

REQUEST FOR PROPOSALS
PROFESSIONAL ENGINEERING SERVICES FOR

CORTE MADERA CREEK LEVEE EVALUATION

September 7, 2017



Proposals will be accepted until **4:00 p.m., October 9, 2017** at:

Marin County Department of Public Works
3501 Civic Center Drive, Room 304
San Rafael, California 94903

With attention directed to:

Hugh Davis

hdavis@marincounty.org

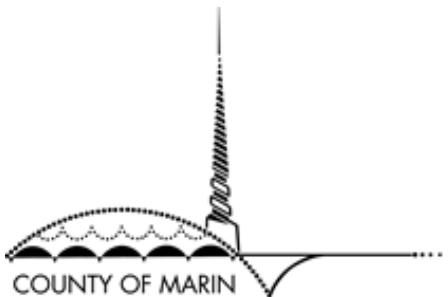


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SECTION 1 INTRODUCTION & BACKGROUND

INTRODUCTION

The Marin County Flood Control and Water Conservation District (District) is soliciting proposals from experienced and well-qualified consulting engineering firms to furnish professional services for an evaluation of the Corte Madera Creek and levee system located in central Marin County (see maps, Exhibit A). The work performed for this study will be partially reimbursed to the District under the California Department of Water Resources Local Levee Assistance Program. Services shall include, but not be limited to; land and bathymetric surveying, geotechnical engineering, hydrologic and hydraulic analysis and engineering, engineering design, and engineering cost estimating necessary to provide a comprehensive assessment of the current condition of the levee system and develop recommendations for both short- and long-term creek and levee improvements which meet the goals of this evaluation. Knowledge of U.S. Army Corps of Engineers (Corps) and Federal Emergency Management Agency (FEMA) regulations, standards, policies, and guidance will also be required. All technical and administrative support required to provide services and deliver completed work products to the District shall be included. A lump sum professional services contract (see sample, Exhibit C) to successfully complete all tasks specified in this Request for Proposals (RFP) will be presented to the District's Board of Supervisors for their consideration of approval.

Reference documents and background information relevant to this RFP will be available to all respondents online at:

https://www.dropbox.com/sh/xhk5ty5ygc93twz/AADsBhNYfiBj1G-LIM_Y1DMwa?dl=0

BACKGROUND

The Corte Madera Creek earthen and concrete channel and levee system was originally constructed by the U.S. Army Corps of Engineers (USACE) in the early 1970s as part of the Corte Madera Creek Flood Control Project (CMFCP) in response to numerous flooding events within the Corte Madera Watershed in Marin County. The project consists of four units (Units 1, 2, 3, and 4), with construction of Units 1 through 3 completed in 1971. The levee system extends from the San Pablo Bay to the Sir Francis Drake Boulevard Bridge, extending approximately 4.3 miles along Corte Madera Creek. Units 1, 2 (downstream portion), and 4 consist of a natural channel bottom. Unit 3 and the upstream 1,500 feet of Unit 2 consist of a rectangular, concrete-lined channel. The boundary between Units 3 and 4 is located at the upstream limit of the concrete channel adjacent to an existing fish ladder. The design and construction of Unit 4 and the concrete-lined channel improvements are currently in the feasibility phase in partnership with USACE. The study extents of this contract consist of the earthen sections of Unit 2 and Unit 1.

Corte Madera Creek protects substantial portions of the town/city of Ross and Larkspur, and the unincorporated communities of Kentfield and Greenbrae, which have a total population of

28,280. The 100-year FEMA floodplain in the project area impacts approximately 568 properties, with a large amount of land use attributed to residential and commercial properties. Prior to any creek realignment and levee construction by the US Army Corps of Engineers (USACE), this area experienced flooding of varying magnitudes. Following the completion of the CMFCP, the frequency of damage caused by flooding decreased, however, flooding still consistently occurs in the area. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), the areas surrounding Corte Madera Creek are classified as Zones AE. In 2011, hydraulic analyses of the creek and floodplain were performed by Stetson Engineers for the Marin County Flood Control and Water Conservation District (District) which demonstrated that the existing levees in the lower portions of Corte Madera Creek (Unit 1 and downstream 1,500 feet of Unit 2) are freeboard deficient, with some areas of no freeboard, under 2010 conditions during a 100-year flood event (Stetson 2011). Furthermore, the levees do not accommodate for future sea-level rise.

In 2017, the District along with the US Army Corps has developed and calibrated a new hydrologic and hydraulic model using the latest HEC-RAS two dimensional, unsteady state program. This model was created to include the majority of the Ross Valley watershed from Fairfax and extending to the San Pablo Bay. This updated model shall be used for the work under this scope. This is a working model that has undergone internal peer review by USACE

LOCATION

The Corte Madera Creek watershed is located within Marin County, and includes the towns/city of Fairfax, San Anselmo, Ross, and Larkspur, and unincorporated areas of Marin County (Exhibit A). The watershed contains 42 miles of stream channels and covers approximately 28 square miles. The watershed is within the Ross Valley (Zone 9) flood control zone and is managed by the Marin County Flood Control and Water Conservation District (District). The Zone 9 district boundary extends from north and west of Fairfax to the San Pablo Bay.

The main channel of Corte Madera Creek is comprised of earthen embankments, naturally lined channels, and a rectangular concrete-lined channel section. The project area is divided into four distinct reaches, which are defined as Units 1, 2, 3, and 4. The study area extends from Unit 4, which is the upstream limit of the levee system to the downstream limit of Unit 1 at the San Pablo Bay. These reaches can be described as follows:

- Unit 4: Earthen channel bed extending from Sir Francis Drake Boulevard Bridge in Ross downstream to the Denil fish ladder, about 600 feet downstream of the Lagunitas Road Bridge.
- Unit 3: Concrete-lined channel extending from the Denil fish ladder downstream to the College Avenue Bridge.
- Unit 2: Concrete-lined channel transitioning to earthen channel bed extending from College Avenue Bridge downstream to the Bon Air Road Bridge.
- Unit 1: Earthen channel bed extending from the Bon Air Road Bridge downstream to San Pablo Bay, at the Corte Madera Marsh State Marine Park.

The levee evaluation and associated work for this project will focus along the reach downstream of the concrete-lined channel comprising of Unit 1 and part of Unit 2.

PROJECT HISTORY

The CMFCP was originally designed to carry all the flow from a Standard Project Flood (approximately 7,600 cubic feet per second (cfs) at the USGS streamflow gage in Ross, or a 250-year flood event). Units 1, 2 and 3 were constructed in the late 1960s and completed in 1971. At that time, the project was revised to extend only as far as Unit 4; the Sir Francis Drake Boulevard Bridge located just downstream of the Ross/San Anselmo boundary, a total distance of just over 4 miles. Construction of Unit 4 was to have begun in 1972 but was postponed due to strong public opposition and environmental concerns.

PAST PERFORMANCE

Major flooding has occurred within the Corte Madera Creek vicinities 13 times in the last 65 years. A flood recorded in 1942 caused major damage to communities surrounding Corte Madera Creek, which caused Congress to direct USACE to evaluate possible solutions to minimize flooding. Following the 1942 flood, seven more major floods occurred prior to the Unit 1 and Unit 2 improvements. Between the completion of Unit 1 and Unit 2 improvements and 2010, six more major flood events occurred, including a flood in 1982 that caused inundation to flood depths of approximately five feet in San Anselmo, Ross, Kentfield, and Larkspur resulting in significant damage. Tidal flooding along lower Corte Madera Creek occurred in December 2014, which flooded low-lying residential and commercial properties along Larkspur Plaza Drive and near Bon Air Bridge. Local infrastructure was again inundated in the winter of 2016/2017. Photos are provided in the additional documents.

CURRENT STATUS OF LEVEE SYSTEM

A Flood Damage Reduction Segment/System Inspection (see Draft Inspection Report) was performed by USACE in 2013. The overall system rating was reported as minimally acceptable. Issues with the levee system according to the Inspection Report are listed below:

- While the District maintains good working knowledge of flood response activities, the documentation of system-specific emergency procedures and emergency contact personnel is insufficient or out of date.
- Obstruction, vegetation, debris, or sediment are minor and have not impaired channel flow capacity, but should be removed.
- Though not well-established, widespread vegetation and non-vegetated shoaling is present and should be removed. The shoaling is visible in the stilling basin at Station 318+00 and should be periodically dredged.
- Erosion was observed along the left bank from Station 302+00 to 306+00. It is unclear if the stream bank erosion is arrested or exacerbated by the outfall armoring. The erosion dimensions are approximately 2 to 3 feet into the bank with a 1 to 1.5-foot vertical

scarp. The erosion does not appear to affect the channel alignment or capacity of the channel, but should be monitored.

