

# Appendices

## Appendix A. Source Documents

### A.1 Source Documents

The data and information used to develop the Concept and Conceptual Alternatives Drawings were provided by SMART, the City of San Rafael and Caltrans. The information provided included digital files and hard copies of maps and other documents.

The following are the sources used to develop the Concept and Conceptual Alternatives Drawings:

#### From SMART:

Information	Document	Document/Transmit Date	Applies To Following Concepts & Conceptual Alternatives
Aerial Photo	Aerial Map (San Rafael)	June 2012	All
Parcel Lines (shown in black)	X-MARIN-CO-BASEMAP-CA83II-F	January 2011	All
2011 Wetland Delineation	WetlandPolygon.shx	April 2014	All
Proposed Rail Mainline Alignment <sup>4</sup>	X-Align-LarkspurExt	March 2016	All
Proposed Rail Siding Alignment <sup>4</sup>	X-Siding	March 2016	All
Existing Ground Topography	X-TOPO-MP15-17.2	March 2016	All, used for evaluation, not shown on the plans
NWPRR Valuation Map Right-of-way (shown in red)	X-ROWExist_DRAFT	January 2016	All
AECOM Larkspur Extension	Francisco Blvd West "Flip" (PDF)	July 2013	Larkspur Extension EA only
Alignment with portion of drainage channel in culvert	X-SMART-Align_San_Rafael-Francisco(flip)-DRAFT.dwg	January 2016	City Street Section only

<sup>4</sup> The SMART rail alignments shown on the Concepts are from *X-Align-LarkspurExt* and *X-Siding*, March 2016. The SMART rail alignments shown on the Larkspur Extension EA Concept are from the adopted Environmental Assessment for the Larkspur Extension (*Appendix G Alignment Plans, AECOM Francisco Blvd West "Flip" plans, July 2013*). Where both rail alignments are shown on the plans they are labeled by the source year: 2013 or 2016.

#### From City of San Rafael:

Information	Document (hard copies)	Document/Transmit Date	Applies To Following Concepts & Conceptual Alternatives
Assessor's Parcel Information	Property Ownership Map	March 2016	All
Francisco Blvd W. Typical Section	Street X section	March 2016	City Street Section Option

**From Caltrans (District 4):**

Information	Document	Document/Transmit Date	Applies To Following Concepts & Conceptual Alternatives
Caltrans Right-of-way line	r_00022 016 2015-05-28.pdf	March 2016	All
Caltrans Right-of-way line	r_00022 017 2015-05-28.pdf	March 2016	All
Caltrans Right-of-way line	r_00022 018 1991-08-01_sn-03063.pdf	March 2016	All

**From Coastland:**

Information	Document	Document/Transmit Date	Applies To Following Concepts & Conceptual Alternatives
Top of Bank Delineation	Determined from SMART Ground Survey	March 2016	All

**Technical References:**

The 10' off set of the rail centerline from obstructions and pathway are SMART standards to account for the ballast above the grading plane, maintenance access and the 2 foot pathway (per GO-118-A) to be inside the fence/barrier. GO 26-D also requires the 10' off-set to the edge of roadways (established curb lines).

The California Department of Transportation (Caltrans) has established roadway and bikeway standards for use in California. The predominate Caltrans document being the *Highway Design Manual (HDM)* and chapters *300 Geometric Cross Section* and *1000 Bicycle Transportation Design* are the most applicable to this study.

The California Public Utilities Commission (CPUC) requirements, especially General Orders (GO) 26-D, 88-B and 118-A establish clearance, grade crossing and maintenance walkway requirements respectively (see excerpts in Appendix C). GO 26-D and 118-A influence separation of the railway with the street and 88-B may dictate requirements at roadway crossings of railways, affecting only the Rice Dr. intersection/grade crossing.

SMART Design Criteria Manual, Chapter 3 – Non-Motorized Pathway, January 21, 2013, Rev. 3.

National Association of City Transportation Officials (NACTO) – Urban Bikeway Design Guide 2015

## Appendix B. Future Considerations

### Future Considerations

As the design of the project progresses the following issues should be considered:

#### Physical Conflicts or Restrictions

- Railroad Crossing Control Equipment & Gate Houses (CILs)
- Street intersection changes and improvements including signals and associated controllers
- Utility relocation needs
- Regulatory Restrictions
- Design Exceptions may be needed for City of San Rafael, SMART and Caltrans Standards and requirements to fit all the facilities within the limited right-of-way while avoiding significant encroach into the drainage channel.
- California Public Utility Commission (CPUC) and Federal Railroad Administration (FRA) rail standards and regulations that establish railroad geometry and clearances, particularly horizontal clearances set forth in CPUC General Order No. 26-D (see Appendix 2) may dictate the available right-of-way for the Rice Dr. to 2<sup>nd</sup> Street segment.

