



## Crosslake WWTF Improvement Project

**Date:** October 4, 2018  
**To:** City Council  
**From:** Mike Rardin, PE *MR*  
**Cc:** Ted Strand - Public Works Director  
**Subject:** Monthly Project Update

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### Project Description

The Project can generally be described as follows:

1. Pretreatment improvements including replacing the existing mechanical fine screen, addition of a self-priming grit pump, adding a new blower for the aerated grit removal system, and adding a new handrail and grating system.
2. Construct a new 82,000 gallon equalization basin.
3. Construct a new rapid mix manhole with ferric chloride addition.
4. Construct a new control structure to feed the final clarifiers.
5. Construct a new effluent metering manhole.
6. Miscellaneous electric actuator valve replacements.
7. Re-routing the existing WAS line into the biosolids storage tanks.
8. Furnish and install new blowers for the existing aerated biosolids storage tank
9. Furnish and install a new backwash blower
10. Construct a 30,000 gallon backwash supply water storage tank.

### Work Progress – Eleventh (Final) Project Update

On September 15, 2017 the City of Crosslake awarded the 2017 Waste Water Treatment Plant Improvement Project to Eagle Construction Company, Inc. of Little Falls, MN for the amount of \$2,227,000.00. The contractor began to mobilize equipment and materials to the site on October 5 in order to prepare for the construction of the treatment plant improvements.

October thru August - the contractor substantially completed the basic elements of the improvement project.

September - the contractor worked on change order items, debugging Electrical and System Controls, Staff Training, Site Grading/Fencing/and Restoration items, and punchlist items.

Proposed contract changes 16 through 18 were identified during late August. Prices for proposed changes 14 through 18 were obtained from Eagle on September 19<sup>th</sup>. City staff authorized change 16 – “Programming and Wiring for 2 Backwash Control Valves” at an estimated cost of \$3,061.77 on September 24<sup>th</sup>. Proposed changes 13, 14, 15, 17, and 18 were rejected (declined) by City staff. All proposed and approved changes are summarized in the “Costs” section below as well as the attached Project Cost Summary.

### Project Schedule

All basic contract work has been completed and remaining work consists of completion of proposed changes, punchlist items, documentation of final costs, and providing documents needed to make final payment.

### Completion Dates

The contract called for substantial completion (defined as operation of all new structures and equipment

with the ability to treat wastewater as intended) by August 31, 2018. The contractor has substantially completed the project per the terms of the contract.

### Costs

Approved and proposed changes to date have the potential to increase construction costs for the waste water portion of the project by \$65,792.73 as follows:

<b>Approved Changes</b>	<b>Cost</b>
1 - Field Order #1 - Add Rebar: Water Storage Tank Base Slab	\$424.00
2 - Field Order #2:	
a - RAS Piping Relocation to EQ Basin	\$11,923.13
b - Remove and Replace Three (3) Four Inch Plug Valves	\$2,464.93
c - Relocate 6" Oxidation Ditch Drain Line	\$(4,221.27)
3 - Field Order #3 - Pipe Insulation (EQ Basin to Oxidation Ditch)	\$1,822.51
4 - Relocate 6" RW Piping to South Oxidation Ditch	TBD - \$2,500
5 - Pipe Insulation (extra as needed)	TBD - \$2,000
6 - Sludge Tank Diffuser Modifications (revised from coarse to fine nozzles)	\$3,305
7 - Field Order #4:	
a - Modify Clarifier Splitter Box	\$399.18
b - Clarifier Tank Weir Gates (2)	
8 - BMI Proposal Request #4 - Minor Electrical Modifications	
a - Minor Wiring and Conduit Additions at WWTP	\$4,417.97
b - Transfer Switch Modifications at PW Bldg	\$21,601.98
c - Emergency Lighting Revisions at PW Bldg	\$4,657.30
9 - EQ Basin Mixer	\$16,086.86
10 - SCADA System - Computer Modifications (deduct)	(\$7,580.09)
11 - Revise Pre-Treatment Exhaust Fan Wiring and Controls	\$1,641.72
12 - Raise Rapid Mix Manhole	\$1,287.74
16 - Add Programming and Wiring for 2 Backwash Control Valves	\$3,061.77

The following information is provided for the items identified above:

1. During construction review of the Water Storage Tank plans, additional rebars were needed for the base slab - cost determined to be \$424.00. This work is complete.
2. Field Orders:
  - a. Staff found the existing 6" RW piping to be improperly installed and full of solids. As a result, it was decided the existing RAS piping should be relocated / extended to the EQ Basin to avoid future use of this piping - cost estimated at \$11,923.13. This work is complete.
  - b. RAS pump inlet isolation valves (3) have been identified by staff as failing. These can be replaced as a part of the project - cost determined to be \$2,464.93. This work is complete.
  - c. The oxidation ditch drains are being relocated to a location which avoids a building conflict - contractor has offered a credit (deduct) of \$4,221.27 for this change. This work is complete.
3. EQ Basin and Oxidation Ditch pipe connections will result in less than 7-ft of bury depth. To prevent freezing, 4-inch thick insulation 4-ft wide is to be placed over these pipes where there is less than 7-ft of cover. \$1,822.51 of work has been completed.
4. The new 12" EQ basin pipe conflicted with the existing 6" RW pipe to the south oxidation ditch. No records from the original construction plan were found during design or by City staff that show the RW pipe elevation. The 6" RW pipe was raised / reinstalled when it was encountered -