- Concrete surfaces along the channel bottom have experienced erosion from bedload scouring. This scouring extends along the entire visible concrete channel to a depth of less than 1 inch (Station 350+00 to 368+00). Scour which exposed reinforcement bar was concentrated on the inside half through turns and bends within the channel, and have been patched with new concrete.
- One pair of concrete box culverts at Station 316+00 shows an infilling of sediment from 10 to 50 percent.
- Corrugated metal culverts from Station 298+00 to 318+00 have variable amounts of infill sediment ranging from 15 to 50 percent. The culvert conditions range from minimal corrosion and deformation to significantly deformed (along the right bank at Stations 308+00 and 312+00). USACE has requested that these culverts be replaced.

FEMA ACCREDITATION STATUS

FEMA accreditation has not been obtained for the Corte Madera Creek levee system. Effective FEMA Flood Insurance Rate Maps (FIRMs) dated 3/17/2014 delineate the 100-year and 500-year flood hazard event areas. The flood hazard delineations show most of the Corte Madera Creek project vicinity mapped in Zone AE, with some of the lower floodplain mapped as Zone VE (Figure 4). Areas delineated as within the flood hazards zones (AE and VE) indicate flood insurance is required, with the Zone VE indicating additional hazards due to storm-induced velocity wave action.

FEMA conducted a coastal engineering analysis in 2014 of the San Francisco Bay that provided new detailed analyses. These analyses provided updated coastal Base Flood Elevations (BFEs) and coastal flood inundation mapping for Marin County at the mouth of Corte Madera Creek. Coastal flood elevations are used to establish the downstream boundary condition for the Corte Madera Creek hydraulic model. This model is then used to evaluate potential flood control improvements along Corte Madera Creek.

SECTION 2 PROJECT GOALS AND SCOPE OF WORK

PROJECT GOALS

The overarching goal of the proposed Corte Madera Creek Levee Evaluation Project (Project) will be to evaluate the feasibility and costs of maintaining or if needed, increasing the level of flood protection for the residences, businesses, and institutions currently residing within Corte Madera Creek's 100-year floodplain, and take vital steps towards FEMA accreditation of the levee system.

The Evaluation must be comprehensive in scope and detailed in its analysis to adequately address the following specific goals:

1. Obtain a comprehensive and detailed account of current geotechnical conditions of the Project, including the performance of levee and underlying foundation soils.
2. Provide a set of Project improvement alternatives, including those which:
 - A. Meet current Corps' requirements
 - B. Meet current Corps' and FEMA accreditation requirements
 - C. Meet current Corps' and FEMA accreditation requirements with consideration of sea-level rise in the years 2050 and 2100

SCOPE OF WORK

The following task breakdown and Scope of Work (SOW) is based on review of the original USACE design and other associated documents for the levee and flood control system, initial site reconnaissance, and FEMA accreditation requirements. The approach to satisfying the District's goals for analyzing the condition of the levees and evaluating alternatives to provide 100-year (1 percent annual chance) flood protection includes performing additional land and bathymetric surveys, hydraulic and hydrologic analyses, interior drainage studies, geotechnical investigations and analyses consistent with FEMA's requirements per the Code of Federal Regulations, Title 44, Section 65.10 (44CFR 65.10), and providing remedial alternatives to address deficiencies.

The SOW has been grouped into the tasks that are presented in the sequence of the anticipated general progression of work. These tasks include the following:

- Task 1 – Surveying and Topographic Data
- Task 2 – Hydrologic and Hydraulic Analyses
- Task 3 – Geotechnical Investigation
- Task 4 – Geotechnical Analysis
- Task 5 – Alternatives Assessment

The tasks are described in detail in the following paragraphs.

As the work under the contract will be reimbursable by the State of California under Proposition 84, work performed by the Consultant shall adhere to the District’s Labor Compliance Program that is administered by Compliance and Monitoring, Inc. (CCMI). The Consultant shall pay prevailing wages to all workers subject to that requirement, keep the necessary records for periodic audits by CCMI in order to comply with the State’s requirement, and budget for coordination with CCMI. A kick off meeting between the Consultant and CCMI will be scheduled prior to any work being performed.

However, the District only has funds allocated for the total grant amount of \$313,335 and the scope of work proposed by the consultants should reflect this total.

TASK 1 – SURVEYING AND TOPOGRAPHIC DATA

Field surveys shall be performed and topographic data shall be collected as part of the Lower Corte Madera Creek project to support hydraulic and geotechnical analyses. This task shall also leverage recently completed surveying:

- Bathymetric surveying along Corte Madera Creek from the downstream limit of the concrete-lined channel to the mouth of the creek
- Levee centerline (left and right) from the downstream limit of the concrete-lined channel to Bon Air Bridge
- Surveying of outfall pipes between along levees (left and right) from the downstream end of concrete-lined channel to Bon Air Bridge

Existing bathymetric surveys were performed at select cross-sections of the channel in 2004, 2010 and 2014. New bathymetric surveys will be repeated in this contract along the same profiles and cross sections that were surveyed in 2014 with additional sections taken at strategic locations for a total of about 22 sections or as recommended by the design consultant. Bathymetric survey is to be scheduled with high tides. Infilling of the bathymetric survey limits shall be performed to expand the survey of Corte Madera Creek’s natural channel/embankment portion of the system, where needed. The consultant shall include in their scope additional landside survey where needed for hydraulic and levee analyses. The current 2D HEC-RAS model uses bathymetric data from 2010 in the channel and County LiDAR data at the top of bank and floodplain areas.

At a minimum the consultant shall:

- Develop and provide AutoCAD file showing plan, profile and cross sections of bathymetric survey data.
- Develop survey point data file (x, y, z file) of bathymetric data
- Develop Digital Elevation Model (DEM) for the survey area, where needed

All project elevations shall be in the North American Vertical Datum of 1988 (NAVD 88). All survey work shall be provided in a format suitable for import into ArcView GIS and AutoCAD Civil 3D 2015. All bathymetric survey work shall be performed in general accordance USACE Class I standards for soft sediments as contained in USACE guidelines contained in EM 1110-2-1033 latest edition. All topographic surveying shall be done in general accordance with Caltrans Survey Manual (latest edition). Additionally, all survey work at bridges and structures shall comply with the most recent USACE's HEC-RAS River System Analysis User's Manual. In the event of conflict between the manuals, the Contractor shall bring any conflicts to the attention of the District engineer with this bid submittal.

Surveying of the outfall pipes and discharges along the levees (left and right) downstream of Bon Air Bridge shall also be performed where needed as part of the project. A plan is available in reference documents titled "Corte Madera Channel - Storm Drain System and Outfalls, August 2017". Pipes are shown on the plan that were surveyed in 2014. Additional ground surveying shall be performed in critical areas of Larkspur Plaza Drive, 2 Bon Air Road, Kentfield Gardens, and College Court, as needed.

Existing bathymetric survey and topographic data shall be converted from National Geodetic Vertical Datum of 1929 (NGVD29) to North American Vertical Datum of 1988 (NAVD88) in Lower Corte Madera Creek project locations. The new survey work will be performed using NAVD88 datum.

Plans shall be delivered in AutoCAD showing profile and all sections comparison of 2004, 2010, 2010 and data obtained for this project. The design consultant shall determine changes in aggradation/degradation of sediment to determine changes since 2014 and possible need for dredging in the future.

As the work under the contract will be reimbursable by the State of California under Proposition 84, work performed by the Consultant shall adhere to the District's Labor Compliance Program that is administered by Compliance and Monitoring, Inc. (CCMI). The Consultant shall pay prevailing wages to all workers subject to that requirement, keep the necessary records for periodic audits by CCMI in order to comply with the State's requirement, and budget for coordination with CCMI. A kick off meeting between the Consultant and CCMI will be scheduled prior to any work being performed.

