Agenda Item Number: 4

Agenda Report Reviewed by:
City Manager:

CITY OF SEBASTOPOL
CITY COUNCIL
STAFF REPORT

Meeting Date:	November 15, 2016
To:	Honorable Mayor and Honorable City Councilmembers
From:	Henry Mikus, Engineering Manager
Subject:	Approval of Engineering Firm Contract No. 2016-06 Zimpher Creek Sewer Line Relocation Study
Recommendation:	Adopt Minute Order approving contracting with GHD for the engineering design and bid package.
Funding:	Currently Budgeted: __X__ Yes _____ No ____ N/A Net General Fund Cost: $ _____none_____ $73,067 cost would be paid for from the Sewer Capital Fund

INTRODUCTION: This item is to request the City Council authorize staff to approve contracting with GHD as the Engineering firm to prepare engineering designs and a bid package for construction of a relocated sewer main line which currently follows Zimpher Creek.

BACKGROUND: Via the most recent Capital Improvement Plan (CIP) the City Council approved doing a study to relocate the sewer main pipeline that follows the course of Zimpher Creek for most of its run. This long-standing alignment has been problematic as normal erosion along the Creek will expose the pipe and often damage any supporting soil structure. Staff recommends relocating the Zimpher Creek main sewer line away from the damaging water action occurring along the Creek, although alternative solutions could be entertained.

DISCUSSION:
The initial project cost estimate for a relocation study was $50,000. Staff had prepared an RFP for obtaining the Engineering Study done, which was issued with four proposals returned. Responders, together with their prices, are listed:

Adobe Associates, Inc.	$113,700 or $95,800 (2 options by the responder)
Shaaf & Wheeler	$83,276
GHD Inc.	$73,067
Michael Baker International	$126,734

Although the original RFP was simply for a relocation study, GHD included doing the design and bid package, plus providing some level of construction support during construction, which adds greatly to the value represented by their proposal. GHD had the best price, and their proposal exceeded the required activities. Although their price exceeds the amount put aside for a study, with the included tasks their proposal is reasonable. If the design & bid package was to be procured separately, the aggregate total between the original study and the design would surely be greater than the GHD price.

The City maintains a Sewer Capital Fund whose revenue comes from user fees. The current approximate fund balance is $1,250,000 with the anticipated balance at the end of FY 16-17 to be roughly $300,000 after spending on planned projects (including this one).

RECOMMENDATION: That the City Council adopt a Minute order to authorize staff to contract with GHD for the preparation of engineering designs and a bid package for construction of a relocated sewer main line which currently follows Zimpher Creek.

ATTACHMENT(S):

Amendment No. 19 to the Master Agreement number 2010-01-36 between the City of Sebastopol and GHD

Amendment No. 19 to Master Agreement No. 2010-01-36
For Engineering Consulting Services to Perform a Relocation Study, Design, and Bid Package for Relocating the Sewer Main along Zimpher Creek: GHD

Parties hereto entered into a Master Agreement number 2010-01-36 for Consulting Services during 2010 with an initial term of three (3) years that has since been renewed and is current.

As part of the annual Capital Improvements Program and annual efforts to improve, maintain, and repair the local sewer system, the City of Sebastopol requires Engineering services to study, design, and provide a construction bid package for relocating or reconstructing the Zimpher Creek sewer line.

The City of Sebastopol and GHD wish to incorporate the Scope of Work (as shown in the attached Exhibit A) for the Zimpher Creek project into their Master Agreement via this Amendment No. 19. All of the terms and conditions of Master Agreement 2010-01-36 and subsequent amendments numbered 1 through 18 are hereby incorporated by reference and made part of this contract for the project. Cost is a not to exceed maximum estimate of $73,067.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by the duly authorized officers on the dates indicated below.

CITY OF SEBASTOPOL	**CONSULTANT** KASL
_____	_____
Larry McLaughlin, City Manager	Matt Kennedy, PE, Project Manager
Date: _____	Date: _____

Exhibit A of Amendment No. 19

Engineering Consulting Services to Perform a Relocation Study, Design, and Bid Package for Relocating the Sewer Main along Zimpher Creek *Note: The GHD proposal for this project dated September 1, 2016 is an integral part of this exhibit.*

Scope of Work

1. Project Management and coordination
   a. Prepare work plan
   b. Meetings and monthly progress reports
   c. Quality control and constructability review
2. Information Gathering
   a. Kick off meeting
   b. Review existing conditions
   c. Project surveys
   d. Topographic Base map
3. Preliminary Design Report
4. Preliminary Drawings (50%) and Costs
5. Construction contract documents
   a. 90% Plans, Specifications, and Estimate (PS&E)
   b. 100% Final PS&E
6. Bidding and Construction assistance

Budget: Fee will be a maximum of $73,067.

GHD - PROJECT COST PROPOSAL

Project Name: Zimpher Creek Sewer Main Replacement

Client: City of Sebastopol

Prepared by: Matt Kennedy/Alex Culick

Date: September 1, 2016

Job Number: 11125176

		LABOR COSTS									FEE COMPUTATION		
Task / Item	LABOR CATEGORY > / RATE >	PD $245 /Hr	Proj Mgr. $195 /Hr	QA/QC Eng. $195 /Hr	Civil Eng. $150 /Hr	2-Person Survey $280 /Hr	Land Surveyor $150 /Hr	CAD Designer $125 /Hr	PA $110 /Hr	TOTAL HOURS	*OTHER DIRECT COSTS	Sub-con-sultant(s)	TOTAL FEE
TASK- 1.0 PM & Coordination													
1.1 Prepare Work Plan		1	2						1	4	$24		$769
1.2 Meetings and Monthly Progress Report			16		2				2	20	$120		$3,760
1.3 Quality Control & Constructability Review		1		16						17	$102		$3,467
	SUBTOTAL TASK 1.0	**2**	**18**	**16**	**2**	**0**	**0**	**0**	**3**	**41**	**$246**	**$0**	**$7,996**
TASK- 2.0 Information Gathering													
2.1 Project Kick-off Meeting		2	2							4	$44		$924
2.2 Review Existing Conditions			6		16					22	$132		$3,702
2.3 Project Field Surveys (PW)						16				16	$480		$4,960
2.3 Project Office Survey							24	8		32	$192		$4,792
	SUBTOTAL TASK 2.0	**2**	**8**	**0**	**16**	**16**	**24**	**8**	**0**	**74**	**$848**	**$0**	**$14,378**
TASK- 3.0 Preliminary Design Report													
3.1 Analysis of Sewer Rehabilitation Methods		2	8		16			4		30	$180		$5,130
3.2 Sewer Hydraulic Evaluation			4		4					8	$48		$1,428
3.3 Preliminary Design Report			6		16				2	24	$144		$3,934
	SUBTOTAL TASK 3.0	**2**	**18**	**0**	**36**	**0**	**0**	**4**	**2**	**62**	**$372**	**$0**	**$10,492**
TASK- 4.0 Preliminary Drawings & Cost													
4.1 Prepare 50% Plans		1	8		32			32		73	$438		$11,043
4.2 Prepare 50% Opinion of Cost			4		8					12	$72		$2,052
	SUBTOTAL TASK 4.0	**1**	**12**	**0**	**40**	**0**	**0**	**32**	**0**	**85**	**$510**	**$0**	**$13,095**
TASK- 5.0 Construction Contract Documents													
5.1 90% PS&E		1	8		32			32	2	75	$450		$11,275
5.2 100% (Final) PS&E		1	6		24			24	2	57	$342		$8,577
	SUBTOTAL TASK 5.0	**2**	**14**	**0**	**56**	**0**	**0**	**56**	**4**	**132**	**$792**	**$0**	**$19,852**
TASK- 6.0 Bidding and Construction Assistance													
6.1 Respond to RFIs and Prepare Project Addenda			2		6					8	$48		$1,338
6.2. Construction Submittal Review			2		8					10	$60		$1,650
6.3. Construction Site Visits			6		6					12	$72		$2,142
6.4. Prepare Record Drawings			2		6			6		14	$84		$2,124
	SUBTOTAL TASK 6.0	**0**	**12**	**0**	**26**	**0**	**0**	**6**	**0**	**44**	**$264**	**$0**	**$7,254**
PROJECT TOTALS		**9**	**82**	**16**	**176**	**16**	**24**	**106**	**9**	**438**	**$3,032**	**$0**	**$73,067**

