

CITY OF PALMER ACTION MEMORANDUM No. 09-049

SUBJECT: Authorize the City Manager to Execute Amendment One with Hattenburg Dilley and Linnell for the Palmer Southwest Utility Extension, Phase II in the Amount of \$254,962

AGENDA OF: October

Council action:

Amended and authorized

and Authorize the City Manager to Modify the Legal Component of the Action Memorandum to State that the Legal Fees Should be Limited to the Acquisition of the Property from the University of Alaska Anchorage and the Easement through the Department of Transportation Rights-of-Way

Approved for presentation by B. B. Allen, City Manager B. B. Allen

Route To:	Department/Individual:	Initials/Date:	Remarks:
X	Originator – Public Works	<i>CKL</i>	
X	City Clerk	<i>JR</i> 10/21/09	
X	City Attorney	<i>[Signature]</i> 10/21/09	Please note comments on the attachment.
X	Director of Administration	<i>[Signature]</i>	
	Director of Community Development		
	Director of Community Services		
	Director of Public Safety		
	Director of Public Works		

Attachment(s): Fee Proposal dated July 31, 2009

Certification of Funds:

	No fiscal impact.	
X	Funds are budgeted from this account number: ADEC Grant 67116	02-00-00-1701
	Funds are not budgeted. Budget modification is required. Affected account number:	

Director of Administration Signature: *[Signature]*

Summary statement: The Palmer City Council approved AM 08-054 to execute a Professional Services Agreement (PSA) with Hattenburg Dilley & Linnell (HDL) in the amount of \$366,829 on July 22, 2009. The original project provided site selection, planning, and design of an approximate 1.0 million gallon water storage reservoir located near Trunk Road to serve the southwest portion of the Palmer water system.

The original project included extending the existing water transmission main north approximately 5,000 feet along Trunk Road, adding fire hydrants, and constructing a new reservoir on a relatively flat one to two acre residential parcel on high topography in Pressure

Zone 1. The total original project cost was estimated to be \$3.43 million. The City is currently working with the University of Alaska (UA) to acquire a 5-acre parcel. This 5-acre parcel will incorporate a reservoir and future fire station.

This amendment includes additional engineering, surveying and geotechnical work to design an additional 4,400 feet of water transmission main. The amendment will include preliminary site planning for a future fire station; provide slope stability analysis for the proposed reservoir; plan and design a 1,350 foot access road to connect the eastern portion of the Mat-Su College Campus with the New Trunk Road; design a 2,100 foot water main and a new booster pump station to provide the college with drinking and fire suppression water.

The City received an Alaska Department of Environmental Conservation (ADEC) municipal matching grant 67116 in 2009 in the amount of \$2,401,210.

Administration recommendation: Approve action memorandum 09-049.

July 31, 2009

File: 78-046

Mr. Carter Cole, Director of Public Works
 Sara Jansen, Public Works Administrator
 City of Palmer
 231 West Evergreen Avenue
 Palmer, Alaska 99645

Re: Additional Design Phase Services
Palmer Southwest Utility Extension, Phase II
 Trunk Road Water Main Extension and College Reservoir

Dear Mr. Cole and Ms. Jansen,

As requested, Hattenburg Dilley and Linnell (HDL) has prepared and submits herewith this amendment for additional design phase services for the Palmer Southwest Utility System Extension, Phase II, Trunk Road Water Main Extension and College Reservoir. The tasks and their estimated additional engineering costs are summarized as follows:

Task	Description	Additional Fee
1.	Preliminary Engineering/Reservoir Site Selection Assistance.....	\$0
2.	Additional Land Acquisition Services	-\$19,260
3.	Additional Surveying, Mapping, and Easements	44,780
4.	Additional Geotechnical Engineering.....	50,475
5.	Environmental Permits.....	0
6.	Additional Public Meetings	2,840
7.	Additional Final Design.....	165,750
8.	Additional Bidding Services.....	10,377
9.	Construction Administration.....	0
		\$254,962

Summary

This amendment includes additional engineering, surveying, and geotechnical work to design an additional 4,400 feet of water transmission main; to locate the College Reservoir on a larger, more topographically challenging 5-acre UA parcel being acquired by the City; to perform preliminary site planning for a future fire station; to provide slope stability analysis for the proposed reservoir; to plan and design a 1,350 foot access road to connect the eastern portion of Mat-Su College Campus with new Trunk Road and to design a 2,100-foot

Scott Hattenburg, PE
 Lorie Dilley, PE/CPG
 Dennis Linnell, PE
 David Lundin, PE

water main and a new booster pump station to provide the College with drinking and fire suppression water.

