Borough Subdivisions

12-26-2022 Pg. 1 of 2

To: Petersburg Borough

This letter is in response to the estimates that were provided by PND Engineers of Juneau. These estimates are for seven separate subdivisions within the Borough including two reduced standards estimates, one for the Fram Street subdivision and one for the Hungry Point subdivision. I have the following questions and input about the subdivisions.

Thank you for your time. Gary Aulbach Housing Task Force

For all of the estimates including the reduced standards estimates the following costs were included. Each item is followed by a question. See responses from Karl Hagerman, Utility Director in red.

Item 15.01 – Mobilization and Demobilization.

The cost for this on each project seems extremely high especially if the Borough were to hire a local contractor to complete the project. Would it be possible to ask a local road builder what they think a reasonable mobilization cost would be? Local mobilization and demobilization bids are usually pretty low, but we can't guarantee that the work will be awarded to a local contractor. Many factors go into a project bid and award which could favor a local contractor or not. Not factoring in a mob/demob fee would be a mistake. Remember, this is a conservative estimate and is meant to cover all costs so that surprises don't occur. It's always better to budget high and award low than the other way around.

Item 20.02 - SWPPP

What is the SWPPP? Storm Water Pollution Protection Plan – required to control waterborne pollution from migrating from a construction site to waters of the United States. Requirements and Costs are smaller for smaller areas of disturbance.

Item 20.12 – Dewatering

Seems a bit high on all the estimates. Dewatering costs are related to keeping a utility trench as dry as possible during construction so that trench sides stay upright, trench bottoms are not holding water so that proper backfill and compaction can take place. The estimate is very conservative but depending on the weather encountered by the contractor, costs for this pay item could be VERY high.

Item 55.02(a) - Furnish and install 18" CPEP, Type S pipe

Item 55.02(b) - Furnish and install 24" CPEP, Type S pipe Item 55.24 – Storm Drain outlet protection.

Is this pipe included for installing a storm drain system? As far as I know there are no other subdivisions that have a storm drain system. Could we delete this from each estimate? As far as I know each lot owner has had to pay to install a culvert under their driveway at the time of construction.

These pipes could be deleted from the estimates IF they have been added to account for driveway culverts. If they are associated with preserving natural surface water drainage patterns and will be needed to keep water from impacting the roadways and utilities, they should be left in. PND did not design the subdivisions, just put in allowances for certain features that are normally part of a subdivision. Driveway culverts would be the responsibility of the future property owner as Gary mentions.

Item 70.12 – Traffic Maintenance

Not sure what this is for as there is already a cost for signage. Traffic maintenance is generally an allowance for traffic CONTROL devices and flaggers, as needed. It may also cover a contractor's costs for cleaning of haul route roadways after hauling muskeg out and rock in. This is generally less of a concern when building on Borough rights of way, but it is a consideration that costs contractors something when they need to provide safety to the traveling public during the project.

Item 75.04 - Seeding, Hydraulic method.

Is this necessary? Where was this used prior to this on our existing roads? This is a method for stabilizing any soils that are exposed during construction. Erosion and Sediment Control regulations require that any soils be stabilized with seeding, rock cover, jute mats, etc. to prevent rainfall or other drainage water from eroding the backslopes of the ditchline and shoulders of the road. Erosion equals pollution via sediment into our waterways. This was not a requirement when the City built most of our roads in the old days but it is now a consideration that cannot be ignored.

Contract Administration & Construction Inspection.

This is over \$100,000.00 to nearly \$200,000.00 for each project. Is there someone in Public Works that could do this as part of their job or be trained to do it for the Borough? Much like our Building Official does building inspections? Contract Admin and Inspection services are normal to hire out to the designing engineer. They have their PE stamp on the plans and they have a vested interest in seeing the job built as it was designed as well as being able to answer contractor questions that come up. Inspecting can be sourced locally but it takes too much time to expect any current Borough employee to perform a thorough job on this item. We have handled this with part-time inspection and periodic inspection in the past and saw large cost savings.

Questions about Subdivisions

Hungry Point Subdivision.

