MASCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

PROJECT DESCRIPTION

The Hancock #5 project shall include the following wells:

Well Name	API Number	County	Township	GPS Latitude	GPS Longitude
Randy Boes #1	34-063-6-7316-00-00	Hancock	Washington	41.148163	-83.469316
Marvin Kelbley #1	34-063-6-7333-00-00	Hancock	Washington	41.162536	-83.450914
Richard & Karen Wasson #1	34-063-6-2053-00-00	Hancock	Cass	41.158105	-83.569409
Peters #1	34-063-6-1443-00-00	Hancock	Cass	41.107715	-83.598147
Weuste #1	34-063-6-2163-00-00	Hancock	Cass	41.109840	-83.609422
Recker #1	34-063-6-7347-00-00	Hancock	Allen	41.109133	-83.617854
Darnall #1	34-063-6-0597-00-00	Hancock	Allen	41.114918	-83.636337
Darnall #2	34-063-6-0599-00-00	Hancock	Allen	41.115111	-83.636201

PROJECT SCOPE OF WORK:

This project includes the development of the well locations, plugging the orphan wells, and site restoration.

PROJECT DIRECTIONS:

Randy Boes #1: From I-75 and the City of Findlay head north for 7 miles and take exit 164 for OH-613 toward McComb/Fostoria. Follow OH-613 for 0.3 miles then turn right onto OH-613 East and continue for 8 miles. Turn right onto Township Road 261 and follow for 1 mile then take a right onto Township Road 284 and continue to the access point 41.147996, -83.469207.

Marvin Kelbley #1: From I-75 and the City of Findlay head north for 7 miles and take exit 164 for OH-613 toward McComb/Fostoria. Follow OH-613 for 0.3 miles then turn right onto OH-613 East and continue for 8.6 miles to the access point 41.162488, -83.450733.

Richard and Karen Wasson #1: From I-75 and the City of Findlay head north for 7 miles and take exit 164 for OH-613 toward McComb/Fostoria. Follow OH-613 for 0.3 miles then turn right onto OH-613 East and continue for 5 miles. Turn left onto Township Road 18 and follow for 0.6 miles then turn left onto County Road 220/North Main Street and follow for 1.5 miles. Turn left onto County Road 216 and follow to the access point 41.158103, -83.568811.

Peters #1: From I-75 and the City of Findlay head north for 3 miles and take exit 161 towards County Road 99. Follow County Road 99 for 0.3 miles then turn right onto County Road 99/Township Road 99. Continue for 0.5 miles then turn left onto County Road 220/North Main Street and follow for 1.5 miles. Turn left onto County Road 216 and continue for 2.8 miles then turn right onto County Road 18 and follow to the access point 41.107892, -83.598246.

Weuste #1: From I-75 and the City of Findlay head north for 3 miles and take exit 161 towards County Road 99. Follow County Road 99 for 0.3 miles then turn right onto County Road 99/Township Road 99. Continue for 0.5 miles then turn left onto County Road 220/North Main Street and follow for 1.5 miles. Turn left onto County Road 216 and continue for 2.1 to the access point 41.109223, -83.609428.

Recker #1: From I-75 and the City of Findlay head north for 3 miles and take exit 161 towards County Road 99. Follow County Road 99 for 0.3 miles then turn right onto County Road 99/Township Road 99. Continue for 0.5 miles then turn left onto County Road 220/North Main Street and follow for 1.5 miles. Turn left onto County Road 216 and continue for 1.7 to the access point 41.109195, -83.617726.

Darnall #1 and Darnall #2: From I-75 and the City of Findlay head north for 1.3 miles and take exit 161 towards County Road 99. Follow County Road 99 for 0.3 miles then turn left onto County Road 220/North Main Street. Continue for 0.5 miles then turn right onto Township Road 108 and follow for 0.8 miles to Wanda Way. Turn right onto Wanda Way and continue to the access point 41.115126, -83.636933.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

GENERAL SCOPE OF WORK

The Contractor, the Contractor's agents, representatives, and subcontractors shall perform this Plugging Project in accordance with Ohio Revised Code 1509, Ohio Administrative Code Chap. 1501:9-11 and 1501:9-12, the Agreement, and in accordance with the following documents that are attached hereto and made a part hereof:

1. Project Description;
2. General Scope of Work;
3. General Conditions;
4. General Specifications;
5. Sequence of Work;
6. Well Description;
7. Plugging Plan;
8. Detailed Specifications;
9. Appendix I – Ohio One-Call;
10. Appendix II – Well Records;
11. Quantity Sheet;
12. & Drawing Plan Set.

Subject to the Contractor's compliance with this Scope of Work, Contractor is solely responsible for and has control over all plugging and reclamation construction means, methods, manners, techniques, sequences, and procedures, for safety precautions and programs in connection with the Plugging Project, and for coordinating all portions of the Plugging Project.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

GENERAL CONDITIONS

PART 1: OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS

This Hancock #5 Project (Project) references the Ohio Department of Transportation (ODOT) Construction and Material Specifications (ODOT CMS). Any reference to these specifications is to ODOT's most current version of the specifications. The ODOT CMS can be found at http://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Pages/2019-Online-Spec-Book.aspx

PART 2: PRE-SITE MEETING

The Contractor or Contractor's representative must attend the pre-site meeting. Failure to attend the pre-site meeting is grounds for the Division to reject the Contractor's Offer.

The Ohio Department of Natural Resources, Division of Oil & Gas Resources Management (Division) intends to begin the pre-site meeting on time. At the meeting, the Division will circulate and collect attendance sign-in forms to all contractors present. Only those contractors in attendance throughout the pre-site meeting, including the discussion of the Scope of Work, will be considered present for the pre-site meeting.

PART 3: MODIFICATIONS TO THE SCOPE OF WORK PRIOR TO AWARD

The Scope of Work may only be altered by written modification. The Division may issue an Amendment to the Scope of Work and will provide a notification of the Amendment by email to all Department of Administrative Services (DAS) pre-qualified contractors. Each contractor is responsible for logging into Ohio Buys and submitting an offer that is responsive to all Amendments issued. All offers submitted prior to an amendment being issued shall become null/void and not consider in the opening. All Amendments shall become part of the Scope of Work.

Any interpretation or clarification of the Scope of Work made by any person other than the Division, or in any manner other than a written Amendment, is not binding and the Contractor cannot rely upon any such interpretation or clarification.

The Contractor cannot, at any time after the award of the Scope of Work be compensated for any issue with the Scope of Work, including alleging insufficient data, incomplete, ambiguous, conflicting, or erroneous language, or incorrectly assumed conditions regarding the nature or character of the work.

PART 4: PERMIT AND INSPECTION REQUIREMENTS

The Division will obtain and pay for all building and U.S. Army Corps of Engineers permits unless otherwise specified in the Detailed Specifications. However, the Contractor shall determine and include in his or her Offer Sheet the costs required to obtain and pay for all other requirements by the applicable governmental agencies; including but not limited to, all certificates of inspection/operation, guarantees, licenses, etc. required to complete the work as described within this document. The contractor shall follow

all applicable laws and permit requirements and the Division will not be held responsible for damages that result from violation of laws or permits.

PART 5: INSTRUCTIONS FOR PREPARING AN OFFER

A Contractor's offer must be submitted online through **Ohio Buys**. (https://das.ohio.gov/Divisions/General-Services/Procurement-Services/Ohio-Buys). **All offers submitted prior to an Amendment being issued shall automatically become null/void and not consider in the opening.**

Offers shall include labor, equipment, and material cost plus a proportionate share of the Contractor's overhead costs, other indirect costs, and anticipated profit. An offer must be mathematically and materially balanced. A "mathematically unbalanced offer" is an offer containing lump sum or unit price items that do not include reasonable labor, equipment, and material costs plus a reasonable proportionate share of the Contractor's overhead costs, other indirect costs, and anticipated profit. A mathematically unbalanced offer typically contains token prices (i.e. $1 prices), front loadings, or prices with large variations from the engineer's estimate. A "materially unbalanced offer" is a mathematically unbalanced offer that will not result in the lowest ultimate cost to the Division.

During the Division's initial review of offers, if the Division finds an offer may be mathematically unbalanced, the Contractor may be required to submit proof of the mathematically unbalanced line items' proposed cost within 24 hours after notification from the Division. At a minimum, a Contractor may be required to submit copies of all material/rental quotes, intended labor costs (hours/rates), and contract agreements with subcontractors to support their offer. If the Contractor fails to submit the required proof, the Contractor's offer shall be deemed withdrawn from consideration. The Division shall evaluate the documentation and may verify quotes with vendors. After a review of the documentation, the Division will reject any offer it determines is mathematically and materially unbalanced.

A Contractor shall maintain an up-to-date schedule on file with the Division that sets forth dates by which the Contractor will plug each well that the Division previously awarded to the Contractor. A Contractor shall update their work schedule as often as necessary to maintain a current schedule with the Division. To be awarded new contracts, the Contractor must be able to complete all previously awarded work within the due dates set in each contract with the Division. Upon request, a Contractor shall provide an up-to-date schedule to the Division that reflects when all awarded work will be completed.

PART 6: DIVISION'S OFFER SELECTION

Except when the Division rejects an offer, the Division will select the lowest offer submitted to the Division. The Division may reject an offer if any one of the following applies to the Contractor's offer:

- Is not submitted online through **Ohio Buys**;
- Is conditional;
- Is a mathematically unbalanced offer and a materially unbalanced offer;
- Is behind schedule on other projects with the Division; or
- Is not able to schedule this project within the contract due dates.

PART 7: WITHDRAWAL OF OFFERS

At any time prior to the opening of the Offers, a Contractor may submit a written request to the Division, at the location where the Offers are received, to withdraw its offer. The request to withdraw the Offer must be signed by the person who executed the Offer.

PART 8: EFFECTIVE DATE AND TERM

The effective date of this Project is the date of the Letter to Proceed that is sent to the Contractor. The Contractor must start work at the project site within six (6) months of the end of the contract and the Contractor shall continue diligently working toward the completion of the project once work has commenced. The Project must be completed **one (1) year after the effective date** or by June 30, 2023, whichever is sooner. If the Project terminates on June 30, 2023 and the Project is not completed, the Scope of Work may be renewed on the same terms if the Division sends written notice to the Contractor. Failure to complete work by the contract due dates may result in the suspension or termination of the contract and may result in the Division pursuing the Suspension and Termination and/or the Contract Remedies sections defined in the MAC 110 contract.

PART 9: TERMINATION AT WILL

The Division may terminate this Scope of Work without cause. Any payment due to the Contractor at the time of termination by the Division shall be paid to the Contractor on a pro rata basis.

PART 10: RELATIONSHIP BETWEEN COMPONENTS OF THE SCOPE OF WORK

This Scope of Work includes drawings that are duplicates of drawings on file with the Division. The Scope of Work documents are complementary. All sections of the Scope of Work are binding. The titles and headings in the Scope of Work are for reference and in no way affect the interpretation of the provisions of the Scope of Work. Further, if any part of this Scope of Work is found to be unenforceable, no such event will affect the enforceability or applicability of any other part of the Scope of Work.

If a conflict between the drawings and the specifications arises, the Contractor must notify the Division. In the event of a conflict of any provision in the Scope of Work the order of priority within the Scope of Work is as follows: Drawings, Detailed Specifications, General Specifications, Plugging Plan, and Sequence of Work.

PART 11: CONTRACTOR'S RESPONSIBILITY FOR SUBCONTRACTORS

The Contractor is responsible for the conduct of its subcontractors and for persons its subcontractors directly or indirectly employ.

PART 12: STANDARDS

If the Division identifies a "standard" by reference to manufacturer and/or model number, all offers will be evaluated to ensure that the identified standard is used. The Division will not consider an offer in which a substitution for the standard is offered. After the Letter to Proceed is issued, the Contractor may submit a written proposal for a substitution of a standard.

PART 13: SUBSTITUTIONS DURING THE PROJECT

After the Letter to Proceed is issued, the Contractor may offer substitutions for the standards set forth in the Scope of Work. The decision to allow substitution is solely within the discretion of the Division, which

will consider, among other factors, availability, time of delivery, the aesthetic value of the proposed substitution, general differences in the knowledge of the product, service history, quality, efficiency, performance, and architectural, engineering, inspection, testing and administrative expenses. Any changes to the Offer price and/or Scope or Work must be memorialized by a Field Order or Change Order, as applicable. The savings in cost in allowing any substitutions during the Project will be solely to the benefit of the Division.

PART 14: QUANTITIES OF WORK

14.1 Unit Price Items

For items in the Offer that require a unit price, the quantities listed on the Offer Sheet are an approximation and are to be used only for the comparison of offers. The scheduled quantities may be increased or decreased without invalidating or altering the Offer and will be considered within the Scope of Work.

Payments for unit price items will be made to the Contractor for actual quantities of work performed and materials furnished in accordance with the Scope of Work; however, the Contractor may not exceed the unit quantities shown on the Offer Sheet without prior written approval of the Division through a Field Order. Even if the Contractor determines that additional unit priced quantities (above and beyond the original Offer Sheet quantity) are required to meet plan and/or specification dimensions, the Contractor must not exceed the Offer Sheet quantities without prior written approval of the Division. The Division will not pay for quantities above and beyond the Offer Sheet quantity without prior written approval of the Division.

14.2 Lump Sum Items

For items in the Offer Sheet that require a lump sum price, the Division will not pay for work, materials, or equipment that exceeds the amount provided by the Contractor on the Offer Sheet. The lump sum price on the Offer Sheet must include all work, materials and equipment necessary to properly complete the Project.

14.3 Additional/Contingency Items

The contingency items set forth in the Offer Sheet are not projected as necessary to complete the Project. Rather, the contingency items will first be used when unforeseen work arises, and the Division determines the contingency item is applicable. To be compensated for contingency items, the Contractor must have a written Field Order from the Division authorizing the contingency item in a specified quantity. Use of contingency items will not require the execution of a Change Order. The Contractor must be prepared to supply all items identified in the contingency specifications for use on this Project.

PART 15: OMISSIONS IN THE SCOPE OF WORK

If the Contractor notices an error or omission in the Scope of Work during performance of the Project, the Contractor shall immediately notify the Division of such omission or error and shall not proceed with the Project until directed by the Division. Any work performed by the Contractor prior to clarification by the Division may not be entitled to compensation.

PART 16: INTERPRETATIONS CONCERNING THE SCOPE OF WORK

During the Project, if a question arises on the Scope of Work, the labor or materials to be supplied, or costs potentially exceeding the Contractor's Offer, such questions must, prior to the work being performed, be submitted to the Division for a determination. A Division determination will be issued in writing and any work performed prior to such a determination will be performed at no cost to the Division. The Division will also begin executing a Change Order, when appropriate.

If the Division receives a written question concerning the Project, the Division will determine if the work must be performed by the Contractor at no increase in price to the Scope of Work. If so, the Division will issue a Field Order setting forth the Division's determination. Each Field Order issued must be signed by the Contractor acknowledging receipt. If the Contractor disagrees with the Division's interpretation in a Field Order, the Contractor may submit a protest by certified mail to the Chief within ten (10) days following the date of issuance of the protested Field Order. However, the Contractor must immediately proceed with the instructions given in the issued Field Order.

If, upon receipt of a written protest of a Field Order, the Division determines that the work referred to in the protest is outside the Scope of Work, the Division will not issue a Field Order and instead will issue a Change Order.

Field Orders, which are interpretations of the requirements of the Scope of Work, may be issued by the Division at any time during the performance of the work. The Contractor, at all times, is required to immediately execute the instructions of all issued Field Orders.

PART 17: CHANGES IN THE SCOPE OF WORK

17.1 The Division's Right to Require Change Orders

The Division may issue a Change Order directing the Contractor to immediately perform extra work that differs from the Scope of Work. The Contractor shall perform the work as directed. The changes in the work will consist of additions, deletions, or other revisions. When the Contractor performs the work, the Offer amount will be adjusted as described within this Scope of Work.

If the Contractor protests the issuance of the Change Order, any such protest has no bearing on any work requirements arising out of the Change Order in that the Contractor must immediately perform the work required in the Change Order so as not to delay the progress of the work at the Project.

17.2 Unauthorized Work

Only work performed under the Scope of Work or work authorized by a Field Order or a Change Order is eligible for compensation. If the Contractor performs any work or purchases any materials without an approved, applicable Field Order or Change Order, such work performed, and purchases made are within the Scope of Work at no additional cost to the Division.

17.3 Contractor's May Request Change Orders

If the Contractor determines that the Scope of Work does not address conditions at the Project, the Contractor may provide written notice to the Division of the conditions and request a Change Order. No oral communications will be acceptable as justification for a Change Order.

17.4 Determining Price of a Proposed Change Order

The following methods will be used to determine the price of a proposed Change Order:

a. If a Change Order involves items not listed on the Offer Sheet, the Contractor must present the Division with labor and/or material price quotes for the proposed Change Order item(s). The Division may request these quotes either in unit prices or as lump sums; or

b. If the work involved in the Change Order is not definable, the Division may request the work be performed on a time and material basis and include a maximum amount to be paid for the work. The method will be based on unit prices for both labor and materials agreed to by the Division prior to the Contractor commencing the work.

17.5 Disputes Regarding Change Order Prices

If the Contractor and the Division cannot agree on the cost of the work for a Change Order, using site-specific information including, but not limited to, Division historic public offer information, the Division will determine and set a fair price for the work and materials that are the subject of the Change Order.

PART 18: PAY ESTIMATES

18.1 General Information

Payments issued to the Contractor as the work progresses are not acceptance of any portion of the work not completed in accordance with the Scope of Work nor do such payments relieve the Contactor of liability with respect to any obligation or any expressed or implied warranties or responsibilities for faulty materials or workmanship.

18.2 Required Review by the Division

Prior to the submittal of each payment request, the Contractor and the Division must meet at the Project site to review the Project progress. The Contractor and the Division's Project Representative must mutually agree on quantity and percent of work completed for all offer items prior to submittal of each payment request. No payment request will be approved for work that has not been approved by the Division's Project Representative. Field verification of all lump sum quantities and weight slips for all unit price quantities invoiced must be submitted to the Division's Project Representative for review during the meeting.

Payment requests received by the Division containing errors or requesting amounts that cannot be approved will be returned to the Contractor. The Contractor may resubmit a payment request after correcting errors.

18.3 Documents to be Submitted for Payment

The Contractor's payment request must be submitted to the Division via the Orphan Well Program email at OrphanWellProgram@dnr.ohio.gov. The Contractor's payment request must be submitted including a form furnished by the Division. Each request for payment must be signed by the Contractor and the Contractor must certify on the form that:

a. The request for payment is accurate as to materials and the work completed under the terms and conditions of the Scope of Work and any Change Order, as applicable, including full compliance with all labor provisions; and

b. All subcontractors and material suppliers have been paid for the work or materials that are applicable to all previous payment requests. As certification, each request for payment, at the Division's request, may need to be accompanied with a properly executed "Waiver of Liens" from all subcontractors and material suppliers to show that all previous payments made by the Division to the Contractor have been applied to fulfill, in full, all of the Contractor's obligations reflected in prior requests for payment.

18.4 Effect of Liens on Payment Requests

All work, materials, and equipment covered by any request for payment, whether incorporated in the Project or not, will pass to the Division at the time of payment free and clear of all liens, claims, security interests and encumbrances.

If there is evidence of any lien or claim that is chargeable to the Contractor, the Division will withhold all payments due to the Contractor to secure such lien or claim. If there are any previous liens or claims after payments are made to the Contractor, the Contractor may be required to refund to the Division a sum of money equal to the sum of all monies that the Division may be compelled to pay in discharging any lien or claim as a result of the Contractor's default.

PART 19: RETAINAGE FOR FINAL STABILIZATION

If the Scope of Work requires revegetation of disturbed area, the Division will retain five percent (5%) of the sum of (1) the Offer amount and (2) all approved Change Orders. The five percent (5%) amount retained shall be released once the Division completes a Final Stabilization Inspection and determines that vegetation has reached final stabilization. "Final stabilization" means vegetation established in a uniform perennial vegetative cover with at least a seventy percent (70%) grass cover. "Final stabilization" also means that no large barren areas exist, and the vegetation is of an equal or better condition than before the project started. The Contractor must remove all temporary erosion and sediment controls once final stabilization is achieved.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
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GENERAL SPECIFICATIONS

Unless there is a specific pay item in the Detailed Specifications, the work defined in the General Specification shall be incorporated into other items of work.

PART 1: HOURS OF WORK

The Contractor, the Contractor's agents, representatives, and subcontractors shall perform plugging projects during the days of Monday through Friday. Work will not be conducted on weekends or state/national holidays except with Division approval or during emergency situations. A workday is defined as eight (8) hours. However, additional hours may be worked with Division approval or during emergency situations.

PART 2: EQUIPMENT

The Contractor equipment shall pass all safety requirements of local, state, and federal agencies. The Ohio Department of Natural Resources, Division of Oil and Gas Resources Management reserves the right to inspect the equipment prior to the Recommendation of Award.

Unless otherwise noted, all equipment and materials required to complete the work described shall be provided by the Contractor.

PART 3: NOTIFICATIONS

3.1 Seven Working Day Notice

The Contractor, the Contractor's agents, representatives, subcontractors, or independent contractors shall contact the responsible Division Orphan Well Inspector (the "Inspector") no less than seven (7) working days prior to commencement of work. Notice may be written or oral. This notice will allow the appropriate Division staff time to mark the approved access route and any sensitive areas that need to be left undisturbed.

The Contractor, the Contractor's agents, representatives, and sub-contractors shall contact each utility company that has utilities that directly affect plugging activities at the well location(s).

3.2 Public 48 Hour Notice

Prior to initiating well plugging operations, the Contractor shall give a minimum of 48-hour notice to the local fire department. Confirmation of this notification shall also be made to the Inspector or the Division Regional Office.

3.3 Emergency Notification

When emergency conditions are encountered, such as a release of hydrogen sulfide gas (H_2S), natural gas, crude oil, condensate, or brine that threatens human health, safety or the environment, as described in Ohio Administrative Code 1501:9-08-02, the Contractor shall notify the local fire

department, the Local Emergency Planning Committee (LEPC) and call the 24/7 incident notification number: 1-844-OH-Call1 (1-844-642-2551) within 30 minutes of the occurrence.

3.4 Plugging Completion Notice

No sooner than three business days after emplacing the uppermost plug, the Division will review the well to determine if any additional plugging work shall be required at that time. If additional work is needed, a Field Order will be issued by the Division. The Field Order shall state what must be completed and what, if any, Change Orders shall be required. If additional work is not needed the contractor shall cut the casing as defined in the Plugging Plan and set the plugged well identification as outlined in these **General Specifications** and Ohio Administrative Code 1501-9-11-10.

PART 4: ACCESS AND PRESERVATION OF SITE

All costs for the adequate access to the well site for the plugging equipment shall be included in the Offer. Unless waived, placement of all tanks and equipment shall be subject to Division's approval. If requested by the Division, access roads will be chained or cabled to prevent unauthorized use.

Special attention shall be given to maintaining trees and other vegetation that have scenic value, provide shade, reduce erosion and runoff, or add to the aesthetics of the area. No trees three (3) inches or larger in diameter shall be removed without the Division's permission. Any alterations to the natural topography required to provide ingress and egress to the well site must be approved by the Division before work begins.

PART 5: DAMAGE CAUSED BY CONTRACTOR

All damage caused by the Contractor's negligence in carrying out of this scope of work to any public or private property of any nature whatsoever, including trees, shrubs, and crops, shall be corrected to Division's satisfaction at the expense of the Contractor. If crops are damaged and the Contractor, landowner, or tenant cannot reach a settlement, the County Cooperative Extension Service shall set a fair price for crop damages and the decision shall be final and binding upon all parties. All subsequent payments due the Contractor shall be withheld until the Contractor provides proof of payment of any such claim.

