THIRD AMENDMENT TO CONSULTANT SERVICES AGREEMENT BETWEEN THE CITY OF SUNNYVALE AND INFRASTRUCTURE ENGINEERING CORPORATION FOR STORM PUMP STATION NUMBER 1 REHABILITATION FEASIBILITY STUDY AND DESIGN

This Third Amendment to Consultant Services Agreement, dated _____, is by and between the CITY OF SUNNYVALE, a municipal corporation ("CITY") and INFRASTRUCTURE ENGINEERING CORPORATION ("CONSULTANT").

WHEREAS, on June 4, 2014, CITY and CONSULTANT entered into a Consultant Services Agreement whereby CONSULTANT would provide professional services necessary for design, preparation of bid documents, services during construction and other services for a project known as “Storm Pump Station Number 1 Rehabilitation Feasibility Study and Design”; and

WHEREAS, on July 10, 2017, CITY and CONSULTANT entered into a First Amendment to Consultant Services Agreement whereby the term of the agreement was extended for one year; and

WHEREAS, on July 9, 2018, CITY and CONSULTANT entered into a Second Amendment to Consultant Services Agreement whereby the term of the agreement was extended for one year; and

WHEREAS, the parties now agree that a Third Amendment to said Agreement is advisable;

NOW, THEREFORE, THE PARTIES ENTER INTO THIS THIRD AMENDMENT TO CONSULTANT SERVICES AGREEMENT:

1. Services by CONSULTANT
[Replace the first paragraph with the following:]

CONSULTANT shall provide services in accordance with Exhibit “A-2” entitled “Revised Scope of Work” and Exhibit “A-3” entitled “Revised Project Schedule”. All exhibits referenced in this Agreement are attached hereto and are incorporated herein by reference. To accomplish that end, CONSULTANT agrees to assign Aric Gnesa, PE, to this project, to act in the capacity of Project Manager and personally direct the professional services to be provided by CONSULTANT.

2. Notice to Proceed/Completion of Services
[Replace paragraph (b) with the following:]

(b) When CITY determines that CONSULTANT has satisfactorily completed the services defined in Exhibit “A-2,” CITY shall give CONSULTANT written Notice of Final Acceptance, and CONSULTANT shall not incur any further costs hereunder.

CONSULTANT may request this determination of completion when, in its opinion, it has satisfactorily completed the Revised Scope of Work (Exhibit “A-2”), and if so requested, CITY shall make this determination within fourteen (14) days of such request.

3. Project Schedule
[Replace this section with the following:]

The term of this Agreement shall be from the date of execution through June 30, 2027, unless otherwise terminated.

4. Payment of Fees and Expenses
[Replace this section with the following:]

Payments shall be made to CONSULTANT on a monthly basis as set forth in the attached Exhibit “B-1” entitled “Revised Compensation Schedule.” All compensation will be based on monthly billings as provided in Exhibit "B-1." Compensation will not be due until said detailed billing is submitted to CITY within a reasonable time before payment is expected to allow for normal CITY processing. An estimate of the percent of total completion associated with the various categories of the services shall be furnished by CONSULTANT with said billing. When applicable, copies of pertinent financial records will be included with the submission of billing(s) for all direct reimbursables. Compensation shall not exceed the amounts set forth in Exhibit “B” for each phase, and shall include services as identified in Exhibit “A” in the amount of Two Hundred Ninety Two Thousand Four Hundred Six and No/100 Dollars ($292,406) for the duration of the contract, as well as optional services in an amount not to exceed Ninety Thousand Eight Hundred Nineteen and No/100 Dollars ($90,819) for the duration of the contract. In no event shall the total amount of compensation payable under this agreement exceed the sum of Three Hundred Eight Three Thousand Two Hundred Twenty Five and No/100 Dollars ($383,225) unless upon written modification of this Agreement. All invoices, including detailed backup, shall be sent to City of Sunnyvale, attention Accounts Payable, P.O. Box 3707, Sunnyvale, CA 94088-3707.

All other terms and conditions remain unchanged.

IN WITNESS WHEREOF, the parties have executed this Agreement Amendment.

ATTEST:

By _____
City Clerk

APPROVED AS TO FORM:

By _____
City Attorney

CITY OF SUNNYVALE ("CITY")

By _____
City Manager

INFRASTRUCTURE ENGINEERING CORPORATION (“CONSULTANT”)

By _____

_____
Name and Title

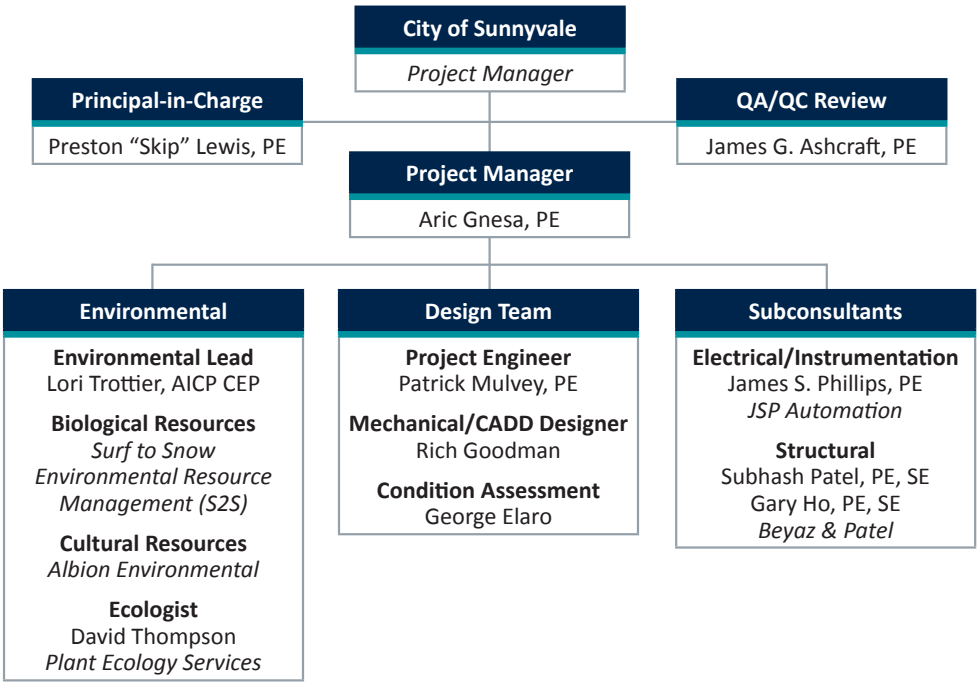
By _____

_____
Name and Title

Proposed Project Management Team

The most critical component in the successful execution of the City's Storm Pump Station Number 1 Rehabilitation Feasibility Study and Design will be the project team. The right mix of experience, enthusiasm, and fresh ideas is critical to not only an outstanding final project, but an outstanding experience during the performance of the project. The proposed project team has worked together on many past pump station projects and will bring that same successful record of past performance to the City's Storm Pump Station Number 1 Rehabilitation Feasibility Study and Design project.

The organization chart below highlights the roles of our proposed team and demonstrates the breadth of our resources as a part of the City of Sunnyvale's Request for Proposal No. F14-49 for Storm Pump Station Number 1 Rehabilitation Feasibility Study and Design. Our proposed team's experience is detailed further in the **References & Experience** Section and resumes for each team member have been included at the end of this section. Assigned personnel will not be substituted without prior City approval.



As Project Manager, **Aric Gnesa, PE**, brings over 13 years of experience in the planning, design, and construction of pump stations. Examples include:

- Del Mar Polytrack Stormwater Pump Station, *Del Mar Thoroughbred Club*
- Libby Lake Stormwater Pump Station Replacement, *City of Oceanside*
- 511 Pump Station, *City of Oceanside*
- Via Ambiente Sewer Pump Station, *Olivenhain Municipal Water District*
- Lift Station No. 4 Replacement, *City of Escondido*
- Connemara Pump Station, *Olivenhain Municipal Water District*

Mr. Gnesa will work with the team to communicate with City staff, provide consistency in the project deliverables that meet City needs and requirements, and coordinate IEC tasks. Our Project Engineer, **Patrick Mulvey, PE**, will coordinate activities within the design team and will be responsible for the development of progress and final submittals, coordination meetings, and status reports.

