

## ENGINEER'S REPORT

City of Lead  
Commission Meeting  
March 17, 2025

### Deadwood Water Supply Line Replacement

- Halme has mobilized in and has begun with construction staking a erosion control setup.
- The contractor will begin digging the week of March 17.
- The contractor is expected to finish by June 1, 2025, completion date.

### Houston Street & Dwight Street Retaining Walls Assessment

- Interstate Engineering was asked by City staff to provide an engineer assessment report for the retaining walls along Houston Street and Dwight Street.
- See attached scoping letter.

March 1, 2024

Attn: Robin Lucero, Interim City Administrator  
City of Lead (Owner)  
801 West Main Street  
Lead, South Dakota 57754

RE: Houston Street and Dwight Street Retaining Walls Assessment  
  
IE #WC25-03-083

Thank you for the opportunity to present this proposal for professional design and engineering services to you for the repair of Houston Street and Dwight Street Retaining Walls Assessment. In discussions with City Staff, we have developed the following proposal letter with a breakdown of the proposed engineering fees for your project.

### Project Overview

This project involves assessing the condition of existing retaining walls and developing potential repair or reinforcement options for the retaining walls at Houston Street and Dwight Street. Due to the lack of construction documentation, a full structural integrity assessment cannot be completed; however, a visual inspection and non-invasive evaluation will be conducted to identify potential issues and provide repair or reinforcement recommendations. It is important to understand the design of retaining walls can be divided into two primary engineering disciplines, geotechnical and structural. Geotechnical engineering is necessary to understand the type of soils, the forces the soils can resist when loads are placed upon/against them, the forces they impart on structures due to gravity and surcharges, and potential soil failure mechanisms. Structural engineering is critical to the design of the wall that will retain or resist the forces from the soils. Our scope of services will focus on the structural engineering discipline with limited assumptions of the retained soil properties. We strongly recommend a geotechnical investigation be performed prior to any large repair or replacement projects.

### Scope of Services

#### 1. Site Inspection

- Conduct an on-site visual inspection of the retaining walls, documenting:
  - Wall material.
  - Visible cracks, bulging, leaning, or displacement.
  - Signs of water infiltration or drainage issues.
  - Evidence of previous repairs or modifications.
- Identify potential external load factors, such as adjacent structures, slopes, or water accumulation.
- Document existing conditions.

#### 2. Limited Structural Evaluation

- Evaluate the wall's general stability based on observed conditions.
- Identify potential failure mechanisms, including overturning, sliding, or base settlement.
- No geotechnical investigation is being conducted; however, the properties of the retained soils is critical to assessing the performance of the retaining wall. Our evaluation will use recommended presumptive geotechnical values from the 2021 International Building Code. We strongly recommend a geotechnical investigation prior to performing any

repairs or replacements beyond emergency and “point” repairs. This will improve the safety, effectiveness, and efficiency of improvements by providing accurate soil loading information that is used to design the retaining wall.

### 3. Repair and Reinforcement Options

- Based on the assessment findings, develop multiple repair or reinforcement options, which may include:
  - Minor Repairs (for superficial cracks or minor deterioration):
  - Crack sealing and patching.
  - Localized masonry or concrete repairs.
- Drainage Improvements:
  - Surface drainage modifications (grading, swales, curb and gutter, etc.).
- Structural Reinforcement:
  - Soil reinforcement or tiebacks.
  - Vertical Buttresses or counterforts.
  - Soldier Pile and Lagging.
- Wall Replacement (if the wall is beyond repair):
  - Recommendations for new wall design and construction.
  - Potential alternative wall types (gravity, cantilever, segmental, etc.).

### 4. Reporting and Recommendations

- Provide a report summarizing:
  - Findings from the inspection.
  - Observed deficiencies and potential causes.
  - Recommended repair or replacement options.
  - Preliminary cost estimates for each option (if requested).
- Include sketches or conceptual drawings (as needed) to illustrate repair solutions.

