



RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

PERMIT TO RECEIVE, STORE, HANDLE, AND TREAT CERTAIN NON-HAZARDOUS OIL AND GAS WASTES

Permit No. STF-0164

FEDERAL NORM SERVICES, LLC
3953 MAPLE AVENUE
STE 350 WOODLAWN HALL
DALLAS TX 75219

Based on information contained in the original application from Federal Norm Services, LLC, received on July 15, 2020, and subsequent information received to date, you are hereby authorized to receive, store, handle and treat certain nonhazardous oil and gas wastes subject to the jurisdiction of the Railroad Commission of Texas (RRC) as specified below at the following facility:

WCS HWY 176 Waste Separation Facility
Latitude/Longitude: 32.430833°, -103.038056°
Andrews County, Texas
RRC District 08, Midland

NARRATIVE DESCRIPTION OF PROCESS:

The facility consists of a Processing Area, an above-ground storage tank (AST) Area, and a Container Staging Area. The Processing Area is located on a single concrete pad, with an engineered fabric structure cover. Selected loads of incoming waste shall be screened for Naturally Occurring Radioactive Material (NORM), water, oil, and solids content. The waste shall be routed through the applicable process area, a liquids process area or a semi-solids/solids process area, based on the waste characteristics and oil content.

Liquids shall be transferred into ASTs for further processing. Post-processed liquids shall be transferred into another AST until disposal off-site at an approved disposal facility.

Semi-solids and solids shall be transferred into an open top container for removal of any free-standing liquids and then stabilized/solidified for disposal off-site at an approved disposal facility.

Authority is granted to receive, store, handle, and treat oil and gas wastes in accordance with 16 Texas Administrative Code (TAC) §3.8 (Statewide Rule 8) and is subject to the following minimum conditions:

I. General Permit Conditions

- A. The effective date of this permit is **January 21, 2021** and expires on **January 20, 2026**.
- B. The permittee may not receive, store, handle, treat, or dispose of oil and gas wastes at the facility until financial security in the amount of **\$98,634.00** is provided for and approved by the RRC for the referenced location. This amount provides financial security for the RRC-permitted waste management units and areas as specified in this permit.
- C. In accordance with 16 TAC §3.78, the permittee must maintain financial security in the amount of **\$98,634.00** until the entire facility has been closed in accordance with this permit. Technical Permitting reserves the right to revise this amount, as necessary. Prior to any modification of this facility that would require increased financial security, an updated closure cost estimate must be submitted to Technical Permitting in Austin, and any additional financial security must be filed with and approved by the RRC prior to making that modification.
- D. A copy of a site-specific Spill Control Plan that details means and methods of waste management and containment in the event of a release or discharge must be maintained on-site and made available to RRC staff for review and inspection upon request.
- E. The facility's Stormwater Management Plan must be maintained on-site and made available upon request of the RRC.
- F. This permit does not authorize discharge from the facility of any oil and gas waste, including contaminated or contact storm water.
- G. The permittee may not receive, store, handle, or treat oil and gas waste at the facility until all necessary air permits or exemptions (if any) are obtained from the Texas Commission on Environmental Quality (TCEQ).
- H. No waste may be received at the facility until the groundwater monitoring wells required by Permit Condition V. of this permit have been completed, developed and sampled. The documentation required by Permit Conditions V.A. and V.C. must be provided to and approved by Technical Permitting within 30 days after installation of groundwater monitoring wells.
- I. Technical Permitting in Austin and the appropriate RRC District Office must be notified in writing upon final completion of construction of the facility. The permittee may not begin receiving, storing, handling, or treating oil and gas waste until the appropriate RRC District Office has performed an inspection of the completed facility and has verified that the facility is constructed in accordance with the application and this permit.
- J. Unless otherwise required by conditions of this permit, construction, use, and maintenance of the facility must be in accordance with the information represented in the permit application and attachments thereto. When construction of the facility is completed, submit the "*as-built*" plans to be incorporated as part of the permit application.

- K. An On-Site Sewage Facility (OSSF) may be constructed, operated and maintained within the boundaries of the subject facility without an additional permit from the Commission if: (1) the OSSF waste is not commingled with any other oil and gas waste; (2) the system is designed by a Professional Engineer registered in the state of Texas or a sewage system installer licensed in the state of Texas; and (3) the construction, operation and maintenance of the OSSF complies with all applicable local, county, and state requirements.
- L. Any deviation from this permit must be approved by amendment from Technical Permitting in Austin before implementation.
- M. Any soil additives, stabilizers, bioaccelerators or treatment chemicals must be approved by Technical Permitting prior to use at the facility.
- N. Safety Data Sheets (SDS) must be submitted to Technical Permitting in Austin for any chemical or compound proposed to be used in the treatment of waste at the facility. Use of the compound is contingent upon RRC approval. All chemicals must be stored according to the manufacturer's specifications.
- O. All chemical laboratory analyses required to be performed in accordance with this permit must be performed using appropriate Environmental Protection Agency (EPA) methods or Standard Methods by an independent, National Environmental Laboratory Accreditation Program (NELAP) certified laboratory neither owned nor operated by the permittee. Any sample collected for laboratory analysis must be collected and preserved in a manner appropriate for that analytical method as specified by 40 CFR, Part 136. All geotechnical testing is to be performed utilizing tests standardized by the American Society for Testing and Materials (ASTM) and certified by a Texas licensed Professional Engineer.
- P. The permittee must make all records required by this permit available for review and/or copying during normal business hours upon request of RRC personnel.
- Q. The permit may be considered for administrative renewal upon review by the RRC. Any application for renewal should be received at least **60 days** prior to the permit expiration date.
- R. This permit is **nontransferable** without consent of the RRC. Any request for permit transfer must be filed with Technical Permitting in Austin at least 60 days before the permittee wishes the transfer to take place.
- S. The permittee must submit a **Quarterly Report** according to the following:
 - 1. The reports must contain applicable information as required in Permit Conditions III.E., IV.N., V.D., and VIII.G.
 - 2. The quarterly reporting periods must be January 1 through March 31, April 1 through June 30, July 1 through September 30, and October 1 through December 31 of each year.
 - 3. The reports must be submitted to Technical Permitting in Austin and the appropriate RRC District Office no later than the 30th day of the month following each reporting period, or each April 30th, July 30th, October 30th, and January 30th, respectively.

4. An Executive Summary must be included that describes facility operations and relevant activities that occurred during the specific quarter.
 5. Data tables presenting volumes or amounts of treated and untreated solid waste on-site at the end of each quarter must be included.
 6. The laboratory analytical reports and the corresponding chain of custody must be provided for all chemical analyses performed.
- T. Failure to comply with any provision of this permit may be cause for modification, suspension, termination or cancellation of this permit in accordance with Statewide Rule 8(d)(6)(E).