*OTHER DIRECT COSTS include telephone, mileage, printing, photocopies and other miscellaneous direct expenses.

Engineering Design Services for

Zimpher Creek Sewer Main Replacement

City of Sebastopol

September 1, 2016

Introduction

Thank you for providing GHD the opportunity to submit our proposal for the study and design of the Zimpher Creek Sewer Main Replacement. Our proposal is based on the requirements of your RFP and our understanding of the project. We recognize that the City is looking for a highly qualified consultant that is well versed in various sanitary sewer rehabilitation methods with specific experience in the design of municipal sewer systems in protected waterways. We have assembled a qualified and experienced team to meet the needs of this project. Highlights of our team's value to the City of Sebastopol for this assignment include:

Experienced Team – Led by **Matt Kennedy, a California licensed civil engineer**, our team brings recent relevant sewer rehabilitation and protected waterway experience, as requested in your RFP. Matt will be assisted by Alex Culick as Project Principal, Matt Winkelman for QA/QC, and Joyce Cheung as project engineer.

Extensive Sanitary Sewer Reconstruction and Rehabilitation Experience – The GHD team has performed many recent sanitary sewer rehabilitation projects within the region and will bring unique and feasible alternatives for consideration. A few of the projects performed by our team include: City of Santa Rosa North Trunk Sewer Project, City of Fort Bragg Sewer Rehabilitation Project, and City of Rohnert Park Eastside Trunk Sewer Project. Our team brings the expertise the City is seeking to meet its goal for this project of minimizing the risk of sanitary sewer overflows (SSOs) and infrastructure failures in sensitive waterway habitats while meeting the need for continued sewer service.

Project Management and Technical Approach – To provide complete services, our team will follow our proprietary management and technical approaches to assure project success. Our management approach utilizes proven, GHD tools and an experienced local project manager. Personal and regular communication with the City's Project Manager will help maintain the City's desired direction throughout the project duration. Our technical approach applies our expertise in identifying and designing the right sanitary sewer improvement specific to each project using the most appropriate construction technologies.

Project Approach

Understanding

Our team has reviewed the Request for Proposal, Addendum No. 1 and visited the site in preparation of our technical approach.

The subject sewer main is located along Zimpher Creek between Zimpher Avenue (upstream) and Murphy Avenue (downstream). The sewer main is 8-inch diameter and is comprised of a combination of PVC and ductile/cast iron pipe segments and 11 manholes. The alignment crosses Zimpher Creek in several locations as it winds down the creek channel while serving adjacent residential and commercial properties. The sewer main also serves numerous upstream parcels accessed from Covert Lane, including Norlee Street, The Village Green Condominiums and Teresa Court.

Between Zimpher Avenue and Murphy Avenue the sewer main serves numerous residential and commercial properties. Root intrusion and blockages have resulted in past sanitary sewer overflows (SSOs) along this segment, and the numerous manholes and location have made access and maintenance challenging for City staff. Issues of seasonal flooding and erosion around manholes are also a concern. The City desires to eliminate the risk of future SSOs and main failures while improving pipeline performance and access at critical junctions.

The sewer main serves numerous properties along its alignment, and its continued service is critical. Relocating the main out of the creek channel and into a City street presents hydraulic challenges, and would require numerous small capacity pumping stations and plumbing retrofits. Rehabilitating the sewer main in place or replacing it in a similar alignment would maintain service to the existing parcels. The environmental risks associated with the sewer main remaining in very close proximity to the active creek channel must be mitigated.

The City is seeking a team experienced in the design of sewer mains in sensitive locations who can bring feasible project options for consideration, conduct investigations to recommend the most risk-averse and cost-effective alternatives, and prepare plans, technical specifications and estimates for construction of the project.

Based on our team's thorough experience and knowledge of the most current sanitary sewer rehabilitation techniques, and our comprehensive understanding of the project area, the following key elements will be integral to our technical approach:

- Selection of appropriate sewer reconstruction/rehabilitation method(s).
- Compliance with resource agency permits for in-stream construction.
- Reduction in the upstream tributary area and resultant flows into the Zimpher Creek sewer main.

Our technical approach to each key issue is discussed below and supports our proposed scope of work.

Selection of Appropriate Sewer Reconstruction/Rehabilitation Method(s)

A critical first step will be to gather and review existing information and perform investigations, including documenting the existing sewer system, performing a field survey, and reviewing recent CCTV video inspections of the sewer main, and evaluating the sewer main hydraulic performance using the City's SewerCAD hydraulic model. The GHD scope of work includes this work in Task 2.0 "Information Gathering."

Concurrent with Task 2.0, GHD will conduct an evaluation of feasible sewer rehabilitation methods and develop three alternatives in a Preliminary Design Report along with relevant information collected during Task 2.0. The report will include a discussion of preliminary alignments, existing utilities, service lateral locations, easements and right-of-way, construction staging and pipe

1.2. Meetings and Monthly Progress Reports

Prepare and submit progress reports each month summarizing the work accomplished during the billing period, the work to be accomplished in the upcoming billing period, critical issues requiring resolution, and budget status. Progress reports provide the City with a summary of the work progress and overall project status. The schedule included with this proposal will be updated prior to the kick-off meeting and updated monthly thereafter and included with progress reports.

