



**SCOPE OF WORK
HANCOCK #1 PROJECT**

**Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty & Marion Townships**



The Hancock #1 project shall include the following wells:

Well Name	API Number	County	Township	GPS Latitude	GPS Longitude
Fernco Lenco Norco (Fernco) #1	34-063-6-2855-00-00	Hancock	Liberty	41.049788	-83.687830
Raymond Rice (Rice) #1	34-063-6-7337-00-00	Hancock	Marion	41.022421	-83.631488

PROJECT SCOPE OF WORK:

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

PROJECT DIRECTIONS:

Fernco #1: From the intersection of Interstate 75 and State Route 12 in Findlay, take State Route 12 west for 0.85 miles to County Road 140. Turn right (north) onto County Road 140 and go 0.7 miles to Edgewood Drive. Turn right (east) onto Edgewood Drive and go 180 feet to Dogwood Drive. Turn right (south) onto Dogwood Drive and go 150 feet to the well which is located three feet right (west) of Dogwood Drive.

Rice #1: From the intersection of State Route 37 and US 15, southeast of Findlay, take State Route 37 (Blanchard Avenue) north approximately 3.7 miles to 6th Street and turn left (west) onto 6th Street. Go 0.5 miles to address 1100 6th Street on the right (north). The well is located 20 feet north of 6th Street, 4 feet north of the sidewalk and 6 feet west of the driveway.



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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. Offer 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.



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GENERAL CONDITIONS

PART 1: OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS

This Hancock #1 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/2016-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 Addendum to the Scope of Work and will provide the Addendum by email to all Department of Administrative Services (DAS) pre-qualified contractors. Each contractor is responsible for submitting an offer that is responsive to all Addenda issued. Failure to receive or acknowledge any Addenda does not release the Contractor from all obligations contained in all Addenda. All Addenda shall become part of the Scope of Work. Receipt of Addenda must be noted on the Contractor's Offer Sheet.

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 Addendum, 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.

PART 5: INSTRUCTIONS FOR PREPARING AN OFFER

A Contractor's offer must be submitted on the enclosed Offer Sheet. The offer must be legibly written in ink or typed, with all amounts in numerals. The Contractor must initial any alteration or deletion of items on the Offer Sheet in ink. Offers shall include labor, equipment, and material cost plus a proportionate share of the Contractor's overhead costs, other indirect costs, and anticipated profit. A Contractor shall not submit a mathematically unbalanced offer or a materially unbalanced offer. 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 Offeror'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.

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 on the enclosed Offer Sheet;
- Does not acknowledge every Addendum issued by the Division;
- Does not include an amount for every item on the Offer Sheet;
- Does not total the amounts on the Offer Sheet;
- Incorrectly totals the amounts on the Offer Sheet;
- Is conditional; or
- Is a mathematically unbalanced offer and a materially unbalanced offer.

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 Project must be completed **six (6) months after the effective date with the Rice #1 being completed between June 3rd and August 16th** or by June 30, 2019, whichever is sooner. If the Project terminates on June 30, 2019 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.

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 of 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

Contractor 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 by regular mail to 2207 Reiser Avenue, SE, New Philadelphia, Ohio 44663 or alternatively via email to Division's Project Representative. The Contractor's payment request must be submitted on 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.



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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 work day 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 (H₂S), 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.

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 (CH₄), Oxygen (O₂), Carbon Monoxide (CO) and Hydrogen Sulfide (H₂S).

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 (H₂S), 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 H₂S emitted from the well. If the Contractor does not have the appropriate equipment to properly detect and abate any H₂S 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: 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 14: REMOVAL OF AN OBSTRUCTION

The removal of an unknown obstruction that is encountered during the cleanout of a well may include 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 15: 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 16: 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.



SCOPE OF WORK
HANCOCK #1 PROJECT
Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty & Marion 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) Once all required plugs have been placed and allowed to set, 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 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 re-soil as applicable, final grade, disc, fertilize, seed, and mulch all disturbed areas.
- 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 #1 PROJECT
Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty & Marion Townships



WELL DESCRIPTION

This Well Description is for the:

Fernco Lenco Norco Development Ltd. (Fernco) #1, API #34-063-6-2855-00-00, Liberty Township

Background: The Fernco #1 is situated off County Road 140, on the west side of City of Findlay, approximately 150 feet south of the intersection of Edgewood Drive and Dogwood Drive in the Riverview Terrace Mobile Home Park. This is parcel #280001016704, is known as address 8166 Dogwood Drive and consists of 86 acres owned by Fernco Lenco Norco Development Ltd.

A Division inspection conducted in 2007 found the Fernco #1 approximately 150 feet south of the intersection of Edgewood and Dogwood Drives and 12 feet west of Dogwood Drive, in an open grassy area. The well was visibly equipped with 8-inch outside diameter (OD) casing just below ground level. The well was leaking oil from this casing due recent heavy rains. The area around the well was excavated and a 14-inch diameter by 8-foot-long plastic pipe was placed over the well to contain any fluids and a cap was placed on the top of the plastic riser. Recent inspections show that there has been no evidence of fluid leaking outside the riser plastic riser. It has not been determined if there is smaller casing in this well.

There are no drilling or casing records available for the Fernco #1 in the Division database. Based on available information from other oil and gas wells in the area, this well is believed to have been drilled in the early to middle 1900's to approximately 1300 feet, in the Trenton formation. During this era, it was general practice to set eight (8) inch diameter casing as the shallow drive pipe/conductor casing and six (6) inch diameter casing was used as surface pipe to shut off any shallow water zones within 100 feet-400 feet below ground level. No additional casing was installed in the wells and they were completed open hole.

There are no drilling or casing records available for the Fernco #1. Based on available information from other oil and gas wells in the area, this well is believed to have been drilled in the early 1900's to approximately 1300 feet, in the Trenton formation. During this era, it was general practice to set 8-inch diameter casing as the shallow drive pipe/conductor casing and 6-inch diameter casing as surface pipe to shut off any shallow water zones within 100-500 feet below ground level. Typically, no additional casing was installed in the wells and they were completed open hole.

The nearest well with concise drilling data is API #34-063-6-4060-00-00. This well is located approximately 3300 feet to the southwest of the Fernco #1, was drilled in 1894 to a depth of 1281 feet and then deepened in 1900 to a depth of 1354 feet, in the Trenton Formation. Records show this well was abandoned in 1905. Key formation depths and thicknesses are as follows:

Formation	Top	Bottom	Remarks
Trenton	1253'	1281'	Shot w/80 quarts, Gas & oil – 1276', Best oil – 1268.5'
		1281'	Total Depth
Casings Set			8-inch to 23 feet; 6-inch to 445 feet
Deepened in 1900	1281'	1354'	Shot w/140 quarts, production increase from 2 to 5 barrels

For the purposes of this Scope of Work, the total depth of the Fernco #1 will be assumed to be 1300 feet.

The ODNR-Division of Water map entitled Ground Water Resources of Hancock County (Schmidt, 1978) indicates reported groundwater yields of 100 to 500 gallons per minute (gpm) from the underlying limestone/dolomite aquifer, at depths of less than 250 feet. The map data indicates that many drillers drill wells less than 50 feet to avoid hydrogen sulfide in groundwater.

The area of review (AOR) does not fall within a groundwater source protection area, however the AOR does fall within an Ohio Nonpoint Source (NPS) protection area for public water systems using surface water. The deepest underground source of drinking water (USDW) is mapped on the base of the Lockport Dolomite at an elevation between 400 to 450 feet above mean sea level (amsl) (Riley et al., 2011). Based on topographic map data, the ground surface elevation at the Fernco #1 is estimated to be approximately 770 feet amsl. The depth to the base of the USDW is anticipated to be between 320 and 370 feet bgs. This well is situated on a residential parcel in a mostly residential and commercial area. There are no known water wells or developed springs within the 500-foot AOR.

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 140 to access the site.

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 #1 PROJECT
Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty & Marion Townships



PLUGGING PLAN

This Plugging Plan is for:

Fernco Lenco Norco Development Ltd. (Fernco) #1, API #34-063-6-2855-00-00, Liberty Township

For the purposes of this plugging plan it is assumed that this well contains only 8-inch diameter conductor casing, that is set to an approximate depth of 25 feet.

- 1) The Contractor will visually examine the existing eight (8) inch diameter casing to evaluate its condition. If the upper portion of the casing 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 will install an appropriate well head and an approved method of well control (Flow Diverter) on the 8-inch diameter casing to insure there is control of natural gas and/or fluids generated from the well. The Contractor will establish and maintain well control throughout the entire plugging process. The contractor will keep a maintain a minimum of 75 barrels of fresh water on location for well control.
- 3) The Contractor will clean out the hole to its total depth (TD) of 1300 feet or a depth approved by the Division.
- 4) Once total depth has been reached, the Contractor will load the hole and run Gamma Ray/CCL/Temperature/Bond/Caliper logs to verify total depth of the well and the depth of the 8-inch diameter casing, determine bond quality and free point behind this casing, and confirm zones of natural gas production and formation tops for cementing purposes. All cement plug depth and thicknesses will be based on log data.
- 5) All cement plugs will be set through a working string of 1.5-inch minimum inside diameter tubing using Class A cement, mixed at 15.6 pounds per gallon. Circulation must be achieved, and all free crude oil shall be circulated from the wellbore with fresh water prior to setting any plug. The Contractor will use fresh water as a spacer between cement plugs.
- 6) The Contractor will set a 300-foot bottom plug from 1300 feet to 1000 feet to cover/isolate the Trenton Formation. The Contractor will wait on cement a minimum of eight (8) hours. After waiting on cement, the Contractor will 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 bottom plugs may be requested at the discretion of the Division.
- 7) Once a competent bottom plug is achieved, the Contractor will set a 300-foot isolation plug, from 500 feet to 200 feet, wait four (4) hours and then set a cement surface plug from 200 feet to ground level. The Contractor will wait on cement a minimum of eight (8) hours, after which the Contractor will check the cement level and top off with additional cement, if necessary.

- 8) The Contractor will then cut the casing to a minimum depth of 30 inches below 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 #1 PROJECT
Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty & Marion Townships



WELL DESCRIPTION

This Well Description is for the:

Raymond Rice (Rice) #1, API #34-063-6-7337-00-00, Marion Township

Background: The Rice #1 is located approximately 0.5 miles west of the intersection of State Route 37 and 6th Street in Findlay. The well is 4 feet north of the sidewalk, 6 feet west of the driveway, in the front yard at 1100 6th Street. This is parcel #560001008171 and consists of 0.5 acres owned by Raymond & Darlene Rice.

Division inspections found the well is equipped with 4.5-inch outside diameter (OD) casing with a collar at ground level. The collar is fitted with a 4.5 inch to 2-inch bushing with a 2-inch “T” fitting. The top of the fitting has a steel plug while the side port is fitted with an elbow fitting that is equipped with a 2-inch to 1-inch reduction fitting and 1-inch line that goes underground, three feet north of the well. This line extends toward the home at 1100 6th Street.

On February 5th, 2019, the Rice #1 was blown down and opened up by Second Oil Company, as part of Division Work Order NW-005. The pressure on the well before it was vented was at less than 20 psi and no Hydrogen Sulfide was detected. At 10:30 AM the Contractor started venting the well through a 1-inch diameter pipe that extended 15 feet above the well. After 15 minutes of venting a sour odor was noted. Using the State Issued Ventis Pro4 gas detector the Hydrogen Sulfide levels at the vent pipe measured at 39 parts per million (ppm). At 11:00 AM the Hydrogen Sulfide was measured at 409 ppm and before the well was shut in at 12 PM the Hydrogen Sulfide was at 132 ppm. On March 11th, the pressure on the 4.5-inch diameter casing was at 110 psi. The Contractor relieved the pressure on the casing, a sulfide scavenger was poured into this casing and the well was flooded with 900 gallons of fresh water. Once the well was static and no Hydrogen Sulfide detected, it was shut in. The well is currently at 110 psi inside the 4.5-inch casing.

There are no drilling or casing records available for the Rice #1. Based on available information from other oil and gas wells in the area, this well is believed to have been drilled in the early 1900’s to approximately 1300 feet, in the Trenton formation. During this era, it was general practice to set 8-inch diameter casing as the shallow drive pipe/conductor casing and 6-inch diameter casing as surface pipe to shut off any shallow water zones within 100-500 feet below ground level. Typically, no additional casing was installed in the wells and they were completed open hole.

The nearest well with concise drilling data is API #34-063-6-4060-00-00. This well is located approximately 3.8 miles to the northwest of the Rice #1, was drilled in 1894 to a depth of 1281 feet and then deepened in 1900 to a depth of 1354 feet, in the Trenton Formation. Records show this well was abandoned in 1905. Key formation depths and thicknesses are as follows:

Formation	Top	Bottom	Remarks
Trenton	1253'	1281'	Shot w/80 quarts, Gas & oil – 1276', Best oil – 1268.5'
		1281'	Total Depth
Casings Set			8-inch to 23 feet; 6-inch to 445 feet
Deepened in 1900	1281'	1354'	Shot w/140 quarts, production increase from 2 to 5 barrels

For the purposes of this Scope of Work, the total depth of the Rice #1 will be assumed to be 1300 feet.

The ODNR-Division of Water map entitled Ground Water Resources of Hancock County (Schmidt, 1978) indicates reported groundwater yields of 100 to 500 gallons per minute (gpm) from the underlying limestone/dolomite aquifer, at depths of less than 250 feet. The map data indicate that many drillers drill wells less than 50 feet to avoid hydrogen sulfide in groundwater.