Background

The original project was to do site selection, planning, and design of an approximate 1.0 million gallon water storage reservoir located near Trunk Road to serve the southwest portion of the Palmer water system. The original project included extending the existing water transmission main north approximately 5,000 feet along Trunk Road, adding fire hydrants, and constructing a new reservoir on a relatively flat 1 to 2 acre residential lot on high topography in Pressure Zone 1. The original project cost was estimated to be \$3.43 million. The City has an ADEC municipal matching grant of \$1.715 million to construct the water transmission main and reservoir.

Under Task 1 of our current contract, HDL prepared a Preliminary Engineering Report and determined that the best location for this water reservoir was along the new Trunk Road on UA land near the Mat-Su College campus. This more northerly water reservoir site has the proper elevation to match the elevation of Reservoir 1. Selecting this site avoids the long-term capital and O&M costs of pressure boosting pumps and pressure regulation in the City's Pressure Zone 1 – with the exception of boosting pressure for service to the Mat-Su College campus.

A cost estimate was developed as part of the Preliminary Engineering Report under our Task 1. The preliminary estimate for the water transmission main and reservoir project is \$7.172 million. This excludes the campus connector road, booster pump and water service to the college. The location of the site acquired for this project, the proposed water main alignment, and the proposed access road alignment are shown on the attached Figure 1.

The proposed reservoir location will require the construction of 9,400 feet of water main, which is 4,400 L.F. longer than what was originally anticipated. In addition to the added length of the water main, the agreement between the City of Palmer and UA for acquisition of the reservoir site requires that the City construct an access road to connect the eastern portion of Mat-Su College with new Trunk Road and provide the College with drinking and fire suppression water. This requires a booster pump, because of the campus's high elevation relative to Pressure Zone 1.

The City has also expressed an interest in building a fire station and police substation at the reservoir site. While full design of the buildings is not included in this amendment, a preliminary conceptual design is needed (because of the topography) to assure that all facilities including cut and fill slopes will work on this site.

In addition, because of the steep topography at the reservoir site, additional geotechnical borings and a slope stability analysis are needed to design the tank to current seismic code requirements. We expect significant foundation improvements will be needed to make the

reservoir meet current seismic codes. Other sites were considered, but the proposed reservoir location is fixed by elevation. An elevated reservoir was considered, but deemed less economically feasible because of the seismic design requirements.

Additional Proposed Services

We propose to provide additional professional services required for design of the improvements and to assist the City with competitive bidding and selection of a contractor to construct the work. It is assumed that this project will be bid under two separate contracts; one for procurement and erection of a steel water tank and associated site work, and one for construction of the UA Facilities improvements and water main extension. We understand that the City would like to construct this project during the 2010 and 2011 construction seasons. Additional services required for this project as currently scoped are anticipated as follows:

TASK 2 – Land Acquisition

It is our understanding that the preferred alternative presented in the Preliminary Engineering Report will be advanced by the City. The City of Palmer has negotiated a deal with the University of Alaska to acquire a tract of land suitable for construction of an at-grade reservoir; therefore, certain sections of the original scope of services under this task can be deleted. The following items will be provided in addition to our original scope of work:

- a. Land Owner Coordination. HDL will coordinate with ADOT for placement of the water main within the ROW for new Trunk Road. In the event that ADOT is not receptive of the proposed water main alignment, additional utility easements may be required.
- b. Easements. HDL will negotiate approximately 3,500 feet of utility easements for the water main along the existing Trunk Road alignment; a reduction of 1,500 feet from the original scope of services. An additional 5,400 feet of utility easements may be required along the new Trunk Road ROW if coordination with construction is unsuccessful. HDL will prepare written legal descriptions and exhibits for temporary construction and permanent utility easements. Dryden and LaRue (D&L), our right-of-way consultant, will prepare easement agreements and make offers on behalf of the City. The attached proposal from D&L details the anticipated services to be provided. Extended negotiations may result in additional fee. We anticipate that the initial easement offers will be based on a factor of 2009 Borough assessed valuation.
- c. Land Acquisition Negotiations. It is our understanding that the City has negotiated with the University of Alaska for the acquisition of a 5 acre parcel of land on the northern portion of UA property. The exact site boundaries are dependant on the final layout of structures located on the site. Upon final site design, HDL will prepare a legal description of the site, sketches, and agreements for City processing.

- d. Appraisal Services. Removed.
- e. Review Appraisal. Removed.

TASK 3 – Surveying

HDL has recovered much existing survey monumentation during previous work on this project. We have also performed a portion of the boundary survey needed for the plat and tied our entire survey to DOT project STP-0001(117) Trunk Road Reconstruction to form our basis of horizontal and vertical control. We have also completed a portion of the design survey for the proposed tank area and performed property and section line easement research. With the revised alignment there are significant changes in the scope of the boundary and design surveys. The following sections and revised fee define the scope changes.

