

FIRST AMENDMENT TO THE AGREEMENT WITH WILSEY HAM FOR ENGINEERING SERVICES TO DESIGN FLOOD CONTROL IMPROVEMENTS BETWEEN SPRUCE AND LINDEN AVENUES
SAN MATEO COUNTY FLOOD CONTROL DISTRICT – SOUTH SAN FRANCISCO

THIS AMENDMENT, entered into this ___ day of _____, 2003, to the AGREEMENT, entered into on the 5th day of October 1999, by and between the San Mateo County Flood Control District (the “District”), a public corporation with offices at 555 County Center, Redwood City, California, and Wilsey Ham, a California corporation (the “Consultant” and, together with the District, the “Parties”).

WITNESSETH

WHEREAS, the Board of Supervisors of the County of San Mateo, acting as the Board of Directors of the District (the “Board”), is authorized to engage the services of professional technical experts on a temporary basis for a specific project for performance of necessary services for an on behalf of the District; and

WHEREAS, on or about June 3, 1997, pursuant to Resolution No. 61117, the District entered into a contract with Consultant (the “1997 Agreement”) for the performance of professional engineering services in connection with the Colma Creek Mainline Channel Project (the “1997 Project”); and

WHEREAS, Consultant’s Scope of Work in connection with the 1997 Project is set forth an Exhibit A to the 1997 Agreement; and

WHEREAS, the 1997 Agreement provides that the District will pay Consultant for its work on the 1997 Project on a time and materials basis an amount not to exceed \$327,000.00 for Basic Services (as defined in the 1997 Agreement) and \$45,000.00 for Optional Services (as defined in the 1997 Agreement); and

WHEREAS, on or about October 6, 1998, pursuant to Resolution No. 62349, the District entered into contract with Consultant (the “1998 Agreement”) for the performance of professional engineering services in connection with the San Mateo Bridge Reconstruction Project (the “1998 Project”); and

WHEREAS, the Consultant’s Scope of Work in connection with the 1998 Project is set forth in an Exhibit A to the 1998 Agreement; and

WHEREAS, the 1998 Agreement provides that the District will pay Consultant for its work on the 1998 Project on a time and materials basis an amount not to exceed \$320,000.00 for Basic Services (as defined in the 1998 Agreement) and \$49,400.00 for Supplemental Services (as defined in the 1998 Agreement); and

WHEREAS, on or about October 5, 1999, pursuant to Resolution No. 63126, the District entered into contract with Consultant (the "1999 Agreement") for the performance of professional engineering services in connection with a project described as "Preliminary and Final Design for Colma Creek Improvements, Spruce to Linden Avenues" (the "1999 Project"); and

WHEREAS, the Consultant's Scope of Work in connection with the 1999 Project is set forth in an Exhibit A to the 1999 Agreement; and

WHEREAS, the 1999 Agreement provides that the District will pay Consultant for its work on the 1999 Project on a time and materials basis an amount not to exceed \$342,300.00 for Basic Services (as defined in the 1999 Agreement) and \$32,700.00 for Supplemental Services (as defined in the 1999 Agreement); and

WHEREAS, in the course of the performance of the Agreements referenced above, it has become clear that, in the case of some of the Agreements, not all of the funds authorized to be expended in connection with the corresponding Projects will be needed, while in the case of other Agreements, there will be insufficient funds to complete the work set forth in the corresponding Projects; and

WHEREAS, the District has concluded that it is appropriate to amend the 1999 Agreement by merging the terms and conditions of the 1997 Agreement and the 1998 Agreement, including their respective Scopes of Work and authorized "Not-to-Exceed" payment amounts, into the 1999 Agreement (resulting in amended "Not-to-Exceed" payment amount of \$989,600.00 for Basic Services (as defined in the 1999 Agreement) and \$127,100.00 for Supplemental Services (as defined in the 1999 Agreement), thereby allowing the District to expend any portion of the amended total "Not-to-Exceed" payment amount on any part of the amended Scope of Work; and

WHEREAS, the District has concluded that an additional \$202,000.00 will be needed for Supplemental Services for a total Not-to-Exceed amount for Supplemental Services of \$329,100.00, in order to ensure performance of the work set forth in the 1999 Agreement, as amended; and

WHEREAS, the Parties agree that amending the 1999 Agreement as set forth herein will allow for more efficient management and administration of the work described herein.

NOW, THEREFORE, IT IS HEREBY AGREED BY THE PARTIES AS FOLLOWS:

SECTION 1. SCOPE OF PROJECT. Section 1 of the 1999 Agreement is hereby amended in its entirety to read as follows:

This project consists of constructing approximately 2,800 feet of concrete lined channel in Colma Creek between Spruce and San Mateo Avenues, except for the section of channel that is within the Peninsular Corridor Joint Power Board (PCJPB) railroad right-of-way. The PCJPB is constructing improvements within their right-of-way as part of

their mainline bridge replacement work. The project also includes raising the San Mateo Avenue Bridge to provide additional flow capacity.

The project shall include, as necessary, utility relocations, connections with existing drainage structures, and roadway facilities.

The Scope of Work of the Project to be executed by Consultant shall be as set forth in Exhibit A-1, Exhibit A-2, and Exhibit A-3 to the Agreement, which by reference is made a part of this Agreement.

SECTION 2. TIME SCHEDULE. Section 2(d) of the 1999 Agreement is hereby amended in its entirety to read as follows:

The Consultant shall meet with District to develop a time schedule to be prepared and kept up to date by Consultant of the anticipated program to complete services described in Exhibit A-1, Exhibit A-2, and Exhibit A-3.