The area of review (AOR) does not fall within a groundwater source protection area, however the AOR does fall within an Ohio Nonpoint Source (NPS) protection area for public water systems using surface water. The deepest underground source of drinking water (USDW) is mapped on the base of the Lockport Dolomite at an elevation between 450 to 500 feet above mean sea level (amsl) (Riley et al., 2011). Based on a review of the topographic map data, the ground surface elevation at the Rice #1 is estimated to be approximately 780 feet amsl. The depth to the base of the USDW is anticipated to be between 280 and 330 feet below ground surface. The Rice #1 well is situated on a residential parcel in a mostly residential area.

There are no known water wells or developed springs within the 500-foot AOR. Water well #120992 is located approximately 800 feet west of the Rice #1 well. This water well was completed in 1955 and drilled into limestone to a total depth of 52 feet with a static water level of 6 feet.

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 37 and 6th Street to access the site.

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 #1 PROJECT
Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty & Marion Townships



PLUGGING PLAN

This Plugging Plan is for:

Raymond Rice (Rice) #1, API #34-063-6-7337-00-00, Marion Township

Marion Township is a known producer of “sour” (H₂S) gas. Based on this information, the Contractor will follow the H₂S protocol shown in the Safety Section of the contract. For the purposes of this plugging plan, it is assumed that the Rice #1 is equipped with only the 4.5-inch OD casing and is open to a depth of 1142 feet. Due to the well access issues at this site, which limit the type of plugging equipment that can be used, no further cleanout will be required past a depth of 1142 feet.

- 1) The Contractor will relieve the pressure that has built up on this well following the protocol shown in the Safety Section of the contract.
- 2) The Contractor will visually examine the existing 4.5-inch outside diameter (OD) casing, to evaluate its condition. If the upper portion of the casing 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 ground level or a suitable working height.
- 3) The Contractor will install an appropriate well head and an approved method of well control (Flow Diverter) on the 4.5-inch OD casing to insure there is control of natural gas and/or fluids generated from the well. The Contractor will establish and maintain well control throughout the entire plugging process. The contractor will have a minimum of 100 barrels of 10.5 pounds per gallon brine water on location to maintain well control and a minimum of 5 gallons of sulfur scavenger to control any additional H₂S gas encountered.
- 4) The Contractor will run their tools in the well to verify it is open to 1142 feet.
- 5) The Contractor will load the hole and run Gamma Ray/CCL/Temperature/Bond/Caliper logs to verify total depth of the well and the depth of and the bond quality behind the 4.5-inch OD casing, determine if a packer is present and, if present, the depth and thickness of the packer, and also confirm zones of gas production and formation tops for cementing purposes. All cement plug depth and thicknesses will be based on log data.
- 6) All cement plugs will be set through a working string of 1.25-inch minimum inside diameter tubing using Class A cement, mixed at 14.2 pounds per gallon. Circulation must be achieved, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 7) The Contractor will set a 500-foot bottom plug from 1140 feet to 640 feet, which will isolate the Trenton Formation. The Contractor will then shut in the well with 200 pounds per square inch pressure and wait on cement a minimum of eight (8) hours. After waiting on cement, the Contractor will 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 bottom plugs may be requested at the discretion of the Division.

- 8) After a competent bottom plug is achieved, the Contractor will then set a plug from 640 feet to surface using a Nine Sack grout mix. The Contractor will wait on grout a minimum of eight (8) hours, after which the Contractor will check the grout level and top off with additional grout, if necessary.
- 9) The Contractor will then cut the casing to a minimum depth of 30 inches below 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 #1 PROJECT
Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty & Marion 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 the site as well as the maintenance of all onsite access roads.

This item shall include the incidental pruning of lower tree branches and shrubs within the limits shown on the Drawing Plan Set to provide adequate space to maneuver equipment to complete the proposed work at each well. The Division shall exercise control over clearing and shall designate all trees, plants, shrubs, abandoned material, trash, etc., to be removed or to remain. This work shall also include the preservation from injury or defacement of all trees designated to remain.

- 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.

- C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division. **Mobilization of equipment from the well site to well site for this project shall be considered incidental to this line item.**

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

TRAFFIC MAINTENANCE

- A. Description: This work shall consist of all labor and materials needed to close traffic on both well sites during construction. This work shall also include, but not be limited to, warning signs, barricades, and cleaning mud & dirt associated with the construction from all public roadway surfaces.

The Contractor shall notify the Division and the City of Finley and Hancock County engineering offices a minimum of 7 calendar days prior to closing the below referenced roadways for construction.

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, any such material or equipment stored between the side ditches, or between lines five (5) feet behind any raised curbs, shall be clearly outlined with dependable lighted devices that are approved by the Division. In addition, the Contractor shall provide any other lights, barricades, etc., that may be needed for the protection of pedestrian traffic.

2. Road Closed: Both road closures shall be required during the entire duration of the plugging operations at each well site.
 - a. Fernco #1 well site: Dogwood Drive will close the south bound lane and maintain one lane traffic on the north bound lane.
 - b. Rice #1 well site: 6th Street shall require a complete road closure of both the east and west bound direction.
 - c. Rice #1 well site – One Lane Contingency: A contingency item for opening one lane of traffic shall be included in the event the division determines it is safe to open the roadway, but the contractor still has work that requires more space than available on the property. This shall include minimum three (3) feet tall channelizing devices and a temporary traffic light system approved by the Division.

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.

Upon a shutdown or completion of the project, the Contractor shall re-open the roadway. The roadway shall be in a condition that is equal to or better than the roadway condition prior to the road closure. The Contractor shall remove traffic controls for the period the project is shutdown. All re-opening and road closing shall be considered incidental to "**Traffic Maintenance.**"

- 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 residential structures and the potential safety issues involved with the plugging procedure, the Division, local Fire Department and safety contractor will contact the residents two weeks prior to the commencement of plugging activities to notify them of the potential safety issues.
2. Hydrogen Sulfide (H₂S) (Rice #1 Well Site): The Contractor must provide the appropriate equipment, on-site, to properly detect and abate any H₂S emitted from the well. All personnel on location must have and wear H₂S monitor and/or 4-gas monitor. **Per 29 CFR 1910.1000, Air Contaminants, Table Z-2 the permissible exposure limits (PEL) ceiling standard for H₂S is 20 ppm.** The Contractor will be required to have an H₂S safety team on site until the geological zone of interest is covered with cement and no further H₂S issues are at surface. The H₂S safety team may be released at this point, but personal monitors and the rig monitor are still required. The H₂S safety team will be paid for on a per date rate per line item **H₂S Safety Team**. The H₂S safety team shall be qualified employees of the Contractor or subcontractors.

Once detection of permissible exposure limits (PEL) are exceeded, the Contractor will not continue plugging operations until the safety team has developed and implemented a plan that is compliant with Occupational Safety and Health Administration (OSHA) regulations. The plan shall be approved by the Division prior to implementation.

A H₂S release of 20 ppm for 10 minutes or more in working areas OR a release resulting in injury or death of a person is a REPORTABLE INCIDENT. Call 1-844-OHCALL1 (1-844-642-2551) within 30 minutes after becoming aware of the occurrence.

3. Temporary Construction Fence & Posts: The temporary construction fencing shall be chain link fence with a minimum overall height of six (6) feet. Fence shall be constructed in panels. Each panel shall have a horizontal and vertical support. Each panel shall be held upright by a stand at the base of each side of the panel. All panels shall be locked together with saddle clamps, nuts, and bolts. The entrance gate shall be maintained in locked position when the site is unattended.

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.

4. Identifications, Markings & Plugs (Rice #1 Well Site): All conduits capable of allowing methane migration (i.e. ventilation pipes, storm/water drains) into the lower level of an inhabited dwelling shall be identified and capped by the Contractor.

Any potential ignition sources within a fifty (50) foot radius shall be identified and marked by the Contractor.

All identifications, marking and plugs shall be inspected and approved by the Division prior to commencing with any well plugging activities.

5. Storm Inlet Protection: The Contractor shall protect the storm inlet indicated on the Drawing Plan Set. The Contractor shall notify the local municipality a minimum of 7 calendar days prior beginning work on the storm inlet. The four (4) inch and twelve (12) inch storm laterals shall be sealed with isolation plugs (i.e. balloon plugs). The balloon plugs shall be UV-resistant plugs as manufactured by USA Industries Inc., 315 State Street, South Houston, TX 7758 (800) 456-8721. Anytime work is being done on the well the plugs shall be in place. During rain events and/or non-working hours the plugs shall be removed. **Upon completion of the Project, the Contractor shall forfeit the plugs to the Division for use on future projects.**
6. 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.
7. Air Monitoring: The Contractor will set up a wireless monitoring system (up to 8 channels) to monitor for Methane (CH₄), Lower Explosive Limit (LEL), Oxygen Saturation (O₂%), Carbon Monoxide (CO), and Hydrogen Sulfide (H₂S) around the plugging operation and the interior of the building nearest the well. For the **Fernco #1** well, the Contractor will be required to provide **one (1)** wireless monitor system. The monitor shall be placed within five (5) feet from the well. For the **Rice #1** well, the Contractor will be required to provide **two (2)** wireless monitor systems. The first monitor shall be placed within five (5) feet from the well and the second monitor shall be placed at the closest residence inside the door nearest the gas well. The Contractor shall work with the Division to ensure the proper placement of these monitors. During plugging operation, the Contractor will provide these monitors on a 24-hour basis to ensure building occupant, onsite workers, and over all public safety. Air monitoring will be conducted in this manner on a daily basis until the plugs have been set and it is determined that there is no further gas migration/release detected.

8. FEMA 100-year Floodplain Requirements (Rice #1 Well Site): The well is located within the FEMA 100-year floodplain limits. In an event that the site begins to flood, the Contractor will be required to immediately shut in the well and remove all onsite equipment and chemicals that could potentially cause pollution and or contamination. All chemicals and fluids that have the potential to pollute and/or contaminate the site must be removed prior to a flood event. If an event happens where the site is flooded, and plugging must be ceased, the Contractor should shut the well in to prevent any wellbore fluids from contaminating the area.
9. Protective Barriers: During rig up and plugging operations, a physical barrier will be required between the operations and the occupied dwelling. The barrier must be of sufficient height, length and material to prevent any fluid spray from rig floor connection/disconnections and any spray from flowback operations from contacting the occupied dwelling.
10. 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.
11. Power/Utility Lines Safety (Rice #1 Well Site): The well is nearly directly under an electrical transmission line which feeds the surrounding residential area. The Contractor will be required to work with the electrical provider to ensure the lines are secured in a fashion to prevent jumping/arcing of electrical current during all phases of operation.

Other utility lines also cross the work area which will also need to be worked around to insure no damage is caused to the lines.

12. Emergency Response Plan: The Contractor will assemble an Emergency Response Plan (ERP) with all contact information, emergency preventative measures, and **plans for Hydrogen Sulfide (H₂S) release (Rice #1 Well Site)** 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 pre-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 starting 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.**"

Well Name	Safety Measures Required
Fernco #1	Notification; Temporary Construction Fence & Posts; Storm Inlet Protection; Air Movers; Air Monitoring; Protective Barriers; Temporary Shut-In; Powerline/Utility Line Safety; Emergency Response Plan
Rice #1	Notification; Hydrogen Sulfide (H ₂ S); Temporary Construction Fence & Posts; Identifications, Markings & Plugs; Storm Inlet Protection; Air Movers; Air Monitoring; FEMA 100-year Floodplain Requirements; Protective Barriers; Temporary Shut-In; Powerline/Utility Line Safety; Emergency Response Plan

HYDROGEN SULFIDE SCAVENGER - (RICE #1 WELL SITE)

- A. Description: The work covered by this section shall consist of furnishing all labor, equipment, and material necessary to provide and use a hydrogen sulfide scavenger for the drilling and plugging process of the well.
- B. Materials: The Contractor shall provide Sulfa-Clear or an approved equal. The Sulfa-Clear shall be applied at a rate to eliminate the presence of Hydrogen Sulfide (H₂S) at the surface and shall not be less than seven (7) percent concentration with the applicable well bore fluid.
- C. Execution: The Contractor shall be prepared to apply the hydrogen sulfide scavenger at any time during the drilling and plugging operation. When Hydrogen Sulfide (H₂S) is encountered the Contractor shall apply the hydrogen sulfide scavenger. If the hydrogen sulfide scavenger is applied during drilling operations the Contractor shall continue to monitor the presence of H₂S and apply additional hydrogen sulfide scavenger as needed in order to complete the plugging.

Once total depth has been reached an additional batch of hydrogen sulfide scavenger will be applied to the total depth of the well bore prior to setting of any plugs. Once this total depth application has been applied the Contractor shall wait a minimum of 24 hours to commence work on the well bore.

- D. Measurement: Measurement for payment for the above-described work shall be made by the actual quantity of gallons of hydrogen sulfide scavenger used to successfully plug and/or drill the orphan well.
- E. Payment: Payment for the above work shall be made at the unit price per gallon for "**Hydrogen Sulfide Scavenger**".

H2S SAFETY TEAM - (RICE #1 WELL SITE)

- A. Description: The work will include the installation and implementation of safety procedures for the plugging of the orphan well as described herein that is known to have or is emitting H₂S gas in excess of permissible exposure limits (PEL). **Per 29 CFR 1910.1000, Air Contaminants, Table Z-2 the permissible exposure limits (PEL) ceiling standard for H₂S is 20 ppm.** This shall also include any labor, equipment, materials, and time needed to implement these safety procedures. The H₂S safety team shall be qualified employees of the Contractor or subcontractors.
- B. Execution: The Contractor must provide the appropriate equipment, on-site, to properly detect and abate any H₂S emitted from the well. All personnel on location must have and wear H₂S monitor and/or 4-gas monitor. If permissible exposure limits (PEL) are exceeded, the Contractor will be required to have an H₂S safety team on site until the geological zone of interest is covered with cement and no further H₂S issues are at surface. The H₂S safety team may be released at this point, but personal monitors and the rig monitor are still required.