Deliverables:

- Field and Bathymetric Survey data in AutoCAD and GIS format (see Exhibit D)

TASK 2 – HYDROLOGIC AND HYDRAULIC ANALYSES

Model Review and Site Reconnaissance

This task involves past work to perform hydrology and hydraulics (H&H) analyses in the watershed and the review of the existing H&H models for the Corte Madera Creek watershed and performing analyses to provide information for the remedial alternatives evaluation. Stetson Engineers and USACE have developed a calibrated 2D unsteady state HEC-RAS 5.0 hydraulic model and an updated HEC-HMS hydrologic model for the Ross Valley watershed. This model has been developed and calibrated both for existing conditions and has been undergone detailed technical review by the USACE. The models shall be used as the base model condition. The models shall be updated to include any new survey data collected under this contract. The H&H analysis shall also examine interior drainage patterns and existing storm drain systems. The interior drainage analysis shall be performed for the evaluation of design modifications to existing systems in accordance with USACE technical guidelines. The H&H task shall also include floodplain mapping of with and without levee conditions to evaluate flood damage reduction benefit.

Levee Evaluations (Hydraulic)

Current Conditions Assessment

Based on the results of the bathymetric survey, the consultant shall assess whether any appreciable aggradation of sediment in the earthen channel has occurred since 2010 when Stetson performed the hydraulic analyses for the Ross Valley CIP report. Details of the analysis are shown in Technical Memo 4 – Earthwork Section of the report. Based on this decision the consultant shall perform hydraulic analysis to determine if improvements are needed and propose alternatives to bring back to 100 year flood protection. The District's goal is to not rely solely on dredging but a combination of sustainable measures, that could also include levee raising and floodwalls.

Freeboard Assessment

Engineering analyses shall be performed to assess levee freeboard per the requirements established in Title 44, Section 65.10 of the Code of Federal Regulations (44 CFR 65.10). Evaluation of freeboard (44 CFR 65.10 (b) (1)) requires that levees provide the following freeboard for the base flood (1-percent-annual-chance flood) in both the riverine and coastal areas:

- A minimum freeboard of three feet above the water-surface level of the base flood
- An additional one foot above the minimum is required within 100 feet upstream and downstream of structures (such as bridges) riverward of the levee or wherever the flow is constricted
- An additional one-half foot above the minimum at the upstream end of the levee is also required, tapering to not less than the minimum at the downstream end of the levee

- For coastal levees, the freeboard must be established at one foot above the height of the 1-percent wave or maximum wave runup (whichever is greater) associated with the 100-year Stillwater surge elevation at the site

Using the updated water surface profile for the 100-year (1% annual-chance flood), the base flood elevation shall be compared against the elevation of the levee crest as determined by prior and new levee crest surveys.

Consultants shall run the coastal flooding separate from the riverine flooding and use whatever water surface elevation is higher in their analysis.

Interior Drainage

A separate task and line item costs should be developed for interior drainage studies of Kentfield Gardens and Larkspur Isle. The neighborhood of Kentfield is bordered by McAllister Creek and Wolfgrade Creek and Larkspur Isle adjacent to Larkspur Plaza Drive. These studies will be considered as an optional task and the decision to include in the final contract made between the District and consultant and depend on need and budget considerations.

Analysis shall be performed to assess interior drainage per the requirements of 44CFR 65.10. Evaluation of interior drainage (44 CFR 65.10 (b) (6)) shall be performed to identify the source(s) of interior flooding, the extent of the flooded area, and, if the average depth is greater than one foot, the water-surface elevations(s) of the Base Flood. This analysis must be based on the joint probability of interior and exterior flooding and the capacity of facilities (such as drainage lines) for evacuating interior flood-waters.

A map and database of existing GIS storm drain system data are available for reference.

The evaluation of the interior drainage shall be performed in general accordance with the applicable provisions of EM 1110-2-1413, Interior Drainage. This shall consist of a visual assessment of interior drainage components, hydrologic modeling of the drainage area, hydraulic modeling of system components, and mapping of areas of potential ponding.

A Hydraulic Analysis Technical Memorandum shall be prepared summarizing the site reconnaissance, model reviews and updating, and hydraulic analyses. The project team shall submit a draft memo for the District review. A meeting/teleconference with the District shall be held upon review of the memo to discuss any comments or questions. A memo shall be submitted once all comments have been addressed, and shall be signed by a Professional Engineer (PE) licensed in the State of California. Five copies of the memo for distribution shall be prepared for the District.

Deliverables:

- Draft and Final Hydraulic Analysis Technical Memorandum

TASK 3 – GEOTECHNICAL INVESTIGATION

3.1 Existing Data Review

The geotechnical investigation begins with a detailed field reconnaissance of the levee system to document any obvious issues or areas requiring specific analysis. The field inspection shall include confirmation of as-built/record drawings, assessment of current conditions, evaluation of maintenance and operation conditions, and field verification of the recently performed periodic inspection performed by the USACE San Francisco District. During this reconnaissance, access shall be evaluated relative to the planned field investigations. In 2015 when the grant application was prepared, property owner representatives for Larkspur Isle Homeowners Association, 2 and 18 Bon Air Road and College of Marin made statements of support for the project and stated that they will allow access to the sites in question.

Available documentation of the levee system shall be reviewed as part of this task, and is assumed to consist of:

- Reports and records of levee performance during high water events (instances of erosion, sloughing, seepage, overtopping, etc.)
- As-built drawings for the original levee and/or repairs
- Levee design reports or memoranda and design computations
- Levee construction reports, data, specifications
- Current survey information and available surveyed cross-sections of the river channel and levee
- Records and data regarding existing utility crossings
- Recent USACE Annual and Periodic Inspection reports
- Regional and site-specific geology reports, aerial imagery, test boring logs and other geologic or geotechnical data along or adjacent to the levee, soil testing data, foundation material characteristics, and inferred stratigraphy
- Groundwater studies, including logs and water levels from wells in the vicinity of the levee
- Information on any repairs or upgrades made to the levee system and records of permits for any alterations made to the levee since its construction (such as changes to the levee cross-section, construction or abandonment of utilities, and bridges over the levee)
- Current operations and maintenance manual for nearby levee reaches
- Operation and maintenance records

The District will search and assemble any available data for review. Numerous critical documents have already been reviewed and used during the preparation of the grant SOW. The goals of the review will be to (1) develop an understanding of the levee system, typical levee sections, foundation conditions, and historic performance of the system; (2) identify areas of potential erosion, seepage, or stability concern; and (3) verify areas where additional information is desired.

All existing investigation logs (i.e., test pits, boring logs) shall be compiled and input into a database for use during future analyses. All features of interest (pumps, wells, gaps, etc.) and documented historical performance issues shall be georeferenced in a Geographic Information System (GIS) database for future use. The consultant shall propose how the GIS data is presented and shall work collaboratively with the District GIS staff. (See Exhibit D)

A preliminary subsurface exploration program was developed for the SOW in the grant application as shown on Figure 5, which shall be refined following execution of site reconnaissance and document review described above. Based on preliminary review of existing documents, there are numerous geotechnical explorations completed near the levee that will provide substantial information on subsurface conditions. The levee evaluation project shall include gathering and compiling this information into one cohesive profile, and then supplementing with new explorations, where needed.

Based on a review of existing information and access conditions, it is anticipated that most of the explorations will be performed along the levee or proposed levee crest, which may be supplemented with shallow explorations at select locations along the landside toe. Previous investigations were considered when developing the preliminary exploration program. Since the grant SOW was developed additional data has been received and is included in the References section of this RFP.

New investigations shall be a combination of cone penetration test (CPT), hollow-stem auger, mud-rotary, or hand auger borings. In preparing the grant SOW, the following documents were reviewed:

A3GEO. *Geotechnical Investigation and Geologic Hazards Study, Marin County, California*, 18 January 2012.

Parsons Brinckerhoff. *Project Plans for Bon Air Road Bridge Replacement, Marin County, California*, May 2008.

GeoEngineers. *Geotechnical Engineering Investigation Report, Sanitary District No. 1 of Marin County, Kentfield Forcemain Replacement Project, Marin County, California*, February 2010.