Would it be possible to re-estimate the Hungry point subdivision using the reduced standards and eliminate the Lake Street extension as well as the Valkyrie Street extension? The road would come up Agusta street and it would end at Valkyrie Street and only a service road would be needed from there down to the pump station. The Borough is looking into this routing as part of the Pump Station 4 project and it has some potential to install some gravity sewer in addition to the force main.

Lake Street Subdivision.

If the Borough were to re-survey a couple spots along the Lake Street Subdivision I believe it would be easy to raise the number of lots along that road to 37. That would put the cost per lot at \$124,087.00. This would be slightly lower than the cost per lot for lots in the Airport Subdivision and would therefore be the best "Bang for the buck" subdivision. It would be nice if we could have gotten a reduced standards estimate for the Lake Street subdivision as well as the Airport Subdivision. Perhaps that could be done using a percentage? And possibly adjust some of the costs that were noted on page one? If the committee would like to look at additional subdivisions with the reduced construction standard, please let the Manager know and we can see about making that happen. PND may have some minimal budget left to look at Lake Street.

I understand that no matter which way the Borough decides to move it probably will not be able to do either one of these projects without the help of some other entity. I am still very concerned that even after we bring costs down the lots will still be too expensive for the consumers. See an attached spreadsheet that breaks out airport subdivision costs between the enterprise funds and general fund. General fund costs could be recovered with the sale of the lot. Enterprise (utility) work can be funded through loans and repaid to those funds with rate increases to all customer classes over time (20-30 years). This approach could reduce the immediate debt recovery to a much smaller amount (GF recovery at sale) and spreads the rest of the project out over a long period of time – which minimizes monthly rate increases to customers. All customers would need to be aware of the reason their rates are going up and approve of the debt in a local process that includes passage of an ordinance and a ballot measure.

Airport Subdivision Expansion - Rough Order of Magnitude Estimate and Potential Cost Allocation to Borough Funds for Construction