Once detection of permissible exposure limits (PEL) are exceeded, the Contractor will not continue plugging operations until the safety team has developed and implemented a H₂S safety plan that is compliant with Occupational Safety and Health Administration (OSHA) and The National Institute for Occupational Safety and Health (NIOSH) regulations. The plan shall be approved by the Division.

Along with any other measures required to be compliant with regulations and to implement the approved H₂S safety plan, the Safety Team at minimum shall supply, train, and utilize the following:

1. Supply & use exhaust and ventilation systems,
 2. Train and educate workers about hazards and controls,
 3. Test (monitor) the air,
 4. Establish, train, and use proper rescue and first aid procedures,
 5. Supply, train, and use respiratory and other personal protective equipment, &
 6. Establish, train, and implement an H₂S Emergency Response Plan for the site.
- 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, equipment, materials, and time shall be made at the unit price per day for "**H₂S Safety Team**".

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 2016 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.

UTILITY SHIELDING

- A. Description: This work shall consist of all labor and materials needed to temporarily shield the existing overhead power lines as well as moving the lower lines for clearance during construction **at the Rice #1**. This work shall be coordinated with **American Electric Power (AEP)**.

The estimate for AEP to shield the lines is included in the Appendix.
- B. Coordination: All work shall be coordinated directly with AEP. The utility company shall do the work to shield the lines. This line item shall include the cost of the work performed by AEP, the coordination of that work, and any other labor required to finish this work.
- C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division.
- D. Basis of Payment: Payment for utility shielding shall be made at the contract lump sum price bid per "**Utility Shielding.**"

WELL HEAD CONTROL (Fernco #1)

- 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.
- 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.

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 Contractor shall install a 2-inch diameter (minimum) kill line on the well. The injection point for the kill line shall be a minimum of thirty (30) feet from the well.

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 (Fernco #1).**"

WELL HEAD CONTROL (Rice #1)

- A. Description: This work consists of all labor, equipment, and material necessary to establish and maintain control of the well. This item shall include the installation of a wellhead control device on the most appropriate well casing.
- B. Materials: Due to the known presence of Hydrogen Sulfide (H₂S) gas the following well control devices shall be utilized to obtain and maintain well control in a safe manner.
 - 1. **Blowout Preventer (BOP)**: A BOP of adequate size and pressure rating shall be used to maintain well control including H₂S gas until plugging operation no longer require its use.
 - 2. **Gas Buster**: A gas buster that will adequately remove free or entrained air from fluids circulated in the well bore shall be applied to the well bore until plugging operations no longer require its use.
- C. Execution: The Contractor is responsible for installing, according to best management practices, the wellhead control devices on the well casing. The Contractor shall maintain well head control and devices for the duration of the plugging project. The gas buster and flare stack shall be applied as soon as drilling is initiated to include the setting of surface casing. Once the surface casing is set, the BOP shall be added.

If existing casing is discovered, the Division shall make the determination for the overall exposed depth of casing and casing extensions. If utilized, 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 well control devices. 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**".

Once the well head control devices are installed, all fluids and solids generated by the plugging process will be diverted into a tank. This tank will be set a minimum of twenty (20) feet from the well. The Contractor shall also maintain an adequate supply of well control fluid and alternative well control fluid at the well for possible well control emergencies, which shall be paid under the line item "**Well Control Fluid**" or "**Alternative Well Control Fluid.**" The Contractor will install a two (2) inch diameter (minimum) kill line on the well. The injection point for the kill line will be a minimum of twenty (20) feet from the well.

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

- D. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.
- E. Payment: Payment for the above described work, which includes all labor, materials, equipment necessary for the well head control shall be made at the lump sum price for "**Well Head Control (Rice #1).**"

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. Execution: The Contractor shall supply all equipment needed to pump the well control fluid into the wellbore when necessary. This shall include, but not be limited to the mud pump, kill line, or other associated equipment.
- C. 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 75 barrels of freshwater well control fluid be maintained on the site during the plugging project for the Fernco #1.

- D. 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 well. The Division will at a minimum pay for the quantity required to be maintained on site.
- E. Payment: Payment for the above work shall be made at the unit price per barrel (bbls) for "**Well Control Fluid.**"

ALTERNATIVE WELL CONTROL FLUID - (RICE #1 WELL SITE)

- A. Description: The work covered by this section shall consist of furnishing all labor, equipment, and material necessary to provide a weighted brine as a "kill" fluid for the drilling and plugging process of the well.
- B. Materials: **Based on the onsite conditions the Division will require a minimum of 100 barrels for the Rice #1 of 10.5 pounds per gallon brine water for 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 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**".

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. All cement plug depth and thicknesses will be based on log data of the first well plugged on the site.
- 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.
- 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 (Fernco #1)

- 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 drilling, cleanout of the well bore to the total depth of the well, circulating the well bore prior to each plug (that is required), 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, mud pump, cementing equipment, and associated equipment.

Once well head control has been established, the Contractor will drill and circulate the well bore prior to setting any casing or well plugs. The Contractor shall circulate the wellbore two-hole volumes or until the well is static prior to any cementing. **If it is found that there is the presence of H₂S gas the Contractor will not remove the free crude oil or circulate the well prior to setting the bottom plug. Once a competent bottom plug is achieved and the well is static all free crude oil may be circulated from the wellbore with fresh water prior to setting any other plugs.** The Contractor shall identify the diameter of the well bore below the surface casing and drill 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 Offer 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. The Contractor shall propose the method for ripping of the casing or tubing and shall be approved by the Division. Ripping shall be considered incidental to this line item.

If it is found there is the presence of H2S gas the Contractor will not remove the free crude oil or circulate the well prior to setting the bottom plug. Once a competent bottom plug is achieved and the well is static all free crude oil may be circulated from the wellbore with fresh water prior to setting any other plugs. For the other required plugs, the Contractor shall circulate the well bore with freshwater or drilling muds prior to cementing. 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 (Fernco #1)."

WELL PREPARATION & PLUGGING (Rice #1)

- 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 of the well bore to the total depth of the well, circulating the well bore prior to each plug, setting all required plugs, and verification of each plug depth.

Due to the location of the well being directly under a series of AEP high tensile transmission lines, the Division will require this work be completed with a coil tubing unit or specially sized rig not exceeding a height of 18' or approved equal. This work will include no less than two pipe jacks to remove any pipe\tubing found and will require the Contractor to cut the pipe in shortened lengths as it is pulled and held from the well.

- C. 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 coil tubing unit, cementing equipment, and associated equipment.

The coil tubing unit shall include coiled tubing that shall have a minimum tubing diameter of 1.25 inches; an injector head and any required stabilization equipment to include truck or crane; tubing reel; control cabin; and power pack. The coil tubing unit shall be capable of cleanout to minimum of one thousand (1,300) feet.

The Contractor will circulate the well bore prior to setting any well plugs. **The Contractor shall identify the diameter of the well bore below the surface casing and cleanout the well with the coil tubing unit and associated equipment 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 **Offer Sheet** and agreed upon by the Division.

The Contractor shall circulate the well bore with the **Alternative Well Control Fluid combined with the H2S Scavenger** prior to cementing. Lost Circulation Material (LCM) may be used to aid in obtaining circulation, as approved by the Division. **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.**

Prior to setting any plugs the Contractor shall remove all free crude oil from the wellbore by **circulating into a tank with enough H2S Scavenger to treat the circulated** materials that can be held by the tank.

The **H2S Safety Team** shall be on site prior to opening the well.

The Contractor shall set all plugs as described in the **Plugging Plan** to the depths described with the materials described. All plugs shall be set through the coil tubing unit. 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 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.**

Due to the proximity of the power lines, nothing shall be raised higher than the eighteen (18) feet in height within ten (10) feet of the powerline right-of-way.

- 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 (Rice #1)."**

TUBING - (RICE #1 WELL SITE)

- 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 at the Rice #1 well for the coil tubing unit or specially sized rig as described in line item **“Well Preparation & Plugging (Rice #1).”**
- B. Materials: The Contractor shall supply an inside 1.25-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 1,350 feet of 1.25-inch (ID) or larger tubing to all the project wells. The Contractor shall identify the weight of the tubing supplied for quantity calculating purposes.

- 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.**"

TUBING/DRILL PIPE (2.375")

- A. Description: This item covers all labor, equipment, and material required to supply tubing and/or drill pipe at the site for the purpose of drill out and placement of cement and spacers.
- B. Materials: The Contractor shall supply a minimum 2.375-inch outside diameter tubing in a condition that will allow for the pumping of cement for the purposes of plugging the well. With approval from the Division the Contractor may substitute tubing with appropriate drill pipe for use and payment of this item. Only drill pipe used at the site in place of the tubing will be paid for in this line item. Drill pipe used for drilling purposes will not be considered for payment in this line item. Otherwise drill pipe shall be considered paid for in the line item "**Well Preparation & Plugging.**"

For this project the Contractor shall supply up to 1350 feet of 2.375-inch diameter tubing for the project. The Contractor shall identify the weight of the tubing supplied for quantity calculating purposes.

- 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/Drill Pipe 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/Drill Pipe (2.375").**"

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 2016 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.

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

Preparation of the well bore 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. **Use of a cement slurry of 14.0 to 14.2 pounds per gallon shall be permitted only while using the 1.25" ID tubing for the Rice #1 well.**

The Class "A" Cement shall be placed to the depths and intervals described in **Plugging Plan**. **Once a cement plug is set, the Contractor shall be prepared to hold pressure on the plug for five minutes. The Division shall inform the Contractor if pressure is to be held and the amount of pressure to use based on the depth of the plug.**

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

- E. 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 listed on the Contractor's Offer Sheet.
- 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 listed on the Contractor's Offer Sheet.

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.**"

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 Sheet 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.**"

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

1. 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.

2. Species Composition:

Seed shall be applied to the project area 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%

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.

3. 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.
4. Fertilizer: Fertilizer shall be commercial grade (19-19-19) and shall be applied at the rate of 20-lbs/1000 sq. ft.

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.

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.

Immediately following area preparation for seeding, seed shall be sown. Seed shall be sown by approved methods that provide for uniform distribution of the seed mix as specified above.

After broadcasting or otherwise applying the seed, the surface of the seedbed shall be raked.

3. Mulching. Apply the equivalent of 100 pounds per 1,000 square feet of clean straw mulch.

4. Applying and Anchoring Mulch. 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 sprinkled immediately after placement.

5. 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 reseeded, all at no expense to the Division.
- D. Measurement: Measurement for payment of site restoration, which includes seedbed preparation, seeding, mulching, fertilizing, and replacement of shrubs, trees and landscape amenities shall be considered and measured as a unit satisfactorily completed and accepted by the Division.
- E. Payment: Payment for this work, which includes seedbed preparation, seeding, mulching, fertilizing, required replacement of all shrubs, trees and landscaping amenities, etc., and general cleanup shall be made at the lump sum price for "**Site Restoration.**"

APPROVED RESOIL

- A. Description: This work shall consist of furnishing all labor, material, and equipment necessary for the hauling, spreading, and grading of the resoil material for the replacement of the removed contaminated soils. This work shall also include shaping for positive drainage and matching the surrounding contours.
- B. Material: Material shall be a good quality resoil and **not** include rocks, stones, and objectionable material over three (3) inches in any one dimension. All resoil that will compose the top eighteen (18) inches of resoil at the ground surface shall be topsoil. Topsoil shall be defined as during excavation having a brown matrix color, less than 50% clay content, and enough organic materials to be generally suitable for vegetative growth.
- C. Installation: Placement of fill shall only be made on scarified, moist surfaces. No fill shall be placed on frozen soil, unstable soil, or soil where water is ponded.

Fill material shall be placed in uniform lifts not exceeding eighteen (18) inches in thickness and tracked-in using on-site excavation equipment not less than four (4) passes per lift.

Care shall be taken to keep heavy equipment off the surface material after it has been spread. If the resoiling material becomes compacted, the Contractor shall disc the material to a depth of four (4) inches at the Contractor's expense.

- 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.

The approximate amount of resoil has been listed on the Offer Sheet as a total tonnage. 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. If, due to the source, tickets cannot be provided, volume measurements shall be completed and agreed upon prior to installation.

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 1.2 ton per cubic yard of resoil shall be used if necessary.

- E. Payment: Payment for this work shall be made at the unit price per ton for "**Approved Resoil.**"

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.
- C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division.
- D. Payment: The cost of this work shall be included in the lump sum price for "**Demobilization.**"

CONTINGENCY SPECIFICATIONS

CONTINGENCY SPECIFICATIONS 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.

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. This item shall also include all work required to move between wells included in this contract, that require road mats as shown on the Drawing Plan Set.
- B. Material: Road matting shall be Non-permeable, composite mats 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.
- C. 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.

Road mats shall be utilized at all wells on this project, for the duration of the contract. Only one measurement and payment shall be made for "Road Mats" upon completion of the project. Measurement shall be based on the largest quantity used at a single well.

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

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**".

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**".

CUTTING

- A. Description: This work consists of all labor, equipment, and material necessary to sever/cut a casing or tubing at a determined depth for the purpose of removing the casing or tubing string by the means of cutting.
- B. Execution: The Contractor shall complete the cutting of the casing or tubing at a depth approved by the Division. The Contractor shall propose the method for cutting 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 cutting of the casing or tubing made at the unit price per each for "**Cutting**".

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 2016 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 **Offer 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**."

CONCRETE WALK

- A. **Description:** This work shall include furnishing all labor, materials, equipment, and supplies necessary construct, pour and cure the proposed walk as required per division inspection once all equipment has been removed from the site during the final site restoration. This work shall also include furnishing all labor, materials, equipment, and supplies necessary to remove the existing concrete walk & unsuitable base material. All removed material shall be properly disposed of offsite. **All removal and disposal shall be considered incidental to this line item.**

This work shall only include walk that is in the limits approved by the Division to complete the project as shown on the Drawing Plan Set. Any damage caused by the Contractor by working outside of the limits set shall be repaired at the Contractor's expense and conform to this line item.