SECTION 3. ENGINEERING SERVICES BY CONSULTANT. Section 3 of the 1999 Agreement is hereby amended in its entirety to read as follows:

In consideration of payment by District to Consultant, as herein provided, Consultant agrees to perform all Engineering Services described in Exhibit A-1, Exhibit A-2 and Exhibit A-3 necessary to complete the project.

SECTION 4. COMPLIANCE WITH EQUAL BENEFITS ORDINANCE. Section 4.2 of the 1999 Agreement is hereby amended by adding the following text immediately following the existing text of Section 4.2:

With respect to the provision of employee benefits, Consultant shall comply with the County Ordinance which prohibits contractors from discriminating in the provision of employee benefits between an employee with a domestic partner and an employee with a spouse.

SECTION 5. PAYMENT BY DISTRICT. Section 6 of the 1999 Agreement is hereby amended in its entirety to read as follows:

In consideration of the furnishing of the engineering services by Consultant, as herein provided, District agrees to pay Consultant for engineering services described in Exhibit A-1, Exhibit A-2, and Exhibit A-3 of this Agreement on a time and materials basis with Not-to-Exceed amounts of \$989,600.00 for the services described in Sections I, II, and III of Exhibits A-1, A-2, and A-3, respectively (the "Basic Services"), and \$329,100.00 for the services described in Section IV of Exhibits A-1, A-2, and A-3, respectively (the "Supplemental Services"). Billing rates for services provided under this Agreement shall be as set forth on Exhibit B attached hereto and by reference made a part of this Agreement.

Payments for services performed are due and payable monthly upon completion of the engineering services as determined, accepted, and approved by the Director of Public Works and upon submission of a written statement therefore by Consultant to District together with supporting documentation, such as personnel time records and copies of outside service invoices.

SECTION 6. TIME OF COMPLETION OF EACH TASK. Section 7.2 of the 1999 Agreement is hereby amended in its entirety to read as follows:

Consultant agrees to perform the engineering services described in Exhibit A-1, Exhibit A-2, and Exhibit A-3 within the time lines set forth in the project schedule required by Section 2(d) of this Agreement. Any change in the scope of services will require a revised time table.

District agrees to exercise due diligence in performing its tasks to implement the Consultant's time schedule.

SECTION 7. SCOPE OF WORK. Exhibit A to the 1999 Agreement, Colma Creek Improvements, Spruce to Linden Avenues, Scope of Work, is hereby deleted from the 1999 Agreement. In its place, Exhibit A-1 (Scope of Engineering Services, Colma Creek Mainline Channel Project), Exhibit A-2 (San Mateo Ave. Bridge Reconstruction Project), and Exhibit A-3 (Colma Creek Improvements, Spruce to Linden Avenues), copies of which are attached to this Amendment to the 1999 Agreement, are hereby incorporated by reference into the 1999 Agreement.

SECTION 8. FEE SCHEDULE. Exhibit B to the 1999 Agreement, Wilsey Ham 1999 Charge Rate Fee Schedule, is hereby deleted from the 1999 Agreement. In its place, Exhibit B, Wilsey Ham 2003 Charge Rate Fee Schedule, a copy of which is attached to this Amendment to the 1999 Agreement, is hereby incorporated by reference into the 1999 Agreement.

SECTION 9. REMAINING PROVISIONS. All other provisions of the 1999 Agreement remain unchanged and in full force and effect.

SECTION 10. RECISSION OF 1997 AGREEMENT AND 1998 AGREEMENT. The 1997 Agreement and the 1998 Agreement are hereby rescinded.

IN WITNESS WHEREOF, the Parties, by their duly authorized representatives, have affixed their hands on the day and year first above written

DISTRICT

SAN MATEO COUNTY
FLOOD CONTROL DISTRICT

BY

President, Board of Supervisors
San Mateo County Flood Control District

ATTEST

Clerk of said Board

CONSULTANT

WILSEY HAM

BY

Chairman
Wilsey Ham

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EXHIBIT A - 1

SCOPE OF ENGINEERING SERVICES

COLMA CREEK MAINLINE CHANNEL PROJECT

KEY PROJECT ASSIGNMENTS

Wilsey Ham shall assign Ron Calhoun as the project manager for this project. The assignment will remain unchanged for the duration of this contract unless it is made beyond Wilsey Ham's control for such circumstances as employee's illness or resignation of employment. Any changes of project manager shall require the advance approval of the District. If such personnel assignment change is made within the control of Wilsey Ham and without District approval as determined by the District, the District shall deduct ten percent (10%) of the total compensation to Wilsey Ham under this contract.

BASIC AND OPTIONAL SERVICES

Basic Services shall consist of:

- TASK I - Preliminary Design
- TASK II - Plans, Specifications and Estimate (PS&E)
- TASK III - Construction Services

Optional Services shall consist of:

- TASK IV - Optional Services

TASK I PRELIMINARY DESIGN

1. Data Gathering/Meetings/Field Visitation

- a. **Assemble Background Data.** Assemble all reasonably available data from such sources as the District, So. San Francisco, utility companies, Peninsula Corridor Joint Powers Board (JPB) including previous studies, as-builts, air photos, parcel maps, record of surveys, available utility maps, assessors maps, maintenance report, hydraulic design data, etc.

