

Task Order No. 2

Attachment A - Scope of Work

Background

The City of Dickinson (Client) needs to prepare a Pipeline Feasibility Study (Study) to evaluate the technical, financial, environmental, regulatory, right-of-way, constructability, and operational feasibility of constructing a pipeline from Client's Wastewater Reclamation Facility (WRF) to deliver reuse water to GEVO's facility in Richardton, North Dakota. A wastewater return line (force main) from Richardton to the Client's WRF will be similarly evaluated and is assumed to be installed within a common trench. The Study will also evaluate the potential to connect the sanitary sewer systems of the communities of Richardton, Taylor, and Gladstone into the return line for treatment at the Client's WRF.

Task 1 - Project Management and Coordination

The Consultant shall provide overall project management and coordination for the Study, including project initiation, stakeholder coordination, schedule management, data collection coordination, progress meetings, meeting documentation, and coordination with the Client, stakeholders, utilities, and regulatory agencies as needed to support successful completion of the work.

Task 2 - Develop Design Criteria & Review Existing System Data

The Consultant shall establish the feasibility-level design criteria and assumptions for the project and review available existing conditions information relevant to the proposed corridor and service area. Design criteria will include determination of average and peak day flows, operating pressures, design life assumptions, future system connection requirements, and operation and maintenance considerations. This task shall include review of available system data, mapping, GIS information, prior studies, ownership and right-of-way information, available geotechnical and operational data, and other information needed to support development and evaluation of alternatives. The Consultant shall identify key assumptions, data gaps, and identify any recommended additional investigations needed before final design.

Task 3 - Route Alternative Development

Identify and evaluate feasible pipeline route alternatives. The alternatives will include consideration of route length, easement requirements, constructability concerns, access for construction, and long-term operation and maintenance. Routing will prioritize avoidance of wetlands, streams, floodplains and other environmentally sensitive areas, while minimizing highway, railroad and water body crossings, and taking into account future expansion potential. The route alternatives shall be shown on maps and provided to the Client for review and decision-making.

Task 4 – Hydraulic Evaluation, Pipe Material Selection & Geotechnical Review

Consultant shall perform a hydraulic evaluation of the proposed pipeline alternatives to determine pipeline sizing, material, and pressure class along with any pumping or storage requirements. Perform a desktop-level review of geotechnical and subsurface conditions along the proposed route alternatives to identify any areas of concern such as rock excavation, high groundwater levels, corrosive soils, or any other special conditions that will need to be addressed during construction.

Task 5 - Constructability Review Including Appurtenances and Related Facilities

Consultant will evaluate potential constructability issues for the proposed alternatives to identify and address items such as access limitations, construction staging, the need for traffic control, dewatering needs, seasonal constraints, material availability and lead times, bid timing, and potential contractor availability. This Task will also identify major pipeline appurtenances and any related facilities for each alternative such as valves, meter vaults, pump stations, surge control, SCADA, and backup power.

Task 6 - Environmental, Permitting, Utility, and Right-of-Way Review

The Consultant shall perform a preliminary environmental, permitting, right-of-way, and easement review for each feasible alternative. This task shall include identification of major environmental constraints such as wetlands and streams, the potential presence of threatened and endangered species, and identification of culturally and/or archaeologically sensitive areas. Work will also include a listing of the likely permits and agency coordination needs, anticipated schedule and permitting risks, preliminary parcel and easement impacts, and other right-of-way considerations affecting project feasibility and implementation.

Task 7 - Route Alternative Analysis and Cost Evaluation

The Consultant shall compare the feasible pipeline route alternatives and prepare planning-level evaluations of design and construction costs, life-cycle cost considerations, risks, and implementation factors. The analysis will also consider key cost factors such as length, easement requirements, operation and maintenance factors, minimizing crossings for utilities, highways, railroads, wetlands, streams, and environmentally sensitive areas. A GIS-based routing alternatives analysis application will be prepared that will take into consideration all the key routing factors and will be used to identify the least cost alternative. The route alternatives shall be shown on maps suitable for Client and Stakeholder review and decision-making.

Task 8 - Risk Assessment

Develop a risk assessment for each alternative identifying major risks and recommended mitigation measures. Risks may include delays for easement acquisition, permitting, railroad and highway crossings, constructability risks, geotechnical and site conditions, price escalation, supply chain delays, and funding challenges. A risk register will be developed to identify, evaluate, and mitigate these potential hazards that could impact the project's timeline, budget, or safety.

Task 9 – Recommended Alternative & Implementation Plan

Based on the analysis and findings of the previous Tasks and in coordination with the Client, the Consultant shall identify a recommended alternative and develop a preliminary implementation plan for advancement of the project. This Task shall include documentation of the preferred alternative, key design and permitting considerations, implementation sequencing, anticipated schedule considerations, and recommended next steps. A detailed opinion of probable costs shall be developed to identify the level of funding needed to design and construct the project for the recommended alternative.

Task 10 – Draft & Final Report

Develop a Draft Report identifying all the information developed for each of the Tasks and clearly identifying the preferred alternative. This Task will include a meeting with the Client to present the Draft Report and go over the key findings and recommendations. The Client will provide input to identify any areas that need more information or modifications. The Draft Report will include supporting maps, exhibits, evaluation summaries, and other documentation appropriate for a feasibility-level study. Based on any comments provided by the Client, Consultant shall make any changes or additions necessary and prepare a Final Report.