

Request for Proposal



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|--|--|--------------------------------|--|
| Issue Date: | August 1, 2025 | Anticipated Award date: | October 10, 2025 October 13, 2025 |
| Title: | 300146 Drilling General Contractor | Project Location: | Springfield, IL area |
| Project(s): | 300146 – DAISY BASIN WEST | Type of Agreement: | TIME & MATERIAL, NOT TO EXCEED |
| Prime Contract(s): | Cooperative Agreement Number DE-FE0032340 CFDA 81.089 | Proposal Validity: | 90 DAYS |
| Proposal due by September 12, 2025: 12:00 PM CST September 15, 2025 15:00 PM CST | | | |

NOTICE: This procurement is subject to the requirements of **2 C.F.R. § 200** (Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards). All Offerors must comply with applicable federal regulations.

1. PROCESS INFORMATION

Request: Projeo Corporation invites your organization to submit a written proposal based on the Scope of Work in Attachment 1 and the requirements herein. All proposals must be compliant with this Request for Proposal (RFP) and the documents referenced and attached.

Terms and Conditions: The Terms and Conditions are included in Attachment 2. All Offerors must explicitly state any exceptions to the attached Terms and Conditions in the RFP Questionnaire Form in Attachment 3 of this invitation. Prime Contract Flow-Down Provisions are provided in Attachment 4 and are part of the agreement. The Offeror shall also comply with any additional requirements that may be imposed by the site host. Such requirements will be provided upon availability. Unacceptable, unreasonable, or inability to arrive at mutually acceptable terms and conditions may result in rejection of the proposal without further discussion.

Proposal Costs: Any effort and costs or expenses incurred by you because of the RFP shall be your sole responsibility. There is no obligation for Projeo to cover any costs incurred or to make any purchase order awarded because of this Request for Quotation. Pricing quoted is to be firm for ninety (90) days from the date of quotation.

Davis Bacon Act: This project is funded under Division D of the Bipartisan Infrastructure Law (BIL). All laborers and mechanics employed by contractors or subcontractors in the performance of construction, alteration, or repair work in excess of \$2,000 shall be paid wages at rates not less than those prevailing on similar projects in the locality, as determined by the Secretary of Labor in accordance with subchapter IV of Chapter 31 of Title 40, United States Code commonly referred to as the "Davis-Bacon Act" (DBA). In addition, the selected Offeror must comply with all applicable DBA prevailing wage requirements, including but not limited to maintaining all required documentation, submitting certified payroll records, and compliance with applicable federal labor standards and reporting requirements as stated in the Prime Contract Flow-Down Provisions in Attachment 4.

Purchase of American-made Equipment and Products: It is the sense of the Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available under the Principal Agreement (including this Agreement) should be American-made. The selected vendor is required to comply with all applicable "Buy America" and domestic preference requirements as stated herein. In addition, to the extent applicable, the selected vendor will comply with the domestic preference requirements found in 2 C.F.R. pt. 184 and 2 C.F.R. § 200.32 language from flow downs – deviations by approval by federal agency.

Evaluation Criteria: Proposals will be evaluated based on safety, cost, experience, technical/management approach, and availability. The selection criteria are included in Section 5. 1. If the offerors cannot accept contractual flow downs, their proposal will not be considered.

Right to Reject: Projeo Corporation reserves the right to reject any or all proposals, to request additional information, or to amend or cancel this RFP at any time prior to the submission deadline. Projeo may also make a partial award or no award if it determines such action is in the best interest of the project. Any changes will be communicated in writing to all Offerors.

In evaluating proposals, Projeo will consider not only technical merit and cost competitiveness but also internal capabilities and alternative delivery methods, including hybrid or self-performed approaches. We welcome creative and competitive solutions from vendors, especially those offering unique efficiencies, volume pricing advantages, or other cost-effective differentiators. However,

Projeo reserves the option to fulfill portions of the scope internally if that approach provides better overall value or alignment with project objectives.

These determinations will be made in consultation with the prime awardee or contracting entity to ensure alignment with overall project strategy and customer priorities.

Issuance of this RFP does not commit Projeo to award a contract.

Cost Structuring Requirements: Except as otherwise expressly provided herein, Offeror shall supply all adequate and competent labor, supervision, tools, equipment, installed and consumable materials, services, and testing devices for the completion of the construction package as described within this document and RFP package. The proposal should include unit pricing for any services, materials, transport, fees, taxes, and other items which may be necessary for Offeror to complete the work scope. Unless specific exceptions are taken to these specifications, Projeo Corporation will require quoted packages to comply with the complete RFP package.

Insurance Requirements: Projeo requires the Offeror to carry appropriate insurance for the scope of work described. Copies of insurance certificates, although not requested at this time, will be required prior to issuance of a purchase order for services. The successful Offeror may be required to list Projeo Corporation's Client as additional insured on their insurance certificate. The Offeror will maintain sufficient insurance coverage for commercial general liability, including bodily injury and property damage, employer's liability and worker's compensation insurance and motor vehicle liability to fulfill its obligations under this project.

Invoicing and Payment Terms: Timely invoicing will be required. Payment terms to be negotiated upon award.

Health, Safety, and Environment: Offeror should comply with applicable regulations and Industry standards. Best industry practices shall be used to assure the health and safety of individuals and the protection of the environment. Offeror shall conduct the Work in a safe manner, take all reasonable measures to protect the health and safety of all workers and members of the public, immediately rectify all known unsafe situations or potential hazards, and strictly comply with Policies and Applicable Laws (including reporting requirements).