The Contractor shall be responsible for all costs of repairing or replacing any survey monument that is disturbed or destroyed by the Contractor. The Contractor shall utilize a professional surveyor who is licensed and registered by the State of Ohio to perform the re-establishment of said monuments according to the standards set forth by the governing body or law of said monument. For the purpose of this scope of work, the term survey monument shall apply to any property boundary marker, federal, state or county geodetic benchmark, state or county right of way monument, FEMA benchmarks or flood elevation markers.

PART 6: SAFETY

The following safety protocols shall be completed for each well that is being plugged. The Division, at its discretion, may waive the requirement if all wells in the project are on the same lease\property.

6.1 Public Safety Coordination Meeting

The Contractor shall hold a safety meeting with the local fire department, Division Emergency Operations staff and Inspector, and other applicable contracting staff prior to commencement of plugging activities. The meeting shall review 1) the safety of the public during operations, 2) the safety of workers during operations, 3) emergency notifications of events, 4) site set up and layout, 5) general overview of operations, 6) nearest hospital's address and directions.

6.2 Daily Safety Meetings

The Contractor shall hold a daily safety meeting for all personnel on-site prior to the commencement of work. The Contractor shall provide and maintain a sign in/out sheet for all people on location. The Contractor shall immediately report any accidents and/or safety concerns to the Inspector.

6.3 Operational Standards

The Contractor shall follow the rules established by Occupational Safety and Health Administration (OSHA) Basic Construction Safety 29 CFR 1926 on all onsite project operations.

6.4 Excavation and Trenching Requirements

The Contractor shall follow the notification protocol as specified in Part 3 of the General Specifications before the start of any excavating activities. The Contractor will comply with OSHA Construction Standards for excavation and trenching under 29CFR 1926 Subpart P.

6.5 Hazardous Communications Requirements

The Contractor shall maintain Safety Data Sheets (SDS) for all chemicals stored and/or used on-site. A copy of all SDS will be supplied to the local Fire Department and to the Division.

6.6 Site Security

The Contractor shall provide and install protective barriers/fencing around the work area to prevent unauthorized access. Ingress and Egress access must be maintained at all times.

6.7 Wind Direction Indicator

The Contractor shall install a windsock in an open area of the well location where it is visible to all onsite personnel. It shall be constructed of high visibility material and deployed no less than six (6) feet above grade during the plugging operations.

6.8 Muster and Smoking Areas

The Contractor shall mark and assign a primary and a secondary muster area daily upwind of the well location. These are to be determined based on prevailing wind direction, as indicated by the windsock. The Contractor will post an emergency contact information sheet at each muster site. The Contractor will establish a safe location for a designated smoking area.

6.9 Ignition Sources and Parking Areas

The Contractor shall identify and mark all potential ignition sources within a 50-foot radius of the well. The designated parking area will be outside the 50-foot radius from the well.

6.10 Air Monitoring and Worker Safety

The Contractor shall supply and place a 4-gas monitor at the wellhead. The gas monitor must be calibrated and maintained to monitor Methane (CH_4), Oxygen (O_2), Carbon Monoxide (CO) and Hydrogen Sulfide (H_2S).

Stop work must be followed when any of the levels listed below occur:

- Methane - 1000 parts per million (PPM)/5% Lower Explosive Limit (LEL),
- Oxygen - saturation below 19.5% or above 23%,
- Carbon Monoxide – 50 PPM,
- Hydrogen Sulfide - 10 PPM.

The levels stated above are directly from the Occupational Safety and Health Administration (OSHA) and The National Institute for Occupational Safety and Health (NIOSH) and are standard for air monitoring procedures for safety and work environments. If any of the above levels are alarmed, all personnel will shut down ignition sources and report to the muster area. From the muster area, the Contractor will call 911 for assistance from the local Fire Department.

Division Emergency Operations personnel or the Inspector has the right to stop work if the actions are unsafe or the actions cause or are likely to cause danger to the workers, public, or the environment.

PART 7: MAINTENANCE OF TRAFFIC

The Contractor shall at all times install, maintain, and operate all traffic and traffic control devices in conformance with the requirements of the "Ohio Manual of Uniform Traffic Control Devices for Streets and Highways," hereinafter called The Ohio Manual.

The Contractor shall notify the appropriate public officials and the Division and shall obtain all required permits prior to any lane closure of a public road.

The Contractor shall maintain ingress/egress to all properties associated with the project at all times during the project unless agreed upon in writing by the Division and the landowner.

PART 8: PROTECTION OF EXISTING UTILITIES

Before construction begins, the Contractor, acting as an agent for the Division, shall locate all utilities in the vicinity of the work. The Contractor shall be responsible for complying with the regulations pertaining to utilities in the State of Ohio. The Contractor shall assume all risk for all utilities located in the vicinity of the work, whether above or below the surface of the ground. The Contractor shall also be responsible for all damages and assume all expense for direct or indirect injury, caused by his work, to any of the utilities, or any person or property by reason of injury to them, whether such utilities are or are not shown on the drawings, once they have been uncovered by the work. **In compliance with Ohio Revised Code 3781, two working days before digging the Contractor shall contact the Ohio Utility Protection Service (OUPS) and Oil and Gas Producers Underground Protection Service (OGPUPS) using the Ohio811 one call service by calling 811 or by using the i-dig login found on the internet at OHIO811.org. The Contractor shall maintain a current OUPS/OGPUPS call ticket during the entire project.**

PART 9: EROSION AND SEDIMENT CONTROL

Temporary erosion control measures are required during the course of this project. These measures may consist of the installation of straw bale dikes, silt fence, filter socks, inlet protection structures, erosion control blankets, energy dissipation, and temporary seeding and mulching.

Once construction begins, the Contractor shall be solely responsible for all construction related to the control of off-site sedimentation. This sediment shall be removed by the Contractor at the Division's direction.

9.1 Temporary Measures

Temporary erosion control structures shown on the Drawing Plan Set, identified with these specifications, or as directed by the Division shall be placed as soon as construction starts and must be maintained during the course of the project. At the direction of the Division, the Contractor shall remove the temporary controls when they are no longer needed or when required permanent control measures have been completed.

If sediment escapes the site, accumulations must be removed at a frequency to minimize further negative effects, and whenever feasible, prior to the next rain event.

The contractor shall be responsible for revegetation of all areas in which sediment escapes the site. These areas shall be included in the final stabilization of the project and shall be at the cost of the contractor.

9.2 Maximum Exposed Areas

Stabilization measures must be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, must be initiated no more than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceased.

Where the initiation of stabilization measures by the seventh day after construction activity temporarily or permanently ceased is precluded by snow cover, or frozen ground conditions, stabilization measures must be initiated as soon as practicable.

Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within fourteen (14) days, temporary stabilization measures do not have to be initiated on that portion of site.

The Division may limit the area of excavation, borrow and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finished grading, re-soiling, mulching, seeding and other such permanent control measures current in accordance with the acceptable schedule.

9.3 Winterization

When an incomplete project will be left exposed throughout the winter season, the Contractor shall furnish the Division a plan indicating the control measures to be installed and maintained until the next construction season.

If the winter period falls within the anticipated construction period of the Scope of Work and as indicated in the original approved construction schedule, control structures will be paid for by the Division at the unit prices in the Offer.

If the project is not substantially completed prior to the winter season due to the failure of the Contractor to meet the completion date, these necessary control structures will be installed and maintained by the Contractor at his expense and these items will not be paid for under the terms of the Scope of Work, except those that are permanent facilities to be left in place in accordance with the Drawing Plans Set and Specifications.

9.4 Other Controls

Off-site vehicle tracking of sediments and the generation of dust must be minimized, and any waste must be properly disposed.

9.5 Inspections

The Division Inspector shall conduct inspections to ensure that the control practices are functional and to evaluate whether the erosion and sediment control measures are adequate and properly implemented.

9.6 Enforcement

The Division shall take appropriate steps to ensure that sedimentation does not leave the project site. The Division shall require the removal of off-site sediment by the Contractor if such sediment resulted from the Contractor's negligence to place and maintain sediment control structures in accordance with the Drawing Plan Set and Specifications.

PART 10: SPILL PREVENTION AND REMEDIATION

The Contractor is expected to prevent and, if necessary, contain and remediate any spills that may occur at the site due to plugging activities. All stationary plugging equipment on well locations that are in tiled farm fields, residential neighborhoods, parks, or in/adjacent to areas determined by the Division to be environmentally sensitive, will be staged on an impermeable liner and berm. **The Contractor will have oil absorbent pads and booms available onsite during the plugging operations.**

PART 11: HYDROGEN SULFIDE

If the well that is being plugged is known to produce hydrogen sulfide (H_2S), the following considerations must be observed:

11.1 Safety

A. The Contractor must provide the appropriate equipment, on-site, to properly detect and abate any H_2S emitted from the well. If the Contractor does not have the appropriate equipment to properly detect and abate any H_2S emitted from the well, they will utilize an appropriate party to provide these services.

B. The Contractor will shut-in the well each night after the plugging operations have ceased, unless otherwise instructed by the Division. The Contractor will continue this process until the plugging operations are complete and there are no further signs of a gas release.

11.2 Cement

A. The Contractor will use Class A cement to plug wells known to produce hydrogen sulfide.

PART 12: CASING

The Division reserves the right to require the removal and or placement of any tubing, casing, or liners deemed necessary to properly plug and abandon the well. If a string of casing that would normally be pulled cannot be removed, the Contractor may be required to log the well and perforate the casing, in accordance with the Division's instructions, so that cement can be circulated behind the casing.

The Contractor shall run an operational string of casing when caving of the well prevents clean out to depth required in the scope of work.

PART 13: DEFINITIONS

13.1 Clean Out

The process in which the contractor would use a smaller diameter tubular to circulate out material from inside a larger diameter tubular. This shall include removing mud-laden fluid, prepared clay, bridge plugs (e.g. brush and stone plugs, surface debris), and wellbore cave-in (e.g. swelling shales, red clays). Equipment needed includes, but is not limited to, tubing, a mud pump, a power swivel/power sub or a tubing swivel, a notched collar or drill bit with the jets removed.

13.2 Drill Out

The process in which the contractor would use a drill string, associated fittings, and a bit to remove an obstruction from inside of the wellbore or casing. This shall include removing cement, grout, wood plugs, or other materials in which a cleanout operation failed to remove. Equipment needed includes, but is not limited to, a mud pump, power swivel/power sub, drill string (including collars and casing or tubing), cross over subs, bit sub, and drill bit.

13.3 Wash Over

A process in which the contractor would use an intermediate size working string of casing, usually equipped with a carbide coated collar on the bottom joint, to run down over the smaller well tubular and clean out the annular space between the well tubulars. This process would include utilizing a power swivel or power sub to rotate the working string of casing and a mud pump to circulate fluid down between the working string and the outside of the smaller well tubular to wash out the material in the annular space between the well tubulars. This shall include removing mud-laden fluid, prepared clay, cement, grout, field packers, and surface debris. When needed, a wash over bit shall be attached on the bottom of the larger casing to act as a cutting edge for the material on the backside of the tubular being washed over.

13.4 Milling

The process in which the contractor shall use a drill string and bit to remove a metal obstruction from inside of the wellbore or casing. Equipment needed includes, but is not limited to, a mud pump, power swivel/power sub, drill string (includes collars and casing or tubing), cross over subs, bit sub, and mill. The mill type would depend on the material encountered.

13.5 Fishing

The process in which the contractor shall use a specialized tools or fishing tool to eliminate an obstruction from inside of the wellbore or casing. Equipment needed includes, but is not limited to, a fishing tool(s) and fishing string.

13.6 Bail & Grout

The process the contractor shall use when determined that the wellbore can be bailed of all fluid, and grouted. Equipment needed includes, but is not limited to, tubing, a bailer, and a grout pump. Grout shall be gravity feed to the bottom. This can be done in one application or in stages, depending on the well depth and condition. If the well cannot be bailed completely dry the contractor shall use a siphon string/tremie tube to remove the water from the well during grout application.

PART 14: WELL OBSTRUCTION ASSESSMENT

If an obstruction is encountered in the well bore that prevents the Contractor from reaching total depth, the Contractor will attempt to identify/assess the nature of the obstruction and attempt to remove any obstruction deemed an impediment to the plugging operation. **The Contractor will supply impression blocks as part of their normal rig equipment.**

PART 15: REMOVAL OF AN OBSTRUCTION

The removal of an unknown obstruction that is encountered during the cleanout of a well may require the use of milling and/or fishing tooling and equipment. The Contractor will include the costs for these services on the appropriate line items in the contingency section of this offer unless these costs are part of a planned procedure. The Division will approve a method for the Contractor to remove the well obstruction. The Division will first utilize contingency specifications and line items to define this work. **The Division will not be responsible for milling or fishing charges that are due to Contractor negligence or Contractor equipment failure.**

PART 16: PLUGGED WELL IDENTIFICATION

In compliance with Ohio Administrative Code 1501:9-11-10, a steel plate, a minimum of ¼-inch thick, shall be tack welded on top of all plugged wells. The well's permit number and "ODNR" shall be welded on the plate in numbers/letters as large as practical. Letters shall have a minimum relief of 1/8-inch.

PART 17: TOILET FACILITIES

Where there are no readily accessible public toilet facilities, the Contractor will provide a portable field toilet on the location during plugging operations.

PART 18: COMPLETION, GUARANTEES AND WARRANTIES

Upon completion of the work described in the Project SOW, the Contractor shall request a Project Completion Inspection be performed by the Division. The Division shall inspect the Project site(s) for completeness and acceptance against the Project SOW, and if the Division determines necessary, develop a list of incomplete and unacceptable work and conditions to be corrected by the Contractor. The Division will reinspect the Project site(s) until the Division determines all work described in the Project SOW is complete and acceptable.

The Contractor warrants (represents) that their work will be conducted in accordance with the standards described in the Project SOW (i.e., the SOW Detailed Drawings and Specifications) and that the Contractor's work be free of defects. Contractor guarantees their work and materials for a Warranty Period of one year, unless otherwise stated as a special provision of the SOW Detailed Specifications. The one-

year Warranty Period commences on the date of inspection on the Project Completion Inspection form that accepted the work.

Should defects develop with the Contractor's work or materials within the Warranty Period, the Contractor shall, upon written notice of the Division, remedy the defects and any associated disturbance at their own expense. If the Contractor, after receiving the Division's notice, does not remedy the defects to the satisfaction of the Division, the Division may proceed against the Contractor as prescribed by the Department of Administrative Services (DAS), Index Number MAC110. All representations, warranties, and guarantees made in the DAS Index Number MAC110 contract and the Project SOW shall survive final payment and termination or completion of this Contract.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

SEQUENCE OF WORK

General: Performance of all work shall be coordinated with the Division of Oil and Gas Resources Management ("Division") Orphan Well Inspector ("Inspector"). The Sequence of Work shall be repeatable for all the project's wells. The Sequence of Work for the Orphan Well Project shall be as follows:

Phase I:

1) Contact the Ohio Utility Protection Service and the Ohio Oil & Gas Producers Underground Protection Service.

2) Coordinate with the Orphan Well Inspector and the local authorities for the mobilization of equipment over the roads and bridges to the site as applicable.

3) Verify with the Orphan Well Inspector that the pre-construction staking (i.e. Construction Work Limits) has been completed by the Division. **The pre-construction staking must be completed prior to mobilization.**

Phase II:

1) Mobilize all necessary equipment to the site and develop the site access as shown on the **Drawing Plan Set**.

2) Implement site safety and secondary containment as described in the **Detailed Specifications**.

3) Install perimeter sediment controls as required by the Division.

4) Prepare the well for plugging as described in the **Detailed Specifications, "Well Head Control."**

5) Upon successful installation and approval of the wellhead and establishment of well control, the Contractor shall begin to plug the well as described in the **Plugging Plan** and **Detailed Specifications, "Well Preparation & Plugging."**

6) **No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut the casing as defined in the Plugging Plan.**

7) The Contractor shall set the plugged well identification as outlined in the **General Specifications** and Ohio Administrative Code 1501-9-11-10.

Phase III:

1) Within three (3) working days after Division has determined the plugging operations are completed, the Contractor shall remove all well and well plugging-related equipment, fluids, and cuttings from the site. The Contractor shall also excavate and remove all contaminated soils present onsite if present.

2) Within fourteen (14) days after the completion of the plugging operations, the Contractor shall resoil as applicable, final grade, disc, fertilize, seed, and mulch all disturbed areas. **If work cannot be complete due to the season or weather conditions, the site shall be winterized per the General Specifications, Part 9 Erosion and Sediment Control and the site restoration shall be scheduled for completion.**

3) All reclamation shall be finished to an equal or better condition than what existed prior to construction. The Division shall give the final approval for the restoration of the site.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

WELL DESCRIPTION

This Well Description is for:

Randy Boes #1, API #34-063-6-7316-00-00, Hancock County, Washington Township

Background: The Randy Boes #1 is located approximately 16 miles northeast of the City of Findlay and is situated on a 16.969-acre parcel (#510001029201), which is owned by Randy Boes. The address is 0 State Route 613.

Randy Boes #1: Division inspection of the Randy Boes #1 found the well idle and abandoned and visibly equipped with open 8-inch casing with a collar on top sticking up about three feet above ground surface. There is fluid inside the casing approximately three feet below ground level and there appeared to be a layer of oil on the surface of the fluid.

There are no well records for the Randy Boes #1; however, offset well records for API 34-063-2-0147-0000, located approximately 1.4 miles to the southeast, state the well was drilled in 1965 to a total depth of 1,958 feet in the Trempealeau formation. The well was also plugged in 1965 after it was determined to be a dry hole.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Soil and silt	0	41	
Big Lime	41	278	*Fresh water @ 45’
Shale	278	312	
Clinton Sand	312	394	
Shale	394	398	
Red rock	398	440	
shale	440	1,228	
Trenton Limestone	1,228	1,924	*show of gas
Gull River Formation	1,924	1,935	
Glenwood Formation	1,935	1,939	
Trempealeau Formation	1,939	1,958	*Show of salt water/sandy @ 1,951’
Total Depth		1,958	

Casing data for the API 34-063-2-0147-0000 show the following data:

- 10-inch diameter casing at 41 feet
- 8.63-inch casing at 400 feet

For the purposes of this Scope of Work it is assumed that the Randy Boes #1 was drilled to a total depth of 1,300 feet in the Trenton Formation, and is equipped 40 feet of 8.63-inch diameter casing.

The deepest underground source of drinking water (USDW) is mapped at the base of the Lockport Dolomite. The depth to the base of this formation in this area is expected to be encountered at approximately 400 to 500 feet below ground surface. Based on published groundwater resources information for the northeastern side of Hancock County, limestone/dolomite aquifers may yield as much as 25 to 100 gallons per minute at depths of less than 200 feet, and glacial deposits are more than 55 feet thick and may also supply domestic water. Water wells in the area range in depth from 50 feet to 130 feet. According to the Division of Geological Survey, there are no wells within the area of review. The work zone does not fall within any source water protection areas and there are no surface mines within the area of review.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize State Route 613 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

PLUGGING PLAN

This Plugging Plan is for:

Randy Boes #1, API #34-063-6-7316-00-00, Hancock County, Allen Township

For the purposes of this Scope of Work it is assumed that the Randy Boes #1 was drilled to a total depth of 1,300 feet in the Trenton Formation, and is equipped 40 feet of 8.63-inch diameter casing.

1) The Contractor shall visually examine the existing 8-inch casing liner to evaluate its condition immediately below grade. If the casing(s) is found to be severely degraded, the Contractor will remove the incompetent section of casing and install enough new casing, of similar diameter, to bring the top of the existing casing to a suitable working height.

2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.

3) The Contractor shall install an appropriate wellhead and an approved method of well control on the existing 8-inch diameter casing to insure there is control of any natural gas and/or fluids generated by the well. The Contractor shall maintain a minimum of 100 barrels of freshwater on location for use as well control fluid.

4) The Contractor will clean out the hole to its total depth of 1,300 feet or a depth approved by the Division.

5) Once total depth has been reached, the Contractor will load the hole with freshwater and run Gamma Ray, CCL, and Bond logs to verify the depth of the 8-inch diameter casing, any additional casings and lithology for cementing purposes.

6) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using Class A cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.

7) The Contractor will set a 450-foot bottom plug from 1300 feet to 850 feet, to cover the Trenton Formation, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

8) The Contractor will set a 400-foot plug from 850 feet to 450 feet, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

9) The Contractor will then set a cement plug from 450 feet to within forty-eight (48) inches of ground level, wait on cement/grout a minimum of 4 hours and top off with additional cement/grout, if necessary.

10) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of forty-eight (48) inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

WELL DESCRIPTION

This Well Description is for:

Marvin Kelbley #1, API #34-063-6-7333-00-00, Hancock County, Washington Township

Background: The Marvin Kelbley #1 is located approximately 16 miles northeast of the City of Findlay and is situated on a 16.969-acre parcel (#510001029201), which is owned by Marvin Kelbley. The address is 0 State Route 613.

Division inspection of the Marvin Kelbley #1 found the well idle and abandoned and visibly equipped with 8-inch drive pipe that extends 30 inches above grade with the top peeled back and 6-inch casing inside the 8-inch casing with cement in the annulus at the surface. The top of the 6-inch casing is equipped with a gas escape cap, which has two tubing ports. One port has a plug and the other has 2-inch tubing which extends upward to a broken gate valve. Above the valve is a 90-degree elbow to another 2 inch nipple that is open to the atmosphere. A set of regulators, a drip tank, and miscellaneous oilfield equipment are located adjacent to the wellhead. This equipment is no longer hooked up to the well and will need removed from the site..

There are no well records for the Marvin Kelbley #1; however, offset well records for API 34-063-2-0147-0000, located approximately 1.5 miles to the southeast, state the well was drilled in 1965 to a total depth of 1,958 feet in the Trempealeau formation. The well was also plugged in 1965 after it was determined to be a dry hole.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Soil and silt	0	41	
Big Lime	41	278	*Fresh water @ 45’
Shale	278	312	
Clinton Sand	312	394	
Shale	394	398	
Red rock	398	440	
shale	440	1,228	
Trenton Limestone	1,228	1,924	*show of gas
Gull River Formation	1,924	1,935	
Glenwood Formation	1,935	1,939	
Trempealeau Formation	1,939	1,958	*Show of salt water/sandy @ 1,951’
Total Depth		1,958	

Casing data for the API 34-063-2-0147-0000 show the following data:

- 10-inch diameter casing at 41 feet
- 8.63-inch casing at 400 feet

For the purposes of this Scope of Work it is assumed that the Marvin Kelbley #1 was drilled to a total depth of 1,250 feet in the Trenton Formation, and is equipped 80 feet of 8.63-inch diameter casing, 400 feet of 6-inch diameter casing, an unknown amount of 2.38-inch tubing on a packer.

The deepest underground source of drinking water (USDW) is mapped at the base of the Lockport Dolomite. The depth to the base of this formation in this area is expected to be encountered at approximately 400 to 500 feet below ground surface. Based on published groundwater resources information for the northeastern side of Hancock County, limestone/dolomite aquifers may yield as much as 25 to 100 gallons per minute at depths of less than 200 feet, and glacial deposits are more than 55 feet thick and may also supply domestic water. Water wells in the area range in depth from 60 feet to 140 feet. According to the Division of Geological Survey, there are three documented water wells within the reviewed area that range between 50 and 65 feet deep. The work zone does not fall within any source water protection areas and there are no surface mines within the area of review.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize State Route 613 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

PLUGGING PLAN

This Plugging Plan is for:

Marvin Kelbley #1, API #34-063-6-7333-00-00, Hancock County, Washington Township

For the purposes of this Scope of Work it is assumed that the Marvin Kelbley #1 was drilled to a total depth of 1,250 feet in the Trenton Formation, and is equipped 80 feet of 8.63-inch diameter casing, 400 feet of 6-inch diameter casing, an unknown amount of 2.38-inch tubing on a packer.

