

DEFIANCE COUNTY BOARD OF COMMISSIONERS
DEFIANCE COUNTY LANDFILL
PHASES 8 AND 9 BAT CELLS AND SUPPORT STRUCTURES CONSTRUCTION

GENERAL REQUIREMENTS

DIVISION I

DEFIANCE COUNTY SOLID WASTE SANITARY LANDFILL PHASES 8 AND 9 CELLS AND SUPPORT STRUCTURES CONSTRUCTION

13207 CANAL ROAD
DEFIANCE, OHIO 43512

DECEMBER 2026

PREPARED FOR
DEFIANCE COUNTY BOARD OF COMMISSIONERS
500 COURT STREET
DEFIANCE, OHIO 43512





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GENERAL REQUIREMENTS

DIVISION 1

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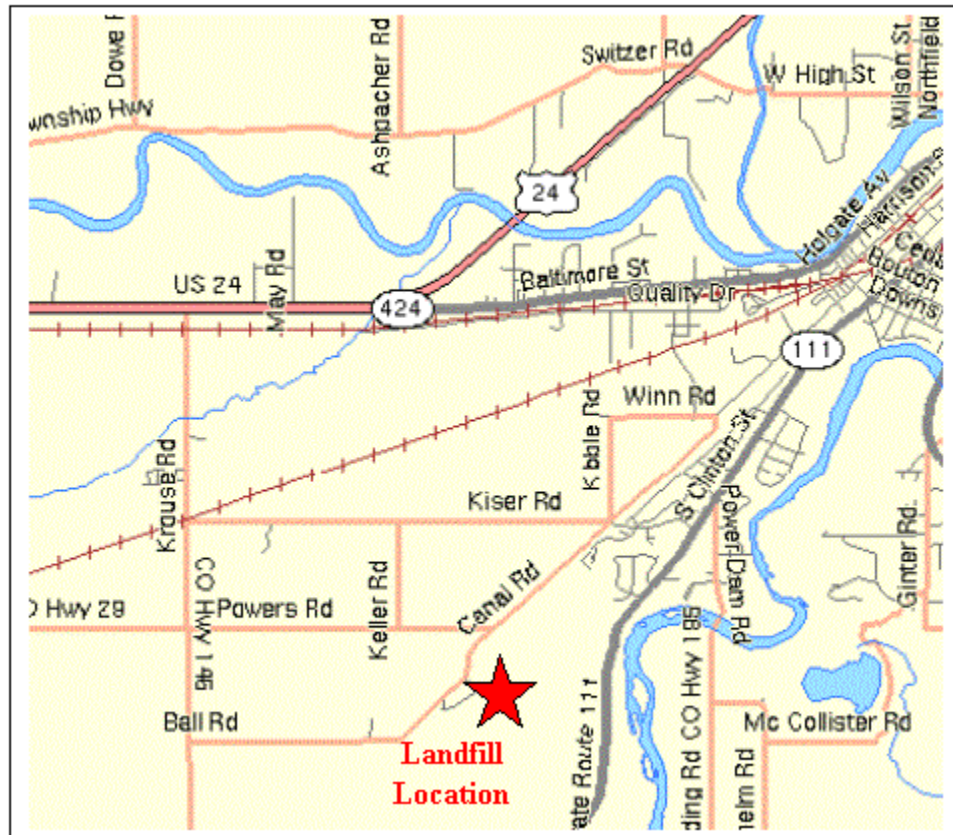
SECTION 01010

SUMMARY OF WORK

PART 1 – GENERAL

1.1 LOCATION OF WORK

- A. Defiance County Landfill is located at 13207 Canal Road, Defiance, Ohio 43512.



The Defiance County Landfill is located within Sections 4 and 5 of Town 3 North, Range 4 East, Defiance Township, Defiance County, Ohio.

The facility contains approximately 332.118 acres of land.

The Landfill property is south of Three Mile Creek and is operated as an Ohio licensed Solid Waste Landfill by the Defiance County Board of Commissioners. The County had no involvement in the operation of the former "Old City Dump" north of Three Mile Creek.

The legal description of the property is as follows:

A parcel of land being part of Sections 4 and 5, Town 3 North, Range 4 East, Defiance Township, Defiance County, Ohio lying east of Canal Road and South of Three Mile Creek, and containing 332.118 acres of land. Figure 3 contains a boundary survey of the entire landfill property.



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1.2 SITE DESCRIPTION

- A. The City of Defiance initially acquired the landfill property from Clarence J. Bauer in 1949 and the Canal Lands from the State of Ohio in 1977. Harold Smith operated the landfill for the City of Defiance. In 1967, John Webb and Jim Webb (Webb Brothers) began operating the landfill for the City of Defiance.

Effective December 22, 1969, Defiance County leased the landfill property from the City and entered into a Contract with Webb Brothers to operate the landfill. Webb Brothers held the landfill license issued by the Defiance County General Health District through 1988. Beginning in 1989 and continuing through the present, Defiance County is the holder of the site's operating license.

The Defiance County Landfill currently operates under a Permit-to-Install issued by Ohio EPA December 2006.

- B. The Defiance County Landfill accepts municipal solid waste; including residential, commercial and industrial wastes. The facility also accepts construction and demolition debris. No liquids, infectious wastes, hazardous wastes, or PCB material regulated under the Toxic Substances Control Act are accepted.

Defiance County Landfill accepts asbestos containing materials (ACM) that are not subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations. The Defiance County Landfill does not accept NESHAP-regulated asbestos material.

Waste materials disposed in Unit 1 were placed on natural soil. A separatory liner and leachate collection layer were constructed as part of Unit 1 Phase 2. Cap over Unit 1 consists of compacted clay barrier, geocomposite above the separatory liner, soil frost protection, and vegetative layers.

Waste materials disposed in Unit 2 (Phases 1, 2, 3, 4 and 5) were placed on a composite liner system including a 3' clay liner, 60 mil HDPE plastic liner, and a leachate collection layer, with drainage pipes.

1.3 SCOPE OF WORK

- A. Furnish all labor, supervision, permits, materials, equipment, shop drawings, tools, services, testing and incidentals required to complete the Work required by these Bid Documents, project Technical Specifications, project Construction Drawings, and Contract Documents. After completion of the Work, and upon demobilization, the Contractor shall leave the Site free of Contractor's structures, equipment, and debris and securely enclosed.

- B. General Description of the Specific Work Items

1. Mobilization/Site Preparation

- a. Move all the equipment and supplies and obtain the various services the Contractor requires to make his offices and temporary facilities operational. Setup the Contractor's area for offices, employees, parking and other requirements of this Project's Bidding Documents.
- b. Provide equipment, materials, labor and other items for preparation of the Work.
- c. Install temporary construction access road(s), drainage ditches, and associated structures necessary to do the Work.



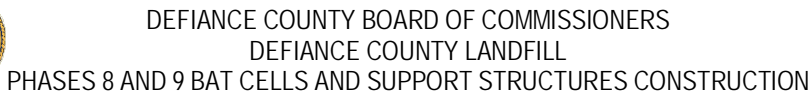
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- d. Install surface water and erosion control measures to keep the Work areas, including the borrow grid areas free of ponding waters that may cause delays or problems for performance of the Work. Prevent sediments from leaving the Work Site.
 - i Complete any necessary survey tasks required to perform the Work.
 - ii Provide the required submittals to the Engineer and/or Owner.
- 2. Phases 8 and 9 BAT Cells Construction

(The order of the Work listed below is not intended to be the required order the Contractor must follow.)

- a. Perform survey services as necessary to complete the Work as required by the Construction Plans and Technical Specifications.
 - b. Prepare the engineered subgrade in Phases 8 and 9 so as to meet the required elevations, contours, grades, and dimensions as shown on the construction drawings in preparation of the recompacted soil liner (RSL). Areas containing vegetation shall be over excavated by 12 inches, removed and stockpiled at a location(s) designated by the Owner's representative or the Engineer. Additional soils below the vegetative layer that are necessary to be removed to meet minimum design grades are to be stockpiled separately at a location(s) designated by the Owner's representative or the Engineer. Areas within Phases 8 and 9 requiring additional soil to meet minimum design grades shall be filled with structural fill. Remove standing water and accumulated sediments from surface water pumping location at the northwest corner of Phases 8 and 9. The depths of sediment is unknown. Sediment needs to be removed until competent subgrade is exposed. If the excavation of the sediment extends below the bottom of recompacted soil liner grades, fill with structural fill to subgrade elevations.
 - c. Obtain the Engineer and CQA Consultant approval of the engineered subgrade via acceptable proof-rolling of the subgrade.
 - d. Construct and install the RSL in accordance with the project Construction Drawings and Technical Specifications. The construction shall be done using the specified soil from the preapproved soil borrow grids. Lifts shall be constructed in accordance with the approved test pad. The test pad includes maximum lift thicknesses, approved compaction equipment and minimum number of passes required to achieve the required specifications. The Engineer or CQA Consultant must approve each lift prior to construction of the next lift.
 - e. Once the RSL has been completed, prepare a smooth sub-base in Phases 8 and 9 in preparation for placement of geomembrane on top of the engineered soil components. This will be inspected by both the CQA Consultant and the geosynthetics installer just prior to installation of the geomembrane. All stones that protrude ¼ inch or more from the surface or that are greater than 2 inches in diameter, debris or surface damage must be removed and/or repaired placement of geomembrane. The prepared geomembrane subgrade surface shall be free from soft spots, voids and ruts.

After CQA Consultant and Geomembrane Installer approve the surface preparation, the Engineer may grant authorization to begin installation of the HDPE Liner system. Ohio EPA is expected to visit the project area throughout the construction project. Ohio EPA typically visits cell construction projects just prior to and during geomembrane installation. Ohio EPA may also inspect



- f. After liner is installed in accordance with the applicable specifications and requirements, and properly inspected, tested, and approved by the Engineer, install the geotextile cushion layer in accordance with the project Construction Drawings and Technical Specifications. Ohio EPA may want to inspect the geomembrane liner prior to installation of the geosynthetics. If this is required, the Contractor must wait for Ohio EPA to inspect and gain approval from the Engineer prior to commencing further work above the geomembrane liner.
 - g. After the geotextile cushion layer is installed in accordance with the applicable specifications and requirements, and properly inspected, tested, and approved by the Engineer, install the leachate collection and removal system (LCRS) in accordance with the project Construction Drawings and Technical Specifications. This includes bedding, drainage material, and piping.
 - h. After the LCRS is installed in accordance with the applicable specifications and requirements, and properly inspected, tested, and approved by the Engineer, install the geotextile filter layer in accordance with the project Construction Drawings and Technical Specifications.
3. Stormwater Management
 - a. Construct diversion berm and/or diversion swale around Phases 8 and 9 so that storm water is directed around Phases 8 and 9 to the surface water drainage system.
4. Forcemain and Cell Access Road
 - a. Construct dual contained forcemain pipe from the sideslope riser pipes to the meter vault and from the meter vault to the forcemain pipe constructed for Unit 2 Phase 7.
 - b. Construct dual contained witness pipe as shown on the drawing in accordance with project specifications.
 - c. Construct all weather access road from the all weather access road west of Phase 7 to the entrance of the new BAT Cell (Owner to designate location).
5. Meter Vault
 - a. Supply and install meter vault as shown on the drawings in accordance with the project specification.
6. Other Work



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The Owner may require additional construction tasks or Projects. These have not been defined; therefore, for the purpose of cost, there are additional Unit Price items listed in the Bid Form. These Unit Prices should be provided by the Contractor. Unit Prices should be priced as "installed and operational" meaning to include cost for electrical, etc. Unit Prices will be used to reimburse the Contractor for the additional Work.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01010



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SECTION 01020

SPECIAL PROJECT PROCEDURES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Obstructions
- B. Open Excavation
- C. Dust Control
- D. Construction water management
- E. Spill and discharge control
- F. Public nuisance
- G. Permits
- H. Right-of-Way
- I. Traffic control
- J. Working hours
- K. Utility protection service
- L. Trash and debris removal

1.2 RELATED SECTIONS

- A. **Section 01030 - Contractor Safety and Health Plan**
- B. **Section 01320 - Submittals**
- C. **Section 01560 - Environmental Protection**

1.3 REFERENCES

- A. The Contractor shall comply with:
 - 1. 29 CFR 1910.120 - OSHA Code for Site Control
 - 2. 29 CFR 1926 - OSHA Subpart B and Section 23 of EM 385-1-1
 - 3. OAC Rule 3745 – Solid Waste Rules
 - 4. ORC 153.64(C) – Contractor's responsibility for contacting utility protection service



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5. ORC 3714.13 – Project related debris
6. Facility's Solid Waste, NPDES and Air Permits

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. The Contractor shall submit the Contractor's Health & Safety Plan.
- C. The Contractor shall submit as Spill Contingency Plan for Work Area and Fuel Storage/Fueling.

