



March 11, 2016
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Arlynn Bumanglag
City of Mountain View
Public Works Department
500 Castro Street
Mountain View, CA 94041

**SUBJECT: PROPOSAL FOR MOFFETT SEWER AND WATER MAIN REPLACEMENTS
ADDITIONAL SERVICES AND RENGSTORFF PARK WATER MAIN
INSTALLATION AND SEWER REPLACEMENT**

Dear Arlynn,

As requested, we have prepared this proposal describing additional tasks to be added to our current scope of services for the Moffett Gateway water and sewer main improvements project. In addition, we have included our scope of services for the Rengstorff Park water main installation and sewer replacement project. Our proposal for each project includes a scope of services and fee estimate. Each is summarized below.

SCOPE OF SERVICES – MOFFETT SEWER AND WATER MAIN REPLACEMENTS

Project 2 – Moffett Gateway Sewer Main Replacement

Task 1B: Project Management Activities Facilitating Development of Health and Safety Plans

At the 14-21/14-22 project kick-off meeting in May 2015, the City notified NV5 that based on the poor condition of the Moffett Gateway 380 lineal foot sewer main, the replacement of the main would be fast-tracked ahead of other scoped improvements (i.e. sanitary sewer crossing Stevens Creek/Highway 85, upsized water main along Leong Drive and water service connections crossing Moffett Blvd). The construction of the 380 lineal foot sewer main replacement would be accomplished as part of a construction contract change order with the 13-21/13-22 project contractor.

During design of the Moffett Gateway 380 lineal foot sewer main replacement project constructed in 2015, some additional environmental requirements arose based on the existence of pockets of trichloroethylene (TCE) in subsurface soils. Based on the City's experience in working with the sewer replacement contractor to obtain EPA conditional approval of a health and safety plan (HASP) and soil and groundwater management plan (SGMP), the City requested that NV5's team prepare HASP documents for geotechnical investigation and potholing work planned as part of the design development of sanitary sewer crossing and water main improvements in the Moffett area.

Additional project management effort was expended by NV5 to facilitate preparation of the HASP documents. Effort included the following:

- review of EPA conditionally approved documents prepared by 13-21/13-22 contractor

- prioritization of potholing locations due to additional future effort by potholing contractor to comply with air monitoring and soil sampling safety measures to meet budget allocated for potholing
- facilitating potholing contractor's approach for air monitoring and soil sampling to be limited to locations where air monitoring equipment detects TCE to minimize laboratory testing of soil samples, disposal of contaminated soils, and nuisance to residents
- review of EPA comments and facilitating revision of HASPs to address comments received

A portion of the effort associated with this task is included in Task 1 C below.

The April 2015 project scope for the 380 lineal foot sewer main replacement (emergency replacement accomplished by 13-21/13-22 project contractor in 2015) included geotechnical subconsultant environmental soil sampling and preparation of a stand-alone soil disposal report. Due to emergency replacement of the sewer main, preparation of soil disposal report by geotechnical subconsultant was no longer needed. Budget previously allocated for this effort (\$11,022) was reallocated to geotechnical subconsultant's development of the health and safety plan by the EPA for submission to the EPA.

Task 4B: Design of New Sewer Crossing Stevens Creek

The City and NV5 met with Santa Clara Valley Water District (SCVWD) on December 10, 2015 to discuss the proposed replacement of the 15-inch sewer main crossing Stevens Creek that is planned for replacement as part of the Moffett Gateway water and sewer main replacements. At that time an alternative sewer crossing location (approximately 100-feet south of the location defined in the 35% and 65% design submittals) was identified further upstream from the existing fish ladder structure to mitigate impacts to existing creek concrete lining. During the meeting, SCVWD staff indicated that some future improvements to the existing fish ladder structure (adjacent to the proposed sewer crossing) are planned. During early February 2016, SCVWD indicated that the alternative sewer alignment was preferable due to future improvements to the fish ladder structure. As a result of the change in location of the sewer alignment, some additional effort is needed to incorporate the design change into the 95% construction documents including the following:

- perform a topographic tree survey for areas adjacent to new jack and bore pit locations
- prepare a new plan and profile along the new alignment that crosses under Stevens Creek and Highway 85, and along San Leandro
- modify traffic control plans along San Leandro and add a traffic control detail for safety measures along Stevens Creek Trail

Also, related to Task 1B, effort is included in Task 4B to incorporate the HASP and SGMP requirements into the project technical specifications. The City also requested NV5 mark the proposed jack and bore pits in the field to facilitate review of impacts to existing trees. This effort is also included in Task 4B.