#### Environmental Regulatory Constraints

- **Environmental Clearance.** The Multi-use Pathway (MUP) along the SMART right-of-way from Andersen Dr. to 2<sup>nd</sup> St., was not included in the project descriptions for the SMART Measure Q EIR nor was it included in the Larkspur Extension Environmental Assessment. Therefore the Rice Dr. to 2<sup>nd</sup> St. segment of the MUP has neither CEQA nor NEPA clearance. An EIR Amendment will be needed for CEQA, and if MUP implementation has a Federal nexus amendment of the Environmental Assessment may be needed.
- **Permits Needed.** It would appear that under all alternative designs, impacts along the unnamed drainage ditch would occur above the OHWL. Therefore, no Corps of Engineers approval would be needed (since there are no wetlands extending beyond the OHWL). However, approvals would be needed from the RWQCB (i.e. Waste Discharge Requirements permit) and CDFW (i.e. Section 1602 Streambed Alteration Agreement) for the drainage channel alternatives. Removal of the existing 5-foot-wide suspended pedestrian bridge over San Rafael Creek (adjacent to Francisco Boulevard West and south of 2nd Street) and replacing it with a new 10-foot-wide bridge to accommodate the MUP would likely only require approval of a Section 1602 permit from CDFW because the bridge would be suspended from the top of the bank; there would be no disturbance of the creek bed.

Since the project has alternatives that do not appear to require a Corps permit, Section 7 Endangered Species Act consultation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) would presumably occur through a federal nexus if federal funds are used to fund the MUP. Alternatively, the project sponsor could seek to informally discuss the project with both the USFWS and NMFS in order to get their advice on appropriate minimization and avoidance measures to be employed. Under this scenario, the project would proceed without a Biological Opinion or Concurrence letter from these agencies:

- **Impact Avoidance.** The permit applications would need to demonstrate that impacts (both direct and indirect) to the drainage channel have been avoided to the maximum extent practicable. This would include demonstrating that the MUP could not practicably be constructed entirely above the drainage channel top of bank because there is inadequate width to accomplish this in a safe manner. Assuming that this is the case, some channel bank impact could potentially be approved. The extent of direct impact to channel banks would vary slightly among the alternatives designs that utilize only a backfilled retaining wall. The alternative that utilizes a cantilevered and backfilled retaining wall would have significantly less direct bank impact but would nevertheless cause some shading impacts to the channel bank. However the shading impacts would be limited to the loss of ruderal vegetation rather than wetland or riparian species, and may not be considered significant.

Both the RWQCB and CDFW would likely require that a pre- and post-project hydrographic study be provided to demonstrate that the drainage channel's existing capacity to hold and transport storm waters is maintained.

There could be slight increase in shading of San Rafael Creek from the trestle removal/replacement element of the project; however this increase would probably not be significant given the fact that there is no wetland or riparian vegetation at this location and the change in shading (if any) would be very small.

**Mitigation Measures.** The avoidance and minimization measures for green sturgeon and other special status species mentioned above would be equally applicable to all alternatives; all the measures can be properly implemented regardless of the alternative selected. Compensatory mitigation would probably be required for the loss of channel bank from the backfilled retaining wall under all the alternatives. The most likely form of such mitigation would entail channel enhancements (through riparian plantings or other streambank improvements) either downstream along the unnamed drainage channel (assuming such enhancement would not interfere with storm flow conveyance capacity), or along some other stream channel in the vicinity.

## Appendix C. Excerpts from General Order No. 26-D

The following are excerpts from California Public Utility Commission General Order No. 26-D that have significant bearing on the study area. A complete copy of this General Order may be found at:

<http://www.cpuc.ca.gov/gos/GO%2026-D.pdf>

### **GENERAL ORDER No. 26-D (Excerpts)**

#### **Section 3-Side Clearances**

3.1 Minimum side clearances from center line of tangent standard gauge railroad and street railroad tracks, which are used or proposed to be used for transporting freight cars, except as hereinafter prescribed, shall be as shown below.

*Minimum*

*Description Side Clearance*

3.2 All structures and obstructions above the top of the rail except those hereinafter specifically mentioned..... 8' 6"

NOTE: Posts, pipes, warning signs and similar obstructions should, where practicable, have a side clearance of ten (10) feet.

3.17 The center line of any track constructed in and along a public street shall be at least ten (10) feet from the property line of said street, or if the street has a lawfully established curb line, such track shall be at least ten (10) feet from such line.

#### **Section 5-Clearance Between Parallel Tracks**

5.1 The minimum distance between the center lines of parallel standard gauge tracks shall be fourteen (14) feet except as hereinafter provided.

5.2 The center line of any standard gauge track, except a main track or a passing track, parallel and adjacent to a main track or a passing track, shall be at least fifteen (15) feet from the center line of such main track or passing track; provided, however, that where a passing track is adjacent to and at least fifteen (15) feet distant from the main track, any other track may be constructed adjacent to such passing track with clearance prescribed in subsection 5.1 of this order.

5.3 The center line of any standard gauge ladder track, constructed parallel to any other adjacent track, shall have a clearance of not less than twenty (20) feet from the center line of such other track.

5.4 The minimum distance between the center lines of parallel team, house and industry tracks shall be thirteen (13) feet.

5.5 Main, siding and yard tracks constructed prior to the effective date of this order with distance of not less than thirteen (13) feet between track centers may be extended without increasing such distances.