1.5 OBSTRUCTIONS

- A. The Contractor shall verify the location of existing utilities and protect them within Work areas, whether shown on the Construction Drawings or not, as specified in the Contract Documents. Should damage occur to an existing utility, the Contractor shall repair and restore the utility at no cost to the Owner.
- B. The Contractor shall ensure that all utility or other poles, the stability of which may be endangered by the proximity of excavation and construction, are temporarily stayed in position while Work proceeds in the vicinity of the pole. The Contractor shall give utility or other companies concerned reasonable advance notice of any such excavation and construction.
- C. The Contractor shall take precautions to protect all existing monitoring devices (monitoring wells, vents, and piezometers), equipment and instrumentation. Any damage shall be immediately reported to the Engineer and Owner's representative. The Contractor shall be responsible for the repair, replacement and all other costs associated with the notification, approvals and penalties resulting from the damage and corrective action.

1.6 OPEN EXCAVATIONS

- A. All open excavation Work shall be completed in compliance with OSHA 29 CFR 1926 Subpart P and Section 23 of EM 385-1-1, and applicable State and local rules.
- B. All trenches, excavated material, equipment, or other obstacles outside the limits of the secured perimeter, which could be dangerous to the public, shall be barricaded with flashers and well lighted at night. The Contractor is responsible for providing and maintaining the barricades and lights.

1.7 DUST CONTROL

- A. The Contractor shall be required to control dust in all Work areas within the Project boundaries that would cause a hazard or nuisance to others, or a violation of the facility's Air Permit(s). Work areas include, but are not limited to, all excavations, embankments, stockpiles, haul roads, permanent and temporary access roads, and borrow areas. Approved temporary methods of stabilization, consisting of water sprinkling or similar approved methods, will be permitted to control dust. Sprinkling must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor must have sufficient appropriate equipment on the Site to accomplish this if sprinkling is used. Dust control will be performed as the Work proceeds. No separate or direct payment will be made for dust control, and the cost thereof will be considered a subsidiary obligation of the Contractor to be included in the Contract Price.



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1.8 CONSTRUCTION WATER MANAGEMENT

- A. The Contractor shall install surface water berms upslope from the project area to direct surface water runoff away from the project area and minimize run on into the project area. (See plan sheets for clarification)
- B. Water in contact with fill/refuse materials shall be handled using equipment compatible with anticipated contaminants that may be present. Water removed from waste area, after approval by the Owner, shall be disposed of within the Facility's leachate system.
- C. The Contractor shall minimize and control discharges of water that has been in contact with fill/refuse materials. The Contractor shall implement appropriate surface water and erosion control measures during construction and fill/refuse material regrading in conformance **with Section 02270 - Construction Erosion and Sediment Control**.
- D. Non-contaminated construction water may be used for dust control, clay soil conditioning or as authorized by the Engineer. Excess non-contaminated construction water may be discharged from the Work area in accordance with the requirements of the facility's permits, and as directed by the Engineer.

1.9 SPILL AND DISCHARGE CONTROL

- A. The term "spill" in this section connotes a Reportable Quantity and is not applicable to minor spills or breaks (e.g., minor hydraulic hose breaks or leaks).
- B. The Contractor shall provide contingency measures for potential spills of construction related materials, such as diesel fuel and discharges of water generated by decontamination in accordance with the Contractor's Emergency Response and Contingency Plan.
- C. In the event a spill or discharge occurs, the Contractor shall immediately contain the spill and contact the Engineer and required agencies.
- D. In the event a reportable spill occurs, the Contractor shall prepare a written Spill Incident Report, detailing the spill or discharge, shall include, at a minimum, the cause and resolution of the incident, outside agencies involved, and the date the incident occurred. The report shall be submitted to the Engineer and the required agencies within 10 days of the incident or earlier if otherwise required by law. The Contractor shall document the location of all spills on the Site Construction Drawings and submit the drawings to the Engineer at Project completion.
- E. The Contractor shall provide equipment and trained qualified personnel to perform emergency measures required to contain and remove spilled materials, and decontamination measures required to remove spillage from previously uncontaminated equipment or material. Costs associated with all spill related activities, equipment, supplies (including collection and disposal of spilled materials and decontamination residues) shall be solely at the Contractor's expense.
- F. All spillage, contaminated soils, materials and debris shall be transported and disposed in accordance with all federal, state and local laws. Prior to the removal, transportation and disposal of these materials, the Contractor shall notify the Engineer of the specific procedures and name and location of the licensed disposal facility that the subject materials will be properly disposed. The Contractor shall employ proper procedures, methods and records as required by applicable laws. Copies of all paperwork including manifest, shipping papers, Agency approvals, disposal facility acknowledgements of disposal, and other related correspondence shall be provided to the Engineer by the Contractor.



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- G. The Contractor shall take appropriate measures (e.g., placement of construction fence, straw bales, earthen barriers, etc.) to prevent the spillage of waste materials and contaminated water into the "Waters of the State" during construction in accordance with **Section 02270 - Construction Erosion and Sediment Control**.

1.10 PUBLIC NUISANCE

- A. The Contractor shall not create a public nuisance including, but not limited to, encroachment on adjacent lands not included in the Scope of Work, as shown on the Construction Drawings. Nuisance include flooding of adjacent lands, excessive noise, restricted access, work outside of regular working hours, and those other things as defined under state and local laws as nuisances.
- B. No extra charge may be made for time lost or cost associated with work stoppage, violation of laws/civil action by the property owner or change in work activities resulting from the Contractor's creation of a public nuisance.

1.11 PERMITS

- A. On-site activities are highly regulated and must comply with federal, state, and local permitting requirements. The Contractor and Subcontractors shall comply with all of the Facility's Permits, including air, water, and solid waste.
- B. It is the obligation of the Contractor to identify all other necessary permits and/or requirements, and to comply with such conditions, and obtain such permits, as necessary to perform the Work.

1.12 RIGHTS-OF-WAY

- A. The Contractor shall adhere to the requirements of the Ohio Department of Transportation where construction work is in a Right-of-Way under the jurisdiction of the City and/or County of Defiance. Contractor shall confirm the location of the Right-of-Way and the requirements with the City and/or County of Defiance and the Ohio Department of Transportation.
- B. The Contractor shall take care to avoid any unreasonable traffic conflicts in road rights-of-way.
- C. The Contractor shall not obstruct or impede landfill customer traffic and/or landfill equipment / operations.

1.13 CONSTRUCTION GRADING, STAKING AND LAYOUT

- A. The Contractor shall be responsible for providing equipment and competent, experienced person(s) to perform construction grading, staking and layout in accordance with the requirements to perform the Work and comply with the Bid Documents.

1.14 TRAFFIC CONTROL

- A. Designate construction personnel parking area to prevent interference with public traffic, facility customer traffic, and facility equipment traffic and to ensure access for emergency vehicles is maintained.
- B. Prevent parking on or adjacent to access roads or in non-designated areas.
- C. Maintain all public routes in their condition as they were prior to the Contractor's use.



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- D. Provide trained and equipped flagmen to regulate traffic when construction operations or traffic encroach on public traffic lanes, or as required within the facility to maintain traffic and safe conditions.
- E. Use lights during hours of low visibility to guide traffic.
- F. All work on public roads shall conform to the regulations of the Ohio Department of Transportation.
- G. Haul routes must be identified and approved by the Engineer before construction begins. Residential area roadways should be avoided if practical, and all restrictions and limitations shall be adhered to by the Contractor and Subcontractors.
- H. Mud or other materials shall not be tracked onto public roadways; any material tracked onto public roadways must be removed by the contractor by the end of each work day on which the tracking occurred.

1.15 WORKING HOURS

- A. Regular working hours are defined as being between 7 AM. and 7 PM., Monday through Saturday.
- B. Requests to Work other than regular Working hours must be approved by the Owner's representative at least 48 hours prior to any proposed Sunday Work or holiday Work, or scheduled extended Workdays (later than 7 p.m.), to give the Engineer ample time to arrange for representation and/or inspection during those periods. Periodic unscheduled overtime on weekdays may be permitted provided that at least a two hours notice is provided to the Engineer. Maintenance and cleanup may be performed during hours other than regular Working hours as long as the Owner's representative approves and these activities do not cause a nuisance to the public.

1.16 UTILITY PROTECTION SERVICE

- A. It is the Contractor's responsibility to contact the Ohio Utility Protection Service (OUPS) and any other governing authority at least two working days prior to commencing a digging project.

1.17 TRASH AND DEBRIS REMOVAL

- A. Throughout the Contract time and upon demobilization all trash, debris, and any other project waste shall be disposed in accordance with all federal, state and local laws such that the Contractor shall leave the Site free of Contractor's structures, equipment, and debris and securely enclosed.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01020



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SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Authority
- B. Unit quantities specified
- C. Measurement of quantities
- D. Payment Items
- E. Non-direct payment items
- F. Non-payment for rejected products
- G. Defect assessment

1.2 RELATED SECTIONS

- A. All Sections

1.3 REFERENCES

- A. Bid Documents and Bid Forms

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with Section 01320.
- B. The Contractor shall submit payment application in accordance with this Section & Contract Documents.

1.5 AUTHORITY

- A. Measurement methods delineated in the individual specification sections are intended to complement the criteria of this section. In the event of conflict, the Contractor must immediately notify the Engineer. For conflicts not discovered the requirements of the individual specification section shall govern.
- B. The Engineer and/or CQA Consultant shall take all measurements and compute quantities. All payment item measurements shall be computed based on field survey of complete Work, as finally accepted. See Section 00310, 1.2 Bid Price for additional information regarding measurements.
- C. The Contractor reserves the right to have another surveyor perform survey or procedures to confirm the accuracy and/or validity of the Contractor's measurements, and request a change in quantities as described in Section 00310, 1.2F.

1.6 UNIT QUANTITIES SPECIFIED



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- A. Quantities and measurements indicated in the Bid Form are for bidding and Contract purposes. Quantities and measurements supplied in the Work and verified by the Engineer will determine payment.
- B. If the actual Work requires more or fewer quantities than those quantities indicated in the Bid Documents, payment shall be made on the actual amount provided at the unit sum/prices contracted.
- C. Lump Sum Items on the Bid Form are for the required equipment, utilities, services and items (completed and operational without restrictions, conditions or additional costs) described within the Bid Form and Bid Document, and these Lump Sum Items are not subject to quantities adjustment.

1.7 MEASUREMENT OF QUANTITIES

- A. Measurement by volume shall be made by cubic dimension using mean length, width, and height.
- B. Measurement by area shall be calculated from planer survey coordinates of the in place area (square feet) based on horizontal projections; no adjustment in quantity shall be made for slopes.
- C. Linear measurement shall be calculated from planer survey coordinates of the in-place length (linear feet) at the item centerline or mean chord, based on horizontal projections; no adjustment in quantity shall be made for slopes.

1.8 PAYMENT ITEMS

A. General Terms

- 1. Measurement & payment for items in the Bid Form shall be as defined in the following Bid Items.
- 2. The statement "satisfactorily completed" and "satisfactory installation" means that the Engineer has determined the Work for that specific item has been completed to the Engineer's satisfaction.

B. General Conditions

1. Item 1010 - Insurance, Bonds, and Permits

a. Item 1010 Includes:

- i Furnishing all required insurance, bonds, and permits that are required by the Bid Documents for the completion of the Work in accordance with the Bid Documents

b. Basis of Measurement: Lump Sum

c. Method of Payment: Incremental

- i One half of the lump sum price shall be paid at the time the mobilization payment is made.
- ii The remaining half shall be paid when the Work is 100% complete, and demobilization is completed.

2. Item 1020 – Mobilization/Demobilization and Equipment Preparation

a. Item 1020 Includes:



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- i Delivery of Contractor required submittals for review and/or approval by the Engineer
 - ii Attendance at the pre-construction meeting(s)
 - iii Mobilization and set-up of all construction equipment, tools and appurtenances staffed and ready for performing the Work
 - iv Furnish, provide, install and delivery of materials and supplies needed for initiation of the Work but not included and paid elsewhere
 - v Demobilization and removal of all construction equipment, temporary facilities and utilities, landscape repair, and any other closeout activities not included for payment elsewhere
 - b. Basis of Measurement: Lump Sum
 - c. Method of Payment: Incremental
 - i Payment will be made at the Contract lump sum price as full compensation for all required Work. Contractor will be paid for only one mobilization/demobilization and equipment preparation.
 - ii Payment of this item will not be made until all Work described in items 2(a)(i) through 2(a)(iv) are complete and acceptable to the Engineer at which time 50% of the lump sum price will be paid. Delays and extensions of time shall not entitle the Contractor to additional compensation for this pay item.
 - iii Payment of the remaining portion shall be paid after the Engineer has determined that the demobilization activities described in item 2(a)(v) are complete and satisfactory. Delays and extensions of time shall not entitle the Contractor to additional compensation for this pay item.
3. Item 1030 – Construction Control and Staking/Surveying
- a. Item 1030 Includes: The provision and installation of all required site facilities and utilities in accordance with **Section 01050 – Field Survey and Engineering**.
 - b. Basis of Measurement: Lump Sum
 - c. Method of Payment: The lump sum price for this item shall be full compensation for furnishing the required facilities as required by the Contract Documents. Progress payments shall be made based on the project duration.
4. Item 1050 – Contractor Health and Safety Plan
- a. Item 1050 Includes: The provision, establishment, and acceptance of the plan in accordance with **Section 01020 – Special Project Procedures**.
 - b. Basis of Measurement: Lump Sum
 - c. Method of Payment: The lump sum price for this item shall be full compensation for furnishing the required information as required by the Contract Documents. Payment for this item shall not be made



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until all construction quality control documentation required in **Section 01020** is submitted to and approved by the Engineer.

