quality rules and regulations through a variety of means, including inspections, educational and training programs, and fines.

The South Coast AQMD is also the lead agency in charge of developing the Air Quality Management Plan (AQMP), with input from the Southern California Association of Governments (SCAG) and CARB. The AQMP is a comprehensive plan that includes control strategies for stationary and area sources, as well as

for on-road and off-road mobile sources. SCAG is primarily responsible for providing future growth projections and developing and implementing transportation control measures. CARB in coordination with federal agencies provides the control element for mobile sources.

The SCAB's state and federal attainment status designations are summarized in **Table 4.2-5: South Coast Air Basin Attainment Status**. The SCAB is currently designated as a nonattainment area concerning State O_3, PM_{10}, and $PM_{2.5}$ standards and federal 8-hour O_3 and $PM_{2.5}$ standards. The SCAB is designated attainment or unclassified for the remaining State and federal standards.

TABLE 4.2-5: SOUTH COAST AIR BASIN ATTAINMENT STATUS

Pollutant	Federal	State
Ozone (O_3) (1 Hour Standard)	Non-Attainment (Extreme)	Non-Attainment
Ozone (O_3) (8 Hour Standard)	Non-Attainment (Extreme)*	Non-Attainment
Particulate Matter ($PM_{2.5}$) (24 Hour Standard)	Non-Attainment (Serious)	–
Particulate Matter ($PM_{2.5}$) (Annual Standard)	Non-Attainment (Moderate)	Non-Attainment
Particulate Matter (PM_{10}) (24 Hour Standard)	Attainment (Maintenance)	Non-Attainment
Particulate Matter (PM_{10}) (Annual Standard)	–	Non-Attainment
Carbon Monoxide (CO) (1 Hour Standard)	Attainment (Maintenance)	Attainment
Carbon Monoxide (CO) (8 Hour Standard)	Attainment (Maintenance)	Attainment
Nitrogen Dioxide (NO_2) (1 Hour Standard)	Unclassifiable/Attainment	Attainment
Nitrogen Dioxide (NO_2) (Annual Standard)	Attainment (Maintenance)	Attainment
Sulfur Dioxide (SO_2) (1 Hour Standard)	Unclassifiable/Attainment*	Attainment
Sulfur Dioxide (SO_2) (24 Hour Standard)	–	Attainment
Lead (Pb) (30 Day Standard)	Unclassifiable/Attainment	–
Lead (Pb) (3 Month Standard)	–	Attainment
Sulfates (SO_4^{2-}) (24 Hour Standard)	–	Attainment
Hydrogen Sulfide (H_2S) (1 Hour Standard)	–	Unclassified

Source: South Coast AQMD 2016 Air Quality Management Plan (South Coast AQMD, 2016)
* Pending final classification, expected result is listed

Air Quality Management Plan

The South Coast AQMD Governing Board adopted the 2016 AQMP on March 3, 2017. The AQMP's purpose is to set forth a comprehensive and integrated program that would lead the SCAB into compliance with

the federal 24-hour $PM_{2.5}$ air quality standard, and to update the Basin's commitments towards meeting the federal 8-hour O_3 standards. The AQMP incorporates the latest scientific and technological information and planning assumptions, including the *2016 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS) and updated emission inventory methodologies for various source categories.

Land Use Planning Guidance

The South Coast AQMD has published the *CEQA Air Quality Handbook* (approved by the South Coast AQMD Governing Board in 1993 and augmented with guidance for Local Significance Thresholds in 2008). The South Coast AQMD guidance assists local government agencies and consultants in developing environmental documents required by CEQA including providing suggested thresholds of significance for criteria pollutants for construction and operation (see discussion of thresholds below). Using the *CEQA Air Quality Handbook* and associated guidance, local land use planners and consultants can analyze and document how proposed, and existing projects affect air quality to meet CEQA review process requirements. The South Coast AQMD is preparing an Air Quality Analysis Guidance Handbook to replace the current *CEQA Air Quality Handbook*.

Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. Under federal law, SCAG is designated as a Metropolitan Planning Organization (MPO) and under state law as a Regional Transportation Planning Agency and a Council of Governments.

With the goal of ensuring that the SCAG region can meet its regional greenhouse gasses (GHG) reduction targets set by CARB, SCAG adopted the 2016 RTP/SCS on April 7, 2016. SCAG's Regional Council adopted Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy [2020 RTP/SCS]) on September 3, 2020. The RTP is a long-range transportation plan that provides a vision for regional transportation investments over 20 years or more. The SCS is an RTP element that demonstrates the integration of the RTP's land use, transportation strategies, and transportation investments.

The 2016 RTP/SCS would result in an 8.0 percent reduction in GHG emissions per capita by 2020 and 18 percent by 2035, which would meet or exceed CARB's targets of 8.0 percent reduction by 2020 and 13 percent by 2035.[11].

LOCAL

City of San Bernardino General Plan

Safety Element

Goal 10.1: Protect the environment, public health, safety, and welfare from hazardous wastes.

[11] Because the 2020 RTP/SCS was adopted after the Project NOP release (September 20, 2019), this analysis is based on the 2016 RTP/SCS; see State CEQA Guidelines § 15125(a)(1).

Policy 10.1.2: Ensure the protection of surface and groundwater quality, land resources, air quality, and environmentally sensitive areas through safe transportation of waste through the City and comprehensive planning of hazardous materials, wastes, and sites.

Natural Resources and Conservation Element

The Natural Resources and Conservation Element is intended to maintain, improve, or preserve the quality and supply of the City's natural resources. The following topics are addressed in this element: Biological Resources, Natural Features, Mineral Resources, and Air Quality.

Goal 12.5: Promote air quality that is compatible with the health, wellbeing, and enjoyment of life.

Policy 12.5.1: Reduce the emission of pollutants including carbon monoxide, oxides of nitrogen, photochemical smog, and sulfate in accordance with SCAQMD standards.

Goal 12.5.2: Prohibit the development of land uses (e.g., heavy manufacturing) that will contribute significantly to air quality degradation, unless sufficient mitigation measures are undertaken according SCAQMD standards.

Policy 12.5.3: Require dust abatement measures during grading and construction operations.

Policy 12.5.4: Evaluate the air emissions of industrial land uses to ensure that they will not impact adjacent uses.

Goal 12.7: Participate in regional initiatives and programs to improve the SCAB's air quality.

Policy 12.7.1: Cooperate with the SCAQMD[12] and incorporate pertinent local implementation provisions of the AQMP.

Policy 12.7.2: Work with the SCAQMD to establish controls and monitor uses in the City that could add to the SCAB's degradation (e.g., auto repair, manufacturers).

Policy 12.7.3: Coordinate with SCAQMD to ensure that all elements of air quality plans regarding reduction of air pollutants emissions are being enforced.

Policy 12.7.4: Work with the other cities in the SCAB to implement regional mechanisms to reduce air emissions and improve air quality.

4.2.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, *Environmental Checklist Form*, includes questions concerning air quality. The issues presented in the Environmental Checklist have been used as significance criteria in this section. The Project would have a significant impact on the environment if it would:

- Conflict with or obstruct implementation of the applicable air quality plan (see Impact 4.2-1);

[12] "SCAQMD" is the South Coast AQMD.

- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard (see Impact 4.2-2);
- Expose sensitive receptors to substantial pollutant concentrations (see Impact 4.2-3);
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people (see Impact 4.2-4).

South Coast AQMD Thresholds

South Coast AQMD's significance criteria may be relied upon to make the above determinations. According to the South Coast AQMD, an air quality impact is considered significant if a proposed project violates any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The South Coast AQMD has established thresholds of significance for air quality during land development project's construction and operational activities, as shown in **Table 4.2-6: South Coast Air Quality Management District Emissions Thresholds**.

TABLE 4.2-6: SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT EMISSION THRESHOLDS

Criteria Air Pollutants and Precursors (Regional)	Construction-Related	Operational-Related
	Average Daily Emission (pounds/day)	
Reactive Organic Gases (ROG)	75	55
Carbon Monoxide (CO)	550	550
Nitrogen Oxides (NO_X)	100	55
Sulfur Oxides (SO_X)	150	150
Coarse Particulates (PM_{10})	150	150
Fine Particulates ($PM_{2.5}$)	55	55

Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook,* 1993 ($PM_{2.5}$ threshold adopted June 1, 2007) Revision: April 2019.

Localized Carbon Monoxide

In addition to the daily thresholds listed above, the proposed Project would also be subject to the ambient air quality standards. These are addressed through an analysis of localized CO impacts. The significance of localized impacts depends on whether ambient CO levels near the Project site exceed State and federal CO standards (the more stringent California standards are 20 ppm for 1-hour and 9 ppm for 8-hour).

The SCAB has been designated as attainment under the 1-hour and 8-hour standards.

Localized Significance Thresholds

In addition to the CO hotspot analysis, the South Coast AQMD developed localized significance thresholds (LSTs) for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (off-site mobile source emissions are not included in the LST analysis). LSTs represent the maximum emissions that can be generated at a project site without expecting to cause or substantially contribute to an exceedance of the most stringent national or state ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the

South Coast AQMD, and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects that disturb 5.0 acres or less on a single day. The City of San Bernardino is within South Coast AQMD SRA 34.

METHODOLOGY AND ASSUMPTIONS

The Project is evaluated against the aforementioned significance thresholds to determine potential air quality impacts. This analysis also considers existing regulatory framework (i.e., laws, ordinances, regulations, and standards) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended to reduce the Project's environmental impacts. Additional Project information and air quality analysis assumptions are provided in **Section 2.0: Project Description** and **Appendix 9.3: Air Quality Assessment**.

Construction Sources and Emissions

The air quality modeling assumes Project construction would occur in one phase, beginning in the fourth quarter of 2020 and completed by the fourth quarter of 2022; see also *Construction Sources and Emissions – Updates to Modeling Assumptions* below. The assumed construction Project subphases and approximate durations are:

- Pre-approval/pre-construction Property Demolitions: 19.5 months,
- Utility Relocations: 12 months (three months would overlap with Civil Improvements),
- Civil Improvements (i.e., street relocations/modifications, track corridor, soundwalls, and infiltration basins): 10 months (three months would overlap with Utility Relocations), and
- Track and Signal Construction: 3.5 months.

Inclusive of property demolitions, Project construction would occur over approximately 42 months. It is noted, property acquisitions were underway concurrent with preparation of this EIR, and their demolition could occur as soon as required by a governmental entity (e.g., release of liens/abatement of nuisance) or as soon as possible upon property acquisition, prior to Project approval or commencement of Project construction. Exclusive of property demolitions and accounting for the three-month overlap of Civil Improvements with Utility Relocations, Project construction would occur over approximately 23 months. Notwithstanding, to provide a conservative analysis, demolition-related activities are included in the assumed construction activities and evaluated in this EIR.

The Project's site preparation phase would occur simultaneous with demolition and prior to grading. Upon completion of property acquisitions and grading, municipal improvements (i.e., utility relocation and paving) would commence simultaneous with rail construction. Train trips are assumed would deliver rail construction materials (i.e., rail, ties, and ballasts) during the Project's rail construction phase. Railroad ties are anticipated to be pre-cast concrete, therefore, a concrete batch plant would not be required.

Appendix 9.3 summarizes the estimated soils/materials import/export and indicates the Project is anticipated to require the following:

- Approximately 26,900 tons of debris export, including approximately 6,845 tons of building structure and 20,000 tons of pavement during demolition activities,

- Approximately 74,200 tons of materials import (primarily for infiltration basin media),
- Approximately 184,300 cubic yards (CY) of subcut/soil export (primarily infiltration basin excavation and track grading for ballast), and
- Approximately 33,400 CY of soil/concrete import (primarily for soundwalls, subcut, and track corridor).

It is noted, these estimated soils/materials import/export quantities assumed nine potential basin sites (totaling approximately 6.0 acres and providing a storage volume of approximately 11.6 acre-feet) would be constructed. Given that the storage volume required to mitigate the Project's increased runoff volume totals 2.0 acre-feet (see **Section 4.9: Hydrology and Water Quality**), not all of the basins would be constructed. Therefore, the Project's actual soils/materials import/export quantities would likely be less than one-half of the quantities assumed in the modeling. Because less soils/materials import/export quantities would result in less construction emissions, the emissions modeling is highly conservative.

Construction emissions can vary substantially from day to day, depending on the activity level and the specific type of operation. Construction emissions result from on- and off-site activities. On-site activities result principally in exhaust emissions from heavy-duty construction equipment activity and motor vehicle operation. Off-road and on-road construction equipment traveling over unpaved surfaces and performing earthmoving activities such as site clearing, or grading would generate fugitive dust emissions in the form of PM_{10} and $PM_{2.5}$. Off-site activities result in motor vehicle exhaust emissions from delivery vehicles and worker traffic.

Criteria pollutant emissions from building demolition and construction of the proposed improvements were calculated using the California Emissions Estimator Model (CalEEMod). CalEEMod was used to calculate emissions from off-road construction equipment, on-road construction trucks, worker commute trips, and fugitive dust. CalEEMod uses statewide off-road emission factors or county or Basin specific on-road emission factors, allows for overlapping construction phases, and provides annual emission rates. Emissions factors for the SCAB's San Bernardino County portion were used for this analysis.

Ballast and sub-ballast materials could potentially be hauled by rail within the SCAB. Rail emissions were estimated based on the U.S. EPA's Emission Factors for Locomotives (April 2009) and the travel distance by rail within the SCAB. Emissions from rail delivery of ballast material and rail segments were calculated by assuming that locomotives meeting fleet average linehaul emission standards would be used for all rail delivery. A maximum of one train per day for delivery of bulk material (switches, welded rail, and ballast) would be needed and was assumed in the modeling. Emissions factors were modeled using U.S. EPA emission factors for locomotives guidance. Delivery locomotives traveling off-site were assumed to follow the line-haul fleet mix and duty cycle provided by the design engineers.

Construction Sources and Emissions – Updates to Modeling Assumptions

The minor Project refinements discussed below occurred subsequent to completion of the air quality modeling.

Construction Schedule. As discussed above, the air quality modeling assumes Project construction would begin in the fourth quarter of 2020 and be completed by the fourth quarter of 2022. However, the current Project construction schedule assumes Project construction would begin in the fourth quarter of 2021 and be completed by the fourth quarter of 2023, or one year later than assumed in the air quality modeling. However, the air quality modeling concerning the construction schedule is considered conservative

because CalEEMod emissions factors for future years decline given advancements in construction equipment technology and fleet turnover.

Basin Construction. The current Project design for stormwater runoff and water quality assumes seven potential basin sites (totaling approximately 5.3 acres and providing a storage volume of approximately 13 acre-feet) would be constructed. The air quality modeling assumed nine basins would be constructed, when likely less than one-half of the soils/materials import/export quantities assumed in the modeling would occur. Therefore, the air quality modeling concerning basin construction is considered conservative.

Displaced Commercial Uses. Construction emissions modeling assumed 31,000 square feet (SF) of displaced (i.e., demolished) commercial land uses, and not 46,000 SF, as proposed under the current Project design; see **Table 2-2: Summary of Existing Land Uses**. This change in demolition assumptions is attributed to full acquisition (as opposed to partial acquisition) of an additional property. Because the construction emissions modeling conservatively assumed an earlier construction schedule and that all nine basin sites would be constructed, any additional construction emissions associated with demolition of the additional 15,000 SF of commercial floor area are considered nominal and would be more than offset by the already conservative construction emissions. Even if the construction emissions associated with an additional 15,000 SF of demolished floor area were added, the analysis conclusions based on modeling would not change.

Operational Sources and Emissions

Operational emission sources would be from locomotive idling, and based on BNSF rail traffic schedules and infrastructure limitations. No operational emissions from new land uses would occur, as none are proposed; see also *Displaced Commercial Uses* discussion below.

Rail Operations Existing Condition. Currently, two trains (Trains A and B) idle on siding tracks between two and three hours per day, while waiting for access into the A Yard. An additional train (Train C) idles on storage tracks for eight hours two to three times per week. Additionally, Train D is detained at the A Yard, because Main 1 (i.e., the existing lead track within BNSF corridor) is congested with haul line traffic; therefore, Train D idles within the A Yard until Main 1 is cleared. As discussed above, per the Statewide Rail Agreement, locomotives are required to be equipped with Automatic Engine Start Stop systems, which shut off engines after 15 minutes of idling. Thus, after 15 minutes of idling, only a single engine remains idling, while the other engines shut off. The existing average idling time is calculated, as follows:

- Average number of locomotives per train: 4 locomotives (4,400 horsepower each).
- Trains A and B (3 hours of idling per day each): 0.25 hour of idling x 4 locomotives = 1 hour of locomotive idling, 2.75 hours of idling x 1 locomotive = 2.75 hours of locomotive idling.
    - 1 hour + 2.75 hours = 3.75 hours of locomotive idling per day, per train.
    - 3.75 hours of idling per train x 2 trains = 7.5 hours of locomotive idling total for Train A and B per day.
- Train C (8 hours of idling per day, 3 days per week): 0.25 hour of idling x 4 locomotives = 1 hours of locomotive idling. 7.75 hours of idling x 1 locomotive = 7.75 hours of locomotive idling.
    - 1 hour + 7.75 hours = 8.75 hours of locomotive idling per day, 3 times per week.

- 8.75 hours per day x 3 days / 7 days per week = 3.75 hours per day on average for Train C.

- Train D: 3 hours of idling per day: 0.25 hour of idling x 4 locomotives = 1 hour of locomotive idling, 2.75 hours of idling x 1 locomotive = 2.75 hours of locomotive idling.
    - 1 hour + 2.75 hours = 3.75 hours of locomotive idling per day.

Based on the above operating factors, existing rail operations at the Project site result in approximately 15 hours of daily locomotive diesel engine idling (3.75 hours per day each from Trains A, B, and D, and an average of 3.75 hours per day from Train C).

Rail Operations With Proposed Project Condition. The Project would not generate new motor vehicle trips or require other locomotive activity within the yard, such as switching operations (i.e., moving rail cars). Under the Project, Train C and Train D would no longer idle. The Project's operational emissions calculations assume the following daily locomotive diesel engine idling:

- Average number of locomotives per train: 4 locomotives (4,400 horsepower each).
- Trains A and B (3 hours of idling per day each): 0.25 hour of idling x 4 locomotives = 1 hour of locomotive idling, 2.75 hours of idling x 1 locomotive = 2.75 hours of locomotive idling.
    - 1 hour + 2.75 hours = 3.75 hours of locomotive idling per day, per train.
    - 3.75 hours of idling per train x 2 trains = 7.5 hours of locomotive idling total for Train A and B.
- Train C: no locomotive idling would occur under the Project.
- Train D: 15 minutes of idling per day: 0.25 hour of idling x 4 locomotives = 1 hour of locomotive idling.

Based on the above operating factors, with Project rail operations would result in approximately 8.5 hours of daily locomotive diesel engine idling, an approximately 43 percent reduction from existing operating conditions (15 hours of daily locomotive diesel engine idling).

Fleet Mix. Locomotive emission factors were modeled using average fleet data. Locomotive emissions were calculated based on the change in idling activity and locomotive emissions factors from the U.S. EPA's *Emissions Factors for Locomotives* (EPA-420-F-09-025) (April 2009). **Table 4.2-7: Locomotive Fleet Mix** shows the locomotive fleet mix. Train speeds would not increase upon Project implementation. The assumptions for the operational emissions analysis were developed to provide a standard comparison between different Project scenarios. For the purpose of accurately reflecting the fleet mix, foreign locomotives are included in the respective fleet mix category for this analysis.

For the purpose of accurately reflecting the fleet mix, the two categories are split, with line-haul locomotives being 4,000 horsepower or higher, and intermediate locomotives being less than 4,000 horsepower.

TABLE 4.2-7: LOCOMOTIVE FLEET MIX	
USEPA Tier Standard	**Locomotive Fleet (%)**
Pre-Tier 0 (1973-1999)	0.5
Tier 0 (2000-2001)	2.5
Tier 0+ (2000-2001+)	0.87
Tier 1 (2002-2004)	0.5
Tier 1+ (2002-2004+)	32.0
Tier 2 (2005-2011)	14.0
Tier 2+ (2005-2011+)	17.5
Tier 3 (2012-2014)	25.9
Tier 4c	
Tier 4 (2015)	6.2

The fleet mix used in the analysis below differs from the fleet mix reported to CARB for the following reasons:

- Foreign locomotives are assigned to an "uncontrolled" category per the Statewide Rail Agreement.[13] To accurately reflect the fleet mix, foreign locomotives are included in the respective fleet mix category for this analysis.
- Grant-funded Tier 4 locomotives are not reported to CARB per the Statewide Rail Agreement.[14] To accurately reflect the fleet mix, these Tier 4 locomotives are included in this analysis.

CARB data combines line-haul and switcher locomotives into a single locomotive category. CARB only requires locomotives reported to include those operating in a line-haul duty cycle.[15] This includes a small number of intermediate locomotives. To accurately reflect the fleet mix, the two categories are split, with line-haul locomotives being 4,000 horsepower or higher, and intermediate locomotives being less than 4,000 horsepower.

Displaced Commercial Uses. To accommodate the proposed rail and ancillary improvements, Project implementation requires removal of as many as 43 dwelling units (DU) and approximately 78,000 SF of non-residential (commercial and industrial) land uses. Because the Project would remove these existing land uses, and result in a traffic decrease of approximately 672 average daily trips (ADT), a decrease in both stationary and mobile source operational emissions would occur. However, the operational emissions modeling did not apply any emissions credits for the existing land uses that would be removed. Therefore, the Project's operational/idling emissions estimates are conservative.

Additionally, although partial acquisition of some properties would create remnant parcels not required for the Project, the Project does not propose their redevelopment or any zone change. The remnant parcel's underlying/existing zoning would be retained making them available for reuse/redevelopment in

[13] CARB. 2005. *Statewide Railyard Agreement*. Available at: https://ww2.arb.ca.gov/resources/documents/2005-statewide-railyard-agreement.

[14] Ibid.

[15] Ibid.

the future consistent with their existing zoning. However, there is no known proposal for reuse of these parcels as of this writing. Therefore, because assumptions concerning long-term operations from redevelopment of the remnant parcels would be speculative, no further analysis has been conducted.

Dispersion Modeling and Health Risk

Dispersion modeling of emissions was performed to estimate off-site pollutant concentrations in the air from construction emission sources using the American Meteorological Society/EPA Regulatory Model (AERMOD), version 19191. Construction on- and off-road emissions sources were modeled with adjacent line volume sources. Construction emissions rates for construction were derived from CalEEMod and operational idling emissions are from the methodology described above. The weighted construction emissions in tons per year were converted to grams per second for input into AERMOD. Idling locomotive emissions sources were modeled with point sources. A receptor grid was placed over the Project site to cover the zone of impact. Nearby sensitive receptors were modeled with a 50-meter grid spacing. In addition, National Elevation Dataset (NED) terrain data was imported into AERMOD for the Project. The modeling and analysis was prepared in accordance with the South Coast AQMD Modeling Guidance for AERMOD.[16] Pollutant concentrations were compared to South Coast AQMD thresholds to determine localized impacts.

Human health risks associated with construction-related TACs emissions were estimated following the *Air Toxics Hot Spots Program Risk Assessment Guidelines* developed by the OEHHA within the CAL/EPA (OEHHA, 2015). The objective of the health risk assessment (HRA) process supports a determination of whether health risks posed by a project meet regulatory standards and to inform the public and decision-makers of the potential health effects associated with the chemicals emitted from a project or facility.

Individual lifetime cancer risk represents the incremental probability of an individual developing cancer over a lifetime, as a result of exposure to a carcinogen. Maximum predicted health risk values in the communities near a project site are compared to the maximum individual cancer risk threshold of 10 in one million.

Chronic and acute non-cancer effects are evaluated by calculating a hazard index (HI). The HI is the sum of individual acute or chronic hazard quotients calculated for each substance. A hazard quotient is the estimated ground level concentration of a TAC divided by the Reference Exposure Level. Reference Exposure Levels are developed by OEHHA and represent the TAC concentration at or below which no adverse health effects are expected. A chronic non-cancer HI below 1.0 or an acute HI below 1.0 indicate that adverse non-cancer health effects from long- or short-term exposure, respectively, are not expected. For the evaluation of acute noncancer health effects, the one-hour maximum average air concentration of each TAC over the period of assumed exposure is used. Conservatively, the acute exposure concentration was selected as the maximum average concentration from any single hourly period during construction. For evaluation of chronic noncancer health effects, this HRA used a similarly conservative approach in that the exposure level over the entire exposure duration for each exposure scenario is assumed to be the maximum annual average concentration of each TAC for any single year over the period of exposure.

[16] South Coast Air Quality Management District, *South Coast AQMD Modeling Guidance for AERMOD*, https://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance.

4.2.5 IMPACTS AND MITIGATION MEASURES

Impact 4.2-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

As part of its enforcement responsibilities, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under State law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment regarding federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The Project site is within the SCAB, which is under South Coast AQMD's jurisdiction. The South Coast AQMD is required, pursuant to the FCAA, to reduce emissions of criteria pollutants for which the SCAB is in nonattainment. To reduce such emissions, the South Coast AQMD drafted the 2016 AQMP. The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving State (California) and federal air quality standards. The 2016 AQMP is a regional and multi-agency effort including the South Coast AQMD, CARB, SCAG, and the U.S. EPA. The AQMP's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's 2016 RTP/SCS, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. The Project is subject to the South Coast AQMD's AQMP. Criteria for determining consistency with the AQMP are defined by the following indicators:

- **Consistency Criterion No. 1:** The Project would not result in an increase in frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of the AQMP's air quality standards or interim emissions reductions.
- **Consistency Criterion No. 2:** The Project would not exceed the AQMP's assumptions or increments based on the years of the Project build-out phase.

According to the South Coast AQMD's *CEQA Air Quality Handbook*, the purpose of the consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with CAAQS and NAAQS.

The violations to which Consistency Criterion No. 1 refers are CAAQS and NAAQS. As discussed below, the Project would not exceed the short-term construction standards based on worst-case day scenarios. Therefore, a delay in the timely attainment of the AQMP's air quality standards is not expected. Additionally, Project implementation is expected to contribute to improved long-term operational emissions. The Project does not propose to increase rail traffic or rail line operations; instead it would improve efficiency. The Project proposes a fourth lead track extension, which would enhance the A Yard's efficiency by reducing congestion along the existing lead tracks serving BNSF's east-west corridor.

Increased rail operations efficiency would decrease train idling by approximately 43 percent (from 15 hours of daily locomotive diesel engine idling to 8.5 hours), which would contribute to improved long-term operational emissions. These improved long-term operational emissions would offset the short-term construction emissions exceedances. The Project would be consistent with the first criterion; therefore, a less than significant impact would occur in this regard and no mitigation is required.

Concerning Consistency Criterion No. 2, the AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The Project is consistent with both SBGP and 2016 RTP/SCS goal. The Project would not change any General Plan land use designations and does not proposed any new land uses, additional operational vehicle trips, or new train trips. To accommodate the proposed rail and ancillary improvements, the Project requires the acquisition of approximately 29 acres of adjacent properties where residential and non-residential land uses are located. Project implementation would require removal of as many as 43 DU and approximately 78,000 SF of non-residential (commercial and industrial) land uses. Therefore, the Project would not generate population growth or cause the South Coast AQMD's population or job growth projections used to develop the AQMP to be exceeded.

2016 RTP/SCS Table 4-4 (page 4-25) shows "South Coast AQMD Proposed Mobile Source 8-Hour Ozone Measures". Among the measures mentioned, MOB-02 aims to reduce NO_X and PM emissions at rail yards and intermodal facilities. The objectives of the proposed Project are to reduce train congestion and improve the efficiency of rail operations. There are no plans to increase the number of trains currently using the corridor. Since improved efficiency of rail operations would reduce locomotive idling by approximately 43 percent, the Project would be consistent with MOB-02 goals. The Project would not contribute to population growth or cause the South Coast AQMD's population or job growth projections used to develop the AQMP to be exceeded. Given the Project is consistent with the first and second criterion, a less than significant impact would occur in this regard and not mitigation is required.

Mitigation Measures

No mitigation is required.

Impact 4.2-2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Level of Significance: Less Than Significant With Mitigation Incorporated

CONSTRUCTION

Project construction activities would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the Project area include ozone-precursor pollutants (i.e., ROG and NO_X) and PM_{10} and $PM_{2.5}$. Construction-generated emissions are short term and temporary, lasting only during construction activities, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the South Coast AQMD's thresholds of significance.

Construction results in the temporary generation of emissions resulting from site grading, road paving, motor vehicle exhaust associated with construction equipment, worker trips, and the movement of

construction equipment, especially on unpaved surfaces. Airborne particulate matter emissions are largely dependent on the amount of ground disturbance associated with site preparation activities, as well as weather conditions and the appropriate application of water.

Details concerning the assumed construction activities are provided in the *Methodology and Assumptions - Construction Sources and Emissions* Section above. Because train deliveries are not accounted for using typical land use emissions models, U.S. EPA guidance (EPA-420-F-09-025) was used to calculate construction-related locomotive emissions. All other construction-related emissions were calculated using CalEEMod, which is designed to model emissions based on typical construction requirements. **Appendix 9.3** provides more information regarding the construction assumptions used in this analysis. The Project's predicted maximum daily construction-related emissions are summarized in **Table 4.2-8: Construction-Related Emissions**.

TABLE 4.2-8: CONSTRUCTION-RELATED EMISSIONS (MAXIMUM POUNDS PER DAY)

Construction Year	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_X)	Carbon Monoxide (CO)	Sulfur Dioxide (SO_2)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Unmitigated Condition						
2020 Total	6.73	69.47	36.78	0.08	36.45	20.29
2021 Total	15.49	221.05	99.89	0.43	59.36	30.92
2022 Total	10.29	153.17	79.45	0.38	26.39	11.54
2022 Construction	*9.62*	*135.75*	*74.54*	*0.36*	*25.98*	*11.14*
2022 Rail Deliveries[1]	*0.67*	*17.42*	*4.91*	*0.02*	*0.41*	*0.40*
Mitigated Condition						
2020 Total	1.55	13.47	36.78	0.08	15.96	7.82
2021 Total	4.35	88.49	99.89	0.42	28.72	12.55
2022 Total	8.56	95.41	79.45	0.38	16.35	5.88
2022 Construction	*7.89*	*77.99*	*74.54*	*0.36*	*15.94*	*5.48*
2022 Rail Deliveries[1]	*0.67*	*17.42*	*4.91*	*0.02*	*0.41*	*0.40*
South Coast AQMD Threshold	*75*	*100*	*550*	*150*	*55*	*150*
Exceed South Coast AQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Note:
1. South Coast AQMD Rule 403 Fugitive Dust applied. The Rule 403 reduction/credits include the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the South Coast AQMD CEQA Handbook (Tables XI-A through XI-E) were applied. Tier 4 Final mitigation was applied to construction equipment. Rail emissions for construction in 2022 were calculated using EPA-420-F-09-025 guidance.

Source: CalEEMod version 2016.3.2 and EPA-420-F-09-025. Refer to **Appendix 9.3: Air Quality Assessment** for model outputs.

As shown in **Table 4.2-8**, unmitigated NOX emissions would exceed the South Coast AQMD construction-emissions threshold in 2021 and 2022. All other criteria pollutant emissions would remain below their respective thresholds. Standard Condition AQ-1 would minimize fugitive dust and ensure compliance with

the South Coast AQMD's dust control measures. Mitigation Measure AQ-1 requires the Project to use diesel construction equipment that complies with Tier 4-level emissions standards. Applying Tier 4 construction equipment mitigation requires that the construction equipment use the latest clean diesel technologies to reduce emissions. Tier 4 construction equipment generate substantially less NOX and PM emissions compared to conventional diesel equipment. **Table 4.2-8** shows that construction emissions would not exceed South Coast AQMD thresholds with implementation of Standard Condition AQ-1 and Mitigation Measure AQ-1 and following compliance with South Coast AQMD Rules 402, 403, and 1113; see the Regulatory Setting section above. The Project's construction-related impacts would be less than significant with mitigation incorporated.

OPERATIONS

The Project's operational emissions would be associated with train operations and motor vehicle use due to vehicle trip reassignment. The Project proposes a continuous lead track to close the existing gap between the Ono storage sidings. Project construction of the fourth lead track would not increase the number of train trips, number of permanent employees, or A Yard traffic.

Table 4.2-9: Operational Locomotive Idling Emissions shows the pre-Project and post-Project locomotive emissions calculated per U.S. EPA guidelines, emissions rates specific to BNSF operations along this railroad segment, and the operating conditions detailed in the *Methodology and Assumptions - Existing Sources and Emissions* Section above. As indicated in **Table 4.2-9**, Project implementation would reduce locomotive emissions, resulting in a net decrease in emissions for all pollutants. The proposed fourth lead track would create a continuous lead track, closing the existing gap between the Ono storage sidings and improving the flow of trains in and out of the A Yard. The Project would improve the A Yard's operational efficiency by: improving the A Yard's ability to assemble and hold outbound trains, as well as move around railroad cars without obstructing mainline movements; reducing train congestion along the existing lead tracks; and reducing train idling, as they wait to enter and exit the A Yard. With the proposed improvements, the A Yard would have capacity to assemble and hold outbound trains and switch out the yard without fouling the mainline.

It is noted, the Project's idling emissions estimates are conservative because emissions credits have not been applied for the existing land uses that would be removed, as detailed in the *Methodology and Assumptions - Operational Sources and Emissions [Displaced Commercial Uses]* above. Removal of the existing land uses would further decrease the Project's operational emissions from both mobile and stationary sources.

The Project would not create additional operational emissions that would exceed South Coast AQMD thresholds for any criteria air pollutants. Therefore, the Project's operational emissions would result in a less than significant long-term regional air quality impact. As noted above, the proposed lead tracks would not increase the number of train trips and there would be no permanent increase in the number of employees or trucks associated with BNSF facilities.

TABLE 4.2-9: OPERATIONAL LOCOMOTIVE IDLING EMISSIONS (MAXIMUM POUNDS PER DAY)						
Construction Year	**Reactive Organic Gases (ROG)**	**Nitrogen Oxide (NO_X)**	**Carbon Monoxide (CO)**	**Sulfur Dioxide (SO_2)**	**Coarse Particulate Matter (PM_{10})**	**Fine Particulate Matter ($PM_{2.5}$)**
Existing Idling Emissions	0.59	15.54	4.41	0.01	0.36	0.35
With Project Idling Emissions	0.34	8.80	2.50	0.00	0.21	0.20
Net Idling Emissions	**-0.26**	**-6.74**	**-1.91**	**0.00**	**-0.16**	**-0.15**
Notes: Additional line haul emissions are conservatively higher based on normal growth of rail operations. Idling emissions reductions based on the Project cutting current idle times by 43 percent.						
Source: EPA-420-F-09-025. Refer to **Appendix 9.3: Air Quality Assessment** for model outputs.						

The Project would not generate a net increase in vehicle trips and the reassignment of vehicle trips on North I Street would be nominal/local, meaning that the Project would not create additional operational emissions exceeding South Coast AQMD thresholds for any criteria air pollutants. Therefore, the Project's operational emissions would result in a less than significant long-term regional air quality impact and no mitigation is required.

Standard Conditions

SC AQ-1 Prior to Grading Permit issuance, the construction contractor shall provide evidence to the City of San Bernardino Planning Division that the grading plans and specifications require the Applicant to ensure that all construction contractors comply with South Coast Air Quality Management District (South Coast AQMD) Rules 402 and 403 to minimize construction emissions of dust and particulates. South Coast AQMD Rule 402 requires that air pollutant emissions not be a nuisance off-site. Rule 402 prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

South Coast AQMD Rule 403 requires that fugitive dust be controlled with Best Available Control Measures (BACMs) so that the presence of such dust does not remain visible beyond the property line of the emission source. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. This requirement shall be included as notes on the contractor specifications. Rule 403 lists the BACMs that are applicable to all construction projects. The measures include, but are not limited to, the following:

a) The Project would disturb more than 50 acres and would be considered a large operation by Rule 403. The Project shall submit Large Operation Notification Forms to the South Coast AQMD.

b) Portions of a construction site to remain inactive longer than a period of three months shall be seeded and watered until grass cover is grown or otherwise stabilized.

c) All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized.

d) All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.

e) The area disturbed by clearing, grading, earthmoving, or excavation operations shall be minimized at all times.

f) Where vehicles leave a construction site and enter adjacent public streets, the streets shall be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

Mitigation Measures

MM AQ-1 Prior to Grading Permit issuance, the construction contractor shall provide evidence to the City of San Bernardino Planning Division and City Traffic Engineer that the following measures will be implemented during construction:

a) Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.

b) Provide dedicated turn lanes for movement of construction trucks and equipment both on and off of the Project site.

c) Improve traffic flow by signal synchronization and ensure that all vehicles and equipment will be properly tuned and maintained according to manufacturers' specifications.

d) Require the use of electricity from power poles rather than temporary diesel or gasoline-powered generators, as feasible.

e) Require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the lead agency shall use trucks that meet EPA 2007 model year NO_X emissions requirements. Note that CARB's Truck and Bus regulation specifies that trucks and buses shall be required to have 2010 or newer model year engines by January 1, 2023.

f) During Project construction, all internal combustion engines/construction, equipment operating on the Project site shall meet EPA-Certified Tier 4 emissions standards, or higher according to the following:

- All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 4 final off-road emissions standards. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

- A copy of each unit's certified tier specification, BACT documentation, and CARB or South Coast AQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

- During construction, the Construction Contractor shall maintain a list of all on-site operating equipment for City verification. The on-site construction equipment list shall specify the equipment makes, models, and quantities. The reporting and maintenance records for each equipment shall be available for inspection and remain on-site for at least two years after completion of construction.

Impact 4.2-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?

Level of Significance: Less Than Significant Impact

CONSTRUCTION

Localized Significance Thresholds

The nearest sensitive receptors are the single-family residential uses approximately 50 feet (15 meters) west of the proposed construction limit. To identify impacts to sensitive receptors, the South Coast AQMD recommends addressing LSTs for construction. LSTs were developed in response to South Coast AQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The South Coast AQMD provided the Final Localized Significance Threshold Methodology (June 2003, as revised 2008) for guidance. The LST methodology assists lead agencies in analyzing localized impacts from Project-specific emissions.

CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment. **Table 4.2-10: Equipment-Specific Grading Rates**, compares the maximum daily disturbed acreage to LSTs. As previously noted, the Project site is in SRA 34. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The South Coast AQMD produced look-up tables for projects that disturb areas less than or equal to 5.0 acres. Because Project construction is anticipated to disturb up to 12.2 acres in a single day, additional health risk analysis is necessary for criteria pollutants exceeding the conservative thresholds for 5.0 acres of grading.

TABLE 4.2-10: EQUIPMENT-SPECIFIC GRADING RATES

Construction Phase	Equipment Type	Equipment Quantity	Acres Graded Per 8-Hour Day	Operating Hours Per Day	Acres Graded Per Day[1]
Grading	Graders	1	0.5	13	0.8
	Dozers	4	0.5	13	3.3
	Scrapers	2	1.0	13	3.3
	Tractors/Loaders/Backhoes	6	0.5	13	4.9
				Total Acres Graded per Day	**12.2**

1. Calculated using scaled grading rates for a 13-hour work day.

Source: CalEEMod version 2016.3.2. Refer to **Appendix 9.3: Air Quality Assessment** for model outputs.

The South Coast AQMD's methodology states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs." Therefore, for the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered. The nearest sensitive receptors to the Project site are single-family homes in the residential neighborhoods approximately 50 feet (15 meters) to the west. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Therefore, as recommended by the South Coast AQMD, LSTs for receptors located at 25 meters were used in this analysis for receptors closer than 25 meters. **Table 4.2-11: Localized Significance of Construction Emissions**, presents the results of LST analysis during Project construction.

TABLE 4.2-11: LOCALIZED SIGNIFICANCE OF CONSTRUCTION EMISSIONS (MAXIMUM POUNDS PER DAY)

Construction Activity	Nitrogen Oxide (NO_X)	Carbon Monoxide (CO)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
2020 Demolition	*8.17*	*37.55*	*2.30*	*0.69*
2020 Site Preparation	*3.28*	*33.91*	*12.65*	*7.00*
2020 Demolition and Site Preparation	11.45	71.46	14.95	7.69
2021 Site Preparation	*3.28*	*33.91*	*12.82*	*7.16*
2021 Grading	*5.36*	*53.62*	*5.47*	*2.66*
2021 Site Preparation and Grading	8.64	87.54	18.29	9.82
2022 Grading	5.36	53.62	5.38	2.58
2022 Paving	3.95	56.21	0.12	0.12
2022 Rail Construction	6.83	35.01	0.27	0.27
2022 Rail Deliveries	*17.42*	*4.91*	*0.41*	*0.40*
2022 Rail Construction and Rail Deliveries	24.25	39.92	0.68	0.67
Maximum	*23.41*	*87.54*	*18.29*	*9.82*
South Coast AQMD Localized Screening Threshold (5.0 acres at 25 meters)	*270*	*1,720*	*14*	*8*
Exceed South Coast AQMD Threshold?	**No**	**No**	**Yes**	**Yes**

Note: Tier 4 Final mitigation was applied to construction equipment per Mitigation Measure AQ-1.

Source: CalEEMod version 2016.3.2 and EPA-420-F-09-025. Refer to **Appendix 9.3: Air Quality Assessment** for model outputs.

Table 4.2-11 shows that the PM_{10} and $PM_{2.5}$ emissions would exceed the conservative 5.0-acre thresholds on a peak day of Project construction. To determine if the Project would result in significant concentrations of these two criteria pollutants at nearby sensitive receptors, air pollution dispersion modeling was conducted. Localized construction emissions were estimated using the AERMOD model to determine the concentrations of PM_{10} and $PM_{2.5}$ as well as NO_X and CO at the nearest off-site sensitive receptors. **Table 4.2-12: Construction Emissions Dispersion Modeling Results** shows construction-related

emissions compared to South Coast AQMD's ambient air quality standards for construction.[17] As shown in **Table 4.2-12**, pollutant concentrations would not exceed South Coast AQMD thresholds. Therefore, the Project would result in a less than significant impact concerning LSTs for construction and no mitigation is required.

TABLE 4.2-12: CONSTRUCTION EMISSIONS DISPERSION MODELING RESULTS

Emissions Source	Pollutant (µg/m³)							
	PM_{10}		$PM_{2.5}$		NO_X		CO	
	24-Hour	Annual	24-Hour	Annual	1-Hour	Annual	1-Hour	8-Hour
Maximum Modeled Concentration	1.20	0.65	0.62	0.34	1.45	0.46	12.15	9.25
Background Concentration	N/A	N/A	N/A	N/A	123.82	26.91	3,138.97	2,197.28
Total Concentration	1.20	0.65	0.62	0.34	125.27	27.37	3,151.12	2,206.53
South Coast AQMD Standard	*10.4*	*1.0*	*10.4*	*1.0*	*339*	*100*	*23,000*	*10,000*
Exceed Significance?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Notes: Emissions modeled based on the weighted average of total emissions throughout construction. The weighted construction emissions in tons per year were converted to grams per second for input into AERMOD.

Source: AERMOD, CalEEMod weighted average of on-site construction emissions, refer to **Appendix 9.3: Air Quality Assessment** for assumptions used in this analysis; South Coast Air Quality Management District, *Air Quality Significance Thresholds*, April 2019.

Construction-Related Diesel Particulate Matter

Project construction would generate DPM emissions from the use of off-road diesel equipment required. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. An incremental cancer risk of greater than 10 cases per million to the maximally exposed individual is a significant impact. The significance threshold for non-cancer hazards is an index value of 1.0.

Use of diesel-powered construction equipment would be temporary and episodic. The duration of exposure would be short and exhaust from construction equipment would dissipate rapidly. The nearest sensitive receptors are the single-family residential uses approximately 50 feet (15 meters) west of the proposed construction limit, and further from the major Project construction areas. Most construction emissions would be from haul trucks and would be dispersed along off-site roadways at intermittent periods. Additionally, Project construction would occur in a linear fashion, progressing along the BNSF corridor/Project alignment, and would not operate equipment adjacent to sensitive receptors for extended periods of time.

The California Office of Environmental Health Hazard Assessment has not identified short-term health effects from DPM. Construction activities would be subject to compliance with California regulations

[17] South Coast Air Quality Management District, *Air Quality Significance Thresholds*, April 2019.

limiting the idling of heavy-duty construction equipment to no more than 5 minutes to further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. Mitigation Measure AQ-1 requires exhaust control measures (including the use of Tier 4 off-road engines) that would further reduce exposure to DPM.

The air dispersion modeling for the construction risk assessment was performed using the U.S. EPA-approved AERMOD air dispersion model. AERMOD is a steady-state, multiple-source, Gaussian dispersion model designed for use with emission sources situated in terrain where ground elevations can exceed the stack heights of the emission sources (not a factor in this case). AERMOD requires hourly meteorological data consisting of wind vector, wind speed, temperature, stability class, and mixing height. Surface and upper air meteorological data was obtained from the South Coast AQMD. Surface and upper air meteorological data from the Fontana Monitoring Station was selected as being the most representative for meteorology based on proximity to the Project site.

PM_{10} exhaust construction emissions over the entire construction period were used in AERMOD to approximate construction DPM emissions. Risk levels were calculated according to the California Office of Environmental Health Hazard Assessment guidance document, *Air Toxics Hot Spots Program Risk Assessment Guidelines.*[18]

PM_{10} construction emissions rates in grams per second were calculated from the weighted average of the total annual mitigated on-site exhaust emissions at 0.0222 tons per year. It is noted that construction would span over multiple years and the modeling uses a weighted average of the annual values reported in CalEEMod. Annual emissions were converted to 0.00064 grams per second and these emissions rates were input into AERMOD.

Results of this assessment are summarized in **Table 4.2-13: Construction Health Risk Results**. As shown in **Table 4.2-13**, the maximum 1-hour concentration of PM_{10} during construction would be 0.09 µg/m^3 and the annual concentration would be 0.02 µg/m^3. The maximum exposed residential receptor (MER) would generally occur at the residences nearest the construction area between West 9th Street and Spruce Street. The highest calculated carcinogenic risk from Project construction would be 6.38 per million. The risk calculation conservatively used a construction exposure duration of three years. Breathing rates were conservatively based on OEHHA 95th percentile values at 361 liters/kilogram for the entire duration of construction. Acute and chronic non-cancer hazards for DPM would be below the 1.0 threshold. As described above, construction risk levels based on conservative assumptions would be below the applicable thresholds. Therefore, construction risk impacts would be less than significant and no mitigation is required. Additionally, as the construction emissions would not exceed South Coast AQMD risk thresholds, the Project would not adversely impact neighboring disadvantaged communities (as defined by CalEnviroScreen).

[18] California Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Risk Assessment Guidelines*, February 2015.

TABLE 4.2-13: CONSTRUCTION HEALTH RISK RESULTS				
Pollutant	**Pollutant Concentration (µg/m3)**	**Maximum Cancer Risk (Risk per Million)**	**Chronic Noncancer Hazard**	**Acute Noncancer Hazard**
Mitigated PM_{10}	0.02	6.38	0.004	0.037
Thresholds	–	*10*	*1.0*	*1.0*
Threshold Exceeded?	**No**	**No**	**No**	**No**
Source: Kimley-Horn and Associates, Inc., 2020.				

OPERATIONS

Project operations would result in reduced idling and increased efficiency, but would not increase train volumes. Although the lead track would place idling trains nominally closer (approximately 15 feet) to sensitive receptors, the reduced idling and associated emissions would offset the slight change in location. Additionally, the properties immediately adjacent to the alignment would be acquired and removed, which would maintain a separation from the nearest sensitive receptors. Notwithstanding, air dispersion modeling using AERMOD and risk assessment was performed for the Project-related locomotive idling emissions. Locomotive idling emissions were modeled using point sources at two idling locations along the proposed lead track. The point sources representing locomotive exhaust stacks were modeled using a release height of 4.88 meters, gas exit temperature of 351 Kelvin, inside stack diameter of 0.6 meters, and gas exit velocity of 3.73 meters per second. PM_{10} operational idling emissions rates in grams per second, calculated from the existing daily locomotive exhaust emissions of 0.36 pounds of PM_{10} per day and the With Project locomotive exhaust emissions of 0.21 pounds of PM_{10} per day, were input into AERMOD.

The HRA results are summarized in **Table 4.2-14: Operational Health Risk Results** and indicate the maximum annual concentration of PM_{10} would be 0.027 µg/m^3, which would be below the existing concentration of 0.045 µg/m^3. As noted above, acute and chronic non-cancer HI below 1.0 indicate that adverse non-cancer health effects from long- or short-term exposure, respectively, are not expected. The highest calculated carcinogenic risk from Project operations would decrease existing carcinogenic risk levels to 16.00 in one million. Breathing rates were conservatively based on OEHHA 95th percentile values. Acute and chronic non-cancer hazards for DPM would be below the HI 1.0 threshold. As described above, risk levels based on conservative assumptions would be below the applicable thresholds. Therefore, operational risk impacts would be less than significant, and no mitigation is required. As the operational emissions would not exceed South Coast AQMD risk thresholds, the Project would not adversely impact neighboring disadvantaged communities (as defined by CalEnviroScreen).

TABLE 4.2-14: OPERATIONAL HEALTH RISK RESULTS				
Pollutant	**Pollutant Concentration (µg/m³)**	**Maximum Cancer Risk (Risk per Million)**	**Chronic Noncancer Hazard**	**Acute Noncancer Hazard**
Existing Idling PM_{10}	0.045	38.94	0.009	0.24
With Project Operational Idling PM_{10}	0.027	22.94	0.005	0.14
Net Change	**-0.018**	**-16.00**	**-0.004**	**-0.10**
Thresholds	–	*10*	*1.0*	*1.0*
Threshold Exceeded?	**No**	**No**	**No**	**No**
Source: Kimley-Horn and Associates, Inc., 2020.				

Localized Significance Thresholds

As previously stated, the Project would not increase daily train trips. The Project is anticipated to improve existing rail operations by reducing locomotive idling times by 43 percent and improving rail efficiency. The reduction in locomotive idling times would reduce current rail operational emissions (**Table 4.2-9**). Project vehicle trip reassignment and removal of the acquired land uses is also expected to reduce off-site operational emissions. Therefore, Project operations would not result in significant concentrations of pollutants at nearby sensitive receptors and would result in a less than significant localized impact during operations.

Criteria Pollutant Health Impacts

On December 24, 2018, the California Supreme Court issued an opinion identifying the need to provide sufficient information connecting a project's air emissions to health impacts or explain why such information could not be ascertained (*Sierra Club v. County of Fresno* [Friant Ranch, L.P.] [2018] Cal.5th, Case No. S219783). The South Coast AQMD has set its CEQA significance thresholds based on the FCAA, which defines a major stationary source (in extreme ozone nonattainment areas such as the South Coast Air Basin) as emitting 10 tons per year. The thresholds correlate with the trigger levels for the federal New Source Review (NSR) Program and South Coast AQMD Rule 1303 for new or modified sources. The NSR Program[19] was created by the FCAA to ensure that stationary sources of air pollution are constructed or modified in a manner that is consistent with attainment of health-based federal ambient air quality standards. The federal ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety, to protect the public health. Therefore, projects that do not exceed the South Coast AQMD's mass emissions thresholds would not violate any air quality standards or contribute substantially to an existing or projected air quality violation and no criteria pollutant health impacts.

NO_X and ROG are precursor emissions that form ozone in the atmosphere in the presence of sunlight where the pollutants undergo complex chemical reactions. It takes time and the influence of meteorological conditions for these reactions to occur, thus, ozone may be formed at a distance downwind from the sources. Breathing ground-level ozone can result in health effects that include:

[19] Code of Federal Regulation (CFR) [i.e., PSD (40 CFR 52.21, 40 CFR 51.166, 40 CFR 51.165 (b)), Non-attainment NSR (40 CFR 52.24, 40 CFR 51.165, 40 CFR part 51, Appendix S)

reduced lung function, inflammation of airways, throat irritation, pain, burning, or discomfort in the chest when taking a deep breath, chest tightness, wheezing, or shortness of breath. In addition to these effects, evidence from observational studies strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions, increased daily mortality, and other markers of morbidity. The consistency and coherence of the evidence for effects upon asthmatics suggests that ozone can make asthma symptoms worse and can increase sensitivity to asthma triggers.

According the South Coast AQMD's 2016 AQMP, ozone, NO_X, and ROG have been decreasing in the Basin since 1975 and are projected to continue to decrease in the future. Although vehicle miles traveled in the Basin continue to increase, NO_X and ROG levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to the use of cleaner fuels and renewable energy. The 2016 AQMP demonstrates how the South Coast AQMD's control strategy to meet the 8-hour ozone standard in 2023 would lead to sufficient NO_X emission reductions to attain the 1-hour ozone standard by 2022. In addition, since NO_X emissions also lead to the formation of $PM_{2.5}$, the NO_X reductions needed to meet the ozone standards will likewise lead to improved $PM_{2.5}$ levels and attainment of $PM_{2.5}$ standards.

The South Coast AQMD's air quality modeling demonstrates that NO_X reductions prove to be much more effective in reducing ozone levels and will also lead to significant improvements in $PM_{2.5}$ concentrations. NO_X-emitting stationary sources regulated by the South Coast AQMD include Regional Clean Air Incentives Market (RECLAIM) facilities (e.g., refineries, power plants, etc.), natural gas combustion equipment (e.g., boilers, heaters, engines, burners, flares), and other combustion sources that burn wood or propane. The 2016 AQMP identifies robust NO_X reductions from new regulations on RECLAIM facilities, non-refinery flares, commercial cooking, and residential and commercial appliances. Such combustion sources are already heavily regulated with the lowest NO_X emissions levels achievable but there are opportunities to require and accelerate replacement with cleaner zero-emission alternatives, such as residential and commercial furnaces, pool heaters, and backup power equipment. The South Coast AQMD plans to achieve such replacements through a combination of regulations and incentives. Technology-forcing regulations can drive development and commercialization of clean technologies, with future year requirements for new or existing equipment. Incentives can then accelerate deployment and enhance public acceptability of new technologies.

The 2016 AQMP also emphasizes that, beginning in 2012, continued implementation of previously adopted regulations will lead to NO_X emission reductions of 68 percent by 2023 and 80 percent by 2031. With the addition of 2016 AQMP proposed regulatory measures, a 30 percent reduction of NO_X from stationary sources is expected in the 15-year period between 2008 and 2023. This reduction is in addition to significant NO_X reductions from stationary sources achieved in the decades prior to 2008.

As previously discussed, localized effects of on-site Project emissions on nearby receptors were found to be less than significant. The LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable NAAQS or CAAQS. The LSTs were developed by the South Coast AQMD based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. The ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety, to protect public health, including protecting the health of sensitive populations such as asthmatics, children, and the elderly. As concluded above, Project-related emissions would not exceed the regional or localized thresholds, thus, would not exceed the ambient air quality standards or cause an increase in the frequency or severity of

existing violations of air quality standards. Therefore, sensitive receptors would not be exposed to criteria pollutant levels in excess of the health-based ambient air quality standards. A less than significant impact would occur in this regard and no mitigation is required.

Carbon Monoxide Hotspots

A CO "hot spots" analysis was prepared to determine whether the Project would result in a change in the level of service at an intersection that would have the potential to result in exceedances of the CAAQS or NAAQS. CO exceedances are caused by vehicular emissions, primarily when vehicles are idling at intersections. Vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The SCAB was re-designated as attainment in 2007 and is no longer addressed in the South Coast AQMD's AQMP. The 2003 AQMP is the most recent version that addresses CO concentrations. As part of the South Coast AQMD CO Hotspot Analysis, the Wilshire Boulevard/Veteran Avenue intersection, one of the most congested intersections in Southern California with approximately 100,000 ADT, was modeled for CO concentrations. This modeling effort identified a CO concentration high of 4.6 ppm, which is well below the 35-ppm federal standard. The proposed Project would not generate new vehicle trips and does not have the potential to cause an intersection to reach the volume of traffic required to generate a CO hot spot in the context of South Coast AQMD's CO Hotspot Analysis. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection with 100,000 ADT, it can be reasonably inferred that CO hotspots would not be experienced at any intersection near the Project site because no additional operational vehicle trips are attributable to the Project. Additionally, the anticipated reduction in locomotive idling would reduce operational CO emissions in the Project area. Therefore, impacts would be less than significant and no mitigation is required.

Mitigation Measures

No mitigation is required.

Impact 4.2-4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The South Coast AQMD *CEQA Air Quality Handbook* identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The proposed Project would not include any of these land uses. The anticipated reduction of locomotive idling would also reduce emissions and any associated odors with locomotive exhaust.

During construction-related activities, some odors (not substantial pollutant concentrations) that may be detected are those typical of construction vehicles (e.g., diesel exhaust from grading and construction equipment). These odors are a temporary short-term impact that is typical of construction projects and would disperse rapidly. Additionally, since Project construction would progress linearly along the proposed rail corridor, construction-related odors would not be emitted at any location for an extended amount of time. Therefore, there the proposed Project would not create objectionable odors.

Mitigation Measures

No mitigation is required.

4.2.6 CUMULATIVE IMPACTS

For purposes of air quality analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP and buildout; see **Chapter 3.0: Basis for Cumulative Analysis**.

As concluded above, the Project would result in a less than significant impact concerning its potential to conflict with implementation of the applicable air quality plan. Potential impacts concerning net increase of non-attainment criteria pollutants would be less than significant with mitigation incorporated. Concerning sensitive receptors, the Project would result in a less than significant impact. Project-related impacts for other emissions would also be less than significant.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning air quality in SBGP EIR Section 5.3, *Air Quality*. The following is a summary[20] of the expected environmental effects:

- Build-out could conflict with applicable air quality plans. This impact was concluded to be less than significant.
- Build-out construction activities could generate short-term and operation could generate long-term vehicle trips and emissions in exceedance of South Coast AQMD's threshold criteria. This impact was concluded to be significant.
- Build-out could result in a cumulatively considerable net increase of non-attainment criteria pollutants. This impact was concluded to be significant.
- Build-out could expose sensitive receptors to substantial pollutant concentrations. This impact was concluded to be less than significant.

CONSTRUCTION

The SCAB is designated nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards and nonattainment for O_3 and $PM_{2.5}$ for Federal standards. As previously discussed, the Project's construction-related emissions would not exceed the South Coast AQMD significance thresholds for criteria pollutants despite the implementation of Standard Condition AQ-1 and Mitigation Measure AQ-1.

Because these thresholds indicate whether individual project emissions have the potential to affect cumulative regional air quality, it can be expected that project-related construction emissions would not potentially be cumulatively considerable. The South Coast AQMD has developed strategies to reduce

[20] Summaries include the Arrowhead Springs Specific Plan area, unless otherwise noted.

criteria pollutant emissions outlined in the AQMP pursuant to the FCAA mandates. The analysis assumed fugitive dust controls would be used during construction, including frequent water applications. South Coast AQMD rules, mandates, and compliance with adopted AQMP emissions control measures would also be imposed on construction projects throughout the SCAB that would include related cumulative projects. The Project's construction-related impacts would be less than significant with mitigation incorporated. Compliance with South Coast AQMD rules and regulations would help minimize the proposed Project's construction-related emissions. Project-related construction emissions, in combination with those from other projects in the area, would not be expected to substantially deteriorate the local air quality. Because the Project would not exceed the South Coast AQMD's construction thresholds, the Project would not significantly contribute to a cumulatively considerable construction emissions impact.

OPERATIONS

The South Coast AQMD has not established separate significance thresholds for cumulative operational emissions. The nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, individual project emissions contribute to existing cumulatively significant adverse air quality impacts. The South Coast AQMD developed the operational thresholds of significance based on the level above which individual project emissions would result in a cumulatively considerable contribution to the SCAB's existing air quality conditions. Therefore, a project that exceeds the South Coast AQMD operational thresholds would also be a cumulatively considerable contribution to a significant cumulative impact.

As discussed previously, the Project would not generate additional operational emissions to exceed South Coast AQMD thresholds. As a result, the Project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts. Adherence to South Coast AQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Project operations would not significantly contribute to a cumulatively considerable net increase of nonattainment criteria pollutants.

Mitigation Measures

No mitigation is required.

4.2.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable air quality impacts have been identified.

4.2.8 REFERENCES

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4.3 BIOLOGICAL RESOURCES

4.3 BIOLOGICAL RESOURCES

4.3.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to biological resources, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

This affected environment discussion is based largely on the following documentation:

- *Burlington Northern Santa Fe Railway Project – Biotic Resources Report* (Rocks Biological Consulting (RBC), February 2021); and
- *Burlington Northern Santa Fe (BNSF) Railway Ono Lead Track Extension Project – Jurisdictional Delineation Report* (Rocks Biological Consulting, August 21, 2019).

These documents are included in their entirety in **Appendix 9.4: Biological Resources Data**.

4.3.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

The Project site is in the City's southwest portion; see **Exhibit 2-1: Regional Vicinity Map**. The Project site is generally north of the City of Colton, south of Muscoy (an unincorporated County community), east of the City of Rialto, and along/west of I-215. The Project site and its surroundings are fully urbanized, with scattered pockets of vacant lands.

The Project area, which extends approximately 4.3 linear miles along the BNSF corridor adjacent to/west of Interstate 215 (I-215), is comprised of two dis-contiguous segments (i.e., southern and northern). The Project area's northern terminus is at the BNSF overpass at State Street/University Parkway and its southern terminus is at West 5th Street, just north of the A Yard; see **Exhibit 2-2: Local Vicinity Map**.

The Project survey area is approximately 101 acres inclusive of the Project site and an approximately 50-foot-wide buffer area around the site. The survey area includes the existing BNSF Right-of-Way (ROW) and adjacent properties where ground disturbances (including temporary construction staging) and/or property acquisitions would occur. The Project survey area is within a fully urbanized area comprised primarily of BNSF ROW, commercial, industrial, and residential land uses, vacant lots, and roadways.

VEGETATION COMMUNITIES AND OTHER AREAS

The five vegetation communities/land uses that occur within the survey area are summarized in **Table 4.3-1: Vegetation Communities and Other Areas**, depicted on **Exhibits 4.3-1a through 4.3-1f: Vegetation Communities**, and discussed below.

TABLE 4.3-1: VEGETATION COMMUNITIES AND OTHER AREAS		
Vegetation Type / Other Areas	**Acres**	**Percent**
Developed/Disturbed	92.31	91.6
Non-Native Grassland	5.80	5.8
Ruderal	2.21	2.2
Ornamental	0.33	0.3
Mule Fat Scrub	0.12	0.1
Total	***100.77***	***100***
Source: Rocks Biological Consulting, 2021.		

Developed/Disturbed

Almost all of the Project survey area (approximately 92 percent) is comprised of developed/disturbed lands. Developed lands include buildings, roads, parking areas, and a railroad line. Disturbed lands typically include land on which the native vegetation has been significantly altered by agriculture, construction, or other land-clearing activities, and the species composition and site conditions are not characteristic of the disturbed phase of a plant association (e.g., disturbed chaparral). Disturbed habitat is typically found in vacant lots, along roadsides, within construction staging areas, and in abandoned fields. The habitat is typically dominated by non-native annual species and perennial broadleaf species but can also consist of barren areas devoid of vegetation. The developed/disturbed lands within the Project survey area include numerous trees associated with residential and commercial developments, parking lots, sidewalks, and other developed areas.

Non-Native Grassland

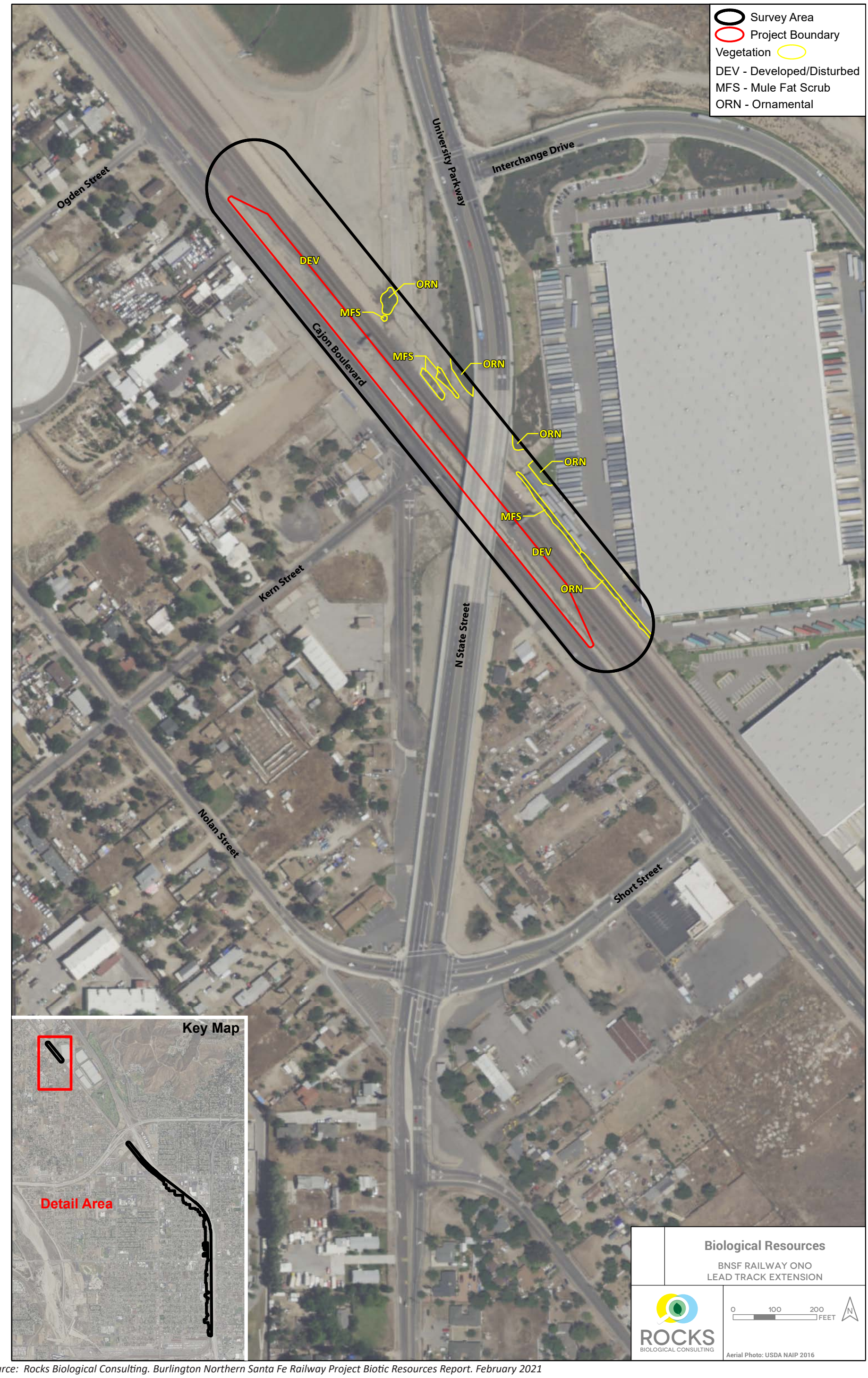
Non-native grassland consists of a dense to sparse cover of non-native annual grasses, often with native and non-native annual forbs. This habitat is often found in areas that experienced a previous disturbance.

Ruderal

Ruderal vegetation is typically found in areas with previous disturbance from vegetation clearing, development, or agricultural activities, and which contain vegetative cover that is comprised of more than 50 percent broad-leaved, non-native species. The Project survey area's ruderal vegetation community is disturbed to the extent that no natural habitat remains.

Ornamental

Ornamental vegetation is typically classified as an area containing planted ornamental, non-native plant species. The ornamental vegetation within the Project survey area includes trees associated with residential and commercial developments, parking lots, sidewalks, and other developed areas.



Source: Rocks Biological Consulting. Burlington Northern Santa Fe Railway Project Biotic Resources Report. February 2021

Kimley»Horn

MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.3-1a: Vegetation Communities

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Source: Rocks Biological Consulting. Burlington Northern Santa Fe Railway Project Biotic Resources Report. February 2021

Kimley»Horn
MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.3-1b: Vegetation Communities

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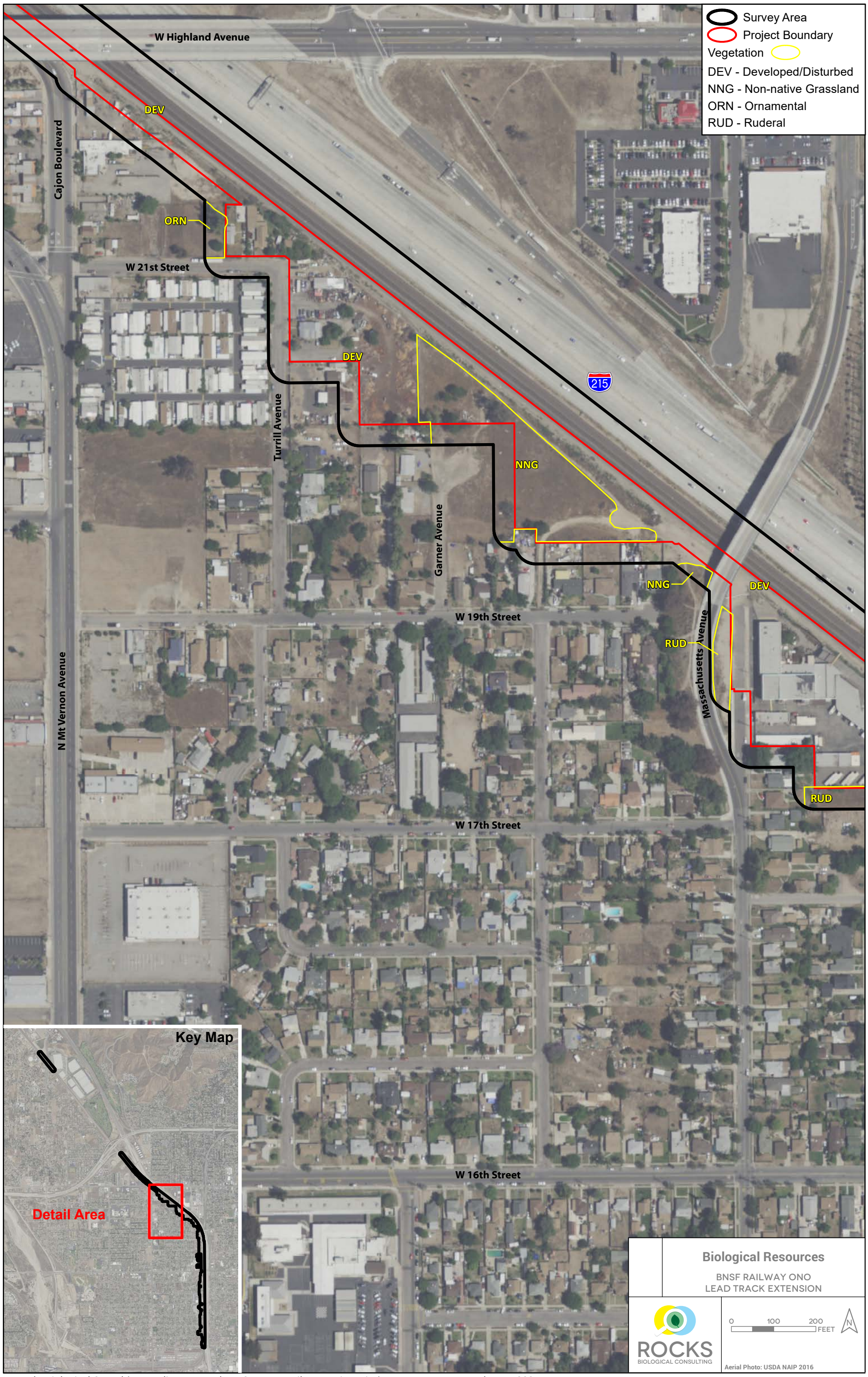

Source: Rocks Biological Consulting. Burlington Northern Santa Fe Railway Project Biotic Resources Report. February 2021

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MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.3-1c: Vegetation Communities

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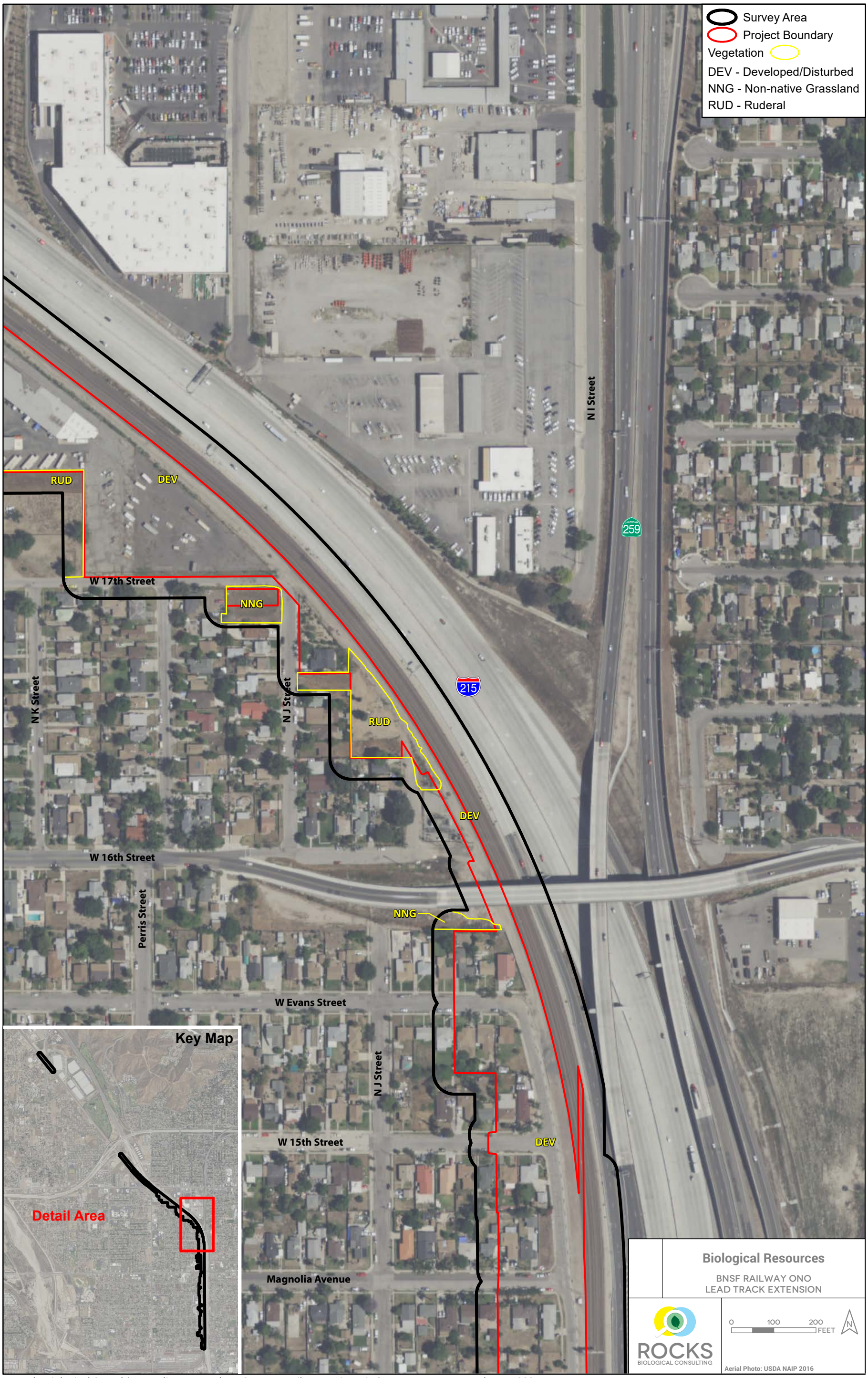

Source: Rocks Biological Consulting. Burlington Northern Santa Fe Railway Project Biotic Resources Report. February 2021

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MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.3-1d: Vegetation Communities

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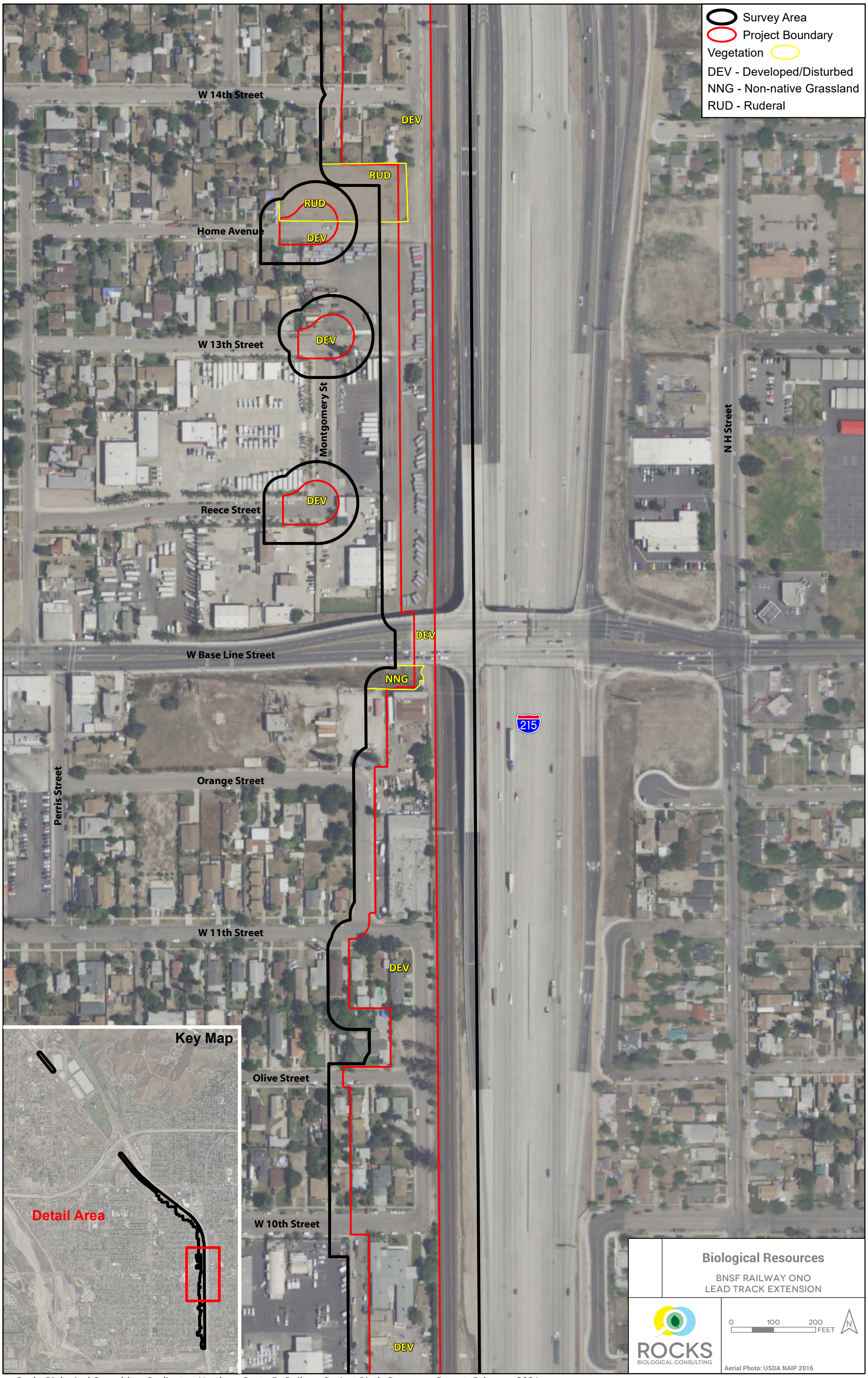

Source: Rocks Biological Consulting. Burlington Northern Santa Fe Railway Project Biotic Resources Report. February 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.3-1e: Vegetation Communities

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Survey Area
Project Boundary
Vegetation
DEV - Developed/Disturbed
NNG - Non-native Grassland
ORN - Ornamental

W 9th Street
W 8th Street
W 7th Street
W 6th Street
W 5th Street
N J Street
Harris Street
N H Street
215
DEV
NNG
ORN

Key Map
Detail Area

Biological Resources
BNSF RAILWAY ONO
LEAD TRACK EXTENSION

ROCKS
BIOLOGICAL CONSULTING

0 100 200 FEET

Aerial Photo: USDA NAIP 2016

Source: Rocks Biological Consulting. Burlington Northern Santa Fe Railway Project Biotic Resources Report. February 2021

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BNSF Ono Lead Track Extension Project EIR

Exhibit 4.3-1f: Vegetation Communities

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Mule Fat Scrub

Mule fat scrub is characterized by localized, dense stands of mule fat (*Baccharis salicifolia*), an erect woody perennial shrub that can grow up to 12 feet tall. Mule fat scrub occurs in small patches associated with culverted drainages at the northern end of the Project survey area, within Segment 1.

SPECIAL STATUS BIOLOGICAL RESOURCES

The California Natural Diversity Database (CNDDB) results included historical occurrences of 12 special-status plant species and 15 special-status wildlife species within 1.0 mile of the Project site; see **Exhibit 4.3-2: CNDDB Plants and Wildlife Locations**, and **Table 4.3-2: Special-Status Species – Potential for Occurrence**. Additionally, the U.S. Fish and Wildlife Service (USFWS) query results included historical occurrences of three special-status wildlife species within 1.0 mile of the Project site; see **Exhibit 4.3-3: USFWS Plants and Wildlife Locations**. The USFWS query results did not contain any historical occurrences of special-status plant species or critical habitats within 1.0 mile of the Project site. The CNDDB and USFWS databases did not contain records of historically mapped sensitive habitats or vegetation communities. The Project site does not contain suitable habitat for the 12 special-status plant species or 15 special-status wildlife species with historical occurrences within 1.0 mile of the Project site.

The western burrowing owl is a California Species of Special Concern. As indicated in **Table 4.3-2**, the CNDDB query results did not contain any historical occurrences of burrowing owl within 1.0 mile of the Project site. However, the Project survey area is within the County of San Bernardino's Burrowing Owl Overlay Zone (Biotic Resources Overlay Map, County of San Bernardino, 2012). Although no burrowing owl individuals or burrowing owl sign were observed on the Project site during the field surveys, California ground squirrel (*Otospermophilus beecheyi*) can colonize open sites and their on-site activity can result in future suitable burrows for burrowing owl refuge and nesting. While the potential is low, the Project site could support burrowing owl.

TABLE 4.3-2: SPECIAL-STATUS SPECIES – POTENTIAL FOR OCCURRENCE

Species	Status	Habitat Description	Potential for Occurrence on Project Site
Plants			
Gambel's watercress *(Nasturtium gambelii)*	FE, ST, CRPR 1B.1	Found in wetland habitats.	None. Suitable habitat not present on Project site.
Horn's milk-vetch *(Astragalus hornii var. hornii)*	CRPR 1B.1	Found in alkali sink, wetland, and riparian habitats.	None. Suitable habitat not present on Project site.
Marsh sandwort *(Arenaria paludicola)*	FE, SE, CRPR 1B.1	Found in freshwater marsh and wetland habitats.	None. Suitable habitat not present on Project site.
Parish's bush-mallow *(Malacothamnus parishii)*	CRPR 1A	Found in coastal sage scrub and chaparral habitats.	None. Presumed extinct. Suitable habitat not present on Project site.
Parish's desert-thorn *(Lycium parishii)*	CRPR 2B.3	Found in creosote bush scrub and coastal sage scrub habitats.	None. Suitable habitat not present on Project site.

TABLE 4.3-2: SPECIAL-STATUS SPECIES – POTENTIAL FOR OCCURRENCE

Species	Status	Habitat Description	Potential for Occurrence on Project Site
Peruvian dodder *(Cuscuta obtusiflora var. glandulosa)*	CRPR 2B.2	Found in freshwater marshes and swamps.	None. Suitable habitat not present on Project site.
Plummer's mariposa-lily *(Calochortus plummerae)*	CRPR 4.2	Found in chaparral, foothill woodland, yellow pine forest, coastal sage scrub and valley grassland habitats.	None. Suitable habitat not present on Project site.
Robinson's pepper-grass *(Lepidium virginicum var. robinsonii)*	CRPR 4.3	Found in chaparral and coastal sage scrub habitats.	None. Suitable habitat not present on Project site.
Salt marsh bird's-beak *(Chloropyron maritimum ssp. maritimum)*	FE, SE, CRPR 1B.2	Found in coastal strand, coastal salt marsh, wetland, and riparian habitats.	None. Suitable habitat not present on Project site.
Salt spring checkerbloom *(Sidalcea neomexicana)*	CRPR 2B.2	Found in creosote bush scrub, chaparral, yellow pine forest, coastal sage scrub, alkali sink, wetland, and riparian habitats.	None. Suitable habitat not present on Project site.
San Bernardino aster *(Symphyotrichum defoliatum)*	CRPR 1B.2	Found in wetland habitats.	None. Suitable habitat not present on Project site.
Santa Ana River woollystar *(Eriastrum densifolium ssp. sanctorum)*	FE, SE, CRPR 1B.1	Found primarily in alluvial sage scrub, chaparral, and coastal scrub habitats. Requires periodic flooding along with scouring and sediment deposition.	None. Suitable habitat not present on Project site.
Wildlife			
American badger *(Taxidea taxus)*	SSC	Found primarily in open grasslands, agricultural fields, and pastures but can occur in a wide variety of habitats including chaparral and deserts.	None. The Project site's undeveloped areas are small and isolated and cannot support American badger. The surrounding areas are dominated by development and are not suitable habitat.
burrowing owl (*Athene cunicularia*)	SSC	Found in grasslands and open scrub from coast to foothills. Strongly associated with California ground squirrel and other fossorial mammal burrows.	Low. Suitable habitat is present on-site, but no BUOW or sign observed.
California black rail *(Laterallus jamaicensis coturniculus)*	ST, FP	Found in marsh habitat.	None. Suitable habitat not present on Project site.

TABLE 4.3-2: SPECIAL-STATUS SPECIES – POTENTIAL FOR OCCURRENCE

Species	Status	Habitat Description	Potential for Occurrence on Project Site
California glossy snake *(Arizona elegans occidentalis)*	SSC	Found in arid scrub, rocky washes, grasslands, and chaparral habitat.	None. Suitable habitat not present on Project site.
Coast horned lizard (*Phrynosoma blainvillii*)	SSC	Inhabits open areas of sandy soil and low vegetation in grasslands, coniferous forests, woodlands, and chaparral. Often found in sandy washes and along dirt roads.	None. Suitable habitat not present on Project site.
Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*)	FE	Found in sandy areas composed of Delhi Fine Sands, stabilized by sparse native vegetation.	None. Suitable habitat not present on Project site.
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)	SSC	Found in lower elevation grassland, alluvial sage scrub, and coastal sage scrub.	None. Suitable habitat not present on Project site.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC	Found in pinyon-juniper woodlands, desert scrub, desert riparian, desert wash, Joshua tree, and palm oasis. Roosts in cave, rock crevices in cliff faces, and man-made structures.	None. Suitable habitat not present on Project site.
Quino checkerspot butterfly (*Euphydryas editha quino*)	FE	Found in grasslands, coastal sage scrub, chamise chaparral, juniper woodlands, and semi-desert scrub that support the primary larval host plant.	None. Suitable habitat not present on Project site.
San Bernardino kangaroo rat (*Dipodomys merriami parvus*)	FE, SSC	Found on the gentle slopes of alluvial fans, on flood plains, along washes, and on adjacent upland areas, including alluvial sage scrub, coastal sage scrub, and chaparral.	None. Suitable habitat not present on Project site.
Southern California legless lizard (*Anniella stebbinsi*)	SSC	Found in sparsely vegetation areas with moist warm loose soil, primarily in coastal sand dunes, sandy washes, and alluvial fans.	None. Suitable habitat not present on Project site.
Southern rubber boa (*Charina umbratica*)	ST	Found in oak-conifer and mixed-conifer forests.	None. Suitable habitat not present on Project site.

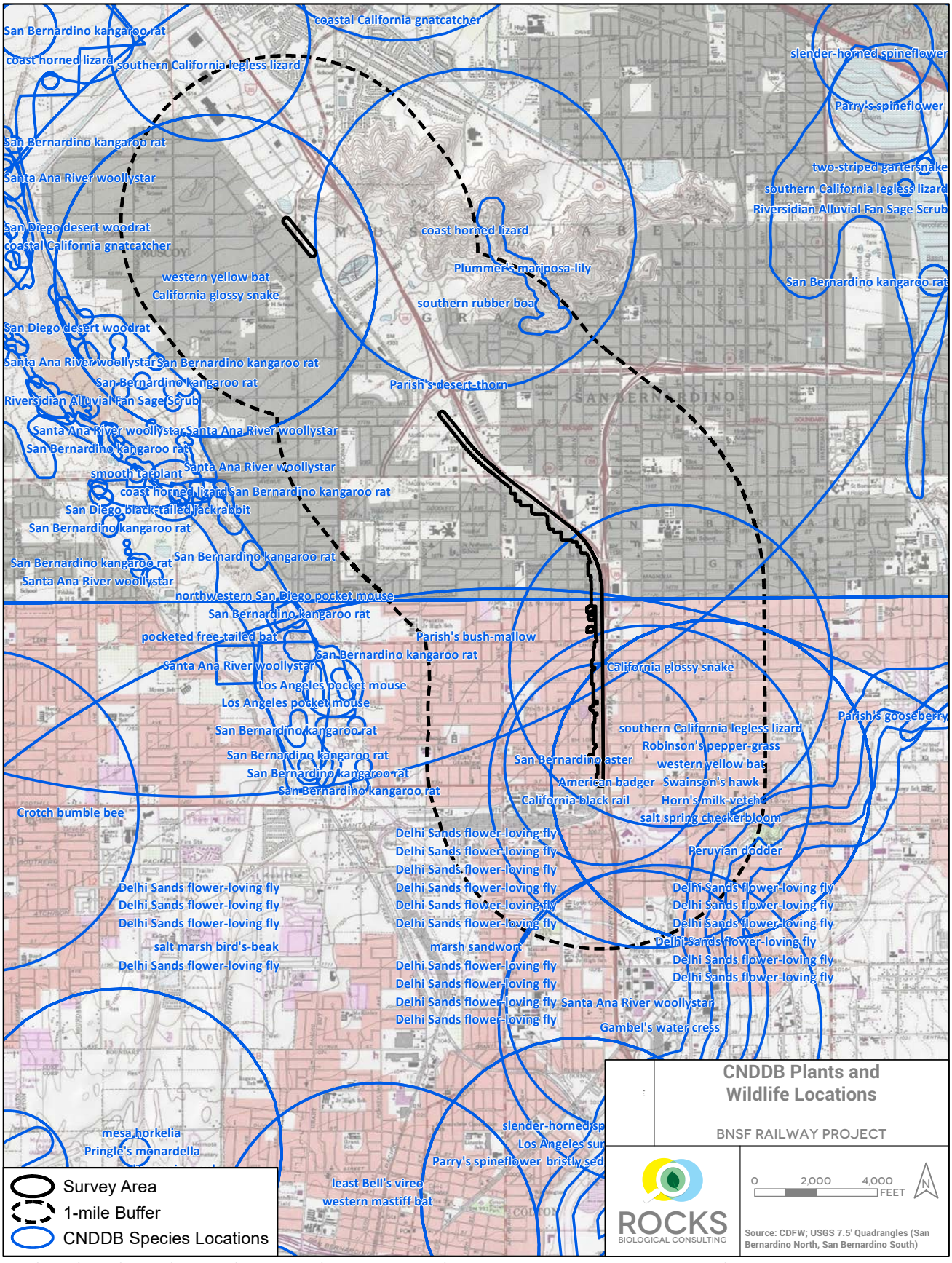
TABLE 4.3-2: SPECIAL-STATUS SPECIES – POTENTIAL FOR OCCURRENCE			
Species	**Status**	**Habitat Description**	**Potential for Occurrence on Project Site**
Swainson's hawk (*Buteo swainsoni*)	ST	Found primarily in grassland habitats.	None. There is no potential breeding habitat within the Project site and Swainson's hawks no longer breed in Southern California (Unitt 2004). Non-native grassland patches would likely be too small to support foraging by a migrating Swainson's hawk.
Western yellow bat (*Lasiurus xanthinus*)	SSC	Found in grassland and scrub habitats often near water features such as ponds, streams, and rivers.	None. Suitable habitat not present on Project site.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, SE	Found primarily in riparian forests and woodlands.	None. Suitable habitat not present on Project site.

CRPR – California Rare Plant Rank
1A – Plants presumed extirpated in California and either rare or extinct elsewhere
1B – Plants rare, threatened, or endangered in California and elsewhere
2B – Plants rare, threatened, or endangered in California but more common elsewhere
3 – Plants about which more information is needed
4 – Watch List: Plants of limited distribution
0.1 – Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 – Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3 – Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
FE – Federally Endangered (USFWS)
FT – Federally Threatened (USFWS)
FP – Fully Protected (CDFW)
SE – State Endangered (CDFW)
ST – State Threatened (CDFW)
SSC – Species of Special Concern (CDFW)

Source: Rocks Biological Consulting, 2021.

JURISDICTIONAL DELINEATION

U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) and topographic data and USFWS National Wetlands Inventory (NWI) data did not map any "blue-line streams" or features on the Project site. However, two potentially jurisdictional features were observed during the field survey.



Source: Rocks Biological Consulting. Burlington Northern Santa Fe Railway Project Biotic Resources Report. February 2021

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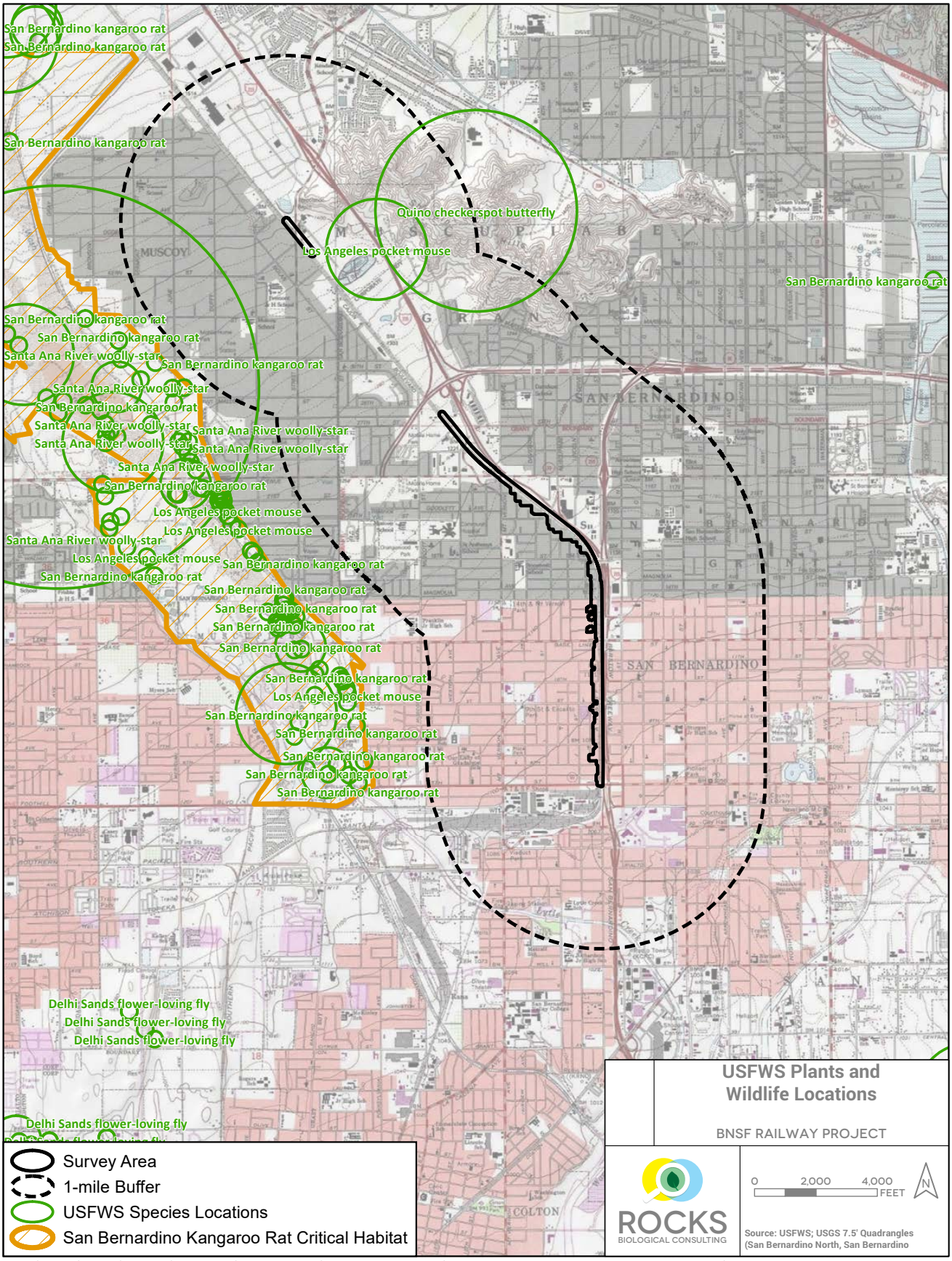

Source: Rocks Biological Consulting. Burlington Northern Santa Fe Railway Project Biotic Resources Report. February 2021

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Exhibit 4.3-3: USFWS Plants and Wildlife Locations

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Feature 1 is a sparsely vegetated, ephemeral drainage/ditch within Segment 1 (i.e., the northern track segment). Feature 1 travels southeast/south for approximately 345 linear feet (LF) before traveling southwest over a maintenance road into the Project survey area, through an area of mule fat scrub before continuing under the railroad tracks and then traveling southwest for approximately 690 LF. Feature 1 is generally earthen-lined except for a 133.3 linear-foot concrete-lined portion underneath the extent of the University Parkway/North State Street overpass. The width of the estimated Ordinary High Water Mark (OHWM) measured 2.0 feet before Feature 1 traveled under the railroad tracks, after which the estimated OHWM increased to 7.0 feet, and then narrowed to 3.0 feet at the beginning of the concrete-lined portion until the feature terminated off-site. The width of the estimated top of bank measured 2.0 feet before traveling under the railroad tracks, after which the top of bank increased to 12 feet, then narrowed to 5.0 feet at the beginning of the concrete-lined portion until the feature continued off-site. The feature continued off-site for approximately 1,930 LF before terminating.

Feature 2 is a concrete-lined channel/ditch within Segment 12 (i.e., the southern track segment). Feature 2 commences at two separate points (one originating from the road and one from a culvert under the railroad tracks) before combining into a single channel/ditch after approximately 40 feet. Feature 2 travels south before entering a riprap basin where some flows continue west into a culvert while other flows continue traveling further south under the U.S. Route 66 overpass before continuing off-site and to the southwest/west for approximately 470 LF then entering a storm drain inlet. Based on review of Google Earth imagery and historic aerials, it is anticipated that flows from this storm drain system eventually enter Lytle Creek.

Note that there was no clearly defined bed and bank within concrete-lined Feature 2. The presence of some sediment deposition within the concrete ditch as well as some velvet ash *(Fraxinus velutina*) nearby and within the riprap basin indicate that flows occur within Feature 2. The width of the estimated OHWM measured 2.0 feet based on the presence of some sediment deposits, while the estimated top of bank measured 7.0 feet before the two segments connected, after which the estimated top of bank increased to 9.0 feet. Features 1 and 2 are depicted on **Exhibits 4.3-4a and 4.3-4b: Jurisdictional Wetlands/Waters Constraints**.

Features 1 and 2 would be considered potential ephemeral waters of the State/surface waters per the Regional Water Quality Control Board (RWQCB) and streambeds/bank per California Department of Fish and Wildlife (CDFW). As estimated overall, the Project survey area supports 0.16 acre (1,191 LF) of RWQCB-jurisdictional ephemeral waters of the State/surface waters and 0.32 acre (1,191 LF) of CDFW-jurisdictional ephemeral streambed and associated riparian habitat.

Table 4.3-3: RWQCB Potential Jurisdictional Resources within the Survey and Impact Areas, and **Table 4.3-4: CDFW Potential Jurisdictional Resources within the Survey and Impact Areas**, provide additional information regarding potential jurisdictional resources, per each applicable regulatory agency, including acreage and LF.

On April 21, 2020, U.S. Environmental Protection Agency (U.S. EPA) and the Department of the Army published the Navigable Waters Protection Rule (NWPR) in the Federal Register (FR) to finalize a revised definition of "waters of the U.S." under the Clean Water Act (CWA; 85 FR 22250, April 21, 2020). The rule became effective on June 22, 2020.

TABLE 4.3-3: RWQCB POTENTIAL JURISDICTIONAL RESOURCES WITHIN THE SURVEY AND IMPACTS AREAS

Feature Name	Survey Area Acreage	Survey Area Linear Feet	Impact Area Acreage	Impact Area Linear Feet
Feature 1	0.07	860	0.06	682
Feature 2	0.09	331	0.01	19
TOTAL	***0.16***	***1,191***	***0.07***	***701***

Source: Rocks Biological Consulting, 2019.

TABLE 4.3-4: CDFW POTENTIAL JURISDICTIONAL RESOURCES WITHIN THE SURVEY AND IMPACT AREAS

Feature Name	Feature Type	Dominant Vegetation Type	Survey Area Acreage	Survey Area Linear Feet	Impact Area Acreage	Impact Area Linear Feet
Feature 1	Streambed (Bank)	Unvegetated Drainage/Ditch	0.11	727	0.09	548
		Concrete Channel	0.02	133	0.02	133
	Riparian	Mule Fat Scrub	0.06[11]	0	0	0
Feature 2	Streambed (Bank)	Concrete Channel	0.06	331	0.00	19
		Riprap Basin	0.07	0	0.01	0
TOTAL			***0.32***	***1,191***	***0.12***	***701***

[1] Acreage of CDFW potentially jurisdictional mule fat scrub differs from acreage outlined in **Table 4.3-1: Vegetation Communities and Other Areas**, as field staff determined various mule fat scrub areas were isolated and not directly associated with a streambed or wetland. Further details are provided below and in *Burlington Northern Santa Fe (BNSF) Railway Ono Lead Track Extension Project Jurisdictional Delineation Report* (RBC 2019).

Source: Rocks Biological Consulting, 2019.

The USACE does not consider NWPR Features 1 and 2 jurisdictional, as they are human-made ephemeral ditches excavated wholly in uplands and only receive flows from residential/road runoff in direct response to precipitation, which are specifically classified as "non-jurisdictional waters" in 33 CFR § 328.3(b)(1), (b)(3), and/or (b)(5) in **Appendix 9.4**. Complete results are presented under separate cover in the *Burlington Northern Santa Fe (BNSF) Railway Ono Lead Track Extension Project Jurisdictional Delineation Report* (2019 JDR)) (RBC 2019) in **Appendix 9.4**. It is noted, RBC completed and submitted the 2019 JDR and an associated request for an Approved Jurisdictional Determination (AJD), to the USACE to conclude that Feature 1 and 2 are not USACE-jurisdictional, in January 2020, prior to the effective dates of the updated USACE definition of waters of the U.S. per the NWPR and the RWQCB's *State Wetland Definition for Discharges of Dredged or Fill Material to Waters of the State* (the Procedures; SWRCB 2019), described further below in **Section 4.3.4: Significance Criteria and Threshold**. The USACE issued the AJD in December 2020 and determined Feature 1 and Feature 2 to be non-jurisdictional aquatic resources. This section has been revised to reflect the USACE' updated definition of waters of the U.S. and the RWQCB's Procedures. Permitting through the RWQCB and CDFW will be required for impacts on waters of the State/surface waters jurisdictional by the RWQCB and streambed jurisdictional by CDFW. The Project applicant would be responsible for obtaining the necessary authorizations required by the RWQCB and CDFW and associated compensatory mitigation requirements, if applicable.

Note that during the March 2018 and January 2019 biological surveys, RBC biologists mapped several areas of mule fat scrub within the Project survey area's northern portion. The northernmost area of mule fat scrub was not associated with a streambed or wetland as it consisted of a single mule fat with no drainage patterns in the surrounding area. The area of mule fat scrub to the southeast of N State Street was within a slightly depressional area, which may allow for ponding but was not associated with a streambed or wetland as there was no defined bed or bank. These areas are further depicted on **Exhibits 4.3-1a: Vegetation Communities**. Therefore, these two isolated areas of mule fat scrub are not considered jurisdictional by the USACE, RWQCB, or CDFW, as they are not considered a non-wetland or wetland water of the U.S./State or surface water.

No evidence of vernal pools or fairy shrimp habitat was observed within the Project survey area.

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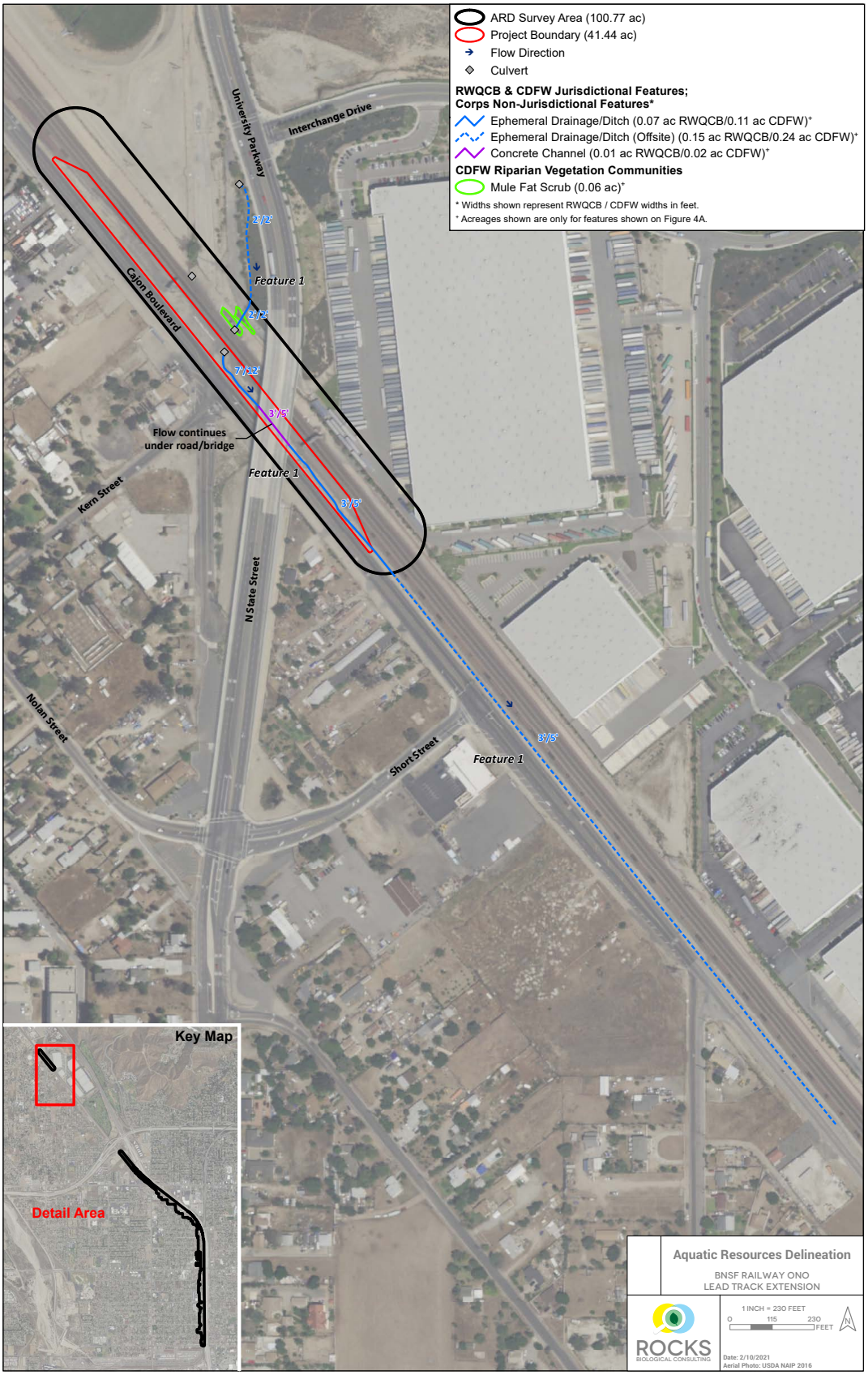

Source: Rocks Biological Consulting. Burlington Northern Santa Fe Railway Project Biotic Resources Report. February 2021

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4.3.3 REGULATORY FRAMEWORK

This section discusses the Federal, State, and local policies and requirements applicable to the Project.

FEDERAL

Federal Endangered Species Act of 1973

The Federal Endangered Species Act of 1973 (FESA), as amended, (16 U.S. Code [U.S.C.] §§ 1531 et seq.) provides for the listing of endangered and threatened species of plants and animals and the designation of critical habitat for these listed species. FESA Section 9 regulates the "taking" of any endangered fish or wildlife species. As development is proposed, the responsible agency or individual landowner is required to consult with USFWS to assess potential impacts on listed species (including plants) or the critical habitat of a listed species, pursuant to FESA Sections 7 and 10. The USFWS is required to determine the extent a project would impact a particular species. If the USFWS determines that a project is likely to potentially impact a species, measures to avoid or reduce such impacts must be identified. Following consultation and the issuance of a Biological Opinion, the USFWS may issue an incidental take statement, which allows for the take of a species if it is incidental to another authorized activity and will not adversely affect the existence of the species. FESA Section 10 provides for issuance of incidental take permits to non-federal parties in conjunction with the development of a habitat conservation plan (HCP); FESA Section 7 provides for permitting of projects requiring federal permits.

Clean Water Act

Pursuant to CWA Section 404 (33 U.S.C. §§ 1251 et seq.), the USACE is authorized to regulate any activity that would result in the discharge of dredged or fill material into "waters of the U.S.," including wetlands and those waters listed in 33 CFR § 328.3. The USACE, with oversight from the EPA, has the principal authority to issue CWA Section 404 permits. A water quality certification or waiver pursuant to CWA Section 401 is required for all Section 404 permitted actions. The RWQCBs, divisions of the State Water Resources Control Board (SWRCB), provide oversight of the Section 401 Permit process in California. The RWQCBs are required to provide "certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on the finding that a proposed discharge will comply with applicable water quality standards.

The National Pollutant Discharge Elimination System (NPDES) permit program regulates discharge of pollutants into surface "waters of the U.S." under CWA Section 402. Under the permit program, a project causing substantial impacts on wetlands may require an Individual Permit whereas those projects only minimally affecting wetlands may meet the conditions of one of the existing Nationwide Permits.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 U.S.C. §§ 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed at 50 CFR § 10.13. The USFWS enforces the MBTA and prohibits, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by

any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention…for the protection of migratory birds…or any part, nest, or egg of any such bird." (16 U.S.C. § 703).

STATE

California Environmental Quality Act (CEQA) (Pub. Res. Code §§ 21000 et seq.) (14 Cal. Code Regs. §§ 15000 et seq. ["CEQA Guidelines"])

CEQA (California Public Resources Code §§ 21000 et seq.) was established in 1970 as California's counterpart to the National Environmental Policy Act (NEPA). This statute requires state and local agencies to identify significant environmental impacts related to their actions and to avoid or mitigate those impacts, where feasible. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project." A project is an activity undertaken by a public agency or a private activity that must receive some discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency that may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

California Endangered Species Act (California State Fish and Game Code §§ 2050 et seq.)

The California Endangered Species Act of 1984 (CESA; California Fish and Game Code [CFGC] §§ 2050 et seq.), in combination with the Native Plant Protection Act of 1977 (NPPA; CFGC §§ 1900 et seq.) regulates the listing and take of plant and animal species designated as endangered, threatened, or rare in California. California also lists species of special concern based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and mt efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike FESA, CESA does not list invertebrate species.

CESA §§ 2080 through 2085 address the taking of threatened, endangered, or candidate species by stating "no person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under CFGC § 86, "take" is defined as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the State to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species

for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. CFGC §§ 1901 and 1913 provide that notification is required prior to disturbance. The CDFW is responsible for assessing development projects for their potential to impact listed species and their habitats. State-listed special-status species are addressed through the issuance of an incidental take permit (Memorandum of Understanding).

Natural Community Conservation Planning Act

In 1991, the Natural Community Conservation Planning Act (NCCP Act; CFGC §§ 2800 et seq.) was approved and the NCCP Coastal Sage Scrub program was initiated in Southern California. The program under the NCCP Act was established "to provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth." The NCCP Act encourages preparation of plans that address habitat conservation and management on an ecosystem basis rather than one species or habitat at a time.

Streambed Alteration (California Fish and Game Code §§ 1600-1602)

Pursuant to CFGC Section 1602, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats associated with watercourses. These jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes whichever is wider. CDFW jurisdiction does not extend to tidal areas or isolated resources. A Lake or Streambed Alteration Agreement Application must be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that CDFW and the applicant mutually agree upon is termed the Lake or Streambed Alteration Agreement.

California Fish and Game Code §§ 3503, 3511, 3513, 3800, 4700, 5050, and 5515

Within California, fish, wildlife, and native plant resources are protected and managed by CDFW. The California Fish and Game Commission and/or CDFW are responsible for issuing permits for the take or possession of protected species. The following CFGC sections address protected species: § 3511 (birds), § 4700 (mammals), § 5050 (reptiles and amphibians), and § 5515 (fish). The protection of birds of prey is provided for in CFGC §§ 3503, 3513, and 3800.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act; California Water Code §§ 13000 et seq.) provides for statewide coordination of water quality regulations through establishment of the SWRCB which serves as the statewide authority and nine separate RWQCBs which oversee water quality on a day-to-day basis. The SWRCB is the primary agency responsible for protecting water quality in California. It regulates discharges to surface waters under the CWA and is responsible for administering the Porter-Cologne Act.