SUBCONSULTANTS

ELECTRICAL/INSTRUMENTATION

JSP Automation
225 30th Street, Suite 305
Sacramento CA 95816

JSP Automation (JSP) is a Professional Engineering firm that offers a wide variety of technology solutions and has extensive experience in the planning, design, integration and implementation management of Electrical, Instrumentation and Control Systems for the water, wastewater and remediation industries. Based on this foundation of experience, JSP can offer a broad range of Professional Engineering, Integration and Management services. The firm was founded in 2001 to provide specialized Professional Engineering and Integration services for electrical, instrumentation and control systems projects. JSP's experience and client commitment supports an underlying fundamental approach to providing municipalities with advanced SCADA, telecommunications, instrumentation, PLC controls and information systems technical expertise for practical and constructible solutions.

Mr. Jim Phillips, PE carries over 25 years of electrical and instrumentation planning, design and implementation expertise. Mr. Phillips has extensive experience in actual hands on engineering and implementation of over 60 SCADA projects ranging from small scale city to large scale municipal systems and numerous back up generator installations and will provide the City with both a practical and technically advanced electrical and SCADA system design. The past eight years Mr. Phillips has owned and operated JSP Automation, a consulting engineering and integration firm tailored to work directly with municipal clients in the area of electrical and SCADA planning, design and implementation.

STRUCTURAL

Beyaz & Patel, Inc.
1280 Civic Drive, Suite 204
Walnut Creek, CA 94596-7220

Beyaz & Patel specializes in the structural engineering of water, wastewater and transportation infrastructure projects. IEC and Beyaz & Patel have worked on several projects together, including the City's Central and Hamilton Tanks project.

Subhash S. Patel, PE, SE has over 30 years of professional experience in the structural engineering of water and wastewater facilities including pump stations, storage reservoirs, pipelines and appurtenances. His responsibilities have included structural design, managing and coordinating projects, cost estimating, site supervision, and value engineering services.

- Miramar Pump Station Rehabilitation, *San Diego County Water Authority*
- Rehabilitation of Sewer Pump Stations Nos. 21 and 41, *City of San Diego*
- Ocean Outfall Booster Station, *Orange County Sanitation District*
- Lake Merced Pump Station Essential Upgrades, *San Francisco Public Utilities Commission*
- Booster Pump Stations, *City of San Diego*

Gary Ho, PE, SE has over 30 years of experience in structural engineering, structural design, and earthquake engineering on a variety of projects, with particular emphasis on water and wastewater plants, tanks, pump stations and buildings. He has extensive experience in structural evaluation, seismic review, and risk analysis, including probabilistic risk assessments of tank and buildings. Similar projects include the following:

- Gibraltar Pump Station, *City of Milpitas*
- Sum 151 Pump Station and Wet Well Improvements, *City of Sacramento*
- Pump Stations and Reservoirs, Treated Water Service Area Renewal/Replacement Study, *Contra Costa Water District*
- Pump Stations and MCC Building, Digester Upgrade, Phase 2, *East Bay Municipal Utility District*

BIOLOGICAL RESOURCES

Pacific Biology
635 Carmel Ave.
Albany, California 94706

Pacific Biology is a full service biological resources consulting firm that specializes in the preparation of biological resources impact analysis documents, biological permitting, wildlife surveys, and GIS mapping. Pacific Biology has extensive experience analyzing the effects of development and maintenance projects on biological resources. Their comprehensive understanding of the environmental planning process (including CEQA, the state and federal Endangered Species Acts, the federal Clean Water Act, and the California Fish and Game Code), coupled with expertise in the flora and fauna of California, guides their approach to identifying biological resources that may pose a project constraint. Pacific Biology promotes an approach that involves identifying the presence of sensitive biological resources early in the planning process, working closely with the client to understand the regulatory implications of these biological resources, and finding creative solutions that achieve the project goals and that meet the regulatory requirements.

Mr. Joshua Phillips is the owner and Principal Biologist of Pacific Biology. His background combines a strong technical knowledge of California's plants and wildlife with a comprehensive understanding of the environmental planning process, including expertise in CEQA and NEPA, the Endangered Species Act, the Clean Water Act, and the California Fish and Game Code. He has managed and participated in large-scale projects involving complex biological issues throughout northern and southern California, and has extensive experience conducting special-status species surveys, habitat evaluations, wetland/jurisdictional habitat delineations, vegetation mapping, mitigation design, and biological permitting. He regularly conducts surveys for California red-legged frog, California tiger salamander, western burrowing owl, western spadefoot, western pond turtle, nesting birds, and rare plants.

CULTURAL RESOURCES

Albion Environmental, Inc.
1414 Soquel Avenue, Suite 205
Santa Cruz, California 95062

Albion Environmental, Inc. (Albion), incorporated in 1996, offers a broad range of cultural resource management services. Our expertise and experience lie in prehistoric and historic archaeological resource management and Native American consultation. Specifically, we provide

- Federal, State, and local level compliance documents (EIR and EIS components, Programmatic agreements, Memoranda of Agreement and Understanding)

- Project planning documents including general and specific treatment plans, mitigation plans, monitoring plans
- Start to finish management of complex, multiphase projects
- Full range of field services (archaeological inventory, significance evaluation, mitigation level data recovery, analysis, and reporting)
- Native American consultation (SB 18 consultation, Traditional Cultural Property studies, ethnographic inventories, resource management and mitigation negotiation)

Albion has been especially active in the South and North Bay Area and the Central Coast and has developed a substantial body of work in San Mateo, Santa Cruz, Santa Clara, San Francisco, Contra Costa, Monterey, and San Luis Obispo counties. Our clients include utilities such as PG&E, institutions such as Santa Clara University, local agencies such as the City of Santa Clara, and federal agencies such as the U.S. Army National Guard. Albion has a particularly strong record in Santa Clara County through its ongoing 12 year relationship with Santa Clara University and recent work with the City of Santa Clara on its General Plan Update. Currently, we are listed as on-call consultants for Planning and environmental Services for the Valley Transit Authority (VTA) and the City of East Palo Alto.

A partial list of recent projects include

- Santa Clara University Ten Year Improvement Plan in Santa Clara County (2003–Present);
- Santa Clara County Young Ranch Planning Area, Archaeological Survey/Evaluation (2014)
- Santa Clara County, Malech Road Water Supply Project, Archaeological Monitoring (2011)
- City of Menlo Park Backup Well Facility, Cultural Studies (with IEC) (2013-present)
- Santa Clara Caltrain Station, Fiber Optic Replacement, Archaeological Monitoring (2013).
- City of Santa Clara General Plan Update, Cultural Resource Components (2010);
- Nacimiento Water Project in San Luis Obispo County, Cultural Studies (2007-2012);
- Statewide On-Call Cultural Resources Services for Pacific Gas and Electric (2007–Present);
- Atascadero, CA, Eagle Ranch Cultural Resources Assessment -Constraints Analysis (2011);
- City of Santa Cruz Bay Street Reservoir System Transmission Project (2005–2008);
- Santa Clara Valley Water District Stream Maintenance Program (2002–2005)

Mr. Clinton Blount is President and cofounder of Albion Environmental, Inc. Trained as a cultural anthropologist, he specializes in Native American consultation, oral history ethnography, and cultural resource project management. Mr. Blount's recent anthropological work in San Luis Obispo County includes assignments as Native American consultation and participation coordinator for the Nacimiento Water Project (North County), the Los Osos Wastewater Project (Los Osos), the DANA Adobe project (Nipomo), and the Eagle Ranch Development (Atascadero). Mr. Blount specializes in Section 106 driven Traditional Cultural Property Studies, NAGPRA process treatment of human remains, SB 18 consultation, and general consultation under the guidelines of the California Native American Heritage Commission. To date he has completed over 10 Traditional Cultural Property studies as part of the Federal Energy Regulatory Commission project relicensing process. He has also conducted major ethnographic inventories for Caltrans. Mr. Blount has a strong record of fostering positive working relationships between Native American groups, agencies, and project proponents. He works frequently with the Native American tribes and groups in San Luis Obispo County, and is fully conversant with specific tribal interests and the various ways in which these groups participate in the environmental review process.

Project Overview & Approach

The City of Sunnyvale owns and operates the existing Storm Pump Station No. 1 located between the Sunnyvale SMaRT Station at 301 Carl Road, and the Sunnyvale Water Pollution Control Plant (WPCP) at 1444 Borregas Avenue, in the City of Sunnyvale. The pump station outfalls via three discharge pipes to a Santa Clara Valley Water District engineered channel (the same channel outfall as the WPCP), and then to Moffett Channel and the San Francisco Bay; see Figure 1 - Area Plan at the end of this Section.