- a. Design Survey. We will provide a detailed design survey of the remaining reservoir parcel and water line route where it connects from the reservoir to the new Trunk Road alignment, the spur road from the reservoir to Trunk Road, and for the portion of the water line from E. Duchess Drive to the connection with Phase 1. We will also perform an additional design survey for a proposed access road from the reservoir site to the UAA campus road. The remainder of the reservoir site and the access road will require additional time as they are heavily vegetated and contain steep topography. This survey will provide sufficient overlap with the DOT design data on both ends. All topographical and planimetric features needed for design will be collected. Topographic data will be collected at ground breaks and at 100-foot stations, with 50 and 100-foot shots each side of centerline. A 60-foot wide utility corridor is anticipated. On the reservoir site, we anticipate surveying a 50-foot grid for a 2-acre parcel. We will coordinate with the local utility companies and locate underground utilities that may affect the reservoir site or water line design. The topographic and planimetric data will be reduced to produce 2-foot contour base mapping.
- b. Platting. The new site is located on a much larger parent parcel and will require more effort to establish the boundary. With this field survey complete, HDL will prepare a preliminary plat and application for submittal to the MSB Platting Department. We anticipate subdividing the parent parcel into a 2-acre parcel for the reservoir site, a 5-acre site for the proposed fire station, and the remainder portion for UAA. Costs to create additional parcels from the remainder portion are not included in this proposal. We will process said plat through the platting process and provide any additional documents or drawings MSB may require. HDL will attend and represent the City during the platting hearings. After approval from the Platting Board, we will work with the City and MSB to resolve the platting conditions imposed by the Board. We will set survey monumentation required by MSB code and record the final mylar. The City attorney will provide all legal documents required to convey the parcel of land to the City.

- d. Easements. A portion of the proposed alignment is located within the new Trunk Road right-of-way. The remainder of the alignment is located along the old Trunk Road and will require easements for four parcels. We will prepare the written legal descriptions and exhibits for the temporary construction and permanent easements. Dryden and LaRue, our consultant, will prepare the easement agreements under Task 2. We anticipate that the cost of easements will be based on a factor of 2009 Borough assessed valuation. We will work closely with the City and our land consultant to resolve these right-of-way issues.
- e. Survey Control for Construction. During field surveys, we will set primary horizontal and vertical control points for the portion along the old Trunk Road. 5/8-inch rebar with stamped caps will be set at approximate 1000-foot intervals along the corridor. Coordinates and elevations will be established and provided to the contractor for control during construction. Additional vertical control will be established along the corridor to aid in construction. A survey control diagram will be prepared and included in the plan set for the project.

TASK 4 – Geotechnical Engineering

- a. Geotechnical Investigation. We propose to conduct a total of 7 borings (3 more than originally proposed) within the vicinity of the proposed water tank site. The American Water Works Association (AWWA) recommends that four borings be advanced in the immediate vicinity of a proposed water tank for foundation evaluation and analysis. The other three borings will be located at the bottom, or toe of the existing slopes to allow analysis of slope stability. The total depth of the borings will be 380 feet (an additional 260 feet) with the deepest borings in the approximate middle of the tank and at the top of the slope. Table 1 presents the depth of each boring. Figure 2 presents the approximate location of each boring. Modifications to the boring plan may be required because access to the selected boring locations may prove to be difficult. Discovery Drilling of Anchorage, Alaska will be our drilling contractor. We will notify you 24-hours in advance of the start of drilling.

Table 1: Depth of Each Boring

<u>Boring</u>	<u>Depth (ft)</u>
1	110
2	50
3	110
4	30
5	30
6	30
7	20

We originally proposed to advance 10 boring to 15 feet in depth along the water line alignment which follows the new and existing Trunk Road. We will now use the existing soils information from DOT along the new Trunk Road alignment and propose to

advance 8 borings to 15 feet along the water line alignment that parallels the existing Trunk Road. These borings will be spaced at approximately 500-foot spacing and in areas suspected of adverse construction conditions such as erratics, silt-laden depressions, deep layers of surficial silt, and high-ground water. The total depth for these borings will be 120 feet (30 feet less than originally proposed). The majority of these borings will be performed along existing Trunk Road, which is a heavily traveled road. We will coordinate with the DOT for a right-of-way permit. We will try to limit the borings to along the road shoulder; however, we will still need to close one-lane due to the narrow width of the shoulder and road. Flaggers will be needed along the road during the drilling.

We will also advance 4 additional borings along the proposed access road connection between Mat-Su College and the new Trunk Road alignment. The depth of each boring will be 15 feet, for a total of 60 feet. This will allow us to characterize the supporting soils and provide adequate design recommendations for the new roadway.