GHD will meet with City staff at completion of Preliminary Design Report, Preliminary Design (50%) submittal and 90% design submittal to review City comments. The review will include design recommendations, plans, opinion of probable construction costs, project constraints, key technical specifications, and measurement and payment.

Deliverables:

- Monthly progress reports and schedule updates with invoices
- Meeting agenda and meeting minutes (electronic PDF)

1.3. Quality Control and Constructability Review

Prior to all submittals to the City, deliverables will be reviewed by a senior engineer for quality control. Prior to the 100% final design submittal, the project plans and specifications will undergo a constructability review via our construction management and inspection staff as part of this task.

Task 2.0 | Information Gathering

2.1. Project Kickoff Meeting with City

The meeting to kick off a project is often the most important meeting of the whole project. This is where the ground work is laid for the project, some people are possibly meeting for the first time, and where the project begins to take shape. GHD will prepare the meeting agenda, meeting minutes, and distribute. GHD will facilitate the meeting at the location of the City's choice. The purpose of the meeting is to get stakeholders together in one room to talk about the project, potential issues assign and confirm responsibilities, and identify communication protocol.

Deliverables:

- Kick-off meeting agenda and meeting minutes (electronic PDF)

2.2. Review Existing Conditions

GHD will contact utility companies to obtain utility mapping in the project area, review of CCTV videos of the sewer main, and prepare an inventory of existing sewer assets, including pipe sizes, materials and lengths. In coordination with the project kick-off meeting, GHD will conduct a field visit to review document existing conditions. The relevant information obtained from this effort will be reflected on the base map drawing prepared in Task 2.2 and included in the Preliminary Design Report prepared under Task 3.0.

2.3. Project Surveys

GHD will perform a field topographic survey of the project area between Zimpher Avenue and Murphy Avenue as well as the area of Covert Lane, Zimpher Avenue and Healdsburg Avenue. The survey will include:

1. Buildings - adjacent to the project, major angle points, finished floors, major utility connection points with surface evidence;
2. Utilities (with surface evidence) - storm drains/inlets, manholes (all), water structures, electrical vaults, monitoring wells, fuel storage, overhead utility lines, invert elevations of dipped utilities;
3. USA Markings - paint marks on pavement and sidewalk areas indicating approximate locations;
4. Sidewalks, curbs and gutters - top/toe slope elevations, grade breaks, angle points;
5. Landscape - trees over 3-inches in diameter, outline of divisions of lawn to shrubbery, main irrigation controllers and valves, fences;
6. Hardscape - concrete/utility/gravel paths angle points, grade breaks, begin/end curve;
7. Boundary/Easement - survey monuments, right-of-way fences, benchmarks, aerial panels, and control points.
8. Other data that could affect the project - Photos, dipping of manholes, valve nuts, catch basins, etc.
9. Existing easements from recorded documents.
10. Approximate right-of-way and property lines using GIS.
11. Contours will be displayed with a 1 foot interval.
12. Legend, abbreviations, survey notes, basis of bearing and survey control.
13. Identify and label all project utilities (such as, but not limited to water, gas, sewer, electric, communications etc.) and utility travel routes from the proposed project site to points of connection in public utility easements or publically dedicated right of way.

A map will be prepared suitable for use as the project basemap for design and produced with California Coordinate System, Zone 2, coordinates in US survey feet. Elevations will be based on existing City of Sebastopol or others benchmark if within a 1000 feet of the project site. If the existing benchmarks have been destroyed or are otherwise unavailable, GHD will assume an elevation at appropriate control point.

Deliverables:

- Topographic basemap for design (electronic PDF)

5.1. 90% Plans, Specifications and Estimate (PS&E)

Prepare 90% Plans:

GHD will prepare 90% plans, profiles and details addressing City comments from the 50% design review. The 90% plans shall be substantially complete. Comments provided by the City shall be incorporated into the final plans.

Prepare 90% Technical Specifications:

GHD will prepare technical specifications for the project. The specifications will include a project description, description of bid items for measurement and payment and a bid schedule for the project.

Prepare 90% Opinion of Construction Cost:

GHD will update the 50% opinion of probable construction cost prepared under Task 4.2 with further refinement of project scope, updating quantities, unit prices and bid items and lowering of the contingency to 15%.

The 90% PS&E submittal will be provided to the City for review and comment. We will meet with the City to review comments which will be addressed and incorporated into the 100% (Final) design.

Deliverables:

- 90% full-size (22"x34") Plans (3 hard copies on bond and electronic PDF)
- 90% Technical Specifications (3 hard copies and electronic PDF)
- 90% Opinion of Probable Construction Cost (3 hard copies and electronic PDF)

5.2. 100% (Final) PS&E

Prepare 100% (Final) Plans:

GHD will prepare 100% plans addressing City comments from the 90% review. The 100% plans shall be ready for project bid advertisement. This task assumes no further review by the City.

Prepare 100% Contract Documents and Technical Specifications:

GHD will finalize technical specifications for the project and will prepare Contract Documents, including bid advertisement, general provisions and technical specifications. This task assumes no further review by the City.

Prepare 100% Opinion of Construction Cost:

GHD will update the 90% opinion of probable construction cost prepared under Task 5.1 with further refinement of project scope, updating of quantities, unit prices and bid items. This task assumes no further review by the City.

Deliverables:

- 100% full-size (22"x34") Plans (3 hard copies on bond, electronic PDF and DWG)
- 100% Technical Specifications (3 hard copies, electronic PDF and DOC)
- 100% Opinion of Probable Construction Cost (3 hard copies, electronic PDF and XLSX)

Task 6.0 | Bidding and Construction Assistance

6.1. Bid Period Assistance

GHD will assist the City in responding to technical questions from plan holders. We have budgeted to prepare up to two (2) addenda using the City's addendum form.

6.2. Construction Submittal Review

GHD will review up to ten (10) technical submittals. Potential review includes submitted shop drawings, materials, test reports and manufactures product data. GHD will provide written responses to the City.

6.3. Construction Site Visits

GHD will visit the project site as-needed and if requested by the City. We have budgeted 12 hours for field visits by the project manager or engineer.

6.4. Prepare Record Drawings

At the conclusion of construction, GHD will incorporate consolidated and legible "as-built" markups provided by the City (via the Contractor or Construction Manager) and prepare Record Drawings.

Deliverables:

- Written responses to question during bidding (via e-mail or written addenda in electronic format)
- Written review comments of Contractor submittals (electronic PDF)
- Written construction site visit reports (electronic PDF)
- Record Drawings (1 full-size 22"x34" bond copy and electronic PDF and DWG)

Optional Services

GHD is a full-service firm and can offer other services via contract amendment, such as environmental support for CEQA, permitting assistance, geotechnical engineering, construction management and inspection services, environmental engineering, and disciplines, upon request of the City.

