

**Change Order #1**

July 15, 2014

**TO:** HDR Engineering, Inc.  
J. Erin Hunt PE, Associate Vice President  
8404 Indian Hills Drive  
Omaha, NE 68114-4098

**PROJECT:** Grand Island Water System Master Plan

You are hereby directed to make the following change in your contract:

1 Additional payment per the attached spreadsheet.

ADD: \$13,470.00

The original Contract Sum	<u>\$66,415.00</u>
Previous Change Order Amounts	<u>                    </u>
The Contract Sum is increased by this Change Order	<u>\$ 13,470.00</u>
The Contract Sum is decreased by this Change Order	<u>                    </u>
The total modified Contract Sum to date	<u>\$ 79,885.00</u>

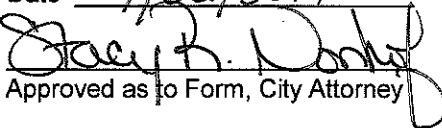
Approval and acceptance of this Change Order acknowledges understanding and agreement that the cost and time adjustments included represent the complete values arising out of and/or incidental to the work described therein.

APPROVED: CITY OF GRAND ISLAND

By: 

Attest: 

Date 7/22/2014

  
Approved as to Form, City Attorney

ACCEPTED: HDR Engineering, Inc.

By: 

Date 7/17/14

City of Grand Island  
Utilities Department  
General Work Contract - Change Order

July 15, 2014

*Change Order #1*

**TO:** HDR Engineering, Inc.  
J. Erin Hunt PE, Associate Vice President  
8404 Indian Hills Drive  
Omaha, NE 68114-4098

**PROJECT:** Grand Island Water System Master Plan

WWO24183

**Contract:** \$66,415.00

<u>Change</u>	<u>Description</u>	<u>Amount</u>
001	Additional engineering to investigate the best location storage	\$13,470.00
002	and use of a second pressure zone.	
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	<b>TOTAL CHANGE ORDER</b>	<b>\$13,470.00</b>

## GRAND ISLAND WATER FACILITIES MASTER PLAN – ADDITIONAL SERVICES TASKS

1. Provide project planning, organizing of team activities, budgeting, and scheduling for additional service task items.
2. Provide re-evaluation of water treatment capacity and future expansion based upon additional water quality data provided after review by City.
3. Two alternatives will be evaluated and added into the model/report in regards to pressure zones, pumping and storage improvements. Locations for the potential pressure zone boundary, future pump station, and storage reservoirs(s) will be analyzed. A recommendation will be made on which alternative HDR and City agree has the greatest benefit to the future system and the current CIP projects will be modified as needed.
4. Facilitate review meeting via conference call to review findings and determine consensus for water master plan CIP projects to be identified.
5. Complete a 2-hour workshop summarizing the conclusions and recommendations of the report and above alternative analysis. Complete a 3-hour training with select City staff on the model demonstrating general update steps and frequently needed evaluation processes (fire flows, development, etc.). Basic training tutorials and exercises related to the model training will be provided. This task includes travel for Bryon Wood from Denver to Grand Island for a single day for both the workshop and model training.

### HOUR AND FEE SUMMARY FOR ADDITIONAL SERVICES TASKS

1. Project Management:		
Kent Prior – 4 hours		
	<b>TOTAL</b>	<b>\$ 900.00</b>
2. Water Treatment Capacity:		
Brent Peterson – 8 hours		
Kent Prior – 1 hour		
	<b>TOTAL</b>	<b>\$1,150.00</b>
3. Future Improvements Alternative Evaluation:		
Bryon Wood – 16 hours		
Stephanie Fleckenstein – 24 hours		
Robin Hegedus – 4 hours		
	<b>TOTAL</b>	<b>\$5,200.00</b>

4. Conference Call Review Meeting:		
Kent Prior – 2 hours		
Brent Peterson – 2 hours		
Bryon Wood – 2 hours		
	<b>TOTAL</b>	<b>\$ 925.00</b>
5. Workshop/Training:		
Bryon Wood – 16 hours		
Kent Prior – 4 hours		
Stephanie Fleckenstein – 8 hours		
	<b>TOTAL</b>	<b>\$4,200.00</b>
Direct Expenses:		
Travel -	\$400.00	
Mileage -	\$120.00	
Per Diem -	\$250.00	
Misc. Direct -	\$325.00	
	<b>TOTAL</b>	<b>\$1,095.00</b>
	<b>TOTAL FOR ADDITIONAL SERVICES TASKS</b>	<b>\$13,470.00</b>

## Grand Island Water System Master Plan – Draft Report Review Meeting

### Population / Demand

- Does model include the areas to be annexed (east side, southwest and far south)?
  - East side approximately 800 homes
  - Is the 1.1% growth increase enough to cover annex areas?
  - Table 3-1 and Figure 6-3 include the city future growth areas
- Model includes growth area with demand per acre for "Future Demand"
  - East side included in 5 year plan
  - Far south included in 20 year plan
  - Figure 8-1 provides phasing plan
  - City mentioned that production requirements for extension to far south may be within next 5 years.
  - Reviewed Figure 3-5 for future demand projections

### Supply

- City to confirm data in Table 4-2 (yellow highlighted)
- City asked to include demand per capita history. They want to know if it flatlines, decreases or increases.
- Compared use to City of Lincoln 145 gpcd

### Treatment

- Discussed water quality, in particular uranium. Is additional treatment needed?
- Replace high uranium wells with new low uranium wells?
- City needs to meet water quality limits on a rolling 4 quarter average (not 4 quarter year basis).

### Storage

- Discussed possible need for additional storage at well field. Currently City relies on storage in town.
- Report recommends doubling storage
- Current storage basin is split: 90,000 and 160,000 gallons.
- Add 4<sup>th</sup> pump?
- Leave recommendations as is in report.
- City uses 15,000 KW portable backup generator. However, they do not really know how many wells could run off of generator at one time.

### Treatment

- Chloramine versus chlorine disinfection – do disadvantages outweigh the advantages?
- City concerned with uranium removal.
- Are there other constituents that may be of concern in near future?

### Distribution System

- City to verify data in Tables 6-1, 6-2 and 6-3 (yellow highlighted)
- Decommissioning of high pressure wells – move to 2025.
- City wants to construct elevated storage tank within the next 5 years. If add elevated storage within next 5 years, then decommissioning of high pressure wells can occur sooner.

### Distribution

- Industrial peaking factors – which value to use? What impacts to supply or distribution?
- Can pumps supply the proposed elevated storage tank?
- Elevated storage tank
  - Use: reduce peak hour pumping
  - Approximately 130-feet tall (normal size)
  - Includes fire flow supply
  - Report volume is 2 million gallons
- Pumping in next 5 years
  - Peak day
  - Fire demand
- Pressure zones – reviewed Figure 6-7.
  - Future pump station location in southwest corner?

#### Main Replacement

- Remove power plant PVC piping from tables.
- Discussed annual renewal investment dollars and pipe lengths.

Discussed scope increase for modeling elevated storage and pump station locations.  
Discussed trip for Bryon to visit City and discuss/update model with staff – Workshop.