

Herrera Environmental Consultants, Inc.

Memorandum

To Buck Lindekugel, Southeast Alaska Conservation Council (SEACC)
From Kathleen Adams and Michael Spillane, PE, Herrera Environmental Consultants
Date March 21, 2005
Subject Review of Highway Construction and O&M Costs for Alternatives 2 and 2C of the *Juneau Access Improvements: Supplemental Draft Environmental Impact Statement*

Introduction

This memorandum presents the results of Herrera's review of the cost estimates provided in the *Juneau Access Improvements: Supplemental Draft Environmental Impact Statement* (Juneau Access Improvements SDEIS) for the Juneau Access Road proposed by Alaska Department of Transportation and Public Facilities (ADOT&PF). Specifically, Herrera reviewed the highway construction costs, highway O&M costs, and avalanche O&M costs for the East Lynn Canal Alternatives 2 and 2C. Because of the similarity of the alternatives, the construction costs associated with Alternative 2A and 2B can be evaluated by deducting the costs associated with the Berners Bay MP 50.5 to 53.5 (2A) and Skagway MP 91.3 to 109.1 (2B) road sections. Construction costs for Slate Cove and Katzehin ferry terminals, construction engineering, preliminary development, mitigation, right of way, and maintenance building costs were not included as part of this review. Those costs are being evaluated and reviewed by others.

Based on our review, we have concluded that some costs associated with the construction of the Lynn Canal road are low and other costs that could reasonably be estimated at this stage of the project have not been included in ADOT&PF's cost estimates. The low costs appear to largely be due to the use of unit prices that are below typical unit prices. The use of low unit prices would likely be based on an assumption of economy of scale (the principle that higher volume operations have lower unit costs than smaller volume operations). However, ADOT&PF has not provided a list of assumptions used in the cost estimates that would typically include assumptions used to justify any economies of scale. At this stage in project planning, given the inherent uncertainties due to limited information regarding the corridor and limited design detail, the use of conservative typical prices would be more appropriate than the use of economies of scale in developing cost estimates. As an example of the limited information currently available, a geotechnical report has not been prepared for the project. While this is not unreasonable at this early stage in the project, the lack of a detailed geotechnical report should lead to the use of conservative pricing for bid tab items related to excavation and roadway structures. A

geotechnical report would be necessary to determine whether economies of scale are justified as cost estimates are refined in a later stage of the project.

Costs that appear to be low include bid tab items 203 (Unclassified Excavation), 301 (Crushed Aggregate Base), 307 (EATB), 401 (Asphalt Concrete Pavement), 501 (Bridge Structure), and 637 (Reinforced Earth Wall). Costs that could have been disclosed in the ADOT&PF's cost estimates provided in the Juneau Access Improvements SDEIS (more detail provided in a later section of this memorandum) include the following:

- Permanent rockfall mitigation (e.g., catchment fences, wire mesh draping, flexible or rigid barriers, additional cut).
- Pedestrian Bridge and tunnel between MP 105.5 and 109.1 are not identified.
- Beach protection (riprap) will be required in several locations (MP65.4 and 67.6) to protect against wave action.
- Avalanche control structures and special mitigation has been identified but does not appear to be included in the construction costs.
- Screening walls to provide a visual separation between the road and haul-out areas may be necessary between MP 79.8 and 88.2 (Gran Point area) where the road profile moves into a fill/retaining wall condition.
- Avalanche spur roads and turnouts.
- Open pads for Howitzter avalanche control.
- Avalanche mitigation capital costs.

Highway Construction Cost Review

To evaluate the highway construction costs for Alternatives 2 and 2C, the cost estimates contained in *Attachment E – Engineers Estimates of the Juneau Access Improvements SDEIS: Appendix D Technical Alignment Report* (Attachment E: Engineers Estimate) were compared to industry guides on construction costs including *RS Means Heavy Construction Cost Data* and *The Guide: Building Construction Material Prices for use in Alaska, Oregon and Washington, Fall/Winter 2004* version (www.bestconstructionsite.com). In addition, the cost estimate unit prices were also compared to bid compilations (see attachment A) for similar types of construction recently performed in Skagway and Juneau: Juneau Glacier Highway and Trailhead project (January 2005) and Dyca Road Safety Improvements (October 2004). The Glacier Highway and Trailhead project basic bid price was approximately \$10 million. The Juneau Access (Alt 2, 2C) basic bid price is \$205 million. The bid compilation unit prices showing the

original engineers estimate as well as the submitted bids from 3 contractors were reviewed and compared to estimated unit costs for Alternatives 2 and 2C to assess reasonable bidding ranges.

The highway construction cost estimate for Alternatives 2 and 2C include 23 bid tab items. Our evaluation of these costs is presented below by lump sum price and unit price bid tab items.

Lump Sum Price Bid Tab Items

Five of the 23 bid tab items contained in the construction cost estimate are lump sum items. They include Clearing, Seeding, Mobilization and Demobilization, Erosion and Pollution Control, and Construction Surveying. Because the costs were presented as a lump sum, detailed evaluation of these items was limited. The following is a summary of the lump sum items:

Seeding and Clearing together comprise approximately 0.5% of the estimated basic bid construction cost. These items could be calculated by attributing a unit cost by area (acreage) and then calculating the area to be treated.

Mobilization and Demobilization comprises 8% of the estimated basic bid construction cost. Due to the remote conditions, restrictions proposed to mitigate the effects on wildlife, logistics in procuring materials and equipment, the limited construction season, and potential need for multiple mobilizations, this lump sum amount may be under estimated. Costs for mobilization and demobilization should be refined to accurately reflect site conditions, likely construction phasing, and logistics.

Erosion and Pollution Control comprises 0.2% of the estimated basic bid construction cost. Based on the nature of work (e.g., rock excavation, riprap placement, construction of earth walls), the proximity to shorelines, and the number of river and stream crossings, this cost appears low. It is recommended that unit price breakdown be performed to better estimate actual costs to perform this work.

Survey comprises 0.5% of the estimated basic bid construction cost. This appears reasonable based on typical costs per mile for other similar work.

Unit Price Bid Tab Items

As stated above, the Juneau Access basic bid alternative 2 and 2C unit prices were compared to local project bid compilations for similar types of construction. While considering economies of scale and efficiencies in work which can lower unit prices, several unit prices in the Juneau Access basic bid (Alternative 2, 2C) appear low. The following is a summary of the major bid unit price items that should be verified and refined with additional design detail to obtain a more accurate estimate.

Bid Tab 203 (3) Unclassified Excavation

Attachment E: Engineers Estimate uses 2.50 per cubic yard to estimate this item, which appears low. However, an economy of scale reduction in unit price would be a reasonable assumption. Location of excavation and quantity in each location may also affect the cost. If the excavation is not concentrated, a more typical unit cost ranges between \$10.00 and \$14.00 per cubic yard.

- *This unit cost may be significantly low. For alignment 2 and 2C, this could result in an additional increase of approximately \$14 million assuming the lower cost per unit in the range identified above.*

Bid Tab Item 301 (2) Crushed Aggregate Base

Attachment E: Engineers Estimate shows a unit price of \$12.00 per cubic yard for this item. There may be an economy of scale reduction in this unit price. Additionally, spoils from rock blasting, if suitable, would likely be processed to manufacture the crushed aggregate base. However, typical costs range between \$20.00 and \$30.00 per cubic yard.