II. Authorized Wastes

- A. Only oil and gas wastes subject to the jurisdiction of the RRC that are non-hazardous according to Subtitle C (Resource Conservation and Recovery Act (RCRA)) may be received. You may receive, store, handle, treat, and dispose of only the following oil and gas wastes:
1. Water-based drilling fluid and associated cuttings
 2. Oil-based drilling fluid and associated cuttings
 3. Tank bottoms from gas plants, crude oil Reclamation Plants, crude oil separation facilities, and crude oil production facilities, which do not exceed 7% in oil content as determined by Standard American Petroleum Institute (API) "shake out" test
 4. Soils contaminated with produced water, crude oil, or condensate
 5. Hydraulic fracturing flow-back water and associated solids including sand
 6. Produced formation sands
 7. Absorbent pads from crude oil spills from production operations
 8. Hydrocarbon, solids, sands, and emulsion generated from separators, fluid treatment vessels, and production impoundments
 9. Solid waste from gas dehydration and sweetening activities (spent filter media, molecular sieves, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber sludge)
 10. Contaminated liners and bottoms from reserve and washout pits
 11. Contaminated soils from crude oil spills, pipeline and saltwater spills from production operations
 12. Pit liners and solids
 13. Pipeline associated wastes (i.e. pigs)
 14. Other hydrocarbon waste, as defined by Statewide Rule 57(b)(2)
 15. Well screen outs (Iridium-92, Scandium-46, Antimony-124, Gold-198, and other commonly used oilfield tracers)

16. Oil and gas waste containing Naturally Occurring Radioactive Material (NORM)

- B. No other waste may be accepted at this facility without written authorization from the RRC.
- C. In accordance with TAC Title 30, Part 1, §336.227, radioactive tracer waste may only be received if:
1. The possession, transportation, and use of the radioactive tracers are licensed or otherwise authorized by DSHS;
 2. The non-water soluble radioactive tracers are in fluids that have been retrieved from a well used in the exploration, development or production of oil or gas or geothermal resources and such well is permitted or otherwise authorized by the RRC;
 3. The total concentration of radioactivity for all isotopes disposed does not exceed 1,000 picocuries per gram (pCi/g), and the half-life of each isotope is 120 days or less; and
 4. The radioactive tracers are non-water soluble.
- D. No asbestos-containing material regulated under the Clean Air Act or polychlorinated biphenyls (PCB) material regulated under the Toxic Substances Control Act may be accepted for processing at this facility.
- E. This permit does not authorize the active reclamation of crude oil from oil and gas waste. A request for authorization under 16 TAC §3.57 must be submitted to and approved by Technical Permitting in Austin prior to any active reclamation activities at the referenced facility. Any recovered free oil must be handled according to protocols specified in Permit Condition IV.M.
- F. All waste haulers received at the facility must be RRC permitted Oil and Gas Waste Haulers and must have the subject facility listed as an authorized disposal facility on their "Oil and Gas Waste Hauler's Authority to use Approved Disposal/Injection System" (Form WH-3).

III. Waste Testing and Record Keeping Requirements

- A. All solid waste containing NORM or other isotopes must be screened, packaged and disposed of off-site at an authorized disposal facility.
- B. **Prior** to receipt at the site, representative samples of waste from **commercial** oil and gas facilities and reclamation plants must be analyzed for and may not exceed the limit for the following parameter(s):

<u>PARAMETER</u>	<u>LIMITATION</u>
Total Organic Halides (TOX) (EPA Method 9020B)	100 mg/l

Special authorization for disposal of waste with a TOX > 100 ppm may be considered. Authority must be obtained from Technical Permitting in Austin prior to acceptance of that waste.

- C. The permittee must maintain the following records on each load of waste **received** at the facility for a period of three years from the date of receipt:
1. Description of the site where the waste was generated, including:
 - a. Generator name
 - b. Lease name and number and well number(s), or gas ID number(s), or American Petroleum Institute (API) well number(s); or latitude and longitude coordinates in decimal degrees if waste was not generated on a lease
 - c. County
 2. Name and RRC permit number of the transporter
 3. Volume of waste material (specify units)
 4. Detailed description of the type of waste, including any analysis required by Permit Conditions III.B., above
 5. The radioactivity level(s) of the oil and gas NORM waste (in pCi/g of Radium-226 combined with Radium-228 and any other NORM radionuclide for soil and other media)
- D. The permittee must maintain the following records on each load of waste **removed** from the referenced facility to an authorized disposal facility for a period of three years from the date of shipment:
1. Date waste is removed and hauled to a disposal facility
 2. Name and RRC permit number of the transporter
 3. Volume (specify units) of each shipment of waste hauled to a disposal facility
 4. Type of waste (basic sediment, water, water-based mud, etc.)
 5. Name and permit number of the disposal facility.
- E. A report must be submitted to Technical Permitting in Austin and the appropriate RRC District Office as part of the **Quarterly Report** required in Permit Condition I.S. and must include the following information:
1. A table summarizing all incoming waste, including the following:
 - a. Description of the site where the waste was generated, including:
 - i. Generator name
 - ii. Lease name and number and well number(s), or gas ID number(s), or American Petroleum Institute (API) well number(s); or latitude and longitude coordinates in decimal degrees if waste was not generated on a lease
 - iii. County
 - b. Name and RRC permit number of the transporter
 - c. Volume of waste material (specify units)

- d. Detailed description of the type of waste, including any analysis required by Permit Conditions III.B., above
 - e. The radioactivity level(s) of the oil and gas NORM waste (in pCi/g of Radium-226 combined with Radium-228 and any other NORM radionuclide for soil and other media)
 2. A table summarizing all waste removed from the facility, including the following:
 - a. Name and permit number of the disposal facility
 - b. Name and RRC permit number(s) of the transporter(s)
 - c. Description and **total volume** (specify units) of waste hauled to the disposal facility
 - d. The total volume of each type of waste that leaves the facility for disposal or final disposition during the quarter
 3. Copies of all analyses required by Permit Condition III.B.
- F. Residual oil and gas NORM waste may be removed from materials received at the facility that are not amenable for processing and disposal at the facility by rinsing with fresh water using a high- or low-pressure hose, provided that such materials that are not amenable for processing and disposal do not exceed 5% by volume of waste received at the facility. Such materials shall not be considered oil and gas NORM waste when radioactivity levels fall below exemption levels established by the Texas Department of State Health Services-Bureau of Radiation Control under §289.259 and shall fall under the jurisdiction of the Texas Department of State Health Services-Bureau of Radiation Control for purposes of regulation of radioactive materials once removed from the site. However, such materials shall retain their character as oil and gas waste, and, if such materials are not inert as defined in rule 8(a)(34), a minor permit from Technical Permitting shall be required for their disposal. The following records must be kept on all waste, whether or not it is inert, that is recycled or disposed of by means other than injection at the permitted facility:
 1. The type and volume of waste
 2. The date of and manner of disposition of the waste. The permittee must reject any shipment of waste that contains in excess of 10% by volume of materials that are not amenable for processing and disposal at the facility.
- G. The permittee must comply with the worker protection standards as defined in 16 TAC Part 1, Chapter 4, Subchapter F, Rule §4.608 (and described in Health Services 25 TAC, Chapter 289, Subchapter D, Rule §289.202):
 1. Implementing a radiation protection program
 2. Controlling the occupational dose to all employees
 3. Conducting surveys and monitoring
 4. Assuring respiratory protection and implementing controls to restrict internal exposure in restricted areas

