



AGENDA ITEM 11

Sonoma-Marin Area Rail Transit
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GENERAL MANAGER

Eddy Cumins

August 19, 2026

Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Adopt Resolution 2026-30 authorizing the General Manager to execute Amendment No. 1 to the Progressive Design-Build Phase I Agreement No. CV-DB-25-001 for the design and construction of the Healdsburg Extension Project.

Dear Board Members:

RECOMMENDATIONS: Adopt Resolution 2026-30 authorizing the General Manager to execute Amendment No. 1 to the Progressive Design-Build Phase I Agreement No. CV-DB-25-001 for the design and construction of the Healdsburg Extension Project with Stacy and Witbeck/Herzog, A Joint Venture to incorporate City of Healdsburg ("City") and County of Sonoma ("County") design work, increasing the lump sum amount authorized under the Agreement by \$751,771.28 for a new total lump sum amount authorized of \$22,506,169.82.

SUMMARY: The City of Healdsburg ("City") and County of Sonoma ("County") have requested SMART include the design of utility and roadway improvements into its Progressive Design-Build Healdsburg Extension Project. This Amendment No. 1 will provide for the development of 65% level design to widen a portion of Old Redwood Highway beneath the SMART track for the County and include water and sewer improvements for the City. This design will be fully funded by the City of Healdsburg and County of Sonoma. Final design and construction is anticipated to be added to the Project at a future date.

BACKGROUND: SMART, in conjunction with its Progressive Design-Build Entity ("PDBE"), Stacy and Witbeck/Herzog, A Joint Venture ("SWH"), is developing construction documents for the Healdsburg Extension Project under the Progressive Design-Build Phase I Agreement No. CV-DB-25-001. The County has requested that SMART include the design of roadway improvements in the Project. Specifically, the County would like SMART and SWH to design a widened section of Old Redwood Highway where it passes beneath the SMART track. This opportunity to widen the road has arisen because SMART will be replacing the railroad bridge over Old

Redwood Highway. The roadway improvements will increase the line-of-sight through the curve, widen roadway shoulders, and improve the bike lanes along the shoulder of the road. The County, through Funding Agreement No. FN-OT-26-001, will pay for the design of their facilities in an amount of \$627,875.27.

The City would like SMART's Contractor, SWH, to design an 8-inch sewer main from Hudson Street to Ward Street, add a steel casing beneath the SMART tracks along Front Street for a future water line and develop support connections for a future water line on the new Russian River railroad bridge. This work is being advanced to a 65% design level to be consistent with SMART's work included in the Phase I Agreement No. CV-DB-25-001. The City, through the Funding Agreement No. FN-OT-26-002, will pay for the design of their facilities in an amount of \$123,896.01. Final design and construction of the improvements is anticipated to be added to the Funding Agreements and SMART's Healdsburg Extension Project in the future.

SMART is supportive of assisting the County and the City with their work. Combining work into a single contract typically realizes benefits from economies of scale and minimizes disruptions to the public. SMART has implemented work for many municipalities over the years as we have constructed the rail and pathway system.

Staff recommends adopting Resolution 2026-30 authorizing the General Manager to execute Amendment No. 1 to the Progressive Design-Build Phase I Agreement No. CV-DB-25-001 for the Design and Construction of the Healdsburg Extension Project with Stacy and Witbeck/Herzog, A Joint Venture, increasing the lump sum amount authorized under the Agreement by \$751,771.28 for a new total lump sum amount authorized of \$22,506,169.82.

FISCAL IMPACT: There is no fiscal impact to SMART. The City and County will fund all this work included in this Amendment No. 1 to the Phase 1 Agreement No. CV-DB-25-001.

Respectfully,

/s/

Bill Gamlen, P.E.
Chief Engineer

Attachments: 1.) Resolution 2026-30
2.) Amendment No. 1 (CV-DB-25-001)

ON FILE WITH THE CLERK:

1.) EXHIBIT B Bottom Up Cost Proposals

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT (DISTRICT) ALLOWING THE GENERAL MANAGER TO EXECUTE AMENDMENT NO. 1 TO SMART'S PHASE I AGREEMENT NO. CV-DB-25-001 FOR THE DESIGN AND CONSTRUCTION OF THE HEALDSBURG EXTENSION PROJECT

WHEREAS, the District hired Progress Design-Build Entity ("PDBE") Stacy and Witbeck/Herzog, A Joint Venture (SWH) under Phase I Agreement No. CV-DB-25-001 to design and construct the Healdsburg Extension Project; and

WHEREAS, the City of Healdsburg (City) and the County of Sonoma (County) have requested that SMART include the design of utility and roadway infrastructure into SMART's Progressive Design-Build Healdsburg Extension Project; and

WHEREAS, the District agrees that it makes sense to combine the City and County work into its Progressive Design-Build Healdsburg Extension Phase I Agreement No. CV-DB-25-001 to achieve economies of scale and minimize disruptions to the public; and

WHEREAS, the City and the County have agreed to the price proposals for the design of the infrastructure improvements from SWH; and

WHEREAS, both the City and the County will enter into funding agreements with the District to fund their respective work; and

WHEREAS, the District has prepared Amendment No. 1 to the Phase I Agreement No. CV-DB-25-001 to incorporate the City and County design work, increasing the lump sum amount authorized under the Agreement by \$751,771.28 for a new total lump sum amount authorized of \$22,506,169.82; and

NOW, THEREFORE, BE IT RESOLVED THAT THE BOARD OF DIRECTORS OF SMART HEREBY FINDS, DETERMINES, DECLARES, AND ORDERS AS FOLLOWS:

1. The foregoing Recitals are true and correct and are incorporated herein and form a part of this Resolution.
2. The General Manager is authorized to execute Amendment No. 1 to the Phase I Agreement No. CV-DB-25-001.

Resolution No. 2026-30
Sonoma-Marin Area Rail Transit District
August 19, 2026

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marin Area Rail Transit District held on the 19th day of August, 2026, by the following vote:

DIRECTORS:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chris Coursey, Chair, Board of Directors
Sonoma-Marin Area Rail Transit District

ATTEST:

Kyreen Jorgensen, Clerk of the Board of Directors
Sonoma-Marin Area Rail Transit District

**FIRST AMENDMENT TO THE PHASE I AGREEMENT BETWEEN
THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT AND
STACY AND WITBECK/HERZOG, A JOINT VENTURE**

This First Amendment dated as of August 19, 2026 (the "First Amendment"), to the Phase I Agreement by and between Stacy and Witbeck/Herzog, A Joint Venture (hereinafter referred to as "Progressive Design-Build Entity" or "PDBE") and the Sonoma-Marin Area Rail Transit District (hereinafter referred to as "SMART"), dated as of September 17, 2025 (the "Phase I Agreement," as amended and supplemented by the this First Amendment, the "Agreement").

RECITALS

WHEREAS, PDBE and SMART previously entered into the Phase I Agreement on September 17, 2025 to employ the services of PDBE to provide all Phase I Work, including all design and engineering sufficient to establish a Guaranteed Maximum Price ("GMP") for the Healdsburg Extension Project (the "Project") and support for the design and construction of civil, structures, systems, and architectural improvements for the Project; and

WHEREAS, SMART desires to amend the Phase I Agreement to modify the Exhibit A "Phase I Scope of Work & Timeline" to include completion of thirty-five (35) percent and sixty-five (65) percent design and engineering for the Widening of the Undercrossing of Old Redwood Hwy ("County Design Work" or "County Work") and Design of the Hudson Street To Ward Street Sewer Replacement Project, Front Street Water Main Casing, and Accommodation for the Russian River Rail Bridge Waterline ("City Design Work" or "City Work") sufficient to establish a Guaranteed Maximum Price ("GMP") for the final design and construction of County Work and City Work, increase the lump sum amount authorized under this Agreement by \$751,771.28 for a new lump sum amount of \$22,506,169.82, and modify the Exhibit B "Schedule of Rates" to incorporate the County Work and City Work milestones; and

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

AGREEMENT

1. **"ARTICLE 2. LIST OF EXHIBITS"**. The following exhibits are attached hereto and incorporated herein:

(a) Exhibit A: Phase I Scope of Work & Timeline

The Exhibit A "Phase I Scope of Work & Timeline" included in the Phase I Agreement is hereby deleted and replaced with the following Exhibit A "Phase I Scope of Work & Timeline" included in this First Amendment.

(b) Exhibit B: Schedule of Rates

The Exhibit B "Schedule of Rates" included in the Phase I Agreement is hereby amended per the changes included in the Exhibit B "Schedule of Rates" included in this First Amendment.

2. **"ARTICLE 7. PAYMENT"**. Section 7.01 Subsection (b) is hereby deleted and replaced with the following:

"(b) The lump sum amount authorized under this Agreement is \$22,506,169.82, inclusive of any Phase I Work for the base "Project", Phase I Work Widening of the Undercrossing of Old Redwood Hwy ("County Work"), Phase I Work Design of the Hudson Street to Ward Street Sewer Replacement Project, Front Street Water Main Casing, and accommodation for the Russian River Rail Bridge Waterline ("City Work"), and any Phase I Work related to the "Optional Work".

3. **"ARTICLE 12. INDEMNIFICATION"**. Section 12.01 is hereby deleted and replaced with the following:

"Section 12.01 Indemnification Obligation. As between SMART as one Party, and PD BE as the other Party, PD BE is deemed to assume responsibility and liability for all damage, loss, or injury of any kind or nature whatever to persons or property, public utilities and Non-Transit Facilities, caused by or resulting from or in connection with any action or omission on the part of PD BE or any of PD BE's officers, agents, directors, employees, or Subcontractors in their performance of the Work. To the maximum extent permitted by applicable law, PD BE shall indemnify, defend, and hold harmless SMART, and any and all of its directors, officers, agents, or employees from and against any and all claims, liabilities, losses, damages, or expenses (including attorneys' fees and related costs), whether direct or indirect, for loss of or damage to any property (including the property of SMART), for injury to or death of any person (including, an employee of SMART, public utilities, and Non-Transit Facilities, or PD BE or its Subcontractors), or otherwise arising out of or relating to the performance of the Work and the Progressive DB Contract. This duty on the part of PD BE to indemnify, defend, and hold harmless SMART shall expressly include all claims and lawsuits brought against SMART where SMART is named as a defendant but is not the real party in interest, including all actions on stop notices brought by Subcontractors on this Progressive DB Contract

PD BE shall indemnify and hold harmless the County of Sonoma to the same extent PD BE indemnifies and holds harmless SMART for County Work (as identified in Exhibit A "Scope of Work" and associated activities.