The original station construction dates to the 1960's and includes construction of two engine driven pumps and one electric jockey pump inside a concrete masonry building and inlet structure with trash screens. The engine driven pumps, engines, and gear drives were replaced in 2009, when a new roof was constructed and discharge pipe repairs were also made. The engines use propane stored on the site in an aboveground tank.

Flow enters the station through an existing channel into the pump station inlet structure that includes a manual bar screen. The existing bar screen structure is located at the base of the station and access for cleaning and maintenance is difficult. Once flow passes through the bar screen it enters the wet well. The pumps lift the storm water through 36-inch, 30-inch, and 18-inch diameter discharge pipes to the receiving channel. A summary of the current pumping units at the station is as follows;

Pump	Drive	Brake HP	RPM	Estimated Capacity (GPM)	Pump Model
P1	Engine	175	440	30,100	Johnston 36 PO
P2	Engine	165	440	34,300	Johnston 36 PO
P3	Electric	Unknown	Unknown	7,750	Johnston 18 LS

The City is requesting proposals to perform a condition assessment Feasibility Study Report of the facility to determine cost effective solutions to fully rehabilitate the station. Additionally, upon completion of the Feasibly Study, the proposer will be the Engineer of Record and provide design services to produce bid-ready construction documents, as well as bid and construction phase services as described in the RFP.

PHASE 0 – PROJECT MANAGEMENT AND ADMINISTRATION

The objective of this task is to provide overall project management and administration for the duration of the project to monitor the scope of work, schedule, and budget and report progress to the City.

A. **Project Schedule:** IEC will prepare a detailed project schedule with tasks, durations and milestones. The project critical path will be clearly identified so progress can be tracked and informed decisions can be made with respect to scheduling. We will review and update schedule monthly for the duration of the project.

B. **Project Status Reports:** IEC will prepare monthly Progress Status Reports to include schedule, budget, and project issues.

C. **Meetings:** Hold project meetings with City Staff and other parties, prepare meeting agenda and minutes. Agendas and minutes shall be submitted to the City five working days prior to/after said meetings. For the purposes of this proposal, five (5) meetings are assumed and the IEC Project Manager and Project Engineer shall attend the meetings.

D. **Quality Assurance/Quality Control (QA/QC):** QA/QC of the design activities shall be implemented throughout the project. IEC's standard Quality Management Plan (QMP) shall be adopted and quality reviews will be initiated at the onset of the project and throughout.

PHASE 1.A-1.C – CONDITION ASSESSMENT AND FEASIBILITY STUDY

The following is a discussion of the key issues to be addressed during the feasibility study and our team's approach to successfully address each key issue to recommend and define the scope of potential improvements. IEC has assembled a highly capable team with each major discipline area led by a specialist who will focus on their specific area of expertise. Our project manager and project engineer will integrate the results of each discipline analysis into a well-organized feasibility study report that clearly defines the project objectives, provides pump station rehabilitation options (including constraints, opportunities, and planning level costs), and discussion of the sequence of future tasks and events to achieve the City's project goals.

A key aspect of our approach to performing the feasibility study will be the involvement of City operations and maintenance (O&M) staff from the onset of the project. IEC believes that operator involvement during this early stage of the project will provide invaluable knowledge and experience concerning specific operational and safety issues at this facility that will assist the project team in evaluation and recommendation of rehabilitation or replacement alternatives. We will provide a technical memorandum for the City's review, describing procedures and schedules for the condition assessment(s) prior to commencement of field work.

Our staff, with City staff, will perform a field review and engineering analysis of the City's existing pump station to assess the physical condition of the station and perform an evaluation of pumping station capacity. The condition assessment will include a review of the mechanical/electrical equipment to evaluate their general physical condition and status. The condition assessment will consist of visual observation of equipment. Physical testing is not anticipated at this time.

Per the RFP, the SCVWD's Sunnyvale East and West Channels Flood Protection Project is mentioned; per available documentation, the easternmost reach of that project will impact the pump station outfall area, see "Figure 3.3-3a: Sunnyvale West Channel Habitat Impacts Map" at the end of this Section. We will coordinate with SCVWD during the feasibility study phase, and incorporate requirements of their levee improvement design into our recommendations. Likewise, we will recommend possible revisions to the SCVWD design to synchronize the two projects. For example, the channel improvement contractor should likely replace the portion of the pump station outfall pipes that lie within the limits of disturbance for the new floodwalls.

MECHANICAL SYSTEMS AND EQUIPMENT

Given that the pumps and engines were recently replaced, it is assumed that the station capacity is adequate, however we will evaluate the existing pumps and motors for basic operation and capacity, including potential implications of the SCVWD's upcoming levee upgrade projects, and recommend options to deal with these potential impacts to the station in the feasibility report.

Buried Discharge Piping: Given the age and material (steel) of the buried discharge piping, we assume that the condition of the piping is likely not suitable for a cured-in-place (CIPP) type lining; therefore we propose to forego a detailed condition assessment of this piping since performing such an assessment will be an added cost and effort, and may require draining a portion of the discharge channel. Instead, we propose to construct new discharge piping, a portion in the same general alignment as the existing piping. The existing piping is quite deep in the area of the levee, in part because the levee has been raised at least once since the station was constructed. Construction of new (non-corrosive PVC or HDPE) piping will allow the opportunity to provide a more shallow burial. Also the two duty pump discharge pipes can be specified as a consistent diameter, providing for identical performance of these pumps. Currently the performance of the two identical pumps is not consistent since the existing discharge pipes are of different

diameters. In order to avoid disturbance of the San Francisco Bay Trail and entering the waterway channel we will evaluate the feasibility of slip-ling that portion of the discharge pipe that extends beneath the Bay Trail and into the channel. Doing so will reduce the environmental clearance required for the project. We will evaluate construction issues and identify regulatory requirements along with mitigating measures in the Feasibility Report. The SCVWD's Sunnyvale East and West Channels Flood Protection Project design includes floodwalls and other levee impacts at the current pump station discharge outfall area; we will review the SDCWD designs and provide recommendations for pump station outfall improvements that are compatible with SDCWD's designs and construction schedule.

Wet Well Condition: A confined space entry inspection of the wet well is included; we will enter the wet well through the existing grated access (with water level inside the wet well assumed to be 3-4 feet, i.e. not requiring a scuba diver). The condition of the wet well structure will be visually assessed, and the buildup of sediment will be documented. Also we will make recommendations for cleaning maintenance procedures. We will provide a narrated video of our inspection on DVD for the City's records.

Pump Station and Wet Well Hydraulics: Our evaluation will include a brief review of the configuration of the inlet and wet well and associated flow conditions at the pump intakes including submergence, velocities, spacing, and compliance with current the latest Hydraulic Institute (HI) standards. The size of the wet well will be evaluated for proper cycling of pump run times. We do not expect that structural modifications to the wet will be required.

Bar Rack: We will evaluate the existing manual bar rack, its operation and accessibility, and alternatives to possibly retrofit it with a mechanically cleaned bar screen and the associated potential benefits and simplification of operation, maintenance, along with improvement to operator safety. Included in this task are recommendations for disposal of waste collected from bar racks, in accordance with NPDES requirements.

Pump Station Piping and Other Mechanical Components: We will qualitatively assess the condition of the existing exposed pump station piping and mechanical components such as gates, couplings, pipe supports, and fittings that are observable during our site visit. In addition to its general condition, we will assess the pipe size versus the required pump station capacity, and whether upsizing is required. Also included is evaluation of the feasibility of adding flow meters to the station discharge piping.

Ventilation System: The existing pump station building appears to be ventilated using penthouse vents. We will determine recommended ventilation rates based on number of air changes per hour and evaluate current ventilation system versus recommended ventilation requirements and provide options for passive or active ventilation systems.

Safety: Our evaluation will include a cursory review existing safety practices and devices, if any, for maintenance personnel and recommendations to include appropriate safety improvements in a future rehabilitation or replacement project. Hand rails, toe boards, confined space procedures, gas alarms, detectors, monitors, ladder up devices, safety cages, tie off points, and other safety related issues will be evaluated to the extent they are present at the existing facility or would be needed in a rehabilitated facility.

Air Quality Regulations: In conjunction with our proposed environmental and regulatory issues approach discussed later, we will evaluate the applicability and potential constraints to continued use of gas-fired engines with respect to Bay Area Air Quality Management City (BAAQMD) regulations and the need for permits.