Originally the total drilling depth was 270 feet. We propose to drill a total of 560 feet. The majority of which will be located at the proposed tank site.

Spilt-spoon samples will be obtained at 2.5 feet, 5 feet and at 5 foot intervals thereafter. An engineering geologist from our office will be on-site during the drilling in order to evaluate the nature of the soils, collect samples, and to observe the drilling action. A 1-inch slotted PVC pipe will be placed in each of the borings near the water tank, and in ten of the borings along the water main alignment. The borings will be backfilled with native material and a cap will be placed on the top of each PVC pipe. Cold patch asphalt will be placed to complete the borings in the road. Approximately one to two weeks after the drilling is completed the groundwater levels will be checked in each of the monitored borings.

Select samples will be analyzed in our laboratory for moisture content and grain size among other tests. After the field and laboratory work is completed, a geotechnical report will be prepared detailing the geotechnical data, our interpretation of the subsurface conditions, slope stability analysis, and design recommendations. Design recommendations will be developed for the water storage tank foundation as well as slope stabilization. The report will be supported by drilling logs and other data that was used to prepare the recommendations. The report will be stamped by a professional engineer and we will supply one loose original and two bound copies of the report.

TASK 6 - Public Meetings

- a. Public Meeting Workshops. Under separate contract, the City used Brooks and Associates for a public open house already conducted. HDL provided technical assistance and prepared discussion boards under this task. Time spent in this meeting

has been accounted for in the attached fee proposal. This public open house was conducted in addition to the original two City Council workshops and one open house with the City/Borough.

TASK 7 - Final Design

Work under the Final Design task has changed significantly. Because of the nature of these changes, we propose to provide the following additional final design phase services under this task:

- a. Construction Plans and Specifications (Sitework). We will prepare a complete set of construction documents; including plans prepared using AutoCAD® 2008 and a Project Manual of bidding and contract documents. The plans will include site plans, cross-sections, details, general notes, legend and abbreviations, storm water and utility improvements, and erosion control requirements. Specifications will be based on the Engineers Joint Contract Documents Committee (EJCDC) Masterspec, as amended for local, state and federal special provisions. We anticipate the following additional civil drawing sheets plus additional electrical drawing sheets:

1	Site Plan and Site Sections
3	Building Structural and Foundations
<hr/>	
4	Additional Sheets, plus Mechanical and Electrical

- b. Booster Station Design. HDL will prepare mechanical, electrical, structural and civil drawings for a new booster station to provide the Mat-Su College with drinking and fire protection water. Work will include analysis of the college's water pressure system needs and design of the pumps, power supply and controls needed for the booster station. It is assumed that MEA will provide utility extension design and construction to the site. We have included an allowance of \$30,000 for mechanical and electrical engineering and controls.
- c. Construction Plans and Specifications (Access Road and Transmission Main). We will prepare a complete set of construction documents; including plans prepared using AutoCAD® 2008 and a Project Manual of bidding and contract documents. The plans will include plan and profiles, cross-sections, details, general notes, legend and abbreviations, storm water and utility improvements, and erosion control requirements. Specifications will be based on the 1998 Palmer Standard Specifications as amended for local, state and federal special provisions. We anticipate the following additional civil drawing sheets plus additional electrical drawing sheets:

1	Cover Sheet / Drawing Index
1	Notes, Abbreviations and Legend
1	Sheet Map, Project Layout Plan
2	Survey Control
7	Plan and Profile – Water
5	Plan and Profile – Access Road
3	Access Road Details
<hr/>	
20	Total, plus Electrical

- d. Construction Cost Estimates. We will prepare an additional preliminary construction cost estimate when design is approximately 65% complete and then update the construction cost estimate at final design to reflect final quantities and pay items determined in the final detailing of the work. Quantities will be updated and we will re-examine and update unit prices to provide an accurate final estimate.
- e. Electrical Engineering and Controls. Our consultant, EDC, Inc., will coordinate with Matanuska Electric Association to bring utility electrical power to the site. They will design electrical power distribution at the reservoir site for lighting, security, and level controls for the water reservoir. It is our understanding that the City is currently upgrading its existing control system at Reservoir 1. Our electrical consultant will design the level control system at the new reservoir to interface with the upgraded control system at Reservoir 1. We assume that standby power will not be required and that the new reservoir is within 800 feet of existing MEA power. EDC, Inc. will also perform electrical design work for the proposed access road including light layout, conduit and conductor sizing, and pole, foundation, load center and junction box details.
- f. Quality Assurance (QA) Program. HDL will perform an internal review of the additional bidding documents. Our internal QA review will be performed by an independent senior-level professional engineer in the firm. Comments will be addressed and resolved, and documents updated prior to submission. The design documents will be submitted to the City and UA at the 65%, 95% and 100% design stages, and to ADEC at the final stage. The ADEC will review final plans and specifications and accept the design prior to bidding the project. HDL will coordinate comments received and will resolve and respond in writing after a formal review conference.
- g. Final Plans. Once the design is approved in writing by the ADEC, we will then provide stamped 100% plans that are bid-ready. We have included the cost for an additional 12 plan sets for the City, UA, agencies, and consultant team. We assume that the City will use their “on-line” process to electronically distribute construction documents to prospective bidders, so we have not included the cost of reproducing documents for bidders.