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Option 1 – Moffett 12-inch Water Services (extending from Leong Dr. to Moffett Blvd.)

Task 1C: Project Management Activities Facilitating Development of Health and Safety Plans

As described in Task 1B above, additional project management effort was expended by NV5 to facilitate preparation of the HASP documents. The HASP documents are for geotechnical investigation and potholing work planned as part of the design development of sanitary sewer crossing and water main improvements in the Moffett area. A portion of the effort described in Task 1B is included in Task 1C.

Task 2C: Additional Potholing Allowance

As described in Task 1B, some additional project environmental requirements arose following preparation of original scope of work based on the existence of pockets of trichloroethylene (TCE) in subsurface soils. As a result, the potholing subconsultant may be required to perform sampling and laboratory analysis of soil removed for potholing activities if contaminated soils are encountered, which limits the number of potholes that may be performed based on the current budget allocated. The Task 2C allowance may be used for performing additional potholes or to cover costs associated with soil disposal if contaminated soils are encountered.

Task 4C: Moffett 12-inch Water Mains Additional Design Effort

During the 35% design comment review meeting with City staff, NV5 recommended jack and bore construction of the proposed 12-inch water mains crossing Moffett Blvd. (Caltrans right-of-way). The City expressed a preference for open trench construction of the proposed 12-inch water mains crossing Moffett Blvd. Based on initial feedback received from Caltrans, jack and bore construction method is preferred by Caltrans. Some additional effort is needed to incorporate the design change into the 95% construction documents to reflect jack and bore construction method for the 12-inch water mains and update traffic control plans.

The original April 2015 scope of work included preparation of a plat and legal description for a proposed permanent waterline easement through parcel APN 153-19-002. At the 65% submittal comment review meeting, the need for a temporary construction easement was discussed. This task includes effort to provide feedback to the City on the limits of the proposed temporary construction easement at parcel APN 153-19-002 and three submittals of the plats and legal descriptions for waterline permanent easement and temporary construction easement at parcel APN 153-19-002. The City also requested NV5 mark the proposed jack and bore pits in the field to facilitate review of impacts to existing trees. This surveying effort (for water main design) is also included in Task 4C.



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ESTIMATED FEE – MOFFETT SEWER AND WATER MAIN REPLACEMENTS

Our estimated fee to furnish the additional services is summarized below.

Project 2/Moffett Gateway Sewer Replacement:

Task 1B: Project Management Activities Facilitating Development of HASPs	\$3,520
Task 4B: Design of New Sewer Crossing Stevens Creek	<u>\$14,332</u>
<i>Moffett Gateway Sewer Subtotal</i>	<i>\$17,852</i>

Option 1/12-inch Water Services Crossing Moffett Blvd:

Task 1C: Project Management Activities Facilitating Development of HASPs	\$3,520
Task 2C: Additional Potholing Allowance	\$10,000
Task 4C: Moffett 12-inch Water Mains Additional Design Effort	<u>\$10,024</u>
<i>12-inch Water Services Crossing Moffett Blvd Subtotal</i>	<i>\$23,544</i>

MOFFETT SEWER PLUS 12-INCH WATER SERVICES TOTAL **\$41,396**

PROJECT UNDERSTANDING – RENGSTORFF PARK WATER MAIN INSTALLATION AND SEWER REPLACEMENT

We understand that the design of a renovation and expansion to the Community Center is currently underway by the Dahlin Group (architect). As requested, we have prepared this proposal to assist the City of Mountain View with design of a new 8-inch water main, replacement of existing 6-inch sewer main and laterals, and potential replacement of existing 15-inch storm drain at Rengstorff Park (Park). The proposed water main would extend approximately 1,400 lineal feet from the existing 12-inch Rengstorff Avenue water main easterly to a connection with the existing water main near the Park's Child Care Center (see enclosed Figure 1). The preliminary alignment for the water main traverses the existing Park Community Center parking lot and San Francisco Public Utilities Commission (SFPUC) right-of-way.