These reports document subsurface investigations, laboratory testing, subsurface conditions and/or geotechnical analyses performed along the subject levee system, and are provided in the additional documents. The site appears to be primarily underlain by Quaternary surficial deposits (A3GEO, 2012) and artificial fill over bay mud (GeoEngineers, 2010). Borings drilled near Bon Air Road Bridge show the soil profile of each levee and the underlying layers within the creek (Parson Brinckerhoff, 2014). The west levee is composed of silty sand with gravel and organic fat clay underlain by an organic fat clay blanket and a silty sand aquifer. Lean clay and gravel was encountered beneath the silty sand aquifer. The east levee is composed of lean clay with sand, organic fat clay with sand underlain by fat clay with sand foundation. Sandstone was encountered at an approximate elevation of -43 feet. The channel is composed of interbedded layers of fat clay, silty sand, and well-graded sand with silt to an approximate elevation of -23 feet, underlain by fat clay. Sandstone was encountered at an approximate elevation ranging

between -60 and -70 feet. Explorations we completed along the levee crest and landside levee toe of the east levee within Units 1 and 2. These explorations suggest that approximately 6 to 8 feet of artificial fill is underlain by Young Bay Mud. Young Bay Mud is characterized to be soft to very soft, highly compressible, underconsolidated, saturated, and contains organic material. The Young Bay Mud is underlain by a medium stiff to stiff older Bay mud, fine-grained soils, granular soils, and bedrock. The Young Bay Mud was encountered at approximate elevations ranging from -5.5 feet to -12.0 feet and was typically 10 to 15 feet thick. CPT explorations support the findings of the Young Bay Mud. There has also been a large amount of explorations performed near the College of Marin. These explorations suggest that the subsurface conditions consist of generally clayey sand material from the ground surface to an approximate elevation of -15 feet. This information regards area along the west levee near the border of Units 2 and 3; it is not adjacent to the levees within the study area.

Deliverables: GIS database of subsurface data (see Exhibit D)

3.2 Geotechnical Investigation

Field explorations shall be completed along the Lower Corte Madera Creek levee system where data is not sufficient for the analysis and evaluation of current levee conditions and remedial alternatives. This effort shall begin with the preparation of a Subsurface Exploration Plan, which shall summarize the relevant findings from the site inspection and document review and layout the proposed exploration locations, depths, types of samples and exploration methods for geotechnical test borings, and a plan for laboratory testing of collected samples. A Health and Safety Plan shall also be prepared. All necessary permits drilling permits, and any required environmental permits, cultural permits/clearances, or access permits shall be obtained prior to the initiation of the field investigation program.

All field geotechnical exploration work will be covered under the District's Labor Compliance Program contract in order to be reimbursable by the State.

From the review of the historical documents, explorations will likely be along the west levee throughout Units 1 and 2, as well as along the east levee of Unit 1 along the southern-most end between Bon Air Landing Park and the confluence of the creek with the San Pablo Bay.

Based on review of historic documents, the preliminary field exploration program developed for the grant application consisted of two hollow-stem/rotary-wash borings and eight CPTs to supplement existing subsurface information. A final exploration program shall be developed by the design consultant.

The following paragraphs were included in the SOW of the DWR grant application. Exploratory holes shall be drilled to a minimum depth equal to three times the levee height into the foundation but not less than 40 feet, unless refusal is encountered at shallower depths. In accordance with USACE geotechnical investigation guidelines, no fluid shall be discharged into the levee during drilling. Only hollow-stem auger drilling shall be used while drilling through the

levee embankment, which shall transition to rotary-wash for investigating the levee foundation if borehole stabilization becomes an issue. Prior to transitioning to rotary-wash drilling, a conductor casing shall be installed through the levee to prevent fluid discharge. All soil classification, sampling, and logging shall be performed in accordance with ASTM 2488 and by geologists or engineers under supervision of a Professional Engineer (PE) or Professional Geologist (PG) licensed in the State of California.

Geotechnical laboratory testing shall be performed on soil samples collected during the subsurface exploration program, to aid in soil classification and development of engineering parameters for levee evaluation. The laboratory testing shall include index testing such as *in situ* moisture and density, grain-size distribution, and Atterberg limits. Strength testing such as direct or triaxial shear and consolidation tests shall be performed, as appropriate.

The data collected during the subsurface investigation and laboratory testing program shall be summarized in a Geotechnical Data Report (GDR). The GDR shall include exploration logs from borings and CPTs, laboratory test results, maps showing locations of available previous and currently performed field explorations and other relevant collected information. The project team shall submit a draft GDR for the District review. A meeting/teleconference with the District shall be held upon review of the GDR to discuss any comments or questions. A final report shall be submitted once all comments have been addressed, and shall be signed by a Professional Engineer (PE) and Professional Geologist (PG) or Professional Geotechnical Engineer (GE) licensed in the State of California. Five copies of the final report for distribution shall be prepared for the District.

Deliverables:

- Draft and Final Subsurface Exploration Plan
- Draft and Final Geotechnical Data Report (GDR)

TASK 4 – GEOTECHNICAL ANALYSIS

4.1 Site Characterization

Site characterization generally consists of review of all available information as presented in the GDR, and partitioning of the levee system into analytical reaches, which can thereby be represented with a single representative cross-section. The goal of each selection is to divide the levee alignment into a minimum number of analysis reaches that are reasonably consistent with available data, assumptions, and geotechnical analyses objectives.

Once reach selection is complete, cross-sections for seepage and stability analyses shall be developed for geotechnical analysis. Analysis sections may be chosen within a reach based on the density of information, or where the most adverse conditions are found.

Based on review of existing information for the development of the grant SOW, it was assumed that three analysis cross-sections would be necessary to analyze the conditions of the levee system with respect to seepage and stability. The scope of the site characterization and extent shall be developed by the design consultant.

Deliverables:

- See Geotechnical Evaluation Report

4.2 Levee Evaluation (Geotechnical)

Engineering analyses shall be performed to evaluate levee performance per the requirements established in Title 44, Section 65.10 of the Code of Federal Regulations (44 CFR 65.10). These analyses are described in the following sections.

Embankment Protection

Consistent with 44 CFR 65.10 (b) (3), engineering analysis shall be performed that demonstrates that no appreciable erosion of the levee embankment can be expected during the Base Flood and that any anticipated erosion will not result in failure of the levee embankment or foundation directly or indirectly through reduction of the seepage path and subsequent instability.

Any existing embankment protection shall be evaluated against potential erosion caused by the Base Flood. The factors to be addressed in such analysis include, but are not limited to:

- Expected flow velocities (especially in constricted areas)
- Duration of flooding at various stages and velocities
- Embankment and foundation materials
- Levee alignment, bends, and transitions
- Wind and wave action
- Levee side slopes
- Slope protection techniques
- Historic erosion trends as documented in available repair reports and/or drawings prepared by others.

Deliverables:

- See Geotechnical Evaluation Report

4.3 Embankment and Foundation Stability Analyses

Consistent with FEMA regulation 44 CFR 65.10 (b) (4), an engineering analysis of the levee embankment stability shall be performed. The analysis shall evaluate expected seepage during loading conditions associated with the base flood and evaluate if seepage into or through the levee foundation and embankment will jeopardize embankment or foundation stability.

Seepage and embankment stability analyses shall be performed on generalized cross-sections taken along the levee system. Based on preliminary review of the documents provided by the District for development of the grant SOW, it was assumed that seepage and stability analysis will be performed at three cross sections distributed along the levee system. The actual locations of analysis shall be based on information collected during Tasks 1 and 2 described above. The scope of the geotechnical analyses shall be developed by the design consultant.

Seepage analyses shall be performed in general accordance with the procedures outlined in the following USACE documents: EM 1110-2-1913, *Design and Construction of Levees*, EM-1110-2-1904, *Seepage*, and ETL 1110-2-569 *Design Guidance for Levee Underseepage*. Seepage

analyses shall focus on through-seepage and underseepage. Seepage analyses are to be performed using the GeoStudio computer program SEEP/W, or with an alternative pre-approved by the District.

Slope stability analyses shall be performed in general accordance with the procedures outlined in EM 1110-2-1913, *Design and Construction of Levees* and EM 1110-2-1902, *Slope Stability*. Slope stability analyses shall focus on the steady-state and rapid drawdown loading cases. Stability analyses are to be performed using the GeoStudio computer program SLOPE/W, or with an alternative pre-approved by the District.

Deliverables:

- See Geotechnical Evaluation Report

4.4 Settlement Analyses

Consistent with FEMA regulation 44 CFR 65.10 (b) (5), an engineering analysis shall be performed to assess the potential and magnitude of future losses of freeboard as a result of settlement. Based on review of existing information provided by the District, portions of the levee system have experienced settlement to varying degrees. For the scope developed for the grant application, it was assumed that settlement analysis would be performed at up to three cross-sections along the levee.

Deliverables:

- See Geotechnical Evaluation Report

4.5 Geotechnical Evaluation Report

A Geotechnical Evaluation Report (GER) shall be prepared to provide interpretations based on information included in the GDR, and summarize geotechnical analysis procedures and results. The GER shall include geotechnical analysis summary tables and figures. The project team shall submit a draft GER for District review. A meeting/teleconference with the District shall be held upon review of the GER to discuss any comments or questions.

