Landfill Operation and Maintenance Plan
for Cell 2 of Horizontal Expansion of
Original Combustion Waste Storage Area
Orlando Utilities Commission
Stanton Energy Center
Orange County, Florida

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1.0 INTRODUCTION

This Landfill Operation and Maintenance Plan was prepared for Cell 2, which was constructed within the designated combustion waste storage area (CWSA) at the Orlando Utilities Commission (OUC) Stanton Energy Center. The plan provides some background information and meets the content requirements stipulated in Rule 62-701.500 of the Florida Administrative Code (F.A.C.) titled "Landfill Operation Requirements". The protocols in the Landfill Operation and Maintenance Plan primarily deal with or are related to waste handling, processing, and disposal at the Stanton Energy Center, and should be substantially complied with by OUC and any contractor(s) retained by OUC. The plan should be reviewed periodically and updated whenever there are significant changes in landfill conditions or operational procedures.

The following landfill operation and maintenance plans that were previously developed were reviewed and used as guides in preparing this document:

- "Management Plan for the Combustion Waste Storage Area of Orlando Utilities Commission Stanton Energy Center," issued by Conversion Systems, Inc. (CSI) in March 1987 to support site certification of the Stanton Energy Center.

- "Operation Plan for Combustion Waste Management Areas, Orlando Utilities Commission Stanton Energy Center, Orange County, Florida," issued by Ardaman & Associates, Inc. – a Tetra Tech Company (TT-AAI) on May 5, 2011 to update the 1987 plan and to include the combustion waste processing area.

- "Landfill Operation and Maintenance Plan, Orlando Utilities Commission, Stanton Energy Center, Orange County, Florida," issued by TT-AAI on February 3, 2017 to update the 2011 plan and to include the landfill operation in Cell 1.

2.0 BACKGROUND INFORMATION

2.1 Site Location

The Stanton Energy Center lies within Sections 13, 14, 23, and 24 of Township 23 South, Range 31 East, and Sections 7, 18, and 19 of Township 23 South, Range 32, in southeastern Orange County, Florida. More specifically, it is approximately 12 miles southeast of downtown Orlando and 6 miles northeast of the Orlando International Airport. The facility is located north of the Beachline Expressway (State Road 528) and east of Innovation Way, as shown in Figure 1. The address of the Stanton Energy Center is 5100 South Alafaya Trail, Orlando, Florida. The facility boundary, as shown on the survey in Appendix 1, encompasses an area of approximately 3,290 acres. The Stanton Energy Center lies within the watershed of the Econlockhatchee River.

2.2 Facility Description

The Stanton Energy Center has two coal-fired generating units, designated Units 1 and 2, with nameplate capacities of 468 megawatts (MW). The coal-fired units are equipped with a wet flue gas desulfurization (FGD) system for air pollution control. The facility also operates two natural gas-fired combined cycle units designated Units A and B, with capacities of 633 and 300 MW, respectively. In addition to the coal-fired and gas-fired units, the Stanton Energy Center includes two solar farms which together occupy approximately 50 acres of land and produce approximately 14 MW of electric power.

Coal combustion residuals (CCR) and other miscellaneous power plant wastes have been generated at the Stanton Energy Center since Unit 1 went into commercial operation in 1987. As shown on the January 18, 2024 aerial photograph in Figure 2, the designated CCR disposal area is located on the west side of the facility. The entire disposal area encompasses approximately 250 acres and has been referred to as the combustion waste storage area (CWSA).

Waste disposal within the CWSA began in an approximately 90-acre area located in the southeastern part of the CWSA, which has been referred to as the original CWSA. With permission from the Florida Department of Environmental Protection (FDEP), the original CWSA was raised above its original maximum design elevation while a 90-acre horizontal expansion of the original CWSA was being designed. The original CWSA and its vertical expansion were unlined and have been closed. The horizontal expansion of the original CWSA consists of the existing Cells 1 and 2 and, if needed, the future Cell 3 to the north. Cells 1 and 2 were provided with bottom liner systems that met applicable FDEP and United States Environmental Protection Agency (EPA) requirements. The layout of the CWSA, including the closed original CWSA, the closed vertical expansion on top of the original CWSA, and the active Cells 1 and 2 of the horizontal expansion, is shown in Figure 3.

Stormwater runoff that comes in contact with CCR or infiltrates into the landfill cells are considered leachate. The generated leachate is directed to the lined CWSA Runoff Pond located east of the CWSA. The pond water is conveyed by a 24-inch diameter pipe to the lined Recycle Basin or the lined Recycle Basin Expansion[1] located east of the CWSA and south of the power generating facilities, and is used for FGD system makeup water. In conjunction with the construction of the CWSA Runoff Pond, a Decant Cell was constructed south of the CWSA Runoff Pond. The Decant Cell is used for dewatering of CCR materials that did not pass the Paint Filter Liquids Test, sediments excavated from the onsite process water ponds, and miscellaneous wet waste materials. The CWSA Runoff Pond and the Decant Cell are also identified in Figure 3.

The Stanton Energy Center obtains makeup water for cooling from the Orange County Eastern Water Reclamation Facility and non-contact stormwater from the adjacent Orange County Landfill. The water is stored in the unlined Makeup Water Supply Pond located on the east side of the facility. The Stanton Energy Center is operated as a zero liquid discharge facility.

2.3 Conditions of Certification and Other Regulatory Permits

Construction and operation of the Stanton Energy Center are governed by the Conditions of Certification (COC) issued under the Electrical Power Plant Siting Act (403.501-403.518, Florida Statutes), with the supporting regulations in Chapter 62-17, Part I, F.A.C., titled “Electrical Power Plant Siting”. The COC encompasses and supersedes all state and local permits and approvals, but does not exempt the facilities from compliance with federal regulations, zoning ordinance, or building codes.

Unit 1 was certified on December 15, 1982, and Unit 2 was granted a supplemental certification on December 17, 1991. The COCs have been modified or supplemented several times since the original certification. The latest edition is “Conditions of Certification, Orlando Utilities Commission Curtis H. Stanton Energy Center, PA 81-14M,” dated August 30 2017. The COC covers

[1] The Recycle Basin has also been referred to historically as the Recycle Pond or the Modified Recycle Pond. The Recycle Basin Expansion has also been referred to historically as the Recycle Pond Expansion.

construction and operation of the CWSA, which was referred to as the “solid waste landfill” in the COC. The landfill operation and maintenance plan dated February 3, 2017 was included as Attachment H in the latest edition of the COC.

Environment Resource Permit (ERP) projects under the Siting Act are tracked as ERP Permit Number 48-0308758. Since the initial approval of the stormwater management system, several modifications have been approved for haul roads, conveyance ditch, berm modifications, etc.

The Water Assurance Compliance System (WACS) ID number of the CWSA is 97663. OUC applied for a solid waste facility operating permit for continued operation of Cells 1 and 2 per the requirements of Rule 62-701.805, F.A.C., titled “Coal Combustion Residuals Facility Permitting Requirements and Procedures.” Solid Waste Operation Permit No. 0433893-001-CO-01 was issued on July 12, 2024.

Industrial wastewater treatment is permitted under NPDES Wastewater Facility Permit FL0681661. Multi-Sector Generic Permit (MSGP) for Stormwater Discharge Associated with Industrial Activity Number FLR05G867-004 applies to the entire facility. The permit conditions are for Sector O, Steam Electric Power Generating Facilities, including the coal handling areas.

2.4 Events Chronology

Since design of the lined horizontal expansion began, the following major events have occurred:

- The design of the 90-acre lined horizontal expansion, which comprises Cells 1, 2, and 3, was completed on December 6, 2011 and was approved by the FDEP as a post-certification amendment to the COC on March 16, 2012.

- The stormwater management system for the horizontal expansion, including the wet detention pond, was approved by the FDEP on January 20, 2012.

- Construction of Cell 1 was completed on December 31, 2012 and was documented in a TT-AAI construction completion report dated August 23, 2013.

- The modifications to the CWSA Runoff Pond were determined to comply with the COC by FDEP in a letter dated October 4, 2013

- The certification of construction completion report for Cell 1 and the associated wet detention pond prepared by TT-AAI was submitted to the FDEP on October 16, 2013.

- Cell 1 began to receive waste on May 28, 2015.

- The vertical expansion atop the original landfill ceased receiving waste on August 28, 2015, approximately 50 days before the effective date of the CCR Rule promulgated by the EPA.

- The certification of construction completion report for Cell 1 and the wet detention pond was approved by the FDEP on October 7, 2015.

- Closure of the 90-acre original CWSA and vertical expansion including additional soil cover placement, repair of eroded areas, and grassing was completed prior to the final inspection on March 10, 2016.

- Certification of closure construction for the original CWSA and vertical expansion was documented in a TT-AAI report dated March 12, 2016 and was approved by the FDEP on April 18, 2016.

- OUC submitted design modifications to comply with the CCR Rule requirements for Cell 2 on February 15, 2019, which were approved by the FDEP on May 15, 2019.

- Construction of Cell 2 started in September 2019 and ended in December 2020.

- The construction of Cell 2 was documented in a TT-AAI report dated August 26, 2021 and was submitted by OUC to the FDEP on January 14, 2022.

- The construction completion certificate was submitted by OUC to the FDEP on February 7, 2022.

- FDEP determined the construction for Cell 2 to be in compliance in a letter dated April 4, 2022.

- Cell 2 began to receive waste on April 28, 2022.

2.5 Design of Cells 1 and 2

Cells 1 and 2 each has a base area of approximately 30 acres and piggyback on the closed west slope of the original CWSA and vertical expansion. The original designs for Cells 1, 2, and 3, which were approved by the FDEP on March 16, 2012, incorporated a double geomembrane liner system at the base and a single geomembrane liner system on the west slope of the original CWSA. The bottom and slope liner systems comply with applicable requirements of Chapter 62-701, F.A.C., which governs the design, construction, operation, and closure of solid waste management facilities in Florida.

Construction of Cell 1, which was based on the FDEP-approved design, was completed near the end of 2012. Cell 1 began to receive waste materials on May 28, 2015. This landfill unit was divided into four sub-cells, each with its own leachate collection and removal system. The leachate collection system drains to four leachate collection sumps (i.e., one for each sub-cell) located on the west side of Cell 1. The leachate in the sumps is pumped into an 8-inch diameter force main that discharges into the CWSA Runoff Pond located east of the 250-acre CWSA.

To comply with the CCR Rule requirements, Cell 2 was re-designed with a double-composite liner system at the base. However, the design of the single geomembrane liner system on the west slope of the original CWSA remained the same as the FDEP-approved design. The double-composite liner comprises two components, with the top component consisting of a single geomembrane liner, and the bottom component consisting of a composite liner with a geomembrane liner on top of a 12-inch thick compacted soil liner. Also, the low point of each subcell (i.e., the bottom elevation of the compacted soil liner beneath the leachate collection sump) was raised to the seasonal high groundwater elevation to comply with the CCR Rule requirements. The bottom and slope liner systems for Cell 2 were connected to the bottom and slope liner systems for Cell 1 to form a continuous bottom and slope liner systems for the two adjoining landfill cells. Like Cell 1, Cell 2 was divided into four sub-cells (designated, from south to north, Subcells A, B, C, and D), each with its own leachate collection system. The collected

leachate from Cells 1 and 2 is conveyed via a force main and discharged to the CWSA Runoff Pond located to the east of the closed original CWSA. Construction of Cell 2 was completed near the end of 2020, and Cell 2 was activated (i.e., when waste was first placed into the landfill cell) on May 28, 2022.

Cell 1 is expected to reach the maximum design elevations in 2024, and closure construction for Cell 1 will begin soon after. The closure design of Cell 1 was submitted for regulatory review on June 23, 2023. The closure construction of Cell 1 is scheduled to start in CY2024, with an estimated construction period of 10 months.

Appendix 2 includes selected drawings for Cell 2 of the horizontal expansion, the wet detention pond, the CWSA Runoff Pond, and the Decant Cell. The as-built drawings are also on file at the Stanton Energy Center.

2.6 Current Condition of Cells 1 and 2

Cells 1 and 2 were designed to have a maximum design elevation of +175 feet (NAVD88) at closure, corresponding to a height of approximately 90 feet above natural grade. Figure 4 presents a topographic survey performed by WSP on April 16, 2024, within the limits of Cells 1 and 2. As shown, along the east side of Cell 1 that piggybacks on the west slope of the closed original CWSA and vertical expansion, the waste materials had typical elevations of approximately +170 feet (NAVD88) and a maximum elevation of approximately +174 feet (NAVD88). The west slope of the closed vertical expansion (i.e., part of the Cells 1 and 2 waste disposal areas) that had not yet been covered with waste had an area of approximately 1 acre. The waste surface within the base area of Cell 1 had typical elevations of approximately +168 to +170 feet (NAVD88). Approximately 11 acres of the base area of Subcells A and B (i.e., the two southernmost subcells) of Cell 2 had been covered with waste, with the waste surface having a maximum elevation of approximately +116 feet (NAVD88). Various recent topographic surveys conducted by Mikon Corporation and WSP for Cells 1 and 2 to perform waste quantities takeoff and to study the current conditions are presented in Appendices 3 through 5.

3.0 RESPONSIBILITIES FOR WASTES OPERATION AND MAINTENANCE

OUC retains a landfill contractor (currently Eco Material Technologies) to operate the combustion waste processing area (which has also been referred to as the FGD sludge conditioning facility) and the CWSA. Maintenance of these areas is the joint responsibility of OUC and the landfill contractor.

The landfill contractor is responsible for operating the equipment used in the flue gas scrubber sludge stabilization process, including all fly ash conveying equipment on the discharge side of the silos, all vacuum filtration equipment, belts for conveying dewatered scrubber sludge and final product, all pug mill mixers and associated dust collectors, and equipment used in the loading of the fly ash into tanker trucks for sale. Maintenance of these equipment is the joint responsibility of the landfill contractor and OUC.

OUC owns and is responsible for maintenance of earthmoving equipment used in the landfill and Stack Out Pad operations, the ball mills for pulverizing limestone for use in the FGD system, and the bottom ash dewatering equipment. Dewatering is initiated at the request of OUC and is usually performed twice per week.

The waste disposal operation is the joint responsibility of the landfill contractor and OUC, with the landfill contractor being responsible for handling (i.e., preparation and placement) of waste materials and operation of the leachate collection system, and OUC being responsible for maintenance of the leachate collection system.

Environmental monitoring and compliance at the Stanton Energy Center, including the operations in the combustion waste processing area and CWSA, are the sole responsibility of OUC.

OUC retains a grounds maintenance contractor (currently Allen E. Smith Ranch and Farming) to maintain and mow the grounds outside the waste areas.

Operating hours for the combustion waste processing area are based on the operation of the power plant units and vary from week to week. Because of the almost round-the-clock operation in the combustion waste processing area, there are two day-shift supervisors and two night-shift supervisors. Operating hours for the landfill vary with plant operations and are typically from 6:30 am to 4:30 pm on Tuesday, Wednesday, Friday, and Saturday.

4.0 WASTE STREAMS

Fly ash and FGD sludge are the predominant CCR generated at the Stanton Energy Center. In addition, bottom ash, brine concentrator/ crystallizer solids (BCCS) and Recycle Basin Softening Plant sludge are also generated in significant quantities. The quantities and characteristics of fly ash, FGD sludge, and bottom ash may vary considerably, depending on energy production and the ash and sulfur contents of the coal used for power generation.

Typically, the fly ash produced from Units 1 and 2 is sold, and fly ash containing 15 to 25 percent lime purchased from outside fluidized bed facilities is imported for mixing with the FGD sludge generated on-site. The residual lime in the imported fly ash catalyzes a pozzolanic reaction, which stabilizes the waste material and causes it to set after deposition in the on-site landfill. This processed waste material, referred to as “ProMat,” is the primary CCR material disposed of in the on-site landfill. When needed, fly ash generated on-site and free lime materials are also utilized. ProMat is placed on the Stack Out Pad and hauled to Cell 1 or Cell 2 via designated haul roads.

The bottom ash is also sold if there is a market demand. Any unsold bottom ash and the BCCS are disposed of in the on-site landfill. The on-site landfill also receives relatively small quantities of miscellaneous power plant wastes as well as construction and demolition (C&D) debris generated at the Stanton Energy Center, sediments from the lined ponds at the facility, and minor quantities of wastes from other OUC facilities.

4.1 Fly Ash

The amount of fly ash generated at the Stanton Energy Center is directly related to the ash content of the coal. Electrostatic precipitators are used to remove fly ash to conform to current air quality emission standards. With pulverized coal firing, about 85 to 92 percent of the total ash is collected as fly ash. The remainder is collected as bottom ash.

4.2 Imported Fly Ash/Lime Substitute

In addition to the fly ash produced onsite, OUC also imports high lime content fly ash from Jacksonville Electric Authority (JEA) for use as a lime substitute in the FGD sludge conditioning process. The JEA generating facility utilizes circulating fluidized bed (CFB) combustion and produces fly ash with a typical residual lime content of 18 to 25 percent. Lime substitute is trucked to the site and is pneumatically conveyed into the lime silo. Use of the imported material allows OUC to sell most of the fly ash generated at the Stanton Energy Center and avoid having to dispose of it in the horizontal expansion. OUC is currently looking into other lime substitutes to replace the use of the high lime content fly ash from JEA.

4.3 FGD Sludge

FGD sludge is produced in the wet scrubbers used to remove sulfur oxides from air emissions. FGD sludge is composed of primarily silt-sized particles. Historically, calcium sulfite hemihydrate ($CaSO_3 \cdot ½H_2O$) and calcium sulfate dihydrate or gypsum ($CaSO_4 \cdot 2H_2O$) make up approximately 90 percent of the solids in the sludge. Calcium sulfite forms fragile crystals that are responsible for the thixotropic nature of the sludge (i.e., it tends to liquefy when vibrated or otherwise disturbed).

In the sludge conditioning system, bleed from the FGD scrubbers is pumped to thickeners and then to vacuum filters for further dewatering. The resulting filter cake contains approximately 55 to 70 percent solids. The filtrate is returned to the scrubbers.

The quantity of FGD sludge is determined by the amount of sulfur in the coal and the efficiency of the chemical reaction in the FGD system where limestone is used to remove sulfur dioxide.

4.4 Bottom Ash

Bottom ash is the heavier ash fraction produced from coal combustion in boilers. It constitutes approximately 8 to 15 percent of the ash generated. The bottom ash is quenched with water and sluiced to the bottom ash dewatering system. If possible, the bottom ash is sold directly as it comes from the dewatering system. Bottom ash that cannot be sold immediately is temporarily stockpiled in the CWSA for sale at a later date. Bottom ash that cannot be sold is disposed of in the CWSA.

4.5 Brine Concentrator and Crystallizer Solids

The brine concentrator and crystallizer solids (BCCS) are dewatered solids from the cooling tower blowdown treatment system. They consist of the concentrated constituents originally contained in the makeup water supply, which includes stormwater and treated wastewater. These solids are primarily the chloride and sulfate salts of calcium, magnesium, and sodium.

4.6 Miscellaneous Power Plant Wastes

In addition to the wastes described above, other wastes that are disposed of in the landfill include:

- FGD recirculation tank sludge (FGD sludge fines carryover to recirculation tank).
- Scrubber sludge blowdown (reaction vessel FGD sludge residual out of sump).

- Cooling tower sludge (cooling tower clean-out during outages).
- Stack cleanout residue (sulfur oxide solids from inner stack exterior).
- Scrubber residuals (calcium carbonate).
- Waste coal (unusable coal from coal pile).
- Coal pulverizer rejects.
- Lined pond cleanouts (waste pond sediments) and soils that have contacted process water.
- Spent and rinsed ion exchange resin used in the onsite water treatment system.
- Various power plant sump cleanouts.
- Ditch cleaning waste that does not include vegetative matter.
- Recycle Basin Softening Plant sludge.

4.7 Construction and Demolition Debris

In addition to the above wastes, limited quantities of C&D debris, mostly concrete and asphalt, are also disposed of in the landfill cells.

4.8 Disposal of Waste from Other OUC Facilities

OUC intends to dispose of non-hazardous waste from other OUC facilities (e.g., soil from substations and spent resin from water treatment plants) within the lined horizontal expansion. OUC will provide documentation of the acceptability of waste from other sites that is proposed to be disposed of in the CWSA.

5.0 WASTE RECORDS

Currently, the weights of the following materials are recorded on a daily basis:

- Fly ash (or other lime substitute) delivered to the site.
- Fly ash (or other lime substitute) discharged from the lime silo and used for mixing with the FGD sludge to produce ProMat.
- Fly ash from Silos 1 and 2 that is used for mixing with the FGD sludge to produce the ProMat.
- ProMat that is produced (wet weight basis).

- Fly ash from Silos 1 and 2 that is sold.

- Bottom ash that is sold.

