

MARIN EMERGENCY RADIO AUTHORITY

Proposal for Engineering Services

Forbes Reservoir Dry Utilities Undergrounding Project

March 4, 2014





March 4, 2014

Maureen Cassingham
Marin Emergency Radio Authority
95 Rowland Way
Novato, CA 94945

Re: Forbes Reservoir Dry Utilities Undergrounding

Dear Maureen:

Harris & Associates has developed expertise in the undergrounding of dry utilities. Through this experience, Harris is poised to deliver Marin Emergency Radio Authority a unique set of benefits.

Understanding Your Project and Developing a Specialized Approach. Your short schedule will require a team that is experienced in overcoming project challenges and developing solutions that keep construction on track, allowing Marin Water District's construction to proceed in a timely manner. Though this project is short in overall length, components like multiple stakeholder coordination and undergrounding in dramatic terrains is Harris' specialty. We have completed undergrounding for hilly landscapes like the City of Belvedere. Undergrounding in Belvedere is challenging due to the lack of sidewalks, and the narrowness of the streets. This makes locating utility vaults difficult. By working with PG&E we have been able to reduce the size of the vaults in favor of more but smaller vaults.

Experienced Team. We bring current working relationships with PG&E, expertise coordinating with other utilities like Marin Water District and Las Gallinas Valley Sanitary District, and a successful history of community outreach. Harris' project manager, Rocco Colicchia, is a former PG&E employee and understands their perspective and methods for establishing costs. His experience and relationship with the utility companies will be essential in protecting the Authority from re-design and excess costs. He has already discussed the project with PG&E's project manager to review various alternatives.

Our team brings local experience, knowledge, a solid design staff with a genuine desire to see this project completed to the satisfaction of the Authority and, more importantly, to the satisfaction of the stakeholders.

Sincerely,
Harry & Associates

Ed Kozlowski
Project Director

Rocco Colicchia
Project Manager



Table of Contents

Section 1	Firm Profile	4
Section 2	Experience	6
Section 3	The Right Team for Your Project	7
Section 4	Project Understanding, Approach, & Scope	14
Section 5	Fee	16

FIRM PROFILE



Harris & Associates, founded in 1974, specializes in serving the professional service needs of public agencies, institutions, and private clients in the Western states. We provide expertise from project conception through occupancy in the following four service areas:

- Project and construction management
- Program management
- Engineering services
- Municipal service

Established as a California corporation in 1977, Harris has a staff of over 200 employee-owners, including licensed engineers and architects, certified construction managers, LEED-accredited professionals, qualified SWPPP developers/practitioners, and a broad range of inspectors. We understand that successful project delivery means more than being on time and under budget. Successful projects have to address the concerns of neighbors and users, be sensitive to the environment, and conform to local political realities. By focusing on our clients' needs as our top priority, we have earned an excellent reputation within the industry. Our depth and breadth of skills will assist you in charting the course of your projects.

Project and Construction Management

Harris provides project and construction management services for all types of public, institutional, and private projects. We are currently ranked 38th in *Engineering News-Record's* Top 100 Construction Management Firms. Our services include:

- Project/construction management
- Inspection
- Resident engineering
- Value engineering
- Biddability/constructability reviews
- Scheduling
- Estimating
- Budgeting and cost control
- Claims mitigation

Engineering Services

Harris' civil engineers specialize in public infrastructure. We are a leader in the use of innovative design technologies including no-dig pipeline rehabilitation, storm water quality solutions, and new pavement technologies. We are currently ranked 30th in Trenchless Technology magazine's Top 50 Design Firms. Our design services include:

- Streets and highways
- Traffic signals and lighting
- Water, sewer, and storm system master planning
- Water distribution, sanitary sewer, and storm facilities
- Joint trench design
- Trenchless technology solutions
- Building site and park infrastructure
- Storm water management plans, programs, and practice

Subconsultants

S.A. Engineering

S.A. Engineering offers the services of its motivated and highly knowledgeable principal and staff for electrical design from basic power distribution to sophisticated control, telemetering and SCADA systems. Our experience and work-product ranges from development of technical plans and specifications to electrical systems construction management, acceptance testing and commissioning.

