

PUBLIC REVIEW DRAFT

CITY OF LARKSPUR
SMART STATION AREA PLAN
ENVIRONMENTAL IMPACT REPORT

SCH NO. 2013012020



LSA

February 2014

PUBLIC REVIEW DRAFT

CITY OF LARKSPUR
SMART STATION AREA PLAN
ENVIRONMENTAL IMPACT REPORT

SCH NO. 2013012020

Submitted to:

City of Larkspur
400 Magnolia Avenue
Larkspur, California 94939
415.927.5038

Prepared by:

LSA Associates, Inc.
2215 Fifth Street
Berkeley, California 94710
510.540.7331

LSA

February 2014

TABLE OF CONTENTS

I.	INTRODUCTION	1
A.	PURPOSE OF THIS DRAFT EIR	1
B.	PROPOSED PROJECT	2
C.	DRAFT EIR SCOPE	2
D.	REPORT ORGANIZATION	3
II.	SUMMARY	5
A.	PROJECT UNDER REVIEW	5
B.	SUMMARY OF IMPACTS AND MITIGATION MEASURES	5
C.	SUMMARY TABLE.....	7
III.	PROJECT DESCRIPTION.....	39
A.	INTRODUCTION.....	39
B.	REGIONAL LOCATION AND GENERAL SETTING	40
C.	INTENDED USES OF THE DRAFT EIR.....	43
D.	PROJECT OBJECTIVES FOR EIR ANALYSIS.....	44
E.	DRAFT CITY OF LARKSPUR SMART STATION AREA PLAN.....	45
F.	ANTICIPATED ADOPTION AND IMPLEMENTATION.....	61
IV.	SETTING, IMPACTS AND MITIGATION MEASURES.....	63
A.	LAND USE AND PLANNING POLICY	67
B.	TRANSPORTATION AND CIRCULATION.....	91
C.	AIR QUALITY	167
D.	GLOBAL CLIMATE CHANGE.....	193
E.	NOISE	219
F.	BIOLOGICAL RESOURCES.....	243
G.	GEOLOGY, SOILS, AND SEISMICITY.....	287
H.	HYDROLOGY AND WATER QUALITY	303
I.	HAZARDS AND HAZARDOUS MATERIALS	319
J.	CULTURAL RESOURCES.....	335
K.	PUBLIC SERVICES	355
L.	UTILITIES AND INFRASTRUCTURE	377
V.	ALTERNATIVES.....	393
A.	ALTERNATIVES THAT WERE CONSIDERED BUT NOT FURTHER EVALUATED.....	395
B.	NO PROJECT ALTERNATIVE.....	396
C.	NO FERRY TERMINAL DEVELOPMENT ALTERNATIVE.....	400
D.	REDUCED RESIDENTIAL DEVELOPMENT ALTERNATIVE	404
E.	ENVIRONMENTALLY SUPERIOR ALTERNATIVE	408

VI.	OTHER CEQA CONSIDERATIONS	411
A.	EFFECTS FOUND NOT TO BE SIGNIFICANT	411
B.	GROWTH INDUCING IMPACTS.....	417
C.	UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL IMPACTS	418
D.	SIGNIFICANT IRREVERSIBLE CHANGES	419
VII.	REPORT PREPARATION.....	421
A.	REPORT PREPARERS	421
B.	REFERENCES	422
C.	COMMUNICATION	433

APPENDICES

- Appendix A: NOP, Scoping Letters and Summary of Scoping Session
- Appendix B: Transportation Data
- Appendix C: Air Quality and Global Climate Change Data
- Appendix D: Noise Data
- Appendix E: Infrastructure Needs Analysis Technical Report