### Assumptions & Limitations

- The assessment is based on visual observations and non-invasive methods; hidden defects may not be detected.
- No excavation, destructive or non-destructive testing, core sampling or geotechnical services is included in this scope.
- The effectiveness of repair recommendations depends on the unknown original construction methods and materials.
- Engineering design services for repair implementation are not included but can be provided under a separate scope.

### Deliverables

- Retaining Wall Assessment Report including findings, deficiencies, and recommended repair options.
- Conceptual Repair Recommendations with descriptions and potential approaches.
- Photographic Documentation of observed conditions.

The total fee to complete this scope of work is \$3,000 billed at our hourly rates.

This fee estimate is based on the Scope of Service detailed above. Should the scope change such that additional work is required to complete the Project, the Owner will be advised of the approximate additional fees required to complete the additional work. No additional work will proceed without prior Owner authorization.

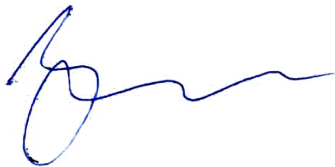
This proposal does not include:

1. Preparation of easement documents (if required.)
2. Locating adjacent property corners
3. Fees for permitting.
4. Stormwater Pollution Prevention Plan Administration.
5. Design Plans and Specifications
6. Bidding services.
7. Laboratory and field-testing services including but not limited to moisture density tests, gradations/Atterberg limits, water quality, etc.
8. Geotechnical Reports.
9. Global Slope Stability Analysis or Report.
10. Environmental Impact Statements or Reviews.
11. Construction staking.
12. As-built drawings.

We look forward to providing you with our professional services. Should you find this proposal acceptable, please sign and return this document along with the accompanying Task Order #02. If you have any questions or require additional information, please feel free to contact me at your convenience.

Respectfully,

INTERSTATE ENGINEERING



Zach Grapentine, P.E.

Spearfish Office Manager



# TASK ORDER NO. 02

This is Task Order No. [2],  
consisting of 5 pages.

In accordance with Paragraph 1.01, Main Agreement, of the Agreement Between Owner and Engineer for Professional Services—Task Order Edition dated April 20, 2023, Owner and Engineer agree as follows:

## 1. TASK ORDER DATA

a.	Effective Date of Task Order:	<b>February 27, 2025</b>
b.	Owner:	<b>City of Lead</b>
c.	Engineer:	<b>Interstate Engineering, Inc.</b>
d.	Specific Project (title)	<b>Houston St &amp; Dwight St Retaining Wall Assessment</b>
e.	Specific Project (description):	<b>Existing Retaining Wall Report Assessment to provide overview of existing conditions &amp; provide repair recommendations.</b>
f.	Related Task Orders	<b>N/A</b>

## 2. BASELINE INFORMATION

**Baseline Information.** Owner has furnished the following Specific Project information to Engineer as of the Effective Date of the Task Order. Engineer's scope of services has been developed based on this information. As the Specific Project moves forward, some of the information may change or be refined, and additional information will become known, resulting in the possible need to change, refine, or supplement the scope of services.

Specific Project Title:	Houston St & Dwight St Retaining Wall Assessment
Type and Size of Facility:	N/A
Description of Improvements:	Wall Assessment Report
Expected Construction Start:	N/A
Prior Studies, Reports, Plans:	N/A
Facility Location(s):	Houston Street and Dwight Street

Task Order.

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Current Specific Project Budget: \$3,000

Funding Sources: N/A

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Known Design Standards: N/A

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Known Specific Project Limitations: N/A

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Specific Project Assumptions: The existing stacked rock retaining wall along Houston Street has sections of the wall that have failed. This has caused a safety concern of the residence below the wall and the stability of the public street above. Similarly, the existing block retaining wall along Dewight Street appears to be pulling away from the road causing a safety concern to the public. This project will be limited to visual inspections of the wall and providing potential repairs and improvements.