We understand the City desires to construct the first phase of the proposed 8-inch water main in conjunction with the planned improvements to the Community Center and adjacent parking lot (see enclosed Figure 1 for limits of work.) The second phase of the water main improvements will include the pipeline between the Community Center parking lot and the Child Care Center. The existing sewer main and storm drain are depicted on the enclosed Figure 2. The City has retained a contractor to conduct closed-circuit television (CCTV) investigation of the existing sewer and storm drain mains to assess their condition. As depicted in the enclosed Figure 2, the existing sewer laterals will be abandoned and new laterals and cleanouts will be installed to serve the renovated Community Center. For the storm drain system, depending on the findings of the CCTV investigation, replacement may be desired. Two sewer laterals connecting to the sewer main along Crisanto Avenue (north side of Park) have also been identified for replacement. The sewer laterals serve the Aquatics Complex and picnic area, respectively.



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SCOPE OF SERVICES – RENGSTORFF PARK WATER MAIN INSTALLATION AND SEWER REPLACEMENT

Task 1W/1S – Project Management

This task will include coordination with our surveying subconsultant, liaison with the Dahlin Group (Architect), monthly project invoicing and status reports, two design review meetings with the City, one site visit to confirm existing conditions, and QA/QC review of all deliverables.

Task 2W/2S – Topographic Survey

R.E.Y. Engineers, Inc. will complete a topographic survey for the design of the proposed water and sewer main at Rengstorff Park. The topographic survey will be a 200 foot wide strip topo roughly centered on the proposed water main alignment (depicted in enclosed Figure 1). The strip topo will include ground elevations on a 50 foot grid, throughout the site and will also include surface grade breaks along the proposed alignment. Adjacent streets and alleys will be captured to their center lines. Elevations will be obtained along the edge of pavement, top of curb, flow line, gutter edge, edge of sidewalk, back of walk, and right-of-way/property line. The survey will consist of elevations and/or locations of above ground utilities, trees (4-inch diameter at breast height and greater), ditches/swales, rims and inverts of existing sanitary sewer and storm drainage structures, as well as, signing, fences, building exterior walls, and striping features. The survey will be tied to the City of Mountain View benchmark system.

Deliverable: Topographic survey at 1"=20' in AutoCAD and PDF format.

Optional Task 2A – Topographic Survey for Crisanto Sewer Laterals

If required for design of Crisanto Avenue sewer lateral replacements, R.E.Y. Engineers, Inc. will complete a topographic survey at the respective sewer lateral locations. The strip topo will include ground elevations on a 50 foot grid, throughout the site and will also include surface grade breaks along the proposed alignment. Adjacent streets and alleys will be captured to their center lines. Elevations will be obtained along the edge of pavement, top of curb, flow line, gutter edge, edge of sidewalk, back of walk, and right-of-way/property line. The survey will consist of elevations and/or locations of above ground utilities, trees (4-inch diameter at breast height and greater), ditches/swales, rims and inverts of existing sanitary sewer and storm drainage structures, as well as, signing, fences, building exterior walls, and striping features. The survey will be tied to the City of Mountain View benchmark system.

Deliverable: Topographic survey at 1"=20' in AutoCAD and PDF format.

Task 3S – Preliminary Investigation

The City has retained a contractor to conduct a CCTV investigation of the existing onsite sewer and storm drain mains to assess their condition. For Task 3, available background information provided by the City will be reviewed including: CCTV logs; City utility maps of water, sanitary sewer, and storm drain systems; and water and sewer as-built plans. Utility companies (gas, electric, cable, and phone)

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will be contacted to verify the location of other utilities within the project area (Rengstorff Avenue). Based on review of the existing sewer and storm drain CCTV, rehabilitation or replacement of the existing sewer and storm drain will be recommended in a technical memorandum.

Deliverable: One electronic copy (PDF) of technical memorandum summarizing recommendations for rehabilitation or replacement of existing sewer and storm drain mains. A determination regarding the feasibility of replacement of the sewer main by pipe bursting will be included.