1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.

2) The Contractor shall visually examine the existing 6-inch casing, and 8-inch casing to evaluate its condition immediately below grade. If the casing(s) is found to be severely degraded, the Contractor will remove the incompetent section of casing and install enough new casing, of similar diameter, to bring the top of the existing casing to a suitable working height.

3) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.

4) The Contractor shall install an appropriate wellhead and an approved method of well control on the existing 6-inch diameter casing to insure there is control of any natural gas and/or fluids generated by the well. The Contractor shall maintain a minimum of 100 barrels of freshwater on location for use as well control fluid.

5) The Contractor will remove the 2.38-inch tubing and stage it on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of casing retrieved from the wellbore.

6) The Contractor shall run their tools into the existing 6-inch diameter casing to ensure it is open and cleanout the well to the estimated total depth of 1,250 feet.

7) Once total depth has been reached, the Contractor will load the hole with freshwater and run Gamma Ray, CCL, and Bond logs to verify the depth of the 6-inch diameter casing, the free point behind this casing, and lithology for cementing purposes.

8) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using Class A cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.

9) The Contractor will set a 350-foot bottom plug from 1,250 feet to 900 feet, to cover the Trenton Formation, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

10) The Contractor will set a 500-foot plug from 900 feet to 400 feet, to cover the bottom of the surface casing, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

11) The Contractor will then set a cement plug from 400 feet to within forty-eight (48) inches of ground level, wait on cement/grout a minimum of 4 hours and top off with additional cement/grout, if necessary.

12) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of forty-eight (48) inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

WELL DESCRIPTION

This Well Description is for:

Richard and Karen Wasson #1, API #34-063-6-2053-00-00, Hancock County, Allen Township

Background: The Wasson #1 is located approximately 15 miles northeast of the City of Findlay and is situated on an 80-acre parcel (#140000029690), which is owned by Richard and Karen Wasson. The address is 16352 Township Road 267.

In 2013, notification was received from Emergency Response Coordinator, Mr. Dave Schilt with Ohio EPA that this well had released crude oil in a field onto the ground surface. Division inspection of the Wasson #1 found the well idle and abandoned and visibly equipped with 8.25-inch diameter casing and 6-inch diameter casing. There was a 5'x5' area around the well that contained old and new crude oil-stained ground with no offsite impact. The well was not equipped to prevent the escape the fluids and natural gas. Both casings were corroded and situated 2 feet above ground level. Inside the 6-inch casing, fluid was at the top of casing with no less than 6 inches of crude oil and intermittent gas bubbling. Near the well location and covered within vegetation, a joint of 6-inch casing was observed with a threaded cap, nipple with a plug, and a collar on the opposite end.

There are no well records for the Wasson #1 and offset records for wells in this area lack detail; however, they were drilled to the Trenton Limestone. Based on the few wells in the area with recorded depths, the Trenton is between 1,150 and 1,400 feet deep. Offset well records for API 34-063-2-0272-0000, located approximately 1 mile to the southwest, recorded the Trenton Limestone from 1,107 to 1,175 feet. This well was drilled in 1983 and plugged in 1992.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Big Lime	0	385	
Packer Shell	555	575	
Clinton Sandstone	600	700	
Trenton Limestone	1,107	1,175	
Black River	1175		
Trempealeau	1,912	1,944	
Total Depth		2,016	

Casing data for the API 34-063-2-0272-0000 show the following data:

- 7-inch diameter casing at 388 feet
- 4.5-inch casing at 2,016 feet

For the purposes of this Scope of Work it is assumed that the Wasson #1 was drilled to a total depth of 1,200 feet in the Trenton Formation, and is equipped 40 feet of 8.25-inch diameter casing and 400 feet of 6-inch diameter casing.

The deepest underground source of drinking water (USDW) is mapped at the base of the Lockport Dolomite. The depth to the base of this formation in this area is expected to be encountered at approximately 400 to 500 feet below ground surface. Based on published groundwater resources information for the northeastern side of Hancock County, limestone/dolomite aquifers may yield as much as 25 to 100 gallons per minute at depths of less than 200 feet, and glacial deposits are more than 55 feet thick and may also supply domestic water. Water wells in the area range in depth from 70 feet to 110 feet. There are no water wells within the area of review. The work zone does not fall within any source water protection areas and there are no surface mines within the area of review.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize County Road 216 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

PLUGGING PLAN

This Plugging Plan is for:

Richard and Karen Wasson #1, API #34-063-6-2053-00-00, Hancock County, Allen Township

For the purposes of this Scope of Work it is assumed that the Wasson #1 was drilled to a total depth of 1,200 feet in the Trenton Formation, and is equipped 40 feet of 8.25-inch diameter casing and 400 feet of 6-inch diameter casing.

1) The Contractor shall visually examine the existing 6-inch casing and 8.25-inch casing to evaluate its condition immediately below grade. If the casing(s) is found to be severely degraded, the Contractor will remove the incompetent section of casing and install enough new casing, of similar diameter, to bring the top of the existing casing to a suitable working height.

2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.

3) The Contractor shall install an appropriate wellhead and an approved method of well control on the existing 8.25-inch diameter casing to insure there is control of any natural gas and/or fluids generated by the well. The Contractor shall maintain a minimum of 100 barrels of freshwater on location for use as well control fluid.

4) The Contractor will clean out the well to its anticipated total depth of 1,200 feet or a depth approved by the Division.

5) Once total depth has been reached, the Contractor will load the hole with freshwater and run Gamma Ray, CCL, and Bond logs to verify the depth of the 6-inch diameter casing, the free point behind this casing, and lithology for cementing purposes.

6) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using Class A cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.

7) The Contractor will set a 350-foot bottom plug from 1,200 feet to 850 feet, to cover the Trenton Formation, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

8) The Contractor will set a 500-foot plug from 850 feet to 350 feet, to cover the bottom of the surface casing and liner, wait on cement a minimum of eight (8) hours and then run their tools into the hole to

verify the depth to the top of the plug. If the plug level has dropped or it is determined that competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

9) The Contractor will then set a cement plug from 350 feet to within forty-eight (48) inches of ground level, wait on cement/grout a minimum of 4 hours and top off with additional cement/grout, if necessary.

10) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of forty-eight (48) inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

WELL DESCRIPTION

This Well Description is for:

Peters #1, API #34-063-6-2163-00-00, Hancock County, Allen Township

Background: The Peters #1 is located approximately 7 miles northeast of the City of Findlay and is situated on a 21.098-acre parcel (#150000031190), which is owned by Carolyn Peters. The address is 0 County Road 216.

Division inspection of the Peters #1 found the well idle and abandoned and visibly equipped with 8.63-inch diameter casing, 3.5-inch casing, and 2.38-inch tubing on a hanger. There is cement in the annular space between the 8.63-inch and 3.5-inch casings. The 2.38-inch tubing is on a clamp inside the 3.5-inch and is equipped with a 90° elbow with a plug. The well is leaking trace amounts of gas.

There are no well records for the Peters #1 and offset records for wells in this area lack detail; however, they were drilled to the Trenton Limestone. Based on the few wells in the area with recorded depths, the Trenton is between 1,150 and 1,400 feet deep. Offset well records for API 34-063-6-0237-0000, located approximately 2 miles to the southwest, recorded the Trenton Limestone from 1,170 to 1,413 feet. This well was drilled in 1930 and plugged in 1952.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Trenton Limestone	1,170	1,413	*small show of oil
Total Depth		1,413	

Casing data for the API 34-063-6-0237-0000 show the following data:

- 8-inch diameter casing at 80.5 feet
- 6.25-inch casing at 361 feet
- 4.5-inch diameter casing at 339 feet

For the purposes of this Scope of Work it is assumed that the Peters #1 was drilled to a total depth of 1,300 feet in the Trenton Formation, and is equipped 80 feet of 8.63-inch diameter casing, 370 feet of 6-inch diameter casing, an unknown amount of 3.5-inch casing and an unknown amount of 2.38-inch tubing on a casing hanger.

The deepest underground source of drinking water (USDW) is mapped at the base of the Lockport Dolomite. The depth to the base of this formation in this area is expected to be encountered at approximately 400 to 500 feet below ground surface. Based on published groundwater resources information for the northeastern side of Hancock County, limestone/dolomite aquifers may yield as much as 25 to 100 gallons per minute at depths of less than 200 feet, and glacial deposits are more than 55 feet thick and may also supply domestic water. Water wells in the area range in depth from 70 feet to 110 feet. There are no water wells within the area of review. The

work zone does not fall within any source water protection areas and there are no surface mines within the area of review.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize County Road 216 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

PLUGGING PLAN

This Plugging Plan is for:

Peters #1, API #34-063-6-2163-00-00, Hancock County, Allen Township

For the purposes of this Scope of Work it is assumed that the Peters #1 was drilled to a total depth of 1,300 feet in the Trenton Formation, and is equipped 80 feet of 8.63-inch diameter casing, 370 feet of 6-inch diameter casing, an unknown amount of 3.5-inch casing and an unknown amount of 2.38-inch tubing on a casing hanger.

1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.

2) The Contractor shall visually examine the existing 3.5-inch casing, 6-inch casing, and 8-inch casing to evaluate its condition immediately below grade. If the casing(s) is found to be severely degraded, the Contractor will remove the incompetent section of casing and install enough new casing, of similar diameter, to bring the top of the existing casing to a suitable working height.

3) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.

4) The Contractor shall install an appropriate wellhead and an approved method of well control on the existing 3.5-inch diameter casing to insure there is control of any natural gas and/or fluids generated by the well. The Contractor shall maintain a minimum of 100 barrels of freshwater on location for use as well control fluid.

5) The Contractor will remove the 2.38-inch tubing and stage it on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of casing retrieved from the wellbore.

6) The Contractor shall run their tools into the existing 3.5-inch diameter casing to ensure it is open and cleanout the well to the estimated total depth at 1,300 feet.

7) Once total depth has been reached, the Contractor will load the hole with freshwater and run Gamma Ray, CCL, and Bond logs to verify the depth of the 3.5-inch diameter casing, the free point behind this casing, and lithology for cementing purposes.

8) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using Class A cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.

9) The Contractor will set a 350-foot bottom plug from 1300 feet to 950 feet, to cover the Trenton Formation, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

10) The Contractor will then shoot the 3.5-inch diameter casing at its lowest free point, remove it from the wellbore, and stage any casing removed on a bermed liner for further evaluation. The Contractor will provide the Division with an accurate tally of the amount of casing removed from the wellbore.

11) The Contractor will set a 500-foot plug from 950 feet to 450 feet, to cover the bottom of the surface casing and liner, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

12) The Contractor will then set a cement plug from 450 feet to within forty-eight (48) inches of ground level, wait on cement/grout a minimum of 4 hours and top off with additional cement/grout, if necessary.

13) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of forty-eight (48) inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

WELL DESCRIPTION

This Well Description is for:

Wueste #1, API #34-063-6-2163-00-00, Hancock County, Allen Township

Background: The Wueste #1 is located approximately 7 miles northeast of the City of Findlay and is situated on a 21.098-acre parcel (#150000031190), which is owned by Carolyn Wueste. The address is 0 County Road 216.

Division inspections show the well is equipped with 10-inch casing and 6-inch casing both at six inches above ground level. The casings were both deteriorated and full of dirt and debris. There was no evidence of oil or gas leaking in the casing or the surrounding area.

There are no well records for the Wueste #1 and offset records for wells in this area lack detail; however, they were drilled to the Trenton Limestone. Based on the few wells in the area with recorded depths, the Trenton is between 1,150 and 1,400 feet deep. Offset well records for API 34-063-6-0237-0000, located approximately 2 miles to the southwest, recorded the Trenton Limestone from 1,170 to 1,413 feet. This well was drilled in 1930 and plugged in 1952.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Trenton Limestone	1,170	1,413	*small show of oil
Total Depth		1,413	

Casing data for the API 34-063-6-0237-0000 show the following data:

- 8-inch diameter casing at 80.5 feet
- 6.25-inch casing at 361 feet
- 4.5-inch diameter casing at 339 feet

For the purposes of this Scope of Work it is assumed that the Wueste #1 was drilled to a total depth of 1,300 feet in the Trenton Formation, and is equipped 80 feet of 10-inch diameter casing and 370 feet of 6-inch diameter casing.

The deepest underground source of drinking water (USDW) is mapped at the base of the Lockport Dolomite. The depth to the base of this formation in this area is expected to be encountered at approximately 400 to 500 feet below ground surface. Based on published groundwater resources information for the northeastern side of Hancock County, limestone/dolomite aquifers may yield as much as 25 to 100 gallons per minute at depths of less than 200 feet, and glacial deposits are more than 55 feet thick and may also supply domestic water. Water wells in the area range in depth from 70 feet to 110 feet. There are no water wells within the area of review. The work zone does not fall within any source water protection areas and there are no surface mines within the area of review.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize County Road 216 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

PLUGGING PLAN

This Plugging Plan is for:

Wueste #1, API #34-063-6-2163-00-00, Hancock County, Allen Township

For the purposes of this Scope of Work it is assumed that the Wueste #1 was drilled to a total depth of 1,300 feet in the Trenton Formation, and is equipped 80 feet of 10-inch diameter casing and 370 feet of 6-inch diameter casing.

1) The Contractor shall visually examine the existing 10-inch casing, and 6-inch casing to evaluate its condition immediately below grade. If the casing(s) is found to be severely degraded, the Contractor will remove the incompetent section of casing and install enough new casing, of similar diameter, to bring the top of the existing casing to a suitable working height.

2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.

3) The Contractor shall install an appropriate wellhead and an approved method of well control on the existing 6-inch diameter casing to insure there is control of any natural gas and/or fluids generated by the well. The Contractor shall maintain a minimum of 100 barrels of freshwater on location for use as well control fluid.

4) The Contractor will clean out the well to its anticipated total depth of 1,300 feet or a depth approved by the Division.

5) Once total depth has been reached, the Contractor will load the hole with freshwater and run Gamma Ray, CCL, and Bond logs to verify the depth of the 6-inch diameter casing, the free point behind this casing, and lithology for cementing purposes.

6) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using Class A cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.

7) The Contractor will set a 350-foot bottom plug from 1300 feet to 950 feet, to cover the Trenton Formation, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

8) The Contractor will set a 500-foot plug from 950 feet to 450 feet, to cover up to the bottom of the surface casing and liner, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that

competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

9) The Contractor will then set a cement plug from 450 feet to within forty-eight (48) inches of ground level, wait on cement/grout a minimum of 4 hours and top off with additional cement/grout, if necessary.

10) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of forty-eight (48) inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

WELL DESCRIPTION

This Well Description is for:

Recker #1, API #34-063-6-7347-00-00, Hancock County, Allen Township

Background: The Recker #1 is located approximately 6 miles northeast of the City of Findlay and is situated on a 21.76-acre parcel (#020001031564), which is owned by Thomas Recker Trust. The address is 13670 County Road 216.

Division inspection of the Recker #1 found the well idle and abandoned and visibly equipped with 8-inch diameter casing, 6-inch diameter, 4.5-inch diameter casing, and 3.5-inch casing on a hanger. The 3.5-inch casing is equipped with a 2-inch reducing swage and a T-joint that is connected to a flowline which runs underground to a drip tank. There is a one-inch gas line running northwest under the road to the home across the street, but the well is not in production.

There are no well records for the Recker #1 and offset records for wells in this area lack detail; however, they were drilled to the Trenton Limestone. Based on the few wells in the area with recorded depths, the Trenton is between 1,150 and 1,400 feet deep. Offset well records for API 34-063-6-0237-0000, located approximately 2 miles to the southwest, recorded the Trenton Limestone from 1,170 to 1,413 feet. This well was drilled in 1930 and plugged in 1952.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Trenton Limestone	1,170	1,413	*small show of oil
Total Depth		1,413	

Casing data for the API 34-063-6-0237-0000 show the following data:

- 8-inch diameter casing at 80.5 feet
- 6.25-inch casing at 361 feet
- 4.5-inch diameter casing at 339 feet

For the purposes of this Scope of Work it is assumed that the Recker #1 was drilled to a total depth of 1,300 feet in the Trenton Formation, and is equipped 80 feet of 8-inch diameter casing, 370 feet of 6-inch diameter casing, 350 feet of 4.5-inch diameter casing liner, and an unknown amount of 3.5-inch diameter casing.

The deepest underground source of drinking water (USDW) is mapped at the base of the Lockport Dolomite. The depth to the base of this formation in this area is expected to be encountered at approximately 400 to 500 feet below ground surface. Based on published groundwater resources information for the northeastern side of Hancock County, limestone/dolomite aquifers may yield as much as 25 to 100 gallons per minute at depths of less than 200 feet, and glacial deposits are more than 55 feet thick and may also supply domestic water. Water

wells in the area range in depth from 70 feet to 110 feet. Water well #2044290 which is located on the property of the Recker #1, was drilled in 2013 to a total depth of 70 feet and encountered water at 70 feet and drilled deeper in 2016 to a depth of 108 feet. Water was encountered at 75 feet and 108 feet. The static water level was 28-30 feet below ground surface. The work zone does not fall within any source water protection areas and there are no surface mines within the area of review.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize County Road 216 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

PLUGGING PLAN

This Plugging Plan is for:

Recker #1, API #34-063-6-7347-00-00, Hancock County, Allen Township

For the purposes of this Scope of Work it is assumed that the Recker #1 was drilled to a total depth of 1,300 feet in the Trenton Formation, and is equipped 80 feet of 8.63-inch diameter casing, 370 feet of 6-inch diameter casing, 350 feet of 4.5-inch diameter casing liner, and an unknown amount of 3.5-inch diameter casing.

1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.

2) The Contractor shall visually examine the existing 3.5-inch casing, 4.5-inch casing, 6-inch casing, and 8-inch casing to evaluate its condition immediately below grade. If the casing(s) is found to be severely degraded, the Contractor will remove the incompetent section of casing and install enough new casing, of similar diameter, to bring the top of the existing casing to a suitable working height.

3) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.

4) The Contractor shall install an appropriate wellhead and an approved method of well control on the existing 3.5-inch diameter casing to insure there is control of any natural gas and/or fluids generated by the well. The Contractor shall maintain a minimum of 100 barrels of freshwater on location for use as well control fluid.

5) The Contractor will clean out the hole to its total depth of 1,300 feet or a depth approved by the Division.

6) Once total depth has been reached, the Contractor will load the hole with freshwater and run Gamma Ray, CCL, and Bond logs to verify the depth of the 6-inch diameter casing, the 3.5-inch and 4.5-inch diameter casing, the free point behind this casing, and lithology for cementing purposes.

7) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using Class A cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.

8) The Contractor will set a 350-foot bottom plug from 1300 feet to 950 feet, to cover the Trenton Formation, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a

competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

9) The Contractor will then remove the 3.5-inch diameter casing and stage it on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of casing retrieved from the wellbore.

10) The Contractor will then shoot the 4.5-inch diameter casing at its lowest free point, remove it from the wellbore, and stage any casing removed on a bermed liner for further evaluation. The Contractor will provide the Division with an accurate tally of the amount of casing removed from the wellbore.

11) The Contractor will set a 500-foot plug from 950 feet to 450 feet, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

12) The Contractor will then set a cement plug from 450 feet to within forty-eight (48) inches of ground level, wait on cement/grout a minimum of 4 hours and top off with additional cement/grout, if necessary.

13) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of forty-eight (48) inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

WELL DESCRIPTION

This Well Description is for:

Darnall #1, API #34-063-6-0597-00-00, Hancock County, Allen Township
Darnall #2, API #34-063-6-0599-00-00, Hancock County, Allen Township

Background: The Darnall #1 and #2 are located approximately 3 miles northeast of the City of Findlay and is situated on a 2.4-acre parcel (#020001021861), which is owned by Elijah and Emily Darnall. The address is 3631 Wanda Way.

Darnall #1: Upon excavation of the Darnall #1, the well was found idle and abandoned and visibly equipped with 6-inch diameter casing and 4.5-inch diameter casing liner with mud and debris packed inside these casings.

Darnall #2: Upon excavation of the Darnall #2, the well was found idle and abandoned and visibly equipped with 6-inch diameter casing with mud and debris packed inside the casing.

There are no well records for the Darnall #1 and the Darnall #2 and offset records for wells in this area lack detail; however, they were drilled to the Trenton Limestone. Based on the few wells in the area with recorded depths, the Trenton is between 1,150 and 1,400 feet deep. Offset well records for API 34-063-6-0237-0000, located approximately 1.17 miles to the southwest, recorded the Trenton Limestone from 1,170 to 1,413 feet. This well was drilled in 1930 and plugged in 1952.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Trenton Limestone	1,170	1,413	*small show of oil
Total Depth		1,413	

Casing data for the API 34-063-6-0237-0000 show the following data:

- 8-inch diameter casing at 80.5 feet
- 6.25-inch casing at 361 feet
- 4.5-inch diameter casing at 339 feet

For the purposes of this Scope of Work it is assumed that the Darnall #1 was drilled to a total depth of 1,400 feet in the Trenton Formation, and is equipped with 400 feet of 6-inch diameter casing and 350 feet of 4.5-inch diameter casing liner.

For the purposes of this Scope of Work it is assumed that the Darnall #2 was drilled to a total depth of 1,400 feet in the Trenton Formation, and is equipped with 400 feet of 6-inch diameter casing.

The deepest underground source of drinking water (USDW) is mapped at the base of the Lockport Dolomite. The depth to the base of this formation in this area is expected to be encountered at approximately 400 to 500 feet below ground surface. Based on published groundwater resources information for the northeastern side of Hancock County, limestone/dolomite aquifers may yield as much as 25 to 100 gallons per minute at depths of less than 200 feet, and glacial deposits are more than 55 feet thick and may also supply domestic water. Water wells in the area range in depth from 70 feet to 180 feet. Water well #997838 which is located on the property of the Darnall #1 and #2, was drilled in 2006 to a total depth of 73 feet and encountered water at 70 feet and a "gas pocket" at 30 feet. The static water level was 31 feet below ground surface. There are several other wells within or near the area of concern. The work zone does not fall within any source water protection areas and there are no surface mines within the area of review.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize Township Road 108 and Wand Way to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

PLUGGING PLAN

This Plugging Plan is for:

Darnall #1, API #34-063-6-0597-00-00, Hancock County, Allen Township

For the purposes of this Scope of Work it is assumed that the Darnall #1 was drilled to a total depth of 1,400 feet in the Trenton Formation, and is equipped with 400 feet of 6-inch diameter casing and 350 feet of 4.5-inch diameter casing liner.

1) The Contractor shall visually examine the existing 6-inch casing and 4.5-inch casing liner to evaluate its condition immediately below grade. If the casing(s) is found to be severely degraded, the Contractor will remove the incompetent section of casing and install enough new casing, of similar diameter, to bring the top of the existing casing to a suitable working height.

2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.

3) The Contractor shall install an appropriate wellhead and an approved method of well control on the existing 6-inch diameter casing to insure there is control of any natural gas and/or fluids generated by the well. The Contractor shall maintain a minimum of 100 barrels of freshwater on location for use as well control fluid.

4) The Contractor will clean out the hole to its total depth of 1,400 feet or a depth approved by the Division.

5) Once total depth has been reached, the Contractor will load the hole with freshwater and run Gamma Ray, CCL, and Bond logs to verify the depth of the 6-inch diameter casing, the 4.5-inch diameter casing, the free point behind this casing, and lithology for cementing purposes.

6) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using Class A cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.

7) The Contractor will set a 450-foot bottom plug from 1400 feet to 950 feet, to cover the Trenton Formation, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

8) The Contractor will then shoot the 4.5-inch diameter casing at its lowest free point, remove it from the wellbore, and stage any casing removed on a bermed liner for further evaluation. The Contractor will provide the Division with an accurate tally of the amount of casing removed from the wellbore.

9) The Contractor will set a 400-foot plug from 950 feet to 550 feet, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

10) The Contractor will set a 250-foot plug from 550 feet to 300 feet, to cover the bottom of the surface casing and liner, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

11) The Contractor will then set a cement plug from 300 feet to within forty-eight (48) inches of ground level, wait on cement/grout a minimum of 4 hours and top off with additional cement/grout, if necessary.

12) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of forty-eight (48) inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

PLUGGING PLAN

This Plugging Plan is for:

Darnall #2, API #34-063-6-0599-00-00, Hancock County, Allen Township

For the purposes of this Scope of Work it is assumed that the Darnall #2 was drilled to a total depth of 1,400 feet in the Trenton Formation, and is equipped with 400 feet of 6-inch diameter casing.

1) The Contractor shall visually examine the existing 6-inch casing to evaluate its condition immediately below grade. If the casing(s) is found to be severely degraded, the Contractor will remove the incompetent section of casing and install enough new casing, of similar diameter, to bring the top of the existing casing to a suitable working height.

2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.

3) The Contractor shall install an appropriate wellhead and an approved method of well control on the existing 6-inch diameter casing to insure there is control of any natural gas and/or fluids generated by the well. The Contractor shall maintain a minimum of 100 barrels of freshwater on location for use as well control fluid.

4) The Contractor will clean out the hole to its total depth of 1,400 feet or a depth approved by the Division.

5) Once total depth has been reached, the Contractor will load the hole with freshwater and run Gamma Ray, CCL, and Bond logs to verify the depth of the 6-inch diameter casing, the cement bond behind this casing, and lithology for cementing purposes.

6) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using Class A cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.

7) The Contractor will set a 450-foot bottom plug from 1400 feet to 950 feet, to cover the Trenton Formation, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

8) The Contractor will set a 400-foot plug from 950 feet to 550 feet, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that a competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

9) The Contractor will set a 250-foot plug from 550 feet to 300 feet, to cover the bottom of the surface casing, wait on cement a minimum of eight (8) hours and then run their tools into the hole to verify the depth to the top of the plug. If the plug level has dropped or it is determined that competent plug has not been achieved, additional plugs may be requested at the discretion of the Division.

10) The Contractor will then set a cement plug from 300 feet to within forty-eight (48) inches of ground level, wait on cement/grout a minimum of 4 hours and top off with additional cement/grout, if necessary.

11) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of forty-eight (48) inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

DETAILED SPECIFICATIONS

The Contractor is reminded to review the Scope of Work documents carefully. Coordination, permission or direction of the Division may be required for use of individual Detailed Specification line items. The Division shall only pay for quantities of items that are correctly installed and completed in accordance to the Detailed Specifications and Drawing Plan Set. The Division shall not guarantee payment of any work completed without or prior to following the conditions described herein of each line item.

MOBILIZATION

A. Description: This work shall consist of the development of access and the mobilization of the Contractor's forces and equipment necessary for performing the required work under the Scope of Work for the well site.

This item shall include the transportation of personnel, equipment, and supplies to and from each site as well as the maintenance of all onsite access roads. As part of this line item, the Contractor shall also be responsible for cleaning mud and dirt associated with construction from all roadway surfaces (public and private) for the duration of the Project.

This item shall also include any maintenance of traffic required within the road right-of-way per Part 7 of the General Specifications.

B. Execution: No additional compensation shall be made to the Contractor for remobilization after his equipment has been removed from the site. If applicable, this shall include remobilization of equipment if removed due to winterization of the project.

Any damage to the road, drives, and/or culverts caused by the mobilization shall be repaired by the Contractor at the Contractor's expense. All repairs shall be done equal to or better to that which existed prior to construction activities.

Crop/Vegetation removal shall be considered incidental to **"Mobilization"**.

C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division. **Mobilization of equipment between wells shall be considered incidental to this line item for wells using a common entrance.**

D. Payment: The cost of this work shall be included in the lump sum price for **"Mobilization."**

CLEARING & GRUBBING

A. Description: This item covers the **removal of the large maple tree at the Recker #1** in order to provide adequate space to maneuver equipment to complete the proposed work at each well.

B. Execution: **At no point shall any trees be removed from this property without authorization**

from the Division.

If the Contractor clears and/or grubs beyond the construction work limits, whether knowingly or accidentally, the Contractor shall replant and/or otherwise restore all areas outside of the limits to a condition equal to or better than what existed prior to beginning work. This shall be no at no additional expense to the Division.

All stumps shall be grubbed, and holes graded out for positive drainage. Approved resoil shall be used if the area can't be properly graded.

All removed materials shall be hauled off site. Proper disposal is the Contractor's responsibility. If necessary, logs/vegetation shall be hauled to an authorized OEPA landfill.

Burning of debris materials shall not be permitted on-site.

C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division. This measurement shall be for the entire project as one unit.

D. Payment: Payment shall be made at the contract lump sum price per **"Clearing & Grubbing."**

TRAFFIC MAINTENANCE

A. Description: This work shall consist of all labor and materials needed to protect the work area traffic during construction. This work shall also include, but not be limited to, warning signs, and barricades.

The Contractor shall notify the Division and the local municipalities a minimum of 7 calendar days prior to installing traffic controls.

B. Traffic Control

General: The installation, maintenance, and operation of all traffic controls and traffic control devices shall conform to the requirements of the "Ohio Manual of Uniform Traffic Control Devices for Streets and Highways," hereinafter called The Ohio Manual. Traffic control devices shall be provided with suitable supports of sufficient strength and stability.

1. Traffic Signage: The faces of construction signs, barricades, vertical panels and drum bands shall be reflectorized with Type G sheeting. The signs shall be placed at adequate distances from the construction road crossing area to sufficiently warn motorists and provide ample stopping distances. Traffic cones shall be a highly visible orange color.

   Channelizing devices such as barricades, drums, vertical panels and cones shall be protected by adequate advance warning construction signs.

   If equipment, vehicles, and material are stored or parked on highway rights of way, they shall be located behind existing guardrail or not less than thirty (30) feet beyond the traveled way unless otherwise permitted by the Division. This shall not include equipment, vehicles, and materials within the closed portion of the roadway. At night, the edges of the work area shall be clearly outlined with dependable lighted devices that are approved by the Division and all

lanes shall be fully open. In addition, the Contractor shall provide any other lights, barricades, etc., that may be needed for the protection of pedestrian traffic.

2. Road/Lane Barriers: This shall include four (4) long concrete traffic barriers and a minimum of three (3) feet tall channelizing devises to the extents shown on the Drawing Plan Set. Signage shall be placed per MOUTC standards.

   As shown on the Drawing Plan Set, the Contractor shall provide, erect, maintain and subsequently remove approved traffic control devices, barricades, and suitable and sufficient signage at the following locations: (1) work limits of the project, (2) prior intersecting roads, or (3) any other points designated in the contract.

   Subject to the Division's approval, the Contractor may use traffic control devices in used but good condition. Used equipment shall be reconditioned as necessary to assure a proper operation. Temporary traffic signal operation shall be subject to the approval of the Division and shall meet the requirements of the Ohio Manual.

C. Performance: If, in the opinion of the Division, proper maintenance of traffic facilities and proper provisions for traffic control are not being provided by the Contractor, the Division may take the necessary steps to place them in proper condition, and the cost of such services shall be deducted from any money which may be due or become due the Contractor.

D. Basis of Payment: Payment for maintaining traffic as detailed above including: the road closure to include but not be limited to, the furnishing, installation, maintenance, and removal of temporary signage, barricades, cones, and the furnishing and installation of permanent traffic signage, shall be made at the contract lump sum price bid per **"Traffic Maintenance."**

SITE SAFETY

A. Description: The work will include the installation and implementation of safety procedures for the plugging of the orphan well as described herein.

B. Definitions & Installation: It is the Contractor's responsibility to properly maintain all of the latter mentioned throughout the duration of the project. Any damages shall be repaired or replaced at no additional cost to the Division. Site safety measures shall be removed prior to the demobilization of the Contractor's workforces.

Any release of materials into or onto the ground or surface waters outside of the primary and/or secondary containment shall follow the Ohio One-Call System as described in Appendix I, "One Call". The Ohio One-Call System shall be contacted at 1-844-OHCALL1 within 30-minutes of becoming aware of the occurrence.

1. Notification: Due to the close proximity of the wells to residences, buildings and the potential safety issues involved with the plugging procedure, the contractor or contractor's representative will contact the residents two weeks prior to the commencement of plugging activities to notify them of the potential safety issues.

2. Temporary Construction Fence & Posts: The temporary construction fencing shall be composite, orange mesh with a minimum overall height of four (4) feet. Fence posts are to be steel five (5) feet t-posts. Fence materials shall meet the 2019 ODOT Construction and Materials Specifications (CMS) Item 710.11.

The posts shall be driven or set in holes to a minimum depth of one (1) foot and at intervals not to exceed ten (10) feet. The fence shall be stretched and securely fastened to each post using metal or plastic ties.

Fencing shall be placed around the work area immediately surrounding the well head. The Contractor shall work in conjunction with the Division for placement of the temporary fence. All fence shall be removed at the completion of the project.

3. Air Movers (Industrial Fans): The Contractor will also be required to have onsite industrial fans or air movers in the event natural gas is detected and found to be settling at ground level and not properly dissipating from the site.

4. Temporary Shut-In: The Contractor will shut-in the well each night after the plugging operations have ceased, unless otherwise instructed by the Division. The Contractor will continue this process until the plugging operations are complete and there are no further signs of a gas release.

5. Emergency Response Plan: The Contractor will assemble an Emergency Response Plan (ERP) with all contact information, emergency preventative measures, and for any well-related issues that may occur. The Contractor will be responsible for maintaining this ERP on site during the plugging operations. Ingress/Egress for evacuation and/or public safety will be discussed in the safety meeting to be held on location by the Contractor with local responders and Division personnel. These routes will be listed in the ERP. The Division will review with the Contractor prior to the start of plugging operations.

C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division.

D. Payment: Payment for this work, including labor, installation, materials and removal shall be made at the lump sum price for **"Site Safety."**

ROAD MATS

A. Description: This item shall consist of the transportation, delivery, installation, and removal of road mats as described. The placement of road mats within the limits of construction shall be at the discretion of the Division. This item shall be utilized to protect the existing utilities, driveways, roadway, curbs, sidewalks and lawn space that will be traversed within the construction work limits.

B. Material: Road matting shall be non-permeable, composite mats. Non-permeable, composite mats shall be a minimum of four (4) inches thick with a minimum surface dimension of seven (7) feet wide and thirteen (13) feet long. Non-permeable, composite mats and associated components (i.e. ramps, berms, and fittings) shall be installed per the manufacturer's recommendations.

All materials delivered to the site must be in a shape to be able to cover the area properly and still have the strength and integrity to complete the required work. The Division may reject any mats determined to be damaged beyond useful life or remove square footage as measured from each individual mat.

C. Execution: Mats shall be kept clean throughout the project. If it is determined by the Division, the mats do not meet this requirement the Contractor shall have any sediment or mud removed

immediately.

D. Measurement: Measurement for payment for the road mats shall be made by actual field measurements of quantities satisfactorily installed at the site. Each road mat shall be measured for a square foot installed.

E. Payment: The cost of this work shall be included in the unit price per square foot for **"Road Mats."**

SECONDARY CONTAINMENT

A. Description: This item shall include all labor and materials required for the installation, maintenance, and deconstruction of the secondary containment. Onsite materials and equipment required to be stored within the secondary containment shall be as follows: containers that store liquid brine, oilfield waste, and/or fuels as well as any required pumps. In determining the method, design, and capacity for secondary containment, the Contractor shall address the typical failure mode, and the most likely quantity of brine or other oil field waste substance that would be discharged.

B. Materials: The Contractor shall supply catchment basins or diversion structures to intercept and contain discharges of brine or other oilfield waste substances during the project. Materials shall consist of impermeable containers or liners made of a material that is compatible with the waste stored or used within the containment. Containment materials shall be impervious and have supporting documentation of the permeability, chemical compatibility, and other applicable QA/QC standards, is acceptable. **Use of a liner shall at a minimum be a 20-mil thickness**.

Materials shall be durable enough to support the weight of heavy equipment used for the plugging operations. Materials shall have sufficient strength and thickness to maintain the integrity of the container or liner. The container or liner shall be designed, constructed, and maintained so that the physical and chemical characteristics of the container or liner are not adversely affected by the waste and the container or liner is resistant to physical, chemical and other failure during transportation, handling, installation and use.

Liner walls shall consist of metal, wood, concrete, plastic, or approved equal. Wall materials shall be designed, constructed, and maintained to withstand the overtopping and sliding forces of secondary containment filled to capacity.

The Division shall determine the merit of the proposed materials compatibility, impermeability, integrity, and durability in determining if the material is sufficient for the project.

C. Installation: Secondary containment shall be installed prior to any drilling or liquid storage at the project site.

Upon request of the Division, the Contractor shall provide calculations in tabular format of the containment providing both the secondary containment capacity and the on-site material storage. The Division can require that sections of a secondary containment be removed for inspection and sampling if a spill occurs during the project.

Installation of the containers or liners, including seams and pipe penetrations, shall be in accordance with the manufacturer's recommendations. All seams and non-seam area of the container or liner shall be inspected by the Division for defects, holes, and blisters.

Care shall be taken when operating equipment on or near the container or liner to prevent any damage to the secondary containment. If damage occurs, it shall be repaired by the Contractor at his/her expense prior to continuing the project.

The Contractor shall retain all ownership and responsibility for the secondary containment. All secondary containment shall be removed from the site and retained by the Contractor at the conclusion of the project.

D. Measurement: Secondary containment, which includes all materials, labor, and equipment necessary to provide the required secondary containment, will be considered and measured as a unit satisfactorily completed and accepted by the Division. Secondary containment shall not be considered complete until all secondary containment has been removed from the site at the completion of the project.

E. Payment: Payment for this work shall include all material, labor, and equipment necessary to complete the work and be made at the lump sum price for **"Secondary Containment."**

SILT FENCE

A. General: This item covers construction of the silt fences and/or straw bale dikes. The Division shall designate utilization of silt fence, straw bale dikes or a combination of both at locations selected for placement.

The placement of silt fence and straw bale dikes within the limits of construction shall be at the discretion of the Division.

During the life of the project, the Contractor shall maintain these silt and erosion-control structures. Accumulated silt shall be removed when it, in the Division's opinion, may damage or reduce the effectiveness of the structure.

B. Straw Bale Dikes

1. Materials: Straw bale dikes shall be constructed with twine-bound square straw or hay bales, staked to remain in place.

2. Installation and Execution: The location of the dikes shall be as directed by the Division, at the time of construction. When the usefulness of the dikes has ended, they shall be removed and disposed. Dikes may remain in place upon completion of the project only when permitted by the Division.

C. Silt Fence

1. Materials

a. The silt fence fabric shall conform to the 2019 ODOT Item 712.09, Type C. The silt fence shall be installed in accordance with all manufacturers' instructions.

The fabric shall be free of any treatment that might significantly alter its physical properties. During shipment and storage, the fabric shall be wrapped in a heavy-duty protective covering to protect it from direct sunlight, dirt, and other debris.

The manufacturer shall submit certified test data to cover each shipment of material.

b. The silt fence used shall be a prefabricated silt fence with fabric already attached to posts or shall be assembled in the field according to the following installation guidelines.

The fabric shall be a pervious sheet composed of a strong, rot-proof polymeric yard or fiber oriented into a stable network, which retains its relative structure during handling, placement, and long-term service. It shall have excellent resistance to deterioration from ambient temperatures, acid, and alkaline conditions, and shall be indestructible to microorganisms and insects. The material shall be resistant to deterioration by ultraviolet light and protected until placement as recommended by the manufacturer such that no deterioration occurs. During shipment and storage, the rolls of fabric shall be protected against deterioration from the sun, mud, dirt, dust, and other harmful conditions at all times until their use.

2. Installation Guidelines for Silt Fence: Silt fence shall be installed in the following manner.

a. First, a small toe-in trench shall be dug along the line where the silt fence is to be placed. The trench shall be a minimum of 6-inch deep and 6-inch wide. The excavated material shall be placed on the front or uphill side of the trench to facilitate backfilling later.

b. Next, fence posts shall be driven into the back or downstream side of the trench. The posts shall be driven so that at least one-third (1/3) of the height of the post is in the ground. When installing a prefabricated silt fence with fabric attached to the posts, the posts shall be driven so that at least 6-inch of fabric shall be buried in the ground. Most prefabricated silt fences have posts spaced approximately 6 feet – 8 feet apart, which is usually adequate. If there is a low spot where most sediment tends to collect, the prefabricated silt fences can be backed up with bale backup. Posts shall be hardwood with sufficient strength to support a full load of deposited sediment.

c. Finally, the trench shall be backfilled with the excavated material and tamped so that at least 6-inch of the fabric is securely toed into the ground to prevent under-mining.

d. The silt fences shall be maintained throughout construction. The Contractor shall conduct regular inspections and after all heavy rains. Damaged fences must be repaired immediately.

e. At the completion of construction and upon establishment of suitable vegetation as determined by the Division, all silt fence structures shall be removed. Areas disturbed by the removal operation including temporary access roads shall be revegetated. In general, this operation shall consist of regrading, re-fertilizing, reseeding, and mulching.

D. Measurement: Measurement for payment for the above-described work shall be made by actual field measurements of quantities satisfactorily installed and completed. When using silt fence with bale backup the measurement shall be the length of the silt fence installed, plus the length of the straw bale dike installed.

E. Payment for Silt Fence and Straw Bale Dikes: Payment for this item shall be made at the unit price per linear foot of **"Silt Fence."** The Division shall only pay for quantities of items that are completed.

No. 57 STONE

A. Description: This work covers the quality, material placement and requirements as a top course stone for the access drives as shown in the Drawing Plan Set. This material shall be placed within the current limits of the landowner's drive.

B. Materials: The materials shall consist of sound and durable rock, gravel or stone of the proper gradation meeting ODOT specifications. The material shall be free from cracks, seams, and other defects, which tend to increase deterioration from natural causes. It shall be highly resistant to weathering and disintegration under freezing and thawing and wetting and drying as evidenced by laboratory tests and/or service records. The Division at any time during the project may reject any materials, at the source or job site, not meeting the requirements of these specifications.

Acceptability of material will be determined by laboratory tests, visual inspection and/or service records as required by the Division. Service records will include documentation to show the material has performed satisfactory on similar structures.

C. Installation: Upon delivery of the material to the site the Contractor shall install the material in place as shown on the Drawing Plan Set.

D. Measurement: The material shall be measured for payment by the ton (2,000 pounds) for material acceptably placed in the work as determined by certified scale weight tickets.

All material wasted or used by the Contractor for other purposes and any material not placed in the work in accordance with the requirements of the work order and these specifications and drawings shall be measured and not included for payment by weight. A conversion factor of 1.5 ton per cubic yard of No. 57 Stone shall be used if necessary.

E. Payment: Payment for this work as specified above shall be made based on the unit price per ton for **"No. 57 Stone."**

WELL HEAD CONTROL

A. Description: This work consists of all labor, equipment, and material necessary to establish control of the well. This item shall include the installation of a wellhead control device/flow diverter on the most appropriate well casing as described in the plugging plans.

B. Execution: The Contractor is responsible for installing, according to best management practices, a wellhead control device/flow diverter on the well casing.

The casing shall be free from any damages or defects. If required, the casing shall be cut and cleaned of any dirt, oils and debris prior to welding extensions and/or installation of the diverter.

The Contractor shall supply a cellar with a cement base around the wellhead. This cellar shall be set around the well and extended up to working elevation, as the depressed area around the well head will be modified to establish workable base. This cellar shall be made of steel, concrete, or polyethylene pipe. **The cellar shall be a minimum of 48 inches in diameter. This work shall include a six (6) inch minimum of Class "A" or Portland Cement in the cellar base with a three (3) inch minimum port near the well. The port shall extend up to within three (3) inches of the well at working height and be used to monitor and contain any gas/oil escaping around the back side of the casing.**

Once a well head control device is installed, all fluids, gases and solids generated by the plugging process shall be diverted into a tank. This tank shall be set a minimum of twenty (20) feet from the well. The Contractor shall also maintain an adequate supply of freshwater at the well for possible well control emergencies, which shall be paid under the line item **"Well Control Fluid."** The injection point for the kill line will be a minimum of twenty (20) feet from the well.

For the duration of this project the following wellhead control will need to be utilized. The wellhead control device/flow diverter assembly will have two 4.5-inch diameter discharge ports. The diverter lines running from both 4.5-inch diameter discharge ports on the wellhead assembly to the above ground steel tank will consist of two (2) – 4.5-inch diameter steel lines. Both diverter lines will have inline valves for control of flow. These lines will discharge into the tank at a downward angle or at an angle that will reduce fluids from splashing or spraying out of the tank if a sustained blow is encountered while drilling out the plugged wells. These lines will be firmly secured to the steel pit with equipment that is capable of withstanding the possible pressures encountered. One of the 4.5-inch diverter lines will be equipped with a 2-inch diameter port and valve that will serve as the kill line access. This port and valve will be installed between the wellhead and the 4.5-inch inline valve.

No plugging operations shall begin until a satisfactory inspection of the prepared well has been completed by the Division.

C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the well head control shall be made at the cost proposal lump sum price for **"Well Head Control."**

WELL CONTROL FLUID

A. Description: The work covered by this section shall consist of furnishing all labor, equipment, and material necessary to provide and use water as a “kill” fluid for the drilling and plugging process of the well.

B. Requirements: The Contractor shall receive prior approval from the Division before using any onsite waters for the plugging process (i.e. streams, lakes, or ponds). If approved, withdrawing waters of the state shall not exceed 100,000 gallons per day from an individual water source.

The Division will require a minimum of 100 barrels of freshwater well control fluid be maintained on the site during the plugging project.

C. Measurement: Measurement for payment for the above-described work shall be made by the actual quantity of barrels (bbls) of water used to successfully plug and/or drill the orphan as approval by the Division. The Division will at a minimum pay for the quantity required to be maintained on site.

D. Payment: Payment for the above work shall be made at the unit price per barrel (bbls) for **"Well Control Fluid."**

LOGGING

A. Description: This work consists of all labor, equipment, and material necessary to determine the total depth of the well and the casing, if a packer is present (along with its depth and thickness), determine bond quality behind the casing and the free point of the casing. The Log should also confirm zones of gas production and formation tops for cementing purposes.

B. Execution: The contractor shall complete the logging of the well bore, casing, tubing, packer, and/or cement to the depth of the existing well bore, casing, tubing, packer, and/or cement. The methods of logging to be used shall be as indicated on the individual plugging plan and may include but not be limited to **gamma ray (GR), casing collar locator (CCL), temperature, bond, and caliper log**. Prior to use, the Contractor shall propose the method of logging and shall be approved by the Division.

A copy of the completed Log must be submitted to the Division via email at OrphanWellProgram@dnr.state.oh.us.

C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the investigation of the well shall be included at the per unit price per each for **"Logging."**

WELL PREPARATION & PLUGGING

A. Description: This work consists of all labor, equipment, and material necessary to prepare the well for plugging and complete all required plugs. This shall include cleanout, drillout, and washover of the well bore to the total depth of the well based on the well description(s) and plugging plan(s), circulating the well bore prior to each plug, setting all required plugs, and verification of each plug depth.