SITE/CIVIL

Evaluation of site/civil issues will consist of station accessibility during a flood event, accessibility for routine maintenance vehicles such as vactor trucks for wet well cleaning and cranes for pump removal, security, condition and remaining useful life of paving, discharge pipe horizontal and vertical alignment and potential changes (if necessary based on the hydrologic and mechanical evaluations), standpipes, and other appurtenant site issues. Security issues will also be addressed including assessment of fencing and gates.

STRUCTURAL

The structural evaluation will focus on two primary issues. First, the overall structural condition of the existing pump station structure will be evaluated including qualitative assessment of the wet well as observed from existing access points and from the video record obtained as described above. Secondly, a seismic analysis of the existing pump station structure, equipment supports, and anchorages to assess the facility against current building code requirements. The evaluation shall include a static lateral seismic analysis to assess the adequacy of the primary lateral-force resisting system, pump and major equipment supports.

ELECTRICAL

The electrical evaluation will assess the need for upgrade or replacement of the existing station electrical systems from the incoming power feed to all electrical components. We propose to tour the facility and interview operations personnel, document the facilities, and evaluate existing operational conditions for normal, standby, and emergency scenarios. Specific issues to be reviewed include:

Existing Equipment: An inventory of existing electrical, instrumentation, and control equipment will be compiled and we will provide recommendations for expansion, replacement or repair of related appurtenances.

Power Supply: The feasibility and cost of upgrading the existing electrical power supply to the station will be addressed; the current power supply is believed to be direct buried and we will coordinate with PG&E to determine feasibility of a new service to meet current requirements and codes. Additionally a new natural gas service will be investigated as a new source of fuel for the engine driven pumps. The existing propane tank's condition will be visually assessed, and consideration given to retaining the propane as a backup source of fuel. We will also study the feasibly of providing an emergency electrical generator on site.

Power Distribution: IEC will evaluate the existing power distribution system and make recommendations to modify, upgrade or replace the existing system to meet the current and future operational requirements for electric and engine driven pumps.

SCADA and Control Systems: We will assess and evaluate existing Supervisory, Control, and Data Acquisition (SCADA) and control systems and make improvement recommendations future modifications based on City preferences and current technology.

Recommended Single Line and Process and Instrumentation Diagrams: In connection with the mechanical evaluation and determination of the feasibility of replacement or rehabilitation of the station and number/type of pumps, we will prepare a recommended electrical single line diagram (SLD) and a process and instrumentation diagram (P&ID).

GEOTECHNICAL

The intent of our proposed geotechnical services at this stage of the project will be to provide parameters for use in the seismic analysis of the pump station structure. This will be accomplished via literature search of published U.S. Geological Survey (USGS) and California Geological Survey information to provide generalized seismic parameters. Determination of site specific parameters as well as investigation of the current condition of the existing levees and their susceptibility to failure would require a field investigation, which is depicted in the scope of services and fee estimate as an optional task. The determination of whether or not field investigation is warranted should be more appropriately made once pump station rehabilitation alternatives are more fully developed.

ENVIRONMENTAL REVIEW AND CLEARANCES

Environmental Setting

The Project site is located at the south margin of San Francisco Bay, immediately adjacent to both the Sunnyvale West Channel and former Cargill salt evaporation Pond A4, and proximal to salt ponds included in the regionally extensive South Bay Salt Pond Restoration Project's Alviso Complex.

Habitat mapping conducted for the Santa Clara Valley Water District's Sunnyvale East and West Channels Flood Protection Project – for which the draft EIR was circulated in late 2013 – is consistent with our site reconnaissance in showing tidal brackish marsh habitat on the slopes of area channels, with ruderal (disturbed)/non-native grassland on upper channel slopes and in interchannel areas. The pump station itself is expected to be outside the limits of both federal and state jurisdiction, but the intake and outlet areas will almost certainly be considered federally jurisdictional (as adjacent wetlands with a significant nexus to traditionally navigable waters) and state jurisdictional (as part of the Baylands system).

Based on a search of the California Natural Diversity Database conducted for this proposal, in combination with the recent Sunnyvale East and West Channels Project Draft EIR, a number of special-status species may use habitat in the project area, including California Clapper Rail, California Least Tern, and salt-marsh harvest mouse (*Reithrodontomys raviventris*). The Western Burrowing Owl may also nest and forage in nearby grassland and disturbed areas, and the green sturgeon (*Acipenser medirostris*) and the Central California Coast steelhead (*Oncorhynchus mykiss*) are known to use the tidally influenced portions of the Sunnyvale West Channel, which are included in federally designated critical habitat for both two species.

In addition, based on environmental reports prepared for the SCVWD's East and West Channels Project, several archaeological sites are located within 0.25 mile of the West Channel. This is not surprising, since the South Bay region's waterways, and the Bay margin itself, have yielded numerous finds over the years, and are generally considered highly sensitive for additional archaeological discoveries because of the rich resource they offered to generations of the area's native inhabitants.

In this context, agencies with a potential regulatory interest in the pump station rehabilitation effort are likely to include the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, NOAA Fisheries (National Marine Fisheries Service), California Department of Fish and Wildlife, San Francisco Regional Water Quality Control Board, and Bay Conservation and Development Commission.

Environmental Solutions

Despite its environmentally sensitive and heavily regulated context, the project is a straightforward effort that will have a limited footprint. **Our project approach therefore emphasizes developing a design that avoids regulatory triggers to the extent this is possible while still accomplishing project objectives.** This is an IEC trademark service, and we are uniquely positioned to deliver results in this arena because of the

tradition of partnership and the close working relationship between our engineering and environmental staff. We will also stress **early conversation and good relations with agency staff**; we have found that reaching out early to explain the project approach, share information on the project, and obtain agency input is invaluable in **building the trust that helps to either obtain concurrence that permitting can be avoided, or speed review of permit applications once they are formally submitted**.

For this project, as discussed earlier in our proposal, **we anticipate that incursions into jurisdictional habitat can be avoided** by

- slip-lining the straight reach of pipeline adjacent to the outfall, and
- craning workers over the existing concrete headwall to replace the trash rack

Our hope is that this extremely reduced level of inchannel activity will enable the project to avoid the need for authorization under Section 404 of the federal Clean Water Act and Sections 1600 ff. of the California Fish and Game Code (Streambed Alteration Agreement program); at worst, it will offer substantial streamlining under both regulations. Our approach will also avoid potential habitat loss and direct injury or mortality of special-status species, and may enable us to avoid the need for authorization under the federal and state Endangered Species Acts. However, we note that if federal ESA authorization cannot be avoided, there will be less impetus to avoid triggering Section 404; with Section 404 in play, ESA consultation would proceed via ESA Section 7 (interagency consultation), which is generally more straightforward and less costly than the alternative Section 10 (non-federal) process.

Avoiding the need for inchannel work may also offer the City the option of exemption the project from CEQA, per *CEQA Guidelines* §15301 (Class 1 categorical exemption, which includes repair and maintenance of existing facilities) or §15302 (Class 2 categorical exemption, for replacement or reconstruction of existing facilities), assuming potentially preclusory "unusual circumstances" (*Guidelines* 15300.2[c]) can be shown not to apply. Avoiding the need for Section 404 and federal ESA compliance will avoid the need for compliance with the National Environmental Policy Act (NEPA)

With all of this in mind, **our environmental efforts under Phase 1 will emphasize**

- Clarifying our preliminary understanding of site constraints and regulatory triggers
- Reaching out to resource agency staff to discuss and confirm permit requirements for various project approaches
- Presenting you with the available options, discussing their implications for project configuration, cost, and schedule, and working with you to identify the best-fit solution

Maximizing the use of existing data – including documents prepared for the SCVWD's Sunnyvale East and West Channels Project, to the extent the District is willing to share them – will help reduce the cost of our Phase 1 effort. We anticipate relying on a combination of existing data, augmented by additional, targeted field and literature studies. Since the District's willingness to engage in datasharing is unknown at this time, we have provided for a site-specific assessment of biological resources, jurisdictional habitat, and cultural resources constraints.

The matrix below summarizes the primary regulations potentially applicable to the project, with additional thoughts on approach and strategy. The Feasibility Study Report will update and augment this assessment and present our recommendations for completing project environmental clearances. If more than one option is available, we will summarize the pros and cons and assist you in identifying the best-fit approach.

This will include presentation and discussion of costs associated with the various environmental tasks. **The environmental portion of Phase 1 will conclude with a "compliance path" decision milestone. Our hope and anticipation is that Phase 2 environmental work will be very straightforward, limited to preparation and filing of a CEQA Notice of Exemption and authorization by the Bay Conservation and Development Commission.** In the event additional review and authorizations are required, Phase 2 will entail completing them as expeditiously as possible.