A final GER shall be submitted once all comments have been addressed, and shall be signed by a Professional Engineer (PE) and Professional Geologist (PG) licensed in the State of California. Five copies of the final report for distribution shall be prepared for the District.

Deliverables:

- Draft and Final Geotechnical Evaluation Report
Geotechnical data in GIS format (see Exhibit D)

TASK 5 – ALTERNATIVES ASSESSMENT

The results of the Task 4 Geotechnical Analyses shall be used to develop recommended remedial alternatives for each reach, where needed, which shall be summarized in a Remedial Alternatives Report (RAR). The alternatives assessment shall verify the viability of proposed conceptual alternatives to bring deficient levee reaches into compliance with the requirements

of 44 CFR 65.10. As part of this task, conceptual dimensions and geometry of the remedial alternatives shall be developed. This task also includes the development of quantities for the conceptual remedial alternatives, and preparation of initial cost estimates. Based on the H&H analyses and interior drainage studies, possible pump station sizes and conceptual cost estimates for pump station facilities shall also be included.

The project team shall submit a draft RAR for the District review. A meeting/teleconference with the District shall be held upon review of the RAR to discuss any comments or questions. A final report shall be submitted once all comments have been addressed, and shall be signed by a Professional Engineer (PE) and Professional Geologist (PG) licensed in the State of California. Five copies of the final report for distribution shall be prepared for the District.

Deliverables:

- Draft and Final Remedial Alternatives Report

Table A: Preliminary Summary of Alternatives

Alternative Name	1 Corps Accredited	2 FEMA Accredited	-3FEMA Accredited with Sea-level Rise
Alternative Description	Recommend improvements necessary to meet Corps' design parameters	Recommended improvements necessary to secure FEMA accreditation today	Recommended improvements necessary to secure FEMA accreditation for the year 2050 and 2100
Riverine Hydraulics Flow Assumption	1-in-100 yr flow	1-in-100 yr flow	1-in-100 yr flow
Riverine Hydraulics Downstream Boundary Condition Assumption	MHHW in model	MHHW (FEMA)	MHHW for year 2050 and 2100

Alternative Name	1 Corps Accredited	2 FEMA Accredited	-3FEMA Accredited with Sea-level Rise
Coastal Hydraulics Downstream Boundary Assumption	100-year Approximate Bay Coastal water surface elevation	100-year Approximate Bay Coastal water surface elevation	Approximate 100-year Bay Coastal water surface elevation for 2050 and 2100
Minimum Geotechnical Analysis Required	Failure analysis of alternative including stability, seepage, and settlement	Failure analysis of alternative including stability, seepage, and settlement	Failure analysis of alternative including stability, seepage, and settlement
FEMA Accreditation per 44 CFR. 65.10	No	Yes	Yes
USACE RIP Compliant	Yes	Yes	Yes

Key deliverable(s): Draft and final submittals of Remedial Alternatives Cost Estimating Report

GRANT FUNDING

A grant award was received from the California Department of Water Resources (DWR) through the Local Levee Assistance Program (LLAP) that will reimburse the District for 55% of the up to \$313,335 in costs related to completion of this Scope of Work. The Consultant shall track project costs in the level of detail required for the District to successfully submit reimbursement requests and receive reimbursement from DWR for all eligible work performed.

Under the grant agreement, the total project cost under this contract, broken up by task is shown below:

<i>Task Description</i>	<i>Cost Estimate</i>
Task 1 – Surveying and Topographic Data	\$55,000
Task 2 – Hydrologic and Hydraulic Analysis	\$75,000
Task 3 – Geotechnical Investigation	\$82,323
Task 4 – Geotechnical Analysis	\$64,184
Task 5 – Alternatives Assessment	\$36,828
Total:	\$313,335

The breakdown by task may be changed after negotiation with the consultant and submitted to DWR for their approval. However, the total reimbursable amount cannot be increased and the district is seeking a scope of work that reflects the total grant amount. There is additional reimbursement in the final DWR grant scope for work that has previously been completed by the district. If the records of this work are not deemed acceptable for reimbursement by DWR, the scope of this project may be increased in the future to reflect these additional funds.

PROJECT MANAGEMENT & ADMINISTRATION

Project Kick-off Meeting

As soon as possible following entering into a professional services agreement, Consultant shall meet with District to convene a project kick-off meeting. Project participants will be identified and tasks, schedules, and deliverables discussed in detail. Expectations of each party will be outlined and agreed upon.

Project Status Reports

The Consultant shall prepare biweekly Project Status Reports updating District staff of work progress, schedule, and budget. Project Status Reports shall include a summary of any actions requested of the District and their status.

Project Status Meetings

The Consultant shall maintain and provide thorough documentation of its work and be prepared to meet, as necessary, to discuss work completed, work in progress, budget, up-to-date schedule for project deliverables, and to address any areas of potential concern which may require resolution.

Project Presentations

The Consultant shall prepare content for and present project results at up to two formal meetings. Meetings may include stakeholders and members of the public.

Progress Payments

Payments shall be broken out by task/subtask as described in this RFP and will be paid in full upon successful completion of each task. Each invoice must provide sufficient detail such that the District can use invoices, as submitted, for obtaining reimbursement through the District's Local Levee Evaluation (LOLE) grant with the state Department of Water Resources (DWR). This will require, for example, detailed accounts of changes incurred, including supporting documentation of hours worked by each staff member, dollars charged, and invoices from any sub-consultants.

SECTION 3 SUBMITTING A PROPOSAL

NOTICE

The Marin County Nuclear Free Zone law, the provisions of which are carried out by the County Government's Peace Conversion Commission, prohibits the County from making investments in, purchasing from, or in any way contracting with Nuclear Weapons contractors, or their subsidiaries.

The Commission, using the procedures outlined in Marin County Code Sections 23.13.010 to 23.13.080 has determined that the corporations listed on the website below are nuclear weapons contractors. The County, therefore, will only make investments in, purchase from, or in any way contract with such listed companies under circumstances where no reasonable alternative is available.

Please refer to the following link for details:

<http://www.marincounty.org/depts/bs/boards-and-commissions/commissions/PeaceConversion>

RFP SCHEDULE (dates in 2017)

September 11	RFP Released
September 21	Pre-proposal meeting
September 25	Questions from consultants due
September 27	Responses to consultants' questions available
October 9	Proposals due
October 17	Shortlist notification
November 1-3	Consultant interviews
November 8	Selection of preferred consultant
December 5	Issuance of Notice of Award by Board of Supervisors (estimated)

SUBMITTAL INSTRUCTIONS

General

Proposals shall be enclosed in a sealed package. Respondent's name and address shall appear in the upper left-hand corner of the package. All proposals shall be identified with **Corte Madera Creek Levee Evaluation RFP** legibly written on the outside of the packages(s). If

multiple packages are submitted, each package must be legibly numbered (i.e., 1 of __, as required.)

Submittal

Respondents shall submit **one (1) original with three (3) copies** of its Proposal to the following address. The “original” shall be marked on the outside cover and contain a “wet” signature.

By Mail

County of Marin
Department of Public Works
Attn: Hugh Davis
P. O. Box 4186
San Rafael, California 94913

In Person or by Courier

County of Marin
Department of Public Works
Attn: Hugh Davis
3501 Civic Center, Room 304
San Rafael, California 94903

Proposals will be received until **4:00 p.m. PT, October 9, 2017**. Respondents or couriers may ask for a copy of the receipt for their records. Proposals received after the stated time and date, may be considered non-responsive and returned unopened.

Respondents must also email a copy of their complete and signed Proposal to hdavis@marincounty.org by the deadline and may follow-up their submittal by mailing the one (1) original and three (3) copies within two (2) business days. Emailed proposals must match in their entirety proposals received by mail or courier.

The District will not be responsible for submittals that are delinquent, lost, mismarked, sent to an address other than that given herein, or sent by mail or courier service and not signed for by the District.

PROPOSAL REQUIREMENTS

The information requested below will be used to evaluate the respondent’s proposal based on the criteria outlined in Section 5. Respondents may be deemed non-responsive if they do not respond to all areas, 1 through 10.