PDBE shall indemnify and hold harmless the City of Healdsburg to the same extent PDBE indemnifies and holds harmless SMART for City Work (as identified in Exhibit A "Scope of Work") and associated activities".

4. **"ARTICLE 13. INSURANCE"**. Section 13.02 Subsection (a) is hereby deleted and replaced with the following:

"(a) SMART, and its officers, officials, employees, and volunteers shall be named as additional insureds on all policies listed above, with the exception of the workers' compensation insurance policy and the professional liability insurance policy

County of Sonoma, and its officers, officials, employees, and volunteers shall be named as additional insureds on all policies listed above, with the exception of the workers' compensation insurance policy and the professional liability insurance policy

City of Healdsburg, and its officers, officials, employees, and volunteers shall be named as additional insureds on all policies listed above, with the exception of the workers' compensation insurance policy and the professional liability insurance policy".

5. Except to the extent the Agreement is specifically amended or supplemented hereby, the Agreement, together with all supplements, amendments and exhibits thereto is, and shall continue to be, in full force and effect as originally executed, and nothing contained herein shall, or shall be construed to, modify, invalidate, or otherwise affect any provision of the Agreement.

SIGNATURE PAGE TO FOLLOW

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment as of the date first set forth above.

STACY AND WITBECK/HERZOG, A JOINT VENTURE

Dated: _____

By _____
Kurt Kniffin, PDBE Authorized Representative

SONOMA-MARIN AREA RAIL TRANSIT DISTRICT

Dated: _____

By _____
Eddy Cumins, General Manager

APPROVED AS TO FORM FOR SMART:

Dated: _____

By _____
District Counsel

EXHIBIT A PHASE I SCOPE OF WORK & TIMELINE

1. Overview

The Sonoma-Marin Area Rail Transit SMART (SMART) is contracting with Stacy and Witbeck / Herzog, A Joint Venture, Progressive Design Builder Entity (hereinafter "PDBE"), to conduct and coordinate specified tasks related to preparing the design of the Healdsburg Extension and potentially an extension from the terminus of the Healdsburg Extension to Geyserville.

The PDBE, and all other subcontractors that will be working with Safety Sensitive Information ("SSI"), shall be required to sign SMART's Confidentiality and Non-Disclosure Agreement prior to the start of any work being performed under this Agreement given the SSI that will be handled during the performance of the contract.

This Contract is a Progressive Design-Build Contract that will complete the following design work:

- Civil, track, and structures elements
- Systems conduit and underground infrastructure
- Complete train signal and grade crossing systems
- Communication systems
- System wide electrical
- Healdsburg Station platform and finishes
- Station area site work and park/ride facility
- Roadway, traffic signal, and illumination
- Utility facilities and relocations
- Non-Motorized Pathway
- Fencing

Healdsburg Extension Project Limits of Work (**The Project**): SMART Windsor Station (MP 63.0) to Healdsburg north side of Lytton Springs Road (MP 72.00)

Optional Project Limits (**Optional Work**): Lytton Springs Road (MP 72.00) to Geyserville (MP 76.10)

General Summary of Design Engineering Professional Services in Phase I for both The Project and Optional Work:

- Preparation of construction documents, shop drawings, specifications, calculations, and reports to the level of detail necessary for fabrication,

- manufacture, and installation of all equipment, assemblies and materials
- Support SMART with identifying areas requiring permits
- Coordination with all affected third parties and complying with their requirements, including but not limited to, local agencies, utilities, resources agencies, etc.
- Preparation of design submittals
- Geotechnical Investigations and analysis
- Hydraulics and hydrological investigations, modeling and evaluation
- Evaluation of systemwide electrical needs, designing solutions, preparing service applications and coordination with PG&E
- Design of system-wide communication systems
- Design of the extension of the SMART train control system
- Preparation of Quality Assurance and Quality Control Plans
- Preparation of Certifiable Items List to certify design.
- Survey work to supplement the survey included in contract
- Support Hazard analysis led by SMART

Sensitive Security Information (“SSI”) Requirements

Whenever documents containing Sensitive Security Information (“SSI”) are required by the PDBE or any of its Subcontractors to perform work under this Agreement, the individuals of the PDBE and all Subcontractors are required to sign SMART’s Confidentiality and Non-Disclosure Agreement prior to being provided the documents.

Co-Location Commitment

PDBE shall co-locate the Project Manager, Principal Engineer, Train Control Engineer, and Structures Lead in office space within one mile to SMART’s headquarters office in Petaluma that will have ample drop-in spaces available for team members who are providing support for specific tasks throughout Phase I work and later co-locate to office space in Healdsburg for Phase II work.

2. Contract Management

The PDBE under the Contract shall be responsible for the management of all efforts necessary to successfully complete all Work under the Contract. The Contract Price includes all costs, time, and materials required to provide Project Management indicated.

Project Management includes, but is not limited to, the following professional and administrative services:

- Project Management
- Design Management
- Accounting

- Cost estimating and cost control
- Guaranteed Maximum Price proposals
- Document control
- Reporting (Monthly)
- Record documents
- Quality management and compliance with SMART quality assurance requirements
- Coordination with SMART, other designers, and all third parties
- Contract closeout

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

3. Management Program and Organization

The PDBE shall be responsible for the total management of the work under this Contract, pursuant to the terms and conditions thereof. The PDBE shall be responsible for establishing the required organization and procedures and providing all necessary staff to complete the project in accordance with all contract requirements including administration, management, coordination, design, documentation, quality control, safety, and all other responsibilities under the Contract. All staff required shall be supplied by the PDBE at the PDBE's sole expense.

The PDBE shall actively participate in the development of the project with SMART by providing constructability, budget consideration, technical expertise, and experience from similar projects. The PDBE shall staff the key personnel positions with individuals that can provide this level of knowledge and experience to effectively influence the design to assist SMART in implementing a high-quality, cost-effective project.

The PDBE's management team shall be composed of members with necessary skills and be sufficient in number to handle all duties normal to a project of this scale and complexity. Special attention shall be given to the responsibility for coordination and scheduling to meet the project completion dates. The PDBE's management team shall perform all management and coordination duties necessary to complete the project, including, but not limited to:

- Maintain the schedule and resolve design related issues.
- Coordinate permitting with SMART staff.
- Develop and maintain a CPM schedule and provide progress reporting as indicated.
- Coordinate activities of consultants and subcontractors to ensure available manpower and adequate labor to maintain the Project schedule.
- Lead weekly technical task force meetings with SMART team to resolve

technical design issues.

- Participate in Project meetings with SMART, SMART Consultants, and all other third parties to review the progress of the Work.
- Provide quality management and verification of all Work to ensure compliance with requirements of the Contract Documents.
- Assemble Project Record Documents from the PDBE team including subcontractors and ensure that Project Record Documents are submitted to SMART in accordance with the requirements indicated.

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

4. Project Management Plan

The PDBE shall prepare and submit Project Management Plan (PMP) within 30 days of NTP for SMART's review. The Plan shall be consistent with, and an extension of the Plan included in the PDBE's Proposal.

The contractor shall merge SMART's PMP with the PDBE's PMP to form one Project PMP that will be used by all project entities.

The PMP shall be updated and expanded as necessary and whenever requested by SMART. At a minimum, an updated PMP shall be submitted 60 Days prior to Construction.

A. PMP Requirements

The PMP shall include at a minimum the following items:

1. Organization Chart – A complete organization chart showing all personnel participating in the Project including the relationship of all PDBE key personnel, other management staff, and subconsultants and appropriate SMART personnel.
2. Provide a description of the organization defining all participants of the PDBE team, including their general and project-specific responsibilities. Discuss how individuals and entities will coordinate their work.
3. Provide contact information for team members.
4. Key Personnel – A listing of key personnel, together with their qualifications, experience, responsibilities and involvement in the Contract.
5. Preliminary Construction Implementation Plan
6. Submittal Schedule Update - An updated Submittal Schedule for all deliverables, design submittals, and design reviews.
7. Progress Report Outline - A description and outline of the Progress Reports
8. File Numbering and Distribution – Provide a numbering system and distribution listing for all correspondence and transmittals under this Contract.

B. Deliverables:

1. Project Management Plan

The scope in this section applies to the Project. The PMP from the Project shall be updated to include Optional Work, if optioned in by SMART.

5. Electronic Design Files

Designer will be supplied with design files in native AutoCAD format to serve as a basis upon which to advance and complete the design and prepare the Issued for Construction package. SMART's goal is to maintain consistency, minimize the level of effort required and expedite the completion of the design.

A. File Security

File security will be maintained by limiting access and restriction of available software. Each user will be assigned a username (password protected) that is for user's use only. Only Project Staff will be given access.

SMART will provide a series of technical workshops for the PDBe engineering staff to get familiar with SMART digital file structure and submittal. In addition, the PDBe engineering staff must have adequate skill sets to utilize Autodesk/Civil3D-2018 software and the necessary hardware to manage SMART's engineering data.

B. Electronic files for Topographic Survey and Digital Terrain Model (DTM) Control

Survey Tiles: Survey and DTMs will be owned by SMART, however SMART accepts no responsibility for the accuracy of Survey and DTMs. The PDBe shall be responsible for the accuracy and updates to the topographic survey and DTM. All surveys completed by the PDBe shall be submitted to SMART for review for conformance with SMART standards. The PDBe shall address all comments and resubmit. Upon approval, SMART or, at SMART's option, the PDBe, will incorporate PDBe survey into the project survey tiles. The PDBe shall be responsible for reviewing the updated survey tiles for accuracy.