- contractor is to submit costs associated with this work for review and approval. Costs are tentatively estimated at about \$2,500.00 – costs for this work were previously requested by BMI.
5. Some additional existing tank and pipe connections could have resulted in less than a 7-ft of bury depth. To prevent freezing, 4-inch thick insulation 4-ft wide is to be placed over pipe locations with less than 7-ft of cover - contractor is to submit costs associated with this work for review and approval. Costs are tentatively estimated at \$2,000 or less – costs for this work were previously requested by BMI.
  6. Sludge Tank Diffuser Modifications - BMI design called for coarse nozzle diffusers, City staff directed those be changed to fine nozzle diffusers. Final costs for this change have been determined to be \$3,305.00 based on correspondence from Eagle. This work is complete.
  7. Field Order #4 - final costs for this work have been determined to be \$399.18 based on a proposal provided by Eagle.
    - a. Modify Clarifier Splitter Box - modifications provide for temporary pipe closures and structure drainage while structure remains unused. This work is complete.
    - b. Clarifier Tank Weir Gates - gates provided were based on faulty as-built information. The gates provided allow for 12” lift while the existing gates provide for 18” lift. BMI directed gates be modified to provide for the 18” lift needed to operate the clarifiers. This work is complete.
  8. BMI Proposal Request #4 - Minor Electrical Modifications requested by BMI.
    - a. Minor Wiring and Conduit Additions at WWTP - provides for wiring and conduits to grit pump and EQ Blower that were not shown in the plans. Final cost of this work has been determined to be \$4,417.97 based on a proposal provided by Eagle. This work is complete.
    - b. Transfer Switch Modifications at PW Bldg - this work is necessary to power the PW Bldg from the new stand by generator. Location of the new switch in the PW Bldg must be revised from that shown in the plans due to location of main power line feeding the PW Bldg. Final cost of this work has been determined to be \$21,601.98 based on a proposal provided by Eagle. This work is complete.
    - a. Emergency Lighting Revisions at PW Bldg - provides for emergency lighting, per code, to be on a dedicated circuit which is not currently the case for the existing lighting. Final cost of this work has been determined to be \$4,657.30 based on a proposal provided by Eagle. This work is complete.
  9. EQ Basin Mixer - as a result of the RAS Piping rerouting (change 2.a described above) a mixer has been installed in the EQ Basin to avoid solids settlement issues. Final cost of this work has been determined to be \$16,086.86 based on a proposal provided by Eagle. This work is complete.
  10. SCADA System - Computer Modifications (deduct) - the existing computer at the WWTP can be used versus a new one planned to be supplied by the contractor. A credit of \$7,580.09 has been provided the city for continued use of their existing computer for SCADA purposes. This work is complete.
  11. Exhaust Fan Wiring and Controls - during construction the existing wiring and controls for the pre-treatment building exhaust fan were determined to be inadequate. Final costs of this work has been determined to be \$1,641.72 based on a proposal provided by Eagle. This work is complete.
  12. Rapid Mix Manhole - during construction the existing piping was found to be 2 feet lower than that shown in the plans and the new manhole had to be lowered as a result. The new manhole has been extended 2 feet higher to properly function. Final costs for this work have been determined to be \$1,287.74 based on a proposal provided by Eagle. This work is complete.
  16. Programming and Wiring for 2 Backwash Control Valves - the plans do not contain provisions for this work. City staff would like to control these valves and backwash operations via the SCADA system. Costs for this work have been determined to be \$3,061.77 - based on a proposal provided by Eagle (**attached – PR 6 Rev 1 – 09.19.18**). This work was authorized by City Staff on September 24<sup>th</sup>.

Declined Changes	Cost
13 - Revise Site Grading and Pavement (deduct)	(\$1,740.00)
14 - Add Electrical Outlets at Various Outdoor Locations	\$9,522.70
15 - Add Freeze Protection to Water Tank Loadout Standpipe	\$5,907.93
17 - Add Alarm for Seal / Fail Monitor Box for 2 Biosolids Pumps	\$1,387.67
18 - Add Overtemp Alarms for 2 Biosolids Pumps	\$1,214.90

The following information is provided for the above rejected (declined) change order items:

13. Revise Site Grading and Pavement - the contract requires replacement of disturbed surfaces to original condition. Localized flooding of buildings, walks, and pavements has been increasing and site drainage should be revised in conjunction with the restoration process. Staff has worked with a subcontractor to develop the work and costs associated with this - contractor has offered a credit (deduct), in the amount of \$1,740.00 for restoration they would not be required to perform. This credit was felt to be inadequate and the contractor was informed to perform site restoration work as per the plans / contract. The original work has been completed.
14. Add Electrical Outlets at Various Outdoor Locations - the contract provides for electrical outlets at overhead light locations only. City staff desires outlets at other various locations around the facility to minimize their use of extension cords. Based on a proposal provided by Eagle (**attached – PR 6 Rev 1 – 09.19.18**) the cost of this work was estimated at \$9,522.70. City staff declined this work on September 24th.
15. Add Freeze Protection to Water Tank Loadout Standpipe - the plans do not contain provisions for this work. City staff is concerned water standing in the loadout pipe during the winter could freeze disabling the water loadout system. Based on a proposal provided by Eagle (**attached – PR 6 Rev 1 – 09.19.18**) the cost of this work was estimated at \$5,907.93. City staff declined this work on September 24th.
17. Add Alarm for Seal / Fail Monitor Box for 2 Biosolids Pumps - the plans do not contain provisions for this work. City staff desires these alarms be added. Based on a proposal provided by Eagle (**attached – PR 6 Rev 1 – 09.19.18**) the cost of this work was estimated at \$1,387.67. City staff declined this work on September 24th.
18. Add Overtemp Alarms for 2 Biosolids Pumps - the plans do not contain provisions for this work. City staff desires these alarms be added. Based on a proposal provided by Eagle (**attached – PR 6 Rev 1 – 09.19.18**) the cost of this work was estimated at \$1,214.90. City staff declined this work on September 24th.

Items 1 through 12 above were previously reviewed by staff and City Council and found to be acceptable. Change 16 was accepted by staff on September 24<sup>th</sup>. Changes 13, 14, 15, 17, and 18 were reviewed and rejected (declined) by City staff as they were felt to be too costly. Changes 1, 2, 3, 6 thru 12, and 16 have been authorized by BMI and have been incorporated into pay requests as appropriate (totaling \$58,230.96 to date). Final costs for changes 4, 5, and 16 will be reported back to Council and incorporated into pay requests as final costs are determined (currently estimated at \$7,561.77).

A construction allowance of \$75,000 to pay for possible contract changes was incorporated into the construction contract for this project. So far, \$65,792.73 has been tentatively charged towards that allowance.

Well construction has been completed and final costs are \$67,940, which is \$455 less than contracted for.

Engineering services for the project have been continuing as agreed to according to the existing “Not to

Exceed” contract. No cost changes are anticipated at this time.

Total project costs to date and estimated final costs can be summarized as follows:

<b>Total Estimated Project Cost</b>	<b>Original Cost</b>	<b>Changes</b>	<b>Costs to Date</b>	<b>Estimated Final Costs</b>
WWTF Construction	\$2,152,000	\$ 65,793	\$2,210,231	\$ 2,217,793
Well Construction	\$ 68,395	\$ (455.00)	\$ 67,940	\$ 67,940
Engineering	\$ 198,400	\$ (514.00)	\$ 197,886	\$ 197,886
<b>Totals</b>	<b>\$ 2,418,795</b>	<b>\$ 64,824</b>	<b>\$ 2,476,057</b>	<b>\$ 2,483,619</b>
<b>Other City Costs (pre 2018)</b>			<b>\$188,016</b>	<b>\$ 2,671,635</b>

Please see project cost summary (**attached - Project Cost Summary – 10.03.18**) for project cost details.

**Attachments**

1. PR 6 Rev 1 – 09.19.18
2. Project Cost Summary – 10.03.18

# PROPOSAL

PR #6

REV 1



**EAGLE**  
CONSTRUCTION COMPANY<sup>INC.</sup>

Eagle Construction Company, Inc.  
515 9th Ave NW  
Little Falls, MN 56345

ATTN: John Graupman - BMI  
1960 Premier Drive  
Mankato, MN 56001

Project: Crosslake WWTF Improvements

Date: 9/19/18

**Description:** Per PR #6 for Electrical Modifications to the Contract.

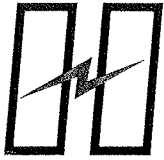
DESCRIPTION	Qty	Units	RATE	TOTAL
Subcontractor Cost	1	LS	\$19,447.00	\$19,447.00
			Mark-up 5%	\$972.35
Loadout pipe Insulation	1	EA	\$400.00	\$400.00
			Mark-up 10%	\$40.00
			Bond 1.2%	\$250.31

**TOTAL AMOUNT** \$21,109.66

Thank you for the opportunity to Quote this work for you.

Regards,

Jayd Newman  
Eagle Construction Company, Inc.  
320-632-5429



# Holden Electric Co., Inc.



## Construction and Maintenance

7669 COLLEGE ROAD, P.O. BOX 2688

BAXTER, MN 56425-2688

TELEPHONE: (218) 829-4759

FAX# (218) 829-4121

9/19/2018

Jayd Newman  
Eagle Construction

RE: Crosslake WWTP PR #6

Jayd,  
The following is the breakdown for PR 6

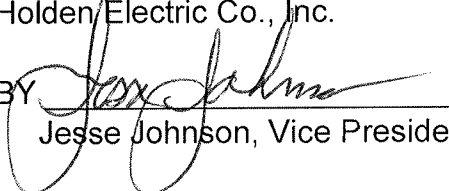
	Holden	In Control + %5
- Item 1 =	\$8,961	
- Item 2 =	\$3,221	+ \$290 = \$3,511.00
- Item 3 =	\$3,482	+ \$580 = \$4,062.00
- Item 4 =	\$1,479	+ \$290 = \$1,769.00
- Item 5 =	\$854	+ \$290 = \$1,144.00

**Total \$19,447.00**

Please call with any questions.