B. Materials:

1. Concrete: Concrete materials shall conform to ODOT Class “C” Concrete and shall be a minimum four (4) inches thick.
2. Base: Dependent upon the condition of the encountered subgrade, No. 304 Aggregate base a minimum of two (2) inches thick shall be installed prior to the placement of concrete at the discretion of the Division. All No. 304 Aggregate base placed shall be compacted by a minimum of three (3) passes of a vibratory plate compactor capable of exerting a minimum of 2,000 pounds of centrifugal force. **This work and material shall be considered incidental to this line item.**
3. False Work / Forms: False work and forms shall be in accordance to the details shown on the Construction Plan Set and/or per ODOT Item 508.

C. Installation: The Division shall be notified at least 24 hours in advance of placing concrete.

1. Excavation: Upon field evaluation of the walk, within the limits of construction, by the Division, the Contractor shall excavate a minimum of 6” below the existing grade of the walk designated by the Division for removal. Protect the sides of all excavations from caving by providing suitable sheeting, shoring and/or bracing. **All existing concrete shall be removed by means of saw cutting and/or to the nearest joint of undisturbed sidewalk, based on Division inspection.**
2. Stone Base: The No. 304 Aggregate Base shall be placed within the limits of the excavation and compacted at the discretion on the division.
3. Form Work: Construct substantial, unyielding, and mortar tight forms, designed to produce a finished concrete conforming to the proper dimensions and contours. The planned formwork design shall meet the dimensions and elevations of the existing sidewalk at the edges of what has been removed.
4. Concrete: The formwork and sub-base shall be inspected and approved by the Division prior to commencing with the formed concrete.

Before placing the concrete, all forms and surfaces which will be in contact with the concrete shall be thoroughly cleaned and the space occupied by the concrete shall be free from all silt, dirt, shavings, rust, and other debris.

Concrete shall not be deposited in water. Concrete shall not be dropped a distance of more than five (5) feet. Drop chutes shall be used to limit free fall to under five (5) feet.

Concrete shall be placed within 1 1/2 hours of batching as indicated on the delivery ticket. Any concrete batched over 1 1/2 hours will be rejected.

Upon completion of the pour, the contractor shall **“broom finish”** the surface of the concrete.

The Division reserves the right to require relief cuts on the concrete. The concrete shall cure a minimum of 18 hours prior to relief cutting. All relief cuts shall match relief cuts in the existing concrete to remain.

Concrete shall be formed and placed in a manner to allow for positive drainage off the proposed concrete away from structures.

5. Curing:

As necessary, spade along surfaces and in corners to ensure smooth surfaces and dense concrete.

The concrete shall be cured by maintaining the surface temperature between 50°F AND 100°F for a period of five (5) days.

All concrete shall be cured by Method (a) Water Curing or by Method (b) Membrane curing. Concrete shall be cured continuously until the concrete has attained the required 28-day strength as determined by compressive strength test, but in no case shall the elapsed time between placing the concrete and working or loading the concrete be less than 72 hours.

Method (a) Water Curing: All surfaces not covered by forms shall be protected with two (2) thicknesses of wet burlap, as soon after placing the concrete as it can be done without marring the surface. The wet burlap shall be covered with white polyethylene sheeting or plastic-coated burlap blankets conforming to AASHTO M 171. They shall be placed wet with the burlap side against the concrete. Adjoining plastic-coated blankets or polyethylene sheets used to cover wet burlap shall be lapped sufficiently and held securely in place at laps and edges so that positive moisture seal is provided. White polyethylene sheeting or plastic-coated blankets containing holes or tears shall be covered with an additional covering of sheeting or blankets as directed by the Division.

Method (b) Membrane Curing: Immediately after the free water has disappeared on surfaces not protected by forms and immediately after the removal of forms, if such are removed before the end of the curing period, the concrete shall be sealed by spraying as a fine mist to provide a uniform application of curing material that conforms to ASTM C 309, in such manner as to provide continuous, uniform, water impermeable film without marring the surface of the concrete. Acrylic Concrete Cure & Seal, as manufactured by Quickrete or approved equal shall be used. In conjunction with these requirements, materials shall be installed per the manufacturer's requirements.

The membrane curing shall be applied in one or more separate coats at the rate of at least one (1) gallon per 200 square feet of surface. To assure that the proper amount of the curing material is applied, the number of gallons of curing material in the spray container shall be noted, and the correct area for that volume laid off so that the area of concrete surface to be covered will be such that the approved application rate will be secured. Curing material shall be thoroughly agitated immediately prior to use. If the film is broken or damaged at any time during the specified curing period, the area or areas affected shall be given a complete duplicate treatment of the curing material applied at the same rate as the first treatment.

Unless adequate precautions are taken to protect the surface of the membrane; workers, materials, and equipment shall be kept off the membrane for the duration of the curing period.

Chemical admixtures may be used for curing with prior approval from the Division.

- D Measurement: Measurement for payment for the concrete walk shall be made by actual field measurements of quantities satisfactorily installed at the site. The walk shall be measured for a square foot installed.

- E. Payment: Payment for all the above-described work shall be made at the contract unit price bid per square foot for "**Concrete Walk**".

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**".

RIG SKIDDING AND PLUGGING

- A. Description: This work shall consist of the mobilization and use of the Contractor's equipment necessary for performing conventional plugging **at the Rice #1** if the plug installed per line item "Well Preparation & Plugging (Rice #1)" is not successful. This shall include drilling out of any plug previously installed, cleanout of the well bore as determined by the Division, circulating the well bore prior to each plug (that is required), re-setting all required plugs, and verification of each plug depth.

This item shall include the transportation of the required personnel, equipment, and supplies to and from the site.

- 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.

All work shall be completed in accordance with line item "Well Preparation & Plugging (Fernco #1).

The tubing for this work shall be included in the lump sum project cost for line item "Tubing/Drill Pipe (2.375)."

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

- D. Payment: The cost of this work shall be included in the price per hour for "**Rig Skidding and Plugging.**"

UTILITY OUTAGE

- A. Description: This work shall consist of all labor and materials needed to coordinate a temporary outage to the existing overhead power lines **at the Rice #1** if the contractor will be required to do any work above the lowest utilities hanging over the well or if it is determined Rig Skidding shall be required. This work shall be coordinated with **American Electric Power (AEP)**.

The contact information for AEP outages is included in the Appendix.

- B. Coordination: All work shall be coordinated directly with AEP. The utility company shall do this work. This line item shall include the cost of the work performed by AEP, the coordination of that work, and any other labor required to finish this work.
- C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division.
- D. Basis of Payment: Payment for utility outage shall be made at the contract per day price bid per "**Utility Outage.**"



**SCOPE OF WORK
HANCOCK #1 PROJECT**
Ferno Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty & Marion Townships



APPENDIX I – OHIO ONE-CALL

THE FOLLOWING ARE REPORTABLE INCIDENTS: (OAC 1501:9-8-02)

TYPE OF INCIDENT <small>(All Incident types associated with production operation or other activity regulated under Chapter 1509)</small>	QUANTITY <small>(GAL, BBL,PPM)</small> NOTE: 1 Barrel = 42 US Gallons	ADDITIONAL FACTORS
Release of Gas	<u>Any</u> 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(H₂S) Gas <small>(within the Working Area)</small>	Exceeding 20 ppm (Sustained airborne concentration); For duration > 10 min	OR any H ₂ S 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 <small>(EX: oil-based drilling fluid, petroleum distillate, spent or unused paraffin solvent, gasoline, fuel oil, diesel fuel, or lubricants)</small>	> 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; <u>OR</u> Refined Oil Products	<u>Any</u> 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 <small>(EX: drilling mud, sludge, or tank bottom sediments)</small>	> 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 <u>1509.222</u>), or to whom a resolution has been issued (ORC <u>1509.226</u>) AND enters the environment

<p>Release of Hazardous Substance (HS)/ Extremely Hazardous Substance (EHS); OR Mixture or Solution including a HS or EHS</p>	<p>An amount Equal to or > than applicable reportable quantities listed in 40CFR tables; in any 24-hr period</p> <p>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 <u>equal to or > than</u> the reportable quantity for the HS or EHS with the lowest reportable quantity</p>	<p>List available at: http://oilandgas.ohiodnr.gov/portals/oilgas/pdf/emergency/list_of_lists.pdf</p> <p><i>Code of Federal Regulations (C.F.R.) References:</i> HS- <i>Appendix A 40 CFR Part 302.4</i> EHS- <i>Appendix A 40 CFR Part 355</i></p>
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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 #1 PROJECT

Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty and Marion Townships



APPENDIX II – PICTURES & WELL RECORDS



34-063-62855: Fernco, Norco, Lenco Dev. Ltd. #1
July 19th, 2016 Facing West
Riser over Well Casing(s)
Inspector Ben Harpster

Fernco #1 Orphan Well
Liberty Township
API: 34-063-6-2855-00-00



Fernco #1 Orphan Well
Liberty Township
API: 34-063-6-2855-00-00

34-063-62855: Fernco, Norco, Lenco Dev. Ltd. #1
July 19th, 2016 Facing East
Riser over Well Casing(s)
Inspector Ben Harpster



SCOPE OF WORK
HANCOCK #1 PROJECT
Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty and Marion Townships



APPENDIX II – PICTURES & WELL RECORDS

Raymond Rice #1
API #34-063-6-7337-00-00
Marion Township, Hancock County



Photo of the Rice #1 looking east.



SCOPE OF WORK
HANCOCK #1 PROJECT
Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty and Marion Townships



APPENDIX II – PICTURES & WELL RECORDS

Raymond Rice #1
API #34-063-6-7337-00-00
Marion Township, Hancock County



Photo of the Rice #1 looking to the south. Note that the well is located directly under the overhead electric lines.



SCOPE OF WORK HANCOCK #1 PROJECT

Fernco Lenco Norco #1 & Raymond Rice #1 Orphan Well Sites
Hancock County: Liberty and Marion Townships



APPENDIX II – PICTURES & WELL RECORDS

Raymond Rice #1
API #34-063-6-7337-00-00
Marion Township, Hancock County

APPENDIX II – PICTURES & WELL RECORDS

GEOLOGICAL SURVEY OF OHIO 2234 257-A-6

64060 OIL AND GAS WELL LOG

State.....
 County Hancock Township Liberty Quadrangle.....
 Lot..... Quarter..... Tract..... Section 15 NW..... NE..... SW.....
 Measured..... Feet From..... Line And..... Feet From..... Line Of.....
1550' NL & 2600' WL of Sec. 15 (scaled from twp map)
 Land Owner W. C. Watson Well No. 6 Date Started Jan. 22, 1894
 Operator Ohio Oil Co. Well No..... Date Completed Feb. 14
 Elevation Bar. S. L. Total Depth 1354 Plugged Back.....
 Formation Drilled To Trenton Producing Form..... Init. Prod. Nat. 20 bbls.
 Shot or Acid Record Torp. 30 qts. Prod. A. S. or Acid.....
 Init. Rock Press..... Abandoned..... June 1905.

Formation	Top	Bottom	Remarks	Formation	Top	Bottom	Remarks
Drive pipe		23					
Casing		445					
Trenton	1255		May, 1900, cleaned out and drilled to 1354. Shot 140				
Gas & oil	1267		qts./ pro. increased from 2 to 5 bbls.				
Best oil	1268½						
Total		1281		Cont. F. H. Young			
				P. B. Cathers			

Well card for API #34-063-6-0460-00-00, located 3300 feet southwest of the Fernco #1 and 3.8 miles to the northwest of the Rice #1.

Jones, Jason

From: Gerald D Pisarsky <gdpisarsky@aep.com>
Sent: Thursday, March 28, 2019 12:59 PM
To: Christopher D Fager; Jones, Jason
Cc: Ronald D Cotant; Bill Wilson; Jessica L Howley; Jeffery D Meyers; Judge, James; Chini, Eugene; Harpster, Benjamin; Donald L Rogers JR.
Subject: RE: 1100 6th St Findlay - AEP Transmission & Distribution work
Attachments: Cover Up Crane Rule 5-1-2015 Combined Final.pdf

Jason ,

As per our previous conversation for an alternate plan with your contractor equipment not to exceed 18'4" above ground. The piping being raised out of the ground cannot exceed this height of 18'4". Our distribution primary voltage phase to phase is 12.47 KV and phase to ground is 7.2 KV. You are responsible to make sure your contractor meets all OSHA rules. AEP would layout one phase of Primary onto temporary arms and raise our existing # 4/0 neutral onto the existing cross arms. We would temporarily re-route our secondary wire that feeds the street lights in this area. The preliminary cost for this work is \$2,218.90. There is an additional cost for covering the conductors. Please see the attached forms concerning cover-up & OSHA clearances. I am providing a cost to Christopher Fager (Transmission Engineering) for total distribution re-route away from this site location. If you have any questions please feel free to contact me by email gdpisarsky@aep.com or call my cell phone 419-310-0375.

Thanks



GERALD D PISARSKY | CUSTOMER DESIGN SUPV NE
GDPIARSKY@AEP.COM | D:419.436.4526
538 S POPLAR ST, FOSTORIA, OH 44830-3048

REQUEST FOR COVERING ENERGIZED ELECTRICAL CONDUCTORS

Work Request # _____

AEP Copy

The undersigned, personally and, if a Company is named below on behalf of such company (Company), requests American Electric Power (AEP) to cover the energized conductor(s) which carry up to _____ volts, located at: _____, Ohio.

It is understood that covering the energized conductor(s) serves only as a temporary impediment to help prevent inadvertent contact with the protected facility. The coverings will not be relied upon in any other manner or used to reduce the amount of clearance that must be maintained when working in proximity to the line and work will not proceed until such coverings have been installed. It is also understood that the insulating value of the coverings is unknown and may vary based upon local conditions.