1. Electronic File Management: The PDBe shall, within 10 working days of NTP, have all the PDBe's CAD users attend a 3-hour training session, provided by SMART one time, at no cost to the PDBe, on the use of BIM360, BIM360 folder structure, and procedures.

The PDBe shall be responsible for uploading all updated files in BIM360 folders by 5 PM Pacific time every Friday. More frequent updates are allowed

and recommended.

2. Drawing Standards: The PDBE shall adhere to SMART Drawing Standards.
3. Design & Drafting Software Package:

The PDBE shall use the following software for design:

- Computer Aided Design Software - Autodesk Civil3D Computer Aided Drafting Software - Autodesk AutoCAD – One of the two most current versions.
- Oracle/Primavera Contract Manager – version to be determined.

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

6. Contractor Responsibility for Design

The PDBE shall review the Baseline Drawings, Contract Specifications and Baseline Documents for errors, omissions, inconsistencies or other defects, and shall notify SMART of any apparent errors, omissions, inconsistencies or other defects.

The PDBE shall be responsible for the professional quality, technical accuracy and the coordination of all designs, drawings, specifications, and other services prepared by the Contractor or its Subcontractors.

7. Design Coordination and Reviews

The PDBE shall coordinate the design with SMART and other SMART consultants, local jurisdictions, cities, counties, and utility agencies.

SMART will review submitted information for general conformance with the contract requirements, provided that the PDBE may not rely on SMART's review and disposition of such information as a determination that the design in fact complies with applicable requirements. The PDBE shall be responsible for the integration of each Work Package into the final Work regardless of the sequence of Work Package submittal. Any necessary changes to the design and construction of the Work Packages to accommodate any Contract requirement shall be the PDBE's responsibility. SMART's approval shall be required before any design and construction documents may be used for construction of the Project. Approval of the design shall not be deemed to relieve the PDBE of liability for the design and construction of the Project in accordance with the requirements indicated.

The PDBE shall submit all applicable Construction Drawings, Construction Specifications, calculations, design reports, test data, and other information

supporting the Work Package presented for review at any Design Review. Design Reviews shall be conducted at each design stage.

The PDBE shall include the Design Review Schedule in the Project Schedules. The schedules shall include 21 calendar days for review by SMART for each work package.

SMART shall not be responsible for any delays to the schedule due to the requirement for the PDBE to resubmit the Work Package due to SMART comments.

During design, communication protocol shall establish that the PDBE shall communicate with SMART and SMART will communicate with its supporting consultants.

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

8. Design Criteria and Design Exceptions

SMART's Design Criteria are included in the Contract Documents. The PDBE shall comply with the Design Criteria unless a Design Exception ("Variance") is approved by SMART in writing in advance of the PDBE performing design. The PDBE shall complete a "Design Criteria Variance Request" form provided in the Design Criteria Manual to complete each request. A Design Exception should not be expected and will be closely scrutinized by SMART. The PDBE shall document that all possible design options have been explored and that a Variance is the best solution. Denial of requested exception does not provide grounds for a change order or an increase in Contract Price. In addition, the PDBE shall include in its Design Quality Management Plan (DQMP) procedures to ensure that its design team has checked and confirmed compliance with SMART's Design Criteria. This document shall be provided to SMART with each submittal in order for the submittal to be considered complete.

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

9. Early Work Packages

The PDBE may propose one or more early work packages consisting of the Phase II Work. The proposal shall comply with the GMP process (refer to Section 11.2).

The PDBE's packages shall be well-defined and manageable for the associated construction. Each Design package shall correspond to a specific Work Package. Each Design Package and its corresponding Work Package shall comprise similar and coherent significant parts or segments of the Project that can be checked and

reviewed as a self-contained package with due consideration for accommodating interfaces with other Project components. Each Design Package shall include designs, construction specifications, calculations, and drawings in sufficient detail so that the Project can be constructed in compliance with all contract requirements. Each Design Package shall be individually sealed and signed by the Engineer(s) of Record.

Each Work Package shall be submitted and reviewed at the 35%, 65%, 100% and Issued For Construction levels.

SMART will review and comment on the 35% and 65% packages for mutual resolution and incorporation into the next package. The 100% package should represent the agreement and inclusion of resolved comments. SMART will return the 100% package for revisions and resubmittal if the 65% comments are not adequately addressed.

No Work Package shall commence with construction until its corresponding Design Package has reached the IFC level and has been sealed and signed by licensed engineers.

Within the PMP, the PDBE shall provide a description of each Design Package and corresponding Work Package. The plan shall include the following:

1. Work Package descriptions including the scope of design and construction work within each Work Package with limits and interface points.
2. Planned review stages and dates including specific information to be reviewed, planned review dates (measured from NTP date), and the percent complete represented by each review.
3. The Engineer of Record.

The PDBE shall submit any revisions to the information provided in response to SMART in writing to SMART Representative concurrent with the monthly update report.

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

10. Hazard Analysis, Mitigation, and Safety Certification

The PDBE shall prepare a Hazard Analysis in accordance with the guidelines of "HAZARD ANALYSIS GUIDELINES FOR TRANSIT PROJECTS, U.S. Department of Transportation Research and Special Programs, (most current version)." Report shall address hazards throughout the alignment, including, but not limited to, hazards at:

- All at-grade and grade-separated crossings of vehicular, pathway, and rail traffic
- Healdsburg Station Platform/Park and Ride

The PDBE's design shall incorporate mitigations for hazards identified during this process.

Additionally, the PDBE's Hazard Analysis and final design to mitigate hazards shall incorporate the processes of Crime Prevention Through Environmental Design (CPTED) for Transit Facilities, Recommended Practice, APTA SS-SIS-RP-007-10, most recent edition, to optimize security considerations.

Note that hazard mitigations and CPTED features may require elements not included in the Baseline Documents. The PDBE shall include these at no additional expense to SMART.

A. Deliverable:

1. Hazard Analysis Report

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

11. Safety Certification and Testing

The PDBE shall prepare Safety Design Criteria for SMART's review. The Safety Design Criteria shall be used by the designers to ensure the design is being developed in accordance with safety criteria and standards and to eliminate or minimize potential risks to patrons, SMART employees, the general public, and any other parties that use or interface with SMART passenger rail system. The Safety Design Criteria shall fully comply with CPUC and FTA requirements and must be accepted by SMART prior to the first design submittal by the PDBE.

The PDBE shall prepare Safety Certification checklists to ensure that the Safety Design Criteria is being incorporated into the design and construction of SMART's facilities. The checklists shall be completed by the designers and submitted to SMART for approval prior to construction. The PDBE shall complete the checklists during construction, certifying that the design was constructed as intended.

A. Deliverables:

1. Safety Design Criteria

2. Safety Certification Checklist

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

12. Cost Estimating and Price Proposals

A. Cost Estimating

The PDBE and SMART will each develop a Baseline Green Sheet project estimate for final design and construction as part of the Alignment Phase (See Section 15—Alignment Phase). This estimate establishes an overall budget for Phase II.

The PDBE shall prepare and submit a detailed estimate at the 35% and 65% design submittals.

If there are early work packages, the early work package estimate shall be submitted at the 65% design submittals or as mutually agreed upon by both SMART and PDBE.

The PDBE shall develop and complete Estimates on an “open book” basis. The PDBE shall consider the many variables that can impact the construction budget, including, but not limited to, the degree to which the Project scope has been defined, the level of design completion, community and third-party requirements, environmental compliance considerations, ROW considerations, the accuracy of the factors and/or unit rates used in the Estimates, the schedule for Project implementation, and economic conditions.

The PDBE shall submit for Review and Comment a Draft and Final Estimating Methodology Report documenting the approach to quantify the Project and presentation of costs, including but not limited to the basis or assumptions of quantities, labor units/rates, crew size, productivity, material, equipment, insurance, specialty elements, construction duration/schedule, escalation, qualifications and exclusion (if any), which will be used in preparing the Estimate for the Project.

The PDBE shall facilitate a workshop for SMART and SMART’s Independent Cost Estimator (ICE) to review the PDBE’s Draft Estimating Methodology Report, baseline cost model assumptions and other input standards for the formulation of future cost and schedule Estimates. While the PDBE and ICE develop their own Estimates using their own database and expertise, the PDBE shall make available estimating methodology for all entities to use,

which will facilitate SMART's comparison, set up, and update of the construction budget accordingly.

The PDBE shall include the following items and information for each Estimate:

1. Letter of Transmittal.
2. Basis of Estimate– Provide the following specific information:
 - (a) Scope of the Estimate – Specify the general parameters of what the Estimate covers.
 - (b) Drawings – Specify the drawings on which the Estimate is based and include
 - (c) A drawing list or index.
 - (d) Specifications – Indicate the Specifications on which the Estimate is based.
 - (e) Estimate format – Specify the format on which the Estimate was based.
 - (f) The top 10 key cost drivers and commodities along with the associated quantity and cost.
 - (g) Quantities – Indicate the type of quantity survey made.
 - (h) Labor and burden – Indicate what the labor and burden costs include and the effective date of the labor rates.
 - (i) Materials – Indicate material pricing, freight, warehousing (if applicable).
 - (j) Sales tax or any other taxes – If included, indicate the percent.
 - (k) Subcontracts – Indicate what costs are included in the subcontract work.
 - (l) Equipment – Indicate whether owned or rental rates were used.
 - (m) Escalation – Indicate the annual rate of escalation.