Pursuant to the Porter-Cologne Act, the State is given authority to regulate "waters of the State," which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body must first file a Report of Waste Discharge if the discharge could

affect the water quality of the water body and CWA Section 404 is not applicable. "Waste" is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

Native Plant Protection Act (California State Fish and Game Code §§ 1900-1913)

California's Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days prior to any change in land use. This allows the CDFW to salvage listed plant species that would otherwise be destroyed. Project applicants are required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of the NPPA and CEQA that apply to rare or endangered plants.

LOCAL

County of San Bernardino Land Use Services Planning Division

According to the County's Biotic Resources Overlay Map, the Project site is within the Burrowing Owl Overlay Zone (County of San Bernardino 2012). The burrowing owl is listed as a Species of Special Concern by CDFW.

City of San Bernardino General Plan

Natural Resources and Conservation Element

The Natural Resources and Conservation Element provides policy guidance that addresses the generation, mitigation, avoidance, and the control of the preservation of natural resources, wildlife habitat, and air quality. Specifically, this Element addresses the following issues:

- Minimize impacts to biological resources and natural features from new development;
- Utilize mineral resources efficiently; and
- Enhance quality of life by reducing harmful emissions and maintaining air quality.

Goals and policies applicable to the Project are:

Goal 12.1: Conserve and enhance San Bernardino's biological resources.

Policy 12.1.1: Acquire and maintain current information regarding the status and location of sensitive biological elements (species and natural communities) on the planning area.

Policy 12.1.2: Site and develop land uses in a manner that is sensitive to the unique characteristics of and that minimizes the impacts upon sensitive biological resources.

Goal 12.2: Protect riparian corridors to provide habitat for fish and wildlife.

Policy 12.2.1: Prohibit development and grading within fifty (50) feet of riparian corridors, as identified by a qualified biologist unless no feasible alternative exists.

City of San Bernardino Municipal Code

City of San Bernardino Municipal Code (SBMC) § 19.28.100 requires a tree removal permit from the City where more than five (5) trees will be cut down, uprooted, destroyed, or removed within a 36-month period.

4.3.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions concerning biological resources. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, the Project may create a significant environmental impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [now Department of Fish and Wildlife] or U.S. Fish and Wildlife Service (see Impact 4.3-1);
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game [now Department of Fish and Wildlife] or US Fish and Wildlife Service (see Impact 4.3-2);
- Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (see Impact 4.3-3);
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (see Impact 4.3-4);
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (see Impact 4.3-5).

METHODOLOGY AND ASSUMPTIONS

Rocks Biological Consulting (RBC) conducted general biological surveys (March 22, 2018 and January 24, 2019), vegetation mapping, habitat assessments for special-status plant and wildlife species, including the burrowing owl (*Athene cunicularia*), and examined the Project site for jurisdictional wetlands/waters features. Binoculars were used to aid in the observation of biological resources during the survey. Plants were identified using the Jepson manual (Baldwin et al., 2012) and local botanical knowledge.

RBC conducted the jurisdictional delineation field visit on June 12, 2019. Areas with depressions, drainage patterns, and/or wetland vegetation within the proposed Project impact area were evaluated for

potential jurisdictional status, with focus on the presence of defined channels and/or wetland vegetation, soils, and hydrology.

BIOLOGICAL RESOURCE DATABASE REVIEW

Prior to conducting field surveys, RBC conducted a literature search to identify special status plants, wildlife, and habitats known to occur in the Project vicinity. The CDFW's CNDDB (CDFW, 2019) and the database of threatened/endangered USFWS species (USFWS, 2019) were reviewed for a 1.0-mile radius around the Project site. The County of San Bernardino's Biotic Resources Overlay Map (County of San Bernardino 2012) was also reviewed for biotic resources overlay zones and biological resources with potential to occur on the Project site.

Information from the literature reviews and databases was used to generate a list of special-status plant and animal species that have the potential to occur at the Project site and adjacent areas. For purposes of this assessment, special-status species are defined as plants or animals that:

- The CDFW or the USFWS have designated as either rare, threatened, or endangered and are protected under either the California Endangered Species Act (CESA) or the Federal Endangered Species Act (FESA);
- Are candidate species being considered or proposed for listing under these same acts;
- The CDFW considers Species of Special Concern;
- Are fully protected by California State Fish and Game Code §§ 3511, 4700, 5050, or 5515; or
- The California Native Plant Society (CNPS) classifies as List 1, 2, 3, or 4.

VEGETATION MAPPING AND GENERAL PLANT AND WILDLIFE SURVEYS

All field surveys were conducted in conformance with current protocols for species of interest to identify any plant communities, listed plant species, listed wildlife species, and wildlife habitat present on the Project site. In addition to the field surveys, literature reviews were conducted to determine if any recent records of sensitive biological resources have been recorded on or near the Project site. The natural inventories included resources identified in the CNDDB, CDFW Special Animals List, and CNPS Electronic Inventory.

Vegetation was mapped on a 150-scale (1" = 150') aerial photograph following Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland, 1986). The biologist mapped vegetation within the Project survey area that included the BNSF ROW and a 50-foot buffer on each side.

JURISDICTIONAL AQUATIC RESOURCE DELINEATION

Prior to the on-site delineation, field maps were created using a Geographic Information System (GIS) and a color aerial photograph at a 1:200 scale. RBC staff also reviewed USGS NHD and topography data and USFWS NWI data to further determine the potential locations of jurisdictional aquatic resources. Google Earth was also utilized to assess current and historic presence or absence of flow in the Project area.

An RBC biologist conducted a wetland/waters jurisdictional constraints assessment on January 24, 2019 to identify potential aquatic resource areas. Following the initial assessment, RBC regulatory specialists conducted a formal aquatic resources delineation per USACE, RWQCB, and CDFW regulations, guidelines,

and protocols on June 12, 2019 to assess the presence or absence of potentially jurisdictional features on-site.

The Project survey area included the proposed Project area plus a 50-foot buffer for a total of approximately 101 acres. Areas with depressions, drainage patterns, and/or wetland vegetation within the proposed Project impact area were evaluated for potential jurisdictional status, with focus on the presence of defined channels and/or wetland vegetation, soils, and hydrology. Field staff examined potential USACE jurisdictional wetland areas using the USACE's 1987 Wetland Delineation Manual (Wetland Manual; Environmental Laboratory 1987) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 (Arid West Supplement; USACE 2008a). RWQCB potential jurisdictional wetland areas were determined based on the state wetland definition provided in the SWRCB's *State Wetland Definition for Discharges of Dredged or Fill Material to Waters of the State (the* Procedures SWRCB 2019). Additionally, the Procedures provide that the RWQCB shall rely on a wetland area delineation from a final aquatic resource report verified by the USACE to determine the extent of potential wetland waters of the State. The SWRCB and RWQCBs do not have regulations or guidance on defining the extent of non-wetland waters of the State. As such, lateral limits of potential non-wetland waters of the U.S./State for the USACE and RWQCB, respectively, were identified per *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (USACE 2008b). CDFW potential jurisdictional boundaries were determined based on the presence of lake and/or streambed (i.e., bank-to-bank) and riparian habitat or wetland areas supported by a lake or streambed. BURROWING OWL HABITAT ASSESSMENT

Burrowing owl habitat within the Project survey area was assessed in accordance with the Staff Report on Burrowing Owl Mitigation (CDFW, March 7, 2012). The proposed Project is evaluated against the aforementioned significance criteria, as the basis for determining the level of impacts to biological resources. This analysis considers existing regulations, laws, and standards that serve to avoid or reduce potential environmental impacts. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended to avoid or reduce the Project's potentially significant environmental impacts.

4.3.5 IMPACTS AND MITIGATION MEASURES

Impact 4.3-1:	**Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [now Department of Fish and Wildlife] or U.S. Fish and Wildlife Service?**
Level of Significance:	***Less Than Significant With Mitigation Incorporated***

CONSTRUCTION AND OPERATIONS

Table 4.3-5: Potential Impacts on Vegetation Communities and Other Areas, identifies the Project's impacts by vegetation type. As indicated in **Table 4.3-5**, the Project would not impact any native vegetation community. Approximately 41 acres of non-native and disturbed vegetation and other areas would be impacted by the proposed Project, however, except burrowing owl habitat, no portion of the

Project survey area involves suitable habitat for the special-status plant or wildlife species, as discussed below.

TABLE 4.3-5: POTENTIAL IMPACTS ON VEGETATION COMMUNITIES AND OTHER AREAS

Land Use (Map Code)	Existing (Acres)	Impact (Acres)
Developed/Disturbed (DEV)	92.31	37.37
Non-native Grassland (NNG)	5.80	3.26
Ornamental (ORN)	0.33	0.01
Ruderal (RUD)	2.21	0.80
Mule Fat Scrub	0.12	0.00
Total	**100.77**	**41.44**

Source: Rocks Biological Consulting, 2021.

The CNDDB results included historical occurrences of 12 special-status plant species and 12 special-status wildlife species within one mile of the Project site; see **Exhibit 4.3-2** and **Table 4.3-2**. The USFWS query results included historical occurrences of three special-status wildlife species within 1.0 mile of the Project site; see **Exhibit 4.3-3: USFWS Plants and Wildlife Locations**. There is no potential for occurrence on the Project site of the 12 special-status plant species and 12 special-status wildlife species, since suitable habitat is not present within the Project survey area. Therefore, the Project would not have an adverse effect, either directly or through habitat modifications, on special-status plant or wildlife species, or their habitats. No impact would occur in this regard. The Western burrowing owl is a California Species of Special Concern. The CNDDB query results did not contain any historical occurrences of burrowing owl within one mile of the Project site. Further, no burrowing owl individuals or burrowing owl sign were observed on the Project site during the field surveys. Notwithstanding, the Project site has low potential to support burrowing owl given California ground squirrel activity that can result in future suitable burrows for burrowing owl refuge and nesting. Therefore, Project construction could have a significant adverse effect on burrowing owl. With implementation of Mitigation Measure BIO-1, which requires a pre-construction presence/absence survey for burrowing owls prior to any construction activity, potential impacts to burrowing owls would be reduced to less than significant.

Mitigation Measures

MM BIO-1 Prior to construction activity resulting in ground disturbance, a qualified biologist shall conduct a pre-construction presence/absence survey for burrowing owls. Survey results shall be provided to the City of San Bernardino for review. The pre-construction survey shall be conducted within 30 days of site disturbance on the Project survey area plus a 500-foot buffer. If the survey determines burrowing owls are absent, the Project may proceed without further restrictions related to burrowing owls. If the survey determines burrowing owls are present, protective measures shall be implemented to ensure compliance with the Migratory Bird Treaty Act (MBTA) and other applicable California Fish and Game Code (CFGC) requirements and include, but are not limited to the following:

a. Occupied burrowing owl habitat shall not be disturbed during nesting season (February 1-August 31) unless a qualified biologist verifies through non-invasive methods that either (1) the birds have not begun egg-laying or incubation or (2) that

juveniles from the occupied burrows are foraging independently and are capable of an independent survival flight.

b. If relocation is required, a Burrowing Owl Mitigation Monitoring Plan prepared by a qualified biologist shall be submitted to the City and California Department of Fish and Wildlife (CDFW) for review and approval prior to relocation of owls. The Burrowing Owl Mitigation Monitoring Plan shall describe proposed relocation and monitoring plans. The plan shall include the number and location(s) of occupied sites and details on adjacent or nearby suitable habitat available to owls for relocation. If no suitable habitat is available nearby for relocation, details regarding the creation of artificial burrows (numbers, locations, and type of burrows) shall be included in the plan. The plan shall also describe specific procedures to compensate for impacts to burrowing owl/occupied burrows. Such procedures may include, but are not limited to, the purchase/conservation of off-site suitable habitat that is known to support burrowing owl. Specific ratios would be determined in consultation with CDFW.

c. If burrowing owl must be moved away from the disturbance area, passive relocation techniques shall be used. Owls must be relocated by a qualified biologist from any occupied burrows that would be impacted by Project activities. Required relocation shall be approved by the CDFW. A report summarizing the results of the relocation and monitoring shall be submitted to the City and the CDFW within 30 days following completion of the burrowing owl relocation and monitoring.

Impact 4.3-2: Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game [now Department of Fish and Wildlife] or U.S. Fish and Wildlife Service?

Level of Significance: No Impact

CONSTRUCTION AND OPERATIONS

The Project site does not support riparian habitat or other sensitive natural community. Therefore, the Project would not impact such habitats. No impact would occur in this regard.

Mitigation Measures

No mitigation is required.

Impact 4.3-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Level of Significance: Less Than Significant With Mitigation Incorporated

CONSTRUCTION AND OPERATIONS

As detailed in the *Jurisdictional* Section above, there are two potentially jurisdictional features in the Project survey area. Features 1 and 2 are depicted on **Exhibits 4.3-4a** and **4.3-4b** and outlined in **Tables 4.3-3** and **4.3-4**.

Features 1 and 2 are considered non-jurisdictional by the USACE, as they are ephemeral ditches, which are specifically classified as "non-jurisdictional waters" in 33 CFR 328.3(b)(1), (b)(3), and/or (b)(5). Therefore, no USACE permitting would be required for the proposed Project.

The Project would permanently impact approximately 0.07-acre (701 linear feet) of RWQCB-jurisdictional ephemeral waters of the State/surface waters and 0.12-acre (701 linear feet) of CDFW-jurisdictional ephemeral streambed. Impacts on RWQCB and CDFW jurisdictional features would require Waste Discharge Requirements (WDR), a Water Quality Certification, and a Streambed Alteration Agreement, respectively. Additionally, compensatory mitigation may be required by the regulatory agencies to offset the proposed Project impacts. With implementation of Mitigation Measure BIO-2, impacts to jurisdictional "waters of the State" would be reduced to less than significant.

Mitigation Measures

MM BIO-2 Based on the results of the Project's Jurisdictional Delineation, the proposed Project would permanently impact 0.07-acre of Regional Water Quality Control Board (RWQCB)-jurisdictional waters of the State and 0.12-acre of California Department of Fish and Wildlife (CDFW)-jurisdictional ephemeral streambed (i.e., Feature 1, sparsely vegetated earthen- and concrete-lined ditch; Feature 2, concrete- and riprap-lined ditch and basin). Prior to any ground disturbing activity near the jurisdictional features, applicable permits shall be obtained through the RWQCB and CDFW for impacts to jurisdictional features. The Applicant shall implement/comply with the mitigation required by the resource agencies regarding impacts within their respective jurisdictions.

Given the on-site jurisdictional features' disturbed and limited aquatic resource functions, it is expected that permanent impacts to jurisdictional features would be compensated for at a 1:1 mitigation ratio. Potential compensatory mitigation to offset impacts to jurisdictional resources may be implemented through off-site, permittee-responsible mitigation, in-lieu fee program or mitigation bank credit purchase, or a combination of these options depending on availability. The proposed mitigation strategy shall prioritize in-kind and in-watershed options per the regulatory agencies' preferences. The regulatory agencies will make the final determination of the final compensatory mitigation requirements during the permit evaluation process.

Impact 4.3-4: Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Level of Significance: Less Than Significant With Mitigation Incorporated

CONSTRUCTION AND OPERATIONS

The Project site is in a highly developed area and therefore, does not support any wildlife corridors. However, the Project site has the potential to impact active bird nests if vegetation is removed or ground-disturbing activities occur during the nesting season (January 15 to August 31). Impacts on nesting birds are prohibited by the MBTA and CFGC. With the implementation of Mitigation Measure BIO-3, impacts on nesting birds would be less than significant.

Mitigation Measures

MM BIO-3 Vegetation clearing and ground-disturbing activities shall be conducted outside of the nesting season (January 15 to August 31) to the extent feasible. If avoidance of the nesting season is infeasible, then a qualified biologist shall conduct a nesting bird survey within ten days prior to any ground disturbance, including disking, demolition activities, and grading. Survey results shall be provided to the City of San Bernardino for review. If active nests are identified, the biologist shall establish suitable buffers around the nests depending on the level of activity within the buffer and species observed, and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. Bird nest buffers shall be established by the biologist in consultation with California Department of Fish and Wildlife. Generally, raptor species will have an avoidance buffer of 200 to 500 feet and passerine bird species will have an avoidance buffer of 50 to 300 feet. The biologist shall record the results of the recommended protective measures and shall submit a memo summarizing any nest avoidance measures to the City of San Bernardino to document compliance with applicable state and federal laws pertaining to the protection of native birds.

Impact 4.3-5: Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

SBMC § 19.28.100 requires a tree removal permit from the City where more than five trees will be cut down, uprooted, destroyed, or removed within a 36-month period. Compliance with SBMC § 19.28.100 may require an arborist survey and report to evaluate existing trees prior to the issuance of a tree removal permit, as determined by the Community & Economic Development Director. Unless there is a pre-approved tree replacement plan, each tree that is removed and is determined to be of significant value by the Community & Economic Development Director would be replaced with a 36-inch box specimen tree in addition to any other required landscaping. SBMC § 19.28.100 does not necessarily require a tree for tree replacement provision. Following compliance with SBMC § 19.28.100, the Project would not conflict with any local policies or ordinances protecting biological resources. A less than significant impact would occur in this regard.

Mitigation Measures

No mitigation is required.

Impact 4.3-6: Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Level of Significance: No Impact

CONSTRUCTION AND OPERATIONS

The Project site is not within jurisdiction of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the Project would not conflict with such plans. No impact would occur in this regard.

Mitigation Measures

No mitigation is required.

4.3.6 CUMULATIVE IMPACTS

For purposes of biological resources analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**. The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning biological resources in SBGP EIR Section 5.3, *Biological Resources*. The following is a summary of the expected environmental effects:

- Build-out could result in the loss of sensitive vegetation communities and sensitive species. This impact was concluded to be less than significant.
- Build-out could result in the loss of riparian habitat. This impact was concluded to be less than significant.
- Build-out could impact jurisdictional waters. This impact was concluded to be less than significant.
- Build-out could potentially affect wildlife movement corridors. This impact was concluded to be less than significant.
- Implementation of the Arrowhead Springs Specific Plan (AHS) could disturb or remove plant communities containing sensitive vegetation communities, plant and animal species. This impact was concluded to be less than significant with mitigation incorporated.
- Implementation of the AHS could result in the loss of riparian habitat. This impact was concluded to be less than significant with mitigation incorporated.
- Implementation of the AHS could impact jurisdictional waters. This impact was concluded to be less than significant with mitigation incorporated.
- Implementation of the AHS could impact wildlife movement corridors. This impact was concluded to be less than significant with mitigation incorporated.
- Implementation of AHS could conflict with adopted conservation plans or area plans. This impact was concluded to be less than significant with mitigation.

Development within the City's planning area could cause impacts to sensitive vegetation communities and sensitive species, riparian habitat, RWQCB and CDFW jurisdictional waters, and wildlife movement corridors present in undeveloped portions of the City and SOI. All future development with the potential to impact biological resources would be required to demonstrate compliance with applicable federal and state regulatory requirements, including SBGP goals and policies, intended to reduce and/or avoid potential adverse environmental effects. As such, cumulative impacts to biological resources would be mitigated on a project-by-project basis, and in accordance with the established regulatory framework, through the established regulatory review process.

Therefore, the combined cumulative impacts to biological resources associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.3.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts to biological resources have been identified.

4.3.8 REFERENCES

City of San Bernardino. (2005). *City of San Bernardino General Plan.* San Bernardino, CA: City of San Bernardino Development Services.

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4.4 CULTURAL RESOURCES

4.4 CULTURAL RESOURCES

4.4.1 INTRODUCTION

The purpose of this section is to describe the environmental and regulatory settings of the Project area's cultural resources. This information will be based mainly on cultural resource information obtained from available public resources, as well as reports prepared specifically for the Project.

The cultural evaluations were conducted in compliance with the California Public Resources Code (PRC) § 5024.1 to recognize archeological or historical resources in an area of potential effect (APE) and analyze the Project site's impact area. These reports may not include maps or specific location information of some cultural resources due to their confidential nature. Areas of importance to Native Americans that contain tribal cultural resources as defined in PRC § 21074 also qualify as historical resources; see **Section 4.15: Tribal Cultural Resources**. Paleontological resources are addressed in **Section 4.6: Geology, Soils, and Paleontological Resources**.

This section is based on the following studies, which are included in their entirety in **Appendix 9.5: Cultural Resources Data**:

- *Historical/Archaeological Resources Survey Report Burlington North Santa Fe Railway Ono Lead Track Extension Project* (2018 Survey Report) (CRM TECH, March 20, 2018).
- *Analysis for Potential Indirect Impacts to Historical Resources by the BNSF Ono Lead Track Extension Project* (2018 Indirect Impacts) (BCR Consulting LLC., September 6, 2018).
- *Preliminary Results, BCR BNSF Ono Track Extension Historical Evaluation* (2019 Preliminary Report) (Brunzell Historical, April 22, 2019).
- Cultural Resources Assessment Addendum for the BNSF Railway Ono Lead Track Extension Project (2019 Addendum) (BCR Consulting LLC., June 5, 2019).

CULTURAL RESOURCES TERMINOLOGY AND CONCEPTS

Key terms and concepts used in this section to describe and assess the potential cultural resource impacts are defined below:

Archeological Site. A site is defined by the National Register of Historic Places (NRHP) as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian or non-utilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activates occurred). Prehistoric archaeological sites generally represent the material remains of Native American groups and their activities dating to the period before European contact. In some cases, prehistoric sites may contain evidence of trade contact with Europeans. Ethnohistoric archaeological sites are defined as Native American settlements occupied after the arrival of European settlers in California. Historic archaeological sites reflect the activities of non-native populations during the Historic period.

Artifact. An object that has been made, modified, or used by a human being.

Cultural Resource. A cultural resource is a location of human activity, occupation, or use identifiable through field inventory, historical documentation, or oral evidence. Cultural resources include archaeological resources and built environment resources (sometimes known as historic architectural resources), and may include sites, structures, buildings, objects, artifacts, works of are, architecture, and natural features that were important in past human events. They may consist of physical remains or areas where significant human events occurred, even though evidence of the events no longer remains. Cultural resources also include places that are of traditional, cultural, or religious importance to social or cultural groups.

Cultural Resources Study Area (or study area). All areas of potential permanent and temporary impacts for a reasonable worst-case development within a project site and off-site impact areas, including a fifteen-foot buffer around construction areas.

Ecofact. An object found at an archaeological site that has an archaeological significance but has not been technologically altered, such as seeds, pollens, or shells.

Ethnographic. Relating to the study of human cultures. "Ethnographic resources" represent the heritage resource of an ethnic or cultural group, such as Native Americans or African, European, Latino, or Asian immigrants. They include traditional resource-collecting areas, ceremonial sites, value-imbued landscape features, cemeteries, shrines, or ethnic neighborhoods.

Historic Period. The period that begins with the arrival of the first non-native population and thus varies by area.

Historical Resource. This term is used for the purposes of CEQA and is defined in the State CEQA Guidelines (14 California Code of Regulations [CCR] § 15064.5) as: (1) a resource listed in, or determined to be eligible for listing in the California Register of Historical Resources (CRHR); (2) a resource included in a local register of historical resources, as defined in PRC § 5020.1(k) or identified as significant in a historical resource survey meeting the requirements which a lead agency determines to by historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Historical resources may also include Tribal Cultural Resources including sites, features, places, cultural landscapes, sacred places, objects, and/or archeological resources with value to a California Native American Tribe per PRC § 21074.

Isolate. An isolated artifact or small group of artifacts that appear to reflect a single event, loci, or activity. Isolates typically lack identifiable context and thus have little interpretative or research value. Isolates are not considered to be significant under CEQA and do not require avoidance mitigation (PRC § 21083.2 and State CEQA Guidelines § 15064.5). All isolates located during the field effort, however, are recorded and the data are transmitted to the appropriate California Historical Resources Information System (CHRIS) Information Center.

Lithic. Of or pertaining to stone. Specifically, in archaeology, lithic artifacts are chipped or flaked stone tools, and the stone debris resulting from their manufacture.

Native American Sacred Site. An area that has been, or continues to be, of religious significance to Native American peoples, such as an area where religious ceremonies are practiced or an area that is central to their origins as a people.

Prehistoric Period. The era prior to 1772. The later part of the prehistoric period (post-1542) is also referring to as the protohistoric period in some areas, which marks a transitional period during which native populations began to be influenced by European presence resulting in gradual changes to their lifeways.

Stratigraphy. The natural and cultural layers of soil that make up an archaeological deposit, and the order in which they were deposited relative to other layers.

Tribal Cultural Resource. This term refers to a site, feature, place, cultural landscape, sacred place, object, or archaeological resource with cultural value to a California Native American Tribe that is listed or eligible for listing in national, California, or local registers. A lead agency also has the discretion to determine that a resource is a Tribal Cultural Resource if the determination is supported by substantial evidence.

Unique Archeological Resource. This term is used for the purposes of CEQA and is defined PRC § 21083.2(g) as an archaeological artifact, object, or site, about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it either contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information; has a special and particular quality such as being the oldest of its type or the best available examples of its type; or, is directly associated with a scientifically recognized important prehistoric or historic event or person.

4.4.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Natural Setting

The City of San Bernardino (City) is in the eastern portion of the San Bernardino Valley, a broad inland valley extending from the southern base of the San Bernardino and San Gabriel Mountains on the north to the Santa Ana Mountains and the Jurupa Mountains on the south.[1]

The Project area lies across the City's central and northern portions, just north of the BNSF San Bernardino Intermodal Yard. The area around the Project site's southern end is urban in character, featuring older, closely spaced residential properties and small businesses, while the Project site's northern portion is surrounded by larger lots, stretches of vacant land, and roadside commercial establishments. The portion of the BNSF right-of-way (ROW) contains an existing integrated three- and four-track railroad system, and the adjacent parcels included in the Project area include vacant land and developed parcels including commercial, industrial, or residential buildings.

The ground surface in the Project area has been extensively disturbed by past construction and development activities. Elevations range from 1,086 and 1,400 feet above mean sea level, inclining to the north over relatively level terrain. Vegetation includes introduced landscaping plants around buildings and tumbleweeds, foxtails, wild mustard, and other low grasses on undeveloped land and scattered along the

[1] CRM TECH. (March 2018). Historical/Archaeological Resources Survey Report Burlington Northern Santa Fe Railway Ono Lead Track Extension Project. page 4. Colton, CA: Bai Tom Tang, Michael Hogan.

railway ROW. The native soils consist of light gray to brown, fine- to medium-grained loamy sands mixed with small rocks, with imported gravel over much of the railroad ROW.

ETHNOGRAPHIC, ARCHAEOLOGICAL, AND HISTORIC CONTENTS

Prehistoric Context

Paleoindian Period (ca. 15,000-9,000 B.P.)

General models of human habitation in the Americas and Southern California begin with the Paleoindian Period (ca. 15,000-9,000 B.P.), which is characterized by sparse populations moving over the landscape to take advantage of resources in different areas. Artifacts from this period include fluted spearheads made from fine-grained tool stones and cherts and chalcedonies fashioned for hafting to wooden shafts. Other artifacts associated with the Paleoindian toolkit include choppers, cutting tools, retouched flakes, and perforators. Due to the low population density during this period and mobile lifestyle, little evidence of Native peoples and their culture from this period has been recovered archaeologically. While the large, fluted spearheads have been found on and near the ground surface in areas near pluvial lakes, other sites dating to this period are deeply buried.[2]

Archaic Period (ca. 9,000 to 1,500 B.P.)

The Archaic Period is generally characterized by an increasing population of semi-nomadic groups that followed seasonal rounds in large catchment areas. The classic projectile point from the period is the dart point, which was also made from high-grade toolstones, and was used in conjunction with an atlatl. Well-made groundstone bowls and basin metates are also a hallmark of the period, as people intensified their use of plant and small animal resources. Increasing population pressure, along with environmental changes, reduced their mobility and led to increasing intensification and diversification of their resource base. Base camps would have been composed of relatively small groups of people with their houses sparsely scattered around relatively sheltered areas and near reliable water sources.

Specific to inland Southern California, the earliest evidence of human occupation falls within the late Paleoindian-early Archaic range. The evidence was discovered below the surface of an alluvial fan in the northern portion of the Lakeview Mountains overlooking the San Jacinto Valley, with radiocarbon dates clustering approximately 9,500 B.P. Another site near Lake Elsinore's shoreline, close to the confluence of Temescal Wash and the San Jacinto River, yielded radiocarbon dates between 8,000 and 9,000 B.P. Additional sites with isolated Archaic dart points, bifaces, and other associated lithic artifacts from the same age range have been found in the Cajon Pass area, typically atop knolls with good viewsheds.[3]

Late Prehistoric Period (ca. 9,000 to 1,500 B.P.)

The increasing population pressure and intensification of resource use of the Archaic Period continues and becomes more pronounced in during the late prehistoric period. This period's archaeological record is generally characterized by lithic scatters from the manufacture of small arrow points, expedient groundstone tools such as tabular metates and unshaped manos, wooden mortars and stone pestles,

[2] CRM Tech. (March 2018). Historical/Archaeological Resources Survey Report Burlington Northern Santa Fe Railway Ono Lead Track Extension Project. page 4. Colton, CA: Bai Tom Tang, Michael Hogan.

[3] Ibid.

acorn or mesquite-bean granaries, ceramic vessels, and extensive trading networks in shell beads and steatite implements such as pipes and arrow shaft straighteners.

Bow and arrow were adopted during this period, with Rose Spring Points dating to circa 1300 A.D. and the Cottonwood and Desert Side-Notched series dating to approximately 700 years ago. Pottery may have been introduced into the area approximately 500 years ago. Habitation sites continued to be developed predominately in sheltered areas near water sources, and the dispersed settlement pattern also persisted despite the increased population. Communities would move to different locations in their catchment area to take advantage of seasonal resources.[4]

Ethnography

Present-day San Bernardino area is a part of the homeland of the Serrano Indians, whose traditional territory is centered at the San Bernardino Mountains but also includes the southern rim of the Mojave Desert and most of the San Bernardino Valley. The name "Serrano" was derived from the Spanish word for "mountaineer" or "highlander."

Prior to European contact, the Serrano were primarily gatherers and hunters, and occasional fishers, who settled mostly on elevated terraces, hills, and finger ridges near where flowing water emerged from the mountains. They were loosely organized into exogamous clans, which were led by hereditary heads; the clans were affiliated with one of two exogamous moieties. The exact nature of the clans, their structure, function, and number are not known, except that each clan was the largest autonomous political and landholding unit, the core of which was the patrilineage. There was no pan-tribal political union among the clans.

With respect to subsistence-related tools, mortars and pestles were more prevalent at mountain sites as opposed to lower valley sites because acorns were processed in the mountains. Bedrock milling features, manos, and metates might be more common in the lower elevations where they were used to process seeds found in that area. Larger projectile points and associated manufacturing debitage accompanying with hunting of large game are likely to be found in greater quantities at mountain sites, whereas smaller points associated with hunting of small game could be more excessively represented at lower elevations.

Although contact with Europeans may have occurred as early as 1771-1772, Spanish influence on Serrano lifeways was negligible until the 1810s, when a mission asistencia[5] was established on the Serrano territory's southern edge. Between 1810 and the end of the mission era in 1834, most of the Serrano were removed to the nearby missions. At present, most Serrano descendants are found on the San Manuel and the Morongo Indian Reservations, where they participate in ceremonial and political affairs with other Native American groups on an inter-reservation basis.

[4] Ibid.

[5] Many California Missions had extensions, or sub-missions (asistencias), or ranchos (estancias), created to extend the missions' reach and serve a larger community.

History

Spanish Period

The San Bernardino Valley, along with the rest of Alta California, was claimed by Spain in the late 18th century. The first European explorers traveled through the area as early as 1772, three years after Spanish colonization began. For nearly four decades, the arid inland valley received little attention from the European colonizers who concentrated their efforts along the Pacific coast. Following Mission San Gabriel's establishment in 1771, San Bernardino Valley became part of the mission's vast landholdings. The name "San Bernardino" was bestowed on the region in the 1810s, when the asistencia and an associated mission rancho, both bearing that name, were established in present-day Loma Linda.

The Mexican Period

After gaining independence from Spain in 1821, the Mexican authorities began dismantling the mission system in Alta California in 1833, during the process of Secularization. During the next 15 years, former mission ranchos throughout Alta California were surrendered to the Mexican government and subsequently divided and granted to various prominent citizens of the province. In 1842, the former mission rancho of San Bernardino was granted to members of a prominent Los Angeles family, the Lugos.

After nine years of cattle raising on their 35,000-acre domain, the Lugo family sold the rancho in 1851 to Amasa M. Lyman and Charles C. Rich, leaders of a group of Mormon settlers from Utah. Soon after the purchase, the Mormons established a fortified settlement in what is now the San Bernardino downtown area. Two years later, it was named the county seat for the newly created County of San Bernardino (County). In 1854, the City of San Bernardino became the first incorporated city in the Inland Empire region. The community suffered a devastating setback in 1857, when many of its Mormon founders were recalled to Utah. As a result, San Bernardino lost half its population and was disincorporated.

The discovery of gold in the local mountains brought miners to San Bernardino in 1860, many of whom were from the southeastern United States and sympathized with the Confederacy. By the 1880s, the town also had Chinese, African-American, and Jewish communities. Citrus cultivation had begun on a small scale in San Bernardino County in the 1850s but grew in economic importance with the establishment of packing houses and more sophisticated marketing efforts in the last decades of the 19th century.[6]

Beginning in the 1880s, railroads brought prosperity and population to San Bernardino. The town's strategic location east of Southern California's population center and in the middle of the citrus belt allowed it to become the hub of the Santa Fe, Union Pacific, and Southern Pacific railroads. The railroads bolstered San Bernardino County's agricultural economy and it quickly became an important citrus producer. The City's population doubled in the first decade of the 20th century, reaching 12,779 persons by 1910. For several decades, San Bernardino continued to develop as a railroad and trucking center. The local economy diversified as the onset of World War II brought military and defense work to San Bernardino. In 1941, the Army Air Corps took over the San Bernardino Municipal Airport, using it primarily

[6] Brunzell Historical. (April 2019). Preliminary Results, BCR BNSF Ono Track Extension Historical Evaluation, San Bernardino, San Bernardino, County, California. Page 2. Claremont, CA: Kara Brunzell, M.A.

as a repair and maintenance facility for Army aircraft. Kaiser Steel, a giant plant designed to produce steel for the war effort, opened in 1942 in Fontana, just a few miles to the west.[7]

The City's population grew by 45 percent during the 1940s and was just under 70,000 persons by 1950. After World War II, the airport was turned over to the Air Force and renamed Norton Air Force Base and remained a major military maintenance facility. Operations expanded in the 1950s to include logistics support for missile programs in addition to maintenance and storage. San Bernardino continued to expand, annexing agricultural land, and adding residential developments as the Air Force Base, railroad yard, and Kaiser Steel provided more jobs. The population was over 100,000 persons by 1979. Toward the end of the 20th century, San Bernardino's economy began to steadily decline. The Air Force Base, which had once provided over 10,000 jobs in San Bernardino, closed in 1994. The railroad yard and steel plant shut down as well, and the construction industry, formerly an important local employer, also declined. By the 2010s, San Bernardino was the poorest municipality of its size in California despite continued population growth. In 2012, the City declared bankruptcy. By 2017, the City was 62 square miles and had a population of 218, 604 persons.[8]

Project Site

The Project area is in a neighborhood situated approximately one mile from San Bernardino's original town plat and was primarily agricultural during the 19th century. In the decades after the turn of the century, the area gradually became more residential as individual property owners built small houses. Development was scattered until the middle decades of the 20th century when the area was annexed by the City of San Bernardino. In 1950, there were still many vacant lots in the area, which were developed for housing and other uses over the next two decades.

The BNSF line segment in the Project area was originally a part of the Atchison, Topeka and Santa Fe (ATSF) mainline between Barstow and San Bernardino, which was completed in 1885 as the California Southern Extension Railroad, an ATSF subsidiary. The Ono track was an ATSF siding that began operations in 1913. At the onset of World War II, "Ono" served as a locational designation for a U.S. Army quartermaster supply depot near the intersection of Kendall Drive and State Street. Towards the end of the war, the name was attached to a prisoner of war holding facility, Camp Ono, which was located south of present-day California State University, San Bernardino. The railroad spurs leading to the U.S. Army quartermaster depot were later converted to use by the Culligan USA Plant and other industrial interests.[9]

EXISTING CULTURAL RESOURCES

Records Search

CRM TECH conducted the cultural resources records search for the Project on May 23, 2017 at the South Central Coastal Information Center (SCCIC). The SCCIC is California's official repository of cultural resource records for the County of San Bernardino. A 0.5-mile radius was used for the records search, and the following sources were consulted:

[7] Ibid.

[8] Ibid.

[9] CRM Tech. (March 2018). Historical/Archaeological Resources Survey Report Burlington Northern Santa Fe Railway Ono Lead Track Extension Project. page 22. Colton, CA: Bai Tom Tang, Michael Hogan.

- National Register of Historic Places (NRHP),
- California Register of Historical Resources (CRHR),
- California Historical Landmarks,
- California Points of Historical Interest,
- San Bernardino County Historical Landmarks, and
- California Historical Resources Inventory.

According to SCCIC records, portions of the Project area were included in at least six previous cultural resources studies, including one completed in 1991 for an Interstate Highway 215 widening project alongside the Project site. However, the Project area has not been comprehensively surveyed systematically prior to preparing this EIR. Outside the Project boundaries but within a 0.5-mile radius, 60 cultural resources studies were completed between 1975 and 2015.

The studies recorded 43 historical/archaeological sites and one isolate (a locality with fewer than three artifacts) within the 0.5-mile radius. Most sites are buildings of various vintage. The isolate (36-060210) was the only prehistoric cultural resource identified in SCCIC records and was described as a biface core found in the Shandin Hills, east of the Project area. The record search results are provided in **Table 4.4-1: Previously Identified Cultural Resources** and depicted in **Exhibit 4.4-1: Previous Cultural Resources Studies in the Vicinity**.

Four recorded sites are within or adjacent to the Project site:

- Historic Route 66 (Resource No. 36-002910),
- Atchison, Topeka and Santa Fe Railway/Kite-Shaped Track (Resource No. 36-006793/36-006847),
- Culligan USA Plant (Resource No. 36-008303), and
- San Bernardino Baseline/Baseline Street (Resource No.36-015497).

The field inspection and the historical research identified 18 properties in the Project area that contain buildings/groups of buildings that predate 1972 and retain a reasonable level of historical character. These properties are also recorded into the California Historical Resources Inventory. The other buildings in the Project area are either less than the 45-year age threshold and have no special architectural or aesthetic merit; or, predate 1972 but have been so altered that they no longer retain sufficient integrity to be recognized as being historical in origin. Except Cajon Boulevard adjacent to the Project site, none of the roads within or adjacent to the Project area retain sufficient historical character in appearance to be considered a potential "historical resource," and thus they were not recorded. Due to its special status as a part of the legendary U.S. Route 66 (Site 36-002910), Cajon Boulevard adjacent to the Project site is considered a historical resource. Additionally, the Culligan USA Plant was demolished for construction of an industrial park in 2007-2009. Therefore, 21 resources (i.e., the 18 properties, plus Historic Route 66, Atchison, Topeka and Santa Fe Railway/Kite-Shaped Track, and San Bernardino Baseline/Baseline Street) were analyzed for historical significance.

The 18 properties in the Project area that were found to contain buildings or groups of buildings that predate 1972 and retain a reasonable level of historical character include 12 residential properties, five commercial properties, and one religious charity complex, all dating to the 1900-1966 era. Construction of the 18 recorded buildings or groups of buildings spans a broad period in San Bernardino's development, from the City's transformation from an agrarian settlement to a railroad hub and regional urban center in the early 1900s to the rapid urban/suburban expansion during the post-WWII period. The recorded

buildings retain sufficient historic integrity to relate to these episodes in the City's development but do not demonstrate a particularly close or important association with these patterns of events, or with any other established themes in local history. Based on the research completed for the Project, no historic figures of or specific events of recognized significance were identified in close association with any of the 18 properties, nor were any architects, designers, or builders of sufficient renown to meet the adopted HRHR guidelines. None of the buildings represents an important example of any style, type, period, region, or method of construction, or embodies any particular architectural ideals or design concepts, and therefore do not contain any architectural or aesthetic merits. Therefore, none of the 18 buildings appears eligible for listing in the CRHR. Further, since none of the 18 buildings or groups of buildings has been included in a local register of historical resources, the 18 properties recorded do not meet CEQA's definition of "historical resources."

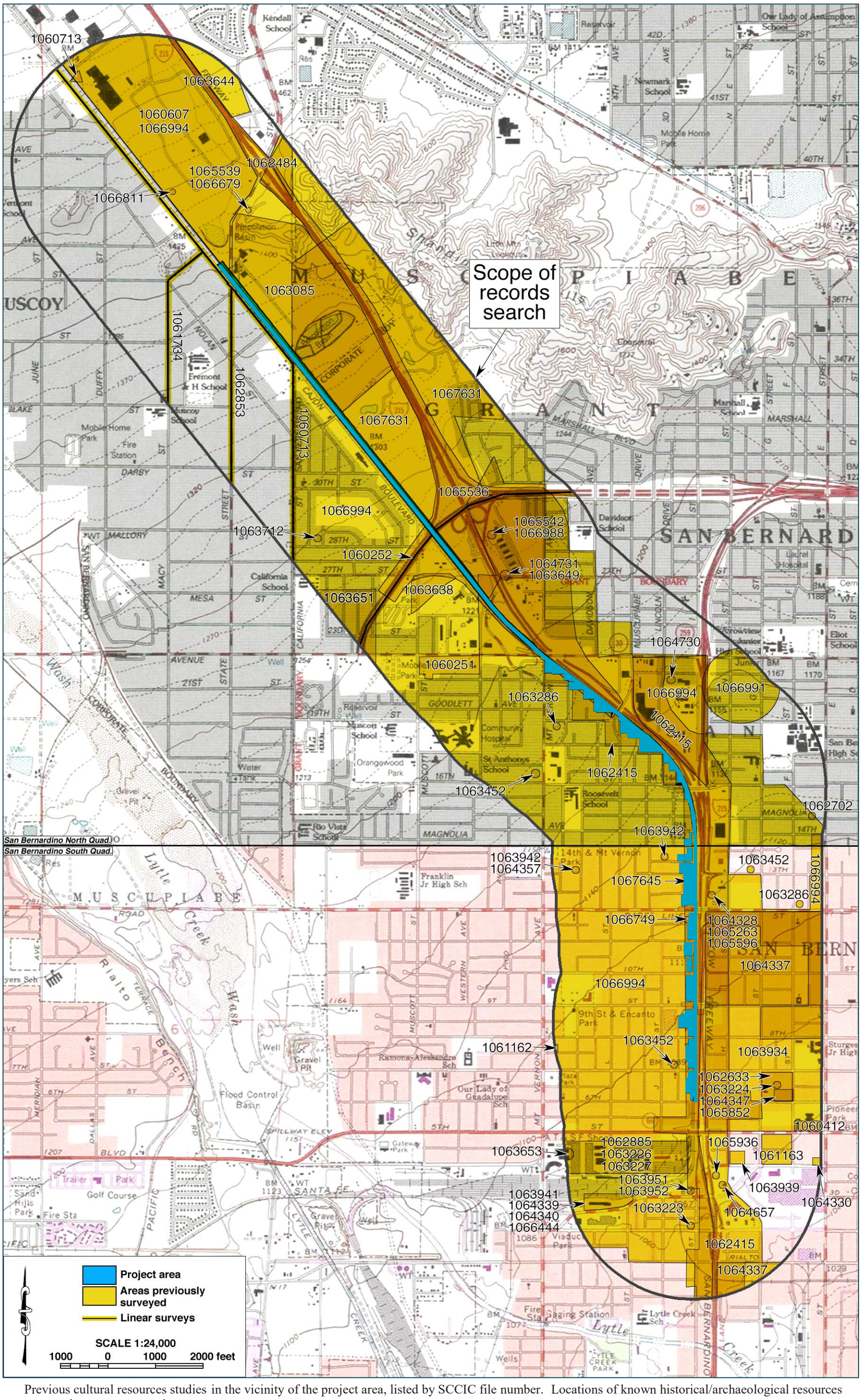
TABLE 4.4-1: PREVIOUSLY IDENTIFIED CULTURAL RESOURCES

Resource No.	Description
36-002910[1]	Foothill Boulevard/Historic Route 66
36-004129	Home of Neighborly Service, 839 Mt. Vernon Avenue (CPHI 88), circa 1926
36-006793/ 36-006847[1]	Atchison, Topeka and Santa Fe Railway/Kite-Shaped Track
36-008303[1]	Culligan USA Plant, circa 1942
36-008695	Residential occupation site at Burlington Northern Santa Fe Intermodal Yard
36-010881	Building remains, circa 1880-1920 at the corner of 6th and F Streets
36-015497[1]	San Bernardino Baseline of 1853 Baseline Street
36-017740	First Church of Christian Scientists at 736 E Street, circa 1910s
36-017760	Single-family residence at 876 H Street, circa 1918
36-017798	Single-family residence at 783 Mountain View Avenue, circa 1882 (relocated)
36-017857	Single-family residence at 845 Spruce Street, circa 1910s
36-017858	Single-family residence at 847 Spruce Street, circa 1910s
36-017860	Single-family residence at 858 Spruce Street, circa 1910s
36-017975	Santa Fe Railway depot, circa 1918
36-017982	Dorothy Ingraham Home at 976 6th Street, circa 1890
36-017985	Duplex at 836-842 7th Street
36-017987 to 36-017991	Single-family residences on the 800 block of 7th Street (Norton and Hay/Bennett Historic District)
36-018006	San Bernardino Cultural Center and Fire Hall at 536 11th Street, circa 1935
36-020164 to 36-020167	Single-family residences near 13th and G Streets, circa 1920-1937
36-020504	Single-family residence at 640 F Street, circa 1902
36-020807	One-story commercial building at 396 E Street, circa 1941
36-020825	One-story commercial building at 998 E Street, circa 1938
36-021187 to 36-021199	Commercial buildings and single-family residences, 2700 to 3000 blocks of State Street, circa 1927-1960
36-027101	Rock terrace wall in the 800 block of E Street
36-030790	Single-family residence at 778 7th Street, circa 1921

TABLE 4.4-1: PREVIOUSLY IDENTIFIED CULTURAL RESOURCES	
Resource No.	**Description**
36-030791	Single-family residence at 794 7th Street, circa 1910s
36-060210	Isolate: biface core tool
1. Two previously recorded sites and the extensions of two other known sites in Project area	
Source: CRM TECH. (March 2018). Historical/Archaeological Resources Survey Report Burlington Northern Santa Fe Railway Ono Lead Track Extension Project. Table 1. page 11. Colton, CA: Bai Tom Tang, Michael Hogan.	

The 2019 Addendum evaluated 20 additional parcels containing historic-age buildings; see **Table 4.4-2**: **Addendum 2019 Building Data Summary**.

TABLE 4.4-2: ADDENDUM 2019 BUILDING DATA SUMMARY		
Address	**Description**	**California Register Eligibility Recommendation**
922 West 7th Street	1064 square foot (SF) house (ca. 1910)	Not Eligible
905 West 8th Street	720 SF house (ca 1900)	Not Eligible
923 West 8th Street	1044 SF house (1940)	Not Eligible
930 West 10th Street	1092 SF house (1932)	Not Eligible
916 West 14th Street	1092 SF house (1958)	Not Eligible
923 West 15th Street	1325 SF house (1955)	Not Eligible
931 West 15th Street	972 SF house (1955)	Not Eligible
932 West 15th Street	~1200 SF house (1953)	Not Eligible
1232 West 21st Street	1036 SF house (1928)	Not Eligible
1240 West 21st Street	606 SF house (1922)	Not Eligible
924 Magnolia Avenue	960 SF house (1956)	Not Eligible
932 Magnolia Avenue	1206 SF house (1963)	Not Eligible
937 Magnolia Avenue	1524 SF house (1950)	Not Eligible
724 North I Street	428 SF house (ca. 1910)	Not Eligible
1088 North I Street	1120 SF house (1956)	Not Eligible
1502 North I Street	1130 SF house (1970)	Not Eligible
939 West Evans	792 SF house (1954)	Not Eligible
940 West Evans	912 SF house (1953)	Not Eligible
947 West Evans	881 SF house (1952)	Not Eligible
948 West Evans	612 SF house (1952)	Not Eligible
Source: BCR Consulting, Cultural Resources Assessment Addendum for the BNSF Railway Ono Lead Track Extension Project (June 2019). Table A. page 3. Colton, CA: Nicholas Shepetuk, Dylan Williams, Kara Brunzell, David Brunzell.		



Previous cultural resources studies in the vicinity of the project area, listed by SCCIC file number. Locations of known historical/archaeological resources are not shown as a protective measure.

Source: CRM TECH. Historical/Archaeological Resources Survey Report. March 20, 2018.

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The historical significance of the APE's four previously recorded resources are discussed in further detail below.

Historic Route 66 (36-002910). Site 36-002910 represents the alignment of U.S. Route 66 across San Bernardino County. Due to its legendary status in American popular culture as a symbol of the early automobile age and association with Dust Bowl Migration, Route 66 through California has been determined eligible for listing in the NRHP and the CRHR. In the Project vicinity, Site 36-002910 is embodied by the segment of Cajon Boulevard between Mount Vernon Avenue and State Street/University Parkway, which lies adjacent to the Project area's southwestern boundary. In contrast to many other segments of the old highway that have since been modernized in character and setting, this segment still retains sufficient physical characteristics that are consistent with Route 66's historic appearance during its heyday in the 1930s-1950s. Therefore, it is determined to be a contributor to the site's historic significance, and thus also qualifies as a "historical resource" under CEQA.

ATSF/Kite-Shaped Track (36-006793/36-006847). The ATSF Railway was the second transcontinental railroad system to reach California. In 1998, the former California Southern Extension Railroad was determined to be generally eligible for listing in the NRHP. However, various non-contiguous ATSF Railway segments have been evaluated individually based on their specific condition, historic integrity, and ability to contribute materially to the site's significance in general. In the San Bernardino area, several specific segments of 36-006793 and 36-006847 were previously determined ineligible for the NRHP and/or the CRHR due to the lack of sufficient historic integrity. Within the Project area, the BNSF Railway from MP 76.55 to MP 80.61 is now a multi-track line featuring rails, ties, signal lights, and other physical components that were installed as upgrades or replacement features well after the California Southern Extension Railroad's original construction. Due to the significant loss of integrity in design, setting, materials, workmanship, feeling, and association, the segment of the railroad in the Project area does not contribute to the historic significance of the ATSF system as a whole. Therefore, this portion of Site 36-006793/36-006847 is not considered eligible for the CRHR in its own right and does not qualify as a "historical resource."

Culligan USA Plant (36-008303). This previously recorded resource was demolished in 2007-2009 for construction of an industrial park.

San Bernardino Baseline/Baseline Street (36-015497). The San Bernardino Baseline, embodied by Baseline Street in the Project vicinity, was designated a California Point of Historical Interest (CPHI-SBr-12) in 1973 because of its influence in the early settlement and subsequent development of Southern California. The site meets the definition of a "historical resource" under CEQA provisions. The historic value of the site, however, is largely symbolic in nature, and is derived from the conceptual line across the landscape instead of the existing roadway today, which is a heavily traveled major thoroughfare. The roadway displays a modern character and appearance that passes overhead above the Project area. Site 36-015497 exists in the Project area only on paper.

The 2019 Addendum was prepared to document a neighborhood of buildings not previously evaluated in the 2018 Survey Report, as noted in **Table 4.4-2**. None of the additional properties that were evaluated in the 2019 Addendum are eligible for historic listing or considered historical resources. The neighborhood of buildings is not associated with events that have made a significant contribution to the broad patterns of our history, is not associated with an important individual from the past, does not exhibit culturally

significant architecture, and does not have potential to serve as a source of important information. Overall, the neighborhood of buildings lacks historic integrity and is not associated with historic events or individuals. A complete assessment is provided in the 2019 Addendum.

Field Survey

An archaeological survey of the Project area was conducted on August 3, 2017, by CRM TECH. Due to the site's extensively disturbed state and reduced archaeological sensitivity, most of the survey was conducted at a reconnaissance level by driving along the Project route and visually inspecting the ground surface for any indication of cultural remains. Areas found to be of higher archaeological sensitivity were surveyed on foot at an intensive level by walking parallel transects at 10-meter (approximately 33-foot-wide) intervals. Small fenced off areas on private properties that could not be accessed were examined from the perimeter.

The entire Project area's ground surface was systematically inspected for any archaeological resources dating to the prehistoric or historic period (i.e., 45 years or older). Ground visibility was clear except for pavement and railroad ballasts hindrances. Following completion of the archaeological survey, CRM TECH completed a field inspection of all buildings and other built environment features along the Project route (September 22, 2017). Field recording procedures were performed on those that appeared to be more than 45 years old and retained a recognizable level of historical characteristics. Altered or modernized buildings that predate 1972 but retain little historical character were noted and photographed but not formally recorded.

No evidence of any archaeological resources of prehistoric or historical origin was encountered within or adjacent to the Project area during the field survey. As stated previously, the Project area and its surroundings have been greatly disturbed by past development, such as construction and maintenance of the railroad, roads, and the many nearby buildings, making it unlikely for any archaeological remains from the prehistoric period or the early historic period to survive intact.

4.4.3 REGULATORY FRAMEWORK

This section discusses the Federal, State, and local policies and requirements applicable to the Project.

FEDERAL

National Historic Preservation Act of 1966

Pursuant to the National Historic Preservation Act of 1966 (NHPA), the federal government, acting through the U.S. Department of the Interior's National Park Service, maintains an inventory of properties and structures that have been determined to meet certain criteria as significant historic resources commonly referred to as the National Register of Historic Places (NRHP). Eligibility for the NRHP is determined by the U.S. Department of the Interior in a formal review process in which a resource is proposed for listing.

Title 36 CFR § 60.4 provide the criteria for evaluation of NRHP eligibility. The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and that:

a. Are associated with events that have made a significant contribution to the broad patterns of our history; or

b. Are associated with the lives of persons significant in our past; or

c. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. Have yielded, or may be likely to yield, information important in prehistory or history.

Establishing NRHP eligibility also depends on integrity of location, design, setting, materials, workmanship, feeling, and association. Sites that meet one or more NRHP eligibility criteria, but do not retain integrity are not eligible for the NRHP. Guidance regarding "integrity of location, design, setting materials, workmanship feeling and association" is provided by National Register Bulletin 15 (NRHP 2002).

NHPA Section 106 requires federal agencies to consider the effects of projects they carry out, approve, or fund on historic properties. For purposes of NHPA Section 106, any property listed on or deemed eligible for HRHP listing is considered historic. While ordinarily the NHPA does not apply to projects sponsored by private parties on private land, NHPA Section 106 may apply if the project is on federal land, is using federal money, or requires a federal permit (e.g., a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers [USACE]). Under Section 106, a historic property is a prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the NRHP. The term also includes properties of traditional religious and cultural importance to an Indian tribe so long as that property also meets the criteria for listing in the NRHP. An undertaking would have an adverse effect if it may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. If the undertaking is a type of activity that does not have the potential to cause effects on historic properties, assuming such historic properties were present, there is no further obligation under Section 106 (36 CFR § 800.3).

Section 106 Process

Under NHPA regulations, an impact to a cultural resource would be considered significant if government action would affect a resource listed in or eligible for listing in the NRHP. The NHPA codifies a list of cultural resources found to be significant within the context of national history, as determined by a technical process of evaluation. Resources that have not yet been placed on the NRHP, and are yet to be evaluated, are afforded protection under the NHPA until shown to be not significant.

NHPA Section 106 and its implementing regulations (36 Code of Federal Regulations Part 800, *Protection of Historic Properties* (incorporating amendments effective August 5, 2004)) note that for a cultural resource to be determined eligible for NRHP listing, the resource must meet specific criteria associated with historic significance and possess certain levels of integrity of form, location, and setting. The criteria for NRHP listing are applied within an analysis when there is some question as to a cultural resource's significance. The criteria for evaluation are defined as the quality of significance in American history, architecture, archeology, engineering, and culture. This quality must be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials,

workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the NRHP eligibility criteria; see *National Historic Preservation Act of 1966* Section above.

Criterion (D) is usually reserved for archaeological resources. Eligible cultural resources must meet at least one criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character.

The Section 106 evaluation process does not apply to projects undertaken under City environmental compliance jurisdiction. However, should the undertaking require funding, permits, or other administrative actions issued or overseen by a federal agency, analysis of potential impacts to cultural resources following the Section 106 process could be necessary. The Section 106 process typically excludes cultural resources created less than 50 years ago unless the resource is considered highly significant from the local perspective. Finally, the Section 106 process allows local concerns to be voiced and the Section 106 process must consider aspects of local significance before a significance judgment is rendered.

Secretary of the Interior's Standards for the Treatment of Historic Properties

Evolving from the *Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards* that were developed in 1976, the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* were published in 1995 and codified at 36 CFR § 67. Neither technical nor prescriptive, these standards are "intended to promote responsible preservation practices that help protect our Nation's irreplaceable cultural resources." "Preservation" acknowledges a resource as a document of its history over time, and emphasizes stabilization, maintenance, and repair of existing historic fabric. "Rehabilitation" not only incorporates the retention of features that convey historic character, but also accommodates alterations and additions to facilitate continuing or new uses. "Restoration" involves the retention and replacement of features from a specific period of significance. "Reconstruction," the least used treatment, provides a basis for recreating a missing resource. These standards have been adopted, or are used informally, by many agencies at all levels of government to review projects that affect historical resources.

Federal Antiquities Act

The Federal Antiquities Act of 1906 was enacted with the primary goal of protecting cultural resources in the United States. As such, it explicitly prohibits appropriation, excavation, injury and destruction of "any historic or prehistoric ruin or monument, or any object of antiquity" located on lands owned or controlled by the federal government, without permission of the Secretary of the federal department with jurisdiction. It also establishes criminal penalties, including fines/imprisonment, for these acts. Neither the Antiquities Act itself nor do its implementing regulations (43 CFR § 3) specifically mention paleontological resources. However, several federal agencies—including the National Park Service (NPS), the Bureau of Land Management (BLM), and the United States Forest Service (USFS), have interpreted objects of antiquity as including fossils. Consequently, the Antiquities Act also represents an early cornerstone for efforts to protect the nation's paleontological resources. As previously stated, the Project area is not located on tribal or federal lands and thus the Antiquities Act provisions would not apply to the Project. However, if a federal agency is determined to be a responsible or trustee agency over the

Project area, such as through a 404 Permit (Clean Water Act) process, the provisions of this Act would apply.

STATE

California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC § 5024.1). Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks (CHL) numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the SHRC determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

- **Criterion 1:** It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- **Criterion 2:** It is associated with the lives of persons important in our past.
- **Criterion 3:** It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
- **Criterion 4:** It has yielded, or may be likely to yield, information important in history or prehistory.

Under PRC § 5024.1 and 14 CCR § 4852(c), a cultural resource must retain integrity to be considered eligible for the CRHR. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association.

Typically, a prehistoric archaeological site in California is recommended eligible for listing in the CRHR based on its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods or undisturbed deposits that retain their stratigraphic integrity. Sites such as these have the ability to address research questions.

California Historical Landmarks

CHLs are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have statewide historical significance by meeting at least one of the criteria listed below. The resource also must have written consent of the property owner; be recommended by the SHRC; and be officially designated by the Director of California State Parks. The specific standards now in use were first applied in the designation of CHL #770. CHLs #770 and above are automatically listed in the CRHR.

To be eligible for designation as a CHL, a resource must meet at least one of the following criteria:

- It is the first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California);
- It is associated with an individual or group having a profound influence on the history of California; or
- It is a prototype of, or an outstanding example of, a period, style, architectural movement, or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Environmental Quality Act (CEQA)

California public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to PRC § 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." PRC § 21083.2 additionally requires agencies to determine whether proposed projects would have effects on "unique archaeological resources."

"Historical resource" is a term with a defined statutory meaning. Under the State CEQA Guidelines § 15064.5 (a) "historical resource" includes the following:

- A resource listed in or determined to be eligible by the State Historical Resources Commission (SHRC), for listing in the CRHR (PRC § 5024.1, Title 14 CCR , §§ 4850 et seq.).
- A resource included in a local register of historical resources, as defined in PRC § 5020.1(k) or identified as significant in an historical resource survey meeting the requirements § 5024.1(g), shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets any one of the CRHR eligibility criteria for listing (PRC § 5024.1, Title 14 CCR § 4852); *California Register of Historical Resources* Section above.

CEQA addresses significant impacts to historical resources. "A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (State CEQA Guidelines § 15064.5(b)(1)).

CEQA also requires agencies to consider whether projects will affect "unique archaeological resources." PRC § 21083.2(g), states that "'unique archaeological resources' means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3) Is directly associated with a scientifically recognized, important prehistoric or historic event or person.

California Senate Bill 18

See **Section 4.15: Tribal Cultural Resources**.

Assembly Bill 52

See Section 4.15.

California Points of Historical Interests

California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 and recommended by the SHRC are also listed in the CRHR. No historic resource may be designated as both a landmark and a point. If a point is later granted status as a landmark, the point designation is retired. In practice, the point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria: (1) it is the first, last, only, or most significant of its type within the local geographic region (city or county); (2) it is associated with an individual or group having a profound influence on the history of the local area; or (3) it is a prototype of, or an outstanding example of, a period, style, architectural movement, or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Historical Resource (CHR) Status Codes

A resource must meet at least one of the above-listed criteria and retain enough integrity to support its period of significant and association within a historical context. A resource is assigned a CHR status code following evaluation, which identifies its significant level. The status codes and descriptions are listed below:

- Properties listed in the NRHP or the CRHR.
- Properties determined eligible for listing in the NRHP or CRHR.

- Appears eligible for the NRHP or CRHR through survey evaluation.
- Appears eligible for the NRHP or CRHR through other evaluation.
- Properties recognized as historically significant by local government.
- Not eligible for listing or designation as specified.
- Not evaluated for the NRHP or CRHR or needs re-evaluation

California Historic Building Code

The California Historic Building Code (CHBC) provides guidelines for the preservation, restoration, rehabilitation, relocation, and reconstruction of buildings or structures designated as qualified historical buildings or properties by a local, State, or Federal jurisdiction, as defined by CHBC § 8-218. The CHBC provides guidelines for long-term preservation efforts of qualified historical buildings or properties in order to allow owners to make improvements for access for persons with disabilities; to provide a cost-effective approach to preservation; and, to ensure overall safety of affected occupants or users.

As defined by the CHBC, a "qualified historical building" is "any building, site, structure, object, district, or collection of structures, and their associated sites, deemed of importance to the history, architecture, or culture of an area by an appropriate local, State, or Federal governmental jurisdiction. This includes designated buildings or properties on, or determined eligible for, official national, State, or local historical registers or official inventories, such as the NRHP, CRHR, State Historical Landmark, State Points of Historical Interest, and officially adopted city or county registers, inventories, or surveys of historical or architecturally significant sites, places, or landmarks."[10]

Health and Safety Code Sections 7050.5-7055

Health and Safety Code (CHS) § 7050.5 requires that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or site disturbance or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to the provision of California Government Code § 27491 or any other related provisions of law concerning investigation of the circumstances, manner, and cause of death. If the coroner determines that the remains are that of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact the NAHC by telephone within 24 hours.

California Public Resources Code Section 5097.98

PRC § 5097.98 stipulates that whenever the NAHC receives notification concerning discovery of Native American human remains from a county coroner pursuant to CHS § 7050.5, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the land owner's permission, or his or her authorized representative, inspect the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with the appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 48

[10] California Historic Building Code (§ § 18950 to 18961 of Division 13, Part 2.7 of California Health and Safety Code).

hours of their notification by the NAHC. The recommendation may include the scientific removal and non-destructive analysis of human remains and items associated with Native American burials. The NAHC would designate the Most Likely Descendant (MLD) for any future human remains found in the project area.

LOCAL

City of San Bernardino General Plan

The following San Bernardino General Plan goals and guidelines are relevant to the Project.

Historical and Archaeological Resources Element

The General Plan Historical and Archaeological Resources Element provides the basis for enabling legislation that will allow the City of San Bernardino to effectively preserve, enhance, and maintain sites and structures that have been deemed architecturally, historically, archaeologically, and/or culturally significant. This is critically important in the City since it contains many older structures and historic sites, which may be threatened with demolition or removal.

Goal 11.1: **Develop a program to protect, preserve, and restore the sites, buildings and districts that have architectural, historical, archaeological, and or cultural significance.**

Policy 11.1.1: Develop a comprehensive historic preservation plan that includes:

- Adoption of a Preservation Ordinance that authorizes the City to designate resources deemed to be of significance as a City Historical landmark or district.
- Establishment of a Historic Resources Commission that will review and recommend preservation ordinances, design standards, and historical designations of resources.
- Adoption of the Secretary of Interior Standards for Historic Rehabilitation and the standards and guidelines as prescribed by the State Office of Historic Preservation as design standards for alterations to historic resources.
- Establishment of a design review process for potential development projects in or adjacent to Historic Preservation Overlay Zones. (A-1 and HAR-1, 2, 3, and 4)

Policy 11.1.2: Maintain and update the Historic Resources Reconnaissance Survey database files of historic, architectural, and cultural resources conducted in 1991, and integrate it into the City's ordinance and environmental review process. Prior to public distribution, Native American tribes should be consulted to address any issues of confidentiality. (A-1)

Policy 11.1.3: Consider, within the environmental review process, properties that may have become historically significant since completion of the survey in 1991. (LU-1)

Policy 11.1.4: Compile and maintain an inventory, based on the survey, of the Planning Area's significant historic, architectural and cultural resources. Prior to public distribution, Native American tribes should be consulted to address any issues of confidentiality.

Policy 11.1.9: Require that an environmental review be conducted on all applications (e.g., grading, building, and demolition) for resources designated or potentially designated as significant in order to ensure that these sites are preserved and protected. (LU-1)

Goal 11.4: Protect and enhance our historic and cultural resources.

Policy 11.4.1: Encourage the preservation, maintenance, enhancement, and reuse of existing buildings in redevelopment and commercial areas; the retention and renovation of existing residential buildings; and the relocation of existing residential buildings when retention on-site is deemed not to be feasible.

Goal 11.5: Protect and enhance our archaeological resources.

Policy 11.5.1: Complete an inventory of areas of archaeological sensitivity in the planning area. Prior to public distribution, Native American tribes should be consulted to address any issues of confidentiality.

Policy 11.5.2: Develop mitigation measures for projects located in archaeologically sensitive areas to protect such locations, remove artifacts, and retain them for educational display. Native American tribes should be consulted to determine the disposition of any Native American artifacts discovered.

City of San Bernardino Municipal Code

San Bernardino Municipal Code (SBMC) Chapter 15.37 contains the City's Historic Building Demolition Ordinance. The Ordinance prohibits demolition of structures 50 years or older without obtaining a Demolition Permit. The Demolition Permit requires an evaluation of the building's historic significance. Buildings identified as a historic resource on a Department of Parks and Recreation 523 Form, through the City's 1991 Historic Resources Reconnaissance survey or within the City's Historic Overlay Zone, require a Historic Resource Evaluation Report. The Community Development Director may determine to issue a Demolition Permit for an application without a Historic Resource Evaluation Report.

4.4.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, *Environmental Checklist Form*, includes questions concerning cultural resources. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, the Project may create a significant environmental impact if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to [State CEQA Guidelines] § 15064.5 (see Impact 4.4-1);
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to [State CEQA Guidelines] § 15064.5 (see Impact 4.4-2);
- Disturb any human remains, including those interred outside of formal cemeteries (see Impact 4.4-3).

METHODOLOGY AND ASSUMPTIONS

The Project is evaluated against the aforementioned significance criteria/thresholds, as the basis for determining the impact's level of significance concerning cultural resources. This analysis of cultural resources impacts examines the Project's temporary (i.e., construction) and permanent (i.e., operational) effects. Each criterion is discussed in the context of Project components that share similar characteristics/ geography. The impact conclusions consider the potential for changes in environmental conditions, as well as compliance with the existing regulatory framework (i.e., laws, ordinances, regulations, and standards [LORS]) that avoid or reduce the potentially significant environmental impacts. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measure (MMs) are recommended to avoid or reduce the Project's potentially significant environmental impacts. The determination that the Project would or would not result in "substantial" adverse effects on historical and archaeological resources and human remains considers the existing site's historical resource value and the severity of Project implementation on resources that may be considered historical.

4.4.5 IMPACTS AND MITIGATION MEASURES

Impact 4.4-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The 2018 Study completed a cultural resources records search, land-use history research, and consultation with the Native American Heritage Commission (NAHC) and Local Native American representatives to help identify known prehistoric and historic-period archaeological sites, historic-period buildings, and Tribal Cultural resources. The research identified 43 historical/archaeological resources within a 0.5-mile of the Project alignment.

None of the additional properties that were evaluated in the 2019 Addendum are eligible for historic listing or considered historical resources. The properties lacked historical or architectural identity. The neighborhood is ineligible for listing as a historic district because of the lack of association with any historic context. Similarly, the neighborhood's individual properties are ineligible because of a lack of association with a historic context. BCR Consulting conducted research on the properties' past homeowners, and none appeared to have made a lasting impact on local history or became influential in a profession.

Of the 43 historical/archaeological resources within a 0.5-mile of the Project alignment, 22 resources were identified within or adjacent to the Project alignment, including 18 previously unrecorded properties and four previously recorded resources.

Field inspection and the historical research determined that 18 previously unrecorded properties in the Project area were found to contain buildings or groups of buildings that predate 1972 and retain a reasonable level of historical character. The recorded buildings retain sufficient historic integrity to relate to episodes in the City's development but do not demonstrate a particularly close or important association with patterns of events, or with any other established themes in local history. No historic figures or specific events of recognized significance were identified in close association with any of the 18 properties, nor

were any architects, designers, or builders of sufficient renown to meet the adopted HRHR guidelines. None of the buildings represents an important example of any style, type, period, region, or method of construction, or embodies any particular architectural ideals or design concepts, and therefore do not contain any architectural or aesthetic merits. Therefore, none of the 18 buildings appears eligible for listing in the CRHR. Further, since none of the 18 buildings or groups of buildings has been included in a local register of historical resources, the 18 properties do not meet CEQA's definition of "historical resources."

The historical significance and potential impacts to the four previously recorded resources within the Project area are summarized below.

Historic Route 66 (36-002910). Site 36-002910 represents the alignment of U.S. Route 66 across San Bernardino County. It is determined to be a contributor to the site's historic significance, and thus also qualifies as a "historical resource" under CEQA.

The Project proposes to install additional tracks within the BNSF ROW near Site 36-002910. However, the Project would not affect Cajon Boulevard's current conditions or appearance. Since Project implementation would not alter any of Site 36-002910's character-defining features, either directly or indirectly, the proposed Project would not cause a substantial adverse change in the significance of this "historical resource." A less than significant impact would occur with Project implementation.

ATSF/Kite-Shaped Track (36-006793/36-006847). Within the Project area, the BNSF Railway from MP 76.55 to MP 80.61 is now a multi-track line featuring physical components that were installed as upgrades or replacement features well after the California Southern Extension Railroad's original construction. Due to the significant loss of integrity in design, setting, materials, workmanship, feeling, and association, the segment of the railroad in the Project area does not contribute to the historic significance of the ATSF system as a whole. This portion of Site 36-006793/36-006847 is not considered eligible for the CRHR in its own right and does not qualify as a "historical resource." Therefore, no impact would occur with Project implementation.

Culligan USA Plant (36-008303). This previously recorded resource was demolished for the construction of an industrial park in 2007-2009. Therefore, no impact would occur with Project implementation.

San Bernardino Baseline/Baseline Street (36-015497). Because Site 36-015497 exists in the Project area only on paper, it is not considered eligible for the CRHR and does not qualify as a "historical resource." The proposed Project has no potential to affect its significance or integrity. Therefore, no impact would occur with Project implementation.

In summary, 22 historical resources were identified as within, partially within, or adjacent to the Project area. Of the 22 historical resources, 20 resources are not considered eligible for the CRHR and do not qualify as a "historical resource," and one resource no longer exists. The Project's impacts to the only historical resource within the Project area (Site 36-002910) would be less than significant. Therefore, the Project would not cause a substantial adverse change in the significance of a historical resource. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Impact 4.4-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Level of Significance: Less Than Significant With Mitigation Incorporated

CONSTRUCTION AND OPERATIONS

A significant impact would occur if grading and construction activities would result in a substantial adverse change in the significance of an archaeological resource determined to be "historic" or "unique." According to CEQA, if an archaeological resource is neither historic nor unique, the effects of a project on that resource will not be considered significant effects on the environment (State CEQA Guidelines § 15064(C)(4)). See Impact 4.4-1 concerning the Project's potential impacts to the four historic resources identified within the Project area. , which were concluded to be less than significant.

Conservatively, it is assumed that any as-yet unidentified archaeological resources within the Project's development areas would be impacted through grading and construction activities. However, the significance of the impact would be based upon the criteria presented in the thresholds of significance (i.e., is archaeological resource determined to be "historic" or "unique"). If a site is not in a development area, there would be no direct impact.

The Project's archaeological survey concluded that the Project area and the surrounding land have been greatly disturbed by past development, such as construction and maintenance of the railroad, roads, and the many nearby buildings would result in unlikely archaeological remains from the prehistoric period or the early historic period to survive intact. Further, General Plan EIR **Exhibit 5.4-2** indicates that although the Project site is in the urban archaeological district, it is not within an area of concern for archaeological resources.[11]

Additionally, the San Manuel Band of Missions Indians, upon review of the Project Geotechnical Report, Cultural Resources Report, and Project exhibits, concluded that it is highly unlikely to disturb previously unknown tribal cultural resources; see **Section 4.15**. Nonetheless, there is potential to encounter previously unknown significant archaeological resources during excavation, and a potentially significant impact would occur. Therefore, the Project would be subject to compliance with MM CUL-1 and MM CUL-2 to mitigate any potentially significant impacts. MM CUL-1 requires that Native American tribes be contact in the event of a find, and MM CUL-2 requires preparation of a Monitoring and Treatment Plan, if significant pre-contact cultural resources are discovered and avoidance cannot be ensured. Potential impacts to archaeological resources would be less than significant, with mitigation incorporated.

Mitigation Measures

MM CUL-1 **Contact Native American Tribe In the Event of a Find**: In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease, the City shall be notified and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the Project outside of the buffered area may continue

[11] City of San Bernardino. (2005). City of San Bernardino General Plan EIR. Exhibit 5.4-2. San Bernardino, CA: The Planning Center.

during this assessment period. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed within MM TCR-1, regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input concerning significance and treatment.

MM CUL-2 **Monitoring and Treatment Plan:** If significant pre-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to SMBMI and the City for review and comment, as detailed within MM TCR-1. The archaeologist shall monitor the remainder of the Project and implement the Plan accordingly.

Impact 4.4-3: Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The archaeological records search and field survey did not reveal any resources known to contain human remains within or near the Project site. The Project area is not considered sensitive for archaeological resources due to the urbanized nature of the surrounding and long history of ground-disturbing activities. Although low, there is potential for Project construction to reveal as-yet unidentified human remains. If human remains are found, those remains would require proper treatment in accordance with applicable laws, including HSC §§ 7050.5-7055 and PRC §§ 5097.98 and § 5097.99. HSC §§ 7050.5-7055 describe the general provisions for treatment of human remains. Specifically, HSC § 7050.5 prescribes the requirements for the treatment of any human remains that are accidentally discovered during excavation of a site. HSC § 7050.5 also requires that all activities cease immediately, and a qualified archaeologist and Native American monitor be contacted immediately. As required by state law, the procedures set forth in PRC § 5087.98 would be implemented, including evaluation by the County Coroner and notification of the NAHC. The NAHC would then designate the MLD of the unearthed human remains.

It is unlikely that any human remains would be encountered given that the Project site is already developed and, with the exception of basins, ditches, and utility installations, excavations would not exceed 5.0 feet. However, previously undiscovered human remains could be encountered during construction activities. If human remains are found during excavation, excavation would be halted in the vicinity of the find and any area that is reasonably suspected to overlay adjacent remains would remain undisturbed until the County Coroner has investigated, and appropriate recommendations have been made for the treatment and disposition of the remains. Compliance with the established regulatory framework (i.e., HSC §§ 7050.5-7055 and PRC §§ 5097.98 and 5097.99) would ensure Project impacts concerning human remains are reduced to a less than significant level.

Mitigation Measures

No mitigation is required.

4.4.6 CUMULATIVE IMPACTS

For purposes of cultural resources analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**. The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning cultural resources in SBGP EIR **Section 5.4, Cultural Resources**. The following is a summary of the expected environmental effects:

- Build-out could result in the loss of potentially historic structures. This impact was concluded to be less than significant with mitigation incorporated.
- Build-out could result in impacts to sensitive archaeological resources, paleontological resources, or a unique geologic feature. This impact was concluded to be less than significant with mitigation incorporated.
- Build-out grading activities could disturb human remains. This impact was concluded to be less than significant with mitigation incorporated.
- Build-out of the Arrowhead Springs Specific Plan (SHS) could impact an identified historic resource. This impact was concluded to be significant.

Development within the City's planning area could cause a substantial adverse change in the significance of a historical or archaeological resource, or disturb human remains. Potential cultural resource impacts associated with the individual developments would be specific to each site. As with the Project, cumulative development would undergo environmental and design review on a project-by-project basis pursuant to CEQA to evaluate potential impacts to cultural resources. Future development would be subject to compliance with the existing federal, state, and local regulatory framework concerning the protection of historical and archaeological resources. Additionally, implementation of site-specific mitigation would reduce potential project impacts to as-yet unidentified archaeological resources to less than significant levels. As such, cumulative impacts to cultural resources would be mitigated on a project-by-project basis, and in accordance with the established regulatory framework, through the established regulatory review process.

Concerning the significant unavoidable impact to historical resources resulting from SBGP implementation (i.e., SHS), the Project's incremental contribution would not be cumulatively considerable given the Project would result in no impact to historical resources. The Project would not cause a cumulatively significant effect concerning impacts to historical resources.

The combined cumulative impacts to archaeological resources and human remains associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.4.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning cultural resources have been identified.

4.4.8 REFERENCES

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4.5 ENERGY

4.5 ENERGY

4.5.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to energy, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

4.5.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Pursuant to State CEQA Guidelines §§ 15126.2(b) and 15126.4 (a)(1)(C), in addition to **Appendix F**, the environmental setting may include "existing energy supplies and energy use patterns in the region and locality." Energy use is analyzed in this document due to the potential direct and indirect environmental impacts associated with the Project. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emissions of pollutants during both Project construction and operations. Refer to **Section 4.2: Air Quality** and **Section 4.7: Greenhouse Gas Emissions** for additional regulatory background and environmental setting regarding the Project's energy use.

Existing Electricity, Natural Gas, and Diesel Fuel

Electricity

As a utility, electricity is a man-made resource. The production of electricity requires the consumption or conversion of energy resources including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity, or electrical power, is generally measured in watts (W) while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for one hour would be 100 Wh. If ten 100 W bulbs were on for one hour, the energy required would be 1,000 Wh or one kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy use is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

Electrical services are provided to the Project site by Southern California Edison (SCE). SCE provides electricity to approximately 15 million people, 180 incorporated cities, 15 counties, 5,000 large businesses, and 280,000 small businesses throughout its 50,000-square-mile service area.[1] SCE produces and purchases their energy from a mix of conventional and renewable generating sources. **Table 4.5-1: Electric Power Mix Delivered to SCE Retail Customers** identifies the SCE electric 2017

[1] California Energy Commission. (July 2018). *Annual Power Content Labels for 2017, 2017 Power Content Table, Southern California Edison*. Retrieved from www.energy.ca.gov/pcl/labels/2017_labels/SCE_2017_PCL.pdf, accessed March 7, 2019.

power mix compared to the statewide 2017 power mix. In 2017, electricity use attributable to the County of San Bernardino (County) was approximately 15,273 GWh from residential and non-residential sectors.[2]

TABLE 4.5-1: ELECTRIC POWER MIX DELIVERED TO SCE RETAIL CUSTOMERS (2017)

Energy Resources	2017 SCE Power Mix[1]	2017 CA Power Mix[1]
Eligible Renewable	32%	29%
Biomass and Biowaste	0%	2%
Geothermal	8%	4%
Eligible Hydroelectric	1%	3%
Solar	13%	10%
Wind	10%	10%
Coal	0%	4%
Large Hydroelectric	8%	15%
Natural Gas	20%	34%
Nuclear	6%	9%
Other	0%	0%
Unspecified Sources of Power[2]	34%	9%
Total	***100%***	***100%***

Notes:
1. California Energy Commission, Annual Power Content Labels for 2017, 2017 Power Content Table, Southern California Edison, updated July 2018, www.energy.ca.gov/pcl/labels/2017_labels/SCE_2017_PCL.pdf, accessed March 7, 2019.
2. Electricity from transactions that are not traceable to specific generation sources.

Source: Kimley-Horn 2020

Natural Gas

The Southern California Gas Company (SoCalGas), the service provider to the Project site, serves approximately 21 million people in its 20,000-square-mile service territory. SoCalGas has four storage fields: Aliso Canyon, Honor Rancho, La Goleta, and Playa del Rey, as well as a combined storage capacity of 134.1 billion cubic feet. According to the California Energy Commission (CEC), the 2010 natural gas demand in the SoCalGas service area was 7,431 million therms (or 743,100 million cubic feet). The CEC prepared three scenarios for forecasting growth in natural gas demand between 2012 and 2022: a high-energy demand case, a low-energy demand case, and a mid-energy demand case. The low-demand scenario, which incorporates relatively high economic/demographic growth, relatively low electricity and natural gas rates, and relatively low efficiency program and self-generation impacts, estimates that natural gas demand in the SoCalGas service area would be 7,951 million therms in 2022 (the latest year in the demand forecast).

Natural gas provides almost a third of California's total energy requirements and will continue to be a major fuel in California's energy supply. In 2006, only 13.5 percent of the natural gas used in California came from in-state production; the rest was delivered by pipelines from several production areas in the

[2] California Energy Commission. (2019). *Electricity Consumption by County*. Retrieved from http://ecdms.energy.ca.gov/elecbycounty.aspx, accessed March 7, 2019.

western United States and western Canada. Once the gas arrives in California, it is distributed by the State's three major gas utilities that provide a collective of 98 percent of the State's natural gas.

In 2017, natural gas use attributable to San Bernardino County was approximately 493 million therms from residential and non-residential sectors,[3] equivalent to approximately 49,288 million cubic feet.

Energy Use

Energy use is typically quantified using the British Thermal Unit (BTU). Total energy use in California was 7,829 trillion BTU in 2016 (the most recent year for which this specific data is available), which equates to an average of approximately 198 million BTU per capita. Of California's total energy use, the breakdown by sector is 39.8 percent for transportation, 23.7 percent for industrial, 18.9 percent for commercial, and 17.7 percent for residential. Electricity and natural gas in California are generally used by stationary sources such as residences, commercial sites, and industrial facilities, whereas petroleum use is generally a transportation-related energy use.[4] In 2018, California's taxable gasoline sales (including aviation gasoline) totaled 15,589,042,965 gallons[5] and taxable diesel sales totaled 3,107,823,655 gallons.[6]

Diesel Fuel Use

Table 4.5-2: Existing Condition Fuel Consumption identifies the amount of diesel fuel currently used under existing conditions. The current Project conditions consumption totals approximately 4,329,317 gallons of fuel from hauling and idling train operations.

[3] California Energy Commission. (2019). *Gas Consumption by County*. Retrieved from http://ecdms.energy.ca.gov/gasbycounty.aspx, accessed March 12, 2019.

[4] United States Energy Information Administration. (November 15, 2019). *California State Profile and Energy Estimates*. Retrieved from www.eia.gov/state/?sid=CA, accessed March 12, 2019.

[5] California Department of Tax and Fee Administration. (August 2019). *Net Taxable Gasoline Sales*. Retrieved from www.cdtfa.ca.gov/taxes-and-fees/MVF-10-Year-Report.pdf, accessed March 12, 2019.

[6] California Department of Tax and Fee Administration. (August 2019). *Net Taxable Diesel Sales*. Retrieved from http://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm , accessed April 17, 2019.

TABLE 4.5-2: EXISTING CONDITION FUEL CONSUMPTION		
Existing Conditions Hauling Fuel Consumption		
Daily Trains	72	Trains
Trip Travel Time	0.08[1]	hours/locomotive
Daily Travel Time	22.22	hours/day
Annual Travel Time	8,109.26	hours/year
Trip Fuel Use	16	gallons/locomotive
Daily Fuel Use	4,700	gallons/day
Annual Fuel Use	**1,715,420**	**gallons/year**
Existing Conditions Idling Fuel Consumption[2]		
Trip Travel Time	1.25	hours/locomotive
Daily Travel Time	15	hours/day
Annual Travel Time	5,475.00	hours/year
Trip Fuel Use	264	gallons/locomotive
Daily Fuel Use	3,173	gallons/day
Annual Fuel Use	**1,158,173**	**gallons/year**

[1] Assumes train speed at 35 miles per hour for 3.1 mile track length.
[2] Idling using gallons per hour values from the Locomotive Emissions Inventories for the United States from ERTAC (Eastern Regional Technical Advisory Committee) Rail and hauling using load factors from 40 CFR 1033.530.

Source: Kimley-Horn 2020

4.5.3 REGULATORY FRAMEWORK

FEDERAL

Energy Policy Act of 2005

On August 8, 2005, President George W. Bush signed the National Energy Policy Act of 2005 (Public Law 109-58) into law. This comprehensive energy legislation contains several electricity-related provisions that aim to:

- Help ensure that consumers receive electricity over a dependable, modern infrastructure;
- Remove outdated obstacles to investment in electricity transmission lines;
- Make electric reliability standards mandatory instead of optional; and
- Give federal officials the authority to site new power lines in Department of Energy-designated national corridors in certain limited circumstances.

The Renewable Fuel Standard (RFS) program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. The program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders. As required under Energy Policy Act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act (EISA; Public Law 110-140) was signed into law by President George W. Bush on December 19, 2007. The EISA's goal is to achieve energy security in the United States by increasing renewable fuel production, improving energy efficiency and performance, protecting consumers, improving vehicle fuel economy, and promoting research on greenhouse gas emissions (GHG) capture and storage. Under the EISA, the RFS program (RFS2) was expanded in several key ways:

- Expanded the RFS program to include diesel, in addition to gasoline;
- Increased the volume of renewable fuel required to be blended into transportation fuel from 9.0 billion gallons in 2008 to 36 billion gallons by 2022;
- Established new categories of renewable fuel and set separate volume requirements for each; and
- Required the U.S. Environmental Protection Agency (U.S. EPA) to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

RFS2 lays the foundation for achieving significant reductions of GHG emissions from the use of renewable fuels, for reducing imported petroleum, and encouraging the development and expansion of our nation's renewable fuels sector.

The EISA also includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.

STATE

California Building Energy Efficiency Standards: Title 24, Part 6 (California Energy Code)

The Code California Energy Code (Title 24, Part 6) was created as part of the California Building Standards Code (California Code of Regulations Title 24) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy use. These standards include provisions applicable to all buildings, residential and non-residential, which describe requirements for documentation and certificates that the building meets the standards.[7] These provisions include mandatory requirements for efficiency and design of the following types of systems, equipment, and appliances:

- Air Conditioning Systems
- Heat Pumps
- Water Chillers

[7] California Energy Commission. (December 2018). *2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings*. Retrieved from https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf, accessed August 20, 2019.

- Gas- and Oil-Fired Boilers
- Cooling Equipment
- Water Heaters and Equipment
- Pool and Spa Heaters and Equipment
- Gas-Fired Equipment Including Furnaces and Stoves/Ovens
- Windows and Exterior Doors
- Joints and Other Building Structure Openings (Envelope)
- Insulation and Cool Roofs
- Lighting Control Devices

The standards include additional mandatory requirements for space conditioning (cooling and heating), water heating, and indoor and outdoor lighting systems, as well as equipment in non-residential, high-rise residential, and hotel or motel buildings. Mandatory requirements for low-rise residential buildings cover indoor and outdoor lighting, fireplaces, space cooling and heating equipment (including ducts and fans), and insulation of the structure, foundation, and water piping. In addition to the mandatory requirements, the standards call for further energy efficiency that can be provided through a choice between performance and prescriptive compliance approaches. Separate sections apply to low-rise residential and to non-residential, high-rise residential, and hotel or motel buildings. In buildings designed for mixed-use (e.g., commercial and residential), each section must meet the standards applicable to that type of occupancy.

The performance approach set forth under these standards provides for the calculation of an energy budget for each building and allows flexibility in building systems and features to meet the budget. The energy budget addresses space-conditioning (cooling and heating), lighting, and water heating. Compliance with the budget is determined using a CEC-approved computer software energy model. The alternative prescriptive standards require demonstrating compliance with specific minimum efficiency for components of the building such as building envelope insulation R-values, fenestration (areas, U-factor and solar heat gain coefficients of windows and doors) and heating and cooling, water heating and lighting system design requirements. These requirements vary depending on the building's location in California's 16 climate zones.

California's Building Energy Efficiency Standards (CBEES) are updated on an approximately three-year cycle as technology and methods have evolved. As a result of new law under Assembly Bill (AB) 970, passed in fall 2000 in response to the State's electricity crisis, an emergency update of the standards went into effect in June 2001. The CEC then initiated an immediate follow-on proceeding to consider and adopt updated standards that could not be completed during the emergency proceeding. The 2013 standards went into effect on July 1, 2014. The 2016 CBEES went into effect on January 1, 2017 and improve upon the 2013 CBEES for new construction of, and additions and alterations to, residential and non-residential buildings. The 2019 CBEES were adopted on May 9, 2018 and took effect on January 1, 2020. Under the 2019 standards, homes are projected to use approximately 53 percent less energy and non-residential buildings approximately 30 percent less energy than buildings under the 2016 standards. The CBEES updates focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings and includes requirements that

will enable both demand reductions during critical peak periods and future solar electric and thermal system installations.

California Green Building Standards

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that the California Building Standards Commission and the California Department of Housing and Community Development developed and adopted. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt, which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2019 and becomes effective January 1, 2020.[8]

State CEQA Guidelines Appendix F and Appendix G

Public Resources Code (PRC) § 21100(b)(3) and the State CEQA Guidelines § 15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary use of energy caused by a project. In 1975, largely in response to the oil crisis of the 1970s, the California State Legislature adopted AB 1575, which created the CEC. The CEC's statutory mission is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct State responses to energy emergencies, and promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended PRC § 21100(b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary use of energy caused by a project. In addition, State CEQA Guidelines § 15126.4 was adopted in 1998 to require that an EIR describe feasible mitigation measures which would minimize the inefficient and unnecessary use of energy. Thereafter, the State Resources Agency created State CEQA Guidelines Appendix F.

Pursuant to State CEQA Guidelines Appendix F, an EIR must include a "discussion of the potential energy impacts of proposed projects…[9]." However, because lead agencies have not consistently included such analysis in their EIRs, California's Natural Resources Agency amended State CEQA Guidelines Appendix F in 2009 "to ensure that lead agencies comply with the substantive directive in § 21100(b)(3)." State CEQA Guidelines Appendix F lists environmental impacts and mitigation measures that an EIR may include. What is required is a "discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy." Potential impacts that may be discussed include:

- A project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, or removal. If appropriate, the energy intensiveness of materials may be discussed.

[8] California Building Standards Commission. (2019). *California Green Building Standards.* Retrieved from www.bsc.ca.gov/Home/CALGreen.aspx, accessed February 7, 2019.

[9] California Natural Resources Agency. (2019). *California Environmental Quality Act, Appendix F Energy Conservation.* Retrieved from www.resources.ca.gov/ceqa/guidelines/Appendix_F.html, accessed February 7, 2019.

- The effects of a project on local and regional energy supplies and on requirements for additional capacity.
- The effects of a project on peak and base period demands for electricity and other forms of energy.
- The degree to which a project complies with existing energy standards.
- The effects of a project on energy resources.
- A project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

State CEQA Guidelines Appendix F assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary use of energy.

Recent updates to the State CEQA Guidelines, which became effective on December 28, 2018, included among others adding the Appendix F energy questions to Appendix G; see *CEQA Thresholds* below.

The discussion below analyzes the proposed Project's effects on energy resources.

4.5.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

CEQA THRESHOLDS

State CEQA Guidelines Appendix G, *Environmental Checklist Form*, includes questions concerning energy. The issues presented in the Environmental Checklist have been used as significance criteria in this section. Accordingly, the Project may create a significant environmental impact if it would:

- The Project results in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.
- The Project conflicts with or obstructs a State or Local plan for renewable energy or energy efficiency.

METHODOLOGY AND ASSUMPTIONS

In determining whether Project implementation would result in the inefficient, wasteful, or unnecessary use of fuel or energy, this analysis considers the State CEQA Guidelines Appendix F recommendations, as described above.

This section analyzes construction and operational diesel fuel use as the source of energy that is relevant to the Project. The Project does not include any buildings or structures that would use electricity or natural gas. Construction electricity use would be associated with water use for dust control and electric vehicles projected to be in the on-road fleet. The analysis of the proposed Project's construction fuel use is based on the California Emissions Estimator Model (CalEEMod), which quantifies construction equipment activity. Fuel usage associated with off-road construction equipment and on-road construction mobile trips is calculated based on vehicle miles traveled (VMT) from vehicle trips (i.e., worker, vendor, and hauling), the CalEEMod default diesel fleet percentage, and vehicle fuel efficiency in miles per gallon. Fuel consumption is based on VMT for the entire construction period. Construction fuel consumption was calculated based on CalEEMod emissions outputs and conversion ratios from the

Climate Registry. The CalEEMod emissions are specific to construction year and include fleet adjustments based on current regulations and equipment turnover. The results of CalEEMod and energy calculations are included in **Appendix 9.3: Air Quality Assessment**.

Operational fuel consumption is based on fleet mix information provided by BNSF, and rail and hauling using load factors from 40 CFR 1033.530.

4.5.5 IMPACTS AND MITIGATION MEASURES

Impact 4.5-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Level of Significance: Less Than Significant Impact

CONSTRUCTION

To accommodate the proposed rail and ancillary improvements, the Project would require acquisition of approximately 29 acres of adjacent properties where residential and non-residential land uses are located. Project implementation would remove as many as 43 dwelling units (36 single-family, seven multi-family), six commercial buildings (approximately 46,000 SF), and three industrial buildings (approximately 32,000 SF). Property acquisitions would result in the removal of these land uses; thus, their corresponding energy demands would also be removed.

The energy consumption associated with Project construction includes electricity usage associated with water usage for dust control, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips. Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers, and heating, ventilation, and air conditioning) would be powered by a generator. The amount of electricity used during construction would be minimal; typical demand would stem from the use of electrically powered hand tools and several construction trailers by managerial staff during the hours of construction activities. Most of the energy used during construction would be from petroleum. The electricity used for construction activities would be temporary and minimal.

Fossil fuels for construction vehicles and other energy-consuming equipment would be used during site clearing, grading, and construction. Fuel energy consumed during construction would be temporary in and would not represent a significant demand on energy resources. Inclusive of property demolitions, Project construction would occur over approximately 42 months. However, demolition would occur upon property acquisition, prior to commencing Project construction. The duration of Project construction activities is estimated to be approximately 26 months exclusive of property demolitions. The Project's demolition phase of would start as soon as properties are acquired to expand the BNSF right-of-way (ROW). Site preparation would occur concurrently with the demolition and prior to the grading phase. The Project is anticipated to involve approximately 184,300 cubic yards of exported cut material and approximately 33,400 cubic yards of imported fill material. Project construction would generate a total of approximately 25,267 one-way truck trips. Estimates are for numbers of trucks; thus, the number of trucks trips would be multiplied by two for each truck (i.e., one trip inbound and one trip

outbound); therefore, Project construction would generate a total of approximately 50,534 round truck trips.

Upon the completion of property acquisitions and grading, municipal improvements (i.e., utility relocation and paving) would commence concurrent with rail construction. Train trips are anticipated to deliver rail construction materials (i.e., rail, ties, and ballasts) during the rail construction phase of the Project. Railroad ties are anticipated to be pre-cast concrete; therefore, a concrete batch plant would not be required. Since train deliveries are not accounted for using typical land use emissions models, U.S. EPA guidance (EPA-420-F-09-025) was used to calculate locomotive emissions and fuel consumption during construction. All other construction-related emissions were calculated using CalEEMod, which is designed to model emissions based on typical construction requirements. See **Appendix 9.3** for more information regarding the construction assumptions used in this analysis. Energy consumption associated with the proposed Project is summarized in **Table 4.5-3: Project Construction Energy Consumption**, which details both hauling and idling fuel consumption.

TABLE 4.5-3: PROJECT CONSTRUCTION ENERGY CONSUMPTION

Source	Project Construction Usage	San Bernardino County Annual Energy Consumption	Percentage Increase Countywide
Electricity Use	**Megawatt Hours (MWh)**		
Water Consumption[1]	381	15,323,269	0.0025%
On-Road Construction Trips[2]	4.6		0.00003%
Construction Electricity Total	*386*		*0.0025%*
Diesel Use	**Gallons**		
On-Road Construction Trips	91,871	125,781,140	0.0730%
Off-Road Construction Equipment	209,363		0.1664%
Locomotive Hauling	522		0.0004%
Locomotive Idling	27,077		0.0215%
Construction Diesel Total	*328,833*		*0.2614%*
Gasoline Use	**Gallons**		
On-Road Construction Trips	60,006	509,191,697	0.0118%

1. Construction water use estimated based on acres disturbed per day per construction sequencing and estimated water use per acre (AWMA 1992).
2. On-road mobile source fuel use based on vehicle miles traveled (VMT) from CalEEMod and fleet-average fuel consumption in gallons per mile from EMFAC2017 in San Bernardino County. Electricity demand based on VMT and calculated average electric vehicle fuel economy for 2015 models (in kWh per mile) from the DOE Fuel Economy Guide.

Source: Kimley-Horn 2020.

As indicated in **Table 4.5-3**, the Project's fuel from construction hauling and idling would be 328,833 gallons, which represents 0.26 percent of the South Coast portion of San Bernardino County's annual fuel consumption. Total construction fuel is not anticipated to trigger the need for additional capacity. As such, Project construction would have a nominal effect on the local and regional energy supplies. It is noted that construction fuel use would be temporary and cease upon completion of construction.

There are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. In addition, some incidental energy conservation would occur during construction through compliance

with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest U.S. EPA and CARB engine emissions standards. These engines use highly efficient combustion engines to minimize unnecessary fuel consumption.

The Project would entail construction activities that would use energy, primarily in the form of diesel fuel (e.g., mobile construction equipment) and electricity (e.g., power tools). Contractors would be required to minimize air quality emissions of construction activities as required by Mitigation Measure (MM) AQ-2. This requirement indirectly relates to construction energy conservation because when air pollutant emissions are reduced from the monitoring and efficient use of equipment and materials, energy use is reduced. There are no aspects of the Project that would foreseeably result in the inefficient, wasteful, or unnecessary use of energy during construction activities.

Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. There is growing recognition in the industry that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials. Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The Project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all available and reasonable energy conservation practices in the interest in minimizing the cost of doing business.

As described above, the Project's fuel from the entire construction period would increase fuel use in the County by approximately 0.26 percent for diesel and 0.01 percent for gasoline. State CEQA Guidelines Appendix F and Appendix G criteria require that the Project's effects on local and regional energy supplies and on the requirements for additional capacity be addressed. A 0.26 percent increase in construction fuel demand is not anticipated to trigger the need for additional capacity. As noted above, fuel consumption is based on a conservative construction phasing and conservative estimates for annual construction fuel consumption. Longer phases would result in lower construction intensity and lower annual fuel consumption, resulting in lower annual demand on energy supplies. Additionally, use of construction fuel would cease once the Project is fully developed. As such, Project construction would have a nominal effect on the local and regional energy supplies.

As stated above, there are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or state. In addition, MM AQ-2 would be implemented which requires the efficient use of equipment and a cleaner-than-average construction fleet, which would reduce fuel consumption. Therefore, it is expected that construction fuel consumption associated with the proposed Project would not be inefficient, wasteful, or unnecessary. The Project would not substantially affect existing energy or fuel supplies, or resources and new capacity would not be required. With mitigation incorporated, impacts would be less than significant in this regard.

OPERATIONS

Project implementation would extend the existing 0.18-mile A Yard lead track, which runs parallel to the existing three mainline tracks, by approximately 3.1 miles. Inclusive of the proposed extension, the lead track would be approximately 5.6 miles. The A Yard would have capacity to assemble and hold outbound trains and switch out of the yard without fouling the mainline. The proposed Project would enhance the train traffic efficiency by reducing congestion along the existing lead tracks. **Section 4.2: Air Quality**, discusses the existing and proposed rail operations. By improving train traffic efficiency, the Project would also reduce the average idle time of trains, reducing locomotive fuel consumption. Improvements to the rail lines would not increase the number of train trips and there would be no permanent increase in the number of employees or traffic in/out of the A Yard. **Table 4.5-4: Project Condition Fuel Consumption**, identifies the existing conditions (i.e., pre-Project) and post-Project locomotive diesel fuel consumption calculated per U.S. EPA guidelines and locomotive fuel consumption data. As indicated in **Table 4.5-4**, Project implementation would reduce locomotive fuel consumption, resulting in a net decrease. With Project implementation, annual idling fuel consumption would decrease to 655,989 gallons compared to 1,158,173 gallons under existing conditions, a 43 percent improvement in efficiency. Additionally, Project implementation would enable the train that is currently detained at the A Yard to leave, rather than being detained and idling due to congestion on the existing lead track, thus, accounting for improved travel times. Therefore, the proposed Project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project operations. Impacts would be less than significant and no mitigation is required. Project implementation would result in a beneficial impact concerning fuel consumption.

TABLE 4.5-4: PROJECT CONDITION FUEL CONSUMPTION

Existing Conditions Idling Fuel Consumption[1]		
Trip Travel Time	1.25	hours/locomotive
Daily Travel Time	15	hours/day
Annual Travel Time	5,475	hours/year
Trip Fuel Use	264	gallons/locomotive
Daily Fuel Use	3,173	gallons/day
Annual Fuel Use	**1,158,173**	**gallons/year**
Proposed Project Idling Fuel Consumption		
Trip Travel Time	1.06	hours/locomotive
Daily Travel Time	8.5	hours/day
Annual Travel Time	3,101	hours/year
Trip Fuel Use	225	gallons/locomotive
Daily Fuel Use	1,797	gallons/day
Annual Fuel Use	**655,989**	**gallons/year**
Net Fuel Use	***-502,184***	***gallons/year***

1 Idling using gallons per hour values provided by BNSF and hauling using load factors from 40 CFR 1033.530.
Source: Kimley-Horn and Associates, Inc., 2020.

Mitigation Measures

No mitigation is required.

Impact 4.5-2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project does not propose to construct or operate any new buildings or structures. Therefore, the State Building Energy Efficiency Standards, appliance efficiency regulations, and green building standards are not applicable to the proposed Project.

The proposed Project would not cause inefficient, wasteful and unnecessary energy consumption, and no adverse impact would occur. As discussed under **Section 4.7: Greenhouse Gas Emissions**, the City of San Bernardino is a partnership city under the San Bernardino Associated Governments (SANBAG) Regional Greenhouse Gas Reduction Plan (GHGRP). The City currently follows the GHGRP to identify opportunities for a cleaner city. The GHGRP has served as a long-term vision for how the City can be more environmentally friendly and provides guidance for residents, City staff, and decision-makers in the community on how to achieve future sustainability goals. The proposed Project is estimated to reduce operational GHG emissions by 121 $MTCO_2e$ annually, directly from reduced train idling and congestion (total annual emissions would increase by 30 $MTCO_2e$ per year with amortized construction). The Project would further help the City achieve sustainability goals by lowering annual GHG emissions and therefore would be consistent with the GHGRP. Potential impacts would be less than significant.

SCAG's 2016–2040 RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035, as well as an overall GHG target for the Project region consistent with both the target date of AB 32 and the post-2020 GHG reduction goals of Executive Orders 5-03-05 and B-30-15. The proposed Project is not a typical land use associated with vehicle miles traveled (VMT). Long-term energy consumption related to locomotive hauling and idling would occur over the Project's lifetime. Energy consumption would reflect the change in train idling resulting from Project implementation. Currently, two trains idle between two and three hours per day while waiting for access into the A Yard. An additional train idles on storage tracks for eight hours two to three times a week. By improving train traffic efficiency, the Project would also reduce the average idle time of trains, reducing locomotive emissions along the corridor. Improvements to the rail lines would not increase the number of train trips and there would be no permanent increase in the number of employees or trucks in and out of BNSF facilities. Therefore, locomotive idling time would decrease resulting in a net improvement in GHG emissions. Additionally, the Project would not generate an increase in vehicle trips and the reassignment of vehicle trips resulting from the roadway modifications would be limited. As such, the Project would not generate additional vehicle emissions. Project consistency with the RTP/SCS is analyzed in **Section 4.2: Air Quality**. The Project would not conflict with the stated goals of SCAG's Connect SoCal – The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. Therefore, the Project would not interfere with SCAG's ability to achieve the region's post-2020 mobile source GHG reduction targets outlined in the 2016 RTP/SCS. Potential impacts are considered less than significant, and no mitigation is required.

Mitigation Measures

No mitigation is required.

4.5.6 CUMULATIVE IMPACTS

For purposes of energy analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning energy in SBGP EIR Section 5.15, *Utility and Service Systems*. The following is a summary of the expected environmental effects:

- Build-out could affect geothermal resources used for energy. This impact was concluded to be less than significant.

Development within the City's planning area could cause urbanization and result in increased energy use. Potential impacts from energy consumption would be project-specific and require evaluation on a case-by-case basis. As with the Project, cumulative development would undergo environmental and design review on a project-by-project basis pursuant to CEQA to evaluate potential impacts concerning energy usage. All development would be subject to compliance with existing federal, state, and local regulatory framework concerning energy usage. As such, cumulative impacts concerning energy usage would be mitigated on a project-by-project basis, and in accordance with the established regulatory framework, through the established regulatory process.

Therefore, the combined cumulative impacts concerning energy usage associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.5.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable energy impacts have been identified.

4.5.8 REFERENCES

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4.6 GEOLOGY AND SOILS

4.6 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

4.6.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to geology, soils, and paleontological resources, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

The geology and soils issues addressed in this section are risks associated with faults, strong seismic ground shaking, a seismic-related ground failure such as liquefaction, landslides, substantial erosion or the loss of topsoil, and unstable geological units and soils. This section also evaluates whether the Project would impact a unique paleontological resource or site or unique geologic feature.

The affected environment discussion is based on the documentation listed below, which is included in **Appendix 9.6: Geotechnical and Paleontological Data**.

- *Revised Geotechnical Design Report, Ono Lead Track Extension, Milepost 76.54-80.61, Cajon Subdivision, BNSF Railway* (2021 Design Report) (Shannon & Wilson, Inc., February 26, 2021); and
- *Paleontological Resources for the Vertebrate Paleontology Records Search for the Proposed Linear Alignment Project* (2018 Report) (Natural History Museum of Los Angeles County (NHM) Vertebrate Paleontology Section, September 5, 2018).

Other information in this section, such as the regulatory framework, is derived from various planning documents including the City of San Bernardino General Plan (SBGP), City of San Bernardino Municipal Code (SBMC), County of San Bernardino General Plan (County GP), and pertinent State of California Building Codes.

4.6.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

The greater San Bernardino area is near two major physiographic provinces in California: (1) the Transverse Ranges Geomorphic Province to the north, composed of numerous mountain ranges that extend from the Little San Bernardino Mountains and Pinto Mountains west across the southern end of California into the Pacific Ocean west of Ventura, and (2) the Peninsular Ranges Province to the south, a series of northwest-trending small mountain ranges that extend from the foothills of the San Gabriel and San Bernardino Mountains south into the Baja Peninsula.

The Project site is within the City of San Bernardino (City), which is at the southern base of the San Bernardino Mountains in the upper Santa Ana River Valley and the Santa Ana River Basin. The upper Santa Ana River Valley is generally bordered by the San Bernardino Mountains to the northeast and east, Blue Mountain and Box Springs Mountain to the south, and the San Gabriel Mountains and Jurupa Hills to the northwest and southwest, respectively. The City lies on a gently sloping lowland at the southwest margin of the San Bernardino Mountains. The Project area extends approximately 4.3 linear miles of existing BNSF right-of-way (ROW), immediately west of Interstate 215 and generally from the BNSF crossing at State Street/University Parkway on the north to the existing BNSF SBD Intermodal Facility at West 5th Street on the south; see **Exhibit 2-1: Regional Vicinity Map**. The existing tracks are generally up

to three feet above the existing grade on a fill embankment and the track alignment generally slopes down to the south.

Preliminary subsurface exploration of the track extension area consisted of 23 soil borings, four infiltration borings, and six exploratory test pits. The borings and test pits indicate that subsurface conditions consist of 2.5 to 6.5 feet of artificial fill, underlain by alluvial fan deposits. The fill encountered consists of loose to very dense silt, silty sand, clayey sand, sandy silt, clay with sand, and sandy clay, occasionally with gravel and cobbles. Below the fill, native soils consist of sand with variable amounts of silt and clay, occasionally with gravel and cobbles. These materials are interpreted as unconsolidated, Quaternary-age alluvial fan gravel and sand deposits (Qa). The alluvial fan deposits for the coarse-grained soils ranged from loose to very dense and the consistency of the fine-grained soils ranged from medium stiff to hard.

Faulting and Seismicity

Seismicity is defined as the frequency or magnitude of earthquake activity in a given area. An earthquake is a sudden release of energy in the earth's crust or upper mantle, usually caused by movement along a fault plane or by volcanic activity and resulting in the generation of seismic waves. The Project area is within seismically active Southern California, with several active faults in the Project's vicinity; see **Exhibit 4.6-1: Regional Faults**. The nearest fault to the Project site is the San Jacinto Fault System approximately 1.0 mile to the west and the San Andreas Fault System approximately 3.0 miles to the northeast.

Seismic Hazards

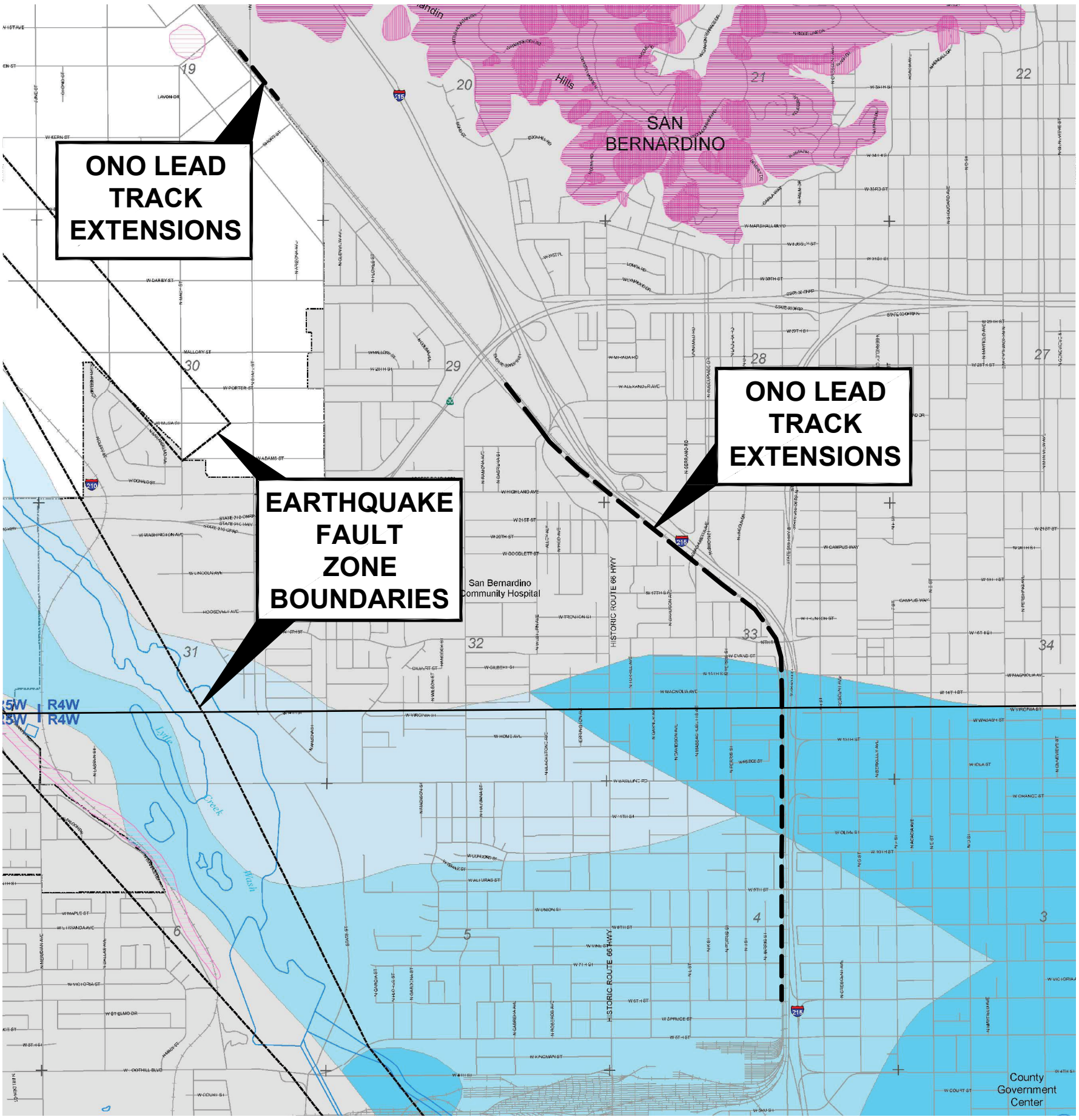
The geologic hazards potentially present in the Project area are depicted on **Exhibit 4.6-1** and discussed below.