Conflict of Interest and Gratuities: By acknowledgement of response to this RFP, you certify that no gratuities were offered by your organization or solicited by Projeo either directly or indirectly.

Questions and Submissions: Questions and proposals must be submitted to Projeo Corporation on or before the due date to purchasing@projeo.com. Outside of questions that may be submitted at a pre-bid meeting, questions regarding this RFP will only be accepted in writing, via email. The deadline for question submittal is presented in the Schedule below. If questions are posed at the pre-bid meeting or if written questions are submitted, an addendum will be provided (via email) to all competing bidders.

Schedule:

All proposal related activities shall be conducted according to the following schedule.

1. August 1, 2025 Invitation to Bid
2. August 8, 2025 All Bid Questions Due – 12:00pm CST
3. August 14, 2025 Clarifications Issued to Bidders
4. August 15, 2025 Bid Clarification Meeting at 11:00am CST
5. ~~September 12, 2025~~ **September 15, 2025** Proposals Due – ~~12:00pm CST~~ **15:00 pm CST**

2. PROPOSAL REQUIREMENTS

Responses must be submitted by the deadline specified in this RFP.

Offeror to provide sufficient cost breakdown to enable evaluation of price reasonableness. As part of the proposal, provide a description of your technical and management approach for conducting the requirements of the Scope of Work. Quotes should include the following information:

Required Commercial Information:

1. Provide all pricing details, including cost breakdowns, price list, labor costs, and any other financial information relevant to the quote. Wage determinations are found in Attachment 5 of this invitation.
2. Provide the pricing details, in the form provided in Attachment 6. The Offeror can include additional line items as needed. Select cost basis from options (actual quotes or invoices, or past experience). Offeror can create additional sheets(tabs) to add cost basis explanation or attach past quotes/invoices or estimate explanation as supporting documentation.
3. Bids will be evaluated on cost reliability by the requested supported documents. To the extent possible costs in the proposal need to be supported by actual quotes or invoices from past experience.
4. Provide Time & Cost vs Depth Charts
5. Provide an estimate of daily drilling cost/spread rate.
6. Provide an estimate of the total days expected for well construction.
7. Provide evidence of successful completion of expedited drilling operations on similar projects.
8. Completed RFP Questionnaire Form (Attachment 3)
9. Offerors responses on the RFP Questionnaire regarding acceptance or comments of MSA contractual terms will be evaluated in the selection process. Offerors are encouraged to review the MSA and share any redlines or considerations with their response.
10. Signed Debarment Certification Form (Attachment 7)
11. List any exceptions or deviations to the RFP requirements or Terms and Conditions in Attachment 3
12. Signed Certification form included at the end of this invitation.

Required Technical Information:

1. Detailed methodology for completing the scope of work.
 - a. Assume total rig days for well construction (Rig mobilization to demobilization) to be 50 days.
 - b. Assume specified bit consumption per open hole section for well cost estimation (this excludes coring Bits)
 - i. Surface Section – 1
 - ii. Intermediate Section – 8
 - iii. Final Section - 4
2. All technical specifications, methodologies, project plans, and any other technical information pertinent to the proposal.
3. Provide detailed specifications of the proposed drilling fluid properties, casing (sizes, grades, weight, connection etc.), cementing, logging, and coring programs.
4. Proposed cement slurry design, with preliminary blend and mix water components, lab results for thickening time, compressive strength, mix rheology, etc. A finalized design and relevant lab tests and simulations will be expected prior to the actual cementing operations.
5. Provide detailed rig specifications (rig safety systems, derrick rating, hoisting capabilities, etc.)
6. Ancillary equipment specifications (mud pumps, tanks, active & reserve pit systems, solids control equipment, BOPs, power generation, on-site storage and handling for core samples and cuttings, etc.)
7. Proposed Wellhead equipment specification and configuration.
8. Proposed drilling and coring bit specifications with BHA design(s)
9. Standard reporting format for daily reporting and end of well reporting
10. Proposed project schedule: Drilling schedule to be finalized during contracting phase. Bidders should include a proposed schedule and estimated duration of each major activity. Current expectation is to drill this well in Q4 2025 or Q1 2026
11. Include assumptions and exclusions in the proposal.
12. Company profile, including details of similar projects successfully completed.
13. References from similar projects
14. Records of HSE performance and policies
15. Staffing plan, including qualifications and experience (Attachment 8)
16. References from similar projects to demonstrate experience with similar wells.

3. SUBMISSION AND RECEIPT OF PROPOSALS

The proposal must be submitted electronically to purchasing@projeo.com

- The subject line must include: "RFP [TITLE] – [COMPANY NAME] - [DATE] All attachments must be clearly labeled.

- Maximum file size: 15MB (send multiple emails if necessary)
- Accepted formats: PDF, Microsoft Word, Microsoft Excel

Proposal Changes: If an Offeror proposes any changes or modifications to the requirements, scope, or terms outlined in this RFP, these must be clearly identified and justified in a separate section of the proposal.

All proposals shall be in U.S. dollars.

4. SELECTION CRITERIA

Proposals will be evaluated based on the following criteria:

| Criteria* | Weight (%) |
|-----------------------------|------------|
| Technical Approach | 25 |
| Cost | 25 |
| Qualifications & Experience | 20 |
| Schedule | 10 |
| Contractual Terms | 10 |
| HSE | 5 |
| Other considerations | 5 |

*A detailed explanation of the selection criteria can be found in Attachment 9.