- (n) Cost exclusions – Provide a list of items not included in the Estimate that may become an expense to SMART.
 - (o) Design Allowance
 - (p) PDBE Allocated Contingency
 - (q) PDBE Unallocated Contingency
 - (r) Estimate reconciliation – Reconcile the previous Estimate, if any, and include an explanation of any cost change
3. Details of Estimate – Present all Estimates in a clear and concise fashion to facilitate review that includes:
- (a) Direct Costs – Direct costs may consist of the following items: labor, equipment, materials, and subcontracts.
 - (b) Indirect Costs - Indirect costs may include all costs that cannot be charged to direct costs such as General Requirements, Overhead/Profit, and Supervision.
 - (c) Escalation - All Estimates shall be Estimated in current base period dollars and an evaluation made to determine what effect inflation and wage increases will have on the Estimated Project cost in the future.
 - (d) Quotations - During the course of preparing Estimates, obtain quotations for significant material and subcontract items.
 - (e) Quantify Estimate Components - Measure and calculate labor, equipment and material quantities for all work items and activities; tabulate all developed quantities into reports organized and formatted in CSI.
 - (f) Design Allowances - Include projected construction cost which is applied to an Estimate prior to design completion to cover the anticipated cost for design scope and details not yet shown on the Plans or in the specifications.
 - (g) PDBE Allocated Contingency - Include an amount to cover unknown but anticipated additional construction costs associated with PDBE-owned risk items and/or PDBE's means and methods; such additional construction costs may include, but not be limited to, changes in technology,

economic conditions (construction labor, equipment, etc.), planning and estimating errors/omissions (e.g. scope gaps among trades), variations in environmental conditions, and/or safety/regulatory requirements; this cost element shall exclude Escalation, Design Allowance and PDBE Unallocated Contingency.

- (h) PDBE Unallocated Contingency - Identify risk contingency to cover unforeseen PDBE-owned or shared risks and suggest the amount by multiplying a total of direct and indirect costs by a percentage (%); this cost element shall exclude Design Allowance and PDBE Allocated Contingency.
 - (i) A Cash Flow curve by month that distributes the Estimate through the duration of the Work.
 - (j) Risk Register - Analyze each risk item under the task titled Risk Analysis and anticipated risk amount/cost impact magnitude (\$) and probability; include a narrative as part of the Estimate. Include a record of risk management strategy for retained, shared, and transferred risks. (12) Detailed back up documents, including productivity rates per crew, and Subcontractor/Supplier-negotiated prices shall be available for submittal to SMART upon request. Back up documents, if requested, shall be submitted within 7 Calendar Days following the request.
 - (k) The PDBE shall also submit a cost loaded construction schedule used to measure and pay for progress during the Construction Phase.
- 4. All contingencies as part of the Estimate and risk management associated with every design milestone, and such contingencies will be evaluated and reconciled based on comments from SMART and ICE. As design progresses, risks are to be further identified, analyzed, and mitigated. The Estimated amounts for such contingencies are expected to be decreased at each subsequent design milestone.
 - 5. SMART's representative accompanied by the ICE will meet with the PDBE to discuss and reconcile the Estimates.
 - 6. The PDBE shall collaboratively work with SMART and ICE to reconcile and finalize the Estimate. The recommended practices and procedures by AACE International shall be used for any cost Estimate review and reconciliation.

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

B. Guaranteed Maximum Price Proposal Process

SMART may initiate a GMP Price Proposal request to the PDBE at any time during Phase I Work. GMP Price Proposal requests may be initiated for Early Work Packages and Final Design and Construction packages.

1. SMART Responsibilities Include:

SMART will provide the PDBE with the following information when submitting a request for a GMP Price Proposal:

- (a) A draft Phase II Amendment with the Scope of Work included for the specified work package. This draft Phase II Amendment will include:
 - The Federal Wage Determination to be used and referenced.
 - Liquidated Damages applicable to the work package, if any.
 - Insurance requirements pertaining to the specific work package.
- (b) SMART will provide a Subcontractor Listing form that the PDBE will complete and submit with the GMP Proposal.

The PDBE shall award construction subcontracts with a value exceeding one-half of 1 percent of the contract price allocable to construction work in accordance with Public Contract Code §22185.6 and a Construction Subcontracting Plan approved by SMART.

The PDBE will be required to identify all subcontractors who will be performing work in an amount excess of one-half of 1 percent of the prime contractor's total proposed price or ten thousand dollars (\$10,000), whichever is greater pursuant to Public Contract Code § 4100, the "Subletting and Subcontracting Fair Practices Act".

The PDBE will include the following information for all subcontractors that meet the threshold.

- The subcontractor entity name
- The business location
- Primary Contact Information (Name, Title, Phone, and Email)
- Contractors License Number
- California Department of Industrial Relations (DIR) Registration Number
- The portion of the work that will be done by the subcontractor.

SMART will review all listed subcontractors to ensure they are responsible subcontractors. Responsibility will be determined by the following review:

- The subcontractor holds the appropriate contractor's license that is active and in good standing
- The subcontractor is actively registered and in good standing with the California Department of Industrial Relations (DIR) if performing covered work
- The subcontractor is actively registered and in good standing with the California Secretary of State as appropriate for the entity type
- The subcontractor does not have any suspensions, debarments, or exclusions listed in SAM.Gov.
- The subcontractor is not on a prohibited list with the State of California
- The subcontractor does not have any sanctions listed with the Office of Foreign Assets Control (OFAC)
- Any other information determined by SMART to be relevant in order to make a responsibility determination.

All listed subcontractors must be determined to be responsible and approved by SMART. If any subcontractor is not approved by SMART, the PDBE will resubmit the Guaranteed Maximum Price Proposal with a different subcontractor for review and consideration.

If awarded a Phase II Amendment, these subcontractors will be listed in the Phase II Amendment and afforded the protections allowed under Public Contract Code §4100, et seq.

2. PDBE Responsibilities Include:

PDBE will submit to SMART the following information as part of the Guaranteed Maximum Price Proposal:

- (a) A Guaranteed Maximum Price Proposal for the work package specified, with pricing submitted in an open-book fashion that clearly itemizes the actual direct costs (including payment and performance bond costs), the general & administrative overhead percentage, and profit percentage for all work items.
- (b) Subcontractor Listing Form: Complete and Signed
- (c) Any additional information the PDBE deems relevant to the Guaranteed Maximum Price Proposal discussions and negotiations.

3. Mutual Agreement of the GMP Price Proposal

If SMART and PDBE mutually agree on the GMP Price Proposal for a Phase II Amendment work package, SMART will prepare a final Phase II Amendment for execution. Mutual agreement of the GMP Price Proposal includes agreement upon scope, schedule, and any supplemental information developed during the Phase I work related to the Phase II work package.

SMART's General Manager and/or Board of Directors may be required to review and award the Phase II Amendment prior to the execution of a Phase II Amendment.

If SMART's General Manager and/or Board of Directors do not approve the award of a Phase II Amendment, the GMP Price Proposal that the SMART Project Manager originally agreed to will be null and void and SMART and the PDBE will continue with negotiations based on the General Manager or Board of Director's feedback.

If SMART's General Manager and/or Board of Directors approve the award of a Phase II Amendment, SMART will circulate the Phase II Amendment for signatures. The PDBE shall submit to SMART the Payment Bond, Performance Bond, and all required insurance certificates and required endorsements within ten (10) calendar days from when SMART circulates the Phase II Amendment for signatures. SMART requires these documents to be submitted prior to being able to fully execute.

Once a Phase II Amendment is executed, SMART will set-up standard retention in the amount of five (5) percent unless the PDBE initiates a request to set-up an Escrow Agreement for Security Deposits in Lieu of Retention.

B. Deliverables

The PDBE shall provide the following deliverables:

1. Estimating Methodology Report: due 14 Calendar Days after NTP; revised report incorporating SMART's comments due 45 Calendar Days after receiving report. Total of one deliverable for this sub-task, including all updates and resubmissions required therein.
2. Baseline Green Sheet Estimate developed in the Alignment Phase
3. Estimate (35% design): due with the submittal of Base Design Documents; revised Estimate incorporating the PDBE's data gathering and design and construction criteria package and alternative assessment.
4. Estimate (65% design): updated Estimate due 30 Calendar Days after issuance of 65% Design Documents; revised Estimate incorporating SMART's comments due 14 Calendar Days after end of 65% Design Reconciliation Workshop. Total of one deliverable for this sub-task, including all updates and re-submissions required therein.
5. Estimate for Early Work Packages: due 30 Calendar Days after issuance of 65% Design Documents for Early Work Packages.
6. Guaranteed Maximum Price proposal after mutual agreement on the budget of an Early Work Package or the entire design package.

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

13. Risk Approach

A. Collaborative Approach to Risk

The PDBE shall adopt a collaborative approach to risk identification, pricing and assignment, and the PDBE shall cooperate with SMART to:

1. Develop, review and make updates to the Risk Register, including identifying new risks and reflecting discussions and decisions made during risk management meetings.
2. Develop proposals and seek solutions for avoiding and mitigating the risks listed on the Risk Register during the development of the Design Documents, the development of the Baseline Schedule, and the PDBE PMP;
3. Develop qualitative and quantitative analysis of the risks;
4. Develop methods to track costs and time incurred directly associated with such risks;
5. Consider different approaches to the risk allocation for the Construction Work and determine the risk allocation assumptions for the purposes of preparing any Early Work Package Proposal and the Project Proposal;
6. Determine the specific mitigation actions to be taken by each Party in response to the risks listed on the Risk Register;
7. Close those risks in the Risk Register which have been avoided or passed and document the resolution; and
8. Otherwise assess, review and monitor risks and risk response strategies as required under the Project Scope.

Risks applicable to the Work will be identified jointly during Phase I and the Parties shall endeavor to agree to the probability of occurrence, ranges of potential cost impact, potential schedule impact and mitigation measures.

B. Risk Register

The PDBE and SMART shall develop a Risk Register with respect to the entire Project in accordance with the guidelines and principles described in this Section. The PDBE shall be responsible for maintaining and updating the Risk Register.

The Risk Register shall identify potential risk issues related to Construction Work (each a "Risk Register Event"). All Risk Register Events shall be categorized as either a SMART Risk, a Provisional Risk, or a PDBE Risk. Shared risks will be entered both as SMART Risk and PDBE Risk.

The Risk Register shall include dates on which SMART gives its approval of a particular Risk Register Event.

The Risk Register shall also define mitigation strategies to be used by the Parties with respect to Risk Register Events and identify any potential cost, if any, and/or time impacts, if any, to the Project.

C. SMART Risks

All Risk Register Events that are a SMART Risk shall describe the types and extent of relief that the PDBE shall be entitled to seek upon occurrence of the Risk Register Event.

Risk Register Events that are SMART Risks may also include requirements for cost sharing between the Parties, determining of time impacts, payment requirements, and other terms.