Optional Task 3A: 35% Site Proposed Utility Plan

If sewer main replacement by pipe bursting is determined to be infeasible, a preliminary utility site plan will be prepared at 35 percent design level. The site utility plan preparation will aid in making a determination as to whether the proposed sewer main replacement will be aligned with new Community Center driveway (at intersection with Stanford Ave) including new manhole (aligned with proposed lateral shown on Figure 2) or parallel to the existing sewer alignment. A utility site plan comment review meeting with the City is planned as part of this optional task.

Deliverable: One electronic copy (PDF) of 35 percent design site proposed utility plan

Task 4W/4S – Preparation of Construction Documents for Phase 1 Improvements

Phase 1 of the Park water system improvements includes approximately 500 lineal feet of proposed water main between Rengstorff Avenue and the easterly end of the Community Center parking lot. Preparation of Phase 1 construction documents will involve coordination with the Architect for incorporation of the water main (Phase 1) and sewer main design into the Community Center improvements project bid package. It is assumed that the layout of the parking lot reconfiguration will be approved by the City prior to initiating design of the Phase 1 improvements. Drawing and specification format will be provided by the Architect. Additionally, the design of Crisanto sewer lateral replacements is included.

Construction documents will be prepared at 65 percent design level, and will include plans, technical specifications, engineering details for tie-in and nonstandard crossings, and engineer's estimates of probable construction cost. NV5 will submit the 65 percent design documents to the City and Architect for review. Following the City's review of the 65 percent documents, the City will provide written comments to NV5. Any coordination comments from the Architect are assumed to be available with the City comments.

Deliverable: One electronic copy (PDF) of 65 percent plans, technical specifications, and construction cost estimate.

Following a 65 percent design review meeting with the City, construction documents will be prepared at 100 percent design level, and will include plans, technical specifications, and engineer's estimate of probable cost to the City for review.



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Deliverable: One electronic copy (PDF) of 100 percent plans, technical specifications, and construction cost estimate.

Following the City's review of the 100 percent documents, the City will provide written comments to NV5. These final comments will be incorporated into the Construction Documents for submission of signed bid documents to the Architect.

Deliverable: One electronic copy (PDF) of signed plans, technical specifications, and construction cost estimate.

Optional Task 4A: Storm Drain Replacement Design

If storm drain replacement or rehabilitation is recommended based on CCTV investigation findings, design of the storm drain replacement will be incorporated into the construction documents prepared as part of Task 4W/4S.

Task 5W – Preparation of Construction Documents for Phase 2

Phase 2 of the Park water system improvements include the approximately 900 lineal foot proposed water main between the easterly end of the Community Center parking lot and connection to the existing water main near the Child Care Center. Construction documents will be prepared at 65 percent design level, and will include plans, technical specifications, engineering details for tie-in and nonstandard crossings, and engineer's estimates of probable construction cost. It is assumed that the City will provide the remainder of the bid documents including bid proposal forms, General Provisions, and Special Provisions. NV5 will submit the 65 percent design documents to the City for review. Following the City's review of the 65 percent documents, the City will provide written comments to NV5.

Deliverable: One electronic copy (PDF) of 65 percent plans, technical specifications, and construction cost estimate.

Following a 65 percent design review meeting with the City, construction documents will be prepared at 100 percent design level, and will include plans, technical specifications, and engineer's estimate of probable cost to the City for review.

Deliverable: One electronic copy (PDF) of 100 percent plans, technical specifications, and construction cost estimate.

A permit will be required from SFPUC for installation of the proposed water main within SFPUC right of way. Permit support includes conducting a total of two coordination meetings and providing SFPUC with plans for their review. A total of 40 staff-hours have been assumed for SFPUC permit coordination.

Following the City's review of the 100 percent documents, the City will provide written comments to NV5. These final comments will be incorporated into the Construction Documents for submission of signed bid documents to the City.



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Deliverable: One electronic copy (PDF) of signed plans, technical specifications, and construction cost estimate.

Task 6W/6S – Construction Support

During construction of the proposed water and sewer mains, NV5 will review submittals for compliance with the scope of work, attend a preconstruction conference, provide responses to Contractor’s RFIs, and review change orders. A total of 60 staff hours have been assumed for construction support.