FIGURES AND TABLES

FIGURES

Figure III-1:	Project Location and Regional Vicinity Map	41
Figure III-2:	Station Area Plan Sub-Areas	43
Figure III-3:	Station Plan Area Opportunity Sites	47
Figure III-4:	Existing and Proposed General Plan Designations	55
Figure IV.A-1:	Existing Land Use	69
Figure IV.A-2:	General Plan Land Use Map	79
Figure IV.A-3:	Zoning Districts	85
Figure IV.B-1:	Study Intersections and Freeway Segments	93
Figure IV.B-2:	Existing and Proposed Transit Facilities	101
Figure IV.B-3:	Existing and Proposed Bicycle Facilities	105
Figure IV.B-4:	Existing and Proposed Pedestrian Facilities	109
Figure IV.B-5:	Existing Intersection Peak-Hour Volumes, Lane Configurations and Traffic Control Devices	115
Figure IV.B-6:	Existing Sub-area 1A Vehicle Trip Generation	129
Figure IV.B-7:	Trip Distribution	133
Figure IV.B-8:	Trip Assignment	134
Figure IV.B-9:	Existing Plus Project Intersection Peak Hour Volumes	137
Figure IV.B-10:	Trips Generated in Sub-area 1A	142
Figure IV.B-11:	Cumulative Plus Project Conditions Intersection Peak Hour Volumes	143
Figure IV.B-12:	Sir Francis Drake Boulevard Traffic Volumes	142
Figure IV.B-13:	Cumulative No Project Conditions Intersection Peak Hour Volumes	147
Figure IV.B-14:	Existing and Proposed Mode Share at Sub-area 1A	152
Figure IV.B-15a:	Bicycle and Pedestrian Circulation Improvements	155
Figure IV.B-15b:	Bicycle and Pedestrian Circulation Improvements	156
Figure IV.C-1:	Permitted Toxic Air Contaminant Sources	191
Figure IV.C-2:	Community Risk and Hazard Overlay Zones	192
Figure IV.D-1:	California GHG Emissions by Sector (2000-2009 Average)	200
Figure IV.D-2:	Bay Area Greenhouse Gas Emissions by Sector (2007)	202
Figure IV.E-1:	Typical A-Weighted Sound Levels	221
Figure IV.E-2:	Noise Monitoring Locations	227
Figure IV.F-1:	Habitat Types	247
Figure IV.G-1:	Fault Activity Map	291
Figure IV.G-2:	Liquefaction Hazard Areas	292
Figure IV.H-1:	100-Year Flood Zone	307
Figure IV.H-2:	Tsunami Inundation Areas	308
Figure IV.H-3:	Shoreline Areas Vulnerable to Sea Level Rise	311
Figure IV.H-4:	Phoenix Dam Inundation Area	312
Figure IV.I-1:	Hazardous Materials Release Sites in and Adjacent to the Plan Area	325
Figure IV.K-1:	School Districts Serving the Plan Area	361