S.A. Engineering will be providing electrical inspector, Eric Sandel, PE. Eric has been providing electrical inspection since 1985 and brings a wealth of expertise in the field to add to the success of your project.

Miller Pacific Engineering

Miller Pacific Engineering has been providing geotechnical engineering, engineering geology, and geo/civil engineering for nearly 30 years.

We have identified an outcropping of rock near the PG&E pole. For your project, Miller Pacific will be performing geotechnical investigations in the vicinity of the PG&E pole and along the trench route.

GeoTech Utility Locating LLC

GeoTech Utility Locating LLC was established in 2001. They offer professional services to the private and public sector in and around San Francisco and the Greater Bay Area. GeoTech's goal is to provide clients with timely, technically sound utility locating services that meet the client's needs. They are committed to using quality principles that satisfy client's expectations and help them succeed. GeoTech locates utilities such as electric, water/irrigation, gas/oil/steam, sewer/storm drain, telephone/CATV, underground storage tanks as well as others. Services are performed in accordance with "Underground Service Alert (USA) Procedures" and Common Ground Alliance's "Locating and Marking Best Practices" Version 4.0.

GeoTech uses the latest technology and equipment available to insure the most accurate utility locate. There is no single instrument that can locate all types of utilities. It is important to have different instruments to solve locating problems on site. There are many pipes that are made from materials that cannot be detected with conventional methods such as plastic, clay, concrete, and insulated cast iron. GeoTech uses many different methods to best serve our client's locating needs.

For your project Geotech will be locating existing utilities in the vicinity of the PG&E pole on Sata Margarita and along the trench route.

EXPERIENCE

Lower Golden Gate Avenue Utility Undergrounding District, City of Belvedere

Harris is providing engineering design and assessment engineering services for the Lower Golden Gate Avenue Underground Utility District (UUD). The project includes 3,000 linear feet on a narrow, winding road in the Belvedere hills where some of its residents' "million dollar views" have been blocked by joint poles and overhead wires.

Relevant Features:

- Coordination with PG&E, AT&T, and Comcast
- Hilly and wooded topography
- Narrow construction site access

Lower Belvedere Avenue Utility Undergrounding, City of Belvedere

Harris provided utility design and assessment engineering services. Responsibilities included determining underground needs, confirming the application of utility rules in the design, and responding to questions from City staff and residents on the undergrounding process. The assessment spread challenge was met by Harris and resulted in a seamless formation of the District.

Relevant Features:

- Coordination with PG&E, AT&T, and Comcast
- Hilly and wooded topography
- Narrow streets
- Narrow construction site access

Utility Undergrounding, Town of Los Altos Hills

The design of the undergrounding project was nearly complete when Rocco joined the team. The service conversions were most challenging due to the long setbacks, landscaping, and bridges. Rocco reviewed each service conversion with the design consultant to determine the most effective route.

The Town didn't do a lot of undergrounding and didn't understand the process. Rocco communicated the process to the Town and was available as a resource to clarify the process. He served as the mediator between the Town and PG&E and the designer. In general, there is a lot of mistrust around utilities.

Relevant Features:

- Coordination with PG&E, AT&T, and Comcast

North San Pedro Undergrounding Project, County of Marin

Harris designed the electric service conversions for this utility-funded undergrounding project. Harris also provided electrical inspection and design services during construction of the service conversions.

Relevant Features:

- Coordination with PG&E, AT&T, and Comcast
- Marin County project

Undergrounding of Moss Landing, County of Monterey

Harris provided plans and specifications to underground 34 homes in Moss Landing. This County-funded undergrounding project is located next to a utility funded undergrounding project. Harris is providing design for the joint trench as well as the conversion of the individual services to underground.

