

February 11, 2016

Mr. Zach Hager  
One Acadiana  
804 E. St. Mary Blvd.  
Lafayette, LA 70505

## Exhibit H. Freeland Site Potable Water Infrastructure Upgrade Letter and Map

RE: Freeland Site Potable Water System Cost Estimate  
CSRS Job No. 214002

Dear Mr. Hager:

According to correspondence with local utility officials and an interview with the managers of North Crowley Water Corporation and Louisiana Water Company, the Freeland site located 5,000 feet east of Hyde Park Lane in Acadia Parish, Louisiana does not have access to an existing potable/process water line to service the site.

A 3" potable water line operated by North Crowley Water Corporation exists adjacent to the site on the north side of Interstate 10, but this system does not have the capacity to support the Louisiana Economic Development Certified Site requirements of 250,000 gallons per day (GPD). Louisiana Water Company (LAWCO) has a 8" potable water line southeast of the site and an 8" potable water line due east of the site. The LAWCO system meets capacity requirements, but would require water main extensions and upgrades to access the site. In order to provide adequate potable/process water supply, the site will require an extension of the LAWCO main line, or the construction of a new well.

The option (option 1) to tie-in to LAWCO's 8" water line southeast of the site would require boring underneath Bayou Plaquemine Brule and the construction of approximately 13,500 feet of new water main. A segment of existing 3" water line would be removed and replaced with the 8" water line. The construction cost of extending a new main to connect to the existing water infrastructure is estimated to be \$1,200,000. Note that wetland mitigation and right of way acquisition is likely needed to complete the construction of the new water line and is not included in this cost estimate.

The option (option 2) to tie-in to LAWCO's 8" water line due east of the site would require boring underneath an Acadiana Railway Company railroad, boring underneath Bayou Plaquemine Brule and the construction of approximately 12,300 feet of new water main. The construction cost of extending a new main to connect to the existing water infrastructure is estimated to be \$1,300,000.

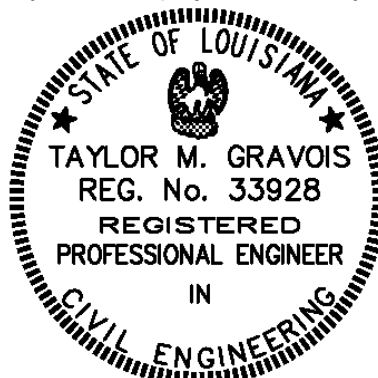
A third option for water access is the construction of a new well. The source of well water for the Freeland site is the Chicot Aquifer. Water drawn from this aquifer may be "hard" water due to relatively high concentrations of calcium carbonate and could require lime softening treatment. Additional treatment could increase the cost of upgrading the infrastructure. The construction cost of a well capable of providing 250,000 GPD flow requirements, including storage tanks, pumps, and piping systems to provide fire protection is estimated to be \$1,400,000 to \$4,400,000, depending on the hardness of the water in the Chicot Aquifer.

Please note these estimates do not include engineering, required rights of way, environmental impacts, or operation and maintenance costs. These cost estimates were prepared with the best information available at the time of certification. The actual costs can vary based on the availability of material, site conditions and labor availability. These plans can be executed within a reasonable timetable of 180 days or less based on preliminary engineering judgment.

Thank you for the opportunity to assist you in this project. Should you have any questions or require additional information, feel free to contact me.

Sincerely,  
CSRS, Inc.

Taylor M. Gravois, PE, PLS



# Exhibit H. Freeland Site Potable Water Infrastructure Upgrade Letter and Map



**Freeland Site  
Potable Water Rough Order of Magnitude Cost Estimate**

<b>Rough Order of Magnitude Cost Estimate - Proposed LAWCO Tie-In Option 1</b>					
Item No.	Description	Unit	Est. Quantity	Unit Price	Extension
1	Tap Existing 8" Water Main w/8: Tapping Sleeve &	Each	1	\$5,250.00	\$5,250.00
2	8" C900 PVC Water Main	L.F.	13,500	\$50.00	\$675,000.00
3	10" DR11 HDPE Water Main (Directionally Bore under Bayou Plaquemine Brule)	L.S.	1	\$125,000.00	\$125,000.00
4	Remove and Replace Asphalt or Concrete Street or Drive	S.Y.	60	\$60.00	\$3,600.00
5	Remove and Replace Granular Street of Drive	S.Y.	220	\$25.00	\$5,500.00
6	Fire Hydrant	Each	14	\$5,750.00	\$80,500.00
7	Ductile Iron Fittings (MJ)	Ton	5.00	\$8,550.00	\$42,750.00
8	8" Gate Valves w/Box	Each	3	\$1,750.00	\$5,250.00
<b>Subtotal <sub>1</sub>:</b>					<b>\$942,850.00</b>
<b>20% Contingency:</b>					<b>x 1.20</b>
<b>Rough Order of Magnitude (ROM)<sub>2</sub>:</b>					<b>\$1,200,000.00</b>

