

Appendix C

Technical Proposal Submittal Requirements

Proposer shall submit the Technical Proposal information required by this Appendix C, separated and labeled appropriately and organized in accordance with Appendix I. See Appendix I-1 for additional information regarding the components of the Technical Proposal.

These submittals shall be appended to the Agreement with the Developer.

1. Management / Administration

1.1. Preliminary Project Management Plan

The Technical Proposal shall include a Preliminary Project Management Plan, including the management and staffing plan for the phasing and sequencing of the Project (and any proposed Project segmentation) as defined in the Proposer's Construction Phasing/Sequencing Plan. The Preliminary Project Management Plan shall include:

- a. the Proposer's concept of design management, including a description of how design personnel will interface with the construction and O&M organizations to enhance and expedite the design process, in accordance with the Preliminary Quality Plan;
- b. a description of the construction management concept to be used, including the interface with the QA/QC organization;
- c. a description of the interrelationship between the design and construction activities and the allocation of design and construction staff to implement the Proposer's Construction Phasing/Sequencing Plan;
- ~~d. a description of the Proposer's approach to addressing constructability, durability, maintainability and environmental compliance in the design and construction processes;~~
- d. a description of the Proposer's approach to safety, for both employees of the Developer and the public;
- e. a description of how the Proposer will interface with the Department, existing contractors employed by the Department, cities, regulatory agencies, utility agency owners, the Presidio Trust, other stakeholders and the public during Phase II Construction, including but not limited to the following activities: plans and permits review; progress, workshop, partnering and utility coordination meetings; construction engineering and inspection; and public involvement and community input;
- f. a description of how construction personnel will interface with the O&M organization in the commissioning of the Project;
- g. a description of the Proposer's approach to management of traffic during the Construction Period and the O&M Period;

- h. a description of the Proposer's approach to UDBE/DBE/SBE Certification; and
- i. the Developer's Preliminary Quality Plan including;
 - 1. the QA/QC program for the Design Work, the QA/QC program for the Construction Work, and how design and construction activities performed by different firms will be coordinated to ensure consistency of quality;
 - 2. the Developer's conceptual QA/QC plan for O&M During Construction and O&M After Construction and its approach to developing a quality management system for self-monitoring of quality during the O&M During Construction and O&M After Construction; and
 - 3. QA/QC organization charts (on 11"x17" sheets) for the Design Work, the Construction Work and the O&M Work, clearly defining to whom the QA/QC staff shall report within the Proposer's organization (the Quality Manager). The Proposer shall provide resumes (maximum of two 8-1/2" x 11" pages) for all QA/QC personnel;
 - ~~4. a narrative for the Preliminary Quality Plan that describes the roles and responsibilities of key QA/QC personnel during each phase of the Project to ensure quality design, construction, operations and maintenance, and describe the inter-relationship and relative authority within the Proposer's organization of QA/QC staff and design, construction, operations and maintenance staff;~~
- ~~i. a description of how the Developer will interact and coordinate activities with Phase I Construction; and~~
- ~~j. a description of the Proposer's approach to address deconstruction and reconstruction of historical preservation buildings.~~

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The Preliminary Project Management Plan shall include three (3) summary organization charts (on 11"x17" sheets) illustrating the Proposer's Key Personnel and their prospective roles and responsibilities along with other principal participants and named contractors having a material role in the Project in connection with the Design Work, the Construction Work, and the O&M Work. The three (3) organization charts described above shall be provided for:

- a. the proposed design organization, indicating the responsibilities and structure of the design staff, down to and including discipline leads ~~and the staff positions~~ proposed in each discipline;
- b. the proposed construction organization, indicating the responsibilities and structure of the construction ~~staff, down to and including field superintendents and the staff positions proposed under each field superintendent for all shifts;~~ and
- c. the proposed O&M organization, indicating the responsibilities and structure of the lead O&M staff, down to and including the roadway, bridge and ITS discipline leads for the O&M Work.

The Proposer shall provide resumes (maximum of two 8-1/2" x 11" pages) for all personnel listed above.

The Preliminary Project Management Plan may be no longer than thirty (30) pages, excluding organization charts and resumes.