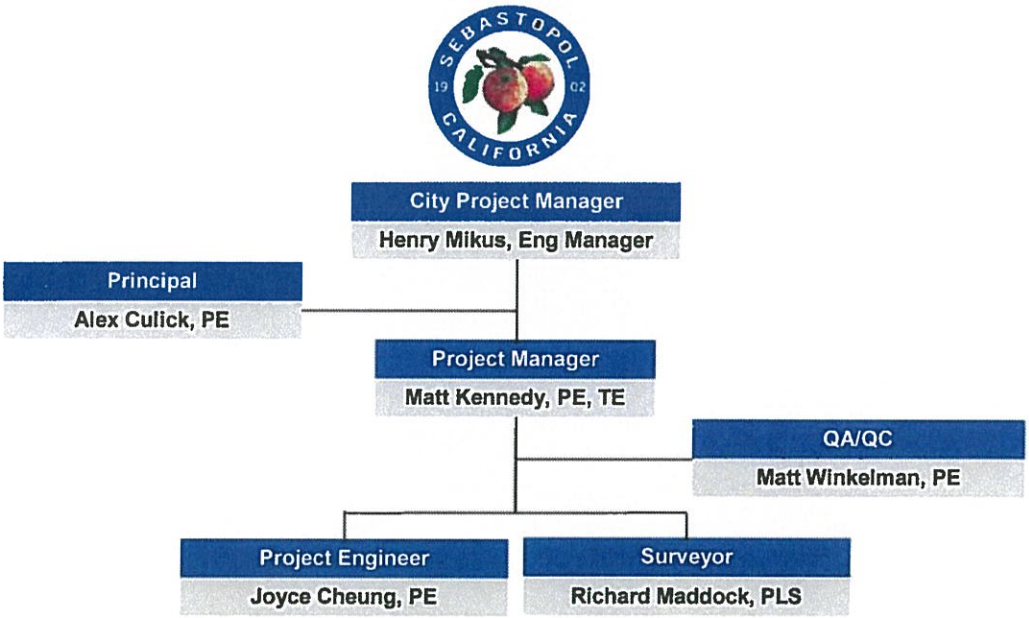
Wastewater Treatment & Disposal Upgrade, US Coast Guard Training Center, Petaluma

GHD was hired to provide planning, permitting, design and construction services for a new wastewater treatment system located at the USCG TRACEN Petaluma facility. The TRACEN wastewater facilities (WWF), which provide onsite wastewater treatment and disposal, is located at the USCG owned property west of Petaluma. In addition to the complete WWF design the project included evaluation of the onsite sewer collection system including an I&I study and condition assessment, design of a new 8 inch gravity sewer and 18 inch gravity sewer to route existing flows to the new WWF and two trenchless creek crossings that utilized front steer guided boring machines to install pipelines below Stemple Creek were included in the design.

Team Members: Alex Culick, Principal/Project Manager; Matt Kennedy, Project Engineer; Matt Winkelman, Project Engineer/QC; Richard Maddock, Surveys

Project Team

Our core project team was hand selected for the project based on technical experience, knowledge of the City's requirements for the design of municipal sewer systems and to meet the City's expectations for this project. The individuals highlighted below are the actual personnel who will be performing the work on this project. Our team has the ability to perform all portions of the scope of services and is immediately available to proceed with this project. The team selected for this project and our proposed management structure for communication and project responsibilities is shown on the organization chart below.



Matt Kennedy will be GHD's Project Manager for the project. Matt brings over 13 years of public works infrastructure project experience. Matt is the project manager and design engineer for several projects in the City of Sebastopol. He also brings the experience with municipal sewer design and construction the City is seeking on this project.

Alex Culick will be GHD's Principal-in-Charge on this project, and will provide senior oversight and QA/QC reviews. He has over 23 years of public works and water infrastructure project experience, and is currently the GHD Principal for Water Conveyance and Infrastructure for the West Operating Center. Alex has focused his professional career on water, wastewater and storm drainage systems for municipal communities in northern California.

Matt Winkelman will manage our project quality, performing QA/QC reviews for the project. Matt is a Project Manager with GHD and has over 13 years of experience designing and managing municipal water resources projects, including I/I studies, sanitary sewer master and management planning, hydraulic modeling, utility and pump station design and rehabilitation and regulatory compliance. Matt also serves as a GHD Global Service Line Leader for Wastewater Collection Systems.

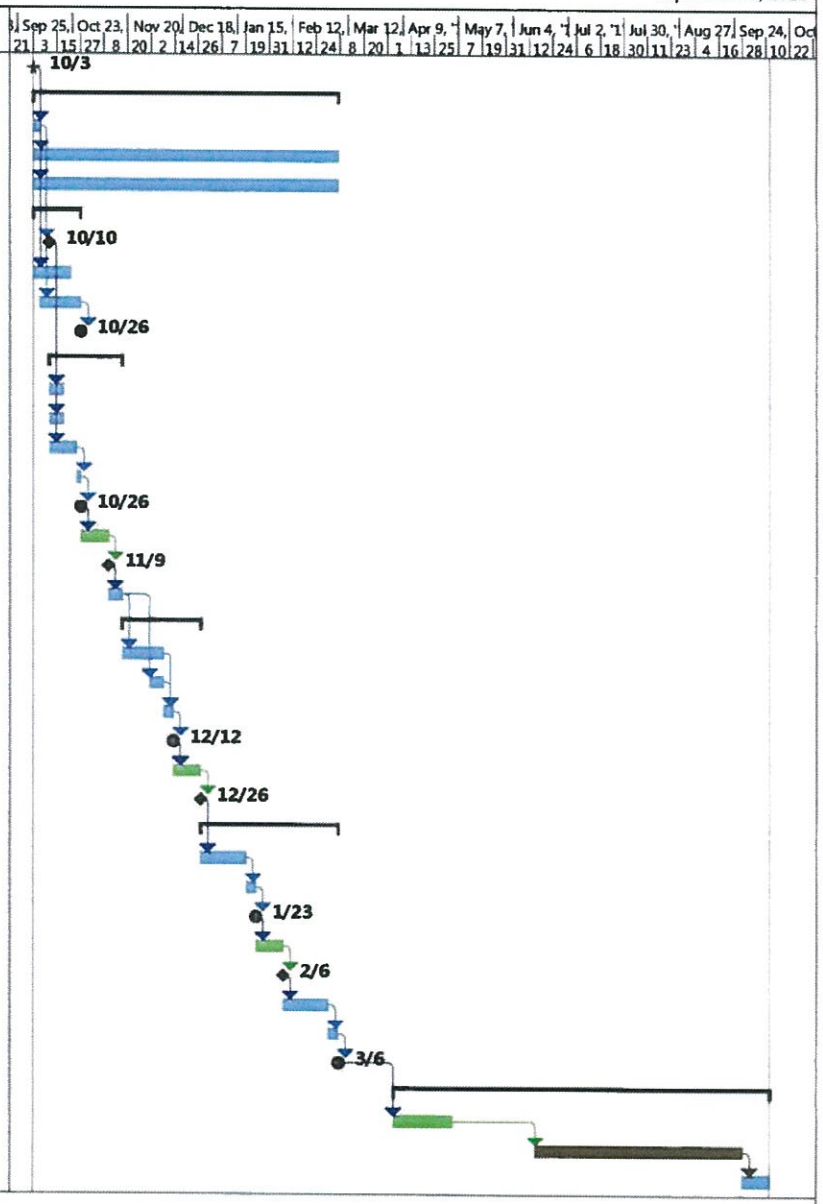
Joyce Cheung will be the Project Engineer. Joyce is an incredibly talented engineer and highly skilled designer. She is a licensed Civil Engineer with over 6 years of multi-discipline experience working in water and wastewater projects, including design and construction administration of water supply and treatment systems, wastewater pump stations, collection systems and asset management. She is extremely proficient in the development and design of utilities, process/ mechanical systems and preparation of detailed and coordinated technical specifications.