TABLES

Table II-1:	Summary of Impacts and Mitigation Measures from the EIR	9
Table III-1:	Opportunity Site Development Projections Summary	49
Table III-2:	Summary of Development in Plan Area	50
Table IV.A-1:	Existing Land Uses, Acres & Dwelling Units within the Plan Area.....	68
Table IV.B-1:	Land Use Assumptions for the Station Area Plan.....	95
Table IV.B-2:	Signalized Intersection LOS Criteria	97
Table IV.B-3:	Unsignalized Intersection LOS Criteria	98
Table IV.B-4:	Freeway Segment LOS Criteria	99
Table IV.B-5:	Study Area Bicycle Counts	107
Table IV.B-6:	Study Area Pedestrian Counts	111
Table IV.B-7:	Locally Acceptable LOS Criteria.....	113
Table IV.B-8:	Existing Intersection LOS Results	114
Table IV.B-9:	Existing Freeway Segment LOS Results	118
Table IV.B-10:	Marin CMP PM Peak Hour Roadway Segment Operations	120
Table IV.B-11:	Traffic Volumes on Sir Francis Drake Boulevard	130
Table IV.B-12:	Vehicle Trip Generation Summary – Sub-area 1A: Larkspur Landing	131
Table IV.B-13:	Vehicle Trip Generation Summary – Sub-area 1B: Drake’s Landing	132
Table IV.B-14:	Existing Plus Project Intersection LOS Results	136
Table IV.B-15:	Existing Plus Project Freeway Segment LOS Results	141
Table IV.B-16:	Land Use Forecasts in Marin County Model	145
Table IV.B-17:	Future Transportation Projects in Travel Demand Model	146
Table IV.B-18:	Cumulative Plus Project Intersection LOS Results.....	149
Table IV.B-19:	Cumulative Plus Project Freeway Segment LOS Results.....	151
Table IV.B-20:	Forecasted Public Transit Ridership Generated by the Proposed Project.....	153
Table IV.B-21:	Forecasted Public Transit Ridership Generated by the Proposed Project.....	153
Table IV.B-22:	Sub-area 1A Proposed Parking Supply	158
Table IV.B-23:	Larkspur Off-Street Parking Requirements	158
Table IV.B-24:	Sub-area 1A Projected Parking Demand	159
Table IV.B-25:	Bicycle Parking Requirements for the Larkspur Station Area.....	163
Table IV.C-1:	Health Effects of Air Pollutants	168
Table IV.C-2:	Federal and State Ambient Air Quality Standards.....	170
Table IV.C-3:	San Francisco Bay Area Attainment Status	175
Table IV.C-4:	Ambient Air Quality at the San Rafael Monitoring Station.....	178
Table IV.C-5:	Project Construction Emissions in Pounds Per Day	183
Table IV.C-6:	Project Regional Emissions	185
Table IV.C-7:	Project Mitigated Emissions	187
Table IV.C-8:	Permitted Sources Located in the Plan Area.....	189
Table IV.D-1:	Global Warming Potential of Greenhouse Gases	194
Table IV.D-2:	Station Area Plan Greenhouse Gas Emissions.....	214
Table IV.D-3:	Station Area Plan Compliance with Greenhouse Gas Emission Reduction Strategies.....	216
Table IV.E-1:	Definitions of Acoustical Terms	220
Table IV.E-2:	Typical Vibration Source Levels for Construction Equipment.....	223
Table IV.E-3:	Summary of EPA Noise Levels	224
Table IV.E-4:	Summary of Human Effects in Areas Exposed to 55 dBA L _{dn}	224

Table IV.E-5:	Land Use Compatibility Standards	229
Table IV.E-6:	Short-Term (15-minute) Ambient Noise Monitoring Results Thursday, January 24, 2013	230
Table IV.E-7:	Noise Monitoring Locations and Noise Sources.....	230
Table IV.E-8:	Existing Traffic Noise Levels	231
Table IV.E-9:	Existing and Existing Plus Project Traffic Noise Levels	235
Table IV.E-10:	Cumulative and Cumulative Plus Project Traffic Noise Levels	235
Table IV.E-11:	Typical Construction Equipment Maximum Noise Levels, L_{max}	239
Table IV.F-1:	Acreages of Habitat Types within the Plan Area	245
Table IV.F-2:	Special-Status Plant Species Known to Occur or Potentially Occurring in the Vicinity of Larkspur, Marin County, California	255
Table IV.F-3:	Special-Status Animal Species Known to Occur or Potentially Occurring in the Vicinity of Larkspur, Marin County, California	258
Table IV.G-1:	Soils in the Plan Area.....	288
Table IV.G-2:	Modified Mercalli Scale	290
Table IV.I-1:	Hazardous Materials Release Sites In and Adjacent to the Plan Area	324
Table IV.J-1:	Cultural Resources within the Station Area Plan Area	346
Table IV.K-1:	Part I Crimes (2009 – 2011).....	359
Table IV.K-2:	Public Schools Serving the Plan Area.....	360
Table IV.K-3:	School Location, Capacity and Enrollment, 2012-2013	363
Table IV.K-4:	Student Generation Yield by School District.....	372
Table IV.L-1:	Estimated Water Demand Rates for Land Uses on Opportunity Sites.....	378
Table IV.L-2:	Estimated Water Demand for Existing Uses on Opportunity Sites	379
Table IV.L-3:	Estimated Water Demand for Development of Opportunity Sites.....	388
Table V-1:	CEQA Alternatives Compared To The Station Area Plan.....	395
Table V-2:	No Ferry Terminal Development Alternative Summary	400
Table V-3:	No Ferry Terminal Development Alternative Summary	401
Table V-4:	Reduced Residential Development Alternative Summary.....	404
Table V-5:	Summary of Development in Reduced Residential Alternative	405
Table V-6:	Achievement of Station Area Plan Primary Project Objectives.....	409