- b. **Schedule.** Prepare a draft schedule for the District approval. Update schedule as necessary throughout the design phase of work.
- c. **Trend Meetings.** Attend Trend Meetings on a monthly basis (up to 18 meetings), including District Project Manager and staff, District utility company's coordinators, JPB, SP/UP personnel, and other key members. A roster of these team members will be maintained by Consultant, and updated continually during the project. Up to four (4) special workshop meetings will be held on an as-needed basis.
- d. **Field Visitation.** Consultant and its subconsultants will make field visits to verify that its design recommendations are appropriate to and compatible with existing conditions.

2. Survey and Mapping

a. Field Surveys

- Perform vertical and horizontal control surveys and set photo control.
- Locate surface features and structures such as man holes, catch basins, existing retaining walls, and other structures.
- Take shots to define the nominal channel bottom conditions.
- Measure pipe invert elevations for surface features.
- Gather existing underground record information and utilize that data to connect the field located surface features.
- Locate bridge structural members by field methods.

b. Base Mapping

- Prepare, in English units, a digital topographic base map in AutoCad format at 20 scale with 1' contour interval and spot elevations as required.

3. Geotechnical & Environmental Services

Geotechnical Services

- a. Review information on subsurface soil and ground water information provided by District.
- b. Undertake a subsurface exploration program using a conventional, truck-mounted drill rig under the direction of our geotechnical engineer who would supervise, log, and sample approximately 14 vertical borings drilled to depths of about 20 feet. Perform 6 borings west of the railroad tracks, 2 borings within the track right-of-way, 3 borings between the tracks and the Hetch Hetchy water pipeline, and 3 borings between the pipeline and San Mateo Avenue.

Standard penetration resistance will be determined at approximately 5 to 10 foot depth increments. The standard penetration resistance has the dual advantage that the blow count obtained permits a rough correlation with the relative density of sand and the shear strength of clays.

Relatively undisturbed samples will be recovered from various depths in the boring using the Modified California Sampler to help determine strength and compressibility characteristics of the subsurface materials.

- c. Laboratory testing of selected samples recovered from the exploratory borings. These tests would include, as appropriate:
 - Classification and index tests such as sieve analysis and Atterberg Limits determinations.
 - Moisture content and dry density determinations to aid in the qualitative evaluation of the soil types encountered and their strength characteristics.
 - Strength tests to provide data for bearing capacity analyses.
- d. Geotechnical engineering analysis and evaluation of the field and laboratory test data in order to provide earthwork and foundation recommendations for the proposed pipelines and culverts for the Mainline Channel Reconstruction Project.
- e. Submittal of a geotechnical investigation report presenting, as applicable, but not necessarily limited to the following:
 - Description of physical properties and characteristics of the subsurface soils including groundwater level and possible seasonal variations in the level.
 - Recommendations for excavation and site earthwork including procedures for subgrade preparation and proper placement of fill and backfill.
 - Foundation design recommendations for the proposed pipelines or culverts for the Mainline Channel Reconstruction Project including applicable bearing capacities. Passive resistance of soil against the foundation and coefficient of friction between the soil and foundations for seismic design. Lateral loads imposed against abutment and below grade walls.
 - Discussion of probable total and differential settlements.
 - Guide specifications for earthwork.

Environmental Services

- a. Conduct a review of existing environmental information on the site history and applicable information regarding Colma Creek including discussions with regulatory officials and review regulatory agency publications and files, if applicable and to the extent available.
- b. Evaluate environmental site conditions and develop a Health and Safety Plan for conducting field investigations.
- c. Conduct laboratory analyses of soil samples to qualify potential contaminants. A breakdown of samples and analyses is shown below. Five (5) samples will be taken per boring from 8 borings located on the property north and 2 borings south of the creek and west of the railroad tracks for a total of 40 samples at the borings. Seven of these borings will be performed as environmental and geotechnical borings. Ground level samples will be collected throughout the creek bed and adjacent property.
- d. Evaluation of disposal options for drill cuttings.
- e. Environmental analysis and evaluation of the field and laboratory test data in order to provide health and safety recommendations and soil disposal options for the proposed Mainline Channel Reconstruction Project.
- f. Submittal of an environmental report presenting, but not necessarily limited to the following:
 - An evaluation of the distribution of lead and other contamination in the soil at the site
 - Recommendations for removal of contaminants, including an evaluation of soil disposal options.
 - Environmental and Health and Safety recommendations for work on the proposed Mainline Channel Reconstruction Project.

Environmental Analysis

Analysis	Samples
TTLIC	46
California Regulated Metals	4
STLC and Modified STLC	6
pH	10
TPH	

4. Right-of-Way and Utility Coordination

- a. Right-of-Way Map and Right-of-Way Certification.** Prepare right-of-way requirements map and complete right-of-way certification. Right-of-Way mapping will be based on record information and no right-of-way surveys are anticipated.
- b. Utility Relocation Coordination Effort.** Identify utility conflicts and coordination with the utility companies for relocation, prior to or concurrent with project construction. Consultant utility coordination scope will consist of the following:
 - Coordinate potholing of fiber optics and jet fuel line by others.
 - Require utility mapping for confirmation by utility companies
 - Identify utility conflicts (in writing), with schedule for relocation work. Concurrently, schedule meetings to discuss conflicts.
 - Hold meeting with all affected utilities to discuss project details, utility conflicts, and construction schedule. Discuss relocation for overhead lines for pile driving (if required), and need for incorporating future utilities on structures.