Richard Maddock is a California registered professional land surveyor with GHD. He has over 20 years of experience in all aspects of land surveying. He is an experienced party chief working on projects varying from topographic surveys for design to construction staking. With the budget and schedule in mind he delivers a superior product for the client. In the field he will be the Party Chief of the primary survey crew. Being the Party Chief will provide him with first-hand knowledge of the site, the condition of the existing monuments and other important information critical to producing an accurate survey map for the project.

City of Sebastopol, Zimpher Creek Sewer Main Replacement

September 1, 2016

ID	Task Name	Duration	Start	Finish
1	Notice to Proceed	0 days	Mon 10/3/16	Mon 10/3/16
2	**Task 1.0 Project Management & Coordination**	**111 days**	**Mon 10/3/16**	**Mon 3/6/17**
3	1.1 Prepare Work Plan	3 days	Mon 10/3/16	Wed 10/5/16
4	1.2 Meetings & Progress Reports	111 days	Mon 10/3/16	Mon 3/6/17
5	1.3 Quality Control & Constructability Review	111 days	Mon 10/3/16	Mon 3/6/17
6	**Task 2.0 Information Gathering**	**18 days**	**Mon 10/3/16**	**Wed 10/26/16**
7	2.1 Project Kickoff Meeting	0 days	Mon 10/10/16	Mon 10/10/16
8	2.2 Review Existing Information	15 days	Mon 10/3/16	Fri 10/21/16
9	2.3 Project Surveys	15 days	Thu 10/6/16	Wed 10/26/16
10	Submit Survey Base Map	0 days	Wed 10/26/16	Wed 10/26/16
11	**Task 3.0 Preliminary Design Report**	**27 days**	**Tue 10/11/16**	**Wed 11/16/16**
12	3.1 Analysis of Sewer Rehab Methods	5 days	Tue 10/11/16	Mon 10/17/16
13	3.2 Sewer Hydraulic Evaluation	5 days	Tue 10/11/16	Mon 10/17/16
14	3.3 Preliminary Design Report	10 days	Tue 10/11/16	Mon 10/24/16
15	Draft Report QC Review	2 days	Tue 10/25/16	Wed 10/26/16
16	Submit Draft Report	0 days	Wed 10/26/16	Wed 10/26/16
17	City Review Draft Report	10 days	Thu 10/27/16	Wed 11/9/16
18	Draft Report Review Meeting	0 days	Wed 11/9/16	Wed 11/9/16
19	Submit Final Report	5 days	Thu 11/10/16	Wed 11/16/16
20	**Task 4.0 Preliminary Drawings and Cost (50%)**	**28 days**	**Thu 11/17/16**	**Mon 12/26/16**
21	4.1 Prepare 50% Plans	15 days	Thu 11/17/16	Wed 12/7/16
22	4.2 Prepare 50% Opinion of Cost	5 days	Thu 12/1/16	Wed 12/7/16
23	50% Design QC Review	3 days	Thu 12/8/16	Mon 12/12/16
24	Submit 50% Design	0 days	Mon 12/12/16	Mon 12/12/16
25	City Review 50% Design	10 days	Tue 12/13/16	Mon 12/26/16
26	50% Design Review Meeting	0 days	Mon 12/26/16	Mon 12/26/16
27	**5.0 Construction Contract Documents**	**50 days**	**Tue 12/27/16**	**Mon 3/6/17**
28	5.1 90% PS&E	17 days	Tue 12/27/16	Wed 1/18/17
29	90% Design QC Review	3 days	Thu 1/19/17	Mon 1/23/17
30	Submit 90% PS&E	0 days	Mon 1/23/17	Mon 1/23/17
31	City Review 90% PS&E	10 days	Tue 1/24/17	Mon 2/6/17
32	90% Design Review Meeting	0 days	Mon 2/6/17	Mon 2/6/17
33	5.2 100% (Final) PS&E	17 days	Tue 2/7/17	Wed 3/1/17
34	100% Design QC/Constructability Review	3 days	Thu 3/2/17	Mon 3/6/17
35	Submit 100% PS&E for Bidding	0 days	Mon 3/6/17	Mon 3/6/17
36	**Task 6.0 Bidding and Construction Assistance**	**137 days**	**Tue 4/4/17**	**Wed 10/11/17**
37	6.1 Bid Period Assistance	22 days	Tue 4/4/17	Wed 5/3/17
38	6.2 -6.3 Construction Assistance	75 days	Thu 6/15/17	Wed 9/27/17
39	6.4 Prepare Record Drawings	10 days	Thu 9/28/17	Wed 10/11/17



Appendix A – Resumes

About GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental and construction services to private and public sector clients.

Established in 1928 and privately owned by our people, GHD operates across five continents – Asia, Australia, Europe, North and South America – and the Pacific region. We employ more than 8500 people in 200+ offices to deliver projects with high standards of safety, quality and ethics across the entire asset value chain. Driven by a client-service led culture, we connect the knowledge, skill and experience of our people with innovative practices, technical capabilities and robust systems to create lasting community benefits.

In July 2014, GHD merged with CRA, bolstering our North America presence to more than 4000 employees and 100 offices in the region. Most important to us is our shared culture and values of teamwork, respect and integrity. We share an unrelenting commitment to maintaining an industry leadership position in safety and client service.

Committed to sustainable development, GHD improves the physical, natural and social environments of the many communities in which we operate. We are guided by our workplace health, safety, quality and environmental management systems, which are certified by Lloyds Register Quality Assurance to the relevant international standards (ISO and OHSAS).