1.2. Project Schedule and Construction Phasing/Sequencing Plan

Project Schedule

The Technical Proposal shall include a logic-based Critical Path Method (CPM) project schedule in Primavera format for the Work to be performed from the Effective Date up to and including ~~Substantial Completion~~Final Acceptance (Project Schedule) in addition to a brief overall narrative regarding the assumptions used in preparing the schedule including the submittal process described in the Technical Requirements. The Project Schedule shall include a start date and the duration in days for all activities. The Project Schedule ~~should~~shall include a ~~detailed~~ work plan with a hierarchical breakdown of work scope by location, type and task, which is known as a Work Breakdown Structure (WBS). The Project Schedule shall clearly illustrate the timing and sequencing for all major design and construction activities. The Project Schedule must include the following, at a minimum:

- NTP 1
- NTP 2
- Construction Commencement
- Major Permits Approval Deadlines
- Construction Closures
- Substantial Completion Date
- Final Acceptance Date
- ~~All Submittals~~
- ~~Meetings with the Department regarding all Submittals~~
- ~~Time allowance for Department concurrence on Submittals~~
- ~~An independent design check~~
- ~~Seismic Peer Review Panel meetings~~
- ~~State Fire Marshall approved for compliance of tunnel systems design for Fire Life Safety~~
- ~~Required third party approval/concurrence from:~~
 - ~~Presidio Trust~~
 - ~~National Park Service~~
 - ~~City of San Francisco~~
 - ~~Golden Gate Bridge Highway and Transportation District~~
 - ~~Fire Departments: Presidio Trust and City of San Francisco~~

~~The date identified for the commencement of Phase II Construction in the Proposer's Project Schedule shall be no later than the Construction Commencement Deadline. The date identified for Substantial Completion in the Proposer's Project Schedule shall be no earlier than the Early Completion Date.~~

~~The Project Schedule shall clearly illustrate the timing, sequencing and interim substantial completion dates for all major permitting, design and construction activities.~~

~~The Project Schedule submittal shall include, at a minimum, a narrative regarding the assumptions used in preparing the schedule, including: restraints, critical path activities, activities requiring night work, plans review activities (including a description of the proposed~~

~~component submittal process as described in Volume II, Division I of the Technical Requirements, workshop and partnering activities, activities that include contingencies, holidays and other non-work days, potential problem areas, permits, utility relocations and required coordination.~~

Construction Phasing / Sequencing Plan

The Construction Phasing/Sequencing Plan shall be consistent with the Transportation Management Plan in the Proposer's Preliminary Master Design Submittal and shall include any proposed segmentation of the Project. The Construction Phasing/Sequencing Plan shall describe the timing and phasing of design and construction, ~~and shall include a narrative regarding the assumptions used in preparing the schedule, including: restraints, critical path activities, activities requiring night work, activities that include contingencies, holidays and other non-work days, potential problem areas, permits, for drainage conveyance to on-site and off-site facilities,~~ the timing and duration of temporary closures of the Presidio Parkway, utility relocations, proposed use of properties for staging and laydown activities, potential problem areas, and the accommodation of the work restrictions described in Volume II, Division I of the Technical Requirements.

~~The Construction Phasing/Sequencing Plan shall also provide information regarding traffic management for the Project, maintenance of access and egress during all phases of construction, indicate proposed use of properties for staging and laydown activities, and identify potential problem areas.~~

The Construction Phasing/Sequencing Plan shall include a specific description of the Proposer's planned coordination with Phase I Construction, strategy to alleviate traffic congestion on the Presidio Parkway, and will address limitations contained in the right of entry agreement with the Presidio Trust.

The Project Schedule and Construction Phasing / Sequencing Plan submittal ~~may~~ shall be no longer than twenty five (25) pages, excluding the Primavera schedule. The Project Schedule shall include an executive summary project schedule that is no longer than five (5) pages. The Project Schedule shall also be provided electronically in Primavera format.