5. Hydraulic Analysis

- a.** Develop proposed criteria for approval by District for each of several HEC-2 computer runs.
- b.** Perform HEC-2 subcritical flow analyses for Colma Creek between the Spruce Avenue drop structure and Airport Blvd. Bridge up to eleven (11) alternative bridge/culvert/channel configurations will be analyzed. Each HEC-2 analysis will be interpreted and reported to the District.
- c.** Based on surveyed cross-sections provided by the District, perform HEC-2 flow analysis for Colma Creek between Airport Blvd. Bridge and the Bay out fall (Sta 231+00±). Up to ten (10) alternative runs will be performed. Each HEC-2 analysis will be interpreted and reported to District for its use in analyzing the proposed new bridge at Airport Blvd.

6. Preliminary Engineering

- a.** Working with District, the JPB and others as appropriate, develop design criteria for each of the several portions of the project.

- b. Develop channel sections, jacked culvert sections, alignments and transitions for project improvements to carry 50 year return frequency flows within the Project limits. A concrete U-shaped and trapezoidal earthen channel configurations will be prepared for evaluation. Develop concepts for reducing existing strut encroachment into flow area.
- c. Prepare, in English units, preliminary plans, profiles and sections and a preliminary estimate of probable construction cost for the each of two alternates.
- d. Submit ten (10) copies of preliminary drawings and calculations to District for review and comment.
- e. Meet with District, JPB, City of So. San Francisco, to discuss the Preliminary Drawing and to receive input from each.

7. Permitting Support

Consultant will support District's efforts in obtaining permits and approvals from other agencies, by attending meetings and providing drawings, sketches and other available information generated by consultant's activities associated with the preliminary and final design of the Project.

TASK II - PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

Based on comments by DISTRICT on the preliminary plans, CONSULTANT to prepare final plans, specifications, and estimate for one project between Linden Ave. and San Mateo Ave. as follows:

- Prepare calculations for channel sections, existing mainline bridge strut modification, transitions and culverts, and final hydraulic profile.
- 2. Prepare final contract drawings consisting of: plans, profiles, sections, notes, staging and details for the Project.
- 3. Prepare technical special provisions and mark-up of the District's front-end documents.
- 4. Prepare an estimate of probable construction cost for the Project.
- 5. Submit to District progress drawings (10 sets each) and specifications (5 sets) at approximately 50% and 95% completions. Respond to District, JPB and City of S.S.F. comments.
- 6. Submit original mylars and 5 sets of final (100%) plans, hard copy originals of special provisions, final mark-up front-end documents and final engineer's estimate of probable construction cost for Project.

TASK III - CONSTRUCTION SERVICES

DISTRICT and other agencies will provide construction administration, on-site inspection and monitor job site conditions. CONSULTANT'S services during bidding and construction shall be limited to the following:

- a. Provide consultation and advice during bidding and construction as it may relate to the design made hereunder.
- b. Attend pre-bid and pre-construction meetings.
- c. Check shop and working drawings furnished by contractors.
- d. Perform engineering, as reasonably necessary, for issuance of construction change orders. Any redesigns occasioned by a change in scope from previously approved designs is not included.
- e. Preparation of record drawings based upon information furnished by contractor, inspection personnel, and District, and delivery of original tracings to District.

TASK IV - OPTIONAL SERVICES

Upon receipt of written authorization from District, Consultant shall perform one or more of the following Optional Services:

- 1 Over time pay increment for field work within mainline railroad operating right-of-way
- 2 Costs associated with traffic control or additional measures that the JPB or Union Pacific may require.
- 3 Performing field surveys for establishing location of existing right-of-way, property lines or easements.
- 4 Preparation of legal descriptions and plats, record of surveys or parcel maps as may be required by law.
- 5 Performing special studies or preparation of designs for special protection or relocation of existing fiber optics and fuel line/s facilities within operating railroad right-of-way.
- 6 Attendance at trend meetings in excess to the number indicated in Task I of this Agreement.
- 7 Furnishing additional copies of contract drawings and documents above the number specified in Task II of this Agreement.

8. Designs associated with any necessary relocations of existing utilities (gas, electrical, water, telephone, CATV).

9. Perform hydraulic analysis in addition to number provided in TASK I-5

Special studies required by the JPB to respond to peer review comments and requirements.

Such other services deemed necessary by the District for completion of the Project.

EXHIBIT A - 2

SAN MATEO AVE. BRIDGE RECONSTRUCTION PROJECT

SCOPE OF WORK

KEY PROJECT ASSIGNMENTS

CONSULTANT shall assign Ron Calhoun as the project manager for this project. The assignment will remain unchanged for the duration of this contract unless it is made beyond CONSULTANT's control for such circumstances as employee's illness or resignation of employment. Any changes of project manager shall require the advance approval of the DISTRICT.

BASIC AND OPTIONAL SERVICES

Basic Services shall consist of:

- TASK I - Preliminary Design
- TASK II - Plans, Specifications and Estimate (PS&E)
- TASK III - Construction Services

Supplement Services shall consist of:

- TASK IV - Supplemental Services

TASK I PRELIMINARY DESIGN

1. Data Gathering/Meetings/Field Visitation

- a. **Assemble Background Data.** Assemble all reasonably available data from such sources as the District, So. San Francisco, utility companies, including previous studies, as-builts, air photos, parcel maps, record of surveys, available utility maps, assessors maps, maintenance reports, hydraulic design data, etc.
- b. **Schedule.** Prepare a draft schedule for the District approval. Update schedule as necessary throughout the design phase of work.
- c. **Trend Meetings.** Attend Trend Meetings on a monthly basis or as requested by DISTRICT (up to 15 meetings including workshops), with District Project Manager and staff, District utility company's coordinators, and other key members as required. A roster of these team members will be maintained by Consultant, and updated continually during the project. Up to two (2) special workshop meetings will be held on an as-needed basis.