Relevant Features:

- Coordination with PG&E, AT&T, and Comcast

THE RIGHT TEAM FOR YOUR PROJECT

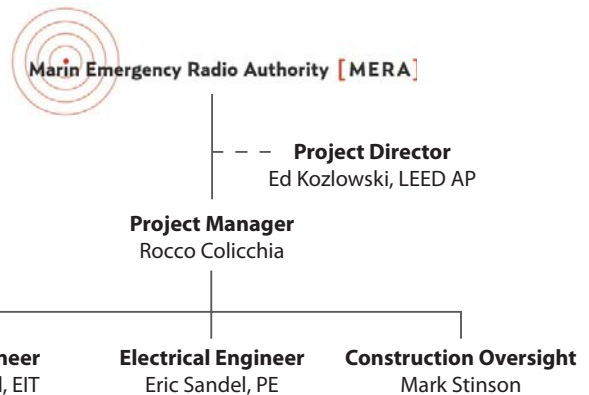
Harris commits a dedicated staff of seasoned project managers and engineers who have demonstrated experience in local undergrounding assessment district projects. We have a proven track record of locating utility lines and structures correctly the first time around, preventing delays to the schedule or the added expense of redesign.

Project Manager: Rocco Colicchia

Rocco has over 30 years of gas and electric utility experience. Prior to Harris, he managed PG&E's undergrounding program as well as their gas and electric relocation program for five years. He has worked with local PG&E staff and municipal agencies on issues ranging from qualification for undergrounding to explanation of PG&E's tariff. He has also been responsible for interpreting line extension, streetlight, and service tariffs. Rocco has worked on many undergrounding projects involving all utilities including AT&T and local cable TV companies. Rocco's extensive experience with PG&E and other utility companies means he brings a unique perspective and understanding of all sides of project challenges. His strong relationship with PG&E will be essential in protecting the Authority from the possibility of re-design and excess project costs.

Project Engineer: Luella Gabriel, EIT

Luella has over 16 years of civil engineering experience, which includes utility undergrounding design and coordination for the cities of San Rafael, Belvedere, Emeryville, Fairfield, Livermore, Santa Cruz, Gilroy, and Milpitas; and the counties of Marin and Solano. Her responsibilities on these projects have consisted of preparing cost estimates, designing joint trench utilities, coordinating with PG&E and various utility companies, and developing Form B specifications. On your project, Luella will perform field reconnaissance, prepare the preliminary and final joint trench alignment, details, and construction cost estimates and specifications.



Electrical Engineer: Eric Sandel, PE

Eric Sandel has nearly 30 years of experience working on electrical projects for municipal and commercial projects. For your project, he will be responsible for designing the Tesco panel and the load conductors from the panel to the radio building.

Construction Oversight: Mark Stinson

Mark believes in placing the interests of the public first and foremost on every one of his projects. He takes a personal interest in getting to know the routines and needs of residents and business owners who might be impacted during construction and influences other members of his team to do the same. That's why it's common to see Mark and his team carrying groceries for residents or returning garbage cans to their homes after arranging a common garbage collection point for an impacted neighborhood. His experience has taught him that positive public outreach is a key factor for a successful outcome.

Mark will be responsible for assisting the contractor as they install the facilities. He will be your on-site representative throughout construction and available to answer your questions.



Rocco Colicchia

Project Manager

Rocco's extroverted and positive attitude on projects is a main component in uniting teams. Like the bikes he used to take apart and put back together as a child, he understands that each piece has an important function as part of the bigger picture. When the synergy of the team and their unique talents come together to deliver a successful project for a client, Rocco knows he's built something positive, and he approaches each project with that integral synergy as his goal.