Strong Seismic Ground Shaking

Major faults in the Southern California region that have caused earthquakes and those that could result in earthquakes and strong seismic ground shaking at the Project site include those depicted on **Exhibit 4.6-1**. Potential regional sources for major ground shaking are the San Andreas, San Jacinto, and Elsinore fault zones.

Fault Surface Rupture

An "active" fault is defined as a fault that has moved within the last 11,700 years. The State Geologist establishes regulatory zones, known as "Earthquake Fault Zones," delineating appropriately wide earthquake fault zones to encompass potentially active and recently active traces of faults. The Project site is not within an Earthquake Fault Zones, nor is it underlain by potentially active non-zoned faults; see also *Alquist-Priolo Earthquake Fault Zoning Act* Section below. The closest active fault to the Project site is the San Jacinto Fault to the west. The San Jacinto Fault is likely within the Earthquake Fault Zone mapped for this fault. However, the fault does not traverse the Project site; see **Exhibit 4.6-1**.



LEGEND

Generalized Landslide Susceptibility
- Low to moderate
- Moderate to high
- Mapped, Existing Landslide
- Rockfall/Debris-Flow Hazard Area

Zone of Suspected Liquefaction Susceptibility
- Zone of Susceptibility

Generalized Liquefaction Susceptibility
- Low
- Medium
- High

Earthquake Fault Zones
- Earthquake Fault Zone Boundary
- County Designated Fault Zones

0 1500 3000 6000

SCALE: 1" = 3000'

NOTE

Map adapted from drawing titled San Bernardino County Land Use Plan, General Plan, Geologic Hazard Overlays, by County of San Bernardino, 03/09/2010.

Source: Shannon & Wilson, INC.

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.6-1: Regional Faults

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Liquefaction

Liquefaction is defined as the transformation of a granular material from a solid state into a liquefied state because of increased pore-water pressures. Soils and clastic sediment with particle size in the medium sand to silt range, as determined by the Unified Soils Classification System, are particularly susceptible to liquefaction when they are saturated with water and shaken by an earthquake. Liquefaction at or near the surface can result in foundation failure and property damage.[1] Typically, liquefaction occurs in areas where there are loose sands and the depth to groundwater is less than 50 feet from the surface. Seismic ground shaking can also cause soil compaction and ground settlement without liquefaction occurring as well as the settlement of dry sands above the water table.

Much of the City is susceptible to liquefaction, particularly given the City's high-water tables; see City of San Bernardino General Plan discussion below. Past evaluations of groundwater elevations and liquefaction potential in the Project area have reported that with historically high groundwater, there is potential for liquefaction potential during a strong seismic event; see also **Exhibit 4.6-1**. The southern half of the Project alignment is within an area of medium to high liquefaction susceptibility. However, liquefaction hazard potential has been recently evaluated and deemed to be low given the long-term lowering of groundwater levels within the groundwater basin.[2] The Bunker Hill Groundwater Basin that underlies the Project area has significantly lower groundwater elevations from historical highs. The groundwater levels are maintained at these deeper elevations to lower the potential for liquefaction. Groundwater was not observed as a part of subsurface explorations. Groundwater was not encountered during exploration of the track extension area and has been reported at over 200 feet below ground surface (bgs).

Data from existing nearby wells indicate that groundwater levels from two locations show groundwater to be more than 200 feet bgs. Additionally, although known geologic conditions indicate shallow perched water tables may exist in the Project area, these are unlikely to cause liquefaction under existing conditions.

Subsidence

The subsidence of soils is characterized by sinking or descending soils that occurs as the result of a heavy load being placed on underlying sediments and may be triggered by seismic events or pumping water, oil, and gas from underground reservoirs. Seismically induced settlement is dependent on the relative density of the subsurface soils. The Project site is within an area of known historical subsidence associated with groundwater withdrawal and remains a potential hazard that will continue to be monitored. During the early to middle 20th century, heavy groundwater withdrawal resulted in regional subsidence. The Project site is within the Bunker Hill Groundwater Basin and historical reports showed an average annual subsidence rate of 0.015 to 0.030 feet between 1944 to 1956 in the Project vicinity. However, the San Bernardino Valley Water Conservation District (SBVWCD) reports that subsidence is not presently impacting the groundwater basin.[3] The Regional Groundwater Management Plan recognizes the historical

[1] City of San Bernardino Municipal Code Section 15.08.040: Liquefaction Defined.

[2] TKDA. (February 2021). Geotechnical Engineering Services, Revised Geotechnical Design Report Revision to Ono Lead Track Extension (2021 Design Report). Page 15. Burbank, CA: Shannon & Wilson, Inc.

[3] Ibid., page 6.

record of subsidence related to groundwater withdrawal.[4] Under this Plan, the potential for regional subsidence would not likely result in significant subsidence in the Bunker Hill Groundwater Basin or result in ground deformations (e.g., ground cracks) from water withdrawal.[5] However, if water resource management conditions were to change, subsidence could potentially be a regional impact.

Landslides

A landslide is defined as slope failure or the downward falling or sliding of a mass of soil or rock on or from a steep slope. Slope failures and slope-failure deposits (landslides) are created when geologic materials are displaced down a topographic slope under the influence of gravity. Factors that determine slope-failure occurrence include slope angle, geologic materials (substrate), climatic conditions, and earthquake shaking. Conditions conducive to landslides are not present on the Project site. The Project is in the relatively level alluvial plain and the nearest slopes are approximately 0.5-mile northeast of the Project's northernmost segment. Therefore, the potential for landslides to affect the Project site is negligible.

OTHER GEOLOGIC AND SOIL HAZARDS

Expansive Soils

Soils that expand and contract in volume ("shrink-swell" pattern) are considered expansive and may cause damage to aboveground infrastructure because of density changes that shift overlying materials. Fine-grain clay sediments are most likely to exhibit shrink-swell patterns in response to changing moisture levels. The soils at the Project site are generally granular and not considered expansive.

Erosion

Soil erosion is a naturally occurring process on all land. The agents of soil erosion are water and wind. Soil erosion can be a slow process that continues relatively unnoticed, or it may occur at a rapid rate, causing the loss of topsoil. The rate and magnitude of soil erosion by water is controlled by rainfall intensity and runoff, soil erodibility, slope gradient and length, and vegetation cover. The Project site is on relatively level built-up terrain; the potential for significant erosion along the Project alignment would be low.

PALEONTOLOGICAL RESOURCES

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. These resources are valued for the information they yield about the history of the earth and its past ecological settings. The potential for fossil occurrence depends on the rock type exposed at the surface in a given area. Surface deposits in the Project area are composed of younger Quaternary Alluvium, derived as alluvial fan deposits from the San Gabriel Mountains to the north, primarily via Cajon Wash and Lytle Creek that currently flow just southwest of the Project area. These deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers. However, these deposits may be underlain at relatively shallow depth by older Quaternary deposits that do contain significant fossil vertebrate remains.

[4] San Bernardino Valley Water Conservation District (SBVWCD). (January 2015). Upper Santa Ana River Watershed Integrated Regional Water Management Plan. Redlands, CA: SBVWCD.

[5] TKDA. (February 2021). Geotechnical Engineering Services, Revised Geotechnical Design Report Revision, Ono Lead Track Extension (2021 Design Report). Page 16. Burbank, CA: Shannon & Wilson, Inc.

A records search of the NHM's collection of records was conducted for the locality and specimen data for the proposed Project. There were no vertebrate fossil localities found to lie directly within the Project area, although, vertebrate fossil localities were identified in Quaternary deposits approximately 18 miles to the southwest, like those that occur in the Project area. The closest fossil vertebrate locality from similar older Quaternary deposits is LACM 7811, which is west-southwest of the Project area and west of Mira Loma along Sumner Avenue. LACM 7811 produced a fossil specimen at a depth of 9 to 11 feet bgs.

4.6.3 REGULATORY FRAMEWORK

This section discusses the federal, state, and local policies and requirements applicable to the Project.

FEDERAL

Federal Occupational Safety and Health Administration Regulations

Code of Federal Regulations (CFR) Title 29, Part 1926, § 1926.650 et seq. details the Occupational Safety and Health Administration's (OSHA) requirements for excavation and trenching operations. OSHA issued its first standards related to excavation and trenching operations in 1971 and has since updated the standards to further reduce risk of injury and accidents.

Soil and Water Resources Conservation Act

The purpose of the Soil and Water Resources Conservation Act of 1977 is to protect or restore soil functions on a permanent sustainable basis. Protection and restoration activities include prevention of harmful soil changes, rehabilitation of the soil of contaminated sites and of water contaminated by such sites, and precautions against negative soil impacts. Disruptions of natural soil functions and function as an archive of natural and cultural history should be avoided, as far as practicable. In addition, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) requirements, through the National Pollution Discharge Elimination System (NPDES) permitting process, provide guidance for protection of geologic and soil resources.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (Public Law 95-124) established the National Earthquake Hazards Reduction Program which is coordinated through the Federal Emergency Management Agency (FEMA), the U.S. Geological Survey (USGS), the National Science Foundation, and the National Institute of Standards and Technology. The Program's purpose is to establish measures for earthquake hazards reduction and promote the adoption of earthquake hazards reduction measures by federal, state, and local governments; national standards and model code organizations; architects and engineers; building owners; and others with a role in planning and constructing buildings, structures, and lifelines through (1) grants, contracts, cooperative agreements, and technical assistance; (2) development of standards, guidelines, and voluntary consensus codes for earthquake hazards reduction for buildings, structures, and lifelines; and (3) development and maintenance of a repository of information, including technical data, on seismic risk and hazards reduction. The Program is intended to improve the understanding of earthquakes and their effects on communities, buildings, structures, and lifelines through interdisciplinary research that involves engineering, natural sciences, and social, economic, and decisions sciences.

U.S. Geological Survey Landslide Hazard Program

The USGS Landslide Hazard Program provides information on landslide hazards including information on current landslides, landslide reporting, real time monitoring of landslide areas, mapping of landslides through the National Landslide Hazards Map, local landslide information, landslide education, and research.

Paleontological Resources Preservation Act

The federal Paleontological Resources Preservation Act of 2002 (PRPA) codified the generally accepted practice of limiting collection of vertebrate fossils and other rare and scientifically significant fossils on public (federal) land to qualified researchers who obtain a permit from the appropriate state or federal agency and agree to donate any materials recovered to recognized public institutions where they would remain accessible to the public and to other researchers. As the Project area is not located on federal lands, the provisions of this Act are not applicable to the Project, unless a federal agency is determined to control a portion of a project site, as described above.

STATE

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code [PRC] 2621-2624, Division 2 Chapter 7.5) was passed in 1972 — following the destructive February 9, 1971 moment magnitude (Mw) 6.6 San Fernando earthquake — to mitigate the hazard of surface faulting to structures intended for human occupancy. The Alquist-Priolo Act's main purpose is to prohibit siting buildings used for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. The Alquist-Priolo Act requires the State Geologist to establish regulatory zones, known as "Earthquake Fault Zones," delineating appropriately wide earthquake fault zones to encompass potentially active and recently active traces of faults. Local agencies must regulate most development projects within these zones. Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed human occupancy structures would not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (typically at least 50-foot setbacks are required). The Project site is not within an Alquist-Priolo Earthquake Fault Zone.[6]

Effective June 1, 1998, the Natural Hazards Disclosure Act required that sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property being sold lies within one or more state-mapped hazard areas, including Earthquake Fault Zones.

Seismic Hazards Mapping Act (SHMA) of 1990

The Seismic Hazards Mapping Act of 1990 (PRC, Chapter 7.8, § 2690-2699.6) directs the Department of Conservation, California Geological Survey (CGS) to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of the Seismic Hazards

[6] California Department of Conservation. (2018). *California Geological Survey- Alquist-Priolo Earthquake Fault Zoning Act*. Retrieved from https://maps.conservation.ca.gov/cgs/DataViewer/.

Mapping Act is to minimize loss of life and property through the identification, evaluation, and mitigation of seismic hazards.

The SHMA provides a statewide seismic hazard mapping and technical advisory program to assist cities and counties in fulfilling their responsibilities for protecting the public health and safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other seismic hazards caused by earthquakes. Mapping and other information generated pursuant to the SHMA is to be made available to local governments for planning and development purposes. California requires (1) local governments to incorporate site-specific geotechnical hazard investigations and associated hazard mitigation as part of the local construction permit approval process, and (2) the agent for a property seller, or the seller if acting without an agent, to disclose to any prospective buyer if the property is within a seismic hazard zone. The State Geologist is responsible for compiling seismic hazard zone maps. The SHMA specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

2016 California Building Standards Code

California building standards are published in the California Code of Regulations, Title 24, also known as the California Building Standards Code (CBSC). The CBSC, which applies to all applications for building permits, consists of 11 parts that contain administrative regulations for the California Building Standards Commission and for all state agencies that implement or enforce building standards. Local agencies must ensure development complies with the CBSC guidelines. Cities and counties can adopt additional building standards beyond the CBSC. CBSC Part 2, named the California Building Code (CBC), is based upon the 2016 IBC. The 2016 California Building Standards Code (California Code of Regulations, Title 24) went into effect on January 1, 2017.

Given the state's susceptibility to seismic events, the CBC's seismic standards are among the strictest in the world. The CBC applies to all development in the state, except where stricter standards have been adopted by local agencies. CBC Chapter 16 deals with structural design requirements governing seismically resistant construction (CBC § 1604), including but not limited to factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location and the proposed building design (CBC §§ 1613.5 through 1613.7). CBC Chapter 18 includes but is not limited to the requirements for foundation and soil investigations (CBC § 1803); excavation, grading, and fill (CBC § 1804); allowable load-bearing values of soils (CBC § 1806); and the design of footings, foundations, and slope clearances (CBC §§ 1808 and 1809), retaining walls (CBC § 1807), and pier, pile, driven, and cat-in-place foundation support systems (CBC § 1810). CBC Chapter 33 includes but is not limited to requirements for safeguards at worksites to ensure stable excavations and cut or fill slopes (CBC § 3304).

Construction activities are subject to occupational safety standards for excavation and trenching as specified in the California Occupational Safety and Health Administration regulations (Title 8 of the California Code of Regulations) and in Chapter 33 of the CBC. These regulations specify the measures to be used for excavation and trench work where workers could be exposed to unstable soil conditions. The Project would be required to employ these safety measures during excavation and trenching.

State Earthquake Protection Law

The State Earthquake Protection Law (California Health and Safety Code 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC requires a site-specific geotechnical study to address seismic issues and identifies seismic factors that must be considered in structural design. Because the Project site is not within an Alquist-Priolo Earthquake Fault Zone, no special provisions would be required related to fault rupture.

LOCAL

County of San Bernardino General Plan

Although the Project site is within the City of San Bernardino, the County of San Bernardino General Plan provides relevant data concerning seismic and other hazards. The County adopted the General Plan in March 2007 and it was updated in April 2014. As of October 27, 2020, the County had adopted its updated General Plan also referred to as the Countywide Plan. The County General Plan Safety Element addresses seismic and other hazards, as follows:

Policy S 5.3: Protect residents and properties from the risk of dam failure as a result of earthquake or other causes.

City of San Bernardino General Plan

Safety Element

The SBGP Safety Element specifically addresses how the City will prepare and respond to fire hazards, geologic, and seismic hazards, and flood hazards. The Safety Element provides background information related to each issue and identifies hazard locations within the City, risk-reduction strategies, and hazard abatement measures that can ultimately be used by decision-makers in their review of projects. Policies also address ways to minimize any economic disruption and accelerate the City's recovery following a disaster.

Goal 10.7: Protect life, essential lifelines, and property from damage resulting from seismic activity.

Policy 10.7.1: Minimize the risk to life and property through the identification of potentially hazardous areas, establishment of proper construction design criteria, and provision of public information.

Policy 10.7.3: Enforce the requirements of the California Seismic Hazards Mapping and Alquist-Priolo Earthquake Fault Zoning Acts when siting, evaluating, and constructing new projects within the City.

Policy 10.7.4: Determine the liquefaction potential at a site prior to development, and require that specific measures be taken, as necessary, to prevent or reduce damage in an earthquake.

Policy 10.7.5: Evaluate and reduce the potential impacts of liquefaction on new and existing lifelines.

Goal 10.9: Minimize exposure to and risks from geologic activities.

Policy 10.9.1: Minimize risk to life and property by properly identifying hazardous areas, establishing proper construction design criteria, and distribution of public information.

City of San Bernardino General Plan Figure S-5, *Liquefaction Susceptibility*, shows a portion of the Project site in an area of high liquefaction susceptibility.[7] However, the SBGP states that these zones delineate regional susceptibility and can vary greatly due to groundwater level changes. The SBGP requires site-specific geotechnical reports to determine site-specific liquefaction potential and possible design mitigation.

City of San Bernardino Municipal Code

SBMC Chapter 15.08 is intended to reduce the potential risk of property damage and loss of life due to liquefaction induced building failures during an earthquake occurrence by requiring liquefaction reports and mitigation measures for development in areas susceptible to liquefaction. SBMC § 15.08.050 - Reports Required specifies that a liquefaction report plus mitigation measures prepared by a Registered Civil Engineer are be required by the Director of Development Services for new construction or structural modification of more than 25% of the building area for specified buildings or structures, which fall within the high liquefaction susceptibility areas as indicated on the Map.

SBMC Chapter 19.17 is intended to establish development performance standards related to soils/ grading and public safety that address potential geologic hazards and erosion. SBMC § 19.17.070 - Development Performance Standards specifies the following:

1. SOILS/GRADING

   A. Grading of any site shall conform to the following grading standards, based upon the percent of the natural slope. The City Engineer shall review and make recommendation to the Planning Commission on the proposed grading.

   B. All graded areas shall be protected from wind and water erosion through acceptable slope stabilization methods such as planting, walls, or netting. Interim erosion control plans shall be required, certified by the Project Engineer, and reviewed and approved by the Public Works Department.

   C. Slopes created by grading of the site shall not exceed 50 percent or 2:1, without a soils report and stabilization study indicating a greater permissible slope; or shall not exceed 30 feet in height between terraces or benches; except that the Planning Commission may permit slopes exceeding these dimensions where the slopes will result in a natural appearance and will not create geological or erosion hazards.

4.6.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions concerning geology, soils, and paleontological resources. The issues presented in the Environmental Checklist have been used

[7] City of San Bernardino. (2005). City of San Bernardino 2005 General Plan: Figure S-5 Liquefaction Susceptibility. San Bernardino, CA: City of San Bernardino.

as thresholds of significance in this section. Accordingly, the Project would have a significant adverse environmental impact if it would:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42 (see Impact 4.6-1);
  - Strong seismic ground shaking (see Impact 4.6-2);
  - Seismic-related ground failure, including liquefaction (see Impact 4.6-3);
  - Landslides (see Impact 4.6-4);
- Result in substantial soil erosion or the loss of topsoil (see Impact 4.6-5);
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse (see Impact 4.6-3);
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property (see Impact 4.6-6);
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater (see Impact 4.6-7);
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (see Impact 4.6-8).

METHODOLOGY AND ASSUMPTIONS

The proposed Project is evaluated against the aforementioned significance criteria/thresholds as the basis for determining the impact's level of significance concerning geology, soils, and paleontological resources. This analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards (LORS)) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended to avoid or reduce the Project's potentially significant environmental impacts.

4.6.5 IMPACTS AND MITIGATION MEASURES

Impact 4.6-1: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Level of Significance: No Impact

CONSTRUCTION AND OPERATIONS

Several active and potentially active fault zones traverse the City (i.e., San Andreas Fault system and San Jacinto Fault system). The San Jacinto Fault is likely within the Earthquake Fault Zone mapped for this fault, however, it does not traverse the Project site. The Project site is not within an Alquist-Priolo Fault Zone; see **Exhibit 4.6-1**.[8] Therefore, the Project would not directly or indirectly cause potential adverse effects involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map. No impact would occur.

Mitigation Measures

No mitigation is required.

Impact 4.6-2: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

There is a possibility of strong seismic ground shaking for the Project due to the nature of Southern California's geographic region and its seismic activity. Additionally, the Project site could experience strong ground shaking during an earthquake along faults in the region. The intensity of earthquake motion and seismic hazards that may impact the Project site would depend on the characteristics of the generating fault, distance to the earthquake fault, earthquake magnitude, earthquake duration, and site-specific geologic conditions. Likely sources for strong ground motion are nearby known active faults (e.g., the San Jacinto Fault and San Andreas Fault).

The faults described above could cause moderate to intense ground shaking during the Project's lifetime. Additionally, the Project site has experienced earthquake-induced ground shaking in the past and can be expected to experience further shaking in the future. Therefore, Project implementation could expose people or structures to potential adverse effects involving strong seismic ground shaking. The intensity of ground shaking on the Project site would depend upon the earthquake's magnitude, distance to the epicenter, and geology of the area between the Project site and epicenter.

The proposed track extension would be supported on engineered sections of ballast and subballast on a prepared subgrade. Concerning sound walls and other structures, the 2021 Design Report notes that engineering design services for these improvements will be provided in a separate report and recommends that these be analyzed using seismic design criteria in the governing design code.

BNSF currently implements earthquake monitoring systems that would notify the train operator of earthquake activity. Upon an earthquake being reported, the train dispatcher would initiate a response pursuant to the requirements outlined in **Table 4.6-1: BNSF Earthquake Response Protocol**. These response protocols would reduce impacts from seismic activity by reducing or halting train speeds to prevent derailment.

[8] California Geological Survey. (2018). *CGS Information Warehouse: Regulatory Maps.* Retrieved from https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/

TABLE 4.6-1: BNSF EARTHQUAKE RESPONSE PROTOCOL		
Magnitude Range	**Criteria for Response**	**Radius for Response[1]**
Unknown	Trains proceed at restricted speed[2] due to earthquake conditions	150 miles
Less than 5.0	No Inspection Required	Not applicable
5.0-5.49	Trains proceed at restricted speed until signals have been inspected	30 miles
5.5-5.99	Trains proceed at restricted speed until signals, track, and bridges have been inspected	30 miles
6.0-6.49	Trains stop until signals, track, and bridges have been inspected	50 miles
6.5-6.99	Trains stop until signals, track, and bridges have been inspected	70 miles
7.0-7.49	Trains stop until signals, track, and bridges have been inspected	100 miles
7.5 and above	Trains stop until directed to proceed after inspection of signals, track, and bridges completed	As directed[3]

[1] Radius of response is from the earthquake's epicenter. If the epicenter is unknown trains within 150 miles of the reporting location would proceed at restricted speed.
[2] *Restricted speed* means that trains must operate at a speed that allows stopping within half the range of vision. When a train or engine is required to move at restricted speed, the crew must keep a lookout for broken rail and not exceed 20 miles per hour (General Code of Operating Rules Committee, 2015)
[3] Radius at discretion of command center but not less than for magnitude 7.0 to 7.49.

Based on-site review, subsurface exploration, and engineering analyses, the 2021 Design Report concluded that the proposed Project improvements are suitable for construction provided the recommendations in these reports are incorporated into their design. Following compliance with standard engineering practices and compliance with the 2021 Design Report recommendations, the Project's potential impacts concerning exposure of people or structures to potential adverse effects involving strong seismic ground shaking would be less than significant.

Mitigation Measures

No mitigation is required.

Impact 4.6-3: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable because of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project site is in a seismically active area and contains two to five feet of artificial fill, underlain by alluvial fan deposits, which could be prone to liquefaction and collapse during ground shaking. Notwithstanding, as discussed in the *Affected Environment* Section above, various data sources report various degrees of on-site liquefaction potential:

- SBGP Figure S-5 Liquefaction Susceptibility shows the Project's southern track segments (i.e., Segments 2 to 12) are an area of high liquefaction susceptibility.
- County General Plan Figures FH22C and FH30C show the Project site's southern half (i.e., Segments 8 to 12) are within an area identified as having medium to high liquefaction susceptibility.
- A recent hazard mitigation planning documents (i.e., 2021 Design Report) deemed on-site liquefaction potential to be low due to the long-term lowering of ground water levels within the groundwater basin.
- Publicly available data shows groundwater to be more than 200 feet bgs. Due to known geologic conditions, shallow perched water tables may also exist at localized Project areas.

The analyses also concluded that although regional groundwater elevations are currently deep, site-specific evaluations of the subsurface conditions should be performed to consider the potential for liquefaction susceptibility for varying future ground water conditions underlying the Project. Therefore, the Project could result in adverse effects involving liquefaction. Following compliance with standard engineering practices and the 2021 Design Report recommendations, the Project's potential impacts concerning exposure of people or structures to potential adverse effects involving liquefaction (i.e., unstable geologic units) would be less than significant.

Mitigation Measures

No mitigation is required.

Impact 4.6-4: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Level of Significance: No Impact

CONSTRUCTION AND OPERATIONS

Landslides are mass movements of the ground that include rock falls, relatively shallow slumping and sliding of soil, and deeper rotational or transitional movement of soil or rock. The SBGP Draft EIR Exhibit 5.5-2, Soil-Slip Susceptibility, shows that the Project site is not in an area of the City that is potentially susceptible to slope failure.[9] The Project site is relatively flat with no evidence of on-site landslides/debris flows. Natural rock outcroppings are not present on the Project site. Additionally, the

[9] City of San Bernardino. (2005). Draft San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report: Figure 5.5-2 Soil Susceptibility. Santa Ana, CA: The Planning Center.

Project site is not identified on the CGS Landslide Maps as being subject to landslide hazards.[10] Project-related excavation and trenching activities would be required to demonstrate compliance with CFR Title 29 Part 1926 excavation and trenching standards. Therefore, the Project would not directly/indirectly cause potential adverse effects involving landslides and impacts would not occur.

Mitigation Measures

No mitigation is required.

Impact 4.6-5: Would the Project result in substantial soil erosion or the loss of topsoil?

Level of Significance: Less Than Significant Impact

CONSTRUCTION

Typically, sandy soil on steep slopes, subject to high velocity water flow, or non-vegetated areas are susceptible to erosion. Considering the Project alignment is on relatively level built-up terrain, the potential for significant erosion along the Project alignment would be low.

The Project site consists mainly of fill soil consisting of loose to medium dense silty sand and sandy silt. Occasional track ballast, organic matter, and debris within the fill were identified through preliminary subsurface exploration of the track extension with soil borings and exploratory test pits. Below the fill, native soils consisted of sand with variable amounts of silt and clay, occasionally with gravel and cobbles. These materials were unconsolidated, Quaternary-age alluvial fan gravel and sand deposits. The alluvial fan deposits were generally medium dense. Construction activities such as excavation and grading may have the potential to cause soil erosion or the loss of topsoil. Construction activities related to the Project would be required to comply with the NPDES General Construction Permit, refer to **Section 4.9: Hydrology and Water Quality** for discussion of the NPDES permitting process. Construction would be required to comply with the erosion control measures stipulated through the then current CBSC, which requires the development of an approved Stormwater Quality Management Plan (SWQMP). Construction would also be required to comply with other applicable ordinances and federal, state, and local permits. Implementation of these permitting requirements would ensure that impacts related to soil erosion or the loss of topsoil are less than significant.

OPERATIONS

Project implementation would not involve operations which would result in substantial soil erosion that would cause significant property damage or result in the loss of topsoil/sedimentation into local drainage facilities and water bodies; refer to refer to **Section 4.9**. Therefore, the Project would not cause substantial soil erosion, or the loss of topsoil and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

[10] California Department of Conservation. (2018). *Quad Index of Landslide Maps.* https://maps.conservation.ca.gov/cgs/informationwarehouse/landslides/

Impact 4.6-6: Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

Soils that expand and contract in volume ("shrink-swell" pattern) are considered expansive and may cause damage to aboveground infrastructure because of density changes that shift overlying materials. Fine-grain clay sediments are most likely to exhibit shrink-swell patterns in response to changing moisture levels.

Soils encountered during explorations were generally granular and not considered expansive. Clays encountered during explorations were determined to be sandy lean clays. Near-surface natural soils mapped underlying the Project alignment consist primarily of coarse-grained materials that are considered to have low expansion potential. The analysis concluded that surficial expansive soils should not be a significant factor in site development. Therefore, the Project would not be on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Impact 4.6-7: Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Level of Significance: No Impact

CONSTRUCTION AND OPERATIONS

The Project consists of a railroad lead track extension and various ancillary improvements (i.e., stormwater drainage/water quality improvements, circulation/roadway improvements/modifications, signal improvements/modifications, utility improvements/modifications, and soundwalls). Given the proposed improvements, the Project would not generate wastewater or propose the use of septic tanks or an alternative wastewater disposal system. Moreover, sewers are available in the Project area for wastewater disposal. Therefore, no impact would occur.

Mitigation Measures

No mitigation is required.

Impact 4.6-8: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Level of Significance: Less Than Significant With Mitigation Incorporated

CONSTRUCTION

As previously noted, surface deposits in the Project area typically do not contain significant vertebrate fossils, at least in the uppermost layers. However, these deposits may be underlain at relatively shallow depth by older Quaternary deposits that do contain significant fossil vertebrate remains. Shallow excavations (less than 5.0 feet bgs) in the younger Quaternary alluvium exposed throughout the Project area are unlikely to encounter significant vertebrate fossils. Deeper excavations (greater than 5.0 feet bgs) that extend down into older Quaternary deposits, however, may encounter significant remains of fossil vertebrates. Due to the presence of older Quaternary deposits throughout the Project site, there is high potential for paleontological resources to be present where excavations extend deeper than 5.0 feet bgs. Potential effects to paleontological resources would primarily be associated with ground disturbing activities at these locations. Any deep excavations in the Project area's older Quaternary deposits should be monitored closely to quickly and professionally recover any fossil remains while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed Project area. Any fossils collected should be placed in an accredited scientific institution for the benefit of current and future generations. Ground-disturbing activities deeper than 5.0 feet bgs could destroy a unique paleontological resource. Therefore, implementation of Mitigation Measure GEO-1, which requires paleontological construction monitoring and a compliance program, would be required. With implementation of Mitigation Measure GEO-1, the Project's potential impacts concerning the destruction of a unique paleontological resource or unique geologic feature would be less than significant.

OPERATIONS

Project operations would not involve any activities that would impact paleontological resources. Therefore, no impact would occur in this regard.

Mitigation Measures

MM GEO-1 Paleontological Monitoring and Compliance Program.

a. Retain a Qualified Project Paleontologist. Prior to ground disturbing activities, the Owner shall retain a qualified Project Paleontologist, defined as a paleontologist who meets the Society of Vertebrate Paleontology standards for Qualified Professional Paleontologist, to direct all mitigation measures related to paleontological resources.

b. Paleontological Monitoring and Compliance Program. After Project design has been finalized to determine the precise extent and location of ground disturbing activities, and prior to ground disturbing activities, the Project Paleontologist shall prepare a Paleontological Monitoring and Compliance Program to be implemented during the Project's ground disturbing activities. The Program shall be prepared in accordance with the standards set forth by current Society of Vertebrate Paleontology guidelines (2010). Prior to ground disturbing activities, the Program shall be provided to the City of San Bernardino.

   Ground disturbing activities deeper than 5.0 feet below ground surface in areas mapped as high paleontological sensitivity (i.e., older Quaternary deposits) shall be monitored on a full-time basis by a qualified paleontological monitor during initial ground disturbing activities.

The Program shall be supervised by the Project Paleontologist in coordination with the City of San Bernardino. The duration and timing of the monitoring shall be determined by the Project Paleontologist. If the Project Paleontologist determines that full-time monitoring is no longer warranted, he or she may recommend to the City that monitoring be reduced to periodic spot-checking or cease entirely. Monitoring shall be reinstated, if reduction or suspension would need to be reconsidered by the Project Paleontologist.

The Program shall outline the procedures for construction staff Worker Environmental Awareness Program (WEAP) training, paleontological monitoring extent and duration, salvage and preparation of fossils, the final mitigation and monitoring report, and paleontological staff qualifications.

c. Paleontological Worker Environmental Awareness Program (WEAP). Prior to ground disturbing activities, the Project Paleontologist or his or her designee shall conduct construction personnel training regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The WEAP shall be presented at a preconstruction meeting that a qualified paleontologist shall attend.

d. Fossil Discovery. In the event of a fossil discovery by construction personnel, all work in the find's immediate vicinity shall cease, and the City of San Bernardino and a qualified paleontologist shall be contacted to evaluate the find before restarting work in the area. If ground disturbing activities bring potentially sensitive geologic deposits to the surface in areas considered to have an undetermined paleontological sensitivity, these areas shall be inspected and further assessed. If it is determined that the fossil(s) is (are) scientifically significant, the qualified paleontologist shall complete the following conditions:

e. Salvage of Fossils. If fossils are discovered, the Project paleontologist or paleontological monitor should recover them. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case, the paleontologist would have the authority to temporarily direct, divert, or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.

    1. Preparation and Curation of Recovered Fossils. Once salvaged, the City would ensure that significant fossils would be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the San Diego County Natural History Museum), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Project paleontologist. Field collection and preparation of fossil specimens shall be performed by the Project paleontologist with further preparation as needed by an accredited museum repository institution at the time of curation.

f. Final Paleontological Monitoring and Compliance Report. Upon completion of ground disturbing activities (and curation of fossils, if necessary) the Project Paleontologist shall prepare a Final Paleontological Monitoring and Compliance Report outlining the results of the Paleontological Monitoring and Compliance Program. The report shall be provided to the City of San Bernardino and shall include discussion of the location, duration, and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated.

4.6.6 CUMULATIVE IMPACTS

For purposes of geologic, soils, and paleontological resource analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning geologic resources in SBGP EIR Section 5.5, Geology and Soils. The following is a summary of the expected environmental effects:

- Build-out could expose communities to potential seismic-related hazards. This impact was concluded to be less than significant.
- Build-out could result in unstable geologic unit or soil conditions. This impact was concluded to be less than significant.
- Build-out could result in risks to life or property due to soil conditions present in the City's planning area. This impact was concluded to be less than significant.
- Implementation of the Arrowhead Springs Specific Plan (AHS) could result in an unstable geologic unit or soil conditions, including erosion. This impact was concluded to be less than significant with mitigation incorporated.

Development within the City's planning area could cause potential substantial adverse effects concerning geology and soils, or disturb paleontological resources. Potential geology, soils, and paleontological resource impacts associated with the individual developments would be specific to each development site. As with the Project, cumulative development would undergo environmental and design review on a project-by-project basis pursuant to CEQA to evaluate potential impacts to involving geology and soils, and potential impact to paleontological resources. All development would be subject to compliance with the existing federal, state, and local regulatory framework concerning seismic design, soil measures, and protection of paleontological resources. Additionally, implementation of site-specific mitigation would reduce potential project impacts to as-yet unidentified paleontological resources to less than significant levels. As such, cumulative impacts involving geology and soils, and potential impact to paleontological resources would be mitigated on a project-by-project basis, and in accordance with the City's established regulatory framework.

Therefore, the combined cumulative impacts to geology, soils, and paleontological resources associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.6.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning geology, soils, and paleontological resources have been identified.

4.6.8 REFERENCES

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4.7 GREENHOUSE GAS EMISSIONS

4.7 GREENHOUSE GAS EMISSIONS

4.7.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to greenhouse gas (GHG) emissions, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

Information in this section is based primarily on the *Greenhouse Gas Emissions Assessment BNSF Ono Lead Track Extension Project* (Kimley-Horn and Associates, Inc., January 2021), which includes greenhouse gas emissions calculations for model outputs; see **Appendix 9.7: Greenhouse Gas Emissions Assessment**.

4.7.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Certain gases in the earth's atmosphere classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Carbon Cycle and Greenhouse Effect

The global carbon cycle is comprised of large carbon flows to and from various reservoirs (e.g., atmosphere, ocean, and biomass). Billions of tons of carbon are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes (i.e., the net exchange) among these various reservoirs are roughly balanced.

When solar radiation extends to the earth's surface, it can either be reflected back into space or absorbed by earth. Once absorbed, the planet releases some of the energy back into the atmosphere in the form of longwave infrared radiation (i.e., heat). GHGs absorb energy, slowing or preventing the loss of heat to space. In this way, GHGs act like a blanket, making earth warmer than it would otherwise be. This process is commonly known as the "greenhouse effect."[1] Through man-made activities such as fossil fuel combustion and other industrial processes, the increase in GHG emissions is outpacing the natural carbon sources and sinks, increasing the planet's greenhouse effect, and effectively disrupting this balance.

[1] U.S. Environmental Protection Agency, https://www.epa.gov/climate-change-science/causes-climate-change#Greenhouse.

Greenhouse Gas Emissions and Global Warming Potential

GHGs trap heat in the atmosphere. GHGs are emitted by natural processes and human activities. GHG accumulation in the atmosphere regulates the earth's temperature. The seven major GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), perfluorocarbon (PFCs), and water vapor.

The most abundant GHGs are water vapor and CO_2.[2] Many other trace gases have greater ability to absorb and re-radiate longwave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate longwave radiation.

The GWP is a dimensionless metric that determines the relative ability of any gas to trap heat in the atmosphere and propagate the greenhouse effect. It quantifies the climate change impact of emitting 1 kilogram (kg) of a GHG, normalized by the impact of emitting 1 kg of CO_2 for a specific timeframe (e.g., 20 years, 100 years, 500 years). This time dependence is set to reflect the different values of atmospheric persistence based on each GHG's chemistry and structure. GWP values from the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (AR4) on a 100-year timeframe are provided in **Table 4.7-1: SAR GWP Values**.

TABLE 4.7-1: SAR GWP VALUES (100-YEAR TIME HORIZON)

Gas Name	Formula	GWP (CO_2e)
Carbon Dioxide	CO_2	1
Methane	CH_4	25
Nitrous Oxide	N_2O	298
HFC-23	CHF_3	14,800
Sulfur Hexafluoride	SF_6	22,800

CO_2e = carbon dioxide equivalent
Source: Intergovernmental Panel on Climate Change, *Fifth Assessment Report*, 2014.

The GHGs that would be normally associated with the proposed Project are the following:[3]

- **Carbon Dioxide (CO_2)** is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, CO_2 emissions from fossil fuel combustion increased by 7.4 percent between 1990 and 2014.[4] CO_2 is the most widely emitted GHG and is the reference gas (GWP of 1) for determining the GWP for other GHGs.
- **Methane (CH_4)** is emitted from biogenic sources, incomplete combustion in forest fires, landfills and manure management, and leaks in natural gas pipelines. The United States' top three CH_4

[2] U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014 (accessed April 15, 2016).

[3] All Global Warming Potentials (GWP) are given as 100-year GWP. Unless noted otherwise, all GWPs were obtained from the Intergovernmental Panel on Climate Change. (Intergovernmental Panel on Climate Change, Climate Change, Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007).

[4] U.S. EPA, Inventory of United States GHG Emissions and Sinks 1990 to 2014 (accessed April 15, 2016).

sources are landfills, natural gas systems, and enteric fermentation. CH_4 is the primary component of natural gas, used for space and water heating, steam production, and power generation. The GWP of CH_4 is 25.

- **Nitrous Oxide (N_2O)** is produced by natural and human-related sources. Primary human-related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary fossil fuel combustion, adipic acid production, and nitric acid production. The GWP of N_2O is 298.
- **Hydrofluorocarbons (HFCs)** are typically used as refrigerants for stationary refrigeration and mobile air conditioning. Hydrofluorocarbon use for cooling and foam blowing (insulation) is increasing as the continued phase-out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The 100-year GWP of HFCs range from 12 for HFC-161 to 14,800 for HFC-23.[5]
- **Perfluorocarbons (PFCs)** are compounds consisting of carbon and fluorine that are primarily created as a byproduct during aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a GWP several thousand times that of CO_2, depending on the specific PFC. Another concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years).[6] The GWP of PFCs range from 7,390 to 12,200.[7]
- **Sulfur hexafluoride (SF_6)** is a colorless, odorless, nontoxic, nonflammable gas. Sulfur hexafluoride is the most potent GHG that the IPCC has evaluated with a GWP of 22,800.[8]
- **Water Vapor (H_2O)**, although it has not historically received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the H_2O in our atmosphere, respectively. The primary human-related source of H_2O is fuel combustion in motor vehicles; however, it does not contribute a significant amount (less than one percent) to atmospheric H_2O concentrations. The IPCC has not determined a GWP for H_2O.

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds could potentially contribute to the greenhouse effect. Some of these substances have been identified as stratospheric ozone (O_3) depletors, and they are gradually being phased-out. These compounds are listed below.

- **Hydrochlorofluorocarbons (HCFCs)** are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a HCFC consumption cap and gradual phase-out. The United States is scheduled to achieve a 100

[5] Ibid.

[6] U.S. Environmental Protection Agency, Overview of GHG Emissions, May 26, 2016, http://www.epa.gov/climatechange/ghgemissions/gases/fgases.html#Trends (accessed on June 14, 2016).

[7] Ibid.

[8] Ibid.

percent reduction to the cap by 2030. The 100-year GWPs of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b.

- **1,1,1 trichloroethane** or methyl chloroform ($C_2H_3Cl_3$) is a solvent and degreasing agent commonly used by manufacturers. The GWP of $C_2H_3Cl_3$ is 146.
- **Chlorofluorocarbons (CFCs)** are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the U.S. Environmental Protection Agency's (U.S. EPA) Final Rule (57 FR 3374) for phasing-out O_3 depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with 100-year GWPs ranging from 3,800 for CFC 11 to 14,400 for CFC 13.

To better understand the Project's anticipated emissions, it is useful to understand the extent of statewide GHG emissions as reflected in the California GHG emission inventory data for years 2010 through 2016, which is the most current data available. The emissions are presented according to inventory category (as defined in the Assembly Bill [AB] 32 Scoping Plan); see **Table 4.7-2: California GHG Emissions Inventory**.

TABLE 4.7-2: CALIFORNIA GHG EMISSIONS INVENTORY (MILLION METRIC TONS OF CO_2E)

Category	2010	2011	2012	2013	2014	2015	2016
Transportation	165.07	161.51	161.22	160.90	162.28	166.14	169.38
Industrial	91.50	90.94	91.07	93.73	93.96	91.58	89.61
Electric Power	90.34	88.06	95.09	89.65	88.24	83.67	68.58
Commercial and Residential	45.05	45.50	42.89	43.54	37.37	37.94	39.36
Agriculture	34.27	34.89	36.08	34.61	35.95	34.41	33.84
High GWP	13.52	14.54	15.54	16.65	17.70	18.93	19.78
Recyclingand Waste	8.37	8.47	8.49	8.52	8.59	8.73	8.81
Total	**448.11**	**443.91**	**450.38**	**447.59**	**444.10**	**441.40**	**429.35**

Notes: Gases with high GWPs include fluorinated gases and include HFCs, PFCs, SF6, and nitrogen trifluoride (NF3). High GWP gas emissions occur from substitutes for ozone-depleting substances (ODS) use in the refrigeration, air conditioning, and heat pump systems; losses from the electricity transmission and distribution system from electrical gas (insulated switchgears); and gases that are emitted in the semiconductor manufacturing process.

Source: California Air Resources Board, California Greenhouse Gas Emission Inventory–2018 Edition, arb.ca.gov/cc/inventory/data/data.htm, July 11, 2018.

4.7.3 REGULATORY FRAMEWORK

This section discusses the Federal, State, and local policies and requirements applicable to the Project

FEDERAL

To date, national standards have not been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

The Energy Policy and Conservation Act of 1975 (42 USC § 6201)

The Energy Policy and Conservation Act of 1975 was developed to establish energy conservation programs to efficiently and effectively minimize any adverse economic or employment impacts of changing patterns of energy use and meet local economic, climatic, geographic, and other unique conditions and requirements of each State. The Act established the Strategic Petroleum Reserve, the Energy Conservation Program for Consumer Products, and Corporate Average Fuel Economy (CAFE) regulations.

National Climate Program Act of 1978 (95th Congress H.R.6669)

The National Climate Program Act requires the Secretary of Commerce to establish a National Climate Program Office to enable the United States and other nations to understand and respond to natural and man-induced climate processes and their implications. The Program includes: (1) procedures for assessing the effect of climate on agriculture, energy supply and demand, land and water resources, transportation, human health, and national security; (2) basic and applied research to improve understanding of climate processes; (3) methods of improving climate forecasts; (4) global data collection and climate monitoring and analysis activities to provide reliable, useful, and available information on a continuing basis; (5) systems for the management and active dissemination of climatological data and information; (6) measures for increasing international cooperation in climate research, monitoring, analysis, and data dissemination; (7) mechanisms for intergovernmental climate-related research and services, including participating by universities and the private sector; (8) experimental climate forecast centers; and (9) biennial revisions for the final five-year plan.

In 1979, the National Research Council released Strategy for the National Climate Program, the first of a number of reviews and advisory documents prepared by the National Research Council on the program. The Global Change Research Act of 1990 as amended is the currently mandated framework within which climate and global change research is implemented among U.S. federal departments and agencies.

The Energy Policy Act of 1992 (102nd Congress H.R.776.ENR)

The Energy Policy Act of 1992 set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. The Act has 27 titles detailing various measures designed to lessen the nation's dependence on imported energy, provides incentives for clean and renewable energy, and promotes energy conservation in buildings. Title XVI (Global Climate Change) requires the Secretary of Energy to report to the Congress on specified implications of global climate change policies, including the generation of greenhouse gases and carbon dioxide, and United States compliance with its international obligations.

Energy Policy Act of 2005 (109th Congress H.R.6)

The Energy Policy Act of 2005 sets forth an energy research and development program covering: energy efficiency; renewable energy; oil and gas; coal; Tribal energy resource development; nuclear matters and security; vehicles and motor fuels, including ethanol; hydrogen; electricity; energy tax incentives; hydropower and geothermal energy; and climate change technology.

Energy Independence and Security Act of 2007 (110th Congress H.R.6)

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Massachusetts v. Environmental Protection Agency (2007)

The U.S. Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*549 U.S. 497 (2007)), that CO_2 and other GHGs are pollutants under the Federal Clean Air Act (FCAA), which the U.S. EPA must regulate if it determines they pose an endangerment to public health or welfare. The Supreme Court's opinion also referenced a Council on Environmental Quality report issued in 1970 that concluded that "[m]an may be changing his weather""[9] and a 1979 Climate Research Board investigation that determined "If carbon dioxide continues to increase, the study group finds no reason to doubt that climate changes will result and no reason to believe that these changes will be negligible… A wait-and-see policy may mean waiting until it is too late."[10]

U.S. Environmental Protection Agency Endangerment Finding

The U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. Environmental Protection Agency* (2007). As noted above, the Supreme Court ruled that GHGs meet the definition of air pollutants. Responding to the Supreme Court's ruling, the U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare. Therefore, it is the Supreme Court's interpretation of the existing FCAA and the U.S. EPA's assessment of the scientific evidence that form the basis for the U.S. EPA's regulatory actions.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, Executive Order (EO) 13432 was issued in 2007 directing the U.S. EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and

[9] Council on Environmental Quality, *Environmental Quality: The First Annual Report*, August 1970.

[10] Climate Research Board, *Carbon Dioxide and Climate: A Scientific Assessment*, 1979.

light-duty trucks for model year 2011. In 2010, the U.S. EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, an Executive Memorandum was issued directing the Department of Transportation, Department of Energy, U.S. EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the U.S. EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The fuel efficiency standards are projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January 12, 2017, the U.S. EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks. It should be noted that the U.S. EPA is currently proposing to freeze the vehicle fuel efficiency standards at their planned 2020 level (37 mpg), canceling any future strengthening (currently 54.5 mpg by 2026).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the U.S. EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the U.S. EPA, this regulatory program would reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.

In August 2016, the U.S. EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program would apply to vehicles with model years 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.

Recent Changes in Federal GHG Policy

In 2018, President Trump and the U.S. EPA stated their intent to halt various federal regulatory activities to reduce GHG emission, including the phase two program. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. The timing and consequences of these types of federal decisions and potential responses from California and other states are speculative at this time.

On March 28, 2017, President Trump signed EO 13783, with the intent to reduce GHG regulations at the federal level. The Order rescinded EO 13653, as well as former President Obama's Climate Action Plan and the Council on Environmental Quality's "*Final Guidance for Federal Departments and Agencies on Consideration of GHG Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*" (August 5, 2016). The Order also calls for review, suspension and/or rescission of various federal regulations and policies related to climate change and GHG emissions. Following the issuance of EO 13783, the U.S. EPA proposed to repeal the *Clean Power Plan,* and issued an *Energy Independence Report*

(October 25, 2017) to implement EO 13783.[11] These current and potential future changes in federal GHG regulations and policies would not affect the Project's requirements under various local and state climate change policies and regulations, which are discussed further below.

State and Regional

The California Air Resources Board (CARB) is responsible for the coordination and oversight of state and local air pollution control programs in California. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects. California is a significant emitter of CO2 equivalents (CO2e) in the world and produced 459 million gross metric tons of CO2e in 2013. The transportation sector is the State's largest emitter of GHGs, followed by industrial operations such as manufacturing and oil and gas extraction.

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark Assembly Bill (AB) 32, *California Global Warming Solutions Act of 2006*, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 building efficiency standards and Title 20 appliance energy standards, were originally adopted for other purposes such as energy and water conservation but also provide GHG reductions. This section describes the major legislation related to GHG emissions reduction. This section describes the legislation's major provisions.

Assembly Bill 32 (California Global Warming Solutions Act)

AB 32 instructed the CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. AB 32 also directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. It set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

CARB Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business-as-usual").[12] The Scoping Plan evaluates opportunities for sector-specific reductions; integrates early actions and additional GHG reduction measures by both CARB and the State's Climate Action Team; identifies additional measures to be pursued as regulations; and, outlines the adopted role of a Cap-and-Trade Program.[13] Additional development of these measures and adoption

[11] https://www.epa.gov/energy-independence (accessed March 21, 2018).

[12] CARB defines business-as-usual (BAU) in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

[13] The Climate Action Team, led by the secretary of the California Environmental Protection Agency, is a group of State agency secretaries and heads of agencies, boards, and departments. Team members work to coordinate statewide efforts to implement global warming emissions reduction programs and the State's Climate Adaptation Strategy.

of the appropriate regulations occurred through the end of 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California Cap-and-Trade Program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several sustainable community strategies have been adopted).
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard (amendments to the Pavley Standard adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating targeted fees, including a public goods charge on water use, fees on gasses with high global warming potential, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated in light of current economic forecasts that accounted for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This update reduced the projected 2020 emissions from 596 million metric tons of carbon dioxide equivalent (CO2e) (MMTCO2e) to 545 MMTCO2e. The reduction in forecasted 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated state-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG emissions reductions necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32.

Senate Bill 32 (California Global Warming Solutions Act of 2006: Emissions Limit)

Signed into law in September 2016, Senate Bill (SB) 32 codifies the 2030 GHG reduction target in EO B-30-15 (40 percent below 1990 levels by 2030). SB 32 authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

With SB 32, the State Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, CARB adopted a second update to the Scoping Plan.[14] The 2017 Scoping Plan details how California will reduce GHG emissions to meet the 2030 target set by EO B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other federal actions.

Cap-and-Trade Program

Pursuant to the recommendations in the initial CARB Scoping Plan, California developed a Cap-and-Trade Program that links with other Western Climate Initiative partner programs to create a regional market system. The California Cap-and-Trade Program caps GHG emissions and requires the purchase of emission allowances for covered activities. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (i.e., electricity generation, industrial sources, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration. The passage of AB 398 in July 2017 extended the duration of the Cap-and-Trade Program from 2020 to 2030.

The 2017 Scoping Plan sets forth measures to reduce GHG emissions to achieve State GHG emission reduction targets for 2030 as prescribed by statute, as well as 2050 targets set forth in Eos issued by the California Governor's office. The Cap-and-Trade Program is included in the 2017 Scoping Plan, without a termination date of 2030. Based on CARB's expert opinion that specific statutory authorization for a Cap-and-Trade Program is not required, the inclusion of a Cap-and-Trade Program through 2050 in the 2017 Scoping Plan, and other relevant climate laws, regulations, and policies, it is likely the Cap-and-Trade Program would continue beyond 2030.

Under the Cap-and-Trade Program, covered entities that emit more than 25,000 metric tons CO2e per year must comply with Program requirements. Triggering of the 25,000 metric tons CO2e per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR"). CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits.

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program would be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program would be responsible for relatively more emissions reductions. Therefore, the Cap-and-Trade Program assures that California would meet its 2020 GHG emissions reduction mandate.

[14] California Air Resources Board, *California's 2017 Climate Change Scoping Plan,* https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed March 13, 2019.

The Cap-and-Trade Program is intended to achieve aggregate, rather than site-specific or project-level, GHG emissions reductions. Also, due to the regulatory framework adopted by CARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures. As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. The Cap-and-Trade Program was extended in 2015 to cover the combustion of fossil fuels including transportation fuels used in California. Accordingly, GHG emissions associated with the electricity usage and mobile sources of most projects that are subject to CEQA are covered by the Cap-and-Trade Program.

Assembly Bill 1575 (Warren-Alquist Act)

Signed into law in 1974, the California Legislature created the California Energy Commission (CEC). The CEC regulates electricity production that is one of the major sources of GHGs.

Senate Bill 375 (The Sustainable Communities and Climate Protection Act of 2008)

Signed into law on September 30, 2008, SB 375 provides a process to coordinate land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction goals established by AB 32. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies.

Assembly Bill 1493 (Pavley Regulations and Fuel Efficiency Standards)

AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the U.S. EPA's denial of an implementation waiver. The U.S. EPA subsequently granted the requested waiver in 2009, which was upheld by the by the U.S. District Court for the District of Columbia in 2011. The regulations establish one set of emission standards for model years 2009–2016 and a second set of emissions standards for model years 2017–2025. By 2025, when all rules are fully implemented, new automobiles are forecast to emit 34 percent fewer CO_2e emissions and 75 percent fewer smog-forming emissions.

Senate Bill 1368 (Emission Performance Standards)

SB 1368 (2007) is the companion bill of AB 32, which directs the California Public Utilities Commission (CPUC) to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 limits carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than five years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. SB 1368 effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of California. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, for 1,100 pounds of CO_2 per megawatt-hour.

Senate Bill 1078 and SBX1-2 (Renewable Electricity Standards)

SB 1078 (2002) requires California to generate 20 percent of its electricity from renewable energy by 2017. In 2005, SB 107 accelerated the due date of the 20 percent mandate to 2010 instead of 2017. These mandates apply directly to investor-owned utilities. On November 17, 2008, then-Governor Schwarzenegger signed EO S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. EO S-21-09 also directed CARB to adopt a regulation by July 31, 2010, requiring the State's load-serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. SBX1-2 (2011) codified the 33 percent by 2020 goal.

Senate Bill 350 (Clean Energy and Pollution Reduction Act of 2015)

SB 350 implements the goals of EO B-30-15 (2015). The objectives of SB 350 are to increase the procurement of electricity from renewable sources from 33 percent to 50 percent (with interim targets of 40 percent by 2024, and 25 percent by 2027) and to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation. SB 350 also reorganizes the Independent System Operator to develop more regional electricity transmission markets and improve accessibility in these markets, which would facilitate the growth of renewable energy markets in the western United States.

Assembly Bill 398 (Market-Based Compliance Mechanisms)

Signed on July 25, 2017, AB 398 extended the duration of the Cap-and-Trade Program from 2020 to 2030. AB 398 required CARB to update the Scoping Plan and all GHG rules and regulations adopted by the State. It also designated CARB as the statewide regulatory body responsible for ensuring that California meets its statewide carbon pollution reduction targets, while retaining local air districts' responsibility and authority to curb toxic air contaminants and criteria pollutants from local sources that severely impact public health. AB 398 also decreased free carbon allowances over 40 percent by 2030 and prioritized Cap-and-Trade spending to various programs including reducing diesel emissions in impacted communities.

Senate Bill 150 (Regional Transportation Plans)

Signed on October 10, 2017, SB 150 aligns local and regional GHG reduction targets with State targets (i.e., 40 percent below their 1990 levels by 2030). SB 150 created a process to include communities in discussions on how to monitor their regions' progress on meeting these goals. The bill also requires the CARB to regularly report on that progress, as well as on the successes and the challenges regions experience associated with achieving their targets. SB 150 provides for accounting of climate change efforts and GHG reductions and identifies effective reduction strategies.

Senate Bill 100 (California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases)

Signed into Law in September 2018, SB 100 increased California's renewable electricity portfolio from 50 to 60 percent by 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs using executive orders. Although not regulatory, they set the tone for the State and guide the actions of state agencies.

Executive Order S-3-05. EO S-3-05 was issued on June 1, 2005, which established the following GHG emissions reduction targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80 percent below 1990 levels

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an EO, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07, issued on January 18, 2007, mandates that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. The Order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. CARB adopted the LCFS on April 23, 2009.

Executive Order S-13-08, issued on November 14, 2008, facilitated the California Natural Resources Agency development of the 2009 California Climate Adaptation Strategy. Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order S-14-08, issued on November 17, 2008, expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, EO S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in California come from renewable energy by 2020. CARB adopted the Renewable Electricity Standard on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly-owned electricity retailers.

Executive Order S-21-09, issued on July 17, 2009, directs CARB to adopt regulations to increase California's Renewable Portfolio Standard (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Executive Order B-30-15, issued on April 29, 2015, established a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO_2e (MMTCO2e). The 2030 target acts as an interim goal on the way to achieving reductions of 80 percent below 1990 levels by 2050, a goal set by EO S-3-05. The Order also requires the State's climate adaptation plan to be updated every 3 years and for the State to continue its climate change research program, among other provisions. With the enactment of SB 32

in 2016, the Legislature codified the goal of reducing GHG emissions by 2030 to 40 percent below 1990 levels.

Executive Order B-55-18, issued on September 10, 2018, establishes a goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide targets of reducing GHG emissions. The executive order requires CARB to work with relevant state agencies to develop a framework for implementing this goal. It also requires CARB to update the Scoping Plan to identify and recommend measures to achieve carbon neutrality. The executive order also requires state agencies to develop sequestration targets in *the Natural and Working Lands Climate Change Implementation Plan*.

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Regulations (California Code of Regulations [CCR] Title 20, §§ 1601-1608), include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum levels of operating efficiency and other cost-effective measures to promote the use of energy- and water-efficient appliances.

Regional Transportation Plan/Sustainable Communities Strategy

With the goal of ensuring that the Southern California Association of Governments (SCAG) region can meet its regional GHG reduction targets set by CARB, the SCAG Regional Council adopted the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) on April 7, 2016. On September 3, 2020, SCAG's Regional Council adopted Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy [2020 RTP/SCS]).

The RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The strategy was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Riverside, Orange, Imperial, Los Angeles, San Bernardino, and Ventura. The RTP/SCS is a long-range vision plan that balances future mobility and housing needs with economic, environmental, and public health goals. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by State law to lower regional GHG emissions. The RTP is a long-range transportation plan that provides a vision for regional transportation investments over 20 years or more. The SCS is an RTP element that demonstrates the integration of the RTP's land use, transportation strategies, and transportation investments. The 2016 RTP/SCS would result in an 8.0 percent reduction in GHG emissions per capita by 2020 and 18 percent by 2035, which would meet or exceed CARB's targets of 8.0 percent reduction by 2020 and 13 percent by 2035.[15]

[15] Because the 2020 RTP/SCS was adopted after the Project NOP release (September 20, 2019), this analysis is based on the 2016 RTP/SCS; see State CEQA Guidelines § 15125(a)(1).

Local

City of San Bernardino General Plan

Safety Element

Goal 10.1: Protect the environment, public health, safety, and welfare from hazardous wastes.

Policy 10.1.2: Ensure the protection of surface and groundwater quality, land resources, air quality, and environmentally sensitive areas through safe transportation of waste through the City and comprehensive planning of hazardous materials, wastes, and sites.

Natural Resources and Conservation Element

The Natural Resources and Conservation Element is intended to maintain, improve, or preserve the quality and supply of the City's natural resources. The following topics are addressed in this element: Biological Resources, Natural Features, Mineral Resources, and Air Quality.

Goal 12.5: Promote air quality that is compatible with the health, wellbeing, and enjoyment of life.

Policy 12.5.1: Reduce the emission of pollutants including carbon monoxide, oxides of nitrogen, photochemical smog, and sulfate in accordance with SCAQMD standards.

Goal 12.5.2: Prohibit the development of land uses (e.g., heavy manufacturing) that will contribute significantly to air quality degradation, unless sufficient mitigation measures are undertaken according SCAQMD standards.

Policy 12.5.3: Require dust abatement measures during grading and construction operations.

Policy 12.5.4: Evaluate the air emissions of industrial land uses to ensure that they will not impact adjacent uses.

Goal 12.7: Participate in regional initiatives and programs to improve the SCAB's air quality.

Policy 12.7.1: Cooperate with the SCAQMD and incorporate pertinent local implementation provisions of the AQMP.

Policy 12.7.2: Work with the SCAQMD to establish controls and monitor uses in the City that could add to the SCAB's degradation (e.g., auto repair, manufacturers).

Policy 12.7.3: Coordinate with SCAQMD to ensure that all elements of air quality plans regarding reduction of air pollutants emissions are being enforced.

Policy 12.7.4: Work with the other cities in the SCAB to implement regional mechanisms to reduce air emissions and improve air quality.

4.7.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, *Environmental Checklist Form*, includes questions concerning GHGs. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, the Project would have a significant environmental impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (see Impact 4.7-1);
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs (see Impact 4.7-2)

The amendments to State CEQA Guidelines § 15064.4(b) that resulted from SB 97 indicate that a lead agency should consider the following factors when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the Project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the Project emissions exceed a threshold of significance that the lead agency determines applies to the Project.
- The extent to which the Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

METHODOLOGY AND ASSUMPTIONS

Construction Sources and Emissions

The GHG modeling assumes Project construction would occur in one phase, beginning in the fourth quarter of 2020 and completed by the fourth quarter of 2022; see also *Construction Sources and Emissions – Updates to Modeling Assumptions* below. The assumed construction Project subphases and approximate durations are:

- Pre-approval/pre-construction Property Demolitions: 19.5 months,
- Utility Relocations: 12 months (three months would overlap with Civil Improvements),
- Civil Improvements (i.e., street relocations/modifications, track corridor, soundwalls, and infiltration basins): 10 months (three months would overlap with Utility Relocations), and
- Track and Signal Construction: 3.5 months.

Inclusive of property demolitions, Project construction would occur over approximately 42 months. It is noted, property acquisitions were underway concurrent with preparation of this EIR, and their demolition could occur as soon as required by a governmental entity (e.g. release of liens/abatement of nuisance) or as soon as possible upon property acquisition, prior to Project approval or commencement of Project construction. Exclusive of property demolitions and accounting for the three-month overlap of Civil Improvements with Utility Relocations, Project construction would occur over approximately 23 months.

Notwithstanding, to provide a conservative analysis, demolition-related activities are included in the assumed construction activities and evaluated in this EIR.

The Project's site preparation phase would occur simultaneous with demolition and prior to grading. Upon completion of property acquisitions and grading, municipal improvements (i.e., utility relocation and paving) would commence simultaneous with rail construction. Train trips are assumed would deliver rail construction materials (i.e., rail, ties, and ballasts) during the Project's rail construction phase. Railroad ties are anticipated to be pre-cast concrete, therefore, a concrete batch plant would not be required.

Appendix 9.3 summarizes the estimated soils/materials import/export and indicates the Project is anticipated to require the following:

- Approximately 26,900 tons of debris export, including approximately 6,845 tons of building structure and 20,000 tons of pavement during demolition activities,
- Approximately 74,200 tons of materials import (primarily for infiltration basin media),
- Approximately 184,300 cubic yards (CY) of subcut/soil export (primarily infiltration basin excavation and track grading for ballast), and
- Approximately 33,400 CY of soil/concrete import (primarily for soundwalls, subcut, and track corridor).

It is noted, these estimated soils/materials import/export quantities assumed nine potential basin sites (totaling approximately 6.0 acres and providing a storage volume of approximately 11.6 acre-feet) would be constructed. Given that the storage volume required to mitigate the Project's increased runoff volume totals 2.0 acre-feet (see **Section 4.9: Hydrology and Water Quality**), not all of the basins would be constructed. Therefore, the Project's actual soils/materials import/export quantities would likely be less than one-half of the quantities assumed in the modeling. Because less soils/materials import/export quantities would result in less construction emissions, the emissions modeling is highly conservative.

Construction Sources and Emissions – Updates to Modeling Assumptions

The minor Project refinements discussed below occurred subsequent to completion of the GHG modeling.

Construction Schedule. As discussed above, the GHG modeling assumes Project construction would begin in the fourth quarter of 2020 and be completed by the fourth quarter of 2022. However, the current Project construction schedule assumes Project construction would begin in the first quarter of 2022 and be completed by the first quarter of 2024, or two years later than assumed in the GHG modeling. However, the GHG modeling concerning the construction schedule is considered conservative because CalEEMod emissions factors for future years decline given advancements in construction equipment technology and fleet turnover.

Basin Construction. The current Project design for stormwater runoff and water quality assumes seven potential basin sites (totaling approximately 5.3 acres and providing a storage volume of approximately 13 acre-feet) would be constructed. The GHG modeling assumed nine basins would be constructed, when likely less than one-half of the soils/materials import/export quantities assumed in the modeling would occur. Therefore, the GHG modeling concerning basin construction is considered conservative.

Displaced Commercial Uses. Construction emissions modeling assumed 31,000 square feet (SF) of displaced (i.e., demolished) commercial land uses, and not 46,000 SF, as proposed under the current Project design; see **Table 2-2: Summary of Existing Land Uses**. This change in demolition assumptions is attributed to full acquisition (as opposed to partial acquisition) of an additional property. Because the construction emissions modeling conservatively assumed an earlier construction schedule and that all nine basin sites would be constructed, any additional construction emissions associated with demolition of the additional 15,000 SF of commercial floor area are considered nominal and would be more than offset by the already conservative construction emissions. Even if the construction emissions associated with an additional 15,000 SF of demolished floor area were added, the analysis conclusions based on modeling would not change.

OPERATIONAL SOURCES AND EMISSIONS

Rail Operations Existing Conditions. Currently, two trains (Trains A and B) idle on siding tracks between two and three hours per day, while waiting for access into the A Yard. An additional train (Train C) idles on storage tracks for eight hours two to three times per week. Additionally, Train D is detained at the A Yard, because Main 1 (i.e., the existing lead track within BNSF corridor) is congested with haul line traffic; therefore, Train D idles within the A Yard until Main 1 is cleared. As discussed above, per the Statewide Rail Agreement, locomotives are required to be equipped with Automatic Engine Start Stop systems, which shut off engines after 15 minutes of idling. Thus, after 15 minutes of idling, only a single engine remains idling, while the other engines shut off. The existing average idling time is calculated, as follows:

- Average number of locomotives per train: 4 locomotives (4,400 horsepower each).
- Trains A and B (3 hours of idling per day each): 0.25 hour of idling x 4 locomotives = 1 hour of locomotive idling, 2.75 hours of idling x 1 locomotive = 2.75 hours of locomotive idling.
    - 1 hour + 2.75 hours = 3.75 hours of locomotive idling per day, per train.
    - 3.75 hours of idling per train x 2 trains = 7.5 hours of locomotive idling total for Train A and B per day.
- Train C (8 hours of idling per day, 3 days per week): 0.25 hour of idling x 4 locomotives = 1 hours of locomotive idling. 7.75 hours of idling x 1 locomotive = 7.75 hours of locomotive idling.
    - 1 hour + 7.75 hours = 8.75 hours of locomotive idling per day, 3 times per week.
    - 8.75 hours per day x 3 days / 7 days per week = 3.75 hours per day on average for Train C.
- Train D: 3 hours of idling per day: 0.25 hour of idling x 4 locomotives = 1 hour of locomotive idling, 2.75 hours of idling x 1 locomotive = 2.75 hours of locomotive idling.
    - 1 hour + 2.75 hours = 3.75 hours of locomotive idling per day.

Based on the above operating factors, existing rail operations at the Project site result in approximately 15 hours of daily locomotive diesel engine idling (3.75 hours per day each from Trains A, B, and D, and an average of 3.75 hours per day from Train C).

Rail Operations With Proposed Project Condition. The Project would not generate new motor vehicle trips or require other locomotive activity within the yard, such as switching operations (i.e., moving rail cars). Under the Project, Train C and Train D would no longer idle. The Project's operational emissions calculations assume the following daily locomotive diesel engine idling:

- Average number of locomotives per train: 4 locomotives (4,400 horsepower each).
- Trains A and B (3 hours of idling per day each): 0.25 hour of idling x 4 locomotives = 1 hour of locomotive idling, 2.75 hours of idling x 1 locomotive = 2.75 hours of locomotive idling.
    - 1 hour + 2.75 hours = 3.75 hours of locomotive idling per day, per train.
    - 3.75 hours of idling per train x 2 trains = 7.5 hours of locomotive idling total for Train A and B.
- Train C: no idling would occur under the Project.
- Train D: 15 minutes of idling per day: 0.25 hour of idling x 4 locomotives = 1 hour of locomotive idling.

Based on the above operating factors, with-Project rail operations would result in approximately 8.5 hours of daily locomotive diesel engine idling, an approximately 43 percent reduction from existing operating conditions (15 hours of daily locomotive diesel engine idling).

Displaced Commercial Uses. To accommodate the proposed rail and ancillary improvements, Project implementation requires removal of as many as 43 dwelling units (DU) and approximately 78,000 SF of non-residential (commercial and industrial) land uses. Because the Project would remove these existing land uses, and result in a traffic decrease of approximately 672 average daily trips (ADT), a decrease in both stationary and mobile source operational emissions would occur. However, the operational emissions modeling did not apply any emissions credits for the existing land uses that would be removed. Therefore, the Project's operational/idling emissions estimates are conservative.

Additionally, although partial acquisition of some properties would create remnant parcels not required for the Project, the Project does not propose their redevelopment or any zone change. The remnant parcel's underlying/existing zoning would be retained making them available for reuse/redevelopment in the future consistent with their existing zoning. However, there is no known proposal for reuse of these parcels as of this writing. Therefore, because assumptions concerning long-term operations from redevelopment of the remnant parcels would be speculative, no further analysis has been conducted.

The proposed Project is evaluated against the aforementioned significance criteria as the basis for determining the level of impacts related to GHG emissions. Additionally, this analysis considers existing regulations, laws, and standards that serve to avoid or reduce potential impacts. Where significant impacts remain, feasible mitigation measures are recommended to avoid or lessen the Project's significant adverse impacts. Further details regarding methods are provided in **Appendix 9.7**.

4.7.5 IMPACTS AND MITIGATION MEASURES

Impact 4.7-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Level of Significance: Less Than Significant

CONSTRUCTION

The *Methodology and Assumptions* section above provides details concerning the assumed Project construction activities. Because train deliveries are not accounted for using typical land use emissions models, U.S. EPA guidance (EPA-420-F-09-025)[16] was used to calculate construction-related locomotive emissions. All other construction-related emissions were calculated using CalEEMod, which is designed to model emissions based on typical construction requirements. **Appendix 9.7** provides additional information regarding the construction assumptions used in this analysis. The approximate daily GHG emissions generated by the Project's construction-related train trips and construction equipment are included in **Table 4.7-3: Construction-Related Greenhouse Gas Emissions**.

TABLE 4.7-3: CONSTRUCTION-RELATED GREENHOUSE GAS EMISSIONS

Category	Annual MTCO2e
Construction Emissions	4,518
Locomotive Emissions	12
Total Emissions	4,530
30-Year Amortized Construction	151

$MTCO_2e$ = million metric tons of carbon dioxide equivalent
Source: CalEEMod version 2016.3.2 and EPA-420-F-09-025. See **Appendix 9.7: Greenhouse Gas Emissions Assessment** for model outputs.

As shown in **Table 4.7-3**, Project construction-related activities would generate approximately 4,530 $MTCO_2e$ of GHG emissions during construction. Construction GHG emissions are typically summed and amortized over the Project's lifetime (assumed to be 30 years), then added to the operational emissions;[17] see below. It is noted that a 30-year project lifetime assumption is likely overly conservative for rail infrastructure and provides a worst-case estimate of one-time emissions from construction activities. The Project's amortized construction-related GHG emissions would be 151 $MTCO_2e$ per year. Once construction is complete, the Project's construction-related GHG emissions would cease.

OPERATIONS

Long-term operational emissions would occur over the Project's lifetime. The *Methodology and Assumptions* section above provides details concerning the assumed Project operations. The Project's

[16] U.S. EPA, *Emissions Factors for Locomotives*, 2009.

[17] The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13,* August 26, 2009).

estimated operational GHG emissions would reflect the change in train operations (i.e., idling) and motor vehicle use associated with vehicle trip decrease and redistribution.

The Project does not propose to increase rail line operations; instead it would improve the A Yard's operational efficiency, as detailed in **Section 2.0: Project Description**. By improving train traffic efficiency, the Project would also reduce the average idle time of trains, reducing locomotive emissions along the corridor. The Project's proposed improvements would not increase the number of train trips and there would be no permanent increase in the number of employees or traffic in/out of the A Yard. The Project would enhance the train traffic efficiency by reducing congestion along the existing lead tracks. Based on the existing and with proposed Project operating factors detailed in the *Methodology and Assumptions* section above, with-Project rail operations would result in approximately 8.5 hours of daily locomotive diesel engine idling, an approximately 43 percent reduction from existing operating conditions (15 hours of daily locomotive diesel engine idling). Therefore, locomotive idling time would decrease resulting in a net improvement in GHG emissions.

The Project does not propose any new land uses, thus, would not generate additional operational vehicle trips. Additionally, reassignment of vehicle trips resulting from the proposed transportation improvements would be nominal and localized. As such, Project implementation would not generate additional vehicle emissions. It is noted, the Project's idling emissions estimates are conservative because emissions credits have not been applied for the existing land uses that would be removed, as detailed in the *Methodology and Assumptions* section above. Existing and post-Project operational GHG emissions are summarized in **Table 4.7-4: Project Greenhouse Gas Emissions**.

TABLE 4.7-4: PROJECT GREENHOUSE GAS EMISSIONS

Emissions Source	Annual MTCO2e
Existing Condition	
Locomotive Idling	280
Existing with Project Condition	
Locomotive Idling	159
Net Idling	*-121*
Construction Amortized Over 30 Years	151
Net Total	*30*

$MTCO_2e$ = million metric tons of carbon dioxide equivalent
Notes: Additional locomotive hauling emissions are conservatively higher based on normal growth of rail operations. Idling emissions reductions based on the Project cutting current locomotive idling times in half.

Source: CalEEMod version 2016.3.2 and EPA-420-F-09-025. See **Appendix 9.7: Greenhouse Gas Emissions Assessment** for model outputs.

As shown in **Table 4.7-4**, Project operational GHG emissions, combined with construction-related GHG emissions, would generate approximately 30 $MTCO_2e$ on an annual basis as compared to existing conditions. It is noted that Project implementation would reduce operational emissions by 121 $MTCO_2e$ per year. The GHG emissions estimates are conservative because emissions credits have not been applied for the existing land uses that would be removed. Removal of the existing land uses would further decrease the Project's GHG emissions. It is noted: rail projects tend to have a much longer project lifetime than other development projects and, after 30 years, it is assumed the Project would continue to reduce GHG emissions due to changing regulatory framework and advanced technologies. The Project's annual

emissions with amortized construction of 30 $MTCO_2e$ would not exceed any SCAQMD GHG thresholds. Therefore, Project-related GHG emissions would be less than significant, thus, no mitigation is required.

Mitigation Measures

No mitigation is required.

Impact 4.7-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Level of Significance: Less Than Significant

CONSTRUCTION AND OPERATIONS

San Bernardino County Regional Greenhouse Gas Reduction Plan Consistency

In March 2014, the San Bernardino Associated Governments (SANBAG) adopted the *San Bernardino County Regional Greenhouse Gas Reduction Plan* (GHGRP) with the goal of inventorying municipal GHG emissions and establishing GHG reduction targets for the 21 Partnership Cities of San Bernardino County. The City of San Bernardino currently follows the GHGRP to identify opportunities for a cleaner city. The GHGRP has served as a long-term vision for how the City can be more environmentally friendly and provides guidance for the City's residents, staff, and decision-makers on how to achieve future sustainability goals. The GHGRP goals target 2020 GHG emissions. The GHGRP also outlines City-specific SBGP goals. GHGRP Table 2-1 states one of the "Off-Road Transportation" emissions sector goals by setting idling limitations and increasing the fuel economy of all vehicles and equipment. Given the Project's objective to improve the existing rail operations' efficiency and reduce train congestion, the resulting locomotive emissions decrease would be consistent with GHGRP goals.

Regional Transportation Plan/Sustainable Communities Strategy Consistency

Adopted on April 7, 2016, the RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders in the counties of Riverside, Imperial, Los Angeles, Orange, San Bernardino, and Ventura. SCAG's RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035, and an overall GHG target for the Project region consistent with the AB 32 target and the post-2020 GHG reduction goals of EO 5-03-05 and EO B-30-15.

The RTP/SCS includes over 4,000 transportation projects, ranging from highway improvements, railroad grade separations, bicycle lanes, new transit hubs, and replacement bridges. These future investments were included in county plans developed by the six county transportation commissions and seek to reduce traffic bottlenecks, improve the efficiency of the region's network, and expand mobility choices for everyone. The RTP/SCS is an important planning document for the region, allowing project sponsors to qualify for federal funding.

The RTP/SCS accounts for operations and maintenance costs to ensure reliability, longevity, and cost effectiveness. The RTP/SCS is also supported by a combination of transportation and land use strategies

that help the region achieve California GHG emissions reduction goals and FCAA requirements; preserve open space areas; improve public health and roadway safety; support our vital goods movement industry; and use resources more efficiently. GHG emissions resulting from development-related mobile sources are the most potent source of emissions, and therefore analyzing the Project's consistency with the RTP/SCS is an appropriate indicator of whether the Project would prevent achieving the State's post-2020 GHG reduction goals. The proposed Project's consistency with the RTP/SCS goals is analyzed in **Table 4.7-5: Regional Transportation Plan/Sustainable Communities Strategy Consistency**.

The SBGP determined that implementation of GHG policies and compliance with applicable California standards would ensure consistency with state and regional GHG reduction planning efforts. The GHGRP and RTP/SCS goals were used to determine consistency with the planning efforts previously stated. As demonstrated in **Table 4.7-5**, the Project would comply with the applicable RTP/SCS goals. As noted above, the 2020 RTP/SCS (Connect SoCal), has been adopted for conformity purposes only. The SCAG Regional Council will consider approval of the 2020 RTP/SCS in its entirety and for all other purposes within 120 days from May 7, 2020. As there is no federal nexus for the Project, conformity does not apply, and the 2016 RTP/SCS is still the regional plan most applicable to the proposed Project.

TABLE 4.7-5: REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY CONSISTENCY

SCAG Goals[1]		Compliance	
Goal 1:	Align the plan investments and policies with improving regional economic development and competitiveness.	N/A:	This is not a Project-specific policy and is therefore not applicable. However, improved rail operations efficiency resulting from Project implementation may benefit economic development.
Goal 2:	Maximize mobility and accessibility for all people and goods in the region.	Consistent:	Improved rail operations efficiency resulting from Project implementation would benefit the accessibility of goods transported by rail.
Goal 3:	Ensure travel safety and reliability for all people and goods in the region.	Consistent:	Improved rail operations efficiency resulting from Project implementation would benefit the reliability of goods transported by rail.
Goal 4:	Preserve and ensure a sustainable regional transportation system.	Consistent:	Improved rail operations efficiency resulting from Project implementation would lead to more sustainable transport of goods. Less fuel would be used during locomotive idling and fuel energy resources would be conserved.
Goal 5:	Maximize the productivity of our transportation system.	Consistent:	The Project would improve the efficiency of existing rail operations.
Goal 6:	Protect the environment and health of our residents by improving air quality and	Consistent:	The Project's objective is to improve the efficiency of existing rail operations and reduce train congestion. The Project would

TABLE 4.7-5: REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY CONSISTENCY			
SCAG Goals[1]		**Compliance**	
	encouraging active transportation (e.g., bicycling and walking).		result in less operational locomotive idling, thus, fewer emissions. The Project's emissions reduction is expected to improve overall air quality, in turn protecting the environment and nearby residents' health.
Goal 7:	Actively encourage and create incentives for energy efficiency, where possible.	N/A:	This is not a Project-specific policy and is therefore not applicable.
Goal 8:	Encourage land use and growth patterns that facilitate transit as well as non-motorized transportation.	N/A:	This is not a Project-specific policy and is therefore not applicable.
Goal 9:	Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	N/A:	This is not a Project-specific policy and is therefore not applicable.
Notes: 1. Southern California Association of Governments, *Regional Transportation Plan/Sustainable Communities Strategy*, 2016.			
Source: Kimley-Horn, 2019.			

CARB Scoping Plan Consistency

As previously noted, CARB adopted the Climate Change Scoping Plan pursuant to AB 32. The Scoping Plan provides a range of GHG reduction actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as the cap-and-trade program, and an AB 32 implementation fee to fund the program.

As updated in 2017, the Scoping Plan identifies additional GHG reduction measures necessary to achieve the 2030 target. These measures build upon those identified in the first update to the Scoping Plan in 2013. Although a number of these measures are currently established as policies, some measures have not yet been formally proposed or adopted. It is expected that these actions intended to reduce GHG emissions would be adopted as required to achieve statewide GHG emissions targets. As concluded in **Table 4.7-6: Project Consistency with Applicable CARB Scoping Plan Measures**, the Project is consistent with the Scoping Plan's applicable strategies. As such, the Project's impacts concerning Scoping Plan consistency would be less than significant.

TABLE 4.7-6: PROJECT CONSISTENCY WITH APPLICABLE CARB SCOPING PLAN MEASURES		
Scoping Plan Measure	**Implementing Regulations**	**Project Consistency**
California Cap-and-Trade Program Linked to Western Climate Initiative	Regulation for the California Cap on GHG Emissions and Market-Based Compliance Mechanism October 20, 2015 (CCR 95800)	**Consistent:** The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. However, the regulation indirectly affects people who use the products and services produced by these industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. Accordingly, GHG emissions associated with CEQA projects' fuel usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program covers fuel suppliers (natural gas, propane fuel, and transportation fuel providers) to address emissions from such fuels and combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.
California Light-Duty Vehicle GHG Standards	Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles	**Consistent:** This measure applies to all new vehicles starting with model year 2012. The Project would not conflict with its implementation. All vehicles, model year 2012 and later are required to meet these standards. Therefore, passenger vehicles associated with the Project would be required to comply with the Pavley emissions standards.
	2012 LEV III California GHG and Criteria Pollutant Exhaust and Evaporative Emission Standards	**Consistent:** The LEV III amendments provide reductions from new vehicles sold in California between 2017 and 2025. All passenger vehicles are required to meet these standards. Therefore, passenger vehicles associated with the Project would comply with LEV III standards.
LCFS Standard	2009 Readopted 2015 Regulations to Achieve GHG Reductions Sub Article 7 LCFS Standard CCR 95480	**Consistent:** This measure applies to transportation fuels used by vehicles in California. The Project would not conflict with implementation of this measure. Construction-related motor vehicles would be required to use fuels that meet these standards. The Project would not generate new operational vehicle trips.
Regional Transportation-Related GHG Targets	SB 375 Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28	**Consistent**: The Project involves rail improvements to reduce idling and would not result in development that would generate growth. The Project would not conflict with RTP/SCS projections.
Goods Movement	Goods Movement Action Plan, January 2007	**Consistent:** The Project would improve rail operations and goods movement by increasing operational efficiency/ decreasing idling, which fulfills the Goods Movement Action Plan goal of improved efficiency.
Medium/Heavy-Duty Vehicle	2010 Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer GHG Regulation	**Consistent**: This measure applies to medium- and heavy-duty vehicles that operate in the State. The Project would not conflict with implementation of this measure. All construction-related medium- and heavy-duty vehicles associated with the Project would be required to comply with these regulatory requirements. The Project would not generate new operational vehicle trips.

TABLE 4.7-6: PROJECT CONSISTENCY WITH APPLICABLE CARB SCOPING PLAN MEASURES		
Scoping Plan Measure	**Implementing Regulations**	**Project Consistency**
High Speed Rail	Funded Under SB 862	**N/A:** This is a statewide measure that cannot be implemented at the project level by the Applicant or Lead Agency. Therefore, this measure does not apply to the Project.
Energy Efficiency	Title 20 Appliance Efficiency Regulation	**Consistent:** The Project proposes new street lighting that would be subject to compliance with Title 24 standards.
	Title 24 Part 6 Energy Efficiency Standards for Residential and Non-Residential Building	
	Title 24 Part 11 CalGreen Standards	
Renewable Portfolio Standard/Renewable Electricity Standard	2010 Regulation to Implement the Renewable Electricity Standard (33% 2020)	**N/A:** The Project would not place new demands on the electric utility, Southern California Edison (SCE); see **Section 4.5: Energy**. Therefore, this measure does not apply to the Project.
	SB 350 Clean Energy and Pollution Reduction Act of 2015 (50% 2030)	
Million Solar Roofs Program	Tax Incentive Program	**N/A:** This measure is to increase solar throughout California, which is being implemented by various electricity providers and solar programs. The program provides incentives that are in place at the time of construction. However, since the Project does not propose development of additional land uses, this measure does not apply to the Project.
Water	Title 24 Part 11 CalGreen Standards	**N/A:** CalGreen requires a 20 percent reduction in indoor water use. The Project would not generate additional indoor water demand. Concerning landscaping, the Project would install landscaping within the proposed infiltration basins. Therefore, this measure does not apply to the Project.
	SBX 7-7 The Water Conservation Act of 2009	
	Model Water Efficient Landscape Ordinance	
Green Building Strategy	Title 24 Part 11 CalGreen Standards	**N/A:** The State intends to increase the use of green building practices. However, the Project does not propose additional buildings or structures. Therefore, this measure does not apply to the Project.
Industrial Emissions	2010 CARB Mandatory Reporting Regulation	**N/A:** The Mandatory Reporting Regulation requires facilities and entities with more than 10,000 $MTCO_2e$ of combustion and process emissions, all facilities belonging to certain industries, and all electric power entities to submit an annual GHG emissions data report directly to CARB. The total Project GHG emissions would not exceed 10,000 $MTCO_2e$. Therefore, this regulation does not apply to the Project.

TABLE 4.7-6: PROJECT CONSISTENCY WITH APPLICABLE CARB SCOPING PLAN MEASURES		
Scoping Plan Measure	**Implementing Regulations**	**Project Consistency**
Recycling and Waste	Title 24 Part 11 CalGreen Standards AB 341 Statewide 75 Percent Diversion Goal	**Consistent:** The Project would not conflict with implementation of these measures. The Project is required to achieve the recycling mandates through compliance with CalGreen. The City has consistently achieved its recycling mandates.
Sustainable Forests	Cap and Trade Offset Projects	**N/A:** The Project site is in an area designated for urban uses. No forested lands exist on-site or near the site. Therefore, this measure does not apply to the Project.
High Global Warming Potential Gases	CARB Refrigerant Management Program CCR 95380	**N/A:** The regulations are applicable to refrigerants used by large air conditioning systems and large commercial and industrial refrigerators and cold storage system. The Project does not involve this machinery, thus, would not conflict with CARB's refrigerant management regulations.
Agriculture	Cap and Trade Offset Projects for Livestock and Rice Cultivation	**N/A:** The Project site is designated for urban development. No grazing, feedlot, or other agricultural activities generating manure exist on-site or are proposed by the Project. Therefore, this measure does not apply to the Project.
Source: California Air Resources Board, *California's 2017 Climate Change Scoping Plan*, November 2017 and CARB, *Climate Change Scoping Plan*, December 2008.		

The Project is estimated to result in 30 $MTCO_2e$ annually, directly from amortized construction and reduced train idling and congestion; see **Table 4.7-4**. As discussed above, the emissions estimates are conservative because emissions credits have not been applied for the existing land uses that would be removed. The Project's long-term operational GHG emissions are nominal, would not exceed any SCAQMD proposed thresholds, and would be less than significant.

Concerning EO S-3-05 2050 goals, at this time it is not possible to quantify the emissions savings from future regulatory measures as they have not yet been developed. Nevertheless, it can be anticipated that Project operations would benefit from current and potential future regulations (e.g., improvements in vehicle emissions, SB 100/renewable electricity portfolio improvements, etc.) enacted to meet an 80 percent reduction below 1990 levels by 2050.

Mitigation Measures

No mitigation is required.

4.7.6 CUMULATIVE IMPACTS

For purposes of greenhouse gas emissions analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP; see **Section 3.0: Basis of Cumulative Analysis**.

As concluded above, the Project would result in a less than significant impact concerning generation of GHG emissions. Concerning applicable plans, policy or regulation adopted for reducing GHG emissions, the Project would have a less than significant impact.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning greenhouse gas emissions in SBGP EIR Section 5.3, *Air Quality*. The following is a summary[18] of the expected environmental effects:

- Build-out could generate short-term emissions and operations could generate long-term emissions associated with additional vehicle trips. This impact was concluded to be significant.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years that allow them to be dispersed around the world. It is generally the case that an individual project and nature, including development within the City's planning area, is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. Project-related GHG emissions would decrease, thus, the Project would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the Project and other cumulative related projects, would be subject to all applicable regulatory requirements, which would further reduce GHG emissions. As shown in **Table 4.7-4**, the Project's GHG emissions would be less than significant. As discussed above, the Project would reduce the annual GHG emissions from rail operations.

Therefore, the combined cumulative impacts to GHG emissions associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with Project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.7.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning GHG have been identified.

4.7.8 REFERENCES

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[18] Summaries include the Arrowhead Springs Specific Plan area, unless otherwise noted.

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4.8 HAZARDS AND HAZARDOUS MATERIALS

4.8 HAZARDS AND HAZARDOUS MATERIALS

4.8.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to hazards and hazardous materials, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

Refer to **Section 4.6: Geology and Soils**, concerning the Project's potential impacts related to geologic and seismic hazards, and **Section 4.9: Hydrology and Water Quality**, concerning the Project's potential impacts related to dam failure and flooding.

This section is based largely on the BNSF Railway (BNSF) Ono Lead Track Extension Project – Hazardous Materials Assessment Technical Memorandum (HM TM) (Kimley-Horn and Associates, Inc., January 9, 2019); see **Appendix 9.9: Hazardous Materials Technical Memo**. Other information in this section, such as the regulatory framework, is derived from various planning documents including the City of San Bernardino General Plan (SBGP), City of San Bernardino Municipal Code (SBMC), and County of San Bernardino General Plan.

The HM TM's purpose is to provide an initial assessment of the likelihood of the presence of hazardous substances or petroleum products on the Project site under conditions indicative of an existing release, past release, or a material threat of a release that could affect the Project site, based on a review of regulatory agency databases and a site visit. This assessment is not consistent with the American Society for Testing and Materials (ASTM) Standard Method E 1527-13 and is intended only for planning purposes. For the purposes of the HM TM, the Project site is limited to the BNSF right-of-way (ROW) and parcels that would be acquired (either partially or fully) by BNSF to accommodate the Project's improvements.

4.8.2 AFFECTED ENVIRONMENT

LOCAL SETTING

The Project site is in the southwest portion of the County of San Bernardino (County), in the City of San Bernardino's (City) southwest portion; see **Exhibit 3-1: Regional Vicinity Map**. The Project area extends approximately 4.3 linear miles along the BNSF corridor adjacent to/west of Interstate 215 (I-215). The Project site is comprised of two discontinuous segments (i.e., southern and northern). The Project site's northern terminus is at the BNSF overpass at State Street/University Parkway and its southern terminus is at West 5th Street, just north of the A Yard; see **Exhibit 3-2: Local Vicinity Map**.

Site Observations

Kimley-Horn conducted a Project site visit in March 2018, as a part of preparation of the Hazardous Materials Assessment. The approximately 41-acre Project site includes the existing BNSF ROW and approximately 29 acres of adjacent properties where ground disturbances and/or property acquisitions will be required. The Project site is within a fully urbanized area comprised primarily of BNSF ROW, commercial, industrial, and residential land uses, vacant lots, and City ROW/roadways. Vegetation is

primarily small patches of disturbed mule fat scrub, non-native grassland, ornamental, and ruderal (disturbed vegetation, weeds).

The BNSF ROW consists of an existing three and four track railroad system with associated signal poles, electrical poles, and cabinets. The railroad tracks consists of steel rails, fasteners, railroad ties, ballast (the gravel track bed on which the track and ties are laid), and underlying subgrade. Signals and signal bridges are situated along the BNSF ROW. Various underground and overhead utility lines are present within the BNSF ROW (and adjacent properties), including among others the following: a Southern California Gas Company (SCG) gas line and overhead power lines at 6th Street, Southern California Edison (SCE) Company overhead power lines at 7th Street, and a City water line in Cajon Boulevard.

Appendix 9.2: Land Use Matrix, lists the 103 parcels and City ROW that comprise the Project area. **Appendix 9.2** also details the properties where ground disturbances or property acquisitions are required, their Assessor's Parcel Number (APN), size, and land use. **Table 3-2: Summary of Existing Land Uses**, summarizes the land uses that are present in the Project area, which include BNSF and City ROW, and residential. As indicated in **Table 3-2**, most (approximately 78 percent) of the Project site is developed/improved, while 22 percent remains vacant/undeveloped.

POTENTIAL HAZARDS

Potential Building Material Hazardous Substances

This analysis discusses chemicals and other hazardous substances commonly found in building materials such as lead-based paint (LBP) and asbestos-containing materials (ACM).

Asbestos, a natural fiber used in the manufacturing of different building materials, has been identified as a human carcinogen. ACM may be present in buildings, pipes, and other elements of the built environment. Prior to the 1980s, a variety of building construction materials commonly used asbestos for insulation and as a fire retardant. Some non-friable modern building materials, such as roofing felt, vinyl asbestos floor tile, ceiling tiles, and transite building materials still contain asbestos. There is no health threat if ACM remains undisturbed and does not become airborne. However, if ACM is damaged or disturbed by repair, remodeling, or demolition activities, microscopic fibers become airborne and can be inhaled. Asbestos is linked to lung cancers and the lining of internal organs, as well as to asbestosis and other diseases that inhibit lung function. State and federal regulations typically require preparation of, and compliance with, ACM abatement plans before disturbing ACM.

An asbestos and LBP survey was not conducted as part of the Hazardous Materials Assessment. However, industrial, commercial, and residential structures with potential to contain LBP exist within the Project site. Concern for LBP is primarily related to residential structures, although the concern may also apply to commercial structures. The risk of lead toxicity in LBP varies according to the condition of the paint and the year of its application. The U.S. Department of Housing and Urban Development has defined LBP as any paint that contains more than 0.5 percent lead by weight, and has identified the following risk factors:

- Age of the paint on a residential structure
    - The maximum risk is from paint applied before 1950

  - There is severe risk from paint applied before 1960
  - There is moderate risk from deteriorated paint applied before 1970
  - There is a slight risk from paint that is intact but applied before 1977
  - Paint applied in 1977 or later is not expected to contain lead
- The condition of the painted surfaces
- The presence of children and certain types of household goods in the building
- Previously reported cases of lead poisoning in the building or surrounding areas

Buildings within the Project site constructed using materials manufactured before 1977 may be contaminated with lead and LBP. Weathering and routine maintenance of painted structures could also contaminate nearby soils with lead. Some structures observed within the Project site were constructed prior to 1970 and could, therefore, contain LBP.

The Project site was found likely to include structures that could contain LBP and ACM and are proposed for demolition. The types of structures proposed for demolition include residential, industrial, and commercial.

Potential Road and Railway Corridor Hazardous Substances

Specific to roadways, yellow paint and tape used for pavement marking before 1997 might exceed the hazardous waste criteria for lead in the Project site under Cal. Code of Regs., Title 22. If so, such materials would need to be disposed of at a Class I disposal facility authorized to accept this type of waste. In addition to lead-containing materials, ACM might be found in roadway materials, such as material used before the 1980s for expansion joints in pavement. Utility and ROW work associated with the Project would include sections of roadway being removed and replaced for utilities.

Leaded gasoline was used as a vehicle fuel in the United States from the 1920s until the late 1980s. Although lead is no longer used in gasoline formulations, lead emissions from automobiles (i.e., aerially deposited lead) are a recognized source of contamination in soils along roadways. Surface and near-surface soils along heavily used roadways have the potential to contain elevated concentrations of lead. The primary roadways where this type of contamination could occur are at major highways arterial streets. The Project would not modify or demolish any portions of a major highway or arterial. However, the Project area extends approximately 4.3 linear miles along the BNSF corridor adjacent to/west of I-215. Although, various roadway modifications are proposed within the Project site, all involve local streets and no arterials.

Contaminants common in railway corridors include wood preservatives (e.g., creosote and arsenic) in ties and heavy metals in ballast rock. ACM might also occur in ballast rock and soils associated with railroad tracks. These materials might occur on the Project site, as portions of the Project include extension of existing BNSF tracks. In addition, soils in and adjacent to the rail corridor might contain herbicide residues as a result of historic and ongoing weed-abatement practices.

Potential Utility Corridor Hazardous Substances

The primary utility corridors in the Project vicinity are along the existing BNSF corridor and I-215 freeway corridor, however, public utilities also connect to the nearby residential and non-residential land uses. Contaminants common to utility corridors include wood preservatives, herbicide residues, and polychlorinated biphenyls (PCB)-containing equipment. Equipment that might contain PCBs includes transformers, capacitors, and other electrical equipment; oil used in motors and hydraulic systems; and thermal insulation material (e.g., fiberglass, felt, foam, cork). In particular, older, pole-mounted electrical transformers typically contain PCBs. Multiple pole-mounted transformer and ground-mounted transformers associated with the power lines and railway are throughout the Project site. All transformers appeared to be free from noticeable leaks. It is unknown if any of them contained PCB-containing materials.

Potential Non-Residential Facility Hazardous Substances

Commercial and industrial uses exist within the Project site. Such industrial uses often involve areas where businesses have used hazardous materials over long periods. Often, recognized environmental concern (REC) sites are associated with these areas. These sites can also include small industrial uses that demonstrate poor housekeeping practices and small-quantity generators of hazardous wastes that the CUPA regulates that have the potential to impact the Project site. Automobile service facilities that collect used engine oil are examples of such small-quantity generators. In addition to the concentrated use of hazardous materials and the generation of hazardous wastes, it is assumed that hazardous material transport and storage activity is more intense in industrial areas than in other areas.

Transport, Use, Storage, and Disposal of Hazardous Materials and Wastes

I-215 and the BNSF corridor serve as major transportation corridors within the area. Hazardous materials, hazardous wastes, and petroleum products are a subset of the types of goods routinely shipped along these transportation corridors. In addition, hazardous material transport and temporary storage activity is assumed to occur at industrial-type facilities.

Although most hazardous materials and waste are transported without incident, spills and other accidental releases could occur near the Project site. Hazardous materials spills and accidental releases that are cleaned up immediately and do not require further regulatory action are not reported on the databases reviewed for this analysis. Thus, most incident reports in the databases specified below are not classified as REC sites and might not be reported through a database. Those that have been reported and have been determined to be RECs are summarized below in *Property Database Listings* Section.

Landfills

Landfills have the potential to release methane gas, which may present an explosion risk. California Code of Regulations, Title 27, Subchapter 5, requires assessment of landfill potential to release methane gas, which may present an explosion risk. The nearest landfill to the Project site is the Redlands California Landfill, which is approximately 4.6 miles away. Under current regulations, all operating and most closed landfills are required to have landfill gas migration control systems and monitoring programs. Additionally, most active and many closed landfills have landfill gas capture and

treatment/destruction systems. Therefore, the likelihood of methane landfill gas affecting an area beyond the landfill property is low.

Other Potential Hazards

Other hazards that have the potential to impact the proposed Project are wildland fire hazards and airport safety. These potential hazards are discussed below. **Section 4.6: Geology and Soils**, discusses potential hazards related to geology and seismicity. **Section 4.9: Hydrology and Water Quality**, discusses potential hazards related to dam failure and flooding.

WILDLAND FIRE HAZARDS

Wildfires are large-scale brush and grass fires in undeveloped areas. Wildfires are often caused by human activities, such as equipment use and smoking, and can result in loss of valuable wildlife habitat, soil erosion, and damage to life and property. The level of wildland fire risk is determined by a number of factors, including:

- Frequency of critical fire weather;
- Percentage of slope;
- Existing fuel (vegetation, ground cover, building materials);
- Adequacy of access to fire suppression services; and
- Water supply and water pressure.

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped the relative wildfire risk in areas of large population by intersecting residential housing density with proximate fire threat according to three risk levels, namely Moderate, High, and Very High. These risk levels are determined based on vegetation density, adjacent wildland Fire Hazard Severity Zone (FHSZ) scores and distance from wildland area. Each map area gets a score for flame length, embers and the likelihood of the area burning. The City is categorized as a Local Responsibility Area by. The Project site is further mapped as a non-Very High FHSZ.[1] The County of San Bernardino Hazard Overlay Map also shows that the Project site is not within a Fire Safety Area Boundary. Therefore, no further discussion concerning wildland fire hazards is required.

Airport Safety Hazards

The public airport/public use airport nearest the Project site is the San Bernardino International Airport (SBD), approximately 4.0 miles southeast of the Project site. The Project site is not within an airport land use plan. The Project site is also not within an Airport Safety Review Area, per County of San Bernardino Hazard Overlay Map.[2]

Environmental Records Review

Analysts evaluated available records regarding past and current site uses for properties within and adjacent to the Project site; and reviewed the results of an agency database search for REC sites at

[1] http://frap.fire.ca.gov/webdata/maps/san_bernardino_sw/fhszl_map.62.pdf; accessed on May 8, 2019.
[2] http://www.sbcounty.gov/uploads/lus/hazmaps/fh22b_20100309.pdf; accessed February 1, 2020.

surrounding and nearby properties. The information obtained during the records review is discussed below in *Property Database Listings* Section.

The Project is within the Santa Ana Regional Water Quality Control Board District. The State Water Resources Control Board (SWRCB) and the Santa Ana Regional Water Quality Control Board District update and maintain the GeoTracker website (www.geotracker.waterboards.ca.gov/) and provide information regarding records on file for selected facilities that generate or store hazardous materials and wastes within and adjacent to the Project site.

The Department of Toxic Substance Control (DTSC) updates and maintains the EnviroStor website (www.envirostor.dtsc.ca.gov/public/) and provides information regarding records on file for selected facilities that generate or store hazardous materials and wastes within and adjacent to the Project site.

As part of the Project's Hazardous Materials Assessment, regulatory database searches of the DTSC EnviroStor website and the SWRCB GeoTracker website were performed to identify hazardous material regulated facilities within or proximate to the Project site.[3]

Property Database Listings

None of the properties that comprise the Project site are listed in any of the reported environmental databases.

The Hazardous Materials Assessment identified 13 properties within the Project boundaries that are considered REC sites for the Project. These properties and the reasons for considering them REC sites are discussed below:

- **Breland Tours and Transportation** (Property ID #2/APN 0144-011-20; 2181 Cajon Boulevard). This property would be adjacent to proposed drainage improvements. This facility is not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). From the perimeter, this facility appears to be a bus storage yard and possibly a bus or auto maintenance facility. Google Earth imagery (accessed July 22, 2019) shows bus and auto storage with several debris (trash and auto parts) piles scattered throughout the property. Given this facility's current use and associated hazardous material storage, this facility is considered a REC site for the Project.
- **Benson Construction** (Property ID #3/APN 0144-011-22; 2175 Cajon Boulevard). This property would be partially acquired to accommodate proposed drainage improvements. This facility is not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). From the perimeter, this facility's current use is unclear. Google Earth imagery (accessed January 9, 2019) shows some auto storage with a large vacant area void of vegetation at the back of the property. Given this facility's current use is unknown but aerial

[3] http://www.envirostor.dtsc.ca.gov/public/ and http://geotracker.waterboards.ca.gov/; accessed on January 9, 2019.

imagery shows that there could be current or past use of hazardous materials, this facility is considered a REC site for the Project.

- **Daniel Brown's Lawnmower Repair and Sales** (Property ID #8/APN 0144-061-32 and Property ID #7/APN 0144-061-33; 2059 Turrill Avenue). These properties would be acquired to accommodate the proposed Project. This facility is not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). From the perimeter, the property includes one single-family residence and several piles of firewood, auto parts, scrap metal, tires, and office equipment. Google Earth imagery (accessed July 22, 2019) shows auto storage with several debris (auto parts) piles scattered throughout the property. Given this facility's current use and the potential for associated hazardous material storage, this facility is considered a REC site for the Project.
- **Unknown** (Property ID #9.5/APN 0144-061-30, Property ID #9/APN 0144-061-31, and Property ID #10/APN 0144-061-15). These properties would be acquired to accommodate the proposed Project. These facilities are not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). These properties appear to be associated with Daniel Brown's Lawnmower Repair and Sales. The perimeter of these lots was not accessible. Google Earth imagery (accessed July 22, 2019) shows firewood piles and several debris (trash and landscape materials) piles scattered throughout the property. Given these facilities' potential association with Daniel Brown's Lawnmower Repair and Sales and the potential for hazardous material storage, these facilities are considered environmental concerns for the Project.
- **Vacant Lots** (Property ID #11/APN 0144-061-14, Property ID #12/APN 0144-061-35, Property ID #13/APN 0144-061-07). These properties would be acquired as a part of the Project. The properties are not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). These properties appear to be vacant; however, trash and debris piles (household trash and abandoned vehicles) were scattered throughout the properties. Given the potential for hazardous waste to have been discarded on these properties in the past, these properties are considered a REC site for the Project.
- **Vacant Lot** (Property ID #16/APN 0144-061-36 and Property ID #14/APN 0144-061-37). APN 0144-061-36 would be acquired to accommodate the proposed Project. No acquisition of APN 0144-061-37 is proposed. These properties are not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). These properties appear to be vacant; however, trash and debris piles (household trash, tires, mattresses) were scattered throughout the properties. There was also what appeared to be a homeless encampment underneath the Massachusetts Avenue overpass located on these sites. Given the potential for

hazardous waste to have been dumped on these properties in the past, these properties are considered a REC site for the Project.

- **Nationwide RV & Self Storage** (Property ID #17/APN 0144-091-10 and Property ID #18/APN 0144-091-01). These properties would be acquired to accommodate proposed drainage improvements. This facility is not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). From the perimeter, this facility appears to be a self-storage and auto storage facility. Google Earth imagery (accessed July 22, 2019) shows bus and auto storage with a large dirt pile at the back of the building and storage of mechanical equipment. Given this facility's current use and the potential for associated hazardous material storage, this facility is considered a REC site for the Project.
- **Southern California Edison** (Property ID #25/APN 0144-131-10 and Property ID #26/APN 0144-131-45). No acquisition of these parcels is proposed. This facility is not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). An electrical substation and several large transformer boxes and cabinets are located on this property. The substation was not accessible; however, viewed from the fence, there appeared to be no staining in association with the transformer or cabinets. However, given the potential for PCBs and this facility's location adjacent to the Project site, this facility is considered a REC site for the Project.
- **Brickley Environmental** (the sign on the side of one of the buildings is Rayne Water Conditioning) (Property ID 41/APN 0144-222-54). This property would be acquired to accommodate the Project. This facility is not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). According to the Brickley Environmental website (brickleyenv.com), they are a mold remediation, demolition, hazardous waste removal, and asbestos abatement servicing company. From the perimeter, the facility appears to store large shipping containers and dumpsters. Google Earth imagery (accessed July 22, 2019) also shows dumpster and trailer storage. Given the facility's current use and the potential for associated hazardous material storage, this facility is considered a REC site for the Project.
- **Bumper Tech** (Property ID #45/APN 0139-092-10; 1111/1131/1155 Harris Street). This property would be acquired to accommodate the proposed Project. This facility is not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). From the perimeter, the facility appears to be auto and parts storage. Google Earth imagery (accessed July 22, 2019) also shows two, single-story industrial buildings, as well as auto and parts storage. Given the facility's current use and the potential for associated hazardous material storage, this facility is considered a REC site for the Project.
- **Unknown** (Property ID #58/APN 0139-262-17). This property would be acquired to accommodate the Project. This facility is not listed on the EnviroStor website

(https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). From the perimeter, this facility appears to be auto and trailer storage. Google Earth imagery (accessed July 22, 2019) shows auto and trailer storage with several piles of auto parts, scrap metal, and dirt scattered throughout the property. Given the facility's current use and the potential for associated hazardous material storage, this facility is considered a REC site for the Project.

- **Sierra's Truck & Auto Dismantler** (Property ID #62/APN 0139-262-07 and Property ID #63/APN 0139-262-08; 908 8th Street). These parcels would be acquired to accommodate the Project. This facility is not listed on the EnviroStor website (https://www.envirostor.dtsc.ca.gov/ accessed on January 9, 2019) or the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on January 9, 2019). From the perimeter, this facility appears to be auto dismantling and wrecking yard. Google Earth imagery (accessed July 22, 2019) shows several piles of auto, auto parts, and scrap metal throughout the property. Given the facility's current use and the potential for associated hazardous material storage, this facility is considered a REC site for the Project.
- **Salvation Army** (Property ID #56/APN 0139-202-01-0000; 925 West 10th Street). This parcel would be acquired to accommodate the proposed Project. The property is currently occupied by a Salvation Army facility, which is comprised of a school, church, rehabilitation center, and vacant lot. This facility is listed on the SWRCB GeoTracker website (http://geotracker.swrcb.ca.gov/ accessed on October 2020) as a leaking underground storage tank (LUST) case. The potential contaminant of concern for this facility is gasoline, and the potential media affected is soil. There is limited information regarding this facility; however, it is listed as case closed on January 14, 1988. Despite its 1988 case closure status, this facility is considered a REC site for the Project, given it is currently listed (as of October, 2020) as having a LUST.

Division of Oil, Gas and Geothermal Resources Map

To evaluate the presence of on-site oil or gas wells on-site and in the immediate site vicinity, maps available online at the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (http://www.consrv.ca.gov/dog) were reviewed. No oil or gas wells were identified on the Project site.

4.8.3 REGULATORY FRAMEWORK

The management of hazardous materials and hazardous wastes is regulated at federal, state, and local levels, including, among others, through programs administered by the U.S. EPA; agencies within the California Environmental Protection Agency (CalEPA), such as the DTSC; federal and state occupational safety agencies; and the San Bernardino County Fire Department. Regulations pertaining to flood hazards are discussed in **Section 4.9** and regulations for geologic and soil-related hazards are discussed in **Section 4.6: Geology and Soils**.

At the federal level, the U.S. EPA is the principal regulatory agency, while at the State level, DTSC is the primary agency governing the storage, transportation, and disposal of hazardous wastes. The Santa Ana Regional Water Quality Control Board (RWQCB) has jurisdiction over discharges into waters of the State.

The Federal Occupational Safety and Health Administration (OSHA) and the State Cal-OSHA regulate many aspects of worker safety.

FEDERAL

According to the U.S. EPA, special handling and management are required for materials and wastes that exhibit hazardous properties. In general, treatment, storage, transport, reporting requirements, health and safety provisions for workers and members of the public, and ultimately remediation and disposal of these materials are highly regulated at both the federal and state levels. Compliance with federal and state hazardous materials laws and regulations minimizes the potential risks to the public and the environment presented by these potential hazards.

These laws provide the “cradle to grave” regulation of hazardous wastes. Businesses, institutions, and other entities that generate hazardous waste are required to identify and track their hazardous waste from the point of generation until it is recycled, reused, or disposed. The U.S. EPA and the DTSC have developed and continue to update lists of hazardous wastes subject to regulation.

Resource Conservation and Recovery Act (RCRA)

The RCRA (42 U.S.C. §§ 6901 et seq.) gives the U.S. EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste by "large-quantity generators" (1,000 kilograms/month or more, which is one metric ton, or 2,205 pounds). Under RCRA regulations, hazardous waste must be tracked from the time of generation to the point of disposal. At a minimum, each generator of hazardous waste must register and obtain a hazardous waste activity identification number. If hazardous waste is stored for more than 90 days or treated or disposed at a facility, any treatment, storage, or disposal unit must be permitted under RCRA. Additionally, all hazardous waste transporters are required to be permitted and must have an identification number. RCRA allows individual states to develop their own program for the regulation of hazardous waste, as long as it is at least as stringent as RCRA. In California, the U.S. EPA has delegated RCRA enforcement to the State of California.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. §§ 9601 et seq.), also known as the Superfund Act, outlines the potential liability related to the cleanup of hazardous substances, available defenses to such liability, appropriate inquiry into site status under Superfund (which is the federal government’s program to clean up the nation’s uncontrolled hazardous waste sites), statutory definitions of hazardous substances and petroleum products, and the petroleum product exclusion under CERCLA. CERCLA provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also establishes the National Contingency Plan (NCP), which provides guidelines and procedures necessary to respond to releases and threatened releases of hazardous substances.