5. ATTACHMENT LIST

1. Scope of Work
2. Terms and Conditions (MSA)
3. RFP Questionnaire Form
4. Prime Contract Flow Down Provisions
5. Wage Determination
6. Cost Proposal Structure
7. Debarment Certification Form
8. Proposed Staff Form
9. RFP Evaluation Criteria

Attachment 1

Scope of Work

INTRODUCTION

This Scope of Work outlines the activities, responsibilities, and deliverables associated with the design and construction of stratigraphic test well to support Projeo at the CarbonSAFE IL Basin West Project in Sangamon County, IL.

PROJECT & PROGRAM OVERVIEW

In this Basin CarbonSAFE Project, the Illinois State Geological Survey (ISGS) along with partners are working to drill a stratigraphic test well to characterize lithology near Springfield, Illinois. The project is meant to evaluate potential for commercial-scale CO₂ geologic storage complex for United States (US) Environmental Protection Agency (EPA) Underground Injection Control (UIC) Class VI permitting.

The stratigraphic test well will be drilled approximately 6 miles south of the Dallman Power Plant (PLSS location T14N R5W, Section 13).

The construction program needs to be designed to ascertain petrophysical and geomechanical characteristics to improve local and basin-wide modeling and simulation efforts. The drilling program will involve petrophysical surveys, DST's, conventional and sidewall coring, and formation evaluation logging.

OBJECTIVE

The Offeror is expected to work as the General Contractor (GC) responsible for the design, construction and data collection of stratigraphic test well to meet the objectives of the CarbonSAFE project. The construction parameters, the data collection needs, and other relevant information are summarized in the Technical Information section of this document.

The GC will be expected to operate in accordance with relevant regulatory agencies and within Projeo Corporation's standards and values:

- Absolute dedication to the protection of health, safety, and the environment.
- Honoring relationships through shared values with our clients, communities, employees, and partners.
- Committed to disciplined stewardship of resources.
- Focusing on quality and execution to do the job right the first time.

PROJECT SCOPE

Contractor shall perform the Work in accordance with the reasonable and prudent practices and standards and high degree of skill, competence, and professional care that would ordinarily be expected of nationally recognized contractors engaged on projects of similar, size, scope and complexity as the Project ("Good Industry Practice"). The GC shall be responsible for all aspects of the drilling from initial planning through installation of all casing strings and wellhead. This will include providing all personnel, equipment, and materials and services required to perform the following:

1. Pre-Drill Planning
 - 1.1. Perform well design and prepare a drilling program.
 - 1.2. Participate in pre-operational planning to align with project goals.
 - 1.3. Develop a detailed execution plan.

- 1.3.1. Ensure equipment sourced for operations is suitable for planned activities and function tested prior to mobilization as required.
 - 1.3.2. Schedule crew and equipment mobilization and managing logistics.
 - 1.3.3. HSE policies and compliance plans
2. Site Preparation
 - 2.1. Survey and stake the well location and pad boundaries.
 - 2.2. Clear, grade, and compact the well pad and access road.
 - 2.3. Civil Work (road access, pad construction, mud pit, water supply, staging area, site drainage, culverts, and sediment control etc.)
 - 2.4. Setup Site Utilities (sewage, waste management, office, accommodations, internet access etc.)
3. Equipment Mobilization
 - 3.1. Transport and set up the drilling rig and all associated equipment.
 - 3.2. Mobilize support services including water supply, fuel, and camp.
 - 3.3. Conduct rig-up safety inspection and pre-spud testing of systems (e.g., BOP, mud pumps).
4. Drilling Operations
 - 4.1. Drill well to TD as per the outlined construction parameters in the technical section of this RFP or to agreed well construction plan.
 - 4.2. Execute all operations in accordance with the approved drilling program and in compliance with API, OSHA, and IDNR regulations.
 - 4.3. Monitor drilling parameters and provide remote to rig data.
 - 4.4. Maintain wellbore stability and hole cleaning using an approved mud program.
 - 4.5. Provide daily drilling reports and cost estimates for operations.
5. Sampling & Data Acquisition
 - 5.1. Obtain whole and sidewall cores as per coring plan.
 - 5.2. Collect and preserve well cuttings and provide mud log for intermediate and final string.
 - 5.3. Execute logging suite as outlined in the technical section of this RFP.
 - 5.4. Conduct Drill Stem Tests (DST's) for planned fluid sampling outlined in the technical section of this RFP.
 - 5.5. Drilling parameters are continuously monitored, recorded, and stored via the rig's Electronic Drilling Recorder (EDR) or equivalent system.
6. Cementing & Casing
 - 6.1. Furnish and run casing strings (conductor, surface, intermediate, production/final) as specified.
 - 6.1.1. Casing grade needs to be at the same or better grade than outlined in the well construction plan in the technical section.
 - 6.2. Ensure centralization, float equipment, and casing accessories are properly installed.
 - 6.3. Cement each casing string to required specifications, including:
 - 6.3.1. Use of specified cement blends or other appropriate and approved alternatives
 - 6.3.2. Execution of cement bond logs (CBLs).
 - 6.3.3. Verification of cement top and integrity (e.g., pressure testing).
 - 6.3.4. Technical specifications of the proposed cement blend need to be provided with the proposal (detailed blend and mix water components, lab results for thickening time, compressive strength, mix rheology's etc.)
7. Demobilization & Site Maintenance
 - 7.1. Demobilize the rig and equipment in a safe and orderly manner.
 - 7.2. Ensure the site is left in clean, safe condition pending further project phases (e.g., logging, testing, or plugging).
 - 7.3. Maintain access road and pad stability during all operations and until well handover.
8. Disposal and Waste Management
 - 8.1. Provide a waste management plan.
 - 8.2. Responsible for handling, containment, transportation, and disposal of all waste generated during drilling operations.
 - 8.3. Any unplanned discharges, spills, or releases must be reported immediately to the Owner's Representative and relevant regulatory bodies and remediated by the Contractor.