EDUCATION

BS, Engineering – Industrial Management

CERTIFICATION

Project Management, UC Berkeley

Relevant Experience

City of Belvedere, Lower Belvedere Avenue Utility Undergrounding. Project Manager. Harris provided utility design and assessment engineering services. The assessment spread challenge was met by Harris and resulted in a seamless formation of the District. Elements include joint utility undergrounding of 30 properties, close coordination with PG&E, AT&T and Comcast, and outreach and consensus-building with property owners, rule 20B project Rocco was responsible for managing the design and assessment phase of the Lower Belvedere Avenue undergrounding project. His responsibilities included working with the utility companies to determine underground needs, working on the layout of the joint trench and utility boxes, confirming the application of utility rules in the design, and responding to questions from City staff and residents on the undergrounding process.

Working in Belvedere was challenging due to the narrow streets and lack of public utility easements (PUEs). It was challenging to find location for utility facilities. Rocco worked closely with PG&E and offered innovative suggestions and alternatives. For example, instead of having one big utility vault for multiple houses, the team separated the utilities into smaller, multiple vaults that served fewer houses per vaults. This alternative made it easier to locate the smaller equipment. Other alternatives included smaller boxes, feeding in different directions (from the front or back of the house). Rocco looked at each property individually and identified the most cost efficient approach.

Installation of Pad-Mounted Transformers with above ground equipment in constrained Right-of-Way. Rocco understands that undergrounding is necessary to create an aesthetically pleasing environment, but simultaneously be accessible to utility companies. As a result, Rocco and the Harris team carefully installed our equipment in locations that satisfy both requirements.

Although the project was delayed by PG&E reorganization, Rocco and the Harris team minimized any further delays by producing detailed intent plans and closely coordinating with PG&E staff. This allowed utility companies to get to final design without backtracking.

Harris was able to save on excavation costs by consolidating joint structures, minimizing delays and change orders, and ultimately benefiting the City with overall lower bids.

Marin County, North San Pedro Undergrounding. Project Manager. Design of the individual service conversions for this Rule 20A undergrounding project, which included 63 services to be converted to the underground system. The County assumed the responsibility of the service conversions. Rocco worked with the County to facilitate the process, design the service conversion, and coordinate with PG&E and residents. The project was completed without incident. Rocco worked closely with the County project manager, the electrical contractor and PG&E to identify issues before they became problems. Several homes had “built-in” service panels. The new panels would be surface mounted. I met with the County and the Contractor to develop a solution.

County of Monterey, Undergrounding of Moss Landing. Project Manager. Harris provided plans and specifications to underground 34 homes in Moss Landing. This County-funded undergrounding project is located next to a utility-funded undergrounding project. Harris is providing design for the joint trench as well as the conversion of the individual services to underground. Rocco met with PG&E to coordinate adjacent Rule 20A project. He reviewed the overhead service conversion for each home.

Rocco helped the County negotiate with PG&E on the boundaries. He worked with the PG&E project manager to point out interpretations of the rule that would adjust the boundary to maximize the 20A. This reduced the privately funded 20B area.

Since there were two projects occurring simultaneously and adjacent to each other, he helped to distinguish between the underground project that PG&E would fund and the underground project funded by the County. This careful coordination ensured that PG&E increased the size of their project and by doing so paid for more of the undergrounding.

PG&E, Project Management Support Areas 2&3. Project Manager. Rocco worked with PG&E to create standard schedule templates for underground projects and provide project management for three underground projects. Rocco’s experience as the Program Manager for undergrounding at PG&E contributed greatly into his success with this project. He was able to provide insight into the undergrounding process from both the utility and City’s perspective. When reviewing the scheduling templates to create a resolution, a lot of the City process had been left out. In order to come up with an accurate schedule, it is important to calculate how much time it takes to do the resolution. Rocco was able to come up with the pre-resolution process.