5. Item 1060 – Project Control/Management

a. Item 1060 Includes:

- i Providing, installing, and maintaining procedures and practices required as part of **Section 01020 – Special Project Procedures**.
- ii Attendance at project meetings in accordance with **Section 01210 – Project Meetings**.

b. Basis of Measurement: Lump Sum

c. Method of Payment: The lump sum price for this item shall be full compensation for furnishing the required facilities as required by the Contract Documents. Progress payments shall be made based on the project duration.

C. Site Preparation

1. Item 2010 – Surface Water Management

a. Item 2010 Includes: Providing, installing, and maintaining procedures and practices required as part of **Section 01560 – Environmental Protection**

b. Basis of Measurement: Lump Sum

c. Method of Payment: The lump sum price bid for this item shall be full compensation for furnishing all labor, materials, and equipment to install and maintain access as required by the Contract Documents. Progress payments shall be made based on the project schedule and work performed.

2. Item 2020 – Erosion Control and Sedimentation Control

a. Item 2020 Includes: Providing, installing, and maintaining silt fences, temporary erosion control fabric, temporary letdown structures, and other features required to meet project specifications and the Contractor's approved Erosion and Sedimentation Control Plan. The work shall include but not be limited to preparation of the Erosion and Sedimentation Control Plan in conformance with **Section 02270 – Construction Erosion and Sediment Control**.

b. Basis of Measurement: Lump Sum

c. Method of Payment: The lump sum price bid for this item shall be full compensation for furnishing all labor, materials, and equipment to install control features as required by the Contract Documents. Progress payments shall be made based on the project schedule and work performed.

D. Cell Excavation, Filling, and Regrading

1. Item 3010 – Clay Excavation Hauled to Stockpile from Phases 8 and 9

a. Item 3010 Includes: Excavation, transport, handling, and stockpiling of soil materials from within the Phases 8 and 9 Cells footprint to the permanent stockpile location as directed by the Engineer.



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- b. Basis of Measurement: Surveyed volume (cubic yards) of in-place soil materials (cut volume) excavated.
- c. Method of Payment: The unit price for this item shall be full compensation for furnishing all labor, materials, equipment, and services required to excavate, remove, transport and stockpile materials from the Phases 8 and 9 Cells footprint.

2. Item 3030 – Phases 8 and 9 Structural Fill

- a. Item 3030 includes: Excavation, transport, handling, grading, and compacting of soil materials used as structural fill to the lines and grades of the construction drawings within the Phases 8 and 9 Cells Footprint.
- b. Basis of Measurement: Surveyed in-place cubic yards (CY) of placed material.
- c. Method of Payment: The unit price for this item shall be full compensation for furnishing all labor, materials, equipment, and services required to complete the work.

E. Composite Liner Construction

1. Item 4010 – RSL Placement

- a. Item 4010 Includes: Delivery (transport), handling, and placement of recompacted clay soil materials from the approved borrow source and compacted in accordance with **Section 02215 – Recompacted Soil Liner** meeting the lines and grades on the Construction Drawings.
- b. Basis of Measurement: Surveyed in-place area (square feet) of finished recompacted soil liner.
- c. Method of Payment: The unit price for this item shall be full compensation for furnishing all labor, materials, equipment, and services required to ensure the RSL surface meets the lines and grades depicted on the Construction Drawings.

2. Item 4020 – Phases 8 and 9 Surface Finishing/Geosynthetic Placement Preparations

- a. Item 4020 Includes: Preparation of the surface within the Phases 8 and 9 Cells footprint for placement of overlying geosynthetics in accordance with **Section 02215 – Recompacted Soil Liner**, **Section 02216 – Phases 8 and 9 Sub-Base**, and **Section 02242 – HDPE Geomembrane**.
- b. Basis of Measurement: Surveyed in-place area (square feet) of finished RSL surface.
- c. Method of Payment: The unit price for this item shall be full compensation for furnishing all labor, materials, equipment, and services required to ensure the surface finish is acceptable to both Ohio EPA and geosynthetic installer. Payments for Phases 8 and 9 surface finishing/preparation shall be made for Site areas only once through the duration of the contract.

3. Item 4030 – Anchor Trench Construction

- a. Item 4030 Includes: Excavation, temporarily stockpiling excavated materials, surface preparation, backfill placement, and all other activities necessary to provide adequate anchorage of the geosynthetic materials in accordance with **Section 02240 – Anchor Trench** and the Construction Drawings.



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- b. Basis of Measurement: Surveyed in-place length (linear feet).
 - c. Method of Payment: The unit price for this item shall be full compensation for furnishing all labor, materials, equipment, and services required to provide adequate anchorage for the geosynthetic materials within the Phases 8 and 9 Cell footprint.
4. Item 4040 – 60 mil HDPE Liner
- a. Item 4040 Includes: Delivery, installation, and protection as shown, specified, or directed. The materials shall be furnished and installed in accordance with **Section 02242 – HDPE Liner**, including but not limited to welding, seaming, repairs, quality control testing, and record documents as shown required, specified, or directed by the Engineer.
 - b. Basis of Measurement: Surveyed in-place area (square feet) before placement of the overlying drainage layer. Seams, overlaps, rub sheets, wasted materials, and materials used for repairs shall not be measured or considered for payment. Material within the anchor trench beyond the limits specified in the Construction Drawings shall not be measured or considered for payment.
 - c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of **Section 02242** are submitted and approved by the Engineer.
5. Item 4050 – Tie-In Preparation
- a. Item 4050 includes: Preparation of tie in areas on the north side of the Phases 8 and 9 construction area for tying into the existing liner systems of Phase 1 and Phase 2 in accordance with the Construction drawings and as directed by the Engineer.
 - b. Basis of Measurement: Lineal feet of tie-in area exposed and prepared.
 - c. Method of Payment: The unit price for this item shall be full compensation for furnishing and installing all labor, equipment, material, and services required to complete the work.
6. Item 4060 – Future Phase 11 Tie-in
- a. Item 4060 Includes: Preparation of tie in areas on the east and south sides of the facility for future tie in construction in accordance with the Construction Drawings and as directed by the Engineer.
 - b. Basis of Measurement: Lineal feet of tie-in area completed and installed as specified.
 - c. Method of Payment: The unit price for this item shall be full compensation for furnishing and installing all labor, equipment, material, and services required to complete the work.
7. Item 4070 – Geotextile Cushion Layer
- a. Item 4070 Includes: Delivery, installation, and protection as shown, specified, or directed. The materials shall be furnished and installed in accordance with **Section 02243 – Bedding/Cushion Geotextile Layer**, including but not limited to seaming, repairs, quality control testing, and record documents as shown, required, specified, or directed by the Engineer.



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- b. Basis of Measurement: Surveyed in-place area (square feet) before placement of the overlying drainage layer. Seams, overlaps, rub sheets, wasted materials, and materials used for repairs shall not be measured or considered for payment. Material within the anchor trench beyond the limits specified in the Construction Drawings shall not be measured or considered for payment.
- c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of **Section 02243** are submitted and approved by the Engineer.
- d. The BID assumes that an 8 oz/sy nonwoven geotextile will be used for the cushion layer. The final material selected for installation will depend on the material selected for the LCS Granular Material. Larger, more angular stone will likely require a thicker cushion layer (10 or 12 oz/sy). To ensure availability of material and to provide a complete estimate of costs, BIDDERS must include a cost for the 8 oz, 10 oz and 12 oz geotextiles as indicated on the BID tab.

F. Leachate Collection System

1. Item 5010 – LCS Granular Material

- a. Item 5010 Includes: Delivery (transport), stockpiling, and placement of granular LCS material as shown specified or directed by the Engineer in accordance with **Section 02232 - Leachate Collection System Granular Drainage Layer** and **Section 02676 Cell Leachate Collection System**.
- b. Basis of Measurement: Surveyed in-place area (Sq Yds) before placement of overlying filter layer.
- c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of **Section 02676** are submitted and approved by the Engineer.
- d. NOTE: The gradation and angularity of the selected drainage material will have an effect on the material required for the cushion layer.

2. Item 5020 – Geotextile Filter Layer

- a. Item 5020 Includes: Delivery, installation, and protection as shown, specified, or directed. The materials shall be furnished and installed in accordance with **Section 02245 – Geotextile Filter Fabric**, including but not limited to seaming, repairs, quality control testing, and record documents as shown required, specified, or directed by the Engineer.
- b. Basis of Measurement: Surveyed in-place area (square feet). Seams, overlaps, rub sheets, wasted materials, and materials used for repairs shall not be measured or considered for payment. Material within the anchor trench beyond the limits specified in the Construction Drawings shall not be measured or considered for payment.
- c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of **Section 02245** are submitted and approved by the Engineer.



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3. Item 5030 – 6" Perforated HDPE Leachate Collection Pipe (w/ Wrap and Large Diameter Gravel and Connections)
 - a. Item 5030 includes: Welding/fusing the pipe, bedding the pipe, placement of the pipe to the lines and grades depicted on the Construction Drawings, placement of geotextile wrap and large diameter granular backfill material, and accessories in accordance with **Section 02676 – Cell Leachate Collection System** and **Section 02715 – HDPE Collection and Transport Pipe**.
 - b. Basis of Measurement: Lineal feet of pipe provided and installed as specified.
 - c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of **Section 02676** are submitted and approved by the Engineer.
4. Item 5035 – 6" Solid HDPE Leachate Cleanout Pipe
 - a. Item 5035 includes: Welding/fusing the pipe, bedding the pipe, placement of the pipe to the lines and grades depicted on the Construction Drawings, and accessories in accordance with **Section 02676 – Cell Leachate Collection System** and **Section 02715 – HDPE Collection and Transport Pipe**.
 - b. Basis of Measurement: Lineal feet of pipe provided and installed as specified.
 - c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of **Section 02676** are submitted and approved by the Engineer.
5. Item 5040 – Leachate Sump Pipe
 - a. Item 5040 includes: Supply and Installation of dual 36" diameter SDR 11 HDPE pipes with tees. Each pipe is to have 5 air release holes drilled in the top of each plus two rows of perforations on the bottom oriented 90° at 4" spacing and the two pipes are to be connected as shown on the project drawings.
 - b. Basis of Measurement: Lump Sum
 - c. Method of Payment: The lump sum price bid for this item shall be full compensation for furnishing all labor, materials, and equipment to install the sump pipes as required by the Contract Documents. Payment for these items shall not be made until all submittals required in Part 1.4 of **Section 02676** are submitted and approved by the Engineer.
6. Item 5050 – Sideslope Riser Pipes
 - a. Item 5050 includes: Supply and Installation of two 36" diameter SDR 11 HDPE pipes to connect the sump pipes to the top of the Phases 8 and 9 sideslope and to provide access for leachate pump(s) in the Phases 8 and 9 sump(s). The pipes are to be installed as shown on the project drawings.
 - b. Basis of Measurement: Lineal feet of pipe provided and installed as specified.



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- c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of **Section 02676** are submitted and approved by the Engineer.
7. Item 5060 – HDPE Leachate Meter Vault
- a. Item 5060 includes: Supply and Installation of SDR 11 HDPE meter vault. The vault is to be constructed and installed as shown on the project drawings.
 - b. Basis of Measurement: Lump Sum
 - c. Method of Payment: The lump sum price bid for this item shall be full compensation for furnishing all labor, materials, and equipment to install the meter vault as required by the Contract Documents. Payment for these items shall not be made until all submittals required in Part 1.4 of **Section 02601** are submitted and approved by the Engineer.

G. Forcemain

1. Item 6010 – Dual Contained Forcemain Transfer Line

- a. Item 6010 includes: Supply and Installation of 3"/6" HDPE dual contained pipe. The forcemain pipe is to be constructed and installed as shown on the project drawings.
- b. Basis of Measurement: Lineal feet of pipe provided and installed as specified.
- c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of Section 02715 are submitted and approved by the Engineer.