Respectfully Submitted,  
Holden Electric Co., Inc.

BY

  
Jesse Johnson, Vice President





## CHANGE ORDER PROPOSAL NO. 6 Rev. 2

To: Holden Electric

Date: September 18, 2018

From: Jeff Iverson

Valid: 60 days

Page: 1 of 2

Attn: Jesse Johnson

**Project: Crosslake WWTP Improvements Change Order Proposal Request No.6**

In Control, Inc. is pleased to provide our proposal for materials and services as part of the Change Order referenced above. We have added pricing to integrate the heat trace temperature switch and current transmitter provided by others.

**Item 1 - Provide GFI 110-volt duplex convenience outlet with exterior weather resistant enclosure at the rapid mix manhole, clarifier splitter structure and by water loadout tank (3 total locations). Field verify location. Mount on existing structures are possible or on post 24-inches above grade.**

In Control Change Order Price – N/A (Work to be completed by others)

**Item 2 - Provide insulation and heat trace on water loadout stand pipe shown on sheet 5.20. Heat trace and insulation to be similar to that on fill pipe (see note 6 sheet 7.02).**

In Control Change Order Price - \$276.00 (Update drawings, PLC programming, OIT programming, SCADA programming, field checkout and startup)

**Item 3 - Provide programming and signal wire for controlling two (2) owner furnished backwash control valves with analog signal.**

In Control Change Order Price - \$552.00 (Update drawings, PLC programming, OIT programming, SCADA programming, field checkout and startup)

**Item 4 - Provide alarm output wiring from the existing seal/fail monitor box to the PLC for biosolids pumps (2 total).**

In Control Change Order Price - \$276.00 (Update drawings, PLC programming, OIT programming, SCADA programming, field checkout and startup)

**Item 5 - Provide wiring to alarm biosolids pump overtemp alarms (2 total).**

In Control Change Order Price - \$276.00 (Update drawings, PLC programming, OIT programming, SCADA programming, field checkout and startup)

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**IN - Control, inc.**

10350 Jamestown Street NE  
Blaine, MN 55449

Phone: (763) 783-9500  
Fax: (763) 783-9502



The price for our portion of Change Order Proposal Request No. 6 is \$1,380.00.00 USD net total excluding sales and use taxes. Freight is included, FOB shipping point.

Our proposal specifically excludes the following:

- Removal, demolition or disposal of existing wiring, devices or equipment
- Field installation of equipment, enclosures, instrumentation or other products provided
- Fasteners or mounts, wire, raceway or fittings required for field installed products
- Termination of any field wiring such as line power, control signals, instrumentation, etc.
- Normal and customary items provided by a general or electrical contractor.

Respectfully,

**Jeff Iverson**

**IN Control** | Sales & Consulting

Office: (763) 873-9500 Ext. 3001

Mobile: (612) 802-8875

[jsi@in-ctrl.com](mailto:jsi@in-ctrl.com)

**Jake Hacker**

**IN Control** | Inside Sales

Office: (763) 873-9500 Ext. 2004

Mobile: (608) 434-2555

[jlhack@in-ctrl.com](mailto:jlhack@in-ctrl.com)

## Standard Terms and Conditions of Sale

These terms and conditions are in effect between the party ("Purchaser") issuing the purchase order ("Order") and IN CONTROL, INC. ("IN CONTROL").

1. ACCEPTANCE – Acceptance of this Order will be in writing within thirty (30) days of Order receipt. Acceptance will be based on compliance with the acceptance criteria set forth herein. Upon acceptance, this Order will constitute the entire agreement between IN CONTROL and Purchaser, supersede all prior negotiations, discussions and dealings and may not be modified or rescinded except by a writing signed by both Purchaser and IN CONTROL.
2. TERMINATION – If the Purchaser chooses to terminate this Order, the Purchaser will pay to IN CONTROL reasonable and proper cancellation charges, which may include a reasonable and customary profit only on Goods and Services accepted to date of receipt of the notice of cancellation.
3. ATTORNEY FEES - If either party commences or is made a party to an action or proceeding to enforce or interpret this Order, the prevailing party in such action or proceeding will be entitled to recover from the other party all reasonable attorneys' fees, costs and expenses incurred in connection with such action or proceeding or any appeal or enforcement of any judgment obtained in any such action or proceeding.
4. COUNTERPARTS - This Order may be executed in any number of counterparts, and each such counterpart will be deemed to be an original instrument.
5. INDEMNIFICATION - Purchaser will indemnify IN CONTROL and its customers and hold them harmless from and against any and all claims, actions, proceedings, costs, expenses, losses and liability, including all reasonable attorneys' fees, costs and expenses, arising out of or in connection with or relating to any Goods or Services furnished by Seller pursuant to this Order, including without limitation all product liability claims and any claims involving personal injury, death or property damage. The obligations set forth in this Section will survive the termination or fulfillment of this Order.
6. LIMITATIONS OF LIABILITY - In no event will IN CONTROL be liable in contract, tort, strict liability, warranty or otherwise, for any special, incidental or consequential damages, such as, but not limited to, delay, disruption, loss of product, loss of anticipated profits or revenue, loss of use of the equipment or system, non-operation or increased expense of operation of other equipment or systems, cost of capital, or cost of purchase or replacement equipment systems or power.
7. LIQUIDATED DAMAGES – Unless otherwise agreed to in writing between the Purchaser and IN CONTROL, IN CONTROL will not accept liquidated damages.
8. NONWAIVER - The failure by IN CONTROL to enforce at any time, or for any period of time, any of the provisions hereof will not be a waiver of such provisions nor the right of IN CONTROL thereafter to enforce each and every such provision.
9. PAYMENT TERMS - The payment terms are net thirty (30) days after invoice date. If an invoice dispute arises, the Purchaser will notify IN CONTROL within ten (10) days of receipt of invoice. The undisputed amount of the invoice will be paid within the payment terms. All reasonable attempts will be made between both parties to resolve the disputed portions of the invoice within the payment terms.
10. REMEDIES - Remedies herein reserved to IN CONTROL will be cumulative, and in addition to any other or further remedies provided in law or equity.
11. TRANSPORTATION - Unless otherwise specified, all deliveries from IN CONTROL will be F.O.B. factory, freight prepaid.
12. WARRANTY - IN CONTROL warrants that the Goods and Services furnished will be of good quality, free from defects in material, design and workmanship will conform to the specifications, drawings, or samples and are suitable for their intended purpose(s). The warranty from IN CONTROL will be in force for eighteen (18) months after shipment or twelve (12) months from startup, whichever is shorter. IN CONTROL reserves the right to terminate warranty should the Purchaser's account be in arrears.