Town of Los Altos Hills, Utility Undergrounding on Purissima Road, Viscaino Road, & Altamont Road. Project Manager. Utility undergrounding (Rule 20A) on Purissima Road, Viscaino Road, and Altamont Road. Rocco provided support to the Town during the undergrounding process. He attended weekly project meetings, reviewed the design drawings and worked with the Town’s consultant on the service conversions. He worked closely with PG&E and explained the process to the Town. He helped the Town understand the obligations as “trench lead” and how they would be compensated by the utilities. The design of the undergrounding project was nearly complete when Rocco joined the team. The service conversions were most challenging due to the long setbacks, landscaping, and bridges. Rocco reviewed each service conversion with the design consultant to determine the most effective route. The Town didn’t do a lot of undergrounding and didn’t understand the process. Rocco communicated the process to the Town and was available as a resource to clarify the process. He served as the mediator between the Town and PG&E and the designer. In general, there is a lot of mistrust around utilities. Rocco’s extensive knowledge and relationship with PG&E.



Luella Gabriel, EIT

Project Engineer

Luella has over 16 years of civil engineering experience, which includes utility undergrounding design and coordination for the cities of Emeryville, Fairfield, Livermore, San Rafael, Santa Cruz, Gilroy, and Milpitas; and the counties of Marin and Solano. Her responsibilities on these projects have consisted of preparing cost estimates, designing joint trench utilities, coordinating with PG&E and various utility companies, and developing Form B specifications.

EDUCATION

BS, Civil Engineering

CERTIFICATION

Engineer in Training, CA

Relevant Experience

Lower Belvedere Avenue Utility Undergrounding District, City of Belvedere. Project Engineer. Harris provided utility design and assessment engineering services. Responsibilities included determining underground needs, confirming the application of utility rules in the design, and responding to questions from City staff and residents on the undergrounding process. The assessment spread challenge was met by Harris and resulted in a seamless formation of the District.

Undergrounding of Moss Landing, County of Monterey. Project Engineer. Harris provided plans and specifications to underground 34 homes in Moss Landing. This County-funded undergrounding project is located next to a utility-funded undergrounding project. Harris is providing design for the joint trench as well as the conversion of the individual services to underground.

Marin County, North San Pedro Utility Conversion. Project Engineer. Luella designed 63 utility conversions for this Rule 20A project. She collected data and developed the plans and details.

City of San Rafael, Lindero Street Underground Utility District. Project Engineer. Ms. Gabriel designed the joint trench route that housed the multiple utility facilities participating in the Rule 20A conversion of the Lindero Street Underground Utility District. Ms. Gabriel coordinated with the Public Works Department, PG&E, Pacific Bell, and AT&T Broadband, and subconsultants to develop joint trench composite plans, Form B, specifications, and cost estimates.

City of Piedmont, Central Piedmont Underground Utility District. Project Engineer. For this underground utility district project, Ms. Gabriel coordinated with the utility companies to compile all designs into joint trench composite plans. She designed the 3-mile joint trench alignment and prepared the intent plans and cost estimates for the 158 parcel district. Ms. Gabriel also assisted the project manager at meetings with the City of Piedmont, steering committees, and property owners.

Solano County, Benicia Road Underground Utility District. Project Manager/Engineer. Ms. Gabriel designed the joint trench route that housed the multiple utility facilities participating in the Rule 20A conversion of the Benicia Road

Underground Utility project. She coordinated with the Solano County Transportation Department, PG&E, Pacific Bell, AT&T Broadband, and subconsultants to develop joint trench composite plans, Form B, specifications, and cost estimates.

City of Santa Cruz, *Mission Street Undergrounding Assessment District.* Project Engineer. As project engineer, Ms. Gabriel prepared a feasibility study to assist the City of Santa Cruz in deciding whether an assessment district is an acceptable solution for providing additional funds for a utility undergrounding project that involves a 1.5-mile stretch of Mission Street and impacts commercial establishments, professional businesses, and homes along this stretch of highway. (1998) Performed with Harris.