Agency with Jurisdiction	Regulation	Triggers	Comments and Potential Approaches
USACE	Clean Water Act, Section 404	Activities below Mean Higher High Water in tidal waters under federal jurisdiction; would likely be triggered by repair of inlet and/or outfall structures	• May be avoided through design, as discussed above • If USACE indicates permitting will be required, the project should qualify for a Nationwide Permit (NWP), substantially streamlining Section 404 authorization. Candidates include NWP 7 (Outfall and Associated Intake Structures) and NWP 18 (Minor Discharges) and NWP 33 (Temporary Construction, Access, and Dewatering). NWP 43 (Stormwater Management Structures) will not apply because it covers only work in non-tidal waters
RWQCB	Clean Water Act, Section 401	Section 401 water quality certification will be required if Section 404 is triggered	
California Department of Fish and Wildlife	*California Fish and Game Code Section 1600 ff.*	Activities affecting "bed or banks" of state-jurisdictional waters	• May be avoided through design, unless DFW determines that bolting a new trash rack to the existing concrete headwall qualifies as an activity impacting the "bank" of a state-jurisdictional water
USFWS, NMFS	Federal Endangered Species Act (ESA)	Activities with the potential to result in take of federally listed species and/or impacts on their habitat	• To substantiate the project's ability to avoid impacting special-status species and sensitive/jurisdictional habitat resources, our Feasibility Study Report will be supported by a concise and cost-effective "dual-purpose" biological resources technical report that meets the requirements for both federal and state Endangered Species Act consultation as well as supporting CEQA review. As discussed above, we will use this report as a basis for agency dialogue to explore whether the project can avoid triggering ESA/CESA
California Department of Fish and Wildlife	California Endangered Species Act	Activities with the potential to result in take of state-listed species	
Bay Conservation and Development Commission	Federal Coastal Zone Management Act, California McAteer Petris Act	Remodeling or repair of structures within BCDC jurisdiction	• The project may qualify for exemption as an underground utility serving existing approved development. Alternately, as a project for "routine repair and maintenance of existing currently-used outfall pipes, service lines, and similar facilities" without substantial enlargement, the project should qualify for streamlined authorization under Abbreviated Regional Permit #1

PHASE 1.A AND 1.B: SITE ASSESSMENT AND FEASIBILITY STUDY REPORT

ENVIRONMENTAL DATA REVIEW AND CONSTRAINTS ASSESSMENT

This subphase provides for the IEC team to

- Review relevant inhouse materials developed for other projects in the area
- Obtain and review relevant documentation developed for the SCVWD's Sunnyvale East and West Channels Flood Protection Project
- Conduct literature and field studies to verify and augment information from existing documentation. We anticipate that it will be possible to view the East and West Channels Flood Protection Project wetland delineation mapping, but probably not the detailed cultural resources report, since the locations of cultural resources are generally considered confidential and lead agencies are reluctant to release them. Accordingly, our base scope of work provides for a database search and field reconnaissance for biological resources and jurisdictional habitat, followed by preparation of a technical report to support agency dialogue; and for a full records search and pedestrian reconnaissance for cultural resources, to assess the potential for "unusual circumstances" that would independently trigger the need for CEQA review, followed by a concise email "constraints" download
- Conduct early, informal dialogue with resource agency staff to confirm permit avoidance/ requirements
- Present you with the available options, discussing their implications for project configuration, cost, and schedule, itemize their pros and cons, and assist City staff in selecting the best-fit approach. Our options evaluation will include comparative costs for Phase 2

PHASE 2 – DESIGN, BID, AND CONSTRUCTION PHASE SERVICES

In Phase 1 we will study all the items identified in the RFP as described above. Given the level of uncertainty regarding the nature and extent of any improvements which may be recommended for several of those items, we have scoped our design and construction phase services for the most apparent and pressing deficiencies identified in the RFP and our site visit, namely:

A. Forebay Improvements: Trash Rack replacement, cleaning recommendations
B. Discharge Pipe Replacement
C. Electrical Panel Replacement, including SCADA replacements
D. Limited General Site Work: new electrical service, paving repairs, fence/gate replacement, replacement of propane tank (with similar) etc.

Given the limited nature of these core improvements, we do not anticipate that Survey will be required; we will utilize existing record drawing and GIS level mapping available via GoogleEarth Pro and other sources. Design and construction support services for additional items of work are listed as Optional Services in another section of this proposal.

PHASE 2.A-B – DESIGN DOCUMENTS

We will prepare a complete set of biddable contract documents including technical project specific portions, plans, specifications, and related support materials for the project. Contract documents shall be prepared based on City boilerplate front-end documents and technical specifications shall be prepared

utilizing Construction Specifications Institute (CSI) format. We propose to provide progress submittals to the City at 30%, 75%, and 100% (signed mylar) milestones. The Contract Documents shall address the following major elements:

A. A complete set of project plans shall be prepared to indicate construction elements, including the pump station mechanical, electrical, telemetry/instrumentation, and site/civil design. Plans will be prepared on "D" size 24"x36" sheets utilizing City standard title blocks with plan and profile sheets prepared at scales of 1"=40' (horizontal) and 1"=4' (profile). The project plan set is expected to include the following:

- Title sheet including vicinity and location maps
- Notes, Legend, and Abbreviations including 200 scale index map
- Existing conditions/removals
- Site grading, paving and yard piping plan
- Pump station plan
- Pump station sections
- Civil details (2)
- Mechanical details (3)
- Electrical standard symbols and abbreviations
- Single line diagram
- Electrical plan
- Building plan
- Electrical schematics
- Electrical details
- MCC and Switchgear Elevations
- Instrumentation sheets (4)

B. A complete set of design calculations shall be provided to the City for review as part of the final design development.

C. Technical specifications shall be prepared utilizing CSI format. Front-end City documents and boilerplate specifications will be reviewed and edited as appropriate. We will also prepare a proposed bid sheet to include bid items and bid item descriptions.

D. It is assumed that the selected construction contractor will apply for and obtain any required over the counter street cut or encroachment permits for the project and that a City Building Permit will not be required due to the City's self-governance as allowed by the Water Code. However, we will coordinate with appropriate jurisdictions to introduce the project and discuss project issues as necessary and as discussed with the City.

E. A construction cost estimate shall be provided at each milestone deliverable. The cost estimate shall be based on the anticipated items of work as presented in the Contract Documents.

F. Our project manager, as a California Registered Civil Engineer and the engineer of record for the project, shall sign and seal each original final mylar sheet of the plan set. In addition, our project manager will sign and stamp the title page of the specifications to be included in the Contract Documents. Where different disciplines are represented in the drawing set, these drawings shall be signed and sealed by a California Registered Engineer registered in the discipline appropriate to the drawing. The engineer of record shall also sign and seal the design calculations for the project.

PHASE 2.C – BID PHASE SERVICES

We will provide the City with services during bidding and will assist the City with responses to questions posed by prospective bidders. We will also assist the City with interpretations of the Contract Documents and prepare one (1) addendum to clarify or amplify aspects of the Contract Documents. We will also attend the pre-bid meeting and bid opening and assist the City with tabulation and review of the bids.

PHASE 2.D – CONSTRUCTION PHASE SERVICES

We will provide the City with services during construction as follows:

A. Attend and participate in the pre-construction meeting, prepare an agenda, sign in sheet, and minutes and distribute to meeting participants and other stakeholders within five business days of the meeting.

B. Attend up to five (5) construction meetings at the City offices or project site. It is assume the IEC Project Manager or Project Engineer shall attend the meetings.

C. Review up to twenty-five (25) Requests for Information. RFI's responses will be provided in electronic (Adobe pdf) format via e-mail.

D. Review up to thirty (30) submittals. It is assumed submittals will be sent to us digitally and submittal comments and responses will be provided back to the City or City's construction manager in electronic (Adobe pdf) format via e-mail.

E. Electrical and Instrumentation Support:
   - Review all electrical and control system submittals.
   - Coordinate SCADA interface requirements with the City
   - Provide Start-up Assistance and Testing (5 days)
   - Provide Installation Inspection/supervision at various stages (5 days)
   - Attend Factory Test (2 days)
   - Attend Pre-Construction Meeting
   - Attend Start-up Meeting
   - Attend SCADA programming meeting

F. Prepare a set of electronic (Adobe pdf) record drawings for the project based on Contractor-supplied field redline drawings.