Proposals shall be placed in soft binders. Proposals shall be organized in separate sections tabbed with corresponding numbers and related headings in the order presented below:

Executive Summary Letter
Validity and Statement of Compliance
Certificate of Insurance
Minimum Qualifications/Special Requirements
Past Performance
Work Methodology

References

Staffing Plan/Organization/Experience

Project Schedule

Cost Proposal

Executive Summary Letter

This letter shall be a brief formal letter from respondent that provides information regarding the firm and its ability to perform the requirements of this RFP. Emphasize those aspects of your organization and experiences that distinguish your firm from other firms who may respond to this RFP and why your firm is especially qualified. Include a contact name for the proposal with an e-mail address. The letter must be signed by an individual authorized to bind the proposing entity or by the two corporate officers authorized to bind the proposing entity as set forth in the California Corporations Code, and shall identify all materials and enclosures being forwarded in response to this RFP. An unsigned proposal submission may be grounds for rejection.

Validity and Statement of Compliance

State the validity of your proposal (must be a minimum of three (3) months) and a “Statement of Compliance” with all parts of this solicitation (terms and conditions, scope of services, sample agreement, etc.) or a listing of exceptions. The listing of exceptions must include: suggested rewording; reasons for submitting the proposed exception; and any impact the proposed exception may have on the services to be provided, and suggested changes.

Certificate of Insurance

Respondent shall state the willingness and ability to provide the required insurance coverage and insurance documents. The District shall request and the respondent shall submit prior to execution of an Agreement all insurance verification and documentation required in Section 3.

Minimum Qualifications/Special Requirements

Respondent shall demonstrate herein how the minimum qualifications are met as required in Section 2 (see pg. 23) of this RFP.

Past Performance

Include a list of previous projects performed within the last five (5) years that are relevant to the services described in the Scope of Work. For each project, please include a brief description of the project (including the type of organization for which services were performed), services performed, budget, duration, outcome, and staff performing the services.

Work Methodology

Discuss proposed methodology to meet requirements of the Scope of Work, approach to work, resources available, and approach to the management and integration of all activities required in the Scope of Work. Include herein an organization chart identifying key personnel, including the agreement administrator.

An additional purpose of this section is for the Respondent to frame what is being asked of them and acknowledge their understanding of the goals, requirements, and constraints of the Evaluation. This may, for example, include providing expertise and ideas for achieving project goals within the constrained right of way available for the Project. Innovative thinking is encouraged. This section is an important part of the Consultant selection process.

References

Respondent must submit a minimum of three (3) client references from different sources of work performed within the past five (5) years similar in size and scope of the Scope of Work in this RFP.

For each reference provided, include the company name and address, the name, telephone number, fax number and e-mail address of the contact person who served as the manager for the project.

Staffing Plan/Organization/Experience

Provide qualifications, experience, technical knowledge, and any required certifications/licenses of firm and key personnel/project team who shall be assigned to this project, indicating key responsibilities of each classification. Include staff resumes.

LABOR COMPLIANCE

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

PROJECT SCHEDULE

Respondent shall submit a *Project Schedule* for performing the services required in the *Scope of Work*. Respondent's *Project Schedule* shall contain all necessary tasks, deliverables, and key milestones which the respondent deems necessary to successfully provide these services. Dates shall be provided for completing tasks, providing deliverables, and meeting key milestones and shall be within an amount of time considered to be reasonable given the *Scope of Work*. All work must be completed by March 29, 2019.

COST PROPOSAL

Respondent shall submit a *Cost Proposal*, which shall include all costs associated with the services to be provided. Respondent shall provide cost and labor elements by resource type,

per key deliverable as identified in Respondent's proposed *Project Schedule* (Item No. 9 above). At a minimum, respondent's cost summary shall identify labor resources, hourly labor rates, and estimated hours to accomplish the *Scope of Work*. Note that costs will not be reimbursed on a time and materials basis and, instead, will be based on the agreed upon sum for meeting the full scope of work for the project as outlined in Section 2.

PRE-PROPOSAL MEETING

A voluntary pre-proposal meeting will be held on **Thursday, September 21, 2017** at 10:00 am in Room 304 of the Marin County Civic Center in San Rafael. This meeting will provide prospective bidders with an opportunity to meet with District staff, seek clarification on the RFP, and ask questions related to project requirements and the bidding process. A site tour will follow this meeting.

QUESTIONS & CLARIFICATIONS

Those with requesting clarification to this RFP shall submit all requests by Monday **September 25, 2017** at 5 p.m. PT to Hugh Davis at: hdavis@marincounty.org. The District will compile and respond to all respondents' questions via an amendment issued to all respondents on or before Wednesday, September 27, 2017.

VALIDITY

Proposals must be valid for a period of at least 3 months from the closing date and time of this RFP.

AWARD OF CONTRACT

After a consultant is selected, the award of a contract agreement is contingent upon the successful negotiation of terms, acceptability of fees, and formal approval by the Board of Supervisors of the District.

MINIMUM QUALIFICATIONS

In order for an RFP submittal to receive consideration, respondents are required to meet the following minimum qualifications:

- a. Respondent shall be currently licensed by the State of California to conduct the services described in *Scope of Work*.
- b. Respondent and its representatives shall not be listed on the Excluded Parties List System.

- c. Respondent must demonstrate a sufficient amount of successful experience with similar levee evaluation projects within the past five (5) years. Respondent should have demonstrated experience with developing and/or assessing flood protection alternatives which meet all applicable certification requirements, including those necessary for FEMA accreditation. Respondent should also have an understanding of and familiarity with the Corps' Rehabilitation and Inspection Program (RIP).
- d. Respondent's personnel assigned to the project shall have current and valid credentials and have a minimum of three (3) years of experience in same or similar type of work. The project manager shall be identified and shall have a minimum 5 years' demonstrated experience in projects of this type.

INSURANCE

Respondent shall be required to provide proof of the required insurance coverage as set forth in the *Sample Agreement* within seven days of notification of selection of award. Failure to demonstrate proof of minimum insurance or failure to acquire minimum insurances will result in a forfeit of said award. The minimum insurance coverage required for this project is as follows:

1.	General Liability	= \$1,000,000 (\$2,000,000 aggregate)
2.	Automobile Liability	= \$1,000,000
3.	Workers' Compensation	See California Statutory Requirements
4.	Professional Liability	No Set Amount. See Sample Contract Agreement for Deductible Reporting Requirements

REFERENCE MATERIALS

A list of available and potentially relevant reference materials is provided in *Exhibit B* of this RFP and includes previous master plans and studies, among other items. These items are accessible electronically and will be made available for download at https://www.dropbox.com/sh/xhk5ty5ygc93twz/AADsBhNYfiBj1G-LIM_Y1DMwa?dl=0.

Additional items not available for immediate download may be provided upon written request. Respondents to this RFP are encouraged to check the web page above intermittently during the open bidding window in order to determine whether or not additional materials may have been uploaded to the site for the respondent's consideration in developing their proposal. Note that it is the responsibility of the respondent to determine the suitability of and verify all preexisting information they chose to use from all provided materials.

SAMPLE CONTRACT AGREEMENT

A *Sample Contract Agreement* is provided in Section 5, Exhibit D of this RFP. Before submitting a proposal, all respondents are requested to carefully review and abide by all of the provisions set forth in the *Sample Contract Agreement*.

Section 4 PROPOSAL EVALUATION & SELECTION

EVALUATION CRITERIA

Proposals shall be evaluated on the basis of the responses to all questions and requirements contained within this *RFP*. The evaluation of a respondent's ability to provide the required services will be based on their written statements. Each proposal will be competitively evaluated on its strengths and weaknesses against the following criteria, which are listed below in no particular order of importance.

1. Staffing

- Ability to make available the personnel and team that has the required licenses, experience, technical competence and qualifications necessary to provide the requested services.
- Staff resumes and staffing plan (i.e., how staff will be organized and managed to support the agreement.) This includes the organization chart identifying key personnel, job titles and responsibilities for personnel who will be assigned to these projects.
- Dedicated staff with the most experience directly related to the services described in the *Scope of Work*.

2. Past Project Experience

- Demonstrated experience in and successful contract performance for efforts similar to work outlined in the *Scope of Work*. Previous experience and performance should demonstrate the breadth of services the Consultant is qualified to perform, highlighting experience with public agencies within the last five (5) years.
- Client satisfaction with similar services/projects.
- Proven ability to successfully complete work on schedule.

3. Work Methodology

- The Consultant's understanding of the project objectives as illustrated by the proposed *Scope of Work* and any comments on this RFP. Proposals will be evaluated to determine whether the proposed approach to the work effectively meets the project requirement, and whether all tasks necessary to accomplish the scope of work are accounted for and described.
- How the Consultant intends to complete projects it is assigned in a timely and efficient manner while delivering a quality product.
- The Consultant's demonstrated ability to provide creative, thoughtful, and comprehensive approaches to meeting the objectives outlined in the *Scope of Work* and to provide recommendations for enhancing the *Scope of Work*.