5. Posting signs and labels
6. Keeping records of radiation protection programs and of special exposures
7. Keeping reports

IV. General Site Design and Maintenance Requirements

- A. The general layout and arrangement of the facility must be consistent with the *"Site Layout"* (Figure C-3), the *"Processing Area Plan View"* (Figure C-4A), and the *"Processing Area Cross Section Views"* (Figure C-4B) diagrams, received on November 16, 2020, which are attached as **Permit Appendix A**.
- B. A sign must be posted at each entrance to the facility. The sign must be readily visible and show the operator name, facility name, and permit number in letters and numerals at least three inches in height.
- C. The facility must consist of the following waste management units and maximum estimated waste volumes:
 1. AST Area
 - a. One 107 bbl separated fluids tank
 2. Container Staging Area
 - a. No more than 40 cubic yards of solid waste in tanks or containers
 3. Processing Area
 - a. Six 20 cubic yard unseparated waste containers
 - b. One 30 cubic yard unseparated waste container
 4. In addition to the above-referenced tanks, no more than 100 standard 42-gallon steel barrels of unseparated waste may be stored or staged in the Processing Area and Container Storage Area
- D. No waste, treated or untreated, may be placed on the ground or in and/or on any non-authorized surface.
- E. The Processing Area must be covered with a canopy and must be surrounded on all sides by walls or curbs a minimum of 12 inches in height. The reinforced concrete pad must slope to a sump with approximate dimensions of 18 inches square by 18 inches deep.
- F. The AST Area must be on a reinforced concrete pad, with mortared cinder block containment walls a minimum of four feet in height. The floor and walls of the AST Area must be lined with a concrete water sealant.
- G. All storage tanks, chemicals, equipment and roll-off boxes must be maintained in a leak-free condition. If inspection of a tank, roll-off box or storage vessel reveals deterioration or leaks, it must be repaired before resuming use of the vessel.
- H. Any spill of waste, chemical, or any other waste related material must be collected and containerized within 24 hours and processed through the treatment process or disposed of in an authorized manner.

- I. Any chemical used in the treatment process must be stored in vessels designed for the safe storage of the particular chemical and these vessels must be maintained in a leak free condition.
- J. Dikes or containment structures must be constructed around all waste management units. All earthen dikes constructed as perimeter berms must be compacted or constructed of material that meets 95% Standard Proctor (ASTM D698) or 90-92% Modified Proctor (ASTM D1557) density and meet a permeability of 1×10^{-7} cm/sec or less when compacted. During construction, successive lifts should not exceed nine inches in thickness, and the surface between lifts should be scarified to achieve a good seal. Each berm must maintain a slope no steeper than a one to three (vertical to horizontal) ratio, unless constructed of concrete or equivalent material (firewalls). These structures must be used to divert non-contact storm water around the waste management areas and contain and isolate contact storm water within the waste management units. Refer to the stormwater management requirements specified in Permit Condition VI.
- K. At least two feet of freeboard must be maintained for any open top containment.
- L. The facility must maintain security to prevent unauthorized access. Access must be maintained by a 24-hour attendant or a six-foot-high security fence and locked gate when unattended. Fencing is required unless terrain or vegetation prevents vehicle or livestock access except through entrances with lockable gates.
- M. No oil may be allowed to accumulate on top of the water or wastes stored in the tanks. Any oil on top of the liquids must be skimmed off and handled in accordance with RRC rules. Any recovered oil must be recorded and filed with the RRC on either a Skim Oil/Condensate Report (Form P-18) or a "*Letter of Authority Request for Oil Movement*" (Form T-1) Letter:
 - 1. A Skim Oil/Condensate Report (Form P-18) must be filed with the RRC every month to record skim oil volumes recovered and sold during the operation of this facility. If no skim oil is recovered for a given month, a (Form P-18) should still be filed with the RRC.

OR

- 2. An original signed "*Letter of Authority Request for Oil Movement*" (Form T-1) must initially be submitted on letterhead to Field Operations, Austin, TX, Oil and Gas Division, for every event in which sellable skim oil is recovered and intended to be sold during the operation of this facility. Filing frequency requirements may be redefined after the initial oil movement request has been processed. The request must include:
 - a. The time period for which oil movement authority is requested;
 - b. The name of the applicant requesting to move the oil;
 - c. Volume (barrels) of oil to be moved;
 - d. Name and location of the facility which the oil will be moved to;
 - e. Name, address, telephone, and fax number of facility buying the oil to be moved;

- f. Contact person, T-1 permit number, and P-5 Operator Number of the oil buyer; and
 - g. A description of the source(s) of the oil at the facility.
- N. Each month an inspection of the entire facility must be performed on all concrete slabs, processing equipment, containment berms, and aboveground storage tanks or vessels for deterioration, leaks or spills. The records of each inspection must be kept on-site and maintained for a period of three years from the date of the inspection. The following must be included in the inspection report and submitted as part of the **Quarterly Report** required by Permit Condition I.S.
 - 1. The results of the monthly inspection of concrete slabs within the facility for evidence of deterioration, leakage, or storm water run-on, and a description of corrective action taken, if any.
 - 2. The results of the monthly inspection of process equipment, tanks, and roll-off boxes for evidence of deterioration or leakage, and a description of corrective action taken, if any.
 - 3. The results of the monthly inspection of waste levels within the storage areas, tanks, and roll-off boxes, and a description of corrective action taken, if any.

V. Groundwater Monitoring

- A. At least three monitor wells must be installed, maintained and routinely sampled at the facility. The monitor wells are to be installed at the locations designated on the "*Proposed Groundwater Monitoring Locations*" schematic, dated December 28, 2020, which is attached as **Permit Appendix B**. The following provisions must be met for each well:
 - 1. The wells must be completed by a certified water well driller in accordance with 16 TAC Part 4, Chapter 76 (Water Well Drillers and Water Well Pump Installers).
 - 2. The wells must be completed and penetrate the shallowest groundwater zone, and the completion must isolate that zone from any deeper groundwater zone.
 - 3. The screened interval of the wells must be designed to intercept at least five feet of groundwater.
 - 4. Provision must be made to protect the well heads from damage by vehicles and heavy equipment.
 - 5. The wells must be watertight at the surface and fitted with a lockable watertight expansion cap.
 - 6. The groundwater monitor wells must be able to provide a sample that is representative of the groundwater underlying the site for the duration of facility operations. If a monitor well is not capable of providing a representative sample, the permittee must notify Technical Permitting in Austin and install a replacement monitor well that is acceptable to the RRC.

Additional groundwater monitoring wells may be required with future site development.