1.3. Environmental Compliance Plan

The Technical Proposal shall include an Environmental Compliance Plan that describes how the Proposer will comply with applicable NEPA and CEQA commitments and environmental and permitting commitments and requirements during performance of the Design Work, Construction Work and O&M Work. The Environmental Compliance Plan shall:

- a. provide resumes (maximum of two 8-1/2" x 11" pages) and identify the lead personnel to be responsible for NEPA and CEQA compliance, environmental permitting, biological monitoring, cultural resource compliance, noise monitoring, water pollution control, stormwater, erosion control, historical/archaeological, and the handling of contaminated materials;
- b. delineate how requirements and commitments described in the various Technical Requirements, including the Record of Decision, Mitigation Monitoring Plan, and Section 106 Programmatic Agreement and associated treatment plans, (as well as

any additional requirements and commitments that may arise during the Phase II Construction and O&M During Construction and O&M After Construction), will be identified and tracked, and how the Proposer intends to verify that these requirements and commitments have been met; and

- c. identify mitigation plans to be developed for environmentally sensitive aspects of the Work, addressing potential Work activities related to the natural environment, physical environment, and cultural and historic resources, including the monitoring, treatment and discovery of existing and unknown archaeological and/or cultural resources encountered throughout the Term.

The Environmental Compliance Plan may be no longer than fifteen (15) pages, excluding resumes.

1.4 Outline Sustainability Plan

The Technical Proposal shall include an Outline Sustainability Plan (“OSP”) that describes the Proposer’s approach to sustainability and how the Proposer will meet the sustainability targets described in Division I, Section 2.7.5 of the Technical Requirements. ~~The OSP must achieve those targets while demonstrating that the approach will be consistent with the Technical Requirements.~~

~~It is anticipated that the OSP will provide an introduction and an overview of the Proposer’s proposed approach. The preferred Proposer will be responsible for creating a detailed Final Sustainability Plan after entering into the Agreement.~~

~~Specifically, the OSP submitted as part of the Technical Proposal shall address each of the following areas:~~

~~**Targets:** The Proposer should state specific targets or a process for establishing targets, relevant to construction and operation/ maintenance of the facility. These targets should be consistent with those described in Division I, Section 2.7.5 of the Technical Requirements. Proposers are encouraged to go beyond the basic requirements stated Division I, Section 2.7.5 of the Technical Requirements. At a minimum, Proposers should commit to targets for improvements beyond industry standard practice in the areas of greenhouse gas emissions, waste, and materials.~~

~~**Strategies for achieving targets:** The Proposer should articulate proposed strategies for how the above targets will be achieved. Specific examples can be used to demonstrate that the Proposer has identified and defined a process to achieve the targets. Proposers can also give examples of past projects which demonstrate competency in delivering sustainability outcomes on other projects.~~

~~**Project Planning and Reporting:** The Proposer should describe its process for creating the Final Sustainability Plan and how the reporting would track progress during the project’s construction period. This would include frequency of reporting, format of deliverables, and other related points.~~

The Outline Sustainability Plan may be no longer than ten (10) pages, excluding any resumes.

2. Preliminary Master Design Submittal

The Technical Proposal shall include a Preliminary Master Design Submittal. All Preliminary Master Design Submittal documents shall be produced in accordance with the submittal requirements in Appendix I-1. The Preliminary Master Design Submittal shall represent a level of design sufficient to enable a thorough evaluation of Proposer design concepts, shall address all elements of the proposed design, and shall be consistent with the requirements of the Technical Requirements.

The Proposer shall submit a completed Preliminary Master Design Submittal Overview, (Appendix E, Form I). The Proposer shall also provide a narrative that further describes the key features and innovative aspects of the Proposer's design concept, and the proposed modifications to the Indicative Preliminary Design associated with each concept component (A-H below).

The Preliminary Master Design Submittal shall contain, at a minimum, the elements listed below.