<b>Rough Order of Magnitude Cost Estimate - Proposed LAWCO Tie-In Option 2</b>					
Item No.	Description	Unit	Est. Quantity	Unit Price	Extension
1	Tap Existing 8" Water Main w/8" Tapping Sleeve & Valve	Each	1	\$5,250.00	\$5,250.00
2	8" C900 PVC Water Main	L.F.	12,300	\$50.00	\$615,000.00
3	10" DR11 HDPE Water Main (Directionally Bore under Acadiana Railway Co. railroad)	L.S.	1	\$150,000.00	\$150,000.00
4	10" DR11 HDPE Water Main (Directionally Bore under Bayou Plaquemine Brule)	L.S.	1	\$125,000.00	\$125,000.00
5	Remove and Replace Asphalt or Concrete Street or Drive	S.Y.	625	\$60.00	\$37,500.00
6	Remove and Replace Granular Street of Drive	S.Y.	245	\$25.00	\$6,125.00
7	Fire Hydrant	Each	13	\$5,750.00	\$74,750.00
8	Ductile Iron Fittings (MJ)	Ton	4.70	\$8,550.00	\$40,185.00
9	8" Gate Valves w/Box	Each	3	\$1,750.00	\$5,250.00
<b>Subtotal <sub>1</sub>:</b>					<b>\$1,059,060.00</b>
<b>20% Contingency:</b>					<b>x 1.20</b>
<b>Rough Order of Magnitude (ROM)<sub>2</sub>:</b>					<b>\$1,300,000.00</b>

# Exhibit H. Freeland Site Potable Water Infrastructure Upgrade Letter and Map



## Rough Order of Magnitude Cost Estimate - Proposed Water Well without Lime Softening

Item No.	Description	Unit	Est. Quantity	Unit Price	Extension
1	200 gpm (250,000 gpd) Water Well with piping, electrical, controls and pneumatic tank	LS	1	\$600,000.00	\$600,000.00
2	350,000 Ground Storage Tank w/Booster Pump, rechlorination, electrical & Controls	LS	1	\$500,000.00	\$500,000.00
<b>Subtotal <sub>1</sub>:</b>					<b>\$1,100,000.00</b>

**20% Contingency:** **x 1.20**

**Rough Order of Magnitude (ROM)<sub>2</sub>:** **\$1,400,000.00**

## Rough Order of Magnitude Cost Estimate - Proposed Water Well with Lime Softening

Item No.	Description	Unit	Est. Quantity	Unit Price	Extension
1	200 gpm (250,000 gpd) Water Well with piping, electrical, controls and pneumatic tank	LS	1	\$600,000.00	\$600,000.00
2	350,000 Ground Storage Tank w/Booster Pump, rechlorination, electrical & Controls	LS	1	\$500,000.00	\$500,000.00
3	0.5 MGD Lime Softening Water Treatment Plant <sup>3</sup>	LS	1	\$2,500,000.00	\$2,500,000.00
<b>Subtotal <sub>1</sub>:</b>					<b>\$3,600,000.00</b>

**20% Contingency:** **x 1.20**

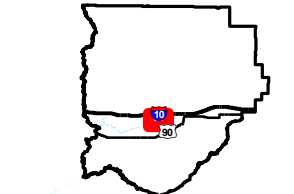
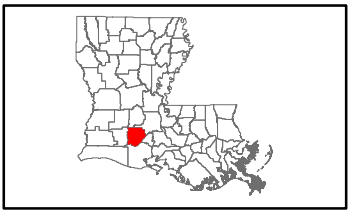
**Rough Order of Magnitude (ROM)<sub>2</sub>:** **\$4,400,000.00**

- 1.) Does not include costs for engineering, permitting, right of way acquisitions, wetland mitigation or general project management.  
This cost estimate was prepared with the best information available at the time of certification. Actual
- 2.) costs can vary based on availability of material, site conditions, labor, final engineering design, and regulatory approvals.
- 3.) Proposed treatment due to high calcium carbonate content in the Chicot aquifer.