In alignment with the global demands of water, energy and urbanization, our aim is to exceed the expectations of our clients and contribute to their success.

For more information, visit www.ghd.com

Alex Culick, PE

Principal-in-Charge

Qualified. B.S., Environmental Resources Engineering 1987/Humboldt State University
Civil/CA/#57919

Connected. American Society of Civil Engineers
California Water Environment Association.

Relevance to project. Mr. Culick is a Managing Principal with GHD with over 23 years of experience specializing in water, wastewater and recycled water systems including pump stations and storage facilities, infrastructure development projects and construction management and project implementation oversight. Currently Mr. Culick is GHD's Infrastructure Service Group Manager and has been providing senior level and technical quality assurance and project reviews during design phase and prior to bidding and implementation for select projects. Some of Mr. Culick's relevant project experience includes:

Wastewater Treatment Plant | US Coast Guard TRACEN, Petaluma

Project Manager for the design of the wastewater treatment facilities improvements at the US Coast Guard TRACEN facility near Petaluma, CA. The multi phased project included the conversion of a facultative pond treatment system to BNR mechanical secondary treatment plant and tertiary filtration for Title 22 irrigation, installation of 215 acre feet of new HDPE lined storage ponds and installation of a new 0.5MG steel water storage tank. Included in the design were multiple vertical turbine pump stations that are used to convey reclaimed wastewater to both agricultural and landscape irrigation areas, a pressurized recycled water system with a hydroneumatic tank and a separate wash and process water system utilizing tertiary treated wastewater. The project included the design of the installation of over 14,000 feet of recycled water pipeline in both base streets and agricultural areas. Over 7,000 feet of the pipeline is 14-inch and the remainder is 8-inch. Two trenchless creek crossings that utilized front steer guided boring machines to install pipelines below Stemple Creek were included in the design. In addition, Mr. Culick led the coordination with state and federal agencies for the USCG including obtaining new Waste Discharge Requirements from the Regional Water Quality Control Board which were required to permit the new treatment plant. The TRACEN wastewater facilities had been operating under a cease and desist order issued by the North Coast Regional Water Quality Control Board due to unpermitted discharges and this project successfully addressed those issues.

Recycled Water System | City of Healdsburg

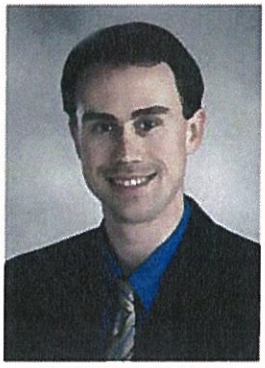
Project Manager for the design and preparation of construction documents for a new recycled water conveyance system for the City of Healdsburg. The recycled water system brings tertiary treated effluent from the City's new membrane filtration wastewater treatment plant (WWTP) to urban areas of the City for turf and park irrigation, as well as outlying agricultural areas for vineyard irrigation. The system design consists of a new vertical turbine effluent pump station including a hydroneumatic tank at the WWTP with a filtration system to polish the effluent before it enters the transmission/distribution system. Approximately 34,500 feet of new 8", 12" and 16" pipe was designed to convey recycled water to irrigation locations. The conveyance system included design of the installation of the pipelines through the project utilizing both open trench and trenchless construction. Engineering services on this project included water system modelling, hydraulic analysis and design, pipeline profile design, geotechnical borings and recommendations for horizontal directional drilling, and bore and jack construction.

Project Manager | Water System Master Plan | City of Fortuna, CA

Served as Project Manager for the update and development of a water system hydraulic model for the City of Fortuna, CA. For this project, a hydraulic model of the City's entire water system was developed, calibrated and validated. The system includes five tanks and reservoirs, seven booster pump stations and a well field with eight separate pressure zones. Estimated demands at various critical nodes were calculated for the General Plan build-out scenario, and a water loss analysis was completed comparing estimated demands with water production. The adequacy of the existing water transmission, distribution, storage, and pumping systems was assessed using the calibrated and validated model, including a fire flow analysis. The results of the analysis were used to develop capital improvement projects to add critical redundancy and improve system supply and efficiency.

Matt Kennedy, PE, TE

Project Manager



Qualified. B.S. Environmental Resources Engineering, Humboldt State University, Arcata, CA, 2001
M.S. Environmental Engineering, University of Massachusetts, Amherst, MA 2003
Civil/CA/#C 68304; Traffic/CA/#TR 2385; Civil/OR/#83450PE; Civil/NM/#23032
Civil/Guam/#1337
Envision™ Sustainability Professional (ENV SP)
Construction Specifications Institute, Construction Documents Technologist

Connected. American Society of Civil Engineers, Institute of Transportation Engineers, American Water Works Association, Engineers Without Borders, Society of American Military Engineers

Relevance to project. Mr. Kennedy is a licensed Civil and Traffic Engineer with 13 years of experience in water/wastewater, traffic/transportation and sustainable civil engineering. He is adept in the design and management of a broad range of civil infrastructure projects, including water and wastewater, storm drainage and Low Impact Development, traffic signals, roadways, pedestrian and bicycle facilities, striping and signing, civil site design, and traffic control plans. His experience also includes a broad range of planning, modeling and analysis capabilities including utility master planning, hydrologic and hydraulic modeling, process analysis and design, and preparation of traffic and parking studies. He is also experienced in land surveying and construction management.

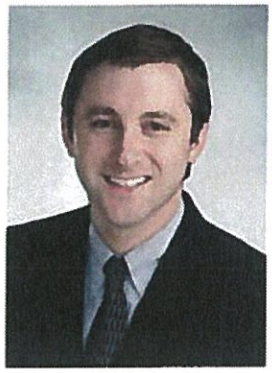
Project Engineer
Sewer Rehabilitation Project | City of Fort Bragg, CA
Project Engineer for the rehabilitation design of a portion of City's sanitary sewer collection system, which was experiencing high rates of I/I during the rainy season. The project included the rehabilitation of approximately 10,000 feet of 6", 8" and 10" sewer mains using cured-in-place pipe (CIPP), reconnection of over 200 laterals, the rehabilitation of 11 sewer manholes using a spray-on structural waterproof coating, and the installation of 6 new manholes. The City has documented a reduction in I/I as a result of the project.

Civil Engineer
U.S. Coast Guard TRACEN WWTP Upgrades | Petaluma, CA
Project Engineer. Assisted with project design, design QA reviews and construction engineering support for this upgrade of an existing wastewater treatment facility.