- *This unit cost may be significantly low. For alignment 2 and 2C, this could result in an additional increase of approximately \$1 million assuming the lower cost per unit price in the range identified above.*

Bid Tab Item 307 (3) EATB

The pavement section in Figure 3-1 of Appendix D Technical Alignment Report shows 2 inches of asphalt concrete over 6 inches of base course. It is therefore assumed that the emulsified asphalt treated base (EATB) unit price of \$3.75 is for treating 6 inches of base course shown in Figure 3-1. Typical prices of EATB with an application of 2 gallons per square yard mixed 6 inches deep run approximately \$5.75 per square yard (RS MEANS 02340-500-0200). There may be an economy of scale reduction in this unit price based on application of EATB over the 68 mile alignment. However, a reduction of 35% in cost due to the economy of scale is inappropriate at this stage of the project (see introduction).

- *This unit price may be up to \$2.00 per square yard below typical unit prices. For alignment 2 and 2C, this could result in an additional increase of \$2.4 million assuming the typical unit price (a cost of \$5.75 per square yard).*

Bid Tab Item 401 (1) Asphalt Concrete Pavement

The pavement section in Figure 3-1 of Appendix D Technical Alignment Report shows 2 inches of asphalt concrete over 6 inches of base course. The unit price per ton of asphalt concrete pavement (2" thick over the entire alignment) is \$25.00. Typical prices of asphalt concrete pavement run approximately \$39.00 to \$71.00 per ton. Typical prices include hot mix asphalt, tack coat of emulsified asphalt, hauling, installation, and compaction (oil prices will affect both the direct cost of the asphalt oil material and the cost of hauling). There may be an economy of

scale reduction in this unit price based on application over the 68 mile alignment. However, a reduction of over \$14.00 in the unit price is unlikely.

This unit price may be significantly low. For alignment 2 and 2C, this could result in an additional increase of approximately \$2 million assuming the lower unit price in the range provided above.

Bid Tab Item 501 (1) Bridge Structure

A unit cost of \$4.400 per linear foot of bridge has been applied to the total linear footage of bridge regardless of the length and/or presence of intermediate piers. Lengths of proposed bridges range from 110 feet to 2,500 feet. Bridges longer than 130 feet have been assumed to have intermediate piers with spacings ranging from 75 feet to nearly 140 feet for the longer bridges. In general, the unit costs for bridges having shorter span lengths should be less than those for bridges having longer spans.

Typical costs for double tee concrete spans on 6 to 8 foot deep precast segmental I beams supported by integral piers, varying in height up to 200 feet range in cost from \$3,800 per foot to \$5,400 per foot. The engineer's unit price estimate per linear foot appears to be consistent with industry standard.

Factors that can significantly affect the unit price include height of bridge, span length, foundation for abutments and piers, as well as seismic and structural requirements for loading. Specifically, structural requirements for avalanche impact loading could significantly increase cost of bridge construction and should be verified. Lastly, pier construction within waterways may require additional environmental mitigation.

- *This unit price may low. If span lengths increase to minimize piers or standard piers can not be used due to potential slide and avalanche impact, the costs could significantly increase.*

Bid Tab Item 637 (1) Reinforced Earth Wall

Figures 3-4 and 3-5 of Appendix D Technical Alignment Report show typical retaining wall sections identified for the alignments. Figure 3-4 shows a soil gravity type retaining wall for moderate to steep cross-section slopes and Figure 3-5 shows a gravity type retaining wall for steep cross-section slope areas. The unit price estimate for wall construction is \$35.00 per square foot for reinforced earth wall construction. The unit price of \$35.00 per square foot is reasonable for a gravity-type reinforced earth wall. However, the sole use of gravity type retaining walls may not be appropriate in all cases. The use of semi-gravity, non-gravity cantilever (drilled shaft), and anchored walls (soldier pile with tiebacks and flexible anchor walls) may be required. The unit costs per foot for these differing retaining wall types could be significantly higher than the \$35.00 per square foot identified in the basic bid. For example the unit price per square foot for soil nail walls could be upwards of \$77.00 per square foot (cited in

Soil Nail Wall Assessment, Mileposts 49 to 50.5 Kenai River Wall Alternative, Sterling Highway SDEIS Milepost 45 to 60, HDR 2003).

Without wall height, loadings, and specific subsurface geotechnical information, the wall type and unit cost per square foot can vary significantly. Using the soil nail wall to represent the upper range, the range of wall costs typically vary between \$35.00 and \$77.00 per square foot.

- *This unit price may be significantly low. For alignment 2 and 2C, this could result in an additional increase of approximately \$3 million if gravity walls are not applicable.*

Missing Bid Tab Items

The following items were not identified in the engineer's estimate of construction costs:

- Permanent rockfall mitigation (e.g., catchment fences, wire mesh draping, flexible or rigid barriers, additional cut). The typical road cut section shows a 0.1 to 1 batter slope. This assumes that the cut slope rock is stable after blasting. However, it is likely that permanent rockfall mitigation will be necessary. Several back slopes extend up to 200 feet in height (MP 40.5 to 50.5 and MP 70.2 to 79.8). Mitigation will likely be required. The cost of mitigation could be significant.
- Pedestrian Bridge and tunnel between MP 105.5 and 109.1 are not identified. Costs for the pedestrian bridge and tunnel should be included.
- Beach protection (riprap) will be required in several locations (MP65.4 and 67.6) to protect against wave action. It should be confirmed that the cost of beach armoring is included in the riprap quantities.
- Avalanche control structures and special mitigation has been identified but does not appear to be included in the construction costs. Creation of borrow pits in the runout area of the avalanche zones and construction of training dikes were identified as a need between MP 65.4 and 67.6. Special mitigation has also been identified at two additional sites between MP 79.8 and 88.2. This could significantly add to the construction costs.
- Screening walls as mitigation to provide a visual separation between the roadway and haul-out areas may be necessary at Gran Point between MP 79.8 and 88.2 where the road profile moves into a fill/retaining wall condition. These costs should be included in the engineer's estimate.
- Avalanche spur roads and turnouts should be included in the construction costs.
- Open pads for Howitzter avalanche control should be included in the construction costs as they are not yearly O&M costs.

- Avalanche mitigation capital costs have not been included in the construction costs. Snow sheds have been identified at avalanche chutes 6, 19, and 21 in the *Appendix J Snow Avalanche Report of the Juneau Access Improvement DSEIS*. This cost is estimated at \$5 million for each of three structures totaling \$15 million. This cost should be included in the construction estimate. If the avalanche chutes are not intended to be constructed, a detailed discussion of the required mitigation should be included and the resulting increase in operation and maintenance costs presented.

Contingency Costs

Contingency costs are allowances to cover the cost of unforeseen items. The Juneau Access project includes a variety of factors related to location and the physical characteristics of project corridor that in combination create a substantial challenge for project design and construction. Contingency costs should be sufficiently large to account for the uncertainties inherent in the planning stage of a challenging project of this magnitude.