7. The following information must be submitted after the wells are completed:
 - a. A soil boring lithologic log for the well, with the soils described using the Unified Soil Classification System (equivalent to ASTM D 2487 and 2488). The log must also include the method of drilling, well specifications, slot size, riser and screen length, bentonite and cement intervals, total depth, and the top of the first encountered water or saturated soils. The sand pack size should be compatible with well screen and slot size, as well as the local lithology.
 - b. A well installation diagram for each well detailing construction specifications for each well, including riser and screen length, screen slot size, bentonite and cement intervals. The sand pack size should be compatible with the well screen slot size and the local lithology.
 - c. A survey elevation for each well head reference point (top of casing) relative to a real or arbitrary on-site benchmark and relative to mean sea level.
 - d. A potentiometric contour map showing static water levels and the estimated direction of groundwater flow and the calculated gradient.
- B. The groundwater monitor wells must be able to provide a sample that is representative of the groundwater underlying the site for the duration of facility operations. If a monitor well is not capable of providing a representative sample, the permittee must notify Technical Permitting in Austin and install a replacement monitor well that is acceptable to the RRC. Additional groundwater monitoring wells may be required with future site development.
- C. The groundwater monitor wells must be sampled or monitored for the following parameters after installation and quarterly thereafter:

<u>PARAMETER</u>	<u>UNITS</u>
Static Water Level	Feet (ft)
Total Depth	ft
pH <i>EPA Method 150.1, 150.2, or equivalent</i>	s.u.
Total Dissolved Solids (TDS) <i>Standard Method 160.1 or equivalent</i>	mg/L
TPH <i>Method TX1005</i>	mg/L
Benzene <i>EPA Method 8260/8021B or equivalent</i>	mg/L
Soluble Cations: Calcium, Magnesium, Potassium, and Sodium <i>EPA Method 6010/6020 or equivalent</i>	mg/L

PARAMETER

UNITS

Soluble Anions:

mg/L

Bromides, Carbonates, Chlorides, Nitrates, and
Sulfates

EPA Method 300/9056 or equivalent

- D. Copies of the monitoring-well gauging and sampling event data must be filed quarterly with Technical Permitting and the appropriate RRC District Office as part of the **Quarterly Report** required in Permit Condition I.S. The laboratory analytical reports and the corresponding chain of custody must be provided for all chemical analyses performed.

VI. Stormwater Management

- A. The facility must be designed and constructed to contain contact stormwater and prevent run-on of non-contact stormwater.
- B. Contact stormwater must be prevented from migrating outside of the waste processing and storage areas. The facility must be sloped to facilitate the separation of contact and non-contact stormwater.
- C. Non-contact stormwater be prevented from entering the waste processing and storage areas. Areas outside of the bermed and enclosed waste processing and storage areas must be sloped to prevent non-contact stormwater from contacting waste.
- D. Contact stormwater must be collected within 72 hours of accessibility and utilized within the waste treatment process or disposed of in an authorized manner.
- E. All storage tanks containing fluid waste or fuel must be contained within dikes. Secondary containment of 120% total storage capacity is recommended, however a minimum capacity that will capture 100% of the capacity of the largest tank and the volume of a 25 year/24-hour rainfall event for Andrews County is acceptable.
- F. A discharge permit from the EPA, TCEQ, or other regulatory agency may be required for non-contact stormwater discharges. If required, a permit must be in place prior to commencement of discharge operations.

VII. Facility Closure

- A. Technical Permitting and the appropriate RRC District Office must be notified in writing at least 45 days prior to commencement of closure activities. **The permittee must submit a closure plan to Technical Permitting in Austin to be reviewed and approved prior to beginning closure activities.**
- B. At facility closure, all waste, chemicals, and waste related materials must be processed and removed from the facility for authorized reuse or disposed of in an authorized manner.

- C. Waste processing equipment, aboveground storage tanks, and any other equipment not associated with the maintenance of the facility must be removed.
- D. Provisions must be taken to prevent erosion both during and following closure.
- E. The entire facility must be backfilled as necessary, contoured to original grade and re-vegetated as appropriate for the geographic region.
- F. The contents of all tanks, vessels, or other containers must be disposed of in an authorized manner.
- G. All equipment must be removed and salvaged, if possible, or disposed of in an authorized manner.
- H. Any concrete areas and access roads must be cleaned and demolished, and the concrete rubble and wash-water must be disposed of in an authorized manner.
- I. All visually contaminated soils from beneath the concrete pads must be excavated and removed. The contaminated soil must be disposed of in an authorized manner.
- J. Once waste removal is completed, a soil sampling plan must be submitted to Technical Permitting to characterize the scope of contamination (if any) at the facility. After the removal of wastes, grab soil samples must be taken comprised of a minimum of four representative soil samples per pad, and five representative soil samples per acre. Samples must be taken from around the processing area, tank area, and the container staging area.
- K. Soil samples must be analyzed for the parameters listed in Permit Condition VII.L., and those parameter limitations must not be exceeded. If any parameter limitation is exceeded, additional waste must be removed from that location, and the area must be resampled. The process must be repeated until the analytical results meet criteria.
- L. Soil samples required by Permit Conditions VII.J. must be analyzed for the following parameters and must not exceed the specified limitations:

<u>PARAMETER</u>	<u>LIMITATION</u>
pH (EPA Method 9045C or equivalent)	6 to 10 standard units
Electrical Conductivity (EC) ¹	≤ 4.0 mmhos/cm
TPH (EPA Method 5035A/TX1005)	≤ 10,000 mg/kg or 1 % by weight
Total Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (EPA Method 5035A/8021/8260B)	≤ 30 mg/kg
Metals (Total)	

¹ Louisiana Department of Natural Resources Lab Procedures for Extraction and Analysis of Exploration and Production Waste or equivalent

<u>PARAMETER</u>	<u>LIMITATION</u>
<i>(EPA Method 6010/6020/7471A)</i>	
Arsenic	≤ 10 mg/kg
Barium	≤ 10,000 mg/kg
Cadmium	≤ 10 mg/kg
Chromium	≤ 100 mg/kg
Lead	≤ 200 mg/kg
Mercury	≤ 10 mg/kg
Selenium	≤ 10 mg/kg
Silver	≤ 200 mg/kg
 NORM	
<i>(EPA Method 9320)</i>	
Radium-226 and Radium-228	≤ 30 pCi/g
Combined NORM radionuclides	≤ 150 pCi/g

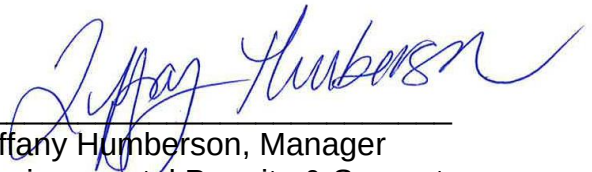
- M. A summary of the soil sampling required by Permit Conditions VII.J. must include:
1. A map drawn to scale with coordinates of the sampling locations
 2. A table indicating the results of the parameters sampled
 3. The date of sampling
 4. The approximate depth of the sample below land surface
 5. Copies of the laboratory analytical reports and chain of custody
- N. Any soil sample that exceeds the parameter limitations specified in Permit Condition VII.L. is considered waste and must be disposed of at an authorized disposal facility. If any soil sample exceeds the NORM limitations, the sample must be disposed of at an authorized NORM disposal facility or diluted with inert material until NORM levels become acceptable. The area of contamination on-site must be handled and disposed of in an authorized manner.
- O. Within one year after active operations cease at the facility and prior to release of the facility for unrestricted use, the permittee must decontaminate the land surface and any equipment not otherwise exempted under the provisions of §289.259(d) Texas Regulations for Control of Radiation (TRCR). For purposes of this provision, the land surface shall be considered decontaminated when the levels of Radium-226 combined with Radium-228 do not exceed 30 pCi/g, and all NORM radionuclides do not exceed 150 pCi/g above background. Equipment shall be considered decontaminated when it meets the exemption levels set forth in §289.259.
- P. Final surface grading must be accomplished in such a manner that rainfall will not collect at these former locations. Upon final closure, the appropriate RRC District Office and Technical Permitting in Austin must be notified in writing.