4. Communication

- The Consultant's proven ability to clearly communicate its findings, recommendations, and designs to staff and a diverse group of stakeholders.

EVALUATION PROCESS

1. Proposals will be reviewed to verify compliance with submission instructions, response requirements, and minimum qualifications. Any proposal not meeting the minimum qualifications may be deemed non-responsive.
2. Proposal evaluation will commence immediately following the review based on the criteria outlined in this section. The District will develop a shortlist of the most qualified and responsive respondents to continue on to the interview phase of the selection process.
3. Proposed key personnel from each responsive firm may be requested to present the teams and their qualifications at an interview. The interview format will include an opportunity for the firm to provide a formal 30 minute presentation to give an overview of the Consultant's understanding of the problem and their strategy for addressing the problem. The formal presentation will be followed by an informal interview and question/answer period with the

project team's key personnel. The interviews are expected to be scheduled between Wednesday, November 1 and Friday, November 3, 2017,

4. The District reserves the right to: a) negotiate the final agreement with any respondent(s) as necessary to serve the best interests of the District; b) withdraw this solicitation at any time without prior notice and, furthermore, makes no representations that any agreement will be awarded to any respondent responding to this solicitation; or c) award its total requirements to one respondent or to apportion those requirements among two or more respondents as the District may deem to be in its best interests.

SELECTION PROCESS

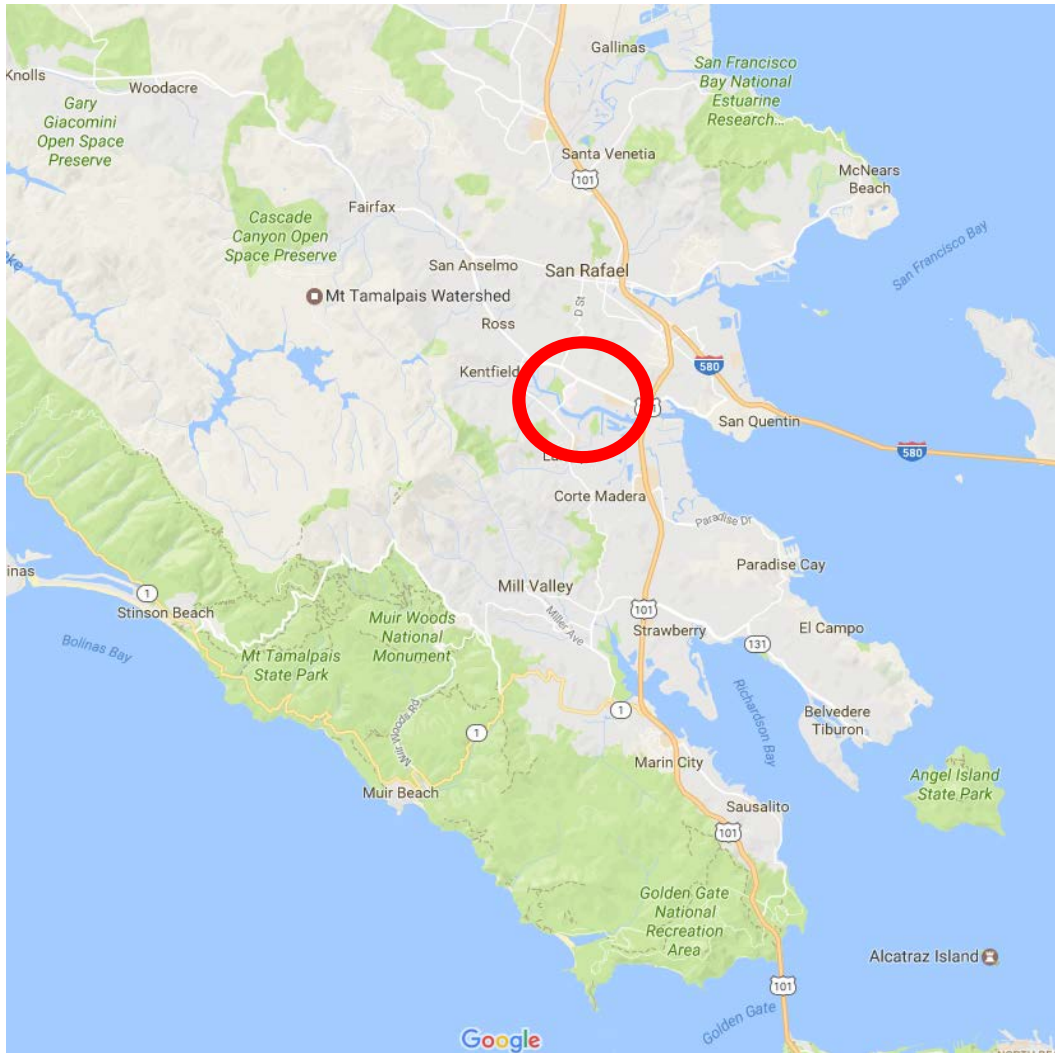
A preferred Consultant will be selected by Department of Public Works staff and key stakeholders at the conclusion of the evaluation of proposals and will be given notice of their selection on or before Monday, November 13, 2017. Final selection will take place following establishment scope and cost negotiations at the time an agreement between the Consultant and the District is approved by the District Board of Supervisors.

NEGOTIATIONS

Negotiations regarding agreement terms, conditions, scope of work, and pricing may or may not be conducted with respondent. Therefore, proposals submitted should contain the respondent's most favorable terms and conditions, since the selection and award may be made without discussion with any respondent. If satisfactory agreement provisions cannot be reached, then negotiations may be terminated. The District may elect to contact another firm submitting a proposal. This negotiation sequence continues until an agreement is reached.

SECTION 5 EXHIBITS

EXHIBIT A –MAPS



The project is located in the downstream reaches of Corte Madera Creek in central Marin County and extends roughly upstream from Highway 101 to the downstream end of the concrete channel.