B. Execution: The Contractor shall supply all equipment needed to complete the well preparation in an efficient manner that will be approved by the Division. This shall include but not be limited to the rig, drill pipe, collars, mud pump, cementing equipment, and associated equipment.

Once well head control has been established, the Contractor will cleanout, drillout and/or washover and then circulate the well bore prior to setting any casing or well plugs. The Contractor shall identify the diameter of the well bore below the surface casing and cleanout or drillout with a full-size bit to total depth. In any case where an obstruction is encountered and total depth cannot be achieved, the Contractor shall immediately notify the Division. The Contractor shall propose a plan to assess the nature of the obstruction that shall be approved by the Division. Additional work associated with removal of the obstruction shall be described and paid for under the Contingency Specifications and as listed on the Quantity Sheet and agreed upon by the Division.

When required the Contractor shall complete the ripping of the casing or tubing at a depth approved by the Division. Ripping shall be considered incidental to this line item.

The Contractor shall trip out or up into the nearest competent cased string and secure all tools at the end of each workday or when work shall be paused for an extended time. Any tools left in the hole during such paused work time shall be at the Contractor's own risk. Any tools or tubing that

are lost due to the Contractor's failure to complete the task of tripping out during paused work times shall be at their own expense as well as any work required to then prepare the hole to continue the plugging process (this shall include but not be limited to shooting, fishing, over drilling, lost or damaged tools, etc.). The tripping out of the tools during paused work times shall be incidental to this line item.

Formations within the well bore known to be producing H_2S gas will not be circulated prior to setting a plug.

Prior to setting any plugs the Contractor shall remove all free crude oil by **circulating the wellbore two-hole volumes or until the well is static**; **a minimum of ten (10) barrels of gelled water is required to be run ahead of each cement plug that may come into contact with open hole formation and/or all cased sections of the wellbore**. This work shall be considered incidental to this line item. No additional payment shall be made for circumstances where the Contractor does not have the appropriate material on location.

Lost Circulation Material (LCM) may be used to aid in obtaining circulation, as approved by the Division. **Lost Circulation Material (LCM) shall NOT be used when tubing smaller than 1.5 inch inside diameter will be utilized. Circulation must be established prior to conducting cementing procedures.** Use of LCM shall be per the **"Lost Circulation Material"** specification included in the Contingency Specification. LCM shall be available at the site during the completion of this line item **"Well Preparation & Plugging." The well shall be in a static condition prior to beginning any cementing activities.**

The Contractor shall set all plugs as described in the **Plugging Plan** to the depths described with the materials described. This shall include setting the bottom plug, intermediate plugs, and the surface plug. All plugs shall be allowed to set for the periods described in the **Plugging Plan**. The Contractor shall determine with the required tools if any plug has dropped. **If a plug has dropped or is determined to not be a competent plug, then drill out of the plug or additional staged plugs may be required at the discretion of the Division as a part of this line item. The Division reserves the right to adjust the Plugging Plan during the plugging process based on site conditions.**

C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the well preparation and plugging shall be made at the lump sum price for **"Well Preparation & Plugging."**

SHOOTING

A. Description: This work consists of all labor, equipment, and material necessary to sever/shoot a casing or tubing at a determined depth for the purpose of removing the casing or tubing string by the means of shooting.

B. Execution: The Contractor shall complete the shooting of the casing or tubing at a depth approved by the Division. The Contractor shall propose the material for shooting of the casing or tubing and shall be approved by the Division.

C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily

completed and accepted by the Division.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the shooting the casing or tubing made at the unit price per each for **"Shooting"**.

TUBING

A. Description: This item covers all labor, equipment, and material required to supply tubing at the site for the purposes of placement of cement and spacers.

B. Materials: The Contractor shall supply a 1.5-inch inside diameter (ID) or larger tubing in a condition that will allow for the pumping of cement for the purposes of plugging the well.

For this project the Contractor shall supply up to 1,400 feet of 1.5-inch ID or larger tubing to all the project wells.

C. Installation: The Contractor will install and remove the tubing as necessary in order to complete the **Plugging Plan.** The Contractor shall maintain ownership at the conclusion of the project of all tubing that was brought to the site for these purposes.

D. Measurement: Measurement for payment of the above-described work shall be made by actual field measurements per linear foot of tubing delivered to the site.

Tubing shall be measured as one use for the duration of the project.

E. Payment: Payment for this item shall be made at the lump sum price for **"Tubing."**

CLASS "A" CEMENT

A. Description: This item shall cover all labor, materials, and equipment necessary to plug the well as specified in the **Plugging Plan**.

B. Materials: Cement materials shall be API Class "A" or with prior approval, shall be of material conforming to 2019 ODOT CMS Item 701.04 (ASTM C150 Type I).

The cement shall not contain bentonite, fly ash, or other extenders which delay set time or decrease the overall compressive strength unless otherwise noted.

Water used for cementing shall be free of any impurities that will adversely affect set time and compressive strength.

C. Installation: **The Contractor shall notify the Division at least 24 hours in advance of placing the cement.**

Preparation of the well bore, including the running of gel flush ahead, shall be completed per line item **"Well Preparation & Plugging"** prior to placement of the cement.

The cement slurry shall be mixed at the API recommendation, between 15.4 and 15.8 pounds per gallon.

The Class "A" Cement shall be placed to the depths and intervals described in **Plugging Plan**.

It is the Contractor's responsibility to provide a mud scale for weighing the cement slurry.

D. Setting: Setting times shall be completed as described in the **Plugging Plan.** For the surface plug any void space between the top of the cement and the top of the casing shall be filled to achieve a level cement line with the top of the casing. This shall be done at no additional cost to the Division.

The cement must develop a minimum compressive strength of 500 PSI after 24 hours at well bore temperatures. The Division reserves the right to collect test cylinders throughout the duration of the cementing process.

E. Measurement: Measurement for payment shall be based on the actual quantity of sacks of cement acceptably placed and shall be verified with delivery tickets. A sack shall be considered to be 94 pounds prior to mixing.

F. Payment: The above-described work shall be paid for at the unit price per sack for **"Class "A" Cement."**

CEMENT MIXING & PUMPING

A. Description: This item shall cover all labor, materials, and equipment necessary to mix and pump cement as specified in the **Plugging Plan**.

B. Execution: Cementing equipment required on site to mix and pump casing cement and cement plugs shall be provided until each individual casing cementing or plug cementing is completed. This shall include but not be limited to pump truck, mud pump, and associated equipment.

C. Measurement: Measurement for payment shall be for each trip to the project site in order to complete the plug(s) as described in the **Plugging Plan**. Payment for staged plugs shall be measured as one unit.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the mixing & pumping of cement into the well shall be made at the unit price per each for **"Cement Mixing & Pumping."**

FLUID DISPOSAL

A. Description: This item shall consist of removing and disposing of the fluid generated from the well plugging process. Fluids to be removed shall be at the discretion of the Division and shall be injected at an approved Class II disposal well as provided by the Contractor prior to removal from the site.

B. Material: Materials will be defined below as described for the purposes of this scope of work.

Contaminated Fluids: Contaminated fluid will be considered as all fluids used in the circulation of the well bore, fluids utilized as a "kill" substance and/or fluids generated from the well. The Division reserves the right to deem a fluid "contaminated" at its discretion.

Contaminated fluids are further defined as water that contains quantifiable concentrations of oil, natural gas(es), condensate, brine, plugging products, or other oil field waste substances.

Freshwaters: Water that has not been classified as a contaminated fluid and has been stored in an

uncontaminated container shall be visually inspected for oil sheen, and field tested for pH and chlorides. The chloride concentration shall be less than 250 mg/L and the pH shall be within a range of 6.5-8.5 standard units (SU). If a water is deemed as freshwater based on these inspections and tests, the Contractor may discharge freshwater into or onto the land in an appropriate manner. Freshwater disposal shall not be paid for under this line item **"Fluid Disposal."**

C. Off-Site Disposal: Fluids designated as "contaminated" shall be hauled to an appropriate Class II disposal well. Proof of disposal from the disposal well shall be furnished within three (3) days of acceptance to the Division.

No additional compensation shall be made for onsite fluid storage. If contaminated fluids remain onsite, proper containment shall be established meeting all requirements as described in line item **"Secondary Containment"** at no additional cost to the Division. Onsite storage time shall not exceed 72 hours after plugging activities have been completed.

D. Measurement: Measurement for payment shall be verified based on documentation proof of a quantity of disposal from the disposal well utilized.

E. Payment: Payment shall be made at the unit price per barrel for **"Fluid Disposal."**

CONTAMINATED MATERIAL DISPOSAL

A. Description: This item shall consist of removing contaminated soils and cuttings from the site for off-site disposal. Soils and cuttings to be removed shall be at the discretion of the Division and shall be disposed of at an approved EPA licensed landfill as provided by the Contractor prior to removal from the site.

B. Material:

Contaminated Soils/Cuttings: Contaminated soils and cuttings are defined as soils or cuttings in which oil, gas, condensate, brine, plugging products, or oil field waste substances have been released in or on the land.

The Contractor will excavate and properly dispose of all soils from the location that are visibly impacted with oilfield contaminants. The Contractor shall solidify any residual fluid associated with these soils with Portland Cement, prior to removal as a part of this line item. Prior to solidification of contaminated materials, the contractor shall use due diligence to remove fluids from the contaminated materials. Fluids removed from the contaminated materials shall be disposed of per line item **"Fluid Disposal."**

Soils deemed "contaminated" as a result of Contractor negligence during the plugging process will be removed and disposed of at the Contractor's expense. Disposal procedures will conform to all requirements stated within this line item.

C. Off-Site Disposal: Soils designated as "contaminated" shall be hauled to an appropriate licensed landfill. Copies of truck weight tickets from the landfills shall be furnished within 3 days of acceptance to the Division.

Contaminated soils shall be loaded and hauled away as they are excavated.

No additional compensation shall be made for onsite contaminated soil storage. If excavated soils

remain onsite, proper containment shall be established meeting all requirements as described in line item **"Secondary Containment"** at no additional cost to the Division. Onsite storage time shall not exceed 72 hours after plugging activities have been completed.

D. Measurement: Measurement for payment shall be verified based on weight tickets of quantities disposed at the approved EPA licensed landfill.

E. Payment: Payment shall be made at the unit price per ton for **"Contaminated Material Disposal."**

GAS LINE ABANDONMENT

A. Description: The work covers all labor, equipment, and material required for abandoning the existing gas lines associated with the orphan well.

B. Execution: The flushing of the line shall be accomplished by an approved method submitted to the Division prior to the initiation of work. The Contractor shall submit a plan to the Division, which fully details the proposed method for flushing the line. This plan shall include the following:

1. Flushing equipment;
2. Pumping equipment (if necessary);
3. Size and capacities of holding sumps;
4. Method for cementing or grouting in the ends of the line;
5. Method for permanently capping the ends of the line

The Contractor shall excavate and expose the gas line at each end as shown on the Drawing Plan Set or as determined in the field. If it is determined that holding sumps will be used upon excavation, the Contractor shall sever the line and temporarily line the entire excavated area(s). Liner materials shall be impervious and have supporting documentation of the permeability, chemical compatibility, and other applicable QA/QC standards, is acceptable. Use of a liner shall at a minimum be a 20-mil thickness.

The Contractor shall notify the Division 24 hours in advance of flushing the line.

Once the liners are in place, the Contractor shall begin flushing line toward the well with freshwater. Freshwater shall be continually flushed through the line until fluid discharge is observed at the outlet end and no residual oil/gas waste is observed. All generated residuals and fluids shall be properly removed and disposed of per line item “Fluid Disposal” and/or “Contaminated Material Disposal.”

If after several attempts the Contractor is unsuccessful in achieving fluid at the outlet end, the Division may authorize the Contractor to cease operations and cement/grout the ends of the line.

The cement or grout shall be included in the unit price line items **“Class “A” Cement” or “Nine Sack Grout”**. **All other costs for pumping shall be incidental to this line item.** Care shall be taken to ensure the line is not over filled as to cause cement or grout to fill beyond the line itself. Once the end is cemented the Contractor shall cap the line. This shall be solely at the discretion of the Division.

C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.

D. Payment: Payment for this work, including equipment, labor, installation, and materials shall be made at the lump sum price for **"Gas Line Abandonment."**

SALVAGE MATERIAL DISPOSAL

A. Description: This item shall consist of preparing, removing, and salvaging all materials from the site that have a salvage value as shown on the Drawing Plan Set or as required by the Division. All items to be salvaged shall include all surface equipment, well casing, and production equipment. Salvage items shall also include any hydrocarbon materials (oil, condensate, etc.) that have a marketable value. Salvage items shall be stored onsite within the construction project limits until removed for salvage.

B. Off-Site Disposal: Prior to removal from the site the Contractor shall supply in writing to the Division an inventory of all materials to be salvaged. On the behalf of the Division the Contractor shall salvage materials inventoried. Once materials have been salvaged the contractor shall reimburse the Division for the salvage value per the line item **"Salvage Material Reimbursement."**

Prior to disposal of any salvage materials from the project site, the Division will complete a radiological assessment of salvage materials that have been provided on an inventory to the Division. The Division shall be given a minimum of two (2) working days notice to complete the assessment. Salvage materials staged on the project site shall be staged on a pipe rack where determined applicable by the Division. Salvage materials shall be on an impervious liner that will collect any residual fluids or scale.

Prior to disposal of any salvage materials the Contractor shall prepare, including cleaning, the salvage materials for lawful salvage.

C. Execution: The Contractor shall include in this line item any expense incurred with the removal and the salvaging.

D. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.

E. Payment: Payment shall be made at the lump sum price for **"Salvage Material Disposal."**

SALVAGE MATERIAL REIMBURSEMENT

A. Description: This item shall consist of reimbursing the Division for all materials removed from the site for salvage including all surface equipment, well casing, tubing, production equipment, and marketable hydrocarbons.

B. Reimbursement: The Contractor shall supply salvage receipts to the Division for materials inventoried and removed from the site for salvage. The Division shall use these receipts as deduction of payment that will be represented on the Offer for this line item for this project.

C. Measurement: Measurement shall be made by salvage receipts amounts.

D. Payment: Deduction shall be entered as an amount for **"Salvage Material Reimbursement."**

CROP DAMAGE

A. Description: This work covers the payment to the owner of the crops on the property for the crop damages/lost yields required to complete the project. The owner of the crop may be the property owner or a tenant of the property owner, either way it must be verified with the landowner who the owner of the crop is prior to making the payment.

B. Execution: The contractor will verify with the property owner the owner of the crop on each property. The owner of the crop shall receive a payment for the damages associated with plugging the wells. If it is verified that the crops are all the same owner, one payment for all the wells on that property may be paid to the owner of those crops.

The Contractor shall directly pay the owner of the crop. The Contractor shall pay the balance of money due to the crop owner prior to the request of final payment from the Division. Receipt of payment (i.e., landowner waiver) from the landowner shall be furnished to the Division. Final payment will not be made to the Contractor without receipt.

C. Measurement: Crop damage shall be measured on a per acre bases. Areas for crop damage have been predetermined by the Division according to the construction work limits as shown on the Drawing Plan Set. Any crop damage that occurs outside of these limits shall be paid for by the Contractor.

D. Payment: Payment for this work as specified above shall be made based on the unit price per acre for **"Crop Damage."** For corn crops the damages shall be based on a prime farmland yield of 171.2 bushels per acre of corn crop at a market value of $5.50 per bushel or $942 per acre. For soybean crops the damages shall be based on a prime farmland yield of 55.7 bushels per acre of soybean crop at a market value of $13.33 per bushel or $743 per acre. Other crops will be paid as determined by the Division. The value per acre is a set value not to be changed by the Contractor.

SITE RESTORATION

A. Description: This work shall cover all operations incidental to the establishment of grasses within the areas disturbed by the Contractor, including the furnishing and sowing of seed; and furnishing and applying of mulch materials, all in accordance with these specifications. Additionally, this work shall include, but not be limited to, repair of grounds and vegetation, including landscaping amenities, ornamental shrubs and trees damaged in any manner during the work operations. All areas shall be properly graded to a smooth final grade with topsoil and blended into adjoining areas at the most moderate slope possible. Seedbed preparation through the use of scarifying equipment is also required. All site restoration work is to be completed within **fourteen (14) days** of the completion of the construction activities. The Contractor may request in writing to the Division an extension for site restoration. Requests shall only be granted based on season or weather conditions.

The area within the fields shall only use Temporary Ground Cover materials.

B. Materials: The materials to be used for restoration shall conform to the applicable requirements of these specifications.

1. Lime: Pelletized lime shall be applied at a maximum rate of 400 pounds per acre. Rates may be adjusted by the Division at the time of application.

2. Fertilizer: Fertilizer shall be commercial grade (19-19-19) and shall be applied at a rate up to

a maximum of 20-lbs/1000 sq. ft. Rates may be adjusted by the Division at the time of application.

3. Seed: The varieties of grass seed to be furnished to the project shall bear a tag on each bag of each species showing the lot number, grower's name, percent of purity, percent of germination, and weed content. Tags shall be provided to the Division.

   All seeds shall be free from noxious weeds and under no condition shall the total weed content of any lot of seed or seed mixture exceed one-half of one percent by weight.

   No seed shall be utilized which has a mix date older than one year. The Division reserves the right to test, reject, or approve all seed after delivery to the project.

   Species Composition:
   Yard seed shall be applied at a rate of 10 lbs/1000 sq. ft. and shall conform to the following seed mixture ratio:

98/85 Kentucky Bluegrass	50%
Perennial Ryegrass	50%

   All areas not designated as yard, farm field, or wetland shall use the following seed mix, and shall be sown at the indicated rate. This mixture is listed by recommended planting season and for existing site conditions, and/or intended use. Further information may be found in the Agronomy Guide, Bulletin 472, Cooperative Extension Service, The Ohio State University.

GENERAL SEED MIX	lbs/acre
Orchardgrass (Dactylis glomerata)	15.0
98/85 Kentucky Bluegrass	12.0
Timothy (Phleum pratense)	12.0
Birdsfoot Trefoil (Lotus sp.)	9.0
Red Clover (Trifolium pratense)	8.0
White Clover (Trifolium repens)	7.0
Annual Ryegrass (Lolium multiflorum)	8.5
Perennial Ryegrass (Lolium perenne)	3.5
Total lbs/acre	75

   Other types of seed may be substituted if requested by the property owner(s). If such substitutions are made, they are to be made at no additional cost to the Division.

4. Mulching Material: All mulch material shall be free from mature seed-bearing stalks or roots or prohibited or noxious weeds. Any type of hay is not acceptable. Mulch shall include baled wheat straw or oat straw. It shall be dry and reasonably free of weeds, stalks, or other foreign material.

5. Temporary Ground Cover: All crop field areas shall be seeded with Cereal Rye at a rate of150 lbs/acre. The seed shall be broadcast over the entire disturbed area as a temporary ground cover until the next growing season. Areas of Temporary Ground Cover shall not include lime, fertilizer, or mulching requirements.

   For all required materials listed above, the Division reserves the right to request receipts, material specifications and/or weight tickets for verification.

C. Installation:

1. Start of Work: Site restoration work shall begin as soon as possible after the completion of construction. Final site restoration operations shall be completed within fourteen (14) working days of the final construction activities. The Contractor may request in writing to the Division an extension for site restoration. Requests shall only be granted based on **season or weather conditions.**

2. Area Preparation of Soil: Spread and grade available topsoil uniformly over all disturbed areas. All areas to be seeded shall be loosened by discing, harrowing, or other approved methods immediately prior to seeding. The soil shall be loosened to a depth of approximately three inches.

   Hand raking shall be required in all areas where machines do not obtain the results desired by the Division.

   Following tilling of the soil, the seedbed shall be allowed to firm up.

   Final prepared surface shall have a smooth final grade and be appropriate for a residential yard, free from rocks, large dirt clumps and any other foreign debris.

   Immediately following area preparation for seeding, materials shall be applied in the following order:
   - Lime, as applicable
   - Fertilizer, as applicable
   - Seed, after broadcasting or otherwise applying the seed, the surface of the seedbed shall be loosely disturbed by hand raking, dragging, and/or cultipacking.

   Lime, fertilizer and/or seed shall be sown by approved methods that provide for uniform distribution of the mixes as specified above.

3. Mulching: Apply the equivalent of 100 pounds per 1,000 square feet of clean straw mulch. Mulch shall not be applied in areas requiring Temporary Ground Cover.

   Apply mulch to the sown area within 24 hours of seeding at the rate per square feet as specified above and spread to a uniform depth.

   The straw shall be placed in a moist condition or shall be moistened immediately after placement.

4. Maintenance and Repairs: The Contractor shall, during construction and prior to acceptance, properly care for all areas mulched and perform all mulching operations necessary to provide protection and establish growth of the seeded areas. Mulch that becomes displaced shall be reapplied at once, together with any necessary reseeding, all at no expense to the Division.

   No additional payment shall be made for acts of God, i.e. fire, flood, drought, etc.

D. Maintenance Period: The permanent planting of trees, shrubs, perennials, annuals, grasses and legumes, etc. shall be deemed to be acceptable if the species that were planted in accordance with the approved plans are established and maintained for one (1) "growing season" as defined below and meeting the following standards:

1. Growing Season: All landscaping shall be guaranteed for a period of one (1) summer growing

season after planting. Planting material installed in the Fall shall be in full count and thrifty condition on the next succeeding September 15 at which time replacement shall be determined and scheduled for installation during the planting period of October 15 - December 1 of that same season. Planting material installed in the Spring shall be in full count and thrifty condition on the next succeeding May 15 at which time replacements shall be determined and scheduled for installation prior to June 1 of the same season. All plants installed in the summer shall be guaranteed for one (1) full summer and shall be in full count and thrifty condition the next succeeding September 15.

2. Acceptable Lawn/Turf Areas: A series of four (4) random line transects are to be laid out within the project boundaries. A string one hundred (100) feet long having one (1) foot graduation, shall be placed along the transect line. The person conducting the transect will then walk along the line counting only the markers which are in actual contact with the vegetation. The number of count points are to be recorded as subtotals. When the four transects are completed, the average of the four transects subtotals is then equal to the percent of vegetative cover for the project.

   a) Residential Lawns: At least one hundred percent (100%) of the land affected shall be judged to be of good quality, and "good" is defined as an area that has at least ninety percent (90%) cover.

      i. All land affected and having less than ninety percent (90%) cover shall be judged poor and deemed unacceptable; and

      ii. All areas judged to be good must have species diversity requirements of those recommended for planting.

   b) Farm & Field Turf: At least ninety percent (90%) of the land affected shall be judged to be of good quality, and "good" is defined as an area that has at least seventy-five percent (75%) cover.

      i. The remaining ten percent (10%) of the land affected shall be judged to be of fair quality, and "fair" is defined as an area that has at least fifty percent (50%) cover but less than seventy-five percent (75%) cover;

      ii. All land affected and having less than fifty percent (50%) cover shall be judged poor and deemed unacceptable; and

      iii. All areas judged to be good or fair must have species diversity requirements of those recommended for planting.

   c) Severe Decline of a Tree or Shrub: Shall be defined as the death of a major leader or 50 percent of the crown of a tree or shrub or dieback of a plant to the ground, even if that plant is still alive.

E. Measurement: Measurement for payment of site restoration, which includes seedbed preparation, lime, fertilizer as applicable, seeding, mulching, and replacement of landscape amenities (i.e. shrubs, trees, etc.) shall be considered and measured as a unit satisfactorily completed and accepted by the Division.