Project Engineer
North Trunk Sewer Project | Santa Rosa, CA, USA
Project Engineer. This project involves the abandonment of existing 50+ year old 12-inch and 15-inch diameter sanitary sewer trunk pipelines along Paulin Creek and beneath Lomitas Avenue and Mendocino Avenue. GHD is currently designing a new 15-inch diameter sanitary sewer trunk pipeline that will be installed in a new alignment within City streets where it is accessible to City maintenance staff. Key issues for this project included confirming new main alignments and profiles, abandonment of existing mains, and reconnecting laterals. Project was designed to minimize construction impacts to traffic, existing utilities and the environment. Portions of the pipeline will be in excess of 30-feet deep including three creek crossings. Trenchless construction methods including front steer guided boring and bore and jack.

Matthew J. Winkelman, PE

QA/QC



Qualified. B.S. Civil Engineering, University of Washington, 2000.

Connected. Member of Water Environment Federation. Member of California Water Environment Association (Redwood Empire Section Board Member). Member of American Society of Civil Engineers.

Relevance to project. Matt Winkelman is a Project Manager with GHD and has over 13 years of experience designing and managing municipal water resources projects. Project experience covers a wide range of assignments in planning, design, and project management, including: feasibility and infiltration/inflow studies, sanitary sewer master and management planning, hydraulic modeling, utility and pump station design and rehabilitation, regulatory compliance, funding assistance, and construction management. He also has a wide variety of experience for other City/District municipal engineering services, such as street rehabilitation design, development review, preparation of public works standards, preparation of interlocal agreements between municipalities, easement acquisition, board/council presentations, and construction observation. Mr. Winkelman's project experience is described below. Matt also serves as a Global Service Line Leader for Wastewater Collection Systems.

Project Manager

Trancas Street Sewer Rehabilitation Project | Napa Sanitation District, Napa, CA USA

Project manager for design services, as well as bid and construction phase assistance for the CIPP rehabilitation of a 14-inch asbestos cement gravity sewer within a busy commercial corridor. Design services included predesign assessment for rehabilitation method, bypass pumping, and traffic control. Design was fast-tracked to accommodate construction prior to the wet weather season. To accomplish this, GHD worked closely with District engineering and operations staff regarding contract terms for schedule, traffic handling, and bypass pumping.

Project Manager, Lead Project Engineer

Terra Linda Trunk Sewer Predesign | Las Gallinas Valley Sanitary District, CA USA

Project Manager and lead engineer for the preparation of an alternatives evaluation and predesign report for a new 24-inch trunk sewer. The project includes an 800-LF trenchless crossing of Gallinas Creek and Highway 101, 900-LF trenchless crossing of Manuel T. Freitas Parkway, and alignment in various residential and commercial corridors. Alternatives analysis included hydraulic evaluation of each alternative, including use of an oversized, egg-shaped pipeline to provide storage capacity within the trunk sewer system.

Project Manager

Interceptor Outfall Gravity Section Rehabilitation Project | City of Rohnert Park, CA USA

Project manager for design services, as well as bid and construction phase assistance for the CIPP rehabilitation of a 24-inch asbestos cement gravity sewer within SCWA and Santa Rosa property. Design services included predesign assessment for rehabilitation method and bypass pumping. Predesign assessment included review of CCTV records, site visits with City staff, and coordination with the City's peer reviewer. The existing pipeline is in poor condition, so cleaning methods were carefully reviewed and specified. GHD also conducted an environmental review for potential project impacts to CTS habitat, wetlands, and cultural. GHD coordinated with Rohnert Park for project environmental needs, including timing of construction in the late summer (August 2014

including condition assessment, system mapping, and regulatory compliance, Standard Operating Procedures (SOP), and Sanitary Sewer Overflow Emergency Response Plan (OERP). Geographic Information Systems (GIS) were used as the basis for data management and mapping resources. Current project work includes hydraulic modeling of the existing collection system as a precursor to master planning. GHD teamed with V&A for flow monitoring, field reconnaissance, CCTV review, and smoke testing for this planning effort.

Project Engineer

Sewer System Management Plans (SSMP), Statewide | California Department of Corrections and Rehabilitation (CDCR), CA USA

Project engineer for the preparation of SSMP documents for 38 CDCR Institutions located throughout the state. Thfe purpose of the project was to provide CDCR with standardized documentation and procedures to meet the requirements of the State's SSO Program. SSMP documents include evaluation and modification to various CDCR and Institution-specific programs, including: legal authority, operation and maintenance (O&M), Sanitary Sewer Overflow Emergency Response Plan (OERP), and fats, oils, and grease (FOG). Project work was coordinated with CDCR Headquarters staff and various personnel at each Institution. Understanding of the State's SSO Program was built through the preparation of SSMPs for the City of Ukiah and United States Coast Guard TRACEN Petaluma Facility.

Project Engineer

North Old Redwood Highway Area Utility Infrastructure Study | Town of Windsor, CA USA

This project included a comprehensive review of sanitary sewer, potable water, storm drainage, recycled water, and overhead utilities within a portion of the Town's designated redevelopment area. Project work included site reconnaissance, records review, close coordination with Town staff, hydraulic evaluation, and preparation of recommendations for capital projects and funding.

Project Manager/Engineer

City of Sonoma Road and Water System Rehabilitation Projects | City of Sonoma, CA (2009-Current)

Project manager and engineer services for various public works projects for the City including: project scoping, conceptual design, preparation of construction documents, coordination with the City, utility providers, and geotechnical and arborist sub-consultants, public outreach, bid phase services, and engineering services during construction. Completed road rehabilitation projects include the following: Fifth Street West, Heather Lane, Fano and Bettencourt, France Street, Leveroni and Fifth, Third, Fourth, and Hayes Street, and Este Madera projects. Other completed or ongoing projects include: Napa Road, First Street West Storm Drain Inlet Project, Depot Park ADA Improvement Project, Fryer Creek Bridge Replacement Project, and Fryer Creek Bike Path Project.

Other Related Areas of Interest

Registered.

- Civil/CA/#C75364
- Civil/WA/#41437

investigations to document the assets and to perform a Level II Condition Assessment (visual assessment) of mechanical/ process equipment. Cost projections, including asset life, rehabilitation cost, and replacement costs were prepared for each type of asset, and a summary report was provided to VSFCD.

Staff Engineer

Central Marin Sanitation Agency – Condition Assessment | San Rafael, CA, USA

The project involves the condition assessment of the pump station at San Quentin State Prison. Joyce assisted in the preparation of the condition assessment report, which included observations and recommendations from multiple disciplines, as well as project prioritization and costs for each project component.

Civil Engineer

Placer County Water Agency – Mount Vernon Road Intertie Project | Santa Rosa, CA, USA

The project involves the extension of the Placer County Water Agency water main and its intertie to the water main owned by Nevada Irrigation District. Joyce provided the site layout of the water main and the detailed design of a pressure-reducing valve station at the intertie, along with technical specifications and cost estimate for the proposed work.