VIII. Post-Closure Care and Monitoring

- A. In accordance with 16 TAC § 3.78 the permittee must maintain financial security in the amount of **\$98,634.00** for the facility after the facility has stopped receiving waste, met all specified closure requirements and the post-closure monitoring period in accordance with this permit. Technical Permitting reserves the right to revise this amount, as necessary.
- B. The site will be monitored for a period of no less than five years after closure of the facility.
- C. Any areas showing signs of erosion or instability must be repaired, contoured, backfilled, and reseeded as necessary.
- D. All groundwater monitoring wells must remain operational and monitoring requirements must continue as specified in Permit Condition V. until written approval from Technical Permitting in Austin is granted for plugging and abandoning the wells.
- E. Once the facility is no longer in operation, the stormwater must be handled in a manner that is consistent with the information submitted with the application.
- F. Post-closure care must include quarterly inspections of the entire facility by a Texas registered Professional Engineer for signs of deterioration and erosion.
- G. A summary of the results of the post-closure monitoring activities must be submitted to Technical Permitting in Austin as part of a **Quarterly Report** required in Permit Condition I.S.
- H. The permittee must request in writing permission to cease post-closure monitoring. Post-closure monitoring requirements may be extended by Technical Permitting based on the monitoring results.
- I. Upon RRC approval of the completion of all post-closure activities, all monitor wells must be plugged and abandoned in accordance with 16 TAC Part 4, Chapter 76 (Water Well Drillers and Water Well Pump Installers).

This authorization is granted subject to review and cancellation should investigation show that such authorization is being abused.

APPROVED AND ISSUED ON **January 21, 2021**



Tiffany Humberson, Manager
Environmental Permits & Support
Technical Permitting

Attachments: Permit Appendices A and B

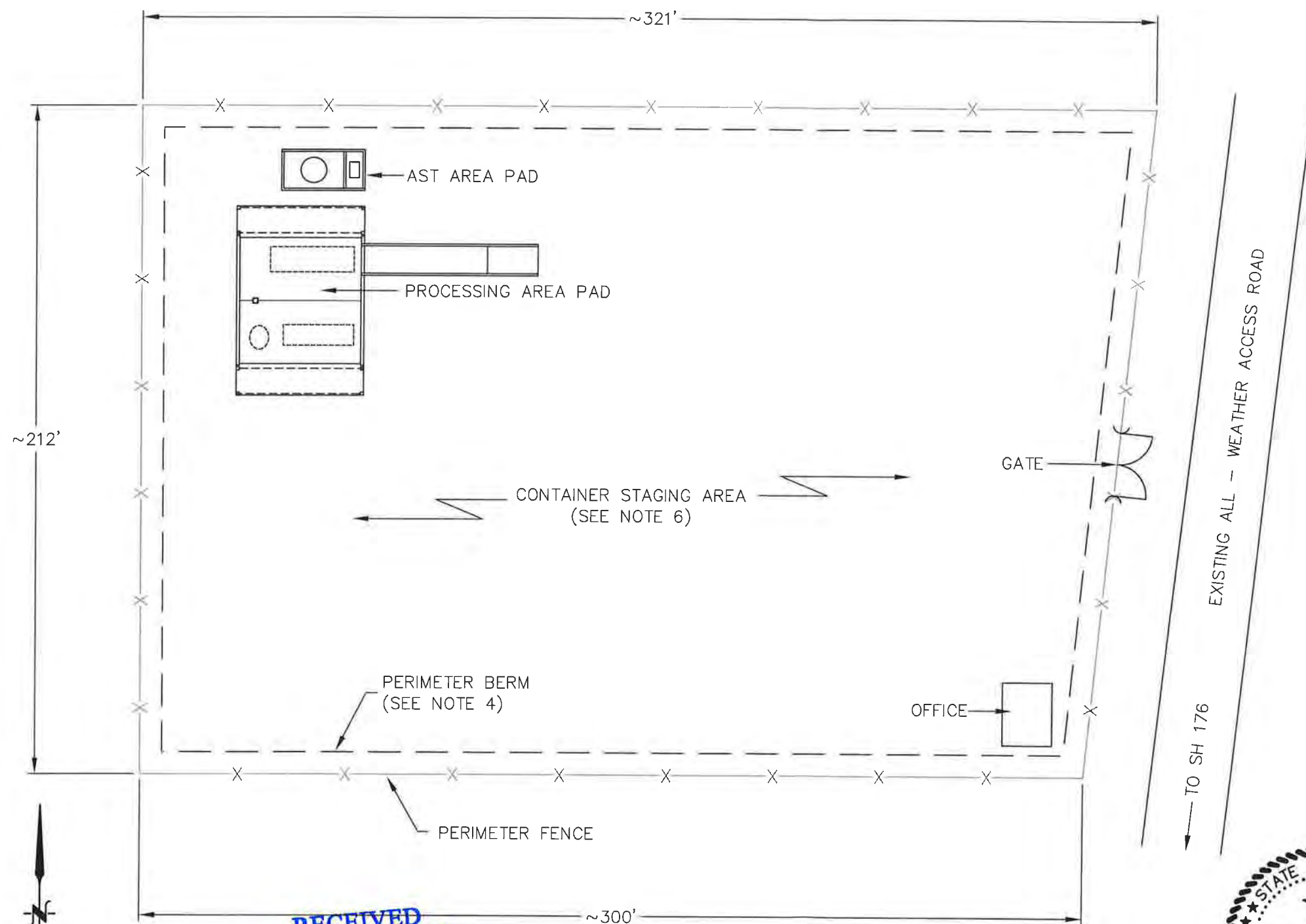
cc: RRC District 08, Midland

Permit Appendix A

Site Layout (Figure C-3)

Processing Area Plan View (Figure C-4A)

Processing Area Cross Section Views (Figure C-4B)