The delivered lime substitute and the bottom ash and fly ash sold by OUC are weighed with truck scales. Lime substitutes are weighed either at their place of origin or at the Stanton Energy Center on Truck Scale No. 1, which is located on the west side of the Stack Out Pad. OUC bottom ash that is sold is also weighed on Truck Scale No. 2. All OUC fly ash that is sold is weighed on Truck Scale No. 2, which is located directly under Silo 2. Weight tickets are used to track fly ash and bottom ash coming into and going out of the Stanton Energy Center. The weights of the other materials above are calculated from totalizer readings on electronic scales upstream of the feeders and conveyors.

The quantities of FGD sludge used in the production of ProMat are calculated as the difference, adjusted for moisture content, between the quantity of ProMat produced and the quantities of fly ash and lime substitute incorporated in the ProMat. The landfill contractor performs laboratory testing of the solids and lime contents of the ProMat and the solids content of the FGD sludge filter cake. The laboratory testing results are used in the mass balance calculations.

The BCCS and the miscellaneous power plant wastes that are landfilled are delivered to the Stack Out Pad by OUC. The landfill contractor maintains a record of the number of truckloads of these materials delivered to the landfill each day.

6.0 CONTROL OF SITE ACCESS

Access to the Stanton Energy Center is controlled by fencing, gates, or other barriers as well as signs and facility security personnel. Two 24-hour manned gate houses control access into the facility. There is no public access to the CWSA. Fly ash (lime substitute) materials from other generation facilities are delivered to the site in pneumatic tankers that must pass through the controlled access points. Other than these ash deliveries, only wastes generated at the Stanton Energy Center and any other wastes identified in this document or otherwise approved by FDEP are disposed of in the CWSA. Furthermore, waste is only allowed to be placed in the CWSA by OUC-approved contractors.

7.0 MONITORING OF WASTE

With the exception of ash delivered from other generation facilities, other lime substitutes, and non-hazardous waste from other OUC facilities, all wastes disposed of in the CWSA are generated on-site, under the control of OUC and OUC-approved contractors. Because no municipal solid waste is disposed of at the facility, OUC and the landfill contractor have complete knowledge of the waste placed in the landfill; therefore, no spotters or screening of waste is necessary.

The CWSA does not accept liquid waste or waste containing free liquids. If there is visual evidence of free liquids, the Paint Filter Liquid Test (EPA Test Method 9095) is performed on samples of BCCS, dewatered Recycle Basin Softening Plant sludge, and other wastes to confirm free liquids are not present. OUC is responsible for saving any test results in the facility operating record.

8.0 COMBUSTION WASTE PROCESSING

The facilities used in combustion waste processing and other nearby facilities are identified on a January 2024 aerial photograph in Figure 5. The waste processing operations are performed as follows:

- Fly ash from Units 1 and 2 is pneumatically conveyed to Silos 1 and 2 (Facility Nos. 1 and 2 in Figure 5). Each silo has a nominal capacity of 2,000 tons or approximately 83,000 cubic feet. Fly ash that meets the end user specification for loss on ignition (LOI) may be sold as a supplement to Portland cement in concrete production. Fly ash that is sold is loaded from a silo directly into a pneumatic tanker below the silo.

- High lime content fly ash from power plants or other lime substitutes are trucked to the site and pneumatically conveyed into the lime silo (Facility No. 3 in Figure 5).

- Fly ash from Silo 1 is discharged through rotary airlock or pinch valve feeders A, B, and C to covered screw conveyors 5A, 5B, and 5C, respectively. Silo 2 fly ash can be added through the use of the D feeder and conveyor 5D, which discharges into conveyor 5C from Silo 1. Fly ash or other lime substitute stored in the lime silo can be discharged through the A, B, and C feeders, which discharge to conveyors 7A, 7B, and 7C, respectively. Conveyor 7A discharges into conveyor 5A, conveyor 7B discharges into conveyor 7C, and conveyor 7C discharges into conveyors 5B and 5C. Figure 6 shows a schematic diagram of the flow on conveyors through the waste processing system.

- The combined fly ash and lime substitutes in conveyors 5A, 5B, and 5C is discharged into conveyors 6A, 6B, and 6C, respectively, which are located inside the FGD sludge conditioning building (Facility No. 4 in Figure 5) on the same level as the rotary vacuum filters. As shown in Figure 5, conveyors 6A and 6B can discharge via chutes to mixers 3A, 3B, or 3C, while conveyor 6C can only discharge to mixers 3B and 3C. The mixers are located on a level below the vacuum filters.

- To reduce sulfur oxide emissions, OUC uses wet flue gas scrubbers. These scrubbers convert sulfur dioxide into calcium sulfite and sulfate sludge, which must then be disposed of. The FGD scrubber sludge is piped to one of three thickeners, designated A, B, and C (Facility Nos. 15, 16, and 17 in Figure 5), where polymer is added to encapsulate the particles of scrubber sludge and cause the flocs to sink to the bottom of the thickener. A rake rotates in the thickener drawing the material towards the center where it is picked up by the underflow pump.

- The underflow pumps deliver the sludge to one of six rotary vacuum filters, designated 2A through 2F, where it is dewatered to a typical solids content on the order of 55 to 60 percent. The resulting filter cake drops from the rotating drum into an open belt conveyor, which transports it to a chute leading to one of the three mixers on the mezzanine level below. Conveyor 1A serves vacuum filters 2A and 2D and carries the filter cake to mixer 3A. Conveyor 1B serves vacuum filter 2B and carries the filter cake to mixer 3A or 3B. Conveyor 1C serves vacuum filter 2C and carries the filter cake to mixer 3B or 3C. Conveyor 1D serves vacuum filters 2E and 2F and carries the filter cake to mixer 3C. Operation of the vacuum filters requires one vacuum pump and one vacuum receiver for each rotary filter. This equipment is located on the ground level of the FGD sludge conditioning building.

- During normal operations, the fly ash, the fly ash containing lime or other lime substitute, and the dewatered FGD sludge/filter cake are combined in one of three pug mill mixers to produce ProMat. The fly ash is essentially dry and the only water in the mixture is the water in the filter cake. Water is added or removed based on the target percent solids for the mix, which is generally determined by the percentage of lime in the material.

- Occasionally, a mixture containing only fly ash and lime substitute is produced, in which case water from the recirculation tanks (Facility Nos. 18 and 19 in Figure 5) is added. A mixture containing only fly ash and filter cake will not set up without increasing the lime content.

- After the material leaves the mixer, it is fed onto one of the two conveyor systems. The "A" side, which consists of the 3A and 4A conveyers, is generally used. Conveyor 4A is a movable radial stacking conveyor (Facility No. 8 in Figure 5), which spreads the material evenly back and forth onto the Stack Out Pad beyond a circular concrete retaining wall, where it is stockpiled until it is ready to be hauled to the landfill. If there is a problem with the "A" conveyors, the "B" side, which consists of the 3B and 4B conveyors, can be run as an alternative. Conveyor 4B (Facility No. 9 in Figure 5) is a fixed-position stacker that is only able to place the material in one position on the Stack Out Pad.

All waste processing operations can be monitored and controlled from the control room on the second floor of the combustion waste processing area. An Emerson Ovation™ distributed control instrumentation system provides real time data displays of the conditions in the combustion waste processing area. Examples of display screens from the control room are presented in Appendix 6. All operating personnel are required to go through an in-house training program before beginning work in the combustion waste processing area.

The fixated FGD sludge/ProMat has to meet specified quality control criteria. Enhanced ProMat has a higher lime content (3 to 3.5 percent). About 90 percent of the ProMat produced is enhanced.

In addition to the FGD sludge stabilization processing equipment operated by the landfill contractor, the combustion waste processing building contains three ball mills and associated limestone storage and conveyor facilities operated by OUC. The ball mills are used to pulverize limestone delivered by the limestone conveyor (Facility No. 5 in Figure 5). The resulting limestone slurry for use in the wet FGD scrubbers is sent to the wet FGD system directly or stored in tanks (Facility Nos. 6 and 7 in Figure 5) adjacent to the combustion waste processing area.

9.0 OPERATIONS ON STACK OUT PAD

The area to the west of the combustion waste processing building is underlain by a reinforced concrete pad that encompasses an area with dimensions of approximately 356 feet by 385 feet and an area of approximately 3.15 acres. However, only about 1.6 acres of this concrete pad that are useable for stockpiling and waste stabilization are considered to be the Stack Out Pad, as shown in Figure 5. A survey of the Stack Out Pad is included in Appendix 7.

ProMat is placed on the Stack Out Pad by one of the conveyors, usually the radial stacking conveyor. The radial stacker stockpile on the Stack Out Pad is managed to provide adequate initial conditioning time. Radial stacker positioning is controlled to allow identification of materials of various ages, thus allowing controlled removal. These results are coordinated with

the FGD sludge processing facility supervisory personnel for positioning the radial stacker to achieve optimal conditioning. If the backup conveyor system is used, the stockpiled materials are moved to different places on the Stack Out Pad. The conditioning time for each area of the stockpile is tracked as with the radial stacking conveyor.

After sufficient initial conditioning, ProMat is loaded and hauled to the landfill for disposal. Adequate stockpile conditioning is determined by experience with the amount of time required for the material to obtain a sufficient initial set to permit transport and placement of the material in the landfill and by observation of the consistency of the material. The stockpile conditioning time varies depending on ambient weather conditions, solids content, and the amount of lime present in the mix. Normal conditioning time is typically on the order of 24 to 48 hours although, in some cases, the ProMat is ready to landfill as it comes off the conveyor belt. The ProMat needs to be removed from the Stack Out Pad before it becomes difficult to excavate from the stockpile and load onto trucks. If ProMat is anticipated to be on the pad for a longer period of time than desirable, the lime content is reduced during production.

The concrete pad facilitates loading and minimizes infiltration of surface water runoff into groundwater. Surface runoff from the Stack Out Pad is directed to one of two sumps shown in Figure 5, from which it is gravity fed in a 30-inch diameter pipe to the Sedimentation Pond (Facility No. 26 in Figure 5). Water collected in the Sedimentation Pond can be conveyed to the Recycle Basin via two 32-inch diameter HDPE pipes.

Bottom ash is sluiced to two dewatering bins (Facility Nos. 10 and 11 in Figure 5) located near the Stack Out Pad. The landfill contractor requests OUC to dewater bottom ash approximately 2 days per week. OUC performs the dewatering between approximately midnight and 1:00 a.m. The bottom ash is collected in a dump truck via a chute from the bottom of the dewatering bin on the same day that it is dewatered and the dewatered ash is stockpiled against a concrete retaining wall on the Stack Out Pad. The water removed from the bottom ash is conveyed to one of three settling tanks (Facility Nos. 12, 13, and 14 in Figure 5). The water from the settling tanks is re-used. Bottom ash that can be sold is loaded directly into over-the-road dump trucks for transport to the purchaser. The remaining bottom ash is temporarily stockpiled on the Stack Out Pad. Bottom ash that is expected to be sold in the future is hauled to a designated area of the landfill. Bottom ash that cannot be sold is disposed of in the landfill.

BCCS and other waste without free liquids are mixed with ProMat, fly ash, or filter cake on the Stack Out Pad using the loader to achieve a consistency that allows the waste material to be transported to the landfill in dump trucks. Miscellaneous wastes and sludges that have free liquids are contained within temporary dikes constructed of ProMat on the Stack Out Pad or are placed in the Decant Cell south of the CWSA Runoff Pond. The liquids within the temporary dikes are allowed to drain to one of the sumps adjacent to the Stack Out Pad. Once sufficient drainage has occurred, the waste material is combined with ProMat or filter cake and ash to achieve a consistency that allows it to be transported to and disposed of in the landfill.

Dump trucks used to haul waste materials are washed daily using a water cannon located in the northwestern area of the Stack Out Pad.

10.0 OPERATIONS IN DECANT CELL

As shown on the drawings in Appendix 2, the Decant Cell consists of two compartments underlain by a single HDPE liner system covered by 18 inches of soil and 10 inches of reinforced concrete. Each compartment has a sump protected by a gravel filter. The collection

pipes beneath the sumps in the east and west compartments of the Decant Cell convey decanted liquid into the north and south compartments of the CWSA Runoff Pond. The solid material from which the liquid has been decanted is then landfilled or, in the case of bottom ash, potentially sold.

Liquids, sediments, and sludges collected in vacuum trucks and sediments removed from the lined ponds that cannot be stabilized in place are transported to the Decant Cell and discharged into one of its compartments. Liquids and sludges that are managed on the Stack Out Pad, as described above, can also be transported to the Decant Cell for dewatering. The Decant Cell can also be used for temporary storage of bottom ash that is destined for sale.

11.0 EQUIPMENT AND OPERATION

11.1 Equipment for Waste Handling

The following OUC-owned equipment is used for landfill construction and the loading, transport, and placement of the processed materials:

- One Caterpillar® 735 articulated dump truck with heaped capacity of 26 cubic yards and rated payload of 35 tons.
- Two Caterpillar® 745 articulated dump trucks with heaped capacity of 33 cubic yards and rated payload of 45 tons.
- One Bell B50D articulated dump truck with heaped capacity of 37 cubic yards and rated payload of 50 tons.
- One Caterpillar® D6 LGP (low ground pressure) track-type tractor.
- One Caterpillar® CS-563E vibratory soil compactor.
- One Caterpillar® 980 wheel loader.
- One John Deere® motor grader.

OUC also owns and operates a water truck on site. The landfill contractor owns and operates a sweeper. OUC has arrangements in-place to rent or lease additional heavy equipment from local dealers, if needed.

The articulated trucks are used to haul stabilized waste from the Stack Out Pad to the CWSA. The trucks are also used to haul bottom ash from the dewatering facility to a temporary stockpile on the Stack Out Pad, when necessary. Historically, three trucks have been adequate to haul the total volume of ProMat and other wastes placed in the CWSA, along with any soil cover material.

The D6 bulldozer is used to spread waste in layers, place it in the CWSA, and perform some initial compaction. The CS-563E compactor is used to compact the waste to the specified density. The Cat 980 wheel loader is used to load ProMat and other waste from stockpiles on the Stack Out Pad into the articulated trucks and also to load bottom ash for sale and transport offsite from stockpiles onto trucks provided by others. The motor grader is used to grade roads and the top of the landfill.

OUC hauls BCCS and other miscellaneous wastes from the brine plant to the Stack Out Pad for stabilization and disposal by the landfill contractor. The BCCS are hauled in a 17-ton over-the-road dump truck. OUC uses contracted services for vacuum trucks to clean out ponds, sumps, trenches, etc.

11.2 Haul Roads

As part of the site development work for the original CWSA, a haul road, as shown in Figure 2, was constructed from the Stack Out Pad to the landfill. The haul road consists of a stabilized base and a durable wearing surface (reclaimed asphalt or limestone) to achieve efficient hauling of conditioned waste materials to the landfill in all weather conditions. The haul road is continuously maintained to minimize any adverse effects to the hauling operation.

The West Haul Road was constructed around the north and west sides of the closed original CWSA to enter Cells 1 and 2 (Drawings D-9 and D-10 in Appendix 2). The East Haul Road was constructed around the east and south sides of the closed original CWSA to access Cell 1 from the south side during the construction of Cell 2. The alignments of haul roads and access ramps are shown in Figure 3. The East and West Haul Roads are provided with stormwater management systems approved by FDEP.

11.3 Communications

Communications between the landfill contractor's office, which is located in the FGD sludge conditioning building, and the landfill supervisor is primarily by cellular telephone. The office has a direct view of the Stack Out Pad operations and is a short distance from the control room for the FGD sludge conditioning facility. The landfill supervisor can contact landfill equipment operators by radio. The landfill contractor can contact OUC personnel by telephone extension inside the facility and by cellular telephone outside the facility.

12.0 WASTE DISPOSAL OPERATION

As described previously, below are the predominant types of waste that are disposed of in the CWSA:

- Fixated waste material/ProMat.
- Bottom ash.
- Recycle Basin Softening Plant sludge.
- BCCS.
- Miscellaneous power plant wastes.

Occasionally, C&D debris generated on-site is also landfilled in the CWSA.

12.1 Handling and Placement of Fixated Material

ProMat is a mixture of FGD sludge, fly ash, and lime delivered from the Stack Out Pad to the CWSA. It is already mixed, properly cured, and ready for placement at the disposal site within

the CWSA. Fixated material is delivered to the landfill in open articulated dump trucks with tailgates.

The fixated material is spread, graded, and compacted in layers with loose thicknesses varying from 18 to 30 inches, depending on consistency of the material. The materials are then compacted. Compaction seals the surface to reduce the potential for infiltration from rainfall and the potential for dusting during dry periods.

Only ProMat with sufficient lime, fly ash, and solids content to produce test cylinders with a monthly average 30-day unconfined compressive strength of 80 psi and a minimum 30-day unconfined compressive strength of 40 psi is to be placed within 260 feet of the outside toe of the landfilled waste. Once a mixture of fly ash, lime substitute, and FGD sludge filter cake has been demonstrated to consistently achieve the required strength, testing of cylinders will no longer be required. ProMat that does not set up after curing on the Stack Out Pad is not allowed to be placed within this limit.

12.2 Handling and Placement of Bottom Ash

Bottom ash normally is delivered to the CWSA twice a week in open articulated dump trucks. Unsold bottom ash was disposed of in the original CWSA and the vertical expansion using the macroencapsulation method. Macroencapsulation is no longer necessary for the disposal of bottom ash in a lined cell; however, it must not be placed within 260 feet of the outside toe of the landfilled waste. The GPS or surveyed coordinates of areas in which bottom ash is placed are to be noted on the daily operating logs. The bottom ash is spread in 18- to 24-inch lifts, depending on consistency, and compacted. Bottom ash is compacted to a minimum of 95 percent of the Standard Proctor maximum dry density or to a relative density greater than 60 percent. The landfill contractor is responsible for performing the tests, and OUC is responsible for saving the test results in the facility operating record. If bottom ash is anticipated to be sold, it is temporarily stored in a designated area.

12.3 Handling and Placement of Brine Concentrator and Crystallizer Solids

BCCS result from the treatment of the cooling tower blowdown in the wastewater treatment facility (brine plant). The BCCS emerging from the treatment process are placed in one of two covered areas of the brine plant with concrete walls on three sides and an open fourth side. From these areas, they are periodically hauled by OUC to the Stack Out Pad. As described previously, the BCCS are stabilized on the Stack Out Pad prior to being transported to the landfill. At the landfill, the stabilized BCCS goes directly to the active landfill cell for placement. Once it has reached the active landfill cell, it is placed in a depression or lens (pit) that is created in the previously placed layer of ProMat. The stabilized BCCS is placed in 18-inch to 30-inch loose lifts and compacted with the tractor/dozer. After the stabilized BCCS is placed, it is covered with fixated material. As soon as it is stable enough for heavy equipment, it is tracked in, thus macro-encapsulating it. This minimizes exposure of the stabilized BCCS to surface precipitation.

The location of stabilized BCCS placement changes to enhance the overall landfill stability by not concentrating it in a specific area. The GPS or surveyed coordinates of the stabilized BCCS placement are to be noted on the daily operating logs. BCCS are not to be placed within 260 feet of the outside toe of the landfilled waste.

12.4 Handling and Placement of Miscellaneous Power Plant Wastes

Disposal of miscellaneous power plant wastes is performed within the active landfill area. Other than spent water treatment resin, the miscellaneous power plant wastes described in Section 4.7 are transported by vacuum trucks or dump trucks to the Stack Out Pad or Decant Cell. Drainage and stabilization of these wastes are described in Sections 9 and 10.

Stabilized miscellaneous power plant wastes delivered to the active landfill area are placed in the same manner as described for BCCS in Section 12.3. The location of miscellaneous waste placement changes to enhance the overall landfill stability by not concentrating it in a specific area. GPS or surveyed coordinates of miscellaneous power plant waste placement are to be noted on the daily operating logs. These wastes are not to be encapsulated in the bottom 5 feet or top 3 feet of the landfill or placed within 260 feet of the outside toe of the landfilled waste.

12.5 Handling and Placement of Spent Water Treatment Resin

Ion exchange resin is used in the demineralizers to treat water for use in the boilers. The resin is a polymer of styrene and another chemical in the form of white to yellow beads. When the resin is no longer effective, the resin beads are washed and placed on Visqueen fabric and the water is allowed to evaporate. The dry beads are then hauled to the landfill in a vacuum truck. There are 12 resin beds in the water treatment facility and four resin beds at the Unit 1 and 2 boiler polishers at the Stanton Energy Center and six resin beds at OUC's Indian River Plant, ranging in size from approximately 150 to 200 cubic feet. OUC has a material safety data sheet (MSDS) for the resin on file at the Stanton Energy Center. GPS or surveyed coordinates of spent water treatment resin placement are to be noted on the daily operating logs.

12.6 Disposal of Construction and Demolition Debris

C&D debris generated on-site, which consists primarily of concrete and asphalt, is placed in thin lifts, covered with ProMat, and compacted to minimize voids and zones of higher permeability in the landfill. The disposal of C&D debris with type and estimated or weighed quantities is recorded in the daily logs, and the GPS or surveyed locations in which C&D debris is placed are noted on the landfill reports and diagrams. No C&D debris will be disposed of within 4 feet vertically of the top of the drainage sand in the lined expansion or within 4 feet vertically of final closure grades.