Units Quantity Unit Cost Authority Unit Cost Authority Unit Cost Authority Unit Cost Authority Signature							Fund/Dept		Cost Allocation	ocation	
Mobilization and benchlitation 15	Item	Item Description	Units	Quantity	Unit Cost	Amount		Water	Wastewater	Electric	PW (GF)
Claiming & Chubing 15 All Read \$10,000 \$10,000 All \$12,500 \$	5.01	Mobilization and Demobilization	S	All Reqd	\$169,172	\$169,172	W,WW & ST	\$56,39			\$56,391
Colorative Schoolstein Schoo	20.0	SWPPP	S	All Reqd	\$10,000	\$10,000	All	\$2,500		\$2,500	\$2,500
Control of the Excelled Face	0.04	Clearing & Grubbing	S	All Reqd	\$5,000	\$5,000	IIA	\$1,250		\$1,250	\$1,250
Type Construction State Control of State Co	10(a)	Usable Excavation	S	200	\$12	\$2,400	IIA)09\$		\$600	\$600
Type II Classified Hill & Backfill CY 1,000 532 \$60,000 WWW & ST \$51,000 \$51,000 Control Classified Hill & Backfill CY 1,000 \$52 \$52,000 WWW & ST \$51,000 \$51,000 Funnish & Install Grant Course Control Fill & Backfill CY 1,000 \$52 \$52,000 WWW & ST \$51,000 \$51,000 Funnish & Install Grant Course Control Fill Course Control Fill Course Course Install Grant Course (Manhole) LF 1,000 \$51,000 \$93,700 WWW \$51,000 \$51,000 Construct Sanitary Sever Service Tea Connection, Sack Grant Course Manhole Course Course Install Grant Course Manhole Course Course (Manhole) EA 7 \$50,000	10(b)	Unusable Excavation & Disposal	Շ	24,000	\$16	\$384,000	W,WW & ST	\$128,000			\$128,000
Type I A Classified File Backfill CY 1,000 \$42 \$42,000 WWW 6 ST \$17,339 \$17,339 Cander Classified File Backfill CY 1,000 \$72 \$24,000 WWW 6 ST \$4660 \$51,7350 Cander Classified File Backfill CY CY CY CY CY CY CY	21(a)	Type II Classified Fill & Backfill	Շ	20,000	\$30	\$600,000	W,WW & ST	\$200,000			\$200,000
Funds & Intabil & PryCEORGCardy Saver Pipe E	21(b)	Type II-A Classified Fill & Backfill	Ç	1,000	\$42	\$42,000	W,WW & ST	\$14,000			\$14,000
Furnish & Intail 8' PVC CBO Gravity Sewer Plope	.22	Leveling Course	Ç	1,000	\$52	\$52,000	W,WW & ST	\$17,33			\$17,333
Furnish 8 Install 9 PVC Comportative Server Pipe IF 625 5150 WWW S93.750 WWW S93.750 WWW S93.750 WWW S93.750 WWW S65.500 WWW W	.25	Geotextile Fabric	λS	2,000	\$7	\$14,000	W,WW & ST	\$4,667			\$4,667
Furnish & Install 6" Cheever Namole Lyne A E)2(a)	Furnish & Install 8" PVC C900 Gravity Sewer Pipe	느	1,850	\$150	\$277,500	ww				
Connect to Eskirg Saver Manhole, Type A EA 1 \$35,000 856,500 WW \$56,500 WW Sanitary Saver Saver Manhole, Type A EA 1 \$32,000 S20,000 WW Sanitary Saver Saver Manhole, Type A EA 1 \$32,000 S20,000 ST \$50,000 ST \$	(p)	Furnish & Install 6" PVC Sewer lateral Pipe	느	625	\$150	\$93,750	WW		\$93,750		
Connect to Existing Sevent Analysis EA 5,200 \$2,200 WW \$2,000 \$2,000 Furnish R Install BY** CPEP, Type S Pipe LF 750 \$80 \$60,000 \$T \$60,000 \$T Furnish R Install BY*** CPEP, Type S Pipe LF 750 \$80 \$60,000 \$T \$60,000 \$70,00	.03	Construct Sanitary Sewer Manhole, Type A	EA	7	\$9,500	\$66,500	ww		\$66,500		
Samilar Sewer Service Tec Connection, RABGE EA 25 \$800 \$50,000 ST	.05	Connect to Existing Sewer Manhole	EA	1	\$2,000	\$2,000	ww		\$2,000		
Furnish & Install 18° CPEP, Type S Pipe L F 200	.10	Sanitary Sewer Service Tee Connection, 8x8x6	EA	25	\$800	\$20,000	WW		\$20,000		
Furnish & Install 8" HOPE Water Pipe LF 200 \$100 \$20,000 ST PR Strom Nation Outle Protection EA 1,1,000 \$1,000 \$25,000 W \$235,000 \$230,000 W \$235,000	(a)	Furnish & Install 18" CPEP, Type S Pipe	느	750	\$80	\$60,000	ST				\$60,000
Strain British British Stratish Cate Valve & Valve Box EA 1 51,000 51,000 W 535,000 W 535,000 EA 1 1,700 515,000 W 525,000 EA 1 1,700 515,000 W 525,000 EA 1 1,700 525,000 W 525,000 EA 1 1,700 525,000 W 525,000 EA 2 1,700 525,000 EA 2 1,700 525,000 W 525,000 EA 2 1,700 525,000 EA 2 1,700 525,000 W 525,000 EA 2 1,700 525,000 EA 2,700	(p)	Furnish & Install 24" CPEP, Type S Pipe	5	200	\$100	\$20,000	ST				\$20,000