G. Attend a Lessons Learned meeting with City and other stake holders.

ENVIRONMENTAL REVIEWS AND PERMITTING

PHASE 2.A: ENVIRONMENTAL DESIGN SERVICES

This subphase provides for IEC to complete the following tasks in support of project environmental clearances.

- Prepare and file a CEQA Notice of Exemption
- Obtain permit authorization from the Bay Conservation and Development Commission

PHASE 2.D: ENVIRONMENTAL CONSTRUCTION SUPPORT SERVICES

Mitigation Implementation

IEC will support the City in implementing environmental mitigation during construction such as pre-construction biological surveys, sensitive species exclusion measures, construction monitoring, as required by the CEQA Notice of Exemption and permit conditions.

PHASE 2.E: ENVIRONMENTAL CONSTRUCTION SUPPORT SERVICES

IEC will provide team support for post-construction monitoring and reporting related to contractor supervision and Habitat Mitigation Monitoring Plan.

OPTIONAL DESIGN SERVICES

As previously discussed, the items of study for the Phase 1 Feasibility Study are to some degree complex and multifaceted. The goal of the Phase 1 Feasibility Study is to identify options and costs to provide a fully upgraded pump station and site, within the City's budget. To that end, there is necessarily a degree of uncertainty in the design scope presented herein. The Phase 2 scope accounts for the obvious deficiencies as described above. We have also included, as optional services, scope for typical level of effort for Design, Bid, and Construction phase services for those other items listed in the RFP such as:

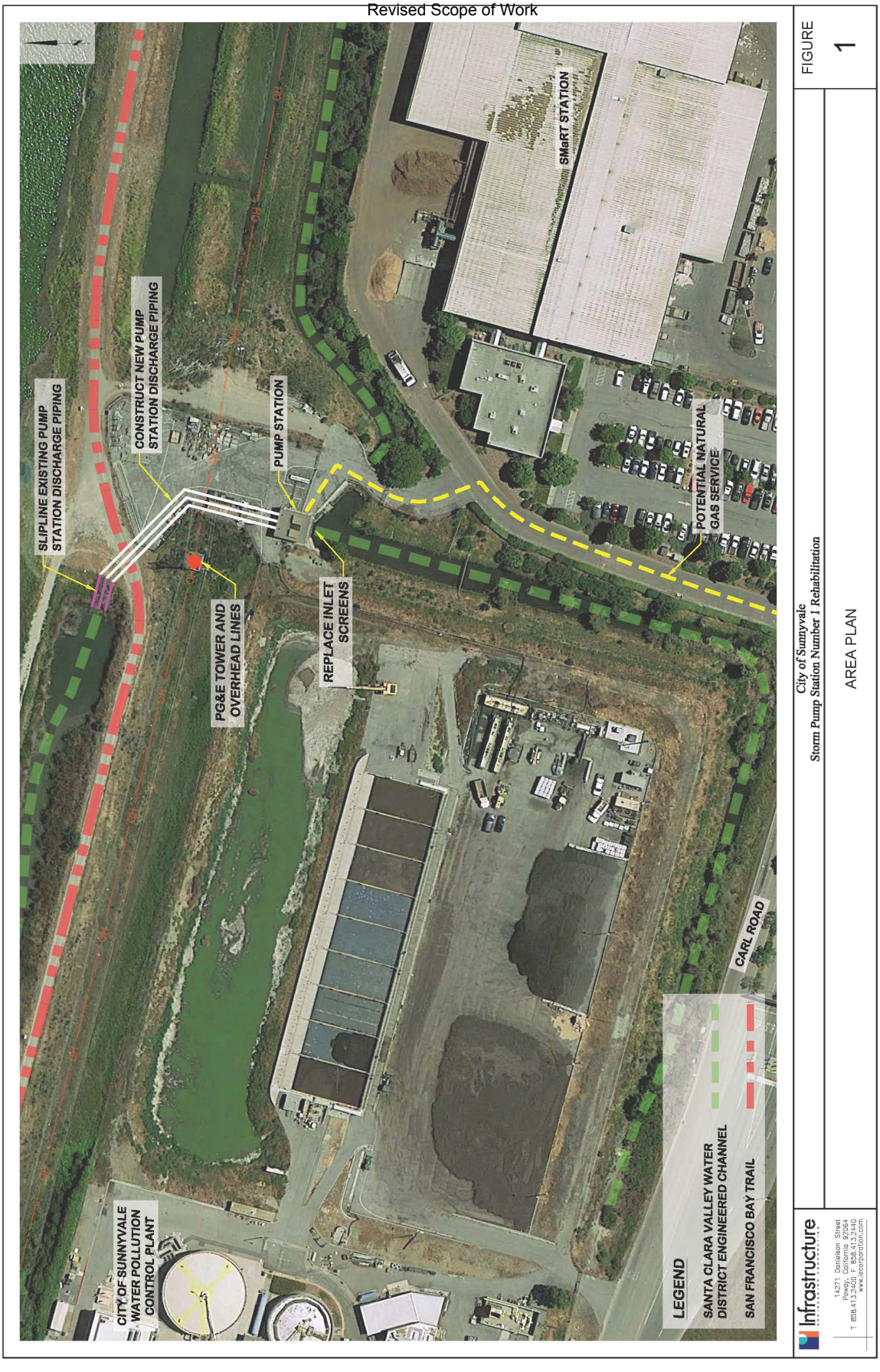
A. Upgrade existing structure to meet seismic requirements
B. Provide active ventilation improvements, including structural design for added louvers
C. Provide new natural gas service
D. Provide means of backup electrical power (excluding engine driven pumps)
E. Provide flow metering capability, and possibly other SCADA expansions

Accordingly, the associated fee for Optional Services is intended to convey an "upper limit" for typical improvements, but is not necessarily all-inclusive of every possible design scenario that may be required. The final Phase 2 scope should be determined after Phase 1 has been completed.

OPTIONAL ENVIRONMENTAL SERVICES

The following additional activities are provided as optional tasks that can be implemented in the event Phase 1 determines they are necessary: preparation and circulation of a CEQA review document (assumed to be an IS/MND based on the project's limited footprint and impact potential); Clean Water Act Section 404 permitting and Section 401 water quality certification, assuming that Section 404 authorization will be completed via a Nationwide permit, including completion of a jurisdictional habitat delineation in the event the SCVWD's recent existing jurisdictional habitat delineation cannot be reused or does not provide adequate areal coverage; California Streambed Alteration Agreement.

As noted above, we anticipate that take triggers can be avoided through a combination of design and best management practices, and that the project will not require federal or California Endangered Species Act authorization.


SLIPLINE EXISTING PUMP STATION DISCHARGE PIPING
CONSTRUCT NEW PUMP STATION DISCHARGE PIPING
PUMP STATION
PG&E TOWER AND OVERHEAD LINES
REPLACE INLET SCREENS
POTENTIAL NATURAL GAS SERVICE
SMaRT STATION
CARL ROAD
CITY OF SUNNYVALE WATER POLLUTION CONTROL PLANT
OH
LEGEND
SANTA CLARA VALLEY WATER DISTRICT ENGINEERED CHANNEL
SAN FRANCISCO BAY TRAIL
Infrastructure
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iacorporation.com
City of Sunnyvale
Storm Pump Station Number 1 Rehabilitation
AREA PLAN
FIGURE
1