12.7 Sequence of Waste Placement

As stated previously, Cell 2 consists of four subcells designated, from south to north, Subcells A through D. Although the four subcells are not completely isolated from each other, each has its own leachate collection and leak detection systems.

Disposal of waste materials within Cell 2 will occur in two phases designated Phases 1 and 2. During the Phase 1 disposal, placement of waste materials will begin from within the footprints of Subcells A and B. During the Phase 2 disposal, placement of waste materials will begin from within the footprints of Subcells C and D. The Phases 1 and 2 waste filling will each occur in eight stages vertically, from the base grade of the landfill cell to the maximum design elevation. Stages 1 through 8 filling in the Phase 1 area (i.e., Subcells A and B) are depicted in Figures 1 through 25 in Appendix 8, and Stages 9 through 16 filling in the Phase 2 area (i.e., Subcells C and D) are depicted in Figures 25 through 50 in Appendix 8.

Each stage of waste filling will have three main activities that involve: (i) construction of the ProMat perimeter dike along the north and west sides, (ii) concurrent placement of an 18-inch thick temporary soil cover on the outside slope of the perimeter dike, and (iii) placement of waste materials in the interior area contained by the perimeter dike. The elevations of the ProMat perimeter dikes and the elevations for each stage of waste filling were selected to provide containment for rainfall and stormwater runoff from a 25-year, 24-hour design storm event. Except for the final stage, the interior waste surface for each stage of waste filling will be graded downward to the east towards the original CWSA. The interior waste surface for the final stage of filling will be sloped downward to the west to facilitate landfill closure. Contact water that does not infiltrate into the landfill will be pumped into the leachate force main using an auxiliary diesel pump.

As illustrated by the figures in Appendix 8, the slope areas with the temporary soil cover will be provided with a reverse bench (i.e., the bench slopes towards the inside) at an approximate elevation of +139.5 feet (NAVD88). The reverse bench will be provided with temporary lined flumes to convey stormwater runoff collected within the reverse bench from the upper slope areas into the stormwater runoff ditch located around Cell 2. The stormwater runoff from the temporarily covered lower slopes along the containment dike will directly discharge into the stormwater ditch. During the Phase 1 disposal, stormwater runoff from part of the temporary covered lower slope facing Subcells C and D will discharge into Subcells C and D.

12.8 Placement of Temporary Soil Cover

As stated previously, the outside slope of the disposed ProMat will be provided with an 18-inch thick temporary soil cover. The temporary soil cover will be placed in one 18-inch thick lift above the ProMat and compacted to a dry density of at least 90 percent of the Standard Proctor maximum dry density. Standard Proctor compaction tests (ASTM D698) will be performed on samples of the selected temporary soil cover materials, as needed, to determine the maximum dry density for compaction control. The temporary soil cover will be provided with grass by seeding or sodding to minimize the erosion on the slope areas.

12.9 Construction of Lined Flumes

As stated previously, the reverse bench will be provided with flumes lined with a 60-mil textured HDPE liner to convey stormwater runoff collected from the upper slope areas into the stormwater runoff ditch located around Cell 2. The HDPE liner will be installed with a minimum 6-inch thick soil bedding layer above the ProMat.

12.10 Fugitive Dust Control

Fugitive dust control for the landfill, road, and other CCR management and material handling activities, as required by § 257.80 of the CCR Rule, will be performed in accordance with the Fugitive Dust Control Plan in Appendix 9. The landfill contractor fills out a fugitive dust control report daily when waste is being transported to the landfill.

13.0 WATER QUALITY MONITORING

The water quality monitoring program for surface water and groundwater is implemented by OUC, its consultants, or its contractors. Attachment F of the COC PA 81-14, a copy of which is included in Appendix 10, is the water quality monitoring plan implementation schedule (MPIS).

A total of 22 monitoring wells are required to be sampled semi-annually for the field and laboratory parameters listed below, but only 10 are sampled for the CWSA. A map that shows the monitoring well locations is included in Appendix 10.

Field Parameters	Laboratory Parameters
1. Static water level in wells before purging	1. Chloride
2. Dissolved oxygen	2. Nitrate
3. pH	3. Sulfate
4. Specific conductivity	4. Total Dissolved Solids
5. Temperature	5. Arsenic
6. Turbidity	6. Barium
	7. Cadmium
	8. Lead
	9. Manganese
	10. Mercury
	11. Molybdenum
	12. Nickel
	13. Sodium
	14. Vanadium
	15. Gross Alpha (pCi/L)
	16. Ra 226 if gross alpha > 15 pCi/L
	17. Ra 228 if gross alpha >15 pCi/L

Groundwater monitoring requirements per the CCR Rule are stipulated in 40 CFR § 257.91, § 257.93, § 257.94 (detection monitoring), and § 257.95 (assessment monitoring). The site is currently performing detection monitoring. For the approved detection monitoring program, four monitoring wells (MW-A, MW-B, MW-C, and MW-D) are required to be sampled semi-annually for boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS). A map showing these monitoring well locations is included in Appendix 11.

Currently, the CWSA monitoring wells are sampled and analyzed semi-annually for both the FDEP monitoring parameters and the CCR Rule detection monitoring parameters. Results of the FDEP monitoring program are submitted to FDEP and an Annual Groundwater Monitoring and Corrective Action Report per the CCR Rule requirements is posted to OUC's publicly available CCR website (https://oucccr.com/). The 2023 Annual Groundwater Monitoring and Corrective Action Report dated January 30, 2024 covers detection monitoring results through October 2023.

In accordance with NPDES Permit FL0681661-002, OUC is required to monitor the discharges at the following locations:

- Surface Water Discharge D-001: An existing external permitted discharge of Makeup Water Pond overflow to Cowpen Branch and thence to the Econlockhatchee River, which is authorized after rainfall events exceeding the 100-year, 24-hour storm event.

- Internal Outfall I-004: An existing internal discharge at the emergency overflow from the Recycle Basin to an adjacent stormwater swale, and thence to the Makeup Water Pond, which is authorized after rainfall events exceeding the 100-year, 24-hour storm event.

The locations of these surface water monitoring points are shown in Figure 2. The parameters to be sampled are specified in the NPDES permit. Stormwater discharges are also required to be monitored in accordance with the NPDES Multi-Sector Generic Permit (MGSP) for Stormwater Discharge Associated with Industrial Activity. The site is covered under Sector O: Steam Electric Power Generating Facilities, including the coal handling areas.

14.0 LEACHATE MANAGEMENT

14.1 Leachate Generation

Leachate is generated by stormwater runoff in contact with the surface of the waste and by rainwater that infiltrates the surface of the waste material and percolates through the waste. Leachate is generated from the CWSA and from waste materials on the Stack Out Pad and in the Decant Cell.

14.2 Leachate Collection

The lined horizontal expansion was provided with a leachate collection and removal system and a leak detection system. The leachate collection system and leak detection system for Cell 2 of the lined horizontal expansion are shown on Drawing Numbers CS-6, D-1, and D-2 in Appendix 2.

Leachate infiltrating through the 2-foot thick drainage sand layer is collected in a geocomposite drainage layer on top of the primary liner and conveyed through leachate collection piping to a geotextile-wrapped, gravel-filled sump at a low point on the west side of the subcell. A geocomposite/geonet between the primary and secondary HDPE liners form the leak detection system. Any water collected in the geocomposite drains to a leak detection sump.

Each leachate collection sump is equipped with a 5-HP pump with a capacity of 110 gpm for the leachate collection system and a 0.5-HP pump with a capacity of 10 gpm for the leak detection system. From the sumps, leachate is pumped through a 3-inch diameter HDPE pipe for the leachate collection system and a 2-inch diameter HDPE pipe for the leak detection system to an 8-inch diameter below-grade HDPE force main, which discharges into the CWSA Runoff Pond. The alignment of this force main is shown on Drawing Number D-8 in Appendix 2.

OUC has recently installed an above-grade force main dictated for conveyance of leachate removed by auxiliary diesel pump(s) to the CWSA Runoff Pond.

14.3 Leachate Flow Measurement

Rule 62-701.500(8)(f), F.A.C. requires that quantities of leachate collected by the leachate collection and removal system be recorded in gallons per day before on-site treatment or transport off-site and included with the operating record. Each leachate collection and leak detection sumps are monitored for pressure, flow, and water level. The readings are transmitted wirelessly to a central data recording station where OUC can access them. Daily leachate flows can be calculated from the totalizer readings for the 16 individual flow meters.

When diesel auxiliary pumps are deployed, the total run hours, RPM, and pump identification information should be recorded as they are operated.

14.4 Leachate Storage

The CWSA Runoff Pond serves as a leachate surface impoundment which, in accordance with Rule 62-701.400(6)(b)5, F.A.C., must have a minimum 2-foot freeboard for a 25-year, 24-hour design storm event. Management of the lined ponds, including the CWSA Runoff Pond, is in accordance with the Lined Ponds Operation Plan. The CWSA Runoff Pond was designed with sufficient capacity to handle the 100-year, 24-hour storm event for a 55-acre watershed allowing for wind setup and wave runup.

The CWSA Runoff Pond consists of two compartments, each with a 6-inch thick clay base and double-lined with HDPE geomembranes, covered by an 18-inch thick compacted soil cover and 8 inches of soil cement and is surrounded by a soil-bentonite cut-off wall. The pond has an underdrain system and air/gas vents below the liner system. Discharge from the underdrain system is pumped into the CWSA Runoff Pond. Discharge from the CWSA Runoff Pond, which includes inflows from the Decant Cell, is through two 24-inch diameter HDPE discharge pipes, (one discharge pipe for each compartment) to the lined Recycle Basin.

The CWSA Runoff Pond has a storage capacity of approximately 55 acre-feet from the minimum operating water level of +75.5 feet (NAVD88) to the maximum operating water level of +85 feet (NAVD88), and a storage capacity of approximately 70 acre-feet from the minimum operating water level of +75.5 feet (NAVD88) to the top of liner at +87 feet (NAVD88).

14.5 Leachate Treatment

Leachate discharged from each compartment of the CWSA Runoff Pond flows through a 24-inch diameter pipe to the Recycle Basin and/or Recycle Basin Expansion from where it naturally evaporates, is used as makeup water for the FGD scrubber system where it evaporates during the process or, when operational, is treated in the Recycle Basin Softening Plant before being processed in the Brine Plant. The pipe alignment is shown in Figure 7.

Leachate generated from the Stack Out Pad drains to the Sedimentation Pond, from where it flows by gravity to the Recycle Basin and/or Recycle Basin Expansion, and is used for makeup water for the FGD scrubber system or treated in the Recycle Basin Softening Plant and Brine Plant. Part of the makeup water is evaporated in the FGD scrubber system and the remaining water is contained in the FGD sludge. The dewatered FGD sludge is incorporated in the ProMat and disposed of in the CWSA. Water removed from the FGD sludge by the rotary vacuum filters is recirculated. If needed, water can also be pumped from the Sedimentation Pond to the CWSA Runoff Pond.

The Stanton Energy Center is a zero liquid discharge facility and thus no contact or process water is discharged from the site.

14.6 Leachate Sampling

In accordance with Rule 62-701.510, F.A.C., leachate sampling and analysis are not required by FDEP for solid waste management facilities.

14.7 Leachate Collection System Maintenance

Operation and monitoring of the leachate collection and removal system by on-site operations personnel should include the following activities:

- Daily recording of rainfall and other on-site meteorological data.
- Daily recording of water levels in the CWSA Runoff Pond.
- Daily review and recording of all sensor and totalizer readings.
- Visual inspection of gravity leachate headers if flow records suggest a potential blockage of flow.

In addition, the landfill is inspected weekly by the landfill contractor for conditions which are disrupting or have the potential to disrupt the operation or safety of the landfill in accordance with § 257.84 of the CCR Rule (40 CFR 257). The weekly landfill inspection form is included in Appendix 12. The inspection forms are kept as hard copies and electronically by the landfill contractor.

OUC retains outside contractors to inspect the leachate collection pipes inside the landfill cells using video equipment every 5 years and, if necessary, to jet clean the pipes.

Maintenance of the electrical and mechanical components of the leachate collection and removal system is the responsibility of OUC. This includes preventive maintenance of pumps and control systems as well as repairs to pumps, valves, control equipment, and force mains when needed. Operation and maintenance of pumps, valves, and other mechanical equipment should be performed in strict accordance with the manufacturer's recommendations. Operation and maintenance manuals for all major pieces of mechanical equipment are kept on file at the facility.

15.0 STORMWATER MANAGEMENT AND EROSION CONTROL

15.1 Stormwater Management

As part of the design for the lined horizontal expansion, TT-AAI prepared a hydrologic and hydraulic report[2] that considered stormwater management requirements for the ultimate buildout of a 250-acre CWSA. The resulting 22.5-acre wet detention pond, which has been designed to meet FDEP requirements, is shown on Drawing Number P-1 and the as-built survey in Appendix 2 and in Figures 2 and 3. Construction of the wet detention pond was completed in December 2012.

Subsequent to the construction of the wet detention pond, additional ditches, culverts, and concrete flumes have been designed and constructed for the closed original 90-acre CWSA, closed vertical expansion, Cells 1 and 2, the East and West Haul Roads, and the perimeter stormwater ditches to convey stormwater to the wet detention pond. After treatment in the wet detention pond stormwater is discharged to the existing stormwater ditch to the southeast of the CWSA. The stormwater management system for the CWSA is shown in Figure 8.

The landfill contractor should be familiar with the requirements of the latest version of the Run-on and Run-off Control System Plan for Cells 1 and 2.

The stormwater management system should be operated in accordance with the latest Best

[2] "Hydrologic and Hydraulic Report, Proposed Horizontal Expansion of Coal Combustion Waste Landfill, Orlando Utilities Commission, Stanton Energy Center, Orange County, Florida," dated November 3, 2011.

Management Practices/Stormwater Pollution Prevention Plan. The latest plan dated July 2022 is included in Appendix 13.

The COC contains the following requirements:

- A registered professional engineer must perform an inspection of the stormwater management system annually to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation that may endanger public health, safety, or welfare, or the water resources, and to ensure that systems are functioning as designed and approved. Within 30 days of the inspection, a report must be submitted electronically or in writing to the Department using Form 62-330.311(1), "Operation and Maintenance Inspection Certification."

- The Stanton Energy Center must provide for periodic inspections in addition to the annual inspections, especially after heavy rain. It must maintain a record of each inspection, including the date of inspection, the name and contact information of the inspector, whether the system was functioning as designed and approved, and make such record available upon request of the Department. Within 30 days of any failure of any system or deviation from these requirements, a report must be submitted electronically or in writing to the Department using Form 62-330.311(1), "Operation and Maintenance Inspection Certification," describing the remedial actions taken to resolve the failure or deviation.

The stormwater management system for the CWSA is inspected by the landfill contractor at least quarterly and after storm events with more than 2 inches of rainfall in 24 hours using the procedures and checklist in Appendix 14.

Routine maintenance for the stormwater management system includes the following activities:

- Mowing of ditches and wet detention pond above water level.

- Clearing/cleaning drainage swales and channels when accumulated debris is obstructing flow.

- Periodic replacement of topsoil and grass seeding for drainage swale/ditch/pond banks to re-establish lost vegetation.

- Regrading or reconstruction of ditches to promote surface water flow and discourage ponding.

- Clearing/cleaning all inflow and outfall structure grates of accumulated dead grass.

- Clearing the bleed-down orifices for outlet structures.

- Clearing/cleaning inlets and outlets of all culverts and discharge pipes of accumulated dead grass and silt.

- Clearing/cleaning ditches, structures, and pond of accumulated silt.

15.2 Erosion and Sedimentation Controls

Erosion is monitored by the landfill contractor, who performs weekly inspections of the landfill area. Any major or repeated erosion and sedimentation issues are brought to the attention of OUC.

A soil or ProMat berm will be provided around the top of the landfill and the landfill side slopes will have benches that collect eroded soil from the overlying slope. Areas of cover soil erosion will be restored and re-seeded as soon as practical. If necessary, erosion control mats will be used to reduce erosion from steep slopes until vegetation is established.

As part of stormwater management system maintenance, sediments will be removed from ditches, culverts, and ponds by the landfill contractor, as necessary, and as directed by OUC.

Sediments that accumulate in the lined ponds will be removed as part of the Lined Ponds Operation Plan. The Sedimentation Pond, which is located west of the Stack Out Pad, collects runoff and sediments from the Stack Out Pad. Procedures for sediment control and removal from the lined ponds, including the CWSA Runoff Pond, are covered in the Lined Ponds Operation Plan and will not be part of the landfill contractor's responsibilities.

16.0 CLOSURE PLANS

16.1 Landfill Closure

A post-certification submittal for closure of the top area, and the south and west slopes of Cell 1, including a set of construction drawings, technical specifications, and construction quality assurance plan, was made to the FDEP on June 23, 2023. "Conceptual Closure Plan for Cell 2, Orlando Utilities Commission, Stanton Energy Center, Orange County, Florida," dated March 6, 2024, has been posted to OUC's publicly available CCR website (https://oucccr.com/). The conceptual closure plan for Cell 2 is similar to the closure design for Cell 1. The Cell 2 closure covers approximately 45 acres, which includes the area piggybacked on the Cell 1 north slope. Cell 2 is planned to be raised on a sideslope of 3.0 horizontal to 1.0 vertical (3.0H:1.0V) to a slope crest elevation of approximately +175 feet (NAVD88), with one 20-foot wide reverse sloping bench (i.e., a bench that is graded towards the inside to create a drainage swale) at approximate final elevations of +140 to +142 feet (NAVD88).

The top of Cell 2 will have an elevation that varies from +169.5 to +175 feet (NAVD88) and an average grade of approximately 0.6 percent to promote surface drainage towards a culvert pipe located at the southwest corner of Cell 2 (i.e., the northwest corner of Cell 1). The reverse bench located along the north and west sides of Cell 2 will be provided with multiple inlet structures and associated culvert pipes to convey the runoff from the upper slope areas and the reverse bench. The runoff through the culvert pipes from the top and reverse bench areas will be discharged onto the concrete uniform section mat (Fabriform) flumes constructed along the slope. The flumes will discharge the runoff into the stormwater runoff ditch, which runs around the perimeter of Cell 2, and eventually discharges into the wet detention pond located to the south of the designated CWSA via two Type-D FDOT drainage control structures and two 36-inch diameter HDPE pipes.

The final cover system for the west slope, north slope, and the top area of Cell 2 will consist of the following key components in descending order:

- A sod cover for erosion protection.
- A minimum 2-foot thick protective soil layer for stormwater drainage and liner protection.
- A double-sided HDPE geocomposite connected to two gravel drain systems (i.e., reverse bench drain and anchor trench drain) for stormwater drainage and protective soil layer stability on the slope area.
- A 60-mil textured HPDE liner for infiltration control.
- A minimum 6-inch thick bedding soil layer for liner protection and support.

The gravel drain system will be installed along the low side of the reverse bench (reverse bench drain) and along the liner system anchor trench (anchor trench drain) at the toe of the lower slope. The drain will consist of a slotted HDPE pipe surrounded by gravel wrapped in a geotextile. The slotted HDPE pipes will be connected to a solid pipe that will discharge the infiltrated stormwater collected in the drains either to the inlet structures located at the reverse bench or to the stormwater runoff ditch located around Cell 2.

The landfill contractor should be aware of the top of waste grades in Cell 2 so that removal of waste or placement of additional soil will not be required. Monitoring and maintenance of the closed areas of the landfill will be handled by OUC or a designated contractor.

16.2 Closure of Combustion Waste Processing Area

Unless there are significant changes to power plant operations, the combustion waste processing area and the Stack Out Pad will close after the coal-fired generating units are no longer in service. If the combustion waste processing area is no longer required, OUC will notify FDEP in writing prior to ceasing operations and specify a closing date. No waste will be received or processed by the facility after the closing date. Within 30 days after receiving the last combustion waste or other waste materials, OUC will remove all waste materials from the combustion waste processing area and the Stack Out Pad and dispose of them in the on-site landfill or other permitted facility in accordance with applicable regulations. The Stack Out Pad and related pipes and sumps will be cleaned, and leachate will be properly disposed. Closure will be completed within 180 days from the date the landfill ceases to receive waste. When closure is completed, OUC will notify the FDEP.

16.3 Closure of CWSA Runoff Pond

The CWSA Runoff Pond receives both leachate and stormwater. Runoff from Areas of the closed original CWSA and closed vertical expansion that have 2 feet of cover soil is no longer considered leachate. Under the current stormwater management plan, OUC intends to direct all runoff from closed areas of the CWSA to the wet detention pond for treatment prior to discharge. The CWSA Runoff Pond is a dedicated leachate impoundment that will remain active as long as leachate is being generated from the horizontal expansion.