Furnish & Install 8" HDPE Water Pipe LF 1,700 \$150 \$255,000 W \$255,000 Control Registry Furnish & Install 8" Gate Vable Box Activated Furnish & Install 6" HDPE Fire Line w/G" Gate Vable EA 3,3,500 \$24,000 W \$22,500 R Furnish & Install 6" HDPE Fire Line w/G" Gate Vable EA 2 \$2,000 \$20,000 W \$22,500 R Construction Surveying Surveying Surveying Extension Line Activated Surveying Survey Recorder Engine Maintenance Erosion and Sediment Control LS All Read \$2,000 <td>24</td> <td>Storm Drain Outlet Protection</td> <td>EA</td> <td>1</td> <td>\$1,000</td> <td>\$1,000</td> <td>ST</td> <td></td> <td></td> <td></td> <td>\$1,000</td>	24	Storm Drain Outlet Protection	EA	1	\$1,000	\$1,000	ST				\$1,000
Furnish & Install g* Gate Valve Bx EA 5 \$3.500 \$3.1000 W \$2.1000 R Furnish & Install g* Gate Valve Bx EA 3 \$7.500 \$24,000 W \$22,000 R Furnish & Install G* HOPE Fire Line wG* Gate Valve EA 25 \$1000 \$22,000 W \$22,000 R Water Service Connection, 1", 1.5" or 2" HOPE EA 2 \$1,000 \$20,000 W \$20,000 W \$50,000	02	Furnish & Install 8" HDPE Water Pipe	F	1,700	\$150	\$255,000	W	\$255,000			
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Funish & Install of HDPE Fine Line w/of Gate Valve EA 3 57,500 \$22,500 W \$22,500 W \$22,500 W \$20,000 W \$20,000 W \$20,000 S50,000 W \$20,000 \$50,000 W \$20,000 \$50,000 S50,000 \$20,000 </td <td>04</td> <td>Furnish & Install Fire Hydrant Assembly (Single Pumper)</td> <td>EA</td> <td>3</td> <td>\$8,000</td> <td>\$24,000</td> <td>W</td> <td>\$24,000</td> <td></td> <td></td> <td></td>	04	Furnish & Install Fire Hydrant Assembly (Single Pumper)	EA	3	\$8,000	\$24,000	W	\$24,000			
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Construction Surveying LS All Reqd \$20,000 \$20,000 \$5,000	13	Connect to Existing Water Main	EA	2	\$1,000	\$2,000	W	\$2,000			
Standard Signs LS All Read \$2,000 \$2,000 \$1,250 \$2,500 \$	02	Construction Surveying	LS	All Reqd	\$20,000	\$20,000	All	\$5,000		\$5,000	\$5,000
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Erosion and Sediment Control LS All Repd \$10,000 \$10,00	12	Traffic Maintenance	S	All Reqd	\$5,000	\$5,000	All	\$1,250		\$1,250	\$1,250
Insulation Board - 2'x8'x2" Thick	19	Erosion and Sediment Control	S	All Reqd	\$10,000	\$10,000	All	\$2,500		\$2,500	\$2,500
Seeding, Hydraulic Method LS All Reqd \$10,000 \$10,000 \$10,000 \$2,500	22	Insulation Board - 2'x8'x2" Thick	E	40	\$75	\$3,000	W	\$3,000			
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\$2,720,898 \$408,135 \$408		Pump Station 8 Upgrades	SJ	All Reqd	\$437,076	\$437,076	WW		\$437,076		
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\$15,645 \$15,		Total Construction Cost w/ Contingency (2022)				\$3,129,033		\$935,514		\$63,940	\$596,839
Ailting (Assumes No Mitgation Req'd) \$49,449 All \$12,362 <t< td=""><td></td><td>Predesign Survey & Geotechnical Site Investigation</td><td></td><td></td><td></td><td>\$62,581</td><td>All</td><td>\$15,645</td><td></td><td>\$15,645</td><td>\$15,645</td></t<>		Predesign Survey & Geotechnical Site Investigation				\$62,581	All	\$15,645		\$15,645	\$15,645
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\$3,715,443 \$1,082,117 \$1,679,342 \$210,543 \$1.082,117 \$1,000 \$1.00		Contract Administration & Construction Inspection				\$219,032	All	\$54,758		\$54,758	\$54,758
+		TOTAL RECOMMENDED PROJECT BUDGET				\$3,715,443		\$1,082,117		\$210,543	\$743,442
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Work Allocation legend: ST=streets, W=water, WW=wastewater, E=electric, All=all funds share cost