All Risk Register Events that are Provisional Risks shall specify:

1. The amount of any Provisional Sum;
2. Whether the Provisional Sum is a shared between the PDBE and SMART;
3. The types and extent of relief (cost and/or schedule) that the PDBE is provided upon occurrence of the Risk Register Event;
4. Whether the Risk Register Event provides for relief in accordance with the Provisional Sum, Shared Provisional Sum, or other identified relief is exhausted; and
5. Any required mitigation efforts to be taken by the PDBE.

D. Risk Management Meetings

1. The PDBE shall coordinate risk management meetings with SMART on a monthly basis and hold a kick-off risk management meeting within 45 Calendar Days of the Phase I NTP.
2. The agenda for the kick-off risk management meeting will be set by SMART and will include a presentation of the then current Risk Register. The agenda for subsequent risk management meetings will be set by SMART in consultation with the PDBE.
3. Each of the Parties shall ensure that each risk management meeting is attended by team members that:
 - Are consistent across all risk management meetings (as practicable);

- Include SMART's Project Manager and other SMART personnel as needed;
 - Include the PDBE's Project Manager, the Construction Manager, the Design Manager; and any other personnel requested by SMART;
 - Include the PDBE's Scheduler and the person within the PDBE's organization responsible for generating the Cost Model and Estimate;
 - Have specialist knowledge to effectively consider key Project risks and complex matters relating to the Work;
 - Are authorized to discuss key Project matters on behalf of their organization
4. If requested by SMART, or if requested by the PDBE and with SMART's approval, include representatives of a Subcontractor. Following the risk management meetings, the PDBE shall submit a written report of the points discussed and agreed at the risk management meeting and any consequential impact on the Project and shall update and re-submit a written report to incorporate any corrections notified to it by SMART.

E. Risk Deliverables

1. Risk Register and Updates

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

14. Project Schedule

This section establishes the processes, procedures, and tools for planning, developing managing, and controlling the project schedule. The section defines the general requirements for managing the schedule for the entire Project and provides the framework for development of all Project schedules. As part of the Project Management Plan, the PDBE shall include a Schedule Management Plan that:

- Documents all key project milestones
- Identifies all scheduling resources, software, and related tools
- Demonstrates how the PDBE's Work Breakdown Structure (WBS) is organized

and aligned with SMART's WBS

- Communicates the types of schedules used on the Project
- Describes the process for baselining the Project schedule in alignment the requirements of the Contract
- Describes how the schedules will be updated, maintained, and controlled, I alignment with the requirements of the Contract

The PDBE shall plan and schedule the Project and report progress to SMART. The PDBE shall develop and maintain the schedule using the Critical Path Method (CPM). The PDBE shall utilize Primavera P6 software. SMART's acceptance of any schedule, whether interim, baseline, update, or revised, shall not modify the Contract Documents nor constitute endorsement or validation by SMART of the PDBE's logic, activity durations nor assumptions in creating the schedule. By accepting the schedule, SMART does not guarantee that the Project can be performed or completed as scheduled. Schedules shall represent a practical plan to design, procure, construct, and complete the Work within the applicable Milestone Deadlines and shall convey the Design- Builder's intent in the manner of prosecution and progress of the Work. The submittal of schedules shall be understood to be the PDBE's representation that the schedule meets the requirements of the Contract Documents and that the Work will be executed in the sequence and duration indicated in the schedule.

A. Phase I and Phase II Baseline Schedule Requirements.

Definitions:

Phase I Baseline Schedule:

The Phase I Baseline Schedule represents the Phase I Work of the PDBE's intended plan for performing the Work depicted in the Contract Documents.

Phase II Baseline Schedule:

The Phase II Baseline represents the PDBE's intended plan for completing the design and all construction/testing/startup Work. This baseline is the reference to which actual progress, delays, and/or acceleration will be compared. The baseline is intended to be the schedule used to plan, organize, and execute the Work, record and report actual performance and progress, aid in evaluating time extensions, show how the PDBE plans to complete all remaining Work as of the end of each progress reporting period, and enable SMART to monitor, compute the value of progress payments, and evaluate Work progress.

B. Phase I and Phase II Baseline Schedule Development Overview:

1. Phase I Baseline Schedule Submittal

The Design-Builder shall submit, within 15 Calendar Days of the Phase I NTP, a draft Baseline Schedule depicting the Phase I Work, and include recommended Milestones and Completion Deadlines for Phase I. This will be an updated version of the Phase I Cost Loaded schedule included in the RFQ submittal.

The draft Phase I Baseline Schedule shall include detailed activities and Milestones for the entirety of the Phase I Work and shall include a summary of the major activities, phases, and Milestones of the Phase II work.

2. Phase II Baseline schedule submittal

Submit Phase II schedule no later than the specified Phase I Contract Completion Time, for the SMART's review and approval.

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

15. Alignment Phase

The intent of the Alignment Phase is to align SMART and the PDBE on the fundamental project elements of project management, scope, schedule, and budget before moving towards preliminary engineering.

This Phase will start immediately after NTP. The scope for this phase includes:

- Establish lines of communication (zipper diagram)
- Develop a Partnering process and how to resolve issues
- Align on project goals, team values, and decision-making protocols.
- Define roles, responsibilities, and expectations.
- Establish communication flow, escalation pathways, and accountability.
- Process for developing a high-level project cost estimate (Green Sheet)
- Mutually developing the Green Sheet cost estimate and agreeing on a target budget

Establish a Change Log and methodology that is agreeable to both parties to accurately track changes and trends in costs.

- PD BE shall within fourteen (14) calendar days of NTP submit a Draft and Final Estimating Methodology Report for review and SMART comment and approval. This report is intended to document the approach used to quantify the Project and presentation costs, including the basis or assumptions of quantities, labor units/rates, crew size, productivity, material, equipment, insurance, specialty elements, construction duration/schedule, escalation, qualifications, and exclusions.

PD BE shall facilitate a workshop for SMART and SMART's Independent Cost Estimator to review the Draft the Draft Estimating Methodology Report, baseline cost model assumptions, and other input standards. PD BE shall make the Estimating Methodology Report available for all entities to use.

A revised report incorporating SMART's comments will be provided within 45 calendar days after receiving the draft report comments.

- Develop the initial risk register and a process to align risks with the project budget

PD BE shall facilitate a Risk Workshop with SMART and key stakeholders early in the Alignment phase to jointly identify project risks and develop common strategies with the focus of on-time and on-budget delivery of the Project. This workshop shall also focus on clearly assigning responsibilities, setting decision points with clear cutoff deadlines to avoid schedule impacts, and maintain communication about the status of Project-specific Risk Register items. PD BE, with SMART support, shall investigate project risks identified through quantitative and qualitative measures to determine potential impacts if the risk is left unmitigated.

PD BE shall regularly review the Risk Register with the greater team to discuss the progress of mitigations to ensure potential risks do not negatively impact the Project.

- Process to develop, assess and implement value engineering ideas

Develop a value engineering log that is agreed upon by both parties where ideas can be added and tracked.

Each value engineering idea shall be routed through cost estimators and schedulers who will provide preliminary costs and the timelines.

Value engineering proposals shall be presented to SMART and relevant stakeholders that include: Description of existing requirements, description of

the change, differences between existing and proposed requirements, contract requirements that need to be changed, the change's effect on the end item's performance, effect of change on life cycle, maintenance, and replacement costs, as well as life expectancy, date by which value engineering must be approved, cost estimate, and any other element required by SMART.

SMART will retain ultimate control over which value engineering proposals are incorporated.

- Agree on a master schedule process and draft schedule that results in the Healdsburg Station entering revenue service by December 31, 2028. The schedule submitted by the PDBE as part of their Proposal during the Request for Qualifications solicitation will serve as the baseline concept.
- Develop a draft project PMP
- Agreement on scope and levels of effort for plans and reports.
- Develop a Construction Subcontracting Plan and Requirements

The approved Construction Subcontracting Plan must conform to the requirements of Public Contract Code §22185.6 and Public Contract Code § 4100, the "Subletting and Subcontracting Fair Practices Act". The Subcontracting Plan and Approach submitted in PDBE's Proposal submitted in response to the Request for Qualifications will serve as the baseline concept for the draft Construction Subcontracting Plan to be reviewed. The objective for the Construction Subcontracting Plan will be to ensure a competitive and transparent process that provides opportunities for local business participation, opportunities for California Certified Small Business Enterprise (SBE) participation, opportunities for California Certified Disadvantaged Business Enterprise (DBE) participation, and promote cost savings opportunities for SMART. To ensure the Subcontracting Plan conforms to these requirements, PDBE must maintain all records of subcontracting activities in enough detail to substantiate an audit and allow SMART to participate in and/or review subcontracting activities throughout the subcontracting process.

- Aligning the design scope with design budget
- Develop potential early work packages and optimal timing

Each task will advance through a Task force structure, which brings together the right disciplines to move work forward, provide consistent input, and support real-time decision-making.

This phase will be completed when both SMART and the PDBE agree there is general alignment to move forward to completing Preliminary Engineering, including a mutually agreed upon budget and cost estimating process, design scope clarity, overall project schedule, and project management procedures.

The scope in this section applies to The Project. The Alignment work developed in The Project can be applied to the Optional Work if optioned in by SMART.

16.35% Design—Preliminary Engineering

A. General

The intent of the 35% design is to complete a sufficient planning and engineering package to satisfy a preliminary engineering level design effort. The studies and reports required in this stage are intended to provide SMART sufficient time to obtain necessary permits and the PDBE/SMART team with a better understanding of the design and project risks. This stage will result in both the PDBE and SMART developing final design and construction cost estimates in a mutually agreed upon format.

Some elements of this PE Phase can occur concurrent with the Alignment Phase, such as surveying and mapping, geotechnical investigation, permit support and utility conflict plan. The concurrent work can be agreed upon in the Alignment Phase discussions.

Note that value engineering (VE) for this contract is a continual process throughout design. VE ideas that are mutually agreeable to SMART and the PDBE will be incorporated into the design with the intent of improved value to project.