2. Item 6020 – Dual Contained Witness Pipe

- a. Item 6020 includes: Supply and Installation of 3"/6" HDPE dual contained pipe. The witness pipe is to be constructed and installed as shown on the project drawings.
- b. Basis of Measurement: Lineal feet of pipe provided and installed as specified.
- c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of Section 02715 are submitted and approved by the Engineer.

3. Item 6030 – Dual Contained Forcemain Transfer Line

- a. Item 6030 includes: Supply and Installation of 2"/4" HDPE dual contained pipe. The forcemain pipe is to be constructed and installed as shown on the project drawings.
- b. Basis of Measurement: Lineal feet of pipe provided and installed as specified.



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- c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of Section 02715 are submitted and approved by the Engineer.

4. Item 6040 – Electrical Conduit

- a. Item 6040 Includes: Welding/fusing the pipe, placement of the pipe to the lines and grades depicted on the Construction Drawings, and as indicated, specified, or directed by the Engineer and in accordance with **Sections 16050, 16130, and 16476.**
- b. Basis of Measurement: Lineal feet of pipe provided and installed as specified.
- c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work.

H. Item 8000 Finish Work

1. Item 8010 Prepare, Fertilize, Seed and Mulch Disturbed Areas

- a. Item 8010 includes: Supply preparation and installation of seed, fertilizer and mulch to vegetation disturbed areas. The seeding is to be constructed and installed as shown on the project drawings.
- b. Basis of Measurement: Area vegetated as specified.
- c. Method of Payment: The unit price for these items shall be full compensation for furnishing and installing all labor, materials, tools, equipment and appurtenances necessary to complete the work. Payment for these items shall not be made until all submittals required in Part 1.4 of Section 02936 are submitted and approved by the Engineer.

I. Allowance Items

1. Item 9010 – Landfill Materials Handling

- a. Item 9010 Includes: Regrading and/or excavation of waste inhibiting completion of the Work. This shall include transport to and placing the waste or mixtures of waste and soil at the landfill working face as well as leachate management in accordance with state regulations and **Section 02218 – Landfill Materials Handling** and as directed by the Engineer
- b. Basis of Measurement: Cubic Yards
- c. Method of Payment: The unit price for this item shall be full compensation for furnishing and installing all labor, equipment, material, and services required to complete the work. Payment for this item shall not be made without prior written approval from the Owner's representative.

2. Item 9015 – Landfill Materials Handling

- a. Item 9015 Includes: Regrading and/or excavation of soil associated with the Phase 1/2 to 7 tie-in that is inhibiting completion of the Work. This shall include transport to and placing the soil in a stockpile located in the eastern portion of Phase 11 (see plan sheets) as well as leachate management in accordance with state regulations and **Section 02218 – Landfill Materials**



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Handling and as directed by the Engineer. Note, only soil that does not contain waste may be stockpiled in Phase 11; mixtures of soil and waste are to be managed as waste and taken to the working face.

- b. Basis of Measurement: Cubic Yards
- c. Method of Payment: The unit price for this item shall be full compensation for furnishing and installing all labor, equipment, material, and services required to complete the work. Payment for this item shall not be made without prior written approval from the Owner's representative.

1.2 NON-DIRECT PAYMENT ITEMS

G. The Contractor is advised that while specifically required or called for by the Contract Documents, no direct payment will be made for:

- 1. Special Controls/Project Procedures
- 2. Dust and Erosion and Sedimentation Control
- 3. Project Management /Supervision
- 4. Project Meetings
- 5. Construction Schedules
- 6. Project Submittals
- 7. Environmental Protection
- 8. Project Record Documents
- 9. Home Office support
- 10. Equipment Maintenance
- 11. Laboratory testing
- 12. Restoration of areas, outside the limits of Work, damaged by the Contractor
- 13. Protection of partially-completed Work
- 14. Health and Safety , Contingency Plans and other required submittals
- 15. Surveying
- 16. Equipment decontamination
- 17. Site security

H. The costs of this Work, and any others not specifically identified, shall be included in the Unit Prices bid for the various items in the Contract.



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1.3 NON-PAYMENT FOR REJECTED PRODUCTS

G. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from the transporting vehicle.
4. Products placed beyond the lines and levels of the required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling, and disposing of rejected Products.

1.4 DEFECT ASSESSMENT

G. Replace the Work, or portions of the Work, not conforming to the specified requirements in the Drawings and Specifications, or CQA testing requirement for Ohio EPA approval of the Work.

H. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, and the defective Work does not conflict with the Permit requirements or Ohio EPA approval, they will direct one of the following remedies:

1. The defective Work may remain, but the unit sum/price will be adjusted to a new sum/price in accordance with Paragraph 3.3 of **Section 00700 – General Conditions**.
2. The defective Work will be partially repaired to the instruction of the Engineer, and the unit sum/price will be adjusted to a new sum/price in accordance with Paragraph 3.3 of **Section 00700 – General Conditions**.

I. The individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.

J. The authority of the Engineer to assess the defect and identify payment adjustment is final.

K. Defective Work that is not in compliance with the Permit and/or Ohio EPA requirements for this Project shall be removed and replaced in a manner that complies with the Permits and/or Ohio EPA requirements for this Project at no cost to the Owner, Engineer or CQA consultant.

L. Defective Work or Work determined by Ohio EPA to be the basis for denying the Owner authorization to use the items and/or structures constructed by the Contractor shall be removed and replaced by the Contractor in a manner that resolves the Ohio EPA concerns and results in the Owner receiving Ohio EPA's authorization to use the items and structures at no cost to the Owner, Engineer or CQA consultant.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION



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Not used.

END OF SECTION 01025



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SECTION 01030

CONTRACTOR HEALTH & SAFETY PLAN

(CONTRACTOR SUBMITTAL)



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SECTION 01050

FIELD SURVEY AND ENGINEERING

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Submittals
- B. Quality control
- C. Survey Requirements
- D. Project Record Documents

1.2 RELATED SECTIONS

- A. **Section 01010 - Summary of Work**
- B. **Section 01025 - Measurement and Payment**
- C. **Section 01700 - Work Closeout**
- D. **Section 01710 - Project Record Documents**

1.3 REFERENCES

- A. Ohio Administrative Code 3745-27-08 - Solid Waste Rules
- B. Defiance County's solid waste, NPDES, and air permits

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. On request by COA Consultant, Owner's representative, or engineer, the Contractor shall submit documentation verifying accuracy of survey work.

1.5 QUALITY CONTROL

- A. The Contractor shall employ a Professional Land Surveyor registered in the State of Ohio and acceptable to the Engineer and Owner.
- B. If necessary, the Contractor shall employ a Professional Engineer of the discipline required for specific service on the Project, licensed in the State of Ohio.

1.6 SURVEY REQUIREMENTS

- A. Reference Points



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1. The Contractor shall verify locations and elevations of permanent and temporary survey marks and/or benchmarks on site prior to starting Work. The Contractor shall submit horizontal and vertical survey control data as required and promptly notify the Engineer of any discrepancies discovered between his measurements and those provided in the Contract documents.
2. The Contractor shall protect survey control and permanent reference points during construction. The Contractor shall not install or relocate permanent site reference points without prior written approval from Engineer.
3. The Contractor shall promptly report to Engineer the loss or destruction of permanent and temporary survey reference point or relocation required due to change in grade or other reason.
4. The Contractor shall replace lost or damaged temporary or permanent survey control points based on original survey control at no cost to the Owner.

B. Survey Requirements

1. The Contractor shall provide for Field Engineering services utilizing recognized Engineering survey practices.
2. The Contractor shall ensure all components furnished and installed by the Contractor are located with lines, levels, and elevations, by instrumentation and similar appropriate means, for all components of landfill construction as discussed above.
3. All survey information shall be reported in relation to the local site coordinate system and shall include the time and date of data collection.
4. All surveys of topographic information shall be based on a grid no larger than 100 feet by 100 feet and shall include all grade breaks, features, and any other necessary information to depict an accurate surface.

C. Surveys for Measurement and Payment

1. The Contractor's cost for all Work and delays occasioned by giving lines and grades, or making other necessary measurements, will be considered as having been included in the unit and Lump Sum prices for items of Work.
2. The Contractor may perform surveys to estimate quantities of unit cost Work, including control surveys to establish measurement reference lines. The Contractor shall notify the Engineer prior to starting Work. The Engineer and COA Consultant will perform surveys for quantities and volumes for payment; however, the Engineer with the Owner's approval may defer this to the Contractor.
3. The Engineer shall calculate and certify quantities for payment purposes.

1.7 PROJECT RECORD DOCUMENTS

- A. The Contractor shall maintain a complete and accurate log of control and survey Work as it progresses.



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1.8 SUMMARY

- A. The Contractor will identify site reference points and baselines as shown on the Construction Drawings.
- B. The Contractor shall furnish, provide, and install all materials, items, operations or methods specified, listed or scheduled on the design drawings and/or specifications, including all materials, labor, equipment and incidentals necessary and required to conduct proper surveys required to stake, layout, verify, and document the Work.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION 01050



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SECTION 01210

PROJECT MEETINGS

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Pre-construction Conference
- B. Progress Meetings
- C. Health and Safety Meetings

1.2 RELATED SECTIONS

- A. **Section 01030 - Contractor Safety and Health**
- B. **Section 01310 - Construction Schedules**
- C. **Section 01320 - Submittals**

1.3 REFERENCE

- A. Not used

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. The Contractor shall submit a construction schedule to the Engineer before the first progress meeting and prior to each meeting when there has been a change to the construction schedule.

1.5 PRE-CONSTRUCTION CONFERENCE

- A. The Engineer shall schedule and administer a pre-construction conference.
- B. The Contractor shall attend a pre-construction meeting in accordance with Contract Documents.
- C. The location of pre-construction meeting shall be a site convenient to all parties, designated by Engineer.
- D. Parties responsible for attending the pre-construction meeting are:
 - 1. Engineer
 - 2. Owner's Representatives
 - 3. Project's CQA Consultant
 - 4. Contractor's Superintendent, Surveyor, and others as appropriate



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5. Utility representatives (If Applicable)
 6. Others as appropriate
- E. The purpose of the pre-construction meeting will be to establish relationships among parties involved in Project, including lines of communication and authority, and scope of Work. The suggested agenda is as follows:
1. Distribution and discussion of:
 - a. List of major Subcontractors and suppliers
 - b. Projected construction schedules
 2. Critical work sequencing
 3. Major equipment deliveries and priorities
 4. Project Coordination:
 - a. Communications plan
 - b. Designation of responsible personnel
 5. Procedures and processing of:
 - a. Field decisions
 - b. Proposal requests
 - c. Submittals
 - d. Change Orders
 - e. Applications for payment
 6. Adequacy of distribution of Contract Documents
 7. Procedures for maintaining Record Documents
 8. Use of premises:
 - a. Office, Work and storage areas
 - b. Owner's requirements
 9. Construction facilities, controls and construction aids
 10. Temporary utilities
 11. Housekeeping procedures



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12. Check of required Bond and Insurance certifications
13. Liquidated damages
14. Laboratory testing of material requirements
15. Inventory of material stored on site
16. Verification of cleanup and Change Orders for additional Work
17. Health and Safety Plan
18. Construction Quality Assurance Project Plan
19. Public relations issues
20. Coordination with local governments
21. Permitting requirements
22. Access issues

1.6 PROGRESS MEETINGS

- A. The Engineer shall schedule periodic progress meetings throughout the progress of the Work, and specially called progress meetings as required by progress of the Work.
 1. Regularly scheduled meetings will be held every 7 days or less with the first meeting within 7 days of the Contractor mobilizing to the facility to begin work.
 2. The Engineer shall:
 - a. Prepare agenda for meetings
 - b. Preside at meetings
 - c. Prepare and distribute meeting minutes
- B. The Contractor shall attend progress meetings to ascertain that Work is expedited consistent with Contract Documents and construction schedules.
- C. The Contractor is to study previous meeting minutes and current agenda items, to be prepared to discuss pertinent topics such as deliveries of materials and equipment, and progress of the Work.
- D. The Engineer, Contractor, Subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
- E. Attendance:
 - a. Engineer



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- b. Owner's Representative
- c. Project CQA Consultant
- d. Contractor's Superintendent, surveyor, and others as appropriate
- e. Sub-contractors as appropriate to the agenda
- f. Suppliers as appropriate to the agenda
- g. Others as appropriate
- h. Location of the meetings: To be announced

F. Suggested Agenda:

- a. Issues unresolved since last meeting
- b. Construction activities - progress/obstacles
- c. Short term plan/schedule review
- d. Testing status/progress/obstacles
- e. Status of any changes-in-process/Change Orders
- f. Issues to be raised with the Owner
- g. Contract administration issues
- h. Review of delivery schedules
- i. Details of next meeting

1.7 HEALTH and SAFETY MEETINGS

- A. The Contractor shall hold Health and Safety briefings as described in the Health and Safety Plan.
- B. The Contractor shall keep CQA Consultant and Engineer apprised of scheduled health and safety meetings and any changes to the Health and Safety Plan

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01210



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SECTION 01310

CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Form of schedules
- B. Distribution
- C. Contractor Responsibility
- D. Schedule adjustment

1.2 RELATED SECTIONS

- A. **Section 01210 - Project Meetings**
- B. **Section 01320 - Submittals**

1.3 REFERENCES

Not used

1.4 SUBMITTALS

- C. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- A. The Contractor shall submit the projected schedule to the Engineer within ten (10) days after the effective date of the Agreement for review and comment. This schedule should be adapted from the schedule provided as part of their bid.
- B. The Contractor shall submit the updated current Project schedule with each month's application for payment to the Engineer for review.
- C. The Contractor shall submit revised schedules to the Engineer within 24 hours of the revision for review.