Project Engineer

Road Access Stabilization and Drainage Repairs for Tank R7 | Santa Rosa, CA, USA

Joyce analyzed the hydrologic conditions of the site and performed hydraulic evaluations to determine the impact of storm events on the existing storm drain system. Joyce summarized the findings, and provided the alternatives and recommendations in a technical memorandum. Joyce is currently proceeding with the project design, which includes the upsizing of the existing storm drain (up to 30-inches), installation of a new 15-inch storm drain, road rehabilitation, construction of a new retaining wall, and design of a new vehicle turnaround area.

Project Engineer

Bolton Lakes Sewer Project | Bolton, CT, USA

Joyce assisted in the design of a 10-mile sewer system that spans through 3 towns (Manchester, Bolton, Vernon), serving 320 properties. This was a 5-phase project that included both gravity and low pressure sewer systems that utilized individual grinder pumps. Joyce developed the plans, technical specifications and estimate for each phase of the project, including field layout of the sewer alignment, odor control facility and grinder pumps. Joyce also assisted in the project administration and management of the construction schedule and budget, and coordinated with the Town officials, contractor, engineers, and homeowners on the layout and easements of the sewer main and laterals. Joyce prepared applications for inland wetlands permits and coordinated reviews with the CT Department of Public Health. Joyce was also involved in the development of Construction Standards for the Bolton Lakes Regional Water Pollution Control Authority, and management of State and Federal grants for this project, which included the STAG grant, STEAP grant, CWF grant, and Rural Development funding.

Staff Engineer

Terra Linda Sewer Project | San Rafael, CA, USA

This project involves the installation of a new trunk sewer as well as upgrades to the John Duckett Pump Station to provide sufficient capacity to handle peak weather flows. Joyce prepared technical memoranda on the civil, site and electrical design assessment, as well as the basis for sizing the pumps and retrofitting the wet well at the pump station.

Other related areas of interest

- **Registered.** Civil/CA/#85058
- **Technical.** Occupational Health and Safety (OSHA) Training 10 Hour Construction; MATLAB, AutoCAD; HEC-RAS; Proficient in MS Office Standard Suite; Completed Six Sigma Green Belt Training.

provisions designed to meet the City Traffic Standards.

Eastside Trunk Sewer Phase 2 | City of Rohnert Park, CA

Land Surveyor for the completion of the design documents for $10 million 10,000-linear foot, 18- and 24-inch diameter PVC sanitary sewer main project.

Recycled Water Expansion Project | North Marin Water District

Land Surveyor and Project Manager for surveying, right-of-way mapping, and field survey of the alignment to expand the North Service Area of their Recycled Water Project.

Sewer Interceptor/Outfall | Rohnert Park, CA

Land Surveyor for the predesign and design for this 3.5-mile, 27-inch diameter, HDPE sewer force main. The pipeline is aligned through habitat areas for the California Tiger Salamander and vernal pool areas. This $8.5 million pipeline was constructed on a fast-track schedule and was just operational when the City experienced a 100-year storm event, avoiding potentially significant SSOs.

State of California DGS, San Quentin Prison | San Rafael, CA, USA

Land Surveyor for this project which entailed developing a comprehensive program for sewer system rehabilitation at the prison aimed at reducing the extensive infiltration and inflow problem. Work included, preparing a preliminary design report setting forth the alternatives for repairs including pipe bursting, cure in-place pipe, folded plastic liner pipe, slip-lining and conventional open trench repair. Developed the design of 20,000 linear feet of rehabilitation, which includes slip-lining, in-situ-form, and dig and replace technologies. Responsible for the extensive coordination with the prison security needs.

Land Surveyor

VA Medical Center Master Plan and Environmental Compliance | San Francisco, CA.

Mr. Maddock was the Chief Surveyor for this project which includes aerial mapping and a boundary survey for SFVAMC Institutional Master Plan (IMP). The IMP documents the planned improvements to the VAMC campus over the next 20 years including research/education space.

Land Surveyor

VA Medical Center Welcome Center, Access and Security Improvements Project | San Francisco, CA.

Mr. Maddock is the Chief Surveyor for this project which consists of a new central lobby and Veterans Welcome Center between Buildings 200 and 203, a healing garden area, a new traffic circle, front drop-off area, and pedestrian plaza modifications with landscaping to improve patient and vehicular access to the central lobby of the medical center. The new building area is estimated to be approximately 11,340 gross square feet (gsf). Winzler & Kelly's survey team, led by Mr. Maddock will perform a topographic survey, utility locating, and evaluate potential impacts to the existing underground utilities for the project.

Land Surveyor

West College Utilities Field Office, Phase 1, 2, and 3 | City of Santa Rosa, CA.

Mr. Maddock provided construction staking services for the New Corporate Yard facilities. For this project Winzler & Kelly's survey team used Leica GPS and Leica 1203 Total Station to provide construction staking services. Also included in the project was a Record of Survey.

Appendix B – Fee Schedule

GHD's fee is enclosed in separate envelope.

Fee Schedule

2016 USA West Fee Schedule

Principals:	
Level E	$185 – 205
Level F	$220 - 250
Associates:	
Level D	$160 - 170
Level E	$180 – 195
Level F	$215 - 240
Specialist:	
Level B	$170
Level C	$180
Level D	$190
Level E	$210 - 230
Level F	$250
Engineers:	
Level A	$110 – 115
Level B	$115 – 125
Level C	$135 – 145
Level D	$150 – 165
Level E	$175 – 195
Level F	$210 – 235
Geologists/Hydrogeologists:	
Level A	$110
Level B	$120
Level C	$130 - 150
Level D	$155 – 180
Level E	$185 – 200
Level F	$210
Environmental Planners:	
Level A	$115
Level B	$125
Level C	$130
Level D	$135 – 150
Level E	$160 – 190
Level F	$205 – 210
Environmental Chemists:	
Level A	$115
Level B	$125
Level C	$130
Level D	$135 – 150
Level E	$160 – 190

Environmental Scientists:	
Level A	$95 - 105
Level B	$110 - 120
Level C	$125 – 130
Level D	$130 – 145
Level E	$160 – 175
Level F	$195 – 205
Industrial Hygienists / Safety Professionals:	
Level A	$105
Level B	$115 – 120
Level C	$125 – 135
Level D	$145 - 160
Level E	$170 – 180
Technicians/Technologists:	
Level A	$80
Level B	$95
Level C	$110 – 115
Level D	$120 – 135
Level E	$140 – 155
Level F	$170 - 190
Draft/CADD:	
Level A	$75
Level B	$85 – 90
Level C	$95
Level D	$110 – 120
Level E	$125 – 155
Level F	$165
Technical Apprentices:	$80 - 90
Intern:	$73.00
Administrative Support:	$62.00