B. Plans and Reports

1. Survey and Mapping:

Review survey and survey control data provided by SMART. Complete additional survey and mapping required to complete the design. At a minimum this includes:

- Topographic survey 20 feet each side of the right of way using LIDAR
- Additional field survey where LIDAR does not provide sufficient detail.
- Detail survey at all grade crossings

- Detail survey at Healdsburg Station site
- Detail survey at all existing bridge, retaining wall, and drainage structures

SMART has provided the PDBE with survey drawings as part of the Baseline Drawings and as CAD files on BIM360. These survey drawings and associated CAD files are considered Reference Documents. This survey information is not sealed and does not conform to a specific survey standard. The PDBE shall not use these survey drawings for final design. The PDBE shall independently provide all survey needed for design.

2. Project Datum

All surveys must be completed on SMART Datum described below.

3. Horizontal Datum

The horizontal datum for the SMART project is based on the California Coordinate System of 1983, Zone 2, NAD Feet, Epoch 2008.00. All Surveys for this project shall be based on this coordinate system.

4. Vertical Datum

The vertical datum for the SMART project is North American Vertical Datum of 1988 (NAVD 88). This datum was established by using the central coast height modernization project performed by the California Spatial Reference Center and National Geodetic Control Levels that run through the project area. The elevations for the project monumentation were established by using 3rd order Caltrans standard level loops.

5. Grid Coordinate System

All surveys for the project shall utilize grid coordinate values for the horizontal system listed under PR 1.3.2. All ground surveys shall be reduced to grid prior to utilizing them for design. During construction, the appropriate combination factor shall be used to convert grid values to ground distances.

6. Monuments to Be Referenced

Monuments to be referenced under this section include existing USGS monuments, NGS monuments, property corner monuments,

railroad right-of-way monuments, County benchmarks and horizontal control, SMART control monuments, and any other monuments that are required to be preserved in accordance with Section 8771 of the California Professional Land Surveyors' Act.

The PDBE shall be responsible for preservation of all monuments except for the SMART primary control monuments. SMART will preserve and reset the primary control monuments as necessary. The PDBE shall notify SMART 5 days prior to performing any work that may result in the destruction of a primary control point to allow SMART the necessary time to relocate the monument.

7. Surveying Tolerances

All surveying for the design and construction of the SMART project shall comply with Caltrans survey standards or better. Surveys shall at a minimum meet 3rd order Caltrans standards. Field notes and other survey data shall be made available to SMART as requested.

8. Submittals

Electronic survey files in AutoCAD 2018/Civil3D 2018 format or newer versions of the software as they become available and are approved for use by SMART.

Survey staking cut sheets and maps (Scale 1" = 40')

The PDBE shall provide to SMART the topographic drawings, electronically, as completed to allow for appropriate review and acceptance. Completed design surveys shall be submitted to SMART within 14 calendar days of completion of the field work for review and acceptance. During the review, if there are any items that are deemed not in compliance with District survey or CAD standards, the drawings shall be corrected within five days.

Record of Surveys shall be submitted to SMART in hardcopy and PDF format before they are submitted to the county for review. After District approval of the documents they shall be submitted to the appropriate County Surveyor for Review. Once the documents have been approved and accepted by the County Surveyor, final versions shall be submitted to SMART in hardcopy and PDF format.

9. Permits

SMART will be responsible for obtaining environmental regulatory permits. The PDBE shall support SMART in obtaining the

environmental regulatory permits by providing graphical information required for permits, such as temporary and permanent impact drawings.

The PDBE is responsible for obtaining all construction activity related permits, including but not limited to encroachment permits, Stormwater Pollution Prevention Plan (SWPPP), encroachment, and de-watering permits.

10. Drainage Report

Prepare a report that documents existing conditions and establishes a baseline of the hydrology, including modeling, in the SMART right of way as well as areas outside the r/w (such as bodies of water that enter or exit the r/w) that affect the r/w. The report shall analyze the proposed changes and modifications to the drainage systems and surrounding areas. The report shall be comprehensive, considering storm water management, hydrology modifications, floodplain impacts, overland flow, and applicable environmental regulations, including Federal Emergency Management Agency (FEMA) flood mapping. The report shall be the basis for all drainage modifications and accommodations in the design of the Project.

11. Utility Conflict Plan

Prepare an existing private and public utilities inventory. The plan shall be accompanied by a comprehensive matrix that will be used by the PDBE to inventory utilities and track conflicts. The matrix will contain all necessary information to resolve utility conflicts and identify non-compliant utility installations. Include the locations of proposed potholes to determine potential utility conflicts. Utility relocation plan shall include drawings showing proposed utility dispositions.

Potholing will be conducted as an Early Work Package and is not included in the cost of Phase I scope.

12. Geotechnical Investigation and Report

Conduct geotechnical investigations with sufficient field and laboratory work (including, borings, corings, test pits, soil tests, subsurface investigations, and laboratory testing) required for the proper engineering and design of the Project. Develop geotechnical recommendations and design requirements for proposed trackbeds, roadway, cut and fill sections, station, bridges,

retaining walls, temporary sheeting/bracing systems, and other areas sensitive to subsurface conditions.

The Draft Geotech report shall address the following:

- Physical properties and characteristics of the soils and rock beneath the alignment;
- Ground water levels and anticipated seasonal variations;
- Excavation and site earthwork, including preparation and specifications for the selection, placement, and compaction of structural fill;
- Allowable bearing values for conventional spread footing foundations for structures and retaining walls;
- Estimated settlements and time settlement rates;
- Pile and other types of proposed foundations, including pile types, lateral and vertical capacity, and installation criteria;
- Subdrainage requirements;
- Lateral earth pressure on walls and retaining structures;
- Stability of cut and fill slopes;
- Design pavement sections for reconstructed streets, new streets, access roads, and parking areas;
- Modulus of design for track bed design;
- Seismic hazards and geotechnical seismic design parameters, including liquefaction potential at major structures;
- Hazardous material remediation recommendations; and
- If rock excavation is required, the Estimated quantity of rock by type (bulk/trench) and other requirements necessary to clearly show and define this work on the drawings.
- Prepare drawings illustrating the locations of geotechnical test borings, boring logs, ground water level observation wells, and special geotechnical construction issues. Drawings will conform to SMART's CADD standards for drawings.
- Prepare construction specifications involving geotechnical construction. These sections include excavation and backfilling, pile driving (or other proposed foundation types) and testing, and ground improvement measures.

Deliverables:

- Survey and mapping drawings and electronic files posted to the SMART Autodesk BIM360 site
- Temporary and permanent impact drawings to support environmental permit requirements
- Drainage Report
- Utility Relocation Plan, drawings, and associated tracking matrix

- Draft Geotechnical Report
- Geotechnical Investigation and Report

13. Structures:

- Russian River Bridge:

Prepare a Type/Size/Location (TSL) report for a new or rehabilitated Russian River Railroad Bridge include a non-motorized pathway bridge over the river in accordance with Caltrans requirements. The report shall include constructability considerations and conceptual plans as well as disposition plans for the existing bridge. Review the “Russian River Bridge Evaluation—Healdsburg Subdivision MP 67.62” (See Reference Documents—Draft Russian River Report) and the report on the nearby road bridge across the Russian River (See Reference Documents—Healdsburg Ave Bridge Info).

- Evaluate and provide recommendations for the Old Redwood Highway and Sargent Road grade separations for compliance with roadway standards.
- All other structures: Perform field investigations and prepare a report with recommendations for repair or replacement of all bridge and retaining structures.
- Deliverables:
 - Old Redwood Highway and Sargent Road grade separation white paper
 - Russian River Bridge TSL report
 - Architectural Renderings of two (2) perspectives of a new Russian River Bridge
 - Structures report

14. Design Memorandum

- Prepare a Design Memorandum.

The purpose of this memorandum is to outline the preliminary design considerations and approach for the project. Address the basis of the design elements: Track, Structures, Station, Utilities, Systems. Include recommended design exceptions.

- Deliverables:

Design Memorandum

15. Quality Assurance and Quality Control Plan

- Prepare a QA/QC Plan in accordance with SMARTS QA/QC plan criteria.
- Deliverables:

Quality Plan

17. 35% Preliminary Engineering Design—Civil, Structural, and Systems

Perform design activities needed to complete a preliminary engineering design level, including survey, potholing, structures, geometrics, hydraulics, Traffic Operations, etc. The designer shall comply with SMART's Design Criteria Manual, SMART Standard Drawings, and SMART Technical Specifications.

The Technical Specifications shall be revised, and specification sections added, as needed, to reflect the design. The revised specifications will become the PDBe contract Construction Specifications.

Develop 35% level design drawings and Construction Specifications, including, but not limited to:

A. Track

The conceptual horizontal and vertical track alignment is shown in the Civil Track and Pathway Plan and Profile Drawings (See Reference Documents). The PDBe shall advance these drawings to a 35% design level.

The PDBe shall prepare all track work designs, calculations, horizontal and vertical alignments, plans, typical sections, and details. Design shall include locations of crossovers, turnouts, at-grade crossings, structures, and special track work. Alignment, profile, and typical cross section information may be sufficient for construction of large stretches of track work between stations. However, if additional design information, such as cut and fill information, is needed for construction, this information shall be included in the design.

For the Optional Work north of Lytton Springs Road, wood ties in lieu of concrete ties will be considered as a cost reduction measure.