1.5 FORM OF SCHEDULES

- A. The schedule submitted by the Contractor shall show a complete construction sequence by activity, identifying separate stages of Work, and logically grouped activities. The schedule shall also indicate early and late start and finish dates for each activity, slack time, float dates, and duration as applicable.
- B. The schedule submitted by the Contractor shall indicate the estimated percentage of completion for each item of Work with each submittal of the schedule.
- C. The schedule submitted by the Contractor shall indicate submittal dates required for shop drawings, sample testing and results, product data, and product delivery dates. The schedule shall also indicate the required turnaround dates for acceptance/approval.



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1.6 DISTRIBUTION

- A. The Contractor shall distribute copies of the schedule submittals to the:
 - 1. Engineer
 - 2. Contractor's job site file
 - 3. Subcontractors
 - 4. Geosynthetics Installer
- B. The Contractor shall instruct recipients to report promptly to the Contractor, in writing, any problems anticipated by the projections shown in the schedules.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 RESPONSIBILITY FOR SCHEDULE COMPLIANCE

- A. Contractor's responsibility shall be as specified in the Contract Documents.
- B. The Contractor shall designate an authorized representative of his firm who shall be responsible for development and maintenance of the schedule and of progress and payment reports. This representative of the Contractor shall have direct Project control and authority to bind the Contractor to fulfill the commitments of the Contractor's Schedule.

3.2 ADJUSTMENT OF CONTRACT SCHEDULE AND COMPLETION TIME

- A. Causes for adjustments to the Contract Time shall be as specified in the Contract Documents.
- B. Adjustments to the Contract Time that result in an extension shall be processed through a Change Order.

END OF SECTION 01310



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SECTION 01320

SUBMITTALS

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Submittals
- B. Proposed product list
- C. Miscellaneous Submittals
- D. Submission requirements
- E. Contractor's Duties
- F. Engineer's Duties
- G. Resubmission requirements
- H. Distribution of approved submittals

1.2 RELATED SECTIONS

- A. All Sections

1.3 REFERENCES

- A. Not used.

1.4 SUBMITTALS

- A. The Contractor shall note specific submittal requirements in other sections of these Specifications.
- B. Shop Drawings
 - 1. The Contractor's or Subcontractor's Drawings made specifically for this Project, for use in fabrication and installation are considered Project Record Documents as specified in the Contract Documents and **Section 01710 - Project Record Documents**.
 - 2. Shop Drawings shall show sufficient detail and data, including layout, fabrication and erection details to establish evidence of compliance with the Contract Documents.
 - 3. The Contractor shall not use reproductions of Contract Drawings as Shop Drawings unless specifically permitted in the Contract Documents.
 - 4. Shop Drawings shall identify details by reference to sheet and detail numbers on Contract Drawings and by reference to paragraphs within the project Technical Specifications.



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5. The Contractor shall notify the Engineer in writing of any changes in the Shop Drawings that have any design or material changes from those within the Bid Documents, project Construction Drawings, project Technical Specifications and permits.
 6. The Contractor has the sole responsibility to complete the Work in accordance with the Bid Documents. Work completed in accordance with Shop Drawings whether approved by the Engineer or not, do not relieve the Contractor of the responsibility to comply with the Ohio EPA approved design and materials.
- C. Manufacturer's Standard Schematic Drawings
1. The Contractor shall modify drawings to delete information that is not applicable to the Project. As-built Drawings submitted showing information that is not applicable to the project is not acceptable and will be returned to the Contractor without review.
 2. The Contractor shall modify drawings to add supplemental information applicable to the Project to depict As-Built conditions as accurately as possible.
 3. Where drawings are printed in color and require color for evaluation, record, or other purpose, all copies submitted shall be in original colors as published.
- D. Manufacturer's Catalog Sheets, Brochures, Diagrams, Instruction Manuals, schedules, Performance Charts, Illustrations, Samples and Other Standard Descriptive Data.
1. The Contractor shall clearly identify materials, products, or models applicable to this Project.
 2. The Contractor shall modify materials to show dimensions and clearances required.
 3. The Contractor shall modify materials to show performance, characteristics, and capacities required.
 4. Where product data is printed in color and requires color for evaluation, record, or other purpose, all copies submitted shall be in original colors as published.
- E. Field Samples and Mock-Ups
1. The Contractor shall erect such items at the Project site in location as directed by the Engineer or CQA Consultant.
 2. The Contractor shall construct each sample or mock-up completely, including Work of all trades required in the finished Work.
 3. The Contractor shall remove any mock-up at conclusion of Work.
- 1.5 PROPOSED PRODUCT LIST
- A. Within 14 days from execution of the Agreement between Owner and Contractor, the Contractor shall submit a complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.



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- B. For products specified only by reference standards, the Contractor shall provide the manufacturer, trade names, model or catalog number to the Engineer, and shall reference the standard.

1.6 MISCELLANEOUS SUBMITTALS

A. Construction Permits:

- 1. The Contractor shall acquire, maintain, and submit copies of all construction permits that are required by the Governing Authority to execute the Work.

B. Manufacturers' Instructions:

- 1. When specified in individual specification Sections, the Contractor shall submit manufacturers' printed instructions for delivery, storage, assembly, installation, adjusting and finishing in quantities specified herein.
- 2. The Contractor shall identify conflicts between manufacturers' instructions and Contract Documents and communicate those differences to the Engineer at the earliest opportunity.

C. Manufacturers' Certificates:

- 1. When specified in individual specification Sections, the Contractor shall submit manufacturers' certificates to the Engineer, in quantities specified herein.
- 2. For each Manufacturer Certificate, the Contractor shall indicate that a material or product conforms to or exceeds the specified requirements for that material. The Contractor shall submit supporting reference data, affidavits, and certifications as appropriate.
- 3. Manufacturer Certificates may be recent or previous test results on material or Product, but must be acceptable to the Engineer. If these are outdated and/or not acceptable to Engineer, the Contractor shall submit to the Engineer the new certificates and test results on the applicable materials or product

D. Test Reports:

- 1. The Contractor shall classify each Test Report as either "Project Related" or "Product Data" accordingly depending upon whether the report is uniquely prepared for the Project or a standard publication of workmanship control testing at point of production.
- 2. The Contractor shall make all reasonable efforts to ensure all test equipment used shall be verified to be in calibration at the time of each test and the test reports shall so indicate. No test shall be made without such verification.

1.7 SUBMISSION REQUIREMENTS

- A. The Contractor shall submit a detailed shop drawing schedule at least 14 days before submission of any shop drawing.
- B. The Contractor shall use a "Submittal Summary" as a cover sheet for each submittal. The "Submittal Summary" is not intended to take the place of the Contractor's letter of transmittal, but should



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accompany each individual specification section submittal separately. Do not combine submittals of more than one (1) product or section.

- C. The Contractor shall allow at least 10 days for review, before approved submittals are needed.
- D. In addition to information required on the "Submittal Summary", submittals shall include:
 - 1. Relation to adjacent materials
 - 2. Field dimensions, clearly identified as such
 - 3. Finishes
 - 4. Shipping weights
 - 5. Gauges, fastenings, reinforcements, welding details
 - 6. Applicable standards, such as ASTM or Federal Specification numbers

1.8 CONTRACTOR'S DUTIES

- A. The Contractor shall review submittals for accuracy and completeness.
- B. The Contractor shall initial or sign the submittal certifying approval, verification of field measurements, coordination with all trades involved, and indicating compliance with the Contract Documents.
- C. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Engineer's approval of Shop Drawings, Product Data, or Samples unless the Contractor has specifically informed the Engineer in writing of such deviation at the time of submission and the Engineer has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data, or Samples by the Engineer's approval thereof.

1.9 ENGINEER'S DUTIES

- A. The Engineer shall review submittals with reasonable promptness.
- B. The Engineer shall review submittals for conformance to the design concept of the Project and the information in the Contract Documents. Review of separate items does not constitute review of an assembly in which the item functions.
- C. The Engineer shall initial or sign submittals after review.
- D. The Engineer shall return submittals to the Contractor with acceptance for distribution or directions to correct and resubmit.
- E. The Engineer's action on submittals will result in initialing the document with one of the following notations:
 - 1. NO EXCEPTIONS TAKEN - The Work involved may proceed, and no further submission is required.



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2. ACCEPTED AS NOTED – The Work involved may proceed under the conditions noted.
 3. FURNISH AS NOTED – The Work involved may proceed providing submittal is corrected and resubmitted for record.
 4. REVISE AND RESUBMIT – The Work involved may not proceed. Submittal must be corrected and resubmitted.
- F. The Engineer shall review a submittal/re-submittal a maximum of three (3) times after which cost of the review shall be borne by the Contractor.

1.10 RESUBMISSION REQUIREMENTS

- A. The Contractor shall clearly identify changes made from the initial submittal.
- B. The Contractor shall make re-submittals under the same requirements as the initial submittal.

1.11 DISTRIBUTION OF APPROVED SUBMITTALS

- A. The Contractor shall reproduce and distribute copies of submittals having Engineer's approval to:
 1. Contractor's file
 2. Job-site file
 3. Project Record Document file
 4. Engineer
- B. The Contractor shall retain a complete file of submittals and any other construction information and data on-site so that Ohio EPA field representative can have access for examination and review.
- C. The Contractor shall also reproduce and distribute copies of submittals having Engineer's approval to the following as applicable:
 1. Sub-contractors
 2. Supplier
 3. Fabricator

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01320



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SECTION 01410

TESTING AND TESTING LABORATORY SERVICES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Submittals
- B. Responsibility for testing laboratory services
- C. Additional contractor/installer responsibilities
- D. Limitations of the authority of testing laboratory
- E. Testing reports
- F. Chain of custody
- G. Geosynthetic testing
- H. Soil and granular material testing
- I. Interface friction testing

1.2 RELATED SECTIONS

- A. Section 02210 – Engineered Subgrade
- B. Section 02213 – Added Geologic Material
- C. Section 02214 – Structural Fill
- D. Section 02215 – Recompacted Clay Liner
- E. Section 02232 – Leachate Collection System Granular Drainage Layer
- F. Section 02242 – HDPE Geomembrane
- G. Section 02243 – Geotextile Cushion Layer
- H. Section 02245 – Geotextile Filter Fabric

1.3 REFERENCES

- A. Ohio Administrative Code 3745-27-08 - Solid Waste Rules
- B. GM-13, *Test Methods, Test Properties and Testing Frequency for High Density Polyethylene (HDPE) Smooth and Textured Geomembranes*



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- C. GRI GM-19, *Seam Strength and Related Properties of Thermally Bonded Polyolefin Geomembranes*
- D. GRI GT-12a, *Test Methods and Properties for Nonwoven Geotextiles Used as Protection (or Cushioning) Materials*
- E. GRI GT-13, *Test Methods and Properties for Geotextiles Used as Separation Between Subgrade Soil and Aggregate*
- F. ASTM D 5321 - Determining the Coefficient of Soil and Geosynthetics or Geosynthetics and Geosynthetics Friction by the Direct Shear Method.