17.0 EMERGENCY RESPONSE PROCEDURES AND CONTINGENCY OPERATIONS

17.1 Emergency Response Procedures

OUC is responsible for emergency response at the Stanton Energy Center, including the landfill, the FGD sludge conditioning facility, and the Stack Out Pad. All OUC employees and contractors are trained for OUC's safety and emergency procedures. Excerpts of the Contractor Orientation Information Guide, revised on June 4, 2015, are included in Appendix 15.

"OUC Emergency Operational Guide, Emergency Plan Procedures," revised in June 2015, provides information for all OUC facilities. Excerpts from this document that pertain to the Stanton Energy Center are included in Appendix 16. Pages 1 through 26 describe emergency preparedness and the structure of the National Incident Management System (NIMS) developed by the Federal Emergency Management Agency (FEMA). Pages 41 through 43 describe emergency procedures for the Power Resources and Environmental Branches. Appendix E of the emergency plan document contains the Hurricane Preparedness Plan. In the event of a medical, fire, chemical, or other plant emergency, the control room is to be notified using the emergency telephone number (3111) for the Stanton Energy Center. The emergency plan procedures will then be put in motion.

The Stanton Energy Center has fire emergency procedures, which are included in Appendix 17. All wastes handled in the combustion waste processing area and the CWSA are non-combustible. Dust control equipment is provided for the silos and throughout the FGD sludge conditioning facility. Fuel and equipment represent the greatest risk of fire. In the event of a fire, all on-site personnel have been instructed to call the facility emergency telephone number (3111).

OUC has standard operating procedures (SOP) for incipient fires and free-burning fires, which are included in Appendix 17. For free-burning fires and other emergencies that cannot be addressed by the on-site personnel, OUC calls 911 for the Orange County Fire Rescue Department. Orange County Fire Station #85, located at 13801 Townsend Drive, approximately 2.1 miles from the facility entrance, is the closest Orange County Fire Rescue Department facility.

17.2 Contingency Operations

Contingency operations covered by this management plan include:

- Wet weather operation of the landfill, the Stack Out Pad, and the Decant Cell.
- High water levels in the CWSA Runoff Pond.
- Unscheduled downtime in the combustion waste processing area.
- Landfill and Stack Out Pad equipment breakdowns and maintenance.
- Interruptions of discharge to the wastewater treatment facility.

17.2.1. Wet Weather Operation

In the event of severe weather or other emergency that may temporarily prohibit the placement of waste in the CWSA, the landfill contractor has the ability to temporarily suspend waste processing and/or store waste on the Stack Out Pad or in the Decant Cell. The Stack Out Pad has the capacity to store approximately 5,000 cubic yards of processed waste/ProMat and unprocessed waste (bottom ash, BCCS, etc.), which is equivalent to approximately 3 days of waste generation with both Unit 1 and Unit 2 in operation. The Decant Cell has the capacity to store approximately 2,000 cubic yards per compartment or 4,000 cubic yards for the two compartments.

17.2.2. High Water Levels in the CWSA Runoff Pond

The top of dike in the CWSA Runoff Pond at elevation +89 feet (NAVD88) is 2 feet above the crest of the overflow weir between the North and South Compartments. There is also an emergency overflow pipe on the north side of the North Compartment with an invert elevation of +87 feet (NAVD88) that discharges to the lined Recycle Basin. When heavy rainfall is anticipated and the CWSA Runoff Pond water level is already high, the potential for the pond to overflow is reduced by monitoring the pond staff gauge and discharging or pumping water from the CWSA Runoff Pond to the Recycle Basin to draw down the CWSA Runoff Pond water level. The pre-storm water level can also be managed by periodically removing accumulated sediments from the pond to increase its storage capacity. Management of water levels in the CWSA Runoff Pond is further addressed in the Lined Ponds Operation Plan for the facility.

17.2.3. Unscheduled Downtime in Combustion Waste Processing Area

Scheduled preventive maintenance and equipment replacement are coordinated with power generation activities to minimize the amount of unscheduled downtime. The processing equipment in the combustion waste processing area has sufficient capacity and redundancy to meet the processing requirements under most circumstances using part of the equipment operating for part of the day. For example, there are six rotary vacuum filters and three mixers and the normal waste stream can be handled with two or three vacuum filters and one mixer operating. Depending on the solids content of the FGD slurry, processing 10,400 tons per week with this equipment would take between 70 and 149 hours. The waste materials accumulated during downtime can be processed by bringing additional equipment online or by additional hours of operation. Capacity for fly ash storage is provided in the silos, while capacity for FGD sludge storage is provided in the thickeners. This storage provides a buffer during equipment downtime.

17.2.4. Landfill and Stack Out Pad Equipment Breakdowns and Maintenance

OUC has arrangements in place to rent or lease additional heavy equipment from local equipment dealers as needed. There is a backup conveyor for stacking ProMat on the Stack Out Pad.

17.2.5. Interruptions of Discharge to the Wastewater Treatment Facility

Leachate from the CWSA Runoff Pond and the Stack Out Pad is recycled through the FGD scrubber makeup water system, where it is evaporated or contained in the FGD scrubber sludge. Purge water from the FGD sludge dewatering system is recirculated. Leachate is not directed to the on-site wastewater treatment facility. If the FGD scrubber system is not operating at a level that uses all of the leachate that is generated, the remaining leachate would have to

be temporarily stored in lined ponds or tanks, treated onsite using the Recycle Basin Softening Plant or mobile treatment equipment, or trucked or piped off-site for treatment.

17.2.6. Leachate Accumulation in Lined Cells

Because the fixated ProMat has a relatively low permeability, most of the rainfall during a heavy storm event will run off the surface rather than infiltrating into the waste. Furthermore, as the drainage sand layer in the lined cell is covered with ProMat, the area that allows infiltration into the leachate collection system will be reduced.

If a major storm event occurs when the infiltration area is greatly reduced, the leachate may not be able to be removed quickly using the pumps installed in the sump risers. The potential impacts are mitigated by temporarily ponding water over the ProMat within the cell and by providing a temporary soil cover on the outside slope. If such situation occurs, OUC will deploy auxiliary diesel pumps to remove the water from the cell and transfer it to the CWSA Runoff Pond via the force main. Intakes for additional pumps would be located in areas of ponded water. The required supplementary pump capacity to remove 2 inches of runoff from the 45-acre watershed of the north slope of Cells 1 and 2 in two days is approximately 850 gpm. The quantity of leachate pumped to the force main using the auxiliary pump(s) will be estimated based on pump run time, pump speed, and pump curve data.

17.3 Notification Requirements

Chapter 62-701, F.A.C., requires certain notifications of the implementation of emergency procedures. In the event of a fire in the waste management facility, OUC will notify FDEP of the fire and of the fire control plan being implemented. If the fire is beyond the incipient stage and cannot be extinguished or controlled by the on-site emergency response personnel, OUC's standard operating procedure is to notify the Orange County Fire Rescue Department (407-836-9061) immediately and seek its assistance.

Chapter 62-701, F.A.C. also requires that erosion control measures be employed to correct any erosion that exposes waste or causes malfunction of the stormwater management system within 3 days of occurrence. If the erosion cannot be corrected within 7 days of occurrence, OUC will notify FDEP and propose a correction schedule.

Notification requirements relative to water quality monitoring are addressed in the water quality monitoring plan. If, at any time, analyses detect parameters which are significantly above background water quality or which are at levels above the water quality standards or criteria specified in Chapter 62-520, F.A.C., in the detection wells or at the edge of the Zone of Discharge, OUC is required to provide notification of the exceedances in writing to the FDEP. Under§ 257.105(h) of the CCR Rule, OUC is required to notify FDEP if an assessment monitoring programs has been established.

18.0 RECORDKEEPING

18.1 Regulatory Records

OUC maintains a record of the certification, permitting, and compliance history of the Stanton Energy Center, including the CWSA. The CCR Rule specifies the information that must be available in the operating record.

18.2 Waste Quantities and Landfill Operation Records

The landfill contractor prepares a daily activity sheet for landfill operation that lists the weather conditions, load counts for each truck, the types of waste hauled and landfilled, estimated tonnage hauled, the landfill equipment and operators utilized, and comments. The information from the daily activity sheet is transferred into a logbook**.**

OUC provides the quantities of coal fired and gas-fired ash and sulfur percentages for Unit 1 and Unit 2 to the landfill contractor. The approximate quantities of fly ash and bottom ash are estimated from the relative percentages of fly ash and bottom ash, which are currently about 92 percent fly ash and 8 percent bottom ash. The estimated quantities are reconciled with the actual fly ash quantities at year end to derive the actual percentages of fly ash and bottom ash, which are reflected in an adjusted report. The adjusted year-end percentages are used as the initial estimate of the relative quantities of fly ash and bottom ash for the following year.

The landfill contractor provides a month-end reconciled comparison report (MERCR), which summarizes for the year to-date the monthly quantities of OUC fly ash and bottom ash produced and sold, lime substitute delivered, OUC fly ash and lime substitute into ProMat, and ProMat and FGD sludge filter cake. The MERCR for December 2023 is in Appendix 18. The MERCR incorporates the results of a mass balance report, which summarizes the weighed quantities of ProMat, OUC fly ash into Pro Mat, and lime substitute into ProMat; and the calculated quantities of ProMat and FGD sludge filter cake on a dry weight basis, and FGD sludge filter cake on a wet weight basis. The mass balance report is based on laboratory test results for percent lime in ProMat. moisture content of ProMat and FGD sludge filter cake, and fly ash to filter cake ratio in ProMat.

Summaries of the monthly and annual waste quantities from January 2015 through December 2023 are presented in Appendix 19. Based on the quantities in the appendix, the amount of ProMat produced for this period varied from 253,700 to 462,200 tons per year on a wet weight basis, which is equivalent to 177,600 to 323,600 tons per year on a dry weight basis. During the same period, approximately 1.04 million dry tons of fly ash were produced, of which approximately 947,000 tons were sold.

18.3 On-Site Rainfall Data

In accordance with Rule 62-701.500(8)(g), F.A.C., a recording rain gauge is required to be installed, operated, and maintained to record precipitation at the landfill and precipitation records are to be included with the operating record and maintained and used to compare with leachate generation rates.

The Stanton Energy Center has four rain gauges: one at the meteorological station located at the coal transfer building, one at the meteorological station located near Unit B at the Stanton Energy Center, one near the Makeup Water Supply Pond, and one at the CWSA. Starting in July 2009, OUC has been taking daily readings of the rain gauges manually.

18.4 Leachate Quantities

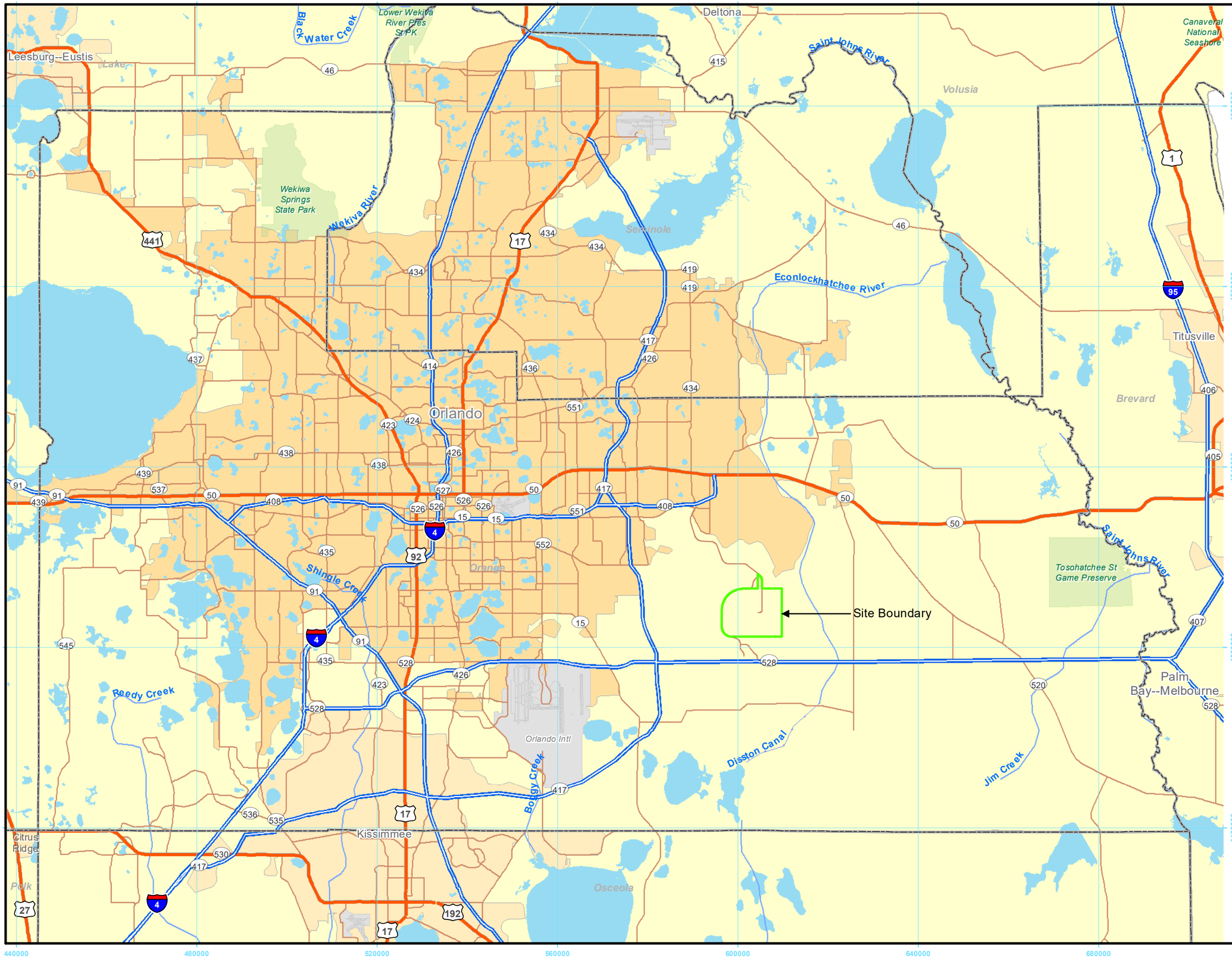
In accordance with Rule 62-701.500(8)(f), F.A.C., Landfill Operation Requirements, quantities of leachate collected by the leachate collection and removal system will be recorded in gallons per day and will be included with the facility operating record. Leachate quantities will be recorded separately for the leachate collection and leak detection systems for each subcell sump and will

be summarized in monthly totals. Any leachate diversions by emergency pumps or other means will be noted. The pumps are monitored in the main control room, where the operators log flows and store them electronically.

18.5 Landfill Capacity and Life

Rule 62-701.500(13)(c), F.A.C., requires a landfill operator to maintain an annual estimate of the remaining life and capacity of the existing landfill and an annual estimate of the life and capacity of other permitted future landfills. At the end of each calendar year, OUC estimates the remaining storage capacity and life based on topographic survey data.

Cells 1 and 2 have a combined waste capacity of approximately 6.4 million cubic yards. Based on the topographic survey performed on February 21, 2024, approximately 3.2 million cubic yards had been consumed, with a remaining storage capacity of approximately 3.2 million cubic yards.



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Feet

Scale: 1" = 20,000'

Orange County Boundary
Stanton Energy Center Property Boundary

SITE LOCATION MAP

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

LANDFILL OPERATION & MAINTENANCE PLAN
CELL 2 OF HORIZONTAL EXPANSION OF ORIGINAL COMBUSTION WASTE STORAGE AREA

OUC The Reliable One

STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

DRAWN BY: **ACV**	CHECKED BY: **PAK**	DATE: **07/09/2024**
FILE NO. **23-13-0060**	APPROVED BY: **FKC**	FIGURE: **1**

File: \\2013\13-13-0166\ArcGIS\ArcLayouts\20150706\Road_Map.mxd

596000 598000 600000 602000 604000 606000

1512000 1510000 1508000 1506000 1504000

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Scale: 1" = 1000'

IMAGERY SOURCE:
GOOGLE EARTH, JANUARY 18, 2024

23S31E14
23S31E13
23S32E18
23S31E23
23S31E24
23S32E19

Wet Detention Pond
Coal Storage Area Runoff Pond
See Figure 5 for Detail
Sedimentation Pond
West Haul Road
CWSA Runoff Pond
Recycle Pond Expansion
Modified Recycle Pond
Makeup Water Supply Pond
I-004
D-001
Wastewater Return Pond
Decant Cell
Innovation Way
Cell 2
Closed Vertical Expansion
East Haul Road
Cell 1
Closed Original CWSA
Wet Detention Pond

Legend

- Landfill Cell Boundary
- 250-Acre Combustion Waste Storage Area
- Closed Vertical Expansion
- Original CWSA Limits
- Public Land Survey System
- Internal Outfall I-004
- Discharge D-001

SITE PLAN OF STANTON ENERGY CENTER

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

LANDFILL OPERATION & MAINTENANCE PLAN
CELL 2 OF HORIZONTAL EXPANSION OF ORIGINAL COMBUSTION WASTE STORAGE

OUC The Reliable One

STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

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FILE NO. **23-13-0060**	APPROVED BY: **FKC**	FIGURE: **2**

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1508000 1507200 1506400 1505600 1504800 1504000 1503200

600000 599000 598000 597000 596000

MW-19
MW-18
MW-7
MW-20
CWSA Runoff Pond
North Compartment
South Compartment
Decant Cell
MW-17
24" HDPE
East Haul Road
MW-11D
MW-11
Box Culvert
Box Culvert
8" HDPE Leachate Force Main
(2) 36" HDPE
(2) 24" HDPE
(2) 36" HDPE
(2) 36" HDPE
(2) 24" HDPE
36" HDPE
West Haul Road
Closed Vertical Expansion
Photovoltaic Cells
Closed Original CWSA
(2) 36" HDPE
MW-D
Slope of Cell 2
Slope of Cell 1
Unlined Wet Detention Pond
(3) 36" HDPE
West Haul Road
MW-A
(2) 19" x 36" RCP
36" HDPE
Base Area of Cell 2
Base Area of Cell 1
(2) 36" HDPE
MW-10
Sump 4
Sump 3
Sump 2
Sump 1
Sump 4
Sump 3
Sump 2
Sump 1
8" HDPE Leachate Force Main
Containment Dike
Perimeter Dike
Box Culvert 8
Box Culvert 7
Box Culvert 6
Box Culvert 5
Box Culvert 4
Box Culvert 3
Box Culvert 2
Box Culvert 1
MW-9R
Innovation Way

N E S W

0 200 400 Feet

IMAGERY SOURCE:
WSP USA ENVIRONMENTAL & INFRASTRUCTURE, FEBRUARY 21, 2024
& GOOGLE EARTH, JANUARY 18, 2024

Legend

- FDEP Monitoring Wells
- CCR Rule Monitoring Wells
- Pump Station Control Panel
- Containment Dike Centerline
- Perimeter Dike Centerline
- Cell Boundaries
- Liner Area
- Closed Vertical Expansion
- Original CWSA Limits
- Fabriform

SITE PLAN OF COMBUSTION WASTE STORAGE AREA

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

LANDFILL OPERATION & MAINTENANCE PLAN
CELL 2 OF HORIZONTAL EXPANSION OF ORIGINAL COMBUSTION WASTE STORAGE AREA

OUC The Reliable One

STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

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FILE NO. 23-13-0060	APPROVED BY: FKC	FIGURE: 3