DELIVERABLES

1. Drilling and well design specifications as part of pre-drilling and planning
 - 1.1. Drilling Program
 - 1.2. Mud Program
 - 1.3. Casing & Cementing Program
 - 1.4. BHA
 - 1.5. Data Collection Program (DST, coring & Logging)
2. Well Construction
 - 2.1. Well designed and constructed to perform planned Well Test(s)
 - 2.2. Daily Drilling reports and mud logs.
 - 2.3. Casing tallies and cementing records for all strings.
 - 2.4. As-drilled wellbore schematic and deviation survey.
 - 2.5. Incident reports and HSE documentation.
 - 2.6. Geophysical logs (digital LAS, database file and hard copy)
 - 2.7. Core and cutting samples properly labeled and stored as per the agreed upon core handling program.
 - 2.7.1. Acquire 2 separate sets of dry cutting samples.
 - 2.8. Fluid Samples (DST)
 - 2.9. Rig's Drilling Data (Electronic Drilling Recorder, like Pason)
3. Final drilling (End of Well) and data acquisition report

REPORTING & DOCUMENTATION

1. Weekly status meetings
2. Written Design & Procurement Approvals
3. Written approvals on any deviations from the most current agreed operations program.
4. Daily drilling reports
5. Daily project cost updates
6. HSE incident logs
7. Summary reports post-logging and coring
8. Final well report and data package (digital and hard copy)

GENERAL REQUIREMENTS

- The successful Offeror will function as the GC for all work related to this RFP, and shall be responsible for all supervision, scheduling of work, quality of the equipment and workmanship, permits and compliance with all applicable laws, codes, and ordinances.
- Use of any subcontractors to provide assigned services shall be subject to the written approval of Projeo Corporation.
- The GC shall provide equipment that meets industry standards (API, ASTM, regulatory standards etc.) and requirements. Additional requirements in accordance with the operations program may be required and will be discussed at the award phase.
- Any operational downtime exceeding the allowable daily maintenance and repair time, due to - equipment related issues or crew unavailability will result in non-billable downtime. The allowable daily time for maintenance and repairs will be determined and agreed upon at the time of final contract execution.
- Responsible for communicating and acquiring written approvals on well design, critical procurements, data collection and sampling, operational execution (operations program) and deviations from the agreed upon plans.
- Responsible for maintaining communication throughout operation for proper execution and to meet the objectives. This communication includes but is not limited to:

- Coordinate with Projeo to ensure project objectives and requirements are followed as per the agreed scope and contract.
- Coordination with Projeo field representatives i.e., project manager and project engineer
- Coordination with any other operations crew with respect to their involvement in operations.
- Coordination with project manager for Projeo or Third party facilitated site visits.
- Provide a daily field tickets with summary of work and cost breakdown to the Projeo representative.

SAFETY AND TRAINING REQUIRMENTS

- The GC shall follow all ISGS, Projeo, U.S. Department of Energy, and industry applicable procedures for safe work practices at all times.
- The work performed shall meet all local, state, and national code requirements and all governing industry and regulatory codes.
- All personnel shall wear appropriate PPE to be supplied by the GC or by the sub-contractor/employer selected by the GC for work execution.
- All personnel working at the drill site should have the appropriate training and safety certifications as per job function and industry standards (Such as Well Control Certification, Rig Pass, HAZWOP, etc.)
- All operations shall be conducted in a manner to protect against harm or damage to life, property, and natural resources.
- Daily Pre-job briefings, Job Safety Analysis (JSA), applicable permits (hot, cold, confined space etc.) and safety toolbox meetings shall be conducted by the GC.
 - Able to provide a copy of notes or documentation from internal daily meetings, JSA, permits and safety toolbox meeting when requested.
- All activities shall be performed will require notification to or approval of Projeo Corporation representative.
- GC shall confirm all required safety items are available and in use at the site including but not limited to PPE, fire extinguishers, gas testers, signs, traffic control, and adequate first aid supplies.
- All personnel onsite should be appropriately trained.
- GC shall confirm that all personnel are aware of the site safety requirements, emergency response plans, and evacuation plans.

ASSUMPTIONS AND CLARIFICATIONS

The construction plan presented in the technical section as an initial design for well planning and project scoping exercise. A modified plan can be proposed with similar or higher-grade casing strengths and an alternate cement plan to meet the project objectives.

Assume minimal access road work for site access is required and there are no major obstructions to well pad. Assume some amount of land clearing (grubbing) and earth work will be required.