This page intentionally left blank.

I. INTRODUCTION

A. PURPOSE OF THIS DRAFT EIR

In compliance with the California Environmental Quality Act (CEQA)¹ and the State *CEQA Guidelines*,² this Draft Environmental Impact Report (EIR) describes the environmental consequences of the City of Larkspur SMART Station Area Plan (Station Area Plan or Plan). The Draft EIR is designed to fully inform decision-makers in the City of Larkspur, responsible agencies, and the general public of the potential environmental consequences of approval and implementation of the Station Area Plan. In many instances, the Draft EIR recommends mitigation measures in the form of General Plan amendments, Zoning Ordinance amendments, or conditions of approval for projects implemented as part of the Station Area Plan, which would reduce or avoid potentially significant impacts. This Draft EIR also examines alternatives to the Station Area Plan.

The City of Larkspur (City) is the lead agency for environmental review of the project. This Draft EIR will be used by City staff and the public in their review of the Station Area Plan.

This document is a Program EIR for the Station Area Plan, and may function as a project-level EIR for later specific projects based on the outcome of subsequent project and/or site review and analysis by City staff.³ The effects of the Station Area Plan land uses and implementation actions are analyzed in this document as specifically and comprehensively as possible, consistent with State law, for further CEQA compliance.

There are several advantages to a Program EIR. It provides a more thorough consideration of regional influences, secondary effects, cumulative impacts, land use and policy alternatives, global climate change, and other factors that apply to the program as a whole. Program EIRs avoid duplicative reconsideration of basic policy considerations. They allow the lead agency to consider broad policy alternatives and program-wide mitigation measures at a time when the agency has greater flexibility to deal with fundamental issues and/or cumulative effects.

Subsequent projects approved or undertaken pursuant to a Program EIR may still require additional environmental review. This will be determined by the City on a project-by-project basis based on the details and specifics of the project and/or site, and appropriate subsequent analysis. However, Program EIRs allow subsequent environmental review to focus on issues unique to the site or individual projects that were not specifically addressed in the Program EIR. Program EIRs allow decision-makers and interested parties to focus the subsequent CEQA analysis of follow on projects on new effects (if any) not considered before.

¹ Public Resources Code Section 21000 et. seq.

² California Code of Regulations, Title 14, Section 15000.

³ *CEQA Guidelines* Section 15168.

The City will consider future discretionary projects and make determinations as to their consistency with the Station Area Plan and other regulations and whether they may properly rely on this EIR, and/or whether any subsequent site-level technical studies and resource inventories should be required. The City and other agencies will use information presented in this Program EIR to evaluate future land use and/or development proposals and to focus subsequent CEQA review on project-related impacts (if any) that were not specifically addressed in this EIR.

B. PROPOSED PROJECT

The City of Larkspur is preparing the Larkspur SMART Station Area Plan. The SMART (Sonoma-Marin Area Rail Transit) is a passenger train and multi-use pathway project planned to extend 70 miles from Cloverdale in Sonoma County to Larkspur in Marin County. SMART will use an existing but dormant rail corridor formerly used by the Northwestern Pacific Railroad. The SMART corridor generally parallels U.S. 101 through Sonoma and Marin counties, and will serve 14 stations when completed. The Station Area Plan will identify potential land use and regulatory changes for the area surrounding the planned SMART Station that are intended to support long term SMART ridership. The Station Area Plan does not include planning for the Larkspur SMART Station or the infrastructure associated with the SMART Station; these improvements would fall under the purview of SMART.