Superfund Amendment and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) pertain primarily to emergency management of accidental releases. It requires formation of state and local emergency planning committees, which are responsible for collecting material handling and transportation data for use as a basis for planning. Chemical inventory data is made available to the community at large under the "right-to-know" provision of the law. In addition, SARA also requires annual reporting of continuous emissions and accidental releases of specified compounds. These annual submissions are compiled into a nation-wide Toxics Release Inventory.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act (49 U.S.C. §§ 5101 et seq.) is the statutory basis for the extensive body of regulations aimed at ensuring the safe transport of hazardous materials on water, rail, highways, air, or in pipelines. The Act includes provisions for material classification, packaging, marking, labeling, warning placards, and shipping documentation.

The United States Department of Transportation (DOT) has developed a system of numerical designations (the International Classification System) that must be displayed on placards, labels, and/or shipping papers. Any hazardous material being transported is classified according to its hazardous properties. This system classifies hazardous materials with nine different classes (1-9) based on a number of characteristics, including explosives, gases, flammable liquids and solids, oxidizers, poisons, etc. In addition to the numerical classification system for hazardous materials, the DOT has established a placard system for transporting of hazardous waste, which has been adopted by the U.S. EPA who regulates these shipments. These placards are required to be displayed on all sides on any truck or railcar that transports hazardous materials.

Code of Federal Regulations Title 49

The Hazardous Materials Transportation Act regulates the transport of hazardous materials by railroads, motor vehicles, marine vessels, and aircraft.

STATE AND REGIONAL

State agencies involved in hazardous materials management include the Office of Emergency Services (OES), California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Air Resources Board (CARB), and California's Department of Resources Recycling and Recovery (CalRecycle). California hazardous materials management laws include the following, among others.

Department of Toxic Substances Control

The mission of the DTSC is to protect California's people and environment from harmful effects of toxic substances by restoring contaminated resources, enforcing hazardous waste laws, reducing hazardous waste generation, and encouraging the manufacture of chemically safer products. As part of its mission, the DTSC maintains its Enforcement and Emergency Response Division to administer the technical implementation of the State Unified Program. The Unified Program is a consolidation of six environmental programs at the local level. Those agencies at the local level with responsibility for the program are known as Certified Unified Program Agencies (CUPA). The DTSC also has the responsibility

of overseeing and regulating hazardous materials, generators, transporters, and facilities that may use, generate, store, transport, or recycle, hazardous materials.

Hazardous Materials Release Response Plans and Inventory Act

The Hazardous Materials Release Response Plans and Inventory Act (also known as the "Hazardous Materials Business Plan Program") (California Health & Safety Code §§ 25500 et seq.) establishes business and area plans relating to the handling and release or threatened release of hazardous materials. Under the Hazardous Materials Business Plan Program, businesses are required to submit basic information to firefighters, health officials, planners, public safety officers, health care providers, regulatory agencies and any other interested persons regarding the location, type, quantity, and health risks of hazardous materials which are handled, used, stored, or disposed of in the state.

Hazardous Substances Account Act

The Hazardous Substances Account Act, also known as the "California Superfund" (California Health & Safety Code §§ 25300 et seq.), is the State's Superfund program which authorizes CalEPA to clean up contaminated sites and hazardous substance releases into the environment that do not qualify for cleanup under CERCLA. The Hazardous Substances Account Act establishes regulations and incentives to ensure that generators of hazardous waste use technology and best management practices for the safe handling, treatment, recycling, and destruction of their hazardous waste prior to disposal.

Hazardous Waste Control Law

The Hazardous Waste Control Law (HWCL) (California Health & Safety Code §§ 25100, et seq.) is California's primary hazardous waste statute. The HWCL implements RCRA as California's "cradle-to-grave" waste management system. HWCL specifies that generators have the primary duty to determine whether their wastes are hazardous and ensure their proper management. The HWCL also establishes criteria for reuse and recycling of hazardous waste used or reused as raw materials. The HWCL exceeds federal requirements by mandating source reduction planning, and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates various types of wastes and waste management activities that are not covered by federal law with RCRA.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) (Health & Safety Code §§ 25404 et seq.) required the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a CUPA. The Program Elements consolidated under the Unified Program are Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (a.k.a., Tiered Permitting); Aboveground Petroleum Storage Tank Spill Prevention Control and Countermeasure Plan (SPCC); Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or "Community-Right-To-Know"); California Accidental Release Prevention Program (Cal ARP); UST Program; and Uniform Fire Code Plans and Inventory Requirements. The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs

have contractual agreements with another local agency (a "participating agency") which implements one or more Program Elements in coordination with the CUPA.

Safe Drinking Water and Toxic Enforcement Act of 1986

The Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) amended the Health and Safety Code to require that persons doing business neither expose individuals to carcinogens or chemicals causing reproductive toxicity without giving clear and reasonable warning, nor discharge such chemicals into drinking water. The Office of Environmental Health Hazard Assessment (OEHHA) is the responsible agency for implementation of Proposition 65.

State Water Resources Control Board

Brownfields are underutilized properties where reuse is hindered by the actual or suspected presence of pollution or contamination. The SWRCB Brownfield Program goals are to:

- Expedite and facilitate site cleanups and closures for brownfield sites to support reuse of those sites;
- Preserve open space and greenfields;
- Protect groundwater and surface water resources, safeguard public health, and promote environmental justice; and
- Streamline site assessment, clean up, monitoring, and closure requirements and procedures within the various SWRCB site cleanup programs.

Site clean-up responsibilities for brownfields primarily reside within four main SWRCB programs: the Underground Storage Tank Program; Site Cleanup Program; Department of Defense Program; and the Land Disposal Program. These SWRCB cleanup programs are charged with ensuring sites are remediated to protect California's surface and groundwater and return them to beneficial uses.

California Air Resources Board

One of the CARB's major goals is to protect the public from exposure to toxic air contaminants. The California Air Toxics Program establishes the process for the identification and control of toxic air contaminants and includes provisions to make the public aware of significant toxic exposures and for reducing risk.

The Toxic Air Contaminant Identification and Control Act (AB 1807, Tanner 1983) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, Connelly 1987) supplements the AB 1807 program, by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

Under AB 1807, CARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, the CARB must consider criteria concerning "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community." AB 1807 also requires CARB to use available information gathered from the AB 2588

program to include in the prioritization of compounds. This report includes available information on each of the above factors required under AB 1807 program mandates. AB 2588 air toxics "Hot Spots" program requires facilities to report their air toxics emissions, ascertain health risks, and notify nearby residents of significant risks. In September 1992, the Hot Spots Act was amended by Senate Bill 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Accidental Release Prevention Program

The California Accidental Release Prevention Program (CalARP) provides for consistency with federal laws (i.e., the Emergency Preparedness and Community Right-to-Know Act and the Clean Air Act) regarding accidental chemical releases and allows local oversight of both the state and federal programs. State and federal laws are similar in their requirements; however, the California threshold planning quantities for regulated substances are lower than the federal quantities. Local agencies may set lower reporting thresholds or add additional chemicals to the program. The Accidental Release Prevention Law is implemented by the CUPAs and requires that any business, where the maximum quantity of a regulated substance exceeds the specified threshold quantity, register with the responsible CUPA as a manager of regulated substances and prepare a Risk Management Plan. A Risk Management Plan must contain an off-site consequence analysis, a five-year accident history, an accident prevention program, an emergency response program, and a certification of the truth and accuracy of the submitted information. Businesses submit their Risk Management Plan to the CUPA, which makes it available to emergency response personnel. Additionally, businesses must prepare a Business Plan, which is required to identify the type of business, location, emergency contacts, emergency procedures, mitigation plans, and chemical inventory at each location.

Transportation of Hazardous Materials/Wastes

Transportation of hazardous materials/waste is regulated by California Code of Regulations (CCR) Title 26. The United States DOT is the primary regulatory authority for the interstate transport of hazardous materials. The DOT establishes regulations for safe handling procedures (i.e., packaging, marking, labeling, and routing). The CHP and Caltrans enforce federal and state regulations and respond to hazardous materials transportation emergencies. Emergency responses are coordinated as necessary between federal, state, and local governmental authorities and private persons through a state-mandated Emergency Management Plan.

Worker and Workplace Hazardous Materials Safety

Occupational safety standards exist to minimize worker safety risks from both physical and chemical hazards in the workplace. Cal-OSHA is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal-OSHA requires many businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle.

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) works with CARB and is responsible for developing and implementing rules and regulations regarding air toxics on a local level. The SCAQMD establishes permitting requirements, inspects emission sources, and enforces measures through educational programs/fines. Refer to **Section 4.2: Air Quality**, for a discussion of the Project's consistency with SCAQMD requirements.

San Bernardino County Fire Department (Certified Unified Program Agency)

The San Bernardino County Fire Department is the designated CUPA for the County of San Bernardino. The CUPA is the local administrative agency that coordinates hazardous materials and hazardous wastes regulation in San Bernardino County through the following six programs:

- Hazardous Materials Release Response Plans and Inventory (Business Plans). This program requires businesses that handle hazardous materials in quantities equal to or greater than 55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of compressed gas, or extremely hazardous substances above the threshold planning quantity, report this information to the CUPA. The program is intended to prevent or minimize damage to public health and safety and the environment, from release or threatened release of hazardous materials. The program also requires San Bernardino County businesses to prepare a Business Emergency/Contingency Plan. Submission of the Business Emergency/Contingency Plan satisfies the Emergency Planning and Community Right-to-Know Act §§ 311-312 Tier II Reporting requirement of the U.S. EPA.
- Hazardous Generation and On-site Treatment. This program is intended to ensure that all hazardous wastes generated by San Bernardino County businesses are properly handled, recycled, treated, stored, and disposed.
- Underground Storage Tank Inspection Program. This program is intended to ensure that hazardous materials stored in an UST are not released into the environment, potentially polluting ground and surface waters.
- Aboveground Petroleum Storage Act (APSA)/Spill Prevention, Control, and Countermeasure (SPCC Plan). Assembly Bill 1130 (the Aboveground Petroleum Storage Act) authorized administration and implementation of the Aboveground Petroleum Storage Tank (APST) Program to the local CUPA. APST applies to any business with a total storage capacity, at any one site, of more than 1,320 gallons of petroleum products in tanks or containers larger than 55 gallons. APST-regulated tank facilities are also regulated by the U.S. EPA Region 9 Oil Program Clean Water Act Compliance Office. The federal standards (called the SPCC rule) regulate non-petroleum oils that are not regulated under APST such as vegetable oil. It is possible for a tank facility to be regulated and inspected by both the U.S. EPA and CUPA, or just the U.S. EPA.
- Hazardous Materials Management Plans and Inventory Statements under California Fire Code. The Uniform Fire Code has a provision for the local fire agency to collect information regarding hazardous materials at facilities for purposes of fire code implementation. Local fire agencies request the Hazardous Materials Management Plans and Hazardous Material Information Statements from the CUPA. Many fire agencies accept the Business Plan submitted in the

California Environmental Reporting System towards meeting a portion of this requirement. Some fire agencies require information which is not in the business emergency/contingency plan in order to implement their local fire prevention programs.

- California Accidental Release Prevention Program. CalARP is a part of the San Bernardino County CUPA. This program requires any business that handles more than threshold quantities of a Regulated Substance (RS) to develop a Risk Management Plan (RMP). The RMP is implemented by the business to prevent or mitigate releases of regulated substances that could have off-site consequences. Regulated Substances and their threshold quantities can be found in California Code of Regulations Title 19 § 2770.5 (i.e., Table 1: Federal Regulated Substances List and Threshold Quantities for Accidental Release Prevention, Table 2: Federal Regulated Flammable Substances List 1 and Threshold Quantities for Accidental Release Prevention, Table 3: State Regulated Substances List and Threshold Quantities for Accidental Release Prevention).

LOCAL

City of San Bernardino General Plan

Safety Element

The SBGP Safety Element specifically addresses how the City will prepare and respond to fire hazards, geologic, and seismic hazards, and flood hazards. The Safety Element provides background information related to each issue and identifies hazard locations within the City, risk-reduction strategies, and hazard abatement measures that can ultimately be used by decision-makers in their review of projects. Policies also address ways to minimize any economic disruption and accelerate the City's recovery following a disaster.

Goal 10.1: **Protect the environment, public health, safety, and welfare from hazardous wastes.**

Policy 10.1.1: Employ effective emergency preparedness and emergency response strategies to minimize the impacts from hazardous materials emergencies, such as spills or contamination.

Policy 10.1.2: Ensure the protection of surface and groundwater quality, land resources, air quality, and environmentally sensitive areas through safe transportation of waste through the City and comprehensive planning of hazardous materials, wastes, and sites.

Goal 10.2: **Promote proper operations of hazardous waste facilities and ensure regulations applicable to these facilities are enforced.**

Policy 10.2.1: Require the proper handling, treatment, movement and disposal of hazardous materials and hazardous waste.

Policy 10.2.3: Implement federal, state and local regulations for the disposal, handling, and storage of hazardous materials.

Goal 10.4: **Minimize the threat of surface and subsurface water contamination and promote restoration of healthful groundwater resources.**

Policy 10.4.2: Protect surface water and groundwater from contamination.

Goal 10.12: Ensure the availability and effective response of emergency services in the event of a disaster.

Policy 10.12.1: Maintain a functional City emergency response plan that addresses all hazards.

City of San Bernardino Municipal Code

The SBMC addresses a variety of hazards and related topics, including hazardous materials and waste and fire hazards. The County's "Abatement of Fire Hazards and Hazardous Trees" was adopted as SBMC § 8.19.010. SBMC § 8.80.206 requires that non-storm water including hazardous waste not permitted to be discharged into the community sewer unless discharges are covered by NPDES permits or written clearances issued by the Regional or State Water Quality Board. SBMC § 13.32.310 prohibits liquid waste haulers to discharge any hazardous material or hazardous waste to the designed Water Reclamation Plant (WRP) disposal site. In addition, SBMC § 13.32.500 prohibits Class I, II, III, IV, V or VI users from connecting or discharging to a Publicly Owned Treatment Works without a valid industrial user or liquid waste hauler permit.

City of San Bernardino Emergency Management Plan

The City has adopted an Emergency Operations Plan (EOP) to identify evacuation routes, emergency facilities, and County personnel and equipment available to effectively deal with emergency situations. The EOP also outlines mutual aid agreements between emergency service agencies.

4.8.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions pertaining to hazards and hazardous resources. The issues presented in the Environmental Checklist have been used as significance criteria in this section. Accordingly, the Project may create a significant impact on the environment if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (see Impact 4.8-1);
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (see Impact 4.8-2);
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (see Impact 4.8-3);
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment (see Impact 4.8-4);
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area (see Impact 4.8-5);

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (see Impact 4.8-6); or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (see Impact 4.8-7).

METHODOLOGY AND ASSUMPTIONS

The proposed Project is evaluated against the aforementioned significance criteria, as the basis for determining the level of impacts related to hazards and hazardous materials. This analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards (LORS)) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended to avoid or reduce the Project's potentially significant environmental impacts.

4.8.5 IMPACTS AND MITIGATION MEASURES

Impact 4.8-1:	**Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**
Level of Significance: Less Than Significant Impact	
Impact 4.8-2:	**Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**
Level of Significance: Less Than Significant Impact	

CONSTRUCTION

The transport of hazardous materials by rail creates a potential for spills and accidents along delivery routes. The transport of hazardous materials is regulated by the U. S. Department of Transportation (C.F.R. Title 49) and the Federal Railway Administration (FRA). The regulations require registration of hazardous waste transporters, manifesting procedures for hazardous waste transport, operational procedures for transport, and requirements for the condition of vehicles and containers used to transport hazardous waste.

Construction activities have the potential to result in temporary direct and indirect effects from the transport, use, storage, and disposal of hazardous materials and wastes. Project construction would temporarily increase the regional transport, use, storage, and disposal of hazardous materials. However, these materials present no substantial hazard to the community when properly handled, transported, and stored according to the manufacturers' guidelines and regulatory agency rules and regulations. The potentially hazardous materials associated with Project construction include the following among others:

- Acids and caustics
- Compressed gases
- Caulking
- Adhesives and glues
- Degreasers
- Refrigerants
- Oils and lubricants
- Batteries and battery acid

- Fuels and additives
- Herbicides and pesticides
- Wood preservatives
- Paints, varnishes, and shellacs
- Paint strippers
- Solvents and thinners
- Mineral spirits

The increased use of hazardous materials could in turn result in an incremental increase in hazardous waste generation. Demolition of existing structures within the Project site would likely require the transportation of ACM, LBP, and, potentially, other chemical wastes such as PCBs, from the construction site to appropriate disposal sites. Additionally, before Project construction at REC sites, remediation (i.e., cleanup) of contaminated soil could generate hazardous waste for transporting to appropriate off-site disposal facilities. Remediation of contaminated soil along freeways, highways, major thoroughfares, and railroad and utility corridors would generate soil that could be classified as hazardous waste for transporting to off-site disposal facilities. Waste generated from construction activities may include soil or groundwater contaminated by aerially deposited lead, petroleum hydrocarbons, pesticides, herbicides, asbestos, heavy metals, lead, PCBs, and creosote and arsenic, or other hazardous materials. Waste generation may also include demolition materials that contain friable or nonfriable asbestos or lead.

Hazardous materials and wastes transportation is regulated by federal agencies through the 1975 Hazardous Materials Transportation Act (49 U.S.C §§ 1801–1819 and 49 C.F.R. §§ 101, 106, 107, and 171– 180). This act regulates hazardous waste and materials transportation by establishing operational rules that govern the transportation process from pick up to delivery. Caltrans and other state agencies impose regulations through the Hazardous Waste Control Act (Health & Safety Code §§ 25100 et seq.), which regulates the identification, generation, transportation, storage, and disposal of materials the State of California deems hazardous. These federal and state hazardous materials transportation regulations and response to hazardous materials transportation emergencies are enforced by California Highway Patrol and Caltrans. Additionally, the CUPA (i.e., San Bernardino County Fire Department Hazardous Materials Division) regulates the proper management of all hazardous materials and wastes in the County

To minimize potential effects on study area roadways and intersections associated with the transport of hazardous materials by oversized or overweight trucks, BNSF would be required to secure all applicable California Highway Patrol and Caltrans permits/licenses. Compliance with existing regulations governing the transport of hazardous materials would prevent significant adverse impacts associated with accidents and spills. Compliance with transport regulations identified herein would result in less than significant impacts related to the transport of hazardous materials.

In addition, any ACM and LBP within the on-site structures that would be demolished to accommodate the Project would need to be disposed of properly in accordance with all applicable federal and state regulations. Following compliance with the established regulatory framework, potential impacts associated with an accidental release of hazardous materials to the environment would be reduced to less-than-significant levels.

OPERATIONS

Proper hazardous waste disposal, regardless of the method selected, often affects the environment. Waste management strategies that seek to prevent pollution by reducing waste generation at its source are considered the most desirable approach. The Pollution Prevention Act of 1990 (42 U.S.C. §§ 13101 et seq.) established pollution prevention as a national objective. This priority will be reflected in rail operations through BNSF protocols for handling hazardous materials and wastes, which include restricting the amount and type of certain hazardous materials and wastes,[4] thereby reducing the quantity of hazardous wastes that would be transported.

Project operation could generate heavy metals in ballast rock, lead (from wood preservatives), asbestos (from train disc brake pads), and creosote and arsenic (from railroad ties). The potential for contamination as a result of Project operations would be the same as potential contamination within the existing BNSF corridor. Dwelling units within the site would be acquired prior to construction; thus, none would be at risk from contamination as a result of Project operations.

Project operations would involve rail transport of hazardous materials. The transportation of hazardous materials would comply with all federal and state laws and regulations regarding the safe transportation of hazardous materials, which would be effective in preventing a hazard to the public. Additionally, occasional track maintenance would be required. Maintenance activities could involve the use or generation of hazardous materials including among others:

- Solvents
- Cleaners
- Grease
- Oil
- Excavation and replacement of ballast
- Herbicides

Maintenance activities would be temporary and intermittent. The use and handling of these materials would comply with federal and state laws regulating hazardous materials and wastes, including training employees and using protective equipment when required, which would be effective in protecting workers and the public.

Railroad companies are required to implement and consistently apply U.S. Department of Transportation (DOT) rules and regulations to enhance safety of the employees and of the communities through which they operate. Only hazardous material shipments that conform to DOT regulations can be accepted or transported by rail. Generally, the DOT specifies that a hazardous material cannot be offered, accepted, or transported unless that material is properly classified, described, packaged, marked, labeled, and placarded and is in proper condition for transportation according to DOT regulations. A hazardous material cannot be transported in commerce unless the hazardous material is handled and transported according to DOT regulations. Further, a hazardous material cannot be

[4] https://www.bnsf.com/ship-with-bnsf/intermodal/pdf/intermodal-r-and-pg.pdf; accessed November 2019.

accepted for shipment by rail unless a crew member has the required documentation (i.e., acceptable shipping papers, acceptable emergency response information, and a document showing the current position of the hazardous material shipment in the train). This documentation is intended to provide railroad personnel and emergency response personnel with accurate information about the hazardous materials.

Additionally, BNSF has prepared a System Emergency Response Plan to respond to emergencies. The Response Plan describes procedures for responding to hazardous release emergencies, persons, and agencies to contact, locations for personnel to evacuate to, and prevention practices to limit the potential of these emergencies BNSF has also established a website (www.BNSFhazmat.com) to communicate with first responders. Through the website, first responders can: schedule and participate in online BNSF hazardous materials training; obtain a summary of BNSF's System Emergency Response Plan; and request a hazardous materials traffic flow report. It is noted, any amount of material that leaks from any container is counted as a release, thus, a single train accident can result in a report of multiple releases. In 2017, BNSF handled over 1.3 million hazardous materials shipments. On average per year, only 0.0002 percent of these shipments were involved in an accident that resulted in a hazardous material release to the environment.[5]

Therefore, the hazard to the public from these activities would be less than significant.

Mitigation Measures

No mitigation is required.

Impact 4.8-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The nearest school, Riley Elementary School, is approximately 0.2 mile east of the Project site. I-215 is situated between the school and the Project site (the existing BNSF railway).

Any hazardous material use within the Project site would be subject to federal, state, and local regulations, such as Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Hazardous Materials Release Response Plans and Inventory Law, the Hazardous Materials Transportation Uniform Safety Act of 1990, and the Hazardous Waste Control Act. These regulations would apply equally near school sites and require monitoring the generation, transportation, treatment, storage, and disposal of hazardous waste.

Further, California Public Resources Code § 21151.[4] states that "*an environmental impact report shall not be certified or a negative declaration shall not be approved for any project involving the construction or alteration of a facility within 0.25 mile of a school that might reasonably be anticipated to emit*

[5] http://www.bnsf.com/in-the-community/environment/environmental-protection.html; accessed November 19, 2019.

hazardous air emissions, or that would handle an extremely hazardous substance or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of section 25532 of the Health and Safety Code, that may pose a health or safety hazard to persons who would attend or would be employed at the school, unless both of the following occur: (1) The lead agency preparing the environmental impact report or negative declaration has consulted with the school district having jurisdiction regarding the potential impact of the project on the school, and (2) The school district has been given written notification of the project not less than 30 days prior to the proposed certification of the environmental impact report or approval of the negative declaration."

Accordingly, the Project Applicant would give the affected school district opportunity to comment on the Project and express any related concerns that may result in potential prescriptive actions, such as limits on the materials used, or restrictions on the transport and storage of such materials.

Compliance with all applicable federal, state, and regional regulations regarding hazardous material generation, transport, use, or disposal of hazardous materials would preclude potential impacts to any schools within the Project vicinity to less than significant levels.

Mitigation Measures

No mitigation is required.

Impact 4.8-4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Level of Significance: Less Than Significant With Mitigation Incorporated

CONSTRUCTION AND OPERATIONS

The Project site is not included on a hazardous site list compiled pursuant to California Government Code § 65962.5. However, there are 13 properties that are identified as REC sites and would be acquired to accommodate the proposed rail and ancillary improvements; see the *Property Database Listings* Section above.

Therefore, construction activities could encounter contaminants or interfere with ongoing remediation efforts. Unless construction activities are coordinated with site remediation activities, there could be an increased risk of damaging or interfering with remediation site controls such as soil containment areas. In addition, construction at sites with existing contamination could result in the generation of contaminated waste materials. Effects could include potential localized spread of contamination; exposure of construction workers and the public to chemical compounds in soils, soil gases, and groundwater; exposure of workers, the public, and the environment to airborne chemical compounds migrating from the demolition or construction areas; potential accidents during transportation of contaminated soils; potential accidents during remediation as a result of operational failure of treatment systems; and potential interference with ongoing remediation activities. Construction could also result in the discovery of previously unknown contamination.

The effects of hazardous-waste containing chemical compounds would generally be limited to the immediate areas where the materials would be excavated, handled, and stored because exposure would be most likely in these areas. For this reason, the individuals most at risk would be the construction workers, operations personnel, or others in the immediate vicinity during excavation, transportation, or storage of hazardous waste, or during construction. The ways which these individuals could be exposed include inhalation, ingestion, or skin contact.

Compliance with federal and state regulations and policies, including the Comprehensive Environmental Response, Compensation and Liability Act, All Appropriate Inquiry,[6] Public Resources Code § 21151.4, and the certified Unified Program administered by the CUPA, would require environmental site assessment procedures (due diligence) for improvements on or near a potentially hazardous or contaminated site. Potential hazards would be minimized through the careful design and placement of Project elements, avoiding contaminated sites where possible. All necessary remediation would be conducted before construction. If necessary, regulatory approval for construction at contaminated sites would be sought and planned for.

Interference with any ongoing remediation activities at a given site could increase the risk of a release of contaminants or result in an interruption in cleanup; thus, construction at sites of environmental concern would require coordination with regulatory agencies before proceeding with construction. In accordance with Mitigation Measure HAZ-1, a Phase II Environmental Site Assessment (ESA) would be conducted during the property acquisition phase, and appropriate remediation including removal of contamination, in-situ treatment, or soil capping would be conducted prior to acquisition. Depending on proposed activities, such as subsurface ground disturbance, and the known extent and type of contamination, requirements for building at contaminated sites could include further evaluation of the level of contamination and associated potential risks to human health and the environment as well as site remediation.

Mitigation Measure HAZ-1 requires a qualified Site Characterization specialist to conduct a site characterization for each of these 13 properties identified as REC sites prior to ground disturbing activities. Upon completion of site characterization activities, remedial activities, if necessary, would be recommended and implemented in consultation with the San Bernardino Environmental Health Division (EHD). With implementation of Mitigation Measure HAZ-1, potential impacts associated with soil and groundwater contamination on the Project site would be reduced to less than significant levels.

Mitigation Measures

MM HAZ-1 **Environmental Site Assessment**. Prior to ground disturbing activities, a Phase I Environmental Site Assessment (ESA) shall be conducted on the 13 properties identified as recognized environmental concerns (REC) in the Hazardous Materials Assessment (Kimley-Horn and Associates, Inc., January 9, 2019) and provided to the City of San Bernardino. The Phase I ESA's shall include a recommendation on whether or not a Phase II ESA is required for the property. If a Phase I ESA recommends a Phase II ESA, a Phase II ESA shall be prepared for the property. The Phase II ESA shall include soil and

[6] All Appropriate Inquiries is a process of evaluating a property's environmental conditions and assessing the likelihood of any contamination before its acquisition.

groundwater sampling and shall be provided to the City of San Bernardino. The sampling shall be conducted by a qualified Phase II/Site Characterization specialist. Upon completion of site characterization activities, the Site Characterization specialist shall recommend remedial activities, if necessary, in consultation with the San Bernardino Environmental Health Division (EHD). This recommendation from the Phase II ESA shall be implemented to the satisfaction of EHD.

Impact 4.8-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Level of Significance: No Impact

CONSTRUCTION AND OPERATIONS

The airport nearest the Project site is SBD, which is approximately 4.0 miles to the southeast. Therefore, the Project site is not within 2.0 miles of a public airport or public use airport. SBGP Land Use Element Figure LU-4 depicts SBD's Airport Influence Area and indicates the Project site is outside the area. Further, the Project does not propose construction of any new structures. Therefore, the Project would not expose people residing or working in the Project area to airport- or airstrip-related safety hazards or excessive noise and no mitigation is required.

Mitigation Measures

No mitigation is required.

Impact 4.8-6: Would the project Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project would not impair or physically interfere with an adopted emergency response or evacuation plan. The SBGP Safety Element Policy 10.12.1 states, "Maintain a functional City emergency response plan that addresses all hazards." The City's EOP was prepared to guide the integration and coordination with other governmental agencies that are required during an emergency to serve the City's existing and future public safety needs. The EOP identifies emergency facilities and City personnel, and describes the overall responsibilities of federal, state, regional, Operational Area, and City entities. The EOP does not identify emergency evacuation routes. No revisions to the adopted EOP would be required, as a result of the proposed Project. Primary access to all major roads would be maintained during Project construction and operations, as required by City Public Works Department standards.[7] Therefore, impacts would be less than significant.

[7] http://www.ci.san-bernardino.ca.us/pdf/DevSvcs/std_dwgs/files/STREET.pdf; accessed May 6, 2020. Page 7

Mitigation Measures

No mitigation is required.

Impact 4.8-7: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Level of Significance: No Impact

CONSTRUCTION AND OPERATIONS

The Project site is in a developed urban area and it is not adjacent to any wildland areas. In addition, the Project site is mapped as a non-Very High FHSZ by CAL Fire[8] and not within a Fire Safety Area Boundary per the County of San Bernardino Hazard Overlay Map[9]. No impact would occur.

MITIGATION MEASURES

No mitigation is required.

4.8.6 CUMULATIVE IMPACTS

For purposes of hazards and hazardous materials analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**. The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning hazards and hazardous materials in SBGP EIR Section 5.6, *Hazards and Hazardous Materials*. The following is a summary of the expected environmental effects:

- Build-out could result in additional commercial and industrial facilities that necessitate the transport, use, and/or disposal of hazardous materials. This impact was concluded to be less than significant.
- Build-out could result in development on properties included on a list of hazardous materials sites. This impact was concluded to be less than significant.
- Build-out could result in impacts concerning an adopted airport land use plan. This impact was concluded to be less than significant.
- Build-out could impact implementation of an emergency response plan. This impact was concluded to be less than significant.
- Build-out could impact structures and/or occupants to fire danger within a fire hazard severity zone. This impact was concluded to be less than significant.
- The Arrowhead Springs Specific Plan (AHS) area has Recognized Environmental Conditions that could be impacted by project implementation. This impact was concluded to be less than significant with mitigation incorporated.

[8] https://osfm.fire.ca.gov/media/5951/san_bernardino.pdf; accessed February 1, 2020.
[9] http://www.sbcounty.gov/uploads/lus/hazmaps/fh22b_20100309.pdf; accessed February 1, 2020

Development within the City's planning area could cause a substantial increase in the transport, use, or disposal of hazards or hazardous materials, which could be near one-quarter mile of a school. Potential hazardous material impacts associated with the individual developments would be specific to each site. As with the Project, cumulative development would undergo environmental and design review on a project-by-project basis pursuant to CEQA to evaluate potential impacts to hazards and hazardous materials. All development would be subject to compliance with the existing federal, state, and local regulatory framework concerning the transport, use, and disposal of hazards or hazardous materials. Additionally, implementation of site-specific mitigation would reduce potential project impacts from as-yet unidentified hazards to less than significant levels. As such, cumulative impacts from hazards and hazardous materials would be mitigated on a project-by-project basis, and in accordance with the established regulatory framework.

Therefore, combined cumulative impacts to hazards and hazardous materials associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework.

Mitigation Measures

No mitigation is required.

4.8.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning hazards or hazardous materials have been identified.

4.8.8 REFERENCES

BNSF Railway (BNSF). 2019a. *First Responder Training*. Available at: http://www.bnsf.com/in-the-community/environment/environmental-protection.html. Accessed November 19, 2019.

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4.9 HYDROLOGY AND WATER QUALITY

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to hydrology and water quality, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

This section is based primarily on the following studies, which are included in their entirety in **Appendix 9.11: Hydrology and Water Quality Data:**

- *BNSF Ono Lead Track Extension Supplemental Hydrology Study and CEQA Assessment* (2020 Supplemental Report) (JLC Engineering & Consulting, Inc., 2020); and
- *BNSF Ono Lead Track Extension Hydrology Report* (2017 Report) (WestLAND Group, Inc., 2017);
- *Drainage Study for BNSF Ono Lead Track* (2020 Drainage Study) (JLC Engineering & Consulting, Inc., 2020)

4.9.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Drainage

The Project site is within the San Bernardino County Santa Ana River Watershed, which encompasses approximately 2,650 square miles and includes portions of San Bernardino, Riverside, Orange, and Los Angeles counties. The Santa Ana River Watershed is characterized by the flat, arid basin of southwestern San Bernardino and western Riverside counties, and the coastal plain of north-central Orange County. It is bisected by the Santa Ana Mountains, which run northwest to southeast, nearly perpendicular to the Santa Ana River. The Santa Ana River begins in the San Bernardino Mountains, upstream of Seven Oaks Dam, and drains into the Pacific Ocean in the City of Huntington Beach. There are over 50 major tributaries to the Santa Ana River. The Project site is within the Warm Channel subwatershed of the Santa Ana River Watershed.

The City's planning area is approximately 71 square miles, much of which is paved and impervious to stormwater. Within the City, storm drains and flood control facilities include natural and man-made channels, storm drains, street waterways, natural drainage courses, dams, basins, and levees. The City's storm drain and flood control facilities are administered by the City, San Bernardino County Flood Control District, U.S. Army Corps of Engineers (USACE), and San Bernardino International Airport and Trade Center.[1]

The Project area's general drainage pattern is in a northwest to southeast direction; see **Exhibit 4.9-1: Topography Map**. The Project site includes the existing graded and compacted railroad corridor that is used by BNSF, as well as adjacent existing residential and non-residential properties, roadways, and undeveloped parcels. The Project site has been divided into nine drainage areas; see

[1] City of San Bernardino General Plan EIR. Page 5.7-5

Exhibit 4.9-2: Hydrology Map. **Table 4.9-1: Drainage Area - Existing Conditions**, identifies the acreage, permeability, and existing percentage of impervious area within the Project site's drainage areas.

TABLE 4.9-1: DRAINAGE AREA - EXISTING CONDITIONS

Drainage Area	Drainage Area (acres)	Permeability[1]	Impervious (%)
1	3.26	83.2	0
2	8.23	83.1	0
3	6.39	75.9	14
4	5.12	79.9	5
5	10.33	68.0	38
6	7.49	68.2	43
7	1.64	74.7	27
8	2.80	73.3	16
9	3.86	81.6	2

1. Curve Number (AMC III). The runoff curve number ranges from 30 to 100; lower numbers reflect lower permeability. Antecedent Moisture Condition (AMC) III applies to wet conditions.

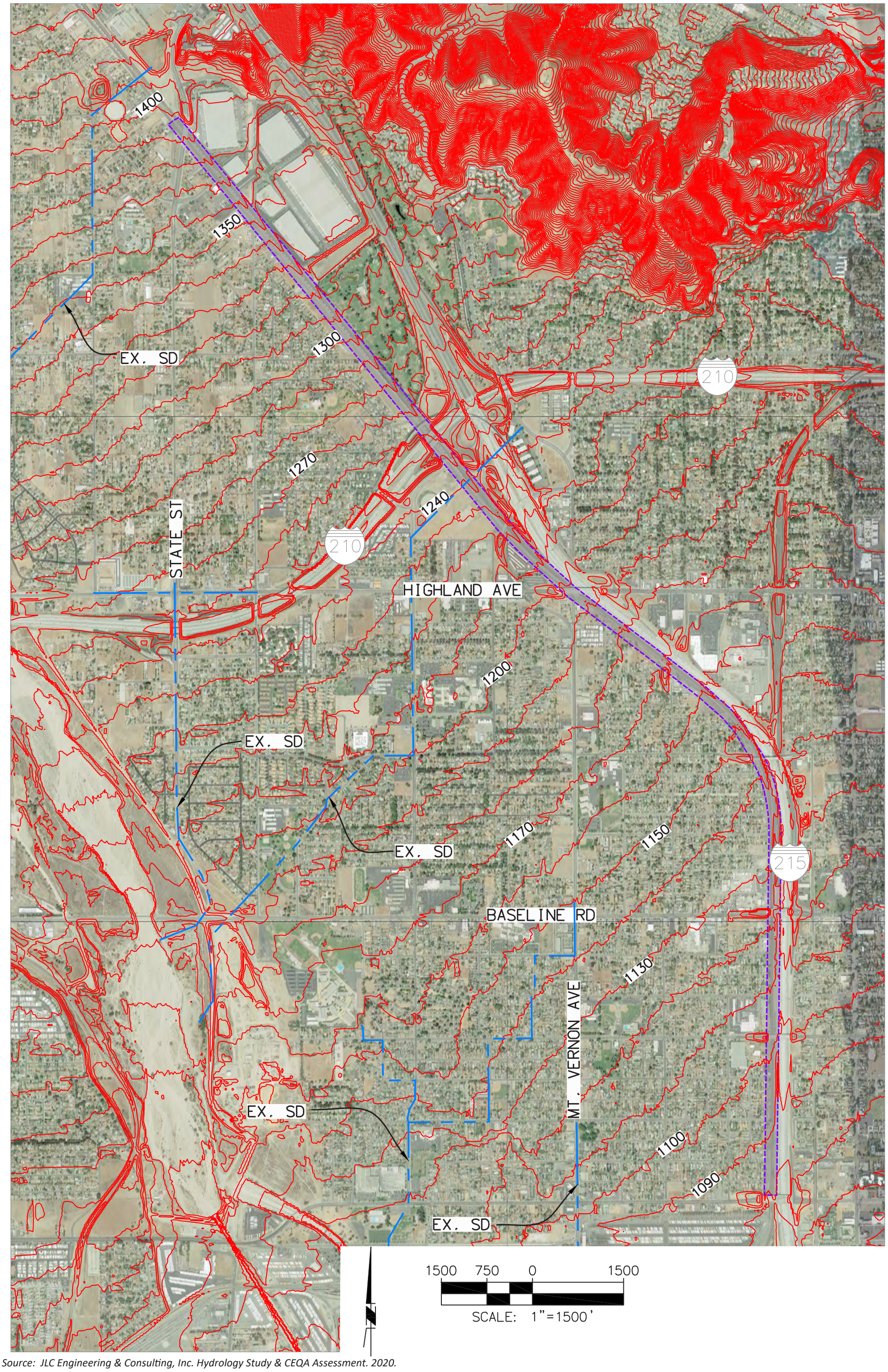
Source: JLC Engineering & Consulting, Inc., 2020a.

Table 4.9-2: Volume and Flow Rates - Existing Conditions, identifies the existing flow rates and volumes for the nine Project drainage areas. Of the 49.12-acre drainage area, 9.26 acres (19 percent) are impervious. The 2017 Report notes that there is flooding, ponding, and erosion along the railway at several locations, because of limited drainage systems in the area. Flooding occurs along the railway right-of-way (ROW) where the tracks parallel Cajon Boulevard. There are two 36-inch culverts that cross the tracks, and outlet runoff at approximately 38.8 cubic feet per second directly onto the street's shoulder. There is no storm drain system on Cajon Boulevard from West Highland Avenue to Spruce Street.

TABLE 4.9-2: VOLUME AND FLOW RATES: EXISTING CONDITIONS

Drainage Area	Existing Volume (acre-feet)	Existing Flow Rate (cubic feet/second)
1	1.59	16.0
2	4.00	30.7
3	2.93	29.2
4	2.42	18.8
5	4.55	39.5
6	3.35	29.3
7	0.76	8.0
8	0.93	11.1
9	1.85	19.3

Source: JLC Engineering & Consulting, Inc., 2020a.



Source: JLC Engineering & Consulting, Inc. Hydrology Study & CEQA Assessment. 2020.

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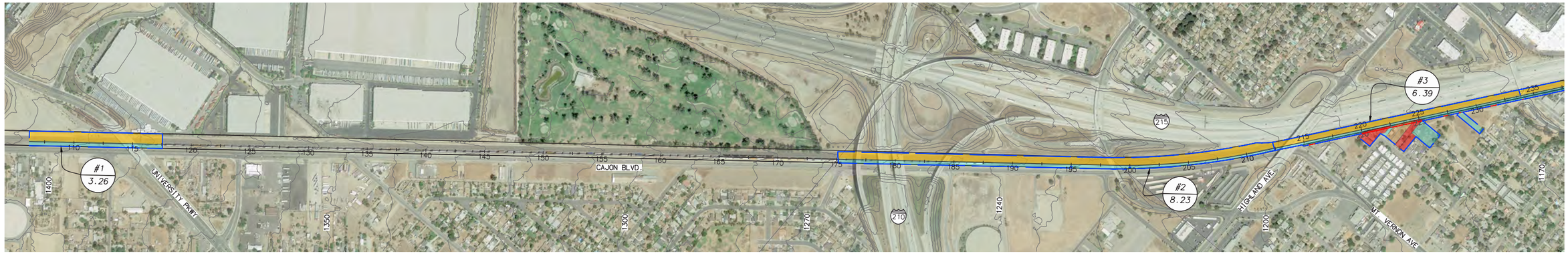

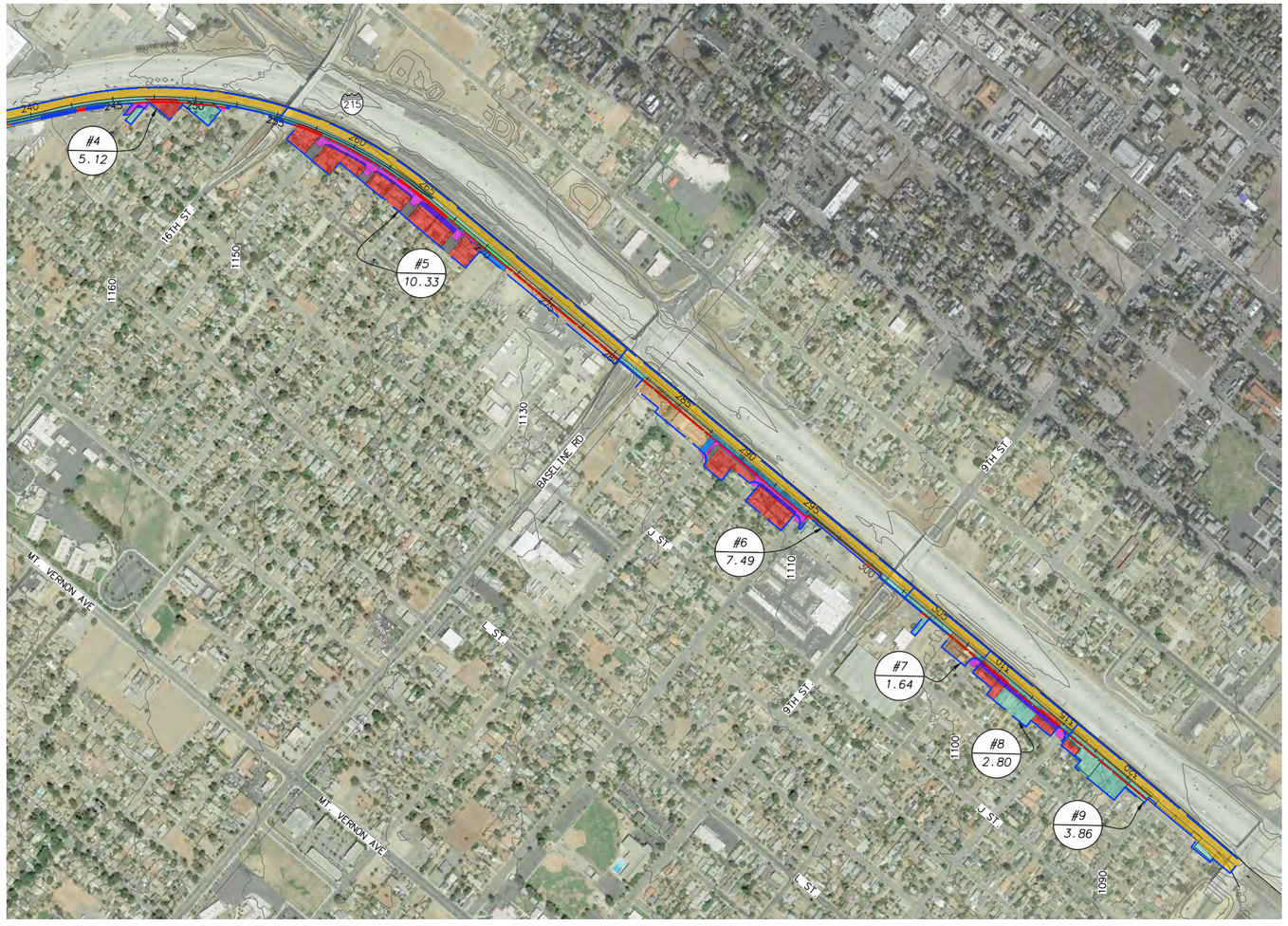

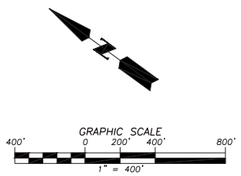

LEGEND

- EXISTING COMMERCIAL
- EXISTING RESIDENTIAL
- EXISTING STREET TO PERVIOUS AREA
- EXISTING STREET TO RAIL
- EXISTING STREET TO PROPOSED STREET
- XXX / X.X — DRAINAGE AREA / ACRES
- EXISTING STREET
- UNDEVELOPED AREA
- EXISTING RAIL
- PROPOSED STREET
- DRAINAGE BOUDNARY AREA
- SOUNDWALL

Source: JLC Engineering & Consulting, Inc. Hydrology Study & CEQA Assessment. 2020.

Kimley»Horn
MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.9-2: Hydrology Map

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Flood Hazards

Flood zones are geographic areas that the Federal Emergency Management Agency (FEMA) defines, based on studies of flood risk. The zone boundaries are shown on flood hazard maps, also called Flood Insurance Rate Maps (FIRM). High Risk Zones or Special Flood Hazard Areas (Zone A) are high-risk flood areas where special flood, mudflow, or flood-related erosion hazards exist and flood insurance is mandatory. Low-to-Moderate Risk Zones or Non-Special Flood Hazard Areas (Zones B, C, and X) are areas that are not in any immediate danger from flooding caused by overflowing rivers or hard rains. Insurance purchase is not required in these zones. The Project site is located within Flood Zone X, which is defined as an "Area of Minimal Flood Hazard."[2]

Water Quality

Under federal Clean Water Act Section 303(d) and the State of California Porter-Cologne Act, California is required to establish beneficial uses of state waters and adopt water quality standards to protect those beneficial uses. Section 303(d) establishes the Total Maximum Daily Load (TMDL) process to assist in guiding the application of state water quality standards, requiring the states to identify waters whose water quality is "impaired" (affected by the presence of pollutants or contaminants) and establish a TMDL, or the maximum quantity of a particular contaminant, and establish a TDML, or the maximum quantity of a particular contaminant that a water body can assimilate without experiencing adverse effects on the beneficial use identified. TMDLs are adopted as amendments to the Basin Plan required by the Porter-Cologne Act.

The Project site is within Upper Santa Ana Valley Groundwater Basin, Bunker Hill Subbasin (now San Bernardino).[3] Beneficial uses for Bunker Hill Groundwater Management Zone are Municipal and Domestic (MUN), Agricultural (AGR), Industrial Service Supply (IND), and Industrial Process Supply (PROC).[4] according to California's Groundwater Bulletin 118 for the Bunker Hill Subbasin (last updated 2004), the Bunker Hill Subbasin contains several contamination plumes. [5]According to Bulletin 118, "The Redlands plume, located between Judson Street and Mountain Avenue in Redlands, is primarily composed of TCE (*trichloroethylene*), with lower levels of PCE (*tetrachloroethylene*) and DBCP (*dibromochloropropane*), and contaminates approximately 150,000 acre-ft of groundwater. The Norton Air Force Base plume consists of TCE and PCE. This plume stretches 2.5 miles long, and contaminates 100,000 acre-ft of groundwater. The Newark and Muscoy plumes are spread around the east and west sides of the Shandon Hills in northern San Bernardino. These plumes consist of TCE and PCE, and are designated Superfund sites. The Santa Fe plume is primarily of petroleum based contaminates."[6] According to Figure 2-8, *Contaminated Plumes in the Upper Santa Ana River Watershed IRWM Plan Area*, of the Upper Santa Ana River Watershed Integrated Regional Water Management Plan,[7] the northern track segment and far northern portion of the southern track segment are located within the Muscoy-Newmark Plume boundaries. Groundwater

[2] https://msc.fema.gov/portal/search?AddressQuery=city%20of%20san%20bernardino#searchresultsanchor. Accessed January 2, 2020.
[3] https://gis.water.ca.gov/app/bbat/. Accessed February 26, 2020.
[4] https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/2019/New/Chapter_3_June_2019.pdf. Accessed February 26, 2020.
[5] https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/8_002_06_BunkerHillSubbasin.pdf (Accessed February 2020).
[6] https://water.ca.gov/LegacyFiles/pubs/groundwater/bulletin_118/basindescriptions/8-2.06.pdf. Accessed February 26, 2020.
[7] https://wvwd.org/wp-content/uploads/2018/03/USARW_IRWMP_2015_Ch1-9-Final_201502021807121712.pdf. Accessed February 26, 2020.

flow in the Muscoy Operating Unit area (which underlays the Project site) ranges from approximately 1,900 feet above mean sea level (amsl) to approximately 850 feet amsl and flows from the northwest to the southeast parallel to the Loma Linda fault.[8] According to the Geotechnical Engineering Services, Update to the 2017 Design Report (see **Section 4.6: Geology and Soils**), groundwater was not encountered during exploration and is anticipated to be over 200 feet below ground surface. Therefore, because of the depth to groundwater, the plume is not discussed further.[9]

Review of the Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List/305(b) Report) map found that the Project site does not traverse an 303(d)-listed or impaired waterbody.[10]

4.9.3 REGULATORY FRAMEWORK

This section discusses the federal, state, and local drainage policies and requirements applicable to the Project.

FEDERAL

Clean Water Act

The Clean Water Act (33 U.S.C. § 1251 et seq., formerly the Federal Water Pollution Control Act of 1972), was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the "Waters of the United States (U.S.)." In 1972, the Clean Water Act was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to "Waters of the U.S."[11] from any point source.[12] In 1987, the Clean Water Act was further amended to require that the U.S. Environmental Protection Agency (U.S. EPA) establish regulations for permitting municipal and industrial stormwater discharges under the NPDES permit program. Final regulations regarding stormwater discharges were issued on November 16, 1990, and require that municipal separate storm sewer system (MS4) discharges and industrial (including construction) stormwater discharges to surface waters be regulated by an NPDES permit. NPDES permit requirements relevant to the Project are discussed later in this section.

The Clean Water Act also requires states to adopt water quality standards for receiving water bodies and to have those standards approved by the U.S. EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with the water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents (such as lead, suspended sediment, and fecal coliform bacteria) or narrative statements that represent the quality of water that support a particular use. Because California was unable to develop these standards for priority toxic pollutants, the U.S. EPA promulgated the California Toxics Rule in 1992 (40 *Code of Federal Regulations* [CFR] 131.38), which fills this gap.

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[8] Page 9.

[9] *Geotechnical Engineering Services, Update to 2017 Design Report Revision to Ono Lead Track Extension*. Shannon & Wilson, Inc., February 1, 2019

[10] https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml. Accessed February 26, 2020.

[11] "Waters of the U.S." include all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide and all interstate waters including interstate wetlands (33 CFR 328.3).

[12] Point sources are discrete water conveyances such as pipes or man-made ditches.

When water quality issues compromise the designated beneficial uses of a particular receiving water body, Clean Water Act Section 303(d) requires that water body to be identified and listed as "impaired." Once a water body has been deemed impaired, a TMDL must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards (plus a "margin of safety"). Once established, the TMDL allocates the loads among the water body's current and future pollutant sources.

Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency's (FEMA) primary missions are to reduce the loss of life and property and protect the nation from all hazards, including flooding. FEMA is responsible for administering the National Flood Insurance Program (NFIP). The NFIP enables property owners in participating communities to purchase insurance as protection against flood losses in exchanges for State and community floodplain management regulations that reduce future flood damages. In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all properties within Zone A, which are communities subject to a 100-year flood event. In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the floodplains of Flood Insurance Rate Maps (FIRM).

National Flood Insurance Act (42 U.S.C. § 4001 et seq.) and Flood Disaster Protection Act (42 U.S.C. §§ 4001 to 4128)

The purpose of the National Flood Insurance Act is to identify flood-prone areas and provide insurance. The act requires purchase of insurance for buildings in special flood-hazard areas. The act is applicable to any federally assisted acquisition or construction projects in an area identified as having special flood hazards. Projects should avoid construction in, or develop a design to be consistent with, FEMA-identified flood-hazard areas.

The Flood Disaster Protection Act requires the purchase of insurance for buildings in special flood-hazard areas identified and mapped by FEMA.

Safe Drinking Water Act of 1974 (42 U.S.C. § 300 et seq.)

The Safe Drinking Water Act "was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply." The Safe Drinking Water Act "authorizes the United States Environmental Protection Agency to set national health-based standards for drinking water to protect against both naturally occurring and human produced contaminants that may be found in drinking water." The Safe Drinking Water Act "applies to every public water system in the United States."

STATE AND REGIONAL

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act; California Water Code 13000 et seq.) provides for statewide coordination of water quality regulations through establishment of the State Water Resources Control Board (SWRCB), which serves as the statewide authority for protecting the quality of the state's surface and groundwater supplies. The Porter-Cologne Act established the SWRCB and divided the State into nine regions, each overseen by a Regional Water Quality Control Board (RWQCB). The

SWRCB has delegated primary implementation authority to the RWQCBs. The Porter-Cologne Act assigns responsibility for implementing Clean Water Act Sections 401 and 402 and 303(d) to the SWRCB and RWQCBs.

The Porter-Cologne Act requires the development and periodic review of water quality control plans (Basin Plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters, provide the technical basis for determining waste discharge requirements, identify enforcement actions, and evaluate clean water grant proposals. Compliance with basin plans is primarily achieved through implementation of the NPDES, which regulates waste discharges as discussed above. Applicable to the Project, the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) gives direction on the beneficial uses of the state waters within Region 8, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards established in the Basin Plan.

The Santa Ana River RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to persons, such as individuals, communities, or businesses whose waste discharges may affect water quality. Pursuant to the Porter-Cologne Act, the State is given authority to regulate "waters of the State," which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body must first file a Report of Waste Discharge if the discharge could affect the water quality of the water body and Clean Water Act Section 404 is not applicable. "Waste" is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

Water Quality Orders

Construction. As authorized by Clean Water Act Section 402(p), the NPDES Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the U.S. The SWRCB issues NPDES permits to cities and counties through the RWQCBs, and it is the responsibility of the RWQCBs to preserve and enhance the quality of the state's waters through the development of water quality control plans and the issuance of waste discharge requirements. Waste discharge requirements for discharges to surface waters also serve as NPDES permits. This Project is under the jurisdiction of the Santa Ana RWQCB.

Development projects typically result in the disturbance of soil that requires compliance with the NPDES General Permit, Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ; NPDES Number CAS000002) (Construction General Permit). This Statewide Construction Activity General Permit regulates stormwater discharges from construction sites that disturb one or more acres of soil. By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre of total land area must comply with the provisions of this NPDES Permit and develop and implement a Stormwater Pollution Prevention Plan (SWPPP).

The SWPPP must contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project. The SWPPP must list Best Management Practices (BMPs) that the discharger would use to protect stormwater runoff and the placement of said BMPs. Additionally, the SWPPP must contain a Construction Site Monitoring Program to demonstrate that

the site is in compliance with the Construction General Permit. Depending on the construction site risk level, the CSMP includes varying levels of visual monitoring and water quality sampling and analysis.

Post-Construction. As authorized by the Clean Water Act, the NPDES Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the U.S. Point sources are discrete conveyances such as pipes or man-made ditches. As such, the Municipal stormwater Permitting Program regulates stormwater discharges from municipal separate storm sewer (drain) systems (MS4s). Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. The Santa Ana RWQCB has issued an individual NPDES MS4 permit for San Bernardino County. The City of San Bernardino is listed as a participating co-permittee of the County NPDES permit and the City's Public Works Department is the local enforcing agency of the NPDES within the City.

The MS4 permits require the discharger to develop and implement a Stormwater Management Plan/ Program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Clean Water Act Section 402(p). The management programs specify what BMPs will be used to address certain program areas. The program areas include public education and outreach; illicit discharge detection and elimination; construction and post-construction; and good housekeeping for municipal operations.

The Groundwater Management Act (Water Code §§ 10750, *et seq.*)

The Groundwater Management Act provides local water agencies with procedures to develop a groundwater management plan, so those agencies can manage their groundwater resources efficiently and safely while protecting the quality of supplies. Under the Act, development of a groundwater management plan by a local water agency is voluntary. Once a plan is adopted, the rules and regulations contained therein must also be adopted to implement the program outlined in the plan.

LOCAL

City of San Bernardino General Plan

Utilities Element

The General Plan Utilities Element is used to create and maintain the most efficient and beneficial levels of service for all of the City's residents regarding utility resources.

Policy 9.3.1: Provide for the construction of upgraded and expanded water supply, transmission, distribution, storage, and treatment facilities to support existing and new development.

Goal 9.4: Provide appropriate storm drain and flood control facilities where necessary.

Policy 9.4.1: Ensure that adequate storm drain and flood control facilities are provided in a timely manner to protect life and property from flood hazards.

Policy 9.4.2: Upgrade and expand storm and flood control facilities to eliminate deficiencies and protect existing and new development.

Policy 9.4.3: Maintain existing storm drain and flood control facilities.

Policy 9.4.4: Require that adequate storm drain and flood control facilities be in place prior to the issuance of certificates of occupancy. Where construction of master planned facilities

is not feasible, the Mayor and Common Council may permit the construction of interim facilities sufficient to protect present and short-term future needs. (LU-1)

Policy 9.4.8: Minimize the amount of impervious surfaces in conjunction with new development. (LU-1)

Policy 9.4.9: Develop and implement policies for adopting Sustainable Stormwater Management approaches that rely on infiltration of stormwater into soils over detention basins or channels. Sustainable Stormwater Management techniques include use of pervious pavements, garden roofs, and bioswales to treat stormwater, and reusing stormwater for non-potable water uses such as landscape irrigation and toilet/urinal flushing.

Policy 9.4.10: Ensure compliance with the Federal Clean Water Act requirements for National Pollutant Discharge Elimination System (NPDES) permits, including requiring the development of Water Quality Management Plans, Erosion and Sediment Control Plans, and Stormwater Pollution Prevention Plans for all qualifying public and private development and significant redevelopment in the City.

Policy 9.4.11: Implement an urban runoff reduction program consistent with regional and federal requirements, which includes requiring and encouraging the following examples of Best Management Practices (BMPs) in all developments:

- Increase permeable areas, install filtration controls (including grass-lined swales and gravel beds), and divert flow to these permeable areas to allow more percolation of runoff into the ground;
- Use natural drainage, detention ponds, or infiltration pits to collect and filter runoff;
- Prevent rainfall from entering material and waste storage areas and pollution-laden surfaces; and
- Require new development and significant redevelopment to utilize site preparation, grading, and other BMPs that provide erosion and sediment control to prevent construction-related contaminants from leaving the site and polluting waterways.

Safety Element

The Safety Element identifies City's goals and policies regarding the public safety of its residents. This element is intended to assist planning and development efforts in creating and maintaining safe, hazard-free communities.

Goal 10.4: Minimize the threat of surface and subsurface water contamination and promote restoration of healthful groundwater resources.

Policy 10.4.1: Promote integrated inter-agency review and participation in water resource evaluation and mitigation programs.

Policy 10.4.2: Protect surface water and groundwater from contamination.

Goal 10.5: Reduce urban run-off from new and existing development.

Policy 10.5.1: Ensure compliance with the Federal Clean Water Act requirements for National Pollutant Discharge Elimination System (NPDES) permits, including developing and requiring the development of Water Quality Management Plans for all new development and significant redevelopment in the City. (LU-1)

Policy 10.5.2: Continue to implement an urban runoff reduction program consistent with regional and federal requirements, which includes requiring and encouraging the following:

- Increase permeable areas to allow more percolation of runoff into the ground;
- Use natural drainage, detention ponds or infiltration pits to collect runoff;
- Divert and catch runoff using swales, berms, green strip filters, gravel beds and French drains;
- Install rain gutters and orient them towards permeable surfaces;
- Construct property grades to divert flow to permeable areas;
- Use subsurface areas for storm runoff either for reuse or to enable release of runoff at predetermined times or rates to minimize peak discharge into storm drains;
- Use porous materials, wherever possible, for construction of driveways, walkways and parking lots; and
- Divert runoff away from material and waste storage areas and pollution-laden surfaces such as parking lots.

Policy 10.5.3: Cooperate with surrounding jurisdictions and the County to provide adequate storm drainage facilities.

Policy 10.5.4: Require new development and significant redevelopment to utilize site preparation, grading and foundation designs that provide erosion control to prevent sedimentation and contamination of waterways. (LU-1)

Policy 10.5.5: Ensure compliance with the requirements for Stormwater Pollution Prevention Plans or Water Quality Management Plans for all new development or construction activities.

Policy 10.5.6: Coordinate with appropriate federal, state, and local resource agencies on development projects and construction activities affecting waterways and drainages.

Goal 10.6: Protect the lives and properties of residents and visitors of the City from flood hazards.

Policy 10.6.1: Maintain flood control systems and restrict development to minimize hazards due to flooding.

Policy 10.6.4: Evaluate all development proposals located in areas that are subject to flooding to minimize the exposure of life and property to potential flood risks.

Policy 10.6.7: Utilize flood control methods that are consistent with Regional Water Quality Control Board Policies and Best Management Practices (BMPs).

Policy 10.6.9: Ensure major drains in developed areas have a pipeline capacity to comply with the Flood Control District's Comprehensive Storm Drain Plans for development of the City's storm drain system.

Energy and Water Conservation Element

The Energy and Water Conservation Element provides policy guidance to address the efficient use and conservation of energy and water resources.

Goal 13.2: Manage and protect the quality of the City's surface waters and ground water basins.

Policy 13.2.2: Require that development not degrade surface or groundwater, especially in watersheds, or areas with high groundwater tables or highly permeable soils. (LU-1)

Policy 13.2.7: Require that new development incorporate improvements to channel storm runoff to public storm drainage systems and prevent discharge of pollutants into the groundwater basins and waterways. (LU-1)

Policy 13.2.8: Require that Best Management Practices (BMPs) are implemented for each project to control the discharge of point source and non-point source pollutants both during construction and for the life of the projects to protect the City's water quality. (LU-1)

Policy 13.2.9: Require that new construction on a site that is at least one acre comply with the General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit 99-08-DWQ)). (LU-1)

City of San Bernardino Municipal Code

City of San Bernardino Municipal Code (SBMC) Article 8: General Clauses, § 8.80.102, is intended to ensure is to ensure the health, safety and general welfare of the City's residents by prescribing regulations to effectively prohibit non-stormwater discharges into the City's stormwater drainage system and specifically achieve the following objectives:

1. Control discharges from spills, dumping or disposal of materials other than stormwater;
2. Reduce the discharge of pollutants in all stormwater discharges to the maximum extent practicable;
3. Protect and enhance the water quality of local, state and federal watercourses, water bodies, ground water
4. Establish penalties for violations of the provisions of this chapter;
5. Provide for the equitable distribution of the cost of the stormwater drainage system and stormwater pollution abatement programs, and all related services through the establishment of fair and equitable fees and charges.

San Bernardino County Municipal Separate Storm Sewer System Permit

The City and County are co-permittees under a stormwater discharge permit, issued through the Santa Ana Regional Water Quality Control Board. As the "Principal Permittee" under the MS4 Permit, the San Bernardino County Flood Control District administers and coordinates many of the permit requirements

on behalf of all Permittees. The San Bernardino County MS4 Permit sets forth requirements for the development/redevelopment program to minimize impacts to water quality. New development projects that add 10,000 square feet or more of impervious surfaces and redevelopment projects that replace 5,000 square feet or more of impervious surface must address water quality concerns through the development of a Water Quality Management Plan. Low impact development (LID) must be incorporated into the site design and hydromodification control best management practices (BMP) must be implemented as necessary.

4.9.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions concerning hydrology and water quality. The issues presented in the Environmental Checklist have been used as significance criteria in this section. Accordingly, the Project would have a significant effect on the environment if it would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (see Impact 4.9-1);
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin (see Impact 4.9-2);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - Result in substantial erosion or siltation on- or off-site;
  - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
  - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
  - Impede or redirect flood flows (see Impact 4.9-3);
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation (see Impact 4.9-4);
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (see Impact 4.9-5)

METHODOLOGY AND ASSUMPTIONS

The proposed Project is evaluated against the aforementioned significance criteria as the basis for determining the level of impacts related to hydrology and water quality. This analysis considers existing regulations, laws and standards that serve to avoid or reduce potential environmental impacts. Where significant impacts remain, feasible mitigation measures are recommended to avoid or reduce the Project's potentially significant environmental impacts.

This analysis evaluates three design options for stormwater runoff and water quality: Design Option 1, Design Option 2a, and Design 2b. Since it is presently unknown which design option would be selected during final engineering, this analysis examines potential hydrology and water quality impacts of all three design options, as addressed in the 2020 Drainage Study, and compares any potential differences between design option impacts. Since Design Option 1 would result in the greatest disturbance and earthwork activities, Design Option 1 is the most conservative approach for impact analysis. Therefore, Design Option 1 is used to evaluate the Project's potential impacts for all resource areas.

It is noted, although Design Option 1 is the preferred option, all three design options are analyzed herein. If final engineering determines that Design Option 1 is not feasible, Design Option 2a would be implemented. If Design Option 2a is determined to not be feasible, then Design Option 2b would be implemented.[13]

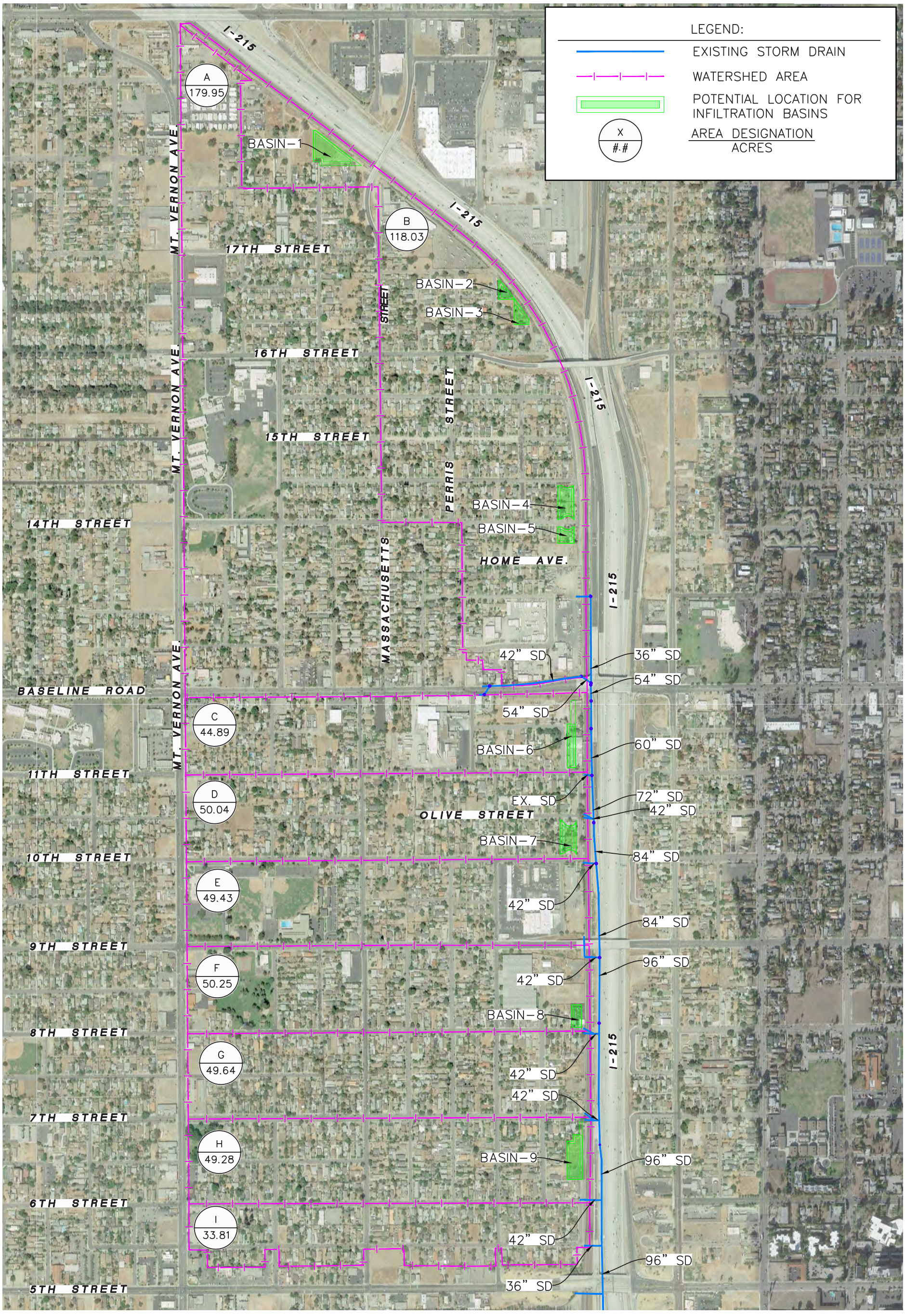
Design Option 1 involves seven potential infiltration basins and minor improvements to the existing storm drain system located along the westerly BNSF Railroad Corridor ROW, and would be used to offset stormwater runoff and water quality impacts due to the street infrastructure developed as part of the Project. See **Exhibit 4.9-3 Design Option 1.** Additionally, the infiltration basins would provide storage as required, to reduce flooding impacts that currently exists along the westerly BNSF ROW. The seven potential basins comprise a total of approximately 5.3 acres and would provide a storage volume of approximately 13.0 acre-feet (AF). While seven basins are assumed under Design Option 1, not all seven basins would be needed/constructed. Only those basins needed to offset water quality impacts and provide the necessary storage capacity would ultimately be constructed.

Due to the unknown conditions of the underlying soils, the Project investigated a secondary design option to facilitate Project construction. Design Option 2 would implement two bio-treatment basins (infiltration basins 3 and 6) as well as seven storm drain systems to connect to the existing 42-inch Caltrans storm drain laterals at the westerly limit of Interstate 215 (I-215), which would discharge into Lytle Creek Channel. See **Exhibit 4.9-4 Design Option 2.** The Project would use a jack/bore construction method to connect a proposed storm drain system to the existing lateral. Design Option 2 is beneficial, since the Project's stormwater design would be able to connect to an existing storm drain system that was designed to intercept the regional flows from the watershed area west of the westerly BNSF ROW. The 2020 Drainage Study performed a comparative analysis between two drainage plans:

- **Proposed Drainage Plan (Design Option 2a)**: This design option has a high probability to connect to the existing Caltrans storm drain laterals.
- **Optional Drainage Plan (Design Option 2b)**: This design option has a medium to low probability to connect to the existing Caltrans storm drain laterals. Further investigation would be performed during final engineering to determine this design option's viability.

The hydraulic analysis was performed for all design options using the same methodology for each. The hydrologic data and methodology is based on the San Bernardino County Hydrology Manual Rational Method, and the 100-year storm event precipitation data is based on the current National Oceanic and Atmospheric Administration (NOAA) Atlas 14 data sub-areas. Each drainage area's impervious area is

[13] The 2020 Drainage Study refers to Design Option 2a as "Proposed storm drains" and Design Option 2b as "Potential storm drains."



Source: JLC Engineering & Consulting. BNSF Ono Lead Track Extension Project Infiltration/Biotreatment Basin and Storm Drain Design Approach. March 27, 2020

Not to Scale

Kimley»Horn

MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.9-3: Design Option 1

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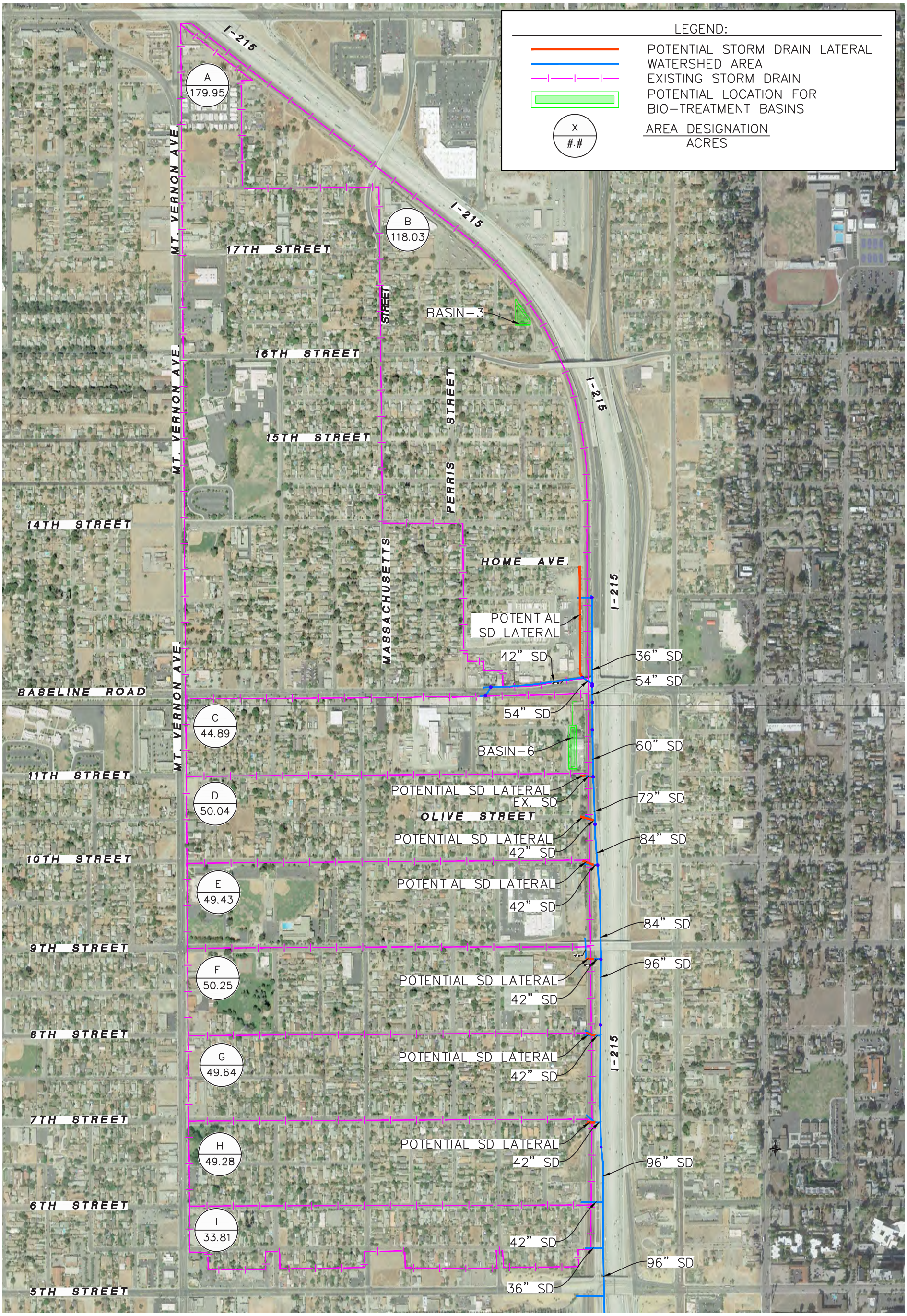

Source: JLC Engineering & Consulting. BNSF Ono Lead Track Extension Project Infiltration/Biotreatment Basin and Storm Drain Design Approach. March 27, 2020

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MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.9-4: Design Option 2

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based on engineer site visits and calculations. Civil Design Version 8.1, a Hydrology Computer Program was used to calculate the 100-year storm runoff.

4.9.5 IMPACTS AND MITIGATION MEASURES

Impact 4.9-1: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Level of Significance: Less Than Significant Impact

CONSTRUCTION

All Design Options

All design options would be constructed within the Project footprint. No difference in Project size, scope, or scale would occur under any design option. Design Option 1 involves as many as seven infiltration basins totaling approximately 5.3 acres, while Design Options 2a and 2b involve approximately the same amount of jackbore construction and trenching to connect to existing Caltrans storm drains. Exact soil import and export quantities may differ depending on which design option is chosen, but only nominally. The greatest soil export would occur under Design Option 1, given it assumes construction of all seven basins. Therefore, for a conservative approach, this EIR analyze construction impacts assuming Design Option 1. The seven potential basins would provide a storage volume of approximately 13.0 AF. Given that the storage volume required to mitigate the Project's increase runoff volume totals 2.0 AF, the Project's basins actually constructed would be fewer. Further, under Design Option 1, the assumed import and export quantities are anticipated to be likely one-half the assumed, given not all seven basins would be constructed. Therefore, concerning basin construction, this EIR assumes all seven basins (Design Option 1) would be constructed, providing a highly conservative analysis.

Project construction would involve clearing, soil stockpiling, grading, drainage structure installation, utility installation/relocation, street improvements, and track placement, which would result in the generation of potential water quality pollutants such as silt, debris, chemicals, and other solvents with the potential to adversely affect water quality. As such, short-term water quality impacts have the potential to occur during Project construction in the absence of any protective or avoidance measures.

The Project would implement the requirements outlined in the San Bernardino County "Technical Guidance Document for Water Quality Management Plan" (TG-WQMP) and would address water quality and potential pollutants as required by the TG-WQMP. The purpose of the TG-WQMP is to provide direction to project proponents on the regulatory requirements applicable to a private or public development activity, including public works transportation projects, from project conception to completion.[14]

Based on the depths to groundwater within the proposed Project site, construction dewatering is not anticipated. Should groundwater be unexpectedly encountered that would require dewatering, the Project would apply for coverage and adhere to the monitoring and reporting program under Order No. R8-2009-0003 (SC 4.8-3), and dewatering waste would be discharged as approved under SBMC § 8.80.503.

[14] http://cms.sbcounty.gov/Portals/50/Land/SantaAnaRiver-WQMP-Final-June2013.pdf?ver=2016. Accessed February 27, 2020.

The Project would disturb more than 1.0 acre of land surface and would, therefore, be required to obtain coverage under the NPDES stormwater program and in compliance with SBMC § 8.80.502. The City is a co-permittee under San Bernardino County's NPDES Permit (No. CAS618036), and as such is required to adhere to the County-wide NPDES permit requirements. To minimize water quality impacts during construction, construction activities would be required to comply with a SWPPP consistent with the Construction General Permit. To obtain coverage, the Project Applicant is required to submit a Notice of Intent prior to construction activities and develop and implement an SWPPP and monitoring plan. The SWPPP identifies erosion-control and sediment-control BMPs that would meet or exceed measures required by the Construction General Permit to control potential construction-related pollutants. Erosion-control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized. These requirements would ensure that potential project impacts related to soil erosion, siltation, and sedimentation remain less than significant and avoid violation to any water quality standards or waste discharge requirements. Construction BMPs could include, but not be limited to, the following:

- Minimization of disturbed areas to the portion of the Project site necessary for construction;
- Stabilization of exposed or stockpiled soils;
- Removal of sediment from surface runoff before it leaves the Project site by silt fences or other similar devices around the site perimeter;
- Diversion of upstream runoff around disturbed areas of the Project site;
- Protection of all storm drain inlets on-site or downstream of the Project site to eliminate entry of sediment;
- Prevention of tracking soils and debris off-site through use of a gravel strip or wash facilities, which will be located at all construction exits from the Project site;
- Proper storage, use, and disposal of construction materials, such as solvents, wood, and gypsum; and
- Continual inspection and maintenance of all BMPs through the duration of construction.

BMPs are designed to control and prevent discharges of pollutants that can adversely impact the downstream surface water quality. Construction activities are also required to comply with the City of San Bernardino's Urgency Ordinance, the Lot Erosion and Sediment Control Requirements, and other required regulations. With the implementation of BMPs as described in the SWPPP, the Project is not anticipated to violate water quality standards during construction. Therefore, construction impacts would be considered less than significant.

OPERATIONS

All Design Options

Typical stormwater-related pollutants of concern for rail operations include the following:

- Brake dust, which consists of particulate metals—primarily iron—but may also include copper, silicon, calcium, manganese, chromium, and barium;
- Trash and debris from wear and tear;

- Chemicals used for maintenance (oil, grease, diesel fuel, etc.); and
- Herbicides and pesticides used for vegetation control.

To collect and treat stormwater and runoff, a drainage plan is proposed, which includes underground storm drains, culvert extensions, earthen and concrete swales, and infiltration basins. Three design options are considered. Design Option 1 involves seven potential infiltration basins, Design Options 2a and 2b would include two infiltration basins and seven storm drain connections. The basins are designed to weaken runoff and treat for pollutants. The storm drains are designed to discharge to Lytle Creek Channel.

The San Bernardino County Flood Control District, San Bernardino County, and the 16 incorporated cities (including the City of San Bernardino) in the Santa Ana River watershed are Co-permittees under a stormwater discharge permit, issued by the State of California through the Santa Ana Regional Water Quality Control Board. The San Bernardino County Flood Control District has been designated "Principal Permittee" under the municipal separate storm sewer (drain) systems (MS4) Permit, and administers and coordinates many of the permit requirements on behalf of all the Permittees. These discharges are regulated under countywide waste discharge requirements contained in Order No. R8-2010-0036[15] (NPDES Permit No. CAS618036), *National Pollutant Discharge Elimination System (NPDES) Permit And Waste Discharge Requirements For The San Bernardino County Flood Control District" The County Of San Bernardino, And The Incorporated Cities Of San Bernardino County Within The Santa Ana Region*, which was adopted January 29, 2010.[16]

The MS4 Permit Order requires development and implementation of a Planning and Land Development Program for all "New Development" and "Redevelopment" projects subject to the Order. New development and redevelopment projects/activities subject to Los Angeles County's LID Ordinance include all development projects equal to 1.0 acre or greater of disturbed area and residential new or redeveloped projects that create, add, or replace 10,000 SF or greater impervious surface area.

The Project proposes Site Design concepts intended to achieve the following:

- Minimize Urban Runoff,
- Minimize Impervious Footprint,
- Conserve Natural Areas, and
- Minimize Directly Connected Impervious Areas (DCIAs).

Following compliance with NPDES requirements (i.e., San Bernardino County's TG-WQMP and SBMC), which include LID BMPs, project operations would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. The Project would maintain water quality through the use of infiltration basins. Additionally, the Project would include storm drain improvements, discussed below, which would improve flood conditions. Therefore, impacts would be less than significant in this regard, and no mitigation is required.

[15] State of California Water Quality Control Board. (undated). *Order No. R8-2010-0036NPDES Permit NO. CAS618036*. Riverside, CA: State of California Water Quality Control Board.
[16] Ibid.

Design Option 1

Design Option 1 would implement infiltration basins, as described in **Table 4.9-3: Infiltration Basins Boundary Area and Storage Volume**. This option involves seven potential infiltration basins that would mitigate the Project's runoff, water quality, and groundwater impacts. The proposed basins would provide the following storage volumes that would be infiltrated by each; see **Table 4.9-3**.infiltration

TABLE 4.9-3: DESIGN OPTION 1: INFILTRATION BASINS BOUNDARY AREA AND STORAGE VOLUME

Basin No.	Boundary Area[1] (acres)	Bottom Area[2] (acres)	Storage Volume (acre-feet)
1	1.3	0.7	2.8
2	0.3	0.1	0.4
3	0.4	0.2	0.8
6	0.7	0.2	0.8
7	1.3	0.9	5.4
8	0.3	0.1	0.4
9	1.0	0.6	2.4
Total	***5.3***	***2.8***	***13.0***

1. Boundary Area: The Boundary Area is defined as the total property area required to construct the infiltration basin including access ramps, setbacks from property lines/ROW, entrance areas, and other grading features.
2. Bottom Area: The Bottom Area is defined as the potential basin bottom area assuming that a basin is graded 7.0 feet deep with 2:1 slopes.

Source: JLC Engineering & Consulting, Inc., 2020a.

The Project would not violate any water quality standards or waste discharge requirements under Design Option 1 (i.e., due to implementation of infiltration basins). Although the Project would introduce approximately 1.7 acres of impervious area that is primarily attributed to the proposed concrete channels along the railway, the Project would maintain water quality by proposing the use of infiltration basins to treat the Project's runoff. Additionally, to accommodate the proposed rail and ancillary improvements, the Project would require acquisition of approximately 29 acres of adjacent properties where residential and non-residential land uses are located. Property acquisitions would result in demolition/removal of structures, pavement, and other impervious surfaces. As a result, the Project site's impervious area would be reduced from 9.26 acres to 3.12 acres, thus, improving infiltration and groundwater recharge.

Design Options 2a and 2b

The Project would connect to existing storm drains or modify existing storm drains through two potential design options. Both options would occur within the Project footprint and both would improve existing flooding conditions, resulting in a beneficial effect. Infiltration basins 3 and 6 would provide treatment of proposed or existing runoff that would offset the water quality impacts that are associated with an area equal or greater than the impervious area created by the Project. Therefore, a less than significant impact would occur, and no mitigation is required.

Mitigation Measures

No mitigation is required.

Impact 4.9-2: Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project site is comprised of railroad ROW, does not contain any active or decommissioned groundwater wells, and construction activities do not require the use of groundwater wells. No construction-related impacts are anticipated.

As addressed in **Section 4.6: Geology and Soils**, groundwater was not observed as a part of subsurface explorations conducted for the Project. Groundwater was not encountered during exploration of the track extension area and has been reported at over 200 feet below ground surface (bgs).

The Project is within the San Bernardino Valley Municipal Water District (SBVMWD) service area, and the City of San Bernardino Municipal Water Department (SBMWD) is the retail water supplier to the Project area. Approximately 75 percent of the regional water needs are met by local groundwater supplies.[17] The SBVMWD relies on groundwater for 100 percent of its water supplies. The SBMWD also attains all of its groundwater from the San Bernardino Basin Area (SBBA).[18] From the groundwater sources found in this area, water agencies extract 167,238 AF per year of water or 72.05 percent of the safe yield from groundwater sources.[19] That level of usage does not require recharging of the sources from the water agencies.

As previously noted, stormwater drainage/water quality improvements are proposed at numerous locations along the Project route through three potential design options. Runoff would be collected by existing/proposed swales along the west side of the tracks, where it would be routed to as many as seven infiltration basins under Design Option 1 (totaling approximately 5.3 acres) situated adjacent to/west of the BNSF corridor, or two infiltration basins and various storm drain facilities under Design Options 2a or 2b. The Project would not significantly impact groundwater recharge because the proposed basins would allow for infiltration and the proposed storm drains would discharge into the Lytle Creek Channel, a tributary to Warm Creek Channel, which is a tributary of the Santa Ana River. Additionally, due to demolition of structures, pavement, and other impervious surfaces required for implementing the Project, the Project site's impervious area would decrease from 9.26 acres to 3.12 acres, thus improving groundwater recharge.

During construction, some water resources would be used for dust control; however, this demand would be short-term, thus, Project construction activities would not substantially decrease groundwater supplies. Concerning long-term operations, the Project involves construction of a fourth lead track intended to increase the A Yard's operational efficiency, but not increase BNSF line operations. Given it's nature and scope, it is not a land use typically associated with long-term water demand. Further, property acquisitions required to accommodate the proposed Project would result in the removal of land uses; thus, the corresponding water demands would also be removed. **Table 4.16-3: Project Operational**

[17] San Bernardino Valley Municipal Water District. (2016). 2015 San Bernardino Valley Regional Urban Water Management Plan. Page 2-7. Rancho Cucamonga, CA: Water Systems Consulting, Inc.
[18] Ibid. Page 10-12
[19] Ibid. Page 2-8

Water Demands, provides the water demands associated with the proposed Project and indicates removal of the land uses would decrease water demands by approximately 105,084 GPD or 117.7 AFY. Therefore, Project operations would not decrease groundwater supplies.

Design Option 1

The infiltration basins under Design Option 1 have been proposed to address the following issues:

- Provide storage volume through the implementation of infiltration basins to reduce flooding impacts that currently exist along the westerly BNSF ROW.
- Offset impacts associated with water quality due to the off-site street infrastructure developed as part of the Project.

The infiltration basins would provide a benefit for the area by promoting infiltration of surface runoff that would contribute to the impacts associated with 1) water quality, 2) groundwater recharge and 3) increase runoff volume. Because Design Option 1 includes seven infiltration basins, Design Option 1 would have the greatest beneficial effect. It is noted, while Design Option 1 involves seven basins, only those basins needed to offset water quality impacts and provide the necessary storage capacity would ultimately be constructed.

Design Options 2a and 2b

Design Options 2a and 2b would result in a net reduction of impervious surfaces and include two infiltration basins, thus would also be a beneficial effect to groundwater recharge and water quality. Design Options 2a and 2b are also beneficial, since the Project would be able to connect to an existing storm drain system that was designed to intercept the regional flows from the watershed area west of the westerly BNSF ROW.

Therefore, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. Impacts are less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 4.9-3: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? or

iv. Impede or redirect flood flows?

Level of Significance: Less Than Significant Impact

CONSTRUCTION

Project construction would involve approximately 101,000 tons of debris/materials (import and export) and approximately 217,700 cubic yards of subcut, soil, and concrete (import and export). Clearing, grading, excavation, demolition, and construction activities associated with the Project could impact water quality by induced sheet erosion of exposed soils and the subsequent deposition of particulates in local drainages. Grading activities and sediment stockpiles can lead to exposed areas of loose soil that are susceptible to uncontrolled sheet flow and wind erosion. Impacts can also occur from sediment laden runoff and mobilization of pollutants associated with vehicle staging and operation.

In compliance with NPDES regulations, California requires that any construction activity disturbing one acre or more of soil comply with the General Construction Permit. The permit requires development and implementation of a SWPPP and monitoring plan, which must include erosion-control and sediment-control BMPs that would meet or exceed measures required by the Construction General Permit to control potential construction-related pollutants. Categories of BMPs that are included in SWPPPs include:

- Erosion controls: cover and/or bind soil surface, to prevent soil particles from being detached and transported by water or wind. Erosion control BMPs include mulch, soil binders, and mats.
- Sediment controls: filter out soil particles that have been detached and transported in water. Sediment control BMPs include barriers, and cleaning measures such as street sweeping.
- Wind erosion controls: the methods for wind erosion are similar to those of erosion control described above.
- Tracking controls: tracking control BMPs minimize the tracking of soil off-site by vehicles; for instance, stabilizing construction roadways and entrances/exits.
- Non-stormwater management: prohibit the discharge of materials other than stormwater, such as discharges from the cleaning, maintenance, and fueling of vehicles and equipment. Non-stormwater management BMPs also prescribe conducting various construction operations, including paving, grinding, and concrete curing and finishing, in ways that minimize non-stormwater discharges and contamination of any such discharges.
- Waste and materials management: management of materials and wastes to avoid contamination of stormwater. Waste and materials management BMPs include spill prevention and control, stockpile management, and management of solid wastes and hazardous wastes.

Through compliance with existing regulatory framework outlined in **Section 4.9.3**, construction activities associated with the Project would have a less than significant impact on surface water quality and would not significantly impact the beneficial uses of receiving waters.

The Project site consists mainly of fill soil consisting of loose to medium dense silty sand and sandy silt. Occasional track ballast, organic matter, and debris within the fill were identified through preliminary subsurface exploration of the track extension with six exploratory test pits. Below the fill, native soils consisted of sand with variable amounts of silt and clay, occasionally with gravel and cobbles. These materials were unconsolidated, Quaternary-age alluvial fan gravel and sand deposits. The alluvial fan deposits were generally medium dense. Construction activities such as excavation and grading could cause soil erosion or the loss of topsoil. Project-related construction activities would be required to

comply with the General Construction Permit. Construction would be required to comply with the erosion control measures stipulated through the then current California Building Code, which requires the development of an approved Stormwater Quality Management Plan (SWQMP). Construction would also be required to comply with other applicable ordinances and federal, state, and local permits. Implementation of these permitting requirements would ensure that impacts related to soil erosion or the loss of topsoil are less than significant.

Based on the depths to groundwater within the proposed development areas, construction dewatering is not anticipated. Should groundwater be unexpectedly encountered that would require dewatering, the Project would apply for coverage and adhere to the monitoring and reporting program under Order No. R8-2009-0003 (SC 4.8-3).

A typical track construction sequence includes clearing, grubbing, grading and compacting the rail bed; applying crushed rock ballast; laying track; and installing electrical and communications systems. Property demolitions would include clearing the Project site of existing structures and miscellaneous improvements (i.e., pavement, curbs, signs and above ground utilities) prior to construction. Demolition debris would be transported to an off-site recycling or disposal facility.

On-site soils would be excavated, repositioned, and compacted to bring the site to finish grade. Underground pipelines would need to be relocated/reinforced in place to accommodate the proposed Project. Methods include trenching to access existing utilities and construct new alignments, cutting and disposal of pipelines, concrete work, and construction of ancillary features. On-site soils could require environmental remediation prior to or during construction. If contamination is encountered, testing and disposal would be conducted pursuant to regulatory requirements.

In the initial stages of Project construction, vegetation removal, earthmoving activities and grading associated with Project construction would have the potential to increase pollutant concentrations from the site. Demolition and removal of existing land uses would be required. Demolition debris would be transported to an off-site recycling or disposal center. Through compliance with NPDES permitting requirements and SBMC, erosion control measures and BMPs would be implemented which would prevent construction debris from contributing to erosion, siltation, or runoff.

OPERATIONS

The Project would not result in erosion or siltation. The Project would utilize earthen swales that would be sized sufficiently to reduce velocities to non-erosive rates. If it is determined during final engineering non-erosive rates cannot be achieved, hard lined channels would be implemented with the use of proposed energy dissipation structures that would prevent erosion or siltation.

Typically, sandy soil on steep slopes, subject to high-velocity water flow, or non-vegetated areas are susceptible to erosion. Considering the Project alignment is on relatively level built-up terrain, the potential for significant erosion along the Project alignment would be low.

Project implementation would involve trains traveling on new rail lines. No contact with soil, or potential for soil erosion is anticipated. Therefore, the Project would not cause substantial soil erosion, or the loss of topsoil and impacts would be less than significant.

The Project would decrease the impervious area, which would increase the area available for infiltration of stormwater and decrease the rate of surface runoff generated by the Project site.

Design Option 1

The Project would decrease surface runoff and use infiltration basins, which would provide storage volume and promote groundwater recharge to mitigate any increase in flow. The Project would not contribute water which would impact the conveyance of any existing drainage systems. The Project would decrease the amount of runoff generated by the Project area thus would not impact any existing drainage systems and would not alter existing drainage patterns. Infiltration basins would provide water quality treatment, storage volume, and promote infiltration to decrease pollutants and flow rates to existing drainage systems.

Design Options 2a and 2b

Both Design Options 2a and 2b would connect to existing systems, maintain existing drainage patterns, and reduce the flood potential within the Project site. Thus, the Project would not increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Both Design Options 2a and 2b would improve flooding conditions when compared to the existing condition, thus, would not create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Table 4.9-4: Design Option 2a and **Table 4.9-5: Design Option 2b** present the storm drain locations, watershed area designations, storm drain diameters, and flow rates for each option. **Table 4.9-6: Design Options 2a and 2b Comparative Analysis,** shows a comparative analysis between 100-year floodwater which would be intercepted upon Project implementation under Design Option 2a and 2b. **Table 4.9-7: Hydrology Study and Drainage Devices Summary** summarizes the drainage devices under Design Option 1.

TABLE 4.9-4: DESIGN OPTION 2A

Storm Drain Location	Watershed Area Designation	Storm Drain Diameter	Q100 (ft^3/s)	Intercepted Flow Rate (ft^3/s)	By-Pass Flow Rate (ft^3/s)
Baseline Road[1]	B	42”	195.5	120	75.5
11th Street	C	36”	87.1	65	22.1
Olive Street	D	24”	89.5	30	59.5
10th Street	D	n/a[3]	89.5	n/a[3]	1.6
9th Street	E	42”	90.7	90.7	0.0
8th Street	F	42”	97.3	40	57.3
7th Street	G	n/a[3]	93.6	n/a[3]	93.6
6th Street[4]	H	8”	94.2	1	93.2
Spruce Street[4]	I	12”	64.0	1	63.0
Total			***901.4***	***347.7***	***553.7***

1. Baseline Road has a potential storm drain alternative that may result in a storm drain diameter of 54”.
2. The intercepted flow rate was limited to the flow rate produced by the watershed area and Q100 value.
3. n/a non-applicable has been provided since the system would be a potential system and flow rates were not accounted.
4. The intercepted flow rate remains the same as the existing condition. The existing lateral is assumed to remain undisturbed
5. The by-pass flow rate used equals the Q100 since it is assumed no intercepted flow rates occur.

Source: JLC Engineering & Consulting, Inc., 2020b.

TABLE 4.9-5: DESIGN OPTION 2B					
Storm Drain Location	**Watershed Area Designation**	**Storm Drain Diameter**	**Q100 (ft^3/s)**	**Intercepted Flow Rate (ft^3/s)**	**By-Pass Flow Rate (ft^3/s)**
Baseline Road[1]	B	54”	195.5	180	15.5
11th Street[4]	C	36”	87.1	65	22.1
Olive Street[4]	D	24”	89.5	30	59.5
10th Street	D	24”	89.5	30	59.5
9th Street[4]	E	42”	90.7	90.7	0.0
8th Street[4]	F	42”	97.3	40	57.3
7th Street	G	24”	93.6	25	68.6
6th Street[3]	H	8”	94.2	1	93.2
Spruce Street[3]	I	12”	64.0	1	63.0
Total			***901.4***	***462.7***	***438.7***

1. Baseline Road uses the potential storm drain alternative that uses a storm drain diameter of 54”
2. The intercepted flow rate was limited to the flow rate produced by the watershed area and Q100 value
3. The intercepted flow rate remains the same as the existing condition. The existing lateral is assumed to remain undisturbed
4. These systems are the same for the proposed storm drain design option since the storm drain diameter remains the same

Source: JLC Engineering & Consulting, Inc., 2020b.

Based on the results shown in **Table 4.9-4** and **Table 4.9-5**, the following is concluded:

1. The flow rate from the hydrology analyses totals 901.4 ft^3/s for Design Options 2a and 2b.
2. Design Option 2a would intercept a total of 347.7 ft^3/s, which represents approximately 39% of the overall flow rate
    a. Design Option 2a would reduce flooding by approximately 150 ft^3/s, improving existing flooding conditions.
3. Design Option 2b would intercept a total of 462.7 ft^3/s which represents approximately 51% of the overall flow rate.
    a. Design Option 2b would reduce flooding by approximately 265 ft^3/s, improving existing flooding conditions.

Based on the above flow rates, a comparative analysis was performed for both design options for potential impacts to the existing Caltrans storm drain system to determine the intercepted flow rate in the event of a 100-year flood. These are shown in **Table 4.9-6: Design Options 2a and 2b Comparative Analysis**.

TABLE 4.9-6: DESIGN OPTIONS 2A AND 2B COMPARATIVE ANALYSIS			
Flow Rate Location	**Caltrans Storm Drain Design Q100 (ft^3/s)[1]**	**Design Option 2a Intercepted Q100 (ft^3/s)[2]**	**Design Option 2b Intercepted Q100 (ft^3/s)[3]**
Baseline Road	380	120	180
11th Street	435	185	245
10th Street	489	215	305
9th Street	541	305.7	395.7
8th Street	587	345.7	435.7
7th Street	635	345.7	460.7
6th Street	730	345.7	461.7
5th Street	734	345.7	462.7
1. The Design Q100 flow rates are obtained from CH2M – Hill Drainage Report Table 1 2. The intercepted flow rates are cumulative totals obtained from **Table 4.9-4** 3. The intercepted flow rates are cumulative totals obtained from **Table 4.9-5**.			
Source: JLC Engineering & Consulting, Inc., 2020b.			

Based on the results shown in **Table 4.9-6**, the cumulative intercepted flow rate for both design options would improve flood conditions and be below Caltrans maximum flood capacity. Therefore, a less than significant impact would occur.

Mitigation Measures

No mitigation is required.

TABLE 4.9-7: HYDROLOGY STUDY & DRAINAGE DEVICES SUMMARY TABLE

RAILWAY STATIONS	SUB-AREA	AREA (ac)	SLOPE (%)	ISOHYETALS 100-Yr. 1-Hr.	SOILS GROUP	COVER TYPE	IMPERVIOUS NUMBER %	Q100 (cfs)	EXISTING INLETS OR CATCH BASINS	EXISTING INLETS OR CATCH BASINS CAPACITY (cfs)	Q100 OVER FLOW RATE (cfs)	CHANNEL FLOW Q100 (cfs)	ENGINEER RECOMMEND CHANNEL TYPE & SIZE
104+00 - 143+70	1A	5.24	2.1	1.8	B	Road & Rail Road	60	51.75	NO	0	51.75	51.75	Rectangular Concrete Channel: W=3', H=1.5'
143+70 - 176+10	2A	5.16	2.1	1.77	B	Road & Rail Road	60	21.74	NO	0	21.74	73.49	Rectangular Concrete Channel: W=3', H=2'
180+40 - 212+40	3A	4.1	1.7	1.7	B	Road & Rail Road	60	14.68	1-36"X36" INLET CATCH BASIN	11.74	2.94	14.68	Triangular Earth Channel: W=3', H=1.5' with 2:1 Side Slope
215+00 - 234+00	4A	4.96	1.3	1.65	B	Industrial & Residential	70	19.79	NO	0	19.79	19.79	Triangular Earth Channel: W=3', H=1.5' with 2:1 Side Slope
235+00 - 255+25	5A	20.17	1.2	1.6	B	Industrial & Residential	70	83.53	NO	0	83.53	83.53	Rectangular Concrete Channel: W=3', H=2.4'
256+00 - 280+00	6A	17.74	1.8	1.55	B	Residential	60	59.42	NO	0	59.42	59.42	Rectangular Concrete Channel: W=3', H=1.6'
282+00 - 288+50	7A	14.63	1.1	1.5	B	Residential	60	43.33	1-12" PIPE INLET	2.4	40.93	40.93	Rectangular Concrete Channel: W=3', H=1.5'
288+50 - 295+30	8A	11.27	1.5	1.47	B	Industrial & Residential	70	33.47	1-12" PIPE & 2-24"X24' BOX INLET	18.4	15.07	15.07	Triangular Earth Channel: W=3', H=1.5' with 2:1 Side Slope
295+30 - 303+00	9A	11.67	1	1.44	B	Industrial	90	40.77	1-7'x8' & 1-5'x7' BULK INLET	0	0	0	No need
303+00 - 309+00	10A	27.32	1	1.4	B	Industrial & Open Space	50	71.34	2-24"X24" BOX INLETS	22	49.34	49.34	Rectangular Concrete Channel: W=3', H=1.5'
309+00 - 315+80	11A	27.51	0.7	1.37	B	Residential	60	68.16	2-24"X24" BOX INLETS	22	46.16	46.16	Rectangular Concrete Channel: W=3', H=1.5'
315+80 - 325+50	12A	19.9	0.5	1.35	B	Residential	60	55	1-12" PIPE INLET	4.5	50.5	50.5	Rectangular Concrete Channel: W=3', H=1.5'

Impact 4.9-4: In flood hazard, tsunami, or seiche zones, would the Project result in the risk release of pollutants due to project inundation?

Level of Significance: No Impact

CONSTRUCTION AND OPERATIONS

The City of San Bernardino General Plan Figure S-1 depicts the Project site outside of the 100-year and 500-year flood zones. The site is also outside of the Seven Oaks Dam inundation area, as depicted on General Plan Figure S-2.

A tsunami is a sea wave generated by an event such as an earthquake, landslide, or volcanic eruption that creates a large displacement of water resulting in a rise or mounding at the ocean surface that moves away from this center as a sea wave. According to the California Department of Conservation's official tsunami inundation maps, no part of San Bernardino County where the Project site is located is within a tsunami inundation area.[20]

A seiche is a free or standing-wave oscillation of the surface of water in an enclosed or semi-enclosed basin, such as a lake, bay, harbor, pond, reservoir, and other body of water that is initiated chiefly by local changes in atmospheric pressure, aided by winds, tidal currents, and earthquakes, and that continues for a time after cessation of the originating force. The hazard is dependent upon specific earthquake parameters (e.g., frequency of the seismic waves, distance and direction from the epicenter), as well as site-specific design of the enclosed bodies of water. The Project site is not proximate to any water bodies. Therefore, the Project site would not be subject to impacts from seiches.

Therefore, the Project would not result in risk from floods, tsunamis, or seiches. No impacts would occur.

Mitigation Measures

No mitigation is required.

Impact 4.9-5: Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Level of Significance: Less than Significant Impact

CONSTRUCTION

In 2014, the California Sustainable Groundwater Management Act (SGMA) was passed, which provides authority for agencies to develop and implement groundwater sustainability plans (GSP) or alternative plans that demonstrate water basins are being managed sustainably.[21] The Project site is within the Upper Santa Ana Valley – Bunker Hill sub basin (Bunker Hill sub basin). The Bunker Hill sub basin is the largest sub basin in the Upper Santa Ana Valley basin with a groundwater capacity of 5,976 AF.[22] The Project

[20] https://www.conservation.ca.gov/cgs/tsunami/maps#Interactive. Accessed December 31, 2019.
[21] State Water Resources Control Board. Sustainable Groundwater Management Act (SGMA). (April 2019). Retrieved from https://www.waterboards.ca.gov/water_issues/programs/gmp/sgma.html.
[22] https://www.sbvwcd.org/docman-projects/upper-santa-ana-integrated-regional-water-management-plan/3802-usarw-irwmp-2015-ch1-9-final/file. Accessed May 8, 2020.

would include BMPs discussed in Impact 4.9-1 to reduce the potential for construction-related water quality impacts, including complying with the established regulatory framework, which requires a SWPPP to be developed for the Project site.

OPERATIONS

The Project would include infiltration basins which would prevent any obstruction of a water quality control plan, as described in Impact 4.9-1. As discussed in Impact 4.9-3, Project operations would maintain or improve existing drainage. Due to the Project nature, Project operations would not generate a water demand and thus would not increase groundwater withdrawals or impede a sustainable groundwater management plan. Additionally, due to demolition of structures, pavement, and other impervious surfaces required for implementing the Project, the Project site's impervious area would be reduced from 9.26 acres to 3.12 acres, thus improving groundwater recharge.

SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline. The latest basin prioritization project, SGMA 2019 Basin Prioritization, was completed in December 2019. SGMA 2019 Basin Prioritization identified 94 basins/sub-basins as medium or high priority. The Project site is located in a low priority basin.[23] Moreover, as discussed above, the Project includes removal of land uses with corresponding decreases in water demands (approximately 105,084 GPD or 117.7 AFY); see **Table 4.16-3: Project Operational Water Demands**. Therefore, the Project would not conflict with or obstruct implementation of a sustainable groundwater management plan. See Impact 4.9-1 above concerning water quality.

Mitigation Measures

No mitigation is required.

4.9.6 CUMULATIVE IMPACTS

For purposes of hydrology and water resources analyses, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**.

The criteria for analyzing project cumulative impacts is any project that could violate water quality standards, impact groundwater supplies, alter existing drainage patterns in a manner that would result in substantial erosion or siltation or result in flooding, impede or redirect flood flows or otherwise contribute to a risk of loss, injury, or death involving water-related hazards. The geographic extent for considering project-related cumulative impacts on hydrology and water quality includes projects within 5.0-miles of the Project, because this distance encompasses the majority of the sub-watershed areas that the Project crosses.

[23] California Department of Water Resources. (2020). *Basin Prioritization Dashboard*. Retrieved from: https://gis.water.ca.gov/app/bp-dashboard/final/.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning hydrology and water quality SBGP EIR *Section 5.7, Hydrology and Water Quality*. The following is a summary of the expected environmental effects:

- Build-out could result in an increase in construction, creating the potential for short-term increases in pollutant concentrations and after development, the quality of stormwater runoff could be altered. This impact was concluded to be less than significant.
- Build-out could result in substantial increases in the amount of impervious surfaces and therefore, impacts to groundwater recharge. This impact was concluded to be less than significant.
- Build-out could alter existing drainage patterns and increase stormwater flows. This impact was concluded to be less than significant.
- Build-out could result in development of land within a 100-year flood hazard area. This impact was concluded to be less than significant.
- Build-out could result in development of land within the Seven Oaks Dam inundation area. This impact was concluded to be less than significant.
- Build-out could result in localized mudflows that could occur in the mountainous area on the northern City boundary. This impact was concluded to be less than significant.
- Implementation of the Arrowhead Springs Specific Plan (AHS) could result in short-term increases in pollutant concentrations during construction and after development, the quality of stormwater runoff could be altered. This impact was concluded to be less than significant with mitigation incorporated.
- Implementation of the AHS could increase the amount of impervious surfaces on-site and increase surface water flows into drainage systems. This impact was concluded to be less than significant with mitigation incorporated.
- Implementation of the AHS could result in development on land located within a 100-year flood hazard area. This impact was concluded to be less than significant with mitigation incorporated.

Development within the City's planning area would be evaluated at the project-level, as they are implemented. Cumulative development would undergo a plan review process for potential to impact hydrology and water quality. The degree of hydrology and water quality impacts would depend upon the type of land use proposed, the change in impervious surface area, existing and proposed stormwater infrastructure, and water demands. All future development would be required to demonstrate compliance with all applicable federal, State, and local regulations concerning hydrology and water quality. Each project would also be required to comply with existing water quality standards at the time of development review and include BMPs, as necessary. Payment of required permitting fees, as well as adherence to existing federal, State, and local laws, ordinances, and regulations, and any project-specific conditions of approval would limit impacts to hydrology and water quality. As with the Project, cumulative development would undergo environmental review on a project-by-project basis pursuant to CEQA to evaluate potential impacts to hydrology and water quality. Future development would be subject to compliance with existing federal, state, and local regulatory framework concerning hydrology and water quality. Additionally, implementation of site-specific mitigation would reduce potential impacts. As such,

cumulative impacts concerning hydrology and water quality would be mitigated on a project-by-project basis, and in accordance with the established regulatory framework.

Mitigation Measures

No mitigation is required.

4.9.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning hydrology and water quality have been identified.

4.9.8 REFERENCES

JLC Engineering & Consulting, Inc. 2020a. BNSF Ono Lead Track Extension Supplemental Hydrology Study and CEQA Assessment

———. 2020b. Drainage Study for BNSF Ono Lead Track

Westland Group, Inc. 2017. BNSF Ono Lead Track Extension Hydrology Report

4.10 LAND USE AND PLANNING

4.10 LAND USE AND PLANNING

4.10.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to land use and planning, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

4.10.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Regional

The Project site is within southwestern San Bernardino County, at the southern portion of the City of San Bernardino (City). The Project site is situated along and west of Interstate 215 (I-215), north of the City of Colton, south of the unincorporated County community of Muscoy, and east of the City of Rialto. The Project site and its surroundings are fully urbanized, with scattered pockets of vacant lands.

Local

The Project site is in the City's southwest portion; see **Exhibit 2-1: Regional Vicinity Map**. The Project area extends approximately 4.3 linear miles along the BNSF corridor adjacent to/west of Interstate 215 (I-215). The Project site is comprised of two dis-contiguous track segments (i.e., southern and northern). The Project area's northern terminus is at the BNSF overpass at State Street/University Parkway and its southern terminus is at West 5th Street, just north of the A Yard; see **Exhibit 2-2: Local Vicinity Map**. Within those limits, the proposed northern and southern track segments are as follows:

- Northern Track Segment (City of San Bernardino): approximately 0.3 linear miles, MP 76.5 to MP 76.8,
- Southern Track Segment (City of San Bernardino): approximately 2.8 linear miles, MP 78.0 to MP 80.8, and
- Gap Between Northern and Southern Track Segments: approximately 1.2 linear miles, MP 76.8 to MP 78.0, where no improvements are proposed.

ONSITE LAND USES

The Project site does not include natural or open space features. Vegetation is primarily small patches of disturbed mule fat scrub, non-native grassland, ornamental, and ruderal (disturbed vegetation, weeds). The Project site is generally flat and site elevations range from approximately 1,080 to 1,200 feet above mean sea level.

Exhibits 2-3a – 2-3l depict the approximately 41-acre Project site, which consists of the existing BNSF right-of-way (ROW) and adjacent properties where ground disturbances (including temporary construction staging) and/or property acquisitions would occur. To facilitate descriptions and analyses, the Project area has been divided into 12 segments, which are listed in **Table 3-1: Project Segments** and depicted in **Exhibits 2-3a – 2-3l**.

Appendix 9.1: Land Use Matrix, lists the 103 parcels and City ROW that comprise the Project area. **Appendix 9.1** also details the properties where ground disturbances or property acquisitions are required, their Assessor's Parcel Number (APN), size and land use, and Project segments and stations. To uniquely identify each property, **Appendix 9.1** assigns "Property Identifier" numbers, which correlate to the property labels on **Exhibits 2-3a – 2-3l**.

