



# Public Works Service Operations Department

**DATE:** 6/8/2021

**FROM:** Jeff Heintz, Public Works Service Operations Director

**ITEM:** Approval of Task Order 21-04 to Agreement with Houston Engineering for Solid Waste Operations Engineering Services

**REQUEST:**

Approve to accept Task Order No. 21-04 from Houston Engineering for the solid waste operations to provide construction management services for the Bismarck Cell 1 composite liner and leachate management system project.

Please place this item on the 6/22/2021 City Commission meeting agenda.

**BACKGROUND INFORMATION:**

On February 11, 2021, the City of Bismarck entered into an agreement with Houston Engineering for professional engineering services for solid waste operations. The Bismarck municipal waste facility has awarded the construction of the project for the installation of a composite liner system and associated leachate management control features in the recently permitted Cell 1 of the Bismarck Landfill expansion area and ready the cell to accept solid waste. Onsite resident project representative and construction management services are needed to ensure regulatory design and construction testing requirements are adhered to, the project progresses, and to ensure pay item quantities are recorded and validated. The total estimated cost of Task Order No. 21-04 for construction management and survey services is \$83,455; resident project representative and onsite observation services is \$180,239; final as-built and contract close-out services is \$33,498; soil testing services is \$20,045; and estimated project expenses is \$22,714, for a total estimated fee of \$339,951.



**RECOMMENDED CITY COMMISSION ACTION:**

Approve Task Order No. 21-04 to the Agreement with Houston Engineering for professional engineering services for solid waste operations.

**STAFF CONTACT INFORMATION:**

Jeff Heintz | Public Works Service Operation Director, 355-1700 or [jheintz@bismarcknd.gov](mailto:jheintz@bismarcknd.gov)

**SUGGESTED FORM OF  
TASK ORDER**

This is Task Order No **21-04**,  
consisting of **4** pages.

**Task Order**

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In accordance with Paragraph 1.01 of the Agreement Between Owner and Engineer for Professional Services – Task Order Edition, dated February 11, 2021 ("Agreement"), Owner and Engineer agree as follows:

**1. Background Data**

- A. Effective Date of Task Order: **June 22, 2021**
- B. Owner: **City of Bismarck**
- C. Engineer: **Houston Engineering Inc. (HEi)**
- D. Specific Project (title): **Construction Management Services for Bismarck Cell 1 Composite Liner and Leachate Management System Project; BSWMF Expansion Area Cell 1.**
- E. Specific Project (description): **The Bismarck Municipal Waste Facility has awarded the construction of the LF2021-001 Project for the installation of a composite liner system and associated leachate management control features in the recently permitted Cell 1 of the Bismarck Landfill Expansion Area and ready the cell to accept solid waste in accordance with the facilities NDDEQ solid waste permit. Onsite Resident Project Representative and construction management services are needed to ensure regulatory design and construction testing requirements are adhered too, the project progresses, and to ensure pay item quantities are recorded and validated.**

**2. Services of Engineer**

A. Engineer Design and Support Services

The services to be provided or furnished by Engineer during the design and solicitation phases under this Task Order are set forth in Exhibit A - A1.02 thru A1.04 and are incorporated in this task order by reference.

**A detailed summary of the specific work tasks (scope and estimated budget) is included as Attachment A of the task order.**

B. Resident Project Representative (RPR) Services

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and American Society of Civil Engineers. All rights reserved.

The RPR Services set forth in Exhibit D of the Agreement is expressly incorporated in this Task Order by reference.

- C. All of the services included above comprise Basic Services for purposes of Engineer's compensation under this Task Order.

### **3. Additional Services**

- A. Additional Services that may be authorized or necessary under this Task Order are as follows:

Coordinate with and respond to the reporting requirements of the North Dakota Department of Environmental Quality (NDDEQ) related to the Facilities solid waste permit.

### **4. Owner's Responsibilities**

Owner shall have those responsibilities set forth in Article 2 of the Agreement and in Exhibit B.