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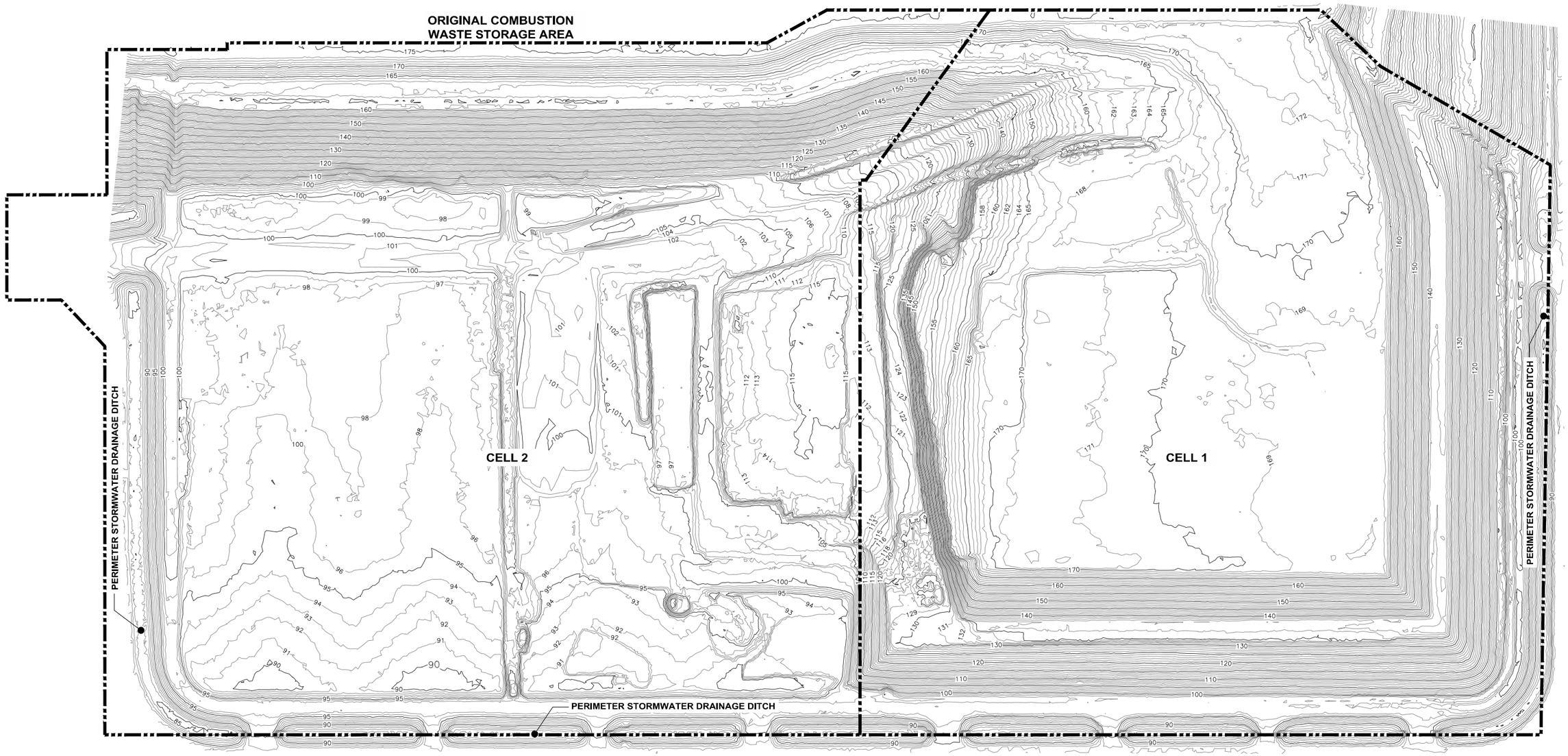

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SCALE: 1"=200'

TOPOGRAPHIC SURVEY
PERFORMED BY:

WSP USA ENVIRONMENTAL AND
INFRUSTRUCTURE

DATED: APRIL 16, 2024

TOPOGRAPHIC SURVEY OF CELLS 1 AND 2 ON APRIL 16, 2024

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

**LANDFILL OPERATION & MAINTENANCE PLAN
CELL 2 OF HORIZONTAL EXPANSION OF
ORIGINAL COMBUSTION WASTE STORAGE AREA**

OUC The Reliable One

STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

DRAWN BY:	CHECKED BY:	DATE:
BTW	JM	07/11/2024

FILE NO.	APPROVED BY:	FIGURE:
23-13-0060	FKC	4

R:\Corporate\23\23-13-0060\OUC – CELL 2 – OPERATIONS PLAN_Report\07-09-24\4 TOPOGRAPHIC SURVEY OF CELLS 1 AND 2 ON APRIL 16, 2024.dwg 7/11/2024 8:33:44 AM, brandon.white

1	Silo 1 (SEC Unit 1 fly ash)
2	Silo 2 (SEC Unit 2 fly ash)
3	Lime Silo (Lime Substitute)
4	FGD Sludge Conditioning Building
5	Limestone Conveyor
6	Lime Slurry Storage
7	Lime Slurry Storage
8	Radial Stacking Conveyor
9	Fixed Conveyor
10	Bottom Ash Dewatering Bin
11	Bottom Ash Dewatering Bin
12	Settling Tank A
13	Settling Tank B
14	Settling Tank C
15	Thickener A
16	Thickener B
17	Thickener C
18	Scrubber Recirculation Tank
19	Scrubber Recirculation Tank
20	Thickener Pump Building
21	Thickener Pump Building
22	Yard Services Building
23	Crusher Building
24	Coal Conveyor
25	Coal Storage Area Runoff Pond
26	Sedimentation Pond

601000 601200 601400 601600 601800 602000 602200

1508600 1508400 1508200 1508000 1507800

Sump
Stack Out Pad
Truck Scale No. 1
Sump
Truck Scale No. 2 Below Silo
TO LANDFILL

N
W E
S

0 50 100
Feet

Scale: 1" = 100'

AERIAL PHOTOGRAPH FROM ORANGE COUNTY PROPERTY APPRAISER

IMAGERY DATE: JANUARY - FEBRUARY 2023

SITE PLAN OF COMBUSTION WASTE PROCESSING AREA

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

LANDFILL OPERATION & MAINTENANCE PLAN CELL 2 OF HORIZONTAL EXPANSION OF ORIGINAL COMBUSTION WASTE STORAGE AREA

OUC The Reliable One

STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

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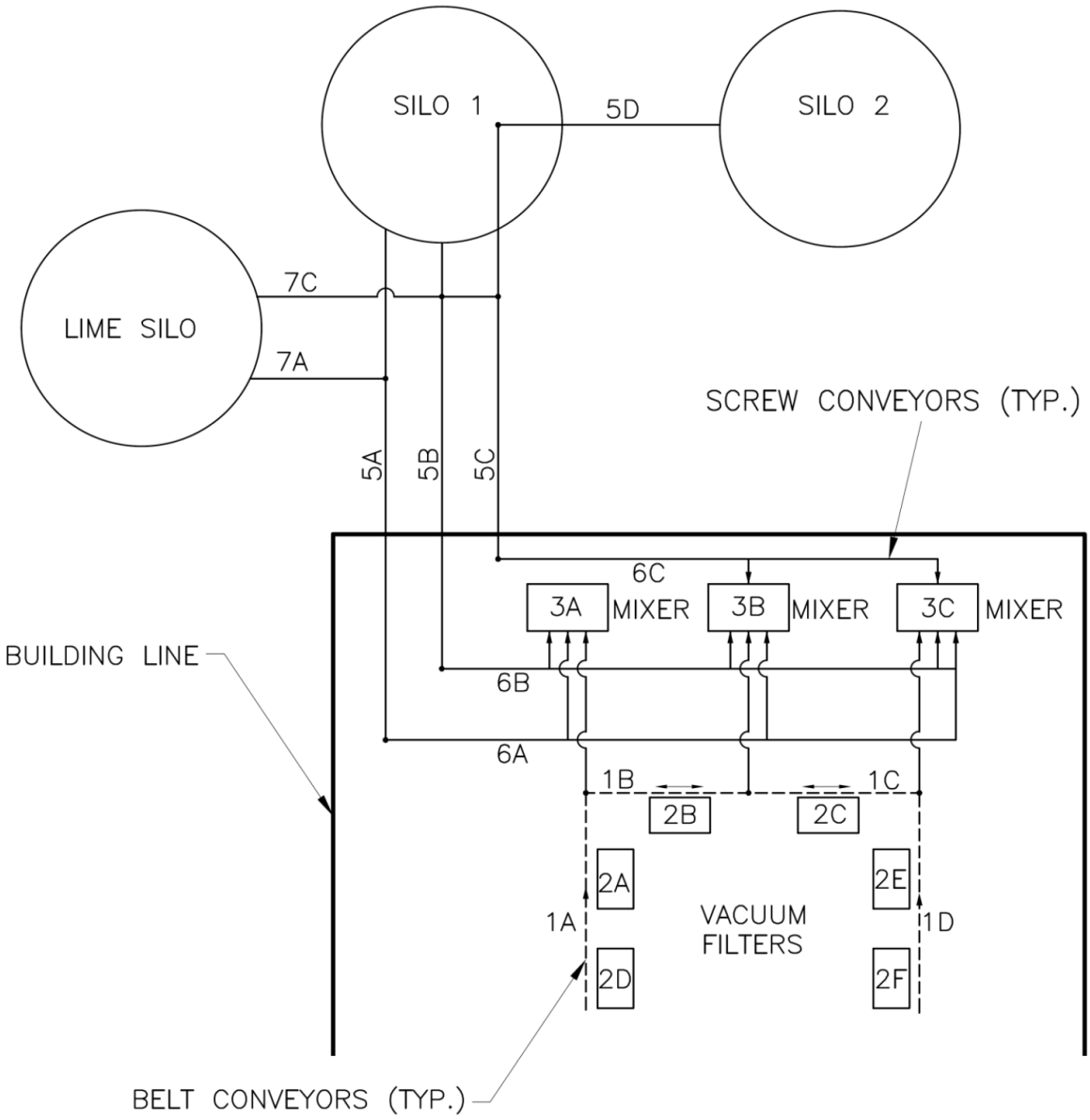
FILE NO. **23-13-0060**	APPROVED BY: **FKC**	FIGURE: **5**

File: \\2013\11\13-13-0166-OUC\ArcGIS\ArcLayouts\20161223Site_Map.mxd



SCHEMATIC OF MATERIAL FLOWS IN COMBUSTION WASTE PROCESSING FACILITY

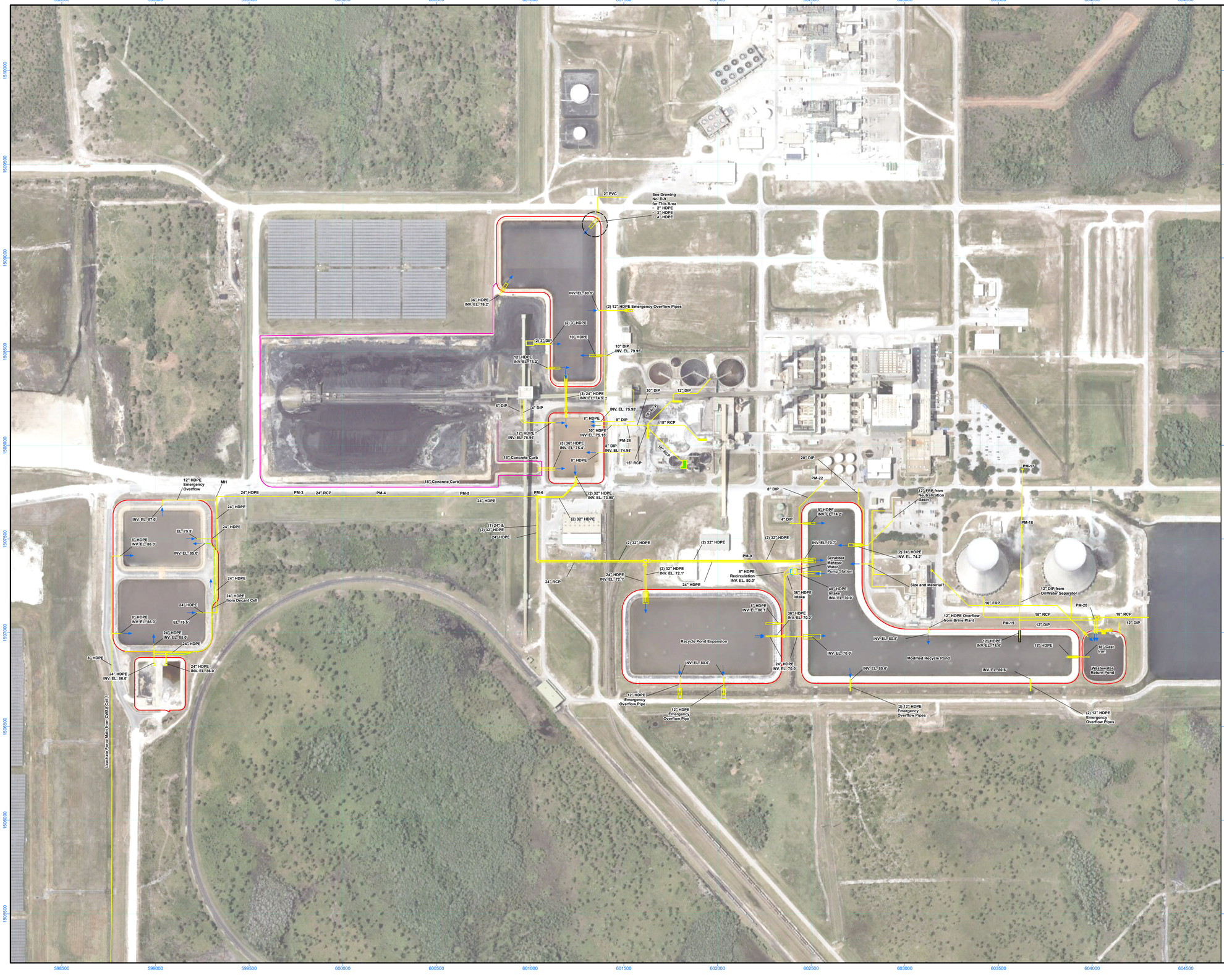
Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

LANDFILL OPERATION & MAINTENANCE PLAN
CELL 2 OF HORIZONTAL EXPANSION OF ORIGINAL COMBUSTION WASTE STORAGE AREA

OUC The Reliable One

STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

DRAWN BY: **PAK**	CHECKED BY: **JM**	DATE: **07/11/2024**
FILE NO. **23-13-0060**	APPROVED BY: **FKC**	FIGURE: **6**



N

0 125 250 500 US Feet

Scale: 1" = 250'

IMAGERY SOURCE:
GOOGLE EARTH, JANUARY 18, 2024

C:\Users\ANDREW.VANNESTE\Documents\Fig7_Stanton\Fig7_Stanton.aprx

PIPING FROM CWSA RUNOFF POND TO RECYCLE BASIN AND RECYCLE BASIN EXPANSION

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

LANDFILL OPERATION & MAINTENANCE PLAN CELL 2 OF HORIZONTAL EXPANSION OF ORIGINAL COMBUSTION WASTE STORAGE AREA

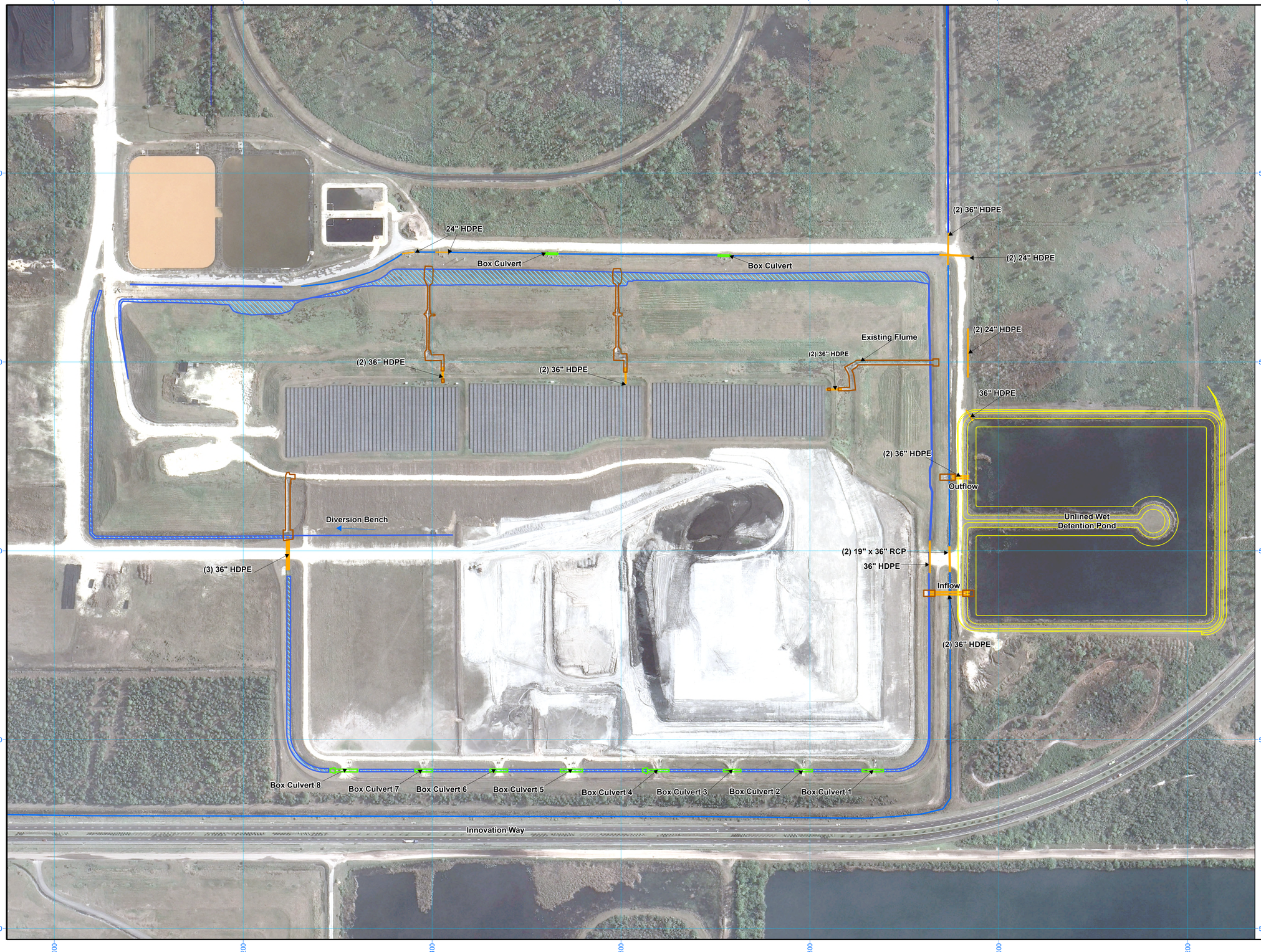
OUC The Reliable One

STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

DRAWN BY: **ACV**	CHECKED BY: **PAK**	DATE: **7/9/2024**
FILE NO. **23-13-0060**	APPROVED BY: **FKC**	FIGURE: **7**

1508000 1507200 1506400 1505600 1504800 1504000 1503200

599200 598400 597600 596800 596000



N E S W

0 200 400 Feet

IMAGERY SOURCE:
ORLANDO UTILITIES COMMISION, FEB 21, 2024
& GOOGLE EARTH, JAN 18, 2024

Legend

- Box Culvert
- Fabriform
- Non-Contact Water Drainage
- Ditch

STORMWATER DRAINAGE IN COMBUSTION WASTE STORAGE AREA

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

LANDFILL OPERATION & MAINTENANCE PLAN
CELL 2 OF HORIZONTAL EXPANSION OF
ORIGINAL COMBUSTION WASTE STORAGE AREA

OUC The Reliable One

STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

DRAWN BY: ACV	CHECKED BY: PAK	DATE: 7/9/2024
FILE NO. 23-13-0060	APPROVED BY: FKC	FIGURE: 8

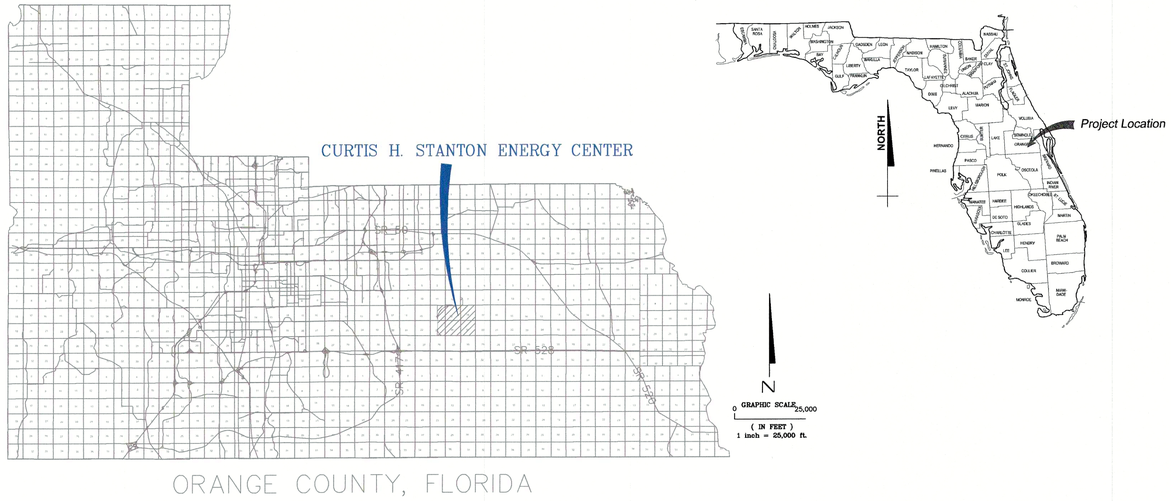
W:\Projects\2023\23-13-0060\ArcGIS\ArcLayouts\20240627_Combustion_Waste_Storage_Area\20240627_Combustion_Waste_Storage_Area.aprx

Appendix 1

Boundary Survey of Stanton Energy Center

Map of Boundary Survey
of
Curtis H. Stanton Energy Center

Located in
Section 12, 13, 14, 23 & 24, Township 23 South, Range 31 East
Orange County, Florida



LEGAL DESCRIPTION:

All of Section 18, Township 23 South, Range 32 East, Orange County, Florida;
plus the West 990 feet of the Southwest 1/4 of Section 7, Township 23 South, Range 32 East, Orange County, Florida.

less: Right-of-Way Agreement (Official Records Book 3537, page 1156)

Together with:

All of Section 19, Township 23 South, Range 32 East, Orange County, Florida.