Table 3-2: Summary of Existing Land Uses, summarizes the land uses that are present within the Project site. As indicated in **Table 3-2**, most of the Project site (approximately 78 percent) is developed/improved, while 22 percent remains vacant/undeveloped.

BNSF Right-Of-Way

Within the existing BNSF ROW, the BNSF corridor is an existing three and four mainline track railroad system with associated signal poles, electrical poles, and cabinets. The Project rail line is part of BNSF's east-west California freight rail network. The following facilities are in the BNSF ROW:

Railroad tracks consist of steel rails, fasteners, railroad ties, ballast (the gravel track bed on which the track and ties are laid), and underlying subgrade.

Signals and signal bridges are situated along the BNSF ROW. The signal bungalows and cantilevered signals are located immediately adjacent to North I Street between Magnolia Avenue and West 14th Street.

Overcrossings (over the trackage) are at the following locations: University Parkway, North Mount Vernon Avenue, West Highland Avenue, Massachusetts Avenue, West 16th Street, West Baseline Road, West 9th Street, and West 5th Street.

Various underground and overhead utility lines are present within the BNSF ROW (and adjacent properties), including among others the following: a Southern California Gas Company (SCG) gas line and overhead power lines at 6th Street, Southern California Edison (SCE) Company overhead power lines at 7th Street, and a City water line along Cajon Boulevard.

Stormwater drainage within the BNSF ROW includes two 36-inch culverts that cross the tracks, and an outlet that carries runoff directly onto the street shoulders. There are no stormwater drain systems on Cajon Boulevard from West Highland Avenue to Spruce Street.

Adjacent Properties

The properties adjacent to the BNSF corridor where ground disturbances or property acquisitions are required are depicted on **Exhibits 2-3a – 2-3l**, detailed in **Appendix 9.1**, and summarized in **Table 3-2.** The adjacent properties include industrial, commercial, and single-family residential land uses, as well as City ROW. In general, the adjacent City ROW is comprised of two north-south oriented roadways (i.e., Cajon Boulevard and North I Street) and multiple east-west oriented roadways. Generally, Cajon Boulevard and North I Street run parallel to the BNSF ROW, while the east-west oriented roadways are perpendicular. Cajon Boulevard and North I Street are classified Major Arterial and Local Street,[1] respectively. Local Streets are typically two-lane streets that are designed to serve neighborhoods within residential areas.

[1] City of San Bernardino. (2005). *City of San Bernardino General Plan Circulation Element*. pages 6-5 to 6-6. City of San Bernardino, CA: City of San Bernardino; and City of San Bernardino. (2005). *City of San Bernardino General Plan Figure C-2 - Circulation Plan*. page 6-21. City of San Bernardino, CA: City of San Bernardino.

Several variations of local streets exist within the Project area, depending on location, length, and type of land use. Underground and overhead utility lines are also present throughout the adjacent properties.

Surrounding Land Uses

The land uses surrounding the Project site are as follows:

Segment 01 (Northern Track Segment)

- North: BNSF ROW, Cajon Boulevard, and residential uses,
- South: BNSF ROW, Cajon Boulevard, and industrial uses,
- East: I-215,
- West: Industrial uses and vacant lots,

Segments 02 to 11 (Southern Track Segment)

- North: BNSF ROW, Cajon Boulevard, utility (water tank), and vacant lots,
- South: BNSF ROW/SBD Intermodal Facility A Yard, industrial uses, Caltrans ROW, and vacant lots,
- East: I-215, and
- West: Industrial, commercial, and single-family residential land uses, vacant lots, and City ROW (alleys and roadways).

4.10.3 REGULATORY FRAMEWORK

REGIONAL

Southern California Association of Governments 2016 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS)

The Southern California Association of Governments (SCAG) was formed in 1965 as a Joint Powers Authority focused on the management of the regional issues facing Southern California. SCAG is recognized both federally as a Metropolitan Planning Organization (MPO), and by California as a Regional Transportation Planning Agency and a Council of Governments. SCAG represents San Bernardino, Riverside, Imperial, Los Angeles, Orange, and Ventura counties. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and State law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the Southern California region's MPO, SCAG cooperates with the South Coast Air Quality Management District (SCAQMD), Caltrans, and other agencies in preparing regional planning documents.

With the goal of ensuring that the SCAG region can meet its regional greenhouse gasses (GHG) reduction targets set by CARB, SCAG adopted the 2016-2040 RTP/SCS on April 7, 2016. SCAG's Regional Council adopted Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy [2020 RTP/SCS]) on September 3, 2020. The RTP is a long-range transportation plan that provides a vision for regional transportation investments over 20 years or more. The SCS is an RTP element that

demonstrates the integration of the RTP's land use, transportation strategies, and transportation investments.

The Project is not considered regionally significant because it does not meet any of the requirements specified in State CEQA Guidelines § 15206. Therefore, the Project does not require further analysis under the RTP/SCS.

SCAG 2008 Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP) is a comprehensive advisory plan that addresses regional issues including housing, traffic and transportation, water, and air quality. The RCP serves as an advisory document to local agencies in the Southern California region for their information and voluntary use for preparing local plans and handling local issues of regional significance.

Goods movement in the SCAG region is supported, in part, by its geographical advantage such as deep-water marine ports and highly developed network of highways and railways, availability of trans-loading facilities and its large internal market. The region is a major gateway for both international and domestic commerce, and goods movement is the fastest growing segment of the region's transportation sector. Additionally, goods movement plays a vital role in the national, state, and regional economies with one out of every seven jobs in Southern California depending on trade. The RCP projected increased demands on the region's transportation system, causing delays in moving both international and domestic containers between rail and trucks. The ability of the region to accommodate the subsequent rail and truck distribution traffic will substantially influence whether ambitious transportation goals can be achieved.

The Project is not considered regionally significant and therefore does not require further analysis under the SCAG 2008 RCP.

LOCAL

City of San Bernardino General Plan

The San Bernardino General Plan 2005 goals and policies applicable to the proposed Project are provided in **Table 4.10-2: City of San Bernardino General Plan 2005 Consistency.**

The Project site is designated RS (Residential Suburban), Commercial General-1 (CG-1), Industrial Light (IL), Industrial Heavy (IH), and Railroad (RR).

City of San Bernardino Municipal Code

As previously noted, the Project site is within the City of San Bernardino. The City's zoning for the Project site is detailed in **Appendix 9.1**. As indicated in **Appendix 9.1**, the Project site is zoned RS (Residential Suburban) Zone, CG-1 (Commercial General) Zone, CH (Commercial Heavy) Zone, IL (Industrial Light) Zone, and RR (Railroad) Zone.

4.10.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, *Environmental Checklist Form*, includes questions pertaining to land use and planning. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, may have created a significant environmental impact if it would:

- Physically divide an established community (see Impact 4.10-1);
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect (see Impact 4.10-2)

METHODOLOGY AND ASSUMPTIONS

The proposed Project is evaluated against the aforementioned significance criteria as the basis for determining the level of impacts related to land use and planning. This analysis considers existing regulations, laws, and standards that serve to avoid or reduce potential environmental impacts. Where significant impacts remain, feasible mitigation measures are recommended, where warranted, to avoid or lessen the Project's significant adverse impacts.

4.10.5 IMPACTS AND MITIGATION MEASURES

Impact 4.10-1: Would the Project physically divide an established community?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

Projects that divide an established community can involve large-scale linear infrastructure, such as freeways, highways, and drainage facilities, that bisect an established community or create barriers to movement within that community. "Locally undesirable land uses" such as prisons or landfills sited within economically depressed areas can also divide an established community. An analysis concerning Senate Bill 330 is provided in **Section 4.12: Population and Housing**.

The approximately 41-acre Project site is within a fully urbanized area that extends approximately 4.3 linear miles along the BNSF corridor adjacent to I-215. An established San Bernardino community is adjacent/west of the BNSF corridor. The Project involves installing a fourth lead track and associated ancillary improvements on previously disturbed BNSF property and immediately adjacent properties. To accommodate the proposed Project, land acquisitions on adjacent properties outside the existing BNSF ROW totaling approximately 29 acres (i.e., industrial, residential, and commercial properties) would be required. To provide a conservative analysis, all property acquisitions were assumed to result in full property takes. Although the Project involves linear infrastructure, the proposed improvements would be within and along the existing BNSF corridor at the edge of the San Bernardino community located to the west. The proposed noise walls would similarly be within and along the existing BNSF corridor. Therefore, because the improvements are proposed within and along the existing BNSF corridor and at the community's edge, Project implementation would not bisect an established community or create a barrier to movement within that community.

To accommodate the proposed rail improvements, the Project proposes improvements and modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs. The Project's proposed roadway improvements and potential to result in inadequate access or a barrier to movement are discussed in detail in **Section 4.14: Transportation** and summarized in **Table 4.10-1: Roadway Improvements and Impacts**. As concluded in **Section 4.14** and **Table 4.10-1**, the Project would not create barriers to movement within the adjacent community and significant impacts/changes to circulation and property access would not occur. In general, parcels with existing access from the removed roadways would also be acquired/removed, thus, avoiding impacts to the remaining parcels.

Therefore, because the improvements are proposed at the community's edge, and because circulation would not be impeded, Project implementation would not bisect an established community or create a barrier to movement within that community. The Project would not physically divide an established community and impacts would be less than significant.

TABLE 4.10-1: ROADWAY IMPROVEMENTS AND IMPACTS

Segment	Proposed Roadway Improvements/ Modifications	Results and Impacts
6	Relocation of the existing roadway bend at J Street and 17th Street to the southwest and subsequently aligning the north side of the roadway bend with the proposed BNSF ROW.	Results in no impacts or changes to circulation and property access.
7, 8, 9	North I Street would be vacated from 10th Street to 11th Street, and from 14th Street to Evans Place. Access to North I Street would be closed off and cul-de-sacs would be constructed at Evans Place, 15th Street, Magnolia Avenue, 14th Street, and Olive Street.	Alternative north-south access would be available via North J Street and North Perris Street to access land uses between these roadways. The Project proposes to vacate the existing land uses for parcels directly adjacent to North I Street where access would be removed; access to these properties would no longer be required. Results in no significant impacts to property access.
9	Access to North I Street would be closed off and cul-de-sacs would be constructed at 10th Street.	North J Street may be used as an alternative route. Alternative north-south access would be provided from North J Street to access land uses between these roadways. A driveway extension would be needed from the proposed cul-de-sac for one affected property. Alternative driveway access may also be provided on Montgomery Street.
9	The 11th Street at Harris Street intersection would be reconstructed from a T-intersection to a roadway bend, connecting Harris Street to the west leg of 11th Street. 11th Street between Harris Street and the existing railroad corridor would be vacated.	Alternative north-south access would be available from North J Street and Harris Street to access land uses. The Project proposes to vacate the existing land uses for parcels directly adjacent to North I Street and 11th Street where access would be removed; access to these properties would no longer be required. Results in no significant impacts or changes to circulation and property access.
10, 11	North I Street from 7th Street to 8th Street would be vacated and relocated to the west and aligned with the ROW on the east side of North I Street. The Remaining ROW between relocated	Access to properties would no longer be required. Results in no significant impacts.

TABLE 4.10-1: ROADWAY IMPROVEMENTS AND IMPACTS		
	North I Street and the railroad corridor would be vacated.	

Various remnants of City ROW that do not impact roadway circulation (i.e., portions of dead-end streets, remnant portions of ROW resulting from the construction of I-215) would also be vacated. Additional street vacations and a cul-de-sac, which are required for the Project but are already in process associated with other project per City of San Bernardino Resolution 2018-20, are as follows:

- Home Avenue is proposed to be vacated from North I Street to approximately 200 feet west of North I Street. A cul-de-sac would be constructed at Home Avenue's new terminus.
- North I Street is proposed to be vacated from Home Avenue to 14th Street.
- Proposed street vacations and construction of cul-de-sacs would occur prior to commencing Project construction. To provide a conservative analysis, the impacts associated with these improvements are included with the Project's assumed improvements and are evaluated in the EIR.
- Easement access would be provided along portions of the vacated roadways to maintain access to utilities for maintenance purposes.

Mitigation Measures

No mitigation is required.

Impact 4.10-2: Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

San Bernardino General Plan Consistency

An analysis of the proposed Project's consistency with the relevant San Bernardino General Plan goals and policies is provided in **Table 4.10-2.** The analysis concludes that the Project would not conflict with the relevant General Plan goals and policies adopted for the purpose of avoiding or mitigating an environmental effect. Additionally, there is no General Plan land use designation amendment (or zone change) proposed for the properties being condemned, as they are unnecessary under the Eminent Domain Law and Public Utilities Commission regulations. It is noted that, as a Project design feature, the Project seeks to acquire all properties voluntarily, rather than through Eminent Domain. Therefore, Project implementation would result in a less than significant land use impact related to a conflict with the relevant San Bernardino General Plan goals and policies adopted for the purpose of avoiding or mitigating an environmental effect.

TABLE 4.10-2: CITY OF SAN BERNARDINO GENERAL PLAN 2005 CONSISTENCY	
General Plan Policy	**Project Consistency**
LAND USE ELEMENT	
Goal 2.1: Preserve and enhance San Bernardino's unique neighborhoods.	
Policy 2.1.2: Require that new development with potentially adverse impacts on existing neighborhoods or residents such as noise, traffic, emissions, and stormwater runoff, be located and	**Consistent:** Masonry noise walls would be constructed along the new BNSF ROW to reduce the noise impacts to the existing neighborhoods and commercial uses to less than significant. Additionally, stormwater drainage/water

TABLE 4.10-2: CITY OF SAN BERNARDINO GENERAL PLAN 2005 CONSISTENCY	
General Plan Policy	**Project Consistency**
designed so that quality of life and safety in existing neighborhoods are preserved.	quality improvements are proposed at numerous locations along the Project route. Runoff would be collected by existing/proposed swales along the west side of the tracks, where it would be routed to as many as 10 infiltration basins situated adjacent to/west of the BNSF corridor. Refer to **Section 4.14: Transportation; Section 4.2: Air Quality;** and **Section 4.9: Hydrology and Water Quality** for further discussion on impacts related to transportation, emissions, and stormwater runoff, respectively.
Goal 2.2: Promote development that integrates with and minimizes impacts on surrounding land uses.	
Policy 2.2.1: Ensure compatibility between land uses and quality design through adherence to the standards and regulations in the Development Code and policies and guidelines in the Community Design Element.	**Consistent:** The Project proposes to expand the existing ROW, however, would acquire adjacent properties or provide a noise wall to avoid potential land use incompatibilities.
Policy 2.2.2: Require new uses to provide mitigation or buffers between existing uses where potential adverse impacts could occur, including, as appropriate, decorative walls, landscape setbacks, restricted vehicular access, enclosure of parking structures to prevent sound transmission, and control of lighting and ambient illumination.	**Consistent:** Where noise standards would be exceeded, noise walls are proposed to reduce the noise impacts to less than significant to the existing neighborhoods and commercial uses.
Policy 2.2.5: Establish and maintain an ongoing liaison with Caltrans, the railroads, and other agencies to help minimize impacts and improve aesthetics of their facilities and operations; including possible noise walls, berms, limitation on hours and types of operations, landscaped setbacks and decorative walls along its periphery.	**Consistent:** The City and BNSF have collaborated concerning the Project's design and recommended mitigation to reduce the Project's potential impacts, and an existing partnership to promote in-kind development of the railroad with the surrounding land uses; while allowing for economic growth in the region. Project implementation would not increase train operations. As previously mentioned, noise walls would be provided along the BNSF ROW to reduce noise impacts to surrounding residential and commercial uses.
Policy 2.2.10: The protection of the quality of life shall take precedence during the review of new projects. Accordingly, the City shall utilize its discretion to deny or require mitigation of projects that result in impacts that outweigh benefits to the public.	**Consistent:** Partial and full property acquisitions of approximately 29 acres would be required to implement the proposed railroad improvements. However, the proposed Project would enhance the A Yard's train traffic efficiency by reducing congestion and emissions along the existing lead tracks serving BNSF's east-west corridor.
Goal 2.5: Enhance the aesthetic quality of land uses and structures in San Bernardino.	
Policy 2.5.1: Use code enforcement in coordination with all relevant City departments to reverse deterioration and achieve acceptable levels of development quality. These efforts should focus on structural maintenance and rehabilitation, debris and weed removal, property maintenance, and safety.	**Consistent:** The Project would not conflict with this policy, as existing land uses would be removed and no new land uses or structures would be developed.

TABLE 4.10-2: CITY OF SAN BERNARDINO GENERAL PLAN 2005 CONSISTENCY	
General Plan Policy	**Project Consistency**
CIRCULATION ELEMENT	
Goal 6.7: Work with the railroads and other public agencies to develop and maintain railway facilities that minimize the impacts on adjacent land uses.	
Policy 6.7.1: Accommodate railroad services that allow for the movement of people and goods while minimizing their impact on adjacent land uses.	**Consistent:** The proposed Project would enhance the A Yard's train traffic efficiency by reducing congestion along the existing lead tracks serving BNSF's east-west corridor. To accommodate the proposed Project, property acquisitions totaling approximately 29 acres would be required. As adjacent land uses would be acquired, potential impacts would be avoided.
Policy 6.7.3: Encourage the provision of a buffer between residential land uses and railway facilities and encourage the construction of sound walls or other mitigating noise barriers between railway facilities and adjacent land uses.	**Consistent:** Refer to response to Policy 2.1.2 above.

Zoning Consistency

The Project site is zoned RS (Residential Suburban) Zone, CG-1 (Commercial General) Zone, CH (Commercial Heavy) Zone, IL (Industrial Light) Zone, and RR (Railroad) Zone; see **Appendix 9.2**. Introduce a new land use, rather would expand an existing rail use in the Project area. Of the 29 acres which would be acquired, the Project land use would be permitted on 7.6 acres (29 percent) zoned Public Right-of-Way, Rail Right-of-Way, and Franchise. Of the remaining 21.4 acres in which the Project land use is not permitted, 3.9 acres are zoned commercial (CG-1, CH) and 5.6 acres are zoned industrial (IL). There is no zone change (or General Plan land use designation amendment) proposed for the properties being condemned, as they are unnecessary under the Eminent Domain Law and Public Utilities Commission regulations. It is noted that, as a Project design feature, the Project seeks to acquire all properties voluntarily, rather than through Eminent Domain.

Partial acquisition of some properties would create remnant parcels that would not be required for the Project. Concerning these remnant parcels, this EIR assumes they would not be redeveloped, as part of the proposed Project. No zone change is proposed; thus, the underlying/existing zoning would be retained making remnant parcels available for reuse/redevelopment in the future consistent with the existing zoning.

As discussed above, the Project would not be permitted within 21.4 acres of the Project footprint. However, the Project would not introduce a new land use, but rather would expand an existing rail use in the Project area. The Project would expand the existing rail use onto public rights-of-way adjacent residential-, commercial-, and industrial-zoned parcels. Because the Project would expand an existing use, it would be unlikely to result in land use incompatibilities. As discussed throughout **Sections 4.1** through **4.16**, no significant unavoidable impacts would occur from Project implementation. Further, as shown in **Table 4.10-2**, the Project would be consistent with the applicable General Plan goals and policies adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, Project implementation would not result in significant land use impacts due to a conflict with any San Bernardino Municipal Code plan policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Mitigation Measures

No mitigation is required.

4.10.6 CUMULATIVE IMPACTS

For purposes of land use and planning, cumulative impacts are considered for cumulative development within the City's planning area, according SBGP; see **Section 3.0: Basis of Cumulative Analysis**.

As concluded above, the Project would result in a less than significant impact related to physical division of an established community. Concerning conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating and environmental effect, the Project would have a less than significant impact.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning land use and planning in SBGP EIR Section 5.8, *Land Use and Relevant Planning*. The following is a summary of the expected environmental effects:

- Build-out could divide an established community. This impact was concluded to be less than significant.
- Build-out could conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. This impact was concluded to be less than significant.
- Build-out could conflict with an adopted habitat conservation plan. This impact was concluded to be less than significant.

Development within the City's planning area would be evaluated at the project-level, when individual projects are implemented. Cumulative development would undergo a plan review process for consistency with adopted land use plans and policies, in accordance with the requirements of CEQA, California Zoning and Planning Law, and the California Subdivision Map Act, all of which require findings of plan and policy consistency prior to approval of entitlements for development. Each cumulative project would be analyzed independently and within the context of their respective land use and regulatory settings. It is assumed that cumulative development would be processed in accordance with the SBGP and SBMC.

Therefore, the combined cumulative impacts to land use and planning associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

Therefore, the Project's construction-related and operational land use impacts are less than significant, and do not represent a cumulatively considerable contribution to cumulative land use impacts from buildout.

4.10.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning land use and planning have been identified.

4.10.8 REFERENCES

City of San Bernardino. (2005). *City of San Bernardino General Plan.* San Bernardino, CA: City of San Bernardino Development Services.

_____. (2005). *San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report.* San Bernardino, CA: The Planning Center.

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4.11 NOISE

4.11 NOISE

4.11.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to noise and vibration, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

This section addresses the risks associated with temporary or permanent increases in ambient noise levels, excessive groundborne vibration, and airport noise.

Information in this section is based primarily on the BNSF Ono Lead Track Extension Project Noise and Vibration Assessment (Kimley-Horn and Associates, February 2021), which includes the baseline noise measurements and their locations, as well as projected noise levels with and without the Project; see **Appendix 9.10: Noise Analysis**. Additional resource information was obtained from available public resources, including among others, the City of San Bernardino General Plan (SBGP).

4.11.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Characteristics of Noise

Sound is mechanical energy transmitted by pressure waves through a medium such as air or water; the manner in which sound travels through this medium is influenced by the physical properties of the medium (such as temperature, density, and humidity). Noise is often defined as unwanted sound. Of the various noise descriptors used to characterize the loudness of a sound, the sound pressure level has become the most common.

The human ear is not equally sensitive to all frequencies on the audible sound spectrum; for this reason, human response is factored into sound descriptions in a process called “A-weighting,” expressed as “dBA.” The dBA, or A-weighted decibel, is a scale of noise measurement that approximates the human ear’s range of sensitivity to sounds of different frequencies. On this scale, the normal range of human hearing extends from about 0 dBA to about 140 dBA. Sound can vary in intensity by over 1 million times within the range of human hearing; for this reason, the decibel scale is based on logarithms (a system used to shorten calculations in mathematics), which keeps sound pressure measurements within a convenient and manageable range. Because the decibel scale is logarithmic in nature, two noise sources do not combine in a simple additive fashion. For example, if two sources each produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. The noise levels presented in this section are expressed in dBA, unless otherwise indicated.

Stationary noise sources such as idling vehicles or onsite construction equipment are considered “point sources,” and noise originating from these sources “attenuates,” or decreases, based on certain physical principles (e.g., spherical spreading). In accordance with these principles, this analysis assumes that noise originating from a point source within 200 feet of a receiver attenuates at a rate of 6.0 dBA per doubling of distance, and noise from a point source greater than 200 feet away attenuates at a rate of 7.5 dBA per doubling of distance (Caltrans, 2009). Application of these attenuation rates account for such factors as the absorption of noise waves into ground surfaces, vegetation, and intervening structures.

Noise Exposure and Community Noise

The sound pressure level is a measure of noise experienced by an individual at a given moment, and noise exposure is a measure of noise experienced over a period of time. However, consistent noise levels rarely persist over a long period of time. In fact, community noise varies continuously with time and in relation to the contributing sources of sound within the noise environment. Community noise is primarily the product of many distant noise sources that combine to create a relatively stable background noise environment, and individual contributors to the community noise level are generally unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources as well as changes in atmospheric conditions. The addition of short duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens) makes community noise constantly variable throughout a day.

To appropriately characterize the community noise environment and evaluate noise impacts, noise exposure must be measured over a period of time. This time-varying nature of environmental noise is characterized using statistical noise descriptors. In addition to dBA, the following noise descriptors are used in this evaluation:

dB — The decibel (dB) scale is used to quantify sound intensity, with 0 dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

dBA — A-weighted decibels (dBA) are measured using a filter that de-emphasizes the frequencies below 1,000 hertz (Hz) and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies.

L_{eq} — The energy-equivalent sound level (L_{eq}) provides a single numerical value for noise measured over a specified period of time. The L_{eq} is the average noise exposure level for the given time period.

L_{max} — The instantaneous maximum noise level (L_{max}) measured during the measurement period.

DNL — The day-night average sound level (DNL) is the average of the A-weighted sound levels occurring during a 24-hour period and accounts for the greater sensitivity of most people to noise at night. DNL "penalizes" noise occurring between 10:00 PM and 7:00 AM by adding 10 dBA to nighttime noise levels.

CNEL — Similar to DNL, the community noise equivalent level (CNEL) treats each evening noise event as though it were three, which adds a 4.77-dB "penalty" for noise events occurring between 7:00 PM and 10:00 PM Nighttime events are multiplied by ten, which adds a 10-dB penalty to noise events occurring between 10:00 PM and 7:00 AM.

Effects of Noise on People

The effects of noise on people can be placed into three categories: the subjective effects of annoyance, nuisance, and dissatisfaction; interference with activities such as speech, sleep, and learning; and physiological effects such as hearing loss or sudden startling. Environmental noise typically produces effects in the first two categories. Workers at industrial plants often experience noise in the third category. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Therefore, an important method of

predicting human reactions to a new noise environment is to compare the new noise level to the existing noise level to which one has adapted (i.e., the ambient noise level). In general, the more a new noise level exceeds the former ambient noise level, the less acceptable the new noise environment will be judged. The California Department of Transportation (Caltrans) Technical Noise Supplement to the Traffic Noise Analysis Protocol (September 2013) reports the following human responses to changes in noise levels:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- Outside the laboratory, a 3-dBA increase is considered a "barely perceptible" difference (i.e., the change in noise is perceived but does not cause a human response).
- An increase of at least 5 dBA is required before any noticeable change in human response is expected.
- A 10-dBA increase is subjectively heard as an approximate doubling in loudness; see the *Regulatory Framework* Section below.

Groundborne Vibration

Vibration is an oscillatory motion through a solid medium. In contrast to airborne noise, groundborne vibration is not a common environmental problem. It is unusual for individuals to perceive vibration from sources such as buses and trucks, even in locations near major roads. However, some common vibration sources produce groundborne vibration that can be felt (e.g., construction activities such as blasting, pile driving, and operating heavy equipment). There are several methods employed to quantify vibration. The measurement used in this analysis—peak particle velocity (PPV)—is defined as the vibration signal's maximum instantaneous peak. PPV is used to describe vibration impacts on buildings and structures and is expressed in inches per second (in/sec). Typically, groundborne vibration generated by human activity attenuates rapidly with distance from the vibration source. Sensitive receptors for vibration include structures (especially older masonry structures); people (residents, especially the elderly and sick); and locales with vibration-sensitive equipment such as hospitals, research labs, and production facilities for computer-chip manufacturing.

The responses of human receptors and structures to vibration are influenced by a combination of factors, including soil/rock type, distance from the source, duration, and the number of perceived events. Energy transmitted through the ground as vibration can reach levels that cause structural damage; however, humans are very sensitive, and the vibration amplitudes that can be perceived by humans are well below the levels that cause architectural or structural damage. The Caltrans Transportation and Construction Vibration Guidance Manual (September 2013) characterizes the annoyance potential of vibration as follows: 0.01 in/sec PPV is "barely perceptible," 0.04 in/sec PPV is "distinctly perceptible," 0.1 in/sec PPV is "strongly perceptible," and 0.4 in/sec PPV is "severe" for continuous/frequent intermittent sources.

Mobile Noise Sources

Mobile noise sources in the Project vicinity consist of vehicular traffic along the area's roadways and train traffic along the BNSF Railway Company ("BNSF") corridor.

Vehicular Noise

Most of the Project area's existing mobile noise is generated from vehicles along Interstate 215 Freeway (I-215) immediately adjacent/east of the Project site and various arterial roadways such as 9th Street, Base

Line Road, 16th Street, Massachusetts Avenue, Highland Avenue, Vernon Avenue, and University Parkway. I Street and side streets within and west of the Project site also contribute to the noise environment. SBGP Figure N-2 (Future Roadway Noise Contours) shows that the Project area's noise is dominated by traffic noise from I-215 and is approximately 70 dBA CNEL throughout the Project site. Traffic-related mobile source noise is a function of the roadways' traffic volumes and vehicle speeds. It is noted, existing conditions mobile noise sources were not modeled, given the Project would not generate an increase in vehicular traffic.

Train Noise

Rail operations have set schedules for weekdays and weekends that are mostly consistent monthly. Freight rail operations similar to the proposed Project can vary daily, monthly, and annually. Train operational noise involves many parameters, including type of train (e.g., freight), travel speed, number of locomotives and cars per train, number of trains per day, use of train horns, and rail car coupling. Existing train traffic along the BNSF corridor consists of 72 freight trains per day (60 trains during the daytime and 12 at night). Each train consists of four locomotives with up to 60 cars traveling at up to 55 miles per hour (mph).

As noted in the *Assumptions and Methodology* Section, noise modeling was calculated for the nearest receivers west and southwest of the Project alignment. Train noise creates instantaneous noise from each individual train pass-by and contributes to the 24-hour L_{dn} level. **Table 4.11-1: Railroad Noise Levels – Existing Conditions** identifies the modeling results under existing conditions and indicates noise levels range from 56 dBA to 78 dBA. It is noted that **Table 4.11-1** identifies L_{dn} noise levels (i.e., 24-hour energy average noise levels) instead of hourly noise (i.e., L_{eq}[h]). However, L_{dn} levels are typically louder than L_{eq} due to the 10-dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10 PM and 7 AM. Therefore, L_{eq} noise levels would be lower than what is identified in **Table 4.11-1**.

TABLE 4.11-1: RAILROAD NOISE LEVELS – EXISTING CONDITIONS

Segment	Location	Distance to Closest Receptors (feet)	Modeled Noise Level (L_{dn})
1	First Row	130	69
3	First Row	976	56
4	First Row	77	67
5	First Row	125	70
6	First Row	58	75
7 (North of West Evans)	First Row[1]	35	78
7 (South of West Evans)	First Row	90	72
8	First Row[1]	74	73
9	First Row[1]	40	77
10	First Row[1]	40	77
11	First Row[1]	40	77
12	First Row	63	74

Notes:
1. A full take is required for these locations.

Stationary Noise Sources

The Project site is at the City of San Bernardino's (City) southwest portion; see **Exhibit 2-1: Regional Vicinity Map**. San Bernardino is highly urbanized and comprised of a mix of residential and non-residential land uses (i.e., commercial and industrial) served by a grid system of arterial and collector streets. The Project area's primary stationary noise sources are urban-related activities (i.e., mechanical equipment, parking areas, and commercial and industrial areas). Stationary noise sources at the BNSF San Bernardino Intermodal Facility A Yard (A Yard) also contribute to the noise environment at the Project's southern portion. The noise associated with these stationary sources may represent a single-event noise occurrence, short-term or long-term/continuous noise.

Noise Monitoring

To determine the Project area's ambient noise levels, eight 15-minute noise measurements were taken between 10:40 AM and 3:32 PM on September 11, 2018 using a Type 1 Sound Level Meter. Two long-term measurements were taken September 26 to 27, 2018 to document the noise environment over a longer time period. **Exhibit 4.11-1: Noise Measurement Locations**, shows the noise measurement locations and **Table 4.11-2: Noise Monitoring Results**, identifies the ambient noise levels (L_{eq}) measured at these locations.

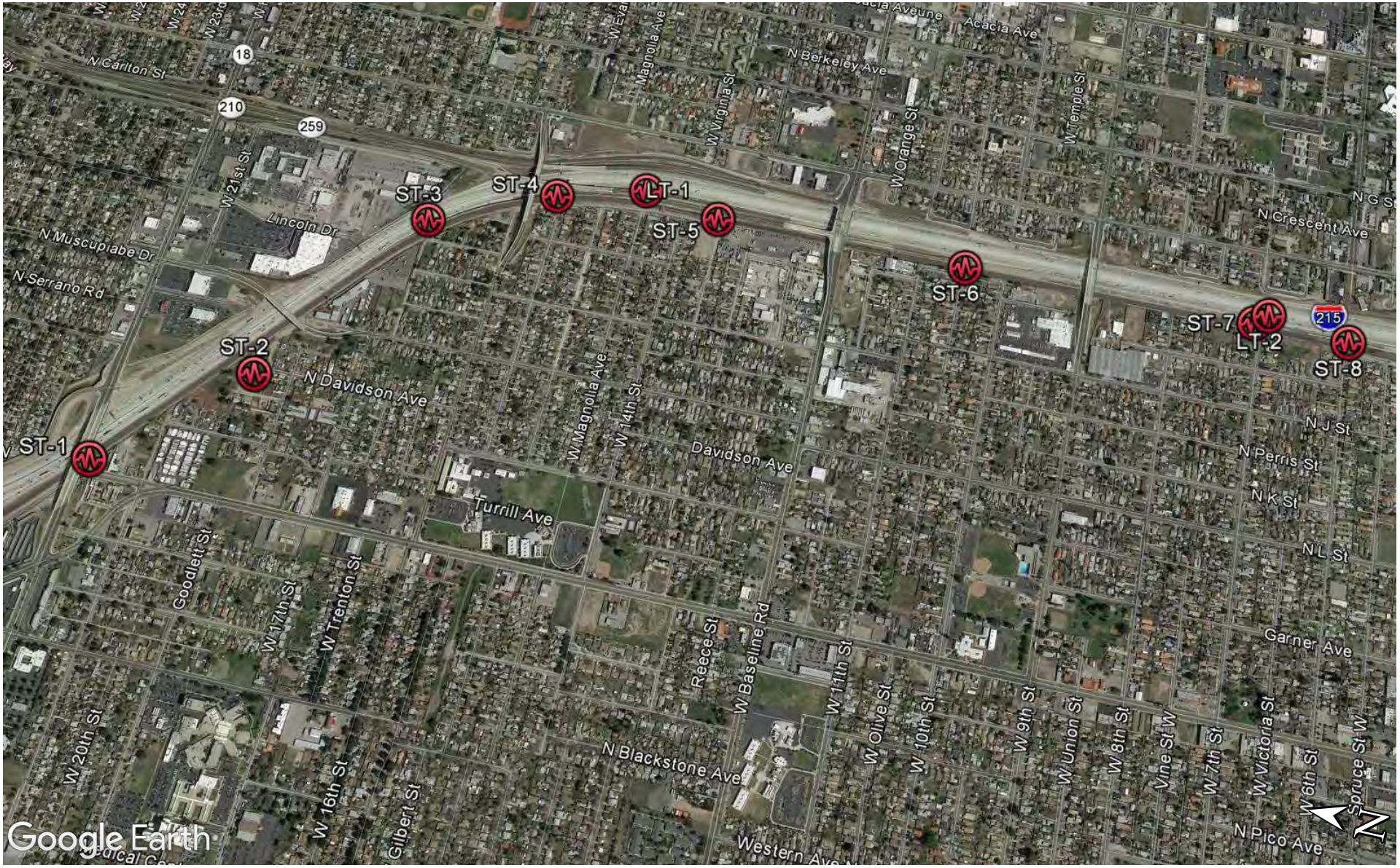
TABLE 4.11-2: NOISE MONITORING RESULTS

Measurement Location	Time of day	L_{eq} [15] (dBA)	L_{max} (dBA)	Lmin (dBA)	Ldn (dBA)
1	10:14 AM	76.2	83.9	69.1	n/a
2	10:32 AM	60.2	74.1	96	n/a
3	10:53 AM	58.5	101.6	71.9	n/a
4	11:15 AM	71.8	92.4	63.7	n/a
5	11:46 AM	71.2	86.8	54.3	n/a
6	12:02 PM	73.9	90.4	64.5	n/a
7	12:19 PM	64.1	70.5	57.1	n/a
8	12:45 PM	60.7	68.6	57.3	n/a
9 (Long Term)	11:52 AM-11:52 AM	76.0	105.4	53.8	82.3
10 (Long Term)	12:19 PM-12:19 PM	71.9	102.7	49.7	77.9

Notes: The equivalent noise level (L_{eq}) is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). For this measurement, the L_{eq} was over a 15-minute period (L_{eq}[15]).

- Measurement 1 was located along the west side of Cajon Boulevard, approximately 380 feet north of West 21st Street and adjacent to the West Highland Avenue overpass. Dominant noise sources include I-215 freeway traffic and a train passing by. The noise level monitored at Location 1 was 76.2 dBA L_{eq}.
- Measurement 2 was located at the northern terminus of Garner Avenue, approximately 250 feet north of West 19th Street. Freeway traffic was the dominant noise source during the measurement. The noise level monitored at Location 2 was 60.2 dBA L_{eq}.

- Measurement 3 was located at the southeast corner of West 17th Street and North J Street. Freeway traffic and a train pass-by were the dominant noise sources during the measurement. The noise level monitored at Location 3 was 58.5 dBA L_{eq}.
- Measurement 4 was located at the northeast corner of West Evans Street and North I Street. Freeway traffic and a train idling were the dominant noise sources during the measurement. The noise level monitored at Location 4 was 71.8 dBA L_{eq}.
- Measurement 5 was located at the northwest corner of Home Avenue West and North I Street. Freeway traffic and a train pass-by were the dominant noise sources during the measurement. The noise level monitored at Location 5 was 71.2 dBA L_{eq}.
- Measurement 6 was located at the northwest corner of Olive Street and North I Street. Freeway traffic and a train pass-by were the dominant noise sources during the measurement. The noise level monitored at Location 6 was 73.9 dBA L_{eq}.
- Measurement 7 was located along the north side of West 7th, approximately 100 feet west of North I Street. Freeway traffic was the dominant noise source during the measurement. The noise level monitored at Location 7 was 64.1 dBA L_{eq}.
- Measurement 8 was located at the southwest corner of West 6th Street and North I Street. Freeway traffic and a slow-moving train were the dominant noise sources during the measurement. The noise level monitored at Location 8 was 60.7 dBA L_{eq}.
- Measurement 9 was located along the east side of North I Street at West Magnolia Street. Freeway traffic and trains were the dominant noise sources during the measurement. The noise level monitored at Location 9 was 76.0 dBA L_{eq} and 82.3 dBA Ldn.
- Measurement 10 was located approximately 50 feet southeast of the West 7th Street and North I Street intersection. Freeway traffic and trains were the dominant noise sources during the measurement. The noise level monitored at Location 10 was 71.9 dBA L_{eq} and 77.9 dBA Ldn.



Source: BNSF Ono Lead Track Extension Project Noise Analysis. Kimley-Horn. February 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.11-1: Noise Measurement Locations

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Sensitive Receptors

Human response to noise varies widely depending on the type of noise, time of day, and receptor sensitivity. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack thereof, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise-sensitive, especially during the nighttime hours. Additionally, San Bernardino has a number of public and private educational facilities, churches, a hospital, a library, senior housing, and park and recreation facilities that are considered noise-sensitive. It is noted that residential uses are the closest sensitive receptors to the Project. Additionally, the FTA noise standards described below are lower for Category 1 and 2 land uses (i.e., residences, hospitals, hotels) than for Category 3 land uses (e.g., schools, libraries, and churches). As such, this analysis conservatively evaluates impacts based on the closest receptors (residences), which have a lower threshold.

4.11.3 REGULATORY FRAMEWORK

FEDERAL

40 CFR Part 205

Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Code of Federal Regulations (40 CFR) Part 205, Subpart B, Title 40. The federal truck pass-by noise standard is 80 decibels (dB) at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers. The Federal Highway Administration (FHWA) regulations for noise abatement must be considered for federal or federally funded projects involving the construction of a new highway or significant modification of an existing freeway when the project would result in a substantial noise increase or when the predicted noise levels approach or exceed the Noise Abatement Criteria (NAC).

Noise Abatement and Control, Title 24 Code of Federal Regulations, Part 51, Subpart B

The Department of Housing and Urban Development's (HUD) mission includes fostering "a decent, safe, and sanitary home and suitable living environment for every American." Accounting for acoustics is intrinsic to this mission, as an environment's safety and comfort can be compromised by excessive noise. In order to facilitate the creation of suitable living environments, HUD has developed a standard for noise criteria. The HUD noise program's basic foundation is set out in 24 CFR Part 51 Subpart B, Noise Abatement and Control noise regulations.

HUD's noise policy clearly requires that noise attenuation measures be provided when projects are proposed in high noise areas. Within the HUD Noise Assessment Guidelines, potential noise sources are examined for projects within 15 miles of a military or civilian airport, 1,000 feet from a road, or 3,000 feet from a railroad.

HUD exterior noise regulations state that 65 dBA DNL noise levels or less are acceptable for residential land uses and noise levels exceeding 75 dBA DNL are unacceptable. HUD's regulations do not contain

standards for interior noise levels. Rather, a goal of 45 dBA is set forth, and the attenuation requirements are geared toward achieving that goal. It is assumed that, with standard construction, any building will provide sufficient attenuation so that if the exterior level is 65 dBA DNL or less, the interior level will be 45 dBA DNL or less.

Federal Railroad Administration Noise Standards

The U.S. Environmental Protection Agency (U.S. EPA) is charged with regulation of railroad noise under the Noise Control Act. Enforcement of the regulations shifted to the Federal Railroad Administration in 1982 when the U.S. EPA Office of Noise Abatement and Control was closed. **Table 4.11-3: Summary of U.S. EPA/Federal Rail Road Administration Railroad Noise Standards**, summarizes the U.S. EPA railroad noise standards that set operating noise standards for railroad equipment and set noise limit standards for new equipment.

TABLE 4.11-3: SUMMARY OF U.S. EPA/FEDERAL RAILROAD ADMINISTRATION RAILROAD NOISE STANDARDS

Noise Sources	Operating Conditions	Noise Metric	Measured Distance (feet)	Standard (dBA)
Non-switcher locomotives built on or before 12/31/79	Stationary	L_{max} (Slow)	100	73
	Idle Stationary	L_{max} (Slow)	100	93
	Non-Idle Moving	L_{max} (Fast)	100	95
Switcher locomotives plus non-switcher locomotives built after 12/31/79	Stationary	L_{max} (Slow)	100	70
	Idle Stationary	L_{max} (Slow)	100	87
	Non-Idle Moving	L_{max} (Fast)	100	90
Rail cars	Speed < 45 mph	L_{max} (Fast)	100	88
	Speed> 45 mph	L_{max} (Fast)	100	93
	Coupling	Adj. Average Max.	50	92

Notes:
1. Slow and fast exponential-time-weighting is used.
2. Note that these values are in terms of the L_{max}, and can be considerably greater than the Leq typically used in the measurement of obtrusive noise.

Source: United States Environmental Protection Agency Railroad Noise Emission Standard (40 Code of Federal Regulations Part 201).

Federal Transit Administration Noise and Vibration Guidance

The Federal Transit Administration (FTA) has published the Transit Noise and Vibration Impact Assessment Manual[1] to provide guidance on procedures for assessing impacts at different stages of transit project development. The report covers both construction and operational noise impacts and describes a range of measures for controlling excessive noise and vibration. The specified noise criteria are an earlier version of the Federal Railroad Administration's High-Speed Ground Transportation Noise and Vibration Impact Assessment criteria. In general, the primary concern regarding vibration relates to potential damage from construction. The guidance document establishes criteria for evaluating the potential for damage for various structural categories from vibration.

[1] Federal Transit Administration Office of Planning and Environment, *Transit Noise and Vibration Impact Assessment Manual,* September 2018.

The FTA guidance manual provides three levels of criteria for assessment of noise impact from rail projects: No Impact, Moderate Impact, and Severe Impact. Noise-sensitive land-uses are grouped into three categories: Category 1, Category 2, and Category 3. The categories are described in **Table 4.11-4: Land Use Categories and Metrics for Transit Noise Impact Criteria**.

TABLE 4.11-4: LAND USE CATEGORIES AND METRICS FOR TRANSIT NOISE IMPACT CRITERIA

Land Use Category	Noise Metric (dBA)	Description of Land Use Category
1	Outdoor $L_{eq}(h)1$	Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use.
2	Outdoor Ldn	Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
3	Outdoor $L_{eq}(h)^1$	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Buildings with interior spaces where quiet is important, such as medical offices, conference rooms, recording studios, and concert halls fall into this category. Places for meditation or study associated with cemeteries, monuments, and museums. Certain historical sites, parks, and recreational facilities are also included.

Note:
1. L_{eq} for the noisiest hour of rail-related activity during hours of noise sensitivity.

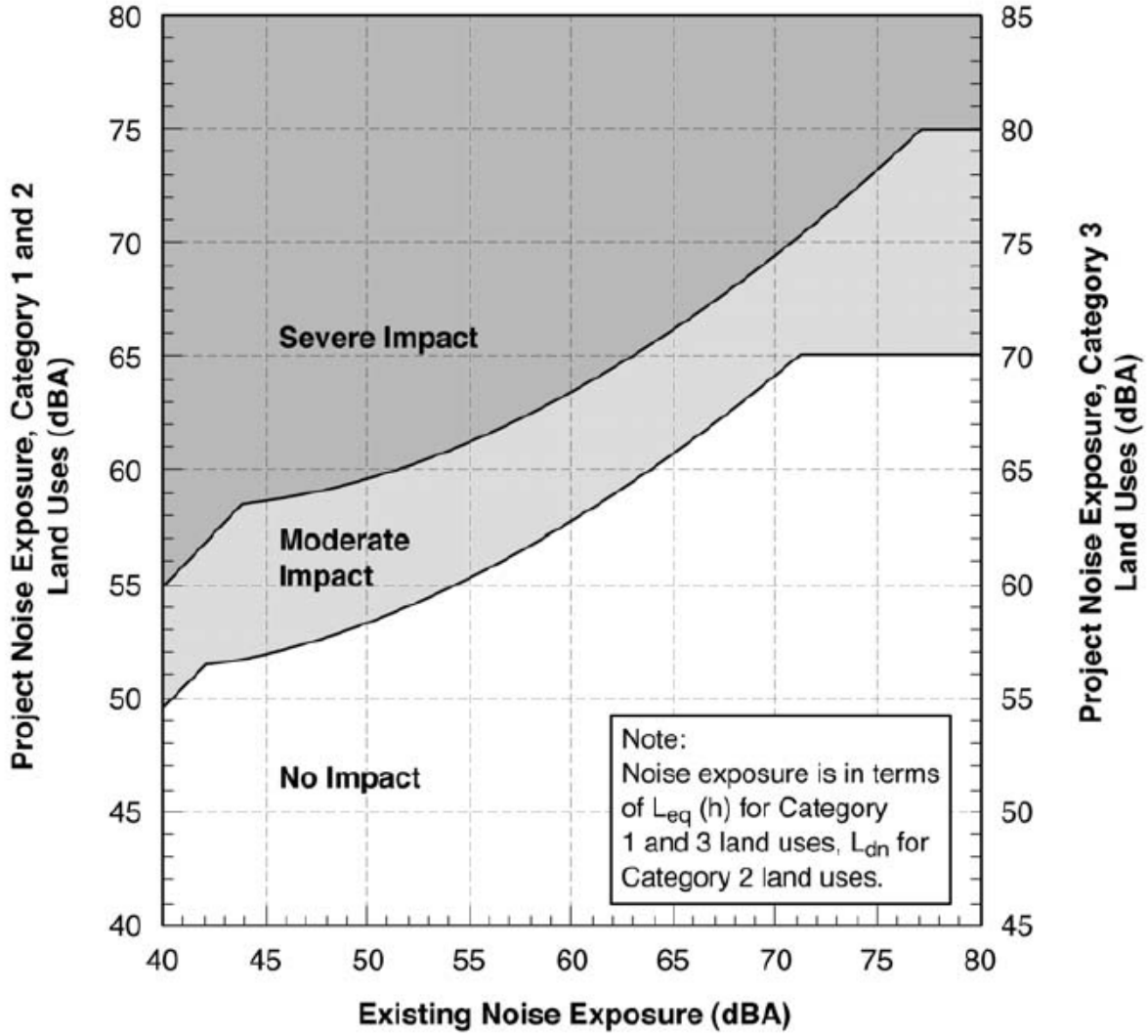
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2013.

The FTA noise impact thresholds, as indicated in Exhibit 4.11-2: Noise Impact Criteria for Transit Projects, and Exhibit 4.11-3: Increase in Cumulative Noise Levels Allowed by Criteria (Land Use Categories 1 & 2), are based on the increase of existing ambient noise levels associated with Project operations or in combination with other new planned projects (i.e., cumulative impact). The FTA guidelines specify a particular noise metric to be used depending on the specific land-use. Ldn is typically used for residential uses, whereas L_{eq} is typically used for schools.

As referenced in **Exhibit 4.11-2**, Moderate and Severe are used as criteria to assess rail-related noise impacts. The interpretations of these two levels of impact are summarized as follows:

- Moderate Impact: The change in the cumulative noise level is noticeable to most people, but it may not be sufficient to cause strong, adverse reactions from the community. In this transitional area, other project-specific factors must be considered to determine the magnitude of the impact and the need for mitigation, such as the existing level, predicted level of increase over existing noise levels, and the types and numbers of noise-sensitive land uses affected.
- Severe Impact: Project noise above the upper curve is considered to cause a Severe Impact since a significant percentage of people would be highly annoyed by the new noise. This curve flattens out at 75 dB for Category 1 and 2 land uses, a level associated with an unacceptable living environment. Noise mitigation will normally be specified for Severe Impact areas unless there is no practical method of mitigating the noise.

Exhibit 4.11-2: Noise Impact Criteria For Transit Projects

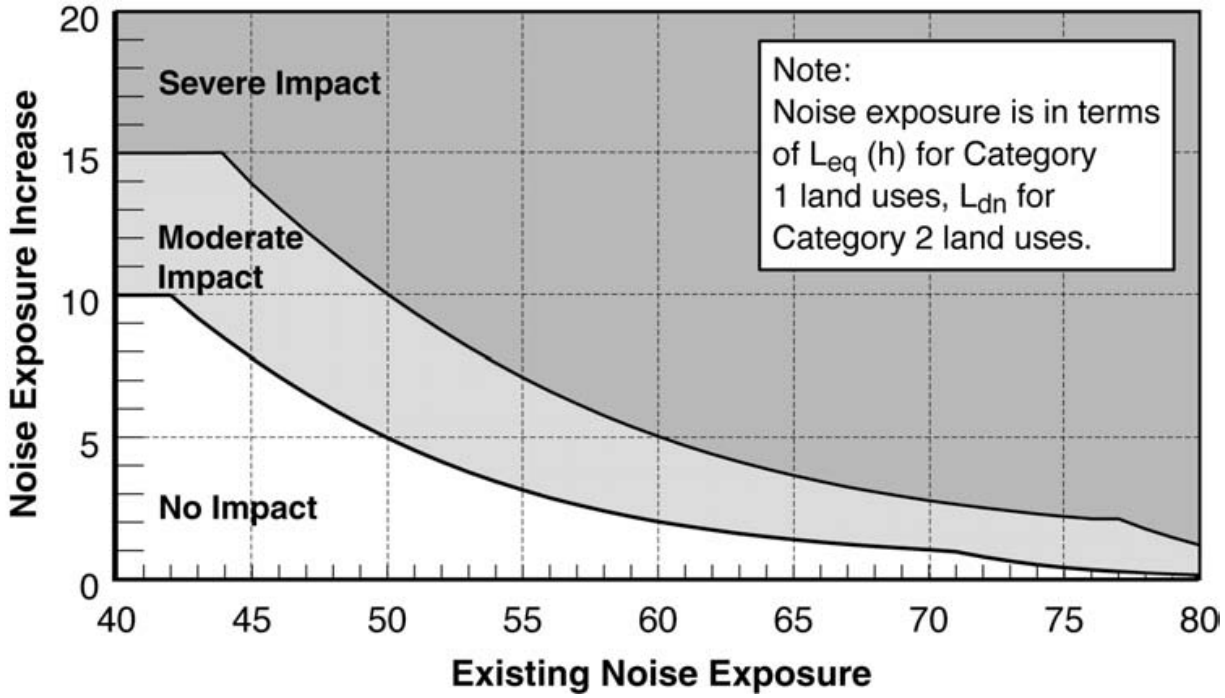


Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

Although the curves in **Exhibit 4.11-2** and **Exhibit 4.11-3** are defined in terms of project noise exposure and existing noise exposure, it is important to emphasize that the increase in the cumulative noise (i.e., when the project noise is added to the existing noise) is the basis for the criteria.

Exhibit 4.11-2 shows that the criterion for impact allows a noise exposure increase of 10 dBA if the existing noise exposure is 42 dBA or less but only a 1 dBA increase when the existing noise exposure is 70 dBA. As the existing level of ambient noise increases, the allowable absolute level of project noise increases, but the total allowable increase in community noise exposure is reduced.

Exhibit 4.11-3: Increase In Cumulative Noise Levels Allowed By Criteria (Land Use Categories 1 & 2)



Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

For residential land use, the noise criteria are to be applied outside the building locations at noise-sensitive areas with frequent human use, including outdoor patios, decks, pools, and play areas. If there are none, the criteria should be applied near building doors and windows. For parks or other outdoor Category 3 land uses, the criteria are to be applied at the property line. However, for locations where land use activities are solely indoors, noise impact may be less significant if the outdoor-to-indoor reduction is greater than for typical buildings (approximately 25 dB with windows closed). Therefore, if it can be demonstrated that there will only be indoor activities, mitigation may not be needed.

Federal Transit Administration Vibration Guidance

The evaluation of vibration impacts can be divided into two categories, human annoyance and building damage. The FTA guidelines provide ground-borne noise and vibration criteria as listed in **Table 4.11-5: Ground-Borne Vibration and Noise Impact for Affected Communities Land Use Category**. These levels represent an event's maximum vibration level. In addition, the guidelines provide criteria for special buildings that are sensitive to ground-borne noise and vibration. The impact criteria for these special buildings are shown in **Table 4.11-5**. There are no special buildings within the Project area.

TABLE 4.11-5: GROUND-BORNE VIBRATION AND NOISE IMPACT FOR AFFECTED COMMUNITIES LAND USE CATEGORY

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re 1 micro inch/second)			Ground-Borne Noise Impact Levels (VdB re 20 µPa)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations	65 VdB[4]	65 VdB[4]	65 VdB[4]	N/A[4]	N/A[4]	N/A[4]
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

µPa = micropascals; VdB = root mean square vibration velocity level; decibels dBA = A-weighted decibel; N/A = not applicable

Notes:
1. "Frequent events" are defined as more than 70 vibration events of the same kind per day.
2. "Occasional events" are defined as between 30 and 70 vibration events of the same kind per day.
3. "Infrequent events" are defined as fewer than 30 vibration events of the same kind per day.
4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the heating, ventilation, and air conditioning systems and stiffened floors.

Source: FTA, *Transit Noise and Vibration Impact Assessment Manual,* 2018.

Table 4.11-5 differentiates vibration impact thresholds depending on the frequency of daily vibration events, with fewer than 30 vibration events per day considered "infrequent," between 30 and 70 events considered "occasional," and more than 70 events considered "frequent." These dividing lines were originally selected so that most commuter rail or intercity rail projects would fall into the "infrequent" category and most urban transit projects (subway and light rail transit) would fall into the "frequent" category. Sensitive receivers (e.g., residential dwellings, churches) fall under Land Use Categories 2 or 3. Based on the criteria specified above, the FTA criteria for "frequent events" are used as the Project involves 72 daily freight trains.

One factor not incorporated in the criteria presented in **Table 4.11-5** is how to account for existing vibration. In most cases, except near railroad tracks, the existing environment does not include a substantial number of perceptible ground-borne vibration or noise events. However, freight rail projects commonly use parts of existing rail routes. The criteria given in **Table 4.11-5** does not indicate how to account for existing vibration, a common situation for freight rail projects using existing rail rights-of-way. Methods of handling representative scenarios include the following:

- **Infrequently used rail route**—If the existing rail traffic consists of four or fewer trains per day, use the vibration criteria from **Table 4.11-5**.
- **Moderately used rail route**—If the existing rail traffic consists of 5 to 12 trains per day with vibration that substantially exceeds the impact criteria, there would be no effect as long as the project vibration levels estimated using the procedures outlined in FTA Guidelines Section 6.2 are at least 5 vibration decibels (VdB) less than the existing vibration. Vibration from existing trains could be estimated using the General Assessment procedures in FRA guidelines Chapter 8; however, measuring vibration from existing train traffic is usually preferable.

- **Heavily used rail route**—If the existing rail traffic exceeds 12 trains per day and if the project would not substantially increase the number of vibration events (less than doubling the number of trains is usually considered not substantial), there would be no additional effect unless the project vibration, estimated using FTA Guidelines Section 6.2, would be higher than the existing vibration. In locations where the new trains would be operating at much higher speeds than the existing rail traffic, the high-speed trains would likely generate substantially higher levels of ground-borne vibration. When the project would cause vibration more than 5 VdB greater than the existing source, the existing source can be ignored and the vibration criteria in **Table 4.11-5** can be applied to the project.

- **Moving Existing Tracks**—Another scenario where existing vibration can be substantial is a new freight rail line within an existing rail right-of-way that requires shifting the location of existing tracks. Where the track relocation would cause higher vibration levels at sensitive receptors, the projected vibration levels from both rail systems must be compared to the appropriate impact criterion to determine if there would be a new effect. If an effect were judged to have existed prior to moving the tracks, new effects would be assessed only if the relocation would result in more than a 3 VdB increase in vibration level.

  Although the impact thresholds given in **Table 4.11-5** are based on experience with vibration from rail transit systems, the thresholds can be applied to freight train vibrations as well.[2] However, locomotive and railcar vibration should be considered separately. Because locomotive vibration only lasts for a few seconds, the infrequent-event limits are appropriate, but for a typical line haul freight train where the railcar vibration lasts for several minutes, the frequent-event limits are appropriate. Some judgment must be exercised to confirm that the approach is reasonable. For example, some spur rail lines carry very little rail traffic (sometimes only one train per week) or have short trains, in which case the infrequent-event limits are appropriate.

Construction activities can result in varying degrees of ground vibration, depending on the equipment and method employed. The vibration associated with typical construction is not likely to damage building structures, but it could cause cosmetic building damage. Consequently, construction vibration impact on a building is generally assessed in terms of PPV (in inches per second), as defined in **Section 4.11.2: Affected Environment**. **Table 4.11-6: Construction Vibration Building Damage Criteria** summarizes the FTA guidelines' construction vibration criteria.

TABLE 4.11-6: CONSTRUCTION VIBRATION BUILDING DAMAGE CRITERIA

Building Category	PPV (inches per second)	Approximate L_v[1]
I. Reinforced-concrete, steel or timber (no plaster)	0.50	102 VdB
II. Engineered concrete and masonry (no plaster)	0.30	98 VdB
III. Non-engineered timber and masonry buildings	0.20	94 VdB
IV. Buildings extremely susceptible to vibration damage	0.12	90 VdB

L_v = velocity level, decibels; PPV = peak particle velocity; VdB = root mean square vibration

Note:
1. VdB re 1 micro-inch per second
Source: FTA, *Transit Noise and Vibration Impact Assessment Manual,* 2018.

[2] According to the FTA guidelines, there is no specific vibration impact criteria for freight railroads. Thus, the FTA recommends utilizing the **Table 4.11-5** impact thresholds for freight railroad projects.

STATE

California Government Code

California Government Code § 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services.

The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 Community Noise Equivalent Level (CNEL) and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

California Noise Control Act of 1973

The California Noise Control Act (California Health and Safety Code, Division 28, § 46000 et seq), declares that excessive noise is a serious hazard to public health and welfare, and establishes the Office of Noise Control with responsibility to set standards for noise exposure in cooperation with local governments or the state legislature.

Noise Insulation Standards

California Code of Regulations Title 24 California Noise Insulation Standards and California Health and Safety Code § 17922.6 set requirements for new multi-family residential units, hotels, and motels that may be subject to relatively high levels of transportation-related noise. For exterior noise, the noise insulation standard is DNL 45 dB in any habitable room and requires an acoustical analysis demonstrating how dwelling units (DU) have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than DNL 60 dB.

California Streets and Highways Code

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline. For new roadway projects, Caltrans employs the NAC, promulgated by 40 CFR, as administered by the FHWA (California Vehicle Code, §§ 23130, 23130.5, 27150 et seq., 27204, and 27206).

California Department of Transportation

The California Department of Transportation (Caltrans) Technical Noise Supplement to the Traffic Noise Analysis Protocol (September 2013) reports the following human responses to changes in noise levels:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- Outside the laboratory, a 3-dBA increase is considered a "barely perceptible" difference (i.e., the change in noise is perceived but does not cause a human response).

- An increase of at least 5 dBA is required before any noticeable change in human response is expected.
- A 10-dBA increase is subjectively heard as an approximate doubling in loudness.

Human annoyance from groundborne vibration occurs when vibration levels rise above the threshold of human perception for extended periods of time. According to the Caltrans Transportation and Construction Vibration Guidance Manual (September 2013), a groundborne vibration level of 0.11 in/sec PPV is considered strongly perceptible and is the level at which human annoyance occurs.

LOCAL

City of San Bernardino General Plan

Noise Element

The City of San Bernardino General Plan (SBGP) Noise Element identifies several policies to minimize the impacts of excessive noise levels throughout the community. The Noise Element provides policy guidance which addresses the generation, mitigation, avoidance, and the control of excessive noise. The noise policies specified in the Noise Element provide the guidelines necessary to satisfy these goals. To ensure that residents are not exposed to excessive noise levels, the noise Element policies provide exterior standards of 65 dBA Ldn and 45 dBA Ldn for sensitive land uses. Policies 14.2.1 to 14.2.19 outline the transportation related guidelines and mitigation strategies the City uses to satisfy Goal 14.2. The following policies apply to railroads:

Goal 14.1: **Ensure that residents are protected from excessive noise through careful land planning.**

Policy 14.1.1: Minimize, reduce, or prohibit, as may be required, the new development of housing, health care facilities, schools, libraries, religious facilities, and other noise-sensitive uses in areas where existing or future noise levels exceed an Ldn of 65 dB(A) exterior and an Ldn of 45 dB(A) interior if the noise cannot be reduced to these levels. (LU-1)

Goal 14.2: **Encourage the reduction of noise from transportation-related noise sources such as motor vehicles, aircraft operations, and railroad movements.**

Policy 14.2.5: Require sound walls, berms, and landscaping along existing and future highways and railroad right-of-ways to beautify the landscape and reduce noise. (N-1)

Policy 14.2.15: Work with all railroad operators in the City to properly maintain lines and establish operational restrictions during the early morning and late evening hours to reduce impacts in residential areas and other noise-sensitive areas.

Policy 14.2.16: Work with all railroad operators to install noise mitigation features where operations impact existing adjacent residential or other noise-sensitive uses.

Goal 14.3: **Protect residents from the negative effects of "spill over" or nuisance noise.**

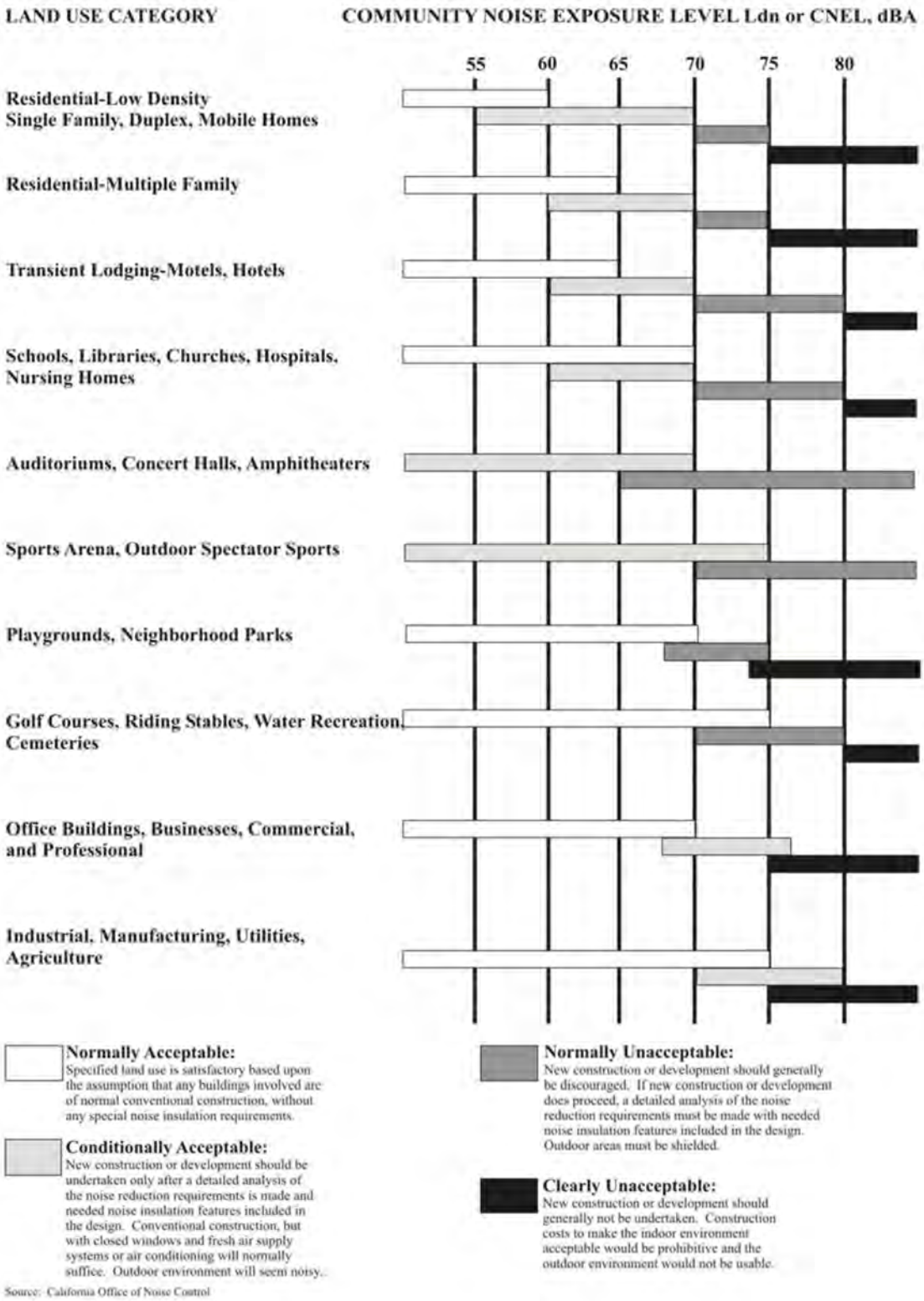
Policy 14.3.1: Require that construction activities adjacent to residential units be limited as necessary to prevent adverse noise impacts. (LU-1)

To protect residents from sources of operational and construction noise (Goal 14.3), the Noise Element includes Policies 14.3.1 to 14.3.8 to adopt a Noise Ordinance and ensure noise issues between land uses are reduced. These policies generally require the prevention of adverse impacts to residential units from construction, stationary equipment, and truck deliveries.

The SBGP Figure N-1 provides noise criteria to evaluate the land use compatibility of transportation-related noise; see **Exhibit 4.11-4: Land Use Compatibility for Community Noise Exposure**. The compatibility criteria indicate that residential land uses are considered normally acceptable with noise levels below 60 dBA L_{dn} and conditionally acceptable with noise levels of less than 70 dBA L_{dn}.

City of San Bernardino General Plan Noise Element Table N-3 identifies a maximum allowable exterior noise level of 65 dBA CNEL and an interior noise level limit of 45 dBA CNEL for new residential developments; see **Table 4.11-7: Interior and Exterior Noise Standards.** While the City specifically identifies an exterior noise level limit for noise-sensitive residential land uses such as hotels, hospitals, schools, and parks, the City does not maintain exterior noise standards for non-noise sensitive land uses such as office, retail, manufacturing, utilities, agriculture, and industrial.

Exhibit 4.11-4: Land Use Compatibility for Community Noise Exposure



Source: City of San Bernardino, *General Plan Noise Element*, Figure N-1, 2005.

TABLE 4.11-7: INTERIOR AND EXTERIOR NOISE STANDARDS			
Land Use		CNEL (dBA)	
Categories	Uses	Interior[1]	Exterior[2]
Residential	Single and multi-family, duplex	45[3]	65
	Mobile homes	----	65[4]
Commercial	Hotel, motel, transient housing	45	----
	Commercial retail, bank, restaurant	55	----
	Office building, research and development, professional offices	50	----
	Amphitheater, concert hall, auditorium, movie theater	45	----
	Gymnasium (Multipurpose)	50	----
	Sports Club	55	----
	Manufacturing, warehouse, wholesale, utilities	65	----
	Movie Theaters	45	----
Institutional/Public	Hospital, school classrooms/playgrounds	45	65
	Church, library	45	----
Open Space	Parks	---	65

Notes:
1. Indoor environment excluding: bathrooms, kitchens, toilets, closets, and corridors
2. Outdoor environment limited to:
   - Private yard of single-family dwellings
   - Multi-family private patios or balconies accessed from within the dwelling units (balconies 6.0 feet deep or less are exempt)
   - Mobile home parks
   - Park picnic areas
   - School playgrounds
   - Hospital patios
3. Noise level requirement with closed windows, mechanical ventilation or other means of natural ventilation shall be provided as per Uniform Building Code Chapter 12, § 1205.
4. Exterior noise levels should be such that interior noise levels will not exceed 45 dBA CNEL.

Source: City of San Bernardino, *City of San Bernardino General Plan Noise Element*, Table N-3, 2005.

City of San Bernardino Municipal Code

San Bernardino Municipal Code Section 8.54

The City of San Bernardino Municipal Code (SBMC) Noise Control Ordinance (Chapter 8.54) includes regulations to control the negative effects of nuisance noise, but it does not identify specific exterior noise level limits. In addition, SBMC Chapter 19.20 contains exterior and interior noise level standards for residential land uses.

SBMC § 8.54.060 states when: such noises are an accompaniment and effect of a lawful business, commercial or industrial enterprise carried on in an area zoned for that purpose…these activities shall be exempt (SBMC § 8.54.060(B)). However, due to the Project's proximity to residential land uses, SBMC § 19.20.030.15(A) limits the operational stationary-source noise from the proposed Project to an exterior noise level of 65 dBA L_{eq} (1-hr) for residential land uses.

SBMC § 8.54.070 states that no person shall be engaged or employed, or cause any person to be engaged or employed, in any work of construction, erection, alteration, repair, addition, movement, demolition,

or improvement to any building or structure except within the hours of 7:00 AM and 8:00 PM. While the City establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels.

4.11.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions concerning noise. The questions presented in the Environmental Checklist have been used as threshold of significance in this section. Accordingly, the Project may create a significant environmental impact and it would:

- Result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (see Impact 4.11-1);
- Result in the generation of excessive groundborne vibration or groundborne noise levels (see Impact 4.11-2);
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels (see Impact 4.11-3).

METHODOLOGY AND ASSUMPTIONS

Construction Noise

The proposed Project has several construction phases with varying heavy-duty construction equipment. Project construction is anticipated to begin the first quarter of 2022 and be completed by the first quarter of 2024. Inclusive of property demolitions, Project construction would occur over approximately 42 months. However, demolition would occur upon property acquisition, prior to commencing Project construction. Exclusive of property demolitions and accounting for the three-month overlap, Project construction would occur over approximately 23 months. Notwithstanding, to provide a conservative analysis, demolition-related activities are included in the assumed construction activities and evaluated herein. The Project's demolition phase would start as soon as properties are acquired. The Project's site preparation phase would occur simultaneous with demolition and prior to grading. The Project is anticipated to involve approximately 184,300 cubic yards (CY) of exported cut soil and 33,400 CY of imported fill soil. Upon completion of property acquisitions and grading, municipal improvements (i.e., utility relocation and paving) would commence simultaneous with rail construction. Train trips are anticipated to deliver rail construction materials (i.e., rail, ties, and ballasts) during the Project's rail construction phase. Railroad ties are anticipated to be pre-cast concrete; therefore, a concrete batch plant would not be required.

Construction equipment reference noise levels published by the FTA were used to evaluate construction noise associated with the proposed Project. Construction noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise. Construction activities are required to comply with the standards and allowable construction hours (7:00 AM and 8:00 PM) set forth in SBMC § 8.54.070. However, as the

City of San Bernardino does not identify specific noise level limits for construction noise, this analysis uses the FTA Transit Noise and Vibration Impact Assessment Manual (2018) criteria. The FTA's daytime construction noise criteria is 90 dBA L_{eq} for residential uses and 100 dBA L_{eq} for commercial and industrial uses.

Construction Noise – Updates to Modeling Assumptions

The minor Project refinements discussed below occurred subsequent to completion of the noise modeling.

Basin Construction. The current Project design for stormwater runoff and water quality assumes seven potential basin sites (totaling approximately 5.3 acres and providing a storage volume of approximately 13 acre-feet) would be constructed. The noise modeling assumed nine basins would be constructed, when likely less than one-half of the soils/materials import/export quantities assumed in the modeling would occur. Therefore, the noise modeling concerning basin construction is considered conservative.

Displaced Commercial Uses. Construction noise modeling assumed 31,000 square feet (SF) of displaced (i.e., demolished) commercial land uses, and not 46,000 SF, as proposed under the current Project design; see **Table 2-2: Summary of Existing Land Uses**. This change in demolition assumptions is attributed to full acquisition (as opposed to partial acquisition) of an additional property. This additional property is bounded by 10th Street and residential uses to the north, vacant land to the south, the BNSF corridor and Interstate-15 freeway to the east, and Montgomery Street and commercial and light industrial uses to the west. The residential uses would be 100 feet from construction activities associated with the full acquisition of the additional property, but are already adjacent to the previously-assumed construction footprint. Therefore, the residential uses would not be closer to construction activities. Because the construction noise modeling conservatively assumed that all nine basin sites would be constructed, any additional construction noise associated with demolition of the additional 15,000 SF of commercial floor area is considered nominal and would be more than offset by the already conservative construction emissions. Even if the construction emissions associated with an additional 15,000 SF of demolished floor area were added, the analysis conclusions based on modeling would not change because construction activities were already assumed to occur adjacent to the nearest receptor.

Groundborne Vibration During Construction

The proposed Project would result in significant impacts if it were to generate vibration levels substantial enough to damage nearby structures or buildings, or result in vibration levels that are commonly accepted as an annoyance to sensitive land uses.

The Caltrans Transportation and Construction Vibration Guidance Manual (September 2013) characterizes the annoyance potential of vibration as follows: 0.01 in/sec PPV is "barely perceptible," 0.04 in/sec PPV is "distinctly perceptible," 0.1 in/sec PPV is "strongly perceptible, and 0.4 in/sec PPV is "severe." The analysis uses the "strongly perceptible" threshold of 0.1 in/sec PPV from the Caltrans Transportation and Construction Vibration Guidance Manual to determine human annoyance impacts during construction.

For structural damage, the analysis uses FTA guidelines. The FTA has published standard vibration velocities for construction equipment operations. For example, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.20 in/sec is considered safe and would not result in any construction vibration damage.

Permanent Increases in Ambient Noise Levels

For the analysis of long-term operational impacts on the existing ambient noise environment, impacts are considered significant if Project operation would result in a substantial increase in noise levels in the project area. This evaluation uses the FTA's moderate or severe noise impact criteria shown in **Exhibit 4.11-2** and **Exhibit 4.11-3** to evaluate train noise impacts. As the existing ambient noise level increases, the allowable noise level increases, but the total amount that community noise exposure is allowed to increase is reduced. This accounts for the unexpected result that a project noise exposure that is less than the existing noise exposure can still cause an impact. As noted above, residential uses are the closest sensitive receptors to the Project. The FTA noise standards are more stringent for Category 1 and 2 land uses (i.e., residences, hospitals, hotels) than Category 3 land uses (e.g., schools, libraries, and churches). As such, this analysis conservatively evaluates impacts based on the closest receptors (residences), which have a lower threshold.

Acoustical Analysis Parameters

The methodology used in assessing operational impacts from Project implementation is based on the FTA Transit Noise and Vibration Impact Assessment (2018) guidance manual. Locomotive and rail car noise was modeled using the FTA Train Noise Impact Assessment Model (January 29, 2019). Modeling was conducted for freight trains to determine the noise levels resulting from the types of trains currently using the railroad. The following assumptions were used in the analysis of rail operations:

- Model results are calculated for the closest receivers west/southwest of the Project alignment.
- Fixed guideway source type.
- 72 freight trains per day (assumed 60 during the daytime and 12 at night).
- Each train includes four locomotives with up to 60 cars traveling at up to 55 mph.
- Warning horns would not be used as the Project involves no crossings (all crossings are grade separated).

4.11.5 IMPACTS AND MITIGATION MEASURES

Project Design Features

To avoid/minimize construction noise and operational train noise impacts, the Project proposes the following design features:

- To maximize distances between sensitive receptors and construction areas, three strategically-placed construction staging areas are proposed; see **Table 4.11-8: Construction Staging Areas** and see **Exhibits 4.11-5: Staging Area 1**, **4.11-6: Staging Area 2**, and **4.11-7: Staging Area 3**.
- All construction equipment, fixed and mobile, would be equipped with properly operating and maintained noise mufflers, consistent with manufacturer's standards to reduce noise levels.

TABLE 4.11-8: CONSTRUCTION STAGING AREAS			
Segment	**Construction Staging Area**	**Location**	**Property ID**
5	Construction Staging Area 1	Located on properties proposed for acquisition from 21st Street to Massachusetts Avenue	Numbers 4 – 13
7	Construction Staging Area 2	Located on properties proposed for acquisition from West 16th Street to Magnolia Avenue	Numbers 29, 29.1, 29.2, 30, 30.1, 30.2, 31, 31.5, 38, 32, 32.5, 33, 33.1, 33.2
8	Construction Staging Area 2	Located on properties proposed for acquisition from Magnolia Avenue to Baseline Street	Numbers 42,35, 35.5, 36, 37, 40,39, 38.5, 41, 43
9	Construction Staging Area 2	Located on properties proposed for acquisition from Baseline Street to 10th Street	Number 41
11	Construction Staging Area 3	Located on properties proposed for acquisition from approximately 165 feet south of 7th Street to 6th Street	Numbers 82, 83, 84, 85, 86, 87
Source: Kimley-Horn, 2021.			

Impact 4.11-1: **Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Level of Significance: Less Than Significant with Mitigation Incorporated

CONSTRUCTION

Construction Activities

Details concerning the assumed construction activities are provided in the *Methodology and Assumptions* Section above. The grading phase has the potential to create the highest noise levels. Typical noise levels generated by construction equipment are identified in **Table 4.11-9: Typical Construction Noise Levels.** Operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

Source: Kimley-Horn

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Exhibit 4.11-5: Staging Area 1

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Source: Kimley-Horn

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Exhibit 4.11-6: Staging Area 2

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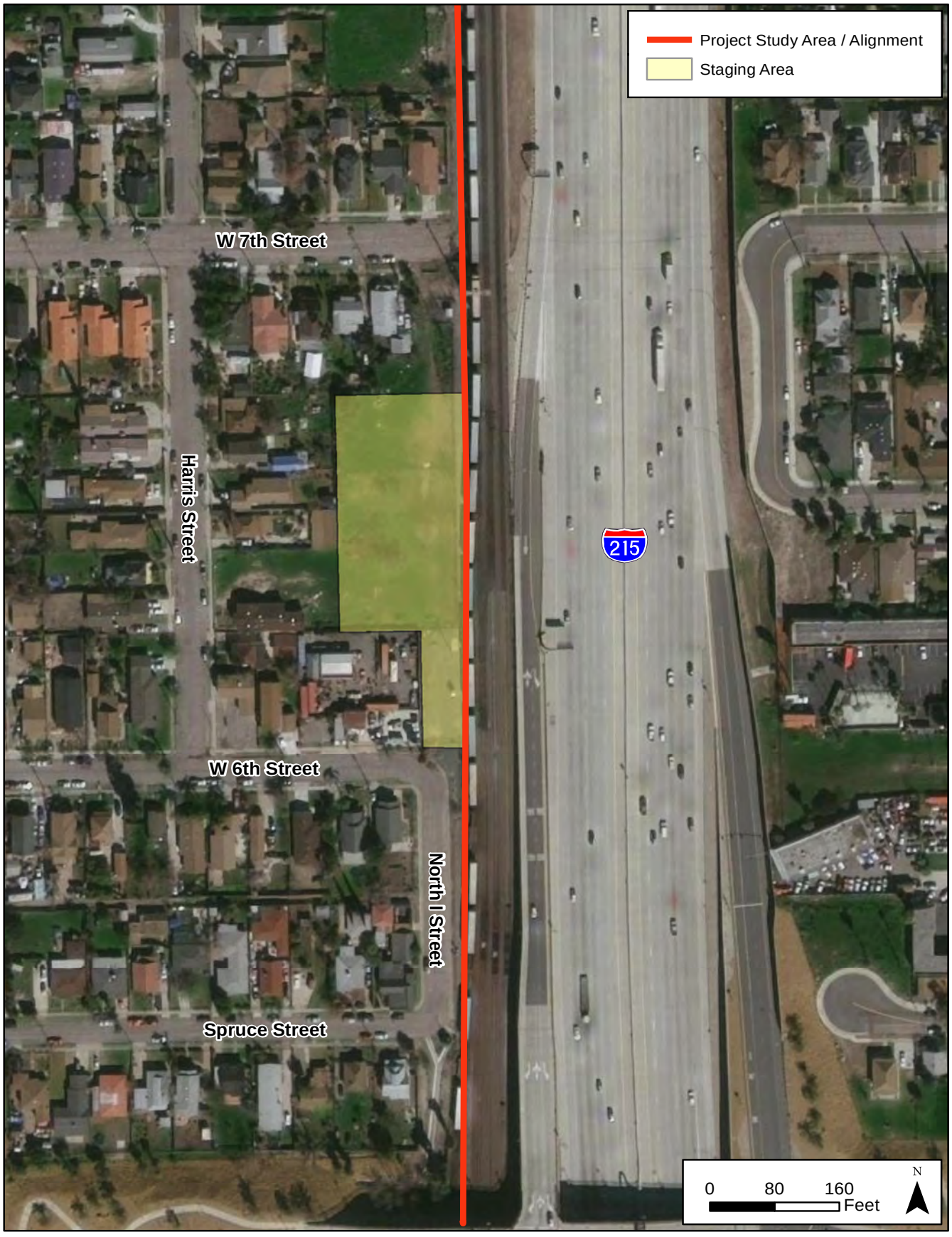

Source: Kimley-Horn

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Exhibit 4.11-7: Staging Area 3

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TABLE 4.11-9: TYPICAL CONSTRUCTION NOISE LEVELS		
Equipment	**Typical Noise Level (dBA) at 50 feet from Source**	**Typical Noise Level (dBA) at 100 feet from Source[1]**
Air Compressor	80	74
Backhoe	80	74
Compactor	82	76
Concrete Mixer	85	79
Concrete Pump	82	76
Concrete Vibrator	76	70
Crane, Derrick	88	82
Crane, Mobile	83	77
Dozer	85	79
Generator	82	76
Grader	85	79
Impact Wrench	85	79
Jack Hammer	88	82
Loader	80	74
Paver	85	79
Pile-driver (Impact)	101	95
Pile-driver (Sonic)	95	89
Pneumatic Tool	85	79
Pump	77	71
Roller	85	79
Saw	76	70
Scraper	85	79
Front Shovel	82	76
Truck	84	78
1. Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1+20Log(d_1/d_2)$ Where: dBA_2 = estimated noise level at receptor; dBA_1 = reference noise level; d_1 = reference distance; d_2 = receptor location distance		
Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.		

Project construction-related activities could affect the exterior noise levels at the nearest noise-sensitive receptors. Nearby noise-sensitive receptors include residential land uses immediately south and west of the Project site. **Table 4.11-10: Nearest Sensitive Receptors to Project Construction Limits,** identifies the distance to the nearest noise-sensitive receptors from the Project construction limits; see also **Exhibit 4.11-9: Nearest Sensitive Receptors, Existing Conditions.** These sensitive receptors may be exposed to elevated noise levels during Project construction. However, construction noise would be acoustically dispersed throughout the Project site and not concentrated in one area near surrounding noise-sensitive receptors.

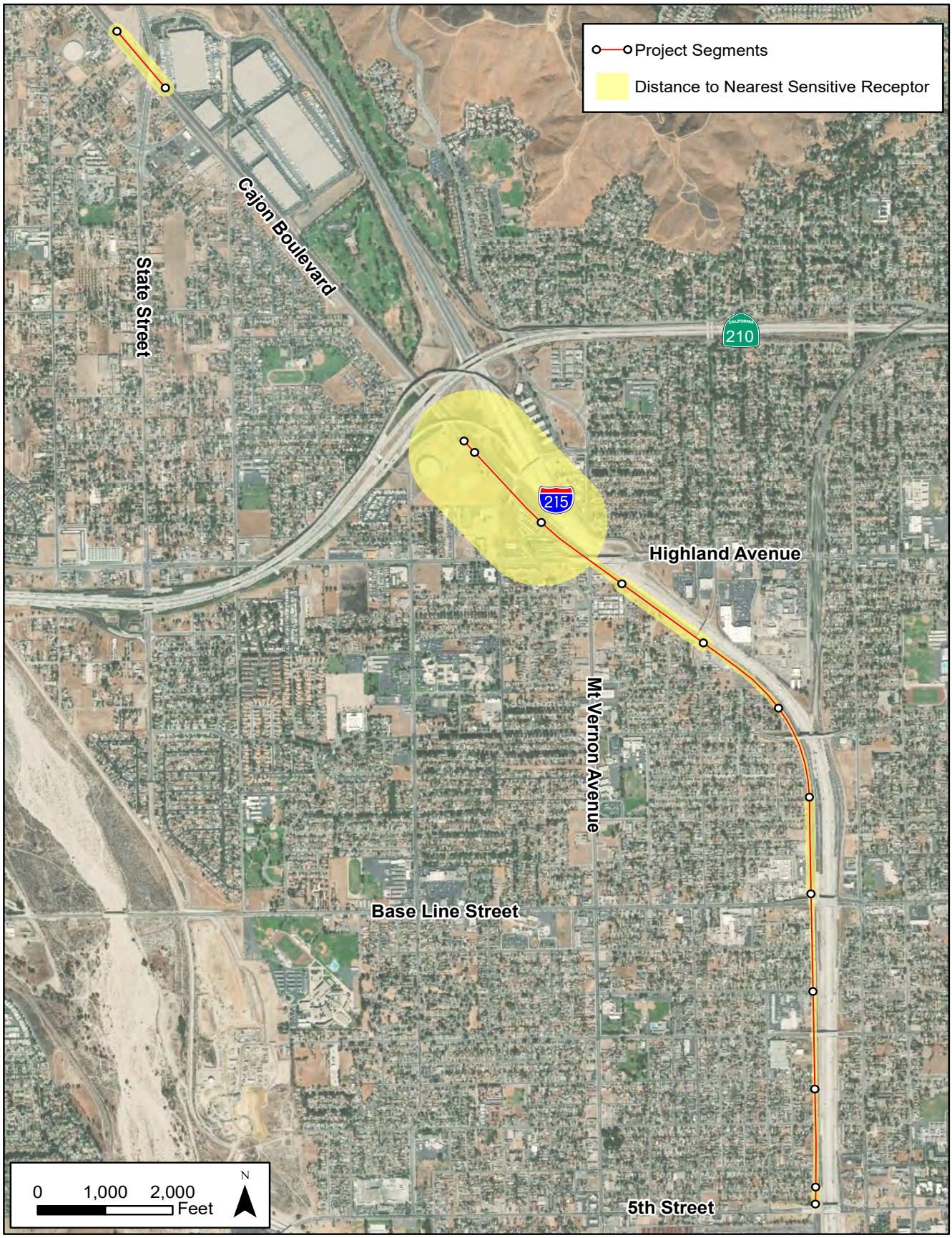
TABLE 4.11-10: NEAREST SENSITIVE RECEPTORS TO PROJECT CONSTRUCTION LIMITS		
Segment	**Location of Closest Receptors**	**Distance to Closest Receptors (feet)**
1	Residences along Cajon Boulevard	94
2	Residences southwest of the Project alignment	1,100
3	Residences northwest of the Highland Ave. at Western Ave. Intersection	830
4	Residence northeast of Herington Avenue and Mount Vernon Avenue	250
	Lido Motel west of the Project alignment	110
5	Residences along Turill Ave. (south of Property ID 9.5)	130
6	Residences east of Massachusetts Ave. (south of Property ID 17.3)	300
7	Residences west of the Project alignment (west of Property IDs 29.2, 31.5, 32.5, 33.2)	150
8	Residences west of the Project alignment (west of Property IDs 35.5, 37, 38.5)	150
9	Residences west of the Project alignment (west of Property IDs 47, 50.5, 54.5)	85
10	Residences west of the Project alignment (west of Property IDs 63, 64)	115
11	Residences west of the Project alignment (west Property IDs 64 through 91)	60
12	Residences west of the Project alignment (west of Property ID 93)	60
Source: Kimley-Horn, 2021.		

Pursuant to SBMC § 8.54.070, as noted above, the City's Noise Ordinance prohibits construction except within the hours of 7:00 AM and 8:00 PM. While the City establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels. The City's permitted hours of construction are required in recognition that construction activities undertaken during daytime hours are a typical part of living in an urban environment and do not cause a significant impact. However, this analysis conservatively uses the FTA's threshold of 90 dBA L_{eq} to evaluate construction noise impacts.[3]

It is noted that existing railroad noises already exceed City noise standards for residential uses within 250 feet. SBGP Figure N-2 (Future Roadway Noise Contours) shows that noise in the Project area is dominated by traffic noise from I-215. The Project proposes three construction staging areas that would be strategically placed along the Project alignment. Construction staging areas would be sited to maximize distances between sensitive receptors and construction areas. Construction staging areas include the segments outlined in **Table 4.11-8.**

The construction equipment used near the existing residences would include jack hammers, heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, and scrapers. The highest noise level from these types of equipment is 88 dBA at 50 feet. Construction activities would generally be limited to weekday daytime hours when most people would typically be out of their houses, and grading activities would conform to the time-of-day restrictions of SBMC § 8.54.070. Noise impacts from Project-related construction activities occurring within or adjacent to the Project site would be a function of the noise generated by construction equipment, the location of the equipment, the timing and duration of the noise-generating construction activities, and the relative distance to the noise-sensitive receptors. The Project's construction activities would generally include site preparation, grading, track construction, and

[3] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Table 7-2, Page 179, September 2018.



Source: Kimley-Horn

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Exhibit 4.11-9: Nearest Sensitive Receptors, Existing Conditions

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paving. The demolition and grading phases generally have the highest noise levels but the shortest duration of all construction phases.

Demolition and grading typically requires the use of earth-moving equipment, such as graders, scrapers, dozers, tractors, and excavators. Track construction typically involves the use of ballast compactors, tampers, portable rail drills, grinders and saws, and tie removers and inserters. Paving typically requires the use of pavers, rollers, mixers, and heavy-duty trucks. Construction equipment noise would generate both steady-state and episodic noise that could be heard within and adjacent to the Project site.

Based on the FTA Transit Noise and Vibration Impact Assessment Manual (2018), a reasonable worst-case assumption is that the two loudest pieces of equipment would operate simultaneously within a focused area and occur continuously over at least one hour. The combined sound level of a jack hammer and dozer is 90 dBA when measured at 50 feet from the noise source. It is noted that pile driving is not anticipated to be used for Project construction. The distance from the closest area where heavy equipment would operate to the sensitive receptor's area of frequent human use would be 94 feet. Based on distance attenuation alone, this maximum noise level would be reduced to 85 dBA at the closest receptor. Therefore, construction noise would not exceed the worst-case FTA construction noise criteria of 90 dBA for residential land uses.

Actual construction-related noise levels would be lower than the conservative levels described above and would cease upon completion of construction. Due to the variability of Project construction activities and equipment, overall construction noise levels would be intermittent and would fluctuate over time. These assumptions represent the worst-case noise scenario because construction activities would typically be spread out throughout the Project site, and thus some equipment would be farther away from the affected receptors. In addition, the noise modeling assumes that construction noise is constant, when, in fact, construction activities and associated noise levels would fluctuate and generally be brief and sporadic, depending on the type, intensity, and location of construction activities.

The Contractor would equip all construction equipment, fixed and mobile, with properly operating and maintained noise mufflers, consistent with manufacturer's standards (Project Design Feature). Additionally, Mitigation Measure (MM) NOI-1 is required to ensure that construction would be consistent with the assumptions described in the analysis above and would reduce or minimize the severity of construction noise impacts through a variety of noise abatement methods. This measure includes requirements for the proper maintenance and use of equipment; specifies the locations of stationary equipment and maintenance; places limits on engine idling; and restricts the use of noise-producing signals for safety warning purposes only. MM NOI-2 and MM NOI-3 require notification of sensitive receptors within 100 feet of the construction limits, and placement of signage related to construction activities, respectively. Implementation of MMs NOI-1 through NOI-3 would minimize construction noise impacts. Additionally, adherence to SBMC § 8.54.070 and proposed Project design features including strategically-placed construction staging areas and use of noise mufflers would reduce construction noise impacts to a less than significant level.

Therefore, the Project's construction-related activities (stationary) would result in a less than significant impact concerning generation of an increase in ambient noise levels in the Project's vicinity, based on applicable standards.

Construction Traffic Noise

Construction noise may be generated by large trucks moving materials to and from the Project site. Large trucks would be necessary to deliver construction equipment and materials, as well as to import and export soil. Truck noise levels depend on vehicle speed, load, terrain, and other factors. The effects of construction-related truck traffic would depend on the level of background noise already occurring at a particular receptor site. It is anticipated that construction truck traffic would access the Project site using the local roadway network. Haul truck volumes associated with the proposed Project would vary from day to day, with the highest volumes generally occurring during the earthwork and equipment delivery stages. Haul trucks associated with construction would occur during the allowable hours for construction specified in SBMC § 8.54.070 (7:00 AM and 8:00 PM).

Based on the construction traffic assumed for this Project, as also analyzed in Section 4.14, Transportation, the Project would generate the highest number of daily worker trips during the rail construction phase and the highest number of daily haul truck trips would occur during the grading phase. The Project would generate up to 1,351 worker trips during rail construction and 170 haul trips per day during grading. These trips would be dispersed through various roadways along the Project's 4.3-mile alignment and would not occur all along one particular roadway.

Most of the Project area's local roadways have very low average daily traffic volumes resulting in unrecorded average daily traffic (ADT). Although major arterials may have recorded ADT, as shown in SBGP Figure N-2 (Future Roadway Noise Contours), noise in the Project area is dominated by traffic noise from I-215. SBGP Figure N-2 shows that the receptors nearest the Project alignment would be within the I-215 70 dBA CNEL contour, which extends approximately 800 feet west of the freeway centerline. Also, SBGP Figure N-2 shows that the 65 dBA CNEL contour would extend approximately 1,700 feet and the 60 dBA CNEL contour would extend approximately 3,400 feet west of the freeway centerline.

The State establishes noise limits for vehicles licensed to operate on public roads using a pass-by test procedure. Pass-by noise refers to the noise level produced by an individual vehicle as it travels past a fixed location. The pass-by procedure measures the total noise emissions of a moving vehicle with a microphone. When the vehicle reaches the microphone, the vehicle is at full throttle acceleration at an engine speed calculated for its displacement.

For heavy trucks, the State pass by standard is consistent with the Federal limit of 80 dB. The State pass by standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline. According to the FHWA, dump trucks typically generate noise levels of 76 dBA and flatbed trucks typically generate noise levels of 74 dBA, at a distance of 50 feet from the truck (FHWA, Roadway Construction Noise Model, 2006). As such, noise from truck trips associated with the proposed Project would not be expected to exceed FTA threshold levels of 90 dBA (one-hour L_{eq}) or 80 dBA (eight-hour L_{eq}).

Therefore, the Project's construction-related activities (mobile) would result in a less than significant impact concerning generation of an increase in ambient noise levels in the Project's vicinity, based on applicable standards.

OPERATIONS

Vehicular Noise

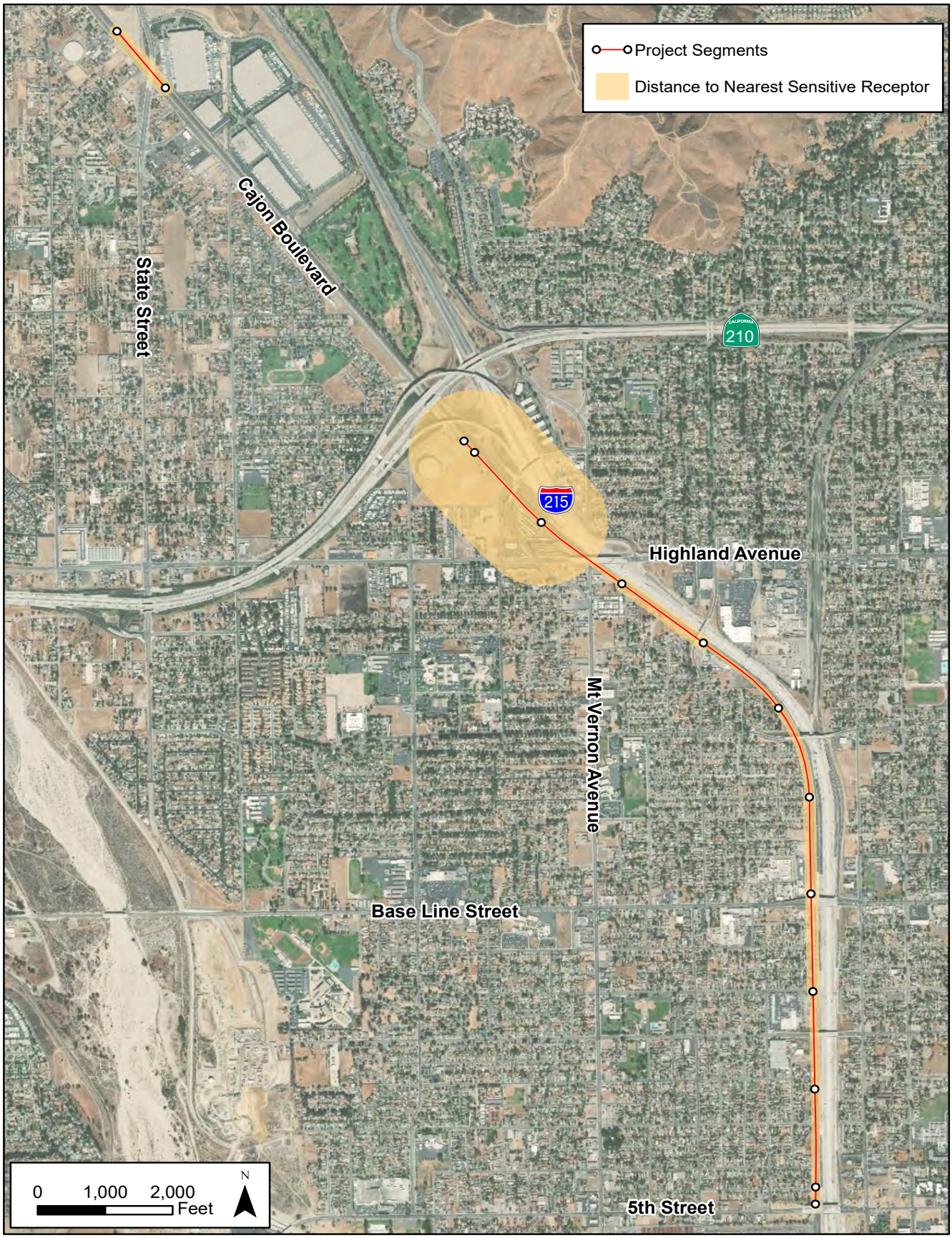
The Project is proposed to enhance the BNSF Intermodal A Yard's efficiency by reducing train congestion along the existing lead tracks. Project implementation would not increase the number of permanent employees or A Yard traffic. To accommodate the proposed rail and ancillary improvements, the Project requires acquisition of approximately 29 acres of adjacent properties where residential and non-residential land uses are located. As many as 43 DU (36 single-family, seven multi-family), six commercial buildings (approximately 46,000 SF), and three industrial buildings (approximately 32,000 SF) would be acquired. Because the Project would remove these existing land uses, the Project is forecast to decrease traffic by 672 trips per day (-58 AM peak hour trips and -70 PM peak hour trips), thus, a proportionate decrease in vehicular noise would also occur. Partial acquisition of some properties would create remnant parcels not required for the Project. The Project does not propose any General Plan land use designation or zone change on these remnant parcel and their underlying/existing land use designations/zoning would be retained. These remnant parcels would not be redeveloped as part of the proposed Project, but would be available for future development consistent with their underlying/existing land use designations and zoning. However, there is no known proposal for reuse of these parcels as of this writing. Therefore, analysis of long-term operational impacts resulting from their redevelopment would be speculative and no further analysis has been conducted.

Additionally, reassignment of vehicle trips resulting from the proposed circulation/roadway improvements/modifications to multiple City roadways (i.e., vacations, realignments, and cul-de-sacs) would be nominal and localized. In general, a traffic noise increase of 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable. Generally, traffic volumes on Project area roadways would have to approximately double for the resulting traffic noise levels to increase by 3 dBA.[4] The Project would not create additional operational vehicle trips that would result in a noticeable change in traffic noise levels. Therefore, the Project's operational vehicular trips would result in a less than significant offsite traffic noise impact.

Train Noise

The Project is proposed to enhance the BNSF Intermodal A Yard's efficiency by reducing train congestion along the existing lead tracks. Construction of the proposed fourth lead track would not increase the number of train trips and operations would not increase the train speeds. Along certain portions of the rail corridor, Project implementation would encroach train traffic to the west, closer to sensitive receptors; see **Exhibit 4.11-10: Nearest Sensitive Receptors, Future Conditions.** As noted in the Assumptions and Methodology Section, noise modeling was calculated for the nearest receivers west and southwest of the Project alignment for existing plus Project conditions. Existing plus Project conditions modeling results are identified in **Table 4.11-11: Railroad Noise Levels – Existing Plus Project Conditions.** The results indicate that train noise levels under Existing Conditions and Existing Plus Project conditions would exceed the applicable FTA Noise Impact Criteria for Transit Project thresholds, as well as the City's normally acceptable threshold of 60 dBA and conditionally acceptable threshold of 70 dBA for residential

[4] According to the California Department of Transportation, *Technical Noise Supplement to Traffic Noise Analysis Protocol* (September 2013), it takes a doubling of traffic to create a noticeable (i.e. 3 dBA) noise increase.



Source: Kimley-Horn

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MARCH 2021

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Exhibit 4.11-10: Nearest Sensitive Receptors, Future Conditions

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land uses. As described above, SBGP Figure N-2 shows that the 70 dBA CNEL contour would extend approximately 800 feet west, the 65 dBA CNEL contour would extend approximately 1,700 feet west and the 60 dBA CNEL contour would extend approximately 3,400 feet west of the freeway centerline. As such, the areas affected by the railroad noise depicted in **Table 4.11-11** are also within the I-215 70 dBA CNEL contour. Railroad noise levels under existing conditions already exceed the City's noise standards for residential uses generally within 250 feet. Project implementation would potentially increase levels by up to 6 dBA in some locations. It is noted that **Table 4.11-11** identifies L_{dn} noise levels (i.e., 24-hour energy average noise levels) instead of hourly noise (i.e., L_{eq}[h]). However, L_{dn} levels are typically louder than L_{eq} due to the 10-dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10 PM and 7 AM. Therefore, L_{eq} noise levels would be lower than what is identified in **Table 4.11-11**.

As shown in **Table 4.11-11**, a moderate noise impact would occur along Segments 4 and 7 (south of West Evans). As described above, a moderate noise impact is a noticeable change that may not be sufficient to cause strong adverse reactions from the community. Several nearby sensitive receptors are already exposed to noise levels exceeding the City's thresholds under existing conditions. Removal of structures and building row barriers would expose the second row of receptors to increased train noise levels. The Project's property acquisitions would also occur at locations where residences are nearest the railroad corridor. A Severe Impact would occur along Segments 7 (north of West Evans), 8, 9, 10, and 11; see **Table 4.11-11**. Severe Impacts would cause annoyance to a significant percentage of people. Therefore, implementation of MM NOI-4, which requires construction of sound barriers (i.e., sound walls) at various locations along the Project site to attenuate rail noise impacts on sensitive receptors. As described in MM NOI-4, sound walls would be required along portions of Segments 7 through 11 where the Severe Impacts would occur; see **Exhibit 4.11-8: Sound Walls**. **Table 4.11-11** shows that the sound walls required by MM NOI-4 would sufficiently reduce noise levels at the severely impacted receptors to comply with FTA criteria resulting in a less than significant impact with mitigation incorporated. The proposed noise barriers would be required to conform to FTA standards.

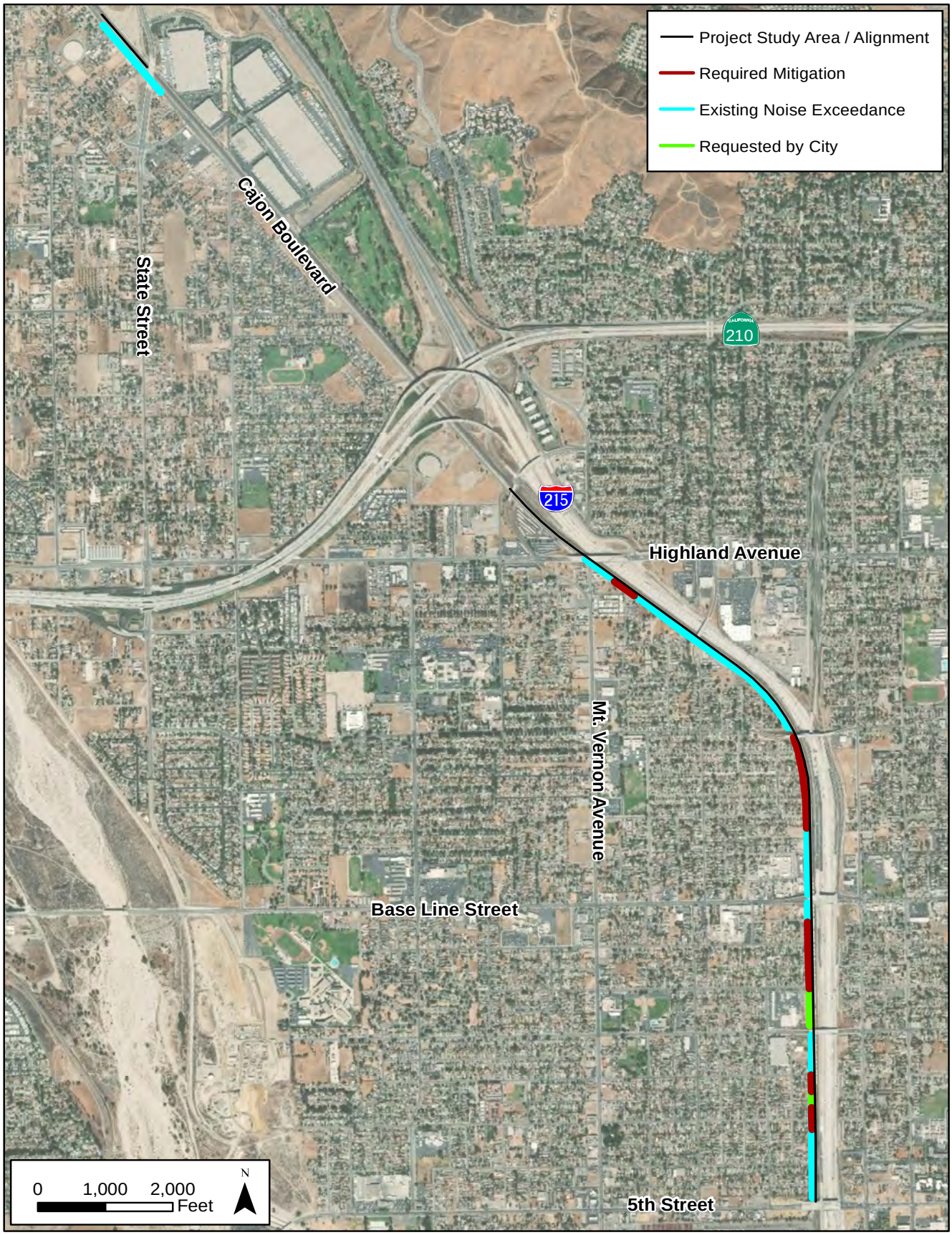
TABLE 4.11-11: RAILROAD NOISE LEVELS – EXISTING PLUS PROJECT CONDITIONS

Segment	Location	Existing Conditions		Existing + Project Conditions		Project Change	Impact Type[3, 4]	Mitigated Noise Level[5]
		Distance to Closest Receptors (feet)	Modeled Noise Level (L_{dn})	Distance to Closest Receptors (feet)	Modeled Noise Level (L_{dn})			
1	First Row	130	69	112	70	1	No Impact	n/a
3	First Row	976	56	976	56	0	No Impact	n/a
4	First Row	77	68	65	69	1	No Impact	n/a
5	First Row	125	70	110	70	0	No Impact	n/a
6	First Row	58	75	47	76	1	Moderate	**67**
7 (North of West Evans)	First Row[1]	35	78	n/a	n/a	n/a	n/a	n/a
	Second Row	85	68	70	73	5	**Severe**	**63**
7 (South of West Evans)	First Row	90	72	75	73	1	Moderate	n/a
	Second Row	128	65	110	66	1	No Impact	n/a

TABLE 4.11-11: RAILROAD NOISE LEVELS – EXISTING PLUS PROJECT CONDITIONS

Segment	Location	Existing Conditions		Existing + Project Conditions		Project Change	Impact Type[3, 4]	Mitigated Noise Level[5]
		Distance to Closest Receptors (feet)	Modeled Noise Level (L_{dn})	Distance to Closest Receptors (feet)	Modeled Noise Level (L_{dn})			
8	First Row[1]	74	73	n/a	n/a	n/a	n/a	n/a
	Second Row	115	66	95	71	5	**Severe**	**61**
9	First Row[1]	40	77	n/a	n/a	n/a	n/a	n/a
	Second Row	95	67	95	71	4	**Severe**	**61**
10	First Row[1]	40	77	n/a	n/a	n/a	n/a	n/a
	Second Row	80	68	65	74	6	**Severe**	**64**
11	First Row[1]	40	77	n/a	n/a	n/a	n/a	n/a
	Second Row	80	68	65	74	6	**Severe**	**64**
12	First Row	63	74	63	74	0	No Impact	n/a

Notes:
1. A full take is required for these locations.
2. Second row receivers would have an intervening building row during existing conditions that would be removed under proposed conditions.
3. Moderate Impact: The change in the cumulative noise level is noticeable to most people, but it may not be sufficient to cause strong, adverse reactions from the community. In this transitional area, other project-specific factors must be considered to determine the impact's magnitude and the need for mitigation, such as the existing level, predicted level of increase over existing noise levels, and the types and numbers of noise-sensitive land uses affected.
4. Severe Impact: Project noise above the upper curve is considered to cause a Severe Impact since a significant percentage of people would be highly annoyed by the new noise. This curve flattens out at 75 dB for Category 1 and 2 land uses, a level associated with an unacceptable living environment. Noise mitigation will normally be specified for Severe Impact areas unless there is no practical method of mitigating the noise.
5. Calculated using the FTA's barrier insertion loss methodology described in Section 4.5 (pages 88-90) of the *Transit Noise and Vibration Impact Assessment Manual*, 2018.



Source: Kimley-Horn

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MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.11-8: Sound Walls

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Impacts of Mitigation

MM NOI-1 is focused on reducing construction noise at the source, and would not change the construction footprint or generate new ground disturbances. Therefore, MM NOI-1 would not result environmental impacts. MM NOI-2 and MM NOI-3 are limited to requiring noticing, thus, would not result environmental impacts. MM NOI-4 requires construction of sound walls to mitigate operational noise. All sound walls would be constructed within the Project footprint and would not result in excavations greater than 5.0 feet. Construction impacts related to sound wall construction (e.g., dust, noise, soil erosion, and transportation) are evaluated in Sections 4.1 through 4.15 of this EIR. As concluded in these sections, construction-related environmental effects would be reduced to less than significant through compliance with the established regulatory framework and implementation of the specified mitigation measures. The sound walls would not adversely affect a scenic vista or damage a scenic resource. The sound walls would be constructed in an already urbanized area, thus, would not be aesthetically incompatible with the surrounding environment. Additionally, the sound walls would not conflict with applicable zoning and other regulations governing scenic quality. A less than significant impact would occur in this regard.

Mitigation Measures

MM NOI 1 Prior to any ground-disturbing or other noise-generating activities, the Construction Manager shall provide evidence acceptable to the City of San Bernardino Community and Economic Development Director that:

- All construction vehicles and equipment, fixed or mobile, shall be maintained in good operating condition and be equipped with all internal combustion, engine-driven equipment fitted with intake and exhaust muffles, air intake silencers, and engine shrouds no less effective than as originally equipped by the manufacturer.
- Where stationary equipment, such as generators, cranes, and air compressors, is within 50 feet of a sensitive receptor including offices, the equipment shall be equipped with appropriate noise reduction measures (e.g., silencers, shrouds, or other devices) to limit noise.
- Equipment maintenance, vehicle parking, and material staging areas shall be as far away from sensitive receptors (including offices) adjacent to the construction site, as feasible.
- Electrically powered equipment instead of pneumatic or internal combustion powered equipment shall be used to the extent possible.
- All internal combustion engine idling both on the site and at nearby queuing areas shall be limited to no more than five minutes for any given vehicle or machine. Signs shall be posted at the construction site and along queueing lanes to reinforce the prohibition of unnecessary engine idling.
- The use of noise-producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only. Use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters.