The undersigned hereby agrees, personally and, if applicable, on behalf of Company, to comply with all local, state and federal laws, rules and regulations governing its activities, specifically including but not limited to, clearance requirements from energized conductor(s) and to inform all others of the content and warnings contained in this request. If work cannot proceed without a violation of such standards or general safety standards, the undersigned agrees to stop work and to immediately contact AEP at 1-800-672-2231 and agrees not to proceed until such time as the work can be completed in a safe manner. If the undersigned would like to explore de-energization, the undersigned agrees to call AEP at 1-800-672-2231.

WARNING

SERIOUS INJURIES OR DEATH CAN RESULT FROM CONTACT WITH ENERGIZED CONDUCTORS AND FACILITIES IF SAFE WORKING CLEARANCES, AS SPECIFIED IN LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS ARE NOT MAINTAINED.

AMERICAN ELECTRIC POWER REQUIRES TWENTY (20) FEET SAFE WORKING CLEARANCE BE MAINTAINED FROM ANY ENERGIZED CONDUCTORS AND/OR EQUIPMENT PER OSHA. PRECAUTIONS CAN BE TAKEN UNDER OSHA 1926.1408a OPTION 2 WHICH MAY ALLOW OPERATIONS CLOSER THAN TWENTY (20) FEET BUT AT NO TIME CLOSER THAN TEN (10) FEET.

The undersigned, personally and, if applicable, on behalf of Company hereby agrees to pay to American Electric Power (AEP), for the work requested for up to the first seven (7) days as follows:

- 1) **Primary/Secondary Cover Up**
 - **\$375.00** up to 7 days line is covered \$ _____
 - **\$125.00** Emergency response less than 48 hours' notice \$ _____
 - 2) **Service Cover Up**
 - **\$153.00** cover at weather head \$ _____
 - 3) **Cost per day beyond 7 days (applies to Primary/Secondary Only)**
 - **\$ 45.00 per day** #of Days _____ \$ _____
- TOTAL DUE** \$ _____

When work is complete, the undersigned agrees to notify AEP by calling 1-800-672-2231. Charges will end after AEP documents the call to advise that work is complete. AEP will then remove cover up material.

Revised 5-1-2015

REQUEST FOR COVERING ENERGIZED ELECTRICAL CONDUCTORS

Work Request # _____

The undersigned acknowledges receipt of this form and sections 1926.1408 through 1926.1411 of the Federal rule on Cranes and Derricks in Construction issued by OSHA.

Billing Information

Billing Name

Attention

Street Address

City, State, Zip Code

Phone Number

On behalf of:

(Company Requesting Services, if applicable)

(Signature of Customer or Responsible Party)

BY (Print Individual Name/Title)

Ohio Power Company

AEP Representative

Phone Number

REQUEST FOR COVERING ENERGIZED ELECTRICAL CONDUCTORS

Work Request # _____

Customer Copy

The undersigned, personally and, if a Company is named below on behalf of such company (Company), requests American Electric Power (AEP) to cover the energized conductor(s) which carry up to _____ volts, located at: _____, Ohio.

It is understood that covering the energized conductor(s) serves only as a temporary impediment to help prevent inadvertent contact with the protected facility. The coverings will not be relied upon in any other manner or used to reduce the amount of clearance that must be maintained when working in proximity to the line and work will not proceed until such coverings have been installed. It is also understood that the insulating value of the coverings is unknown and may vary based upon local conditions.

The undersigned hereby agrees, personally and, if applicable, on behalf of Company, to comply with all local, state and federal laws, rules and regulations governing its activities, specifically including but not limited to, clearance requirements from energized conductor(s) and to inform all others of the content and warnings contained in this request. If work cannot proceed without a violation of such standards or general safety standards, the undersigned agrees to stop work and to immediately contact AEP at 1-800-672-2231 and agrees not to proceed until such time as the work can be completed in a safe manner. If the undersigned would like to explore de-energization, the undersigned agrees to call AEP at 1-800-672-2231.

WARNING

SERIOUS INJURIES OR DEATH CAN RESULT FROM CONTACT WITH ENERGIZED CONDUCTORS AND FACILITIES IF SAFE WORKING CLEARANCES, AS SPECIFIED IN LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS ARE NOT MAINTAINED.

AMERICAN ELECTRIC POWER REQUIRES TWENTY (20) FEET SAFE WORKING CLEARANCE BE MAINTAINED FROM ANY ENERGIZED CONDUCTORS AND/OR EQUIPMENT PER OSHA. PRECAUTIONS CAN BE TAKEN UNDER OSHA 1926.1408a OPTION 2 WHICH MAY ALLOW OPERATIONS CLOSER THAN TWENTY (20) FEET BUT AT NO TIME CLOSER THAN TEN (10) FEET.

The undersigned, personally and, if applicable, on behalf of Company hereby agrees to pay to American Electric Power (AEP), for the work requested for up to the first seven (7) days as follows:

- 1) **Primary/Secondary Cover Up**
 - **\$375.00** up to 7 days line is covered \$ _____
 - **\$125.00** Emergency response less than 48 hours' notice \$ _____
 - 2) **Service Cover Up**
 - **\$153.00** cover at weather head \$ _____
 - 3) **Cost per day beyond 7 days (applies to Primary/Secondary Only)**
 - **\$ 45.00 per day** #of Days _____ \$ _____
- TOTAL DUE** \$ _____

Revised 5-1-2015

REQUEST FOR COVERING ENERGIZED ELECTRICAL CONDUCTORS

Work Request # _____

When work is complete, the undersigned agrees to notify AEP by calling 1-800-672-2231. Charges will end after AEP documents the call to advise that work is complete. AEP will then remove cover up material.

The undersigned acknowledges receipt of this form and sections 1926.1408 through 1926.1411 of the Federal rule on Cranes and Derricks in Construction issued by OSHA.

Billing Information

On behalf of:

Billing Name

(Company Requesting Services, if applicable)

(Signature of Customer or Responsible Party)

Attention

BY (Print Individual Name/Title)

Street Address

Ohio Power Company

City, State, Zip Code

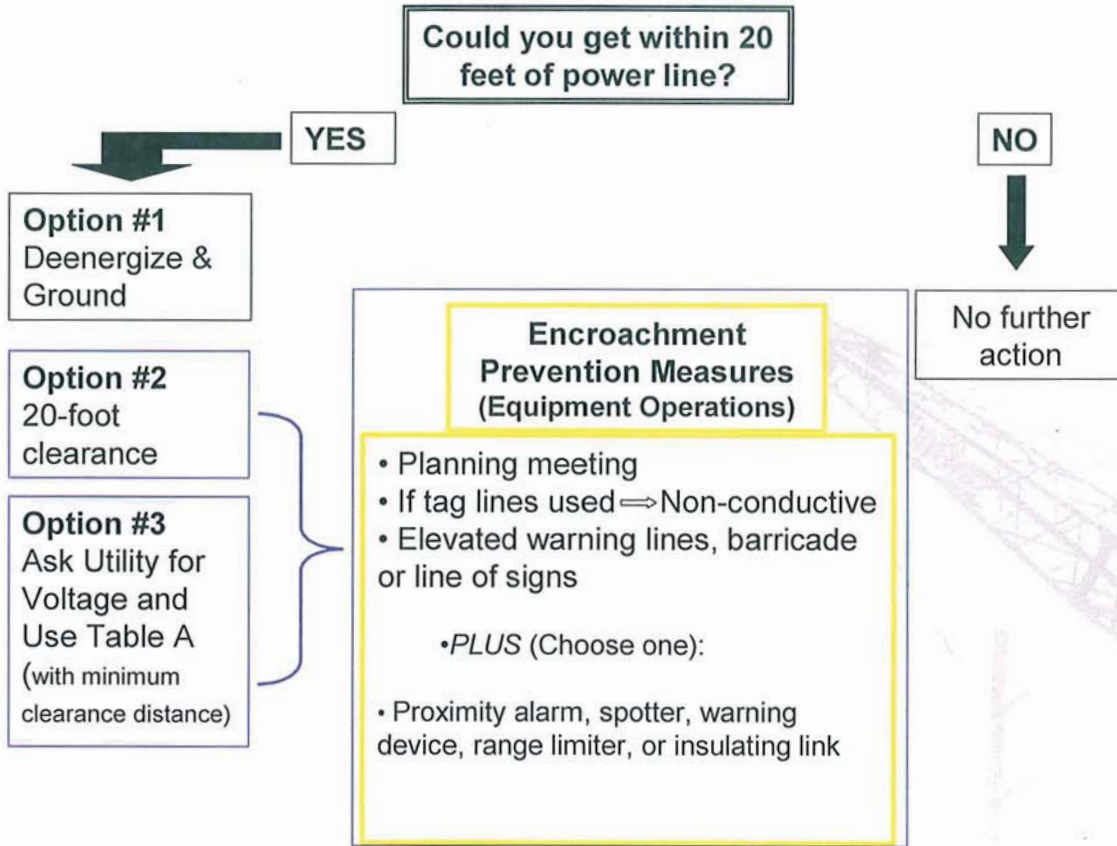
AEP Representative

Phone Number

Phone Number

Crane Safety Supplement Sheet

from Federal OSHA's presentation slides



Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1000	45
over 1000	(as established by the power line owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution)

- OSHA recommended procedures:**
- Dedicated spotter
 - Elevated warning line or barricade
 - Insulating link/device
 - Nonconductive rigging
 - Range limiter (if equipped)
 - Nonconductive tag line (if used)
 - Barricades - 10 feet from equipment
 - Limit access to essential workers
 - Prohibit non-operator workers from touching above insulating link
 - Properly ground crane
 - Deactivate automatic re-energizer
 - Insulating line cover-up installed

(b) None of the pins (top or bottom) on boom sections located between the pendant attachment points and the crane/derrick body are to be removed (partly or completely) when the pendants are in tension.

(c) None of the pins (top or bottom) on boom sections located between the uppermost boom section and the crane/derrick body are to be removed (partly or completely) when the boom is being supported by the uppermost boom section resting on the ground (or other support).

(d) None of the top pins on boom sections located on the cantilevered portion of the boom being removed (the portion being removed ahead of the pendant attachment points) are to be removed (partly or completely) until the cantilevered section to be removed is fully supported.

§ 1926.1406 Assembly/Disassembly—employer procedures—general requirements.

(a) When using employer procedures instead of manufacturer procedures for assembly/disassembly, the employer must ensure that the procedures:

(1) Prevent unintended dangerous movement, and prevent collapse, of any part of the equipment.

(2) Provide adequate support and stability of all parts of the equipment.

(3) Position employees involved in the assembly/disassembly operation so that their exposure to unintended movement or collapse of part or all of the equipment is minimized.

(b) *Qualified person.* Employer procedures must be developed by a qualified person.

§ 1926.1407 Power line safety (up to 350 kV)—assembly and disassembly.

(a) Before assembling or disassembling equipment, the employer must determine if any part of the equipment, load line, or load (including rigging and lifting accessories) could get, in the direction or area of assembly/disassembly, closer than 20 feet to a power line during the assembly/disassembly process. If so, the employer must meet the requirements in Option (1), Option (2), or Option (3) of this section, as follows:

(1) *Option (1)—Deenergize and ground.* Confirm from the utility owner/operator that the power line has been deenergized and visibly grounded at the worksite.

(2) *Option (2)—20 foot clearance.* Ensure that no part of the equipment, load line or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by implementing the measures specified in paragraph (b) of this section.

(3) *Option (3)—Table A clearance.*

(i) Determine the line's voltage and the minimum clearance distance permitted under Table A (see § 1926.1408).

(ii) Determine if any part of the equipment, load line, or load (including rigging and lifting accessories), could get closer than the minimum clearance distance to the power line permitted under Table A (see § 1926.1408). If so, then the employer must follow the requirements in paragraph (b) of this section to ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer to the line than the minimum clearance distance.

(b) *Preventing encroachment/electrocution.* Where encroachment precautions are required under Option (2), or Option (3) of this section, all of the following requirements must be met:

(1) Conduct a planning meeting with the Assembly/Disassembly director (A/D director), operator, assembly/disassembly crew and the other workers who will be in the assembly/disassembly area to review the location of the power line(s) and the steps that will be implemented to prevent encroachment/electrocution.

(2) If tag lines are used, they must be nonconductive.

(3) At least one of the following additional measures must be in place. The measure selected from this list must be effective in preventing encroachment.

The additional measures are:

(i) Use a dedicated spotter who is in continuous contact with the equipment operator. The dedicated spotter must:

(A) Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A clearly visible line painted on the ground; a clearly visible line of stanchions; a set of clearly visible line-of-sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).

(B) Be positioned to effectively gauge the clearance distance.

(C) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(D) Give timely information to the operator so that the required clearance distance can be maintained.

(ii) A proximity alarm set to give the operator sufficient warning to prevent encroachment.

(iii) A device that automatically warns the operator when to stop movement, such as a range control warning device. Such a device must be set to give the

operator sufficient warning to prevent encroachment.

(iv) A device that automatically limits range of movement, set to prevent encroachment.

(v) An elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags or similar high-visibility markings.

(c) *Assembly/disassembly below power lines prohibited.* No part of a crane/derrick, load line, or load (including rigging and lifting accessories), whether partially or fully assembled, is allowed below a power line unless the employer has confirmed that the utility owner/operator has deenergized and (at the worksite) visibly grounded the power line.

(d) *Assembly/disassembly inside Table A clearance prohibited.* No part of a crane/derrick, load line, or load (including rigging and lifting accessories), whether partially or fully assembled, is allowed closer than the minimum approach distance under Table A (see § 1926.1408) to a power line unless the employer has confirmed that the utility owner/operator has deenergized and (at the worksite) visibly grounded the power line.