A) **Roadway Concept**

Alignment and Profile

- Project limits
- Horizontal and vertical roadway alignment with mathematized baseline/centerline stationed at 100 feet for all roadways that require profile design including, but not limited to, State Route 101 and ramps, Girard Road and ramps, Gorgas Avenue, and Halleck Street Baseline bearing data and curve data
- Existing and proposed right-of-way lines, including any additional right-of-way needs identified
- Lane, shoulder, transitions and sidewalk dimensions
- For guide signs structures, changeable message signs (CMS) and variable message signs (VMS) sign structures, and signalization poles - include ~~footprints and sizes foundations dimensions in the roadway design files, roll plots and plans~~locations
- ~~Begin and end approach slab, begin and end bridge, begin and end tunnel, and centerline intermediate bridge pier stations~~
- ~~B~~begin and end retaining wall stations and offsets
- Connections to existing roadways
- ~~Typical roadway cross-sections, including right-of-way lines and special features (at 500 foot intervals or otherwise appropriate intervals including typical sections for)~~
- ~~Typical sections for~~ State Route 101 and ramps, Girard Road and ramps, Gorgas Avenue, and Halleck Street. ~~Pavement delineation for State Route 101 and ramps, Girard Road and ramps, Gorgas Avenue, and Halleck Street.~~
- ~~Profiles of all roadways with grades, curve data, superlevation transitions, existing ground, and major controlling utilities~~
- ~~Critical profile controls and clearances~~

Transportation Management Plan (TMP)

- Transportation Management Plan showing major phases of the Work, the corresponding transportation impacts, and proposed TMP strategies
- Phase typical sections
- Phase notes and sequence of work activities including but not limited to: specialized equipment needs, falsework
- Detours
- Maintenance of access and egress during all phases of construction
- Any unique sub-phases required to handle unique construction practices

Drainage

- ~~Drainage Plans, including plan sheets, notes and details concept per the Department's Plans Preparation Manual.~~
- ~~Drainage Design Report, including a record of all drainage computations, including but not limited to hydrologic, hydraulic, flood control, and water quality treatment computations.~~
- ~~Stormwater Pollution Prevention Plan as required by the National Pollutant Discharge Elimination System (NPDES) and per the Caltrans Storm Water Pollution Prevention Plan and Water Pollution Control Program (WPCP) Preparation Manual.~~
- ~~Drainage Map, including for stormwater management facilities, drainage divides and ground elevations, drainage areas and flow directions, major conveyance structures, culverts and existing structures and pipes. For purposes of the Design Submittal, "major conveyance structures" include, but are not limited to, all storm drains and/or cross drains (pipe culverts, box culverts, and bridges) necessary to convey stormwater runoff to the stormwater management facilities and/or receiving waterbodies. If pump stations are required to adequately convey stormwater runoff to the stormwater management facilities and/or receiving waterbodies, then such major conveyance structures shall also include pump stations.~~
- ~~Water quality calculations, water quantity calculations, flood routing and modeling inputs and results for the temporary and permanent stormwater Best Management Practices (BMP) facilities for water pollution control.~~

Utilities

- Utility conflict matrix and conceptual utilities relocation plan that tie to the phasing of the Construction Work.

B) Structures Concept

The Proposers shall submit the following plans:

- Structure concept plans compatible with the Indicative Preliminary Design provided by the Department for the Northbound Presidio Viaduct and Veterans Off-Ramp. Include elevation and plan views showing bent footprints, spacings, and locations, critical vertical clearances, and special features. Also include typical sections showing foundation (type, number, size, and depth), substructure, and superstructure dimensions.
- Structure concept plans compatible with the Indicative Preliminary Design provided by the Department for the Girard Road Undercrossing – Northbound and Southbound, Tennessee Hollow – Northbound and Southbound, Gorgas Ramp, Girard Northbound-Ramp, and Girard Road Depressed Roadway. Include elevation and plan views showing bent footprints, spacings, and locations, and critical vertical

clearances. Also include typical sections showing foundation (type, number, size, and depth), substructure, and superstructure dimensions.

- Structure concept plans compatible with the Indicative Preliminary Design provided by the Department for the Northbound Battery Tunnel. Include elevation and plan views showing top of tunnel, top of invert slab, and special features. Also include typical sections showing lane widths, roadway clearance envelope, utility ductbanks, waterproofing system, and other features such as drainage system.
- Structure concept plans compatible with the Indicative Preliminary Design provided by the Department for the Main Post Tunnels. Include elevation and plan views showing top of tunnel, top of invert slab, and special features. Also include typical sections showing lane widths, roadway clearance envelope, utility ductbanks, waterproofing system, and other features such as drainage system. Provide site plans and grading and include locations of retaining walls.
- Electrical substation: proposed design of the Main Post Tunnels electrical substation, including layout, profile, and cross-sections.
- Other structures, as required by the Proposer's design.