MM NOI-2 A minimum of 30 days prior to any ground-disturbing or other noise generating activities, the Contractor shall notify all businesses within 100 of the Project site of the planned start date, duration, nature of the construction activity, and the proposed noise abatement measures. The notification shall include a contact telephone number for questions and the submittal of any complaints of excess, unanticipated noise or vibration.

MM NOI-3 Prior to any ground-disturbing or other noise generating activities, a sign shall be posted at the entrance to the construction site, clearly visible to the public, that contains the Contractor or their designee's contact name and telephone number to respond in the event of a vibration or noise complaint. If the Contractor or their designee receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City of San Bernardino Community and Economic Development Director.

MM NOI-4 BNSF (or its designee) shall construct sound walls along the west side of the proposed Ono Lead Extension in areas where a Severe Impact has been identified (see **Table 4.11-11**). The sound wall shall be approximately 8.0 feet high and shall be sufficient to block the line-of-sight from sensitive receptors to the noise source and designed such that any gaps in material are no greater than 10 percent of the barrier's total area. Specifically, sound walls shall be provided along the following locations:

- Segment 7: A sound wall approximately 200 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 256 to 258) adjacent to where the proposed residential property full take would occur. Specifically, Property Nos. 29-33 located north and south of Evans Place would result in full private property takes to accommodate the proposed sound wall.
- Segment 8: A sound wall approximately 500 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 265 to 270) adjacent to where the proposed property full take would occur.
- Segment 9: A sound wall approximately 670 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 288.5 to 295) adjacent to where the proposed property full take would occur.
- Segment 10: A sound wall approximately 430 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 307 to 311.5) adjacent to where the proposed property full take would occur.
- Segment 11: A sound wall approximately 330 linear feet long shall be provided along the proposed BNSF right-of-way (approximately Stations 313 to 317) adjacent to where the proposed private property full take would occur.

The proposed sound walls shall be a minimum of 8.0 feet high and of sufficient height to block the line-of-sight from nearby sensitive receptors to the railway. The proposed sound walls shall be designed such that any gaps in material are no greater than 10 percent of the wall's total area.

Impact 4.11-2: **Would the project result in generation of excessive groundborne vibration or groundborne noise levels?**

Level of Significance: Less Than Significant Impact

CONSTRUCTION

Project construction has the potential to result in varying degrees of temporary groundborne vibration, depending on the equipment used and operations involved. The FTA has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 in/sec) appears to be conservative. The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. For example, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.20 in/sec is considered safe and would not result in any construction vibration damage. According to the Caltrans Transportation and Construction Vibration Guidance Manual (September 2013), human annoyance from groundborne vibration occurs when levels exceed 0.11 in/sec PPV.

As indicated in **Table 4.11-11**, the nearest sensitive receptor at the I-Street vacation would be a residence located approximately 47 feet from construction noise and vibration equipment. **Table 4.11-12: Typical Construction Equipment Vibration Levels**, lists vibration levels at 25 feet and 47 feet (i.e., the distance to the nearest sensitive receptor) from the source for typical construction equipment. Groundborne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

As shown in **Table 4.11-12**, construction equipment vibration velocities at the nearest sensitive receptor would not exceed 0.081 in/sec PPV, which is below the FTA's 0.20 PPV threshold for building damage and Caltrans' 0.1 in/sec PPV threshold for human annoyance. Vibration impacts associated with Project construction would be less than significant and no mitigation is required. It is also noted that construction activities would occur throughout the Project site and would not be concentrated at the point closest the nearest off-site structure.

TABLE 4.11-12: TYPICAL CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Equipment	Peak Particle Velocity at 25 Feet (in/sec)	Peak Particle Velocity at 47 Feet (in/sec)[1]	VdB at 25 Feet	VdB at 47 Feet[2]
Large Bulldozer	0.089	0.035	87	79
Caisson Drilling	0.089	0.035	87	79
Loaded Trucks	0.076	0.029	86	78
Jackhammer	0.035	0.014	79	71
Small Bulldozer/Tractors	0.003	0.001	58	50

TABLE 4.11-12: TYPICAL CONSTRUCTION EQUIPMENT VIBRATION LEVELS				
Equipment	Peak Particle Velocity at 25 Feet (in/sec)	Peak Particle Velocity at 47 Feet (in/sec)[1]	VdB at 25 Feet	VdB at 47 Feet[2]
Vibratory Roller[3]	0.21	0.081	94	86

Notes:
1. Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$, where: PPV_{equip} = the peak particle velocity in in/sec of the equipment adjusted for the distance; PPV_{ref} = the reference vibration level in in/sec from Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual Table 7-4, 2018; D = the distance from the equipment to the receiver.
2. Calculated using the following formula: Lv(D) = Lv(25 feet) - (30 x Log10(D/25 feet)) per the FTA Transit Noise and Vibration Impact Assessment Manual (2018).
3. The vibratory roller would have a PPV of less than 0.20 at 26 feet or more.

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018.

OPERATIONS

Operational vibration in the Project vicinity would be generated by train movements within the Project area. The proposed Project improvements would not increase the number of train trips. Since the Project does not increase the number of train trips, operational vibrations would not increase in frequency and vibration levels from train movements would be similar to current existing conditions. Additionally, **Table 4.11-13: Railroad Vibration Levels – Existing Plus Project Conditions** compares vibration levels without the Project to vibration levels with the Project. As the Project would locate tracks closer to sensitive receptors, new effects would occur only if the relocation would result in more than a 3 VdB increase in vibration level, per FRA standards. **Table 4.11-13** shows that the calculated increases would be less than 3 VdB. Sensitive receptors near the Project site would continue to experience similar level of vibrations during Project operations, as under existing conditions. Therefore, impacts would be less than significant.

TABLE 4.11-13: RAILROAD VIBRATION LEVELS – EXISTING PLUS PROJECT CONDITIONS							
Segment	Location	Existing Conditions		Existing + Project Conditions		Project Change[3]	Threshold Exceeded?
		Distance to Closest Receptors (feet)	L_v (VdB)[2]	Distance to Closest Receptors (feet)	L_v (VdB)[2]		
1	First Row	130	76	112	77	1	No
3	First Row	976	54	976	54	0	No
4	First Row	77	81	65	82	2	No
5	First Row	125	76	110	77	1	No
6	First Row	58	83	47	85	2	No
7 (North of West Evans)	First Row[1]	35	n/a	n/a	n/a	n/a	n/a
	Second Row	85	80	70	82	2	No
7 (South of West Evans)	First Row	90	79	75	81	2	No
	Second Row	128	76	110	77	1	No
8	First Row[1]	74	n/a	n/a	n/a	n/a	n/a

	Second Row	115	77	95	79	2	No
9	First Row[1]	40	n/a	n/a	n/a	n/a	n/a
	Second Row	95	79	95	79	0	No
10	First Row[1]	40	n/a	n/a	n/a	n/a	n/a
	Second Row	80	81	65	82	2	No
11	First Row[1]	40	n/a	n/a	n/a	n/a	n/a
	Second Row	80	81	65	82	2	No
12	First Row	63	83	63	83	0	No

Notes:
1. A full take is required for these locations.
2. Vibration level is calculated with the following formula: L_v = 92.28+ + 14.81log(D) - 14.17log $(D)^2$ + 1.65 $\log(D)^3$, where: L_v = velocity level in VdB, and D = distance per the Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018.
3. As described in the Regulatory Setting above, FRA guidelines note that if an effect were judged to have existed prior to moving the tracks, new effects would be assessed only if the relocation would result in more than a 3 VdB increase in vibration level.

Mitigation Measures

No mitigation is required.

Impact 4.11-3: **For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project site is not in the vicinity of a private airstrip. The airport nearest the Project site is the San Bernardino International Airport (SBD), approximately 2.8 miles to the southeast. Therefore, the Project site is not within 2.0 miles of a public airport or public use airport. Moreover, SBGP Land Use Element Figure LU-4 depicts SBD's Airport Influence Area and indicates the Project site is outside the area. Further, the Project does not propose construction of any new structures. Therefore, the Project would not expose people residing or working in the Project area to excessive airport- or airstrip-related noise levels and no mitigation is required.

Mitigation Measures

No mitigation is required.

4.11.6 CUMULATIVE IMPACTS

For purposes of noise analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning noise in SBGP EIR Section 5.10, *Noise*. The following is a summary of the expected environmental effects:

- Build-out could result in long-term operation related noise in excess of local standards. This impact was concluded to be less than significant with mitigation incorporated.
- Build-out could result in short-term and long-term groundborne vibration and groundborne noise. This impact was concluded to be less than significant with mitigation incorporated.
- Build-out construction activities could result in temporary noise increases. This impact was concluded to be less than significant.
- Build-out could result in exposure of future residents to airport-related noise. This impact was concluded to be significant.
- Implementation of the Arrowhead Springs Specific Plan (AHS) could result in long-term operation-related noise in excess of local standards. This impact was concluded to be significant.
- Implementation of the AHS could result in short-term and long-term groundborne vibration and groundborne noise. This impact was concluded to be significant.
- Implementation of the AHS could expose residents to airport-related noise. This impact was concluded to be less than significant.

Development within the City's Planning Area could cause an exceedance of local noise standards and increases in groundborne noise and groundborne vibration. Impacts would depend upon the existing site-specific noise environments and the distances between the noise generators and receptors. As with the Project, cumulative development would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. The City permits construction activities between the hours of 7:00 AM and 8:00 PM. While the City establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels. There would be periodic, temporary, noise impacts that would cease upon completion of construction activities. The Project would contribute to other proximate construction project noise impacts if construction activities were conducted concurrently. Future development within the project area would be required to comply with City, State and Federal guidelines regarding noise abatement and insulation standards. This would ensure that noise levels in the City's planning area are maintained within acceptable standards that prevent excessive disturbance, annoyance, or disruption. Additionally, as noise dissipates as it travels away from its source, noise impacts from stationary sources would be limited to each of the respective development sites and their vicinities.

Concerning the significant unavoidable impacts (i.e., airport-related noise, long-term operation-related noise in excess of local standards, and groundborne vibration) resulting from SBGP implementation (i.e., AHS), the Project's incremental contribution would not be cumulatively considerable given the Project's impacts would not interact with or occur near AHS construction and operations, where these impacts would occur (a distance of approximately ten miles).

Therefore, the combined cumulative impacts to noise associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.11.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable noise impacts have been identified.

4.11.8 REFERENCES

BNSF Railway, *Ono Lead Extension Presentation Booklet*, June 14, 2018.

California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

California Department of Transportation, *Transportation and Construction Vibration Guidance Manual,* September 2013.

City of San Bernardino, *San Bernardino Municipal Code*, June 2018

City of San Bernardino. (2005). *City of San Bernardino General Plan.* San Bernardino, CA: City of San Bernardino Development Services.

City of San Bernardino. (2005). *San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report.* San Bernardino, CA: The Planning Center.

Cyril M. Harris, *Handbook of Noise Control*, 1979.

Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

Federal Highway Administration, *Noise Barrier Design Handbook*, https://www.fhwa.dot.gov/Environment/noise/noise_barriers/design_construction/design/design03.cfm, accessed July 22, 2019.

Federal Railroad Administration, *High-Speed Ground Transportation Noise and Vibration Impact Assessment*, 2012.

James P. Cowan, *Handbook of Environmental Acoustics*, 1994.

Kimley-Horn and Associates. 2020. *BNSF Ono Lead Track Extension Project Noise and Vibration Assessment*. February 2021.

U.S. Environmental Protection Agency, *Protective Noise Levels (EPA 550/9-79-100)*, November 1979.

4.12 POPULATION AND HOUSING

4.12 POPULATION AND HOUSING

4.12.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to population and housing, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

The Project area's demographics are examined in the context of existing and projected population, housing, and employment for the City of San Bernardino (City) and the County of San Bernardino (County). The population and housing issues addressed in this section are those associated with unplanned population growth and displacement of people and housing. The affected environment discussion is based largely on the following documentation:

- City of San Bernardino. (2014). *City of San Bernardino 2013-2021 Housing Element*. San Bernardino, CA: City of San Bernardino.
- State of California Department of Finance. (2020). *E-5 Population and Housing Estimates for Cities, Counties, and the State - January 1, 2011-2020*. Sacramento, CA: California Department of Finance.
- State of California Economic Development Department Labor Market Information Division. (2019). *Monthly Labor Data for Cities and Census Designated Places,* Sacramento, CA: Employment Development Department.
- Southern California Association of Governments. (2001). *Employment Density Study Summary Report,* page 4-16. Yorba Linda, CA: The Natelson Company, Inc.

Other information in this section, such as the regulatory framework, was gathered from various planning documents including the City of San Bernardino General Plan (SBGP) and City of San Bernardino Municipal Code.

4.12.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

The Project site is in the City's southwest portion; see **Exhibit 2-1: Regional Vicinity Map**. The Project area extends approximately 4.3 linear miles along the BNSF corridor adjacent to/west of Interstate 215 (I-215). The Project site is comprised of two dis-contiguous segments (i.e., southern and northern). The Project area's northern terminus is at the BNSF overpass at State Street/University Parkway and its southern terminus is at West 5th Street, just north of the A Yard; see **Exhibit 2-2: Local Vicinity Map**. Within those limits, the proposed northern and southern segments are as follows:

- Northern Track Segment (City of San Bernardino): approximately 0.3 linear miles, MP 76.5 to MP 76.8,
- Southern Track Segment (City of San Bernardino): approximately 2.8 linear miles, MP 78.0 to MP 80.8, and

- Gap Between Northern and Southern Track Segments: approximately 1.2 linear miles, MP 76.8 to MP 78.0, where no improvements are proposed.

Population

The Department of Finance (DOF) identifies the current (2019) County population as 2,192,203 persons and the City population as 219,233 persons.[1] The DOF population estimates are derived by multiplying the number of occupied housing units by persons per household. The persons per household estimates are based on 2010 Census benchmark data.

Table 4.12-1: Population Estimates (2012-2040), shows the County and City population estimates in the Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which addresses population, households, and employment. SCAG's forecasts are based on jurisdictions' existing land uses and General Plan land use designations. Population projections are calculated based on household growth and household size. SCAG forecasts that the County's population will increase by approximately 24 percent and in the City's population will increase by approximately 18 percent between 2012 and 2040.

TABLE 4.12-1: POPULATION ESTIMATES (2012-2040)

Jurisdiction	2012	2040	Percent Change[1]
County of San Bernardino	2,068,000	2,731,300	24%
City of San Bernardino	211,900	257,400	18%

1. Percent is rounded.

Source: SCAG RTP/SCS, 2016.

Households and Housing

Table 4.12-2: Household Estimates (2012-2040), quantifies the County's and City's households as set forth in SCAG's 2016 RTP/SCS. Household growth rates and household size are estimated based on historical trends and the development capacity identified in the local jurisdiction's general plan. The County's households are forecasted to increase by approximately 28 percent and the City's by approximately 23 percent between 2012 and 2040.

TABLE 4.12-2: HOUSEHOLD ESTIMATES (2012-2040)

Jurisdiction	2012	2040	Percent Change
County of San Bernardino	615,300	854,300	28%
City of San Bernardino	59,300	77,100	23%

Source: SCAG RTP/SCS, 2016.

As shown in **Table 4.12-3: Housing Stock (2012-2040)**, the DOF estimates that the County's housing stock totals 726,6803 housing units with an average of 3.31 persons per household and the City's housing stock totals 65,654 housing units with an average of 3.47 persons per household.[2] The DOF estimates housing units by adding new construction and land annexations and subtracting housing that is removed

[1] State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State — January 1, 2011-2020. Sacramento, California, May 2020.

[2] Ibid.

(e.g., demolition) and adjusting for units lost or gained by conversions. Annual housing unit change data are supplied to the DOF by local jurisdictions and the U.S. Census Bureau. As reported by the DOF, the vacancy rate is a measure of the availability of housing in a community. The vacancy rate also correlates the types of units available to the market demand. A low vacancy rate suggests that households may have difficulty finding housing within their price range; a high supply of vacant units may indicate either the existence of a high number of desired units or an oversupply of units. The County's and City's vacancy rates are estimated at approximately 11 percent and 7 percent, respectively.[3]

TABLE 4.12-3: HOUSING STOCK (2020)

Jurisdiction	County of San Bernardino	City of San Bernardino
Single-Family Homes: Attached and Detached	541,832	41,405
Multi-Family Homes: Two to more than Five Units	140,886	20,041
Mobile Homes	43,962	4,208
Total Housing Units	**726,680**	**65,654**
Vacancy Rate	11%[1]	7%[1]
Persons per Household	3.31	3.47

1. Percent is rounded.

Source: State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State — January 1, 2011-2020. Sacramento, California, May 2020.

SCAG determines total housing need for each community based on three primary factors: (1) the number of housing units needed to accommodate future population and employment growth; (2) the number of additional units needed to allow for housing vacancies; and (3) the number of very low, low, moderate, and above moderate-income units needed in the community. Additional factors used to determine housing needs include tenure and the rate of replacement housing for units removed of the housing inventory.

The City's Regional Housing Needs Assessment (RHNA) allocation – discussed in greater detail later in this section – for the 2013–2021 period is shown in **Table 4.12-4: City of San Bernardino Regional Housing Needs Assessment Allocation (2013-2021)**. The City is required to ensure that sufficient sites planned and zoned for housing are available to accommodate its need and to implement proactive programs that cause and encourage the production of housing commensurate with its housing needs. **[NOTE TO CITY: Completion of RHNA discussion pending City input.]**

[3] Ibid.

TABLE 4.12-4: CITY OF SAN BERNARDINO REGIONAL HOUSING NEEDS ASSESSMENT ALLOCATION: (2013-2021)				
Income Level	**Percent of AMI**	**RHNA**	**Percent**	**Status as of 2019**
Extremely Low [a.]	0-30%	490	12%	
Very Low	0– <50%	980	22%	57
Low	51 – 80%	696	16%	18
Moderate	81 –120%	808	19%	12
Above Moderate	>120%	1,900	43%	90
Total	—	4,874	100%	
AMI = Area Median Income a. Pursuant to Government Code § 65583(a)(1), the City's share of extremely-low income units is 142 (50% of the total Very Low-Income new construction objective).				
Source: City of San Bernardino General Plan 2014-2021 Housing Element.				

Employment

As shown in **Table 4.12-5: Employment (2012-2040)**, the County's employment totaled 513,500 jobs in 2012. According to SCAG projections, jobs are forecast to increase by almost 50 percent to 1,028,100 jobs between 2012 and 2040. The City's employment totaled 88,900 jobs in 2012 and is forecast to increase by 31 percent to 128,900 jobs between 2012 and 2040.

TABLE 4.12-5: COUNTY OF EMPLOYMENT (2012-2040)			
Jurisdiction	**2012**	**2040**	**Percent Change**
County of San Bernardino	513,500	1,028,100	50%
City of San Bernardino	88,900	128,900	31%
Source: SCAG RTP/SCS, 2016.			

The California Employment Development Department provides data for the County's and City's employment and labor force. The latest data was released in March 2019 and is shown below in **Table 4.12-6: Employment and Labor Force Data (2019)**.

TABLE 4.12-6: EMPLOYMENT AND LABOR FORCE (2019)				
Jurisdiction	**Labor**	**Employment**	**Unemployment**	**Unemployment Rate**
County of San Bernardino	968,000	926,000	42,100	4.3 %
City of San Bernardino	85,800	81,100	4,700	5.5%
Source: California Employment Development Department, *Labor Force and Unemployment Rates for Cities,* March 2019.				

Jobs to Housing Balance

SCAG states that "a balance between jobs and housing in a metropolitan region can be defined as a provision of an adequate supply of housing to house workers employed in a defined area (i.e., community or subregion). Alternatively, a jobs/housing balance can be defined as an adequate provision of employment in a defined area that generates enough local workers to fill the housing supply." Jobs and

housing are considered in balance when a subregion has enough employment opportunities for most people who live there and enough housing opportunities for most of the people who work there. The jobs/housing balance is one indicator of a project's effect on growth and quality of life in a project area. SCAG uses the jobs/housing ratio to assess the relationship between housing and employment growth.

Alternatively, the 2016-2040 RTP/SCS states "the imbalance of jobs and housing is considered a key contributor to traffic congestion and an impediment to environmental justice."[4] According to SCAG, improvements in the jobs to housing balance may result in a reduction of transportation congestion and related air quality problems. Communities with more than 1.5 jobs per dwelling unit (DU) are considered "jobs-rich" and those with fewer than 1.5 jobs per DU are considered "housing rich." As identified in **Table 4.12-6: Jobs to Housing Balance**, comparatively, the City's jobs to housing balance is higher than the County's. Review of the County's and City's jobs-to-housing ratios indicates both are housing rich and needing more job growth.

TABLE 4.12-7: JOBS TO HOUSING BALANCE FOR COUNTY OF SAN BERNARDINO AND CITY OF SAN BERNARDINO

Jurisdiction	2012	2040
County of San Bernardino		
Jobs	513,500	1,028,100
Housing Units	615,300	854,300
Jobs/Housing Ratio	0.83	1.20
City of San Bernardino		
Jobs	88,900	128,900
Housing Units	53,900	77,100
Jobs/Housing Ratio	1.65	1.67
Source: SCAG RTP/SCS, 2016.		

4.12.3 REGULATORY FRAMEWORK

STATE

California Relocation Assistance Law

California Relocation Assistance Law (California Government Code §§ 7260 et seq.,) regulates and governs programs and projects funded without federal financial assistance. The relocation statute is intended for the benefit of displaced persons in order to ensure that they receive fair and equitable treatment, and do not suffer disproportionately as a result of programs designed for the benefit of the public as a whole.

In the acquisition of real property by a public entity, the Relocation Assistance Law ensures consistent and fair treatment for tenants and property owners. It encourages acquisition by agreement with owners and tenants, rather than condemnation, in order to avoid litigation, relieve congestion in courts, and promote confidence in public land acquisition. Public entities include the State, the Regents of the University of California, a county, city, city and county, district, public authority, public agency, subdivision or any entity

[4] Southern California Association of Governments. (2016). 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy Plan. Los Angeles, CA: SCAG.

acting on behalf of these agencies when acquiring real property, or any interest therein, in any city or county for public use, and any person who has the authority to acquire property by eminent domain under state law.

California State Housing Element Law

California State Housing Element Law (California Government Code Article 10.6) establishes the requirements for the General Plan Housing Element, one of the seven mandatory General Plan elements. California State law requires that the Housing Element provide "an identification and analysis of existing and forecasted housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing" (Government Code § 65580). The Housing Element identifies ways in which housing needs of current and future residents can be met. The California Legislature has determined that a primary housing goal for the State is ensuring every resident has a decent home and suitable living environment. Government Code § 65588 requires that local governments review and revise the Housing Element of their comprehensive General Plans not less than once every eight years.

Senate Bill 330

Senate Bill (SB) 330 is triggered when an affected city or county enacts a "development policy, standard, or condition" that either changes the zoning or general plan land use designation of property designated for residential purposes to a non-residential use, or reduces the allowable density on the property to a less-intensive density. SB 330 requires replacement housing sites to be identified when land designated for housing development is changed to a non-housing use.

REGIONAL AND LOCAL

Southern California Association of Governments (SCAG)

SCAG is a Joint Powers Agency established under § 6502 et seq. of the California Government Code. SCAG is designated as a Council of Governments, a Regional Transportation Planning Agency, and a Metropolitan Planning Organization for the six-county region of San Bernardino, Orange, Los Angeles, Ventura, Riverside, and Imperial Counties. The region encompasses a population exceeding 18 million persons in an area that encompasses more than 38,000 square miles. As the designated Metropolitan Planning Organization, SCAG is the responsible agency for developing and adopting regional housing, population, and employment growth forecasts for local governments. The City of San Bernardino is a member of the County of San Bernardino Council of Governments (COG), one of the 14 subregional organizations in the SCAG region.

SCAG's demographic data is developed to enable the proper planning of infrastructure and facilities to adequately meet the needs of anticipated growth in the region. In April 2016, SCAG adopted its 2016 2040 RTP/SCS. SCAG's Regional Council adopted Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy [2020 RTP/SCS]) on September 3, 2020. The RTP is a long-range transportation plan that provides a vision for regional transportation investments over 20 years or more. The SCS is an RTP element that demonstrates the integration of the RTP's land use, transportation strategies, and transportation investments. Major themes in the RTP/SCS include integrating strategies for land use and transportation; striving for sustainability; protecting and preserving existing

transportation infrastructure; increase capacity through improved systems management; providing more transportation choices; leveraging technology; responding to demographic and housing market changes; supporting commerce, economic growth and opportunity; promoting the links between public health, environmental protection, and economic opportunity; and, incorporating the principles of social equity and environmental justice into the plan. Growth forecasts contained in the 2016 RTP/SCS for County of San Bernardino and the City are used as the basis of analysis for housing, population, and employment forecasts.[5]

Regional Housing Needs Assessment (RHNA)

Government Code § 65583 sets forth the specific components of a jurisdiction's Housing Element. Included in these requirements is an obligation on the part of local jurisdictions to provide their "fair share" of regional housing needs.

Local governments and COGs are required to determine existing and future housing needs. The RHNA process begins with the California Department of Housing and Community Development's projection of future statewide housing growth need, and the apportionment of this need of regional COGs throughout the State. As the region's designated COG, SCAG is the agency responsible for preparing the Regional Housing Needs Assessment (RHNA) including the allocation of housing units for the region that it represents. The City of San Bernardino is a member of SCAG. The allocation of said need must be approved by the California Department of Housing and Community Development.

The RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The current RHNA planning cycle is October 2013 to October 2021. The "fair share" allocation concept seeks to ensure that each jurisdiction accepts responsibility for the housing needs of its resident population, as well as the jurisdiction's forecasted share of regional housing growth across all income categories. Regional growth needs are defined as the number of units that are needed in each jurisdiction to accommodate the forecasted number of households, as well as the number of units that are needed to compensate for anticipated demolitions and changes to achieve an ideal vacancy rate. SCAG defines a "household" as an occupied DU.

The housing construction need is determined for four broad household income categories: very low (households making less than 50 percent of area median income [AMI]), low (50 to 80 percent of AMI), moderate (80 to 120 percent of AMI), and above moderate (more than 120 percent of AMI). The intent of the future needs allocation by income groups is to relieve the undue concentrations of very low-income and low-income households in a single jurisdiction and to help allocate resources in a fair and equitable manner.

City of San Bernardino General Plan

Housing Element

As required by State Housing Law, the City of San Bernardino must plan for its share of the region's new housing needs in four State-defined income categories by identifying an adequate supply of land zoned at

[5] It is noted, while SCAG adopted the update to the 2016 RTP/SCS, Connect SoCal (2020-2045 RTP/SCS) on September 3, 2020, because the RTP/SCS update (i.e., Connect SoCal) was not adopted until after release of the Project NOP, this analysis considers forecast data from the 2016 RTP/SCS.

appropriate densities to accommodate needs in each income category. The RHNA goals do not explicitly require the City to construct the identified housing need but rather seeks to ensure that the City has added or plans to add policies, programs, and regulations that will accommodate new housing growth. The SBGP Housing Element examines the City's existing housing needs and forecasts future housing needs. It sets a housing plan for addressing the City's identified housing needs, constraints, and resources including housing goals, policies, and programs.

To address the City's need for very low-income and low-income housing, the City must demonstrate that there is an adequate supply of land for the development of the housing. In terms of evaluating the adequacy of these sites to address the affordability targets established by the RHNA, Housing Element statutes provide for the use of "default densities" to assess affordability.

The SBGP Housing Element was adopted in 2014. It identifies and addresses existing and forecasted housing needs and articulates the City's official policies for housing affordability; rehabilitating substandard housing; meeting the existing demand for new housing; and, conserving the existing affordable housing stock. The SBGP Housing Element policies applicable to the Project are as follows:

Goal 3.1: Identify adequate sites for a variety of housing types

Policy 3.1.1: Provide adequate sites to accommodate the production of a variety of housing types through land use designation, zoning, specific plans, and overlay zones.

Policy 3.1.2: Encourage the use of density bonus provisions to provide mixed-income housing and maximize the use of vacant and underutilized residential sites.

Policy 3.1.3: Encourage the development of senior housing and housing for persons with disabilities (including developmental disabilities) in all areas of the City, especially on sites with access to public transportation and community facilities.

Policy 3.1.4: Direct the production of new housing, including mixed-use and mixed-income projects, in the downtown core and along public transportation corridors.

Policy 3.1.5: Support the development of residential uses in primarily commercial areas that allow residential or mixed-use development.

Goal 3.2: Conserve and improve the existing affordable housing stock and revitalize deteriorating neighborhoods

Policy 3.2.1: Improve the quality of the existing housing stock through the rehabilitation and improvement of market rate neighborhoods and affordable housing projects.

Policy 3.2.3: Assist in the maintenance and rehabilitation of rental units whose owners provide affordable housing to lower-income tenants in exchange for long-term affordability agreements.

Policy 3.2.4: Encourage and facilitate the rehabilitation and reuse of distressed and abandoned properties.

Policy 3.2.5: Support neighborhood conservation and residential rehabilitation programs that offer financial or technical assistance to owners of lower- and moderate-income housing or distressed properties.

Policy 3.2.6: Encourage resident involvement in neighborhood improvement program planning to identify needs and implement programs targeted for the areas most in need of rehabilitation.

Policy 3.2.7: Dedicate resources to eradicate and prevent blighting conditions and maintain standards to safeguard and preserve the City's neighborhoods.

Goal 3.3: Assist in the provision of housing affordable to lower- and moderate-income households.

Policy 3.3.1: Increase housing opportunities and choices for lower-(including extremely low-) and moderate-income households.

Policy 3.3.3: Support innovative public, private, and not-for-profit efforts for the development and financing of affordable housing.

Policy 3.3.4: Apply for regional, state, and federal funds for the development or restriction of housing for lower- and moderate-income households.

Policy 3.3.5: Establish guidelines for the purchase, rehabilitation, and resale of foreclosed properties restricted to lower- and moderate-income households.

Goal 3.4: Promote equal housing opportunities for all persons in San Bernardino.

Policy 3.4.1: Provide a regulatory environment in which housing opportunities are available for all persons.

Policy 3.4.3: Improve quality of life for disabled persons by facilitating relief from regulatory barriers to accessible housing.

Policy 3.4.4: Encourage senior housing facilities in multi-family and commercial areas of the community, particularly when in proximity to public transportation and supportive commercial, health, and social service facilities.

Policy 3.4.6: Encourage the development of market rate and affordable housing with family-oriented and childcare amenities to help meet the needs of large families and single parents.

Goal 3.5: Reduce the adverse effects of governmental actions on the production, preservation, and conservation of housing, particularly for lower- and moderate-income households.

Policy 3.5.1: Remove regulatory constraints that inhibit the provision of quality affordable housing.

Policy 3.5.2: Incentivize and monitor the development, maintenance, and preservation of affordable housing.

Policy 3.5.3: Ensure that appropriate fees are charged to new residential development to cover expansion costs without unduly increasing the cost of providing housing.

Policy 3.5.4: Encourage and facilitate the construction, maintenance, and preservation of a variety of housing types adequate to meet a range of household needs.

4.12.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, *Environmental Checklist Form*, includes questions concerning population and housing. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, the Project may create a significant environmental impact if it would:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) (see Impact 4.12-1);

- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (see Impact 4.12-2);

METHODOLOGY AND ASSUMPTIONS

The proposed Project is evaluated against the aforementioned significance criteria/thresholds, as the basis for determining the impact's level of significance concerning population and housing. In addition, this analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards (LORS)) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended, to avoid or reduce the Project's potentially significant environmental impacts.

4.12.5 IMPACTS AND MITIGATION MEASURES

Impact 4.12-1: Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project proposes a fourth lead track extension from the existing BNSF San Bernardino (SBD) Intermodal Facility A Yard (Yard) to connect with two existing Ono Storage Sidings near the State Street/University Parkway grade separation. The Project is intended to enhance the existing Yard's train traffic efficiency by reducing congestion along the existing lead tracks serving BNSF's east-west corridor.

The Project would require property acquisition resulting in the displacement of various land uses, including residential to accommodate the proposed track extension and ancillary improvements (i.e., sound walls, detention basins, ROW extensions, and ROW setbacks). As properties are acquired to expand the BNSF ROW, existing buildings and structures would be removed and the properties cleared. Partial acquisition of some properties would create remnant parcels that would not be required for the Project. The Project does not propose to redevelop these remnant parcels. No zone change is proposed; thus, the underlying/existing zoning would be retained making remnant parcels available for reuse/redevelopment in the future consistent with their existing underlying zoning. Additionally, no new infrastructure would be provided on the acquired properties to support future residential or non-residential development. Remnant parcels would remain vacant and fenced.

To accommodate the proposed improvements, the Project would remove 43 DUs, resulting in a population decrease of approximately 149 persons; also see Impact 4.12-2 below. Furthermore, construction jobs associated with the Project are temporary in nature and would cease once the Project is completed. Furthermore, the additional track would allow for more efficient operations and would not expand or increase railroad operations and therefore would not induce population growth.

Therefore, given the Project's scope and nature, the Project would not induce population growth and no significant impact would occur.

Mitigation Measures

No mitigation is required.

Impact 4.12-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project requires partial and full property acquisitions of residential and commercial properties to accommodate the lead track extension, and ancillary and related improvements/modifications. **Table 4.12-7: Residential Property Acquisitions**, identifies properties with a General Plan residential designation, and except for one property that is vacant, all residentially-designated properties are developed with single-family or multi-family residences. For each property, full property acquisition is assumed. In total, 43 DUs on 37 parcels would be acquired. Of the 43 DUs, 36 are single-family residential DUs, two are duplexes (four DUs), and one is a triplex (three DUs). Six parcels would not be affected and therefore no acquisition would be required.

As previously noted, the City has an average of 3.47 persons per household. Assuming all 43 DUs would be removed and 3.47 persons per household, the proposed Project would displace approximately 149 persons. The City's current vacancy rate is approximately 7 percent, or approximately 4,596 DU. The County's current vacancy rate is approximately 11 percent, or approximately 79,935 DU. Given the vacant housing supply within the City and County, displacement of existing housing would not necessitate construction of replacement housing elsewhere. Further, the City's Housing Element concludes the City has residential development opportunities with sufficient capacity to meet future housing needs. San Bernardino's RHNA for the 2014-2021 planning period has been determined by SCAG to be 4,384 DU, including 980 DU for very low-income households, 696 DU for low-income households, 808 DU for moderate-income households, and 1,900 DU for above moderate-income households.[6]

According to HCD's Annual Progress Report for RHNA allocations, the City has issued 177 permits as of December 2017. None of the residential properties that would be demolished as a result of Project implementation are designated as affordable housing or listed as opportunity sites in the City's Housing Element. Therefore, removal of the affected residential properties would not impact the City's capacity to meet their RHNA allocation.

As of this writing, BNSF is in the process of acquiring for the properties required to accommodate the proposed Project. Some properties would be purchased through private closed sales. However, some properties may be acquired through condemnation. Under the California Relocation Assistance Law (Government Code §§ 7260.5(b), 7262), BNSF is required to provide fair and equitable treatment relocation assistance to property owners displaced as a result of condemnation. The law aims to minimize the hardship of displacement on these persons. The relocation costs would include the reasonable moving expenses for moving the property owner's personal property, along with any losses of personal property that could not be relocated and reasonable expenses in searching for replacement property in which to

[6] City of San Bernardino General Plan 2014-2021 Housing Element, Table H-30, Page 3-71

locate the equipment. Relocation expense payments are in addition to the condemnation compensation for the value of the acquired property, to the extent that items are not included within other portions of the condemnation award, per Government Code § 7270 and § 7272.5. As this process is required by state law, no mitigation is necessary.

Regarding SB 330, the City is not adopting or enacting any policy, standard or condition as part of the Project that would eliminate or reduce the density of available housing so as to trigger compliance with SB 330. The railroad's right to condemn private property necessary for the construction and operation of its facilities is statutorily independent of, and separate from, the City's authority to regulate land use and its obligations under Senate Bill 330 to protect and preserve available housing. (Public Utility Code § 611)) There is no zone change or General Plan land use designation amendment proposed for the properties being condemned, as they are unnecessary under Eminent Domain Law and Public Utilities Commission regulations.

TABLE 4.12-8: RESIDENTIAL PROPERTY ACQUISITIONS

No.	APN	Land Use Category	Existing Land Use	Dwelling Units Removed	Zoning	Approximate Acquisition Area (Ac)	Proposed Action
1	0144-011-18-0000	Residential	SFR	1	CG-1	0.14	Private Property Full Take
2	0144-011-17-0000	Residential	Duplex	2	CG-1	0.31	Private Property Full Take
3	0144-061-30-0000	Residential	Access - Driveway	0	RS	0.19	Private Property Full Take
4	0144-131-49-0000	Residential	SFR	1	RS	0.35	Private Property Full Take
5	0144-163-19-0000	Residential	SFR	1	RS	0.16	Private Property Full Take
6	0144-163-12-0000	Residential	SFR	1	RS	0.16	Private Property Full Take
7	0144-163-13-0000	Residential	SFR	1	RS	0.16	Private Property Full Take
8	0144-164-17-0000	Residential	SFR	1	RS	0.17	Private Property Full Take
9	0144-164-05-0000	Residential	SFR	1	RS	0.15	Private Property Full Take
10	0144-164-04-0000	Residential	SFR	1	RS	0.15	Private Property Full Take
11	0144-164-18-0000	Residential	SFR	1	RS	0.11	Private Property Full Take
12	0144-164-11-0000	Residential	SFR	1	RS	0.15	Private Property Full Take
13	0144-183-19-0000	Residential	SFR	1	RS	0.21	Private Property Full Take
14	0144-183-06-0000	Residential	SFR	1	RS	0.15	Private Property Full Take

TABLE 4.12-8: RESIDENTIAL PROPERTY ACQUISITIONS

No.	APN	Land Use Category	Existing Land Use	Dwelling Units Removed	Zoning	Approximate Acquisition Area (Ac)	Proposed Action
15	0144-183-20-0000	Residential	Vacant Lot	0	RS	0.08	Private Property Full Take
16	0144-183-10-0000	Residential	SFR	1	RS	0.15	Private Property Full Take
17	0144-183-17-0000	Residential	SFR	1	RS	0.14	Private Property Full Take
18	0144-184-08-0000	Residential	SFR	1	RS	0.14	Private Property Full Take
19	0144-184-21-0000	Residential	SFR	1	RS	0.30	Private Property Full Take
20	0144-184-09-0000	Residential	SFR	1	RS	0.15	Private Property Full Take
21	0144-184-17-0000	Residential	SFR	1	RS	0.30	Private Property Full Take
22	0144-221-14-0000	Residential	SFR	1	RS	0.15	Private Property Full Take
23	0144-221-15-0000	Residential	SFR	1	RS	0.15	Private Property Full Take
24	0144-221-16-0000	Residential	SFR	1	RS	0.15	Private Property Full Take
25	0139-131-30-0000	Residential	Triplex	3	RS	0.62	Private Property Full Take
26	0139-132-10-0000	Residential	SFR	0	RS	0.00	Private Property Full Take
27	0139-132-11-0000	Residential	SFR	2	RS	0.16	Private Property Full Take
28	0139-132-12-0000	Residential	SFR	1	RS	0.16	Private Property Full Take
29	0139-132-13-0000	Residential	SFR	1	RS	0.16	Private Property Full Take
30	0139-132-16-0000	Residential	SFR	1	RS	0.15	Private Property Full Take
31	0139-132-17-0000	Residential	SFR	1	RS	0.16	Private Property Full Take
32	0139-132-18-0000	Residential	SFR	1	RS	0.16	Private Property Full Take
33	0139-312-11-0000	Residential	SFR	1	RS	0.17	Private Property Potential Full Take
34	0139-312-12-0000	Residential	SFR	1	RS	0.17	Private Property Full Take

TABLE 4.12-8: RESIDENTIAL PROPERTY ACQUISITIONS							
No.	**APN**	**Land Use Category**	**Existing Land Use**	**Dwelling Units Removed**	**Zoning**	**Approximate Acquisition Area (Ac)**	**Proposed Action**
35	0139-312-13-0000	Residential	SFR	1	RS	0.17	Private Property Full Take
36	0139-312-14-0000	Residential	Duplex and SFR	3	RS	0.18	Private Property Full Take
37	0139-312-07-0000	Residential	SFR	0	RS	0.00	No Acquisition Anticipated
38	0139-312-07-0000	Residential	SFR	0	RS	0.00	No Acquisition Anticipated
39	0139-312-05-0000	Residential	SFR	0	RS	0.00	No Acquisition Anticipated
40	0139-312-03-0000	Residential	SFR	0	RS	0.00	No Acquisition Anticipated
41	0139-312-02-0000	Residential	SFR	0	RS	0.00	No Acquisition Anticipated
41	0139-312-20-0000	Residential	SFR	1	RS	0.10	Private Property Full Take
42	0139-312-21-0000	Residential	SFR	1	RS	0.16	Private Property Full Take
43	0139-312-22-0000	Residential	SFR	1	RS	0.12	Private Property Full Take
44	0139-312-23-0000	Residential	SFR	1	RS	0.17	Private Property Potential Full Take
45	0138-072-05-0000	Residential	Duplex	0	RS	0.00	No Acquisition Anticipated
46	0138-072-40-0000	Residential	SFR	0	RS	0.20	Private Property Potential Full Take - same owner
			Total	**43**	–	**7.26**	–
APN = Assessor Parcel Number; SFR = Single Family Residential; RS = Residential							
Source: Kimley-Horn and Associates, Inc., 2019.							

The California Relocation Assistance Law also defines compensation for residential tenants or renters. A comparable replacement dwelling within the financial means of the displaced person is defined as if the monthly rental cost of the dwelling, including estimated average monthly utility costs, minus any replacement housing payment available to the person, does not exceed 30 percent of the person's average monthly income. (Government Code § 7260(i.3))

Further, the City offers different types of housing programs to combat homelessness and address affordable housing. The City's Community Development Block Grant (CDBG) provides funding for local

governments intended to provide affordable housing and to maintain a suitable living environment. The HOME program aims to create and preserve affordable housing. Activities eligible for the HOME program include housing rehabilitation, new construction, and acquisition and rehabilitation, for both single-family and multifamily projects. The Emergency Solutions Grants (ESG) program assists individuals and families in regaining stability in permanent housing after experiencing housing crisis. One of the ESG program components includes repaid re-housing assistance.[7]

The City is currently processing several applications and projects related to affordable housing. Arrowhead Groves, located at 610 East Olive Street, is an affordable/mixed income community that proposes 74 single-family DU, 337 multi-family DU, and 38 condominium DU along with other community facilities. Different phases of the Olive Street Project are currently in plan check or under construction.[8] Another project, Valencia Vista, located at the 9th Street at Valencia Ave intersection, opened in 2016 and includes 75 affordable DU for low- and moderate-income persons.[9]

Although the proposed Project would remove housing from the City's housing stock, none of the affected properties are designated as affordable housing or listed as opportunity sites in the City's Housing Element. Properties that are acquired through condemnation would be given relocation assistance pursuant to Government Code § 7260.5(b) and 7262. The City also offers several housing programs including the HOME program and ESG program which would further assist homeowners during the relocation process and search to regain stable housing. Therefore, impacts would therefore be less than significant.

The Project also requires acquisition of non-residential properties. **Table 4.12-8: Existing Employment – Lost** presents the commercial and industrial land uses that would be acquired, as part of the Project. Some commercial businesses may not be in conformance with the San Bernardino Municipal Code (i.e., nonconforming businesses operating in residential zones). Therefore, the table identifies commercial land uses based on existing on the ground land uses rather than zoning.

TABLE 4.12-9: EXISTING EMPLOYMENT - LOST

Land Use Category	Square Feet (sf)	Existing Land Use	Employment Density Rate[1]	Jobs Lost
Commercial	46,000	Repair Business, Commercial Building, Storage Lot	124 sf/employee	371
Industrial	32,000	Industrial Buildings, Auto wreck storage yard	705 sf/employee	46
Total	78,000			417

Note:
1. The Natelson Company, Inc. (2001). *Employment Density Study Summary Report*. page 4. Yorba Linda, CA: The Natelson Company, Inc.

Source: Kimley-Horn and Associates, Inc., 2021.

[7] City of San Bernardino, Housing, available at: http://www.sbcity.org/cityhall/city_managers_office/housing/

[8] Brian Whitehead, San Bernardino Secures $20 million for affordable housing community Arrowhead Grove, San Bernardino Sun, June 28, 2018.

[9] Ryan Hagen, Anticipated San Bernardino Housing Project celebrates Opening, San Bernardino Sun, December 1, 2016.

As indicated in **Table 4.12-8**, removal of these land uses would result in the loss of approximately 417 jobs. It is noted that the commercial land uses within the Project area are not typical commercial land uses, as most are vehicle storage yards, vehicle repair shops in residential areas, and small junkyards. These types of land uses are likely to have lower employment density rates than found in the Density Study. Therefore, it is likely that the total jobs lost is conservatively high.

According to the California's Employment Development Department's Monthly Labor Force Data, the City's labor force is 85,800 with 81,100 people employed, resulting in a 5.5 percent unemployment rate. According to the SCAG's Local Profile Report of the City of San Bernardino, jobs in the retail trade (including motor vehicle and parts dealers) and manufacturing (machinery and transportation equipment) totaled over 13,301 jobs in 2017. In addition, the City is currently processing several applications for commercial projects related to auto services, parts, and sales, as identified in **Table 4.12-9: Future Projects Related to Automotive Commercial Uses**.

TABLE 4.12-10: FUTURE PROJECTS RELATED TO AUTOMOTIVE COMMERCIAL USES

Application Name	Location	Project Summary
CUP 16-07	1295 E. Baseline	Automobile dealership and repair shop
CUP 17-18	Southwest of N. Arden and North of E. Highland Avenue	Commercial center comprised of an auto parts retail store, retail building, and a restaurant with a drive-thru on two parcels containing approximately 0.98 acres
CUP 17-25	1231 N. E Street	Autobody shop
CUP 18-14	1790 S. E Street	Establishment and Operation of an auto body and paint shop
CUP 18-27	1548 N. Mount Vernon Avenue	Establish an automotive repair facility
DP-D 19-03	1983 and 1993 W. Highland Avenue	New automotive parts store

Notes: CUP = Conditional Use Permit; DP = Development Permit

Source: City of San Bernardino. (May 2019). *Community Development Department Major Project List*. Retrieved from http://www.sbcity.org/civicax/filebank/blobdload.aspx?blobid=23617

Although the proposed Project would displace several commercial and industrial uses resulting in the loss of approximately 417 jobs, the City is currently reviewing several projects that would offer similar job types. In the past five years, the City has experienced a steady two percent annual decrease in unemployment.[10] The declining unemployment rate, as well as the other future projects in the City offering similar job types, would enable employees displaced by the Project to find employment opportunities elsewhere in the City.

Project implementation would displace housing, people, and commercial businesses. However, the City's housing stock and employment opportunities can provide other housing and job opportunities for residents and commercial businesses. Therefore, the proposed Project would not displace a substantial number of people or housing. Impacts would be less than significant.

[10] City of San Bernardino. (2019). *About San Bernardino*. Retrieved from https://www.ci.san-bernardino.ca.us/about/default.asp

Mitigation Measures

No mitigation is required.

4.12.6 CUMULATIVE IMPACTS

For purposes of population and housing analysis, cumulative impacts are considered for cumulative development within the City's planning area, according SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning population and housing in SBGP EIR *Section 5.11, Population and Housing*. The following is a summary of the expected environmental effects:

- Build-out could result in substantial population growth through development of additional housing units. This impact was concluded to be less than significant.
- Build-out could result in the displacement of people and/or housing necessitating the construction of replacement housing elsewhere. This impact was concluded to be less than significant.

The analysis presented above addresses potential impacts in the context of cumulative population, housing, and employment growth in the City and County. Potential impacts are assessed relative to the SBGP and regional plans, including SCAG's 2016 RTP/SCS population, housing, and employment projections. SCAG regional growth projections reflect recent and past trends, key demographic and economic assumptions and include local and regional policies. Local justifications participate in the growth forecast development process (SCAG, 2016).

Development within the City's planning area would occur consistent with SBGP build-out, thus, is anticipated to be consistent with SBGP growth projections. Because SCAG growth projections are based on adopted General Plans, future development is anticipated to be consistent with SCAG growth projections. As with the Project, cumulative development would undergo environmental review on a project-by-project basis pursuant to CEQA to evaluate potential impacts concerning population and housing. Any potential SBGP amendments or conflicts with growth projections would be evaluated on a project-by-project basis. All development would be subject to compliance with existing federal, state, and local regulatory framework. As such, cumulative impacts concerning population and housing would be mitigated on a project-by-project basis, and in accordance with the established regulatory framework, through the established regulatory process. Therefore, the combined cumulative impacts to population and housing associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.12.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning population and housing have been identified.

4.12.8 REFERENCES

City of San Bernardino. (2005). *City of San Bernardino General Plan*. San Bernardino, CA: City of San Bernardino Development Services.

_____. (2005). *San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report*. San Bernardino, CA: The Planning Center.

_____. (2014). *City of San Bernardino 2013-2021 Housing Element*. San Bernardino, CA: City of San Bernardino.

Southern California Association of Governments. (2001). *Employment Density Study Summary Report*. Yorba Linda, CA: The Natelson Company, Inc.

State of California, Department of Finance. (2020). *E-5 Population and Housing Estimates for Cities, Counties, and the State — January 1, 2011-2020*. Sacramento, California.

State of California Economic Development Department Labor Market Information Division. (2019). *Monthly Labor Data for Cities and Census Designated Places*. Sacramento, CA: Employment Development Department.

4.13 PUBLIC SERVICES

4.13 PUBLIC SERVICES AND RECREATION

4.13.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions concerning public services (i.e., fire and police protection services, schools, and libraries) and parks and recreational facilities provided within the Project area. This section also identifies potential impacts that could result from Project implementation, and as necessary, recommends mitigation measures to avoid or reduce the significance of impacts related to public services, and parks and recreational facilities. The issues addressed in this section are whether the Project would cause the need for new or physically altered public service facilities that would have significant environmental impacts and whether the Project would increase the use of existing recreational facilities.

The affected environment discussion is based largely on the following documentation:

- 2016 California Fire Code;
- San Bernardino Unified School District Overview (San Bernardino City Unified School District, 2019); and
- City of San Bernardino Municipal Code.

Other information in this section, such as the regulatory framework, was gathered from various planning documents including the City of San Bernardino General Plan, and pertinent State of California Building Codes.

4.13.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Fire Protection and Emergency Medical Services

Emergency fire protection and medical response services for the City of San Bernardino (City) are provided by the San Bernardino County Fire District (SBCFD). The SBCFD serves over 19,000 square miles of San Bernardino County (County) inclusive of the Project site. There are three fire stations near the Project area. **Table 4.13-1: Fire Stations in Project Vicinity**, identifies the stations' distance to the respective Project segments. It is noted that all the segments could potentially be served by multiple nearby SBCFD stations. Each of the stations identified in the table has the capability of reaching any part of the Project site within 15 minutes.

There are multiple medical facilities in the area. Dignity Health – Community Hospital of San Bernardino is approximately 1.0 mile west of Segments 09 and 10 and Arrowhead Family Health Center is approximately 0.6 mile west of Segment 05.

TABLE 4.13-1: FIRE STATIONS IN PROJECT VICINITY		
Segment Number	**Nearest San Bernardino County Fire Station**	**Distance from Segment (miles)**
01	Fire Station 75	0.60
02	Fire Station 224	1.24
03	Fire Station 224	1.05
04	Fire Station 224	0.93
05	Fire Station 224	0.88
06	Fire Station 222	0.83
07	Fire Station 222	0.60
08	Fire Station 222	0.45
09	Fire Station 222	0.43
10	Fire Station 222	0.45
11	Fire Station 222	0.61
12	Fire Station 222	0.77
Source: Google Maps; accessed November 2019.		

Police Services

The San Bernardino Police Department (SBPD) provides law enforcement and protection services to the City. The SBPD currently employs 225 sworn officers and operates within four patrol districts: the Northeast, Northwest, Southeast, and Southwest districts.[1] The Project site is within the Northwest and Southwest districts. The nearest SBPD station to the Project site is at 710 North D Street. **Table 4.13-2: Police Districts and Stations in Project Vicinity,** identifies the distance of each Project segment to a SBPD district and beat area. Dispatch from any police station can reach the Project site in less than ten minutes. Each district is patrolled constantly by multiple on-duty law enforcement officers.

TABLE 4.13-2: POLICE DISTRICTS AND STATIONS IN PROJECT VICINITY			
Segment Number	**SBPD Patrol District**	**SBPD Beat[1]**	**Distance to Station (miles)**
01	Northwest	B2	3.8
02	Southwest	A1	2.2
03	Southwest	A1	1.9
04	Southwest	A1	1.6
05	Southwest	A1	1.4
06	Southwest	A1	1.1
07	Southwest	A1	0.83
08	Southwest	A3	0.65
09	Southwest	A3	0.56
10	Southwest	A3	0.56

[1] San Bernardino Police Department. (2019). Accessed from https://www.ci.san-bernardino.ca.us/cityhall/police_department/about_sbpd/about_sbpd/default.asp.

TABLE 4.13-2: POLICE DISTRICTS AND STATIONS IN PROJECT VICINITY			
Segment Number	SBPD Patrol District	SBPD Beat[1]	Distance to Station (miles)
11	Southwest	A3	0.59
12	Southwest	A3	0.70
Notes: 1. San Bernardino Police Department. (2013). San Bernardino Police Department Patrol Districts. San Bernardino, CA: IT Department.			
Source: Kimley-Horn and Associates, Inc. 2019.			

Schools

The Project site is within the boundaries of the San Bernardino City Unified School District (SBCUSD). The SBCUSD has 72 schools: 50 elementary schools, 11 middle schools, 10 high schools, and one adult education facility.[2] Various SBCUSD educational facilities are proximate to the Project site. The nearest schools to the Project site are:

- Muscovy Elementary School, approximately 0.8 mile southwest of Segment 01;
- Davidson Elementary School, approximately 0.4 mile northeast of Segment 02;
- Roosevelt Elementary School, approximately 0.3 mile southwest of Segment 05;
- San Bernardino High School, approximately 0.3 mile northeast of Segment 06, and
- Juanita Blakely Jones Elementary School, approximately 0.2 feet east of Segment 10.

Parks and Recreation

City parks and recreational facilities are managed by the City of San Bernardino Parks, Recreation, and Community Services Department (SBPRCSD). The Parks near the Project site are: Blair Park, Delmann Heights Park, Gutierrez Park, Encanto Park, Bobby Vega Park, La Plaza Park, and Pioneer Park. The park nearest the Project site is Encanto Park, approximately 0.35 mile west of Segment 09.

Libraries

The City has four public libraries, two of which are near the Project site: Norman F. Feldheym Central library which is approximately 0.4 mile east of Segment 10, and Paul Villasenor Branch Library, which is approximately 0.5 mile west of Segments 10 and 11. One County public library, the Baker Family Learning Center, is approximately 0.6 mile southwest of Segment 01.

[2] San Bernardino City Unified School District. (2019). *2018-19 District Overview.* Page 1. San Bernardino, CA: San Bernardino Unified School District.

4.13.3 REGULATORY FRAMEWORK

STATE

2016 California Fire Code

The 2016 California Fire Code (California Code of Regulations [CCR] Title 24 Part 9) sets forth requirements including those for building materials and methods pertaining to fire safety and life safety, fire protection systems in buildings, emergency access to building, and handling and storage of hazardous materials. The Fire Code also is intended to aid firefighters and other emergency responders during their operations. The code is updated every 3 years and was last updated in 2016, and adopted in 2017.[3]

California State Assembly Bill 2926: School Facilities Act of 1986

To assist in providing school facilities to serve students generated by new development, Assembly Bill (AB) 2926 was enacted in 1986 and authorizes a levy of impact fees on new residential, commercial, and industrial development. The bill was expanded and revised in 1987 through the passage of AB 1600, which added §§ 66000 et seq. to the Government Code. Under this statute, payment of impact fees by developers serves as CEQA mitigation to satisfy the impact of development on school facilities.

Senate Bill 50

Senate Bill (SB) 50 (1998), which is funded by Proposition 1A, limits the power of cities and counties to require mitigation of developers as a condition of approving new development and provides instead for a standardized fee. SB 50 generally provides for a 50/50 State and local school facilities match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether State funding is available; whether the school district is eligible for State funding; and whether the school district meets certain additional criteria involving bonding capacity, year-round schools, and the percentage of moveable classrooms in use.

LOCAL

City of San Bernardino General Plan

Land Use Element

The City contains a mixture of land uses ranging from residential to industrial. The General Plan Land Use Element outlines the City's intentions and goals regarding land uses and policies that help ensure efficient planning conducive to life in the City.

Goal 2.2: **Promote development that integrates with and minimizes impacts on surrounding land uses.**

Policy 2.2.9: Require Police Department review of uses that may be characterized by high levels of noise, nighttime patronage, and/or rates of crime; providing for the conditioning or

[3] California Building Standards Commission. (2016). *2016 California Fire Code.* Page 3. Sacramento, CA: California Building Standards Commission.

control of use to prevent adverse impacts on adjacent residences, schools, religious facilities, and other "sensitive" uses. (LU-1)

Goal 2.8: Protect the life and property of residents, businesses, and visitors to the City of San Bernardino from crime and the hazards of flood, fire, seismic risk, and liquefaction.

Policy 2.8.3: Encourage projects to incorporate the Crime Prevention Through Environmental Design (CPTED) and defensible space techniques to help improve safety.

Public Facilities and Services Element

The General Plan Public Facilities and Services Element focuses on the City's goals and policies regarding its fire protection and emergency services, police services, schools, community centers, libraries, and cultural facilities. By providing overarching goals and policies for these agencies greater efficiency can be created and effectiveness can be reached.

Goal 7.1: Protect the residents of San Bernardino from criminal activity and reduce the incidence of crime.

Policy 7.1.1: Maintain a complement of personnel in the Police Department that is capable of providing a timely response to criminal activity and can equitably protect all citizens and property in the City. (A-3 and PFS-2)

Policy 7.1.7: Require the provision of security measures and devices that are designed to increase visibility and security in the design of building siting, interior and exterior design, and hardware. (LU-1 and PRT-1)

Goal 7.2: Protect the residents and structures of San Bernardino from the hazards of fire.

Policy 7.2.1: Assure that adequate facilities and fire service personnel are maintained by periodically evaluating population growth, response time, and fire hazards in the City. (A-3 and PFS-2)

Policy 7.2.2: Assess the effects of increases in development density and related traffic congestion on the provision of adequate facilities and services ensuring that new development will maintain fire protection services of acceptable levels. (PFS-2)

Policy 7.2.3: Establish a program whereby new development projects are assessed a pro rata fee to pay for additional fire service protection to that development. (PFS-3)

Goal 7.4: Maintain and enhance the cultural quality of life for the City's residents.

Policy 7.4.14: Construct new libraries and rehabilitate and expand existing library facilities and programs as required to meet the needs of existing and future residents. (PFS-6)

City of San Bernardino Municipal Code

City of San Bernardino Municipal Code (SBMC) § 507 specifies that the City shall provide for a municipal police department. The City also shall provide for community development, finance, fire and emergency medical services, information technology, library, parks and recreation, personnel, public works, water and wastewater, and such other services as the Council deems appropriate for the public's health, safety and welfare.

SBMC § 3.27.000 specifies that the provision of new and expanded facilities and infrastructure is necessary to protect and promote the health, safety, and welfare of all the citizens of the City of San Bernardino by reducing the adverse effects of urbanization and development. Additionally, it is necessary to enact and implement certain development fees to assure that all development within the City pays its fair share of the costs of providing necessary public facilities and infrastructure to accommodate such new development.

4.13.4 SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, *Environmental Checklist Form*, includes questions pertaining to public services. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, the Project may create a significant environmental impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - fire protection (see Impact 4.13-1),
  - police protection (see Impact 4.13-2),
  - schools (see Impact 4.13-3),
  - parks (see Impact 4.13-4),
  - other public facilities (see Impact 4.13-5),
- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (see Impact 4.13-4), or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment (see Impact 4.13-4).

METHODOLOGY AND ASSUMPTIONS

The proposed Project involves the extension of the existing A Yard lead track as a fourth track parallel to three existing tracks running from the BNSF San Bernardino Intermodal Facility A Yard, to two existing Ono Storage Sidings near the State Street/University Parkway Grade Separation. The approximately 3.1-mile final track and all its components are analyzed as 12 separate segments. Each segment may be closer to different service facilities or within different service zones. Separating the proposed track into segments allows the Project to be analyzed in specific portions and areas, and as a whole as applicable.

The proposed Project is evaluated against the aforementioned significance criteria as the basis for determining the level of impacts related to public services. This analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards (LORS)) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with

the regulatory framework, feasible mitigation measures are recommended to avoid or reduce the Project's potentially significant environmental impacts.

4.13.5 IMPACTS AND MITIGATION MEASURES

Impact 4.13-1: **Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?**

Level of Significance: Less Than Significant Impact

CONSTRUCTION

As shown in **Table 4.13-1**, the Project site is near three fire stations (Station 222 is approximately 0.43 mile from Segment 09); thus, the Project area already receives adequate fire protection. The Project's construction-related activities would temporarily increase the demand for fire protection at and near the Project site due to the potential increased hazards associated with demolition and construction activities and use of materials. However, this temporary increase in demand is nominal and SBCFD response times would not be affected. Additionally, Project construction would not significantly affect major roadways or impede emergency access to adjacent properties; see **Section 4.14: Transportation**. Project staging areas and construction activities, including those that require the modification of roadways, would maintain access for emergency vehicles. Project construction activities would be required to comply with all applicable state and local fire safety regulations. The Project would require relocation of one fire hydrant at Station 246-38. In coordination with the SBCFD, this hydrant would be relocated and brought back into operation during the Project's construction phase. This relocation would not substantially impact fire service operations. Impacts would be less than significant. Project construction would not result in adverse physical impacts associated with alterations to this existing fire hydrant or create a demand for new or physically altered fire protection facilities; therefore, less than significant environmental impacts would occur in this regard.

While multiple medical facilities exist in the proposed Project's vicinity, they would remain unaffected by Project construction. There could be a temporary nominal increase in demand for medical services during Project construction with construction workers. However, these periods would be temporary with demand returning to previous levels after construction completion.

OPERATIONS

To accommodate the proposed rail and ancillary improvements, as many as 43 dwelling units (DU) and approximately 78,000 square feet (SF) of non-residential (commercial and industrial) land uses would be acquired. Property acquisitions would result in the removal of these land uses; thus, the corresponding demands for fire protection would also be removed. Additionally, because the Project would only increase the A Yard's operational efficiency, but would not increase BNSF line operations, an increased demand for fire protection services would not occur. Therefore, Project operations would not create a demand for new or physically altered fire protection facilities and no environmental impact would occur in this regard.

Mitigation Measures

No mitigation is required.

Impact 4.13-2: **Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?**

Level of Significance: Less Than Significant Impact

CONSTRUCTION

The City divides its service area into four police patrol districts to ensure adequate service to all areas. The proposed Project is in two SBPD patrol districts. Each district as previously stated, is patrolled by law enforcement personnel from their available 225-officer law enforcement team. Construction activity in the Project area would temporarily increase the demand for law enforcement in the area because of construction equipment and supplies. However, this temporary increase in demand is nominal and SBPD response times would not be affected. Project construction activities would comply with all applicable law enforcement regulations and policies. Therefore, Project construction would not create a demand for new or physically altered fire protection facilities and no environmental impact would occur in this regard.

OPERATIONS

To accommodate the proposed rail and ancillary improvements, as many as 43 DU and approximately 78,000 SF of non-residential (commercial and industrial) land uses would be acquired. Property acquisitions would result in the removal of these land uses; thus, the corresponding demands for police protection would also be removed. Therefore, Project operations would not create a demand for new or physically altered police protection facilities and no environmental impact would occur in this regard.

Mitigation Measures

No mitigation is required.

Impact 4.13-3: **Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?**

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

Construction of the lead track extension and ancillary improvements would occur within and immediately adjacent to the BNSF ROW and would not physically impact any SBCUSD school. To accommodate the proposed rail and ancillary improvements, as many as 43 DU and approximately

78,000 SF of non-residential (commercial and industrial) land uses would be acquired. Property acquisitions would result in the removal of these land uses; thus, SBCUSD schools could experience corresponding decreases in student population. In 2018, there were 61,717 households in the City, and 52,503 total students, creating a student-per-household ratio of approximately 0.85 student per household.[4] The Project would acquire as many 43 DU, which would displace as many as 37 students. It is unknown where these displaced students would relocate. However, given the nominal amount of relocated students, and since it is unlikely they would all relocate to the same school district, This nominal displacement is not expected to overcrowd school facilities either within or outside the SBCUSD. Therefore, the Project would not create a demand for new or physically altered school facilities and no environmental impact would occur in this regard.

Mitigation Measures

No mitigation is required.

Impact 4.13-4:	**Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?** **Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?** **Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**
Level of Significance: Less Than Significant Impact	

CONSTRUCTION AND OPERATIONS

Construction of the lead track extension and ancillary improvements would occur within and immediately adjacent to the BNSF ROW and would not physically impact any park or recreational facility. To accommodate the proposed rail and ancillary improvements, as many as 43 DU and approximately 78,000 SF of non-residential (commercial and industrial) land uses would be acquired. Property acquisitions would result in the removal of these land uses; thus, parks and recreational facilities could experience corresponding decreases in usage and demand. Therefore, the Project would not create a demand for new or physically altered park or recreational facilities and no environmental impact would occur in this regard. Similarly, the Project would not increase the use of existing parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

[4] Southern California of Governments. (2019). *Profile of the City of San Bernardino. Retrieved from: https://www.scag.ca.gov/Documents/SanBernardino.pdf*

Mitigation Measures

No mitigation is required.

Impact 4.13-5: **Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for libraries?**

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

To accommodate the proposed rail and ancillary improvements, as many as 43 DU and approximately 78,000 SF of non-residential (commercial and industrial) land uses would be acquired. Property acquisitions would result in the removal of these land uses; thus, library facilities could experience corresponding decreases in usage and demand. Therefore, the Project would not create a demand for new or physically altered library facilities and no environmental impact would occur in this regard.

Mitigation Measures

No mitigation is required.

4.13.6 CUMULATIVE IMPACTS

For purposes of public services and recreational facility analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning public services and parks/recreational facilities in SBGP EIR Section 5.12, *Public Services*, and SBGP EIR Section 5.13, *Recreation*, respectively. The following is a summary of the expected environmental effects:

The following is a summary of the expected environmental effects:

- Build-out could increase the requirements for fire protection facilities and personnel. This impact was concluded to be less than significant.
- Implementation of the Arrowhead Springs Specific Plan (AHS) could increase the requirement for fire protection facilities and personnel. This impact was concluded to be less than significant with mitigation incorporated.
- Build-out could increase the requirement for police protection facilities and personnel. This impact was concluded to be less than significant.
- Implementation of the AHS could increase the requirement for police protection facilities and personnel. This impact was concluded to be less than significant with mitigation incorporated.

- Build-out could generate additional students that would impact the school enrollment capacities of the San Bernardino City Unified School District. This impact was concluded to be less than significant.
- Build-out could increase the service needs of the San Bernardino Public Library System. This impact was concluded to be less than significant.
- Build-out would generate additional residents that would increase the use of existing park and recreational facilities. This impact was concluded to be less than significant.
- Build-out would result in environmental impacts to expand recreational facilities. This impact was concluded to be less than significant.
- Build-out of the AHS would result in environmental impacts to provide new/expand recreational facilities. This impact was concluded to be less than significant with mitigation incorporated.

Development within the City's planning area would be subject to development impact fees to finance public services and parks/recreational facilities attributable to each new development. Payment of these fees would minimize, to the greatest extent practicable, impacts from cumulative development. Development within the City's planning area could result in substantial adverse physical impacts associated with new or physically altered governmental or parks/recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives. As with the Project, cumulative development would undergo environmental review on a project-by-project basis pursuant to CEQA to evaluate potential environmental impacts. Additionally, implementation of site-specific mitigation would reduce potential impacts. As such, cumulative impacts associated with new or physically altered governmental and parks/recreational facilities would be mitigated on a project-by-project basis, and in accordance with the established regulatory framework.

Therefore, the combined cumulative impacts to public services and parks/recreational facilities associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.13.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning public services and parks/recreational facilities have been identified.

4.13.8 REFERENCES

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4.14 TRANSPORTATION

4.14 TRANSPORTATION

4.14.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to transportation, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

Information in this section is based primarily on the *BNSF Ono Lead Track Extension Project Transportation Analysis* (Kimley-Horn and Associates, February 2021); see **Appendix 9.11: Transportation Analysis**. Additional resource information was obtained from available public resources, including among others, the City of San Bernardino General Plan (SBGP) and City of San Bernardino Municipal Code (SBMC).

4.14.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

The Project site is in the southwest portion of the County of San Bernardino (County), in the City's southwest portion; see **Exhibit 2-1: Regional Vicinity Map**. The Project area extends approximately 4.3 linear miles along the BNSF corridor adjacent to/west of Interstate 215 (I-215). State Route 210 (SR-210) traverses the northern and southern segments of the Project, while Interstate 10 (I-10) is situated south of the Project area.

Roadway Characteristics

Interstate 215. Interstate 215 (I-215) is an eight-lane freeway within the study area. It runs parallel to the study area from Highland Avenue to 5th Street. I-215 primarily runs north-south and connects multiple major cities in the greater Los Angeles region. I-215 connects with State Route 210 (SR-210) to the north and I-10 to the south. The posted speed limit in and near the study area is 65 miles per hour (mph).

5th Street. 5th Street is an east-west four-lane arterial roadway within the study area. It connects with I-215 to the east and North Mt. Vernon Avenue to the west. 5th Street has two lanes in each direction and includes exclusive left and right turn lanes at major intersections. 5th Street serves study area residential and commercial land uses. The posted speed limit on 5th Street near the study area is 40 mph.

7th Street. 7th Street is an east-west two-lane local street within the study area. It connects with North I Street to the east and North Mt. Vernon Avenue to the west. 7th Street terminates at North I Street on the west side of I-215 and continues along the east side of I-215. On-street parking exists along both sides of the road. 7th Street serves study area residential land uses. There is no posted speed limit on 7th Street.

8th Street. 8th Street is an east-west two-lane local street within the study area. It connects with North I Street to the east and North Mt. Vernon Avenue to the west. 8th Street terminates at North I Street on the west side of I-215 and continues along the east side of I-215. On-street parking exists along both sides of the road. 8th Street serves study area residential land uses. There is no posted speed limit on 8th Street.

9th Street. 9th Street is an east-west four-lane arterial roadway within the study area. It connects with I-215 to the east and North Mt. Vernon Avenue to the west. 9th Street serves study area residential land uses. On-street parking exists along both sides of the road, except between J Street and H Street. The posted speed limit on 9th Street near the study area is 30 mph.

10th Street. 10th Street is an east-west two-lane local street within the study area. It connects with North I Street to the east and North Mt. Vernon Avenue to the west. 10th Street terminates at North I Street on the west side of I-215 and continues along the east side of I-215. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on 10th Street.

11th Street. 11th Street is an east-west two-lane local street within the study area. It connects with North I Street to the east and North Mt. Vernon Avenue to the west. 11th Street terminates at North I Street on the west side of I-215 and continues along the east side of I-215. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on 11th Street.

13th Street. 13th Street is an east-west two-lane local street within the study area. It connects with Montgomery Street to the east and K Street to the west. 13th Street terminates at North I Street on the west side of I-215 and continues along the east side of I-215. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on 13th Street.

14th Street. 14th Street is an east-west two-lane local street within the study area. It connects with North I Street to the east and North Mt. Vernon Avenue to the west. 14th Street terminates at North I Street on the west side of I-215 and continues along the east side of I-215. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on 14th Street.

15th Street. 15th Street is an east-west two-lane local street within the study area. It connects North I Street to the east and Garner Avenue to the west. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on 15th Street.

17th Street. 17th Street is an east-west two-lane local street within the study area. It connects with J Street to the east and Massachusetts Avenue to the west. On-street parking exists on the south side of the road from Perris Street to Massachusetts Avenue. It serves study area residential land uses. There is no posted speed limit on 17th Street.

Base Line Street. Base Line Street is an east-west four-lane arterial roadway within the study area. It connects with I-215 to the east and North Mt. Vernon Avenue to the west. On-street parking exists along both sides of the road, except between Perris Street and H Street. Base Line Street serves study area residential and commercial land uses. The posted speed limit on Base Line Street near the study area is 40 mph.

Evans Street. Evans Street is an east-west two-lane local street within the study area. It connects with North I Street to the east and Garner Avenue to the west. Evans Street terminates at North I Street on the west side of I-215 and continues along the east side of I-215. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on Evans Street.

Harris Street. Harris Street is a north-south two-lane local street within the study area. It runs adjacent to I-215 and connects 11th Street to Orange Street. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on Harris Street.

Highland Avenue. Highland Avenue is an east-west four-lane arterial roadway within the study area. It connects with I-215 to the east and North Mt. Vernon Avenue to the west. Highland Avenue has two lanes in each direction and includes exclusive left and right turn lanes at major intersections. Highland Avenue serves study area residential and commercial land uses. The posted speed limit on Highland Avenue near the study area is 35 mph.

Home Avenue. Home Avenue is an east-west two-lane local street within the study area. It connects with North I Street to the east and Perris Street to the west. On-street parking exists along both sides of the road. It serves residential land uses within the study area. There is no posted speed limit on Home Avenue.

J Street. J Street is a north-south two-lane local street within the study area. It connects with 17th Street to the north and 16th Street to the south. On-street parking exists on both sides of the road. It serves study area residential land uses. There is no posted speed limit on J Street.

Montgomery Street. Montgomery Street is a north-south two-lane local street within the study area. It connects with 13th Street to the north and Reece Street to the south. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on Montgomery Street.

Mount Vernon Avenue. Mount Vernon Avenue is a north-south four-lane major highway within the study area. This route is part of Historical Route 66. It connects with I-215 to the north and I-10 to the south. On-street parking exists along both sides of the road. It serves residential and commercial land uses within the study area. The posted speed limit on Mount Vernon Avenue near the study area is 35 mph and changes to 25 mph in a school zone north of Base Line Street.

Magnolia Avenue. Magnolia Avenue is an east-west two-lane local street within the study area. It connects with North I Street to the east and Garner Avenue to the west. Magnolia Avenue terminates at North I Street on the west side of I-215 and continues along the east side of I-215. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on Magnolia Avenue.

North I Street. North I Street is a north-south two-lane local street within the study area. From 7th Street to 8th Street, North I Street becomes a one-lane road. North I Street runs adjacent to I-215 and connects 7th Street to 8th Street, 10th Street to 11th Street, and Home Avenue to Evans Street. There is no on-street parking along the road from 7th Street to 8th Street and Home Avenue to Evans Street but on-street parking is allowed along both sides of the road from 10th Street to 11th Street. It serves residential land uses within the study area. There is no posted speed limit on North I Street.

Reece Street. Reece Street is an east-west two-lane local street within the study area. It connects with Montgomery Street to the east and Perris Street to the west. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on Reece Street.

West Olive Street. West Olive Street is an east-west two-lane local street within the study area. It connects with North I Street to the east and J Street to the west. West Olive Street terminates west of

J Street and continues at L Street connecting L Street to Garner Avenue. West Olive Street also terminates at North I Street on the west side of I-215 and continues along the east side of I-215. On-street parking exists along both sides of the road. It serves study area residential land uses. There is no posted speed limit on West Olive Street.

Railway Facilities

The BNSF San Bernardino (SBD) Intermodal Facility is an intermodal yard that is served by existing railroad tracks entering from the north and south. The SBD Intermodal Facility handles various types of freight, including consumer products (e.g., food and automobile products) and agricultural and industrial products. The existing railway facility is comprised of separate yards, including the SBD Intermodal / A Yard at the Project area's southern extent.

The BNSF ROW consists of an existing three and four track railroad system with associated signal poles, electrical poles, and cabinets. The Project rail line is part of BNSF's east-west California freight rail network.

Transit Facilities

Omnitrans, Victor Valley Transit (VVT), Riverside Transit Agency (RTA), Pass Transit, Mountain Transit, and Metrolink provide transit service within the City of San Bernardino and other cities in this region. There are no transit facilities along North I Street within the Project area.

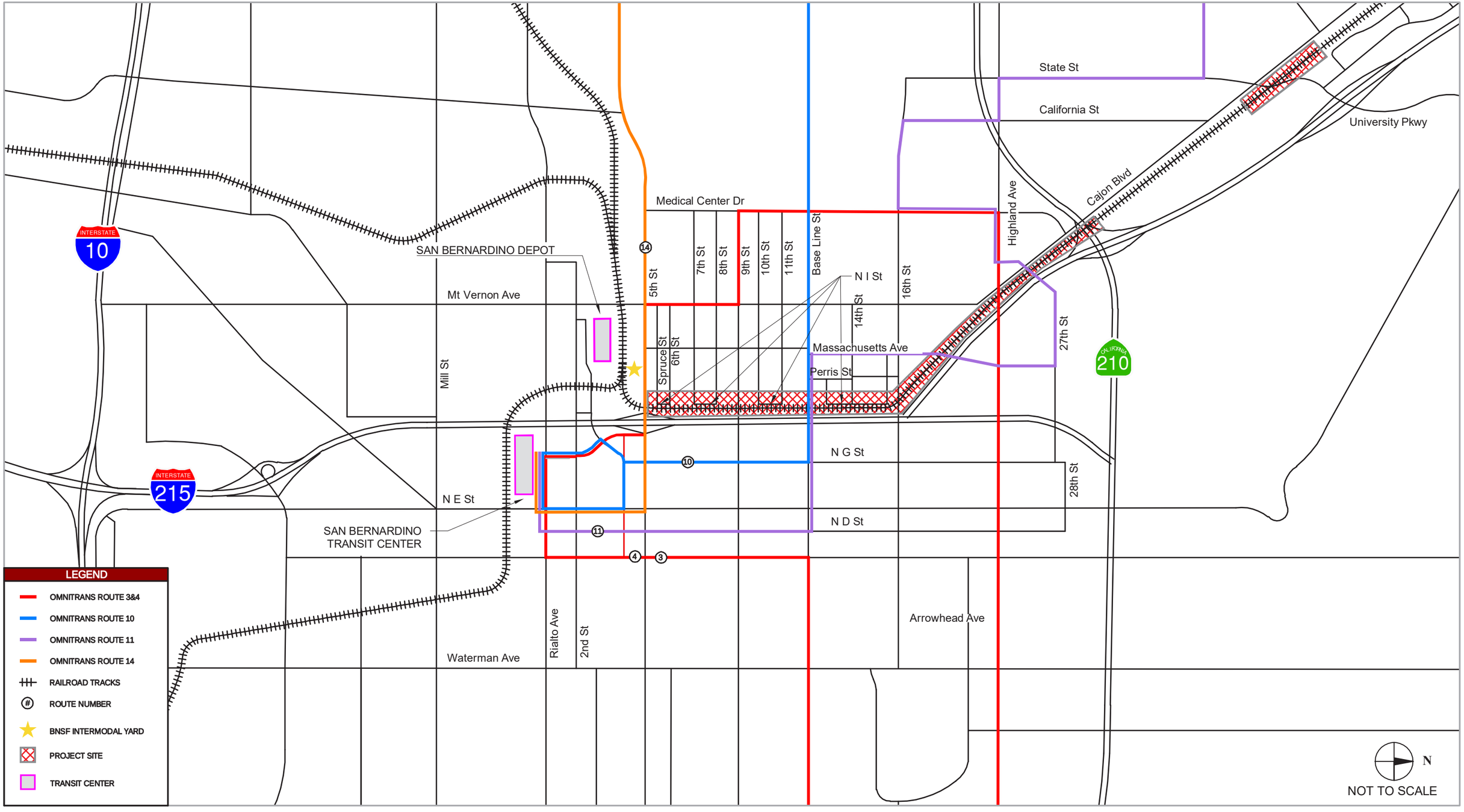
Omnitrans

Omnitrans provides bus transit services within the City of San Bernardino; see **Exhibit 4.14-1: Omnitrans Bus Routes**. The nearest Omnitrans service to the Project area is provided along Routes 3, 4, 10, 11, and 14, which provide services to 5th Street, 9th Street, 16th Street, Base Line Street, Massachusetts Avenue, Mt Vernon, and Highland Avenue. Two of the main transit centers that service Omnitrans are the San Bernardino Depot, directly south of the BNSF San Bernardino Intermodal Facility, and the San Bernardino Transit Center, less than one mile southeast of the Project area. North I Street is not served by transit service.

Routes 3 and 4 operate from the San Bernardino Transit Center to Highland Avenue and Waterman Avenue. Transfer points near the Project area include the 5th Street at North Mt. Vernon Avenue intersection, and the 9th Street at North Mt. Vernon Avenue intersection.

Route 10 operates from the San Bernardino Transit Center to Fontana Metrolink. The transfer point near the Project area include the Baseline Street at Massachusetts Avenue intersection.

Route 11 operates from the San Bernardino Transit Center to Cal State University. The transfer point near the Project area is the 16th Street at Massachusetts Avenue intersection**.**



Source: BNSF Ono Lead Track Extension Project Transportation Analysis. Kimley-Horn. February 2021.

Kimley»Horn
MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.14-1: Omnitrans Bus Routes

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Route 14 operates from the San Bernardino Transit Center to Fontana Metrolink. The transfer point nearest the Project area is the 5th Street at North Mt. Vernon Avenue intersection.

Victor Valley Transit (VVT)

VVT provides bus transit services within the City of San Bernardino. The nearest VVT service to the Project area is along Route 15.

Route 15 operates from the San Bernardino Transit Center to East Buena Vista Street and Portales Court. This route runs north and south of the Project area with the nearest bus stop at the San Bernardino Depot and San Bernardino Transit Center.

Riverside Transit Agency (RTA)

RTA provides bus transit services within the City of San Bernardino. The nearest RTA service is provided along Route 200.

Route 200 operates from the San Bernardino Transit Center to Disneyland in the City of Anaheim. This route runs south of the Project area with the nearest stop at the San Bernardino Transit Center.

Pass Transit

Pass Transit provides bus transit services within the City of San Bernardino. The nearest Pass Transit service is provided along Route 120.

Route 120 operates from San Bernardino Transit Center to Beaumont Walmart. This route runs south of the Project area with the nearest stop being the San Bernardino Transit Center.

Mountain Transit

Mountain Transit provides bus transit services throughout the rural San Bernardino Mountain communities of Big Bear Valley, Crestline, Lake Arrowhead, and Running Springs. The nearest Mountain Transit service to the Project area is along Routes 5 and 6. Existing Mountain Transit facilities near the Project area are shown in **Exhibit 4.14-2: Non-Omnitrans Bus Routes**.

Route 5 operates from San Bernardino to Running Springs/Big Bear Valley. This route runs north and south of the Project area with the nearest stop at the San Bernardino Depot and San Bernardino Transit Center.

Route 6 operates from San Bernardino to Lake Arrowhead. This route runs north and south of the Project area with the nearest stop at the San Bernardino Depot and San Bernardino Transit Center.

Metrolink

Metrolink provides transit services within the City of San Bernardino; see **Exhibit 4.14-3: Metrolink Routes**. Two of the main transit centers that serve Metrolink are the San Bernardino Depot, directly south of the BNSF San Bernardino Intermodal Facility and the San Bernardino Transit Center, less than a mile southeast of the Project area. North I Street is not served by any transit service.

The *Inland Empire-Orange County Line* operates from the San Bernardino Depot to Oceanside, southwest of the Project area.

The *San Bernardino Line* operates from the San Bernardino Transit Center, southeast of the Project area, through the San Bernardino Depot, and to the L.A. Union Station, west of the Project area.

Bicycle Facilities

Exhibit 4.14-4: Bicycle Facilities, depicts the City's existing and proposed bicycle facilities and indicates there are two bicycle routes (Cajon Boulevard and Baseline Street) and two local multi-purpose trails (Highland Avenue and Mount Vernon Avenue) near the Project site. However, none of the bicycle facilities are within the Project footprint.

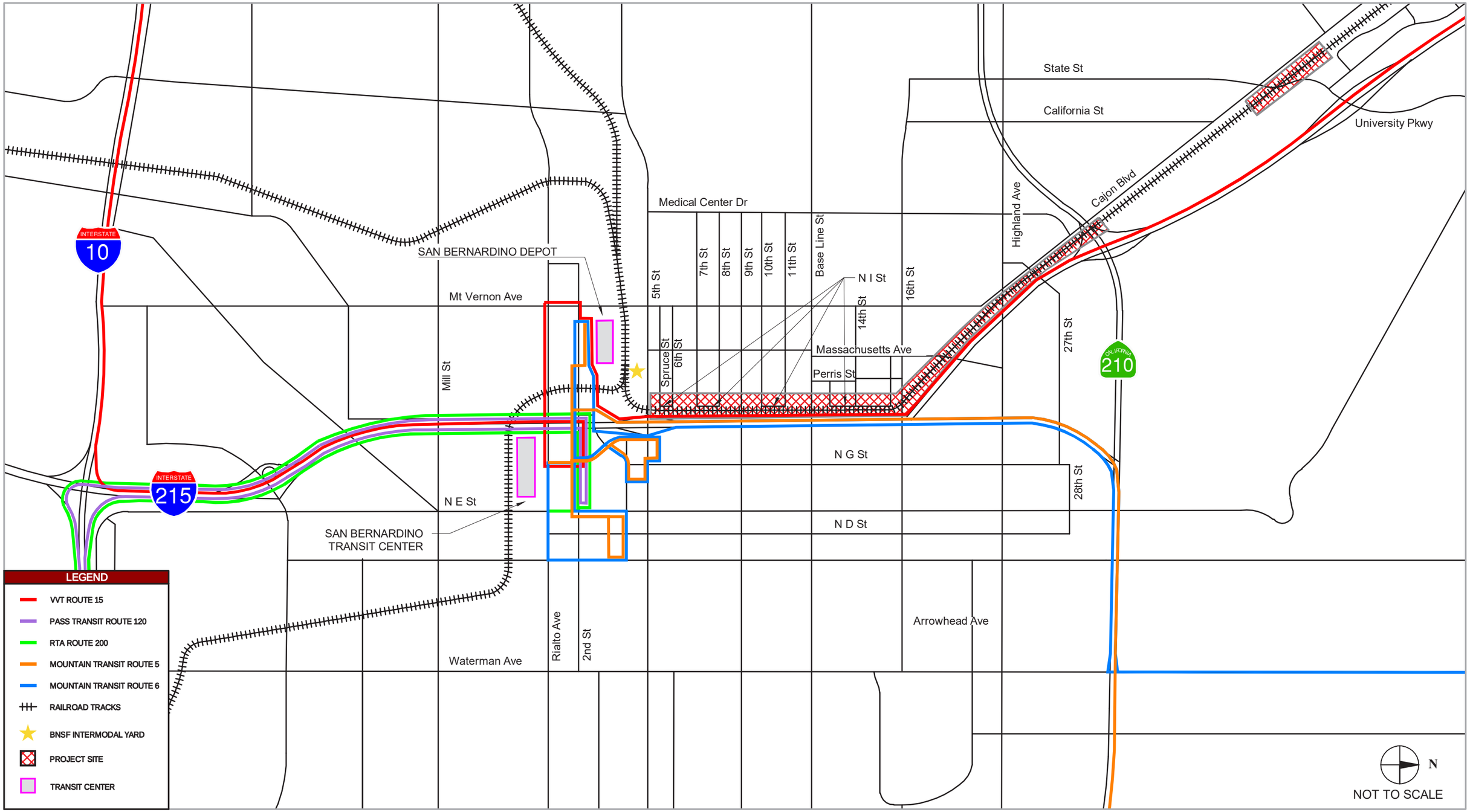
Pedestrian Facilities

Sidewalks are provided along the west side of North I Street, and along the east and west sides of Montgomery Street within the study area. The following gaps in pedestrian facilities exist in the Project area:

- East side of North I Street;
- North I Street between 7th Street and 8th Street, and between Home Avenue and 14th Street;
- South side of 10th Street from Montgomery Street to North I Street;
- West side of Harris Street from West Orange Street to 11th Street, and Harris Street north of 16th Street;
- Home Avenue from North I Street to midblock of Home Avenue;
- 16th Street from Harris Street to J Street; and
- J Street from 16th Street to 17th Street.

Truck Routes

The SBGP classifies roadway segments as Freeways/Highways, Major Arterials, Secondary Arterials, Collector Streets, and Local Streets. Scenic Highways and Routes are also included in the circulation system. Although the City of San Bernardino does not designate truck routes, roadways classified as Freeways/Highways, Major Arterials, and Secondary Arterials are typically wider and may provide multiple vehicle lanes, allowing for easier truck movability. As shown in **Exhibit 4.14-5: San Bernardino Roadway Classifications**, Freeways/Highways, Major Arterials, and Secondary Arterials in the Project area include: I-215, SR-210, State Street/University Parkway, Medical Center Drive, Mount Vernon Avenue, H Street, North G Street, North E Street, 5th Street, 9th Street, Base Line Street, Highland Road, and Cajon Boulevard.



Source: BNSF Ono Lead Track Extension Project Transportation Analysis. Kimley-Horn. February 2021

Kimley»Horn

MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 4.14-2: Non-Omnitrans Bus Routes

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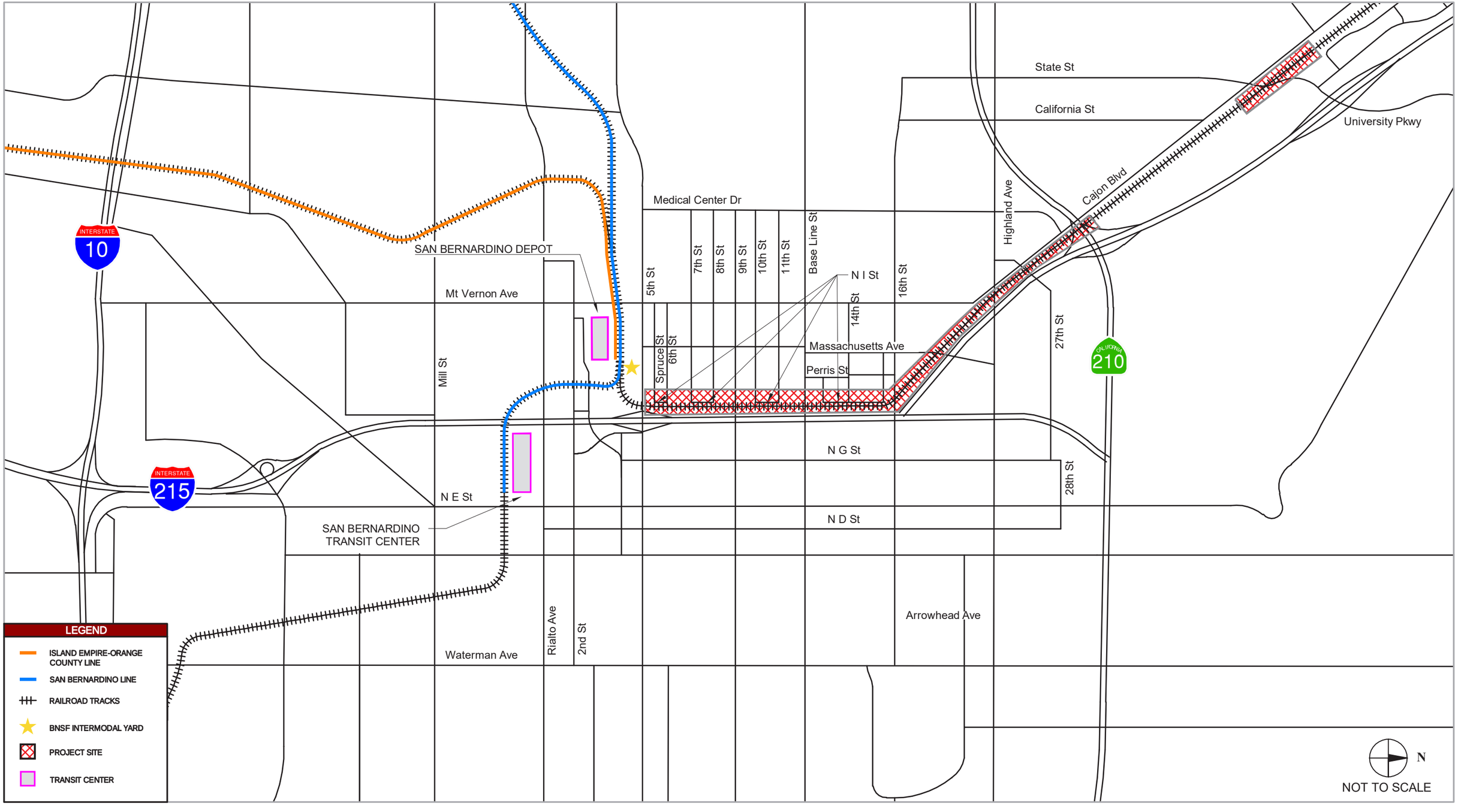

Source: BNSF Ono Lead Track Extension Project Transportation Analysis. Kimley-Horn. February 2021.

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BNSF Ono Lead Track Extension Project EIR

Exhibit 4.14-3: Metrolink Routes

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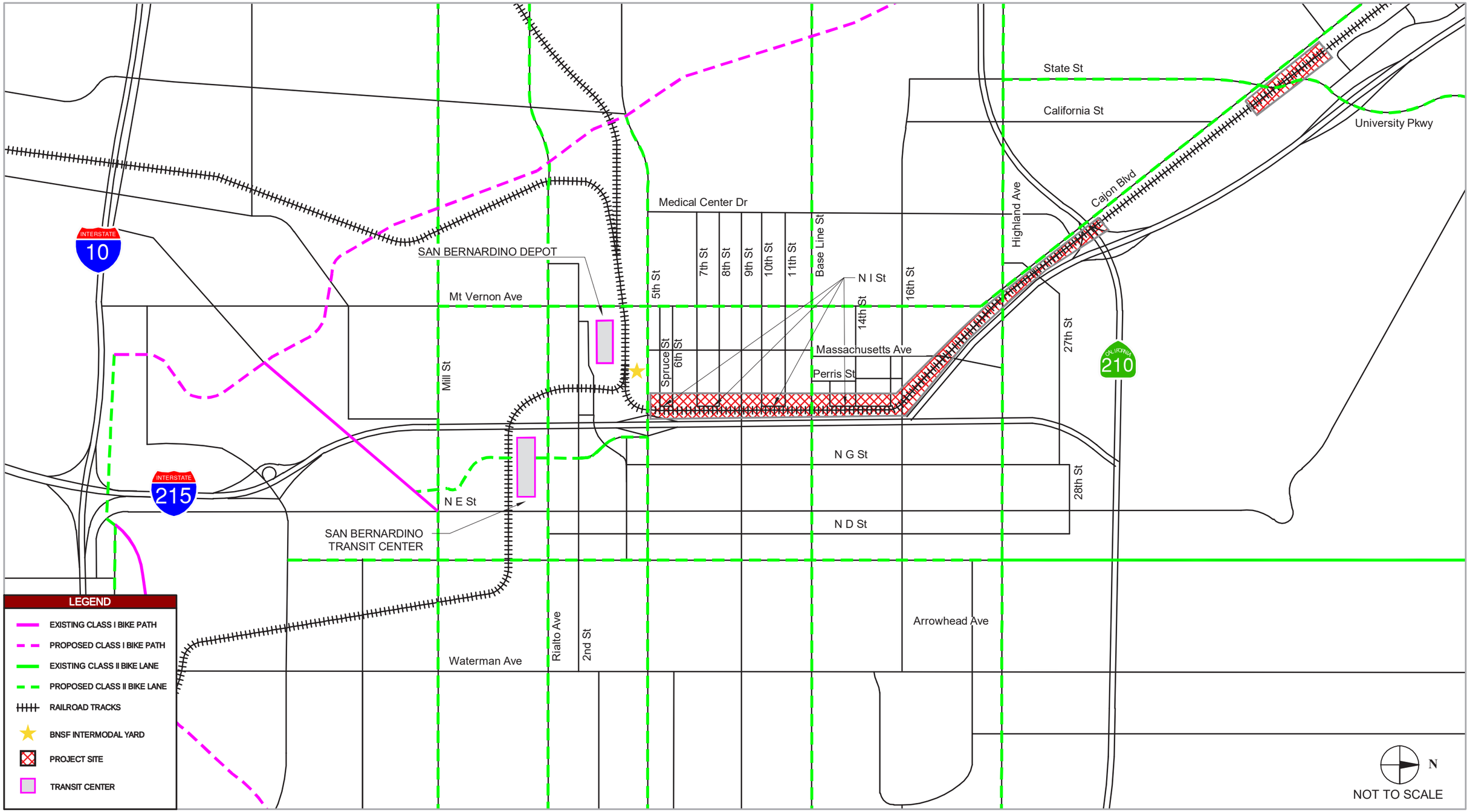

Source: BNSF Ono Lead Track Extension Project Transportation Analysis. Kimley-Horn. February 2021.

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Exhibit 4.14-4: Existing Bicycle Facilities

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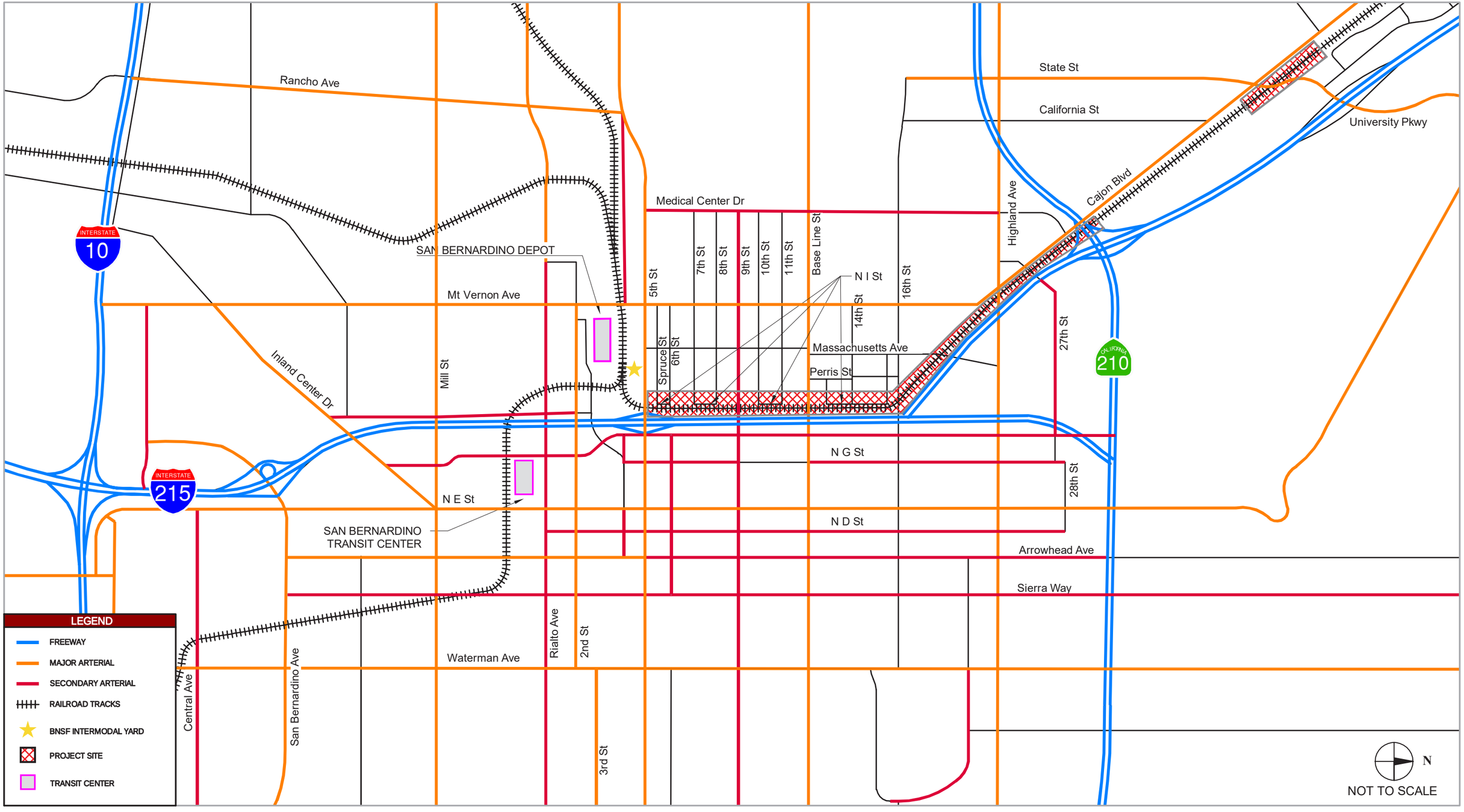

Source: BNSF Ono Lead Track Extension Project Transportation Analysis. Kimley-Horn. February 2021.

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Exhibit 4.14-5: San Bernardino Roadway Classifications

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4.14.3 REGULATORY FRAMEWORK

STATE

Sustainable Communities Strategies: Senate Bill 375 – Land Use Planning

Senate Bill (SB) 375 provides for a new planning process to coordinate land use planning and regional transportation plans (RTP) and funding priorities in order to help California meet the greenhouse gas (GHG) reduction goals established in Assembly Bill (AB) 32. SB 375 requires that RTPs developed by metropolitan planning organizations (MPO) relevant to the Project site (e.g., Southern California Association of Governments (SCAG)) incorporate a "sustainable communities strategy" in their RTPs that will achieve GHG emission reduction targets set by the California Air Resources Board (CARB). SB 375 also includes provisions for streamlined California Environmental Quality Act (CEQA) review for some infill projects, such as Transit-Oriented Developments (TODs).

As an MPO, SCAG is responsible for preparing and using a public participation plan that is developed in consultation with all interested parties and provides reasonable opportunities for interested parties to comment on the content of SCAG's proposed RTP and the Regional Transportation Improvement Program (TIP). SB 375 requires SCAG to adopt a public participation plan for development of the sustainable communities strategy (SCS) and an alternative planning strategy. Further, as required by SB 375, SCAG will conduct at least two informational meetings in each county within the region for members of the board of supervisors and city councils on the SCS and alternative planning strategy, if any. The purpose of the meetings shall be to present a draft of the SCS to members of the board of supervisors and city council members in that county and to solicit and consider their input and recommendations.

Senate Bill 743 –State CEQA Guidelines for Transportation Impacts

The Office of Planning and Research (OPR) proposed to the California Natural Resources Agency (CNRA) comprehensive updates to the State CEQA Guidelines in January 2018. In late 2018, the CNRA finalized the updates to the State CEQA Guidelines. In December 2018, the updated State CEQA Guidelines were approved, shifting traffic analysis from delay and operations to vehicle miles traveled (VMT) when evaluating transportation impacts under CEQA. This change in methodology is a result of Senate Bill 743 (SB 743), which was signed into law in September 2013. SB 743 creates a process to change the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 required OPR to amend the State CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses.

Measurements of transportation impacts may include VMT, VMT per capita, automobile trip generation rates, or automobile trips generated. According to SB 743, projects should aim to reduce VMT and mitigate potential VMT impacts through the implementation of transportation demand management (TDM) strategies. Agencies were required to fully implement the State CEQA Guidelines for transportation by July 1, 2020.

As part of the development of the updated State CEQA Guidelines, the OPR prepared the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) (Technical Advisory). The Technical Advisory provides guidance for local jurisdictions in developing methodologies and thresholds

for evaluating VMT. The Technical Advisory provides VMT thresholds for residential, retail and employment.

California Department of Transportation (Caltrans)

Consistent with the OPR Technical Advisory, Caltrans has selected VMT as the primary metric in CEQA transportation analysis for projects on the state highway system because VMT increases may be associated with transportation projects, and VMT reductions are needed to achieve California's long-term GHG emissions reduction targets and other state goals relating to state highway system operations, public health, and environmental protection.[1] Caltrans' Transportation Analysis Framework (TAF) guides the preferred approach for analyzing the VMT attributable to proposed projects (induced travel) in various project settings. Their Transportation Analysis under CEQA (TAC) provides information to support Caltrans' CEQA practitioners in making CEQA significance determinations for transportation impacts of projects on the state highway system.

REGIONAL

Regional Transportation Plan/Sustainable Communities Strategy

On April 7, 2016, the Southern California Association of Governments (SCAG) Regional Council adopted the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS). The next iteration, called the Connect SoCal - The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy was formally adopted on September 3, 2020.

The RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The strategy was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses, and local stakeholders within the counties of Riverside, Orange, Imperial, Los Angeles, San Bernardino, and Ventura. The RTP/SCS is a long-range vision plan that balances future mobility and housing needs with economic, environmental, and public health goals. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by State law to lower regional GHG emissions.

San Bernardino County Congestion Management Program 2016 Update

Proposition 111, passed in June 1990, provided additional transportation funding through a $.09 per gallon increase in the state gas tax. This equated to an estimated annual return of more than $6.25 per person for cities within San Bernardino County and $7.1 million for the County. Included with the provision for additional transportation funding was a requirement to undertake a Congestion Management Program (CMP) within each county with an urbanized area having a population of 50,000 or more, to be developed and adopted by a designated Congestion Management Agency (CMA). In 1990, SANBAG was designated the San Bernardino County CMA by the County Board of Supervisors and a majority of the cities representing a majority of the incorporated population. The first countywide CMP was developed by SANBAG, in cooperation with a technical advisory committee composed of

[1] Caltrans. 2020. *Q & A: VMT CEQA Significance Determinations for State Highway System Projects Implementation Timeline Memorandum*. Retrieved from https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-04-13-qanda-implementationtimingmemo-a11y.pdf

planning and engineering staff from SANBAG, SANBAG member cities, the County, transit providers, SCAG, the California Department of Transportation (Caltrans), the South Coast Air Quality Management District, and the Mojave Desert Air Quality Management District. It was adopted in November 1992 and was updated in every odd-numbered year thereafter.

Although implementation of the CMP was made voluntary by the passage of AB 2419, the CMP requirement has been retained in all five urban counties within the SCAG region. In addition to its value as a transportation management tool, CMPs have been retained in these counties because of the Federal Congestion Management Process requirement that applies to all large urban areas that are not in attainment of federal air quality standards. These counties recognize that the CMP provides a mechanism through which locally implemented programs can fulfill most aspects of a regional requirement that would otherwise have to be addressed by the Regional Agency (SCAG). The Federal Department of Transportation has stated that "the State's CMP is a principal element of the Congestion Management Process."

The CMP includes the following elements:

- System LOS Element. Defines the CMP system of roadways, designates LOS standards for the system and establishes procedures to be used to calculate LOS.
- Performance Measures Element. Identifies performance measures used to characterize the performance of the multimodal transportation system, including standards for transit routing and frequency and standards for the coordination of transit service provided by separate operators. Performance measures identified in this element are to be used in development of the capital improvement program, deficiency plans and the land use analysis program.
- Land Use/Transportation Analysis Element. Provides a consistent method for analyzing the impacts of land use decisions on the CMP transportation system and estimating the cost of mitigation.
- Travel Demand Element. Provides guidance for travel demand management ordinances enacted by local jurisdictions.
- Five-year Capital Improvement Program. Contains improvements that maintain or improve traffic and transit performance and mitigate impacts on the regional system identified by the land use/transportation analysis program, deficiency plans and other forecasting and analysis elements of the CMP.

Two additional components of the CMP support the five elements. First, the CMA is required to develop a uniform database on traffic impacts, consistent with the regional SCAG database, for use in the county-wide transportation computer model. The CMA is also required to approve computer models of specific areas that are used by local jurisdictions to determine the impacts of land use changes on the circulation system. Monitoring is also an essential component of the CMP process. The CMA's responsibility is focused on assisting and ensuring compliance by local jurisdictions with the CMP requirements.

LOCAL

City of San Bernardino General Plan Circulation Element

Circulation Element

Goal 6.2: **Maintain efficient traffic operations on City streets.**

Policy 6.2.1: Maintain a peak hour level of service D or better at street intersections.

Policy 6.2.3: Keep traffic in balance with roadway capacity by requiring traffic studies to identify local roadway and intersection improvements necessary to mitigate the traffic impacts of new development and land use changes.

Policy 6.2.5: Design roadways, monitor traffic flow, and employ traffic control measures (e.g., signalization, access control, exclusive right and left turn-turn lanes, lane striping, and signage) to ensure City streets and roads continue to function safely within our Level of Service standards.

Policy 6.2.7: Install new signals as warranted.

Goal 6.3: **Provide a safe circulation system.**

Policy 6.3.1: Promote the principle that streets have multiple uses and users, and protect the safety of all users.

Policy 6.3.3: Require that all City streets be constructed in accordance with the Circulation Plan (Figure C-2) and the standards established by the Development Services Director.

Policy 6.3.4: Require appropriate right-of-way dedications of all new developments to facilitate construction of roadways shown on the Circulation Plan.

Policy 6.3.5: Limit direct access from adjacent private properties to arterials to maintain an efficient and desirable quality of traffic flow.

Policy 6.3.6: Locate new development and their access points in such a way that traffic is not encouraged to utilize local residential streets and alleys.

Goal 6.7: **Work with the railroads and other public agencies to develop and maintain railway facilities that minimize the impacts on adjacent land uses.**

Policy 6.7.1: Accommodate railroad services that allow for the movement of people and goods while minimizing their impact on adjacent land uses.

Policy 6.7.2: Coordinate with SANBAG, SCAG, the County and other regional, state or federal agencies and the railroads regarding plans for the provision of passenger, commuter, and high-speed rail service.

Policy 6.7.3: Encourage the provision of a buffer between residential land uses and railway facilities and encourage the construction of sound walls or other mitigating noise barriers between railway facilities and adjacent land uses.

Policy 6.7.4: Identify existing and future high volume at-grade railroad crossings and pursue available sources of funding (e.g., California Public Utilities Commission) to implement grade separations where appropriate.

CITY OF SAN BERNARDINO TRAFFIC IMPACT ANALYSIS GUIDELINES

The *City of San Bernardino Traffic Impact Analysis Guidelines* (Fehr & Peers, August 2020) provide general instruction for analyzing potential transportation impacts of proposed development projects. These guidelines address preparation of both LOS- and VMT-based traffic impact analyses (TIA).

Based on the City's Guidelines, an LOS-based TIA is required if a project meets any of the following criteria:

- Any project with initial traffic generation estimates showing that the project is likely to add 250 or more daily two-way trips, and/or likely to add 50 or more AM or PM peak period two-way trips to the existing circulation system, without consideration of pass-by trip reductions. Phased projects must be evaluated as a whole assuming full build-out conditions for purposes of determining the need for a traffic study.
- Any project where variations from the standards and guidelines provided in this [the] manual are proposed.
- Any project that is located in the vicinity (within a 1.5-mile radius from the project site) of any key intersections that currently operate at a level of service (LOS) D or worse and project traffic is likely to significantly worsen this condition.
- Any project that generates more than 40 percent of its total traffic in the form of truck traffic using passenger car equivalents (PCE).
- Any project that intensifies the usage, density, or traffic generation of the site above the level currently allowed by zoning codes, requiring a Conditional Use Permit, General Plan Amendment, or other discretionary permit.
- When determined by the City Traffic Engineer that existing or proposed traffic conditions in the project vicinity have unique characteristics that warrant evaluation.

The proposed Project does not meet the criteria outlined above; therefore, it does not require preparation of an LOS-based TIA.

For purposes of SB 743 compliance, a VMT analysis should be conducted for land use projects as deemed necessary by the Public Works Department and would apply to projects that have the potential to increase the average VMT per service population (e.g., population plus employment) compared to the City boundary. There are three types of screening that lead agencies can apply to effectively screen projects from project-level assessment. They include:

1. Transit Priority Area (TPA) Screening: Projects located within a transit propriety area (half mile area around an existing major transit stop or an existing stop along a high quality transit corridor) may be presumed to have a less than significant impact absent substantial evidence to the contrary.

2. Low VMT Area Screening: Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area.

3. Project Type Screening: Local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary. Local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. Projects generating less than 110 daily vehicle trips can also be screened from project-level analysis.

4.14.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions concerning transportation. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, the Project may create a significant environmental impact if it would:

- Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities (see Impact 4.14-1);
- Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b) (see Impact 4.14-2);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (see Impact 4.14-3); or
- Result in inadequate emergency access (see Impact 4.14-4).

METHODOLOGY AND ASSUMPTIONS

Study Approach

The Transportation Analysis (see **Appendix 9.11**) evaluates the following development conditions:

- **Existing Conditions** – Based on existing traffic conditions (i.e., 2019) and existing roadway facilities.
- **Forecast Existing Plus Project Conditions** (Construction Phase) – Based on existing traffic conditions minus traffic associated with property acquisitions plus temporary Project-related construction traffic. Assumes existing roadway facilities.
- **Forecast Existing Plus Project Conditions** (Post Construction Phase/Operations) – Based on existing traffic conditions minus traffic associated with property acquisitions. Assumes proposed circulation/roadway improvements/modifications to the existing roadway network.