1. Deliverables

Preliminary track drawings and Construction Specifications

B. Structures

1. Prepare preliminary structural designs for bridges and retaining walls, including:
 - Identify bridges with potential for rehabilitation
 - For new track and pathway bridge designs, use bridge types SMART has used in previous projects (except for Russian River Bridge). Alternative bridge types will be considered on a case-by-case basis. See Reference Documents– Existing SMART Bridge Plans for reference.
 - Russian River Bridge: See Section 16.B.13--Structures above for T/S/L requirement. Evaluate options & select a preferred alternative in coordination with SMART.
 - Determine retaining wall types

C. Station and Station Area

1. Prepare a preliminary civil design for the Healdsburg Station located between Front Street and Healdsburg Avenue in Healdsburg. Use SMART's standard drawings and design criteria for the station and station area. The 35% submittal shall include a preliminary layout of the station with an appropriate level of detail.
2. The station configuration will be a center loaded platform. The following are criteria for the station components.
3. "Standard" SMART center platform.
4. ADA compliant pedestrian grade crossings
5. Two station platform shelters.
6. Standard SMART platform amenities – kiosk, waste/recycle receptacles, lighting, cameras, speaker, signage, real-time display, emergency communication, etc.
7. Provisions card readers: two at each ramp, and one at the TVM.
8. Provisions for one owner-furnished ticket vending machine.
9. Bike lockers & bike racks

10. Electrical service, panel, conduits, pull boxes, and all appurtenances for station-area loads, including station devices, communication cases, lighting, and signal house.
11. Underground conduits and pull boxes connecting communication cases, wayside signals, track circuits, power switch machines, and SMART's fiber optic ductbank to the new signal house adjacent to the station platform.
12. Station area network, including station communications cabinet and station communications equipment housed in control point signal house, serving fare collection, fare validation and CCTV systems. No radio coverage studies are required to be performed.
13. Station area and park and ride CCTV system, along with provisions for additional data storage at SMART's Rail Operations Center.
14. CCTV cameras providing field of view of the traffic and pedestrian crossings.
15. Deliverables
 - Preliminary Station and Station Area drawings and Construction Specifications
 - Two (2) Architectural renderings of the station from different perspectives that depict the planned passenger platform and station amenities with a photo background such that one would easily recognize the location and be able to visualize the new station.

D. Drainage improvements and structures

1. Prepare preliminary drawings, details, and calculations for drainage improvements. All existing culverts that don't meet SMART design criteria shall be replaced with new culverts, in accordance with SMART's design criteria.
2. Deliverables
 - Preliminary Drainage Improvement Drawings and Construction Specifications

E. Non-Motorized Pathway

1. Design a Class 1 pathway for the locations show in the Civil Track and Pathway Plan and Profile Drawings (See Reference Documents). Design shall include plans, profiles, typical sections,

details, and Construction specifications. Free span bridges are preferred and may be required by the environmental reviews, hydrology and hydrologic study appropriate for any drainage improvements necessary for construction of the pathway (see Drainage Improvements and Structures above), and grade crossing designs and complete G.O.88-B application. PDBE shall support SMART through the approval process with the CPUC. See Systems work below.

2. The pathway shall provide full connectivity to existing sidewalks at track or roadway pedestrian crossings.
3. Traffic signal design includes preemption interconnection to railroad equipment, interconnection to neighboring signals, power and load calculations, signal design, required striping and signage, raceways, pull boxes, and power drops that adhere to the roadway jurisdiction's requirements.
4. Grade crossing warning system designs include raceways, pull boxes, cameras, and foundation designs for pedestrian gates, vehicle gates, and cantilevers.
5. The pathway shall be illuminated for use in non-daylight hours. Designer shall determine and design lighting of appropriate size and spacing to provide sufficient nighttime lighting for pathway usage. The design shall include determining electrical power needs and coordinating new electrical services.
6. Deliverables:

Pathway Drawings and Construction Specifications

F. Fencing

Develop 35% level fencing design for the entire corridor. Fencing shall be shown on all plan sheets. Identify fencing access points.

G. Systems

1. Develop 35% level systems design and drawings, including, but not limited to:
2. Train Control Systems
 - Preliminary Single line diagram
 - Preliminary Cable Plan
 - Preliminary Control Line Diagram

- Grade Crossing Warning Systems
- Preliminary warning device layout
- Preliminary approach plan with approach types, distances, and warning time calculations

3. Communications

Preliminary network topology map and table depicting and listing all rail and station network switches. Topology map to depict all physical fiber and copper links by link speed/type, network switch bridge IDs, fiber types. This includes the connections to the new switches from existing network switches at the Rail Operation Center.

4. Electrical

Matrix of all railroad systems equipment locations requiring PG&E service, including location, voltage, phase, and preliminary load

5. Deliverables:

Systems drawings and construction specifications

H. County Work (“County Design Work” or “County Work”):

1. Prepare preliminary roadway widening design for Old Redwood Highway underneath the railroad bridge for approximately 850 linear feet to improve roadway conditions and meet current roadway standards, including:
 - Design package will include Roadway Plan & Profile plans, Signage & Striping plans, Utility Conflict plans and Utility Plan & Profile plans, and Roadway Improvement plans for a widened Old Redwood Highway.
 - A roadway section totaling 48 feet:
 1. 2x12 foot travel lanes
 2. 2x6.5 foot bike lanes (5-foot bike lane with 1.5 extra feet for buffer)
 3. 2x2 foot supplemental lane width for road shoulder
 4. 2x2 foot drainage gutters and/or curb

- Drainage Improvements to Old Redwood Highway.
- Lengthening of Old Redwood Track and non-motorized pedestrian bridges over Old Redwood Highway to accommodate the roadway widening including bridge and foundation details. Bridges must achieve a minimum 15 feet clearance over Old Redwood Highway.
- Producing a preliminary hydrology report to inform design of drainage improvements. The hydrology report will analyze the condition of the existing drainage system and documents required drainage infrastructure improvements to accommodate an additional impermeable roadway surface along with contributing stormwater from adjacent parcels. The Report will include exhibits that delineate adjacent watersheds that currently contribute stormwater onto Old Redwood Highway and include a detailed summary of the rational method calculations used to determine the peak runoff in cubic feet per second (cfs) from each adjacent watershed for a 10-year, 25-year, and 100-year storm event. This detailed summary will include a table of calculated runoff coefficients, time of concentration, and rainfall intensity for each delineated watershed.
- Determine retaining wall types and placement
- Identify utility and utility conflicts

2. Deliverables:

- Preliminary Drawings
- Draft Hydrology Report
- Update existing base files

I. City Work (“City Design Work” or “City Work”):

1. Environmental: Development and analyze critical design element alternatives in support of environmental permit applications required for the improvements. In addition, determine the environmental effect footprint based on the design to facilitate required environmental clearance. Develop preliminary engineering documents to support the environmental work to be completed.

2. Prepare 35% design for the following scope:

- Hudson Street to Ward Street Sewer Replacement - Design the replacement of the existing sewer main with an 8" pipe and connecting laterals between Hudson Street (manhole SSMH232) and Ward Street (manhole SSMH341). Design and construction shall be in compliance with City and SMART Standards. Design should conform to the downstream elevation at Ward Street. Manholes at connection point should be designed to be replaced. If necessary, inside drops at the Hudson Street manhole shall be incorporated. During construction, it will be necessary to maintain flows by providing bypass pumping or other acceptable methods.
- Front Street Water Main Casing - Design a steel casing for future installation of a 16" water main crossing the railroad right-of-way along Front Street. Design shall be in compliance with City and SMART Standards.
- Russian River Rail Bridge Waterline - Design connection details for the proposed Russian River rail bridge trestle and truss sections to accommodate a future 12-inch water line across the Russian River from Front Street to Bailhache Avenue to be located the west side of the rail right-of-way.

1. Deliverables:

- Preliminary Drawings and Construction Specifications
- Identified environmental clearance requirements.

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

18.65% Level Design Documents

A. General

The intent of the 65% design is to advance the 35% design effort to a 65% design level. The studies and reports from the 35% shall be updated as needed.

B. Plans and Reports:

1. Survey and Mapping: Update the 35% level survey and mapping work as needed.

2. Permits: Continue to support SMART in obtaining environmental regulatory permits.
3. Drainage Report: Update the Drainage Report developed during PE including potholing plan and any completed potholing information.
4. Utility Conflict Plan: Update the existing private and public utilities inventory plan including the comprehensive matrix. Update utility conflict plans.
5. Geotechnical Investigation and Report: Update and finalize the geotechnical report developed during Preliminary Engineering.
6. Update and finalize the Design Memorandum.
7. Update the QA/QC Plan
8. Deliverables
 - Updated survey and mapping drawings and electronic files posted to the SMART Autodesk BIM360 site
 - Updated drawings to support permit requirements
 - Revised Drainage Report
 - Revised Utility Conflict plan and associated tracking matrix
 - Final Geotechnical Report
 - Final design memorandum
 - Final QA/QC plan

C. 65% Engineering Design—Civil, Structural, and Systems

Perform design activities needed to bring the Preliminary Engineering design up to a 65% completion. Advance the design drawings and Construction specifications, including, but not limited to:

1. Track
 - Update the 35% track drawings and calculations to 65% design level.
 - Deliverables

65% track drawings and Construction Specifications
2. Structures
 - Advance structural designs for bridges and retaining walls,

including:

- Bridges for rehabilitation
- New bridges
- Russian River Bridge
- Pathway bridges
- Retaining walls
- Deliverables:
- 65% Structural drawings and Construction Specifications

3. Station and Station Area

- Advance the PE level civil design for the Healdsburg Station.
- Deliverables

65% Station and Station Area drawings and Construction Specifications

4. Drainage improvements and structures

- Advance the preliminary drawings, details, and calculations for drainage improvements
- Deliverables

65% Drainage Improvement Drawings and Construction Specifications

5. Utility Relocation Plans

- Advance Utility Relocation Plans to 65% design level.
- Deliverables

65% Utility Relocation Drawings and Construction Specifications

6. Non-Motorized Pathway

- Advance the pathway design to 65%
- Deliverables:

Pathway Drawings and Construction Specifications

7. Fencing

- Develop 65% level fencing drawings.
- Deliverables:

65% Fencing drawings

8. Systems

Advance 35% design to 65% design including, but not limited to:

- Train Control Systems
 1. Preliminary Single line diagram
 2. Preliminary Cable Plan
 3. Preliminary Control Line Diagram
 4. Preliminary Typical Circuit plans
 5. Preliminary Material List
- Grade Crossing Warning Systems
 1. Preliminary warning device layout
 2. Preliminary approach plan with approach types, distances, and warning time calculations
 3. Preliminary Typical Circuit plans
 4. Preliminary Material List
- Communications
 1. Preliminary network topology map and table depicting and listing all rail and station network switches. Topology map to depict all physical fiber and copper links by link speed/type, network switch bridge IDs, fiber types
 2. Preliminary Typical Site plans
 3. Preliminary Material List
 4. Electrical
 - Matrix of all railroad systems equipment locations requiring PG&E service, including location, voltage, phase, and preliminary load
 - Preliminary Material List
 - Preliminary typical one-line diagram
 5. Deliverables:

Systems drawings and Construction Specifications

9. County Work (“County Design Work” or “County Work”):

- Advance 35% design to 65% design
- Estimate final design and construction
- Assist smart in providing road closure requirements for the county to facilitate construction.
- Deliverables:
65% Drawings
Final Hydrology Report
Cost Estimate for Final Design and Construction

10. City Work (“City Design Work” or “City Work”):

- Advance 35% design to 65% design
- Deliverables:
65% Drawings and Construction Specifications
Cost Estimate for Final Design and Construction

The scope in this section applies to both the Project and Optional Work. *All Optional Work requires a separate Notice to Proceed prior to work being performed.*

19. Summary of Design Stages

The following is a summary table of select Phase I design tasks and stages:

TASK	PHASE I DESIGN STAGE		
	Alignment	35%	65%
Cost Estimate	Greensheet	Yes	Yes
Risk Workshops and Update events	Workshop & initial register with Monthly review/update	Monthly review/update	Monthly review/update
Progress Design & hold point for review	No	Yes	Yes
Organizational Development	Yes (in coordination with SMART to align	Review & Update	Review & Update

	counterparts)		
Needed Permits	Yes (in coordination with SMART to align assumptions)	Monthly review/update	Monthly review/update
Utility conflicts	No	Yes	Monthly review/update
Bridge TSL	No	Yes	Update as needed
Retaining wall type and locations	No	Yes	Update as needed
Drainage report	No	Yes	Update as needed
Geotech report	No	Yes	Update as needed

20. Optional Tasks

A. Geyserville Station—Conceptual Layout

1. Develop up to two (2) alternative conceptual station plans for the Geyserville station that provide sufficient detail for a California Environmental Quality Act (CEQA) analysis. Each layout shall locate a “center” passenger platform between two sets of tracks. The station layout shall include a gauntlet track for CPUC clearance requirements. The layouts shall include ramps and path-of-travel access to the platform. Depending upon location, the station may have access from one end or both ends. Each layout shall include a graphical rendering that illustrates the station in the planned location with a photo background to provide a realistic representation of the proposed station. The layout shall also propose parking which may vary depending upon each site. The station could incorporate existing parking or propose a new parking facility. The layout shall also locate auxiliary amenities such as electric charging stations, bicycle lockers, bicycle racks, and locations for supporting equipment such as signal and communication enclosures. The layouts shall incorporate SMART standard features, design criteria and reference materials.

2. Submittals

This task requires two (2) submittals: 1) Draft; and 2) Final that incorporates SMART comments.

Work may not proceed on this Optional Task until a Notice to Proceed has been issued by SMART's Project Manager.

B. Geyserville Station and SMART System Connection– 35 % Design-Level Preliminary Engineering

Prepare 35% design-level preliminary engineering package for the Civil, Structural and Systems Design for the SMART rail and pathway system from Healdsburg (MP 72.0) to Geyserville (MP 76.10). The 35% Design-Level package shall be based on the approved conceptual design and layout of the Geyserville Station that was developed and approved in Task 20A. The 35% design-level preliminary engineering package shall follow the instructions, format, requirements and deliverables as defined in the Phase 1 Scope of Work for the Healdsburg Extension Project.

Work may not proceed on this Optional Task until a Notice to Proceed has been issued by SMART's Project Manager.

C. Geyserville Station and SMART System Connection– 65 % Design-Level Preliminary Engineering

Prepare 65% design-level preliminary engineering package for the Civil, Structural and Systems Design for the SMART rail and pathway system from Healdsburg (MP 72.0) to Geyserville (MP 76.10). The 65% design-level preliminary engineering package shall follow the instructions, format, requirements and deliverables as defined in the Phase 1 Scope of Work for the Healdsburg Extension Project.

Work may not proceed on this Optional Task until a Notice to Proceed has been issued by SMART's Project Manager.

**EXHIBIT B
SCHEDULE OF RATES**

SECTION I: HEALDSBURG EXTENSION PROJECT

- A. The PDBE agrees to perform all Phase I Work included in the Healdsburg Extension Project for an agreed amount as compensation, including the net fee or profit per the lump sum amounts listed in Section I herein.

MILESTONE PAYMENT SCHEDULE	
<i>Milestones</i>	<i>Lump Sum Fee</i>
Alignment Phase	\$2,169,234.25
35% Design-Level Preliminary Engineering Package	\$11,053,077.80
65% Design-Level Preliminary Engineering Package	\$8,532,086.49
TOTAL (SUM OF ALL MILESTONES):	\$21,754,398.54

The lump sum fee for each milestone included in Section I "Healdsburg Extension Project" includes all labor, supervision, supplies, equipment, insurance, travel, taxes, fees, overhead, profit, and all other direct and indirect costs associated with performing the work required under these tasks.

Notes

1. The Alignment Phase Milestone's Lump Sum Fee may not exceed 10% of the total sum of all milestones for the Healdsburg Extension Project.
2. SMART may authorize progress payments for milestone work based on percent-complete for each milestone. The percent-complete will be determined by SMART.

SECTION I-A: PHASE I – WIDENING OF THE UNDERCROSSING OF OLD REDWOOD HWY (“COUNTY DESIGN WORK” OR “COUNTY WORK”)

- A. The PDBE agrees to perform all Phase I Work included in the Widening of the Undercrossing of Old Redwood Hwy (“County Design Work” or “County Work”) for an agreed amount as compensation, including the net fee or profit per the lump sum amounts listed in Section I-A herein.

MILESTONE PAYMENT SCHEDULE	
<i>Milestones</i>	<i>Lump Sum Fee</i>
35% Design-Level Preliminary Engineering Package	\$323,287.70
65% Design-Level Preliminary Engineering Package	\$304,587.57
TOTAL (SUM OF ALL MILESTONES):	\$627,875.27

The lump sum fee for each milestone included in Section I-A. “Phase I – Widening of the Undercrossing of Old Redwood Hwy (“County Design Work” or “County Work”) includes all labor, supervision, supplies, equipment, insurance, travel, taxes, fees, overhead, profit, and all other direct and indirect costs associated with performing the work required under these tasks.

SECTION I-B: PHASE I – DESIGN OF THE HUDSON STREET TO WARD STREET SEWER REPLACEMENT PROJECT, FRONT STREET WATER MAIN CASING, AND ACCOMMODATION FOR THE RUSSIAN RIVER RAIL BRIDGE WATERLINE (“CITY DESIGN WORK” OR “CITY WORK”)

- A. The PD BE agrees to perform all Phase I Work included in the Design of the Hudson Street to Ward Street Sewer Replacement Project, Front Street Water Main Casing, and Accommodation for the Russian River Rail Bridge Waterline (“City Design Work” or “City Work”) for an agreed amount as compensation, including the net fee or profit per the lump sum amounts listed in Section I-B herein.

MILESTONE PAYMENT SCHEDULE	
<i>Milestones</i>	<i>Lump Sum Fee</i>
35% Design-Level Preliminary Engineering Package	\$58,876.48
65% Design-Level Preliminary Engineering Package	\$65,019.53
TOTAL (SUM OF ALL MILESTONES):	\$123,896.01

The lump sum fee for each milestone included in Section I-B “Phase I – Design of the Hudson Street To Ward Street Sewer Replacement Project, Front Street Water Main Casing, and Accommodation for the Russian River Rail Bridge Waterline (“City Design Work” or “City Work”) includes all labor, supervision, supplies, equipment, insurance, travel, taxes, fees, overhead, profit, and all other direct and indirect costs associated with performing the work required under these tasks.

SECTION II: OPTIONAL WORK

The PDBE agrees to perform all Phase I Work included in the Optional Work for an agreed amount as compensation, including the net fee or profit per the lump sum amounts listed in Section II herein.

MILESTONE PAYMENT SCHEDULE	
<i>Milestones</i>	<i>Lump Sum Fee</i>
Geyserville Station - Conceptual Layout	\$166,772.46
Geyserville Station and SMART System Connection – 35% Design-Level Preliminary Engineering Package	\$4,137,689.91
Geyserville Station and SMART System Connection – 65% Design-Level Preliminary Engineering Package	\$3,487,159.23
TOTAL (SUM OF ALL MILESTONES):	\$7,791,621.60

The lump sum fees for each milestone included in Section II “Optional Work” includes all labor, supervision, supplies, equipment, insurance, travel, taxes, fees, overhead, profit, and all other direct and indirect costs associated with performing the work required under these tasks.

Notes

1. SMART may authorize progress payments for milestone work based on percent complete for each milestone. The percent complete will be determined by SMART.

SECTION III: PHASE II AMENDMENT GENERAL ADMINISTRATIVE & OVERHEAD % AND PROPOSED PROFIT %

<i>DESCRIPTION</i>	<i>GENERAL ADMINISTRATIVE & OVERHEAD% AND PROFIT %</i>
Phase II Amendment General Administrative & Overhead %	9.28%
Phase II Amendment Profit %	6.00%

Note

1. The Phase II Amendment General Administrative & Overhead % will be the audited rate that will be applied to the project costs agreed upon during the GMP Price Proposal review process. This rate will be set and shall apply to all Phase II Amendments awarded, including net increase or deductive Change Orders.
2. The Phase II Amendment Profit % will be used to determine the fixed fee for all Phase II Amendments awarded. This rate will be applied to the project costs agreed upon during the GMP Price Proposal review process. This rate will be set and shall apply to all Phase II Amendments awarded, including net increase or deductive Change Orders.

*THE FOLLOWING PAGES CONSIST OF THE BOTTOMS-UP COST PROPOSALS USED TO
CALCULATE THE MILESTONE LUMP SUM FEES*

*BOTTOMS-UP COST PROPOSALS USED TO CALCULATE
THE MILESTONE LUMP SUM FEES*

ON FILE WITH CLERK OF THE BOARD