F. Payment: Payment for this work, which includes seedbed preparation, liming, fertilizing, seeding, mulching, required replacement of all shrubs, trees and landscaping amenities, etc., and general cleanup shall be made at the lump sum price for **"Site Restoration."**

DEMOBILIZATION

A. Description: This work shall consist of the demobilization of all personnel, plugging related equipment and materials as well as the cleanup of all areas upon completing all other work required under the scope of work for the well site.

B. Execution: Any damage to the road, drives, and/or culverts caused by the demobilization shall be repaired by the Contractor at the Contractor's expense. All repairs shall be done equal to or better to that which existed prior to construction activities. As part of this line item, the Contractor shall also be responsible for cleaning mud and dirt associated with construction from all roadway surfaces (public and private) upon completion.

C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division. **Demobilization of equipment between wells shall be considered incidental to this line item for wells using a common entrance.**

D. Payment: The cost of this work shall be included in the lump sum price for **"Demobilization."**

CONTINGENCY SPECIFICATIONS

CONTINGENCY SPECFICATIONS WILL ONLY BE DIRECTED VIA A FIELD ORDER FROM THE DIVISION. THE FIELD ORDER WILL DEFINE THE QUANTITY APPROVED. CONTINGENCY SPECIFICATION USE WILL BE DETERMINED BASED ON-SITE CONDITIONS THAT ARE DETERMINED BY THE DIVISION.

ALTERNATIVE WELL CONTROL FLUID

A. Description: The work covered by this section shall consist of furnishing all labor, equipment, and material necessary to provide and use a bentonite clay gel or a weighted brine as a “kill” fluid for the drilling and plugging process of the well.

B. Materials: Based on the onsite conditions the Contractor shall propose a brine or gel for approval from the Division. Once a material is approved the Division will require a minimum quantity be maintained at the site during the plugging project.

C. Measurement: Measurement for payment for the above-described work shall be made by the actual quantity of barrels (bbls) of kill fluid used to successfully plug and/or drill the orphan well. The Division will at a minimum pay for the quantity required to be maintained on site.

D. Payment: Payment for the above work shall be made at the unit price per barrel (bbls) for **"Alternative Well Control Fluid"**.

FISHING

A. Description: This work consists of all labor, equipment, and material necessary to remove and/or clear the well bore as needed in order to reach total depth by the means of fishing the obstruction in the well bore.

B. Execution: The Contractor shall supply the equipment needed to complete the fishing in an efficient manner that will be approved by the Division. This shall include but not be limited to the rig, impression blocks, and associated equipment. **This shall not include the fishing tools required to complete this work. The Division will develop a negotiated change order to deliver and use the appropriate fishing tools required based on the unforeseen conditions.** Appropriate fishing tools shall be provided for the circumstances encountered.

C. Measurement: Measurement for payment shall be made by field inspection of the actual quantity of hours in which the drilling rig and other fishing equipment were diligently operating in a manner to remove the obstruction.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the obstruction removal shall be made at the unit price per hour for **"Fishing"**.

MAGNET

A. Description: This work consists of all labor, equipment, and material necessary to supply a magnet and the required subs as the fishing tool.

B. Execution: The Contractor shall supply all equipment needed for a magnet fishing tool to be used for fishing out the well bore to the depth of the current obstruction and extracting it. This shall include but not be limited to the rig, subs, and associated equipment. Appropriate tools shall be provided for the circumstances encountered. The work to complete the fishing shall be per line item **"Fishing"**.

C. Measurement: Measurement for payment shall be made by the delivery of the magnet to extract the obstruction as satisfactorily completed and accepted by the Division.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary to supply the magnet to extract the obstruction shall be made at the per unit price per each for **"Magnet"**.

MILLING

A. Description: This work consists of all labor, equipment, and material necessary to remove and/or clear the well bore as needed in order to reach total depth by the means of milling the well bore.

B. Execution: The Contractor shall supply the equipment needed to complete the milling in an efficient manner that will be approved by the Division. This shall include but not be limited to the rig, swivel, mud pump, and associated equipment. **This shall not include the milling bits required to complete this work. The Division will develop a negotiated change order to deliver and use the appropriate milling bits required based on the unforeseen conditions.** Appropriate milling bits shall be provided for the circumstances encountered. Milling bits shall be factory made unless approved otherwise in writing by the Division.

C. Measurement: Measurement for payment shall be made by field inspection of the actual quantity of hours in which the drilling rig and other milling equipment were diligently operating in a manner to remove the obstruction.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the obstruction removal shall be made at the unit price per hour for **"Milling"**.

PERFORATION LOGGING EQUIPMENT

A. Description: This work consists of all labor, equipment, and material necessary to provide a logging truck to complete perforations in a casing or tubing at a determined depth for the purpose of squeezing cement outside the casing or tubing string. This shall not include the shots required to execute the perforations.

B. Execution: The Contractor shall supply a logging truck to be used to complete the perforating of the casing or tubing at a depth approved by the Division. The Contractor shall propose plan to complete perforation with an efficient use of the logging equipment that will minimize the logging truck trips. The Division shall approve this plan.

C. Measurement: Measurement for payment shall be made by per truck trip to the site to include use of the equipment for the work of perforating the tubing or casing. This work shall be satisfactorily completed and accepted by the Division.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary to provide a logging truck to complete perforations in a casing or tubing made at the unit price per each for **"Perforating Logging Equipment."**

PERFORATING

A. Description: This work consists of all labor, equipment, and material necessary to perforate a casing or tubing at a determined depth for the purpose of squeezing cement outside the casing or tubing string. This shall not include the cost for the logging truck needed to complete this work.

B. Execution: The Contractor shall complete the perforating of the casing or tubing at a depth approved by the Division. The contractor shall propose the material and method for perforating the casing or tubing and shall be approved by the Division. **Each perforation shall include at least two shots.**

C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the perforating the casing or tubing made at the unit price per each for **"Perforating."**

WELL CASING TAP

A. Description: This work consists of all labor, equipment, and material necessary to establish pressure relief control of the well. This item shall include the installation of a tap and valve onto the existing well casing as determined by the Division in the field.

B. Execution: The contractor is responsible for tapping the well casing, installing a new valve and "relieving" the well of any pressure according to best management practices.

All components associated with the tapping process shall be of size to properly fit the steel casing of interest and be able to withstand a minimum gas pressure of 1000 psi.

The Division shall make the determination for the overall exposed depth of casing. The casing shall be free from any damages or defects. If required, the casing shall be cleaned of any dirt, oils and debris prior to the installation of the saddle. At the discretion of the Division, further investigation of the well may be required in order to determine the adequacy of casing. This shall be paid for under line item **"Logging"**.

After the well casing is cleaned and the saddle is installed, the Contractor will then install the valve and all associated appurtenances. Upon approval from the Division, the Contractor may tap the casing. After tapping, the Contractor shall remove the tap along with the generated "coupon" and close the installed valve.

Once the valve is operational, the Contractor shall attach a 2-inch diameter (minimum) line to the valve which will be placed into a tank. This tank will be set a minimum of twenty (20) feet from

the well. The Contractor will then slowly open the valve to relieve the pressure in the well. All fluids, gases and solids generated during this process will be diverted into the tank.

No plugging operations shall begin until the well pressure has ceased, and a satisfactory inspection of the well has been completed by the Division.

C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the well tap, valve and "relieving" process shall be made at the unit price per each for **"Well Casing Tap"**.

LOST CIRCULATION MATERIALS

A. Description: This work shall include furnishing all labor, materials, equipment, and supplies necessary to expose portions of the well bore to lost circulation materials (LCM) as determined necessary. Lost circulation materials shall be implemented to aid in obtaining well bore circulation prior to any cementing operations.

B. Materials: Lost circulation materials shall be selected by the Contractor based on site conditions encountered and proposed to the Division for approval.

C. Measurement: Measurement for payment shall be based on the actual quantity of sacks of lost circulation materials satisfactorily placed and shall be verified with delivery tickets. For estimating purposes, it has been assumed that one (1) sack is equal to fifty (50) pounds.

D. Payment: Payment for all the above-described work shall be made at the unit price per sack for **"Lost Circulation Materials"**.

DRILLING MUD

A. Description: The work covered by this section shall consist of furnishing all labor, equipment, and material necessary to provide and use a water-based drilling mud for the drilling and plugging process of the well.

B. Materials: Based on the onsite conditions the Contractor shall propose a water-based drilling mud for approval from the Division. Once a material is approved the Division will require a minimum quantity be maintained at the site during the plugging project based on circumstances encountered.

C. Measurement: Measurement for payment for the above-described work shall be made by the actual quantity of sacks (50 lbs) of additives for the water-based drilling mud used to successfully plug the orphan well.

D. Payment: Payment for the above work shall be made at the unit price per sack for "Drilling Mud."

NINE SACK GROUT

A. Description: This work shall include furnishing all labor, materials, equipment, and supplies necessary

to plug the well as specified in the **Plugging Plan**.

B. Materials: Nine Sack Grout shall consist of the following materials and requirements:

Constituent	SSD Weight (lbs.)	Volume ($ft.^3$)
Cement Type I-II	846.00	4.30
Sand	2550.00	15.54
Water	417.00	6.68

(SSD means saturated surface dry)

1. Cement Type I-II: Cement shall conform to 2019 ODOT CMS Item 701.02 and 701.04.

2. Sand: Sand shall be in accordance with ASTM C150.

3. Water: Water shall be in accordance with ASTM C1602.

The grout shall contain a maximum of 1% entrapped air.

Grout shall have a water to cement ratio (W/C) equal to 0.50 and an overall unit weight of 142.30 pounds per cubic foot.

Slump tests may be done at the discretion of the Division. Slump requirements shall be determined in the field at the time of construction.

The Division has accounted for excess materials due to loss in the wellbore in the quantities on the **Quanity Sheet**.

C. Installation: **The Contractor shall notify the Division at least 24 hours in advance of placing grout.** The surface plug shall be grouted to the depth described in the **Plugging Plan**.
Well preparation and circulation shall be achieved as detailed in the **"Well Preparation & Plugging"** line item and the **Plugging Plan**.

D. Setting: Setting times shall be completed as described in the **Plugging Plan.** For the casing any void space between the top of the grout and the top of the casing shall be filled to achieve a level grout line with the top of the casing. This shall be done at no additional cost to the Division.

E. Measurement: Measurement for payment for the above-described work shall be based upon material quantities satisfactorily installed as well as delivery tickets furnished to the Division.

F. Payment: Payment for all the above-described work shall be made at the unit price per cubic yard for **"Nine Sack Grout."**

DOWNHOLE VIDEOGRAPHY

A. Description: This work consists of all labor, equipment, and material necessary to video record the well bore in order to assess a well bore obstruction.

B. Execution: The Contractor shall supply all equipment needed and complete the videography recording of the well bore to the depth of the current obstruction. The Contractor shall supply the Division with an electronic copy of the videography recorded in a format viewable in readily available current software.

C. Measurement: Measurement for payment shall be made by the delivery of an acceptable video and photos to the Division of the current obstruction. Measurement shall be per obstruction, not per video or photo.

D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the video recording of the current obstruction made at the per unit price per each for **"Downhole Videography"**.

LINER CASING (5.5")

A. Description: This item covers all labor, equipment, and material required to set a temporary liner casing for the plugging of the orphan well.

B. Materials: The surface casing shall be a 5.5-inch diameter casing conforming to 17 pound per foot STC (Short Thread and Coupling) or an approved equal material specification. The Contractor shall supply the proper ranges and pup joints to complete the lengths required during installation.

Pipe shall be new pipe or used pipe that has been tested and drifted. The Contractor shall supply documentation for pipe that has been tested and drifted. The Division shall approve used pipe based on documentation and inspection of the pipe.

For the use with a Liner Casing the contractor shall also provide a cost for "Packer" as a dollar amount per each under "Contingency Specifications" within the original Offer to be used with the Liner Casing. The packer shall be an adjustable packer of 5.5-inch to 8-inch. All labor, equipment, and material required to set the Packer shall be included in the line item "Packer".

C. Installation and Execution: The liner casing shall set to a depth as determined in the field by the Division. This quantity is for estimating purposes only. Casing shall be toed in using cement or a cut packer at a depth directed by the Division. This shall be incidental to this line item.

D. Measurement: Measurement for payment for the liner casing work shall be made by actual field measurements of quantities satisfactorily installed and completed per linear foot of liner casing set. There shall be no additional measurement/payment made for the removal of the liner casing.

E. Payment: Payment for this item shall be made at the unit price per linear foot of **"Liner Casing (5.5")"**.

APPENDIX I – OHIO ONE-CALL

THE FOLLOWING ARE REPORTABLE INCIDENTS: *(OAC 1501:9-8-02)*		
TYPE OF INCIDENT (All Incident types associated with production operation or other activity regulated under Chapter 1509)	**QUANTITY** (GAL, BBL,PPM) NOTE: 1 Barrel = 42 US Gallons	**ADDITIONAL FACTORS**
Release of Gas	Any amount	Resulting from a Blow out; **OR**
		Uncontrolled Pop-off Valve (in Urban Area); **OR**
		Any gas release that is a threat to public safety
Release of Hydrogen Sulfide(H_2S) Gas (within the Working Area)	Exceeding **20 ppm** (Sustained airborne concentration); For duration > 10 min	**OR** any H_2S release resulting in injury or death of person
Fire / Explosion	N/A	In which a reporting person has called an emergency responder (9-1-1 or Fire Dept)
Release of Oil, Condensate, or Materials Saturated with Oil or Condensate	> 210 US gallons in any 24-hr period (Estimated)	**AND** the release is OUTSIDE secondary containment & into the environment
Release of Oil, Condensate, or Materials Saturated with Oil or Condensate	> 25 US gallons in any 24-hr period (Estimated); **AND** the release is outside secondary containment and into the environment	In an urban area; **OR**
		In an Emergency Management Zone of a surface water public drinking supply; **OR**
		In a 5-year time of travel with a groundwater-based public drinking supply; **OR**
		In a 100-year flood hazard area as delineated on the federal emergency management agency's (FEMA) national flood insurance rate map
Release of Refined Oil Products *(**EX:** oil-based drilling fluid, petroleum distillate, spent or unused paraffin solvent, gasoline, fuel oil, diesel fuel, or lubricants)*	> 25 US gallons in any 24-hr period	**AND** the release is OUTSIDE secondary containment & into the environment
Release of Oil, Condensate, or Materials Saturated with Oil or Condensate; OR Refined Oil Products	Any amount	That enters waters of the state in an amount that causes a film or sheen on the surface of the water
Release of Brine or Semi-Solid Waste *(EX: drilling mud, sludge, or tank bottom sediments)*	> 42 US gallons in any 24-hr period	**AND** the release is OUTSIDE secondary containment & into the environment
Release of Brine from a Vehicle, Vessel, Railcar, or Container	> 42 US gallons	**AND** is operated by a person to whom a registration certificate has been issued (ORC 1509.222), or to whom a resolution has been issued (ORC 1509.226)
		AND enters the environment

Release of Hazardous Substance (HS)/ Extremely Hazardous Substance (EHS); OR Mixture or Solution including a HS or EHS	An amount Equal to or > than applicable reportable quantities listed in 40CFR tables; in any 24-hr period If the amount of one or more HS or EHS released is in an **unknown** mixture or solution, notify when the total amount of the mixture or solution released is equal to or > than the reportable quantity for the HS or EHS with the **lowest** reportable quantity	**List available at:** http://oilandgas.ohiodnr.gov/portals/oilgas/pdf/emergency/list_of_lists.pdf *Code of Federal Regulations (C.F.R.) References:* HS- *Appendix A 40 CFR Part 302.4* EHS- *Appendix A 40 CFR Part 355*

THE FOLLOWING ARE NOT REPORTABLE INCIDENTS: *(OAC 1501:9-8-02 (A)(7))*

1. Controlled flaring or controlled burns authorized under Chapter 1509. of the Revised Code or under 1501:9 of the Administrative Code or authorized by the terms and conditions of a permit issued under Chapter 1509. of the Revised Code;
2. Properly functioning emission control devices authorized pursuant to Revised Code Section 3704.03;
3. Subsurface detonation of perforation-guns;
4. Seismic shots;
5. Controlled blasting for well site construction

Date Last Edited & Printed: 9/27/2018

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

APPENDIX II: PHOTOS

Randy Boes #1
34-063-6-7333-00-00
Hancock County, Washington Township

Randy Boes #1 wellhead

JE Hudson #10
Offset Well Record
34-063-2-0147-00-00
Hancock County, Washington Township

Ohio Division Of Geological Survey 20147

Permit No. 147
Permit Issued 2-26-65
County Hancock Township Washington Quadrangle Fostoria
SE¼ Section 11 Lot Tract Twp. Quarter
Measured 1350' SL & 741' EL of SE¼ of sec. 11
120.90 Acres E - FWC - C.T.
Land Owner Margaret Wedge Well No. 1 Date Commenced 2-25-65
Operator Hudson Petroleum Co. Well No. Date Completed 3-16-65
Elevation Bar S.L. Total Depth 1958 Plugged Back
Formation Drld. To. Prod. Form. Prod. Nat.
I.P. D&A
Init. Rock Press.
Casing Record 10"-41',8"-400' Abandoned 3-18-65

Formation	Top	Bottom	Remarks
E= 1,740,050			
N= 538,500			
PLUGGING REPORT			
Fr. Wtr. Strata	45		
Big Lime	41	278	
Trenton	1228		
Tpl.	1939		
TD		1958	

Formation	Top	Bottom	Remarks
COMPLETION			
Soil & silt	0	41	
Lime	41	278	F.Wtr. 45'
Shale, grn	278	312	
Clinton Sd.	312	394	
Shale, gry	394	398	
Red Rock	398	440	
Shale, grn	440	510	
Shale, gry	510	960	
Shale, brn	960	1228	
Tr. Lime	1228	1935	s/gas 1235'
Glenwood	1935	1939	
Tpl.	1939	1958	T.D.

APPENDIX II: PHOTOS

Marvin Kelbley #1
34-063-6-7333-00-00
Hancock County, Washington Township

Marvin Kelbley #1 wellhead

SCOPE OF WORK
HANCOCK #5 PROJECT
Multiple Orphan Well Sites
Hancock County; Washington, Cass, & Allen Townships

APPENDIX II: PHOTOS

Richard and Karen Wasson #1
34-063-6-2053-00-00
Hancock County, Cass Township

Wasson #1 well before emergency work

Wasson #1 wellhead after emergency work

JE Hudson #10
Offset Well Record
34-063-6-7191-00-00
Hancock County, Cass Township

GEOLOGICAL SURVEY OF (67191 (1952) 12-4-10
loc.
OIL AND GAS WELL LOG

State
County Hancock Township Cass Quadrangle
Lot Quarter Tract Section 15 NW NE SW
Measured Feet From Line And Feet From Line Of
750'SL & 200'EL of Sec. 15 (scaled from twp. map)
Land Owner J. E. Hudson Well No. 10 Date Started
Operator Well No. Date Completed
Elevation Bar. 787 S. L. Total Depth 1162 Plugged Back
Formation Drilled To Trenton Producing Form. Init. Prod. Nat.
Shot or Acid Record Prod. A. S. or Acid
Init. Rock Press. Abandoned

Formation	Top	Bottom	Remarks	Formation	Top	Bottom	Remarks
Drive pipe		67					
Casing		761					
Trenton	1162						

APPENDIX II: PHOTOS

Peters #1
34-063-6-1443-00-00
Hancock County, Cass Township

Peters #1 well

Ruby & Phillip Laier #1
Offset Well Record
34-063-2-0116-00-00
Hancock County, Allen Township

20116

Ohio Division Of Geological Survey

Permit No. 116PP
Permit Issued
Quadrangle
Twp. Quarter

County Hancock Township Allen
Section 20 Lot Tract
Measured

Land Owner Ruby & Phillip Laier Well No. 1 Date Commenced
Operator Carl M. Francisco Well No. Date Completed
Elevation Bar S.L. Total Depth 1365 Plugged Back
Formation Drld. To. Trenton Prod. Form. Prod. Nat.
I.P.
Init. Rock Press.
Casing Record Abandoned 12-6-61

Formation	Top	Bottom	Remarks	Formation	Top	Bottom	Remarks
PLUGGING REPORT: Trenton	1300	1365	TD.				

APPENDIX II: PHOTOS

Weuste #1
34-063-6-2163-00-00
Hancock County, Cass Township

Weuste #1 well

APPENDIX II: PHOTOS

Recker #1
34-063-6-7347-00-00
Hancock County, Allen Township

Recker #1 wellhead

APPENDIX II: PHOTOS

Darnall #1
34-063-6-0597-00-00
Hancock County, Allen Township

Darnall #1 well location

APPENDIX II: PHOTOS

Darnall #2
34-063-6-0599-00-00
Hancock County, Allen Township

Ruby & Phillip Laier #1
Offset Well Record
34-063-2-0116-00-00
Hancock County, Allen Township

20116

Ohio Division Of Geological Survey

Permit No. 116PP
Permit Issued
Quadrangle
Twp. Quarter

County Hancock Township Allen
Section 20 Lot Tract
Measured

Land Owner Ruby & Phillip Laier Well No. 1 Date Commenced
Operator Carl M. Francisco Well No. Date Completed
Elevation Bar S.L. Total Depth 1365 Plugged Back
Formation Drld. To. Trenton Prod. Form. Prod. Nat.
I.P.
Init. Rock Press.
Casing Record Abandoned 12-6-61

Formation	Top	Bottom	Remarks	Formation	Top	Bottom	Remarks
PLUGGING REPORT: Trenton	1300	1365	TD.				

Scope of Work
Quantity Sheet
Hancock #5 Project
Hancock County; Washington, Cass, & Allen Townships

Well Name: Randy Boes #1, Marvin Kelbley #1, Richard & Karen Wasson #1, Peters #1, Weuste #1, Recker #1, Darnall #1 & #2

Permit Number: 34-063-6-7316, 7333, 2053, 1443, 2163, 7347, 0597, & 0599

TD = 1200'-1300'; Trenton Formation

Line Number	Description		Quantity	Unit	
1	Mobilization		7	Lump Sum	
2	Clearing & Grubbing (Recker)		1	Lump Sum	
3	Traffic Maintenance		1	Lump Sum	
4	Site Safety		8	Lump Sum	
5	Road Mats		12740	Sq. Ft.	
6	Secondary Containment		8	Lump Sum	
7	Silt Fence		120	Linear Ft	
8	No.57 Stone		60	Ton	
9	Well Head Control		8	Lump Sum	
10	Well Control Fluid		800	BBL	
11	Logging (GR/CCL/Bond)		8	Each	
12	Well Preparation & Plugging (Boes)		1	Lump Sum	
13	Well Preparation & Plugging (Kelbley)		1	Lump Sum	
14	Well Preparation & Plugging (Wasson)		1	Lump Sum	
15	Well Preparation & Plugging (Peters)		1	Lump Sum	
16	Well Preparation & Plugging (Weuste)		1	Lump Sum	
17	Well Preparation & Plugging (Recker)		1	Lump Sum	
18	Well Preparation & Plugging (Darnall1)		1	Lump Sum	
19	Well Preparation & Plugging (Darnall2)		1	Lump Sum	
20	Shooting		3	Each	
21	Tubing		1	Lump Sum	
22	Class "A" Cement		2100	Sack	
23	Cement Mixing & Pumping		30	Each	
24	Fluid Disposal		850	BBL	
25	Contaminated Material Disposal		20	Ton	
26	Gas Line Abandonment		1	Lump Sum	
27	Salvage Material Disposal		1	Lump Sum	
28	Salvage Material Reimbursement				N/A
29	Crop Damage (Corn)	$ 942.00	1	Acre	$ 942.00
30	Crop Damage (Soybean)	$ 743.00	1	Acre	$ 743.00
31	Site Restoration (Boes)		1	Lump Sum	
32	Site Restoration (Kelbley)		1	Lump Sum	
33	Site Restoration (Wasson)		1	Lump Sum	

34	Site Restoration (Peters)		1	Lump Sum	
35	Site Restoration (Weuste)		1	Lump Sum	
36	Site Restoration (Recker)		1	Lump Sum	
37	Site Restoration (Darnall)		1	Lump Sum	
38	Demobilization		7	Lump Sum	

Additional/Contingency Services

39	Alternative Well Control Fluid		400	BBL	
40	Fishing		50	Hour	
41	Magnet		3	Each	
42	Milling		50	Hour	
43	Perforating Logging Equipment		2	Each	
44	Perforating		20	Each	
45	Well Casing Tap		1	Each	
46	Lost Circulation Materials		25	Sack	
47	Drilling Mud		40	Sack	
48	Nine Sack Grout		10	Cubic Yard	
49	Downhole Videography		2	Each	
50	Liner Casing (5.5")		450	Linear Ft	
51	Packer (5.5"-8")		1	Each	

Note: This quantity sheet is provided for reference only. The Contractor's Offer must be submitted online through Ohio Buys (https://das.ohio.gov/Divisions/General-Services/Procurement-Services/Ohio-Buys). Quantities are only an estimate. Payment shall be based on quantities satisfactorily completed.