(e) *Voltage information.* Where Option (3) of this section is used, the utility owner/operator of the power lines must provide the requested voltage information within two working days of the employer's request.

(f) *Power lines presumed energized.* The employer must assume that all power lines are energized unless the utility owner/operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(g) *Posting of electrocution warnings.* There must be at least one electrocution hazard warning conspicuously posted in the cab so that it is in view of the operator and (except for overhead gantry and tower cranes) at least two on the outside of the equipment.

§ 1926.1408 Power line safety (up to 350 kV)—equipment operations.

(a) *Hazard assessments and precautions inside the work zone.* Before beginning equipment operations, the employer must:

(1) *Identify the work zone by either:*

(i) Demarcating boundaries (such as with flags, or a device such as a range limit device or range control warning device) and prohibiting the operator from operating the equipment past those boundaries, or

(ii) Defining the work zone as the area 360 degrees around the equipment, up to the equipment's maximum working radius.

(2) Determine if any part of the equipment, load line or load (including rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone, could get closer than 20 feet to a power line. If so, the employer must meet the requirements in Option (1), Option (2), or Option (3) of this section, as follows:

(i) *Option (1)—Deenergize and ground.* Confirm from the utility owner/operator that the power line has been deenergized and visibly grounded at the worksite.

(ii) *Option (2)—20 foot clearance.* Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by implementing the measures specified in paragraph (b) of this section.

(iii) *Option (3)—Table A clearance.* (A) Determine the line's voltage and the minimum approach distance permitted under Table A (*see* § 1926.1408).

(B) Determine if any part of the equipment, load line or load (including rigging and lifting accessories), while operating up to the equipment's maximum working radius in the work zone, could get closer than the minimum approach distance of the power line permitted under Table A (*see* § 1926.1408). If so, then the employer must follow the requirements in paragraph (b) of this section to ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer to the line than the minimum approach distance.

(b) *Preventing encroachment/electrocution.* Where encroachment precautions are required under Option (2) or Option (3) of this section, all of the following requirements must be met:

(1) Conduct a planning meeting with the operator and the other workers who will be in the area of the equipment or load to review the location of the power line(s), and the steps that will be implemented to prevent encroachment/electrocution.

(2) If tag lines are used, they must be non-conductive.

(3) Erect and maintain an elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags or similar high-visibility markings, at 20 feet from the power line (if using Option (2) of this section) or at the minimum approach distance under Table A (*see* § 1926.1408) (if using Option (3) of this section). If the operator is unable to see the elevated warning line, a dedicated spotter must be used as described in § 1926.1408(b)(4)(ii) in addition to

implementing one of the measures described in §§ 1926.1408(b)(4)(i), (iii), (iv) and (v).

(4) Implement at least one of the following measures:

(i) A proximity alarm set to give the operator sufficient warning to prevent encroachment.

(ii) A dedicated spotter who is in continuous contact with the operator. Where this measure is selected, the dedicated spotter must:

(A) Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A clearly visible line painted on the ground; a clearly visible line of stanchions; a set of clearly visible line-of-sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).

(B) Be positioned to effectively gauge the clearance distance.

(C) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(D) Give timely information to the operator so that the required clearance distance can be maintained.

(iii) A device that automatically warns the operator when to stop movement, such as a range control warning device. Such a device must be set to give the operator sufficient warning to prevent encroachment.

(iv) A device that automatically limits range of movement, set to prevent encroachment.

(v) An insulating link/device, as defined in § 1926.1401, installed at a point between the end of the load line (or below) and the load.

(5) The requirements of paragraph (b)(4) of this section do not apply to work covered by subpart V of this part.

(c) *Voltage information.* Where Option (3) of this section is used, the utility owner/operator of the power lines must provide the requested voltage information within two working days of the employer's request.

(d) *Operations below power lines.*

(1) No part of the equipment, load line, or load (including rigging and lifting accessories) is allowed below a power line unless the employer has confirmed that the utility owner/operator has deenergized and (at the worksite) visibly grounded the power line, except where one of the exceptions in paragraph (d)(2) of this section applies.

(2) *Exceptions.* Paragraph (d)(1) of this section is inapplicable where the employer demonstrates that one of the following applies:

(i) The work is covered by subpart V of this part.

(ii) For equipment with non-extensible booms: The uppermost part of the equipment, with the boom at true vertical, would be more than 20 feet below the plane of the power line or more than the Table A of this section minimum clearance distance below the plane of the power line.

(iii) For equipment with articulating or extensible booms: The uppermost part of the equipment, with the boom in the fully extended position, at true vertical, would be more than 20 feet below the plane of the power line or more than the Table A of this section minimum clearance distance below the plane of the power line.

(iv) The employer demonstrates that compliance with paragraph (d)(1) of this section is infeasible and meets the requirements of § 1926.1410.

(e) *Power lines presumed energized.* The employer must assume that all power lines are energized unless the utility owner/operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(f) When working near transmitter/communication towers where the equipment is close enough for an electrical charge to be induced in the equipment or materials being handled, the transmitter must be deenergized or the following precautions must be taken:

(1) The equipment must be provided with an electrical ground.

(2) If tag lines are used, they must be non-conductive.

(g) *Training.*

(1) The employer must train each operator and crew member assigned to work with the equipment on all of the following:

(i) The procedures to be followed in the event of electrical contact with a power line. Such training must include:

(A) Information regarding the danger of electrocution from the operator simultaneously touching the equipment and the ground.

(B) The importance to the operator's safety of remaining inside the cab except where there is an imminent danger of fire, explosion, or other emergency that necessitates leaving the cab.

(C) The safest means of evacuating from equipment that may be energized.

(D) The danger of the potentially energized zone around the equipment (step potential).

(E) The need for crew in the area to avoid approaching or touching the equipment and the load.

(F) Safe clearance distance from power lines.

(ii) Power lines are presumed to be energized unless the utility owner/

operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(iii) Power lines are presumed to be uninsulated unless the utility owner/operator or a registered engineer who is a qualified person with respect to electrical power transmission and distribution confirms that a line is insulated.

(iv) The limitations of an insulating link/device, proximity alarm, and range control (and similar) device, if used.

(v) The procedures to be followed to properly ground equipment and the limitations of grounding.

(2) Employees working as dedicated spotters must be trained to enable them to effectively perform their task, including training on the applicable requirements of this section.

(3) Training under this section must be administered in accordance with § 1926.1430(g).

(h) Devices originally designed by the manufacturer for use as: A safety device (see § 1926.1415), operational aid, or a means to prevent power line contact or electrocution, when used to comply with this section, must meet the manufacturer's procedures for use and conditions of use.

TABLE A—MINIMUM CLEARANCE DISTANCES

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

Note: The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.

§ 1926.1409 Power line safety (over 350 kV).

The requirements of § 1926.1407 and § 1926.1408 apply to power lines over 350 kV except:

(a) For power lines at or below 1000 kV, wherever the distance "20 feet" is specified, the distance "50 feet" must be substituted; and

(b) For power lines over 1000 kV, the minimum clearance distance must be established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution.

§ 1926.1410 Power line safety (all voltages)—equipment operations closer than the Table A zone.

Equipment operations in which any part of the equipment, load line, or load (including rigging and lifting accessories) is closer than the minimum approach distance under Table A of § 1926.1408 to an energized power line is prohibited, except where the employer demonstrates that all of the following requirements are met:

(a) The employer determines that it is infeasible to do the work without breaching the minimum approach distance under Table A of § 1926.1408.

(b) The employer determines that, after consultation with the utility owner/operator, it is infeasible to deenergize and ground the power line or relocate the power line.

(c) *Minimum clearance distance.*

(1) The power line owner/operator or registered professional engineer who is

a qualified person with respect to electrical power transmission and distribution determines the minimum clearance distance that must be maintained to prevent electrical contact in light of the on-site conditions. The factors that must be considered in making this determination include, but are not limited to: Conditions affecting atmospheric conductivity; time necessary to bring the equipment, load line, and load (including rigging and lifting accessories) to a complete stop; wind conditions; degree of sway in the power line; lighting conditions, and other conditions affecting the ability to prevent electrical contact.

(2) Paragraph (c)(1) of this section does not apply to work covered by subpart V of this part; instead, for such work, the minimum clearance distances specified in § 1926.950 Table V-1 apply. Employers engaged in subpart V work are permitted to work closer than the distances in § 1926.950 Table V-1 where both the requirements of this section and § 1926.952(c)(3)(i) or (ii) are met.

(d) A planning meeting with the employer and utility owner/operator (or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution) is held to determine the procedures that will be followed to prevent electrical contact and electrocution. At a minimum these procedures must include:

(1) If the power line is equipped with a device that automatically reenergizes the circuit in the event of a power line

contact, before the work begins, the automatic reclosing feature of the circuit interrupting device must be made inoperative if the design of the device permits.

(2) A dedicated spotter who is in continuous contact with the operator. The dedicated spotter must:

(i) Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A line painted on the ground; a clearly visible line of stanchions; a set of clearly visible line-of-sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).

(ii) Be positioned to effectively gauge the clearance distance.

(iii) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(iv) Give timely information to the operator so that the required clearance distance can be maintained.

(3) An elevated warning line, or barricade (not attached to the crane), in view of the operator (either directly or through video equipment), equipped with flags or similar high-visibility markings, to prevent electrical contact. However, this provision does not apply to work covered by subpart V of this part.

(4) *Insulating link/device.*

(i) An insulating link/device installed at a point between the end of the load line (or below) and the load.

(ii) For work covered by subpart V of this part, the requirement in paragraph

(d)(4)(i) of this section applies only when working inside the § 1926.950 Table V-1 clearance distances.

(iii) For work covered by subpart V of this part involving operations where use of an insulating link/device is infeasible, the requirements of § 1910.269(p)(4)(iii)(B) or (C) may be substituted for the requirement in (d)(4)(i) of this section.

(iv) Until November 8, 2011, the following procedure may be substituted for the requirement in paragraph (d)(4)(i) of this section: All employees, excluding equipment operators located on the equipment, who may come in contact with the equipment, the load line, or the load must be insulated or guarded from the equipment, the load line, and the load. Insulating gloves rated for the voltage involved are adequate insulation for the purposes of this paragraph.

(v) Until November 8, 2013, the following procedure may be substituted for the requirement in (d)(4)(i) of this section:

(A) The employer must use a link/device manufactured on or before November 8, 2011, that meets the definition of an insulating link/device, except that it has not been approved by a Nationally Recognized Testing Laboratory, and that is maintained and used in accordance with manufacturer requirements and recommendations, and is installed at a point between the end of the load line (or below) and the load; and

(B) All employees, excluding equipment operators located on the equipment, who may come in contact with the equipment, the load line, or the load must be insulated or guarded from the equipment, the load line, and the load through an additional means other than the device described in paragraph (d)(4)(v)(A) of this section. Insulating gloves rated for the voltage involved are adequate additional means of protection for the purposes of this paragraph.

(5) Nonconductive rigging if the rigging may be within the Table A of § 1926.1408 distance during the operation.

(6) If the equipment is equipped with a device that automatically limits range of movement, it must be used and set to prevent any part of the equipment, load line, or load (including rigging and lifting accessories) from breaching the minimum approach distance established under paragraph (c) of this section.

(7) If a tag line is used, it must be of the nonconductive type.

(8) Barricades forming a perimeter at least 10 feet away from the equipment

to prevent unauthorized personnel from entering the work area. In areas where obstacles prevent the barricade from being at least 10 feet away, the barricade must be as far from the equipment as feasible.

(9) Workers other than the operator must be prohibited from touching the load line above the insulating link/device and crane. Operators remotely operating the equipment from the ground must use either wireless controls that isolate the operator from the equipment or insulating mats that insulate the operator from the ground.

(10) Only personnel essential to the operation are permitted to be in the area of the crane and load.

(11) The equipment must be properly grounded.

(12) Insulating line hose or cover-up must be installed by the utility owner/operator except where such devices are unavailable for the line voltages involved.

(e) The procedures developed to comply with paragraph (d) of this section are documented and immediately available on-site.

(f) The equipment user and utility owner/operator (or registered professional engineer) meet with the equipment operator and the other workers who will be in the area of the equipment or load to review the procedures that will be implemented to prevent breaching the minimum approach distance established in paragraph (c) of this section and prevent electrocution.

(g) The procedures developed to comply with paragraph (d) of this section are implemented.

(h) The utility owner/operator (or registered professional engineer) and all employers of employees involved in the work must identify one person who will direct the implementation of the procedures. The person identified in accordance with this paragraph must direct the implementation of the procedures and must have the authority to stop work at any time to ensure safety.

(i) [Reserved.]

(j) If a problem occurs implementing the procedures being used to comply with paragraph (d) of this section, or indicating that those procedures are inadequate to prevent electrocution, the employer must safely stop operations and either develop new procedures to comply with paragraph (d) of this section or have the utility owner/operator deenergize and visibly ground or relocate the power line before resuming work.

(k) Devices originally designed by the manufacturer for use as a safety device (see § 1926.1415), operational aid, or a means to prevent power line contact or electrocution, when used to comply with this section, must comply with the manufacturer's procedures for use and conditions of use.

(l) [Reserved.]

(m) The employer must train each operator and crew member assigned to work with the equipment in accordance with § 1926.1408(g).

§ 1926.1411 Power line safety—while traveling under or near power lines with no load.

(a) This section establishes procedures and criteria that must be met for equipment traveling under or near a power line on a construction site with no load. Equipment traveling on a construction site with a load is governed by §§ 1926.1408, 1926.1409 or 1926.1410, whichever is appropriate, and § 1926.1417(u).

(b) The employer must ensure that:

(1) The boom/mast and boom/mast support system are lowered sufficiently to meet the requirements of this paragraph.

(2) The clearances specified in Table T of this section are maintained.