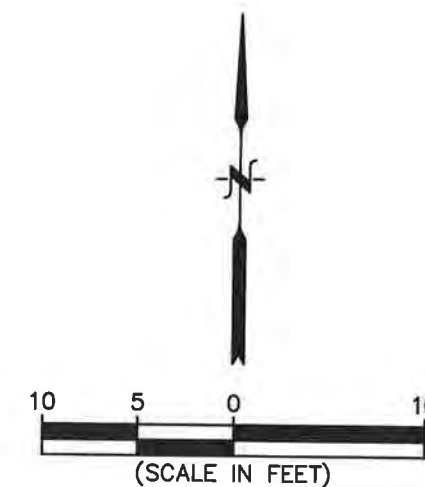
- NOTES:
1. SURFACE OWNER OF THE PROPOSED FACILITY AREA IS WASTE CONTROL SPECIALISTS (WCS). FEDERAL NORM SERVICES WILL LEASE THE FACILITY PROPERTY FROM WCS. THE LEASED PROPERTY EXTENDS BEYOND THE FACILITY'S PERIMETER FENCE AND BERM.
 2. LOCATIONS OF FEATURES DEPICTED ON THIS DRAWING ARE APPROXIMATE.
 3. COMPACTED CALICHE WILL BE PLACED ACROSS THE AREA WITHIN THE PERIMETER FENCE.
 4. A BERM WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE FACILITY TO PREVENT STORMWATER RUNON AND RUNOFF. THE BERM WILL BE A MINIMUM 2 FEET IN HEIGHT ABOVE THE SURROUNDING NATURAL GRADE. THE BERM WILL BE COMPACTED OR CONSTRUCTED OF MATERIAL THAT MEETS 95% STANDARD PROCTOR (ASTM D698) OR 90-92% MODIFIED PROCTOR (ASTM D1557) DENSITY AND MEET A PERMEABILITY OF 1×10^{-7} CM/SEC OR LESS WHEN COMPACTED. THE SLOPE ON EACH SIDE OF THE BERM SHALL BE NO STEEPER THAN A ONE TO THREE (VERTICAL TO HORIZONTAL) RATIO.
 5. DESIGN INFORMATION ON THIS DRAWING IS BASED ON HAND DRAWINGS AND OTHER INFORMATION PROVIDED TO COOK-JOYCE, INC. BY SHAUN McCABE OF FEDERAL NORM SERVICES IN AUGUST AND SEPTEMBER 2020.
 6. CONTAINERS WITH UNSEPARATED OR SEPARATED WASTE MAY BE STAGED ON THE COMPACTED CALICHE SURFACE OR PROCESSING AREA PAD WITHIN THE PERIMETER FENCE PRIOR TO OR FOLLOWING PROCESSING. THESE CONTAINERS MAY INCLUDE ANY DOT-APPROVED SHIPPING CONTAINER, INCLUDING BUT NOT LIMITED TO 55 GAL DRUMS (STEEL OR POLY), 270 OR 330 GAL POLY TOTES, 25 CY STEEL VACUUM BOXES, AND 20 OR 30 CY STEEL ROLLOFF CONTAINERS.
 7. A SIGN WILL BE POSTED AT THE SH 176 SITE ENTRANCE THAT SHOWS THE FACILITY NAME AND PERMIT NUMBER IN LETTERS AND NUMERALS AT LEAST 3 INCHES IN HEIGHT.
 8. SECURITY LIGHTING WILL BE INSTALLED AT THE PERIMETER OF THE FACILITY AREA.

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AUSTIN, TX



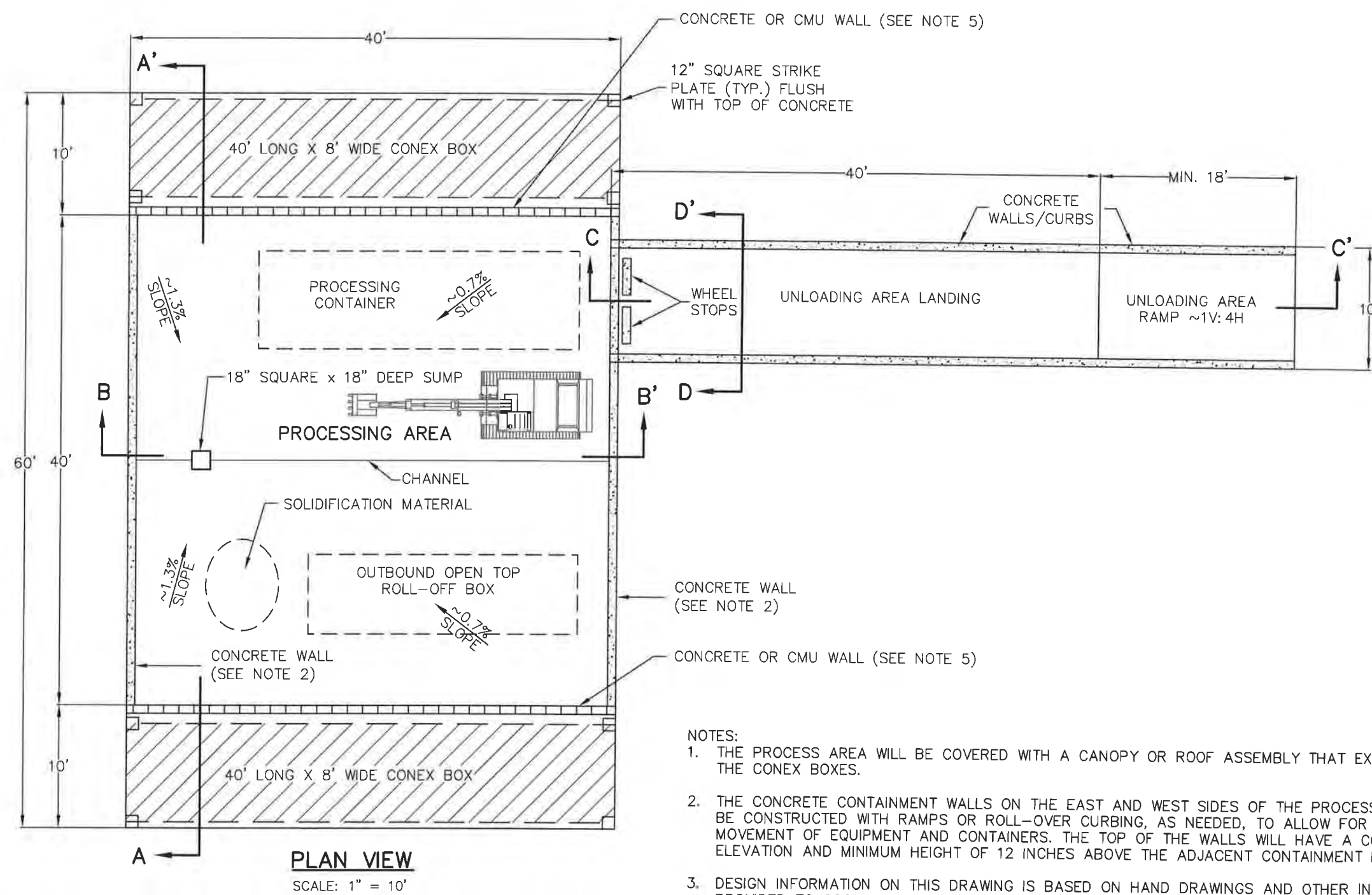
11-6-2020
Corey Klingelhefer
ISSUED FOR PERMIT APPLICATION
PURPOSES ONLY