Exclusions from our scope of services include the following:

1. Potholing
2. Geotechnical/soil investigation
3. Bid support
4. Preparation of record drawings
5. Onsite storm drain design beyond limits noted in Figure 2
6. Preparation of profiles for Crisanto sewer lateral replacement

ESTIMATED FEE– RENGSTORFF PARK WATER MAIN INSTALLATION AND SEWER REPLACEMENT

Our estimated fee to furnish the scope of services is summarized below.

Design for Water Main Installation

Task 1W – Project Management	\$4,749
Task 2W – Topographic Survey	\$5,225
Task 4W – Preparation of Construction Documents for Phase 1	\$12,087
Task 5W – Preparation of Construction Documents for Phase 2	\$26,528
Task 6W – Construction Support	<u>\$4,144</u>
WATER MAIN TOTAL	\$52,733

Design for Sewer Replacement

Task 1S – Project Management	\$4,749
Task 2S – Topographic Survey	\$5,225
Task 3S – Preliminary Investigation	\$2,458
Task 4S – Preparation of Construction Documents for Phase 1	\$12,087
Task 6S – Construction Support	<u>\$4,144</u>
SEWER TOTAL	\$28,663

Optional Sewer Replacement Tasks:

Task 2A – Topographic Survey for Crisanto Sewer Laterals	\$5,500
Task 3A – 35% Site Proposed Utility Plan	\$4,916
Task 4A – Storm Drain Improvements Design	\$3,372



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Arlynn Bumanglag
March 11, 2016
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Thank you for this opportunity to provide engineering services to the City of Mountain View. If you have any questions or comments, please contact Jill Sylvester at (408) 392.7232.

Sincerely,

NV5, Inc.



Jill Sylvester, PE
Project Manager



Dave Richard, PE
Principal

Enclosures: Rengstorff Water Main Installation and Sewer Replacement Project (Fee Estimate, Figure 1, Figure 2)

NIV5

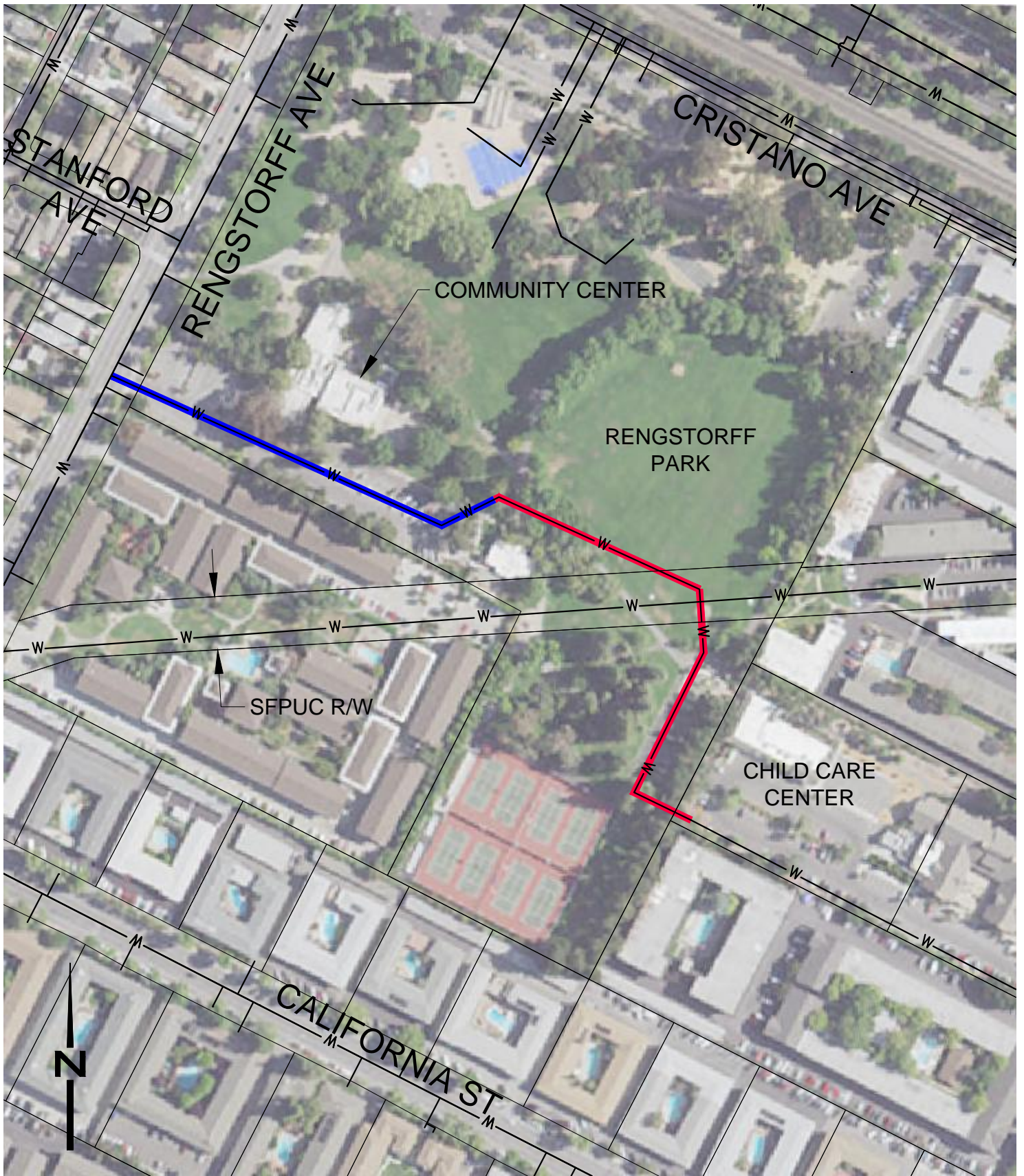
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City of Mountain View
Rengstorff Park Water Main Installation and Sewer Replacement
NV5 Design Fee Estimate
March 2016