(3) The effects of speed and terrain on equipment movement (including movement of the boom/mast) are considered so that those effects do not cause the minimum clearance distances specified in Table T of this section to be breached.

(4) *Dedicated spotter.* If any part of the equipment while traveling will get closer than 20 feet to the power line, the employer must ensure that a dedicated spotter who is in continuous contact with the driver/operator is used. The dedicated spotter must:

(i) Be positioned to effectively gauge the clearance distance.

(ii) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(iii) Give timely information to the operator so that the required clearance distance can be maintained.

(5) *Additional precautions for traveling in poor visibility.* When traveling at night, or in conditions of poor visibility, in addition to the measures specified in paragraphs (b)(1) through (4) of this section, the employer must ensure that:

(i) The power lines are illuminated or another means of identifying the location of the lines is used.

(ii) A safe path of travel is identified and used.

**Scope of Work
Offer Sheet
Hancock #1 Project
Hancock County: Liberty & Marion Townships
Well Name: Fernco Lenco Norco #1 & Raymond Rice #1**

Permit Number: 34-063-6-2855-00-00 & 34-063-6-7337-00-00

Assumed TD = 1300' - Trenton Formation - Both Wells

Line Number	Description	Unit Price	Quantity	Unit	Item Total
1	Mobilization		2	Lump Sum	
2	Traffic Maintenance (Fernco #1)		1	Lump Sum	
3	Traffic Maintenance (Rice #1)		1	Lump Sum	
4	Site Safety (Fernco #1)		1	Lump Sum	
5	Site Safety (Rice #1)		1	Lump Sum	
6	Hydrogen Sulfide Scavenger		165	Gallons	
7	H2S Safety Team		5	Days	
8	Secondary Containment		2	Lump Sum	
9	Silt Fence		130	Linear Ft	
10	Utility Shielding		1	Lump Sum	
11	Well Head Control (Fernco #1)		1	Lump Sum	
12	Well Head Control (Rice #1)		1	Lump Sum	
13	Well Control Fluid		75	BBL	
14	Alternative Well Control Fluid		100	BBL	
15	Logging		2	Each	
16	Well Preparation & Plugging (Fernco #1)		1	Lump Sum	
17	Well Preparation & Plugging (Rice #1)		1	Lump Sum	
18	Tubing		1	Lump Sum	
19	Tubing/Drill Pipe (2.375")		1	Lump Sum	
20	Class "A" Cement		260	Sack	
21	Cement Mixing & Pumping		4	Each	
22	Fluid Disposal		250	BBL	
	UIC#: _____				
23	Contaminated Material Disposal		5	Ton	
	Disposal Facility: _____				
24	Salvage Material Disposal		1	Lump Sum	
25	Salvage Material Reimbursement	Do not fill out this section			N/A
26	Site Restoration		2	Lump Sum	
27	Approved Resoil		5	Tons	
28	Demobilization		2	Lump Sum	
	Total Encumbrance:				

Additional/Contingency Services

29	Road Mats	_____	1092	Sq. Ft.	_____
30	Fishing	_____	24	Hour	_____
31	Magnet	_____	2	Each	_____
32	Milling	_____	24	Hour	_____
33	Shooting	_____	2	Each	_____
34	Cutting	_____	2	Each	_____
35	Lost Circulation Materials	_____	25	Sack	_____
36	Drilling Mud	_____	25	Sack	_____
37	Nine Sack Grout	_____	5	Cubic Yard	_____
38	Concrete Walk	_____	960	Square Foot	_____
39	Downhole Videography	_____	2	Each	_____
40	Rig Skidding and Plugging	_____	48	Hour	_____
41	Utility Outage	_____	15	Days	_____
42	Traffic Maintenance (Rice #1-One Lane)	_____	1	Lump Sum	_____
Total Contingency:					_____

Note: Contractor shall complete the unit price and quantity for each line item listed above. The line item total shall be the unit price multiplied by the quantity. Contractors shall complete all items in the above offer sheet; failure to do so may be cause for rejection of the Offer. Quantities are only an estimate. Payment shall be based on quantities satisfactorily completed.

The undersigned, having inspected the scope of work, hereby proposes to furnish all labor, equipment, materials, tools, and transportation necessary to perform the proposed work in accordance with the listed prices.

Offers shall be sealed & returned to the Department of Natural Resources, Division of Oil & Gas Resources Management, Attention: Julie Boorman, 2045 Morse Rd, Building F-3, Columbus, OH 43229, until

11:30 am on April 25, 2019.

Submitted by

Name of Contractor:		
Date:		
Signature:		
Address:		
City:		Zip Code:
Telephone:		

EDIT DATE: 3/22/2019 1:39 PM EDIT BY: JONESIA DRAWING FILE: \\ORPHAN WELL PROGRAM\PROJECTS\HANCOCK COUNTY\HANCOCK1(FERNCO, RICE)\ENGINEERING DESIGN\DRAWINGS\FINAL DRAWING HANCOCK1.DWG



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



TITLE SHEET

HANCOCK #1
FERNCO LENCO NORCO #1
& RAYMOND RICE #1
ORPHAN WELL SITES

REVISION	
DESIGN UNIT	O&G ENGINEERING
DRAWN BY:	J.R.J.
CHECKED BY:	J.J.J.
DATE:	04/02/2019
SHEET NO.	1 OF 5

SHEET INDEX

TITLE SHEET	1
SITE PLAN - FERNCO #1	2
SITE PLAN - RICE #1	3
DETOUR PLAN - RICE #1	4
DETAILS	5

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

PROGRAM MANAGER
GENE CHINI
PH: (330) 284-2942

ORPHAN WELL INSPECTOR
BEN HARPSTER
PH: (740) 485-9870

PROJECT ENGINEER
JAMES J. JUDGE, P.E.
PH: (614) 314-6153

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

**HANCOCK #1
FERNCO LENCO NORCO #1
& RAYMOND RICE #1
ORPHAN WELL SITES**

ORPHAN WELL INFORMATION

WELL NAME	API NUMBER	COUNTY	TOWNSHIP	LATITUDE	LONGITUDE
FERNCO LENCO NOCO (FERNCO) #1	34-063-6-2855-00-00	HANCOCK	LIBERTY	41.049788°	-83.687830°
RAYMOND RICE (RICE) #1	34-063-6-7337-00-00	HANCOCK	MARION	41.022421°	-83.631488°

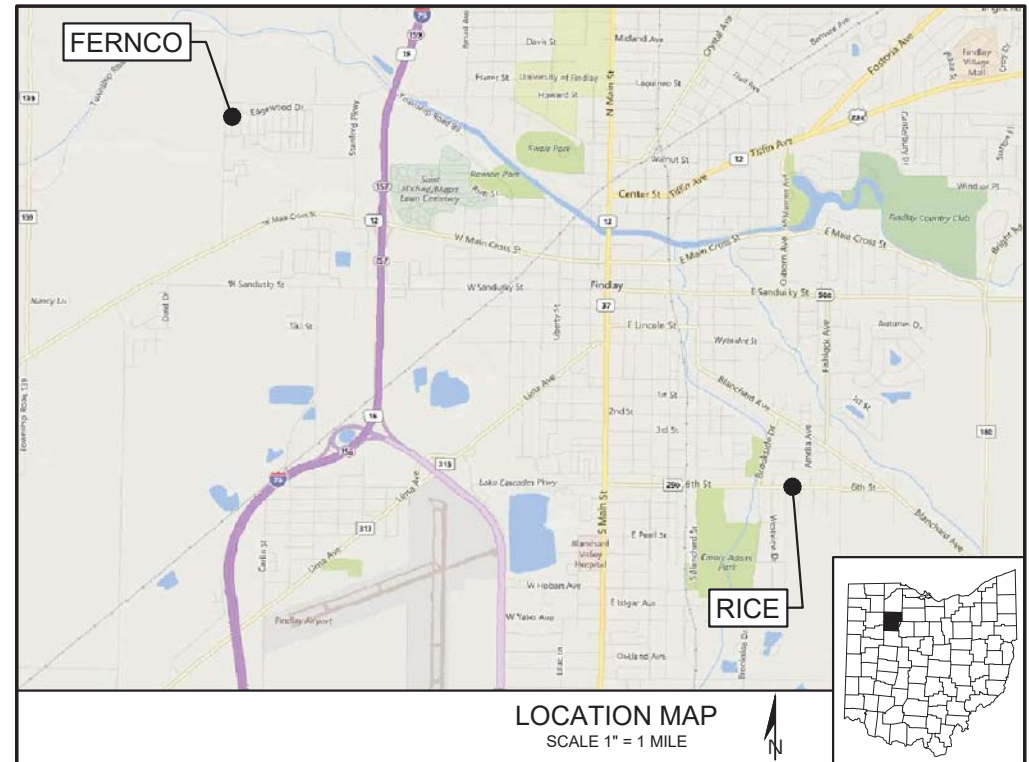


Call Before You Dig
CALL TWO WORKING DAYS BEFORE YOU DIG
(NON MEMBERS MUST BE CALLED DIRECTLY)

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	EXISTING GAS	G
PROPOSED SILT FENCE	SF	EXISTING ORPHAN WELL	
EXISTING GUTTER LINE		EXISTING POWER POLE	
EXISTING CURB		EXISTING HYDRANT	
EXISTING EDGE OF PVMT		EXISTING WATER VALVE	
EXISTING EDGE OF DRIVE		EXISTING GAS VALVE	
EXISTING BUILDING		EXISTING MONUMENT BOX	
EXISTING PROPERTY LINE		EXISTING CURB INLET	
EXISTING 1' CONTOUR		EXISTING ELECTRIC METER	
EXISTING 5' CONTOUR		EXISTING LIGHT POLE	
EXISTING OVERHEAD ELEC.	OHP	EXISTING IRON PIN FOUND	
EXISTING STORM	ST	EXISTING SANITARY MANHOLE	
EXISTING SANITARY	SAN	EXISTING UNDERGROUND ELECTRIC	E



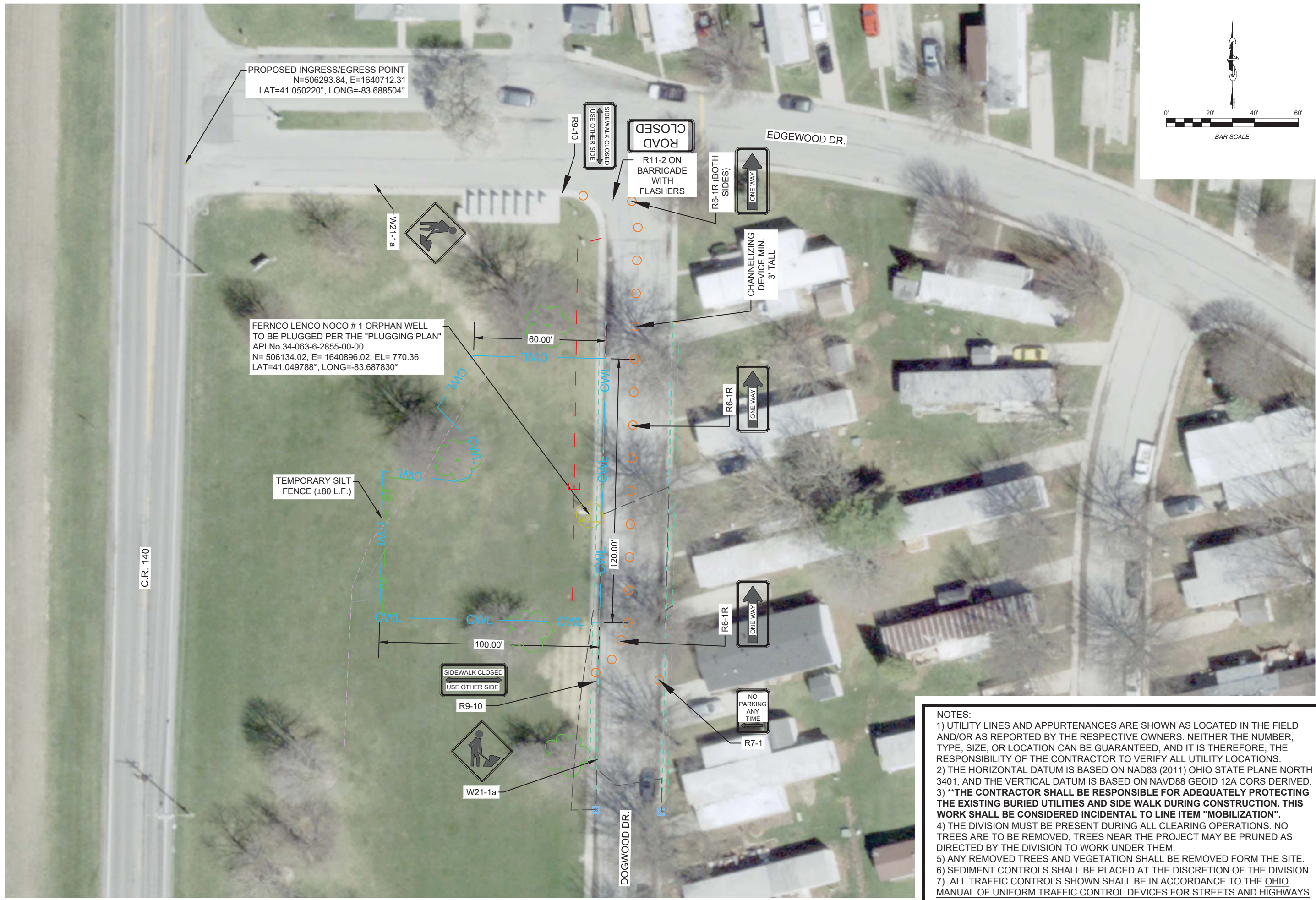
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JAMES J. JUDGE, P.E.
OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MGMT

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NO. _____ DATE _____

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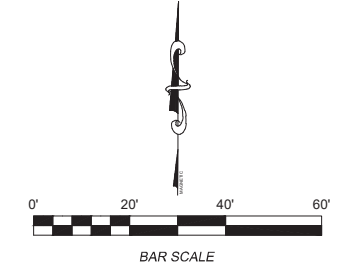


PROPOSED INGRESS/EGRESS POINT
N=506293.84, E=1640712.31
LAT=41.050220°, LONG=-83.688504°

FERNCO LENCO NOCO # 1 ORPHAN WELL
TO BE PLUGGED PER THE "PLUGGING PLAN"
API No.34-063-6-2855-00-00
N= 506134.02, E= 1640896.02, EL= 770.36
LAT=41.049788°, LONG=-83.687830°

TEMPORARY SILT
FENCE (±80 L.F.)