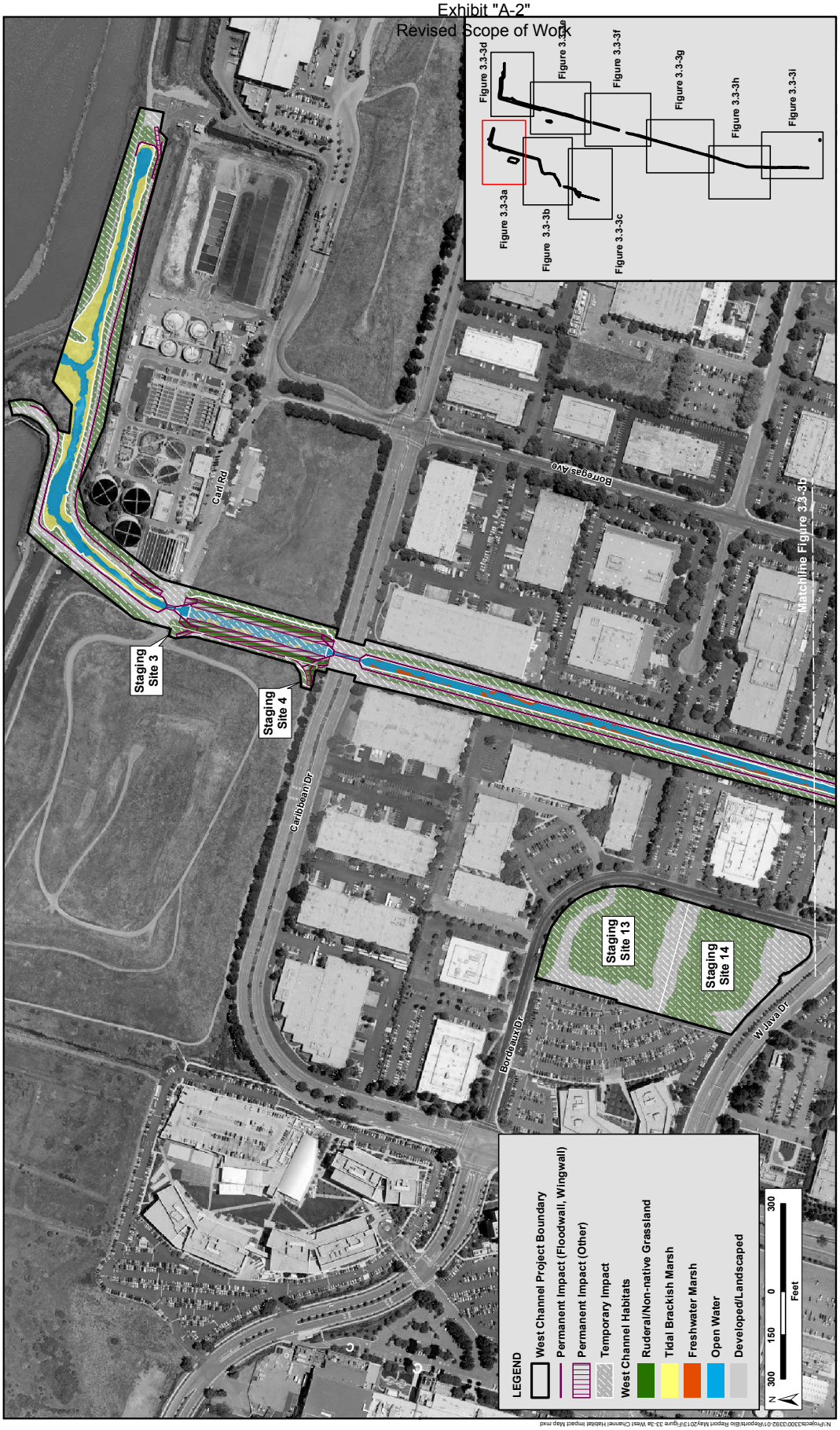


Figure 3.3-3a: Sunnyvale West Channel Habitat Impacts Map
Sunnyvale East and West Channels Flood Protection Project (3392-01)
May 2013

H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Project Schedule

Project Schedule
A detailed project schedule has been provided on the following page.

Schedule Control
IEC understands that schedule is critical and will conduct our work with a heightened “sense of urgency” regarding the City’s project. Schedule control is achieved through the following methods and techniques:

1. Thorough understanding of the City’s overall goals and objectives for the project.
2. Preparation of a through and well-thought out project schedule that is directly correlated with the detailed scope of services where the specific work tasks and deliverables are clearly documented.
3. Understanding of the critical path work tasks and the realistic timelines for their completion and anticipating potential pitfalls before they become schedule detractors.
4. Recognizing what work needs to be started early and tasks that can be performed concurrently and mobilizing the project team members and subconsultants appropriately.
5. Incorporating City and other agency review times and jurisdictional (City Council or other) approvals where needed.
6. Aggressive monitoring, tracking, and assessment of schedule and adjustments where necessary.

Staff Availability
The following table identifies our proposed key personnel, their current workload, and how much time will be allocated for each of them on this project.

Proposed Key Personnel	Current Workload	Time Allocated To This Project
Aric Gnesa, PE	70%	15%
Preston "Skip" Lewis, PE	50%	10%
James G. Ashcraft, PE	60%	5%
Patrick Mulvey, PE	60%	25%
Rich Goodman	60%	10%
George Elaro	60%	5%
Anna Buising, PhD, PG	60%	5%

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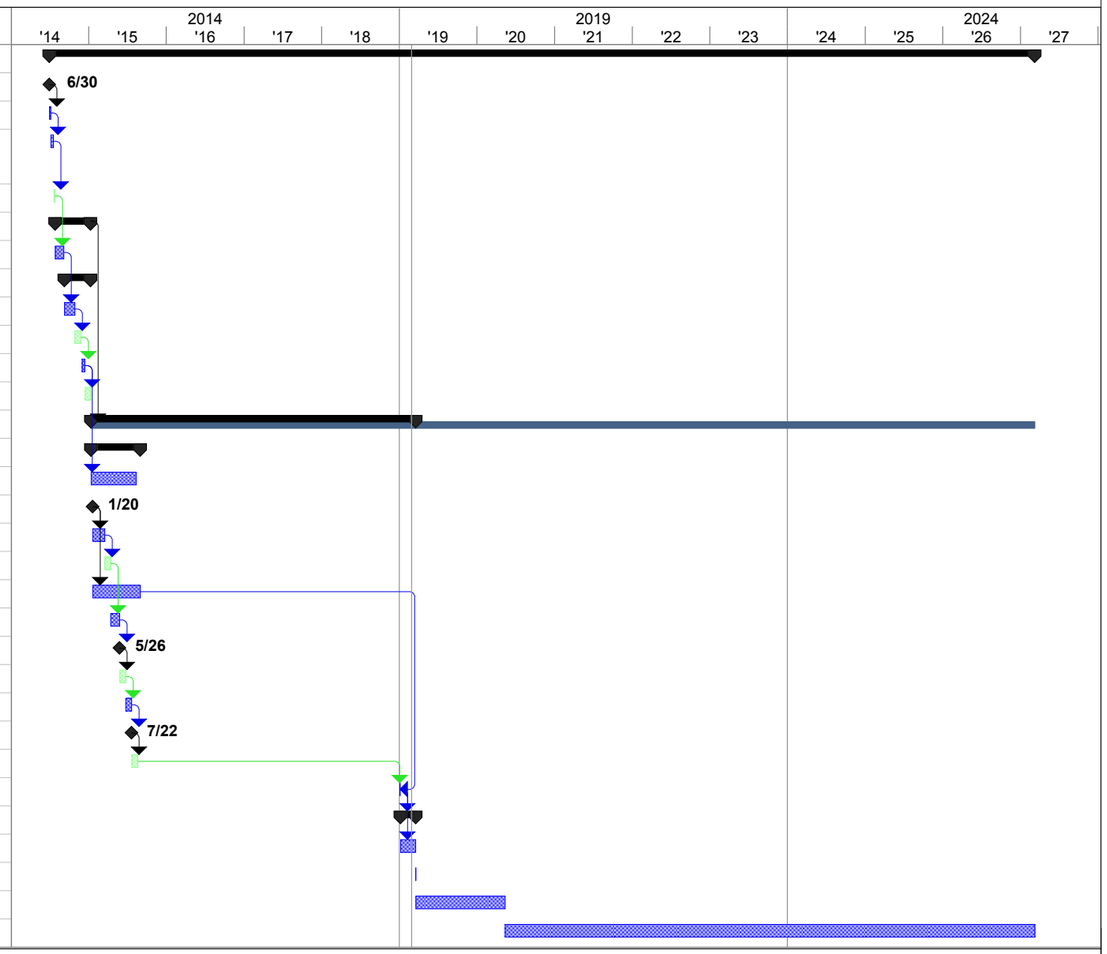
CITY OF SUNNYVALE
STORM PUMP STATION NUMBER 1 REHABILITATION
FEASIBILITY STUDY, DESIGN, CONSTRUCTION, AND POST-CONSTRUCTION