- d. **Field Visitation.** Consultant and its subconsultants will make field visits to verify that its design recommendations are appropriate to and compatible with existing conditions.

2. Survey and Mapping

a. Field Surveys

The aerial photogrammetric topographic map prepared for the Mainline project will be used as the basic mapping for the project. Supplemental field surveys will be performed to obtain required data for conforms and utility information.

- Perform vertical and horizontal control surveys.
- Locate surface features and structures such as man holes, catch basins, existing retaining walls, and other structures.
- Take shots to define the nominal channel bottom elevations at San Mateo Avenue Bridge.
- Measure pipe invert elevations at existing access structures.
- Gather existing underground record information and utilize that data to connect the field located surface features.
- Locate existing bridge structural members by field methods.

b. Base Mapping

- Prepare, in English units, a digital topographic base map in AutoCad format at 20 scale with 1' contour interval and spot elevations as required.

3. Geotechnical & Environmental Services

Geotechnical Services

- a. Review information on subsurface soil and ground water information provided by DISTRICT and from the Mainline project.
- b. Undertake a subsurface exploration program using a conventional, truck-mounted drill rig under the direction of a geotechnical engineer who would supervise, log, and sample approximately 4-6 vertical borings drilled to depths of about 20 feet. Standard penetration resistance will be determined at approximately 5 to 10 foot depth increments. The standard penetration resistance has the dual advantage that the blow count obtained permits a rough correlation with the relative density of sand and the shear strength of clays.

Relatively undisturbed samples will be recovered from various depths in the boring using the Modified California Sampler to help determine strength and compressibility

characteristics of the subsurface materials.

- c. Laboratory testing of selected samples recovered from the exploratory borings. These tests would include, as appropriate:

Classification and index tests such as sieve analysis and Atterberg Limits determinations.

Moisture content and dry density determinations to aid in the qualitative evaluation of the soil types encountered and their strength characteristics.

Strength tests to provide data for bearing capacity analyses and R-values for roadway design.

- d. Geotechnical engineering analysis and evaluation of the field and laboratory test data in order to provide earthwork, roadway and foundation recommendations for the Project.
- e. Submittal of a geotechnical investigation report presenting, as applicable, but not necessarily limited to the following:

Description of physical properties and characteristics of the subsurface soils including groundwater level and possible seasonal variations in the level.

Recommendations for excavation and site earthwork including procedures for subgrade preparation and proper placement of fill and backfill.

Discussion of probable total and differential settlements.

Pavement design recommendations based on Traffic Index provided by the District.

Guide specifications for earthwork.

Environmental Services

- a. Conduct a review of existing environmental information on the site history and applicable information regarding Colma Creek including discussions with regulatory officials and review regulatory agency publications and files, if applicable and to the extent available.
- b. Evaluate environmental site conditions and develop a Health and Safety Plan for conducting field investigations.
- c. Conduct laboratory analyses of soil samples to qualify potential contaminants. A breakdown of samples and analyses is shown below. Five (5) samples will be taken per

boring from 4 borings. Ground level samples will be collected throughout the creek bed and adjacent property.

- d. Evaluation of disposal options for drill cuttings.
- e. Environmental analysis and evaluation of the field and laboratory test data in order to provide health and safety recommendations and soil disposal options for the proposed Project.
- f. Submittal of an environmental report presenting, but not necessarily limited to the following:

Recommendations for removal of contaminants, including an evaluation of soil disposal options.

Environmental and Health and Safety recommendations for work on the proposed Project.

A Phase I Hazardous Material Assessment

4. Right-of-Way and Utility Coordination

- a. **Right-of-Way Requirements Map** . Prepare right-of-way requirements map. Right-of-Way mapping will be based on record information. Right-of-way surveys are not included.
- b. **Utility Relocation Coordination Effort**. Identify utility conflicts and coordination with the utility companies for relocation, prior to or concurrent with project construction. Consultant utility coordination scope will consist of the following:
 - Coordinate potholing of fiber optics and jet fuel line.
 - Prepare utility mapping to be confirmed by utility companies.(Cost of potholing included in Task IV-Supplemental Services.)
 - Identify utility conflicts (in writing), with schedule for relocation work. Schedule meetings to discuss conflicts with utility companies.
 - Hold meeting with all affected utilities to discuss project details, utility conflicts, and construction schedule. Discuss relocation for overhead lines for pile driving (if required), and need for incorporating future utilities on structures.

5. Hydraulic Analysis - Colma Creek

- a. Develop proposed criteria for approval by District for each of several HEC-RAS computer runs.
- b. Perform HEC-RAS subcritical flow analyses for Colma Creek between the Spruce Avenue drop structure and Airport Blvd. Bridge. Approximately five (5) different conditions will be analyzed. Each HEC-RAS analysis will be interpreted and reported to

the District.

6. Preliminary Engineering

- a. Working with District, and others as appropriate, develop design criteria for each portion of the Project.
- b. Perform investigations and prepare a study to determine the feasibility of jacking the existing bridge structure to the required elevation. Investigations and study elements will include but not be limited to:
 - ▶ Develop list of critical design issues required for jacking of the bridge.
 - ▶ Perform field inspection of bridge deck, columns and abutments. Recommend testing to evaluate concrete quality and reinforcement condition, if required. (The cost of coring, and testing to be performed, when authorized by DISTRICT, as an Supplemental Service - Task IV. DISTRICT will provide personnel to hand excavate abutments, and piers for visual inspection by CONSULTANT.)