EXCLUSIONS

- The site host will be responsible for acquiring permits and regulatory approvals.
- Execution of the planned well testing program is not part of this scope of work. The well testing program is shared for well design considerations.
- Well P&A or T&A work is not expected as part of this scope of work.
- Well completion is not expected as part of this scope of work.
- Major site reclamation is not expected as part of this scope of work.

TECHNICAL INFORMATION

1. Geologic Setting

The Mt. Simon Sandstone and Eau Claire Formation (**Figure 1**) are the primary target storage reservoir and confining zone, respectively, that will be investigated with the data collected from the stratigraphic test well.

The Cambro-Ordovician storage complex (**Figure 1**) consists of a primary target storage reservoir (Mt. Simon Sandstone) and a secondary target storage reservoir (Potosi Dolomite) overlain by multiple confining/sealing layers (Eau Claire Formation and Maquoketa Shale Group) and the widespread Devonian New Albany Shale Group. The primary characterization target for this project is the Mt. Simon Sandstone storage interval, with an estimated top and base of approximately 4849 and 5682 ft (1478-1732 m) respectively. The well is planned to be drilled completely through the Mt. Simon and Argenta and into the underlying Precambrian basement rocks in order to fully evaluate the reservoir quality of the Mt. Simon Sandstone and to understand the possible influence of the basement on the quality and thickness of the Mt. Simon Sandstone. The Eau Claire Formation directly overlies the Mt. Simon Sandstone and is the primary confining interval for the Mt. Simon with an estimated top and base of approximately 4372 ft and 4849 ft (1333-1478 m) respectively.

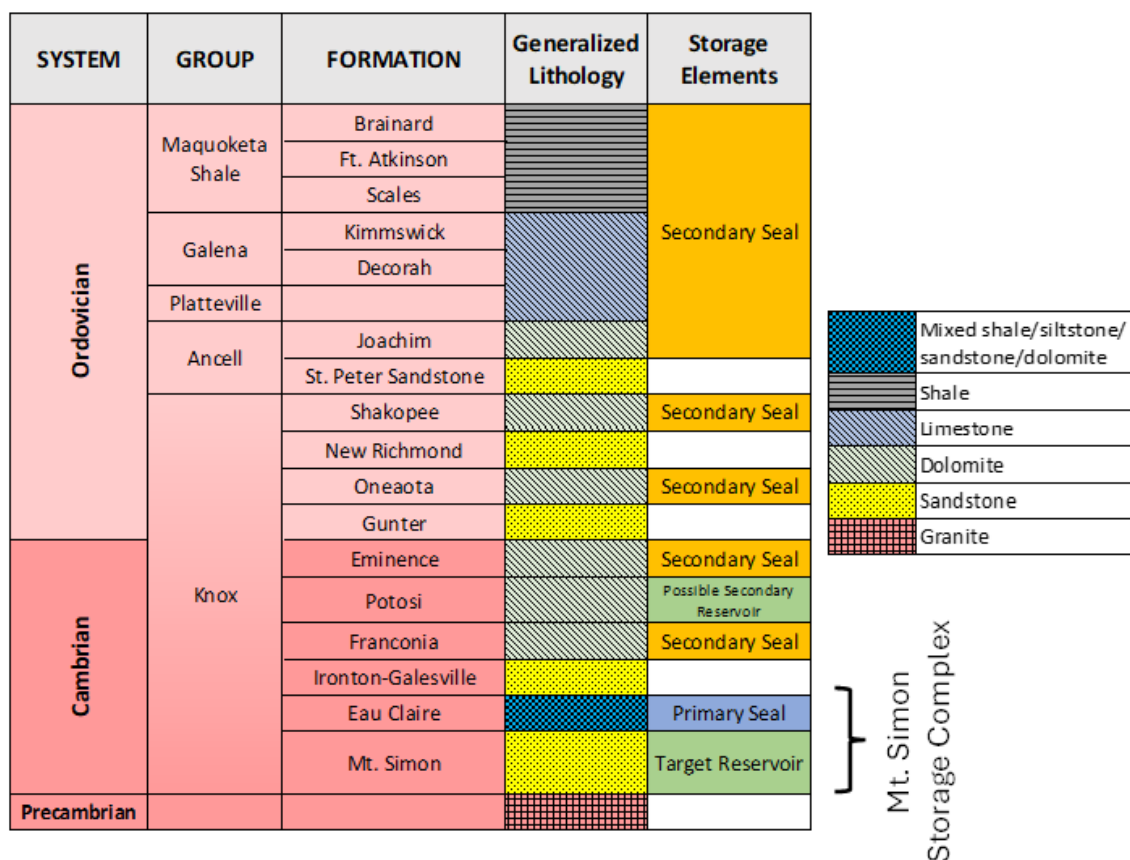


Figure 1 – Stratigraphic relationships of the primary reservoirs and seals in the Cambro-Ordovician storage complex in the Illinois Basin

2. Drilling Prognosis

The project well is expected to be drilled to a depth of approximately 6000 ft MD. The generalized stratigraphic column is shown in Figure 2, while the prognosed measured depths and subsea elevations of formation tops expected to be encountered at the drill site are listed in Table 1, based on regional structural correlation and/or nearest well data.

based on previous drilling experiences in the Illinois Basin, a significant zone of lost circulation may be encountered in the Potosi Dolomite of the Knox Group between 3700 and 3900 ft (1130-1290m) in depth (**Table 1**), with potential minor lost circulation encountered throughout the other Knox Group dolomites. The Potosi is characterized by up to 7-ft (2.1-m) thick vuggy intervals, brecciated zones, and cavernous porosity that suggest a paleokarst environment (Freiburg and Leetaru, 2012), and may be a viable storage target as reservoir modeling in zones of cavernous porosity suggests that it could contain approximately 99 million tons (90 million tonnes) of CO₂ from a single injection well (Will et al., 2014). Deep wells drilled throughout the Illinois Basin have demonstrated the Potosi's lost circulation zone and excellent reservoir properties.