ID	Task Name	Duration	Start	Finish	Predecessors
1	**STORM PUMP STATION NUMBER 1 REHABILITAT**	**3312 days**	**6/30/14**	**3/9/27**	
2	Kick-Off Meeting	0 days	6/30/14	6/30/14	
3	Data Collection and Review	1 wk	6/30/14	7/4/14	2
4	Site Investigation and Condition Assessment Technical Memorandum	2 wks	7/7/14	7/18/14	3
5	City Review	1 wk	7/21/14	7/25/14	4
6	**Phase 1 Feasibility Study**	**120 days**	**7/28/14**	**1/9/15**	
7	***Task A Site Investigation and Condition Assessment***	6 wks	7/28/14	9/5/14	5
8	***Task B Feasibility Study Report***	**89 days**	**9/9/14**	**1/9/15**	
9	First Draft	7 wks	9/9/14	10/27/14	7
10	**City Review**	4 wks	10/28/14	11/24/14	9
11	***Final Report***	2 wks	12/1/14	12/12/14	10
12	**City Review**	4 wks	12/15/14	1/9/15	11
13	**Phase 2 Design Services**	**1092 days**	**1/12/15**	**3/19/19**	**6**
14	***Task A Design Development***	**166 days**	**1/12/15**	**8/31/15**	
15	Project Management	152 days	1/12/15	8/11/15	11
16	**Design Scope Review Meeting**	**0 days**	**1/20/15**	**1/20/15**	
17	30% Submittal	8 wks	1/20/15	3/16/15	16
18	**City Review**	4 wks	3/17/15	4/13/15	17
19	Finalize Environmental and Permitting	8 mons	1/20/15	8/31/15	16
20	75% Submittal	6 wks	4/14/15	5/25/15	18
21	75% Submittal Meeting	1 day	5/26/15	5/26/15	20
22	**City Review**	4 wks	5/27/15	6/23/15	21
23	100% Submittal	4 wks	6/24/15	7/21/15	22
24	100% Submittal Meeting	1 day	7/22/15	7/22/15	23
25	**City Review**	4 wks	7/23/15	8/19/15	24
26	***Task B Bid Package***	0.2 wks	1/4/19	1/4/19	25,19FF
27	***Task C Bidding Services***	**52 days**	**1/7/19**	**3/19/19**	**26**
28	Bidding Services	10.2 wks	1/7/19	3/18/19	26
29	**City Review**	1 day	3/19/19	3/19/19	
30	***Task D Construction Support Services***	300 days	3/20/19	5/12/20	
31	***Task E Post-Construction Support Services***	1780 days	5/13/20	3/9/27	



Date: 2/28/19

Task	Inactive Task	Inactive Summary	Manual Summary Rollup	Finish-only
Milestone	Inactive Milestone	Manual Task	Manual Summary	External Tasks
Summary	Inactive Milestone	Duration-only	Start-only	External Milestone

Exhibit "B-1"
Revised Compensation Schedule

Request for Proposals No. F14-49

Tasks		Labor												Subconsultants					ODCs	Total
Task #	Task Description (Change task titles as detailed in the scope of work)	Principal	Sr. Project Manager - QA/QC	Project Manager	Env. Sr. Technical Staff	Project Engineer	Designer	CADD Designer III	Field Operations Manager	Env. Specialist II	Word Processor	Total Hours	Total Labor Costs	Structural	Electrical/ Instrumentation	Biologist	Ecologist	Environmental	Other Direct Costs	Total Fee
		Preston Lewis, P.E.	Jim Ashcraft, P.E.	Aric Gnesa, P.E.	Lori Trottier	Patrick Mulvey, P.E.	Rich Goodman	David Nguyen	George Elaro	Staff	Staff			Beyaz Patel, Inc.	JSP Automation	S2S	D. Thompson	Albion Environmental		
		$190	$185	$175	$160	$135	$135	$125	$125	$105	$75			LS	LS	LS	LS	LS		
PH 0	**Project Management**	**8**		**40**		**4**					**8**	**60**	**$9,660**						**$500**	**$10,160**
PH 1	**Phase 1: Feasibility Study**											**289**	**$39,475**							**$68,512**
1-A	Site Investigation and Condition Assessment			24	10	48	4	16	8	25		135	$18,445	$9,971	$1,200	$5,775		$2,625	$1,000	$39,016
1-B	Feasibility Study Report Draft	2		24	10	48		16	2	20	8	130	$17,610	$5,154	$2,200				$250	$25,214
1-C	Final Report		2	6		8	2	4			2	24	$3,420	$762					$100	$4,282
PH 2	**Phase 2: Design Services**											**683**	**$88,295**							**$213,734**
2-A	Design Development											94	$12,120							$12,724
	Design Development		*2*	*8*		*8*		*4*				*22*	*$3,350*							*$3,350*
	CEQA Notice of Exemption				*6*					*20*		*26*	*$3,060*						$79	*$3,139*
	BCDC Permitting				*16*					*30*		*46*	*$5,710*			$525				*$6,235*
2-A.1	30% Design Submittal											107	$14,385							$21,935
	Forebay Improvements			*4*		*8*	*4*	*8*			*1*	*25*	*$3,395*							*$3,395*
	Pipeline Replacement			*8*		*16*		*24*			*1*	*49*	*$6,635*							*$6,635*
	Electrical/Control Equipment Replacement			*2*		*4*		*12*				*18*	*$2,390*		$7,550					*$9,940*
	Site Improvements			*2*		*4*		*8*			*1*	*15*	*$1,965*							*$1,965*
2-A.2	75% Design Submittal											109	$14,735							$23,785
	Forebay Improvements			*4*		*8*	*4*	*8*			*1*	*25*	*$3,395*	$2,500						*$5,895*
	Pipeline Replacement			*8*		*16*		*24*			*1*	*49*	*$6,635*							*$6,635*
	Electrical/Control Equipment Replacement			*4*		*4*		*12*				*20*	*$2,740*		$6,550					*$9,290*
	Site Improvements			*2*		*4*		*8*			*1*	*15*	*$1,965*							*$1,965*
2-A.3	100% Design Submittal											48	$6,480							$14,530
	Forebay Improvements			*2*		*4*	*2*	*2*			*1*	*11*	*$1,485*							*$1,485*
	Pipeline Replacement			*4*		*8*		*8*			*1*	*21*	*$2,855*							*$2,855*
	Electrical/Control Equipment Replacement			*1*		*2*		*6*				*9*	*$1,195*		$8,050					*$9,245*
	Site Improvements			*1*		*2*		*4*				*7*	*$945*							*$945*
2-B	Bid Package	1		4		8	4	4			4	25	$3,310						$500	$3,810
2-C	Bidding Services			4		8					2	14	$1,930							$1,930
2-D	Construction Support Services	1		12	40	24		24		121	4	226	$27,935		$8,600	$39,460		$6,040	$250	$82,285
2-E	Post Construction Support Services				20					40		60	$7,400				$45,335			$52,735
Proposal Total Fee: All Phases		**12**	**4**	**164**	**102**	**236**	**20**	**192**	**10**	**256**	**36**	**1032**	**$137,430**	**$18,387**	**$34,150**	**$45,760**	**$45,335**	**$8,665**	**$2,679**	**$292,406**
Optional Services[1]		**Labor**												**Subconsultants**					**ODCs**	**Total**
Design And Construction Support Services[2]																				
A	Not Used																			
B	Active Ventilation	1		4		12	4	8			3	32	$4,275	$7,600						$11,875
C	Natural Gas Service			6		16	4	16			3	45	$5,975							$5,975
D	Backup Power (Excludes Engine Pumps)	1		6		20	12	12			1	52	$7,135	$1,800	$2,000					$10,935
E	Flow Meter including SCADA	1		6		20	12	8				47	$6,560		$2,000					$8,560
Environmental Services																				
F	CEQA IS/MND Preparation and Circulation				64					153		217	$26,305					$2,504	$919	$29,728
G	Clean Water Act Section 4040 Permitting and Section 401 Water Quality Certification				30					40		70	$9,000			$840				$9,840
H	Additional Cultural Resources Activities - Federal NHPA Section 106 Compliance				8							8	$1,280					$3,780		$5,060
I	California Streambed Alteration Agreement				16					30		46	$5,710			$840				$6,550
J	Cultural Resources Inspection				2					3		5	$635					$1,661		$2,296
Total Optional Services		3	0	22	120	68	32	44	0	226	7	522	$66,875	$9,400	$4,000	$1,680		$7,945	$919	$90,819
Total Fee Including All Optional Services		**15**	**4**	**186**	**222**	**304**	**52**	**236**	**10**	**482**	**43**	**1554**	**$204,305**	**$27,787**	**$38,150**	**$47,440**		**$16,610**	**$3,598**	**$383,225**

Notes:

1 The Optional Services can be included in the Phase 2 tasks if determined necessary during the Phase 1 feasibility study.

2 For each task, design and construction support is included.

Infrastructure ENGINEERING CORPORATION