City of Gilroy, *Fifth Street Underground Utility District.* Project Engineer. Ms. Gabriel led the coordination effort with PG&E, Pacific Bell, and Charter Communications for this project to remove poles and convert overhead wires and associated overhead structures underground in a 450-foot joint trench. The joint trench benefitted the commercial and retail owners on Fifth Street by making the street aesthetically pleasing to the public.

City of Milpitas, *Library Utility Relocation and Undergrounding.* Design Engineer. Ms. Gabriel prepared design of sanitary sewer, water and storm drain relocations, and preparation of composite joint trench plans for Rule 20B Utility Undergrounding District to facilitate construction of a new city library. The project included performing design topographic and boundary surveys, preparing a record of survey, and providing construction survey staking. Ms. Gabriel assisted in providing coordination with utility companies and businesses in accomplishing undergrounding.

Eric Sandel

Electrical Engineer

Working in concert with leading civil engineers, Eric has provided electrical design and construction management services for municipal and commercial projects since 1985. His focus has been on design and realization of practical and maintainable systems that will operate safely, efficiently and reliably over a long life. He is attentive to the overall project path and keeps electrical/control systems in step with evolution of the civil design. Eric is very familiar with construction management of large projects and their administrative requirements, but he will also interact with workers and supervisors on the job to assess construction quality and identify and correct problems as early as possible. He believes that code compliance, good construction practices and conformance with contract document requirements are essential. Although what is built may be allowed to deviate from the design for practical reasons, no change that compromises worker safety or the safety of electrical systems can ever be accepted.

EDUCATION

B.S. University of Massachusetts

M.B.A. Program, University of Massachusetts

CERTIFICATION

Professional Electrical Engineer, CA

F.C.C. Radio-Telephone 1st class

Relevant Experience

Consulting Engineer. Responsibilities include electrical and control design and system design co-ordination, writing of technical specifications, construction management, commissioning and acceptance testing.

Some significant recent electrical/control design and CM projects:

- New Well #9 for Lander County/ Battle Mountain, NV
- Replacement of major sewer lift stations for North Tahoe PUD
- 4,800hp BPS and Wells at Fish Springs for Vidler/Washoe County, NV
- 3,200hp Booster Station for Truckee Meadows Water Authority
- Electrical CM oversight for remodel of Donner Summit PUD WWTP
- Replacement SCADA RTU's, new wells for City of Patterson, CA
- New and extensive remodeling work for Squaw Valley Ski Corp.
- Replacement of two major piers at Lake Tahoe for the U.S.F.S.
- Lakeside Trails Projects, Tahoe City P.U.D., Tahoe City, CA
- New Well #2, Elevated Tank, Booster Pump Station for Herlong P.U.D.
- Whole SCADA system replacement for City of Winnemucca, NV
- New VFD's and controls for Sunnyside SLS for TCPUD, Tahoe City, CA
- New and refurbished wells, WTF and boosters for City of Hughson, CA
- SCADA systems for Battle Mountain, NV, Roundhill GID, Vidler Water,
- Bridgeport, CA PUD, City of Hollister, Squaw Valley PSD, Alpine



Mark Stinson

Construction Oversight

Mark Stinson has more than 30 years of experience in the heavy construction industry from both the contractor and public agency inspection perspectives. Responsibilities included subcontractor administration, purchasing, scheduling, quality control/quality assurance, and budget oversight. Public and private projects have included sewage treatment ponds, streets and highways, water storage tanks, residential subdivisions, street utility rehabilitation, commercial site development, airports, parks, hazardous site cleanup, and bridges. Since 2007, Mark has applied his knowledge of all aspects of construction to his second career of inspector, working primarily on public infrastructure projects.