Shakopee and Oneota have the highest chance of numerous chert stringers, and the Eminence has a moderate chance of chert stringers, and the Potosi has a low chance of thin cherts. These Knox Group dolomites are shown in the stratigraphic column in Figure 2.

Table 1 – Formation tops for proposed drilling site, prognosed from structural correlation and nearby well data. Measured depth (MD) and subsea elevation (SS) are in feet.

| IBW Proposed Well – Prognosis | | |
|--------------------------------------|------------------------------|--------------------------------|
| Formation | Measured Depth (feet) | Subsea elevation (feet) |
| Ground Level | 0 | 593 |
| Top of Bedrock (Pennsylvanian) | 98 | 495 |
| New Albany Shale | 1,618 | -1,025 |
| Maquoketa Shale | 1,972 | -1,379 |
| Trenton Limestone | 2,183 | -1,590 |
| St. Peter Sandstone | 2,559 | -1,929 |
| Shakopee Dolomite (Knox) | 2,761 | -2,131 |
| Potosi Dolomite | 3776 | -3183 |
| Ironton-Galesville | 4256 | -3626 |
| Eau Claire | 4372 | -3742 |
| Mount Simon Sandstone | 4849 | -4219 |
| Argenta | 5682 | -5052 |
| Precambrian | 5702 | -5072 |

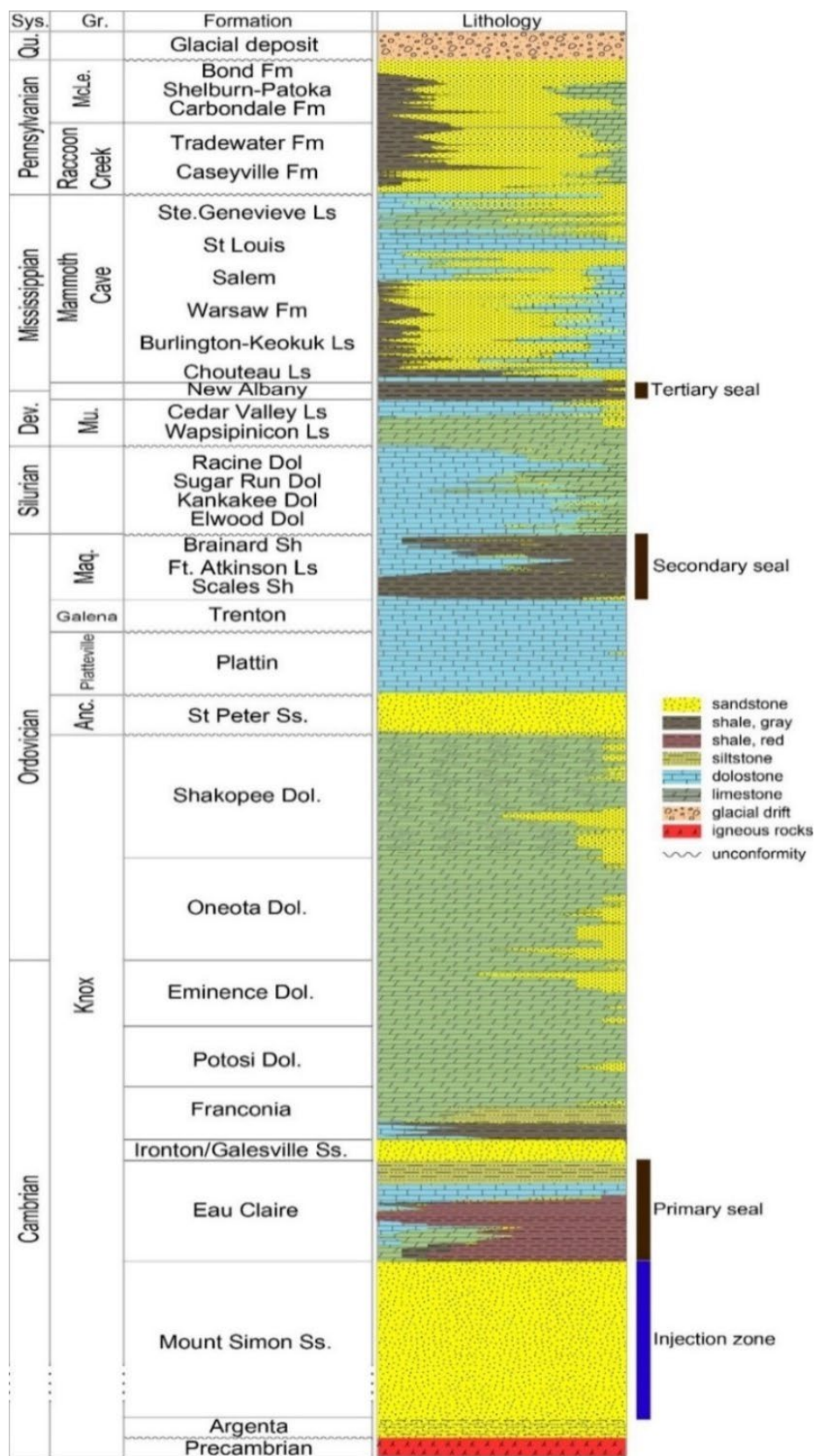


Figure 2 – Generalized regional stratigraphic column. **Abbreviations:** Sys: System, Gr: Group, MD: Measure depth, Qu: Quaternary, Dev: Devonian, McLe: McLeansboro, Mu: Muscatatuck, Maq: Maquoketa, Anc: Ansell