Together with:

All of Section 24, Township 23 South, Range 31 East, Orange County, Florida.

Together with:

All of Section 13, Township 23 South, Range 31 East, Orange County, Florida,
less: Right-of-Way for Alafaya Trail Extension. (Official Records Book 8964 at Page 3164)

Together with:

The East 1/2 of Section 23, Township 23 South, Range 31 East, Orange County, Florida,
less: Right-of-Way for Alafaya Trail Extension. (Official Records Book 8964 at Page 3164)

Together with:

The East 1/2 of Section 14, Township 23 South, Range 31 East, Orange County, Florida,
less: Right-of-Way for Alafaya Trail Extension. (Official Records Book 8964 at Page 3164)

Together with:

The South 200' of the SW 1/4 of Section 12, Township 23 South, Range 31 East, Orange County, Florida

ROBERT MICHAEL JONES CERTIFICATE 4201 STATE OF FLORIDA REGISTERED LAND SURVEYOR

ROBERT M. JONES
FLORIDA PROFESSIONAL SURVEYOR AND MAPPER
LICENSE No. LS 4201

LEGEND:

(C)	=	Calculated
℄C/L	=	Centerline
CCR	=	Certified Corner Record
CHD	=	Chord Distance
CB	=	Chord Bearing
(D)	=	Deed
Δ	=	Delta Angle
(F)	=	Field
L	=	Length
R	=	Radius
ORB	=	Official Records Book
PC	=	Point of Curvature
PT	=	Point of Tangent
PI	=	Point of Intersection
CM	=	Concrete Monument
id	=	Identification
—|—	=	Line Not to Scale
———	=	Section line
▬▬	=	Boundary line
ROW	=	Right of Way
AKA	=	also known as
±	=	more or less

SURVEYOR'S NOTES:

1. This Boundary Survey is not valid without the signature and original raised Seal of a Florida Licensed Surveyor and Mapper.

2. Bearings shown hereon are relative to the Florida State Plane Coordinate System, Transverse Mercator Projection, Florida East Zone (FL E 0901), North American Datum of 1983/2007 adjustment based on the North line of the Northeast Quarter of Section 18, Township 23 South, Range 32 East as being South 89°58'05" West.

3. The lands described hereon were not abstracted for ownership, easements, rights-of-way or other matters of title by this firm nor were any such documents provided by the client.

4. The Legal Description shown hereon was prepared by the surveyor based upon a review of the Orange County Property Appraisers records.

5. Interior improvements were not located.

6. Underground improvements, if any, such as foundations and utilities, were not located.

7. This Boundary Survey certified to the Orlando Utilities Commission.

8. Lands surveyed contain acres:

3138.36 acres ± lying South and East of Alafaya Trail Extension
21.92 acres ± lying Southwest of Alafaya Trail Extension
125.38 acres ± lying North and West of Alafaya Trail Extension

3285.66 acres ± total

Last Day in Field: 08/24/2011

Prepared by: T1

WSP USA ENVIRONMENT & INFRASTRUCTURE, INC.
550 Northlake Boulevard, Suite 1000
Altamonte Springs, FL 32701 USA
Phone: (407) 522-7570
www.wsp.com
Certificate of Authorization Number LB-0007932

Prepared for:
ORLANDO UTILITIES COMMISSION
5971 Pershing Avenue
Orlando, Florida 32822
Phone: 407-384-4077

OUC The Reliable One

Revision	Date

Revision	Date
REVISED LOGO	08-17-17
RECERTIFIED	02-21-24

County: Orange County, Florida	Dwg. Date: 02/21/2024
Field Books: 1118-25,98;BK. 1124-49,66	Photo Date: 05/27/2022
Office No.: 6374.11.0514	Drawn by: M.P.
Dwg. Name:	Checked by: R.M.J.

Project Title:
Map of Boundary Survey
of
Curtis H. Stanton Energy Center
Located in
Orange County, Florida

Sheet No. 1 of 2

P:\63741\2011\63741110514 - OUC SEC Boundary\Recert SEC Boundary\Stanton Energy Center Boundary_WSP.dwg

Map of Boundary Survey

of

Curtis H. Stanton Energy Center

Located in

Section 12, 13, 14, 23 & 24, Township 23 South, Range 31 East

Orange County, Florida

GRAPHIC SCALE
0 300 600 1200
(IN FEET)
1 inch = 600 ft.

NORTH

125.38 acres
(per Orange County Property Appraiser Tax Parcel No. 14-23-31-0000-00-002 and 14-23-31-0000-00-010) that part of E 1/2 of Section 14 lying NW of Alafaya Trail ext. see O.R. Book 8964, Page 3164

The South 200' of the Southwest 1/4 of Section 12

That part of Section 13 lying North of Alafaya Trail Extension (per Orange County Property Appraiser Tax Parcel No. 13-23-31-0000-00-004) the South 200' of the SW 1/4 of Section 12 lying East of Alafaya Trail ext. see O.R. Book 8964, Page 3164

E 1/2 less Alafaya Trail Extension

(per Orange County Property Appraiser Tax Parcel No. 13-23-31-0000-00-001) the of E 1/2 of Section 14 less Alafaya Trail ext. see O.R. Book 8964, Page 3164

Section 13 less Alafaya Trail Extension (per Orange County Property Appraiser Tax Parcel No. 13-23-31-0000-00-001) all of Section 23 see O.R. Book 2774, Page 1423

(per Orange County Property Appraiser Tax Parcel No. 13-23-31-0000-00-001) all of NE 1/4 of Section 13 less Alafaya Trail ext. see O.R. Book 8964, Page 3164

E 1/2 less Alafaya Trail Extension

(per Orange County Property Appraiser Tax Parcel No. 13-23-31-0000-00-001) all of Section 24 see O.R. Book 4420, Page 4603

SE 1/4 of Section 23 see O.R. Book 3424, Page 2051

(per Orange County Property Appraiser Tax Parcel No. 23-23-31-0000-00-005) that part of SE 1/4 of Section 23 lying SW of Alafaya Trail ext. see O.R. Book 8964, Page 3164

21.92 acres

3138.36 acres

ALAFAYA TRAIL EXTENSION (Innovation Way) 120' right-of way (per Official Records Book 8964, Page 3164)

ALAFAYA TRAIL 130' right-of way

West Right-of-Way Line
East right-of-way line

Road Right-of-way (per O.R. Book 8964, Page 3164)

120' right-of way

the W 990' of SW 1/4 of Sec 07 per O.R. Book 3229, Page 0764, less Right-of-Way per O.R. Book 3537, page 1156

West 990' of the Southwest 1/4 less Right of Way (O.R.B. 3537, pg. 1156)

All of Section 18 per O.R. Book 3229, Page 0764

All of Section 19 per O.R. Book 3435, Page 2304

BOUNDARY (typical)

LIMITS OF OWNERSHIP SHOWN HEREON ARE CONSISTENT WITH ORANGE COUNTY PROPERTY APPRAISER RECORDS

ORANGE COUNTY LAND FILL

NW 1/4 | NE 1/4 | SW 1/4 | SE 1/4

Section 12 | Section 7 | Section 18 | Section 13 | Section 14 | Section 23 | Section 24 | Section 19

RANGE 31 EAST
RANGE 32 EAST

Northwest corner Section 14 Found 5"x5" concrete monument with iron rod (no id) 4' barbed wire fence corner 1.2' southeast

North 1/4 corner Section 14 Found 5"x5" concrete monument with iron rod (no id) 4' barbed wire fence corner 1.2' southeast

Northeast corner Section 14 Found nail & disc LB3963 in concrete footer of 6' chain link fence post

West 1/4 corner Section 14 No Corner Found, Not Set

Center 1/4 corner Section 14 Found 4"x4" concrete monument with 3" disc "CEN 14 T23S R31E 4' barbed wire fence 0.9' east

East 1/4 corner Section 14 Found 5"x5" concrete monument with iron rod (no id)

West 1/4 corner Section 12 Found 5"x5" concrete monument with 1/2" rebar (no id)

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 4' barbed wire fence 4.6' southeast

Found 4"x4" concrete monument labeled "O.C.C.R. LS 5197" (per Official Records Book 8964, Page 3164)

North 1/4 corner Section 13 Found 1/2" IRC LB6393 under 6' chain link fence

Northeast corner Section 13 Found 5"x5" concrete monument (no id) 4' barbed wire fence corner 0.2' south

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) under 6' chain link fence

Found 1/2" IRC LB6393 0.7' southeast of 6' chain link fence 1.5' southwest of 4' barbed wire fence

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 0.6' north of 6' chain link fence

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 0.3' north of 6' chain link fence

Found 4"x4" concrete monument labeled "O.C.C.R. LS 5197" (per Official Records Book 8964, Page 3164)

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 4' barbed wire fence 1.4' east

Found 5/8" IRC "Tinklepaugh LB3778 0.30' south, 2.35' east 4' barbed wire fence 0.9' east

Found 1-1/4" IPC "Tinklepaugh LB3778 0.30' North, 0.07' East

East 1/4 corner Section 7 Found 4"x4" concrete monument with disc (2.5' underwater)

North 1/4 corner Section 18 Found 5"x5" concrete monument with iron rod (no id) 4' barbed wire fence 0.5' south

Northwest corner Section 18 Found 4"x4" concrete monument with iron rod (no id) 4' barbed wire fence corner 0.5' south, 1.4' west

East 1/4 corner Section 18 Found 6"x6" concrete monument (no id) 4' barbed wire fence 0.5' west

Found 4"x4" concrete monument labeled "O.C.C.R. LS 5197" (per Official Records Book 8964, Page 3164)

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.1' east

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.6' east

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.5' east

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.6' east

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.4' east

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.7' north

Northwest corner Section 23 Found 1/2" iron rod (no id)

West 1/4 corner Section 23 No Corner Found, Not Set calculated location from CCR # 073307

Found 4"x4" concrete monument with 3" disc "CEN 23 T23S R31E

Found 4"x4" concrete monument labeled "O.C.C.R. LS 5197" (per Official Records Book 8964, Page 3164)

South 1/4 corner Section 23 Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) "based on ORB 8964, page 3164) calculated location from CCR # 073318

Southwest corner Section 23 No Corner Found, Not Set calculated location from CCR # 073317

East 1/4 corner Section 23 Found 5" octagonal concrete monument with nail (no id)

Northeast corner Section 23 Found 5"x5" concrete monument with nail (no id)

Southwest corner Section 24 Found 5"x5" concrete monument with tack (no id) 4' barbed wire fence (1' north)

South 1/4 corner Section 24 Found 4"x4" concrete monument with 3" brass cap "T23S R32E"

Southwest corner Section 19 Found 6"x6" concrete monument with "X" cut (no id)

South 1/4 corner Section 19 Found 6"x6" concrete monument with iron rod (no id) 4' barbed wire fence 0.8' north

Northeast corner Section 19 Found 6"x6" concrete monument (no id) 4' barbed wire fence 0.7' west

East 1/4 corner Section 19 Found 6"x6" concrete monument (no id) 4' barbed wire fence 0.5' west

Southeast corner Section 19 Found 5"x5" concrete monument (no id) 4' barbed wire fence corner 0.8' northwest

No Corner Found, Not Set

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.7' north

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.6' south

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.7' south

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.7' south

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.4' south

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.6' south

Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.7

Appendix 2

Selected Design Drawings for Cell 2, Wet Detention Pond, CWSA Runoff Pond, and Decant Cell

Index of Drawings Included in This Appendix

Drawing No.	Title
Cell 2 of Horizontal Expansion	
G-5	Topographic Map
CS-6	Leachate Collection System Plan
CS-7	Protective Cover Soil Final Grading Plan
CS-13	Final Configuration - Conceptual Closure Plan
CS-14	Final Configuration - Cross Sections
D-1	Liner System Details
D-2	Sump Details and Cross Sections
D-7	Stormwater Management System Layout and Miscellaneous Details
D-8	Force Main Cleanout Detail
D-9	Plan View of West Haul Road Through Cell 2
D-10	Cross Sections and Detail of West Haul Road Through Cell 2
M2001	Leachate Collection System P&ID
M3001	Leachate Collection System Overall Plan
M4001	Leachate Collection System Enlarged Plan
M4002	Leachate Collection System Enlarged Plan
M6001	Leachate Collection System Sections
V100	As-Built Survey Final Surface Layer
Wet Detention Pond	
P-1	Proposed Wet Detention Pond Plan and Details
3-16	As-Built Survey of Wet Detention Pond
CWSA Runoff Pond	
CS-9	CWSA Runoff Pond Soil Cement Final Grading Plan
CS-14	CWSA Runoff Pond Soil Cement Final Grading Cross Sections
Decant Cell	
DC-7	Decant Cell Plan and Gravel Filter Details
DC-10	Decant Cell Final Grading Cross Sections

POST CONSTRUCTION DRAWINGS

FOR

HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER

ORANGE COUNTY, FLORIDA

OUC The Reliable One®

AUGUST 2021

Prepared By

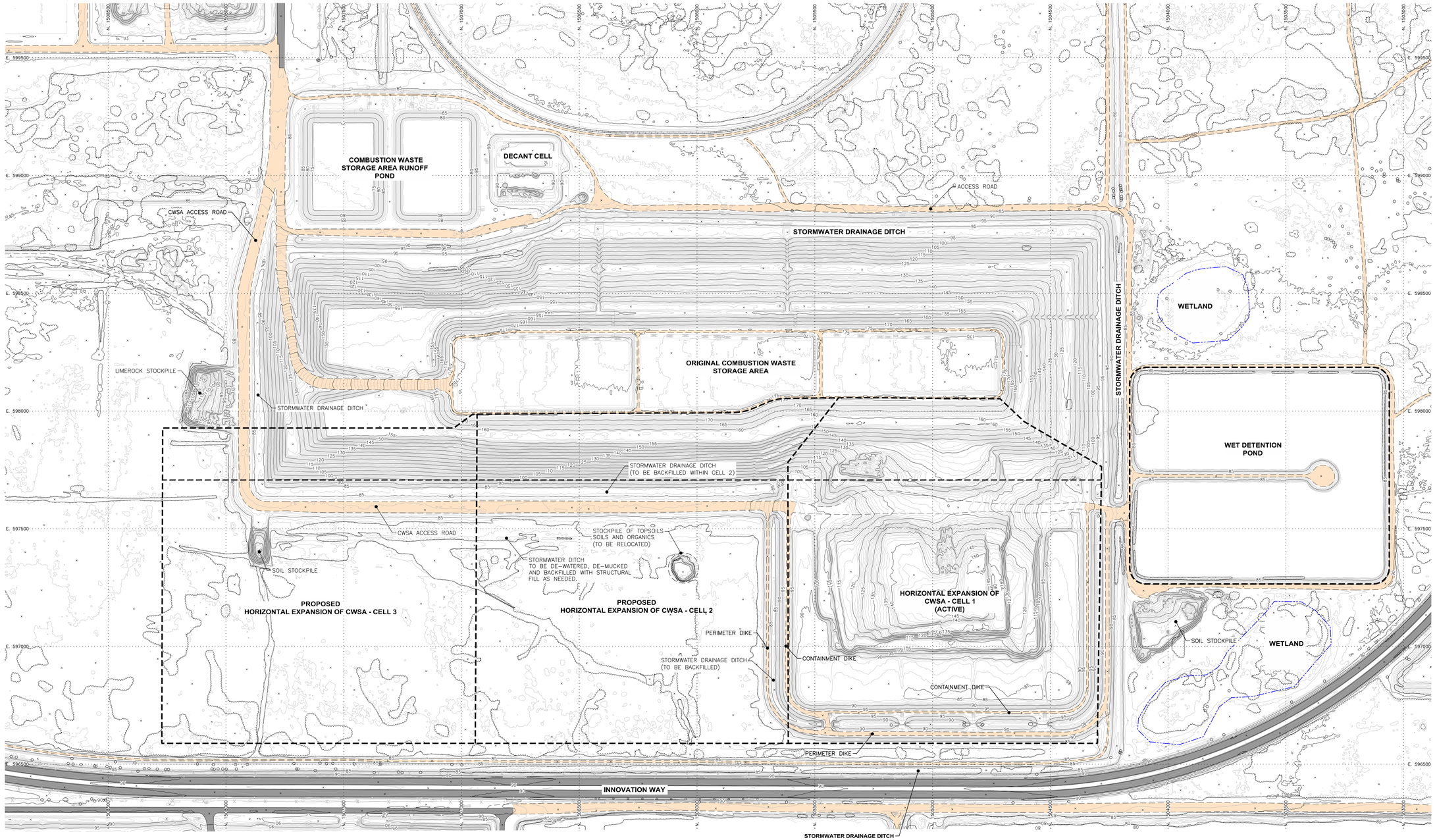
Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

ARDAMAN & ASSOCIATES, INC. FILE NO.
17-13-0166

MOHAMAD AL-HAWAREE, P.E.
FLORIDA LICENSE NO. 58537

DRAWING NO. G-1

R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\G-1 COVER SHEET.dwg 9/03/2021 10:35:50 AM, mosaab.mohammed



N

0 200 400

SCALE: 1"=200'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM
0	08/13/19	ISSUED FOR CONSTRUCTION	JM

REVISION	DATE	DESCRIPTION	APPR'D
P4	09/19/18	ISSUED FOR BID	JM
P3	07/24/18	ISSUED FOR REGULATORY REVIEW	JM
P2	06/28/18	ISSUED FOR OWNER'S REVIEW (90% COMPLETE)	JM
P1	04/30/18	ISSUED FOR REGULATORY PRELIMINARY REVIEW	JM
P0	04/20/18	ISSUED FOR OWNER'S REVIEW (50% COMPLETE)	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	12/11/17	CHECKED BY	FKC	04/09/18
DRAWN BY	MAM	12/11/17	CHECKED BY	DTC	04/19/18
FILE NO.: 17-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
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8008 S. Orange Ave, Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One

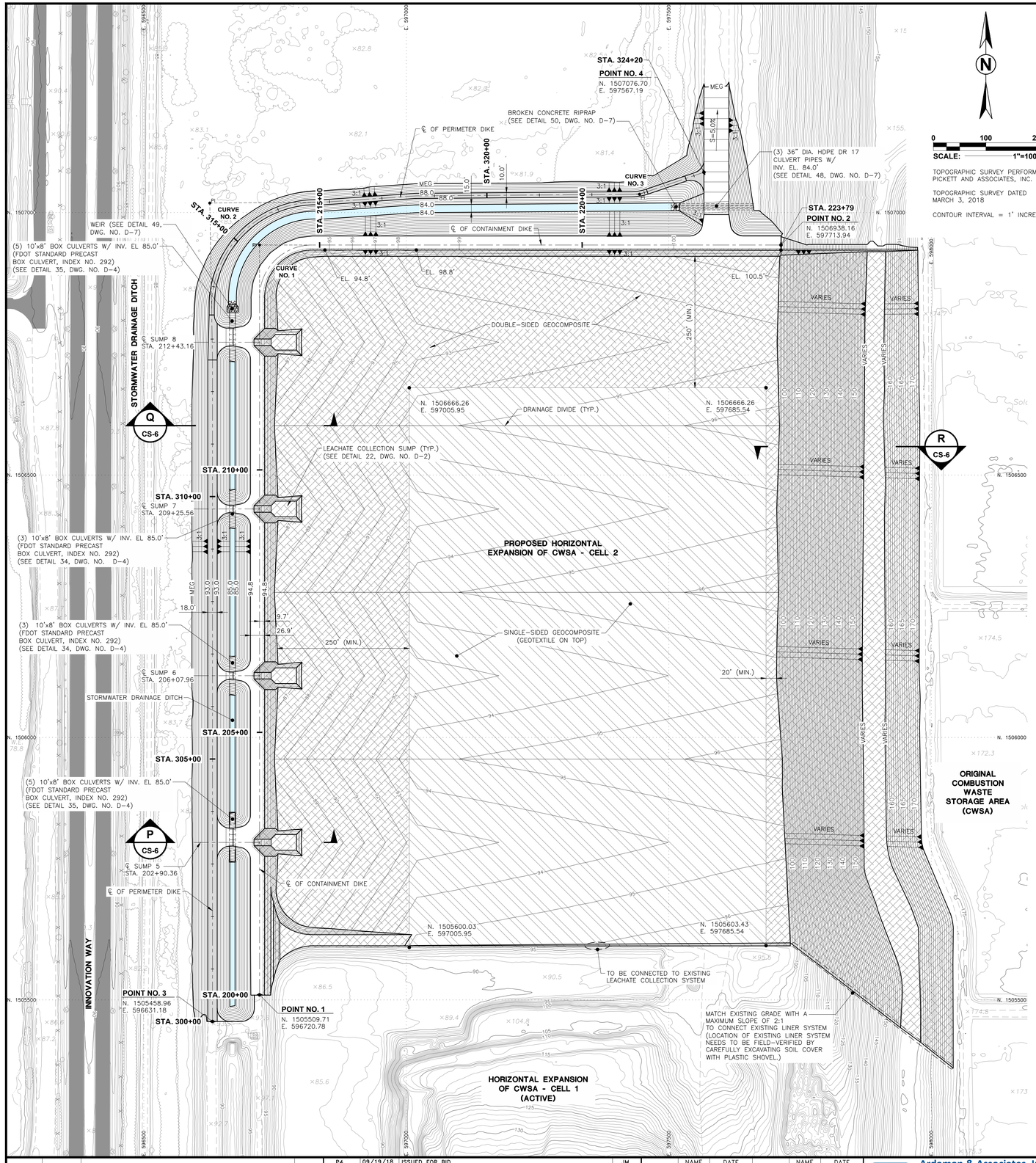
HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