	Subconsultant Costs 1.1	Subtotal Dollars by Task	Total Dollars by Task		
				WATER	SEWER
Task 1W/1S - Project Management					
Billing/Subconsultant coordination		\$ 2,112			
Design Review Meetings with City (2)		\$ 2,742			
Site Visit		\$ 1,124			
QA/QC		\$ 3,520			
Subtotal			\$ 9,498	\$ 4,749	\$ 4,749
Task 2W/2S - Topographic Survey					
Subconsultant - R.E.Y. Engineers	10,450	\$ 10,450	\$ 10,450	\$ 5,225	\$ 5,225
Task 3S - Preliminary Investigation					
Review Existing Cond/CCTV/Memo		\$ 2,458	\$ 2,458		\$ 2,458
Task 4W/4S - Preparation of Construction Documents for Phase 1 (Water/Sewer)					
Review Existing Cond/coord with Architect		\$ 2,248			
65% Plan/Profiles/Dtls/Estimate		\$ 12,290			
Specifications (2 submittals)		\$ 3,176			
100% Plan/Profiles/Dtls/Estimate		\$ 6,460			
Subtotal			\$ 24,174	\$ 12,087	\$ 12,087
Task 5W - Preparation of Construction Documents for Phase 2					
Review Existing Cond		\$ 1,896			
65% Plan/Profiles/Dtls/Estimate		\$ 8,072			
Specifications (2 submittals)		\$ 4,060			
SFPUC Permitting		\$ 5,904			
100% Plan/Profiles/Dtls/Estimate		\$ 6,596			
Subtotal			\$ 26,528	\$ 26,528	
Task 6W/6S - Construction Support					
Phase 1		\$ 3,792			
Phase 2		\$ 4,496			
Subtotal			\$ 8,288	\$ 4,144	\$ 4,144
TOTAL	\$ 10,450		\$ 81,396	\$ 52,733	\$ 28,663
Optional Task 2A - Topographic Survey					
Subconsultant - R.E.Y. Engineers	5,500	\$ 5,500	\$ 5,500		\$ 5,500
Optional Task 3A - 35% Site Proposed Utility Plan					
35% Preliminary Layout incl. one meeting		\$ 4,916	\$ 4,916		\$ 4,916
Optional Task 4A - Storm Drain Improvements Design					
Additional design effort for storm drain design		\$ 3,372	\$ 3,372		\$ 3,372