- h. Bid Packages. We will prepare one set of bid documents for the waterline in the Trunk Road ROW to be negotiated with Trunk Road contractor, and one bid package that includes the water reservoir, booster station for the University, and the rest of the water line improvements not in Trunk Road and road improvements.

TASK 8 – Bidding Phase

- a. Bidding Phase Services. HDL will assist the City in bidding both projects and getting the successful bidders under contract for the work. On behalf of the City, we will prepare the invitation to bid, public notices, respond to bidders' questions, conduct a pre-bid conference, issue written addendums, tabulate bids and check proposals for completeness, review bonding and insurance submittals, and provide a written recommendation for award to the City based on the lowest responsive bid.

ASSUMPTIONS

The following basic assumptions were used to prepare this estimate. Anything to the contrary may require a contract amendment depending on the extent of the scope deviation and level of effort required to address it.

1. We will issue two sets of bid documents, one for the water line in Trunk Road, and one for the water reservoir and other water system and road improvements.
2. Eminent domain will not be required.
3. A categorical exclusion (CE) will be granted by the EPA. Discovery of impacts to cultural resources, wildlife, farmlands, or significant public controversy may trigger an environmental assessment (EA).
4. Cultural resource studies are not anticipated.
5. Coordination of construction activities with construction of new Trunk Road is successful and ADOT allows construction of the water main extension within their right-of-way.
6. Surveying and geotechnical investigations by DOT for new Trunk Road will be reused to the extent practical.
7. **The City will provide legal services, if required.**
8. Advertising during the bid process is not included.
9. The improvements will be designed in two packages with separate plan sets and contract documents.
10. CA and Inspection under Task 9 is not included in this fee estimate. The CA scope, level of effort, and fee will be determined when the design is complete and the actual construction phase schedule is known.
11. Design and construction of natural gas, power, telephone and cable television utility relocations and extensions to the reservoir site, if necessary, are

Attorney Gatti has expressed concern over the language and will expand on his concerns during the meeting.

assumed will be provided by the utility companies. We will provide coordination of this work on behalf of the City.

12. Traffic Control Plans will be specified as contractor-provided.
13. Storm Water Pollution Prevention Plan will be specified as contractor-provided.

SCHEDULE

The schedule is driven mostly by tank manufacturer's ability to fabricate and deliver the steel for the water tank, and delivery time for water line pipe. Conversations with local tank suppliers have estimated the delivery time for a fabricated steel water tank at about 4 months from notice to proceed, not including erection. We anticipate completing the survey and geotechnical tasks by August 31, 2009, and having bid-ready construction documents by November 31, 2009. In the interim between bidding and construction, procurement of a fabricated steel reservoir will be accomplished in preparation of construction the following summer.

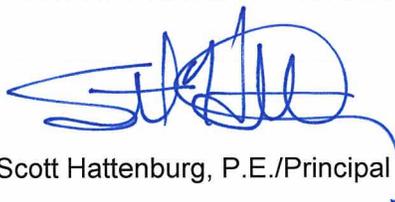
FEE

We propose to provide the aforementioned services on an hourly basis at our published hourly rates in accordance with the fee estimate dated July 31, 2009 consisting of 5 pages attached herewith. See page 1 of this letter for a summary by task, including markup. Reimbursable expenses and subconsultants are charged at cost plus 5%.

We appreciate the opportunity to work on this very exciting project and will continue to work towards completion of the task at hand. If you have any questions, you can contact me at (907) 564-2120, or at shattenburg@hdlalaska.com.

