City of Hiawatha

Engineering Department

101 Emmons St., Hiawatha Iowa, 52233-1697
PHONE (319) 393-1515 ext. 511 FAX (319) 393-1516

To: **Mayor and City Council** **Date:** **October 9, 2019**

From: John C Bender PE, City Engineer

Re: **Edgewood Road Sewer Extension and Mitchell Drive Forcemain Replacement**

Description: **Change Order #1**

Report:

The Edgewood Road sewer extension approximately 2000 feet south of Hunt Road was bid on October 18, 2018. Maxwell Construction from Iowa City performed the work on Mitchell Drive by December of 2018 according to the contract. Maxwell moved their equipment to the Edgewood Road site in March 2019 to start that phase of the project. Maxwell was unable to proceed with the project as planned because shallow bedrock was discovered just below the surface. We have looked at several options to relocate the sewer, but several tests revealed additional bedrock which will be cost prohibitive to proceed.

We proceeded to investigate the locations of bedrock. The efforts included:

- Exploring the site with equipment to document the rock elevations
- Mapped the bedrock to the extent possible
- Developed alternative designs to avoid shallow bedrock
- Revise plan sheets to identify best alternative,
- Develop cost opinion to revise the construction plans
- Prepare technical memo to develop contractor change order documents

After working with the contractor and property owner, another alignment for the sewer was investigated and determined to be the best option. The sewer has been redesign using the open cut method. The revised plans are attached. Several items in the contract will need adjusted and eliminated and several new items will be required to install the sewer as an open cut project. The total cost of these revisions is actually a reduction to the total cost of the sewer in this area.

The new alignment will serve the properties and will be adequate for future development. We may have some additional costs to revise the sewer plan in the adjacent Rolling Prairie addition. We are not totally award of these costs to date, but we think we have been able to minimize these changes.

Engineering recommends we move ahead with the revised plan in order to complete this project this year. Total reduction in the contract is estimated to be $23,100.89.

Any question please let me know.

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CHANGE ORDER NO. 1

PROJECT: **2018 Hiawatha Sewer Extension and Forcemain Replacement**

DATE: October 3, 2019

CONTRACTOR: Maxwell Construction
Iowa City, Iowa

ORIGINAL CONTRACT AMOUNT: $ 341,942.01

COMPLETION DATE: June 1, 2019

During the construction of the proposed new directionally drilled sewer on Edgewood Road, the contractor encountered bedrock. The drilling was stopped and additional excavation was required to locate the extent to the bedrock and determine the best course of action to proceed with the project. After several days of excavating test holes to locate the bedrock and survey the location in an effort to determine if the proposed drilling operation was the best solution, it became apparent the additional cost to drill the pipe through the bedrock was cost prohibitive. After working with the contractor and property owner, another alignment for the sewer was investigated and determined to be the best option. The sewer has been redesign using the open cut method. The revised plans are attached. Several items in the contract will need adjusted and eliminated and several new items will be required to install the sewer as an open cut project. The following items are estimated to be adjusted with this change order:

ITEM #1.1: **ADJUST ITEM #1 - Add Mobilization:** The new sewer installation plan will require open cut equipment to be remobilized therefore add one additional mobilization lump sum cost of $2,304.00.

ITEM #1.2 **ADJUST ITEM #2- Add Construction Survey:** The new sewer alignment will need to be staked at the new location. Lump sum cost to stake sewer alignment $2,800.00.

ITEM #1.3 **ADJUST ITEM #4- Add Traffic Control for the New Sewer Construction.** The traffic control will need to be reestablished as the revised sewer construction operation takes place. Lump Sum Cost of $1,150.00.

ITEM #1.4 **ADJUST ITEM #5- Add Erosion Control for open cut sewer project.** Additional erosion control will be needed for the open cut sewer project. Lump sum cost of $1,500.00.

ITEM #1.5 **ADJUST ITEM #7 - Add Strip and Respread Topsoil:** The new sewer installation plan will require the open cut area to have new topsoil replaced. Lump sum cost of $750.00.

ITEM #1.6 **ADJUST ITEM #8- Add 6" DIA PVC Directionally Drilled Construction Sewer-** The new sewer alignment will require a small change in the 6" PVC directionally drilled sewer. Add 6LF at $65.00 or $390.00.

ITEM #1.7 **ADJUST ITEM #9- Reduce 8" DIA PVC Directionally Drilled.** Reduce the item for 8" Directionally Drilled PVC sewer as the project is now an open cut project. Total reduction is 1855 LF at $79.00. Total reduction $146,545.00.

ITEM #1.8 **ADJUST ITEM #10- Remove item Sanitary Sewer Internal Drop**. Remove item #10 at lump sum cost of $1,500.00.

ITEM #1.9: **ADJUST ITEM #11 – Adjust Item #10:** A total of 2 sanitary sewer manholes can be removed from the project. Total reduction of 2 at $8,800.00 for $17,600.00.

ITEM #1.10 **ADJUST ITEM #12- Remove Item Core Drill Manhole:** Remove item #12 including 2

at $1,200.00. Total reduction $2,400.00.

ITEM #1.11 **ADD NEW ITEM- Reform manhole #911 to use in new sewer construction:** Lump Sum Cost of $850.00.