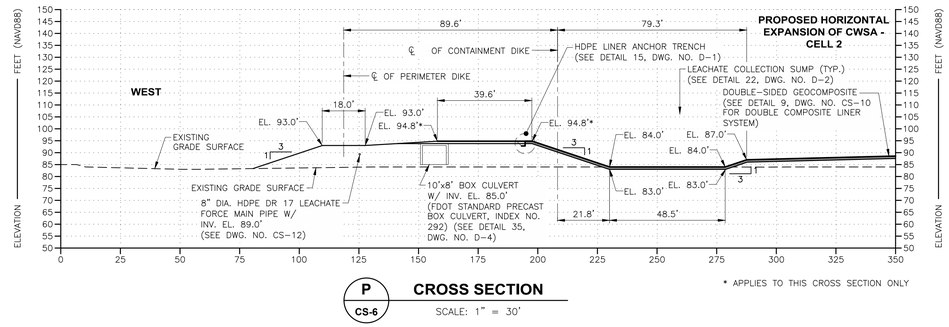
OUC STANTON ENERGY CENTER ORANGE COUNTY, FLORIDA

TOPOGRAPHIC MAP

DRAWING NO. **G-5**

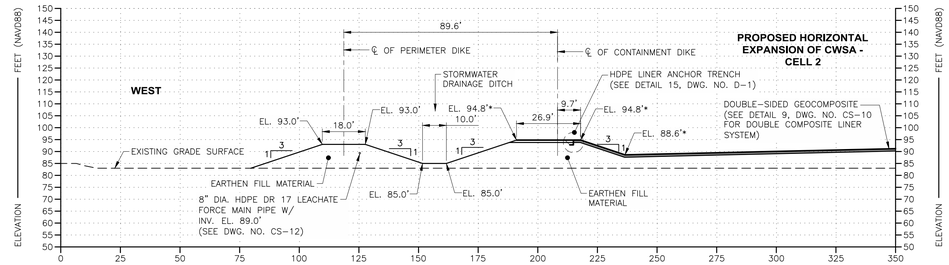
R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\G-5 TOPOGRAPHIC MAP.dwg 2021/09/03 10:37 AM, Mohammed, Mosaab





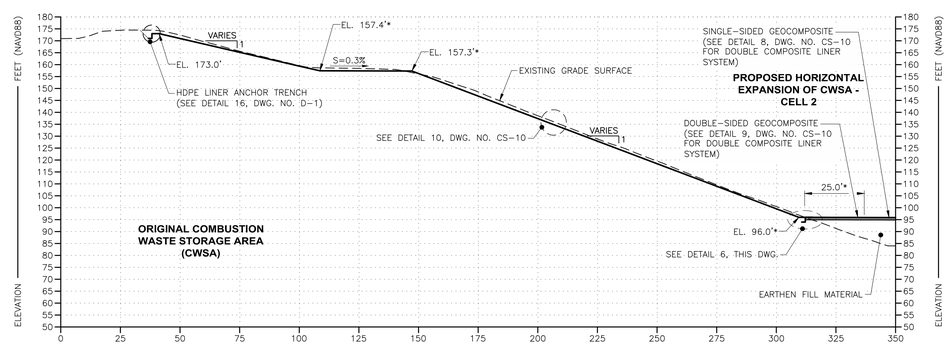
P CS-6 **CROSS SECTION**

SCALE: 1" = 30'



Q CS-6 **CROSS SECTION**

SCALE: 1" = 30'



R CS-6 **CROSS SECTION**

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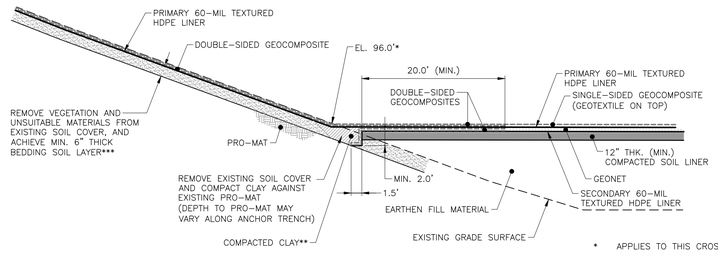

* APPLIES TO THIS CROSS SECTION ONLY

** INSTALL LEAK DETECTION SYSTEM GEOCOMPOSITE PRIOR TO BACKFILLING AND COMPACTING THE ANCHOR TRENCH.

*** SLOPE DESIGN GRADE IS ESTABLISHED TO MINIMIZE EXCAVATION INTO WASTE MATERIAL AND PROVIDE 6-INCH THICK BEDDING LAYER WITH A SMOOTH SURFACE FOR LINER PLACEMENT. IF INCIDENTAL WASTE MATERIALS WERE ENCOUNTERED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF OVEREXCAVATION OF WASTE MATERIAL AND PROVIDE MINIMUM 6-INCH THICK BEDDING LAYER.

6 CS-6 **ANCHOR TRENCH DETAIL ALONG TOE OF ORIGINAL CWSA**

SCALE: 1" = 10'

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM
0	08/13/19	ISSUED FOR CONSTRUCTION	JM

REVISION	DATE	DESCRIPTION	APPR'D
P4	09/19/18	ISSUED FOR BID	JM
P3	07/24/18	ISSUED FOR REGULATORY REVIEW	JM
P2	06/28/18	ISSUED FOR OWNER'S REVIEW (90% COMPLETE)	JM
P1	04/30/18	ISSUED FOR REGULATORY PRELIMINARY REVIEW	JM
P0	04/20/18	ISSUED FOR OWNER'S REVIEW (50% COMPLETE)	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	12/11/17	CHECKED BY	FKC	04/09/18
DRAWN BY	MAM	12/11/17	CHECKED BY	DTC	04/19/18
FILE NO.: 17-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

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TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One

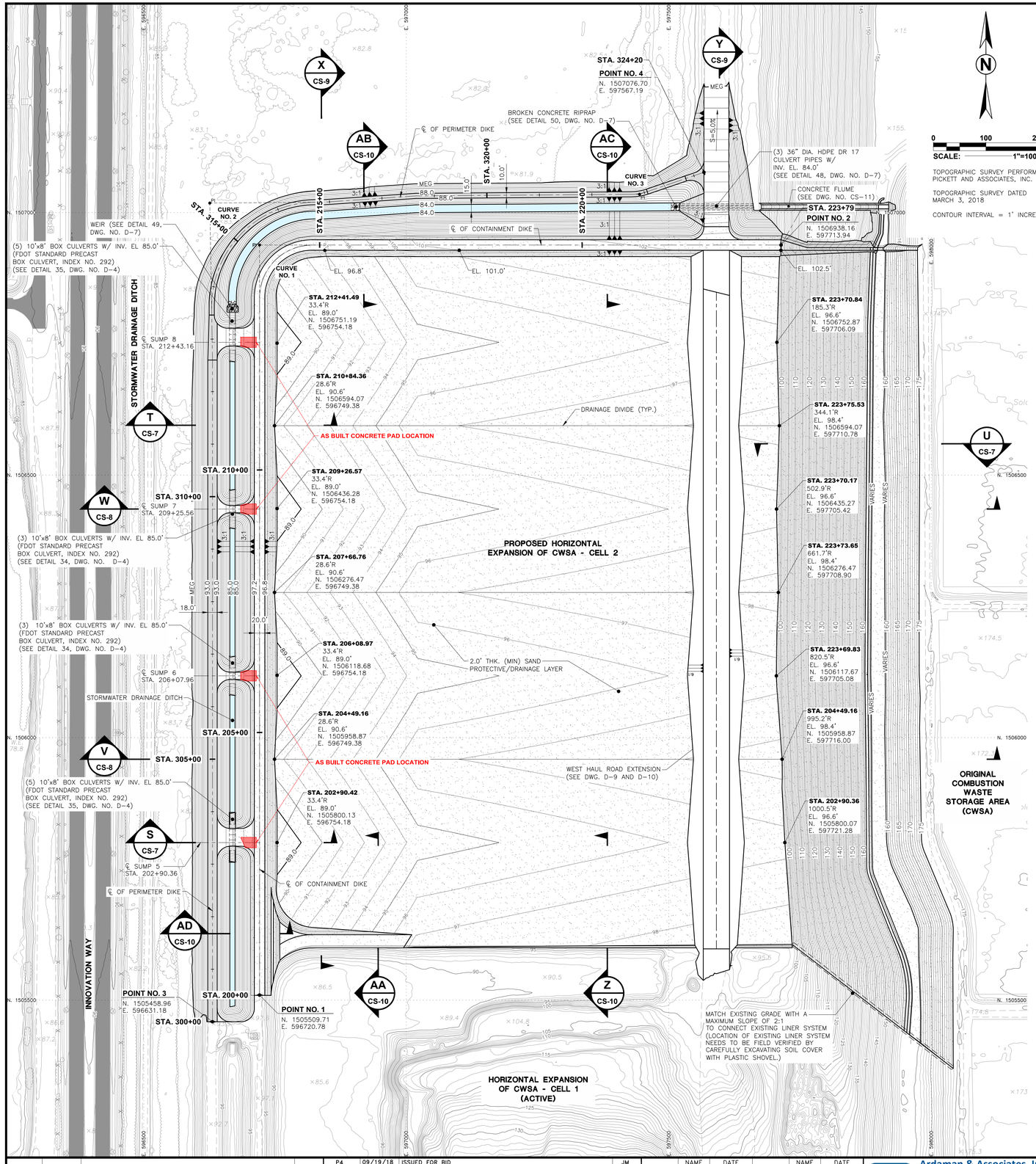
HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

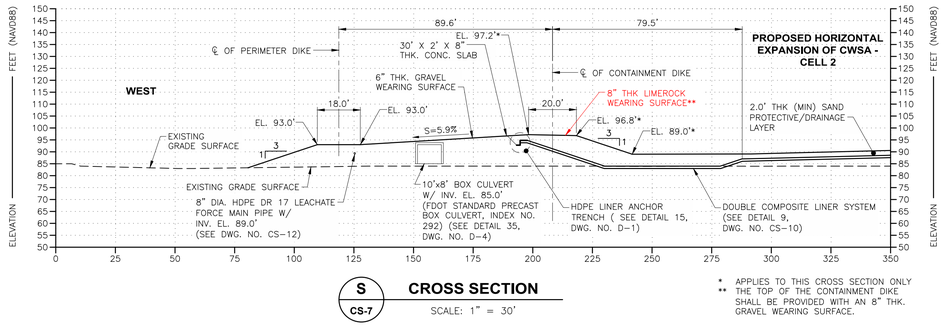
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

LEACHATE COLLECTION SYSTEM PLAN

DRAWING NO. **CS-6**

R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\CS-6 LEACHATE COLLECTION SYSTEM PLAN.dwg 2021/09/03 10:43 AM, Mohammed, Mosab

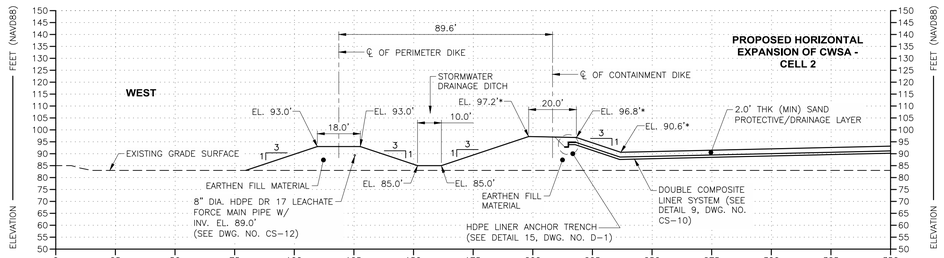




S CS-7 **CROSS SECTION**

SCALE: 1" = 30'

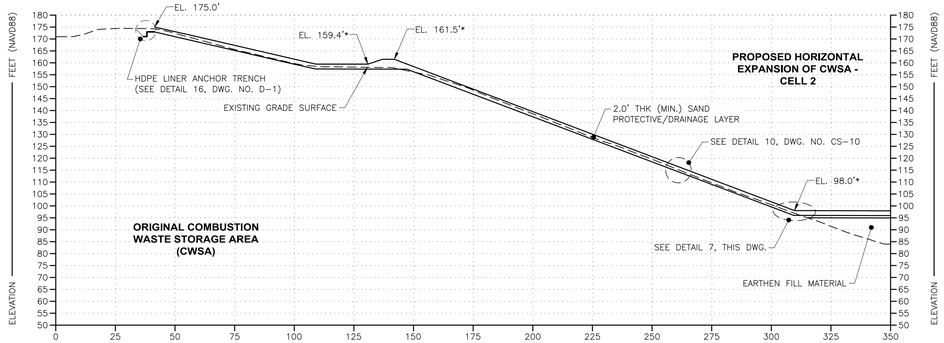
* APPLIES TO THIS CROSS SECTION ONLY
** THE TOP OF THE CONTAINMENT DIKE SHALL BE PROVIDED WITH AN 8" THK. GRAVEL WEARING SURFACE.



T CS-7 **CROSS SECTION**

SCALE: 1" = 30'

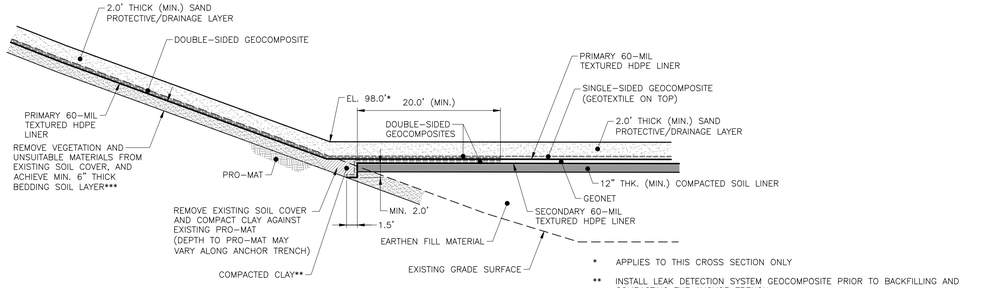
* APPLIES TO THIS CROSS SECTION ONLY



U CS-7 **CROSS SECTION**

SCALE: 1" = 30'

* APPLIES TO THIS CROSS SECTION ONLY



* APPLIES TO THIS CROSS SECTION ONLY

** INSTALL LEAK DETECTION SYSTEM GEOCOMPOSITE PRIOR TO BACKFILLING AND COMPACTING THE ANCHOR TRENCH.

*** SLOPE DESIGN GRADE IS ESTABLISHED TO MINIMIZE EXCAVATION INTO WASTE MATERIAL AND PROVIDE 6-INCH THICK BEDDING LAYER WITH A SMOOTH SURFACE FOR LINER PLACEMENT. IF INCIDENTAL WASTE MATERIALS WERE ENCOUNTERED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF OVEREXCAVATION OF WASTE MATERIAL AND PROVIDE MINIMUM 6-INCH THICK BEDDING LAYER.

7 CS-7 **ANCHOR TRENCH DETAIL ALONG TOE OF ORIGINAL CWSA**

SCALE: 1" = 10'

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM
0	08/13/19	ISSUED FOR CONSTRUCTION	JM

REVISION	DATE	DESCRIPTION	APPR'D
P4	09/19/18	ISSUED FOR BID	JM
P3	07/24/18	ISSUED FOR REGULATORY REVIEW	JM
P2	06/28/18	ISSUED FOR OWNER'S REVIEW (90% COMPLETE)	JM
P1	04/30/18	ISSUED FOR REGULATORY PRELIMINARY REVIEW	JM
P0	04/20/18	ISSUED FOR OWNER'S REVIEW (50% COMPLETE)	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	12/11/17	CHECKED BY	FKC	04/09/18
DRAWN BY	MAM	12/11/17	CHECKED BY	DTC	04/19/18
FILE NO.: 17-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One®

HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

OUC STANTON ENERGY CENTER ORANGE COUNTY, FLORIDA

PROTECTIVE SOIL COVER FINAL GRADING PLAN

DRAWING NO. **CS-7**

R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\CS-7 PROTECTIVE SOIL COVER FINAL GRADING PLAN.dwg 2021/09/03 10:43 AM, Mohammed, Mosaab

ORIGINAL COMBUSTION WASTE STORAGE AREA (CWSA)

HORIZONTAL EXPANSION OF CWSA - CELL 1 (ACTIVE)

PROPOSED HORIZONTAL EXPANSION OF CWSA - CELL 2

SEE DETAIL 27, DWG. NO. D-3

SEE DETAIL 26, DWG. NO. D-3

SEE DETAIL 26, DWG. NO. D-3

18" DIA. HDPE DR 17 PIPE

12" DIA. HDPE DR 17 PIPE

12" DIA. HDPE DR 17 PIPE

TYPE (C) INLET (FDOT INDEX NO. 232) (SEE DETAIL 32, DWG. NO. D-3)

TYPE (C) INLET (FDOT INDEX NO. 232) (SEE DETAIL 32, DWG. NO. D-3)

STORM DRAIN ENDWALL (SEE DETAIL 28, DWG. NO. D-3)

STORMWATER DRAINAGE DITCH

(5) 10'x8' BOX CULVERTS W/ INV. EL. 85.0' (FDOT STANDARD PRECAST BOX CULVERT, INDEX NO. 292) (SEE DETAIL 35, DWG. NO. D-4)

(3) 10'x8' BOX CULVERTS W/ INV. EL. 85.0' (FDOT STANDARD PRECAST BOX CULVERT, INDEX NO. 292) (SEE DETAIL 34, DWG. NO. D-4)

(3) 10'x8' BOX CULVERTS W/ INV. EL. 85.0' (FDOT STANDARD PRECAST BOX CULVERT, INDEX NO. 292) (SEE DETAIL 34, DWG. NO. D-4)

(5) 10'x8' BOX CULVERTS W/ INV. EL. 85.0' (FDOT STANDARD PRECAST BOX CULVERT, INDEX NO. 292) (SEE DETAIL 35, DWG. NO. D-4)

℄ OF CONTAINMENT DIKE

℄ OF PERIMETER DIKE

℄ OF CONTAINMENT DIKE

℄ OF PERIMETER DIKE

MEG

MEG (TOS)

AN CS-14

AM CS-14

AL CS-14

INNOVATION WAY

Solar Panels

N

0 100 200

SCALE: 1"=100'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC.