### **5. Task Order Schedule**

In addition to any schedule provisions provided in Exhibit A or elsewhere, the parties shall meet the following schedule:

The completion date of this task order is December 31, 2022.

### **6. Payments to Engineer**

- A. Owner shall pay Engineer for services rendered under this Task Order as follows:

By Standard Hourly rates set forth in Article 2 and described in Exhibit C Article 2 Paragraph C2.02.B of the Agreement.

The total estimated fee for services is \$339,951 as itemized below:

Construction Management and Survey Services: \$83,455  
Resident Project Representative and Onsite Observation Services: \$180,239  
Final As-Built and Contract Close-out Services: \$33,498  
Soil Testing Services: \$20,045  
Estimated Project Expenses: \$22,714

- B. The terms of payment are set forth in Article 4 of the Agreement and in the applicable governing provisions of Exhibit C.

### **7. Sub-Consultants retained as of the Effective Date of the Task Order:**

Electrical Engineering Consultant: Preferred Controls, Inc. (PCI), Minot, ND

Soil Testing Consultant: Terracon Consultants, Bismarck, ND

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**8. Other Modifications to Agreement and Exhibits:**

None

**9. Attachments:**

Attachment A: Detailed summary of the specific work tasks (scope and estimated budget)

**10. Other Documents Incorporated by Reference:**

Bismarck Solid Waste Operations Engineering Services Agreement- February 11, 2021

**11. Terms and Conditions**

Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.

The Effective Date of this Task Order is **June 22, 2021**.

OWNER: City of Bismarck

ENGINEER: Houston Engineering Inc.

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: Steve Bakken

Name: Sherwin Wanner, PE

Title: Mayor

Title: Project Manager / Bismarck Office Manager

Engineer License or Firm's Certificate No. 015C

State of: North Dakota

Date Signed: June 22, 2021

Date Signed: \_\_\_\_\_

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

Name: Keith Hunke

Name: Kevin Martin, PE

Title: City Administrator

Title: Principal/Senior Project Manager

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Address for giving notices:

Bismarck Department of Public Works  
PO Box 5503

Bismarck, ND 58506-5503

Address for giving notices:

Houston Engineering Inc.

3712 Lockport St.

Bismarck, ND 58503

DESIGNATED REPRESENTATIVE  
(Paragraph 8.03.A):

Jeff Heintz

Title: Director of Service Operations

Phone Number: 701-355-1705

Facsimile Number: 701-221-6840

E-Mail  
Address: jheintz@bismarcknd.gov

DESIGNATED REPRESENTATIVE  
(Paragraph 8.03.A):

Sherwin Wanner, PE

Title: Project Manager

Phone Number: 701-323-0200

Facsimile Number: 701-323-0300

E-Mail  
Address: swanner@houstoneng.com

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Task Order Form

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**ATTACHMENT A - ESTIMATED BUDGET**

Construction Management Services for Bismarck Landfill Project LF2021-001

2021 Rates ==> \$215 \$196 \$175 \$129 \$137 \$142 \$129 \$52 \$191

Date Prepared: 5/12/2021  
 Revised: 5/19/2021, 5/24/2021, 6/3/2021  
 Prepared by: I. Olson-Holmly & Dennis McAlpine  
 Checked by: Sherwin Wanner