C.R. 140



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 HORIZONTAL DATUM IS BASED ON NAD83 (2011) OHIO STATE PLANE NORTH 3401, AND THE VERTICAL DATUM IS BASED ON NAVD88 GEOID 12A CORS DERIVED.
3) ****THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY PROTECTING THE EXISTING BURIED UTILITIES AND SIDE WALK DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO LINE ITEM "MOBILIZATION".**
4) THE DIVISION MUST BE PRESENT DURING ALL CLEARING OPERATIONS. NO TREES ARE TO BE REMOVED, TREES NEAR THE PROJECT MAY BE PRUNED AS DIRECTED BY THE DIVISION TO WORK UNDER THEM.
5) ANY REMOVED TREES AND VEGETATION SHALL BE REMOVED FORM THE SITE.
6) SEDIMENT CONTROLS SHALL BE PLACED AT THE DISCRETION OF THE DIVISION.
7) ALL TRAFFIC CONTROLS SHOWN SHALL BE IN ACCORDANCE TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.



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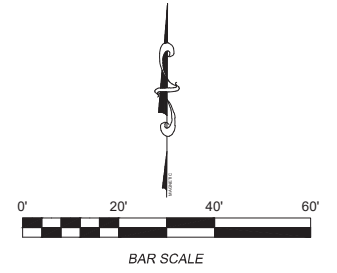
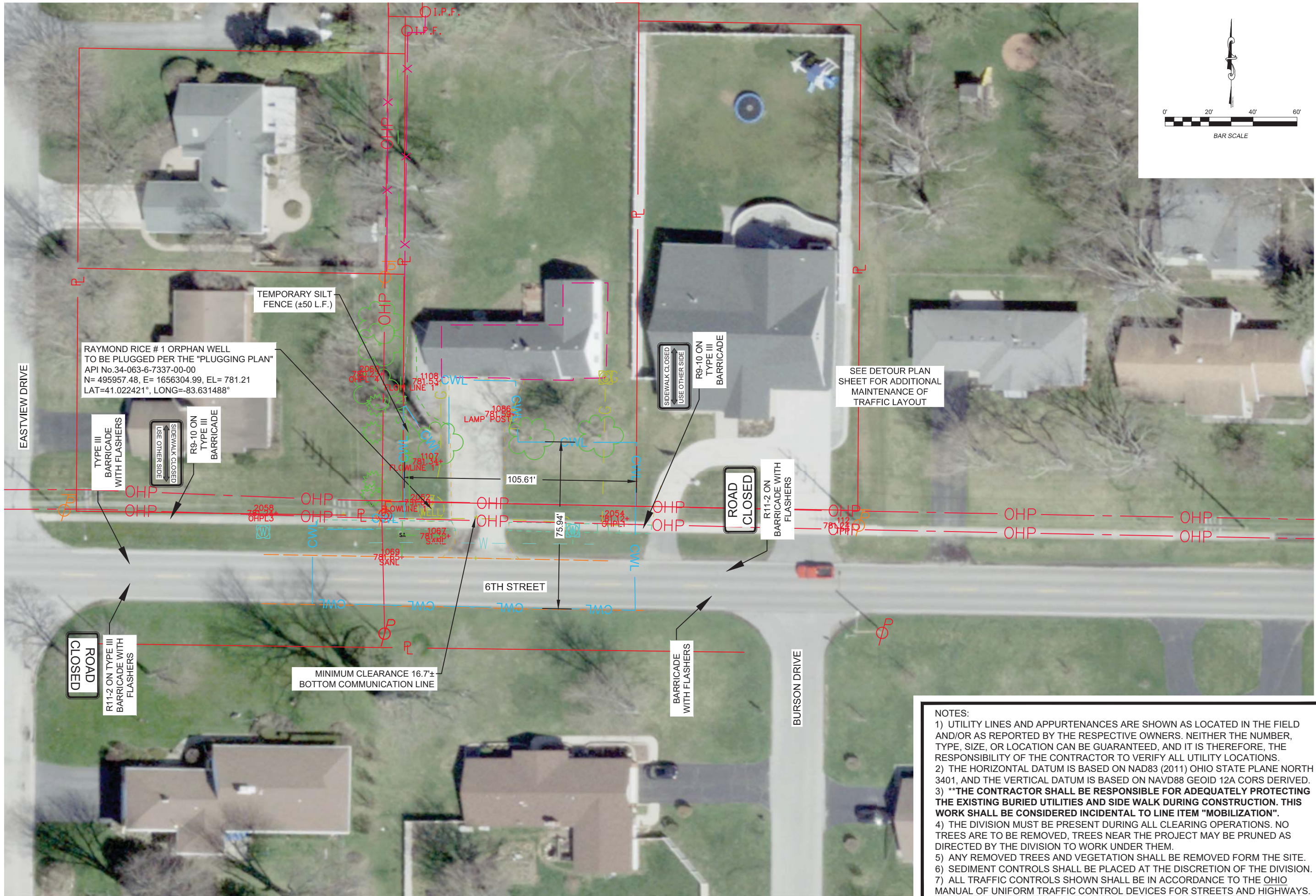
**SITE PLAN
FERNCO #1**

**HANCOCK #1
FERNCO LENCO NORCO #1
& RAYMOND RICE #1
ORPHAN WELL SITES**

REVISION

DESIGN UNIT
O&G ENGINEERING
DRAWN BY: J.R.J.
CHECKED BY: J.J.J.
DATE: 04/02/2019
SHEET NO.
2 OF 5

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RAYMOND RICE # 1 ORPHAN WELL
TO BE PLUGGED PER THE "PLUGGING PLAN"
API No.34-063-6-7337-00-00
N= 495957.48, E= 1656304.99, EL= 781.21
LAT=41.022421°, LONG=-83.631488°

TEMPORARY SILT
FENCE (±50 L.F.)

SEE DETOUR PLAN
SHEET FOR ADDITIONAL
MAINTENANCE OF
TRAFFIC LAYOUT

MINIMUM CLEARANCE 16.7'±
BOTTOM COMMUNICATION LINE

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 HORIZONTAL DATUM IS BASED ON NAD83 (2011) OHIO STATE PLANE NORTH 3401, AND THE VERTICAL DATUM IS BASED ON NAVD88 GEOID 12A CORS DERIVED.
- 3) ****THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY PROTECTING THE EXISTING BURIED UTILITIES AND SIDE WALK DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO LINE ITEM "MOBILIZATION".**
- 4) THE DIVISION MUST BE PRESENT DURING ALL CLEARING OPERATIONS. NO TREES ARE TO BE REMOVED, TREES NEAR THE PROJECT MAY BE PRUNED AS DIRECTED BY THE DIVISION TO WORK UNDER THEM.
- 5) ANY REMOVED TREES AND VEGETATION SHALL BE REMOVED FROM THE SITE.
- 6) SEDIMENT CONTROLS SHALL BE PLACED AT THE DISCRETION OF THE DIVISION.
- 7) ALL TRAFFIC CONTROLS SHOWN SHALL BE IN ACCORDANCE TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.



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**SITE PLAN
RICE #1**

**HANCOCK #1
FERNCO LENOCO NORCO #1
& RAYMOND RICE #1
ORPHAN WELL SITES**

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R11-4 & M4-10 ON TYPE III BARRICADE WITH FLASHERS

ROAD CLOSED TO THRU TRAFFIC

RESTRICTED SAFETY AREA

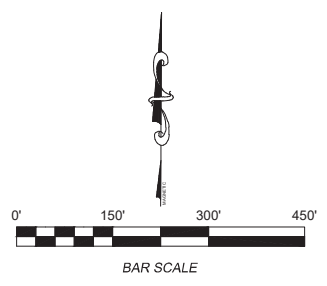
SEE PLAN SHEET 3 FOR ADDITIONAL TRAFFIC SIGNS

ROAD CLOSED TO THRU TRAFFIC

R11-4 & M4-10 ON TYPE III BARRICADE WITH FLASHERS

M4-10 ATTACH TO EXISTING STOP SIGN

M4-10 WITH SIGN POST



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



DETOUR PLAN
RICE #1

HANCOCK #1
FERNCO LENOCO NORCO #1
& RAYMOND RICE #1
ORPHAN WELL SITES

REVISION	
DESIGN UNIT	O&G ENGINEERING
DRAWN BY:	J.R.J.
CHECKED BY:	J.J.J.
DATE:	04/02/2019
SHEET NO.	4 OF 5

EDIT DATE: 3/22/2019 1:39 PM EDIT BY: JONESIA DRAWING FILE: H:\ORPHAN WELL PROGRAM\PROJECTS\HANCOCK COUNTY\HANCOCK1(FERNCO1, RICE1)\ENGINEERING DESIGN\DRAWINGS\FINAL DRAWING HANCOCK1.DWG

SITE RESTORATION QUANTITIES			
WELL NAME	COMPONENT	RATE	QUANTITY
FERNCO LENCO NOCO (FERNCO) #1	FERTILIZER	20 LBS/1000 SF	190 LBS
	SEED	75 LBS/1 AC	16.3 LBS
	MULCH	100 LBS/1000 SF	22 BALES
RAYMOND RICE (RICE) #1	FERTILIZER	20 LBS/1000 SF	90 LBS
	SEED	75 LBS/1 AC	7.7 LBS
	MULCH	100 LBS/1000 SF	10 BALES

SITE RESTORATION NOTES:
THE QUANTITIES LISTED ABOVE ARE FOR ESTIMATING PURPOSES ONLY. THE CONTRACTOR SHALL COORDINATE ALL SITE RESTORATION ACTIVITIES WITH THE DIVISION PRIOR TO COMMENCING WITH WORK.



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DETAILS

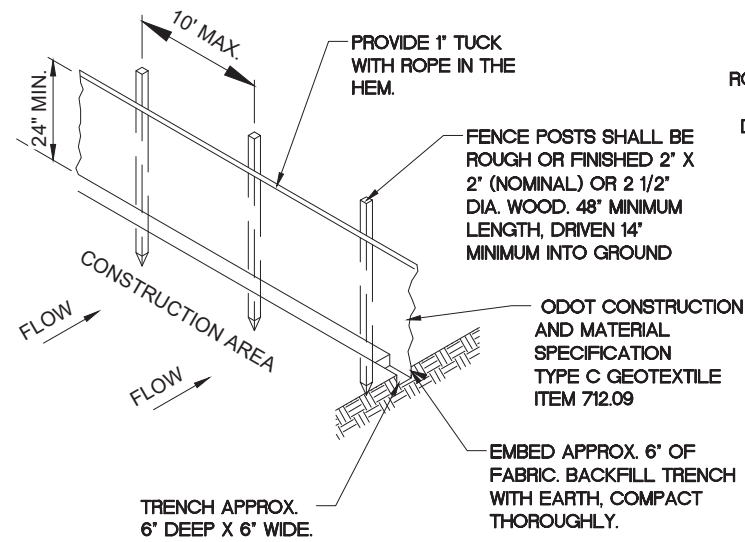
NOTES:

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

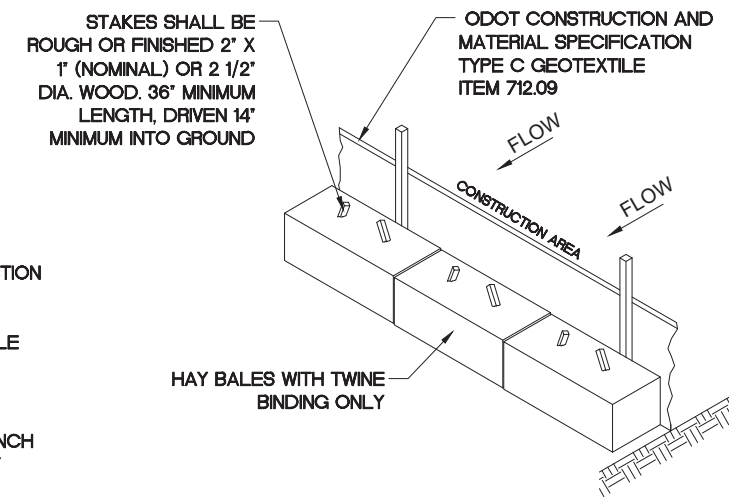
NOTES:

THE SILT FENCE SHALL BE REINFORCED WITH STAKED HAY BALES AT POINTS OF HEAVY SILT BUILDUP, HIGH WATER VELOCITIES, AND OTHER CONDITIONS DEEMED NECESSARY BY THE CHIEF. SILT FENCE AND HAY BALES SHALL BE INSTALLED ACCORDING TO THEIR RESPECTIVE DETAILS.

WHERE BALE DIKES ARE USED ONLY, STAKE AS DETAILED WITHOUT THE SILT FENCE.



SILT FENCE DETAIL
NOT TO SCALE



SILT FENCE WITH BALE BACKUP DETAIL
NOT TO SCALE

**HANCOCK #1
FERNCO LENCO NORCO #1
& RAYMOND RICE #1
ORPHAN WELL SITES**

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