A construction contingency of 8% has been used for the cost estimate. Contingency percentages for conceptual design often range from +30 to -20%. The Association for Advanced Cost Engineering International ACEI refers to conceptual estimates as “order of magnitude” and defines accuracy at +50% to -30%. Given the amount of blasting and required rock excavation, the number of bridge spans, and avalanche chutes to be crossed, a contingency of 8% is very low. Further, the *Juneau Access Improvement DSEIS* states that construction would be phased and timing restrictions would be required near bald eagle nests and sea lion haulout areas, further justifying an increased percentage for contingencies. Lastly, *Appendix D of the Juneau Access Improvement DSEIS* states that the bridge spans were based on contour data produced by LIDAR surveys and that no geotechnical studies or drilling has been conducted. Varying geologic conditions could easily require increased rock cuts, rock fall mitigation, anchored walls, and increased bridge lengths. Additionally, bridge pier construction within avalanche chutes, rivers, streams, and unsuitable foundation materials may significantly increase unit costs for bridge work.

Highway O&M Cost Review

To evaluate the highway O&M costs for Alternatives 2 and 2C, the cost estimates contained in *Attachment C – Highway Maintenance Costs of the Juneau Access Improvements SDEIS: Appendix D Technical Alignment Report* (Attachment C: Highway Maintenance Costs) were evaluated using industry guides on construction costs and local bid compilations for similar types of construction (see above).

The 2 and 2C Juneau Access Alternatives require highway maintenance for 68 miles of new road between existing road ends at Echo Cove and Skagway. The total distance of highway to be maintained is 110 miles from Juneau to Skagway. Maintenance stations would be located in Juneau, Skagway, and at an intermediate station (Lynn Canal Maintenance Station).

Highway maintenance includes pavement repair, ditching, brushing, slide cleanup, guard rail repair, and sweeping.

The O&M cost for each station is likely unique due to the differing number of bridges and avalanche chutes affecting the roadway. The road length to be maintained, number of structures (avalanche chutes and bridges) and staffing for each station are summarized below:

Juneau Station

This station is required to maintain 33 miles of existing roadway.

Structures

Avalanche chutes were not identified in the avalanche report. The Avalanche Atlas starts at MP 40.5.

Staff

- 1 equipment operator – Full-time (FT)
- 1 equipment operator – Part-time (PT)
- 0 laborers

Lynn Canal Station

This station is required to maintain 51 miles, 35 avalanche chutes, and 13 bridges.

Structures

- 34 avalanche chutes were identified north of the Lynn Canal Station.
- 12 bridges were identified north of the Lynn Canal Station.
- 1 avalanche chute identified south of the Lynn Canal Station.
- 6 bridges identified south of the Lynn Canal Station.

Staff

- 1 equipment operator – FT
- 4 equipment operators – Avalanche control -PT
- 2 laborers – Avalanche control - temp

Although avalanche control employees are considered part-time staff, the reality is that they will be required to work 24/7 during the winter, which would be equivalent to a full-time employee. In addition, the number of staff shown for this station is likely only half of the actual labor/operators needed for avalanche control. In addition, the O&M effort will likely require periods of focused and intense efforts with increased staffing demands required for each mission. Therefore, averaging the labor and equipment over the winter season underestimates the O&M effort actually required.

Skagway Station

This station is required to maintain 22 miles.

Structures

- bridges 10
- avalanche chutes 34

Staff

- 1 equipment operator – FT
- 1 equipment operator – PT
- 0 laborers

Summary

Highway maintenance includes pavement repair, ditching, brushing, slide cleanup, guard rail repair, and sweeping.

In general the O&M costs identify equipment, labor, and staffing for sanding and plowing and sweeping, and other routine maintenance. The costs do not appear to address long term wear and replacement of the roadway section. Pothole repair, repairs for damage due to rock fall and avalanches, and pavement section maintenance and repair do not appear to be included. These costs could be significant and should be included in the O&M costs.

Avalanche O&M Cost Review

The avalanche O&M costs are estimated in detailed in *Appendix J Snow Avalanche Report of the Juneau Access Improvement DSEIS*. The identified cost of avalanche O&M is \$1,526,210.

The costs for O&M labor related to the level of effort required for debris and snow removal appear to be low. The labor costs assume 24/7 operations during the winter months however they have been allocated as an average over that period. Avalanche debris removal will likely require focused and intense removal efforts in which increased operator, labor, and equipment will be required to restore operation for vehicle traffic. The labor and equipment use assumes one FT operator per station with PT support. The labor, operator, and equipment use is likely underestimated.

Additionally, the majority of avalanche chutes affecting the roadway are located in the Skagway and Lynn Canal station operation areas. These stations will likely require increased equipment and labor to address avalanche control as well as general road maintenance.

The capital cost for avalanche control is significant (\$17 to \$34 million). These capital costs for avalanche control should be accounted for in the highway construction cost estimate (spur roads, open pads, snow sheds, structure housing construction, etc.) and other capital items should be amortized and included in the yearly O&M which appears to have been done for heavy equipment.

Mitigation Costs

The estimated cost for mitigation associated with Alternatives 2 and 2C is \$5,000,000. However, there is no information on how the cost estimate was derived. While it is recognized that substantial impacts were avoided when feasible, the *Juneau Access Improvement SDEIS* clearly states that compensatory mitigation for wetland impacts and essential fish habitat has been discussed with the regulatory agencies, but no commitments have been made. In addition to natural resource commitments another potentially substantial requirement has not been met: compliance with Section 4(f). Again, the document states that discussions are underway but a concurrence with FHWA findings has not been issued. To fully inform the public and decision makers about the outstanding issues, DOT should explain how the estimate was derived: what are the anticipated mitigation requirements and what are their associated costs? In addition, for mitigation commitments implemented in roadway design (e.g., fish passage at culverts, bridge spans, and abutment locations) or during construction (e.g., timing restrictions), how are those costs reflected in the identified highway design estimate? Lastly, while the project identifies estimated areas of wetland, marine, tidal, and beach fill, were any contingencies considered for geotechnical findings once the investigations are complete or in the event of overbank debris at rock blasting sites?

Conclusions

Additional information is necessary to provide an equitable review of the alternatives. Design life for construction was identified as 30 years. Equitable cost comparisons for each alternative should be performed assuming an appropriate inflation and discount rate. If cost information for

construction and O&M are going to be compared equitably, the costs should be presented as present worth values.

The highway construction unit costs should be verified and the missing bid tab items included in order to obtain more accurate construction costs. Avalanche construction costs, specifically snow sheds, should also be included in the construction costs (an additional \$15 million).

The highway O&M costs do not appear to include general upkeep and maintenance of the roadway section. The plowing, sanding, and sweeping efforts have been equally applied to the entire road alignment and may underestimate the actual operation costs for the Lynn Canal and Skagway stations.

The avalanche O&M costs appear low. Weather delays and helicopters access issues should be factored into closure duration for maintenance. The costs associated with avalanche debris removal will likely require periods of focused and intense efforts. Therefore, the averaging of labor effort and equipment use over the winter season will likely underestimate the actual O&M costs.

Lastly, concise and complete accounting of all O&M (marine operations, avalanche control, and highway maintenance) and construction costs (highway construction, avalanche mitigation construction, and marine facilities) should be tallied such that a net present worth analysis can be performed over a common life cycle for the project for each alternative and options such that an equitable comparison of alternatives can be performed.