**Total Estimated Labor \$297,192**  
**Total Estimated Expenses \$42,759**  
**Total Estimated Budget \$339,951**

TASK DESCRIPTION <sup>1</sup>	Senior Project Manager	Project Manager	Project Manager - Land Surveying	Senior Technician	Drone Pilot	Engineer II	Engineer I	Drone Visual Observer	2-Person Crew Survey	Total	
										Hours	Dollars
<b>Project Totals</b>	SW 72	DM 469	TM 6	TP 50	Bismarck 12	AZ/IOH 124	JP 1,145	Bismarck 12	Bismarck 77	1,967	--
<b>CONSTRUCTION MANAGEMENT BSWMF Expansion Area Cell 1 2021</b>	72	469	6	50	12	124	1,145	12	77	1,967	\$297,192
<b>Task 1 - Construction Management</b>	40	305	6	50	12	124	1,145	12	77	1,771	\$258,168
Project Initiation	2	18	0	6	0	16	6	0	0	48	\$7,778
Coordination to execute contract documents (contract, insurance, bonds, NOA, NTP)		6								6	\$1,176
Redact project manual with Contractor/Contract info						8				8	\$1,136
Preconstruction Meeting (Agenda & Minutes) <sup>2</sup>	2	8				2	6			18	\$3,056
Exchange electronic AutoCAD files to Contractor		2		6		2				10	\$1,450
Support for City/Contractor to gain permit coverage (SWPPP)		2				4				6	\$960
<b>Construction Staking/Survey</b>	0	0	6	0	0	0	0	0	53	59	\$11,173
Site control for Contractors Machine Control Equipment			6						4	10	\$1,814
Existing Conditions (pre-construction characterization of onsite soil stockpiles)									8	8	\$1,528
Cell Limits / Anchor Trench									2	2	\$382
Erosion Control/BMPs									2	2	\$382
Groundwater Underdrain System									6	6	\$1,146
Surface confirmation survey to confirm consistency with Contractor Machine Control									2	2	\$382
Leachate Collection Piping & Sump Geometry									4	4	\$764
Phase Separation and Temporary Drainage Berm(s)									6	6	\$1,146
Future Gas Well Drainage Enhancement									1	1	\$191
Cell Access/Turn-Around									2	2	\$382
Exterior Stormwater Berm/Ditch/Culverts									4	4	\$764
Sanitary Sewer Piping & MHs									4	4	\$764
Ancillary piping and componets connecting Leachate Riser and Sanitary Sewer System									4	4	\$764
Electrical Infrastructure									1	1	\$191
Leachate Riser Structure									2	2	\$382
Bollards									1	1	\$191
<b>Construction Documentation / Contract Management</b>	12	56	0	0	0	44	44	0	0	156	\$25,480
Review and respond to project required submittals		24				24	12			60	\$9,660
Generate field orders (12 Field Orders Anticipated = 4hr each)	6	18					24			48	\$7,914
Generate change orders (3 Change Orders Anticipated = 8hr each)	6	8				10	4			28	\$4,794
Process Estimated 5 Partial Payments (Estimated at 4hr each)		6				10	4			20	\$3,112
<b>Construction Inspection &amp; Coordination (Partial Observavtion over 4-month assumed construction period)</b>	18	201	0	0	0	8	1053	0	0	1280	\$180,239
Dewatering <sup>3</sup>		1					8			9	\$1,228
Excavation <sup>4</sup>	1	4					42			47	\$6,417
Geocomposite <sup>5</sup>	2	16					80			98	\$13,886
Underdrain Installation <sup>6</sup>	1	7					70			78	\$10,617
Buffer Layer <sup>7</sup>	2	18					90			110	\$15,568
Clay Liner <sup>8</sup>	5	54					180			239	\$34,879
Geomembrane <sup>9</sup>	3	27					90			120	\$17,547
Sand Drainage <sup>10</sup>	1	12					230			243	\$32,237
Leachate Collection <sup>11</sup>	1	10					98			109	\$14,817
Leachate Riser Pipe <sup>12</sup>	1	5					15			21	\$3,130
Leachate Riser Structure <sup>13</sup>	1	14					45			60	\$8,764
Sanitary Sewer <sup>14</sup>		4					35			39	\$5,299
Wood Chip Placement <sup>15</sup>		1					4			5	\$712
Separation Berms <sup>16</sup>		2					9			11	\$1,553
Electrical <sup>17</sup>		10					41			51	\$7,249
HEI coordination with Soil Sampling/Testing firm (direct bills to City)		16				8	16			40	\$6,336
SWPPP Inspections <sup>18</sup>										0	\$0

**ATTACHMENT A - ESTIMATED BUDGET**

Construction Management Services for Bismarck Landfill Project LF2021-001

2021 Rates ==> \$215 \$196 \$175 \$129 \$137 \$142 \$129 \$52 \$191

Date Prepared: 5/12/2021  
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**Total Estimated Labor \$297,192**  
**Total Estimated Expenses \$42,759**  
**Total Estimated Budget \$339,951**