The Station Area Plan includes many components, and it identifies the anticipated type, intensity and distribution of land uses within the Plan area as established in the preferred land use scenario. It also identifies pedestrian, transit, vehicular, and bicycle access to the station and general circulation throughout the Plan area. The Station Area Plan includes design policies and standards that encourage pedestrian-friendly design to promote walkability and livability of the Plan area and infrastructure improvements that will be needed to support implementation of the Station Area Plan. Finally, the Station Area Plan identifies regulatory and policy changes to the General Plan, Zoning Ordinance, and Design Guidelines needed to implement the Plan.

C. DRAFT EIR SCOPE

The City of Larkspur circulated a Notice of Preparation (NOP) that included a list of potential environmental effects associated with the Station Area Plan. The NOP was published on January 8, 2013, and was distributed to local, regional, and State agencies and posted on the City's website, www.cityoflarkspur.org. Comments received by the City were taken into account during the preparation of the Draft EIR. The NOP and written comments received on the NOP are included in Appendix A.

The Draft EIR focuses on areas of concern identified in the NOP and comments received on the NOP. The following environmental topics are addressed in this Draft EIR:

- A. Land Use and Planning Policy
- B. Transportation and Circulation
- C. Air Quality
- D. Global Climate Change

- E. Noise
- F. Biological Resources
- G. Geology, Soils and Seismicity
- H. Hydrology and Water Quality
- I. Hazards and Hazardous Materials
- J. Cultural Resources
- K. Public Services
- L. Utilities and Infrastructure

The following topics were not included as separate topics within the Draft EIR: agriculture and forestry resources; mineral resources; population and housing; and visual resources. These topics are discussed in the Effects Found Not to be Significant section of Chapter VI.

D. REPORT ORGANIZATION

This Draft EIR is organized into the following chapters:

- *Chapter I – Introduction:* Discusses the overall Draft EIR purpose, provides a summary of the proposed project, describes the Draft EIR scope, and summarizes the organization of the Draft EIR.
- *Chapter II – Summary:* Provides a summary of the impacts that would result from implementation of the project, describes mitigation measures recommended to reduce or avoid significant impacts, and describes the alternatives to the project
- *Chapter III – Project Description:* Provides a description of the regional location and general setting of the City of Larkspur and the Plan area, intended uses of the Draft EIR, the objectives of the Station Area Plan, the components of the Station Area Plan, and adoption and implementation of the Station Area Plan.
- *Chapter IV – Setting, Impacts and Mitigation Measures:* Describes the following for each environmental technical topic: existing conditions (setting), potential environmental impacts (project level and cumulative) and their level of significance, and mitigation measures recommended to mitigate identified impacts. Potential adverse impacts are identified by levels of significance, as follows: less-than-significant impact (LTS), significant impact (S), and significant and unavoidable impact (SU). The significance of each impact is categorized before and after implementation of any recommended mitigation measure(s).
- *Chapter V – Alternatives:* Provides an evaluation of three alternatives to the Station Area Plan.
- *Chapter VI – Other CEQA Considerations:* Provides an analysis of effects found not to be significant, growth-inducing impacts, unavoidable significant environmental impacts and significant irreversible changes.
- *Chapter VII – Report Preparation:* Identifies preparers of the Draft EIR, references used, and the persons and organizations contacted.

- *Appendices:* The appendices contain the NOP and comments on the NOP, technical calculations, and other documentation prepared in conjunction with this Draft EIR. The appendices are provided on a CD inside the back cover of hard copies of the Draft EIR, but hard copies are available for review at the Planning Department.