Sincerely,

HATTENBURG DILLEY & LINNELL, LLC



Scott Hattenburg, P.E./Principal Engineer

Attach: Fee Worksheet (5 pages)
Figure 1 (1 page)

Project: Southwest Utility Extension Phase IIA

Fee Summary by Task

Date Prepared: July 31 2009

<u>Task</u>	<u>Description</u>	<u>Additional Fee</u>
1.	Preliminary Engineering/Reservoir Site Selection Assistance.....	\$0
2.	Additional Land Acquisition Services	-\$19,260
3.	Additional Surveying, Mapping, and Easements	44,780
4.	Additional Geotechnical Engineering.....	50,475
5.	Environmental Permits.....	0
6.	Additional Public Meetings	2,840
7.	Additional Final Design.....	165,750
8.	Additional Bidding Services.....	10,377
9.	Construction Administration.....	0
		<hr/>
		\$254,962

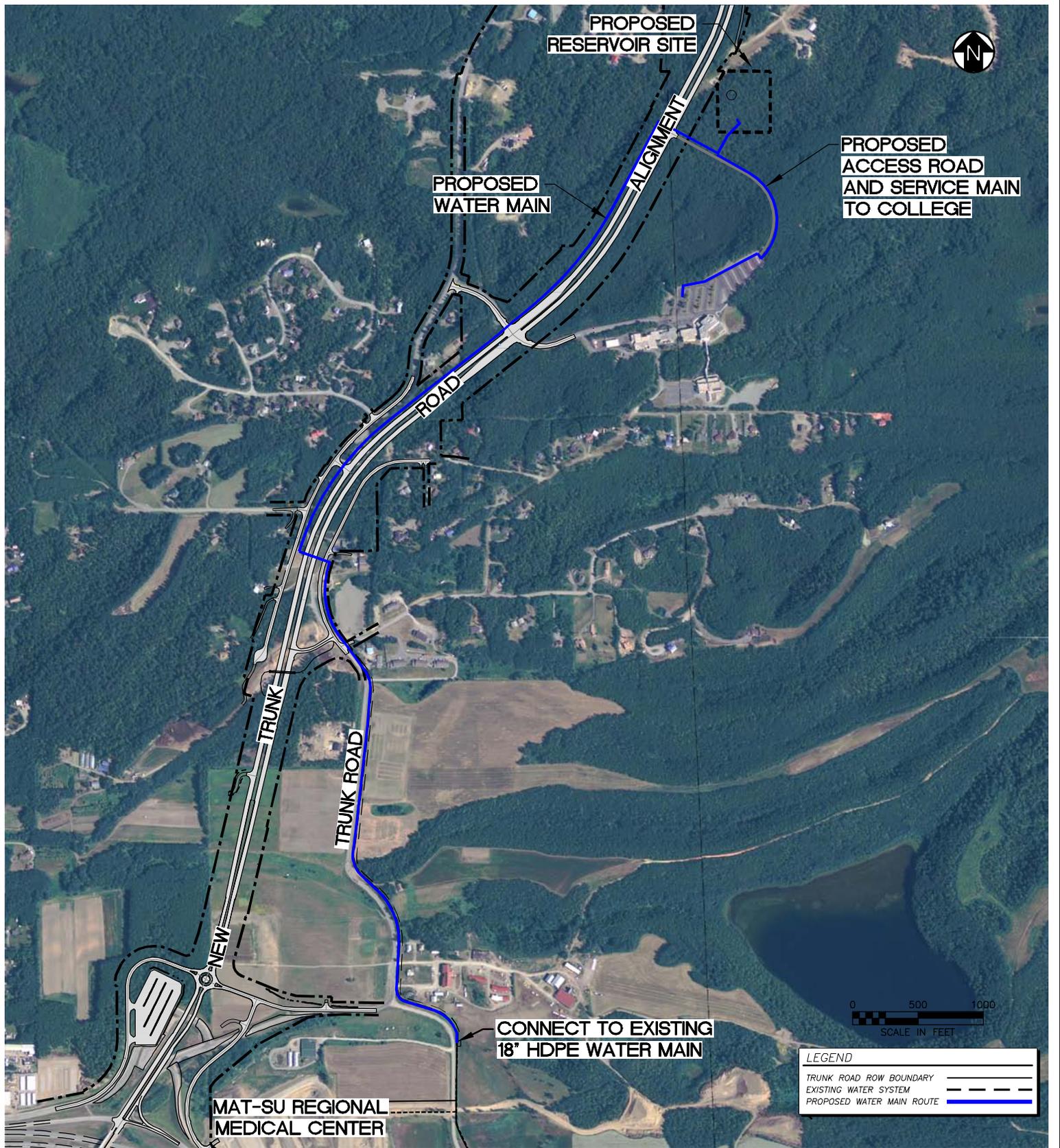
Project: Palmer Southwest Utility System Extension Phase II
 Engineer: Hattenburg Dilley & Linnell
 Scope: Revised Scope of Services
 Date Prepared: 07/31/09