The proposed Project is evaluated against the aforementioned significance criteria. This analysis also considers existing regulations, laws and standards that serve to avoid or reduce potential environmental impacts. Where significant impacts remain, feasible mitigation measures are recommended, where

warranted, to avoid or lessen the Project's significant adverse impacts. Further details regarding methods are provided in **Appendix 9.11**.

Traffic Operational Standards

Traffic operations efficiency at a location is measured in terms of LOS. LOS is the primary unit of measure for stating the operating quality of an intersection or roadway segment. For intersections, LOS measures the time delay experienced per vehicle. For roadway segments, LOS is calculated by comparing the number of vehicles using a roadway to its carrying capacity.

The *Highway Capacity Manual, Sixth Edition* (HCM) (Transportation Research Board 2018) is a widely referenced source, providing techniques to measure transportation facility performance. Using the manual's procedures, the quality of traffic operations is graded using one of six LOS designations: A, B, C, D, E, or F. LOS A represents excellent (free-flow) conditions, while LOS F represents oversaturated (congested) conditions.

Intersections

The Highway Capacity Manual (HCM) includes procedures for analyzing side-street stop-controlled (SSSC), all-way stop-controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement and major street left-turns. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for all intersection movements. Refer to **Table 4.14-1: Operational Characteristics Associated with Each LOS Category for Signalized and Unsignalized Intersections**.[2]

Roadway Segments

Roadway segment LOS is based on: (1) the volume of traffic for a designated roadway section (i.e., segment) during a typical day, and (2) that segment's practical vehicular capacity. These two measurements are used to determine the segment's volume-to-capacity (V/C) ratio.

The volume-to-capacity ratio is then converted to LOS. LOS A identifies the best operating conditions along a roadway section and is characterized by free-flow traffic, low volumes, and few or no restrictions on maneuverability. LOS F characterizes forced traffic flow with high traffic densities, slow travel speeds, and often stop-and-go conditions. Refer to **Table 4.14-2: Roadway Level of Service Criteria**.[3]

[2] Transportation Research Board, *Highway Capacity Manual 6th Edition*, National Academy of Sciences, 2016.
[3] Transportation Research Board, *Highway Capacity Manual 6th Edition*, National Academy of Sciences, 2016.

TABLE 4.14-1: OPERATIONAL CHARACTERISTICS ASSOCIATED WITH EACH LOS CATEGORY FOR SIGNALIZED AND UNSIGNALIZED INTERSECTIONS			
Level of Service	**Description**	**Signalized[1]**	**Unsignalized[1]**
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream	≤ 10	≤ 10
B	Stable traffic. Traffic flows smoothly with few delays.	> 10 – 20	> 10 – 15
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	> 20 – 35	> 15 – 25
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	> 35 – 55	> 25 – 35
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	> 55 – 80	> 35 – 50
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	> 80	> 50
[1] Average control delay per vehicle, seconds/vehicle.			

TABLE 4.14-2: ROADWAY LEVEL OF SERVICE CRITERIA		
Level of Service	**Volume-to-Capacity Ratio**	**Description**
A	0.00-0.60	Represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.
B	0.61-0.70	LOS is in the range of stable flow. The traffic stream begins to be noticeable and freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
C	0.71-0.80	LOS is in the range of stable flow. The beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
D	0.81-0.90	LOS represents high density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
E	0.91-1.00	LOS represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow cause breakdowns in traffic movement.
F	>1.00	LOS F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount that can traverse the point. Queues form behind such locations.

Vehicle Miles Traveled

The City of San Bernardino Traffic Impact Analysis Guidelines (Fehr & Peers, August 2020) provide general instruction for analyzing potential transportation impacts of proposed development projects. These guidelines address preparation of both VMT-based traffic impact analyses (TIA). There are three types of screening that lead agencies can apply to effectively screen projects from project-level

assessment: Transit Priority Area (TPA) Screening; Low VMT Area Screening; and Project Type Screening. The Project's VMT analysis presented below is based on Project Type Screening.

CONSTRUCTION TRANSPORTATION ASSUMPTIONS

The Transportation Analysis assumes Project construction would occur in one phase, beginning in the first quarter of 2022 and completed by the first quarter of 2024. The assumed construction Project subphases and approximate durations are:

- Pre-approval/pre-construction Property Demolitions: 19.5 months,
- Utility Relocations: 12 months (three months would overlap with Civil Improvements),
- Civil Improvements (i.e., street relocations/modifications, track corridor, soundwalls, and infiltration basins): 10 months (three months would overlap with Utility Relocations), and
- Track and Signal Construction: 3.5 months.

Inclusive of property demolitions, Project construction would occur over approximately 42 months. It is noted, property acquisitions were underway concurrent with preparation of this EIR, and their demolition could occur as soon as required by a governmental entity (e.g., release of liens/abatement of nuisance) or as soon as possible upon property acquisition, prior to Project approval or commencement of Project construction. Exclusive of property demolitions and accounting for the three-month overlap of Civil Improvements with Utility Relocations, Project construction would occur over approximately 23 months. Notwithstanding, to provide a conservative analysis, demolition-related activities are included in the assumed construction activities and evaluated in this EIR.

The Project's site preparation phase would occur simultaneous with demolition and prior to grading. Upon completion of property acquisitions and grading, municipal improvements (i.e., utility relocation and paving) would commence simultaneous with rail construction.

Appendix 9.11 summarizes the estimated soils/materials import/export and indicates the Project is anticipated to require the following:

- Approximately 26,900 tons of debris export, including approximately 6,845 tons of building structure and 20,000 tons of pavement during demolition activities,
- Approximately 74,200 tons of materials import (primarily for infiltration basin media),
- Approximately 184,300 cubic yards (CY) of subcut/soil export (primarily infiltration basin excavation and track grading for ballast), and
- Approximately 33,400 CY of soil/concrete import (primarily for soundwalls, subcut, and track corridor).

To provide a conservative analysis, demolition-related activities are included in the assumed construction activities and evaluated herein. This analysis also assumes:

- Project construction would generate approximately 25,267 one-way truck trips.
- The construction subphases are consecutive. The truck trips per subphase would not occur concurrently except for the 3-month overlap of the utility relocations and civil improvements subphases.

- Estimates are for numbers of trucks. Therefore, the number of trucks trips would be multiplied by two for each truck (i.e., one trip inbound and one trip outbound). Therefore, Project construction would generate approximately 50,534 round truck trips.
- Almost all of the Project's traffic would be truck traffic. Assuming approximately 50,534 round truck trips and a passenger car equivalent (PCE) factor of 3.0, Project construction would generate approximately 151,602 PCE round trips.
- Construction activities would occur 22 days per month and 13 hours per day.
- Trucks would be evenly distributed throughout the day, including during the peak hours.

The soils/materials import/export quantities would be dispersed throughout the day for each subphase. Additionally, the estimated soils/materials import/export quantities (and thus the truck trips) assumed nine potential basin sites (totaling approximately 6.0 acres and providing a storage volume of approximately 11.6 acre-feet) would be constructed. Given that the storage volume required to mitigate the Project's increased runoff volume totals 2.0 acre-feet (see **Section 4.9: Hydrology and Water Quality**), not all of the basins would be constructed. Therefore, the Project's actual soils/materials import/export quantities would likely be less than one-half of the assumed quantities. Because less soils/materials import/export quantities would result in less truck trips, the estimate of truck trips is highly conservative.

CONSTRUCTION TRAFFIC – UPDATES TO ASSUMPTIONS

The minor Project refinements discussed below occurred subsequent to completion of the transportation analysis.

Basin Construction. The current Project design for stormwater runoff and water quality assumes seven potential basin sites (totaling approximately 5.3 acres and providing a storage volume of approximately 13 acre-feet) would be constructed. The construction-related transportation analysis assumed nine basins would be constructed, when likely less than one-half of the soils/materials import/export quantities, and thus less truck trips, would occur. Therefore, the transportation analysis concerning basin construction is considered conservative.

Displaced Commercial Uses. The construction-related transportation analysis assumed 31,000 square feet (SF) of displaced (i.e., demolished) commercial land uses, and not 46,000 SF, as proposed under the current Project design; see **Table 2-2: Summary of Existing Land Uses**. This change in demolition assumptions is attributed to full acquisition (as opposed to partial acquisition) of an additional property. Because the construction transportation analysis conservatively assumed all nine basin sites would be constructed, and did not take credit for the trip generation decrease associated with the additional 15,000 SF of commercial floor area, the construction-related transportation analysis is conservative.

OPERATIONS TRANSPORTATION ASSUMPTIONS

The operational transportation analysis assumed 31,000 square feet (SF) of displaced (i.e., demolished) commercial land uses, and not 46,000 SF, as proposed under the current Project design; see **Table 2-2: Summary of Existing Land Uses**. This change in demolition assumptions is attributed to full acquisition (as opposed to partial acquisition) of an additional property. Because the operations transportation analysis did not take credit for the trip generation decrease associated with the additional 15,000 SF of commercial floor area, the operations transportation analysis is conservative.

4.14.5 IMPACTS AND MITIGATION MEASURES

Impact 4.14-1: Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Level of Significance: Less Than Significant With Mitigation Incorporated

CONSTRUCTION

Existing Land Use Displacement

Trip generation is typically calculated based on data from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* (ITE 2017), which is a standard reference used by jurisdictions nationally to estimate trip generation potential for a proposed project. The *Trip Generation Manual* defines a trip as a single or one-directional vehicle movement with either the origin or destination at a project site. In other words, a trip can be either "to" or "from" the site and therefore, a single visitor to a site is counted as two trips.

The Project does not propose to increase BNSF line operations. It would increase the A Yard's operational efficiency and no employment increase is expected. Therefore, the proposed Project would not generate vehicle trips or change vehicle travel patterns to or from the Project site. While Project operations would not generate any vehicle trips, the Project would displace existing land uses. Trips generated by these displaced land uses would be deducted from existing traffic volumes. Therefore, the Project would have a negative trip generation.

As indicated in **Table 4.14-3: Trip Generation Rates and Estimates**, the Project is forecast to reduce traffic by 572 trips per day (-50 AM peak hour trips and -61 PM peak hour trips). These forecast estimates are based on the relevant ITE trip generation rates for the displaced land uses. Average rates were used to determine trip generation associated with the displaced land uses. Trip generation calculation sheets are provided in Appendix B of **Appendix 9.11**.

As noted previously, the Project does not propose to redevelop the remnant parcels. Because no zone change is proposed, and the underlying/existing zoning would be retained, these parcels would be available for reuse/redevelopment in the future consistent with the existing zoning. However, there is no known proposal for redevelopment of these parcels. Therefore, analysis of transportation impacts resulting from their redevelopment would be too speculative for evaluation and no further analysis has been conducted.

TABLE 4.14-3: TRIP GENERATION RATES AND ESTIMATES										
ITE Land Use Code	Land Use	Size	Units	Daily Trips	AM Peak			PM Peak		
					Total	In	Out	Total	In	Out
Residential Land Uses										
210	Single-Family Detached Housing	-36	Dwelling Unit(s)	-340	-27	-7	-20	-36	-23	-13
220	Multifamily Housing (Low-Rise)	-7	Dwelling Unit(s)	-52	-3	-1	-2	-4	-3	-1
Commercial Land Uses										
150	Warehousing	-29.22	1,000 sf	-52	-5	-4	-1	-6	-2	-4
180	Specialty Trade Contractor	-1.66	1,000 sf	-18	-3	-2	-1	-3	-1	-2
Industrial Land Uses										
130	Industrial Park	-31.94	1,000 sf	-110	-12	-10	-2	-12	-2	-10
Total Project Trips				**-572**	**-50**	**-24**	**-26**	**-61**	**-31**	**-30**

Note: Trip Generation Data from ITE Trip Generation, 10th Edition.
Source: Kimley-Horn, 2021.

Construction Trip Generation

The Project's construction-related assumptions are detailed in the *Methodology and Assumptions* Section above.

Import/export of equipment and materials to and from the Project site would be dispersed throughout the day for each subphase and would primarily use the Freeways/Highways, Major Arterials, and Secondary Arterials; see **Exhibit 4.14-2**. A breakdown of the estimated truck trips during each subphase is presented in **Table 4.14-4: Construction Trucks Summary**. Construction assumptions are provided in Appendix A of **Appendix 9.11** and construction truck details are provided in Appendix B of **Appendix 9.11**.

TABLE 4.14-4: CONSTRUCTION TRUCKS SUMMARY						
Subphase	Total					
	Trucks	Truck Trips	PCE Trips	PCE Trips/ Month	PCE Trips/ Day	PCE Trips/ Hour
0.0: Property Demolitions	1,374	2,748	8,244	423	19	2
1.0: Utility Relocations	563	1,125	3,375	173	8	1
1.5: Subphases 1.0 + 2.0 Overlap	6,988	13,976	41,927	2,150	98	8
2.0: Civil Improvements	15,868	31,735	95,206	4,882	222	18
3.0: Track and Signal Construction	475	950	2,850	146	7	1
Total	**25,267**	**50,534**	**151,602**	**7,774**	**354**	**30**

Source: Kimley-Horn, 2021.

As indicated in **Table 4.14-3**, the greatest truck volume would occur during the civil improvements subphase, with an estimated 4,882 PCE trips per month, 222 PCE trips per day, and 18 PCE per hour. The

estimates presented in **Table 4.14-3** are conservative because they assume that all trucks are completing one-way hauls. Generally, contractors try to complete two-way hauls whenever possible to limit the times trucks are driving empty.

Approximately 20 construction workers per subphase are assumed. City of San Bernardino Municipal Code § 8.54.070 restricts construction activities to weekdays between 7:00 AM and 8:00 PM. Construction worker trips would be concentrated between 6:00 AM and 7:00 AM and between 8:00 PM and 9:00 PM. Construction worker trips during the AM and PM peak hours would be negligible.

To provide a conservative analysis, construction workers could generate as many as 20 peak hour trips during each subphase. Therefore, the maximum probable concurrent construction employment and maximum concurrent truck activity are included in the construction traffic volumes. Combined with the maximum 18 PCE trips per hour (civil improvements), the Project would generate 38 peak hour trips. As previously noted, a traffic study is warranted if a project's trip generation adds at least 500 daily trips or at least 50 AM or PM peak hour trips. Accordingly, it can be deduced that projects that do not meet these criteria would result in a less than significant impact. Because Project construction activities would generate fewer than 500 daily trips or 50 AM or PM peak hour trips, the Project's construction-related transportation impacts would be less than significant.

As previously addressed, property acquisition and demolition of existing land uses required to accommodate the proposed improvements would result in -50 AM peak hour vehicle trips, -61 PM peak hour, and -572 ADT. Although construction-related traffic would generate a maximum of 38 peak hour trips and a maximum of 222 PCE ADT during the civil improvements subphase, because property acquisition would occur prior to commencement of construction and acquired properties would be unoccupied when construction begins, the total Project and construction-related trips would still result in net negative trips. **Table 4.14-5: Project and Construction Phase Trip Generation** shows the trip generation for the proposed Project during the construction phase. The trips removed from the roadway network associated with the acquired properties is greater than the trips generated by construction activities. Therefore, the Project's construction-related transportation impacts would be less than significant.

TABLE 4.14-5: Project and Construction Phase Trip Generation

ITE Land Use Code	Land Use	Size	Units	Daily Trips	AM Peak			PM Peak		
					Total	In	Out	Total	In	Out
Residential Land Uses										
210	Single-Family Detached Housing	-36	Dwelling Unit(s)	-340	-27	-7	-20	-36	-23	-13
220	Multifamily Housing (Low-Rise)	-7	Dwelling Unit(s)	-52	-3	-1	-2	-4	-3	-1
Commercial Land Uses										
150	Warehousing	-29.22	1,000 sf	-52	-5	-4	-1	-6	-2	-4
180	Specialty Trade Contractor	-1.66	1,000 sf	-18	-3	-2	-1	-3	-1	-2

TABLE 4.14-5: Project and Construction Phase Trip Generation										
ITE Land Use Code	Land Use	Size	Units	Daily Trips	AM Peak			PM Peak		
					Total	In	Out	Total	In	Out
Industrial Land Uses										
130	Industrial Park	-31.94	1,000 sf	-110	-12	-10	-2	-12	-2	-10
Total Project Trips				**-572**	**-50**	**-24**	**-26**	**-61**	**-31**	**-30**
Construction Truck Traffic (Civil Improvements Subphase)				222	18	9	9	18	9	9
Construction Worker Traffic (Civil Improvements Subphase)				40	20	20	0	20	0	20
Total Project and Construction Trips				**-310**	**-12**	**5**	**-17**	**-23**	**-22**	**-1**

Note: Trip Generation Data from ITE Trip Generation, 10th Edition.
Source: Kimley-Horn, 2019.

Construction Staging and Traffic

Construction-related traffic, equipment, and materials would be stored at the construction staging areas along the lead track extension; see Appendix A of **Appendix 9.11**. The following describes the three proposed staging areas:

- Staging Area 1 – Located on the properties proposed for acquisition from 21st Street to Massachusetts Avenue;
- Staging Area 2 – On the properties proposed for acquisition from West 16th Street to Baseline Street, and
- Staging Area 3 – On the properties proposed for acquisition from approximately 165 feet south of 7th Street to 6th Street.

As previously discussed, the City of San Bernardino does not designate truck routes. To avoid or reduce conflicts between construction traffic and nearby land uses, Project-related construction vehicles would use the following study area designated Freeways/Highways, Major Arterials, and Secondary Arterials for access to/from the Project area: I-215, SR-210, State Street/University Parkway, California Street, Medical Center Drive, Mount Vernon Avenue, H Street, North G Street, North E Street, 5th Street, 9th Street, Base Line Street, 16th Street, Highland Road, and Cajon Boulevard.

Truck deliveries would occur intermittently throughout the day, and consistent with SBMC § 8.54.070, would be restricted to weekdays between 7:00 AM and 8:00 PM. Further, SBGP Policy 6.5.2 states "continue to regulate on-street parking of trucks to prevent truck parking on residential streets or in other locations where they are incompatible with adjacent land uses." Appendix A of **Appendix 9.11** shows the proposed construction staging areas where construction traffic would park vehicles to minimize impacts to the nearby residential areas. BNSF would be required to comply with Caltrans, City of San Bernardino, and other relevant jurisdictions concerning limitations for encroachment into the public ROW and secure the necessary encroachment permits.

To minimize potential effects on study area roadways/intersections associated with the transport of hazardous materials by oversized or overweight trucks, BNSF would be required to secure all applicable permits/licenses from the California Highway Patrol and Caltrans. To further ensure Project compliance

with weight, size, time of movement, and route restrictions established by the City, County, and Caltrans, Mitigation Measure TRA-1 would be incorporated. Mitigation Measure TRA-1 requires that BNSF provide documentation of the necessary transportation permits in order that project-related construction traffic does not conflict with nearby land uses. Impacts would be reduced to a less than significant level.

The Project would also be required to comply with Mitigation Measure TRA-2, which requires preparation and implementation of a Traffic Management Plan (TMP). BNSF would be required to submit the TMP to the City and each affected jurisdiction for review and approval. The TMP, which would be implemented during all construction phases, would include traffic and parking management techniques to reduce construction-related traffic disruptions and congestion around the Project area. At a minimum, the TMP would address traffic flow route and timing, site and surrounding property access, on-site parking, and traffic control. Construction-related traffic impacts on existing circulation patterns and intersections and roadways would be less than significant.

Overall, Project implementation would not conflict with adopted plans, policies or programs concerning circulation patterns and intersection and roadways levels of service. With implementation of Mitigation Measures TRA-1 and TRA-2, the Project's construction-related transportation impacts would be less than significant.

OPERATIONS

Project Trip Estimates

The Project does not propose to increase BNSF line operations. It would increase the A Yard's operational efficiency and, as a result, no employment increase is expected. With the proposed improvements, the A Yard would have capacity to assemble and hold outbound trains and switch out the yard without fouling the mainline.

Because the Project would result in the removal of existing land uses, Project implementation is forecast to reduce traffic by 572 vehicle trips per day (-50 AM peak hour vehicle trips, -61 PM peak hour vehicle trips), as indicated in **Table 4.14-3**. As noted previously, the Project does not propose to redevelop the remnant parcels. There is no known proposal for redevelopment of these parcels. Therefore, analysis of transportation impacts resulting from their redevelopment would be too speculative for evaluation and no further analysis has been conducted.

Since the proposed Project would decrease vehicle trips on the roadway network through the removal of existing buildings, Project implementation would result in a less than significant impact on levels of service at study area intersections and roadways during Project operations.

Project Circulation and Roadway Changes

To accommodate the proposed rail improvements, the proposed Project includes circulation and roadway improvements and modifications to multiple City roadways, including street vacations, realignments, and cul-de-sacs, as follows:

- Relocation of the existing roadway bend at J Street and 17th Street to the southwest and subsequently aligning the north side of the roadway bend with the proposed BNSF ROW. This modification would not change circulation patterns or access to properties.

- North I Street would be vacated from 10th Street to 11th Street, and from 14th Street to Evans Place.
- Because of the vacation of North I Street, access to North I Street would be closed off and cul-de-sacs would be constructed at Evans Place, 15th Street, Magnolia Avenue, 14th Street, and Olive Street. Alternative north-south access would be available via North J Street and North Perris Street to access land uses between these roadways. The Project proposes to vacate the existing land uses for parcels directly adjacent to North I Street where access would be removed; access to these properties would no longer be required.
- Because of the vacation of North I Street, access to North I Street would be closed off and cul-de-sacs would be constructed at 10th Street. Alternative north-south access would be provided from North J Street to access land uses between these roadways. A driveway extension would be needed from the proposed cul-de-sac for one affected property. Alternative driveway access may also be provided on Montgomery Street.
- The 11th Street at Harris Street intersection would be reconstructed from a T-intersection to a roadway bend, connecting Harris Street to the west leg of 11th Street. 11th Street between Harris Street and the existing railroad corridor would be vacated. Alternative north-south access would be available from North J Street and Harris Street to access land uses. The Project proposes to vacate the existing land uses for parcels directly adjacent to North I Street and 11th Street where access would be removed; access to these properties would no longer be required.
- North I Street from 7th Street to 8th Street would be vacated and relocated to the west and aligned with the ROW on the east side of North I Street. The remaining ROW between relocated North I Street and the railroad corridor would be vacated. Therefore, access to these properties would no longer be required.
- Various remnants of City ROW that do not impact roadway circulation (i.e., portions of dead-end streets, remnant portions of ROW resulting from the construction of I-215) would also be vacated.
- Additional street vacations and a cul-de-sac, which are required for the Project but are already in process associated with other project per City of San Bernardino Resolution 2018-20, are as follows:
    - Home Avenue is proposed to be vacated from North I Street to approximately 200 feet west of North I Street. A cul-de-sac would be constructed at Home Avenue's new terminus.
    - North I Street is proposed to be vacated from Home Avenue to 14th Street.

Proposed street vacations and construction of cul-de-sacs would occur prior to commencing Project construction. To provide a conservative analysis, the impacts associated with these improvements are included with the Project's assumed improvements and are evaluated in the EIR.

Easement access would be provided along portions of the vacated roadways to maintain access to utilities for maintenance purposes.

Pedestrian Facilities

The Project would remove existing sidewalks along the west side of North I Street between 10th Street and 11th Street, and between 14th Street and Evans Street, as well as the existing development on the parcels that front these existing sidewalks. Additionally, the new/modified roadways would be constructed pursuant to City standards, including the provision of new sidewalks along the new roadways, as well as portions of relocated I Street where sidewalks did not previously exist. Because all improvements would be consistent with City standards, the proposed Project would not conflict with any program plan, ordinance, or policy addressing pedestrian facilities, and existing sidewalks and pedestrian facilities would continue to exist in the general vicinity. Therefore, the Project would result in a less than significant impact concerning pedestrian facilities.

Bicycle Facilities

SBGP Figure PRT-2 depicts the City's existing and proposed bicycle facilities and indicates there are two bicycle routes (Cajon Boulevard and Baseline Street) and two local multi-purpose trails (Highland Avenue and Mount Vernon Avenue) near the Project site. However, none of the bicycle facilities are along the portions of roadways proposed for vacation or modification, including North I Street. The proposed Project improvements would not impact bicycle facilities. Therefore, the proposed Project would not conflict with adopted plans, policies, or programs regarding bicycle facilities and no impact would occur.

Transit Facilities

There are no transit service routes along the portions of roadways identified for vacation or modification, including North I Street. Realigning or vacating sections of North I Street would not impact transit service routes. The nearest transfer points and bus stops would not be impacted by the Project. Therefore, Project implementation would not conflict with adopted plans, policies or programs regarding transit facilities and no significant impacts would occur.

Mitigation Measures

MM TRA-1 **Oversized Vehicles**. Prior to Grading Permit issuance, BNSF (or its designee) shall comply with Caltrans, the City of San Bernardino, and other relevant jurisdictions concerning limitations on vehicle sizes and weights. In addition, BNSF (or its designee) shall secure the necessary transportation permits for roadway use.

MM TRA-2 **Traffic Management Plan (TMP).** At least 60 days prior to start of site mobilization, BNSF (or its designee) shall submit the TMP to the City of San Bernardino and each affected jurisdiction for review and approval. The TMP, which shall be implemented during all construction phases, shall include traffic and parking management techniques to reduce construction-related traffic disruptions and congestion around the Project area. The TMP shall at a minimum address the following factors:

- Traffic Flow Route and Timing: Local and alternate routes and emergency access. Haul routes based on construction staging areas and City-designated routes. Timing heavy construction equipment and building material deliveries.
- Site and Surrounding Property Access: Vehicle access and circulation.
- On-site Parking: Construction worker parking lot assignment.

- Traffic Control: Street and intersection controls (e.g., flag persons, temporary travel lane closure, etc.).

Impact 4.14-2: Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

Level of Significance: Less Than Significant Impact

OPERATIONS

Based on the City's Guidelines, a VMT analysis should be conducted for land use projects that have the potential to increase the average VMT per service population (e.g., population plus employment) compared to the City boundary. There are three types of screening that lead agencies can apply to effectively screen projects from project-level assessment: Transit Priority Area (TPA) Screening; Low VMT Area Screening; and Project Type Screening. Based on Project Type Screening, projects generating less than 110 daily vehicle trips can also be screened from project-level analysis.

The Project would both generate fewer than 110 trips per day and replace existing VMT-generating land uses. As many as 43 DU, six commercial buildings (approximately 46,000 SF), and three industrial buildings (approximately 32,000 SF) would be acquired to accommodate the proposed Project. Because the Project would remove these existing land uses, the Project is forecast to decrease traffic by 572 trips per day (see **Table 4.14-3: Trip Generation Rates and Estimates**), thus, leading to a proportionate decrease in VMT. Additionally, the Project does not propose to increase BNSF line operations, rather, it would increase the A Yard's operational efficiency and, as a result, no employment increase is expected.

Because the Project would both generate fewer than 110 trips per day and replace existing VMT-generating land uses, leading to a net overall decrease in VMT, the Project would result in a less-than-significant transportation impact concerning VMT.

Mitigation Measures

No mitigation is required.

Impact 4.14-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project was evaluated to determine if the proposed roadway improvements would result in a substantial increase in hazards due to a geometric design (e.g., sharp curves or dangerous intersections). The Project proposes to remove three segments of North I Street: (1) between 7th Street and 8th Street; (2) between 10th Street and 11th Street; and, (3) between Home Avenue and Evans Street. Current intersections along these three segments would be converted into cul-de-sacs.

As discussed in Impact 4.14-1, to accommodate the proposed rail improvements, the Project would result in circulation and roadway improvements and modifications to multiple City roadways, including

vacations, realignments, and cul-de-sacs. The following discusses the proposed roadway improvements and modifications and resulting access and circulation impacts, if any:

- Relocation of the existing roadway bend at J Street and 17th Street:
  - No impacts or changes to circulation or property access.
- Construction of cul-de-sacs:
  - Due to the vacation of North I Street, cul-de-sacs would be provided at Evans Place, 15th Street, Magnolia Avenue, 14th Street, Home Avenue, and Olive Street. Alternative north-south access would be available via North J Street and North Perris Street, which may be used to access land uses between these roadways. The Project proposes to vacate the existing land uses for parcels directly adjacent to North I Street where access would be removed, therefore eliminating the need for vehicle access.
  - Due to the vacation of North I Street, a cul-de-sac would be provided at 10th Street. Alternative north-south access would be available via North J Street, which may be used to access land uses between these roadways. A driveway extension would be needed for Property #56 to extend the driveway access to the proposed cul-de-sac. Alternative driveway access may also be provided on Montgomery Street.
  - Results in no significant impacts to property access with mitigation incorporated concerning alternative driveway access.
- Reconstruction of Harris Street and 11th Street to a roadway bend:
  - Due to the vacation of North I Street, access to North I Street would no longer be needed. Alternative north-south access would be available via North J Street and Harris Street, which may be used to access land uses. The Project proposes to vacate the existing land uses for parcels directly adjacent to North I Street and 11th Street where access would be removed, thus, eliminating the need for vehicle access to those parcels.
  - Results in no significant impacts or changes to circulation or property access.
- Relocation of North I Street between 7th Street and 8th Street:
  - Results in no significant impacts or changes to circulation or property access.

As previously noted, the Home Avenue cul-de-sac (and certain street vacations) that are required for the Project but are already in process by others would occur prior to commencing Project construction. However, to provide a conservative analysis, the impacts associated with the Home Avenue cul-de-sac (and certain street vacations) are included with the Project's assumed improvements and evaluated herein.

In general, parcels with existing access from these removed roadways would also be acquired/removed; therefore, no impacts would occur to the remaining parcels.

The proposed roadway improvements would be subject to compliance with the City of San Bernardino Public Works standards for cul-de-sacs, roadway bends/knuckles, and roadway segments. Following compliance with City of San Bernardino standards, no potential safety hazards would occur. Final plan sets would be reviewed to verify compliance with the City's standards to avoid any potential safety hazards. Since no potential safety hazards are identified, the Project would have a less than significant impact.

Mitigation Measures

No mitigation is required.

Impact 4.14-4: Would the project result in inadequate emergency access?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The Project was evaluated to determine if proposed roadway improvements would impact access for emergency vehicles. As discussed in Impact 4.14-1, the Project would result in circulation and roadway improvements and modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs. The Project proposes to remove existing development on parcels adjacent to the vacated roadways therefore eliminating the need for vehicle access in these locations. The proposed roadway improvements would be subject to compliance with the City of San Bernardino Public Works standards for cul-de-sacs, roadway bends/knuckles, and roadway segments. Final plan sets would be reviewed to verify compliance with the City's standards to avoid any emergency access restrictions.

The Project is not anticipated to result in emergency access impacts during construction or operations. Unimpeded access throughout the Project site would be maintained; construction equipment and materials would not be parked or placed in a manner that would impede access for emergency response vehicles. Site conditions, during and after the workday, would be maintained or left in a condition that adheres to Division of Occupational Safety and Health (better known as Cal/OSHA) safety standards to prevent hazardous conditions for construction staff and emergency responders. Since the Project would not affect access for emergency vehicles, the Project would result in a less than significant impact.

Mitigation Measures

No mitigation is required.

4.14.6 CUMULATIVE IMPACTS

For purposes of transportation analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning transportation in SBGP EIR Section 5.14, *Traffic and Circulation*. The following is a summary of the expected environmental effects:

- Build-out could impact levels of service for the existing roadway system. This impact was concluded to be less than significant with mitigation incorporated.
- Build-out could impact designated intersections, roads, and/or highways in excess of County congestion management agency standards. This impact was concluded to be significant.
- Build-out could change air traffic patterns that would result in safety risks. This impact was concluded to be less than significant.

- Build-out could result in potentially hazardous conditions, potentially conflicting uses, and impacts to emergency access. This impact was concluded to be less than significant.
- Build-out could result in a need for increased parking. This impact was concluded to be less than significant.
- Implementation of the Arrowhead Springs Specific Plan (AHS) could impact designated intersections, roads, and/or highways exceeding county congestion management agency standards. This impact was concluded to be less than significant.

Development within the City's planning area could conflict with a program plan, ordinance, or policy addressing the circulation system, conflict with CEQA Guidelines § Section 15064.3, subdivision (b), increase hazards due to a geometric design feature, or result in inadequate emergency access. Potential transportation impacts associated with the individual developments would be specific to each site. As with the Project, cumulative development would undergo environmental and design review on a project-by-project basis pursuant to CEQA to evaluate potential transportation impacts. All development would be subject to compliance with the existing federal, state, and local regulatory framework. As such, cumulative transportation impacts would be mitigated on a project-by-project basis, and in accordance with the established regulatory framework.

- Concerning the significant unavoidable impact to designated intersections, roads, and/or highways resulting from SBGP implementation, with recent changes to the State CEQA Guidelines, automobile delay, as measured by LOS, no longer constitutes a significant environmental effect under CEQA. Additionally, the Project's incremental contribution would not be cumulatively considerable given the Project is forecast to decrease traffic by 572 trips per day, thus, no increases in traffic volumes or VMT would occur. The Project would not cause a cumulatively significant effect concerning transportation impacts.
- Therefore, the combined cumulative transportation impacts associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.14.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning transportation have been identified.

4.14.8 REFERENCES

City of San Bernardino. (2005). *City of San Bernardino General Plan.* San Bernardino, CA: City of San Bernardino Development Services.

City of San Bernardino. (2005). *San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report.* San Bernardino, CA: The Planning Center.

Kimley-Horn and Associates. (February 2021). *Transportation Analysis*, *BNSF Ono Lead Track Extension Project.*

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4.15 TRIBAL CULTURAL RESOURCES

4.15 TRIBAL CULTURAL RESOURCES

4.15.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to tribal cultural resources, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

This section is primarily based on cultural and tribal cultural resources data provided in **Appendix 9.5: Cultural Resources Data**, and **Appendix 9.12: Tribal Communications**.

4.15.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Natural Setting

The City of San Bernardino (City) is in the eastern portion of the San Bernardino Valley, a broad inland valley extending from the southern base of the San Bernardino and San Gabriel Mountains on the north to the Santa Ana Mountains and the Jurupa Mountains on the south.

The Project area lies across the City's central and northern portions, just north of the BNSF San Bernardino Intermodal Yard. The area around the Project's southern track segment is urban in character, featuring older, closely spaced residential properties and small businesses, while the Project site's northern track segment is surrounded by larger lots, stretches of vacant land, and roadside commercial establishments. The portion of the BNSF right-of-way (ROW) contains an existing integrated three- and four-track railroad system, and the adjacent parcels included in the Project area include vacant land and developed parcels including commercial, industrial, or residential buildings.

The ground surface in the Project area has been extensively disturbed by past construction and development activities. Elevations range from 1,086 and 1,400 feet above mean sea level, inclining to the north over relatively level terrain. Vegetation includes introduced landscaping plants around buildings and tumbleweeds, foxtails, wild mustard, and other low grasses on undeveloped land and scattered along the railway ROW. The native soils consist of light gray to brown, fine- to medium-grained loamy sands mixed with small rocks, with imported gravel over much of the railroad ROW.

Ethnography

Present-day San Bernardino area is a part of the homeland of the Serrano Indians, whose traditional territory is centered at the San Bernardino Mountains but also includes the southern rim of the Mojave Desert and most of the San Bernardino Valley. The name "Serrano" was derived from the Spanish word for "mountaineer" or "highlander." The proposed project area exists within Serrano ancestral territory and, therefore, is of interest to the Tribe.

Prior to European contact, the Serrano were primarily gatherers and hunters, and occasional fishers, who settled mostly on elevated terraces, hills, and finger ridges near where flowing water emerged from the mountains. They were loosely organized into exogamous clans, which were led by hereditary heads; the clans were affiliated with one of two exogamous moieties. The exact nature of the clans, their structure, function, and number are not known, except that each clan was the largest autonomous

political and landholding unit, the core of which was the patrilineage. There was no pan-tribal political union among the clans.

With respect to subsistence-related tools, mortars and pestles were more prevalent at mountain sites as opposed to lower valley sites because acorns were processed in the mountains. Bedrock milling features, manos, and metates might be more common in the lower elevations where they were used to process seeds found in that area. Larger projectile points and associated manufacturing debitage accompanying with hunting of large game are likely to be found in greater quantities at mountain sites, whereas smaller points associated with hunting of small game could be more excessively represented at lower elevations.

Although contact with Europeans may have occurred as early as 1771-1772, Spanish influence on Serrano lifeways was negligible until the 1810s, when a mission asistencia[1] was established on the Serrano territory's southern edge. Between 1810 and the end of the mission era in 1834, most of the Serrano were removed to the nearby missions. At present, most Serrano descendants are found on the San Manuel and the Morongo Indian Reservations, where they participate in ceremonial and political affairs with other Native American groups on an inter-reservation basis. Many California Missions had extensions, or sub-missions (asistencias), or ranchos (estancias), created to extend the missions' reach and serve a larger community.

4.15.3 REGULATORY FRAMEWORK

FEDERAL

National Historic Preservation Act of 1966

Enacted in 1966 and amended in 2000, the National Historic Preservation Act (NHPA) declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the Federal, State, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer (SHPO) and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage and created the Advisory Council on Historic Preservation (ACHP).

STATE

Traditional Tribal Cultural Places Act (Senate Bill 18)

Senate Bill 18 (SB 18), enacted in 2004, requires cities and counties to contact, and consult with California Native American tribes prior to amending or adopting any general plan or specific plan, or designating land as open space. The Project does not propose to adopt a general plan or specific plan, or designate land as open space; therefore, SB 18 does not apply to the Project.

[1] CRM Tech. (March 2018). Historical/Archaeological Resources Survey Report Burlington Northern Santa Fe Railway Ono Lead Track Extension Project. page 4. Colton, CA: Bai Tom Tang, Michael Hogan.

California Environmental Quality Act

Concerning historical and archaeological resources, the California Environmental Quality Act (CEQA) includes explicit standards for determining when a resource is "historically significant" or "unique," as well as when an impact to such a resource is significant. As of July 1, 2015, CEQA also includes requirements for Tribal cultural resources through Assembly Bill (AB) 52, which is discussed below.

CEQA Guidelines § 15064.5, *Determining the Significance of Impacts to Archaeological and Historical Resources*, describes the steps public agencies must take to consider their actions' effects on both "historical resources" and "unique archaeological resources." First, it must be determined whether such resources are present. Secondly, it must be determined if the project would cause a "substantial adverse change" in the significance of these resources. Finally, the Guidelines include requirements for how to treat identified resources. The City reviews all development applications for conformance with CEQA.

On September 25, 2014, the California legislature approved AB 52, which added new requirements to the Public Resources Code and CEQA regarding tribal cultural resources. The Public Resources Code now establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code § 21084.2.). To help determine whether a project may have such an effect, the Public Resources Code, as amended by AB 52, requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. Consultation must take place prior to the determination of whether a negative declaration (ND), mitigated negative declaration (MND), or Environmental Impact Report (EIR) is required for a project (Public Resources Code § 21080.3.1.). If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code § 20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources. These new rules apply to projects that have a Notice of Preparation (NOP) for an EIR, ND, or MND filed on or after July 1, 2015 (OPR 2015).

Assembly Bill (AB) 52 – Requirements for Consultation and Tribal Cultural Resources

As of July 1, 2015, Public Resources Code §§ 21080.3.1 and 21080.3.2 require public agencies to formally notify and potentially consult with California Native American tribes that have requested that the lead agency notify them of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe. This law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions.

In accordance with Public Resources Code § 21080.3.1(d), formal notification must no later than 14 days following the proposed project application being deemed complete and include a brief description of the proposed project and its location; the lead agency contact information; and, a notification that the California Native American tribe has 30 days to request consultation. If consultation is requested, the Lead Agency and tribe are to meet within 30 days to discuss ways to avoid or mitigate potential project impacts on tribal cultural resources.

Lead agencies should also include information regarding any cultural resources assessment that has been completed on the project site, such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
    - A listing of any and all known cultural resources have already been recorded on or adjacent to the project site;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - If the probability is low, moderate, or high that cultural resources are located on the project site;
    - Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located on the potential project site; and
    - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
    - Any report that may contain site forms, site significance, and suggested mitigation measures; or
    - All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with California Government Code § 6254.10.
3. The results of any Sacred Lands File check conducted through the Native American Heritage Commission (NAHC).
4. Any ethnographic studies conducted for any area including all or part of the potential project site.

California Health and Safety Code § 7050.5

California Health and Safety Code (CHS) § 7050.5 requires that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or site disturbance or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to the provision of California Government Code § 27491 or any other related provisions of law concerning investigation of the circumstances, manner, and cause of death. If the coroner determines that the remains are that of a Native American or has reason to believe that they are those of a Native American, he or she shall contact the NAHC by telephone within 24 hours.

California Public Resources Code § 5097.98

Public Resources Code § 5097.98 stipulates that whenever the NAHC receives notification concerning discovery of Native American human remains from a county coroner pursuant to CHS § 7050.5, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the land owner's permission, or his or her authorized

representative, inspect the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with the appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 48 hours of their notification by the NAHC. The recommendation may include the scientific removal and non-destructive analysis of human remains and items associated with Native American burials. The NAHC would designate the Most Likely Descendant (MLD) for any future human remains found in the project area.

LOCAL

City of San Bernardino General Plan

Land Use Element

While the City does not have land use jurisdiction over Indian lands, their location within the framework of the Citywide land use network requires a coordinated planning effort.

Goal 2.5: Enhance the aesthetic quality of land uses and structures in San Bernardino.

Policy 2.5.2: Continue collaboration with the San Manuel Indians and County of San Bernardino to achieve acceptable development quality within San Bernardino's sphere of influence.

Policy 2.5.3: Partner with the San Manuel Indians to jointly promote opportunities in the area and to address the needs of future developments in areas surrounding tribal lands.

4.15.4 SIGNIFICANCE CRITERIA UNDER CEQA

Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) (refer to Impact 4.15-1), or A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe (refer to Impact 4.15-1).

Based on these thresholds, the Project's effects have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is deemed a significant and unavoidable impact.

METHODOLOGY AND ASSUMPTIONS

The proposed Project involves the extension of the existing A Yard lead track as a fourth track parallel to three existing tracks running from the BNSF San Bernardino Intermodal Facility A Yard, to two existing Ono Storage Sidings near the State Street/University Parkway Grade Separation. The approximately

3.1-mile final track and all its components are analyzed as 12 separate segments. Each segment may be closer to different service facilities or within different service zones. Separating the proposed track into segments allows the Project to be analyzed in specific portions and areas, and as a whole as applicable.

The proposed Project is evaluated against the aforementioned significance criteria as the basis for determining the level of impacts related to tribal cultural resources. This analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards (LORS)) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite compliance with the regulatory framework, feasible mitigation measures are recommended to avoid or reduce the Project's potentially significant environmental impacts.

4.15.5 IMPACTS AND MITIGATION MEASURES

Impact 4.15-1:	**Would the Project cause a substantial adverse change in the significance of a tribal cultural resource that is:** • **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or** • **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**
Level of Significance: Less Than Significant with Mitigation Incorporated	

In compliance with Public Resources Code § 21080.3.1(b), the City sent AB 52 invitations for consultation to the following California Native American tribes:

- Gabrieleño Band of Mission Indians - Kizh Nation
- San Manuel Band of Mission Indians.
- Soboba Band of Luiseño Indians

The City received an AB 52 request for consultation from the following California Native American tribe:

- San Manuel Band of Mission Indians.

The San Manuel Band of Missions Indians, upon review of the Project Geotechnical Report, Cultural Resources Report, and Project exhibits, concluded that it is highly unlikely to disturb previously unknown tribal cultural resources, especially given the amount of existing disturbance and since between 2.0 and 5.0 feet of artificial fill is located within the Project footprint. The Project site is an urban developed environment and on-site properties have previously involved grading activities such as over-excavation, deep excavation for foundation support, and scarifying. These activities would have disturbed substantial amounts of material such that the likelihood of there being an unknown tribal cultural resource is low. Additionally, proposed excavations would generally be less than 5.0 feet deep except at basins, ditches, and utility installations. Nonetheless, a previously unknown tribal cultural resource may

be discovered during ground disturbing activities. With implementation of Mitigation Measures TCR-1 and TCR-2 (see also CUL-1 and CUL-2), potential impacts to tribal cultural resources would be less than significant.

Native American coordination and cultural resource analyses conducted for the Project (CRM TECH 2018, Brunzell Historical 2019, and BCR Consulting LLC 2019) did not identify a tribal cultural resource, listed in or eligible for listing in the CRHR or local register, that would undergo substantial adverse change as a result of the Project. Therefore, no impact would occur in this regard.

As concluded in **Section 4.4: Cultural Resources**, the Project's impacts to the only historical resource within the Project area (Site 36-002910) would be less than significant. Therefore, the Project would not cause a substantial adverse change in the significance of a resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

Mitigation Measures

MM TCR-1 **Monitoring and Treatment Plan and Native American Monitor/Consultant**: The San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) and City of San Bernardino shall be contacted (see also CUL-1 and CUL-2) if any pre-contact cultural resources are discovered during ground disturbing activities, and be provided information regarding the nature of the find, so as to provide Tribal input concerning significance and treatment. Should the find be deemed significant, as defined by CEQA, a cultural resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with SMBMI, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents SMBMI for the remainder of the project, should SMBMI elect to place a monitor on-site.

MM TCR-2 **Provide Records and Consultation:** Any and all archaeological/cultural documents generated as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to SMBMI. The Lead Agency and/or applicant shall, in good faith, consult with SMBMI throughout the life of the project.

4.15.6 CUMULATIVE IMPACTS

For purposes of tribal cultural resources analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning archaeological resources in SBGP EIR Section 5.4, *Cultural Resources*. The SBGP EIR does not directly address tribal cultural resources. The following is a summary of the expected environmental effects:

- Build-out could result in impacts to sensitive archaeological resources. This impact was concluded to be less than significant with mitigation incorporated.

- Build-out grading activities could disturb human remains. This impact was concluded to be less than significant with mitigation incorporated.

Development within the City's planning area could cause a substantial adverse change in the significance of an archaeological/tribal cultural resource or disturb human remains. Potential tribal cultural resource impacts associated with the individual developments would be specific to each site. As with the Project, cumulative development would undergo environmental review on a project-by-project basis, including AB 52 and SB 18 consultation, as needed, pursuant to CEQA to evaluate potential impacts to tribal cultural resources. All development would be subject to compliance with the existing federal, state, and local regulatory framework concerning the protection of tribal cultural resources, including concerning Native American consultation. Additionally, implementation of site-specific mitigation would reduce potential project impacts to as-yet unidentified archaeological resources to less than significant levels. As such, cumulative impacts to tribal cultural resources would be mitigated through Native American consultation and recommended measures on a project-by-project basis, and in accordance with the established regulatory framework.

Therefore, the combined cumulative impacts to tribal cultural resources associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework, which includes Native American consultation, and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.15.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts concerning tribal cultural resources have been identified.

4.15.8 REFERENCES

BCR Consulting LLC. (2019). *Cultural Resources Assessment Addendum for the BNSF Railway Ono Lead Track Extension Project, San Bernardino, California (BCR Consulting Project No. KIM1811)*. Claremont, CA: BCR Consulting LLC.

Brunzell Historical. (2019). *Preliminary Results, BCR BNSF Ono Track Extension Historical Evaluation, San Bernardino, San Bernardino, County, California*. Napa, CA: Brunzell Historical.

City of San Bernardino. (2005). *City of San Bernardino General Plan.* San Bernardino, CA: City of San Bernardino Development Services.

_____. (2005). *San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report.* San Bernardino, CA: The Planning Center.

CRM TECH. (2018). *Historical/Archaeological Resources Survey Report Burlington North Santa Fe Railway Ono Lead Track Extension Project*. Colton, CA: Bai Tom Tang, Michael Hogan.

4.16 UTILITIES AND SERVICE SYSTEMS

4.16 UTILITIES AND SERVICE SYSTEMS

4.16.1 INTRODUCTION

The purpose of this section is to describe the existing regulatory and environmental conditions related to utilities and service systems, identify potential impacts that could result from Project implementation, and as necessary, recommend mitigation to avoid or reduce the significance of impacts.

4.16.2 AFFECTED ENVIRONMENT

REGIONAL SETTING

Water

The regional water agency for the region is the San Bernardino Valley Municipal Water District (SBVMWD). Since its formation in 1954, SBVMWD has provided the San Bernardino County (County) area with long-range water supply management services. These services include water importation, groundwater maintenance, and the coordination of water delivery to retail agencies and residents within its service area. Covering a service area of approximately 325 square miles – most in the County's southwest portion, the SBVMWD service area includes 12 cities and communities, including the City of San Bernardino.[1]

The SBVMWD does not provide water directly to retail water customers; services are provided to local retail water agencies, who then provide water directly to retail water customers. For the City of San Bernardino (City), the local retail water agency is the City of San Bernardino Municipal Water Department (SBMWD). The SBMWD has a service area of approximately 45 square miles with a service population of approximately 200,000 persons inclusive of the City and unincorporated portions of the County.[2] The SBMWD provides potable water and wastewater treatment and collection services to its service area with recycled water programs planned for future development.

To provide further information regarding service levels and resource availability, the *2015 San Bernardino Valley Regional Urban Water Management Plan* (RUWMP) was prepared by the SBVMWD for the agencies within the SBVMWD service area. The RUWMP assesses the sufficiency of water supplies in comparison with observed and predicted demand.

Imported Water. The SBMWD is able to import water from the California State Water Project (SWP) via the SBVMWD. The SWP is a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants. Seventy percent of the contracted water supply from the SWP goes to urban customers and 30 percent serves agricultural uses.[3]

There is a maximum amount of water that SWP is contractually allowed to provide to their contractors. Referred to as their "Table A" amount, Table A water levels are affected by the area's hydrologic

[1] San Bernardino Valley Municipal Water District. (2019). *What We Do*. Retrieved from https://www.sbvmwd.com/about-us/what-we-do

[2] San Bernardino Valley Municipal Water District. (2016). *2015 San Bernardino Valley Regional Urban Water Management Plan*. Page 1-10. Rancho Cucamonga, CA: Water Systems Consulting, Inc.

[3] San Bernardino Valley Municipal Water District. (2016). *2015 San Bernardino Valley Regional Urban Water Management Plan*. Page 2-1. Rancho Cucamonga, CA: Water Systems Consulting, Inc.

conditions, commonly analyzed as "single dry year, multiple dry year, and single wet year" conditions. The Table A water supplies expected to be delivered to the SBVMWD have been projected in five-year increments from 2020 to 2040. For each five-year increment, the SWP is anticipating that it will deliver 63,000 AFY to the SBVMWD. These annual deliveries would constitute 61 percent of their contract's available Table A water. This amount takes into consideration single dry year, single wet year, and multiple wet year amounts. The imported water from SWP is used entirely to recharge the Bunker Hill Basin.

Groundwater. Approximately 60 percent of the regional water needs are met by local groundwater supplies.[4] Further, the SBMWD relies on groundwater for 100 percent of its water supplies. The SBMWD also attains all of its groundwater from the San Bernardino Basin Area (SBBA).[5] From the groundwater sources found in this area, water agencies extract 167,238 AFY of water or 72.05 percent of the safe yield from groundwater sources.[6] Water agencies, like SBMWD, can extract more than that amount as long as they replenish those sources with an equal amount of water afterwards. If the agencies' use of the groundwater sources is less than the safe yield, they create a groundwater "credit." That level of usage would not require recharging of the sources from the water agencies. **Table 4.16-1: SBMWD Projected Water Supplies** identifies SBMWD's water demands from 2015 to 2040 in five-year increments. The 2015 demands were the final measured amounts, with 2020 to 2040 serving as projected water demands.

Recycled Water. As noted in **Table 4.16-1**, the SBMWD does not use recycled water for potable use and does not have a recycled water program. However, there are plans to expand recycled usage in the future. The SBMWD plans to incorporate up to 5,600 AFY of recycled water by 2020.[7] This water would primarily serve to supplement groundwater recharge. There are plans to incorporate the recycled water in other non-potable uses such as landscaping and irrigation.

TABLE 4.16-1: SBMWD PROJECTED WATER SUPPLIES (AFY)

Demand	2015	2020	2025	2030	2035	2040
Groundwater - Potable and Raw Water	36,035	52,671	54,730	56,866	59,082	59,082
Recycled Water – Landscape/Irrigation	0	2,800	2,800	2,800	2,800	2,800
Recycled Water – Other (Sales)	0	2,800	5,000	7,500	10,000	10,000
Recycled Water – Groundwater Recharge	0	0	4,300	8,300	12,200	18,700
Total Demand	36,035	58,271	66,830	75,466	84,082	90,582

Source: San Bernardino Valley Municipal Water District. (2016). Table 10-17 and Table 10-18. 2015 San Bernardino Valley Regional Urban Water Management Plan. Page 10-19. Rancho Cucamonga, CA: Water Systems Consulting, Inc.

Wastewater

Wastewater treatment is provided to the Project area by the SBMWD. The SBMWD operates the Margaret H. Chandler Water Reclamation Plant and the Colton/San Bernardino Rapid Infiltration and Extraction (RIX) Tertiary Treatment Facility. The Water Reclamation Plant is a 33 million gallon per day (MGD) regional secondary treatment facility for the cities of San Bernardino and Loma Linda, East Valley, the San Bernardino International Airport, Patton State Hospital, and unincorporated areas of the County.

[4] Ibid. Page 2-6

[5] Ibid. Page 10-12

[6] Ibid. Page 2-8

[7] Ibid. Pages 10-13.

Secondary treated wastewater from the water reclamation facilities in the cities of San Bernardino and Colton discharges to the RIX facility.

After treatment, approximately 16,000 AFY of water is provided to the SBVMWD to supplement Santa Ana River flows. The SBVMWD has approved funding of the Clean Water Factory. This facility will treat effluent to recharge-ready quality and deliver the treated water to surrounding groundwater basins such as: the Waterman Basins, the East Twin Creek Spreading Grounds, and the Devil Canyon and Sweetwater Basins. The treated water supply would also help recharge the Bunker Hill Groundwater Basin. A portion of the treated water from the Clean Water Factory would also be delivered to customers as non-potable water. Up to 34,200 AFY of recycled water would be provided within the SBMWD service area.[8]

Stormwater and Drainage

Refer to **Section 4.9: Hydrology and Water Quality** regarding existing conditions and Project impacts with respect to stormwater and drainage facilities.

Solid Waste

The Integrated Solid Waste Management Division of the City's Public Works Department contracts solid waste services to Burrtec Waste Industries. Per San Bernardino Municipal Code (SBMC) Chapter 8.24, Burrtec Waste Management Industries is solely responsible for trash, recycling, and organic waste services. The City and Burrtec are required to comply with all relevant waste management policies at the federal, state, and local levels.

Burrtec Waste Management Industries provides solid waste services to residential and commercial customers, as well as construction and demolition projects. The company operates transfer stations including the Aqua Mansa Materials Recycling Facility (MRF) in the City of Riverside and the West Valley MRF in the City of Fontana.[9]

Electric Power, Natural Gas, and Telecommunications

Electrical power is provided by Southern California Edison (SCE) and natural gas is provided by the Southern California Gas Company (SCG). Telecommunications are provided by various companies. SCE, SCG, and local telecommunications companies operated and maintain transmission and distribution infrastructure in the Project area, inclusive of the Project site.

Telecommunications

Cable television, telephone, and internet services for the City are provided by AT&T, Charter Communications, Frontier Communications, and Time Warner Cable. The City also has a local TV channel hosted by the Inland Empire Media Group.[10]

[8] http://www.ci.san-bernardino.ca.us/water/clean_water_factory.asp. Accessed August 29, 2019.

[9] Burrtec. (2019). *Construction and Demolition Recycling Program Brochure*. Retrieved from http://www.burrtec.com/templates/files/burrtec-construction-brochure.pdf

[10] City of San Bernardino. (2019). *Public Utilities.* Retrieved from: http://www.ci.san-bernardino.ca.us/residents/utilities.asp.

4.16.3 REGULATORY FRAMEWORK

FEDERAL

Clean Water Act

The Clean Water Act (33 U.S.C. §§ 1251 et seq.) is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutants discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

Safe Drinking Water Act

The U.S. Environmental Protection Agency (U.S. EPA) administers the Safe Drinking Water Act (SDWA). The SDWA is the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The State Department of Health Services implements the SDWA and oversees public water system quality statewide and establishes legal drinking water standards for contaminants that could threaten public health.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant. In California, the federal requirements are administered by the State Water Resources Control Board (SWRCB), and individual NPDES permits are issued by the California Regional Water Quality Control Boards (RWQCBs).

Resource Conservation and Recovery Act of 1976

The Resource Conservation and Recovery Act of 1976 (RCRA) (Title 40 of the Code of Federal Regulations), Part 258, contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design (liners, leachate collection, run-off control, etc.), groundwater monitoring, and closure of landfills.

STATE AND REGIONAL

Urban Water Management Plan Act

In 1983, the California legislature enacted the Urban Water Management Planning Act (California Water Code §§ 10610–10656), which requires specified urban water suppliers within the state to prepare a UWMP and update it every 5 years. Specifically, Water Code §§ 10610.04 et seq., as amended, of the California Urban Water Management Planning Act specifies that "Urban Water Suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies." As such, UWMPs serve as an important element in documenting water supply availability and reliability for purposes of compliance with Senate Bills 610 and 221, which link water supply sufficiency to large land use development project approvals. Urban water suppliers also must prepare UWMPs, pursuant to the Urban Water Management Planning Act, in order to be eligible for state funding and drought assistance. As previously noted, the SBVMWD's 2015 RUWMP details demand projections and provides information regarding SBVMWD's supply. Information in the RUWMP assists these agencies and developers in future planning efforts.

State Water Resources Control Board

The SWRCB is the State agency focused on providing and ensuring clean sustainable water for all state residents. The SWRCB implements federal programs like the Clean Water Act to regulate water sources and uses. The SWRCB regulates water consumption for irrigation and drinking, as well as water discharges from construction, municipal uses, stormwater, and other sources.

Assembly Bill 1668 and Senate Bill 606

Assembly Bill (AB) 1668 and Senate Bill (SB) 606 build on former Governor Brown's ongoing efforts to make water conservation a way of life in California and create a new foundation for long-term improvements in water conservation and drought planning. SB 606 and AB 1668 establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards, which must be in place by 2022. The two bills' provisions include:

- Establishing water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers; comprised of indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, water loss, and other unique local uses.
- Providing incentives for water suppliers to recycle water.
- Identifying small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability and provide recommendations for drought planning.
- Requiring both urban and agricultural water suppliers to set annual water budgets and prepare for drought.[11]

[11] State of California. (2019). California Statutes Making Conservation a California Way of Life. Retrieved from State of California Website: https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/california_statutes.html. Accessed April 8, 2019.

Assembly Bill 939 and Senate Bill 1016 – California Integrated Waste Management Act and Per Capital Disposal Measurement System

In 1989, the legislature adopted the California Integrated Waste Management Act of 1989. The act requires every city and county in the State to prepare a source reduction and recycling element in addition to a solid waste management plan to identify how the jurisdiction would meet mandatory goals of 50 percent solid waste diversion by the year 2000 and 75 percent solid waste diversion by 2010. The Act also established the framework for State inspection and enforcement of solid waste facilities and regulates safe transportation and disposal of solid waste. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures to assist in reducing these impacts to less-than-significant levels. With the passage of SB 1016 (the Per Capita Disposal Measurement System) in 2006, only per capita disposal rates are measured to determine if a jurisdiction's efforts are meeting the intent of AB 939.

LOCAL

City of San Bernardino General Plan

The following City of San Bernardino General Plan (SBGP) elements are relevant to the Project.

Land Use Element

Goal 2.7: Provide for the development and maintenance of public infrastructure and services to support existing and future residents, businesses, recreation, and other uses.

Policy 2.7.1: Enhance and expand drainage, sewer, and water supply/storage facilities to serve new development and intensification of existing lands.

Community Design Element

The purpose of the SBGP Community Design Element is to promote a concise and unified City feel through consistent design policies. The section ranges from community wide design goals to individual land use design considerations.

Goal 5.2 Attractively design, landscape, and maintain San Bernardino's major corridors.

Policy 5.2.4 Screen public facilities and above-ground infrastructure support structures and equipment, such as electrical substations and water wells, through sensitive site design, appropriately scaled landscaping, undergrounding of utilities, and other methods of screening (e.g., cell tower stealthing).

Utilities Element

The SBGP Utilities Element is used to create and maintain the most efficient and beneficial levels of service for all of the City's residents regarding utility resources.

Goal 9.1: Provide a system of wastewater collection and treatment facilities that will adequately convey and treat wastewater generated by existing and future development in the City's service area.

Policy 9.1.2: Maintain and replace existing wastewater collection treatment facilities as necessary.

Goal 9.3: **Provide water supply, transmission, distribution, storage, and treatment facilities to meet present and future water demands in a timely and cost-effective manner.**

Policy 9.3.1: Provide for the construction of upgraded and expanded water supply, transmission, distribution, storage, and treatment facilities to support existing and new development.

Goal 9.5: **Provide an adequate and orderly system for the collection and disposal of solid waste to meet the demands of new and existing developments in the City.**

Policy 9.5.3: Continue to reduce the amount of solid waste that must be disposed of in area landfills, to conserve energy resources, and be consistent with the County Solid Waste Management Plan and State law.

Goal 9.6: **Ensure an adequate, safe, and orderly supply of electrical energy is available to support existing and future land uses within the City on a project level.**

Policy 9.6.2: Underground utilities, including on-site electrical utilities and connections to distribution facilities, unless such undergrounding is proven infeasible.

Goal 9.7: **Ensure an adequate supply of natural gas is available to support existing and future land uses within the City at a project level.**

Policy 9.7.2: Require that all new development served by natural gas install on-site pipeline connections to distribution facilities underground, unless such undergrounding is infeasible due to significant environmental or other constraints.

Goal 9.8: **Ensure the operation and maintenance of telecommunications systems to support existing and future land uses within the City.**

Policy 9.8.2: Require that all new developments underground telecommunication facilities, unless such undergrounding is infeasible due to significant environmental or other constraints.

Energy And Water Conservation

The Energy and Water Conservation Element identifies goals and policies to ensure the efficient use of the City's energy and water resources. This Element is closely related to multiple other elements that together help create a clear vision for responsible use of these City resources.

Goal 13.2: **Manage and protect the quality of the City's surface waters and ground water basins.**

Policy 13.2.7: Require that new development incorporate improvements to channel storm runoff to public storm drainage systems and prevent discharge of pollutants into the groundwater basins and waterways.

City of San Bernardino Municipal Code

Chapter 8.24 Solid Waste Collection, Removal, Disposal, Processing And Recycling

City of San Bernardino Municipal Code (SBMC) Chapter 8.24 outlines the City's solid waste requirements, including solid waste disposal, approved waste containers, as well as the different methods for disposing of non-standard debris.

Chapter 8.80 Stormwater Drainage System

SBMC Chapter 8.80 details the City's procedures to ensure the effectiveness of its stormwater drainage system. It identifies the types of discharges allowed in the sewer system and the types of discharge that are not allowed.

Chapter 13.24 Water Supply System

SBMC Chapter 13.24 provides an overview of the City's regulations concerning the protection of underground water resources. This chapter also outlines their goals to provide safe water to the City's residents.

Chapter 13.32 Wastewater Facilities

In an effort to maintain water quality in nearby water deposits, as well as minimize pollution, the RWQCB has presented regulations to limit pollution from wastewater discharge. SBMC Chapter 13.32 identifies City and RWQCB regulations for wastewater discharge.

4.16.4 SIGNIFICANCE CRITERIA AND THRESHOLDS

SIGNIFICANCE CRITERIA UNDER CEQA

State CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions concerning utilities. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, the Project may create a significant environmental impact if it would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects (see Impact 4.16-1);
- Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years (see Impact 4.16-2);
- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (see Impact 4.16-3);
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals (see Impact 4.16-4);
- Comply with federal, State, and local management and reduction statutes and regulations related to solid waste (see Impact 4.16-4)

METHODOLOGY AND ASSUMPTIONS

The proposed Project is evaluated against the aforementioned significance criteria as the basis for determining the level of impacts related to the noted utilities and service systems. This analysis considers the existing regulatory framework (i.e., laws, ordinances, regulations, and standards (LORS)) that avoid or reduce the potentially significant environmental impact. Where significant impacts remain despite

compliance with the regulatory framework, feasible mitigation measures are recommended to avoid or reduce the Project's potentially significant environmental impacts.

4.16.5 IMPACTS AND MITIGATION MEASURES

Impact 4.16-1: Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Level of Significance: Less Than Significant With Mitigation Incorporated

CONSTRUCTION AND OPERATIONS

To accommodate the new lead track and ancillary improvements, the proposed Project would require relocation of existing utility/service system infrastructure (i.e., water, electric power, natural gas, and telecommunications) and construction of new stormwater drainage and treatment infrastructure. The affected utilities are listed in **Table 4.16-2: Conflicting Utility Facilities**, and depicted on **Exhibit 4.16-1: Preliminary Utilities Layout**. As discussed in **Section 4.9: Hydrology and Water Quality**, three storm drain and water quality treatment design options are being considered: Design Option 1 involves construction of nine infiltration basins and minor improvements, while Design Options 2a and 2b involve construction of two bio-treatment basins and seven storm drain connections. Because Design Option 1 involves more infiltration basins, deeper excavation and proportionately greater soil export would be required. Therefore, to provide a conservative analysis, this EIR analyzes the Project's construction-related impacts under Design Option 1.

TABLE 4.16-2: CONFLICTING UTILITY FACILITIES

Utility Type	Utility Company	Orientation	Station Location	Conflict Reason
2-in Gas Line	SCGC	Crossing	110+18	Conflicts with proposed ditch cut; potentially impacted by proposed sound wall
8-in Natural Gas Line	SCGC	Crossing	110+23	Conflicts with proposed ditch cut; potentially impacted by proposed sound wall
Underground Telephone and Fiber	Frontier Communications	Crossing	111+19	Conflicts with proposed ditch cut; may have insufficient encasement.
16-in Water Line	City	Crossing	111+28	Conflicts with proposed ditch cut; potentially impacted by sound wall
11-in Water Line	California Department of Water Resources	Crossing	111+41	Conflicts with proposed ditch cut; may have insufficient casing length.
4-in Water Line	MWD	Crossing	111+74	Conflicts with proposed ditch cut; potentially impacted by proposed sound wall
16-in Water Line	City	Longitudinal	185+50– 215+10	Conflicts with proposed ditch cut from Station 205+00– 214+15

TABLE 4.16-2: CONFLICTING UTILITY FACILITIES

Utility Type	Utility Company	Orientation	Station Location	Conflict Reason
4-in Water Line	City	Crossing	194 + 96	Insufficient encasement
Underground Telephone 3.5-in	Frontier Communications	Crossing	208+02	Insufficient encasement
24-in Water Line	City	Crossing	210+85	Insufficient encasement
12-in Water Line	City	Crossing	211+87	Conflicts with proposed ditch cut (requires confirmation of 5.5 ft BOR)
HDPE 30-in Storm Drain	City	Longitudinal	212+59 – 215+30	Conflicts with proposed ditch cut
4-in Gas Line	SCGC	Crossing	212+78	Line not abandoned per BNSF standards
Overhead Electricity Distribution	SCE	Longitudinal	235+12 – 246+51	Within 50 ft of proposed track
Signboard	Nationwide Self Storage	Point	237+42	Within 50 ft of proposed track; potentially conflicts with grading
Overhead Electric and Light Poles	Unknown	Longitudinal	242+63 – 246+04	Within 50 ft if proposed track; potentially conflicts with grading
Overhead Electric Distribution	SCE	Crossing	246-04	Within 50 ft of proposed track
Fire Hydrant (4-in and 3-in connection)	City	Point	246-78	Waterline in conflict with grading.
3-in Water Line	City	Longitudinal	251+11 – 254+06	Conflict with sound wall at STA 251+45
Overhead Electric and Light Pole	SCE	Point	251+96	Within 50 ft of proposed track
Overhead Communications Facility	Unknown	Point	251+96	Within 50 ft of proposed track
Electric Meter Pole	Unknown	Point	252+34	Within 50 ft of proposed track
Overhead Electric and Down Guy	SCE	Point	256+28	Within 50 ft of proposed track; Conflicts with proposed grading
Overhead Communications	Unknown	Point	256+28	Within 50 ft of proposed track; Conflicts with proposed grading
6-in Water Line	City	Longitudinal	257+31 – 264+83	Within 50 ft of proposed track; Conflicts with proposed grading
Overhead Electric Distribution and Street Light Poles	SCE	Longitudinal	257+98 – 265+26	Within 50 ft of proposed track
6-in Water Line	City	Longitudinal	268+39 – 273+95	Conflicts with proposed roadway
Light Pole	Brickley	Point	273+79	Within 50 ft of proposed track
6-in Gas Line	SCGC	Crossing	281+59	Line not abandoned per BNSF standards
Overhead Electric Distribution	SCE	Longitudinal	281+93 – 288+33	Within 50 ft of proposed track

TABLE 4.16-2: CONFLICTING UTILITY FACILITIES

Utility Type	Utility Company	Orientation	Station Location	Conflict Reason
12-in Storm Drains (2)	City	Crossing	288+31	Conflicts with proposed track
8-in Gas Line	SCGC	Crossing	287+94	Conflicts with proposed grading; may have insufficient encasement
20-in Water Line	City	Longitudinal	288+10–295+00	Within 50 ft of proposed track; potentially conflicts with proposed sound wall
3-in Gas Line	SCGC	Crossing	291+49	Not abandoned per BNSF standards
12-in Storm Drain	City	Crossing	291+53	Conflicts with proposed track and grading
12-in Storm Drain	City	Crossing	291+73	Conflicts with proposed track and grading
Electric Meter Pole	Unknown	Point	294+29	Within 50 ft of proposed track
Overhead Electric and Street Light Pole	SCE	Point	294+60	Within 50 ft of proposed track
Underground Fiber Optic	Frontier Communications	Crossing	294+72	Insufficient encasement
4-in Gas Line	SCGC	Crossing	294+87	Line not abandoned per BNSF standards
16-in Sewer Line	City	Crossing	294+88	Conflicts with proposed ditch
20-in Water Line	City	Crossing	294+94	Blow off valve within 10 ft of proposed tracks
20-in Water Line	City	Crossing	294+96	Insufficient encasement; blow valve within 10 ft of proposed tracks
20-in Water Line	City	Point	295+04	Blow off valve within 10 ft of proposed tracks
20-in Water Line	City	Crossing	295+07	Blow off valve within 10 ft of proposed tracks; insufficient encasement
12-in Storm Drain	City	Crossing	295+16	Conflicts with proposed grading.
Overhead Electric Pole	Unknown	Point	298+10	Within 50 ft of proposed track
3-in Gas Line	SCGC	Crossing	301+57	Line not abandoned per BNSF standards
Overhead Electric	SCE	Point	308+25	Within 50 ft of proposed track
Overhead Communications	Unknown	Longitudinal	310+77–315+56	Within 50 ft of proposed track
Gas Line	SCGC	Longitudinal	310+74-315+30	Not abandoned per BNSF standards
1.25-in Gas Line	SCGC	Crossing	308+56	Not abandoned per BNSF standards
6-in Water Line	City	Longitudinal	308+55–315+48	Within 25 ft of proposed track
3-in Gas Line	SCGC	Crossing	315+19	Not abandoned per BNSF standards
Water Line	City	Longitudinal	315+48–325+45	Within 40ft of proposed track

TABLE 4.16-2: CONFLICTING UTILITY FACILITIES

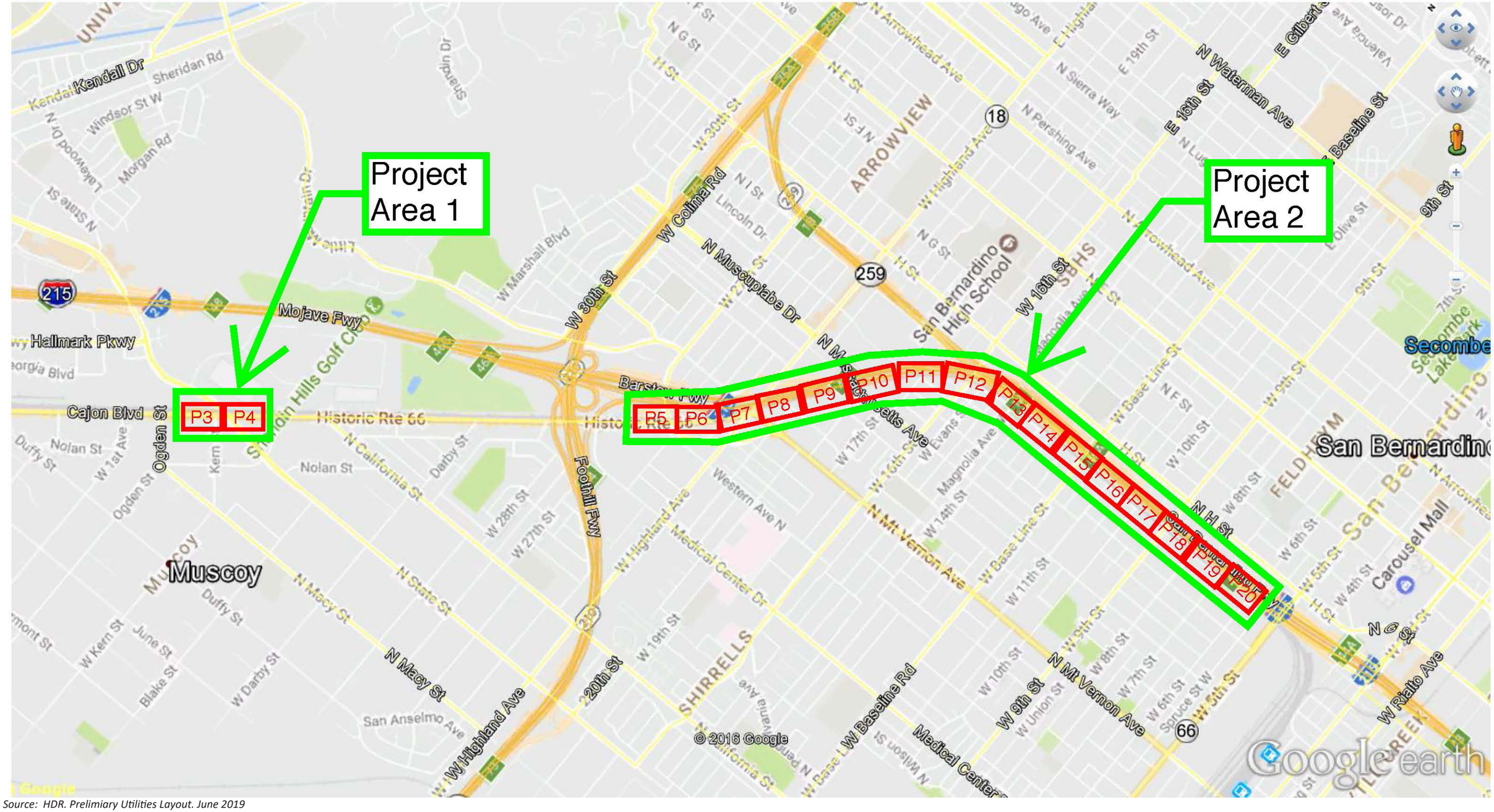
Utility Type	Utility Company	Orientation	Station Location	Conflict Reason
Overhead Electrical Distribution	SCGC	Crossing	315+55	Within 50 ft of proposed track
Overhead Fiber Optic TV	CenturyLink	Crossing	315+55	Within 50 ft of proposed track
Overhead Fiber Optics	Charter	Crossing	315+55	Within 50 ft of proposed track
Underground Fiber Optic	Frontier Communications	Crossing	315+55	Conflicts with proposed grading
4-in Sewer Line	Unknown	Crossing	317+10	Conflicts with proposed ditch cut
1.25-in Gas Line	SCGC	Crossing	317+44	Not abandoned per BNSF standards
Water Line	City	Longitudinal	320+34–322+03	Within 40 ft of proposed tracks
Sewer Manhole	City	Point	321+90	Conflicts with proposed grading
Gas	SCGC	Crossing	322+06	Not abandoned per BNSF standards
Gas	SCGC	Crossing	325+11	Not abandoned per BNSF standards
16-in Sewer Line	City	Longitudinal	258+12–280+31	Within 40 ft of proposed track
15-in Sewer Line	City	Longitudinal	288+10–294+89	Within 50 ft of proposed track
8-in Sewer Line	City	Longitudinal	310+57–315+36	Within 25 ft of proposed track; potentially impacted by ditch cut
Sewer Line	City	Longitudinal	305+05–308+42	Within 25 ft of proposed track; potentially impacted by ditch cut
8-in Sewer Line	City	Longitudinal	252+30–253+46	Conflicts with proposed grading

SCGC = Southern California Gas Company; SCE = Southern California Edison; City = City of San Bernardino; MWD = Metropolitan Water District of Southern California
Source: Kimley-Horn, 2019. Ono Lead (Utility Research) Utility Conflict Matrix. Riverside, CA: HDR.

Construction impacts related to utility relocations and stormwater improvements, such as dust, noise, soil erosion, and transportation, are evaluated in Sections 4.1 through 4.15 of this EIR. As concluded in these sections, construction-related environmental effects would be reduced to less than significant through compliance with the established regulatory framework and implementation of the specified mitigation measures. Therefore, utility construction and relocation associated with the proposed Project would not cause significant environmental effects. A less than significant impact would occur in this regard.

Mitigation Measures

See MM AQ-1, MM CUL-1, MM CUL-2, MM GEO-1, MM HAZ-1, MMs NOI-1 through NOI-4, MM TRA-1, and MM TRA-2.



Source: HDR. Prelimiary Utilities Layout. June 2019

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Impact 4.16-2: Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

The SBVMWD supplies water to the Project site. SBVMWD's 2015 RUWMP indicates water supplies would meet the service area's water demands, that includes the Project site, for normal, single-dry, and multiple dry-year conditions through 2040. UWMP water demand forecasts are based on adopted General Plans. Project construction activities would generate short-term water demands for dust control and soil compaction. These water demands would be temporary and would cease upon completion of construction activities.

To accommodate the proposed rail and ancillary improvements, as many as 43 dwelling units and approximately 78,000 square feet (SF) of non-residential (commercial and industrial) land uses would be acquired. Property acquisitions would result in the removal of these land uses; thus, the corresponding water demands would also be removed. Additionally, because the Project would only increase the A Yard's operational efficiency, but would not increase BNSF line operations, an increased water demand would not occur. **Table 4.16-3: Project Operational Water Demands,** provides the water demands associated with the proposed Project and indicates removal of the land uses would decrease water demands by approximately 105,084 GPD or 117.7 AFY. Therefore, sufficient water supplies would be available to serve the proposed Project. A less than significant impact would occur in this regard.

TABLE 4.16-3: PROJECT OPERATIONAL WATER DEMANDS

Land Use	Dwelling Units	Persons[1]	Water Usage Per Capita (GPCD)	Net Water Savings (GPD)
Residential	43	149	252	37,548
Land Use	**Square Feet (SF)**	**Employees[2]**	**Water Usage Per Capita (GPCD)**	**Net Water Savings (GPD)**
Commercial	46,000	371	252	93,492
Industrial	32,000	46	252	11,592
			Total	**105,084 (117.7 AFY)**

Notes:
1. See **Section 4.12: Population and Housing** (see Impact 4.12-2)
2. See **Table 4.12-8: Existing Employment – Lost**
Source: Kimley-Horn, 2019.

Mitigation Measures

No mitigation is required.

Impact 4.16-3: Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

Level of Significance: Less Than Significant Impact

CONSTRUCTION AND OPERATIONS

SBVMWD provides wastewater service to the Project area. To accommodate the proposed rail and ancillary improvements, as many as 43 dwelling units and approximately 78,000 SF of non-residential (commercial and industrial) land uses would be acquired. Property acquisitions would result in the removal of these land uses; thus, the corresponding wastewater generation would also be removed. Additionally, because the Project would only increase the A Yard's operational efficiency, but would not increase BNSF line operations, no increase in wastewater generation would occur. **Table 4.16-4: Project Operational Wastewater Generation**, provides the wastewater generation associated with the proposed Project and indicates removal of the land uses would decrease wastewater generation by approximately 17.3 AFY. Therefore, the Project would not impact the wastewater treatment provider's capacity to serve existing commitments. A less than significant impact would occur in this regard.

TABLE 4.16-4: PROJECT OPERATIONAL WASTEWATER GENERATION

Land Use Category	Land Use Description	Square Feet (SF) / Dwelling Units (du)	Sewage Flow (Gallons Per Day)[1]	Total (Gallons Per Day)
Industrial	Service Garage/ Auto	32,000 SF	.05/SF	1,550
Commercial	Repair Shop	46,000 SF	.05/SF	2,300
Residential	SFR	36 du	281/du	10,116
	MFR	7 du	210.75/du	1,475
			Total	**15,441 (17.3 AFY)**

Notes:
1. SBMWD. (2015). *City of San Bernardino Municipal Water Department Sewage Flow Guide For Domestic Waste Discharge.* San Bernardino, CA.

Source: Kimley-Horn and Associates, Inc., 2019

Mitigation Measures

No mitigation is required.

Impact 4.16-4: Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Level of Significance: Less Than Significant Impact

CONSTRUCTION

As previously noted, the City contracts all solid waste services to Burrtec Waste Industries, which provides for all trash, recycling, and organic waste services. The property acquisitions needed to accommodate the proposed rail and ancillary improvements would total approximately 29 acres and would include as many as 43 dwelling units and approximately 78,000 SF of non-residential (commercial and industrial). Property acquisitions would result in the removal of these land uses and all improvements on the respective properties. Therefore, during demolition and construction, the Project would increase solid waste generation and demand for disposal services over existing conditions. State law requires a 65 percent diversion rate for construction and demolition activities. The City has established a Construction and Demolition Waste Recycling Program as set forth in SBMC 8.24.100 and Resolution No. 2010-325 to help in diverting construction and demolition waste from landfills.[12] The exported demolition debris (demolition, street relocation debris) is expected to be approximately 26,845 tons. The civil improvements (street excavations, railroad track corridor, sound walls, infiltration basin construction) would require the export of approximately 184,300 cubic yards of material.[13] Compliance with the 65 percent diversion rate requirements would divert approximately 17,449 tons of demolition debris and 119,795 cubic yards of civil improvement materials from landfills. Additional solid waste would be generated during construction.

Solid waste would be transported to the Agua Mansa MRF in the City of Jurupa Valley and West Valley MRF in the City of Fontana. After solid waste has been separated and diverted, it is transferred to local landfills. **Table 4.16-5: Landfills Serving the Project Site**, lists the landfills serving the Project site and their corresponding daily maximum throughput and maximum permitted capacity. The estimated exported construction and demolition solid waste, which would not be diverted (approximately 9,396 tons of demolition debris) associated with the proposed Project would be demolished over the Property acquisitions/demolition construction subphase of 19.5 months. The Project's waste not diverted from landfills (9.396 tons) would equate to approximately 16 tons per day of construction waste. This daily total represents a negligible percentage (less than one percent) of both landfill's daily maximum throughput shown in **Table 4.16-5** below. Therefore, the Project would be served by landfills with sufficient permitted capacity to accommodate the Project's construction-related solid waste disposal needs. No significant impact to solid waste facilities would occur. Additionally, Project construction would not conflict with federal, state, or local management and reduction solid waste regulations.

[12] City of San Bernardino. (2010). Construction & Demolition Waste Recycling Program Information Sheet. Retrieved from http://admin.sbcity.org/civicax/filebank/blobdload.aspx?t=33151.61&BlobID=26882

[13] Kimley-Horn and Associates. (2019). BNSF ONO Project – Construction Assumptions. Orange, CA: Kimley-Horn.

TABLE 4.16-5: LANDFILLS SERVING THE PROJECT SITE		
Location	**Daily Maximum Throughput (tons/day)**	**Maximum Permitted Capacity (cubic yards)**
Mid-Valley Landfill, City of Rialto	7,500	101,300,000
San Timoteo Landfill, City of Redlands	2,000	20,400,000
Source: CalRecycle SWIS Facility Detail.		

OPERATIONS

To accommodate the proposed rail and ancillary improvements, as many as 43 dwelling units and approximately 78,000 SF of non-residential (commercial and industrial) land uses would be acquired. Property acquisitions would result in the removal of these land uses; thus, the corresponding solid waste generation would also be removed. Additionally, because the Project would only increase the A Yard's operational efficiency, but would not increase BNSF line operations, no increase in solid waste generation would occur. CalRecycle provides solid waste generation rates for industrial, commercial, and residential uses. As shown in **Table 4.16-6**: **Project Operational Solid Waste Generation,** the proposed Project would decrease solid waste generation by approximately 1,003 lbs/day. Therefore, Project operations would not impact landfill capacities. No significant impact to solid waste facilities would occur. Additionally, Project operations would not conflict with federal, state, or local management and reduction solid waste regulations.

TABLE 4.16-6: PROJECT OPERATIONAL SOLID WASTE GENERATION				
Land Use Category	**Land Use Description**	**Property Size**	**Solid Waste Generation[1]**	**Total**
Industrial	Service Garage/Auto	32,000 SF	0.9 lbs/100 SF/day	-288
Commercial	Repair Shop	46,000 SF	1.4 lbs/100 SF/day	-644
Residential	Multi-Family Residential	7 du	4.4 lbs/du/day	30.8
Residential	Single-Family Residential	3636 du	12.23 lbs/du/day	-40.28
			Total	**-1003.08**

Note:
1. CalRecycle. (2019). *Estimated Solid Waste Generation Rates.* Retrieved from https://www2.calrecycle.ca.gov/wastecharacterization/general/rates.

Mitigation Measures

No mitigation is required.

4.16.6 CUMULATIVE IMPACTS

For purposes of utilities and service systems analysis, cumulative impacts are considered for cumulative development within the City's planning area, according to SBGP buildout; see **Section 3.0: Basis of Cumulative Analysis**.

The City of San Bernardino General Plan EIR analyzed the expected environmental effects of buildout concerning utilities and service systems in SBGP EIR Section 5.15, *Utility and Service Systems*. The following is a summary[14] of the expected environmental effects:

- Build-out could require upgrades to existing water supply and delivery systems to serve future growth. This impact was concluded to be less than significant with mitigation
- Build-out could result in inadequate collection and treatment of wastewater by the water service provider. This impact was concluded to be less than significant with mitigation.
- Build-out could result in an increased demand for facilities to provide solid waste services and comply with related regulations. This impact was concluded to be less than significant.
- Build-out could result in an increased demand for dry utilities and/or geothermal resources used for energy. This impact was concluded to be less than significant.

Development within the City's planning area would be evaluated at the project-level, as they are implemented. Cumulative development would undergo a plan review process for potential to impact existing utilities and service systems or requirements for new utilities and service systems. All future development would be required to demonstrate compliance with all applicable federal, State, and local regulations concerning utilities and service systems. Further, all future development would be subject to all applicable connection fees and ongoing user fees related to the provision of wastewater treatment, sewer, and water services. Connection fees are used in part to defray the cost of any necessary facility upgrades. Payment of required connection fees and ongoing user fees, as well as adherence to existing federal, State, and local laws, ordinances, and regulations, and any project-specific conditions of approval would ensure that adequate wastewater, sewer, and water services are available to serve future developments. As with the Project, cumulative development would undergo environmental review on a project-by-project basis pursuant to CEQA to evaluate potential impacts to utilities and service systems. Future development would be subject to compliance with existing federal, state, and local regulatory framework concerning utilities and service systems. Additionally, implementation of site-specific mitigation would reduce potential impacts. As such, cumulative impacts concerning utilities and service systems would be mitigated on a project-by-project basis, and in accordance with the established regulatory framework.

Therefore, the combined cumulative impacts to utilities and service systems associated with the Project's incremental effects and those of cumulative projects would be less than significant following compliance with the established regulatory framework and with project-specific mitigation incorporated.

Mitigation Measures

No mitigation is required.

4.16.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts to utilities and service systems have been identified.

[14] Summaries include the Arrowhead Springs Specific Plan area, unless otherwise noted.

4.16.8 REFERENCES

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State of California, Department of Finance. (2019). *Report E-5 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2019, with 2010 Benchmark.* Sacramento, CA: Demographic Research Unit.

5.0 OTHER CEQA CONSIDERATIONS

5.0 OTHER CEQA CONSIDERATIONS

5.1 LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT

Pursuant to State CEQA Guidelines § 15126.2, this section analyzes short-term uses of the environment and the maintenance and enhancement of long-term productivity. If the Project is implemented, various short-term and long-term impacts would occur on a local level. During site-specific project grading and construction, some surrounding land uses may be temporarily impacted by dust and noise, potentially resulting in short-term impacts construction-related impacts. Grading and construction activities may also temporarily increase in vehicle pollutant emissions.

However, these disruptions would be temporary and may be avoided or lessened to a large degree through mitigation cited in this EIR and through compliance with relevant laws, ordinances, regulations, and standards; refer to **Section 4.1** through **Section 4.16**.

Project implementation would create long-term environmental consequences associated with a transition in land use (i.e., from residential/non-residential to transportation). The Project and subsequent long-term effects may impact the physical and human environments. Long-term physical consequences of Project implementation include increased noise from train operations. There would be no increases in Project-related vehicular traffic, or incremental increases in demands for public services, recreational facilities, utilities, or increased energy and natural resource consumption, as the Project would not increase train operations or develop new land uses. Incremental degradation of local and regional air quality would also not occur, given the Project would not generate new sources, would rather increase operational efficiencies.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED

According to State CEQA Guidelines §§ 15126(c) and 15126.2(c), an EIR is required to address any significant irreversible environmental changes that would occur should a proposed project be implemented. As stated in State CEQA Guidelines § 15126.2(c):

> *…..uses of nonrenewable resources during the initial and continued phases of the Project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter likely, Primary impacts and, particularly, secondary impacts [such as highway improvement which provides access to a previously inaccessible area] generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the Project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

The proposed Project would use limited, slowly renewable and non-renewable resources. This use would occur during the Project's construction phase and would continue to a lesser degree throughout its operational lifetime. Project construction activities would require a commitment of resources that would include: (1) building materials; (2) fuel and operational materials/resources; and (3) the transportation of goods and persons to and from individual construction sites. Construction would require the consumption

of resources that are not renewable or which may renew so slowly as to be considered non-renewable. These resources would include the following construction supplies: lumber and other forest products; aggregate materials used in concrete and asphalt; metals; and water. Fossil fuels such as gasoline and oil would also be consumed to power construction vehicles and equipment.

The resources that would be committed during future Project operations would be similar to those currently consumed by the existing rail operations, given the Project does not propose to increase rail line operations; instead it would improve the A Yard's operational efficiency.

Several portions of the Project site are developed to varying degrees and would require demolition activities to accommodate the Project. The demolition activities must comply with the established regulatory requirements to ensure that asbestos and lead-based paints are not released into the environment, as well as proposed Mitigation Measures; see **Section 4.8: Hazards and Hazardous Materials**. Compliance with the established regulatory framework and recommended mitigation would protect against a significant and irreversible environmental change resulting from the accidental release of hazardous materials.

In summary, Project implementation would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would limit the availability of these resource quantities for future generations or for other uses during the Project's life. However, use of such resources would be on a relatively small scale in a regional context. Although irreversible environmental changes would result from Project implementation, such changes would not be considered significant.

5.3 GROWTH-INDUCING IMPACTS

State CEQA Guidelines § 15126(d), Growth Inducing Impact of the Proposed Project, requires that an EIR "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." The State CEQA Guidelines also indicate that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. This section analyzes potential growth-inducing impacts, based on the criteria outlined below, as suggested in the State CEQA Guidelines. In general terms, a project may foster spatial, economic, or population growth in a geographic area, if it meets any one of the following criteria:

- Removal of an impediment to growth (e.g., establishment of an essential public service and provision of new access to an area);
- Fostering of economic expansion or growth (e.g., changes in revenue base and employment expansion);
- Fostering of population growth (e.g., construction of additional housing or employment generating land uses), either directly or indirectly;
- Establishment of a precedent-setting action (e.g., an innovation, a change in zoning and general plan amendment approval); or
- Development of or encroachment on an isolated or adjacent area of open space (being distinct from an in-fill project).

Should a project meet any one of the above-listed criteria, it may be considered growth-inducing under CEQA. The Project's potential growth-inducing impacts are evaluated below against these criteria. The State CEQA Guidelines require an EIR to "discuss the ways" a project could be growth-inducing and to "discuss the characteristics of some projects that may encourage…activities that could significantly affect the environment." However, the State CEQA Guidelines do not require that an EIR predict (or speculate) specifically where such growth would occur, in what form it would occur, or when it would occur. The answers to such questions require speculation, which CEQA discourages; refer to State CEQA Guidelines § 15145, Speculation. In accordance with State CEQA Guidelines § 15125.2(d), the Project's potential growth-inducing impacts are discussed below.

PROJECT SUMMARY

The proposed Project involves installation of a fourth lead track extension from the existing BNSF San Bernardino (SBD) Intermodal Facility A Yard ("Yard") to connect with two existing Ono Storage Sidings located near the State Street/University Parkway grade separation. The Project is intended to enhance the Yard's train traffic efficiency by reducing congestion along the existing lead tracks servicing BNSF's east-west corridor. The existing approximately 0.18-mile A Yard lead track, which runs parallel to the existing three mainline tracks, would be extended by approximately 3.1 miles. Inclusive of the proposed extension, the lead track would total approximately 5.6 miles. With the proposed improvements, the A Yard would have capacity to assemble and hold outbound trains, and switch out the yard without fouling the mainline. The Project does not propose to increase line operations, instead it would increase the A Yard's operational efficiency. The Project involves storm drainage/water quality, circulation/roadway, signal, and utility improvements/ modifications ancillary and related to the lead track extension. Partial and full property acquisitions would be required to implement the proposed improvements.

IMPACT ANALYSIS

Removal of an Impediment to Growth

Project implementation would not increase demands for public services (i.e., fire and police protection, schools, parks and recreational facilities, and libraries) or utility and service systems (water, wastewater, stormwater, and solid waste). The proposed Project would continue to operate as transportation use. The Project would enhance the Yard's train traffic efficiency by reducing congestion along the existing lead tracks servicing BNSF's east-west corridor. No new public service, recreational facility, or provision of new access to an area would occur. The Project does not propose to establish an essential public service, recreational facility, or utility or service system, nor would the Project require that a new essential public service or utility or service system be established.

Economic Growth

The proposed Project would not result in additional permanent full-time employment opportunities. The Project is not a land use or typical project associated with job growth, such as commercial businesses or residential housing developments. Therefore, the Project is not considered growth inducing concerning economic expansion.

Population Growth

A project could induce population growth in an area either directly (i.e., by proposing new homes or businesses) or indirectly (i.e., through the extension of roads or other infrastructure). As discussed in the *Removal of an Impediment to Growth* Section above, the Project is not considered growth-inducing concerning the expansion or extension of roads or other infrastructure. The proposed Project is not a land use typically associated with population growth. No new employment opportunities would be created as a result of Project implementation. The Project would enhance the rail yard's efficiency. To accommodate the proposed improvements, the Project would remove 43 dwelling units, resulting in a population decrease of approximately 149 persons; also see **Section 4.12: Population and Housing**. Therefore, the Project would not induce population growth.

PRECEDENT-SETTING ACTION

The Project would not require any General Plan amendments or zone changes that would serve as a precedent-setting action. The proposed Project would require General Construction Storm Water permits, rail crossing modifications, encroachment permits, a Water Quality Management Plan, Petition to Vacate, right-of-way (ROW) acquisitions, signal improvements and modifications, and circulation roadway improvements. Therefore, the Project would not be considered growth-inducing concerning establishing a precedent-setting action.

Development or Encroachment of Open Space

The Project site is in southwestern San Bernardino County, at the southern portion of the City of San Bernardino (City). The Project site is situated along (west of) I-215, north of the City of Colton, south of the unincorporated County area known as Muscoy, and east of the City of Rialto. The Project area extends from the BNSF crossing at State Street/University Parkway on the north to West 5th Street on the south. The existing BNSF SBD Intermodal Facility/A Yard is immediately south of the Project area's southern extent, at 1535 West 4th Street in the City of San Bernardino. There are no open spaces near the Project site. Although the proposed Project would require ROW and residential and commercial property acquisitions, no open space or encroachment into open space would occur. Therefore, the proposed Project would not be growth-inducing concerning development or encroachment into an isolated area of open space.

Summary of Growth-Inducing Impacts

In summary, Project implementation would not be growth-inducing concerning removing an impediment to growth (i.e., establishing an essential public service or through providing new access to the area), encroaching on an isolated area of open space, fostering economic or population growth, or establishing a precedent setting action.

At the regional level, the emphasis regarding growth has been placed primarily on achieving a balance of employment and housing opportunities within the subregions. This regional concept, referred to as jobs/housing balance, encourages the designation and zoning of sufficient vacant land for residential uses with appropriate standards to ensure adequate housing is available to serve the needs derived from the local employment base. The jobs/housing ratio can be used as the general measure of balance between a community's employment opportunities and the housing needs of its residents. A ratio of 1.0 or greater

generally indicates that a City provides adequate employment opportunities, potentially allowing its residents to work within the City. A desirable jobs to housing balance improves regional mobility (traffic), reduces vehicle miles traveled, and improves air quality. Conversely, imbalance between a City's jobs and housing increases commutes, with resultant increases in traffic volumes and air emissions, and overall reduces the quality of life. Although the proposed Project would not add permanent jobs or new housing in the area, the ROW and adjacent property acquisitions would result in the removal of 43 dwelling units and commercial properties, therefore nominally impacting the jobs to housing ratio.

Communities with more than 1.5 jobs per dwelling unit are considered job-rich and those with fewer than 1.5 jobs per dwelling unit are considered housing-rich. As identified in **Table 5-1: Jobs-Housing Balance for San Bernardino and San Bernardino County**, the jobs to housing balance is higher in the City compared to the County. Comparing the jobs-to-housing ratio between San Bernardino County and the City indicates a need for more job growth in San Bernardino County.

TABLE 5-1: JOBS-HOUSING BALANCE FOR SAN BERNARDINO COUNTY AND SAN BERNARDINO

San Bernardino	**2012**	**2018**	**2040**
Jobs	88,900	77,500	128,900
Housing Units	53,900	65,677	77,100
Jobs to Housing Ratio	1.65	1.18	1.67
San Bernardino County	**2012**	**2018**	**2040**
Jobs	513,500	886,800[1]	1,028,100
Housing Units	615,300	719,911	854,300
Jobs to Housing Ratio	0.83	1.23	1.20

Source: SCAG RTP/SCS, 2016.
[1] San Bernardino County. (2018). *Community Indicators Report*. Page 6. San Bernardino County.

The City's current jobs to housing ratio is approximately 1.18, indicating the City is currently housing rich with housing opportunities for its residents to potentially live within the City. The proposed Project would decrease the City's housing stock by removing 43 dwelling units and displacing approximately 16 employees. The Project's impact to the jobs-housing balance would be nominal and localized. Project implementation would not affect the City's job to housing balance.

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6.0 ALTERNATIVES TO THE PROPOSED PROJECT

6.0 ALTERNATIVES TO THE PROPOSED PROJECT

Under the California Environmental Quality Act (CEQA), the identification and analysis of alternatives to a project is a fundamental part of the environmental review process. Public Resources Code (PRC) § 21002.1(a) establishes the need to address alternatives in an EIR by stating that in addition to determining a project's significant environmental impacts and indicating potential means of mitigating or avoiding those impacts, "the purpose of an environmental impact report is ... to identify alternatives to the project."

Direction regarding the definition of project alternatives is further provided in State CEQA Guidelines § 15126.6(a), as follows:

> *An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.*

The State CEQA Guidelines emphasize that the selection of project alternatives be based primarily on the ability to reduce impacts relative to the proposed project, "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."[1] The State CEQA Guidelines further direct that the range of alternatives be guided by a "rule of reason," such that only those alternatives necessary to permit a reasoned choice are addressed.[2]

In selecting project alternatives for analysis, potential alternatives must pass a test of feasibility. State CEQA Guidelines § 15126.6(f)(1) states that:

> *Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site...*

Beyond these factors, State CEQA Guidelines require the analysis of a "no project" alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an environmentally superior alternative is to be designated. "If the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."[3] In addition, State CEQA Guidelines § 15126.6(c) requires that an EIR identify any alternatives that were considered for analysis but rejected as infeasible and discuss the reasons for their rejection.

The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making. The range of potential alternatives to the proposed project shall also include those that could feasibly accomplish most of the basic objectives of the project and could

[1] State CEQA Guidelines §15126.6(b).

[2] State CEQA Guidelines §15126.6(f).

[3] State CEQA Guidelines §15126.6(e)(2).

avoid or substantially lessen one or more of the significant effects. An alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative need not be considered.

6.0.1 PROJECT SUMMARY

BNSF Railway Company ("BNSF" or Project Applicant) proposes to install a fourth lead track extending the existing BNSF San Bernardino Intermodal Facility (SBD Intermodal) A Yard (A Yard) lead track to two existing Ono Storage Sidings. A continuous lead track would be created, closing the existing gap between the Ono Storage Sidings and improving the flow of trains in and out of the A Yard. The Project does not propose to increase rail line operations; instead it would improve the A Yard's operational efficiency by: improving the A Yard's ability to assemble and hold outbound trains, as well as move around railroad cars without obstructing mainline movements; reducing train congestion along the existing lead tracks; and reducing train idling, as they wait to enter and exit the A Yard. With the proposed improvements, the A Yard would have capacity to assemble and hold outbound trains and switch out the yard without fouling the mainline. A full Project description is provided in **Section 2.0: Project Description**.

6.0.2 PROJECT OBJECTIVES

The proposed Project objectives presented below are as outlined in **Section 2.5: Project Goals and Objectives**.

A. Enhance the effectiveness of goods movement by increasing efficiency of train traffic entering/ exiting the A Yard in service of BNSF's east-west corridor.

B. Improve safety and operational efficiency for the critical BNSF east-west corridor.

C. Relieve traffic congestion along the three existing lead tracks that serve the BNSF east-west corridor by connecting two existing Ono Storage Sidings located near the State Street/University Parkway Grade Separation.

D. Improve long-term operational air emissions by improved efficiency/reduced train idling, as they wait to enter and exit the A Yard.

E. Maintain adequate local and emergency access to land uses adjacent to/west of the Project site.

F. Reinstate/extend the pre-existing franchise to construct, operate, and maintain an existing lead track in the City of San Bernardino, between 4th Street and the City's northern boundary, as the northern boundary existed in 1906, or in the alternative, vacate the railroad bed and convey title of same to the Project Applicant.

6.0.3 PROJECT SIGNIFICANT AND UNAVOIDABLE IMPACTS

Per State CEQA Guidelines, only those impacts found significant and unavoidable are relevant in making the final determination of whether an alternative is environmentally superior or inferior to the proposed Project. As discussed throughout **Section 4.0: Environmental Analysis**, there would be no significant and unavoidable Project impacts.

6.0.4 PROJECT ALTERNATIVES

The analysis presented below compares the potential environmental impacts associated with the following alternatives to impacts from the proposed Project:

- "No Project/No Construction" Alternative;
- "No Project/Existing Land Use Designations" Alternative; and
- "Reduced Footprint" Alternative.

Throughout the following analysis, the alternatives' impacts are analyzed for each environmental issue area, as examined in **Sections 4.1: Aesthetics** through **4.16: Utilities**. In this manner, each alternative can be compared to the proposed Project on an issue-by-issue basis. **Table 6-5: Comparison of Alternatives**, which is included at the end of this Section, provides an overview of the alternatives analyzed and a comparison of each alternative's impacts in relation to the proposed Project. This Section also identifies alternatives that were considered by the lead agency but were rejected as infeasible. **Section 6.6: Environmentally Superior Alternative**, references the "environmentally superior" alternative, as required by the State CEQA Guidelines.

6.1 "NO PROJECT" ALTERNATIVE

Under According to State CEQA Guidelines § 15126.6(e), the specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed Project with the impacts of not approving the proposed Project. The "no project" analysis is required to discuss the existing conditions (at the time the Notice of Preparation is published), as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

The discussion of the no project alternative usually proceeds along one of two lines. If the project is not a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here, the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

Therefore, two "no project" alternatives are analyzed below: the circumstance under which the Project does not proceed and vacant land within the Project site remains in its existing state; and the circumstance under which the Project does not proceed, but the vacant land within the Project site is developed, based on current plans and consistent with available infrastructure and community services (what would reasonably be expected to occur in the foreseeable future if the Project were not approved).

6.1.1 "NO PROJECT/NO CONSTRUCTION" ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

The Project site is in the southwest portion of the County of San Bernardino (County), in the City of San Bernardino's (City) southwest portion; see **Exhibit 2-1: Regional Vicinity Map**. The Project area extends approximately 4.3 linear miles along the BNSF corridor adjacent to/west of Interstate 215 (I-215). The

Project site is comprised of two dis-contiguous segments (i.e., southern and northern). The southern segment (southern track segment) comprises most of the Project site and is separated from the northern track segment by approximately 1.2 linear miles. The Project area's northern terminus is at the BNSF overpass at State Street/University Parkway and its southern terminus is at West 5th Street, just north of the A Yard; see **Exhibit 2-2: Local Vicinity Map**. The Project site is generally north of the City of Colton, south of Muscoy (an unincorporated County community), east of the City of Rialto, and along/west of I-215.

The Project site is generally level, with on-site elevations ranging from approximately 1,080 to 1,200 feet above mean sea level. The Project site is within a fully urbanized area comprised primarily of BNSF ROW, residential, commercial, and industrial land uses, vacant lots, and roadways. Vegetation is primarily small patches of disturbed mule fat scrub, non-native grassland, ornamental, and ruderal (disturbed vegetation, weeds).

Exhibits 2-3a – 2-3l depict the approximately 41-acre Project site, which consists of the existing BNSF right-of-way (ROW) and adjacent properties where ground disturbances (including temporary construction staging) and/or property acquisitions would occur. **Appendix 9.1: Land Use Matrix**, lists the 103 parcels and City ROW that comprise the Project area. **Appendix 9.1** also details the properties where ground disturbances or property acquisitions are required, their Assessor's Parcel Number (APN), size and land use, and Project segments and stations. **Table 2-2: Summary of Existing Land Uses**, summarizes the land uses that are present within the Project site. As indicated in **Table 2-2**, most of the Project site (approximately 78 percent) is developed/improved, while 22 percent (approximately 8.9 acres) remains vacant/undeveloped.

The No Project/No Construction Alternative would retain the Project site in its current condition. With this Alternative, the site's existing improvements within the BNSF corridor and adjacent properties including industrial, commercial, and single- and multi-family residential land uses, vacant lots, and City roadways, would remain. None of the proposed Project improvements would be implemented. Additionally, no adjacent property acquisitions would occur, thus, none of the Project's anticipated land use displacements (i.e., 43 dwelling units (DU), approximately 46,000 square feet (SF) of commercial uses, and approximately 32,000 SF of industrial uses) would occur. The following discussion evaluates the potential environmental impacts associated with the No Project/No Construction Alternative, as compared to impacts from the proposed Project.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Aesthetics

Under this Alternative, the site's visual character/quality would not be altered, as the lead tracks and associated ancillary improvements would not be developed and existing land uses would not be displaced. The existing landscape, including the built environment/acquired land uses and vegetation would not be removed or replaced with the proposed rail and ancillary improvements. The existing urbanized area comprised primarily of BNSF ROW, commercial, industrial, and residential land uses, vacant lots, and roadways would remain. These existing uses would continue to be sources of light or glare and the existing vertical features including buildings and structural massing would remain. The removal of these vertical features and sources of light and glare, and replacement with at or near grade rail and ancillary improvements with minimal light sources that would occur with the Project, would not occur under this

Alternative. The Project's decrease in light and glare, which was concluded to be a less than significant impact, would not occur with this Alternative, since no light sources would be removed.

The No Project/No Construction Alternative would be environmentally inferior to the proposed Project regarding aesthetics/light and glare, as the site's existing light and glare would not decrease under this Alternative.

Air Quality

Short-term air quality impacts from demolition, grading, and construction activities associated with the proposed Project would not occur with the No Project/ No Construction Alternative, as no land uses would be removed and the Project's proposed rail and ancillary improvements would not be constructed. The Project's construction-related emissions, which would be less than significant with mitigation incorporated, would be avoided.

Project implementation is expected to contribute to improved long-term operational emissions. The Project does not propose to increase rail traffic or rail line operations; instead it would improve efficiency. The Project proposes a fourth lead track extension, which would enhance the A Yard's efficiency by reducing congestion along the existing lead tracks serving BNSF's east-west corridor. Increased rail operations efficiency would reduce train idling by approximately 43 percent (see **Section 4.2: Air Quality**). Additionally, removal of land uses would reduce stationary and mobile source emissions. These improved long-term operational emissions would offset the short-term construction emissions exceedances. With the No Project/No Construction Alternative, the decrease in long-term emissions would not occur.

The No Project/No Construction Alternative would be environmentally inferior to the proposed Project regarding air quality impacts, as no decrease in long-term emissions associated with reduced train idling would occur.

Biological Resources

The Project would result in less than significant direct and indirect impacts to special-status plant and animal species with mitigation incorporated. Under this Alternative, none of the Project's impacts to special-status plant and animal species would occur, as existing habitat, vegetation, and trees would not be removed and rail and ancillary improvements would not be constructed. The Project's adverse effects to sensitive natural communities (ruderal), which would be less than significant with mitigation incorporated, would be avoided with this Alternative, as existing habitat would be retained and no rail or ancillary improvements would be constructed. The Project would result in less than significant impacts to wetlands with mitigation incorporated. Under this Alternative, no potential for impacts to wetlands would occur, as no rail or ancillary improvements would be constructed and the wetlands would not be disturbed.

The No Project/No Construction Alternative would be environmentally superior to the proposed Project regarding biological resources, as no habitat, jurisdictional features, or plant or wildlife species would be impacted.

Cultural Resources

The Project would result in no impact to historical resources and less than significant impacts to as yet undiscovered archaeological resources, with mitigation incorporated. Under this Alternative, these

potential Project impacts would be avoided, as no ground disturbing activities would occur. This Alternative would also avoid the Project's potential for disturbing human remains, which is concluded to be less than significant through compliance with the established regulatory framework.

The No Project/No Construction Alternative would be environmentally superior to the proposed Project regarding cultural resources. There would be no potential for impacting resources, since no ground disturbing activities would occur.

Energy

The energy usage during construction associated with water usage for dust control, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips would not occur with this Alternative, since no rail or ancillary improvements would be constructed. Project construction impacts, which would be less than significant, would not occur.

Project implementation would reduce locomotive fuel consumption, due to reduced train idling. The Project would reduce congestion, improve operational efficiency, and reduce energy waste, resulting in improved fuel consumption efficiencies. Under this Alternative, no change in operational fuel consumption would occur and existing fuel consumption and energy waste would remain at current levels- no reduction would occur.

The No Project/No Construction Alternative would be environmentally inferior to the proposed Project regarding energy impacts, as no reduction in long-term fuel consumption associated with reduced train idling would occur.

Geology and Soils

The soil erosion or loss of topsoil from grading and excavation operations that would occur with the proposed Project would not occur with this Alternative, since no rail or ancillary improvements would be constructed.

The Project site is susceptible to seismic, geologic, and soils hazards. The Project would displace land uses, decreasing the exposure of people and structures to potential adverse effects associated with seismic, geologic, or soil hazards. The No Project/No Construction Alternative would not displace existing land uses, resulting in continued exposure of people and structures to potential adverse effects associated with seismic, geologic, or soil hazards, as is typical in Southern California, a highly-seismic region. However, residents displaced by the Project would likely relocate elsewhere within Southern California. Thus, the exposure of people and structures to seismic, geologic, or soil hazards would generally be the same. A less than significant impact (with mitigation incorporated) would occur with the proposed Project, while existing exposure would continue to occur with this Alternative. Since no rail or ancillary improvements would be constructed, this Alternative would avoid the Project's potential for unique paleontological or geologic resources to be impacted from ground disturbing activities, which is concluded to be less than significant with mitigation incorporated.

The No Project/No Construction Alternative would be neither environmentally inferior nor superior to the proposed Project regarding seismicity, geology, and soils, given exposure of people and structures to potential hazards would generally be the same if displaced and relocated within Southern California.

Greenhouse Gas Emissions

Project-related GHG emissions would decrease annually compared to existing conditions through reduced train idling and congestion, as well as removing existing land uses and associated vehicle trips. Since the No Project/No Construction Alternative would not decrease train idling or congestion, or remove existing land uses, this Alternative would maintain existing GHG emissions at current levels.

The No Project/No Construction Alternative would be environmentally inferior to the proposed Project regarding GHG emissions, since no decrease in GHG emissions would occur.

Hazards and Hazardous Materials

The Project's potential construction-related impacts involving increased safety risk to workers due to the transport, handling, and disposal of hazardous materials and waste, which were considered to be less than significant, would be avoided with this Alternative, since no construction activities would occur. The Project does not propose to increase rail line operations; instead it would improve the A Yard's operational efficiency. Therefore, the Project's potential operational impacts involving safety risk to workers due to the transport, handling, and disposal of hazardous materials and waste, which were considered to be less than significant, would be similar under this Alternative, since rail line operations would not change. Similarly, the Project's potential construction-related impacts involving demolition of buildings or structures with asbestos or lead-based paint, which were considered to be less than significant with mitigation incorporated, would be avoided with this Alternative.