The bridge inspection will be performed in substantial conformance with the procedures outlined the Caltrans publication, "Element Level Inspection Manual" by the Office of Structures, Inspection and Investigations.
 - ▶ Evaluate seismic response of existing bridge after jacking.
 - ▶ Evaluate feasibility based on site constraints, traffic impacts, and bridge condition. Construction methods will be discussed with a contractor familiar with this type of construction work, to evaluate alternatives for feasibility and cost effectiveness.
 - ▶ Develop bridge railing replacement alternatives, if necessary for structural or safety reasons.
 - ▶ Develop conceptual cost estimate for the jacking alternative, if feasible.
 - ▶ Assist the District in evaluating the jacking alternative.
 - ▶ Develop preliminary roadway profile and traffic detour and handling plan.
 - ▶ Perform HEC-RAS analysis to evaluate the effect of maintaining the existing pier supports.
- c. If DISTRICT determines that jacking is feasible, CONSULTANT, upon receipt of DISTRICT notice-to-proceed, shall complete tasks d. through m. below. If DISTRICT determines that jacking is not feasible, CONSULTANT, upon receipt of DISTRICT'S authorization shall proceed with Supplemental Service - TASK IV-1, Bridge Replacement Alternatives.
- d. Develop channel sections, alignments and transitions for project improvements to carry 50 year return frequency flows within the Project limits.
- e. Develop preliminary plan for local drainage within project area.

- f. Prepare alternate roadway profiles and conform configurations.
- g. Evaluate constructibility considerations and incorporate into design concept.
- h. Evaluate utility requirements and incorporate into design concept.
- i. Evaluate and select bridge railing replacement if required.

Evaluate and select structural system for the bridge substructure extension. Coordinate creek channel lining through the bridge section.

- k. Prepare, in English units, preliminary plans, profiles and sections and a preliminary estimate of probable construction cost for the Project.
- l. Submit five (5) copies of preliminary drawings and calculations to District for review and comment.
- m. Meet with District and City of So. San Francisco, to discuss the Preliminary Drawing and to receive input from each.

7. Permitting Support

CONSULTANT will support DISTRICT'S efforts in obtaining permits and approvals from other agencies, by attending meetings and providing drawings, sketches and other available information generated by CONSULTANT'S activities associated with the preliminary and final design of the Project.

TASK II - PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

Based on comments by DISTRICT on the preliminary plans, CONSULTANT to prepare final plans, specifications, and estimate for the Project.

1. Prepare calculations for channel sections, roadway, bridge structure and abutments, transitions and final hydraulic profile.
2. Prepare final contract drawings consisting of: plans, profiles, sections, notes, staging and details, and traffic handling plan for the Project.
3. Prepare technical special provisions and mark-up of the DISTRICT'S front-end documents. For the jacking alternative, the temporary bridge jacking platform, the specifications will be based on a performance specification.

4. Prepare an estimate of probable construction cost for the Project.
5. Submit to District progress drawings (5 sets each) and specifications (5 sets) at approximately 50% and 95% completions. Respond to District and City of S.S.F. comments.
6. Submit original mylars and 5 sets of final (100%) plans, hard copy originals of special provisions, final mark-up front-end documents and final engineer's estimate of probable construction cost for Project. Provide disk per Section 13 of the Agreement.

TASK III - CONSTRUCTION SERVICES

DISTRICT and other agencies will provide construction administration, on-site inspection and monitor job site conditions. CONSULTANT'S services during bidding and construction shall be limited to the following:

- a. Provide consultation and advice during bidding and construction as it may relate to the design made hereunder.
- b. Attend pre-bid and pre-construction meetings.
- c. Check shop and working drawings furnished by contractors.
- d. Perform engineering, as reasonably necessary, for issuance of construction change orders. Any redesigns occasioned by a change in scope from previously approved designs is not included.
- e. Preparation of record drawings based upon information furnished by contractor, inspection personnel, and District, and delivery of original tracings to District.

TASK IV - SUPPLEMENTAL SERVICES

Upon receipt of written authorization from DISTRICT, CONSULTANT shall perform one or more of the following Supplemental Services:

- ① Bridge Replacement Alternatives
 - a. Evaluate bridge replacement alternatives (two and three span alternatives)
 - b. Develop conceptual cost estimate for replacement alternatives.
 - c. Modify, as required, the preliminary roadway profiles and traffic detour and handling plan (including temporary bridge if required) developed in Task I - 6.b.
 - d. Assist the County and So. San Francisco to evaluate the replacement alternatives.
2. Performing field surveys for establishing location of existing right-of-way, property lines or easements.
3. Preparation of legal descriptions and plats, or record of surveys or parcel maps as may be required by law.
4. Performing special studies or preparation of designs for special protection or relocation of existing fiber optics and fuel line/s facilities.
5. Attendance at trend meetings in excess to the number indicated in Task I of this Agreement.

6. Furnishing additional copies of contract drawings and documents above the number specified in Task II of this Agreement.
7. Designs associated with any necessary relocations of existing utilities (gas, electrical, water, telephone, CATV).
8. Perform hydraulic analysis in addition to number provided in TASK I-5.
9. Contract with "Soft Bore" potholing company for locating existing utilities.
10. Perform coring and testing of materials from existing bridge as necessary to complete Task I - 6.b. (Hand excavation of native material for visual inspection or testing to be performed by District/County personnel.)
11. Such other services deemed necessary by the DISTRICT for completion of the Project.