TASK	ACTIVITY	QTY	RATE	LABOR	SUB	REIMB	ITEM TOTAL	TOTAL
1.0 Preliminary Engineering.....								No Change
2.0 Additional Land Acquisition Services								(17,760)
	<u>Appraisals (Reservoir Site) (Delete)</u>						(15,000)	
	Appraisal Allowance	1 allow	@ \$7,500		(7,500)			
	Check Appraisal Allowance	1 allow	@ \$7,500		(7,500)			
	<u>1,500 Feet of Easement (Deduct)</u>						(7,500)	
	Land Acquisition Negotiations	1 allow	@ \$7,500		(7,500)			
	<u>Reservoir Site Negotiations (Deduct)</u>						(7,500)	
	Land Acquisition Negotiations	1 allow	@ \$7,500		(7,500)			
	<u>Additional ADOT Coordination & Permitting</u>						12,240	
	Principal	12 hrs	@ \$145	1,740				
	Associate Engineer	40 hrs	@ \$120	4,800				
	Staff Engineer	60 hrs	@ \$95	5,700				
3.0 Additional Surveying, Mapping, and Easements								\$44,780
	<u>Research</u>						(160)	
	Survey Manager Rate Adjust	16 hrs	@ \$ 5	80				
	Survey Technician Rate Adjust	24 hrs	- @ \$ 10	(240)				
	<u>Additional Field Work, Design, and Boundary for Plat</u>						23,180	
	Survey Manager	8 hrs	@ \$ 130	1,040				
	Deduct Survey Technician	16 hrs	@ \$ 75	(1,200)				
	2-Man Survey Crew	140 hrs	@ \$ 185	25,900				
	Deduct 1-Man Survey Crew	16 hrs	@ \$ 135	(2,160)				
	Survey Manager Rate Adjust	32 hrs	@ \$ 5	160				
	Survey Technician Rate Adjust	56 hrs	- @ \$ 10	(560)				
	<u>Additional Topographic and Survey Control Drawings</u>						6,680	
	Survey Manger	16 hrs	@ \$ 130	2,080				
	Survey Technician	132 hrs	@ \$ 75	9,900				
	Deduct Drafting Technician	60 hrs	@ \$ 85	(5,100)				
	Survey Manager Rate Adjust	8 hrs	@ \$ 5	40				
	Survey Technician Rate Adjust	24 hrs	- @ \$ 10	(240)				
	<u>Additional Preliminary/Final Plat, Public Hearings</u>						12,680	
	Survey Manager	40 hrs	@ \$ 130	5,200				
	Deduct Surveyor Technician	20 hrs	@ \$ 75	(1,500)				

TASK	ACTIVITY	QTY	RATE	LABOR	SUB	REIMB	TOTAL	TOTAL	
	Drafting Technician	20 hrs	@ \$ 85	1,700					
	(Set Monuments) 2-Man Crew	40 hrs	@ \$ 185	7,400					
	Survey Manager Rate Adjust	16 hrs	@ \$ 5	80					
	Surveyor Technician Rate Adjust	20 hrs	- @ \$ 10	(200)					
	<u>Additional Easement Preparation (4 Parcels)</u>							2,400	
	Survey Manager	8 hrs	@ \$ 130	1,040					
	Drafting Technician	16 hrs	@ \$ 85	1,360					
4.0	Additional Geotechnical Engineering.....								\$49,200
	<u>Additional Fieldwork</u>							30,900	
	Project Engineer	60 hrs	@ \$ 90	5,400					
	Mob/Demob Drill Rig	1 ea	@ \$ 1,500		1,500				
	Clearing by Drilling Contractor	2 day	@ \$ 3,000		6,000				
	Drilling 6 Borings (20 to 110 ft. ea)	6 day	@ \$ 3,000		18,000				
	<u>Additional Laboratory Analysis</u>							1,100	
	Grain Size/Atterburg Limit	8 ea	@ \$ 75	600					
	P200	10 ea	@ \$ 35	350					
	Moisture Content	15 ea	@ \$ 10	150					
	<u>Additional Memo Report and Recommendations</u>							1,800	
	Project Engineer	20 hrs	@ \$ 90	1,800					
	<u>Additional Slope Stability Analysis</u>							15,400	
	Project Manager	40 hrs	@ \$ 160	6,400					
	Project Engineer	100 hrs	@ \$ 90	9,000					
5.0	Environmental Permits.....								No Change
6.0	Additional Public Meetings								\$2,840
	<u>Additional Meeting w/ UA</u>							2,840	
	Principal	4 hrs	@ \$145	580					
	Associate Engineer	4 hrs	@ \$120	480					
	Staff Engineer	8 hrs	@ \$95	760					
	Drafting Technician	12 hrs	@ \$85	1,020					
7.0	Additional Final Design.....								\$163,900
	<u>Additional Quality Assurance</u>							1,160	
	Principal	8 hrs	@ \$145	1,160					
	<u>Additional Water Tank Plan Set (4 Sheets)</u>							17,600	
	Associate Engineer	40 hrs	@ \$120	4,800					
	Staff Engineer	40 hrs	@ \$95	3,800					
	Drafting Technician	100 hrs	@ \$85	8,500					
	Reimbursables	1 sum	@ \$500			500			