Attachment A
Bid Compilations



Compilation of Bids

State of Alaska -- Department of Transportation and Public Facilities -- Southeast Region

Project Name: JNU - Glacier Hwy. & Trailhead (RSA & Basic Bid)
 Project Number: 68096-b
 Project Location: Juneau

Opened at: Juneau, AK
 Date: 1/20/2005
 By: Bob Saviers

Certified True and Correct: Vanda Randolph 1/20/05
 Vanda Randolph Date Contracts Officer

Order of Bidders Based on Basic Bid

Compiled by: TR Checked by: 1

		State of Alaska DOT/FF 6860 Glacier Hwy. Juneau, AK 99801	SECON Box 32159 Juneau, AK 99803	Glacier State Contractors Box 32894 Juneau, AK 99803	Wilder Construction Co. 11301 Lang St. Anchorage, AK 99515			
		Engineers Estimate	Low Bidder	Bidder 2	Bidder 3			
Item No	Pay Item	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	
Quantity	Pay Unit							
Basic Bid								
201 (1B)	Clearing		100,000.00	100,000.00	60,000.00	60,000.00	51,750.00	51,750.00
	Lump Sum	40000.00	40000.00					
201 (3B)	Clearing And Grubbing		200,000.00	200,000.00	150,000.00	150,000.00	251,500.00	251,500.00
	Lump Sum	100000.00	100000.00					
202 (1)	Removal of Structures and Obstructions		50,000.00	50,000.00	275,000.00	275,000.00	322,000.00	322,000.00
	Lump Sum	135000.00	135000.00					
202(10)	Single Mail Box Installation		500.00	4,500.00	700.00	6,300.00	800.00	7,200.00
9	Each	500.00	4500.00					
203 (3)	Unclassified Excavation		14.00	1,232,000.00	10.00	880,000.00	11.00	968,000.00
88000	Cubic Yard	11.00	968000.00					
203(10)	Controlled Blasting		12.00	636,000.00	7.50	397,500.00	6.50	344,500.00
53000	Linear Foot	10.00	530000.00					
203(12)	Drain Holes		10.00	12,500.00	10.00	12,500.00	9.50	11,875.00
1250	Linear Foot	8.00	10000.00					
203(13)	Stabilization, Rock Bolts		2,000.00	20,000.00	3,000.00	30,000.00	670.00	6,700.00
10	Each	1000.00	10000.00					
203(19)	Control of Invasive Plants		50,000.00	50,000.00	8,000.00	8,000.00	15,000.00	15,000.00
	Lump Sum	25000.00	25000.00					
203(20)	Overburden Exploration		10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
	Contingent Surr	10000.00	10000.00					
207 (1)	Sheeting, Shoring and Bracing		30,000.00	30,000.00	10,000.00	10,000.00	85,000.00	85,000.00
	Lump Sum	1000.00	1000.00					
207 (2)	Trench Blasting		30.00	159,000.00	20.00	106,000.00	12.00	63,600.00
5300	Linear Foot	17.00	90100.00					
207 (3)	Imported Backfill		10.00	5,000.00	20.00	10,000.00	18.00	9,000.00
500	Cubic Yard	15.00	7500.00					
207 (4)	Trench Plug		100.00	3,000.00	600.00	18,000.00	215.00	6,450.00
30	Each	500.00	15000.00					
303 (3)	Ditch Reconditioning		2.00	17,000.00	8.00	68,000.00	1.25	10,625.00
8500	Linear Foot	2.00	17000.00					



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State of Alaska -- Department of Transportation and Public Facilities -- Southeast Region

Project Name: JNU - Glacier Hwy. & Trailhead (RSA & Basic Bid)

Opened at: Juneau, AK

Project Number: 68096-b

Date: 1/20/2005

Project Location: Juneau

By: Bob Saviers

Certified True and Correct:

Vanda Randolph 1/20/05
Date

Contracts Officer

Order of Bidders Based on Basic Bid

Compiled by: *VR* Checked by: *[Signature]*

				State of Alaska DOT/TF 6860 Glacier Hwy. Juneau, AK 99801		SECON Box 32159 Juneau, AK 99803		Glacier State Contractors Box 32894 Juneau, AK 99803		Wilder Construction Co. 11301 Lang St. Anchorage, AK 99515	
				Engineers Estimate		Low Bidder		Bidder 2		Bidder 3	
Item No	Pay Item		Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	
	Quantity	Pay Unit									
304 (2)	Subbase, Grading C		18.00	181,800.00	28.00	282,800.00	21.00	212,100.00			
	10100	Ton	10.00	101000.00							
306 (1)	ATB		39.00	448,500.00	55.00	632,500.00	36.00	414,000.00			
	11500	Ton	50.00	575000.00							
308 (1)	Crushed Asphalt Base Course		2.60	358,800.00	3.50	483,000.00	2.30	317,400.00			
	138000	Square Yard	3.50	483000.00							
308 (2)	CSS-1 Asphalt for Base Course		400.00	388,000.00	424.00	411,280.00	450.00	436,500.00			
	970	Ton	400.00	388000.00							
308 (3)	Portland Cement		150.00	47,250.00	250.00	78,750.00	350.00	110,250.00			
	315	Ton	400.00	126000.00							
401 (1)	Asphalt Concrete, Type II, Class B		45.00	688,500.00	71.75	1,097,775.00	39.00	596,700.00			
	15300	Ton	65.00	994500.00							
401 (2)	Asphalt Cement, Grade PG 58-28		430.00	619,200.00	482.60	694,944.00	550.00	792,000.00			
	1440	Ton	450.00	648000.00							
401 (6)	Asphalt Price Adjustment		50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00			
		Contingent Sum	50000.00	50000.00							
402 (1)	STE-1 Asphalt For Tack Coat		600.00	16,200.00	830.00	22,410.00	450.00	12,150.00			
	27	Ton	450.00	12150.00							
514 (1)	Rockery Wall		20.00	16,000.00	30.00	24,000.00	30.00	24,000.00			
	800	Square Foot	25.00	20000.00							
603 (1-1)	12 Inch CSP		45.00	450.00	40.00	400.00	91.00	910.00			
	10	Linear Foot	50.00	500.00							
603 (1-2)	24 Inch CSP		55.00	4,400.00	60.00	4,800.00	59.00	4,720.00			
	80	Linear Foot	100.00	8000.00							
603 (1-3)	30 Inch CSP		65.00	1,300.00	90.00	1,800.00	49.00	980.00			
	20	Linear Foot	150.00	3000.00							
603 (9-1)	48 Inch Corrugated Aluminum Pipe		250.00	8,500.00	300.00	10,200.00	176.00	5,984.00			
	34	Linear Foot	250.00	8500.00							
603 (9-2)	60 Inch Corrugated Aluminum Pipe		250.00	38,250.00	250.00	38,250.00	102.00	15,606.00			
	153	Linear Foot	400.00	61200.00							



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State of Alaska -- Department of Transportation and Public Facilities -- Southeast Region