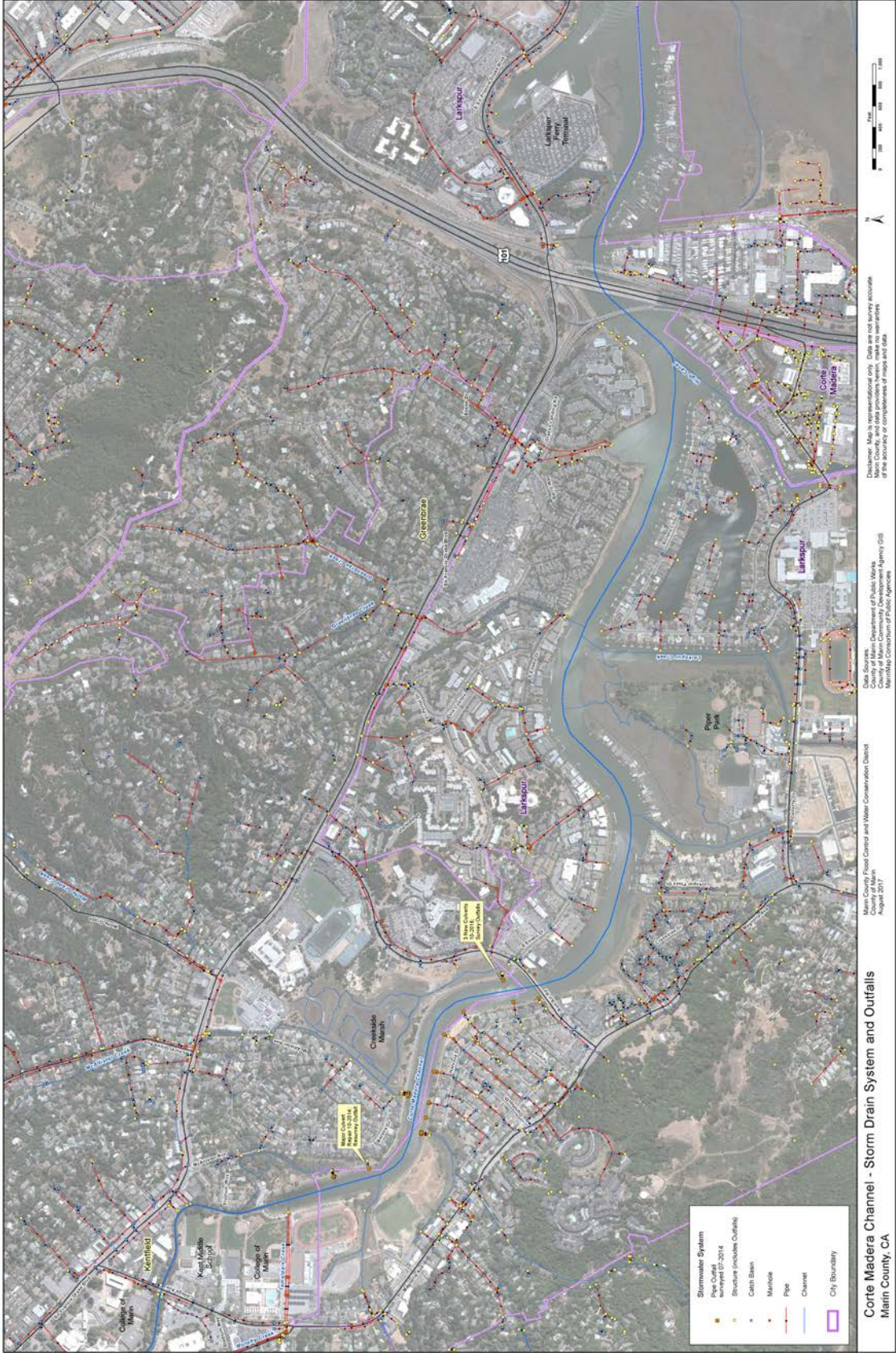


EXHIBIT B – AVAILABLE REFERENCE MATERIALS

Materials listed below are available for review by respondents to this *RFP* on the County's website: rossvalleywatershed.org

YEAR	DOCUMENT TITLE	AUTHOR
1968	Corte Madera Creek Unit 2 Design Plans & boring logs	USACE
1985	Corte Madera Creek Dredging As-Built Plans	USACE
1988	Corte Madera Creek Interim O&M Manual	USACE
2004	Hydrographic Survey, Corte Madera Creek	GBA
2005	Baseline Geologic Hazards Study – College of Marin	FUGRO WEST
2007	Geotechnical Investigation, Math Building, College of Marin	Miller Pacific Engineering
2007	College of Marin PE Complex Geotechnical Report	Fugro West
2010	Geotechnical Engineering Investigation Report, Ross Valley Sanitary District, Kentfield Forcemain Replacement Project	GeoEngineers
2010	CPT-Liquefaction Evaluation Memorandum, Ross Valley Sanitary District, Kentfield Forcemain Replacement Project	GeoEngineers
2011	Ross Valley CIP Study Report	Stetson Engineers
2011	Earthen Channel Analysis Tech Memo, Capital Improvement Plan Study for Ross Valley, 2011	Stetson Engineers
2011	Flood Damage Reduction Segment/System Inspection Report, Corte Madera Creek	USACE
2011	Geotechnical Investigation – PE Track Renovation Project Memorandum, College of Marin	A3GEO
2012	Creekside Marsh Design Memo	Stetson
2014	Bon Air Bridge - Final Foundation Report_	Parsons Brinkerhoff
2014	Bon Air Bridge Design Hydraulic Study Report	WRECO
2014	2014 bathymetric plan, profiles and sections (overlaid with 2004 and 2010 data)	CLE
2015	Creekside Marsh Culvert Replacement	Miller-Pacific Engineers
2017	Documentation of Ross Valley HEC-RAS 1D-2D Model	Stetson Engineers
2017	College of Marin M&O Geotechnical Report	A3GEO

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EXHIBIT C – SAMPLE CONTRACT AGREEMENT

Starts on following page.

EXHIBIT D GEOGRAPHIC DATA CONTRACT DELIVERABLES GUIDELINES COUNTY OF MARIN DPW – FLOOD CONTROL

Geographic data should be delivered via CD-ROM, DVD, USB Flash Drive or external hard drive, or electronic data transfer (e.g., email, fileshare, FTP, etc.), and should contain the following:

- Geospatial data (shapefiles, geodatabases, CAD, rasters, etc.)
- Maps
- Associated data tables or relational databases
- Summary descriptive document and basic metadata

A Descriptive Document (Word and/or ASCII text file) describing the dataset should accompany any submission and provide all necessary information for understanding the submittal. At a minimum, the document should include:

- List of each file contained in the submittal
- Description of the dataset, including all spatial data, related tables and any project codes
- Version and date of the data
- Information on sensitive data issues (if any)
- Contact information for those responsible for creating the data and who have the responsibility for maintaining the master version of the data
- A short description of data themes (limited to one to two sentences for each theme)
- Linking fields (to documents, a Microsoft Access database, and/or digital photographs)

Geospatial Data

There are several ways to represent spatial data in a GIS including points, lines, polygons (vector data), or rasters/images. Appropriate representations will vary depending on the scale and goals of the contract. Prior to data collection, these issues should be addressed and resolved in the project scope in consultation with the project or data manager.

File Naming Conventions and Directory Structure

Clear and meaningful file and field names should be used that convey the nature of the data and subject represented. Names should not contain spaces or special characters, but may contain underscores.

Coordinate System

All spatial data must be georeferenced with horizontal coordinate system information defined in the data file that is either readable by ESRI software, or listed in a document with complete

information (coordinate system name, parameters, and datum). The preferred horizontal coordinate system is:

Projection: California State Plane, Zone III
Datum: North American Datum 1983 HARN
Units: Foot
(WKID: 2872 Authority: EPSG)

Elevation data (surveyed elevations or topographic surface data) must be referenced to the North American Vertical Datum (NAVD) 1988.

Submitted data may use a different coordinate system than the one listed above, but must include complete coordinate system information.

Spatial Data Formats

Data formats should be clearly stipulated and agreed upon with contractors or cooperators. If there are questions about choosing data formats, contact the project manager or the GIS Specialist for guidance before data collection and processing begin.

Vector Data

Vector data should generally be supplied as ESRI geodatabase feature classes or ESRI shapefiles.

If CAD drawings are delivered they must have defined datum and projection information so that exported data can be read in ArcGIS. The preferred data format is AutoDesk .dwg files. CAD drawings should include meaningful and interpretable layer names, or a key to layer names should accompany the data. Preferably, non-geographic elements such as drawing borders, title blocks, north arrows, and detail drawings should not be included in export files.

Raster Data

All cell-based datasets or grids should generally be supplied as ESRI Geodatabase rasters, ESRI GRIDs, and/or GeoTIFFs, compatible with the current version of ArcGIS. Geo-referenced digital aerial photography and imagery should generally be supplied as 8-bit grayscale GeoTiff or 24-bit RGB GeoTiff files with any associated georeference information included. Other ESRI compatible georeferenced raster files, such as ERDAS Imagine (.img) and MrSID (.sid) may also be submitted.

Map files

Maps should be supplied in electronic format for display (i.e. PDF, JPEG, or Power Point). For maps created in GIS, the preferred form of data delivery is ESRI Map Package (.mpk) files, which

include a map document with the symbology and layout used in the final map along with copies of all of the spatial data in the map.

Data Collection Methods

When using GPS for data collection, the GPS unit type, model, averaging method used for static mapping (point), error correction technique (type of differential correction used), and GPS quality filters employed should be recorded in the metadata and discussed in the Descriptive Document.

When digitizing features from maps or photographs, the source, scale, date, and methods (i.e., process steps) should be recorded in the metadata and discussed in the Descriptive Document.

Attribute Data

Simple attribute data should be included as part of the ArcGIS feature attribute table. Complex attributes should be delivered in a well-structured relational database format such as a Microsoft Access (.mdb) file using current versions of Microsoft Access. Map features and database records should share a common unique identifier or primary key that relates the map feature to the table record.

Quality Control

The Contractor should document the QA/QC procedures used to assess the data as well as report on the resulting accuracy and precision.

Metadata

DPW strongly encourages contractors to prepare metadata using ArcCatalog, or in a format that can be easily imported into ArcCatalog. The metadata should be located in the same directory as the data, share the same naming prefix and, when appropriate, be attached to that data.

All data submitted must be accompanied by metadata that, at a minimum, includes the following:

- Abstract - Narrative description of the data, collection methods, equipment used, source of input data, scale
- Contact information for person who collected and/or prepared the geospatial data
- Complete descriptions of all codes and all other information in the attribute fields
- Process information including how and when the data were collected, and by whom, equipment used, and any other relevant information

- Statement about any issues with the data, including any assumptions, appropriate uses, data sensitivity, or any other relevant statement about how the data should or should not be used.