TASK DESCRIPTION <sup>1</sup>	Senior Project Manager	Project Manager	Project Manager - Land Surveying	Senior Technician	Drone Pilot	Engineer II	Engineer I	Drone Visual Observer	2-Person Crew Survey	Total	
										Hours	Dollars
<b>Construction Documentation</b>	8	30	0	44	12	56	42	12	24	228	\$33,498
Punchlist Generation and Coordination w/Contractor		6					6			12	\$1,950
Drone flights (aerial & topo)					12			12		24	\$2,268
Asbuilt Survey									8	8	\$1,528
Geocomposite/Geomembrane subgrade (baseline for subgrade acceptance and thickness documentation calculations)						4				4	\$568
Groundwater Underdrain Piping									8	8	\$1,528
Top of Buffer Layer						8				8	\$1,136
Top of Clay Barrier Layer/Geomembrane						8				8	\$1,136
Leachate Collection Piping & Sump Geometry (within Cell limits)						4				4	\$568
Top of Sand Drainage Layer						4				4	\$568
Top of Wood Chips (Cell Floor ONLY)						4				4	\$568
Asbuilt Conditions (post-construction characterization of onsite soil stockpiles and above ground features per staking list above)		8		36			24		8	8	\$1,528
Generate Record Drawings		8		36			24			68	\$9,308
Generate Documentation Report	8	16		8		24	12			68	\$10,844
<b>Task 2 - Coordination, Project Management &amp; Meetings</b>	32	164	0	0	0	0	0	0	0	196	\$39,024
<b>General Coordination</b>	32	164	0	0	0	0	0	0	0	196	\$39,024
Onsite PM/coordination meetings during construction operations (HEI, Contractor & Project Stakeholders)	12	144								156	\$30,804
City Staff Coordination <sup>19</sup>	20	20								40	\$8,220

**Total Estimated Labor \$297,192**  
**Total Estimated Expenses \$42,759**  
**Total Estimated Cost \$339,951**

**Assumptions:**

<sup>1</sup> Hourly entries identified in this budget include travel time, when applicable. Site visits for construction observation will include full days assuming 10 hr work days which includes travel time for 1 day trips.



**Construction Management Services for Bismarck Landfill Project LF2021-001  
Houston Engineering, Inc.**

<b>Item</b>	<b>No.</b>	<b>No. Per Trip or Item</b>	<b>Unit Cost</b>	<b>Units</b>	<b>Total</b>
<b>Travel</b>					
Mileage (survey support)	10	10	\$0.76	mile	\$76.00
Mileage (construction support)	128	6	\$0.56	mile	\$430.08
Mileage (MG Construction support)	6	840	\$0.56	mile	\$2,822.40
<b>Lodging</b>					
Hotel (survey)	0	0	\$100.00	night	\$0.00
Hotel (construction support)	0	0	\$100.00	night	\$0.00
Hotel (MG Construction support)	6	1	\$100.00	night	\$600.00
<b>Meals</b>					
Meals (survey)	0	0	\$35.00	day	\$0.00
Meals (construction support)	0	0	\$35.00	day	\$0.00
Meals (MG Construction support)	6	2	\$35.00	day	\$420.00
<b>Rental</b>					
All Terrain Vehicle (survey support)	0	0	\$30.00	hour	\$0.00
GPS (VRS Rover Kit) (survey support)	10	8	\$25.00	hour	\$2,000.00
Robotic Total Station (survey support)	0	0	\$40.00	hour	\$0.00
sUAS (survey support - drone)	3	4	\$25.00	hour	\$300.00
<b>Subconsultants</b>					
PCI - Electrical Support (Construction Mgmt)	1	1	\$16,066.00	lump sum	\$16,066.00
Terracon - Soil Testing Services (Construction Mgmt)	1	1	\$16,066.00	lump sum	\$20,045.00
<b>Total</b>					<b>\$42,759.48</b>