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. One (1) copy of all of the following shall be submitted to the Engineer:
 - 1. Manufacturer's QA/QC testing/installation manuals for all products used for the Project
 - 2. All laboratory reports for materials tested for the Project
 - 3. All Manufacturers' Quality Control testing results shall be submitted to the Engineer.
 - 4. All manufacturer's product cut sheets and product literature

1.5 RESPONSIBILITY FOR TESTING LABORATORY SERVICES

- A. The Owner is responsible for the following laboratory testing:
 - 1. The Owner is responsible for employing, and paying for the services of a qualified independent testing laboratory (or laboratories) to perform Quality Assurance testing as required in the project Technical Specifications. This shall include:
 - a. Geosynthetics liner system interface friction testing
 - b. Geosynthetics liner system conformance testing
 - c. Geosynthetics liner system destructive sample initial testing
 - 2. The Owner is responsible for employing, and paying for the services of a qualified independent testing laboratory (or laboratories) to perform prequalification sampling and testing of granular materials within the leachate collection and removal system.
- B. The Contractor and his Subcontractors are responsible for the following laboratory and testing requirements and services:
 - 1. The Contractor shall obtain approval from the Engineer before employing any laboratory (or laboratories).
 - 2. The Contractor is responsible for employing, and paying for the services of a qualified independent testing laboratory (or laboratories) to perform certification testing and specified



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services required not otherwise specified as the responsibility of the Owner. All testing shall be performed by the Contractor's or manufacturer's laboratories except and unless specifically stated otherwise. This shall include:

- a. Manufacturer's Quality Control testing of all geosynthetic components
 - b. Preliminary testing of materials to determine viability for use on the Project
 - c. Additional soil prequalification testing
 - d. Geosynthetics liner system destructive sample retesting
 - e. Retesting for all materials failing to meet the minimum specifications contained within the project Technical Specifications
 - f. Data validation testing for any materials or components
3. Laboratories shall meet "Recommended Requirements for Independent Laboratory Qualifications," published by American Council of Independent Laboratories.
 4. Testing equipment, including Site equipment, shall be calibrated at reasonable intervals by devices of accuracy traceable to either the National Bureau of Standards or commonly accepted values of natural physical constants.

1.6 ADDITIONAL CONTRACTOR/INSTALLER RESPONSIBILITIES

- A. The Contractor and Installer shall do all of the following:
 1. Cooperate with laboratory personnel
 2. Provide access to the Work and to manufacturer's operations
 3. Secure and deliver to the laboratory adequate quantities of representative samples of materials which require testing
 4. Ensure materials and equipment used in the performance of Work under this Contract are subject to inspection and testing at the point of manufacture or fabrication as specified in the Contract Documents
 5. Furnish incidental labor and facilities to do the following:
 - a. Provide access to the Work to be tested
 - b. Obtain and handle samples at the Project site or at the production source as required for timely samples of the product to be tested
 - c. Facilitate inspections and tests
 - d. Provide for storing and curing of test samples as applicable



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6. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests
 7. Employ and pay for the services of the same or a separate, equally qualified independent testing laboratory to perform additional inspections, sampling, and testing required for the Contractor's convenience
- B. The Contractor shall pay costs of testing laboratory services to be provided by the Contractor as required by the Contract Documents.
 - C. The Contractor/Installer is responsible for all required manufacturer's testing and shall provide all required product and material test data not provided by the manufacturer or Owner.
 - D. Data validation shall be performed by the Contractor or his laboratory as necessary to ensure reliable and consistent results.
 - E. The Contractor shall perform all inspections and tests required by the Contract Documents.
 - F. The Contractor shall comply with all quality assurance/quality control requirements of these Specifications.
 - G. The Contractor shall provide production certifications as required by the respective Specifications Sections.
- 1.7 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY
- A. The laboratory is not authorized to:
 1. Release, revoke, alter or enlarge on requirements of Contract Documents
 2. Approve or accept any portion of the Work
 3. Perform any duties of the Contractor
 - B. Interpretations of data or test results by the laboratory do not enjoin or bind the Owner to the same or similar interpretations.
- 1.8 TESTING REPORTS
- A. The Contractor shall promptly provide reports of the results of all field and laboratory tests.
 - B. Test reports shall show all test results on a standardized form in a clear, consistent manner.
 - C. Test reports shall at a minimum include:
 1. Project title, location, and number
 2. Specification section
 3. Type of test



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4. The date and time of the test
5. The standard testing method used to conduct the test
6. Sampling information (as applicable) including:
 - a. Sample origin
 - b. Sampling date
 - c. Sampling personnel
 - d. Sample identification
7. Test results
8. Interpretation of test results
9. Conformance with Contract Documents
10. Names and signature of technician performing the test

1.9 CHAIN OF CUSTODY

- A. A Chain of Custody shall accompany all environmental samples.
- B. A Chain of Custody shall accompany all geosynthetic samples.

PART 2 – PRODUCTS

Not used

PART 3 – EXECUTION

3.1 GEOSYNTHETIC TESTING

- A. Geosynthetic geomembrane material shall be tested in accordance with the requirements of the current Geosynthetics Research Institute (GRI) GM-13, *Test Methods, Test Properties and Testing Frequency for High Density Polyethylene (HDPE) Smooth and Textured Geomembranes* and in accordance with ASTM standard test methods as prescribed in the individual specifications. This shall include standard Manufacturers Quality Control testing and independent conformance testing. Test frequency and results for materials used for the Project shall meet all minimum requirements contained in the Technical Specifications and GRI standards.
- B. Geosynthetic geomembrane material bonding and welding shall be tested in accordance with the requirements of the current GRI GM-19, *Seam Strength and Related Properties of Thermally Bonded Polyolefin Geomembranes* and in accordance with ASTM standard test methods as prescribed in the individual specifications. This shall include standard Manufacturers Quality Control testing and independent conformance testing (if applicable). Test frequency and results for materials used for the Project shall meet all minimum requirements contained in the Technical Specifications and GRI standards.



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- C. Geosynthetic geotextile cushion material shall be tested in accordance with the requirements of the current GRI GT-12a, *Test Methods and Properties for Nonwoven Geotextiles Used as Protection (or Cushioning) Materials* and in accordance with ASTM standard test methods as prescribed in the individual specifications. This shall include standard Manufacturers Quality Control testing and independent conformance testing. Test frequency and results for materials used for the Project shall meet all minimum requirements contained in the Technical Specifications and GRI standards.
- D. Geosynthetic geotextile filter material shall be tested in accordance with the requirements of the current GRI GT-13, *Test Methods and Properties for Geotextiles Used as Separation between Subgrade Soil and Aggregate* and in accordance with ASTM standard test methods as prescribed in the individual specifications. This shall include standard Manufacturers Quality Control testing and independent conformance testing. Test frequency and results for materials used for the Project shall meet all minimum requirements contained in the Technical Specifications and GRI standards.
- E. Representative samples shall be used to conduct all tests.

3.2 SOIL AND GRANULAR MATERIAL TESTING

- A. Soil and granular drainage material prequalification testing shall be in accordance with ASTM standard test methods as prescribed in the individual specifications. Test frequency and results for materials used for the Project shall meet all minimum requirements contained in the Technical Specifications and GRI standards. These test requirements adhere to those contained in the Ohio Administrative Code 3745-27-08.
- B. Representative samples shall be used to conduct all tests.

3.3 INTERFACE FRICTION TESTING

- A. Interface friction tests shall be performed in accordance with ASTM D5321 - *Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method*. Test frequency and results for materials used for the Project shall meet all minimum requirements contained in the Technical Specifications and GRI standards.
- B. Interface friction tests shall be performed at a frequency based on the requirements of OAC Rule 3745-27-08(G) for each worst case interface within the liner and leachate collection system and any interfaces utilizing new materials that have not been tested before for used at Defiance County Landfill.
- C. Interface friction tests shall be conducted as follows:
 - 1. The direct shear test setup, layer configurations, and methodology shall be approved by the Engineer prior to start of test program.
 - 2. The shear box used for interface and internal shear strength testing shall have minimum dimensions of 300mm x 300 mm (12 inches x 12 inches).
 - 3. Interface tests shall be conducted until a minimum of 2½ inches of displacement. Residual friction angles shall be established based on measured shear stress values at 2½ inches of displacement or greater.



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4. Strain Rates:

- a. Soil or Granular Material/Geomembrane interfaces shall be tested at the default rate of 0.04 in/min (1.0 mm/min) under wetted surface conditions.
- b. Geosynthetic/Geosynthetic interfaces shall be tested at the default rate of 0.2 in/min (5.0 mm/min) under wet conditions.

D. Representative samples shall be used to conduct all tests including on-site soil.

END OF SECTION 01410



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SECTION 01510

TEMPORARY UTILITIES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Temporary electricity and lighting
- B. Temporary heat, ventilation, and air conditioning
- C. Temporary telephone service
- D. Temporary water
- E. Temporary sanitary facilities
- F. Maintenance
- G. Removal

1.2 RELATED SECTIONS

- A. **Section 01030 - Contractor Safety and Health**
- B. **Section 01590 - Field Offices and Temporary Facilities**

1.3 REFERENCES

- A. National Electric Code (Latest Edition)

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. The Contractor shall submit a plan for temporary offices, facilities, and utilities to the Engineer at least 10 days prior to mobilization.

1.5 TEMPORARY ELECTRICITY AND LIGHTING

- A. The Contractor shall arrange with the local utility company to provide service required for power and lighting, and pay all costs for installation, service, maintenance, and removal.
- B. The Contractor shall provide electric power to field offices and any other power needed for construction and site security.
- C. The Contractor shall provide Site lighting at the field offices and Work area(s).



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1.6 TEMPORARY HEAT, VENTILATION, AND AIR CONDITIONING

- A. The Contractor shall provide temporary heat, ventilation, and air conditioning, and pay for all costs of installation, maintenance, and removal.

1.7 TEMPORARY TELEPHONE SERVICE

- A. The Contractor shall arrange with the local telephone service company and provide direct line telephone service as required by **Section 01590 – Field Offices and Temporary Facilities** and **Section 01030 - Contractor Health and Safety Plan**.
- B. The Contractor shall pay all costs for installation, maintenance and removal, and service charges for local calls. Toll charges shall be paid by the party who places the call.

1.8 TEMPORARY WATER

- A. Water service to the Work area currently does not exist. The Contractor shall provide adequate supply of potable water to the Work area.
- B. The quantity of water required for equipment and personnel decontamination, dust control, and other site activities shall be determined by the Contractor. Non-potable water outlets, such as for firefighting purposes, shall be clearly identified, indicating that the water is unsafe, and is not to be used for drinking, washing, or cooking purposes.
- C. The Contractor shall provide adequate washing facilities for employees engaged in operations where hazardous substances may be harmful to employees.
- D. Non-potable water is available on-site from various ponds containing surface drainage for dust control.
- E. Water service is available in the maintenance building, and the Owner will provide access and limited use of the water to the Contractor. This will be discussed prior to mobilization.

1.9 TEMPORARY SANITARY FACILITIES

- A. The Contractor shall provide sanitary facilities in compliance with laws and regulations.
- B. The Contractor shall service, clean, and maintain all facilities and enclosures.

1.10 MAINTENANCE

- A. The Contractor shall maintain and operate systems for continuous service to the Site.
- B. The Contractor shall modify and extend systems as necessary as Work progress requires.

1.11 REMOVAL

- A. The Contractor shall completely remove temporary utility materials and equipment when their use is no longer required at Project completion.
- B. The Contractor shall clean and repair damage caused by temporary installations or use of temporary facilities.



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PART 2 – PRODUCTS

Not used

PART 3 – EXECUTION

Not used

END OF SECTION 01510



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SECTION 01540

SECURITY

1.0 PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Entrance control
- B. Site control

1.2 RELATED SECTIONS

- A. Section 01020 - Special Project Procedures
- B. Section 01030 - Contractor Safety and Health

1.3 REFERENCES

Not used

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. The Contractor shall submit a Site Security Plan to the Engineer for review and implementation at the Site within ten (10) days of the award of the Contract.
- C. The Contractor shall submit to the Engineer three (3) copies of the current list of accredited persons and Subcontractors permitted on the Project site ten (10) days of the award of the Contract.
- D. The Contractor shall submit to the Engineer three (3) copies of the daily personnel, visitor, and vehicle logs to the Engineer upon request.

1.5 ENTRANCE CONTROL

- A. The Contractor shall ensure the safety and maintain control of all persons and vehicles entering and leaving the Project Site and Work area(s). The Contractor shall exclude from the site any personnel not properly identified and authorized by the Owner or Contractor for entry to the Site.
- B. The Contractor shall maintain identification for all site Workers (including Sub-contractors) which will include, at a minimum, name and employer.
- C. The Contractor shall maintain a current list of persons approved for site access and make that list available to the Engineer upon request.
- D. No visitors shall be allowed on site without the prior approval of the Owner. Visitors shall not be left unescorted.
- E. The Contractor shall maintain a log of visitors which shall include name, affiliation, and purpose of visit.



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- F. The Contractor shall require signature of visitors on a form relieving the Owner, their officers, employees, and agents of the liability of consequences related to potential hazards associated with site entry.