1	11/20	Adjusted Perimeter Berm Location		
REV.	DATE	DESCRIPTION	DR BY	APP BY
COOK-JOYCE INC. ENGINEERING AND CONSULTING 812 WEST ELEVENTH AUSTIN, TEXAS 78701 TEXAS REGISTERED ENGINEERING FIRM F-883				
PROJECT: FEDERAL NORM SERVICES RRC WASTE SEPARATION FACILITY ANDREWS, TEXAS				
SHEET TITLE: SITE LAYOUT				
DES BY		SCALE: SEE BAR SCALE		
DR BY	SDB	PROJECT NO. 20037.01		
CHK BY	KLM	CJI NO. 20037004R1		
APP BY	CKK	SHEET 1 OF 1 SHEETS		
DATE ISSUED: 09-11-2020		FIGURE NO.		
PURPOSE: PERMIT APPLICATION				

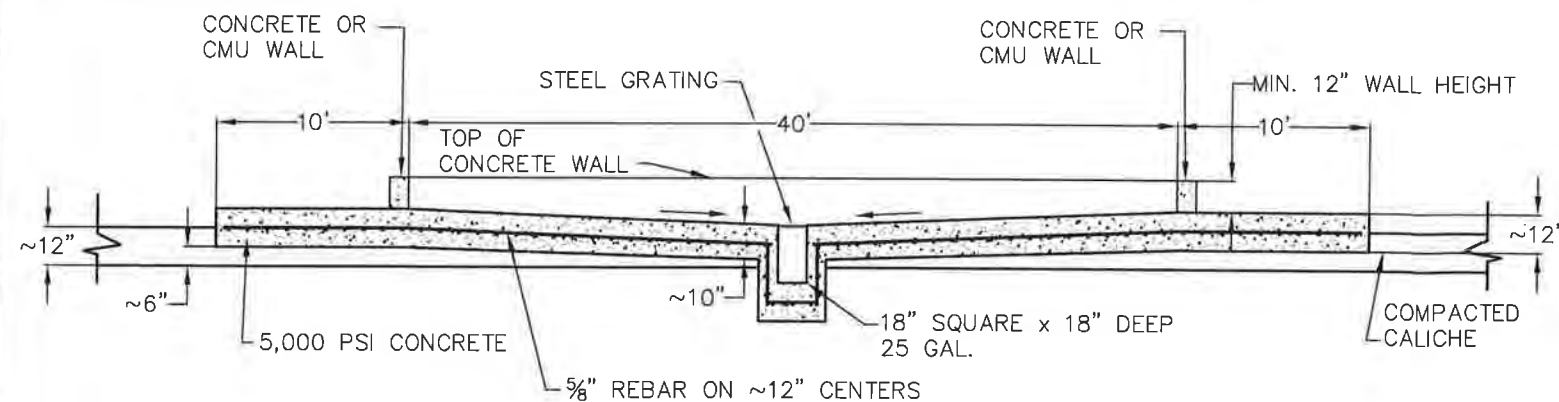


11-12-2020
ISSUED FOR PERMIT APPLICATION PURPOSES ONLY
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RRC OF TEXAS
NOV 16 2020
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AUSTIN, TX

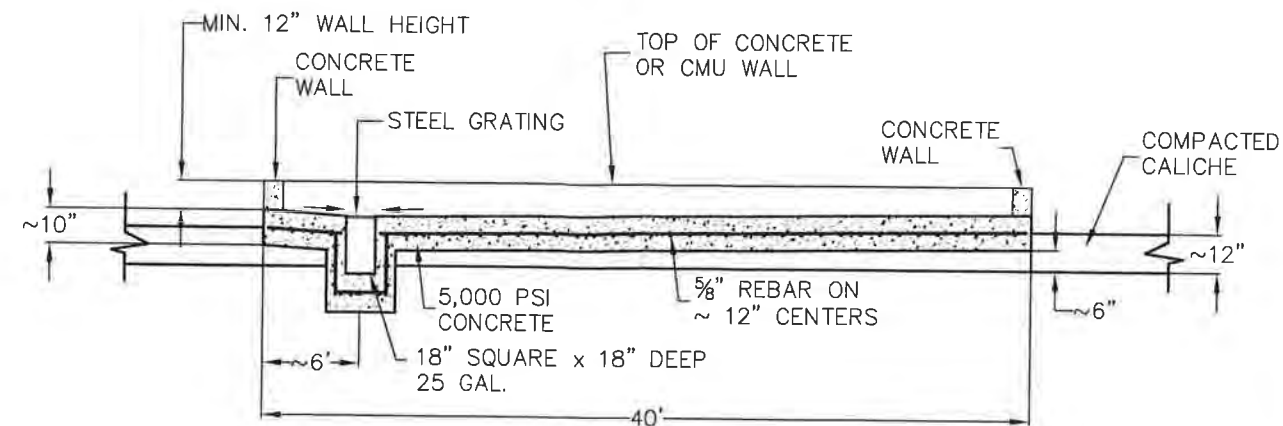
1	11/20	ADD AND MODIFY CONTAINMENT WALLS		
REV.	DATE	DESCRIPTION	DR BY	APP BY
COOK-JOYCE INC. ENGINEERING AND CONSULTING 812 WEST ELEVENTH 512-474-9097 AUSTIN, TEXAS 78701 TEXAS REGISTERED ENGINEERING FIRM F-883				
PROJECT: FEDERAL NORM SERVICES RRC WASTE SEPARATION FACILITY ANDREWS, TEXAS				
SHEET TITLE: PROCESSING AREA PLAN VIEW				
DES BY		SCALE:	SEE BAR SCALE	
DR BY	SDB	PROJECT NO.	20037.01	
CHK BY	KLM	CJ# NO.	20037003R1	
APP BY	CKK	SHEET	1 OF 1 SHEETS	
DATE ISSUED: 09-11-2020		FIGURE NO.		
PURPOSE: PERMIT APPLICATION			C-4A	