In addition, Proposers shall submit the following information:

- Typical superstructure cross section at each crossing road showing the existing condition, each construction phase, and the final condition. All bridges at the crossing road are to be shown in one section to show the inter-relationship between the bridges. The cross section shall show as a minimum lanes, shoulders, railings, walls, slab, and beams.
- Table of minimum vertical clearances to be provided at each bridge that lists the dimension, location on bridge, and location on crossing road. Plan sheets may be used in combination with or in place of the table.
- ~~Table of minimum horizontal clearances to be provided at each bridge that lists the dimension, the object, and method of shielding if required. Plan sheets may be used in combination with or in place of the table.~~
- Outline bridges removal plan setting out approach to deconstruction/demolition. Special details and/or materials not normally used on Department projects.
- ~~Approximate volume of bridge debris that will be available to the Departments a result of the demolition of existing bridges, and an estimated timeframe for the availability of this debris.~~

C) **Architectural Concept Plans**

Architectural concept plans compliant with the Project-wide architectural criteria provided by the Department in the Reference Documents shall be submitted pertinent to the following:

- Girard Interchange bridge deck edge treatment and column detail
- Main Post Tunnel portals, interior finish, safety railing, and fences
- NB Battery Tunnel portals, interior finish, safety railing, and fences
- NB Presidio Viaduct deck, cantilever support steel 'fins', and columns
- ~~Light poles, fences, and railing~~

~~D) **Signing & Pavement Marking Concept**~~

- ~~Guide sign, VMS and CMS locations with sizes and section and proposed guide sign messages~~
- ~~Pavement markings for lanes, shoulders, gores, and sidewalks~~
- ~~Additional signing and pavement marking measures to enhance driver awareness approaching the Golden Gate Bridge Toll Plaza area~~
- Tunnel traffic signal heads placement and support system for signal heads

~~E) **Lighting Concept**~~

- ~~Layout of proposed corridor lighting system (including overhead sign structures) compatible with architectural criteria of the Project~~
- ~~Spacing and location of poles~~
- ~~Proposed luminaires~~
- ~~Delineation of the Department, Presidio Trust, and National Park Services maintenance jurisdictions~~
- ~~Integration with existing lighting system, including identification of system service points.~~

D) Grading and Landscaping Concept

The Proposers shall submit Landscape Technical Plans based on the Indicative Preliminary Design indicating landscape concepts. The plans shall be compliant with the South Access to The Golden Gate Bridge Architectural Criteria Report August 2008 and the Presidio Trust ~~Vegetation Management Plan and shall include the following:~~

~~Grading of planting areas including: berm contours, slopes, high points, low points, planter drain locations, hardscape areas, slope of pavement, tops and bottoms of stairs, ramps, and elevations and relevant details;~~

~~Hardscape design plans that shall include the location and dimensions of all pedestrian areas including: sidewalks, paths, ramps, trails, patios, courtyards, landscape seatwalls, planter walls, retaining walls (under 4'), amphitheater, guardrails, hand rails and relevant details;~~

~~Planting plans indicating the location, species, size, and details related to plant installation; and~~

~~Irrigation plans that shall include a complete automatic irrigation system for all planting areas including: location, size, and type of irrigation lines, and heads; controller types, and locations; quick coupler locations and relevant details.~~

E) Tunnel Systems Plans

~~Proposers shall submit design criteria for all fire and life safety systems. Proposers shall include a reproduction of the Table of Tunnel Fire and Life Safety Systems Requirements found within Division II, Section III of the Technical Requirements. Proposers shall replace all table cells indicated "TBDC" with the Proposer's proposed design criteria or requirements.~~

Proposers shall develop and submit a concept design that includes descriptions/narratives, general layouts and schematic drawings of Mechanical Electrical and Plumbing (MEP) installations, including, but not limited, to the following:

- Fire and life safety strategy;
- Strategy for tunnel ventilation system;
- Strategy for fire suppression system;

- Strategy for tunnel lighting system;
- Accommodation schedules, showing room names as well as the actual areas included in the Proposer's design;
- Location & layout of MEP tunnel services and equipment rooms, niches, ductbanks, and sizes;
- Water supply and, sanitary systems;
- Computer software; and
- Interface management with existing supervisory control and data acquisition (SCADA) systems at Southbound Battery Tunnel.