EDUCATION

BS, Business Administration

Relevant Experience

City of South San Francisco, Gas Line Replacement. Construction Inspector. Inspection services for the installation of a gas pipeline through city streets. Mark monitored PG&E's general contractor to ensure that traffic flow was properly maintained, trenches were properly backfilled, paving and other surfacing were properly restored, and that the City's utilities were not damaged (or if damaged then properly repaired). When general public and local business and resident concerns arose, Mark Stinson made himself available to answer questions and field concerns. Specific concerns included dust, noise and what the public believed to be extended working hours. When certain individuals expressed their concerns of temporary blocked access to and from their homes, Mark coordinated directly with the contractor requesting them to move equipment, resulting in issue resolution without involving the City. To prevent the City from incurring additional costs due to pipeline construction, Mark detailed potential degradation of City infrastructure and worked with City engineering and public works departments on how best to return construction right-of-way.

City of Sausalito, 2011 Street Improvements. Construction Inspector. Harris provided construction management and inspection services for improvements to Sausalito's public works infrastructure. The sensitivities of the construction locations — within popular tourist destination and along high-end, quiet residential streets — demanded a high degree of public outreach and traffic management to minimize the impacts of construction activities on residents, businesses, schools, and the general public. Although Mark Stinson was only requested by the City to provide part-time construction inspection services, his high level of experience on similar public works projects enabled him to easily integrate. Prior to performing any inspection services, Mark closely coordinated with the City to develop a thorough understanding. He then carefully reviewed all plans, identified and interpreted deficiencies within the plans to the contractors and the City, and made suggestions to the contractors on possible methods of overcoming these deficiencies. This proactive approach allowed the City to form a thorough understanding of each project's progress and adjust budgets accordingly, saving the contractor and ultimately the City, time and money. The end result was successful project completion.

PROJECT UNDERSTANDING, APPROACH, & SCOPE

Understanding

In order for the Marin Water District (MWD) to begin construction on the Forbes Water Reservoir, MERA needs to underground the dry utilities on the site that it leases from MWD. This has resulted in a very short construction window in which to design the underground services (electric and telephone), bid the construction, award the construction contract, obtain long lead time materials, obtain a construction manager, and perform necessary site work. In addition to MWD, the project includes many other stakeholders including PG&E, Las Gallinas Valley Sanitary District, and local residents who use the area recreationally.

Approach

Stakeholders

We will identify and meet with stakeholders to determine their schedules and constraints. We will review the tasks with the project team to identify long lead time items and review methods to shorten those lead times. We will also identify the permitting agencies.

Schedule & Budget

We will take the information from our stakeholder meetings and develop a project schedule and budget. We will obtain commitments from the team and stakeholders on the schedule.

Dramatic Terrain

There is a visible outcropping of rock near the proposed trench route. One of first tasks will be to have Miller-Pacific determine the extent of rock along the proposed trench route.

Scope of Work

Prepare Base Maps from Information Provided by MERA

We will acquire available record information from utility companies concerning any existing utilities, overhead and underground, within the limits of undergrounding. We will also utilize the services of a utility detection firm to confirm the locations. We will obtain CAD files from MERA and prepare base map for project drawings and for use by subconsultants.

Verify Trench Route

Perform geotechnical investigation to verify the trench route. There are visible outcroppings of rock near the trench route, the geotechnical firm will conduct borings or excavation along the route to determine the extent of the rock. This may result in proposing an alternate trench route. Modifications to the trench route provided can be included for additional cost.

Obtain project specific requirements from PG&E/AT&T

We will request specific requirements from PG&E and AT&T for splice boxes and service terminations near the base of the PG&E pole on Santa Margarita.

Prepare 35% drawings for review by stakeholders.

Submit drawing for review and comment by MERA and MMWD. Drawing will show the new location of the meter pedestal, retaining walls, splice box locations and trench route. Incorporate comments.

Prepare final (100%) plans and specifications

Prepare technical specifications and plans to be incorporated into the project manual for bidding. MERA to provide the format for the technical specifications (CSI or other).

Engineer's Opinion of Probable Costs

As the design is finalized, Harris will develop a construction cost estimate.

Bid Period Services

Harris will provide responses to bidder's questions during the bid period.