3. Data Collection Requirement

The project well will provide data to evaluate reservoir potential for long-term storage of CO₂, focusing mainly on the Cambrian Mt. Simon Sandstone storage interval and its primary confining unit, the Eau Claire Formation. Extensive data collection and testing will be performed using the well. Details of these investigations are provided below.

4. Coring and Sampling Program

Core will be taken from the primary confining zone Eau Claire Formation (2x90' core runs = ~180 ft.), from sub-units within the Mt. Simon Sandstone, which may include the Upper, Middle, and Lower Mt. Simon Sandstone (2x90'+1x60' core runs = ~240 ft.) and from the Pre Cambrian formation (~ 30 ft.). The well plan needs to accommodate acquiring a 3.5" or larger whole core diameter. Additional core in other intervals may also be considered, dependent on hole condition, budget, or other factors. Rotary sidewall core is also planned to be collected. The rotary core depths will be determined based on the degree of full-core recovery and the evaluation of geophysical logs. Well cuttings will also be available for analysis.

5. Proposed Logging Suite

An extensive suite of geophysical logs will be collected from the well bore after drilling. They will be used to evaluate CO₂ storage potential, hydrocarbon potential, and general lithological and petrophysical characteristics of the sedimentary column (**Table 2**). The program listed in Table 2 is subject to change based on hole conditions, tool availability, or other factors that may affect the ability to log the hole or log using specific tools.

Open Hole Logging Run: Surface Casing to TD

Table 2 – Proposed logging suite for the Illinois Basin West well in Sangamon County, IL

| Logging Run | Logging Tools | Applications |
|--|---|---|
| Triple Combo (Surface, Intermediate & Final Section) | GR, Caliper, SP, Resistivity, Density, Neutron | Formation Correlation, Porosity, Saturations, Hole Size, Resistive Anisotropy |
| Dipole Sonic (Intermediate & Final Section) | Sonic compressional and shear | Porosity, Mechanical Properties, |
| Formation Images (Intermediate & Final Section) | Formation Micro-Imager borehole images | Structure, Environment of Deposition, Fractures |
| Magnetic Resonance (Intermediate & Final Section) | Magnetic Resonance | Porosity, free and bound fluids, Permeability |
| Elemental Spectroscopy (Intermediate & Final Section) | Elemental Capture Spectroscopy | Lithology |
| Natural Gamma Ray Spectroscopy (Intermediate & Final Section) | Spectral GR | Clay Minerals |
| Sidewall Cores (50x Intermediate & 100x Final Section) | Large Volume Rotary Sidewall Coring Tool (XL Rock or similar) | Porosity, Permeability |
| Directional (Surface, Intermediate & Final Section) | | Well Trajectory & Deviations |
| Temperature (Intermediate & Final Section) | Temperature Log | Geothermal Gradient |
| Pressure Measurement x 12 (Final Section only) | Formation Tester | Reservoir pressure and permeability measurements |

6. Planned Well Testing Program (Shared for Well Design Considerations)

Well testing is outside of the scope of this RFP. However, the scope of the well testing is being shared in this section as the offerors' proposal may be impacted by the planned well testing.

After the completion of drilling activities, the project team will analyze the drilling, coring, and logging results to identify specific zones for well testing. If the Mt Simon Sandstone, or other formations, do not indicate sufficient reservoir quality for CO₂ storage, testing may not be conducted. Exact test intervals will be determined from geophysical logs.

A freshwater gradient of 0.433 psi/ft can be used to predict the pore pressure, as this part the Illinois Basin is expected to be normally pressured. For the initial fracture pressures, a gradient of 0.6 to 0.8 psi/ft for >3500ft, and 1.0 psi/ft for <3500ft can be used.

The well design needs to accommodate potential well testing that would be carried out later. The pre-drilling well testing plan is as follows:

- Reservoir Limit Test – Mt Simon Sandstone. This test includes pumping from one or more intervals within the Mt Simon Sandstone to establish broad reservoir characteristics and determine whether vertical and horizontal limits can be detected.
- Step rate tests – Step rate tests involve injection of water into the formation to determine parting pressures of strata and establish fracture gradients needed for guidelines for injection pressures during CO₂ storage and for geomechanical measurements. The tests will be performed in the Eau Claire and Mt Simon formations.
- Vertical Interference Testing. The team will evaluate the potential for conducting vertical interference testing during the step rate tests in the Mt Simon Sandstone and Eau Claire Formation. The performance and success of these tests depends on the vertical spacing of the intervals being tested, intervening lithologies, and wellbore integrity.

7. Well Construction Plan

The preliminary well construction plan is summarized in this section. The wellbore sizes, and depths are presented in **Table 3**, and the planned cementing program is presented in **Table 4**. A wellbore schematic is presented in **Figure 3**. This well design is presented as an initial design for well planning. A modified well plan can be proposed with alternate casing weights/strengths or cementing plan to meet the project objectives.