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Date: 1/20/2005

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Contracts Officer

Order of Bidders Based on Basic Bid

Compiled by: *WR* Checked by: *L*

		State of Alaska DOT/PP 6860 Glacier Hwy. Juneau, AK 99801	SECON Box 32159 Juneau, AK 99803	Glacier State Contractors Box 32894 Juneau, AK 99803	Wilder Construction Co. 11301 Lang St. Anchorage, AK 99515		
		Engineers Estimate	Low Bidder	Bidder 2	Bidder 3		
Item No	Pay Item	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
Quantity	Pay Unit	Unit Price	Amount				
603 (9-3)	72 Inch Corrugated Aluminum Pipe	275.00	17,050.00	400.00	24,800.00	168.00	10,416.00
62	Linear Foot	475.00	29450.00				
603 (9-4)	84 Inch Corrugated Aluminum Pipe	300.00	57,000.00	300.00	57,000.00	134.00	25,460.00
190	Linear Foot	550.00	104500.00				
603 (9-5)	120 Inch Corrugated Aluminum Pipe	600.00	135,000.00	350.00	78,750.00	500.00	112,500.00
225	Linear Foot	750.00	168750.00				
603(10-1)	87 x 71 Inch Corrugated Aluminum Pipe Arch	450.00	49,950.00	450.00	49,950.00	500.00	55,500.00
111	Linear Foot	750.00	83250.00				
603(21-1)	18 inch Corrugated Polyethylene Pipe	30.00	14,400.00	65.00	31,200.00	60.00	28,800.00
480	Linear Foot	35.00	16800.00				
603(21-2)	24 Inch Corrugated Polyethylene Pipe	60.00	261,000.00	65.00	282,750.00	53.75	233,812.50
4350	Linear Foot	45.00	195750.00				
603(21-4)	36 Inch Corrugated Polyethylene Pipe	65.00	22,750.00	80.00	28,000.00	76.00	26,600.00
350	Linear Foot	70.00	24500.00				
603(22)	Streambed Material, Type I	4,000.00	20,000.00	1,200.00	6,000.00	4,000.00	20,000.00
5	Each	2000.00	10000.00				
603(23)	Streambed Material, Type II	4,000.00	12,000.00	1,500.00	4,500.00	4,000.00	12,000.00
3	Each	2000.00	6000.00				
604 (5C)	Inlet, Type C	3,000.00	3,000.00	22,000.00	22,000.00	4,800.00	4,800.00
1	Each	2500.00	2500.00				
605 (6)	8 Inch Perforated Corrugated Polyethylene Pipe for Underdrain	20.00	2,000.00	50.00	5,000.00	27.75	2,775.00
100	Linear Foot	20.00	2000.00				
606 (1)	W-Beam Guardrail	30.00	162,900.00	35.00	190,050.00	23.00	124,890.00
5430	Linear Foot	30.00	162900.00				
606 (6)	Removing and Disposing of Guardrail	7.00	35,700.00	7.00	35,700.00	17.25	87,975.00
5100	Linear Foot	7.50	38250.00				
606(11)	Extruder Terminal (ET-2000)	4,000.00	56,000.00	4,000.00	56,000.00	2,900.00	40,600.00
14	Each	3500.00	49000.00				
609 (2)	Curb And Gutter, Type 1	30.00	43,500.00	20.00	29,000.00	14.00	20,300.00
1450	Linear Foot	30.00	43500.00				



Compilation of Bids

State of Alaska -- Department of Transportation and Public Facilities -- Southeast Region

Project Name: JNU - Glacier Hwy. & Trailhead (RSA & Basic Bid)

Opened at: Juneau, AK

Project Number: 68096-b

Date: 1/20/2005

Project Location: Juneau

By: Bob Saviers

Certified True and Correct:

Vanda Randolph

Vanda Randolph

Date

Contracts Officer

Order of Bidders Based on Basic Bid

Compiled by: *VR* Checked by: *[Signature]*

				State of Alaska DOT/PP 6860 Glacier Hwy. Juneau, AK 99801		SECON Box 32159 Juneau, AK 99803		Glacier State Contractors Box 32894 Juneau, AK 99803		Wilder Construction Co. 11301 Lang St. Anchorage, AK 99515	
				Engineers Estimate		Low Bidder		Bidder 2		Bidder 3	
Item No	Pay Item		Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	
	Quantity	Pay Unit									
611 (1)	Riprap, Class I		15.00	39,000.00	8.00	20,800.00	26.00	67,600.00			
	2600	Cubic Yard	30.00	78000.00							
611 (2)	Riprap, Class III		20.00	32,000.00	6.00	9,600.00	28.00	44,800.00			
	1600	Cubic Yard	30.00	48000.00							
615 (1)	Standard Sign		55.00	18,700.00	125.00	42,500.00	175.00	59,500.00			
	340	Square Foot	50.00	17000.00							
615 (5)	Delineator, Flexible		100.00	24,000.00	30.00	7,200.00	85.00	20,400.00			
	240	Each	30.00	7200.00							
615 (7)	Interpretive Sign		3,000.00	12,000.00	7,500.00	30,000.00	1,700.00	6,800.00			
	4	Each	3000.00	12000.00							
618 (1)	Seeding		2,500.00	45,000.00	3,000.00	54,000.00	5,200.00	93,600.00			
	18	Acre	2500.00	45000.00							
619 (2)	Matting		1.50	4,500.00	12.00	36,000.00	2.90	8,700.00			
	3000	Square Yard	5.00	15000.00							
627 (6)	Fire Hydrant Relocation		5,000.00	15,000.00	2,000.00	6,000.00	4,600.00	13,800.00			
	3	Each	3000.00	9000.00							
627(11)	Reconnection of Private Water Crossings		3,000.00	18,000.00	1,000.00	6,000.00	3,100.00	18,600.00			
	6	Each	1500.00	9000.00							
628 (1-8)	8-Inch Ductile Iron Water Pipe		60.00	3,900.00	65.00	4,225.00	72.00	4,680.00			
	65	Linear Foot	52.00	3380.00							
628 (1-12)	12-Inch Ductile Iron Water Pipe		65.00	12,350.00	80.00	15,200.00	90.00	17,100.00			
	190	Linear Foot	60.00	11400.00							
628 (1-16)	16-Inch Ductile Iron Water Pipe		70.00	777,000.00	74.00	821,400.00	104.00	1,154,400.00			
	11100	Linear Foot	73.00	810300.00							
628 (2- 8)	8-Inch Gate Valve		1,000.00	2,000.00	1,000.00	2,000.00	1,750.00	3,500.00			
	2	Each	1000.00	2000.00							
628 (2-12)	12-Inch Gate Valve		1,500.00	3,000.00	1,800.00	3,600.00	2,400.00	4,800.00			
	2	Each	1200.00	2400.00							
628 (2-16)	16-Inch Butterfly Valve		2,000.00	26,000.00	2,000.00	26,000.00	3,050.00	39,650.00			
	13	Each	2000.00	26000.00							



Compilation of Bids

State of Alaska -- Department of Transportation and Public Facilities -- Southeast Region

Project Name: JNU - Glacier Hwy. & Trailhead (RSA & Basic Bid)

Opened at: Juneau, AK

Project Number: 68096-b

Date: 1/20/2005

Project Location: Juneau

By: Bob Saviers

Certified True and Correct:

Vanda Randolph 1/20/05
Date

Contracts Officer

Vanda Randolph

Date

Order of Bidders Based on Basic Bid

Compiled by: *VR* Checked by: *1*

		State of Alaska DOT/DF 6860 Glacier Hwy. Juneau, AK 99801	SECON Box 32159 Juneau, AK 99803	Glacier State Contractors Box 32894 Juneau, AK 99803	Wilder Construction Co. 11301 Lang St. Anchorage, AK 99515		
		Engineers Estimate	Low Bidder	Bidder 2	Bidder 3		
Item No	Pay Item	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
Quantity	Pay Unit	Unit Price	Amount				
628 (3)	Fire Hydrant Assembly	5,000.00	80,000.00	3,500.00	56,000.00	5,450.00	87,200.00
16	Each	2500.00	40000.00				
628 (4)	Hydrant Access Pad	1,500.00	24,000.00	500.00	8,000.00	3,700.00	59,200.00
16	Each	1100.00	17600.00				
628 (5-1)	Single 1-Inch Water Service	3,000.00	18,000.00	2,000.00	12,000.00	3,750.00	22,500.00
6	Each	1500.00	9000.00				
628 (5-2)	Double 1-Inch Water Service	4,000.00	44,000.00	2,000.00	22,000.00	3,900.00	42,900.00
11	Each	2200.00	24200.00				
628 (6-1)	Single Arctic Service	8,000.00	48,000.00	3,800.00	22,800.00	6,850.00	41,100.00
6	Each	2500.00	15000.00				
628 (6-2)	Double Arctic Service	12,000.00	48,000.00	5,000.00	20,000.00	19,750.00	79,000.00
4	Each	3000.00	12000.00				
628 (7)	Air Release Valve	5,000.00	10,000.00	1,000.00	2,000.00	6,230.00	12,460.00
2	Each	2000.00	4000.00				
628 (8)	Pipe Insulation	25.00	2,500.00	40.00	4,000.00	23.00	2,300.00
100	Board	30.00	3000.00				
629 (1)	Guardrail Paving	6.00	42,000.00	15.60	109,200.00	8.00	56,000.00
7000	Linear Foot	15.00	105000.00				
630 (1)	Geotextile, Separation	1.00	5,000.00	8.00	40,000.00	2.22	11,100.00
5000	Square Yard	2.00	10000.00				
633 (1)	Silt Fence	4.00	114,000.00	3.50	99,750.00	3.50	99,750.00
28500	Linear Foot	3.50	99750.00				
639 (3)	Driveways	600.00	22,200.00	1,000.00	37,000.00	525.00	19,425.00
37	Each	750.00	27750.00				
640 (1)	Mobilization and Demobilization	700,000.00	700,000.00	675,000.00	675,000.00	1,070,000.00	1,070,000.00
	Lump Sum	750000.00	750000.00				
641 (1)	Erosion and Pollution Control Administration	5,000.00	5,000.00	15,000.00	15,000.00	4,900.00	4,900.00
	Lump Sum	15000.00	15000.00				
641 (2)	Erosion and Pollution Control	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00
	Contingent Surr	35000.00	35000.00				



Compilation of Bids

State of Alaska -- Department of Transportation and Public Facilities -- Southeast Region

Project Name: JNU - Glacier Hwy. & Trailhead (RSA & Basic Bid)

Opened at: Juneau, AK

Project Number: 68096-b

Date: 1/20/2005

Project Location: Juneau

By: Bob Saviers

Certified True and Correct:

Vanda Randolph 1/20/05
Date

Contracts Officer

Order of Bidders Based on Basic Bid

Compiled by: *WR* Checked by: *1*

		State of Alaska DOT/PF 6860 Glacier Hwy. Juneau, AK 99801		SECON Box 32159 Juneau, AK 99803		Glacier State Contractors Box 32894 Juneau, AK 99803		Wilder Construction Co. 11301 Lang St. Anchorage, AK 99515	
		Engineers Estimate		Low Bidder		Bidder 2		Bidder 3	
Item No	Pay Item	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
Quantity	Pay Unit	Unit Price	Amount						
641 (6)	Sediment Filter			500.00	5,000.00	400.00	4,000.00	300.00	3,000.00
10	Each	1500.00	15000.00						
641 (7)	Preliminary Seeding			2,000.00	24,000.00	1,500.00	18,000.00	2,900.00	34,800.00
12	Acre	2000.00	24000.00						
641 (8)	Temporary Check Dam			150.00	24,000.00	400.00	64,000.00	150.00	24,000.00
160	Each	200.00	32000.00						
641 (9)	Erosion and Pollution Control Price Adjustment Contingent Surr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
641(10)	Maintaining Flow at Fish Streams			5,000.00	50,000.00	2,000.00	20,000.00	1,000.00	10,000.00
10	Each	2200.00	22000.00						
642 (1)	Construction Surveying			200,000.00	200,000.00	200,000.00	200,000.00	173,000.00	173,000.00
	Lump Sum	150000.00	150000.00						
642 (3)	Three Person Survey Party			300.00	30,000.00	250.00	25,000.00	345.00	34,500.00
100	Hour	250.00	25000.00						
642 (4)	Set Primary Monument			300.00	8,100.00	200.00	5,400.00	280.00	7,560.00
27	Each	300.00	8100.00						
642(10)	Monument Case			300.00	8,100.00	200.00	5,400.00	280.00	7,560.00
27	Each	300.00	8100.00						
642(12)	Final Traverse			3,000.00	3,000.00	10,000.00	10,000.00	2,800.00	2,800.00
	Lump Sum	10000.00	10000.00						
643 (2)	Traffic Maintenance			250,000.00	250,000.00	80,000.00	80,000.00	117,000.00	117,000.00
	Lump Sum	250000.00	250000.00						
643 (3)	Permanent Construction Signs			5,000.00	5,000.00	10,000.00	10,000.00	11,500.00	11,500.00
	Lump Sum	16000.00	16000.00						
643(15)	Flagging			340,000.00	340,000.00	340,000.00	340,000.00	340,000.00	340,000.00
	Contingent Surr	340000.00	340000.00						
643(25)	Traffic Control			257,500.00	257,500.00	257,500.00	257,500.00	257,500.00	257,500.00
	Contingent Surr	257500.00	257500.00						
645 (1)	Training Program, 1 Trainees/Apprentices			1.00	500.00	10.00	5,000.00	1.50	750.00
500	Labor Hour	10.00	5000.00						



Compilation of Bids

State of Alaska -- Department of Transportation and Public Facilities -- Southeast Region

Project Name: JNU - Glacier Hwy. & Trailhead (RSA & Basic Bid)

Opened at: Juneau, AK

Project Number: 68096-b

Date: 1/20/2005

Project Location: Juneau

By: Bob Saviers

Certified True and Correct:

Vanda Randolph 1/20/05
Vanda Randolph Date

Contracts Officer

Order of Bidders Based on Basic Bid

Compiled by: *768* Checked by: *1*

				State of Alaska DOT/PF 6860 Glacier Hwy. Juneau, AK 99801		SECON Box 32159 Juneau, AK 99803		Glacier State Contractors Box 32894 Juneau, AK 99803		Wilder Construction Co. 11301 Lang St. Anchorage, AK 99515	
				Engineers Estimate		Low Bidder		Bidder 2		Bidder 3	
Item No	Pay Item		Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	
	Quantity	Pay Unit									
646 (1)	CPM Scheduling				5,000.00	5,000.00	15,000.00	15,000.00	5,000.00	5,000.00	
	Lump Sum		10000.00	10000.00							
651 (1)	Eagle Monitoring				75.00	37,500.00	100.00	50,000.00	70.00	35,000.00	
	500 Hour		65.00	32500.00							
660 (3)	Highway Lighting System Complete				60,000.00	60,000.00	70,000.00	70,000.00	68,000.00	68,000.00	
	Lump Sum		50000.00	50000.00							
670 (8)	Recessed Pavement Marker				26.00	17,420.00	24.00	16,080.00	30.00	20,100.00	
	670 Each		25.00	16750.00							
670(10)	Methyl Methacrylate Pavement Markings				93,000.00	93,000.00	100,000.00	100,000.00	108,000.00	108,000.00	
	Lump Sum		120000.00	120000.00							
680 (1)	Environmental Monitor				30,000.00	30,000.00	30,000.00	30,000.00	75,000.00	75,000.00	
	Lump Sum		15000.00	15000.00							
TOTALS:						\$10,049,030.00		\$9,966,670.00		\$10,342,564.00	\$10,498,763.50

Project No. 68097/IM-093-3(24) & 68096/AK PFH-2-1(1)
JUNEAU-GLACIER HIGHWAY & TRAILHEAD

SUMMARY OF RESULTS
Engineer's Estimate: \$10,049,030.00

NAME OF BIDDING FIRM	ADDRESS	Basic Bid
SECON	Box 32159, Juneau, AK 99803	\$9,966,670.00
Glacier State Contractors	Box 32894, Juneau, AK 99803	10,342,564.00
Wilder Construction	11301 Lang St., Anchorage, AK 99515	10,498,763.50
Nippo Corp./International Bridge Corp., JV	12050 Industry Way, Unit O-1, Anchorage, AK 99515	11,632,140.00
Kiewit Pacific Co.	Box 1769, Vancouver, WA 98668	12,476,640.00



Compilation of Bids

State of Alaska -- Department of Transportation and Public Facilities -- Southeast Region

Project Name: Dyea Road Safety Improvements
 Project Number: 68576
 Project Location: Skagway

Opened at: Juneau, AK
 Date: 10/28/2004
 By: Bob Saviers

Certified True and Correct: _____ Contracts Officer
 Vanda Randolph Date

Order of Bidders Based on Basic Bid Compiled by: _____ Checked by: _____

		State of Alaska DOT/PF 6860 Glacier Hwy. Juneau, AK 99801		Channel Construction, Inc. Box 33359 Juneau, AK 99803		Southeast Earthmovers Box 784 Sitka, AK 99835		Southeast Roadbuilders, Inc. HC60 Box 4800 Haines, AK 99827	
		Engineers Estimate		Low Bidder		Bidder 2		Bidder 3	
Item No	Pay Item	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
Quantity	Pay Unit	Unit Price	Amount						
Basic Bid									
201 (1B)	Clearing			8,500.00	8,500.00	8,850.00	8,850.00	137,900.00	137,900.00
	Lump Sum	10000.00	10000.00						
202 (1)	Removal of Structures and Obstructions			2,500.00	2,500.00	14,160.00	14,160.00	14,900.00	14,900.00
	Lump Sum	10000.00	10000.00						
203 (3)	Unclassified Excavation			15.50	589,000.00	18.00	684,000.00	16.14	613,320.00
38000	Cubic Yard	17.00	646000.00						
203(10)	Controlled Blasting			25.00	155,000.00	8.00	49,600.00	16.70	103,540.00
6200	Square Yard	36.00	223200.00						
203(19)	Slope Stabilization			25,000.00	25,000.00	25,000.00	25,000.00	25,000.00	25,000.00
	Contingent Sur	25000.00	25000.00						
204 (2)	Utility Trench			12.00	17,940.00	81.00	121,095.00	38.50	57,557.50
1495	Linear Foot	10.00	14950.00						
301 (2)	Aggregate Base Course, Grading D-1			30.00	117,000.00	26.00	101,400.00	32.25	125,775.00
3900	Cubic Yard	20.00	78000.00						
603 (1)	24 Inch CSP			50.00	8,400.00	58.00	9,744.00	89.00	14,952.00
168	Linear Foot	60.00	10080.00						
603 (21)	24 Inch Corrugated Polyethylene Pipe			55.00	25,630.00	60.00	27,960.00	78.00	36,348.00
466	Linear Foot	50.00	23300.00						
606 (1)	W-Beam Guardrail			31.00	86,490.00	31.00	86,490.00	35.30	98,487.00
2790	Linear Foot	70.00	195300.00						
606(11)	Extruder Terminal (ET-2000)			5,500.00	16,500.00	4,600.00	13,800.00	5,400.00	16,200.00
3	Each	4500.00	13500.00						
606(13)	Downstream End Anchor			2,250.00	20,250.00	1,950.00	17,550.00	2,250.00	20,250.00
9	Each	500.00	4500.00						
611 (1A)	Riprap, Class IV			32.00	288,000.00	29.00	261,000.00	15.68	141,120.00
9000	Cubic Yard	14.00	126000.00						
611 (1B)	Riprap, Class III			40.00	3,000.00	60.00	4,500.00	65.00	4,875.00
75	Cubic Yard	14.00	1050.00						
615 (1)	Standard Sign			100.00	6,300.00	80.00	5,040.00	200.00	12,600.00
63	Square Foot	60.00	3780.00						



Compilation of Bids

State of Alaska -- Department of Transportation and Public Facilities -- Southeast Region

Project Name: Dyea Road Safety Improvements
Project Number: 68576
Project Location: Skagway

Opened at: Juneau, AK
Date: 10/28/2004
By: Bob Saviers

Certified True and Correct: _____ Contracts Officer
Vanda Randolph Date

Order of Bidders Based on Basic Bid

Compiled by: _____ Checked by: _____

		State of Alaska DOT/PF 6860 Glacier Hwy. Juneau, AK 99801	Channel Construction, Inc. Box 33359 Juneau, AK 99803	Southeast Earthmovers Box 784 Sitka, AK 99835	Southeast Roadbuilders, Inc. HC60 Box 4800 Haines, AK 99827		
		Engineers Estimate	Low Bidder	Bidder 2	Bidder 3		
Item No	Pay Item	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
Quantity	Pay Unit	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
615 (7A)	Interpretive Sign Support, Type Masonry	8,000.00	16,000.00	6,625.00	13,250.00	4,900.00	9,800.00
2	Each	4000.00	8000.00				
615 (7B)	Interpretive Sign Support, Type Upright	3,250.00	3,250.00	2,655.00	2,655.00	2,050.00	2,050.00
1	Each	2000.00	2000.00				
616 (4)	Thaw Wire Installation	8,000.00	32,000.00	7,853.00	31,412.00	9,100.00	36,400.00
4	Each	5000.00	20000.00				
618 (4)	Seeding	5,000.00	5,000.00	8,000.00	8,000.00	7,900.00	7,900.00
	Lump Sum	5000.00	5000.00				
624 (1)	Calcium Chloride	500.00	5,500.00	900.00	9,900.00	1,165.00	12,815.00
11	Ton	600.00	6600.00				
640 (1)	Mobilization and Demobilization	145,000.00	145,000.00	209,000.00	209,000.00	241,000.00	241,000.00
	Lump Sum	160000.00	160000.00				
641 (1)	Erosion and Pollution Control Administration	12,000.00	12,000.00	10,500.00	10,500.00	3,600.00	3,600.00
	Lump Sum	5000.00	5000.00				
641 (3)	Temporary Erosion & Pollution Control	6,500.00	6,500.00	21,200.00	21,200.00	6,600.00	6,600.00
	Lump Sum	5000.00	5000.00				
641 (5)	Temporary Check Dam	250.00	6,250.00	250.00	6,250.00	75.00	1,875.00
25	Each	100.00	2500.00				
642 (1)	Construction Surveying	35,000.00	35,000.00	55,000.00	55,000.00	74,500.00	74,500.00
	Lump Sum	60000.00	60000.00				
643 (2)	Traffic Maintenance	10,000.00	10,000.00	26,250.00	26,250.00	66,000.00	66,000.00
	Lump Sum	30000.00	30000.00				
643 (3)	Permanent Construction Signs	2,500.00	2,500.00	6,000.00	6,000.00	2,250.00	2,250.00
	Lump Sum	6000.00	6000.00				
643(15)	Flagging	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
	Contingent Surr	50000.00	50000.00				
643(25)	Traffic Control	39,600.00	39,600.00	39,600.00	39,600.00	39,600.00	39,600.00
	Contingent Surr	39600.00	39600.00				
644 (1)	Field Office	10,000.00	10,000.00	8,000.00	8,000.00	13,000.00	13,000.00
	Lump Sum	25000.00	25000.00				