Each contractor is responsible for logging into Ohio Buys and submitting an offer that is responsive to all amendments issued. All offers submitted prior to an amendment being issued shall become null/void and not considered in the opening. All amendments shall become part of the Scope of Work.

Offers must be fully submitted online through Ohio Buys (https://das.ohio.gov/Divisions/General-Services/Procurement-Services/Ohio-Buys) not later than,

12:00 PM on March 29, 2022.

SHEET INDEX

CONTACT INFORMATION

DIVISION OF OIL & GAS RESOURCES MANAGEMENT
OHIO DEPARTMENT OF NATURAL RESOURCES
2207 REISER AVE. SE
NEW PHILADELPHIA, OHIO 44663
PH: (330) 308-0007 FAX: (330) 308-0011

REGIONAL PROGAM MANAGER
BEN HARPSTER
PH: (330) 284-2942

PROJECT ENGINEER
KRISTOFER W. ROSER, P.E.
PH: (330) 414-3740

OHIO811.org Before You Dig

Call Before You Dig
CALL TWO WORKING DAYS BEFORE YOU DIG (NON MEMBERS MUST BE CALLED DIRECTLY)

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN APPROXIMATELY, BASED EITHER ON REPORTING BY RESPECTIVE OWNERS AND/OR BY FIELD LOCATION. HOWEVER, THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ALL DAMAGES THAT MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL MAINTAIN A CURRENT 10 DAY OUPS/OGPUPS TICKET DURING THE ENTIRE PROJECT BY CONTACTING OUPS EVERY 10 DAYS. BOTH OUPS AND OGPUPS CAN BE COMPLETED USING THE OHIO 811 ONE CALL SERVICE BY PHONE OR ON THE WEB.

LEGEND

PROPOSED WORK LIMITS — CWL	PROPOSED VAULT
PROPOSED STONE	EXISTING ORPHAN WELL
PROPOSED MATTING	EXISTING POWER POLE
PROPOSED SILT FENCE — SF	EXISTING HYDRANT
PROPOSED VENT LINE — G	EXISTING WATER VALVE
EXISTING GUTTER LINE	EXISTING GAS VALVE
EXISTING CURB	EXISTING MONUMENT BOX
EXISTING EDGE OF PVMT	EXISTING CURB INLET
EXISTING EDGE OF DRIVE	EXISTING ELECTRIC METER
EXISTING BUILDING	EXISTING LIGHT POLE
EXISTING PROPERTY LINE	EXISTING IRON PIN FOUND — I.P.F.
EXISTING TOP OF BANK	EXISTING SANITARY MANHOLE
EXISTING TOE OF SLOPE	FLOW DIRECTION ARROW
EXISTING 1' CONTOUR	ABSORBENT BOOM
EXISTING 5' CONTOUR	
EXISTING BURIED ELECTRIC — E	
EXISTING OVERHEAD ELEC. — OHP	
EXISTING STORM — ST	
EXISTING SANITARY — SAN	
EXISTING GAS — G	

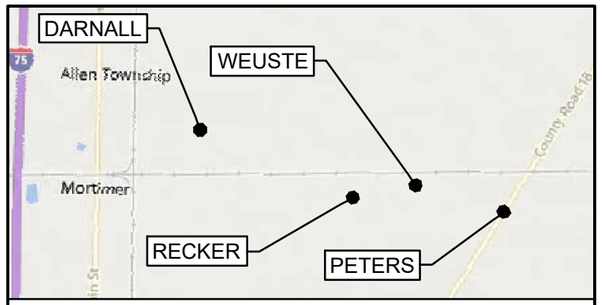
OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT

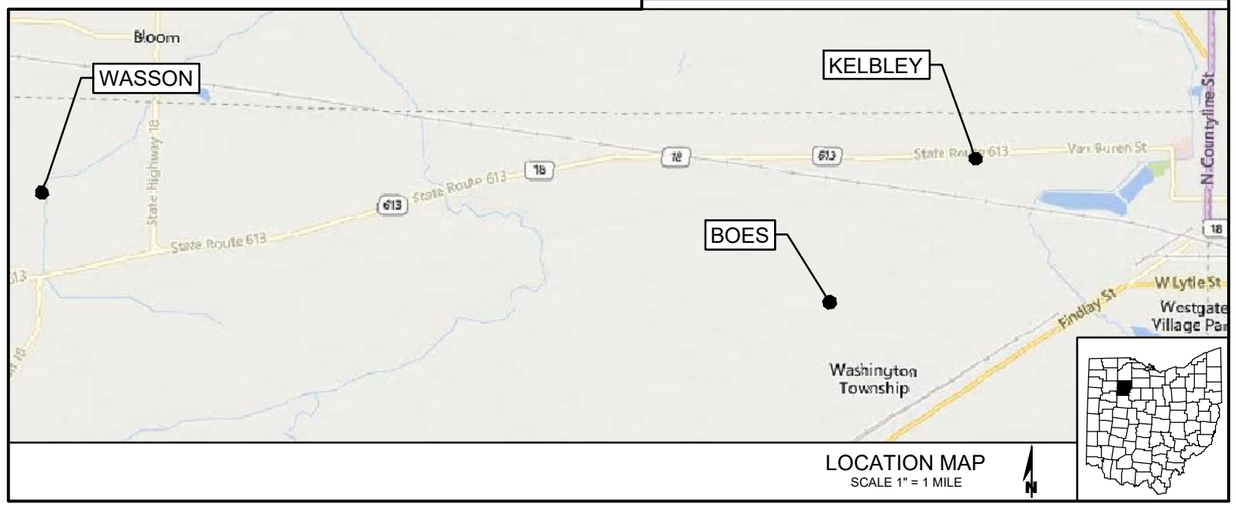
HANCOCK #5

RANDY BOES #1, MARVIN KELBLEY #1, RICHARD & KAREN WASSON #1, PETERS #1, WEUSTE #1, RECKER #1, DARNALL #1 & #2 ORPHAN WELL SITES

ORPHAN WELL INFORMATION

WELL NAME	API NUMBER	COUNTY	TOWNSHIP	LATITUDE	LONGITUDE
RANDY BOES #1	34-063-6-7316-00-00	HANCOCK	WASHINGTON	41.148163°	-83.469316°
MARVIN KELBLEY #1	34-063-6-7333-00-00	HANCOCK	WASHINGTON	41.162536°	-83.450914°
RICHARD & KAREN WASSON #1	34-063-6-2053-00-00	HANCOCK	CASE	41.158105°	-83.569409°
PETERS #1	34-063-6-1443-00-00	HANCOCK	CASE	41.107715°	-83.598147°
WEUSTE #1	34-063-6-2163-00-00	HANCOCK	CASE	41.109840°	-83.609422°
RECKER #1	34-063-6-7347-00-00	HANCOCK	ALLEN	41.109133°	-83.617854°
DARNALL #1	34-063-6-0597-00-00	HANCOCK	ALLEN	41.114918°	-83.636337°
DARNALL #2	34-063-6-0599-00-00	HANCOCK	ALLEN	41.115111°	-83.636201°





LOCATION MAP
SCALE 1" = 1 MILE

THIS DOCUMENT WAS ORIGINALLY ISSUED BY KRISTOFER W. ROSER, P.E. THIS DOCUMENT IS NOT CONSIDERED A SEALED DOCUMENT & IS FOR OFFER SUBMITTAL PURPOSES ONLY

KRISTOFER W. ROSER, PE
OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MGMT

83391
NO.

DATE

DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
IDLE & ORPHAN WELL PROGRAM
http://oilandgas.ohiodnr.gov

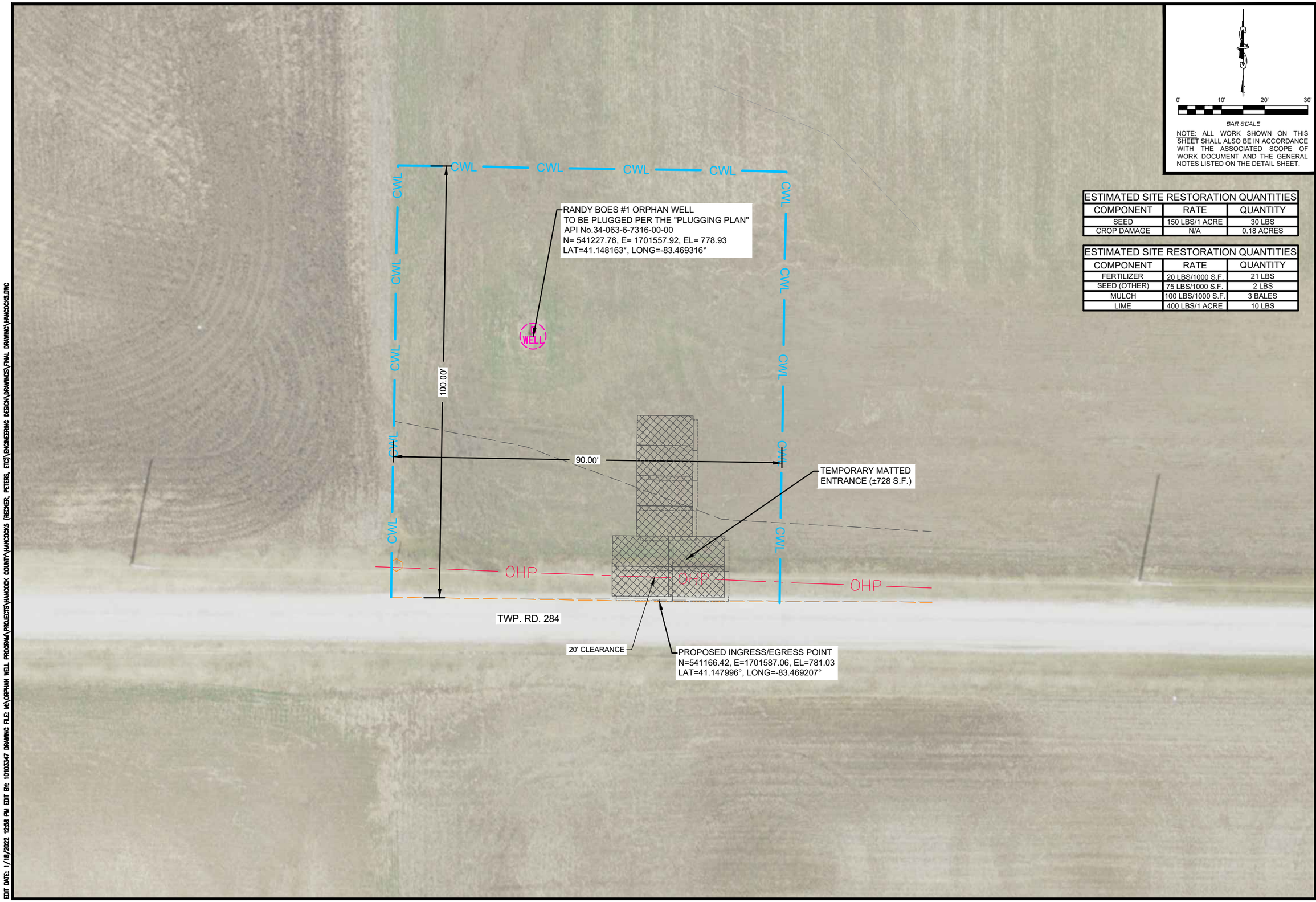
TITLE SHEET

HANCOCK #5
MULTIPLE
ORPHAN WELL SITES

REVISION	

DESIGN UNIT O&G ENGINEERING
DRAWN BY: J.R.J.
CHECKED BY: K.W.R.
DATE: 01/24/2022
SHEET NO. 1 OF 9

EDIT DATE: 1/18/2022 11:28 AM EDIT BY: 10103347 DRAWING FILE: M:\ORPHAN WELL PROGRAM\PROJECTS\HANCOCK COUNTY\HANCOCKS (RECKER, PETERS, ETC)\ENGINEERING DESIGN\DRAWINGS\FINAL DRAWING\HANCOCKS.DWG



0' 10' 20' 30'

BAR SCALE

NOTE: ALL WORK SHOWN ON THIS SHEET SHALL ALSO BE IN ACCORDANCE WITH THE ASSOCIATED SCOPE OF WORK DOCUMENT AND THE GENERAL NOTES LISTED ON THE DETAIL SHEET.

ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
SEED	150 LBS/1 ACRE	30 LBS
CROP DAMAGE	N/A	0.18 ACRES

ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	21 LBS
SEED (OTHER)	75 LBS/1000 S.F.	2 LBS
MULCH	100 LBS/1000 S.F.	3 BALES
LIME	400 LBS/1 ACRE	10 LBS

DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
IDLE & ORPHAN WELL PROGRAM
http://oilandgas.ohiodnr.gov

SITE PLAN
RANDY BOSE #1

HANCOCK #5
MULTIPLE
ORPHAN WELL SITES

REVISION

DESIGN UNIT
O&G ENGINEERING
DRAWN BY: J.R.J.
CHECKED BY: K.W.R.
DATE: 01/24/2022
SHEET NO.
2 OF 9

EDIT DATE: 1/18/2022 12:58 PM EDIT BY: 10103347 DRAWING FILE: M:\ORPHAN WELL PROGRAM\PROJECTS\HANCOCK COUNTY\HANCOCK5 (REDNER, PETERS, ETC)\ENGINEERING DESIGN\DRAWINGS\FINAL DRAWING\HANCOCK5.DWG

ST. RT. 18 & 613

MB

FO

OHP

CWL

501056
774.85

1 OHPL 18 FT CLR

20' CLEARANCE

90.00'

90.00'

105.00'

G
WELL

MARVIN KELBLEY #1 ORPHAN WELL
TO BE PLUGGED PER THE "PLUGGING PLAN"
API No.34-063-6-7333-00-00
N= 546408.13, E= 1706682.49, EL= 774.32
LAT=41.162536°, LONG=-83.450914°

TWP. RD. 262

TEMPORARY MATTED
ENTRANCE (±728 S.F.)

PROPOSED INGRESS/EGRESS POINT
N=546390.34, E=1706732.02, EL=774.81
LAT=41.162488°, LONG=-83.450733°

0' 10' 20' 30'

BAR SCALE

NOTE: ALL WORK SHOWN ON THIS SHEET SHALL ALSO BE IN ACCORDANCE WITH THE ASSOCIATED SCOPE OF WORK DOCUMENT AND THE GENERAL NOTES LISTED ON THE DETAIL SHEET.

ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
SEED	150 LBS/1 ACRE	19 LBS
CROP DAMAGE	N/A	0.12 ACRES

ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	69 LBS
SEED (OTHER)	75 LBS/1 ACREF	6 LBS
MULCH	100 LBS/1000 S.F.	8 BALES
LIME	400 LBS/1 ACRE	32 LBS

DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
IDLE & ORPHAN WELL PROGRAM
http://oilandgas.ohiodnr.gov

SITE PLAN
MARVIN KELBLEY #1

HANCOCK #5
MULTIPLE
ORPHAN WELL SITES

REVISION

DESIGN UNIT
O&G ENGINEERING
DRAWN BY: J.R.J.
CHECKED BY: K.W.R.
DATE: 01/24/2022
SHEET NO.
3 OF 9

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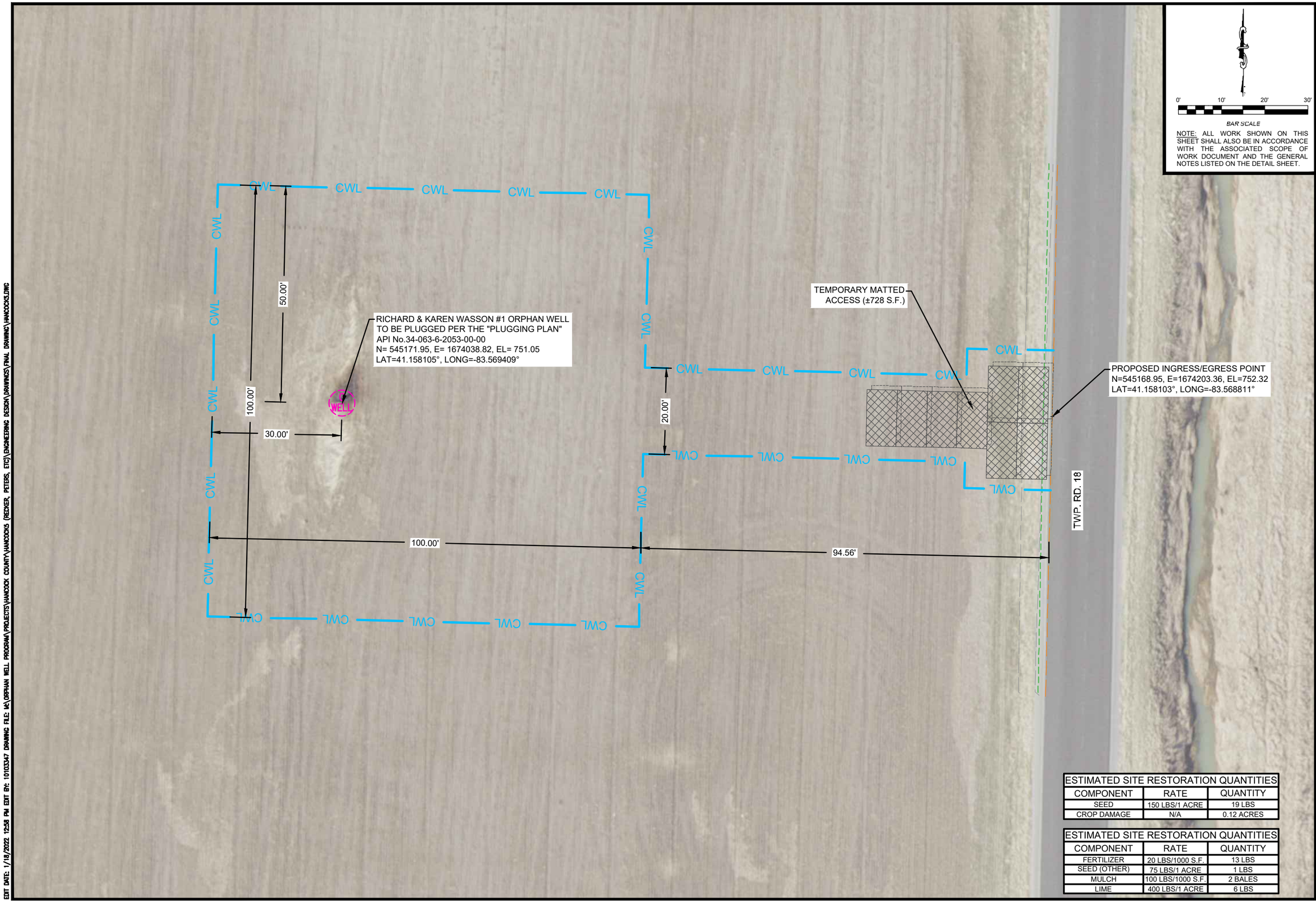

0' 10' 20' 30'

BAR SCALE

NOTE: ALL WORK SHOWN ON THIS SHEET SHALL ALSO BE IN ACCORDANCE WITH THE ASSOCIATED SCOPE OF WORK DOCUMENT AND THE GENERAL NOTES LISTED ON THE DETAIL SHEET.

ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
SEED	150 LBS/1 ACRE	19 LBS
CROP DAMAGE	N/A	0.12 ACRES

ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	13 LBS
SEED (OTHER)	75 LBS/1 ACRE	1 LBS
MULCH	100 LBS/1000 S.F.	2 BALES
LIME	400 LBS/1 ACRE	6 LBS

DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
IDLE & ORPHAN WELL PROGRAM
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SITE PLAN
RICHARD & KAREN WASSON #1

HANCOCK #5
MULTIPLE
ORPHAN WELL SITES

REVISION	

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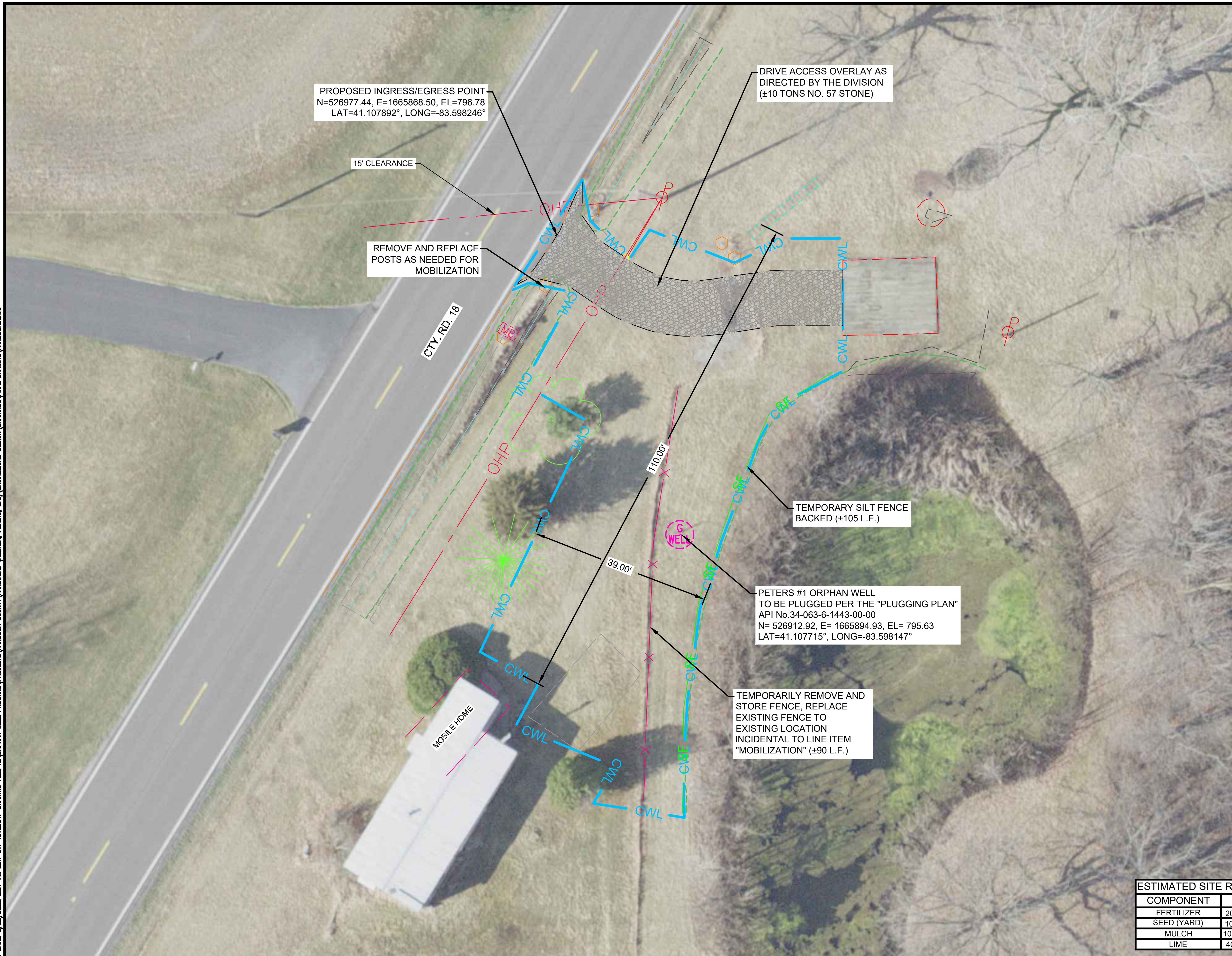

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ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	92 LBS
SEED (YARD)	10 LBS/1000 S.F.	46 LBS
MULCH	100 LBS/1000 S.F.	11 BALES
LIME	400 LBS/1 ACRE	43 LBS

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SITE PLAN PETERS #1

HANCOCK #5 MULTIPLE ORPHAN WELL SITES

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5 OF 9

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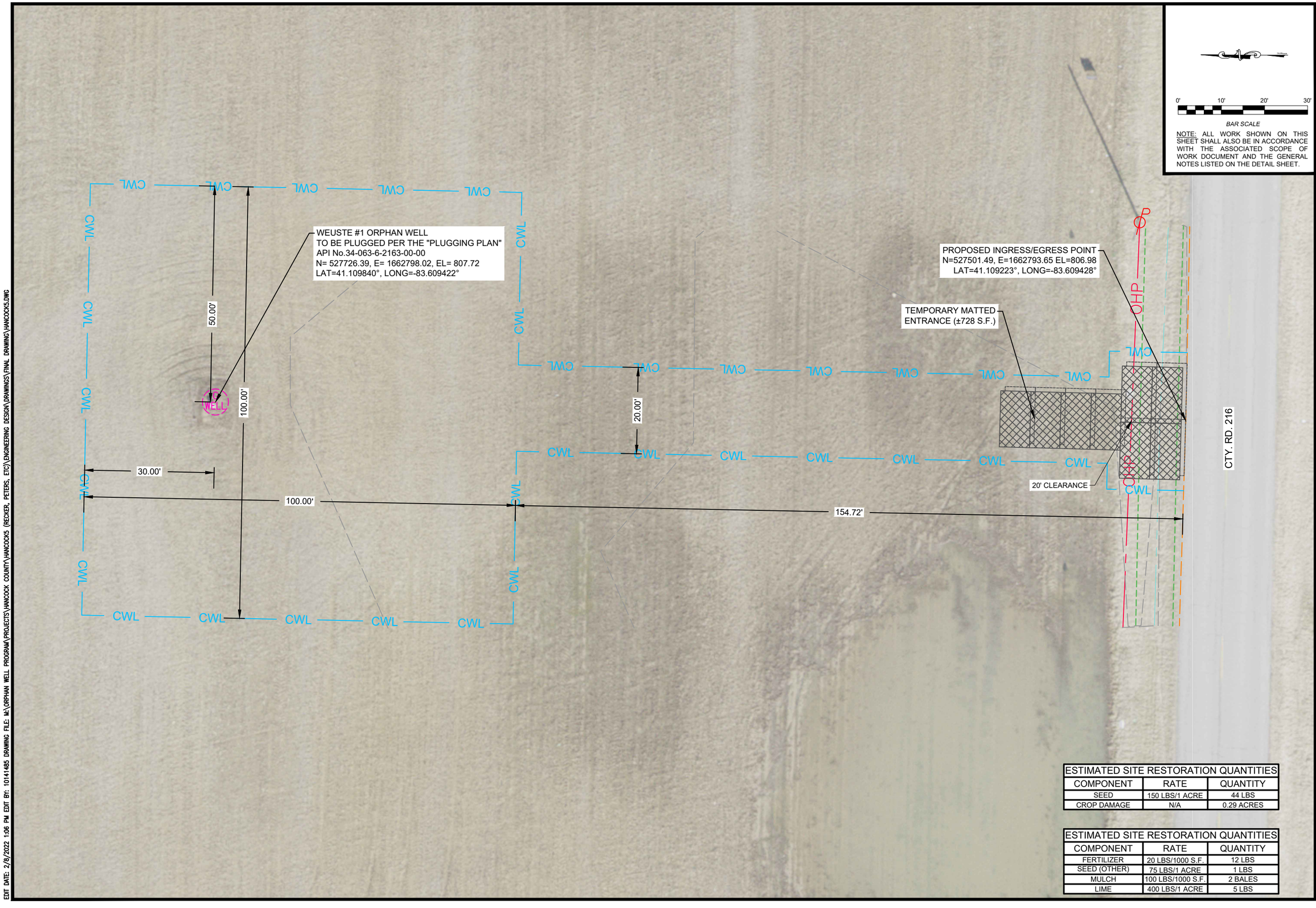

0' 10' 20' 30'

BAR SCALE

NOTE: ALL WORK SHOWN ON THIS SHEET SHALL ALSO BE IN ACCORDANCE WITH THE ASSOCIATED SCOPE OF WORK DOCUMENT AND THE GENERAL NOTES LISTED ON THE DETAIL SHEET.

ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
SEED	150 LBS/1 ACRE	44 LBS
CROP DAMAGE	N/A	0.29 ACRES

ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	12 LBS
SEED (OTHER)	75 LBS/1 ACRE	1 LBS
MULCH	100 LBS/1000 S.F.	2 BALES
LIME	400 LBS/1 ACRE	5 LBS

DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
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SITE PLAN
WEUSTE #1

HANCOCK #5
MULTIPLE
ORPHAN WELL SITES

REVISION

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DATE: 01/24/2022

SHEET NO.
6 OF 9

THE CONTRACTOR SHALL FIRST FLUSH THE LINE TO REMOVE ANY WELL BYPRODUCTS IN THE PIPE. THE CONTRACTOR SHALL THEN CEMENT THE LINE. THE CONTRACTOR SHALL FINALLY CAP THE END OF THE LINE AND ABANDON IN PLACE. WORK TO ABANDON LINES IN PLACE SHALL BE COMPLETED PER SPECIFICATION "GAS LINE ABANDONMENT" (NOTE: NOT ALL LINES ARE SHOWN AND LINES SHOWN MAY NOT BE COMPLETE, THE CONTRACTOR SHALL VERIFY THAT ALL LINES HAVE BEEN LOCATED ON THE PROPERTY TO THE SATISFACTION OF THE DIVISION). (±20 L.F.)

RESTORE EXISTING LANDSCAPE AREA WITH LIKE EXISTING PLANTS, WITHOUT TREE

EXISTING TREE AND STUMP TO BE REMOVED AND DISPOSED OF OFFSITE, INCIDENTAL TO "CLEARING & GRUBBING"

CONCRETE BARRIER
MIN. 32" TALL
76 LF TOTAL

PROPOSED INGRESS/EGRESS POINT
N=527520.28, E=1660506.91, EL=805.12
LAT=41.109195°, LONG=-83.617726°

CTY. RD. 216

5.00'

30.00'

83.00'

RECKER #1 ORPHAN WELL
TO BE PLUGGED PER THE "PLUGGING PLAN"
API No.34-063-6-7347-00-00
N= 527498.27, E= 1660471.38, EL= 804.81
LAT=41.109133°, LONG=-83.617854°

MATTED WORK AREA
(±2002 SF)

DRIVE OVERLAY (SEE DETAIL)
(±45 TONS NO. 57 STONE)

EXISTING WATER WELL
N=527397.36, E=1660520.83, EL=805.78
LAT=41.108858°, LONG=-83.617670°

OHP CTV CWL

0' 10' 20' 30'

BAR SCALE

NOTE: ALL WORK SHOWN ON THIS SHEET SHALL ALSO BE IN ACCORDANCE WITH THE ASSOCIATED SCOPE OF WORK DOCUMENT AND THE GENERAL NOTES LISTED ON THE DETAIL SHEET.

ESTIMATED SITE RESTORATION QUANTITIES

COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	63 LBS
SEED (YARD)	10 LBS/1000 S.F.	32 LBS
MULCH	100 LBS/1000 S.F.	7 BALES
LIME	400 LBS/1 ACRE	29 LBS

DIVISION OF OIL & GAS
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SITE PLAN
RECKER #1

HANCOCK #5
MULTIPLE
ORPHAN WELL SITES

REVISION

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7 OF 9

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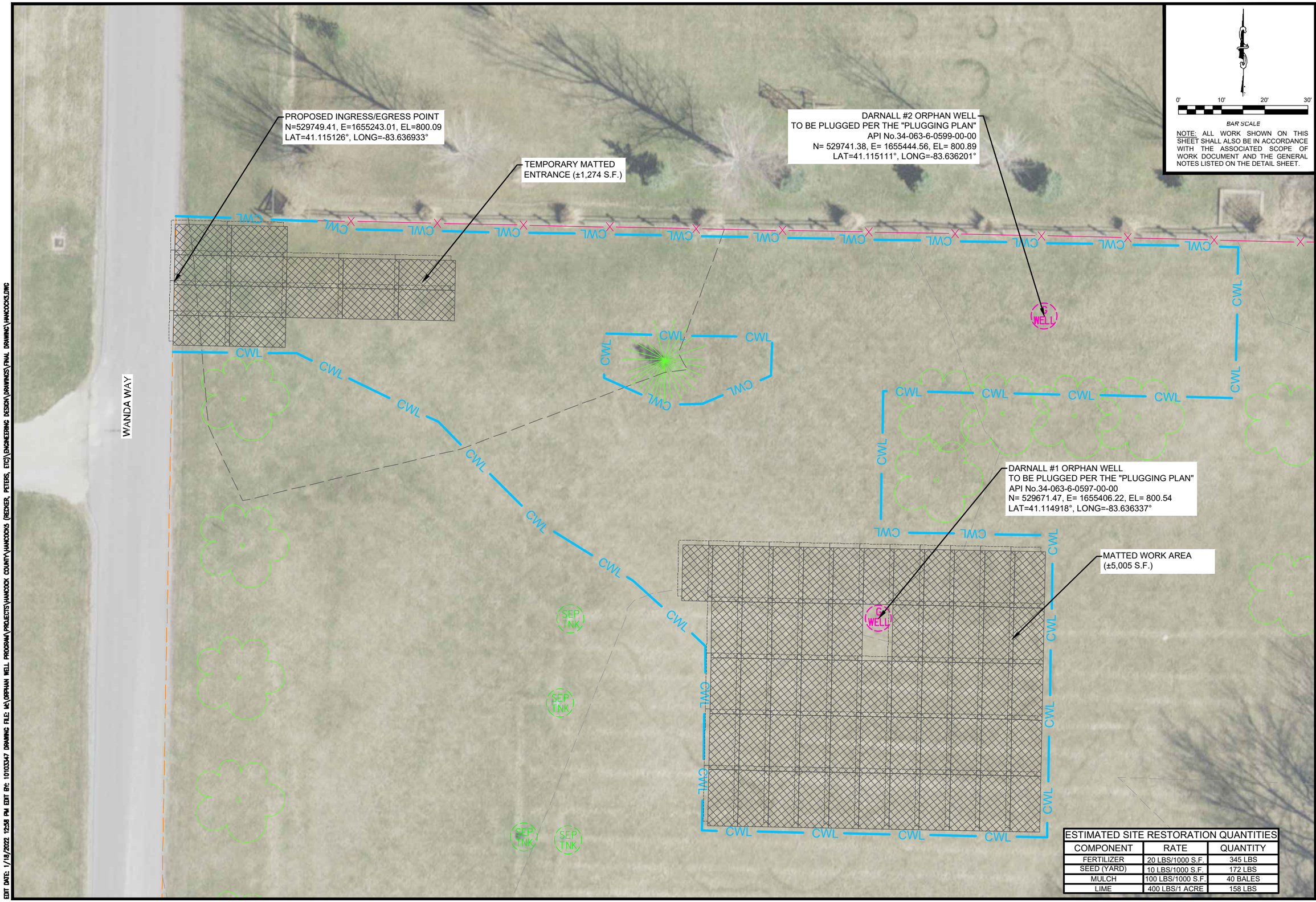

0' 10' 20' 30'

BAR SCALE

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ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	345 LBS
SEED (YARD)	10 LBS/1000 S.F.	172 LBS
MULCH	100 LBS/1000 S.F.	40 BALES
LIME	400 LBS/1 ACRE	158 LBS

DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
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SITE PLAN
DARNALL #1 & #2

HANCOCK #5
MULTIPLE
ORPHAN WELL SITES

REVISION

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8 OF 9

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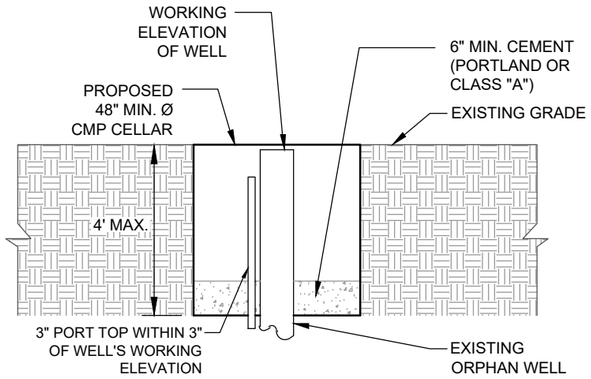
GENERAL NOTES:

1. UTILITY LINES AND APPURTENANCES ARE SHOWN AS LOCATED IN THE FIELD AND/OR AS REPORTED BY THE RESPECTIVE OWNERS. NEITHER THE NUMBER, TYPE, SIZE, OR LOCATION CAN BE GUARANTEED, AND IT IS THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS.
2. **THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY PROTECTING THE EXISTING BURIED UTILITIES DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO LINE ITEM "MOBILIZATION".**
3. THE HORIZONTAL DATUM IS BASED ON NAD83 (2011) OHIO STATE PLANE NORTH 3402, AND THE VERTICAL DATUM IS BASED ON NAVD88 GEOID 12A CORS DERIVED.
4. PHOTO IMAGE DATE OBTAINED FROM OHIO GEOGRAPHICALLY REFERANCED INFORMATION PROGRAM (OGRIP) FROM THE OHIO STATEWIDE IMAGERY PROGRAM (OSIP III).
5. THE CONTRACTOR SHALL WORK WITHIN THE WORK LIMITS AT ALL TIMES DURING CONSTRUCTION.
6. A FLAGGER IN EACH DIRECTION SHALL BE USED WHEN MATERIALS ARE BEING UNLOADED WITHIN THE ROAD RIGHT OF WAY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PHOTO/VIDEO DOCUMENTING THE CONDITION OF THE EXISTING ASPHALT DRIVE PRIOR TO BEGINNING CONSTRUCTION.
8. TREE AND OVERHANGING LIMB REMOVAL SHALL BE AS DESIGNATED BY THE DIVISION. REMOVALS SHALL PROVIDE THE CONTRACTOR WITH ADEQUATE SPACE REQUIRED TO COMPLETE THE PROJECT. TRIMMING OF TREES SHALL BE CONSIDERED INCIDENTAL TO LINE ITEMS AS SPECIFIED.
9. THE DIVISION MUST BE PRESENT DURING ALL CLEARING OPERATIONS. NO TREES ARE TO BE REMOVED UNLESS DESIGNATED BY THE DIVISION.
10. ANY REMOVED TREES AND VEGETATION SHALL BE REMOVED FORM THE SITE AND PROPERLY DISPOSED OF.
11. AT THE DISCRETION OF THE DIVISION, ALL STONE, FABRIC AND/OR GEOGRID SHOWN ON THE SITE PLAN SHEET(S) AS TEMPORARY SHALL BE REMOVED UPON COMPLETION OF THE PROJECT AND RESTORED PER LINE ITEM "SITE RESTORATION".
12. SEDIMENT CONTROLS SHALL BE PLACED AT THE DISCRETION OF THE DIVISION.



NOTES:
ALL WORK & MATERIAL ASSOCIATED WITH THE INSTALLATION & REMOVAL OF THE CELLAR SHALL BE CONSIDERED INCIDENTAL TO LINE ITEM "WELL HEAD CONTROL".

TEMPORARY CELLAR
NOT TO SCALE

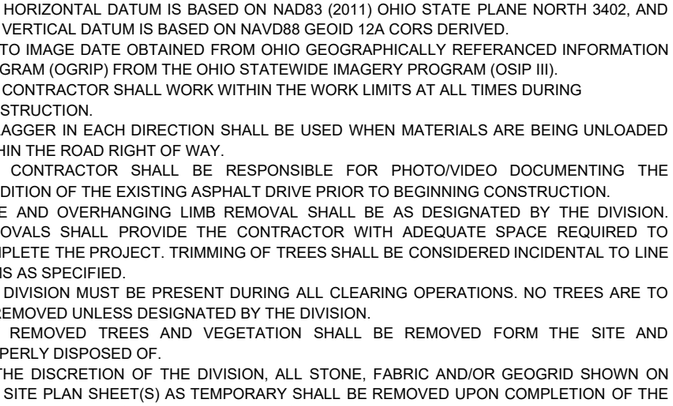
W21-1
(500' FROM W20-7, BOTH SIDES OF THE ENTRANCE)

W20-7
COVER OR TURN DURING EVENINGS OR WHEN BOTH LANES ARE OPEN (500' FROM FLAGGER, BOTH SIDES OF ENTRANCE)

NOTES:

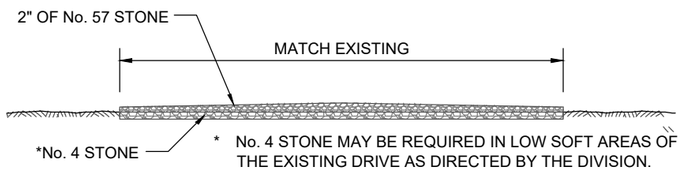
1. THIS WORK SHALL BE PER THE GENERAL SPECIFICATIONS, PART 7: MAINTENANCE OF TRAFFIC AND SHALL BE INCIDENTAL TO LINE ITEM "MOBILIZATION" FOR EACH SITE, UNLESS OTHERWISE NOTED. **THIS WORK SHALL INCLUDE ALL REQUIRED PERMITS FROM THE LOCAL ROAD AUTHORITIES.**
2. ALL SIGNS MAY BE MOUNTED PORTABLE MOUNTS.
3. CONTRACTOR SHALL FOLLOW THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FIGURE 6H-1, IN BOTH DIRECTIONS ALONG THE ROADWAY. W21-1 SHALL BE IN PLACE AS SOON AS THE CONTRACTOR ARIVES TO THE SITE EACH DAY.
4. CONTRACTOR SHALL FOLLOW THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FIGURE 6H-13, LANE CLOSURE ON A TWO-LANE ROAD USING FLAGGERS (TA-13).
5. FLAGGERS SHALL HAVE PROPER COMMUNICATION DEVICES AND SHALL BE POSITIONED 20' FROM EACH EDGE OF THE CONSTRUCTION WORK LIMITS. ANY VARIATION MUST BE APPROVED PER LOCATION. **TEMPORARY CLOSURES SHALL NOT BE COMPLETED WITHOUT A FLAGGER.**
6. TEMPORARY CLOSURES SHALL BE MINIMIZED TO LESS THAN 20 MINUTES AND THEN THE ROAD SHALL BE FULLY REOPENED TO TRAFFIC.
7. ANY WORK IN THE ROADWAY THAT IS REQUIRING MORE THAN 20 MINUTES SHALL BE COMPLETED PER GENERAL SPECIFICATIONS, PART 7: MAINTENANCE OF TRAFFIC WITH THE PROPER PERMITS FROM THE LOCAL ROAD AUTHORITIES AND APPROVAL FROM THE DIVISION.

FLAGGER & CONSTRUCTION SIGNAGE NOTES
NOT TO SCALE



NOTES:
1. FABRIC TO BE FASTENED SECURELY TO FENCE POST AS PER MANUFACTURER'S RECOMMENDATIONS.
2. ENDS OF INDIVIDUAL ROLLS OF FABRIC SHALL BE SECURELY FASTENED TO A COMMON POST OR OVERLAPPED 3" MIN.

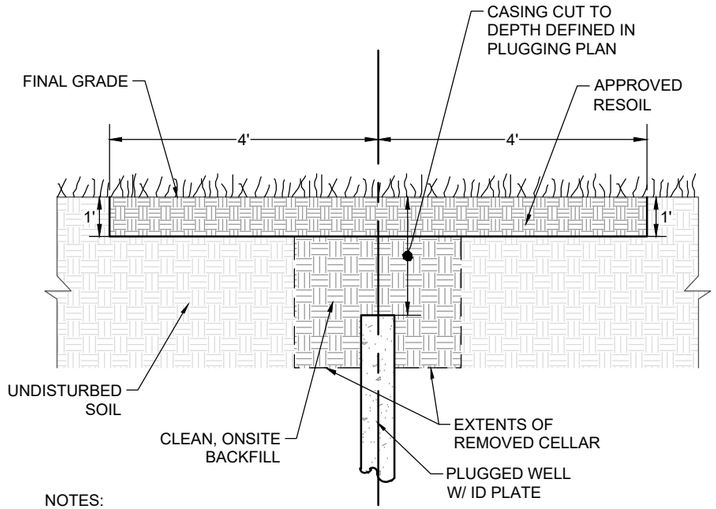
SILT FENCE DETAIL
NOT TO SCALE



SECTION A-A'

NOTE:
THE EXISTING DRIVE WILL BE ONLY ACCESS TO THE PROJECT SITES. ACCESS FOR THE LANDOWNER SHALL BE MAINTAINED DURING THE DURATION OF THE PROJECT. AT THE DISCRETION OF THE DIVISION, No. 57 STONE SHALL BE PLACED ON THE EXISTING DRIVE UPON COMPLETION OF THE PROJECT. ALL OTHER ACCESS AREAS SHALL BE RESTORED PER LINE ITEM "SITE RESTORATION".

DRIVE ACCESS OVERLAY
NOT TO SCALE



NOTES:

1. ANY REMOVED MATERIAL FROM AROUND THE WELL HEAD SHALL BE SEGREGATED TO PREVENT ADDITIONAL CONTAMINATION.
2. ONCE THE WELL IS CUT BELOW GRADE, AN EIGHT (8) FOOT BY EIGHT (8) FOOT AREA, ONE (1) FOOT DEEP SHALL BE EXCAVATED AROUND THE WELL HEAD & REPLACED WITH "APPROVED RESOIL".
3. REMOVED MATERIAL SHALL BE DISPOSED OF PER LINE ITEM "CONTAMINATED MATERIAL DISPOSAL".
4. PRIOR TO DELIVERY TO THE SITE OF "APPROVED RESOIL", ON SITE TOPSOIL MAY BE UTILIZED AT THE APPROVAL OF THE DIVISION
5. ALL WORK NOT INCLUDED IN "APPROVED RESOIL" OF "CONTAMINATED MATERIAL DISPOSAL" SHALL BE INCIDENTAL TO LINE ITEM 'SITE RESTORATION".

WELL RESTORATION SECTION
NOT TO SCALE

DIVISION OF OIL & GAS
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DETAILS

HANCOCK #5
MULTIPLE
ORPHAN WELL SITES

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9 OF 9

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