Extension By Section

Item #	Description	Quantity	Price U	Ext Price	Labor Hr U	Ext Lab Hr
--- RAPID MIXER MANHOLE RECEPTACLE ---						
1188	3/4" PVC Conduit	50.00	88.02 C	44.01	3.75 C	1.88
1587	3/4" Locknut	2.00	46.64 C	0.93	0.12 E	0.24
2061	3/4" PVC Male Adaptor	2.00	68.98 C	1.38	0.16 E	0.32
2115	3/4" PVC Coupling	4.00	39.58 C	1.58	0.06 E	0.24
2127	3/4" PVC Elbow	2.00	146.20 C	2.92	0.30 E	0.60
2289	3/4" 2-Hole Strap	2.00	45.52 C	0.91	4.50 C	0.09
2336	3/4" Unistrut Strap	2.00	217.88 C	4.36	10.00 C	0.20
2581	1G WP Bell Box-(3)3/4" Hubs	1.00	2,114.10 C	21.14	1.10 E	1.10
2790	#12 THHN CU Stranded Wire	240.00	281.88 M	67.65	6.00 M	1.44
3915	20A 1P 120/240V Plug-In Circuit Breaker	1.00	19.99 E	19.99	0.40 E	0.40
8102	4x4x3 Treated Post	1.00	15.00 E	15.00	0.60 E	0.60
8171	3/4" PVC (Schedule-80)	20.00	122.40 C	24.48	3.75 C	0.75
28018	PLOWING	50.00	2.50 E	125.00	0.06 E	3.00
28561	1G WP In Use Cover	1.00	9.06 E	9.06	0.20 E	0.20
47161	20A/125V Weather/Tamper Resistant GFI Dup Rcpt (5	1.00	39.11 E	39.11	0.35 E	0.35
1234977	3/4 Plastic Bushings	1.00	11.57 C	0.12	OPEN	0.00
--- RAPID MIXER MANHOLE RECEPTACLE				377.64		11.41
--- CLARIFIER SPLITTER STRUCTURE RECEPTACLE ---						
1200	3/4" PVC (Difficult)	30.00	88.02 C	26.41	6.00 C	1.80
1587	3/4" Locknut	2.00	46.64 C	0.93	0.12 E	0.24
2061	3/4" PVC Male Adaptor	2.00	68.98 C	1.38	0.16 E	0.32
2115	3/4" PVC Coupling	4.00	39.58 C	1.58	0.06 E	0.24
2127	3/4" PVC Elbow	2.00	146.20 C	2.92	0.30 E	0.60
2289	3/4" 2-Hole Strap	4.00	45.52 C	1.82	4.50 C	0.18
2581	1G WP Bell Box-(3)3/4" Hubs	1.00	2,114.10 C	21.14	1.10 E	1.10
2790	#12 THHN CU Stranded Wire	150.00	281.88 M	42.28	6.00 M	0.90
3915	20A 1P 120/240V Plug-In Circuit Breaker	1.00	19.99 E	19.99	0.40 E	0.40
8102	4x4x3 Treated Post	1.00	15.00 E	15.00	0.60 E	0.60
8171	3/4" PVC (Schedule-80)	20.00	122.40 C	24.48	3.75 C	0.75
28018	PLOWING	30.00	2.50 E	75.00	0.06 E	1.80
28561	1G WP In Use Cover	1.00	9.06 E	9.06	0.20 E	0.20
47161	20A/125V Weather/Tamper Resistant GFI Dup Rcpt (5	1.00	39.11 E	39.11	0.35 E	0.35
--- CLARIFIER SPLITTER STRUCTURE REC				281.10		9.48
--- WELL TANK RECEPTACLE ---						
1051	3/4" GRC	10.00	520.88 C	52.09	6.00 C	0.60
1188	3/4" PVC Conduit	280.00	88.02 C	246.46	3.75 C	10.50
1587	3/4" Locknut	1.00	46.64 C	0.47	0.12 E	0.12
1623	3/4" LB Condulet w/Cover & Gasket	1.00	29.84 E	29.84	0.65 E	0.65
2061	3/4" PVC Male Adaptor	1.00	68.98 C	0.69	0.16 E	0.16
2127	3/4" PVC Elbow	2.00	146.20 C	2.92	0.30 E	0.60
2289	3/4" 2-Hole Strap	2.00	45.52 C	0.91	4.50 C	0.09
2336	3/4" Unistrut Strap	1.00	217.88 C	2.18	10.00 C	0.10
2581	1G WP Bell Box-(3)3/4" Hubs	1.00	2,114.10 C	21.14	1.10 E	1.10
2791	#10 THHN CU Stranded Wire	900.00	435.57 M	392.01	7.50 M	6.75
3960	20A 1P 120/240V Bolt-On Circuit Breaker	1.00	26.83 E	26.83	0.40 E	0.40
8102	4x4x3 Treated Post	1.00	15.00 E	15.00	0.60 E	0.60
8171	3/4" PVC (Schedule-80)	10.00	122.40 C	12.24	3.75 C	0.38
28018	PLOWING	280.00	2.50 E	700.00	0.06 E	16.80
28561	1G WP In Use Cover	1.00	9.06 E	9.06	0.20 E	0.20
47161	20A/125V Weather/Tamper Resistant GFI Dup Rcpt (5	1.00	39.11 E	39.11	0.35 E	0.35