Provide submittal review during construction

Review material submittals during construction.

Provide construction oversight services

Harris will provide construction oversight services. We will work with the contractor on scheduling and to resolve construction related issues. Review progress payment and change order requests. We are assuming a 10 day construction period

Permit Support

Work with City of San Rafael to pre-apply for encroachment permits need for excavation on city right of way.

Meetings

Up to 4 meetings are included.

Assumptions:

- Fee is based on undergrounding the electric and telephone service approximately 350 feet and relocating the electric meter.
- CAD files showing existing features (property lines, existing structures, and existing underground utilities) to be provided by MERA.
- Materials testing by others.
- Inspections (electrical, compaction, backfill) by local authority.
- MERA will combine the technical specifications with the "front end" and prepare the project manual for bidding.
- MERA will advertise for bid.
- Fee does not include meeting time beyond the hours estimated, additional time for meetings can be added as an added cost.
- Fee does not include providing record drawings.
- Hours and fee may be renegotiated if the project is delayed by factors beyond Harris' control.
- MERA to assemble project manual. Can be done by Harris for additional cost.
- Fee does not include printing of the bid documents.
- Fee does not include changes to trench route provided.
- Construction oversight for 10 working days is included in the fee. Additional oversight can be provided at additional cost.
- Prevailing rate is assumed for Construction Oversight.
- Compaction testing, concrete testing, and inspections by permit issuing agency.

PROPOSED FEE

Marin Emergency Radio Authority Service Undergrounding

		Harris & Associates						Subconsultants			Cost per Task	
		Project Director	Project Manager	Construction Oversight	Sr. Project Engineer	Project Engineer	Clerical	Total Hours	Utility Detection	Electrical Engineer		Geotech
		\$220	\$185	\$185	\$200	\$140	\$75					
		Hours						Cost				
1	Prepare Base Maps from Information Provided by MERA					16		16				\$2,240
2	Verify Trench Route		4			8		12	\$3,000		\$3,600	\$8,460
3	Obtain Project Specific Requirements from PG&E and AT&T		2					2				\$370
4	Prepare 35% plans for review		2			8		10		\$1,500		\$2,990
5	Prepare 100% plans and specs		6		8	8	16	38		\$1,000	\$500	\$6,530
6	Engineer's Opinion of Probable Cost		4			4		8				\$1,300
7	Bid Period Services		6					6				\$1,110
8	Provide submittal review during construction			6		6		12		\$500		\$2,450
9	Provide construction oversight services (assume 2 weeks of construction)	4	16	80				100				\$18,640
10	Permit Support		8			8		16				\$2,600
11	Meetings (4 total)		16			4		20				\$3,520
Subconsultant Mark-up												\$1,010
Totals		4	82	86	8	62	16	258	\$3,000	\$3,000	\$4,100	\$51,220

Assumptions:

- MERA to provide base map with existing features in CAD.
- Fee is based on undergrounding the electric and telephone service approximately 350 feet and relocating the electric meter.
- Fee does not include meeting time beyond the hours estimated, additional time for meetings can be added as an added cost.
- Fee does not include providing record drawings.
- | Description | Scale | #Sheets |
|--------------|--------|----------|
| Title | None | 1 |
| Joint Trench | 1"=20' | 1 |
| Electric | 1"=20' | 1 |
| Details | Varies | 1 |
| Total | | 4 |
- Hours and fee for individual tasks are a guide; the total hours and cost for the project takes precedence.
- Hours and fee may be renegotiated if the project is delayed by factors beyond Harris' control.
- MERA to assemble project manual. Can be done by Harris for additional cost.
- Fee does not include printing of the bid documents.
- Fee does not include changes to trench route provided.
- Construction oversight for 10 working days is included in the fee. Additional oversight can be provided at additional cost.
*Assume prevailing wage rate.
- CDF testing during construction can be provided by Miller Pacific at additional cost.