1.6 SITE CONTROL

- A. The Contractor shall maintain control of the Work and assumes responsibility for security at Work area.
- B. The Contractor shall at a minimum, provide security during all working hours.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION 01540



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SECTION 01560

ENVIRONMENTAL PROTECTION

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Submittals
- B. Preconstruction Survey
- C. Permits
- D. Pollution
- E. Protection of land areas
- F. Protection of water resources
- G. Storage facilities
- H. Dust control
- I. Noise control
- J. Odor control
- K. Erosion control
- L. Hauling material on streets
- M. Burning
- N. Trash and debris disposal
- O. Corrective actions
- P. Cleanup/removal
- Q. Environmental testing

1.2 RELATED SECTIONS

- A. **Section 01020 - Special Project Procedures**
- B. **Section 01320 – Submittals**
- C. **Section 02270 - Erosion and Sediment Control**
- D. **Section 01030 - Contractor Safety and Health**



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1.3 REFERENCES

- A. Standard practices for storm water management for Ohio can be found in *Rainwater and Land Development: Ohio's Standards for Stormwater Management Land Development and Urban Stream Protection* (ODNR, 2006) as issued by the Ohio Department of Natural Resources, Division of Soil and Water Conservation. This publication offers a source of general standards that can be implemented as land is being developed.
- B. Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Part 1910.1.
- C. Defiance County Sanitary Landfill Facility's solid waste, surface water, and air permits.

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. The Contractor shall provide the Contractor's proposed on-site staging, construction materials locations, and stockpiling areas to the Engineer for review and comment.
- C. The Contractor shall provide the Contractor's proposed trash and debris disposal methods to the Engineer for approval prior to on-site Work.
- D. The Contractor shall provide any applicable environmental testing data and data evaluation to the Engineer within one (1) week of receipt of request.
- E. The Contractor shall provide the pre-construction survey report to the Engineer.
- F. The Contractor shall provide any necessary construction permits obtained to conduct the Work.

PART 2 – PRODUCTS

2.1 PRECONSTRUCTION SURVEY

- A. Prior to start of any on-site construction activities, the Contractor shall verify the existing conditions and document conditions immediately adjacent to the Site.
- B. The survey shall include proposed haul routes for equipment and materials.

2.2 PERMITS

- A. The Contractor shall obtain any necessary construction permits to conduct the Work.
- B. Ohio EPA administers the state regulations requiring stormwater permits for construction sites.



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PART 3 – EXECUTION

3.1 POLLUTION

- A. The Contractor shall perform all Work in such a manner as to minimize the pollution of air, water, or land during, and as the result of, construction operations under this Contract.
- B. For the purpose of these Specifications, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and recreational purposes. The requirements of this Section are intended to apply to pollutants that are generated by the construction process; they do not apply to the landfill materials that are buried at the landfill. Pollution from materials at the Site, contacted during construction, must also be minimized.

3.2 PROTECTION OF LAND AREAS

- A. To the best of his ability, the Contractor shall preserve the land resources within the Project boundaries, but outside the limits of permanent Work. If preservation is not possible, these areas shall be restored to preconstruction conditions after completion of construction. Such restoration shall appear to be natural and not detract from the appearance of the Project.
- B. The Contractor shall confine his construction activities to areas defined by the Contract Drawings and these Specifications.

3.3 PROTECTION OF WATER RESOURCES

- A. The Contractor shall not pollute streams or other water resources. The Contractor shall ensure the proper disposal of fuels, oils, bitumen, calcium chloride, acids or other potentially harmful construction related materials. It is the Contractor's responsibility to investigate and comply with all applicable federal, state, county and municipal laws concerning pollution of rivers, streams or other water resources. All Work shall be performed in such a manner that objectionable conditions shall not be created at or adjacent to the Project area.
- B. Water used for on-site material processing, concrete curing, and cleanup or other waste waters shall not be allowed to enter a stream or other water resource. If any landfill material is dumped in unauthorized areas, the Contractor shall remove the material and restore the area to the condition of the surrounding undisturbed area. If necessary, contaminated ground shall be excavated, disposed of and replaced with suitable fill material, compacted and finished with vegetative soil at the Contractor's expense.

3.4 STORAGE FACILITIES

- A. The Contractor shall use environmentally suitable stockpiling locations for the purpose of storing materials, equipment, and suitable backfill material.
- B. The Contractor shall adequately stabilize stockpile areas that will remain undisturbed for fourteen (14) or more days. Stabilization shall be temporary seeding or other method acceptable to the Engineer. Erosion control methods may include one or more of the following: mulching, plastic sheeting, erosion blankets, and compost socks.
- C. At the completion of use, the Contractor shall restore storage and stockpile locations to the original



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conditions prior to construction as documented in the preconstruction survey. Restoration shall commence as soon as the locations are no longer needed for storage or stockpiling purposes.

- D. The Contractor shall submit proposed erosion control measures to the Engineer for review and comment prior to implementing the controls.

3.5 DUST CONTROL

- A. Dust control requirements at the site shall be implemented by the Contractor to comply with the OSHA requirements listed in 29 CFR 1910.1000 and the facility's air and solid waste permits.
- B. The Contractor shall maintain all excavations, embankments, stockpiles, access roads, landfill areas, borrow areas, alternative storage/stockpile locations, and all other Work areas free from excess dust to such reasonable degree as to avoid causing a hazard or nuisance, or violation of the facility's permits. Water sprinkling methods shall be permitted to control dust. Other methods shall be approved by the Engineer before use. Dust control shall be performed as the Work proceeds and whenever a dust nuisance, hazard or potential permit non-compliance situation occurs.

3.6 NOISE CONTROL

- A. The Contractor shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during Working hours.
- B. All construction machinery and vehicles shall be equipped with practical sound muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work. Equipment operators must comply with applicable safety requirements including use of earplugs.

3.7 ODOR CONTROL

- A. The Contractor shall take all reasonable measures to prevent odor from being emitted from handling of the landfill materials. Preventative measures may include the application of nominal soil cover.

3.8 EROSION CONTROL

- A. Cuts and fills within the construction limits, whether or not completed, and from borrow and backfill area shall be graded to control drainage and erosion within acceptable limits.
- B. To control erosion of the landfill materials, no landfill materials shall be left uncovered for extended periods. Preventive measures include the application of a nominal soil cover. Temporary control measures shall be provided and maintained until permanent drainage facilities are completed and operative. The areas of bare soil exposed at any one time by construction operations should be held to a minimum. In no case shall any drainage route be adversely impacted by erosion of soil from the construction area. Erosion control shall be conducted in accordance with **Section 02270**.

3.9 HAULING MATERIAL ON STREETS

- A. When it is necessary to haul off-site material over streets or pavements, the Contractor shall provide suitable vehicles so as to reduce any material deposits, including mud, soils and other materials from the vehicle's tires, on the streets or pavements. The Contractor is responsible for insuring that vehicles leaving the Site are clean of dirt, mud and debris. In all cases where any materials are dripped from the vehicles or tracked by the tires, the Contractor shall clean up the same to keep the streets and



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pavements free from dirt, mud, stone, or other hauled material. The Contractor is responsible for obtaining all state, county, and local permits to allow transport of any and all materials or equipment on public roadways. Any complaints, citations or actions by any party due to dripping or tracking onto the roads shall be the sole exclusive responsibility and expense of the Contractor and not the Owner.

- B. The Contractor is responsible for repair of damage to public and private roadways that result from the transport of material to the Site.

3.10 BURNING

- A. No burning of tree stumps, discarded construction lumber, or other materials is permitted on-site.

3.11 TRASH AND DEBRIS DISPOSAL

- A. The Contractor must maintain good general cleanup practices as specified in the Contract Documents.

3.12 CORRECTIVE ACTION

- A. The Contractor shall, upon receipt of notice in writing from the Engineer, of any noncompliance with the foregoing provisions, take immediate corrective action as specified in the Contract Documents at no additional cost to the Owner.

3.13 POST-CONSTRUCTION CLEANUP/REMOVAL

- A. The Contractor shall, unless otherwise instructed in writing by the Engineer, remove all evidence of temporary construction facilities, such as Work areas, stockpiles of excess materials, and other vestiges of construction prior to final acceptance of the Work. The disturbed areas shall be graded and filled and the entire area seeded in accordance with **Section 02920**. Any off-site damage attributable to the Contractor's performance of Work shall be repaired by the Contractor at no additional cost to the Owner.

3.14 ENVIRONMENTAL TESTING

- A. The Contractor is obligated to report to the Engineer, any environmental testing, and the results thereof, as specified in the Contract Documents, or outside the testing specified under this Contract.
- B. Upon the request of the Engineer, the Contractor will prepare and submit an evaluation, in writing, of any and all environmental test results. The Contractor's evaluation shall be presented to the Engineer within one week of receipt of any environmental test data evaluation request. The Contractor shall, as part of his evaluation, recommend any mitigating actions that will eliminate or reduce to the pre-construction conditions, the environmental impacts noted from the results of the environmental testing.
- C. The Contractor shall immediately alter his Work practices and shall perform corrective actions, both at no additional cost to the Owner, in the event an environmental impact is documented (in addition to those already documented from previous investigations) as a direct result of the Contractor's non-compliance with the specifications.
- D. If requested by the Engineer, the Contractor shall temporarily relocate or suspend activities for as long as is physically practicable or alter the sequence or means of operations, both at no additional cost to the Owner, for any area of Work shown to be contributing to an environmental impact (in addition to that already documented from previous investigations) not directly attributable to improper activity by the Contractor.



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END OF SECTION 01560



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SECTION 01590

FIELD OFFICES AND TEMPORARY FACILITIES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Existing facilities
- B. General requirements
- C. Construction
- D. Contractor's Office
- E. Storage areas and sheds
- F. Employee shelters
- G. Preparation
- H. Installation
- I. Maintenance and cleaning
- J. Removal

1.2 RELATED SECTIONS

- A. **Section 01510 - Temporary Utilities**
- B. **Section 01030 - Contractor Safety and Health**

1.3 REFERENCE

- A. Local Building Codes

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. The Contractor shall provide the Owner's representative proposed plans and drawings depicting the location for temporary offices, facilities and utilities to the Owner's representative.

1.5 EXISTING FACILITIES

- A. The existing facility has very limited structural space within its trailer units and maintenance building.
- B. Temporary electric service to the temporary on-site Contractor trailer(s) may be available depending on electrical needs of the trailers.



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PART 2 – PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Field offices and equipment may be new or used, but must be serviceable, adequate for purposes for which intended and must meet applicable codes and regulations.

2.2 CONSTRUCTION

- A. Structures shall consist of portable or mobile buildings or buildings constructed with floors raised above ground, securely fixed to the ground, with steps and landings at each entrance door. Steps shall meet OSHA Standards.
- B. Lighting for offices shall produce a minimum illumination of 50 ft.-candles at desktop height. Exterior lighting shall be required at entrance doors. Lighting in storage buildings shall be at least the minimum required for safe operations.
- C. The Contractor shall provide appropriate type fire extinguisher at each office and each storage area.
- D. Interior materials in storage areas shall be as required to provide specified conditions for storage of products.

2.3 CONTRACTOR'S OFFICE

- A. The Contractor shall determine and furnish size, furnishings, equipment, and facilities for his own use.
- B. Telephone service shall be as specified in **Section 01510 - Temporary Utilities**.

2.4 STORAGE AREAS AND SHEDS

- A. The Contractor shall size to storage requirements for products of individual Sections, and allow for access and orderly provision for maintenance and for inspection of products.
- B. The Owner, CQA Contractor, or Engineer are not responsible for damage, loss or theft of Contractor, Subcontractor or their employees' equipment, tools, supplies or personal items.
- C. Heating, cooling, and ventilation for storage buildings shall be as needed to maintain products in accordance with the Contract Documents.

2.5 EMPLOYEE SHELTERS

- A. The Contractor shall provide area(s) where employees can eat, drink, and smoke.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Prior to installation of temporary offices, other buildings, and sheds, the Contractor shall confirm his selected location(s) with the Engineer.



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- B. The approved locations for temporary structures shall be filled, compacted, and graded by the Contractor to provide drainage away from buildings.

3.2 INSTALLATION

- A. The Contractor shall install office buildings and other buildings ready for occupancy within 15 days after date fixed in the Owner-Contractor Agreement.

3.3 MAINTENANCE AND CLEANING

- A. The Contractor shall provide janitorial services for temporary structures, access and Work areas. Janitorial personnel must be briefed about health and safety requirements and rules.
- B. The Contractor shall maintain approach walks free of mud, water, and snow.

3.4 REMOVAL

- A. At completion of Work, the Contractor shall remove buildings, foundations, utility services, and debris and shall restore areas to a condition acceptable to the Owner's representative.

END OF SECTION 01590



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SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Definition
- B. Transportation and handling
- C. Storage and protection
- D. Product options

1.2 RELATED SECTIONS

- A. **01010 - Site Work**

1.3 REFERENCES

- A. Not used

1.4 SUBMITTALS

- A. The Contractor shall provide submittals in accordance with **Section 01320**.