ITEM #1.12 **ADD NEW ITEM-Major Manhole adjustments-**Reuse existing manholes for the open cut sewer, however major adjustments must be made. Add major manhole adjustment 3 at $500.00. Total cost $1,500.00.

ITEM #1.13 **ADD NEW ITEM- Restocking fee of unused pipe.** Pipe not used will be sent back to material supplier with a restocking fee. Total cost of 1840LF at $12.95 for a total cost of $23,828.00.

ITEM #1.14 **ADD NEW ITEM- Insulation Board-**The new sewer alignment will be located at minimum depth requiring insulation board at certain locations to prevent freezing. Add 3 each at $500.00 for a total of $1,500.00.

ITEM #1.15 **ADD NEW ITEM-Sanitary sewer Gravity Main 8" Truss-**The sewer main has been relocated and the directionally drilled pipe has been replaced with open cut 8" PVC truss pipe. Install 703LF at $65.00 for at total cost of $45,695.00.

ITEM #1.16 **ADD NEW ITEM- Clearing and Grubbing-** The new alignment for the sewer will be open cut requiring an area of trees and shrubs to be removed. Add clearing and grubbing lump sum cost of $1,950.00.

ITEM #1.17 **ADD NEW ITEM- Additional time for bedrock exploration.** The contractor was on site for 6 days to excavate the areas of bedrock and survey to determine the extent of the rock area that would need removed. Add a lump sum of $49,931.12 for time and materials to determine the bedrock areas. .

CHANGES IN SCHEDULE: The new completion date for the revised sewer alignment construction is substantially complete by December 31, 2019. Final completion April 1, 2020.

CHANGE ORDER No. 1 Summary of Bid Items:

Item No.	Description	Unit	Unit Price	Quantity	Total Amount
1.1	Increase cost Item #1 for mobilization	LS	$9,600.00	1	$9,600.00
1.2	Increase cost Item #2 for construction survey	LS	$2,800.00	1	$2,800.00
1.3	Increase cost Item #4 for traffic control	LS	$1,150.00	1	$1,150.00
1.4	Increase cost Item #5 for erosion control	LS	$1,500.00	1	$1,500.00
1.5	Increase cost Item #7 Strip/ Respread Topsoil	LS	$750.00	1	$750.00
1.6	Increase Item #8-6" DIA PVC	LF	$65.00	6	$390.00
1.7	Reduce Item #9-8" DIA PVC	LF	$79.00	1855	$146,545.00
1.8	Remove Item #10 Internal Drop	EA	$1,500.00	1	$1,500.00
1.9	Reduce item #11-2 at $8,800.00	EA	$8,800.00	2	$17,600.00
1.10	Remove Item #12	EA	$1,200.00	2	$2,400.00
1.10	Increase cost item #15 Hydroseeding	LS	$3,500.00	1	$3,500.00
					$148,355.00

Total Change Order No. 1 Bid item Cost: $148,355.00

CHANGE ORDER No. 1 Additional Items:

Item No.	Description	Unit	Unit Price	Quantity	Total Amount
1.11	Reform MH #911	LS	$850.00	1	$850.00
1.12	Major Manhole adjustment	EA	$500.00	3	$1,500.00
1.13	Restocking fee	LF	$12.95	1840	$23,828.00
1.14	Insulation Board	SF	500.00	3	$1,500.00
1.15	Sanitary sewer Gravity Main 8" Truss	LF	$65.00	703	$45,695.00
1.16	Clearing and Grubbing	LS	$1,950.00	1	$1,950.00
1.17	Additional time for Bedrock exploration	LS	$49,931.12	1	$49,931.12
					$125,254.12

Total Change Order No. 1 Additional Item Cost: $125,254.12

Total estimated cost of Change Order No.1 is a cost reduction of $23,100.89.

Maxwell Construction

By: _____

Title: _____

Date: _____

Attest

By: _____

Title: _____

Date: _____

City of Hiawatha, Iowa

By: _____

Title: _____

Date: _____

Hiawatha!

1 inch = 500 feet

DRAFT

RESOLUTION NO. 19-
City Council

RESOLUTION APPROVING CHANGE ORDER #1
2018 Hiawatha Sewer Extension and Forecmain Replacement Project

WHEREAS, the City Council of the City of Hiawatha, Iowa, has contracted for the 2018 Hiawatha Sewer Extension and Forecmain Replacement Project with Maxwell Construction, Inc., of Iowa City, Iowa, and

WHEREAS, the City Engineer has recommended Change Order #1 for the adjustments to the plans due to conflicts resulting from shallow bedrock discovered just below the worksite surface with a decrease of $23,100.89, for the 2018 Hiawatha Sewer Extension and Forecmain Replacement Project with Maxwell Construction, Inc., of Iowa City, Iowa, and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HIAWATHA, IOWA, to approve Change Order #1 for the 2018 Hiawatha Sewer Extension and Forecmain Replacement Project with Maxwell Construction, Inc., of Iowa City, Iowa, with a decrease in contract amount of $23,100.89. Total amended contract amount $318,841.12.

AYES:
NAYS:

PASSED AND APPROVED this 16th day of October, 2019.

_____
Bill Bennett, Mayor

ATTEST:

_____
Kari Graber, City Clerk