Table 3 – Wellbore sizes, depths and casing program

| <u>Section</u> | <u>Casing Depth (ft)</u> | <u>Bit Size (in)</u> | <u>Casing Size (in)</u> | <u>Weight (lb/ft) / Grade / Thread</u> | <u>Casing Hardware</u> |
|----------------|--------------------------|----------------------|-------------------------|--|--|
| Conductor | 100 | 20 | 16 | 65 / H-40 / STC | n/a |
| Surface | 350 | 14 3/4 | 10 3/4 | 32.75 / H-40 / STC | Centralizers |
| Intermediate | 4250 | 9 1/2 | 7 5/8 | 26.4 / J-55 / LTC | DV Tool and ECP at 3,750' Centralizers |
| Final String | 0 - 4750 | 6 3/4 | 4 1/2 | 11.6 / L-80 / BTC | DV Tool and ECP at 3,900' |
| Final String | 4750 - 6000 | 6 3/4 | 4 1/2 | 11.6/J-55/BTC | n/a |

Table 4 – Cement.

| <u>Section</u> | <u>Density (lb/gal)</u> | <u>Cement Base Blend</u> |
|------------------------------|-----------------------------|--------------------------|
| Conductor | 15.6 | Type 1L |
| Surface Lead | 15.6 | Type 1L |
| Surface Tail | 15.6 | Type 1L |
| Intermediate Stage 1 Tail | 15.6 | Class H |
| Intermediate Stage 2 Lead | 13.1 | 35/65 Pozmix with Type1L |
| Intermediate Stage 2 Tail | 15.6 | Clas H |
| Final Stage 1 Tail | TBD | CO2 Resistant Cement |
| Final Stage 2 Lead | 13.1 | 35/65 Pozmix/H |
| Final Stage 2 Tail | 15.6 | Class H |

Strat Test #1



| Well Name | | Prepared By | Prepared Date | Permit No | TD (ft) |
|-------------------------------------|--|-------------|-----------------|-----------|--|
| Strat Test #1 | | M. Khan | 12/05/2023 | TBD | 6000 |
| Coordinates | | Revised By | Revision Date | Wellhead | RKB (ft) |
| Approx: 39°41'9.09"N, 89°34'40.51"W | | J. Shelton | 07/02/2025 | TBD | ~604' |
| Section / Township / Range | | State | County | Field | GL (ft) |
| TBD | | IL | Sangamon County | Wildcat | ~589' |
| FORMATION | | | | | Hole Size / Casing Depth |
| MD | TOPS | | | | Cement |
| | | Logs | Core / Tests | | |
| 100 | Maquoketa (1972') Trenton (2,183') | | | | <u>Conductor</u> Bit - Driven Csg - 16" Weight - 65# Grade - H-40 Depth - 100' (or as driven) |
| 500 | | | | | <u>Surface</u> Bit - 14-3/4" Csg - 10-3/4" Weight - 32.75# Grade - H-40 Depth - 350' Stg 1 - Type 1 |
| 1000 | | | | | <u>Cement</u> 15.6 ppg |
| 1500 | | | | | <u>Intermediate</u> Bit - 9 1/2" Csg - 7 5/8" Weight - 26.4# Grade - J55 Depth - 4,250' Cmt - Class H DV Tool & ECP ~3750' |
| 2000 | | | | | |
| 2500 | St. Peter (2,559') Shakopee Knox (2,761') | | | | <u>St. Peter</u> DST |
| 3000 | | | | | <u>Cement</u> Stg 2 Lead - 35/65 Pozmix Type 1L 13.1 ppg Stg 2 Tail - 15.6 ppg Class H Stg 1 Tail - 15.6 ppg Class H |
| 3500 | Potosi (3,776') | | | | |
| 4000 | Ironton Galesville (4,256') | | | | |
| 4500 | Eau Claire (4,372') Mt. Simon (4,849') | | | | |
| 5000 | Argenta (5,682') Precambrian (5,702') | | | | <u>Production</u> Bit - 6 3/4" Csg - 4 1/2" Weight - 11.6# Grade - L-80 (0' -4750') Grade - J-55 (4750' -6000') DV Tool & Csg Pkr - ~3900' |
| 5500 | | | | | <u>Cement</u> Stg 2 Lead - 13.1 ppg 35/65 Pozmix/H Stg 2 Tail - 15.6 ppg Class H Stg 1 - CO2 Resistant Cement |
| 5800 | | | | | <u>Pre-Cambrian</u> 30' Core |
| | | | | | TD 6,000' |

Figure 3- Well Schematic

CERTIFICATION

By submitting this form, I certify that:

1. I have thoroughly reviewed, fully understood, and accepted all requirements, terms and conditions set forth in this request for proposal (RFP) and the documents referenced and attached. I further acknowledge that my submission constitutes a binding offer and agrees to be fully bound by all provisions contained therein without exception, unless explicitly stated otherwise in the proposal.
2. The information provided in the proposal is accurate and complete to the best of our knowledge.
3. All aspects of this proposal will remain confidential and will not be disclosed to unauthorized parties.
4. Any misrepresentations or false statements contained in this submission may result in immediate disqualification.

Company Name: _____

Authorized representative Name: _____

Authorized Representative Title: _____

Authorized Representative Signature: _____

Date: _____