COLMA CREEK IMPROVEMENTS, SPRUCE to LINDEN AVENUES

SCOPE OF WORK

KEY PROJECT ASSIGNMENTS

CONSULTANT shall assign Ron Calhoun as the project manager for this project. The assignment will remain unchanged for the duration of this contract unless it is made beyond Consultant's control for such circumstances as employee's illness or resignation of employment. Any changes of project manager shall require the advance approval of the District.

BASIC AND OPTIONAL SERVICES

Basic Services shall consist of:

- TASK I - Preliminary Design
- TASK II - Plans, Specifications and Estimate (PS&E)
- TASK III - Construction Services

Supplement Services shall consist of:

- TASK IV - Supplemental Services

TASK I PRELIMINARY DESIGN

1. Data Gathering/Meetings/Field Visitation

- a. **Assemble Background Data.** Assemble all reasonably available data from such sources as the District, So. San Francisco, utility companies, including previous studies, as-builts, air photos, parcel maps, record of surveys, available utility maps, assessors maps, maintenance reports, hydraulic design data, etc.
- b. **Schedule.** Prepare a draft schedule for the District approval. Update schedule as necessary throughout the design phase of work.
- c. **Trend Meetings.** Attend Trend Meetings on a monthly basis or as requested by District (up to 15 meetings including workshops), with District Project Manager and staff, District utility company's coordinators, and other key members as required. A roster of these team members will be maintained by Consultant, and updated continually during the project. Up to two (2) special workshop meetings will be held on an as-needed basis.

- d. **Field Visitation.** Consultant and its subconsultants will make field visits to verify that its design recommendations are appropriate to and compatible with existing conditions.

2. Survey and Mapping

a. Field Surveys

The aerial photogrammetric topographic map prepared at a scale of 1" equals 20'. Supplemental field surveys will be performed to obtain required data for the conforms and utility information.

- Perform vertical and horizontal control surveys.
- Locate existing utility surface features and inverts of structures such as manholes, catch basins, retaining walls and other structures.
- Take shots to define the nominal channel bottom elevations at Linden and Spruce Avenue Bridges.
- Measure pipe invert elevations at existing outfall structures.
- Gather existing underground record information and utilize that data to connect the field located surface features.
- Locate existing bridge structural members by field methods.

b. Base Mapping

- Prepare, in English units, a digital topographic base map in AutoCad 14 format at 20 scale with 1' contour interval and spot elevations as required.

3. Geotechnical & Environmental Services

Geotechnical Services

- a. Review information on subsurface soil and ground water information provided by District.
- b. Undertake a subsurface exploration program (as determined necessary).
- d. Geotechnical engineering analysis and evaluation of the field and laboratory test data in order to provide earthwork, roadway and foundation recommendations for the Project.

- e. Submittal of a geotechnical investigation report presenting, as applicable, but not necessarily limited to the following:
 - Description of physical properties and characteristics of the subsurface soils including groundwater level and possible seasonal variations in the level.
 - Recommendations for excavation and site earthwork including procedures for subgrade preparation and proper placement of fill and backfill.
 - Discussion of probable total and differential settlements.
 - Pavement design recommendations based on Traffic Index provided by the District (North and South Canal Streets).
 - Guide specifications for earthwork.

Environmental Services

- a. Conduct a review of existing environmental information on the site history and applicable information regarding Colma Creek including discussions with regulatory officials and review regulatory agency publications and files, if applicable and to the extent available.
- b. Evaluate environmental site conditions and develop a Health and Safety Plan for conducting field investigations.
- c. Conduct laboratory analyses of soil samples to qualify potential contaminants. Five (5) samples will be taken per boring from six (6) borings. Ground level samples will be collected throughout the creek bed and adjacent property.
- d. Evaluation of disposal options for drill cuttings.
- e. Environmental analysis and evaluation of the field and laboratory test data in order to provide health and safety recommendations and soil disposal options for the proposed Project.
- f. Submittal of an environmental report presenting, but not necessarily limited to the following:
 - Recommendations for removal of contaminants, including an evaluation of soil disposal options.
 - Environmental and Health and Safety recommendations for work on the proposed Project.

- A Phase I Hazardous Material Assessment

4. Right-of-Way and Utility Coordination

- a. **Right-of-Way Requirements Map** . Prepare a right-of-way requirements map as necessary. Right-of-Way mapping will be based on record information. Right-of-way surveys are not included.
- b. **Utility Relocation Coordination Effort.** Identify utility conflicts and coordination with the utility companies for relocation, prior to or concurrent with project construction. Consultant utility coordination scope will consist of the following:
 - Coordinate any necessary potholing for utilities.
 - Prepare utility mapping to be confirmed by utility companies. Cost of potholing included in Task IV - Supplemental Services, except for utilities under Linden Avenue Bridge.
 - Identify utility conflicts in writing, with schedule for relocation work. Schedule meetings to discuss conflicts with utility companies.
 - Hold meeting with all affected utilities to discuss the project details, utility conflicts, and construction schedule.

5. Hydraulic Analysis - Colma Creek

- a. Develop proposed criteria for approval by the District for each HEC-RAS computer run.
- b. Perform HEC-RAS subcritical flow analyses for Colma Creek between Spruce Avenue and Airport Boulevard. All runs will be based on the proposed ultimate channel configuration to be developed CONSULTANT and approved by the District. District to provide assumptions for the Mainline Bridge configuration. Each HEC-RAS analysis will be interpreted and reported to the District in printed format and HEC-RAS electronic project files on 3 ½" floppy disks.