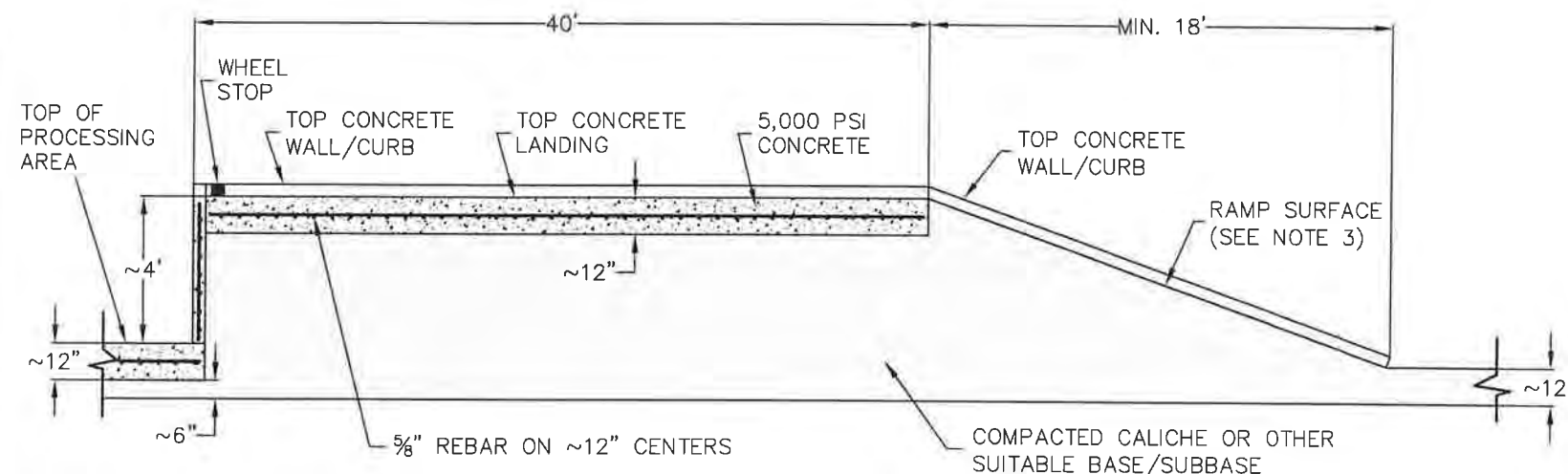
- NOTES:
1. THE PROCESS AREA WILL BE COVERED WITH A CANOPY OR ROOF ASSEMBLY THAT EXTENDS BETWEEN THE CONEX BOXES.
 2. THE CONCRETE CONTAINMENT WALLS ON THE EAST AND WEST SIDES OF THE PROCESSING AREA MAY BE CONSTRUCTED WITH RAMPS OR ROLL-OVER CURBING, AS NEEDED, TO ALLOW FOR THE SAFE MOVEMENT OF EQUIPMENT AND CONTAINERS. THE TOP OF THE WALLS WILL HAVE A CONSTANT ELEVATION AND MINIMUM HEIGHT OF 12 INCHES ABOVE THE ADJACENT CONTAINMENT FLOOR.
 3. DESIGN INFORMATION ON THIS DRAWING IS BASED ON HAND DRAWINGS AND OTHER INFORMATION PROVIDED TO COOK-JOYCE, INC. BY MR. SHAUN McCABE OF FEDERAL NORM SERVICES IN AUGUST AND SEPTEMBER 2020.
 4. THE NUMBER, LOCATIONS, AND SIZES OF EQUIPMENT, CONTAINERS, AND SOLIDIFICATION MATERIAL PILES IN THE PROCESSING AREA MAY VARY BASED ON OPERATING CONDITIONS. ONE STEEL PROCESSING CONTAINER (~30 CY) AND ONE STEEL ROLL-OFF CONTAINER (~30 CY OR LESS) WILL TYPICALLY BE PRESENT.
 5. THE CONTAINMENT WALLS ON THE NORTH AND SOUTH SIDES OF THE PROCESSING AREA WILL BE CONCRETE OR MORTARED CONCRETE MANUFACTURED UNITS (CMUs). THE TOP OF THE WALLS WILL HAVE A CONSTANT ELEVATION AND MINIMUM HEIGHT OF 12 INCHES ABOVE THE ADJACENT CONTAINMENT FLOOR. CMU WALLS WILL BE SEALED WITH A COMMERCIAL SEALANT SO THEY ARE IMPERMEABLE AND APPROPRIATE FOR WASTE CONTAINMENT.



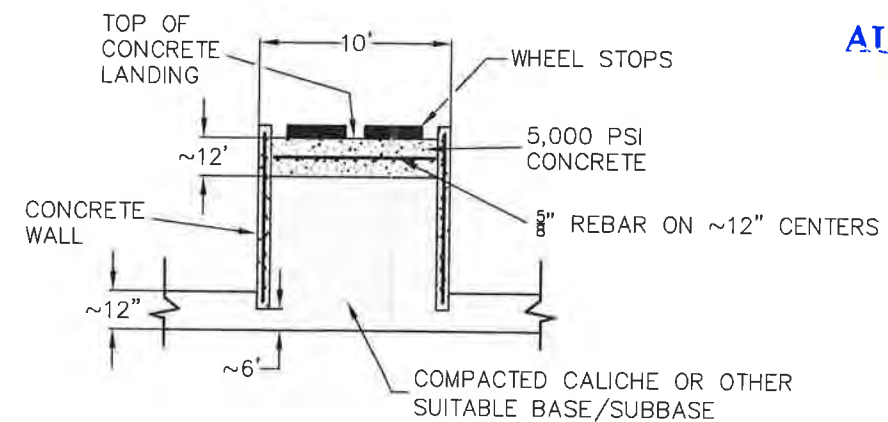
SECTION A-A'
SCALE: NTS



SECTION B-B'
SCALE: NTS



SECTION C-C'
SCALE: NTS



SECTION D-D'
SCALE: NTS

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RRC OF TEXAS
NOV 16 2020
O & G
AUSTIN, TX



11-12-2020
Corey Klingelhefer
ISSUED FOR PERMIT APPLICATION
PURPOSES ONLY

NOTES:

1. FOR CLARITY, THE SECTIONAL VIEWS DO NOT DEPICT THE PROCESSING AREA EQUIPMENT, CONEX BOXES, OR CANOPY/ROOF ASSEMBLY.
2. DESIGN INFORMATION ON THIS DRAWING IS BASED ON HAND DRAWINGS AND OTHER INFORMATION PROVIDED TO COOK-JOYCE, INC. BY MR. SHAUN McCABE OF FEDERAL NORM SERVICES IN AUGUST AND SEPTEMBER 2020.
3. RAMP SURFACE MAY BE CALICHE, COARSE AGGREGATE, OR OTHER SUITABLE ALL-WEATHER ROAD MATERIAL.

1	11/20	ADD AND MODIFY CONTAINMENT WALLS		
REV.	DATE	DESCRIPTION	DR BY	APP BY
COOK-JOYCE INC. ENGINEERING AND CONSULTING 812 WEST ELEVENTH 512-474-9097 AUSTIN, TEXAS 78701 TEXAS REGISTERED ENGINEERING FIRM F-883				
PROJECT: FEDERAL NORM SERVICES RRC WASTE SEPARATION FACILITY ANDREWS, TEXAS				
SHEET TITLE: PROCESSING AREA CROSS SECTION VIEWS				
DES BY	SDB	SCALE: SEE BAR SCALE		
DR BY	KLM	PROJECT NO. 20037.01		
CHK BY	CKK	C/J NO. 20037003R1		
APP BY		SHEET 1 OF 1 SHEETS		
DATE ISSUED: 09-11-2020		FIGURE NO.		
PURPOSE: PERMIT APPLICATION				

C-4B

Permit Appendix B

Proposed Groundwater Monitoring Locations

Federal NORM Services, LLC

Proposed Groundwater Monitoring Locations

Revised December 28th, 2020



Proposed Groundwater Monitoring Wells

1. Water level elevations (potentiometric surface) from groundwater monitoring wells installed by WCS indicate that the localized gradient at the FNS facility for first encountered groundwater is from west to east; therefore, the upgradient is west of the facility and downgradient is east of the facility.
2. Gradient - PW-01 (3429.90) - PZ-9 (3425.22) / Distance 1500 feet = Gradient of 0.00312