Job Number: CO29361-3

## Extension By Section

Item #	Description	Quantity	Price U	Ext Price	Labor Hr U	Ext Lab Hr
1234977	3/4" Plastic Bushings	2.00	11.57 C	0.23	OPEN	0.00
T0001	POT HOLE AREAS	1.00	OPEN	0.00	4.50 E	4.50
T0005	locate conduits	1.00	OPEN	0.00	5.00 E	5.00
--- WELL TANK RECEPTACLE Total ---				1,551.18		48.90
--- THERMALS ON GRIT PUMP ---						
8157	3/4" Vert & Horiz Seal	1.00	26.93 E	26.93	1.08 E	1.08
T0002	REWIRE GRIT BLOWER AND ADD SEALOFF MATT	1.00	OPEN	0.00	3.75 E	3.75
--- THERMALS ON GRIT PUMP Total ---				26.93		4.83
--- ADD HEAT TAPE ---						
1051	3/4" GRC	10.00	520.88 C	52.09	6.00 C	0.60
1144	3/4" Liquidtight (metallic)	10.00	318.44 C	31.84	3.50 C	0.35
1188	3/4" PVC Conduit	70.00	88.02 C	61.61	3.75 C	2.63
1587	3/4" Locknut	2.00	46.64 C	0.93	0.12 E	0.24
1599	3/4" Plastic Bushing	2.00	31.95 C	0.64	0.12 E	0.24
1633	3/4" T Condulet w/Cover & Gasket	1.00	34.66 E	34.66	1.00 E	1.00
2790	#12 THHN CU Stranded Wire	250.00	281.88 M	70.47	6.00 M	1.50
6644	Unistrut (Deep)	10.00	1,115.04 C	111.50	20.00 C	2.00
28361	Core Existing Floor 3/4" Conduit	1.00	25.00 E	25.00	0.54 E	0.54
T0003	HEAT TAPE	1.00	907.00 E	907.00	6.00 E	6.00
T0004	REWIRE PANEL SCP-10	1.00	OPEN	0.00	3.00 E	3.00
--- ADD HEAT TAPE Total ---				1,295.74		18.10
--- ADDED CONTROL POINTS IN GATE OPENER ---						
1188	3/4" PVC Conduit	50.00	88.02 C	44.01	3.75 C	1.88
1587	3/4" Locknut	2.00	46.64 C	0.93	0.12 E	0.24
2061	3/4" PVC Male Adaptor	2.00	68.98 C	1.38	0.16 E	0.32
2789	#14 THHN CU Stranded Wire	200.00	189.27 M	37.85	5.00 M	1.00
28018	PLOWING	50.00	2.50 E	125.00	0.06 E	3.00
28361	Core Existing Floor 3/4" Conduit	1.00	25.00 E	25.00	0.54 E	0.54
1234977	3/4" Plastic Bushings	2.00	11.57 C	0.23	OPEN	0.00
T0004	REWIRE PANEL SCP-10	1.00	OPEN	0.00	3.00 E	3.00
--- ADDED CONTROL POINTS IN GATE OP				234.40		9.98
--- BACK WASH CONTROLLER ---						
1144	3/4" Liquidtight (metallic)	10.00	318.44 C	31.84	3.50 C	0.35
1931	3/4" Seal-tite Conn (Str)	4.00	621.46 C	24.86	0.15 E	0.60
2073	3/4" PVC Female Adaptor	4.00	76.36 C	3.05	0.16 E	0.64
2115	3/4" PVC Coupling	6.00	39.58 C	2.37	0.06 E	0.36
2127	3/4" PVC Elbow	3.00	146.20 C	4.39	0.30 E	0.90
2289	3/4" 2-Hole Strap	20.00	45.52 C	9.10	4.50 C	0.90
2789	#14 THHN CU Stranded Wire	700.00	189.27 M	132.49	5.00 M	3.50
4367	#14-12-10 Wire Termination Labor	44.00	0.00 E	0.00	0.18 E	7.92
6876	1" Plastic Anchor w/#12 Screw	20.00	52.50 C	10.50	16.00 C	3.20
8171	3/4" PVC (Schedule-80)	60.00	122.40 C	73.44	3.75 C	2.25
28333	18 AWG TWISTED SHEILDLED CABLE	100.00	820.00 M	82.00	OPEN	0.00
--- BACK WASH CONTROLLER Total ---				374.04		20.62
--- SEAL FAIL ---						
1437	3/4" Set Screw Steel Conn	2.00	766.46 C	15.33	0.10 E	0.20
1557	3/4" Set Screw Steel Cplg	5.00	190.80 C	9.54	0.12 E	0.60
2336	3/4" Conduit Hanger w/Bolt	6.25	80.68 C	5.04	25.00 C	1.56