Key Personnel

Carlos Herrera, PE founded Herrera Environmental Consultants, Inc. in 1980. For 24 years he has been combining innovative engineering design with environmental regulatory compliance. Carlos designs stormwater control systems, water and wastewater treatment facilities, and solid waste management systems, and has ongoing experience integrating unique surface water engineering designs with environmental challenges.

Walter Trial, PhD directs surface water quality and environmental studies at the firm. His background includes more than 30 years of environmental problem solving, surface water and sediment quality monitoring, stormwater management, environmental data interpretation and analysis, and NEPA and SEPA experience.

Michael Spillane, PE has 15 years of diverse civil/environmental design and senior construction project management experience on public works, regulatory, and private sector projects ranging in size and complexity from \$50,000 to \$15 million.

Mark Ewbank, PE is an expert on regulatory requirements that apply to surface water design projects. For over 16 years he has provided a wide range of water resource management design services including hydrology and hydraulics, water quality, stormwater management, and related environmental issues.

Kittie Ford has managed interdisciplinary analysis teams for environmental compliance, natural resource inventories and ecological studies for 19 years. Her experience includes industrial developments, regional land use and transportation policy plans, and site-specific infrastructure developments. She is thoroughly familiar with natural resource regulations and has an excellent working relationship with agency staff at all levels of government.

Carol Slaughterbeck, PE has 15 years of water supply, wastewater, stormwater, solid waste, and hazardous waste engineering experience. Her excellent communication skills and interdisciplinary understanding of engineering and environmental analyses and regulations enables her to apply her expertise to a wide range of engineering and environmental studies, including facility plans, compliance studies, upgrade assessments, and environmental impact studies.

Art Campbell has worked as a local government planner and as a consultant for 24 years. Art is thoroughly familiar with NEPA and parallel state environmental requirements and has provided permitting and regulatory compliance support for wastewater, transportation, and water resource management projects.

Tim Abbe, PhD, RG has 16 years of experience applying engineering in environmental project designs and solving problems in fluvial and coastal environments. Tim pioneered the development of "engineered logjams", artificially created structures made from natural materials to emulate naturally-occurring debris. These structures offer new technology to comply with environmental regulations while solving traditional problems such as runoff and bank erosion.

Dave Felstul has 18 years of experience, specializing in watershed master planning and stormwater best management practices (BMPs). He has worked with communities throughout Oregon to identify flooding and water quality concerns, model system capacity and pollutant loadings, determine habitat issues, recommend potential solutions, and create master plans that solve watershed problems in a manner acceptable to residents.

HERRERA

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visit us on the internet at <http://www.herrerainc.com>

Herrera's Interdisciplinary Services

- ✓ Civil design, site development & utilities
- ✓ Construction management & inspection
- ✓ Endangered Species Act compliance
- ✓ Environmental impact assessment
- ✓ Fish & habitat studies
- ✓ Geomorphological investigations
- ✓ Hazardous materials management
- ✓ Hydrologic, hydraulic, & water quality modeling
- ✓ Marine & estuarine studies
- ✓ Mitigation, reclamation, & ecological restoration
- ✓ Permitting
- ✓ Public/agency involvement & community relations
- ✓ Sediment management
- ✓ Solid waste management & design
- ✓ Stormwater management & design
- ✓ Technical writing & training
- ✓ Underwater investigations & engineering inspections
- ✓ Wastewater management & treatment
- ✓ Water quality assessment
- ✓ Water supply
- ✓ Wetlands & wildlife analyses

Herrera Environmental Consultants, Inc. (Herrera) provides a diverse range of civil engineering, environmental science, and planning services to clients throughout the western United States and Alaska.

Herrera's ecologically focused designs meet permitting requirements and lead to constructed projects that meet or exceed regulatory standards.



Throughout our 24-year history, Herrera has focused on providing responsive and attentive service to our clients while rigorously maintaining the exceptional quality of our interdisciplinary work products. Our staff approaches each project with a solutions-oriented perspective; we know that successful projects optimize both infrastructure and environmental requirements. Our clients benefit from our designs that are based on state-of-the-art science and engineering.

The ability of Herrera staff members to work together across all disciplines contributes significantly to our continued success in developing solutions for our clients.



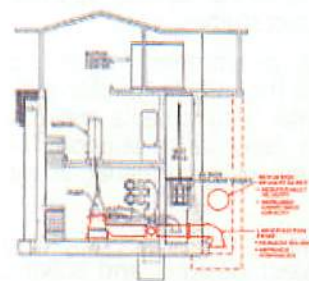
Project Highlights

Federal Highway Administration On-Call Engineering & Environmental Services.

For 7 years, Herrera's interdisciplinary team of engineers and scientists has provided analysis and design services for road reconstruction and improvements in the northwestern United States and Alaska. Our services include wetland delineations; biological assessments and environmental assessments; economic analyses; public involvement; and value engineering studies for projects in WA, OR, ID, MT, and AK.



Upper Vasa Creek Erosion Control and Stabilization. Herrera engineers and scientists collaborated to restore and stabilize the banks of Upper Vasa Creek in Bellevue, Washington. In addition to engineering PS&E, Herrera provided all environmental analyses to successfully coordinate permitting efforts with the City and numerous state natural resource agencies. During construction, Herrera engineers enforced contract specifications, conducted inspections and quantity measurements, reviewed submittals and pay requests, and modified the design as needed to field-fit instream mitigation structures.



Sweyolocken Pump Station Upgrade. Herrera planned and designed improvements to extend the service life and increase the capacity of this 35-year old wastewater pump station for King County, Washington. The station is located adjacent to wetlands and a public park and required careful planning and design to avoid creating adverse impacts and public opposition. Herrera performed all hydraulic process and site engineering tasks and provided overall project management including extensive environmental support and permitting. By integrating the environmental review with design, Herrera developed early City support for the project and avoided creating community issues and costly re-design.