The No Project/No Construction Alternative would be environmentally superior to the proposed Project regarding hazards and hazardous materials, since no ground disturbing activities would occur, and no buildings or structures would be demolished.

Hydrology and Water Quality

The No Project/No Construction Alternative would not result in short-term impacts to water quality, since no grading, excavation, or construction activities would occur. The less than significant short-term water quality impacts that would occur with the Project would be avoided with this Alternative.

Project implementation would decrease the rate and amount of stormwater runoff, and change its quality, by removal of impervious surfaces and land uses. The Project's potential long-term hydrology and water quality impacts, which were concluded to be less than significant, would be avoided with this Alternative.

Project implementation would decrease demands on groundwater resources through removal of existing land uses. Project implementation would also increase stormwater capacity under Design Options 2a and 2b. Project impacts concerning groundwater supplies would be less than significant. Under the No Project/ No Construction Alternative, no impact would occur to groundwater supplies, as no land uses would be displaced, and Project impacts concerning groundwater supplies would be avoided.

The No Project/No Construction Alternative would be environmentally inferior to the proposed Project regarding hydrology and water quality, since no increase in stormwater capacity would occur, impervious surfaces would not decrease, and land uses would not be removed.

Land Use and Planning

To accommodate the proposed rail and ancillary improvements, the Project would remove as many as 43 DU and approximately 78,000 square feet of non-residential (commercial and industrial) land uses. The No Project/No Construction Alternative would retain the Project site in its current condition- none of the existing land uses would be removed and no rail or ancillary improvements would be constructed.

The No Project/No Construction Alternative would be environmentally superior to the Project regarding land use, since no land uses would be displaced and no rail or ancillary improvements would be constructed.

Noise

The Project's construction-related noise impacts would be less than significant with mitigation incorporated. The Project's construction-related vibration impacts are also anticipated to be less than significant. The Project's construction-related noise and vibration impacts would not occur with the No Project/No Construction Alternative as no rail or ancillary improvements would be constructed. Therefore, the construction-related noise and vibration impacts that would occur with the Project would be avoided with this Alternative.

Project implementation would encroach train traffic to the east, closer to sensitive receptors, which would result in a severe noise impact along various segments. With mitigation, the Project's railroad noise impacts would be reduced to less than significant. **Table 4.11-1: Railroad Noise Levels – Existing Conditions** identifies the modeling results under existing conditions and indicates rail noise levels range from 56 dBA to 78 dBA. These existing modeled railroad noise levels would continue with the No Project/ No Construction Alternative, as the Project does not propose to increase rail line operations. Under this Alternative, tracks would not move closer to sensitive receptors.

Project implementation would result in less than significant impacts from mobile noise sources. A decrease in average daily trips (ADT), with resultant decreases in mobile source noise levels, would occur with the proposed Project due to removal of existing land uses. Under this Alternative, no decrease in mobile source noise levels would occur, because existing land uses would not be removed.

Exhibit 4.11-1: Noise Measurement Locations, shows the noise measurement locations and **Table 4.11-2: Noise Monitoring Results**, identifies the ambient noise levels (L_{eq}) measured at these locations. With the No Project/No Construction Alternative, these noise levels would continue.

The No Project/No Construction Alternative would be environmentally superior to the proposed Project regarding noise. Although no short-term construction-related or long-term operational vehicular noise level increases would occur, long-term operational train noise levels would increase, as the Project would encroach train traffic to the east, closer to sensitive receptors.

Population and Housing

To accommodate the proposed rail and ancillary improvements, the Project would remove as many as 43 DU (see **Table 4.12-7: Residential Property Acquisitions**), resulting in a population decrease of approximately 149 persons. Therefore, the Project would not induce population growth in the area, either directly or indirectly.

The Project would displace both people and housing, including as many as 43 DU (149 persons) and as much as 78,000 SF of non-residential land uses (417 jobs); see **Table 4.12-8: Commercial Property Acquisitions**. The displacement that would occur with the Project would not occur with this Alternative, because residential, commercial and industrial uses would not be removed. Therefore, although less than significant, the Project's impacts from displacement would be avoided with this Alternative.

The No Project/No Construction Alternative would be environmentally superior to the proposed Project regarding displacement of people and housing, since no displacement (i.e., removal of residential or non-residential land uses) would occur.

Public Services and Recreation

Construction-related activities associated with the Project's proposed rail and ancillary improvements would temporarily increase the demand for fire, police, and medical services in and near the Project site due to the potential increased hazards associated with construction and demolition activities and use of materials. The No Project/No Construction Alternative would avoid these Project impacts, since no construction activities would occur. Additionally, the Project would displace residential and non-residential land uses, with resultant decreases in population and demand for fire, police, medical, schools, and library services, as well as recreational facilities. The No Project/No Construction Alternative would retain the existing land uses, with no decrease in population or demand for these services and facilities.

The No Project/No Construction Alternative would be environmentally inferior to the proposed Project regarding impacts to public services and recreational facilities, since decreases in demands for police, fire, medical, schools, and library services and recreational facilities would not occur.

Transportation

During Project construction, the Project would generate 38 peak hour trips. Under this Alternative, since no construction would occur, no temporary construction-related increase in traffic would occur. This Alternative would avoid the Project's construction impacts, which would be less than significant with mitigation incorporated.

Because the Project would remove existing land uses, Project implementation is forecast to reduce traffic by 572 ADT (-50 AM peak hour trips and -61 PM peak hour trips); see **Table 4.14-3: Trip Generation Rates and Estimates**. To accommodate the proposed rail and ancillary improvements, the Project includes circulation and roadway improvements and modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs. The No Project/No Construction Alternative would not reduce traffic, and no circulation or roadway improvements or modifications would occur.

The No Project/No Construction Alternative would be environmentally inferior to the proposed Project regarding transportation impacts. No decrease in operational trips would occur under this Alternative.

Tribal Resources

The Project could result in less than significant potential impacts to as yet undiscovered tribal resources, with mitigation incorporated. Under this Alternative, these potential Project impacts would be avoided, as no ground disturbing activities would occur.

The No Project/No Construction Alternative would be environmentally superior to the proposed Project regarding tribal resources. There would be no potential for impacting tribal cultural resources, since no ground disturbing activities would occur.

Utilities and Service Systems

The No Project/No Construction Alternative would avoid the Project's temporary increased demand upon utilities and service systems during construction. Given the Project's scope and nature (i.e., lead track extension), Project operations would not create a demand for water, or increase wastewater or solid or waste generation. Rather, Project implementation would remove up to 43 DUs and approximately 78,000 square feet of non-residential (commercial and industrial) land uses, decreasing the demand for water and wastewater and solid waste generation. The No Project/No Construction Alternative would retain the Project site in its current condition. With this Alternative, the site's existing land uses would remain.

The No Project/No Construction Alternative would be environmentally inferior to the proposed Project regarding impacts to utilities and service systems. While temporary increases in utility demand and construction of utilities would not occur during construction, neither would decreases in services and utilities demand resulting from land use displacement during operations.

ABILITY TO MEET PROJECT OBJECTIVES

The No Project/No Construction Alternative would not meet any of the Project objectives, as identified above.

6.1.2 "NO PROJECT/EXISTING LAND USE DESIGNATIONS" ALTERNATIVE

The Project site is wholly within the City of San Bernardino. The City's zoning for the Project site is detailed in **Appendix 9.1**. As indicated in **Appendix 9.1**, the Project site is zoned RS (Residential Suburban) Zone, CG-1 (Commercial General) Zone, CH (Commercial Heavy) Zone, IL (Industrial Light) Zone, and RR (Railroad) Zone.

The Project constitutes a development project on identifiable property. Thus, in this instance, the "no project" alternative is the circumstance under which the Project would not proceed, but the existing environmental conditions would not be preserved. Because the Project site contains approximately 5.61 acres of vacant land the City of San Bernardino General Plan (SBGP) designates for development, Project denial could result in predictable actions by others, such as the proposal of some other project or projects. It would not be unreasonable that other development proposals for the vacant land would come forward if the proposed Project were denied. Thus, the "No Project/Existing Land Use Designations" Alternative discussed below assumes development of the Project site's vacant properties consistent with the SBGP allowed density and intensity. **Table 6-1: Existing Land Use Designations and Development Capacities**, presents the existing land use designations, along with maximum development capacities, according to SBGP provisions, for the Project site's 5.61 acres of vacant land. Concerning the remaining approximately 35.4 acres of developed land within the approximately 41-acre Project site, this Alternative assumes no change from existing conditions.

TABLE 6-1: EXISTING LAND USE DESIGNATIONS AND DEVELOPMENT CAPACITIES				
Existing Land Use Designations	**Acres**	**Density/ Intensity[1]**	**Development Capacity**	
			Residential (DU)[2]	**Non-Residential (SF)[2]**
Residential Suburban (RS)	5.29	4.5 DU/AC	23	
Industrial Light (IL)	0.32	0.75 FAR		10,454
Total	***5.61***		***23***	***10,454***

Notes:
1. Residential density (dwelling units per acre) and non-residential intensity (Floor Area Ratio (FAR)) are taken from City of San Bernardino General Plan Land Use Element. pages 2-17 to 2-23. (2005)
2. DU = dwelling units; FAR = floor area ratio; SF = square feet; and DU/AC = dwelling units per acre.

DESCRIPTION OF ALTERNATIVE

The "No Project/Existing Land Use Designations" Alternative proposes development of what would be reasonably expected to occur in the foreseeable future, if the Project were not approved, based on the vacant properties' existing SBGP land use designations. Various development scenarios could be proposed that would be consistent with the land use designations outlined in **Table 6-1**. While development could conceivably result in development at the maximum allowable land uses, for purposes of this analysis, the "No Project/Existing Land Use Designations" Alternative assumes development of the Project site's vacant properties based on 75% of the maximum allowable land uses, as presented in **Table 6-2, Comparison of Proposed Project and No Project/Existing Land Use Designations Alternative**. It is noted, any combination of allowed land uses with reduced densities could also be proposed. This Alternative is a conservative analysis, since the Project site's vacant land is not assumed to be developed at the maximum-allowable development based upon the existing SBGP land use plan. As indicated in **Table 6-2**, this Alternative involves development of both residential and light industrial uses. Generally, this Alternative excludes the Project's proposed rail and ancillary improvements and land use displacements, and includes development of residential and light industrial land uses. Thus, the vacant land development footprint under this Alternative would be generally similar to the Project's footprint. As compared to the Project, this Alternative proposes retaining the existing 43 DU, 32,000 SF of industrial uses, and 46,000 SF of commercial uses that would be removed by the Project. Additionally, this Alternative proposes new development including approximately 17 DU and 7,841 SF of light industrial uses on the currently vacant land.

TABLE 6-2: COMPARISON OF PROPOSED PROJECT AND NO PROJECT/EXISTING LAND USE DESIGNATIONS ALTERNATIVE					
Description	**Single-Family Residential (DU)[1]**	**Commercial (SF)**	**Industrial (SF)[1]**	**TOTAL (DU)**	**TOTAL (SF)**
Proposed Project	-43	-46,000	-32,000	-43	-78,000
No Project/Existing Land Use Designations Alternative					
Land Uses Retained	43	46 ,000	32,000	43	78,000
Land Uses Allowed	+17	0	+7,841	+17	+7,841
Difference between Project and Alternative	+60	+46,000	+39,841	+60	+85,841

Note:
1. DU = dwelling units; and SF = square feet.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Aesthetics

Under this Alternative, none of the Project's rail and ancillary improvements would be constructed. The vacant land's visual character/quality would be altered similar to the Project, since the existing landscape, including the built environment/acquired land uses and vegetation would be removed and replaced with new residential and industrial land uses and ancillary improvements. With this Alternative, the degree of visual alteration would be less than with the Project because this Alternative involves no displacement of existing land uses or new rail or ancillary improvements, although new residential and industrial uses would be developed.

The existing urbanized area comprised primarily of BNSF ROW, commercial, industrial, and residential land uses, and roadways would remain unchanged. These existing uses would continue to be sources of light or glare and the existing vertical features including buildings and structural massing would remain. The replacement of existing vertical features and sources of light and glare with the proposed Project, namely, at or near grade development with minimal light sources, would not occur. The Project's decrease in light and glare, which was concluded to be a less than significant impact, would not occur with this Alternative, since no light sources would be removed. The Project's impacts involving light and glare were concluded to be less than significant. New light sources would be introduced with this Alternative, however, to a greater degree than with the Project, since this Alternative involves maintaining existing residential, commercial, and industrial uses and developing additional residential and industrial uses.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding aesthetics/light and glare, as the site's visual character would be altered and new light sources would be retained/introduced to a greater degree than with the Project.

Air Quality

Short-term air quality impacts from demolition, grading, and construction activities associated with the proposed Project would not occur with the No Project/Existing Land Use Designations Alternative, as no land uses would be removed and no rail or ancillary improvements would be constructed. However, short-term emissions would occur from construction-related activities associated with new development. The Project's construction-related emissions would be less than significant with mitigation incorporated. This Alternative's construction-related air quality impacts would be less than the proposed Project, given this Alternative would not require demolition or track ballast and associated material, and would likely require less soil import/export for the new development, thus, only minor grading and over-excavation would be expected. Further, construction-related activities with this Alternative would occur only within the vacant properties, reducing the area and amount of construction.

Project implementation is expected to contribute to improved long-term operational emissions from decreased train idling/increased rail operations efficiency, and removal of existing land uses and their associated vehicle trips. These improved long-term operational emissions would offset the short-term construction emissions exceedances. With the No Project/Existing Land Use Designation Alternative, the decrease in long-term emissions would not occur. Emissions associated with this Alternative's stationary sources would be greater than with the proposed Project, given this Alternative proposes maintaining existing residential, commercial, and industrial uses and developing additional residential and industrial

uses, with resultant vehicle trips. Because this Alternative's ADT would be greater than the Project's, the resultant mobile source emissions would be proportionately increased.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding air quality impacts, as greater long-term operational mobile and stationary source emissions would occur.

Biological Resources

The Project would result in less than significant direct and indirect impacts to special-status plant and animal species with mitigation incorporated. Under this Alternative, the Project's impacts to special-status plant and animal species would occur also, as existing habitat, vegetation, and trees would be removed within the vacant sites and new land uses would be developed. The Project's adverse effects to sensitive natural communities (ruderal), which would be less than significant with mitigation incorporated, would be similar with this Alternative, as existing habitat would be removed and new land uses would be developed. The Project would result in less than significant impacts to wetlands with mitigation incorporated. Under this Alternative, no impact to wetlands would occur, as no rail or ancillary improvements or new development would be constructed where they are present, and the wetlands would not be disturbed.

The No Project/Existing Land Use Designations Alternative would be environmentally superior to the proposed Project regarding biological resources. Although there would be similar development footprints, and similar habitat, plant and wildlife species, and ruderal habitat would be impacted with this Alternative, impacts to wetlands would be avoided.

Cultural Resources

The Project would result in no impact to historical resources and less than significant impacts to as yet undiscovered archaeological resources, with mitigation incorporated. These potential Project impacts would occur also with this Alternative, as a similar development within vacant lands would result in similar ground disturbing activities. The Project's potential to disturb as yet undiscovered human remains, which is concluded to be less than significant through compliance with the established regulatory framework, would be similar with this Alternative.

The No Project/Existing Land Use Designations Alternative would be neither environmentally superior nor inferior to the proposed Project regarding cultural resources. Given similar development within vacant lands and ground disturbing activities, there would be a similar potential to impact as yet undiscovered resources.

Energy

The energy usage during construction associated with water usage for dust control, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips would be less with the No Project/Existing Land Use Designations Alternative, since no demolition would occur and construction would occur only the Project site's vacant properties.

Project implementation would reduce locomotive fuel consumption, due to reduced train idling. The Project would reduce congestion, improve operational efficiency, and reduce energy waste, resulting in

improved fuel consumption efficiencies. Under this Alternative, no change in operational fuel consumption would occur and existing fuel consumption and energy waste would remain at current levels. Instead, an increase in energy usage would occur from new residential and industrial development.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding energy impacts, as no reduction in long-term fuel consumption associated with reduced train idling would occur and additional energy usage from new residential and industrial uses would occur.

Geology and Soils

The soil erosion or loss of topsoil from grading and excavation operations that would occur with the proposed Project would occur also with the No Project/Existing Land Use Designations Alternative, although to a lesser degree, as no rail or ancillary improvements would be constructed, however, new residential and industrial uses would be developed. With this Alternative, these impacts would be generally be similar because the same vacant footprint would be graded. As with the proposed Project, less than significant impacts would occur with this Alternative following compliance with the established regulatory framework.

The Project site is susceptible to seismic, geologic, and soils hazards. The Project would displace land uses, decreasing the exposure of people and structures to potential adverse effects associated with seismic, geologic, or soil hazards. The No Project/Existing Land Use Designations Alternative would expose more people and structures to potential adverse effects associated with these hazards than would the proposed Project, since existing land uses would be retained and new residential and industrial uses would be developed. As with the proposed Project, a less than significant impact (with mitigation incorporated) would occur with this Alternative.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding seismicity, geology, and soils, given it would expose a greater number of people and structures to potential hazards.

Greenhouse Gas Emissions

Project-related GHG emissions would decrease on an annual basis compared to existing conditions through reducing train idling and congestion, as well as removing existing land uses and associated vehicle trips. Since the No Project/Existing Land Use Designations Alternative would not reduce train idling or congestion or remove existing land uses or their associated vehicle trips, this Alternative would maintain existing GHG emissions- no decrease would occur. Additionally, this Alternative would increase GHG emissions from construction of additional residential and industrial land uses.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding GHG emissions, since no decrease in GHG emissions would occur from reduced train idling and congestion, as well as removal of existing land uses. Instead, GHG emissions would increase from new residential and industrial land uses.

Hazards and Hazardous Materials

The Project's potential construction-related impacts involving increased safety risk to workers due to the transport, handling, and disposal of hazardous materials and waste, which were considered to be less

than significant, would be less under this Alternative, since additional development would occur only within the site's vacant portions, and no ground disturbance or construction of rail or ancillary improvements would occur. Additionally, the Project's potential construction-related impacts involving demolition of buildings or structures with asbestos or lead-based paint, which were considered to be less than significant with mitigation incorporated, would be avoided with this Alternative.

The Project does not propose to increase rail line operations; instead it would improve the A Yard's operational efficiency. Therefore, the Project's potential operational impacts involving safety risk to workers due to the transport, handling, and disposal of hazardous materials and waste, which were considered to be less than significant, would be similar under this Alternative, since rail line operations would not change. This Alternative would maintain existing industrial uses and develop additional industrial uses which would proportionately increase the transport, handling, and disposal of hazardous materials and waste within the Project site.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding hazards and hazardous materials. Although no ground disturbing activities would occur and no buildings or structures would be demolished, this Alternative would maintain and increase the industrial uses within the Project site, proportionately increasing the transport, handling, and disposal of hazardous materials and waste within the Project site.

Hydrology and Water Quality

The No Project/Existing Land Use Designations Alternative would result in short-term impacts to water quality, similar to the proposed Project although to a lesser degree, since grading, excavation, and construction activities would occur only within the vacant properties. The less than significant short-term water quality impacts that would occur with the Project would occur also with this Alternative.

Project implementation would decrease the rate and amount of stormwater runoff, and change its quality, by removal of impervious surfaces and land uses and construction of infiltration basins. Project implementation would also increase stormwater capacity under Design Option 2a and 2b. The Project's potential long-term hydrology and water quality impacts, which were concluded to be less than significant, would be less with this Alternative, since no existing use would be removed/no change in drainage pattern would occur, except where new residential and industrial uses are proposed within the vacant properties. Additionally, no increase in stormwater capacity would occur under this Alternative.

Project implementation would decrease demands on groundwater resources through removal of existing land uses. Project impacts concerning groundwater supplies would be less than significant. Under the No Project/Existing Land Use Designations Alternative, less impact to groundwater supplies would occur, as no land uses would be displaced, however, new residential and industrial uses would be developed.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding hydrology and water quality, since ground disturbing activities and changes in impervious surfaces would occur only within the vacant properties, but Project beneficial effects on water quality and runoff would not occur.

Land Use and Planning

As indicated in **Table 6-2**, this Alternative involves maintaining the existing residential (43 DU), commercial (46,000 SF), and industrial (32,000 SF) land uses that would be removed with the Project, and developing

an additional 17 DU and 7,841 SF of industrial uses within the vacant properties. This Alternative excludes displacement of existing land uses and construction of rail and ancillary improvements.

The Project was concluded to be consistent with the SBGP plans and goals adopted for the purpose of avoiding or mitigating an environmental effect; see **Table 4.10-1: City of San Bernardino General Plan 2005 Consistency**. Development proposed under this Alternative would be required to demonstrate consistency with the relevant plans and policies, and would be limited to the maximum allowable amounts within the vacant properties, as presented in **Table 6-2**. However, as noted previously, this Alternative assumes development at 75% of the maximum-allowable land uses.

The land use compatibility issues associated with the Project's proposed land use and off-site uses were concluded to be less than significant. The No Project/Existing Land Use Designations Alternative impacts would be less than significant as well because the additional residential and industrial land uses would be compatible with the existing residential, commercial, and industrial land uses. However, potential impacts would be evaluated through the established City development review processes, and would be subject to compliance with the established regulatory framework, including the SBGP and City of San Bernardino Municipal Code (SBMC) standards. However, this Alternative would develop additional residential uses near existing BNSF tracks, which could result in land use incompatibilities concerning aesthetics, noise, and air quality.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding land use consistency. The proposed Project would be consistent with applicable policies and would not result in incompatibilities with mitigation incorporated. While this Alternative would propose land uses consistent with underlying SBGP land use designations, this Alternative would propose additional residential uses proximate to existing BNSF tracks.

Noise

Construction noise associated with the Project would result in less than significant impacts, with mitigation incorporated. The Project's construction-related vibration impacts are also anticipated to be less than significant. Construction-related short-term noise impacts from stationary and mobile sources and vibration impacts would occur also with the No Project/Existing Land Use Designations Alternative, although to a lesser degree than with the Project. This Alternative's construction-related noise impacts would be less than with the proposed Project, since no demolition would occur and construction would occur only within the Project site's vacant properties.

Project implementation would encroach train traffic to the east, closer to sensitive receptors, which would result in a severe noise impact along various segments. With mitigation, the Project's railroad noise impacts would be reduced to less than significant. The Project's impacts concerning railroad noise would be avoided with this Alternative, given no rail improvements would be constructed. However, this Alternative would develop noise-sensitive receptors (i.e., residential uses) near existing BNSF tracks, which could result in noise impacts.

Project implementation would result in less than significant impacts from mobile noise sources. The decrease in ADT, with resultant decreases in noise levels from mobile sources that would occur with the Project would not occur with this Alternative. Instead, ADT and associated mobile noise levels would increase with this Alternative because new residential and industrial land uses would be developed. This Alternative's impacts from mobile noise sources would be greater than with the proposed Project, given

that this Alternative would retain existing land uses and develop new residential and industrial land uses, resulting in greater traffic volumes.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding noise. Although the short-term construction-related noise would be less than the proposed Project, long-term operational mobile and stationary noise increases would occur to a greater degree than with the Project. Additionally, this Alternative would involve development of receptors closer to existing BNSF tracks with associated railroad noise.

Population and Housing

To accommodate the proposed rail and ancillary improvements, the Project would remove as many as 43 DU (see **Table 4.12-7**), resulting in a population decrease of approximately 149 persons. Therefore, the Project would not induce population growth in the area, either directly or indirectly. However, under this Alternative, this population decrease would not occur, rather this Alternative would develop 17 additional DU, resulting in a population increase of approximately 59 persons. Therefore, this Alternative would induce population growth in the area. Because this Alternative assumes development on the vacant properties based on 75% of the SBGP's maximum allowed development, as presented in **Table 6-2**, it would not exceed the growth forecasts from the relevant planning documents. Therefore, as with the Project, this Alternative would result in less than significant impacts involving population growth.

The Project would displace both people and housing, including as many as 43 DU (149 persons) and as much as 78,000 SF of non-residential land uses (417 jobs); see **Table 4.12-8**. The displacement that would occur with the Project would not occur with this Alternative, because residential, commercial and industrial uses would not be removed. Therefore, although less than significant, the Project's impacts from displacement would be avoided with this Alternative.

The No Project/Existing Land Use Designations Alternative would be environmentally superior to the proposed Project regarding population and housing. Although this Alternative's forecast population growth would be greater than with the Project, it would not exceed the planning document's growth forecasts. However, the Project's impacts from displacement would be avoided with this Alternative.

Public Services and Recreation

Construction-related activities associated with the Project's proposed rail and ancillary improvements would temporarily increase the demand for fire, police, and medical services in and near the Project site due to the potential increased hazards associated with construction and demolition activities and use of materials. The No Project/Existing Land Use Designations Alternative would result in similar impacts as the Project, although to a lesser degree, given construction activities would occur only within the vacant properties. Additionally, the Project would displace residential and non-residential land uses, with resultant decreases in population and demand for fire, police, medical, schools, and library services, as well as recreational facilities. The No Project/Existing Land Use Designations Alternative would retain the existing land uses, with no decrease in population or demand for these public services and recreational facilities. Rather, under this Alternative, additional residential and industrial land uses would be developed with increases in population and demand for public services and recreational facilities.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding impacts to public services and recreational facilities. Under this Alternative,

existing land uses would be retained, with no decrease in population or demand for public services and recreational facilities, and additional land uses would be developed, with increases in population and demands for such services and facilities.

Transportation

During Project construction, the Project would generate 38 peak hour trips. Under this Alternative, since no rail or ancillary improvements would be constructed, and only vacant properties would be developed, proportionately less ADT would occur during construction. This Alternative would avoid some of the Project's construction impacts, which would be less than significant with mitigation incorporated.

Because the Project would remove existing land uses, Project implementation is forecast to reduce traffic by 572 ADT (-50 AM peak hour trips and -61 PM peak hour trips); see **Table 4.14-3**. To accommodate the proposed rail improvements, the Project includes circulation and roadway improvements and modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs. The No Project/Existing Land Use Designations Alternative would not reduce vehicular trips from existing conditions, and no roadway improvements or construction would occur. Instead, this Alternative would increase ADT in and near the Project site given the additional residential and industrial land uses. The additional trips associated with the proposed residential and industrial land uses would be greater than the trips associated with the proposed Project. The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding transportation impacts. Under this Alternative, no decrease in operational trips would occur as no land uses would be displaced; instead this Alternative involves increasing residential and industrial land uses, with proportionately greater traffic volumes than the Project.

Tribal Resources

The Project would result in less than significant potential impacts to as yet undiscovered tribal cultural resources, with mitigation incorporated. These potential Project impacts would occur also with this Alternative, although to a lesser degree, since ground disturbing activities would occur only within vacant properties. The Project's potential to disturb as yet undiscovered tribal cultural resources, which is concluded to be less than significant through compliance with the established regulatory framework, would be similar with this Alternative.

The No Project/Existing Land Use Designations Alternative would be neither environmentally superior nor inferior to the proposed Project regarding cultural resources. Given the similar development footprints and ground disturbing activities within the vacant properties, there would be a similar potential to impact as yet undiscovered tribal cultural resources.

Utilities and Service Systems

The No Project/Existing Land Use Designations Alternative would generate a temporary increased demand upon utilities and service systems during construction, to a lesser degree than the Project, given construction activities would occur only within vacant properties. Given the Project's scope and nature (i.e., lead track extension), Project operations would not create a demand for water, or increase wastewater or solid or waste generation. Rather, Project implementation would remove up to 43 DUs and approximately 78,000 square feet of non-residential (commercial and industrial) land uses, decreasing the demand for water and wastewater and solid waste generation. Under the No Project/Existing Land Use

Designations Alternative, the site's existing land uses would remain- no decrease in demand for water or wastewater or solid waste generation would occur. Rather, the No Project/Existing Land Use Designations Alternative would involve additional residential and industrial development with resultant increases in water demand and wastewater and solid waste generation.

The No Project/Existing Land Use Designations Alternative would be environmentally inferior to the proposed Project regarding impacts to utilities and service systems. Under this Alternative, decreases in services and utilities demand resulting from land use displacement would not occur. Instead, demand for services and utilities would incrementally increase with additional residential and industrial land uses.

ABILITY TO MEET PROJECT OBJECTIVES

The No Project/Existing Land Use Designations Alternative would not meet any of the Project objectives, as identified above.

6.2 "REDUCED FOOTPRINT" ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

The "Reduced Footprint" Alternative assumes development of the Project site similar to the proposed Project, however, it proposes fewer partial acquisitions/avoids acquisitions through variances, in coordination with the City, where these modifications would cause properties to conflict with development standards concerning minimum lot sizes, minimum setbacks, or minimum street widths. Additionally, fewer variances would be required for street widths under the Reduced Footprint Alternative. **Exhibits 6-1: Reduced Footprint Alternative**, - **Exhibit 6-1l: Reduced Footprint Alternative 0-Segment 12** all depict this alternative.

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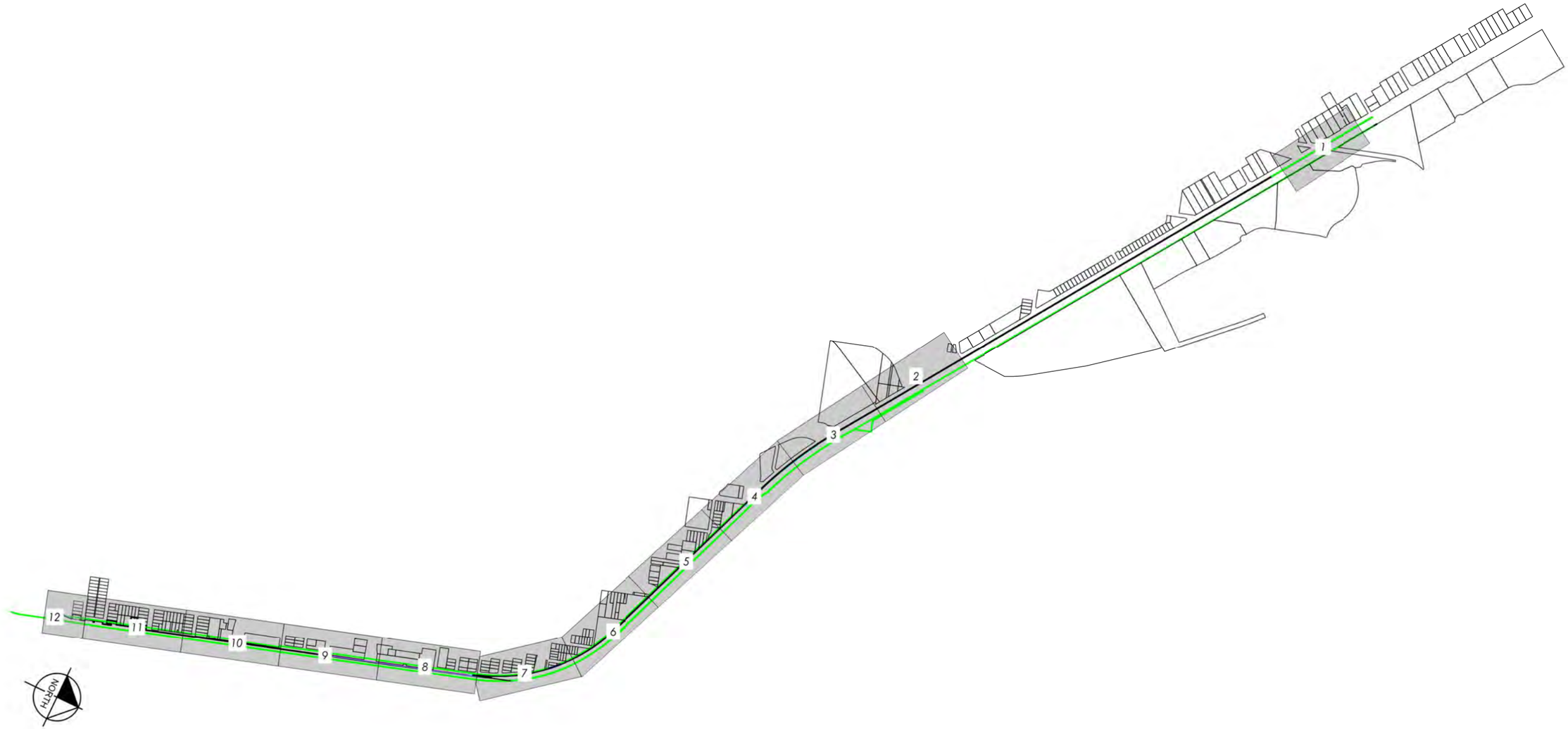

Source: "Reduced" Footprint Alternative: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020 DRAFT.

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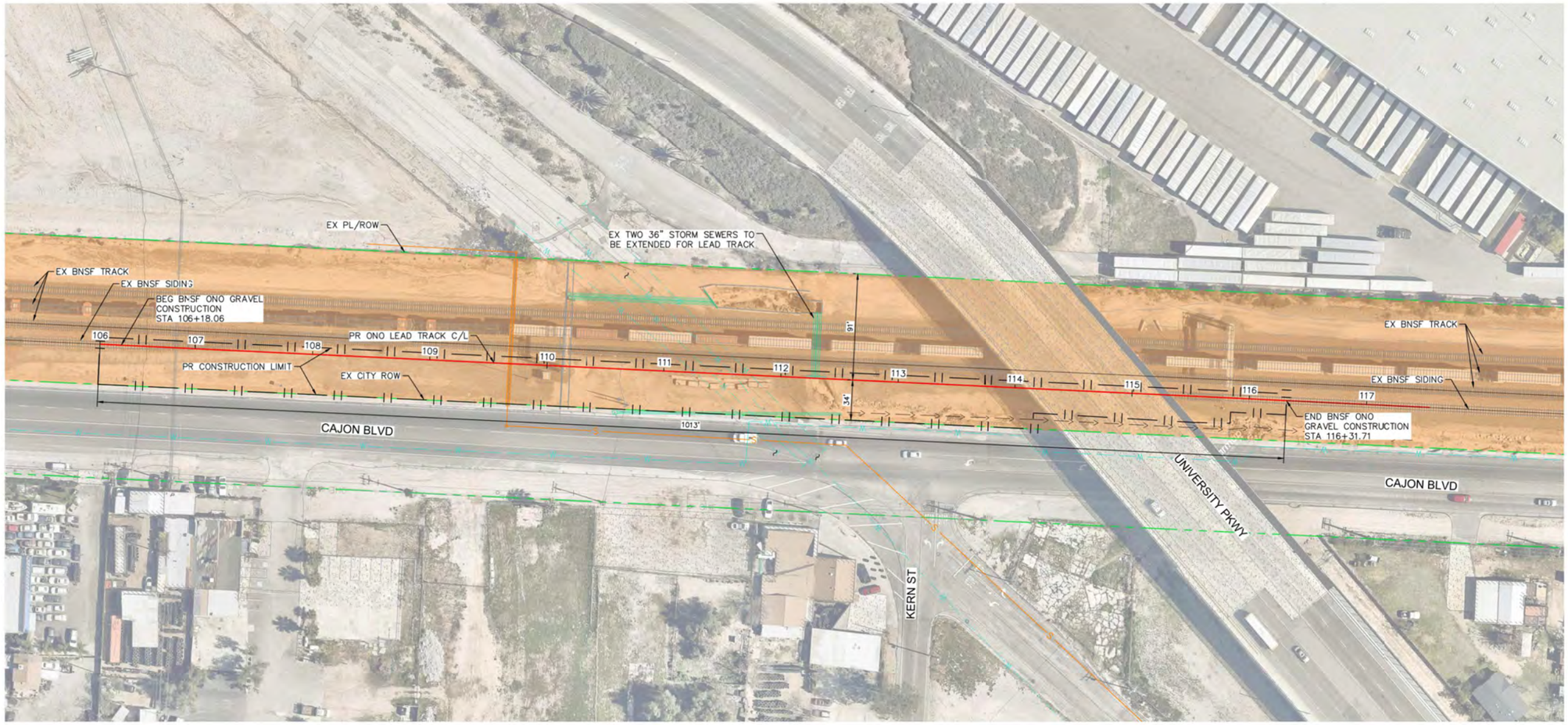

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDNANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME OWNER AS ADJACENT FULL TAKE)
- PRIVATE PROPERTY–POTENTIAL FULL TAKE
- (#) PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION
- (#) UNWILLING SELLER

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: "Reduced" Footprint Alternative: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020

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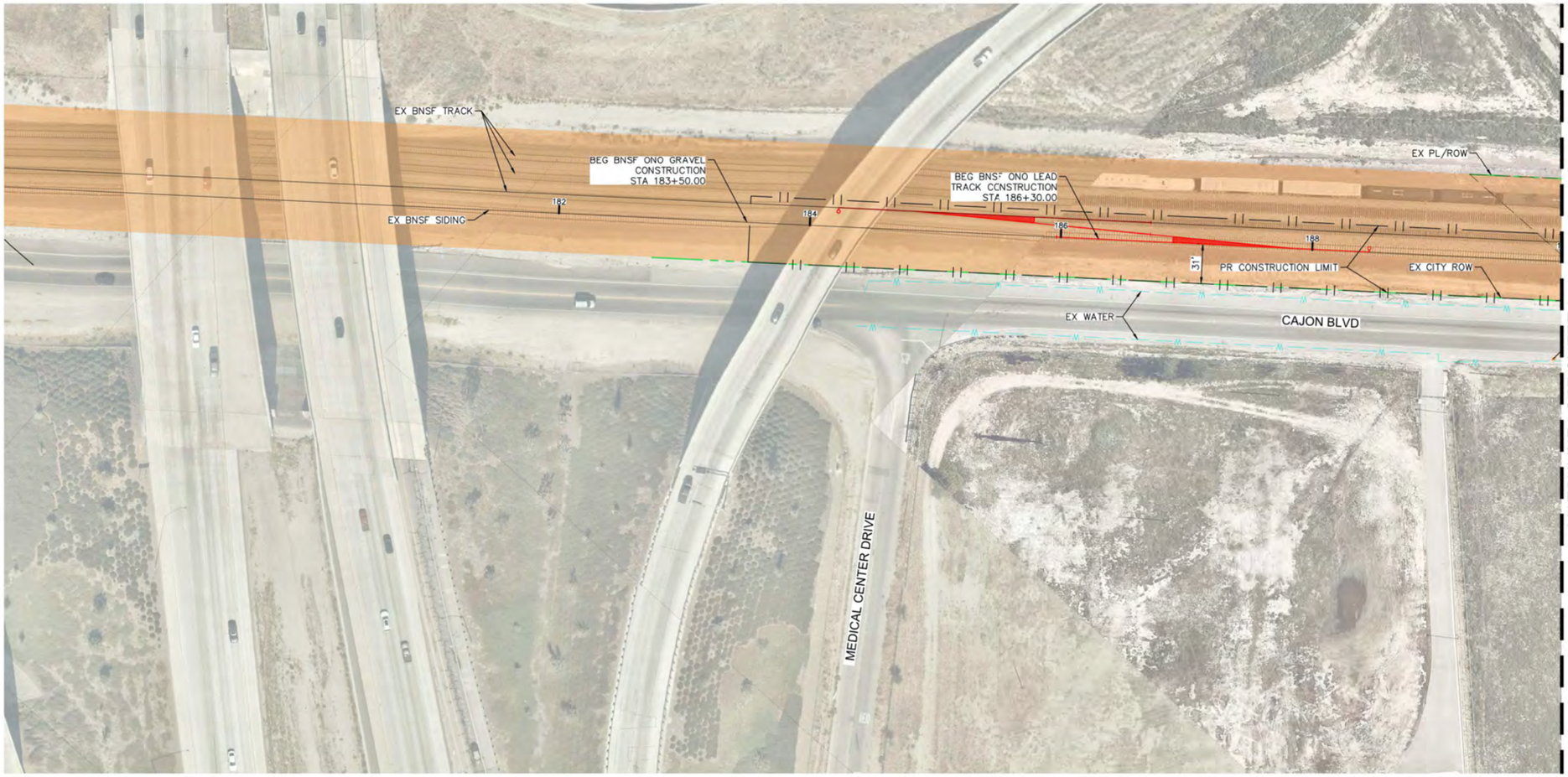

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
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GRAPHIC SCALE IN FEET
0 25 50 100

Source: "Reduced" Footprint Alternative: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020

Kimley»Horn
MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 6-1b: Reduced Footprint Alternative - Segment 2

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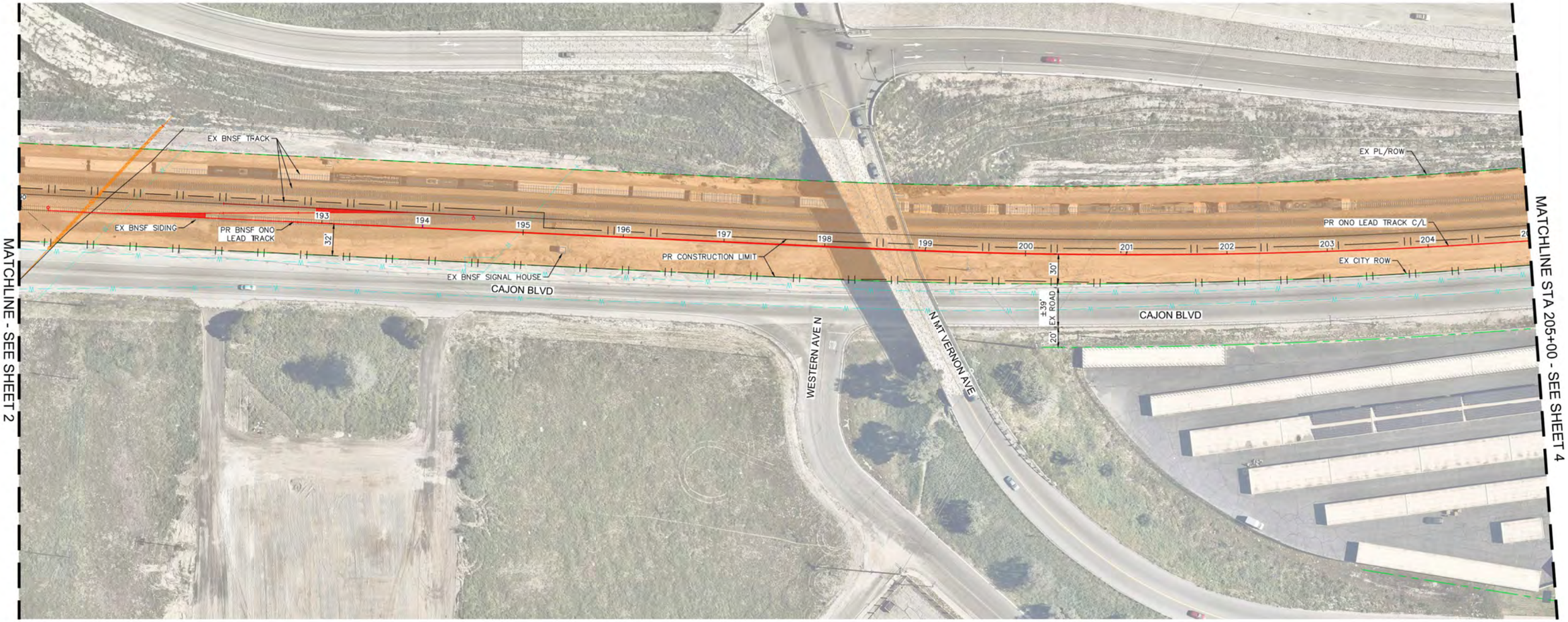

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
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- UNWILLING SELLER

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: "Reduced" Footprint Alternative: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020

Kimley»Horn
MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 6-1c: Reduced Footprint Alternative - Segment 3

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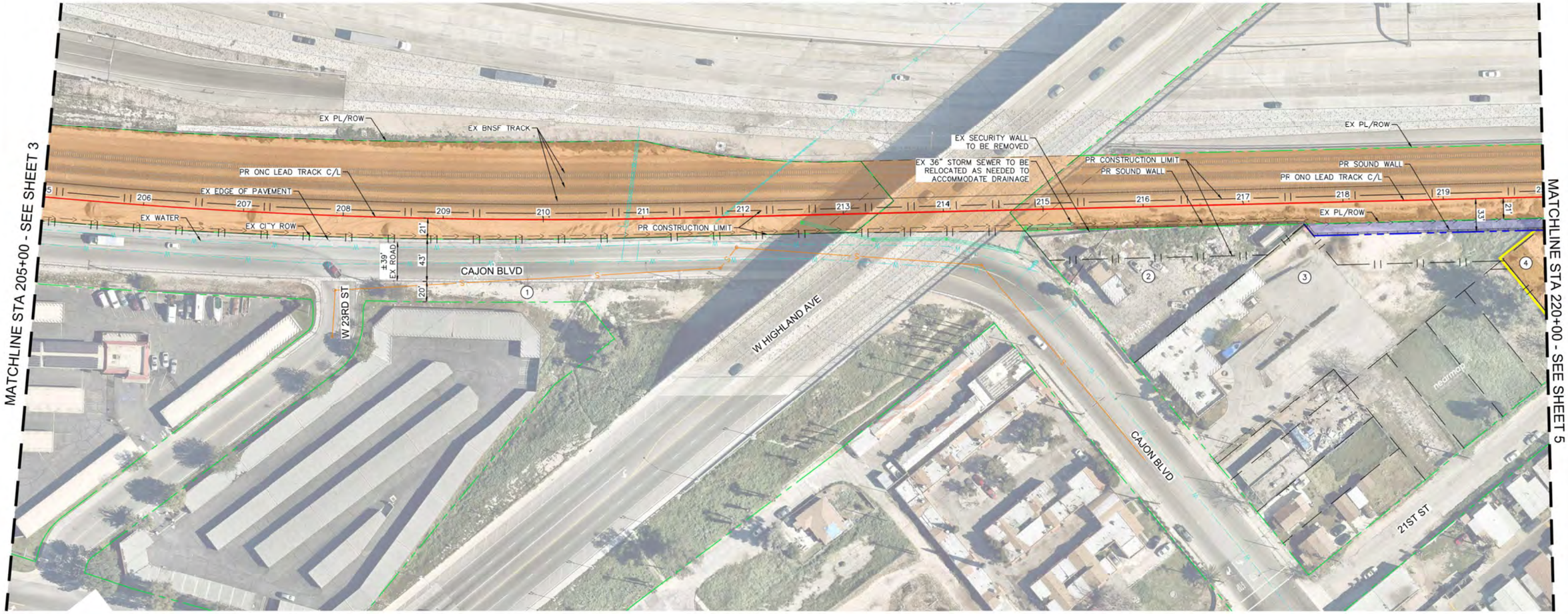

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
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- PR LOT BOUNDARY
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ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

SEGMENT 4

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
1	N/A	CITY OF SAN BERNARDINO	ROW	NO ACQUISITION ANTICIPATED	
2	0144-011-20-0000	BRELAND	CG-1	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
3	0144-011-22-0000	GUTIERREZ	CG-1	PRIVATE PROPERTY-PARTIAL TAKE	IN NEGOTIATIONS WITH BNSF FOR PARTIAL TAKE

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: "Reduced" Footprint Alternative: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020

Kimley»Horn
MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 6-1d: Reduced Footprint Alternative - Segment 4

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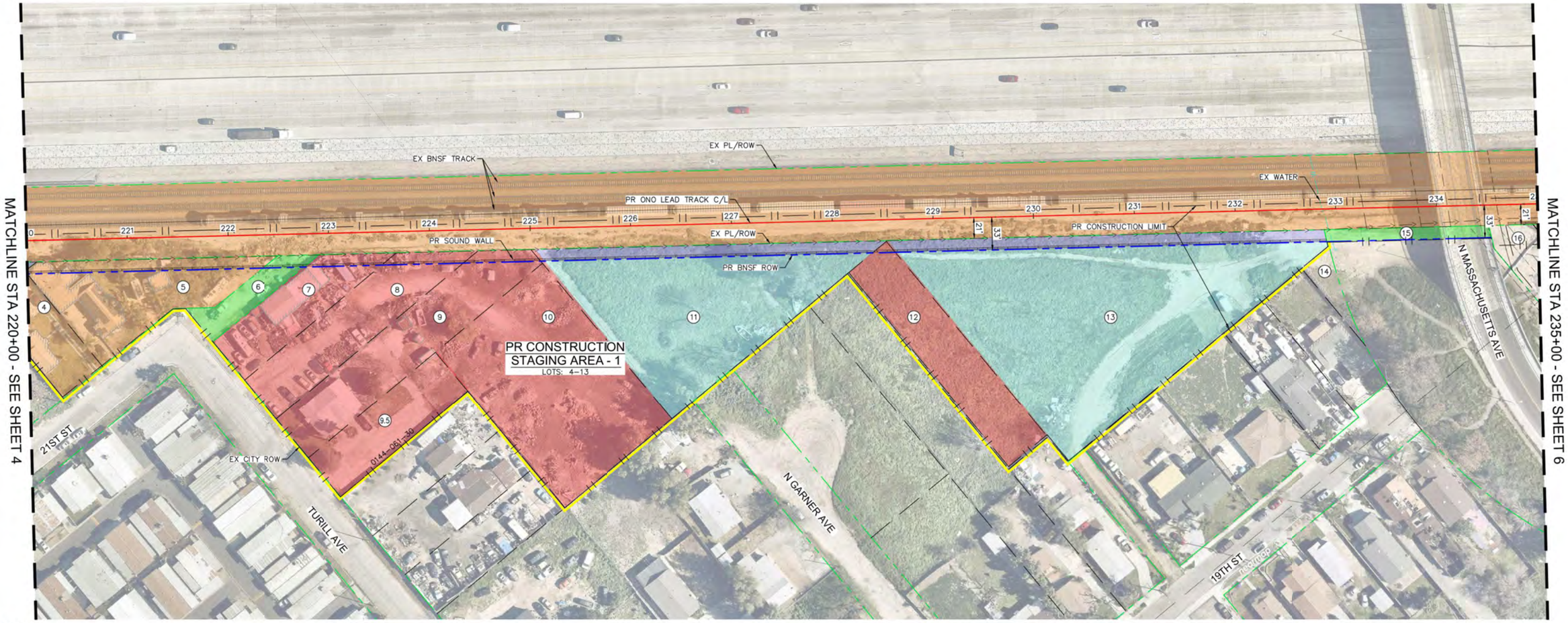

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
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- PRIVATE PROPERTY–POTENTIAL FULL TAKE
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- (#) UNWILLING SELLER

SEGMENT 5

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
4	0144-011-18-0000	BNSF	CG-1	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY PEREZ
5	0144-011-17-0000	BNSF	CG-1	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY MENDOZA
6	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
7	0144-061-33-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE. IN NEGOTIATIONS WITH BNSF
8	0144-061-32-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE. IN NEGOTIATIONS WITH BNSF
9	0144-061-31-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT WIDTH. IN NEGOTIATIONS WITH BNSF
10	0144-061-15-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	LANDLOCKED. IN NEGOTIATIONS WITH BNSF
9.5	0144-061-30-0000	COLBURN	RS	PRIVATE PROPERTY-FULL TAKE	PROVIDES EXISTING DRIVEWAY ACCESS TO ADJACENT OWNER. IN NEGOTIATIONS WITH BNSF
11	0144-061-14-0000	PHAM	RS	PRIVATE PROPERTY-FULL TAKE	UNDER CONTRACT FOR PURCHASE BY BNSF. ENTIRE LOT
12	0144-061-35-0000	PHAM	RS	PRIVATE PROPERTY-FULL TAKE	UNDER CONTRACT FOR PURCHASE BY BNSF. ENTIRE LOT
13	0144-061-07-0000	PHAM	RS	PRIVATE PROPERTY-FULL TAKE	UNDER CONTRACT FOR PURCHASE BY BNSF. ENTIRE LOT
14	0144-061-37-0000	L & M TRUST NO. 2	RS	NO ACQUISITION ANTICIPATED	
15	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: "Reduced" Footprint Alternative: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020

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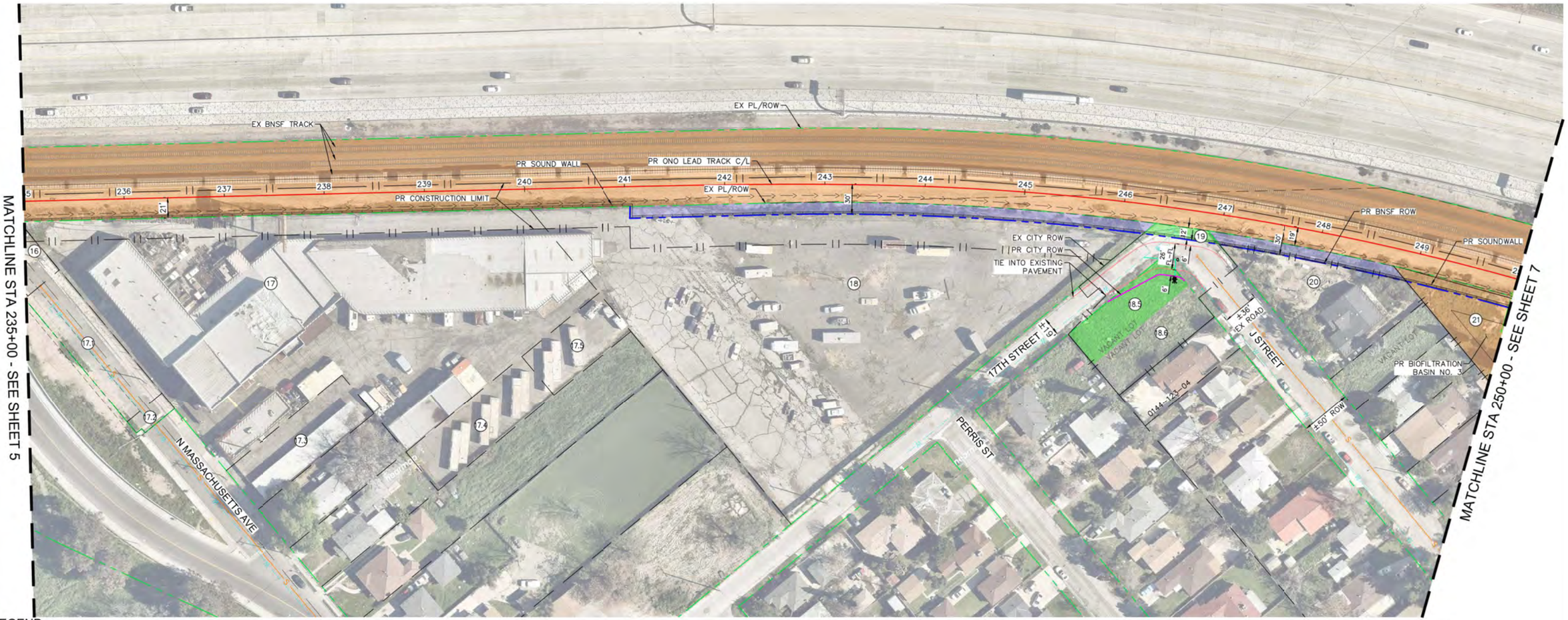

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)
- PRIVATE PROPERTY–POTENTIAL FULL TAKE
- (#) PROPERTY IDENTIFIER, SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION
- (#) UNWILLING SELLER

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
16	0144-061-36-0000	RADI ENTERPRISES CORP	C6-1	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
17	0144-091-10-0000	RADI ENTERPRISES CORP	C6-1	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
17.1	0144-081-10-0000	RADI ENTERPRISES CORP	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
17.2	0144-081-27-0000	RADI ENTERPRISES CORP	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
17.3	0144-091-09-0000	RADI ENTERPRISES CORP	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
17.4	0144-091-13-0000	RADI ENTERPRISES CORP	CG-1	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
17.5	0144-091-14-0000	RADI ENTERPRISES CORP	CG-1	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
18	0144-091-01-0000	RADI ENTERPRISES CORP	CG-1	PRIVATE PROPERTY-PARTIAL TAKE	IN NEGOTIATIONS WITH BNSF
18.5	0144-123-46-0000	SUCCESSOR AGENCY/RDA CITY OF SB	RS	CITY ROW - DEDICATION/TCE ONLY	VACANT LOT, MAY BE COMBINED WITH 18.6 FOR POSSIBLE MERGE. PURSUING TCE AND DEDICATION
18.6	0144-123-03-0000	SUCCESSOR AGENCY/RDA CITY OF SB	RS	NO ACQUISITION ANTICIPATED	VACANT LOT
19	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
20	0144-131-49-0000	VAZQUEZ	RS	PRIVATE PROPERTY-PARTIAL TAKE	PROPOSED ROW TO MAINTAIN 10FT MIN. SIDE SETBACK. IN NEGOTIATIONS WITH BNSF

ABBREVIATIONS

CL	CENTERLINE
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PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

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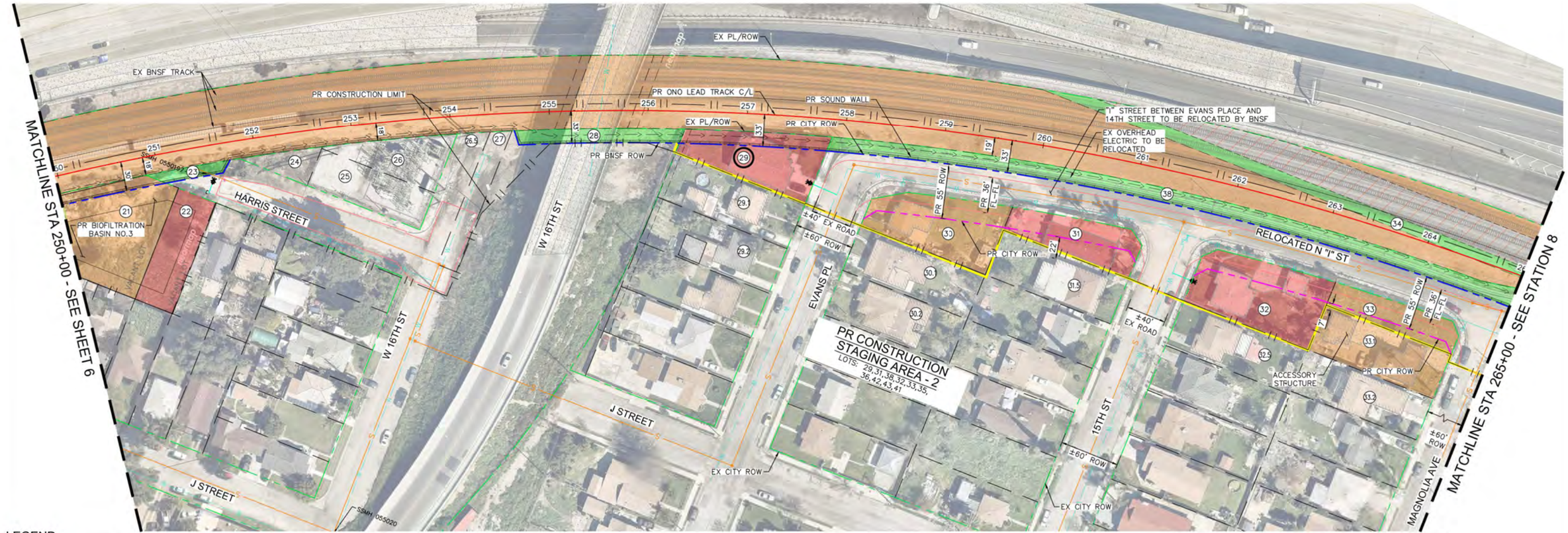

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)
- PRIVATE PROPERTY–POTENTIAL FULL TAKE
- (#) PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION
- (#) UNWILLING SELLER

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

SEGMENT 7

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
21	0144-131-50-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY VAZQUEZ
22	0144-131-21-0000	FELIPE DE REAL, RUBEN CASTENEDA	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT (IF MERGED, PROVIDES ACCESS TO LOT 21 AND CONSTRUCTION OF INFILTRATION BASIN).
23	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	NORTH OF HARRIS STREET ROW
24	0144-131-51-0000	SOUTHERN CALIFORNIA EDISION CO.	RS	NO ACQUISITION ANTICIPATED	SCE PROPERTY IS LOCATED 18.3FT FROM C/L OF PROPOSED LEAD TRACK. REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS.
25	0144-131-10-0000	SOUTHERN CALIFORNIA EDISION CO.	RS	NO ACQUISITION ANTICIPATED	REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS.
26	0144-131-45-0000	SOUTHERN CALIFORNIA EDISION CO.	RS	NO ACQUISITION ANTICIPATED	SCE PROPERTY IS LOCATED 18.3FT FROM C/L OF PROPOSED LEAD TRACK. REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS.
26.5	N/A	CITY OF SAN BERNARDINO	ROW	NO ACQUISITION ANTICIPATED	REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS.
27	0144-163-21-0000	SOUTHERN CALIFORNIA EDISION CO.	ROW	NO ACQUISITION ANTICIPATED	REDUCED SECTION OF 18FT FROM PROPOSED LEAD TRACK TO ROW TO AVOID IMPACTS
28	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	WEST 16TH STREET OVERPASS
29	0144-163-19-0000	RAMIREZ	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE/BUILDING IMPACT
29.1	0144-163-12-0000	MATA	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
29.2	0144-163-13-0000	GARCIA	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
30	0144-164-17-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY CHAVEZ
30.1	0144-164-05-0000	HERNANDEZ	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
30.2	0144-164-04-0000	RAMIREZ	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
31	0144-164-18-0000	MORENO	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE/BUILDING IMPACT. IN NEGOTIATIONS WITH BNSF
31.5	0144-164-11-0000	VARELA	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE. MEETS STREET SIDE SETBACK OF 15FT
32	0144-183-19-0000	GERBARA	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SETBACK. IN NEGOTIATIONS WITH BNSF
32.5	0144-183-06-0000	BARAJAS	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
33	0144-183-20-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY ROMERO
33.1	0144-183-10-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY ROMERO. CITY WILL ALLOW TENANT TO REMAIN IN EXISTING HOUSE
33.2	0144-183-17-0000	HARRIS	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
34	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	AREA ADJACENT TO FRANCHISE AGREEMENT, ON RAIL LINE TRACKS
38	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	NORTH I STREET

GRAPHIC SCALE IN FEET
0 25 50 100

Source: "Reduced" Footprint Alternative: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020

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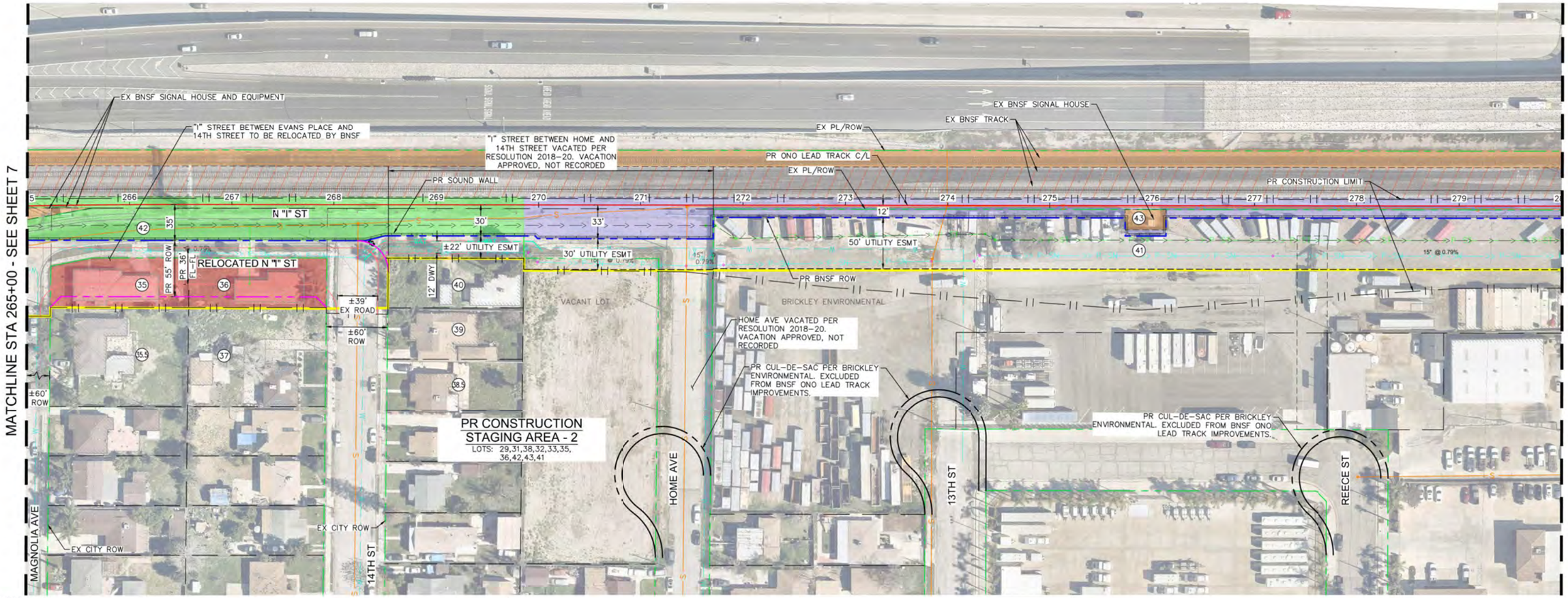

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)

PRIVATE PROPERTY–POTENTIAL FULL TAKE

(#) PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION

(#) UNWILLING SELLER

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

SEGMENT 8					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
35	0144-184-08-0000	STARLITE MGT III LP	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE. IN NEGOTIATICNS WITH BNSF
35.5	0144-184-21-0000	FERNANDEZ	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE. MEETS STREET SIDE SETBACK OF 15FT
36	0144-184-09-0000	DE LA GARZA	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE. IN NEGOTIATICNS WITH BNSF
37	0144-184-17-0000	CEJA	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE. MEETS STREET SIDE SETBACK OF 15FT
38.5	0144-221-14-0000	JONES	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
39	0144-221-15-0000	SOTO	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
40	0144-221-16-0000	ORTIZ	RS	NO ACQUISITION ANTICIPATED	CITY TO ALLOW PRIVATE DRIVEWAY FOR ACCESS. IN NEGOTIATIONS WITH BNSF. MAY PURSUE TCE ONLY FOR DRIVEWAY CONSTRUCTION
41	0144-222-54-0000	BRICKLEY, THOMAS & KIMBERLY FAM TR 1	CH	PRIVATE PROPERTY-PARTIAL TAKE	PARCEL IS DIVIDED BY HOME AVE WEST (PRIVATE PARTIAL TAKE INCLUDES ROW THAT IS ACQUIRED FROM THE VACATION ALONG I STREET). IN NEGOTIATIONS WITH BNSF.
42	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	NORTH I STREET
43	0144-232-29-0000	ATCHISON, TOPEKA AND SANTA FE RR CO.	CH	BNSF PROPERTY/EASEMENT	BNSF EASEMENT. NO ACQUISITION ANTICIPATED

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

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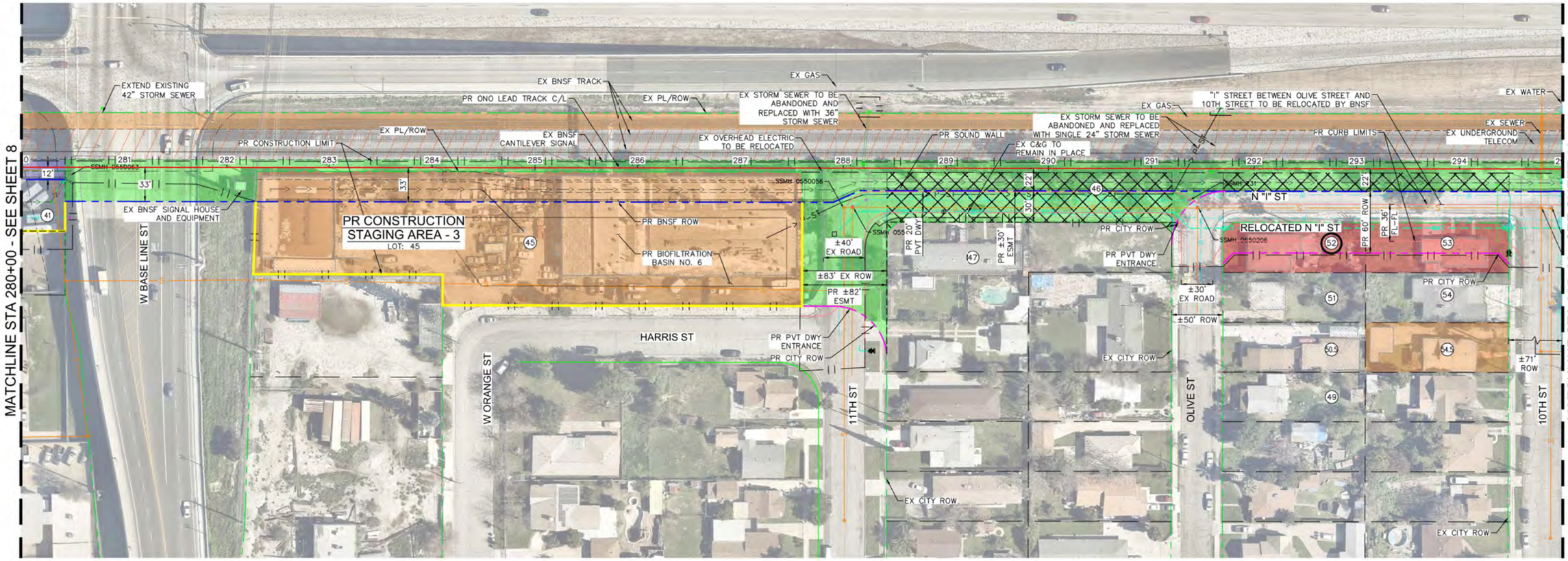

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)

PRIVATE PROPERTY–POTENTIAL FULL TAKE

(#) PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION

(#) UNWILLING SELLER

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

SEGMENT 9					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
41	0144-222-54-0000	BRICKLEY, THOMAS & KIMBERLY FAM TR 1	CH	PRIVATE PROPERTY-PARTIAL TAKE	PARCEL IS DIVIDED BY HOME AVE WEST (PRIVATE PARTIAL TAKE INCLUDES ROW THAT IS AQUIRED FROM THE VACATION ALONG I STREET). IN NEGOTIATIONS WITH BNSF.
45	0139-092-10-0000	BNSF	CH	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY KELLSTROM, TRACEY K TRUST
46	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
47	0139-131-30-0000	MONTECINO TRUST	RS	NO ACQUISITION ANTICIPATED	TRIPLEX (DOES NOT ALLOW ACCESS TO ALL POINTS OF THE BUILDING). CITY AND FIRE DEPARTMENT TO ALLOW PRIVATE 20' WIDE DRIVEWAY FOR ACCESS. IN NEGOTIATIONS WITH BNSF
49	0139-132-10-0000	GRADIAS ARTHUR	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
50.5	0139-132-11-0000	AGUAYO	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE
51	0139-132-12-0000	GUTIERREZ	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE.
52	0139-132-13-0000	MORALES	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE
53	0139-132-16-0000	GENG	RS	PRIVATE PROPERTY-FULL TAKE	DOES NOT MEET MIN. LOT SIZE. IN NEGOTIATIONS WITH BNSF
54	0139-132-17-0000	EOA EMPIRE LLC	RS	NO ACQUISITION ANTICIPATED	NO LONGER AN ANTICIPATED LOT TAKE.
54.5	0139-132-18-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY SAMAYOA

NORTH

GRAPHIC SCALE IN FEET
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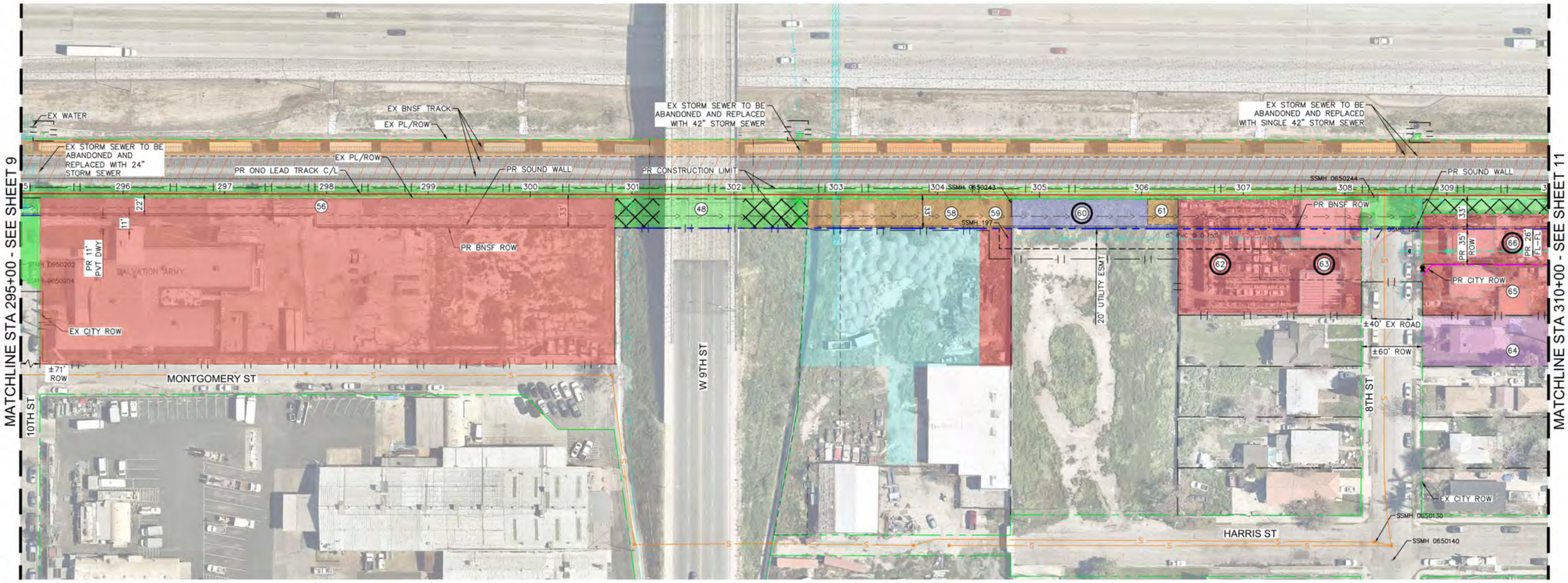

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)
- PRIVATE PROPERTY–POTENTIAL FULL TAKE
- (#) PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION
- (#) UNWILLING SELLER

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

SEGMENT 10					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
48	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
56	0139-202-01-0000	SALVATION ARMY	IL	PRIVATE PROPERTY-PARTIAL TAKE	PROPOSED ROW SECTION REDUCED TO AVOID IMPACTS AND COMPLY WITH 10FT SIDE SETBACK. IN NEGOTIATIONS WITH BNSF
58	0139-262-17-0000	BNSF	IL	ACQUIRED BY BNSF - PARTIAL TAKE	VACANT LOT. PURCHASED BY BNSF. PREVIOUSLY OWNED BY O & A DEVELOPMENT LLC
59	0139-262-05-0000	BNSF	IL	ACQUIRED BY BNSF - PARTIAL TAKE	VACANT LOT. PURCHASED BY BNSF. PREVIOUSLY OWNED BY O & A DEVELOPMENT LLC
60	0139-262-06-0000	SIERRA	IL	PRIVATE PROPERTY-PARTIAL TAKE	VACANT LOT.
61	0139-262-15-0000	ATCHISON, TOPEKA AND SANTA FE RR CO.	IL	BNSF PROPERTY/EASEMENT	BNSF EASEMENT. NO ACQUISITION ANTICIPATED
62	0139-262-07-0000	SANCHEZ	IL	PRIVATE PROPERTY-FULL TAKE	AUTO WRECKING AND STORAGE YARD/BUILDING IMPACT.
63	0139-262-08-0000	SANCHEZ	IL	PRIVATE PROPERTY-FULL TAKE	AUTO WRECKING AND STORAGE ENTRANCE.
64	0139-312-11-0000	BARRERA	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	NEEDED TO COMBINE WITH LOT 65 IN ORDER TO CREATE CONFORMING LOT
65	0139-312-12-0000	JACOBO	RS	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT. IN NEGOTIATIONS WITH BNSF
66	0139-312-13-0000	SIERRA	RS	PRIVATE PROPERTY-FULL TAKE	BUILDING IMPACT.

NORTH

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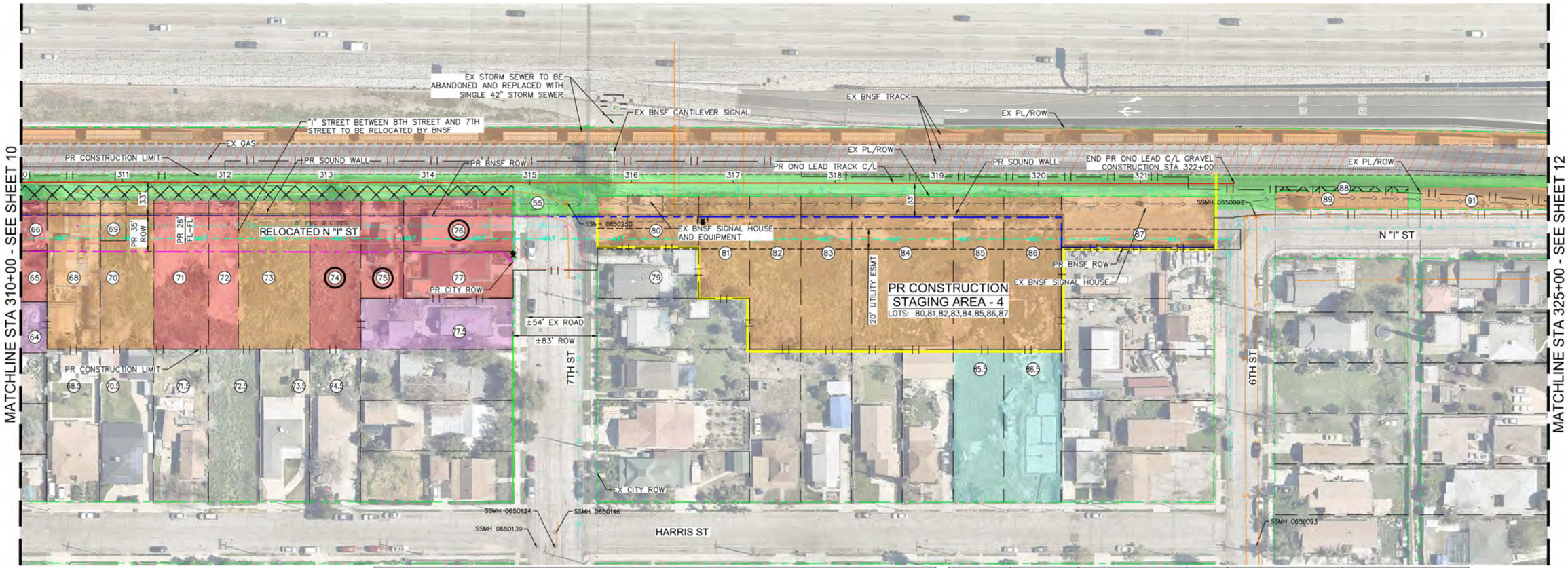

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)
- PRIVATE PROPERTY–POTENTIAL FULL TAKE
- PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION
- UNWILLING SELLER

SEGMENT 11

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
55	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
68	0139-312-14-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY GUTIERREZ
68.5	0139-312-07-0000	CANDELARIA	RS	NO ACQUISITION ANTICIPATED	
69	0139-312-26-0000	ATCHISON, TOPEKA AND SANTA FE RR CO.	RS	BNSF PROPERTY/EASEMENT	BNSF EASEMENT. NO ACQUISITION ANTICIPATED
70	0139-312-15-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY RAMOS
70.5	0139-312-07-0000	CANDELARIA	RS	NO ACQUISITION ANTICIPATED	
71	0139-312-16-0000	VILLA	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, DOES NOT MEET MIN. LOT SIZE. CITY TO ACCEPT DESIGN VARIANCE OF 96FT LOT DEPTH. IN NEGOTIATIONS WITH BNSF
71.5	0139-312-05-0000	BURDICK	RS	NO ACQUISITION ANTICIPATED	
72	0139-312-17-0000	VILLA	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, DOES NOT MEET MIN. LOT SIZE. CITY TO ACCEPT DESIGN VARIANCE OF 96FT LOT DEPTH. IN NEGOTIATIONS WITH BNSF
72.5	0139-312-04-0000	KHAN	RS	NO ACQUISITION ANTICIPATED	
73	0139-312-18-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY SIERRA
73.5	0139-312-03-0000	RAMIREZ	RS	NO ACQUISITION ANTICIPATED	
74	0139-312-19-0000	NDIP Agbor	RS	PRIVATE PROPERTY-FULL TAKE	VACANT LOT, DOES NOT MEET MIN. LOT SIZE. CITY TO ACCEPT DESIGN VARIANCE OF 96FT LOT DEPTH
74.5	0139-312-02-0000	R & A HT LLC	RS	NO ACQUISITION ANTICIPATED	

PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
75	0139-312-20-0000	ROJAS	RS	PRIVATE PROPERTY-F JLL TAKE	BUILDING IMPACT
76	0139-312-21-0000	MOLINA	RS	PRIVATE PROPERTY-F JLL TAKE	BUILDING IMPACT
77	0139-312-22-0000	DURAN	RS	PRIVATE PROPERTY-F JLL TAKE	BUILDING IMPACT. IN NEGOTIATIONS WITH BNSF
77.5	0139-312-23-0000	PENA	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	NEEDED TO COMBINE WITH LOT 75 AND 77 IN ORDER TO CREATE CONFORMING LOT
79	0138-072-05-0000	915 WEST 7TH STREET TRUST	RS	NO ACQUISITION ANTICIPATED	
80	0138-072-06-0000	BNSF RAILWAY CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, NO ACCESS. BNSF FEE OWNERSHIP
81	0138-072-07-0000	BNSF RAILWAY CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, NO ACCESS. BNSF FEE OWNERSHIP
82	0138-072-08-0000	BNSF RAILWAY CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, NO ACCESS. BNSF FEE OWNERSHIP
83	0138-072-09-0000	BNSF RAILWAY CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, NO ACCESS. BNSF FEE OWNERSHIP
84	0138-072-38-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY MENDOZA
85	0138-072-41-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY MENDOZA
85.5	0138-072-39-0000	MENDOZA	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	VACANT LOT, COMMON OWNERSHIP WITH 85 & 86
86	0138-072-42-0000	BNSF	RS	ACQUIRED BY BNSF	PURCHASED BY BNSF. PREVIOUSLY OWNED BY MENDOZA
86.5	0138-072-40-0000	MENDOZA	RS	PRIVATE PROPERTY-POTENTIAL FULL TAKE	COMMON OWNERSHIP WITH 85 & 86
87	0138-072-36-0000	BURLINGTON NORTHERN & SF R/R CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, BNSF FEE OWNERSHIP
88	0138-141-29-0000	CITY OF SAN BERNARDINO	RS	CITY ROW FULL TAKE	VACANT LOT, CITY FEE OWNERSHIP
89	0138-141-32-0000	ATCHISON, TOPEKA, AND SANTA FE RR CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, BNSF FEE OWNERSHIP
		ATCHISON, TOPEKA, AND			

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: "Reduced" Footprint Alternative: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020

Kimley»Horn
MARCH 2021

BNSF Ono Lead Track Extension Project EIR

Exhibit 6-1k: Reduced Footprint Alternative - Segment 11

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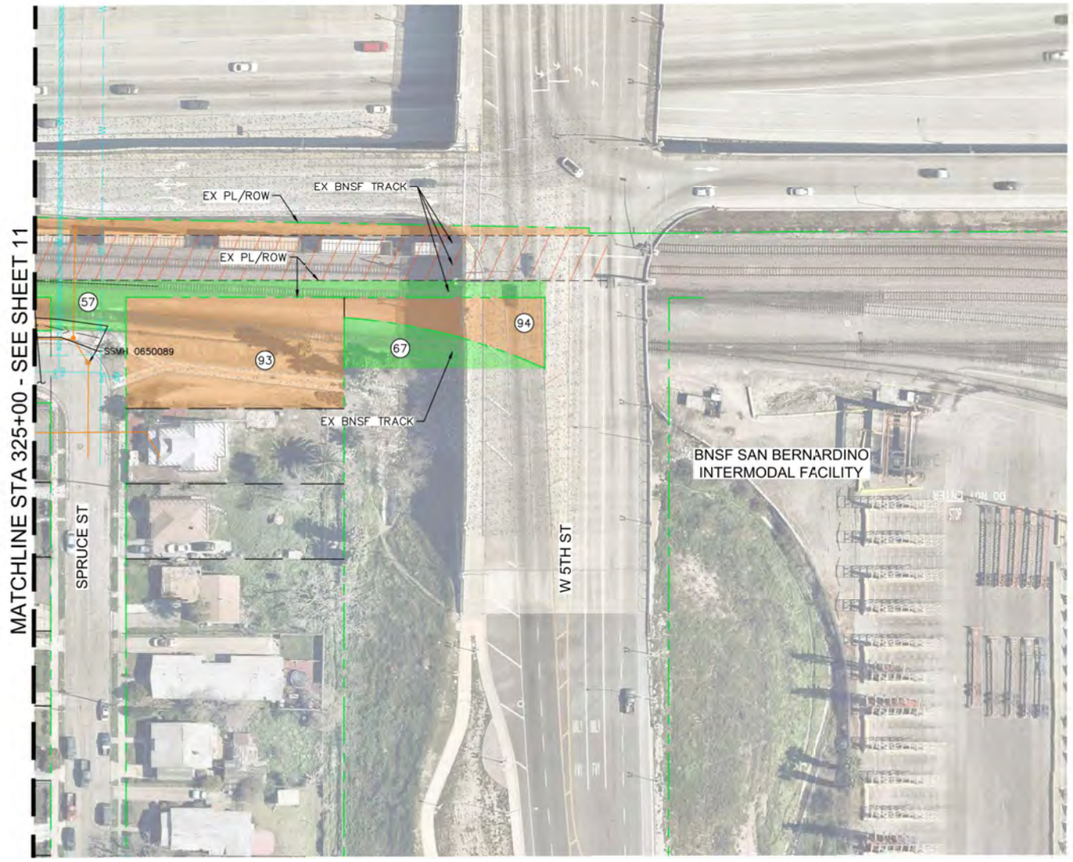

LEGEND

- PR CITY ROW
- EX CITY ROW
- PR BNSF ROW
- PR CURB LINE
- PR BNSF ONO LEAD TRACK
- PR BNSF DITCH
- PR CONSTRUCTION LIMIT
- PR SOUND WALL
- PR LOT BOUNDARY
- FRANCHISE AGREEMENT ORDINANCE NO. 336 (WITH UNDERLYING CITY ROW ESMT)
- PRIVATE PROPERTY–FULL TAKE
- PRIVATE PROPERTY–PARTIAL TAKE
- BNSF PROPERTY/EASEMENT
- CITY OF SAN BERNARDINO ROW ESMT–FULL TAKE
- CITY OF SAN BERNARDINO ROW FEE OWNERSHIP–FULL TAKE
- PRIVATE PROPERTY–POTENTIAL FULL TAKE (SAME AS OWNER ADJACENT FULL TAKE)
- PRIVATE PROPERTY–POTENTIAL FULL TAKE
- (#) PROPERTY IDENTIFIER. SEE PROPERTY MATRIX PREPARED FOR BNSF–ONO LEAD EXTENSION
- (#) UNWILLING SELLER

ABBREVIATIONS

CL	CENTERLINE
EX	EXISTING
PR	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT–OF–WAY

SEGMENT 12					
PROPERTY IDENTIFIER	PARCEL NO.	LAND OWNER	ZONING	PROPOSED ACTION	REMARKS
57	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
67	N/A	CITY OF SAN BERNARDINO	ROW	CITY ROW FULL TAKE	
93	0138-142-13-0000	ATCHISON, TOPEKA, AND SANTA FE RR CO.	RS	BNSF PROPERTY/EASEMENT	VACANT LOT, BNSF FEE OWNERSHIP
94	0138-142-14-0000	ATCHISON, TOPEKA, AND SANTA FE RR CO.	CG-1	BNSF PROPERTY/EASEMENT	VACANT LOT, BNSF FEE OWNERSHIP

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Source: "Reduced" Footprint Alternative: Property Impacts, BNSF Ono Lead Extension. Kimley-Horn. April 2020

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Under this Alternative, the lead tracks would still be developed but various improvements, namely street improvements and vacations, would be reduced and fewer acquisitions would occur. This Alternative would not change the lead tracks design; all associated reductions in train congestion and train idling would remain at existing conditions under this Alternative. As with the Project, this Alternative would not add or modify at-grade rail crossings.

Project roadway improvements and modifications are described in **Section 2.6: Project Characteristics**. No cul de sacs at the easterly extents of North I Street would be constructed with this Alternative. Instead, a Variance would be pursued with the City for a width of 55' at North I Street between Evans Place and 14th Street, which would not meet the City minimum widths for Residential Collector streets of 60'. North I Street would be relocated between Olive Street and 10th Street instead of vacated with offset cul-de-sacs where streets currently intersect. North I Street between 11th Street and Olive Street would be partially vacated with a private 20-foot-wide driveway connecting the two streets, as approved by the City of San Bernardino Fire Department. The Reduced Footprint Alternative would result in fewer property acquisitions within the Project site. A comparison of street vacations between the Project and the Reduced Footprint Alternative is provided in **Table 6-3**.

This Alternative is being considered given that it could feasibly accomplish all of the Project objectives and lessen acquisition and displacement, with proportionate decreases in demolition and construction activities. The Reduced Footprint Alternative would result in correspondingly less excavation, utility modifications and relocations, soil import/export, demolition, and construction trips. As indicated in **Table 6-4: Comparison of Acquisitions for Proposed Project and Reduced Footprint Alternative**, this Alternative results in fewer residential acquisitions; this Alternative would displace 19 DU, or 17 fewer DU than the proposed Project. As with the Project, this Alternative would displace approximately 46,000 SF of commercial uses and approximately 32,000 SF of industrial uses.

TABLE 6-3: COMPARISON OF STREET VACATIONS FOR PROPOSED PROJECT AND REDUCED FOOTPRINT ALTERNATIVE

Description	Project	Reduced Footprint Alternative
Residence on J Street	Full acquisition	Partial acquisition with variance for setback
15th Street	Access to North I Street vacated, easterly extent reconstructed as cul de sac	Access would remain, no reconstruction required
Magnolia Street	Access to North I Street vacated, easterly extent reconstructed as cul de sac	Access would remain, no reconstruction required
14th Street	Access to North I Street vacated, easterly extent reconstructed as cul de sac	Access would remain, no reconstruction required
North I Street	▪ Relocate between Olive Street and 10th Street, and between Evans Place and 14th Street ▪ Access would be closed off at 10th Street, Olive Street, 11th Street, 14th Street, Magnolia Avenue, 15th Street, and Evans Place	▪ Relocation between Olive Street and 10th Street modified to reduce acquisitions ▪ Variance for street width from 60' to 55' from Evans Place and 14th Street instead of vacation ▪ Two properties currently accessible only through North I Street would have individual private driveways constructed

TABLE 6-4: COMPARISON OF ACQUISITIONS FOR PROPOSED PROJECT AND REDUCED FOOTPRINT ALTERNATIVE						
Description	**Single-Family Res. (DU)[1]**	**Multi-Family Res. (DU)[1]**	**Commercial (SF)[1]**	**Light Industrial (SF)[1]**	**TOTAL (DU)[1]**	**TOTAL (SF)[1]**
Proposed Project	36	7	46,000	32,000	43	78,000
Reduced Footprint Alternative	19	7	46,000	32,000	26	78,000
Difference	*-17*	*0*	*0*	*0*	*-17*	*0*
% Difference	*-47%*	*0%*	*0%*	*0%*	*-40%*	*0%*

Notes:
1. DU = dwelling units; and SF = square feet.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Aesthetics

Under this Alternative, the site's visual character/quality would be altered similar to the Project, since the existing landscape, including the built environment, vegetation, and trees would be removed and replaced with street improvements and other ancillary improvements. With this Alternative, the degree of visual alteration during construction would be slightly less than with the Project, because this Alternative involves less demolition and construction activities.

As with the Project, acquisitions would take place and land uses would be removed adjacent to the existing BNSF tracks, replacing them with rail and ancillary improvements. Slightly fewer existing vertical features and sources of light and glare would be removed with this Alternative, as compared to the proposed Project. More land uses (17 DU) would remain at existing proximity to BNSF tracks and in cases would be closer due to the added lead tracks.

The Reduced Footprint Alternative would be environmentally inferior to the proposed Project regarding aesthetics/light and glare. Although more dwelling units would be retained, more land uses would remain at closer distances to BNSF tracks than with the Project.

Air Quality

Short-term air quality impacts from demolition, grading, and construction activities associated with the proposed Project would occur also with the Reduced Footprint Alternative, as demolition and construction would occur, although to a slightly lesser degree. The Project's construction-related emissions would be less than significant with mitigation incorporated. This Alternative's construction-related air quality impacts would be slightly less than with the proposed Project, given that this Alternative involves a slightly smaller development footprint and less demolition.

The Project's operational benefits concerning reduction in emissions through reducing train idling and congestion, as well as removing existing land uses and associated vehicle trips, would occur also with this Alternative. However, fewer displacements would occur resulting in incrementally greater operations emissions.

The Reduced Footprint Alternative would be environmentally inferior to the proposed Project regarding air quality impacts. While less short-term construction emissions would occur, greater operational emissions would occur due to fewer residential displacements. This Alternative would result in similar operational reductions in emissions.

Biological Resources

The Project would result in less than significant direct and indirect impacts to special-status plant and animal species with mitigation incorporated. Under this Alternative, the Project's impacts to special-status plant and animal species would occur also, as existing habitat, vegetation, and trees would be removed and new land uses would be developed. The Project's adverse effects to sensitive natural communities (ruderal), which would be less than significant with mitigation incorporated, would be similar with this Alternative, as existing habitat would be removed and new land uses would be developed. However, since slightly less development would occur under this Alternative, the impact to biological resources would be incrementally less. The Project would result in less than significant impacts to wetlands with mitigation incorporated. Under this Alternative, similar impact to wetlands would occur.

The Reduced Footprint Alternative would be environmentally superior to the proposed Project regarding biological resources given the slightly smaller development footprint. This Alternative would impact slightly less habitat, plant and wildlife species, and ruderal habitat than the Project.

Cultural Resources

The Project would result in no impact to historical resources and less than significant impacts to as yet undiscovered archaeological resources, with mitigation incorporated. The Project's potential to disturb as yet undiscovered human remains was concluded to be less than significant through compliance with the established regulatory framework. These potential Project impacts would occur also with this Alternative, however, to a slightly lesser degree than the Project, since a slightly smaller development footprint would result in less ground disturbing activities.

The Reduced Footprint Alternative would be environmentally superior to the proposed Project regarding cultural resources. Since the development footprint would be slightly smaller and less ground disturbing activities would occur, potential impacts to as yet undiscovered resources would be slightly less than with the Project.

Energy

The energy usage during construction associated with water usage for dust control, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips would be slightly less with the Reduced Footprint Alternative, since less demolition would occur and the development footprint would be slightly reduced.

Project implementation would reduce locomotive fuel consumption, due to train idling. The Project would reduce congestion, improve operational efficiency, and reduce energy waste, resulting in improved fuel consumption efficiencies. This Alternative would similarly reduce energy waste from train congestion and train idling. However, a slight increase in energy usage would occur from retained residential uses.

The Reduced Footprint Alternative would be environmentally inferior to the proposed Project regarding energy impacts, as additional energy usage from retained residential uses would occur.

Geology and Soils

The soil erosion or loss of topsoil from grading and excavation operations that would occur with the proposed Project would occur also with the Reduced Footprint Alternative, as new development would occur. With this Alternative, these impacts would occur to a lesser degree than with the proposed Project, given that this Alternative involves a slightly smaller development footprint. As with the proposed Project, less than significant impacts would occur with this Alternative following compliance with the established regulatory framework.

The Project site is susceptible to seismic, geologic, and soils related hazards. The Project would displace land uses, decreasing the exposure of people and structures to potential adverse effects associated with seismic, geologic, or soil hazards. The Reduced Footprint Alternative would displace slightly fewer land uses, resulting in slightly less continued exposure of people or structures to potential adverse effects associated with seismic, geologic, or soil hazards. A less than significant impact (with mitigation incorporated) would occur with the proposed Project, while slightly more existing exposure would continue to occur with this Alternative, since fewer residential uses would be displaced.

The Reduced Footprint Alternative would be environmentally inferior to the proposed Project regarding seismicity, geology, and soils, given that it would expose more people and structures to potential hazards.

Greenhouse Gas Emissions

Project-related GHG emissions would decrease on an annual basis compared to existing conditions through reducing train idling and congestion, as well as removing existing land uses and associated vehicle trips. Since this Alternative would remove fewer residential uses and their associated vehicle trips, proportionately less reduction in GHG would occur with this Alternative. These residential uses would continue to generate vehicle trips and corresponding GHG. As the lead tracks would still be developed, the reduction in GHG from decreased train congestion and train idling would still occur under this Alternative.

The Reduced Footprint Alternative would be environmentally inferior to the proposed Project regarding GHG emissions, since fewer residential displacements would occur, thus, incrementally less reduction in traffic would occur.

Hazards and Hazardous Materials

The Project's potential construction-related impacts involving increased safety risk to workers due to the transport, handling, and disposal of hazardous materials and waste, which were considered to be less than significant, would be slightly less with this Alternative, since slightly less demolition and ground disturbance would occur. The Project's potential construction-related impacts involving demolition of buildings or structures with asbestos or lead-based paint, which were considered to be less than significant with mitigation incorporated, would be slightly less with this Alternative since 17 fewer DU would be removed.

The Project's potential operations impacts from transport, handling, and disposal of hazardous materials and waste would similar with this Alternative.

The Reduced Footprint Alternative would be environmentally superior to the proposed Project regarding hazards and hazardous materials since fewer buildings would be demolished and slightly less ground disturbance would occur.

Hydrology and Water Quality

The Reduced Footprint Alternative would result in short-term impacts to water quality, similar to the proposed Project although to a slightly lesser degree, since less grading, excavation, and construction activities would occur. The less than significant short-term water quality impacts that would occur with the Project would occur also with this Alternative.

Project implementation would decrease the rate and amount of stormwater runoff, and change its quality, by removal of impervious surfaces and land uses. The Project's potential long-term hydrology and water quality impacts, which were concluded to be less than significant, would be less with this Alternative, since slightly fewer residential uses would be removed and less change in drainage patterns would occur.

Project implementation would decrease demands on groundwater resources through removal of existing land uses. Project impacts concerning groundwater supplies would be less than significant. Under the Reduced Footprint Alternative, slightly greater impact to groundwater supplies would occur, as fewer residential land uses would be displaced.

The Reduced Footprint Alternative would be environmentally superior to the proposed Project regarding hydrology and water quality, since slightly less ground disturbing activities and changes in impervious surfaces would occur.

Land Use and Planning

The Reduced Footprint Alternative assumes development of the Project site similar to the proposed Project, however, it displaces 17 fewer residential uses as indicated in **Table 6-4**. Comparatively, this Alternative proposes approximately 47 percent less residential displacement and 40 percent less non-residential displacements.

The Project was concluded to be consistent with the SBGP policies and plans and SBMC standards. This Alternative would similarly be consistent with SBGP policies and plans and SBMC standards.

The land use compatibility issues associated with the Project's proposed land uses and on- and off-site uses were concluded to be less than significant. The Reduced Footprint Alternative's impacts involving land use compatibility would be greater than the Project, as more residential uses would exist in proximity to BNSF tracks, with potential noise, aesthetic, and air quality incompatibilities.

The Reduced Footprint Alternative would be neither environmentally superior nor inferior to the proposed Project regarding land use and planning. Fewer residential uses would be displaced, however, this would result in more residential uses being in proximity to BNSF tracks.

Noise

Construction noise associated with the Project would result in less than significant impacts, with mitigation incorporated. The Project's construction-related vibration impacts are also anticipated to be less than significant. Construction-related short-term noise impacts from stationary and mobile sources and vibration impacts would occur also with the Reduced Footprint Alternative, as new development

would occur. This Alternative's construction-related noise impacts would be slightly less than the proposed Project, given this Alternative involves a slightly smaller development footprint and less demolition, as well as fewer street modifications.

Project implementation would result in less than significant impacts from mobile noise sources. The decrease in ADT, with resultant decreases in noise levels from mobile sources that would occur with the Project, would occur also under this Alternative, although to a slightly less degree, given 17 fewer residential acquisitions would occur. The reduced residential acquisitions would result in less reduction in vehicle trips.

Project implementation would encroach train traffic to the east, closer to sensitive receptors, which would result in a severe noise impact along various segments. With mitigation, the Project's railroad noise impacts would be reduced to less than significant. The Project's impacts concerning railroad noise would be slightly greater with this Alternative, which would retain more noise-sensitive receptors (i.e., residential uses) near existing BNSF tracks, which could result in noise impacts.

The Reduced Footprint Alternative would be environmentally inferior to the proposed Project regarding noise impacts. With this Alternative, the short-term construction-related noise would be less than with the Project, but fewer residential uses would be acquired, which would be exposed to long-term operational noises due to closer proximity to BNSF tracks.

Population and Housing

To accommodate the proposed rail and ancillary improvements, the Project would remove as many as 43 DU (see **Table 4.12-7**), resulting in a population decrease of approximately 149 persons. Therefore, the Project would not induce population growth in the area, either directly or indirectly. Under this Alternative, this population decrease would occur to a lesser degree. This Alternative would displace 17 fewer DU or 59 fewer persons. Therefore, as with the Project, this Alternative would not induce population growth in the area.

The Project would also displace as much as 78,000 SF of non-residential land uses (417 jobs); see **Table 4.12-8**. The displacement that would occur with the Project would occur also with this Alternative - slightly less residential but similar commercial and industrial uses would be removed. This Alternative would displace 17 fewer DU (59 persons). Therefore, as with the Project, this Alternative's impacts from displacement would be less than significant.

The Reduced Footprint Alternative would be environmentally superior to the proposed Project regarding population and housing, as less displacement would occur under this Alternative.

Public Services and Recreation

Project construction-related activities would increase the demands for fire, police protection, and medical services. This Alternative would remove fewer residential land uses, with a proportionately less construction-related demand for these services.

The Project would displace residential and non-residential land uses, with resultant decreases in population and demand for fire, police, medical, schools, and library services, as well as recreational facilities. The Reduced Footprint Alternative would remove slightly fewer existing residential land uses,

with slightly less decreases in population and demands for these public services and recreational facilities, as compared to the Project.

The Reduced Footprint Alternative would be environmentally inferior to the proposed Project regarding impacts to public services and recreational facilities, because less residential uses would be displaced, resulting in greater demands on fire, police protection, medical, schools, and library services, as well as recreational facilities.

Transportation

During Project construction, the Project would generate 38 peak hour trips. Under this Alternative, since the footprint would be slightly reduced, proportionately less ADT would occur during construction. This Alternative would lessen the Project's construction impacts, which would be less than significant with mitigation incorporated.

Because the Project would remove existing land uses, Project implementation is forecast to reduce traffic by 572 ADT(-50 AM peak hour trips and -61 PM peak hour trips); see **Table 4.14-3**. To accommodate the proposed rail improvements, the Project includes circulation and roadway improvements and modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs. The Reduced Footprint Alternative would reduce vehicular trips from existing conditions, to a lesser degree than the Project, since fewer residential uses would be removed. Because 17 fewer DU would be displaced with this Alternative, this Alternative would have proportionately greater ADT during operations. To accommodate the proposed rail improvements, the Project includes circulation and roadway improvements and modifications to multiple City roadways, including vacations, realignments, and cul-de-sacs. As shown in **Table 6-3**, fewer street modifications would occur under this Alternative, resulting in proportionately fewer changes to circulation.

The Reduced Footprint Alternative would be environmentally superior to the proposed Project regarding transportation impacts. This Alternative involves a smaller development footprint and less demolition with proportionately less construction traffic. This Alternative would displace 40 percent fewer DU, with proportionately greater traffic volumes than the Project. This Alternative would also result in fewer street modifications and circulation changes than the Project.

Tribal Resources

The Project would result in less than significant impacts to as yet undiscovered tribal cultural resources, with mitigation incorporated. The Project's potential to disturb as yet undiscovered tribal cultural was concluded to be less than significant through compliance with the established regulatory framework. These potential Project impacts would occur also with this Alternative, however, to a slightly lesser degree than the Project, since a smaller development footprint would result in less ground disturbing activities.

The Reduced Footprint Alternative would be environmentally superior to the proposed Project regarding tribal cultural resources. Since the development footprint would be slightly smaller and less ground disturbing activities would occur, potential impacts to as yet undiscovered tribal cultural resources would be less than with the Project.

Utilities and Service Systems

The Reduced Footprint Alternative would generate a temporary increased demand upon utilities and service systems during construction, to a slightly lesser degree than the Project, given fewer residential land uses would be removed. Given the Project's scope and nature (i.e., lead track extension), Project operations would not create a demand for water, or increase wastewater or solid or waste generation. Rather, Project implementation would remove up to 43 DUs and approximately 78,000 square feet of non-residential (commercial and industrial) land uses, decreasing the demand for water and wastewater and solid waste generation. Under the Reduced Footprint Alternative, fewer residential DU would be removed- with less decrease in demand for water or wastewater and solid waste generation.

The Reduced Footprint Alternative would be environmentally inferior to the proposed Project regarding impacts to utilities and service systems. With this Alternative, fewer residential DU would be removed resulting in less of a decrease in the demand for utilities and services than the Project.

ABILITY TO MEET PROJECT OBJECTIVES

The Reduced Footprint Alternative would fulfill all the Applicant's objectives to improve the A Yard's operational efficiency by: improving the A Yard's ability to assemble and hold outbound trains, as well as move around railroad cars without obstructing mainline movements; reducing train congestion along the existing lead tracks; and reducing train idling, as they wait to enter and exit the A Yard.

6.3 ALTERNATIVES CONSIDERED, BUT REJECTED

In accordance with State CEQA Guidelines § 15126.6(c), an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. According to the State CEQA Guidelines, among the factors that may be used to eliminate alternatives from detailed consideration are the alternative's failures to meet most of the basic project objectives, the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts.

The Project proposes to install a fourth lead track extending the existing BNSF San Bernardino Intermodal Facility (SBD Intermodal) A Yard (A Yard) lead track to two existing Ono Storage Sidings. Because of the nature of the Project (linking existing BNSF tracks to reduce train congestion along the existing lead tracks; and reducing train idling, as they wait to enter and exit the A Yard), there are no other sites which could accomplish these objectives. Since the Project would not have any significant unavoidable impacts, alternatives to avoid or lessen significant unavoidable impacts are not required.

6.4 "ENVIRONMENTALLY SUPERIOR" ALTERNATIVE

According to State CEQA Guidelines § 15126.6(e)(2), "No Project" Alternative, "If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." **Table 6-5**: **Comparison of Alternatives**, summarizes the comparative analyses presented above (i.e., the Alternatives compared to the proposed Project). As indicated in **Table 6-5**, the environmentally superior alternative is the No Project/No Construction Alternative. Among the other Alternatives, the Reduced Footprint Alternative is the environmentally superior alternative. As shown in **Table 6-5**, it would be environmentally superior to the Project for various issue areas analyzed, except air quality, aesthetics, energy, geology and soils, greenhouse gas emissions, noise, public services and recreational facilities, and utilities and service systems, for which it would be

environmentally inferior to the Project, and except land use and planning, for which it would be neither environmentally superior nor inferior to the Project. The Reduced Footprint Alternative would be environmentally inferior to the Project primarily because fewer acquisitions would occur. Fewer acquisitions would result in greater environmental impacts as compared to the Project concerning aesthetics, air quality, energy, geology and soils, greenhouse gas emissions, land use and planning, noise, transportation, and utilities and service systems because the impacts to these existing uses that would be reduced with the Project would be maintained under the Reduced Footprint Alternative. Fewer acquisitions would also increase the number of sensitive receptors (i.e., residential land uses) near the Project site, resulting in greater incompatibilities.

TABLE 6-5: COMPARISON OF ALTERNATIVES

Sections	Alternative 6.1.1: No Project/ No Construction	Alternative 6.1.2: No Project/ Existing Land Use Designations	Alternative 6.2: Reduced Footprint
Aesthetics	▲	▲	▲
Air Quality	▲	▲	▲
Biological Resources	▼	▼	▼
Cultural Resources	▼	=	▼
Energy	▲	▲	▲
Geology & Soils	=	▲	▲
Greenhouse Gas Emissions	▲	▲	▲
Hazards & Hazardous Materials	▼	▲	▼
Hydrology &Water Quality	▲	▲	▼
Land Use & Planning	▼	▲	=
Noise	▼	▲	▲
Population & Housing	▼	▼	▼
Public Services & Recreation		▲	▲
Transportation	▲	▲	▼
Tribal Cultural Resources	▼	=	▼
Utilities & Service Systems	▲	▲	▲

▲ Indicates an impact that is greater than the proposed Project (environmentally inferior).
▼ Indicates an impact that is less than the proposed Project (environmentally superior).
= Indicates an impact that is equal to the proposed Project (neither environmentally superior nor inferior).
* Indicates a significant unavoidable impact.

TABLE 6-6: ALTERNATIVES ABILITY TO MEET PROJECT OBJECTIVES			
Would the Alternative:	**Alternative 6.1.1: No Project/ No Construction**	**Alternative 6.1.2: No Project/Existing Land Use Designations**	**Alternative 6.2: Reduced Footprint**
Enhance the effectiveness of goods movement by increasing efficiency of train traffic entering/exiting the A Yard in service of BNSF's east-west corridor?	No	No	Yes
Improve safety and operational efficiency for the critical BNSF east-west corridor?	No	No	Yes
Relieve traffic congestion along the three existing lead tracks that serve the BNSF east-west corridor by connecting two existing Ono Storage Sidings located near the State Street/ University Parkway Grade Separation?	No	No	Yes
Improve long-term operational air emissions by improved efficiency/ reduced train idling, as they wait to enter and exit the A Yard?	No	No	Yes
Maintain adequate local and emergency access to land uses adjacent to/west of the Project site?	Yes	Yes	Yes
Reinstate/extend the pre-existing franchise to construct, operate, and maintain an existing lead track in the City of San Bernardino, between 4th Street and the City's northern boundary, as the northern boundary existed in 1906, or in the alternative, vacate the railroad bed and convey title of same to the Project Applicant?	No	No	Yes

7.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

7.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

The California Environmental Quality Act (CEQA) provides that an Environmental Impact Report (EIR) shall focus on the significant effects on the environment, discussing the effects with emphasis in proportion to their severity and probability of occurrence.

California Public Resources Code (PRC) § 21100 (c) states that an EIR shall contain a statement briefly indicating the reasons that a project's various possible significant effects were determined not to be significant and were, therefore, not discussed in detail in the Draft EIR (PRC § 21000 et. seq.).

The following environmental topics related to agriculture and forest resources, energy, mineral resources, and wildfires provide an analysis of potential Project impacts found to result in no impacts or less than significant impacts during the Draft EIR analysis.

7.1 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

7.1.a Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The San Bernardino County Important Farmland 2016 map published by the California Department of Conservation indicates that the Project occurs within Urban and Built-Up Land.[1] The Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to any other uses.

7.1.b Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The existing zoning for each of the Project site's 93 parcels is provided in **Appendix 9.1: Land Use Matrix**. As indicated, none of the parcels are zoned for agricultural uses nor preserved as such under the Williamson Act. Therefore, there would be no conflicts with zoning for agricultural uses, or a Williamson Act contract.

7.1.c Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)), timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?

No Impact. The existing zoning for each of the Project site's 93 parcels is provided in **Appendix 9.1**. As indicated, none of parcels are zoned as forest land, timberland, or timberland-zoned Timberland Production areas (as defined in the PRC §§ 4526 and 12220(g) or Government Code § 51104(g)). Therefore, the Project would not impact forest land or Timberland.

[1] California Department of Conservation, Farmland Mapping & Monitoring Program. San Bernardino County Important Farmland 2016 Sheet 2 of 2. ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/

7.1.d Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Refer to Response 7.1.c above. Therefore, the Project would not impact forest land.

7.1.e Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. Refer to Responses 7.1.a to 7.1.c above. Therefore, the Project would result in no impact concerning the conversion of Farmland to non-agricultural use or to the loss of forest land.

7.2 MINERAL RESOURCES

7.2.a Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The Project is located within an urban area that is occupied by existing development. Therefore, the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

7.2.b Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. Refer to Response 7.2.a above. Project implementation would not result in the loss of availability of a locally important mineral resource recovery site.

7.3 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones.

7.4.a Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

7.4.b Would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

7.4.c Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. The Project site is not within or near a state responsibility area or land classified as very high fire hazard severity zones pursuant to CalFire's San Bernardino Very High Fire Hazard Severity Zones.[2] Further, the Project site is surrounded by existing development and does not propose new slopes or other factors that would exacerbate wildfire risks. Therefore, the Project would result in no impact concerning wildfires.

[2] Cal Fire. Recommended VHFHSZ City and Other Local Agency Maps. San Bernardino. http://www.fire.ca.gov/fire_prevention/fhsz_maps/FHSZ/san_bernardino/San_Bernardino.pdf

8.0 LIST OF PREPARERS

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