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Potable Water  
Freeland Site  
Acadia Parish, LA

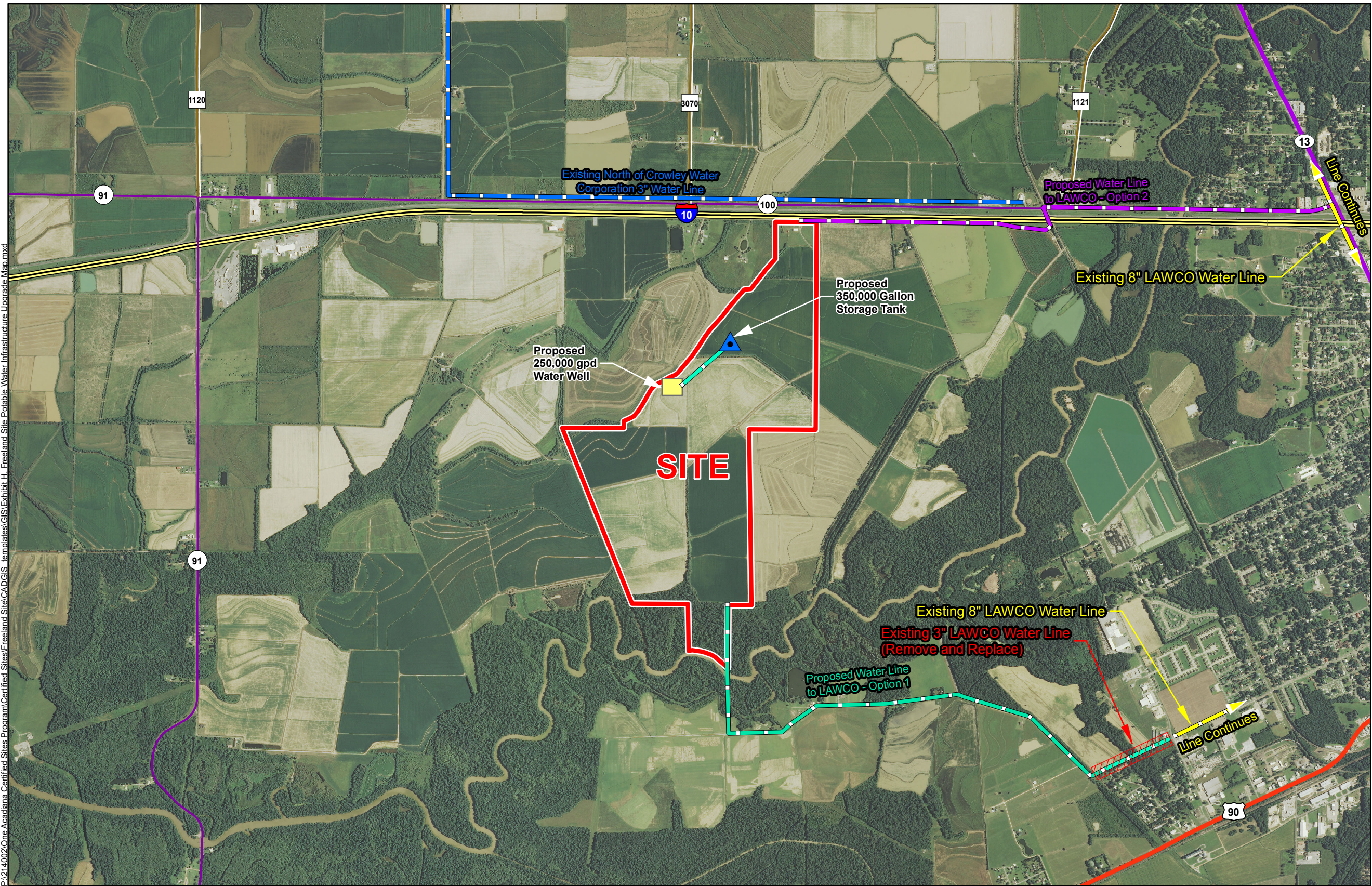
One Acadiana



Acadia Parish

LEGEND

- Site Boundary (536.94 Ac. +/-)
- Existing North of Crowley Water Corporation 3" Water Line
- Proposed Water Line to LAWCO - Option 1
- Proposed Water Line to LAWCO - Option 2
- Existing Roadway**
- Interstate
- US Highway
- 4-Lane State Highway
- Urban State Highway
- Rural State Highway
- Stream



P:\214002\One Acadiana Certified Sites Program\Certified Sites\Freeland Site\CAD\GIS Templates\GIS\Exhibit H - Freeland Site Potable Water Infrastructure Upgrade Map.mxd

- General Notes:
1. No attempt has been made by CSRS, Inc. to verify site boundary, title, actual legal ownership, deed restrictions, servitudes, easements, or other burdens on the property, other than that furnished by the client or his representative.
  2. Transportation data from 2013 TIGER datasets via U.S. Census Bureau at <ftp://ftp2.census.gov/geo/tiger/TIGER2013>.
  3. Utility information from visual inspection and/or the individual utility operators. Exact field location has not been determined by survey. The lines shown are an approximate representation only and may have been offset for depiction purposes.
  4. 2013 aerial imagery from USDA-APFO National Agricultural Inventory Project (NAIP) and may not reflect current ground conditions.
  5. Proposed potable water upgrade shown is for representational purposes only, depicting the intent of the cost estimate provided with this exhibit to meet LED minimum requirements, and is subject to revision.



Project Number:	214002
Drawn By:	AMB
Checked By:	JAY