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Other Pertinent Information: N/A

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### 3. SERVICES OF ENGINEER (“SCOPE”)

- A. The specific Basic Services to be provided or furnished by Engineer under this Task Order are:
  - ✓ Exhibit A to Task Order, “Proposal Letter Dated March 13, 2025,” as attached to this specific Task Order.
- B. All of the services included above comprise Basic Services for purposes of Engineer's compensation under this Task Order, with the exception of Resident Project Representative Services, if any, which are compensated separately.
- C. Resident Project Representative (RPR) Services:
  - 1. Not Applicable.
- D. Additional Services: Services not expressly set forth as Basic Services in Paragraph 3.A above, and necessary services listed as not requiring Owner's written authorization, or requiring additional effort in an immediate, expeditious, or accelerated manner as a result of unanticipated construction events or Specific Project conditions, are Additional Services, and will be compensated by the method indicated for Additional Services in this Task Order. All other Additional Services require mutual agreement and may be authorized by amending the Task Order as set forth in Paragraph 8.05.B.2 of the Main Agreement, with compensation for such other Additional Services as set forth in the amending instrument.

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Task Order.

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**4. DELIVERABLES SCHEDULE**

- A. In submitting required Documents and taking other related actions, Engineer and Owner will comply with Exhibit B to Task Order, attached to this specific Task Order.

**5. ADDITIONS TO OWNER'S RESPONSIBILITIES**

- A. Not Applicable.

**6. TASK ORDER SCHEDULE**

- A. Anticipated finish date of Spring, 2025.

**7. ENGINEER'S COMPENSATION**

- A. The terms of payment are set forth in Article 4 of the Main Agreement.
- B. Owner shall pay Engineer for services rendered under this Task Order as follows:

Description of Service	Amount	Basis of Compensation
1. Basic Services	\$3,000	Hourly

- C. Compensation items and totals based in whole or in part on Hourly Rates or Direct Labor are estimates only. Lump sum amounts and estimated totals included in the breakdown by phases incorporate Engineer's labor, overhead, profit, reimbursable expenses (if any), and Subconsultants' charges, if any. For lump sum items, Engineer may alter the distribution of compensation between individual phases (line items) to be consistent with services actually rendered but shall not exceed the total lump sum compensation amount unless approved in writing by the Owner.

**8. ENGINEER'S PRIMARY SUBCONSULTANTS FOR TASK ORDER, AS OF THE EFFECTIVE DATE OF THE TASK ORDER:**

- A. Not Applicable.

**9. EXHIBITS AND ATTACHMENTS:**

- A. Exhibit A to Task Order—Engineer's Services Under Task Order

Execution of this Task Order by Owner and Engineer makes it subject to the terms and conditions of the Main Agreement and its exhibits and appendices, which Main Agreement, exhibits, and appendices are incorporated by this reference.

OWNER:

City of Lead, South Dakota

By:

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Print Name: Ron Everett

\_\_\_\_\_

Title: Mayor, City of Lead

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DESIGNATED REPRESENTATIVE FOR TASK ORDER:

Name: Ron Everett

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Title: Mayor, City of Lead

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Address: 801 West Main Street, Lead SD

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ENGINEER:

Interstate Engineering, Inc.

By:



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Print Name: Zach Grapentine, P.E.

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Title: Office Manager

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Engineer's License or Firm's  
Certificate No. (if required):

15567

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State of: South Dakota

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DESIGNATED REPRESENTATIVE FOR TASK ORDER:

Name: Zach Grapentine

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Title: Office Manager, Interstate Engineering

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Address: 120 Industrial Drive, Spearfish SD

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Task Order.

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E-Mail  
Address: RobinL@cityoflead.com  
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Phone: 605-584-1401  
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Date: \_\_\_\_\_

E-Mail  
Address: Zgrapentine@interstateeng.com  
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Phone: 605-642-4772  
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Date: 3/13/2025  
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Additional contact: Robin Lucero, Interim City Administrator.