H) ~~Specifications~~

~~Proposers shall provide a highlighted specifications workbook and a document containing all of the technical special provisions, with a summary of each provision, that apply to their Technical Proposal. The specifications workbook and technical special provisions shall be consistent with the Technical Requirements. Proposers shall not use the Additional technical special provisions as a means of changing the Department standard specifications.~~

3. Operations and Maintenance

3.1 Preliminary Operations and Maintenance Plan (O&M Plan)

The Technical Proposal shall include a Preliminary O&M Plan including, at least:

- an overview narrative describing the scope of the O&M Work and the parameters that the Proposer will develop and employ in relation to operating and maintaining the facility during both O&M During Construction and O&M After Construction;
- ~~a list of the key documents that will form the basis of the operations and maintenance program (including the table of contents of each);~~
- a description of the self-monitoring processes, including a list of procedures that will be used to monitor compliance with minimum performance criteria and report adherence to or deviations from the performance criteria for purposes of calculating adjustments to the Availability Payment;
- a description of the method of tracking and reporting Construction and O&M Noncompliance Points (as defined in Appendix 1 to the Agreement) accumulated during the O&M During Construction and O&M After Construction;
- ~~a listing of the methods of monitoring and verifying operator compliance with procedures;~~
- ~~a listing of the methods of monitoring and verifying operator compliance with procedures;~~
- a description an O&M implementation plan;
- a description of the approach to Routine Maintenance;

- g. a description of the approach to handling the response to accidents and roadway incidents during both O&M During Construction and O&M After Construction, including contaminated and potentially hazardous materials and traffic incident responses of varying severity;
- h. a description of the Proposer's approach and assumptions for Renewal Work and capital equipment replacement, including asset life cycles;
- i. a list of the proposed major facilities (including any off-site storage or maintenance facilities); and
- j. a description of the approach to safety during the O&M During Construction and O&M After Construction, including life safety response issues.

The Proposer shall include a [summary narrative of the](#) handback plan as part of the Preliminary O&M Plan, which shall consist of a description of the approach to fulfill the Handback Requirements.

The Preliminary O&M Plan may be no longer than twenty ~~five~~ (20) pages.

3.2 System Integration Plan

The Technical Proposal shall include a System Integration Plan describing the approach and philosophy to be used for integrating Project systems. The System Integration Plan shall include:

- a. specifics on how the Proposer plans to integrate the ~~ramp metering (RM) system, traffic monitoring system, communication system, changeable message sign (CMS) system, variable message sign (VMS) system, extinguishable message sign (EMS) system, Highway Advisory Radio (HAR) system, roadway weather information system (RWIS), tunnel portal traffic signals, closed circuit television (CCTV) camera system, incident detection system, 800 MHz agency and California Highway Patrol (CHP) radio, AM/FM rebroadcast/override in the tunnels, and public address (PA) system~~ intelligent transportation systems elements described in Volume II, Division II of the Technical Requirements; and
- b. a description of how this unified interface will support the operation of the Project and the self-monitoring/payment mechanism process;
- ~~c. Preliminary layout roll plots of the ramp metering (RM) system, traffic monitoring system, communication system, changeable message sign (CMS) system, variable message sign (VMS) system, extinguishable message sign (EMS) system, Highway Advisory Radio (HAR) system, roadway weather information system (RWIS), tunnel portal traffic signals, closed circuit television (CCTV) camera system, incident detection system, 800 MHz agency and California Highway Patrol (CHP) radio, AM/FM rebroadcast/override in the tunnels, and public address (PA) system to illustrate the Proposer's System Integration Plan; and~~

The System Integration Plan may be no longer than ~~fifteen~~ (15) pages.