6. Preliminary Engineering

- a. Working with District, and others as appropriate, develop design criteria for each portion of the Project.
- b. Perform investigations and prepare a study to determine most appropriate channel section.

- c. Develop preliminary traffic detour and traffic handling plan.
- d. Develop channel sections, alignments and transitions for improvements to carry, as best practicable, 50 year return frequency flows under the Linden Avenue Bridge.
- e. Prepare roadway structural cross-sections to conform with channel structure and preliminary plans for reconstruction of curb, gutter, drainage and pavement disrupted during construction, in No. and So. Canal St. adjacent to the Project.
- f. Evaluate utility requirements and incorporate into design concept.
- g. Evaluate and select structural creek channel lining through the Linden Avenue Bridge section.
- h. Prepare, in English units, preliminary plans, profiles and sections and a preliminary estimate of probable construction cost for the Project.

Submit five (5) copies of preliminary drawings and calculations to District for review and comment.

Meet with District and City of South San Francisco to discuss the Preliminary Drawing and to receive input from each.

7. Permitting Support

Consultant will support District's efforts in obtaining permits and approvals from other agencies, by attending meetings and providing drawings, sketches and other available information generated by Consultant's activities associated with the preliminary and final design of the Project.

TASK II - PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

Consultant shall prepare final plans, specifications, and a cost estimate for the Project Based on District's comments on the preliminary plans and prepare and submit to District:

- a. Calculations for channel sections, roadway and bridge cross-section reconfiguration
- b. Final contract drawings consisting of: plans, profiles, sections, notes, staging and details, and traffic handling plan for the Project
- c. Technical special provisions and mark-up of the District's front-end documents
- d. An estimate of probable construction cost for the Project.

- e. A progress drawings (5 sets each) and specifications (5 sets) at approximately 50% and 95% completions responding to District and City of South San Francisco comments.
- f. Original mylars and 5 sets of final (100%) plans, hard copy originals of special provisions, final mark-up front-end documents and final engineer's estimate of probable construction cost for Project and copies on electronic media per Section 13 of the Agreement.

TASK III - CONSTRUCTION SERVICES

District and other agencies will provide construction administration, on-site inspection and monitor job site conditions. Consultant's services during bidding and construction shall be limited to the following:

- a. Provide consultation and advice during bidding and construction as it may relate to the design made hereunder.
- b. Attend pre-bid and pre-construction meetings.
- c. Check shop and working drawings furnished by contractors.
- d. Perform engineering, as reasonably necessary, for issuance of construction change orders. Any redesigns occasioned by a change in scope from previously approved designs is not included.
- e. Preparation of record drawings based upon information furnished by contractor, inspection personnel, and District, and delivery of original tracings to District.

TASK IV - SUPPLEMENTAL SERVICES

Upon receipt of written authorization from District, Consultant shall provide one or more of the following Supplemental Services:

- a. Perform field surveys for establishing location of existing right-of-way, property lines or easements
- b. Prepare legal descriptions and plats, or record of surveys or parcel maps as may be required by law.
- c. Perform special studies or preparation of designs for special protection or relocation of existing fiber optics
- d. Attend trend meetings in excess to the number indicated in Task I of this Agreement
- e. Furnish additional copies of contract drawings and documents above the number specified in

Task II of this Agreement

- f. Designs associated with any necessary relocations of existing utilities (gas, electrical, water, telephone, CATV)
- g. Perform hydraulic analysis in addition to number provided in TASK I-5
- h. Contract with "Soft Bore" potholing company for locating existing utilities

Such other services deemed necessary by the District for completion of the Project.

EXHIBIT B

WILSEY HAM 2003 CHARGE RATE FEE SCHEDULE

I. CHARGE RATE FEE SCHEDULE

The compensation of Wilsey Ham for work done will be on the basis of an hourly charge rate, plus incurred expenses and will be the sum of all the items set forth below:

A. PERSONNEL SERVICES

Supervising Engineer	\$160	Per Hr	Designer/Technician	\$ 86	Per Hr
Managing Engineer	140	Per Hr	Cad Operator/Drafter	78	Per Hr
Senior Engineer	126	Per Hr	Word Processor	65	Per Hr
Associate Engineer	118	Per Hr	Office Support	65	Per Hr
Engineer	105	Per Hr	2 Person Survey Crew	188	Per Hr
Assistant Engineer	88	Per Hr	3 Person Survey Crew	266	Per Hr
Junior Engineer	80	Per Hr	Contract Personnel	2x	Invoice
Senior Designer/Technician	98	Per Hr	Outside Survey Specialist	\$ 118	Per Hr

Effective Through December 31, 2003 and subject to revision annually thereafter.

B. REIMBURSABLE EXPENSES

1. TRAVEL & TRANSPORTATION EXPENSES

- a) Reimbursement for actual travel and subsistence expenses paid to or on behalf of employees on business connected with the project, plus a handling charge of 10%.
- b) Forty five cents (.45¢) per mile for use of company passenger vehicles or nine dollars (\$9.00) per hour for use of vehicles carrying field survey equipment or used for field inspection and supervision.

2. MISCELLANEOUS EXPENSES

- a) The cost of materials, supplies, reproduction work, and other services, including communication expenses, plus a handling charge of 10%.

C. OUTSIDE SERVICES

- a) Invoice cost of services and expenses charged to Wilsey Ham by outside consultants, professional, or technical firms engaged in connection with the order, plus 10% handling charge.