TASK	ACTIVITY	QTY	RATE	LABOR	SUB	REIMB	TOTAL	TOTAL
	<u>Booster Station</u>						42,800	
	Electrical and Controls	1 allow	@ \$15,000		15,000			
	Mechanical	1 allow	@ \$15,000		15,000			
	Structural and Foundations	60 hrs	@ \$100		6,000			
	Drafting Technician	80 hrs	@ \$85	6,800				
	<u>Additional Specifications & Bidding Documents</u>						5,290	
	Associate Engineer	16 hrs	@ \$120	1,920				
	Staff Engineer	30 hrs	@ \$95	2,850				
	Clerical	8 hrs	@ \$65	520				
	<u>Additional Cost Estimate</u>						2,130	
	Associate Engineer	4 hrs	@ \$120	480				
	Staff Engineer	12 hrs	@ \$95	1,140				
	Drafting Technician	6 hrs	@ \$85	510				
	<u>Additional Quality Assurance</u>						2,320	
	Principal	16 hrs	@ \$145	2,320				
	<u>Additional Water Main Plan Set (20 Sheets)</u>						67,100	
	Associate Engineer	120 hrs	@ \$120	14,400				
	Staff Engineer	120 hrs	@ \$95	11,400				
	Drafting Technician	480 hrs	@ \$85	40,800				
	Reimbursables	1 sum	@ \$500			500		
	<u>Additional Specifications & Bidding Documents</u>						5,290	
	Associate Engineer	16 hrs	@ \$120	1,920				
	Staff Engineer	30 hrs	@ \$95	2,850				
	Clerical	8 hrs	@ \$65	520				
	<u>Bid Document Repackaging</u>						10,160	
	Associate Engineer	16 hrs	@ \$120	1,920				
	Staff Engineer	40 hrs	@ \$95	3,800				
	Drafting Technician	40 hrs	@ \$85	3,400				
	Clerical	16 hrs	@ \$65	1,040				
	<u>Additional Cost Estimate</u>						5,070	
	Associate Engineer	10 hrs	@ \$120	1,200				
	Staff Engineer	30 hrs	@ \$95	2,850				
	Drafting Technician	12 hrs	@ \$85	1,020				
	<u>Additional Concept Plan</u>						4,980	
	Associate Engineer	6 hrs	@ \$120	720				
	Staff Engineer	18 hrs	@ \$95	1,710				
	Drafting Technician	30 hrs	@ \$85	2,550				
8.0	Additional Bidding Services.....							\$10,350
	<u>Additional Bid Package</u>						800	
	<u>Documents</u>							

<u>TASK</u>	<u>ACTIVITY</u>	<u>QTY</u>	<u>RATE</u>	<u>LABOR</u>	<u>SUB</u>	<u>REIMB</u>	<u>TOTAL</u>	<u>TOTAL</u>	
	Clerical	4 hrs	@ \$65	260					
	Reproduction	12 sets	@ \$45			540			
	<u>Additional Pre-Bid Conference</u>							2,120	
	Associate Engineer	6 hrs	@ \$120	720					
	Staff Engineer	12 hrs	@ \$95	1,140					
	Clerical	4 hrs	@ \$65	260					
	<u>Additional Assistance During Bidding</u>							6,060	
	Principal	4 hrs	@ \$145	580					
	Associate Engineer	16 hrs	@ \$120	1,920					
	Staff Engineer	24 hrs	@ \$95	2,280					
	Drafting Technician	12 hrs	@ \$85	1,020					
	Clerical	4 hrs	@ \$65	260					
	<u>Additional Bid Review & Tabulation</u>							1,370	
	Associate Engineer	4 hrs	@ \$120	480					
	Staff Engineer	8 hrs	@ \$95	760					
	Clerical	2 hrs	@ \$65	130					
	Subtotal			\$220,270	31,500	\$1,540		\$253,310	
	5% Markup				\$1,575	\$77		\$1,652	
	TOTAL			\$220,270	\$33,075	\$1,617		\$254,962	



PALMER SOUTHWEST UTILITY EXTENSION PHASE IIA
 UTILITY EXTENSION PROJECT
 PALMER, ALASKA

FIGURE 1
PROPOSED UTILITY IMPROVEMENTS

PREPARED BY:
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