PART 2 – PRODUCTS

2.1 DEFINITION

- A. For the purposes of this Section, *Products* means new material, machinery, components, equipment, fixtures, and systems for performing the Work. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of the Work. Products may also include existing materials or components required for reuse.

2.2 TRANSPORTATION AND HANDLING

- A. The Contractor shall transport and handle products in accordance with manufacturer's instructions.
- B. The Contractor shall promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- C. The Contractor shall provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

2.3 STORAGE AND PROTECTION

- A. The Contractor shall store and protect products in accordance with manufacturer's instruction, with seals and labels intact and legible. The Contractor shall store sensitive products (ex. rolls of geotextile) in



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weather-tight, climate controlled packaging, containers, and/or enclosures as applicable and recommended by the manufacturer.

- B. For exterior storage of fabricated products, materials shall be placed on sloped supports, above ground.
- C. The Contractor shall provide off-site storage and protection when site does not permit on-site storage or protection.
- D. The Contractor shall store loose granular materials on solid flat surfaces in a well-drained area and take measures to prevent mixing with foreign matter.
- E. The Contractor shall provide equipment and personnel to store products by manufacturer recommended methods and to otherwise prevent soiling, disfigurement, or damage.
- F. The Contractor shall arrange for the storage of products to permit access for inspection. The Contractor shall also periodically conduct inspections to ensure products are undamaged and are maintained under conditions necessary to ensure product integrity and proper installation.
- G. The Contractor is responsible to replace all materials missing, lost, stolen, or damaged due to improper storage and handling at no additional cost to the Owner. Under no circumstances shall damaged materials be installed.
- H. The Contractor shall provide adequate security to prevent theft and/or damages. Any loss due to theft, damage, or any other reason is the responsibility of the Contractor, and the Owner will not pay for any loss or damaged materials, equipment or other items.
- I. The Contractor is responsible for all work stoppages, delays, replacements, and costs associated, including down time for Engineer, COA Consultant, with the materials not being available and undamaged, at the Work site when required to perform that Work.

2.4 PRODUCT OPTIONS

- A. Products specified by reference standards or only by description allow for the use of any product meeting those standards or description.
- B. Products specified by naming one or more manufacturers require products produced by those manufacturers named and meeting specifications; no options or substitutions allowed.
- C. Products specified by naming one or more manufacturers with a provision for substitutions allow for submittal of a request for substitution for any manufacturer not named.
- D. Substitutions for "or equal" products shall be as specified in the Contract Documents and the Instruction to Bidders.
- E. Any and all changes regardless of A through D must meet the requirements of the Ohio EPA design requirements, approvals, permits, and specifications to ensure that Ohio EPA will not delay or deny usage of the Cell or other structures covered by this Contract. The Contractor shall notify the Engineer and Owner's representative of any changes in design, equipment, and materials prior to ordering, placement, or use of such to avoid significant delays, costs and penalties.



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PART 3 – EXECUTION

Not used.

END OF SECTION 01600



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SECTION 01700

WORK CLOSEOUT

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Pre-final inspection report
- B. Final Inspection report
- C. Re-inspection fees
- D. Contractor's closeout report
- E. General requirements
- F. Demobilization

1.2 RELATED SECTIONS

- A. Owner-Contractor Agreement
- B. **Section 01710 - Project Record Documents**

1.3 REFERENCES

- A. Not used

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. The Contractor shall provide the Pre-Final Inspection Report to the Engineer for review and comment.
- C. The Contractor shall provide the Final Inspection Report to the Engineer for review and approval.
- D. The Contractor shall provide the Work Closeout Report to the Engineer for review and approval.

1.5 PRE-FINAL INSPECTION REPORT

- A. When Contractor considers the Site Work substantially complete, he shall develop a Pre-Final Inspection Report for submittal consisting of:
 - 1. A written notice that the Site Work or designated portion thereof, is substantially complete
 - 2. Project Record Documents required by **Section 01710** and all items required by the Technical Specifications to be submitted at completion of Site Work
 - 3. A list of items that are completed



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4. A list of remaining items to be completed or corrected
- B. Within a reasonable time after receipt of such notice, the Owner, Design Engineer, COA Official, Ohio EPA representative, and other governing authorities shall make an inspection to determine the status of completion. The purpose of the inspection will be to determine if all aspects of the plans and specifications have been implemented at the Site, and that the BAT Cell and its support structures furnished by the Contractor under this Contract is operational, functional, and complete as intended by the Owner.
- C. Should the Engineer determine that the Site Work is not substantially complete:
1. The Engineer shall promptly notify the Contractor in writing with a punch list that details the outstanding items requiring completion or correction prior to acceptance of the Site Work.
 2. The Contractor shall remedy the deficiencies in the Work, and send a second written notice of substantial completion to the Engineer.
 3. The Engineer and Ohio EPA Inspector shall re-inspect the Work.
- D. When the Engineer and Ohio EPA Inspector determine that the Site Work is substantially complete and after consideration of any objections made by the Contractor as provided in Owner-Contractor Agreement, the Engineer shall execute and deliver to the Owner and the Contractor a Certificate of Substantial Completion with a list of any remaining items to be completed or corrected.

1.6 FINAL INSPECTION REPORT

- A. When Contractor considers the Work complete, he shall develop a Final Inspection Report for submittal certifying:
1. The Contract Documents have been reviewed
 2. The Work has been inspected for compliance with Contract Documents
 3. Work has been completed in accordance with Contract Documents
 4. Site cleanup has been satisfactorily verified and is complete
 5. Work is completed and ready for final inspection
- B. The Engineer and Ohio EPA Inspector shall make an inspection to verify the status of completion with reasonable promptness after receipt of such certification. All items indicated on the punch list shall be re-inspected and all tests with unsatisfactory results shall be tested again.
- C. Should the Engineer and/or Ohio EPA Inspector consider the Work incomplete or defective:
1. The Engineer shall promptly notify the Contractor in writing. A final punch list shall be developed for any outstanding deficiencies requiring correction.
 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the Engineer that the Work is complete.



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3. The Engineer and Ohio EPA Inspector shall re-inspect the Work.
4. When the Engineer and Ohio EPA Inspector determine that the Work is acceptable, and Ohio EPA issues authorization for the Owner to use the Cell and support structures covered under this Contract in accordance with the Contract Documents, the Engineer shall request the Contractor to make closeout submittals.

1.7 RE-INSPECTION FEES

- A. Should the Engineer perform more than one re-inspection due to failure of the Work to comply with the claims of status of completion made by the Contractor, the Owner shall deduct the amount of the Engineer's compensation for such re-inspection(s) from the final payment to the Contractor.

1.8 CONTRACTOR'S CLOSEOUT REPORT

- A. The Contractor shall prepare a Work Closeout Report that certifies that all items contained in the Contract Documents have been completed and that all aspects of the Work are operational and functional. The report shall include all necessary documentation (e.g. test results) substantiating that the performance standards have been met.
- B. The report shall contain evidence of compliance with requirements of all governing authorities.
- C. The report shall also contain evidence of Payment and Release of Liens.

PART 2 – PRODUCTS

Not used

PART 3 – EXECUTION

3.1 GENERAL REQUIREMENTS

- A. The Contractor shall comply with all requirements stated in the Contract Documents and in the Technical Specifications for administrative procedures in closing out the Work.

3.2 DEMOBILIZATION

- A. The Contractor shall perform final site cleanup and decontamination and removal of equipment and materials.
 1. The Contractor shall, unless otherwise instructed in writing by the Engineer, remove all ancillary evidence of construction, such as stockpiles of excess materials, and other vestiges of construction prior to demobilization.
 2. Disturbed areas shall be restored and seeded in accordance with **Section 02936 - Seeding**.
 3. Any off-site damage attributable to the Contractor's performance of Work shall be repaired at no additional cost to the Owner.



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4. The Contractor shall perform all necessary activities to disconnect and secure temporary utilities. Temporary utilities including telephone and electricity shall be shut-off or disconnected from existing service connections in accordance with the supplying utilities' requirements.
 5. The Contractor shall inspect the perimeter security fence and repair any damaged portions of the fence or site access gates, to the satisfaction of the Engineer. If needed, the gate(s) shall be provided with a new lock(s) and six (6) keys shall be given to the Engineer.
- B. All Contractor-owned facilities and equipment shall be clean and/or decontaminated, as necessary, prior to demobilization from the Site. Decontamination shall take place as designated in the Contractor's Health and Safety Plan.

END OF SECTION 01700



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SECTION 01710

PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Submittals
- B. Maintenance of documents and samples
- C. Recording
- D. Contractor accounting system
- E. Audit access to records

1.2 RELATED SECTIONS

- A. Section 01030 - Contractor Safety and Health
- B. Section 01320 – Submittals
- C. Section 01340 - Construction Photographs
- D. Section 01700 - Work Closeout

1.3 REFERENCE

- A. Not used

1.4 SUBMITTALS

- A. The Contractor shall submit information, reports, and documentation in accordance with **Section 01320**.
- B. As a part of Substantial Completion, the Contractor shall deliver four (4) sets of neatly marked paper copies of the Project Record Documents to the Engineer and electronic copies of the files used to generate the documents in the native software file formats with which the files were generated. (i.e. reports generated using MS Word should include a copy of the *.doc file, AutoCADD files should be *.dwg files.)
- C. The Contractor shall deliver all submittals required by the Technical Specifications to the Engineer at the completion of construction.
- D. All submittals including Record Documents shall accompany the submittal with a transmittal letter containing:
 - 1. Date
 - 2. Project title and number



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3. Contractor's name and address
4. Title and number of each Record Document
5. Signature of Contractor or his authorized representative

1.5 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. The Contractor shall maintain at the site for the Engineer one record copy of:

1. Construction Drawings
2. As-Built Drawings (Continuously updated and accurate)
3. Technical Specifications
4. Addenda
5. Change Orders and other Modifications to the Contract
6. Engineer Field Orders or written instructions
7. Approved Working Drawings and Samples
8. Field Test records
9. Laboratory analyses
10. Quality Assurance Reports and documentation
11. Solid Waste Encountered Location/Amount/Other Information
12. Daily reports
13. Meeting minutes
14. Correspondence files
15. Shop Drawings
16. All other documents, records, and information of whatever kind that is in any way related to the Work

B. The Contractor shall store Project Record Documents and samples apart from documents used for construction.

1. The Contractor shall provide files and racks for storage of documents.
2. The Contractor shall provide a locked cabinet or secure storage space for storage of samples.
3. The Contractor shall file documents and samples in accordance with CSI format.



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- C. The Contractor shall maintain Project Record Documents in a clean, dry, legible condition and in good order. These shall not be used for construction purposes.
- D. The Contractor shall make documents and samples available at all times for inspection by the Engineer.

1.6 RECORDING

- A. Each Project Record Document shall be labeled "PROJECT RECORD" in neat large printed letters.
- B. The Project Record Documents shall contain current, up to date information concurrent with the construction progress.
- C. As-Built Drawings will legibly record in red ink actual construction using design drawings as a base which shall include:
 - 1. Field changes of dimension and detail
 - 2. Changes made by Field Order or by Change Order
 - 3. Details not on original Contract Drawings
- D. Specifications and Addenda will legibly record for each Section:
 - 1. Manufacturer, trade name, catalog number, and Supplier of each Product actually installed
 - 2. Changes made by Field Order or by Change Order

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 CONTRACTOR ACCOUNTING SYSTEM

- A. The Contractor shall employ an accounting system for the Contract to identify and record site-specific costs on a site-specific activity basis. Site specific cost documentation must be readily retrievable and sufficiently identifiable to enable cross referencing with payment vouchers for purposes of cost recovery litigations.

3.2 AUDIT- ACCESS TO RECORDS

- A. The Contractor shall maintain books, records, documents and other evidence directly pertinent to performance on Owner funded Work under this agreement in accordance with generally accepted accounting principles and practices consistently applied.
- B. The Contractor shall also maintain the financial information and data used in the preparation or support of the cost submission required under other provisions of these Contract Documents.
- C. The Owner, Engineer, or any authorized representatives, shall have access to all such books, records, documents and other evidence for the purpose of inspection, audit and copying during normal business



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hours. The Contractor shall provide this access and proper facilities for such access and inspection at no additional cost to Owner.

- D. Audits conducted under this provision shall be in accordance with generally accepted auditing standards and with established procedures and guidelines of the reviewing or audit agency.
- E. The Contractor agrees to disclose all information and reports resulting from access to records under this section to the Owner or any of its authorized representatives.
- F. Records shall be maintained by the Contractor during performance of Work under this agreement and for three years following Project conclusion.
- G. Access to records is not limited to the required retention periods. The Owner's representative shall have access to records at any reasonable time for as long as the records are maintained.

END OF SECTION 01710