Holden Electric Co  
 CROSSLAKE WTP IMPROVEMENTS : PR # 6  
 Job Number: CO29361-3  
 Extension By Section

Item #	Description	Quantity	Price U	Ext Price	Labor Hr U	Ext Lab Hr
2786	#1 THHN CU Solid Wire	210.00	172.26 M	36.17	5.00 M	1.05
4367	#14-12-10 Wire Termination Labor	20.00	0.00 E	0.00	0.18 E	3.60
23884	3/4" EMT	50.00	139.54 C	69.77	5.00 C	2.50
--- SEAL FAIL Total ---				135.85		9.51
--- OVERTEMP ---						
1437	3/4" Set Screw Steel Conn	2.00	766.46 C	15.33	0.10 E	0.20
1517	3/4" Set Screw Steel Cplg	4.50	190.80 C	8.59	0.12 E	0.54
2315	3" Conduit Hanger w/Bolt	5.63	80.68 C	4.54	25.00 C	1.41
2786	#1 THHN CU Solid Wire	236.25	172.26 M	40.70	5.00 M	1.18
4317	#14-12-10 Wire Termination Labor	12.00	0.00 E	0.00	0.18 E	2.16
23884	3/4" EMT	45.00	139.54 C	62.79	5.00 C	2.25
--- OVERTEMP Total ---				131.95		7.74
Job Total				4,408.83		140.57

	4,408.83	140.57
TX	347.41	77.50
<hr/>		
	\$4,756.24	\$1,089.4
15%	713.43	15% 163.4
<hr/>		
	5,469.67	\$1,252.8

IN-control  
 \$1389.  
 5% 69.  


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 \$1449.00

MAT = \$5470  
 Lab = \$12,528.00

Total \$17998  
 1449 IN-control  


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 \$19,447.00



**City of Crosslake**  
**Waste Water Treatment Facility Project**  
 BMI Project # - M25.113425

**Project Cost Summary**  
 October 3, 2018

Item	Contract Amounts	Changes	Estimated Final Amounts	Notes
<b>Eagle - Contract Amount</b>				
Construction	\$ 2,152,000.00		\$ 2,152,000.00	construction amount
Allowance	\$ 75,000.00			contingency
<b>Contract Changes</b>				
1 - Field Order #1 - Add Rebar: Water Storage Tank Base Slab		\$ 424.00	\$ 424.00	required - requested by BMI
2 - Field Order #2:				
a - BMI Proposal Request #1 - RAS Piping Relocation to EQ Basin		\$ 11,923.13	\$ 11,923.13	optional - requested by city
b - BMI Proposal Request #2 - Remove and Replace Three (3) Four Inch Plug Valves		\$ 2,464.93	\$ 2,464.93	optional - requested by city
c - Eagle Proposal Request #1 - Relocate 6" Oxidation Ditch Drain Line (deduct)		\$ (4,221.27)	\$ (4,221.27)	optional - requested by Eagle
3 - Field Order #3 - Pipe Insulation (Eq Basin to Oxidation Ditch)		\$ 1,822.51	\$ 1,822.51	optional - requested by city
4 - Relocate 6" RW Piping to South Oxidation Ditch		\$ 2,500.00	TBD	required - requested by BMI
5 - Pipe Insulation (additional - as needed)		\$ 2,000.00	TBD	optional - requested by city
6 - Sludge Tank Diffuser Modifications (revised from coarse to fine nozzles)		\$ 3,305.00	\$ 3,305.00	optional - requested by city
7 - Field Order #4:				
a - Modify Clarifier Splitter Box				required - requested by BMI
b - Lengthen Clarifier Weir Gates (2)		\$ 399.18	\$ 399.18	required - requested by BMI
8 - BMI Proposal Request #4 - Minor Electrical Modifications				
a - Minor Wiring and Conduit Additions at WWTP		\$ 4,417.97	\$ 4,417.97	required - requested by BMI
b - Transfer Switch Modifications at PW Bldg (T & M - NTE)		\$ 21,601.98	\$ 21,601.98	required - requested by BMI
c - Emergency Lighting Revisions at PW Bldg (T & M - NTE)		\$ 4,657.30	\$ 4,657.30	required - Electrical Inspector
9 - EQ Basin Mixer		\$ 16,086.86	\$ 16,086.86	optional - requested by city
10 - SCADA System - Computer Modifications (deduct)		\$ (7,580.09)	\$ (7,580.09)	required - requested by Eagle
11 - Revise Pre-Treatment Exhaust Fan Wiring and Controls		\$ 1,641.72	\$ 1,641.72	required - requested by BMI
12 - Raise Rapid Mix Manhole		\$ 1,287.74	\$ 1,287.74	required - requested by BMI
13 - Revise Site Grading and Pavement		\$ (1,740.00)	\$ -	optional - requested / declined by City
14 - Add Electrical Outlets at Various Outdoor Locations		\$ 9,522.70	\$ -	optional - requested / declined by City
15 - Add Freeze Protection to Water Tank Loadout Standpipe		\$ 5,907.93	\$ -	optional - requested / declined by City
16 - Add Programming and Wiring for 2 Backwash Control Valves		\$ 3,061.77	TBD	optional - requested by City
17 - Add Alarm for Seal / Fail Monitor Box for 2 Biosolids Pumps		\$ 1,387.67	\$ -	optional - requested / declined by City
18 - Add Overtemp Alarms for 2 Biosolids Pumps		\$ 1,214.90	\$ -	optional - requested / declined by City
<b>Totals</b>	<b>\$ 2,227,000.00</b>	<b>\$ 65,792.73</b>	<b>\$ 2,210,230.96</b>	<b>Completed approved changes - \$58,230.96</b>
Pay Request # / Date	#13 - 10/03/18			
Eagle - Work Completed to Date	\$ 2,210,230.96			
Eagle - Paid to Date	\$ 1,990,887.41			
Eagle - Retainage	\$ 110,511.55			
Eagle - Pay Request	\$ 108,832.00			