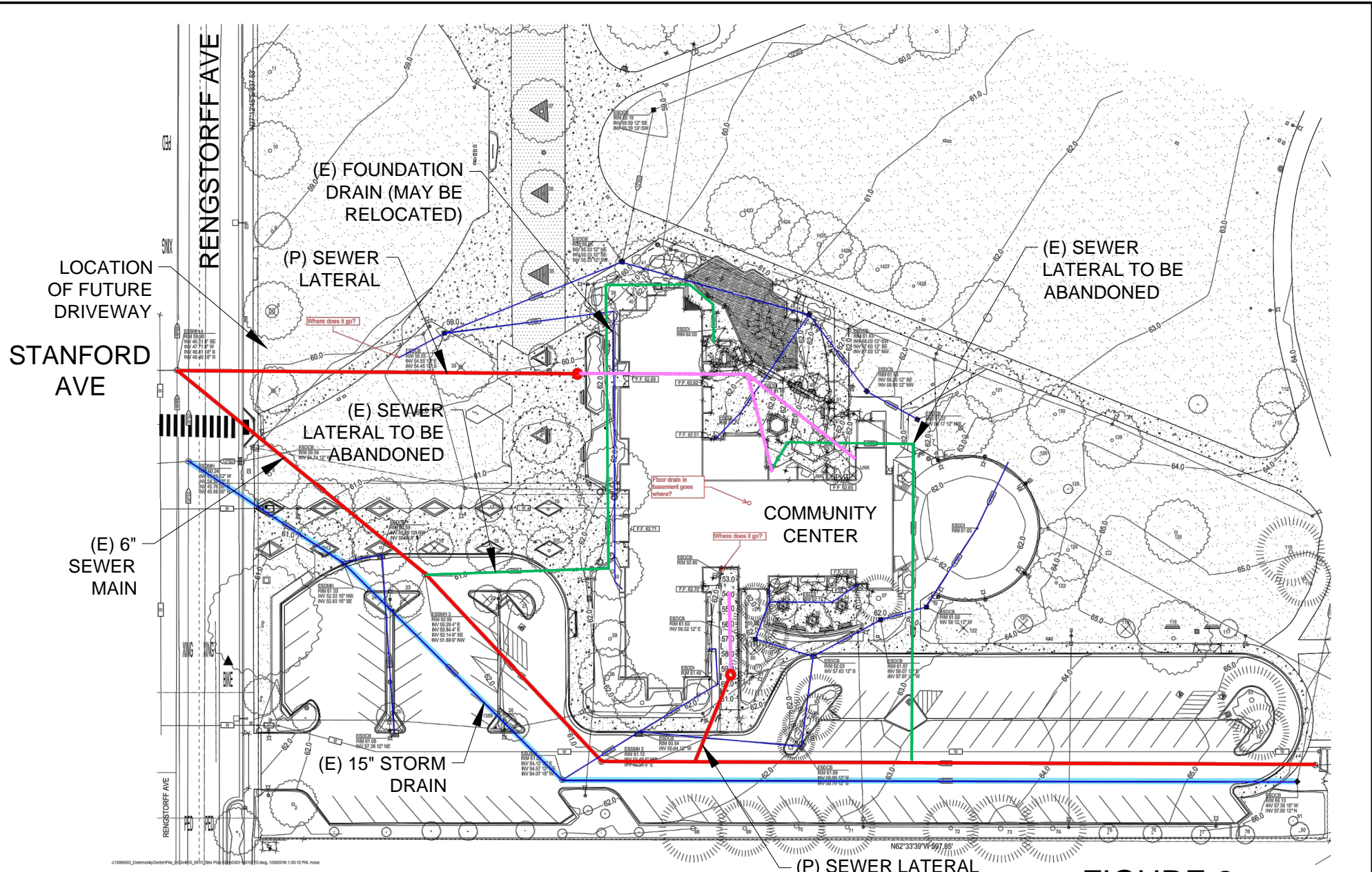


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- W— PHASE 1 WATER MAIN
- W— PHASE 2 WATER MAIN
- W— EXISTING WATER MAIN

FIGURE 1
RENGSTORFF PARK
WATER SYSTEM
IMPROVEMENTS





LEGEND

- SEWER REPLACEMENT BY NV5
- SEWER LATERAL BY DAHLIN GROUP
- POTENTIAL STORM DRAIN REPLACEMENT BY NV5

NOTE: BACKGROUND PROVIDED BY DAHLIN GROUP.

**FIGURE 2
RENGSTORFF PARK
SEWER AND STORM
DRAIN IMPROVEMENTS**