Item	Contract Amounts	Changes	Final Amounts
<b>Blue Water Wells - Construction Costs</b>			
Construction	\$ 68,395.00	\$ -	\$ 68,395.00
<b>Contract Changes</b>			
1 - Test Pump		\$ (2,000.00)	\$ (2,000.00)
2 - Water Analysis		\$ (1,750.00)	\$ (1,750.00)
3 - Casing		\$ (1,080.00)	\$ (1,080.00)
4 - Open Hole		\$ (1,125.00)	\$ (1,125.00)
5 - Increase Pump and Casing Sizes (to 500 gpm capacity)		\$ 5,500.00	\$ 5,500.00
<b>Totals</b>	<b>\$ 68,395.00</b>	<b>\$ (455.00)</b>	<b>\$ 67,940.00</b>
Pay Request # / Date	#1 (Final) - 9/18/17		\$ 67,940.00

Item	Contract Amount	Changes	Cost to Date	Estimated Final Amounts
<b>BMI - Design and Construction Services Costs</b>				
Task 1 - Site Work Design	\$ 8,400.00	\$ (9.00)	\$ 8,391.00	\$ 8,391.00
Task 2 - Waste Water Facility Design	\$ 82,000.00	\$ -	\$ 82,000.00	\$ 82,000.00
Task 3 - Bidding Services	\$ 8,000.00	\$ (505.00)	\$ 7,495.00	\$ 7,495.00
Task 4 - Water Supply Well and Storage Tank Design (Alternate)	\$ 30,000.00	\$ -	\$ 30,000.00	\$ 30,000.00
Task 5 - Construction Services	\$ 70,000.00	\$ -	\$ 70,000.00	\$ 70,000.00
<b>Totals</b>	<b>\$ 198,400.00</b>	<b>\$ (514.00)</b>	<b>\$ 197,886.00</b>	<b>\$ 197,886.00</b>

Total Estimated Project Cost	Original Cost	Changes	Costs to Date	Estimated Final Amounts
WWTF Construction	\$ 2,152,000.00	\$ 65,792.73	\$ 2,210,230.96	\$ 2,217,792.73
Well Construction	\$ 68,395.00	\$ (455.00)	\$ 67,940.00	\$ 67,940.00
Engineering	\$ 198,400.00	\$ (514.00)	\$ 197,886.00	\$ 197,886.00
<b>Totals</b>	<b>\$ 2,418,795.00</b>	<b>\$ 64,823.73</b>	<b>\$ 2,476,056.96</b>	<b>\$ 2,483,618.73</b>

Other Related City Costs:		Costs to Date	Estimated Final Amounts
City costs prior to 2016 - WIP at 12/31/2016		\$ 142,416.61	\$ 142,416.61
Other 2017 City Costs - USA Bluebook, Fiber Upgrades, Elite Fence and Deck, Etc		\$ 45,599.90	\$ 45,599.90
Other 2018 City Costs -		TBD	TBD
<b>Totals</b>		<b>\$ 188,016.51</b>	<b>\$ 188,016.51</b>
<b>TOTAL CITY COSTS</b>		<b>\$ 2,664,073.47</b>	<b>\$ 2,671,635.24</b>

Legend:

- Proposed change or estimated cost
- Authorized / approved changes / costs