TOPOGRAPHIC SURVEY DATED MARCH 3, 2018

CONTOUR INTERVAL = 1' INCREMENT

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM
0	08/13/19	ISSUED FOR CONSTRUCTION	JM

REVISION	DATE	DESCRIPTION	APPR'D
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HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

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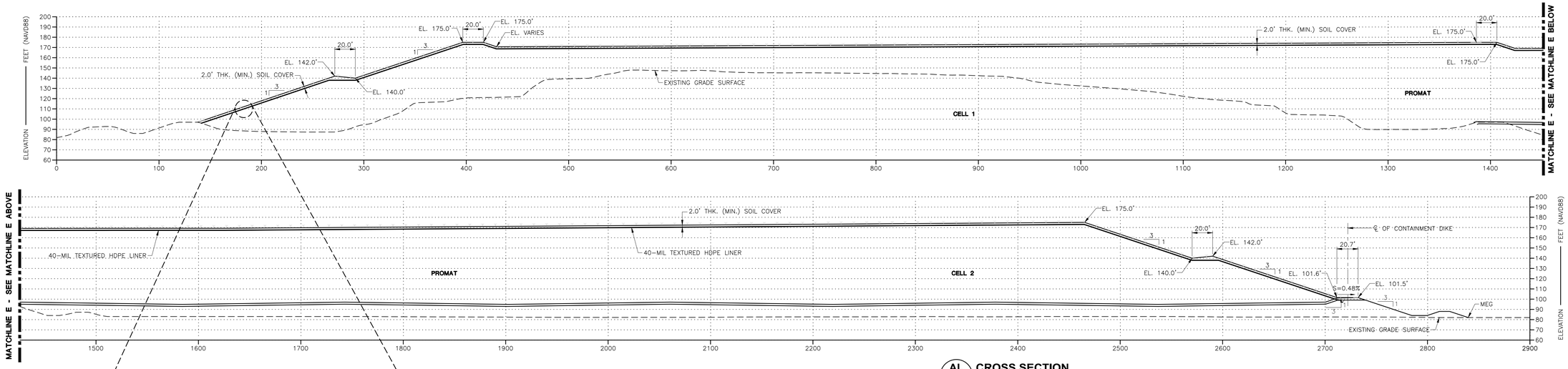
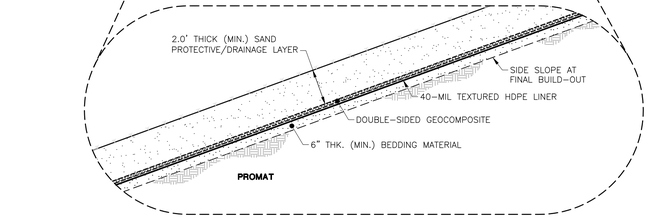
ORANGE COUNTY, FLORIDA

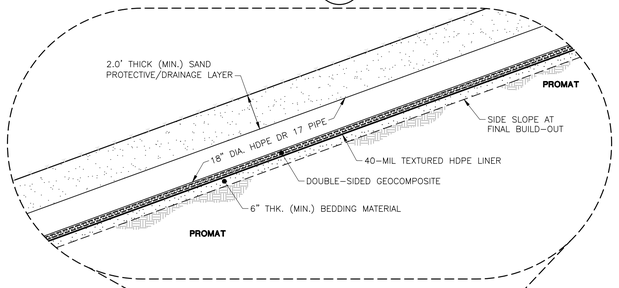
FINAL CONFIGURATION - CONCEPTUAL CLOSURE PLAN

DRAWING NO.
CS-13

R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\CS-13 FINAL CONFIGURATION - CONCEPTUAL CLOSURE PLAN.dwg 2022/01/12 8:08 PM, ValenciaCarvajal, Domenico

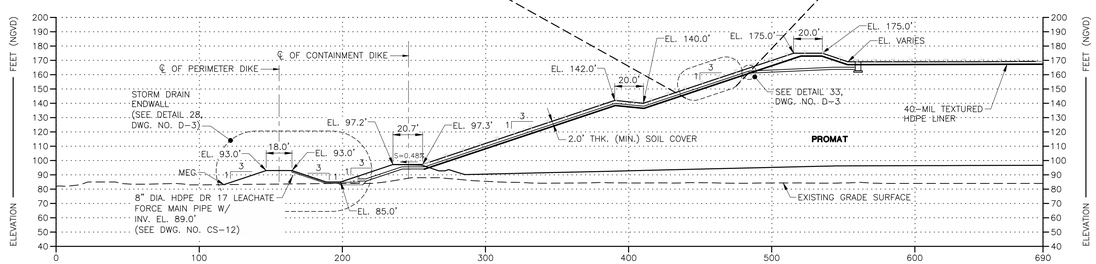






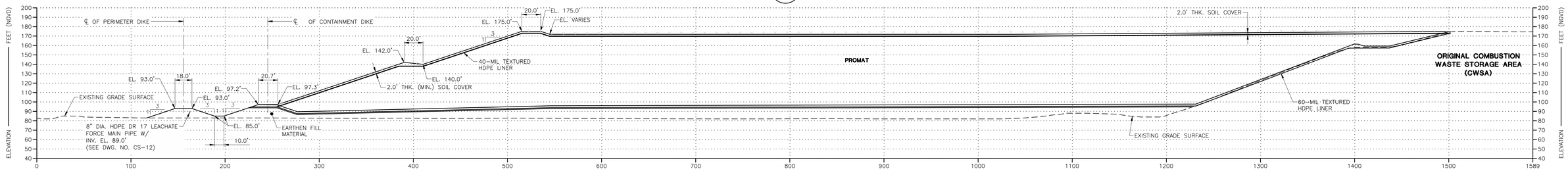
AL CROSS SECTION

CS-13 SCALE: 1" = 50'



AM CROSS SECTION

CS-13 SCALE: 1" = 50'



AN CROSS SECTION

CS-13 SCALE: 1" = 50'

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0	08/13/19	ISSUED FOR CONSTRUCTION	JM

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HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

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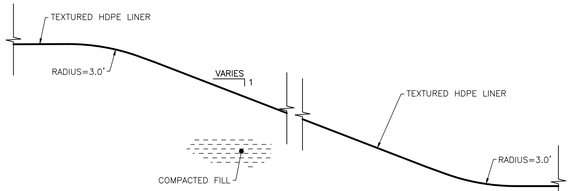
ORANGE COUNTY, FLORIDA

FINAL CONFIGURATION - CROSS SECTIONS

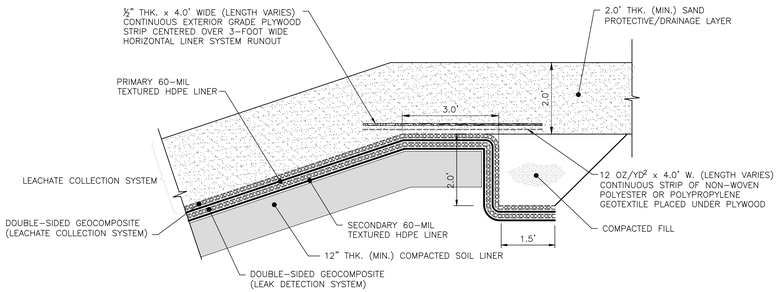
DRAWING NO. CS-14

R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\CS-14 FINAL CONFIGURATION - CROSS SECTIONS.dwg 2021/09/03 10:45 AM, Mohammed, Mosaab



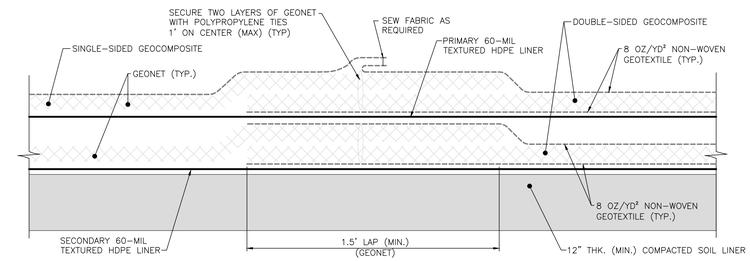
12 - TOP OF SLOPE AND LINER CURVATURE DETAIL

NOT TO SCALE



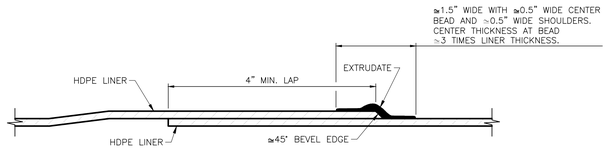
15 - DOUBLE COMPOSITE LINER SYSTEM ANCHOR TRENCH DETAIL (TYP.)

NOT TO SCALE

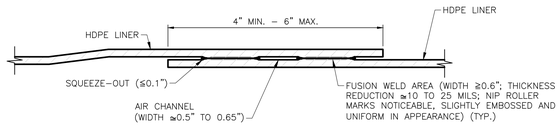


18 - GEONET / GEOTEXTILE CONNECTION FOR BOTH LEAK DETECTION SYSTEM AND LEACHATE COLLECTION SYSTEM (END-TO-END)

NOT TO SCALE



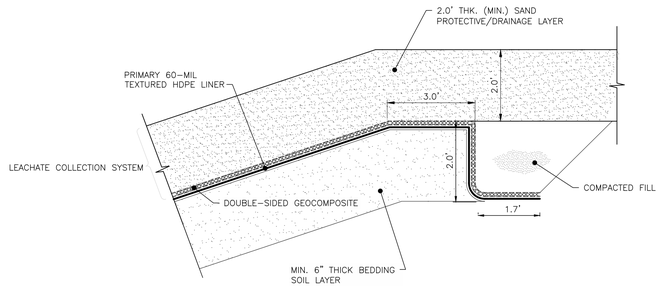
TYPICAL EXTRUSION FILLET WELD



TYPICAL DOUBLE-WEDGE FUSION WELD

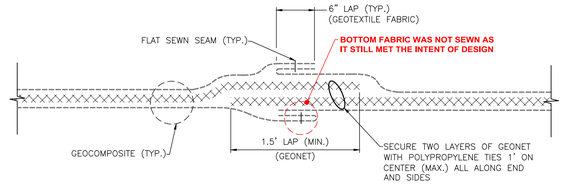
13 (D-6) - FUSION AND EXTRUSION WELD DETAILS

NOT TO SCALE



16 - SINGLE HDPE LINER SYSTEM ANCHOR TRENCH DETAIL (TYP.)

NOT TO SCALE

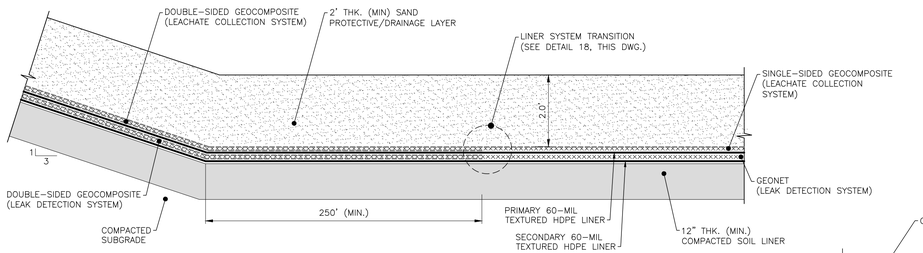


19 - GEOCOMPOSITE END-TO-END CONNECTION DETAIL

NOT TO SCALE

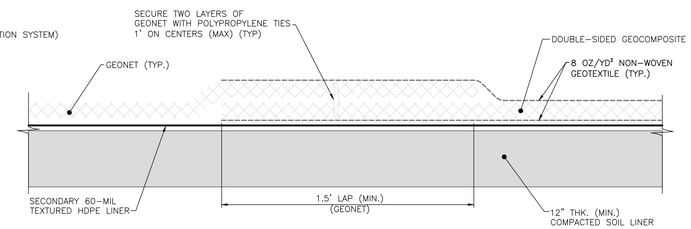
20 - LEACHATE COLLECTION PIPE CROSS SECTION (TYP.)

NOT TO SCALE



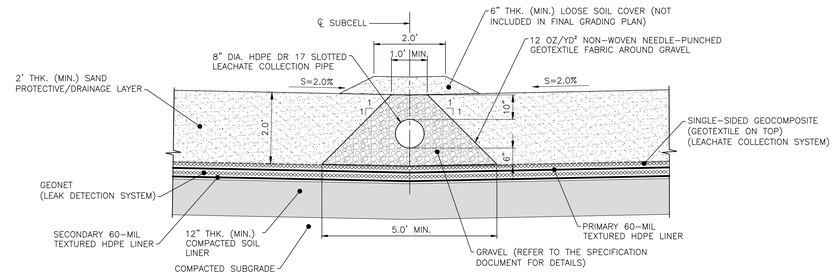
14 - LINER SYSTEM DETAIL (TYP.)

NOT TO SCALE



17 - GEONET / GEOCOMPOSITE CONNECTION FOR LEAK DETECTION SYSTEM (END-TO-END)

NOT TO SCALE



21 - LEACHATE COLLECTION PIPE CROSS SECTION (TYP.)

NOT TO SCALE

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM
0	08/13/19	ISSUED FOR CONSTRUCTION	JM

REVISION	DATE	DESCRIPTION	APPR'D
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P3	07/24/18	ISSUED FOR REGULATORY REVIEW	JM
P2	06/28/18	ISSUED FOR OWNER'S REVIEW (90% COMPLETE)	JM
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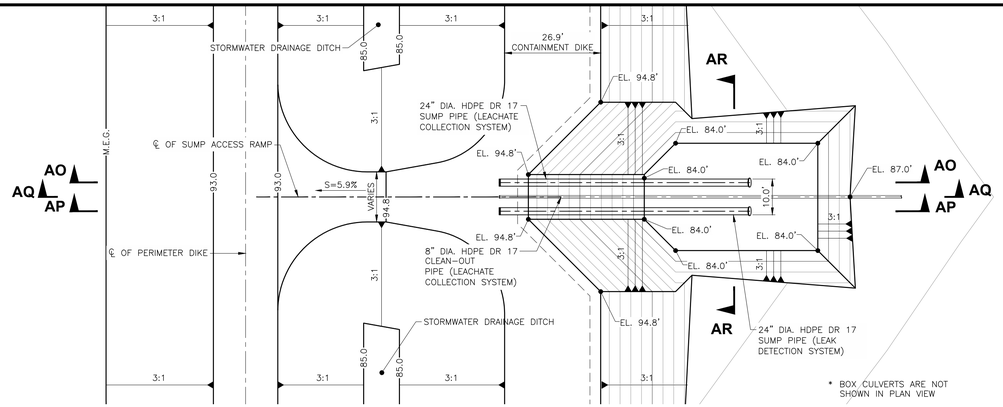
HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

LINER SYSTEM DETAILS

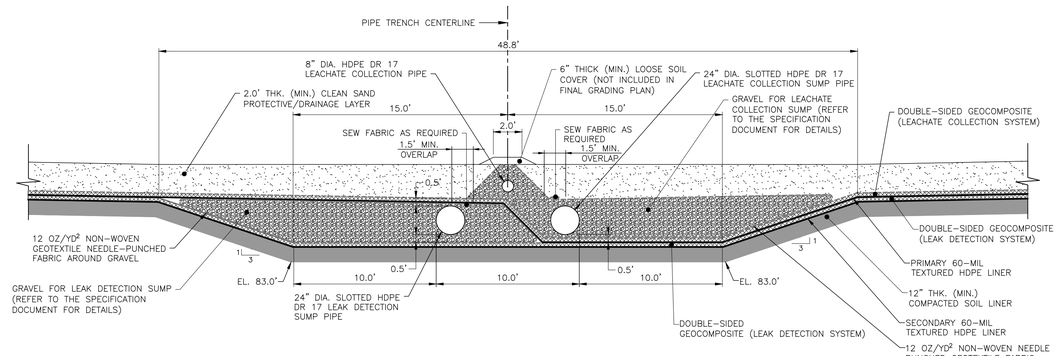
DRAWING NO. D-1

R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\D-1 LINER SYSTEM DETAILS.dwg 9/23/2021 10:45:53 AM, mostafa.mohammed



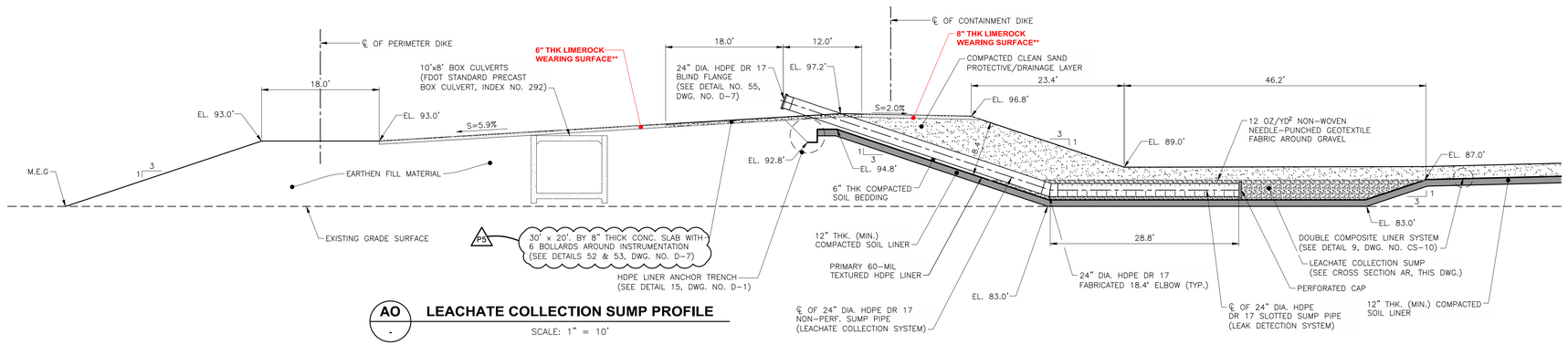
22 - SUMP PLAN VIEW

SCALE: 1" = 20'



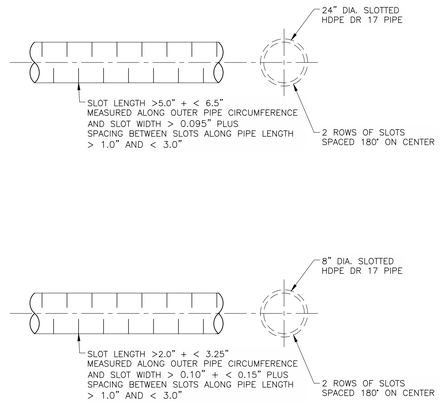
AR - SUMP CROSS SECTION (TYP.)

SCALE: 1" = 5'



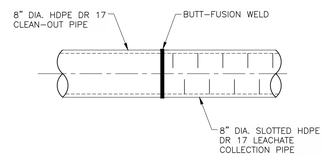
AO - LEACHATE COLLECTION SUMP PROFILE

SCALE: 1" = 10'



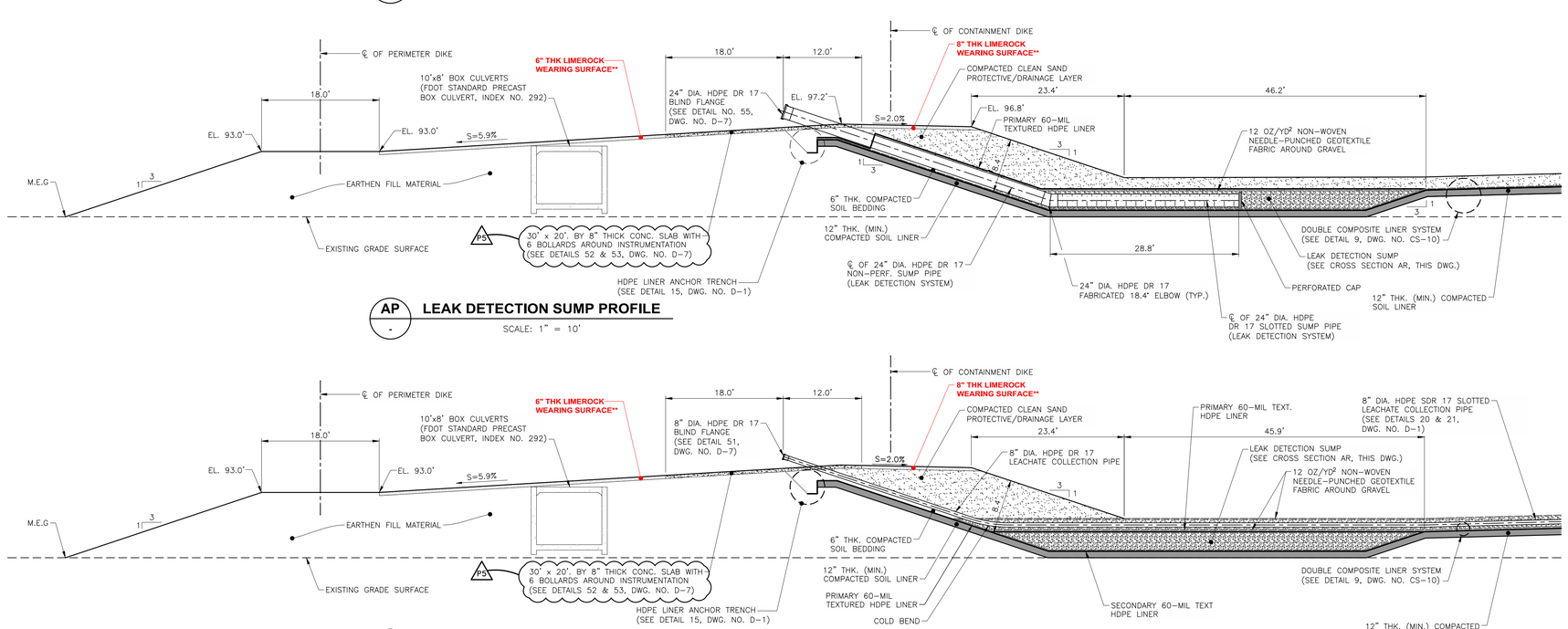
24 - SLOTTED HDPE PIPE DETAIL

NOT TO SCALE



25 - HDPE CLEAN-OUT PIPE TO SLOTTED HDPE LEACHATE COLLECTION PIPE CONNECTION DETAIL

NOT TO SCALE



AP - LEAK DETECTION SUMP PROFILE

SCALE: 1" = 10'

AQ - LEACHATE COLLECTION PIPE

SCALE: 1" = 10'

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM
0	08/13/19	ISSUED FOR CONSTRUCTION	JM
P5	08/02/19	ADDED BOLLARDS	JM
P4	09/19/18	ISSUED FOR BID	JM
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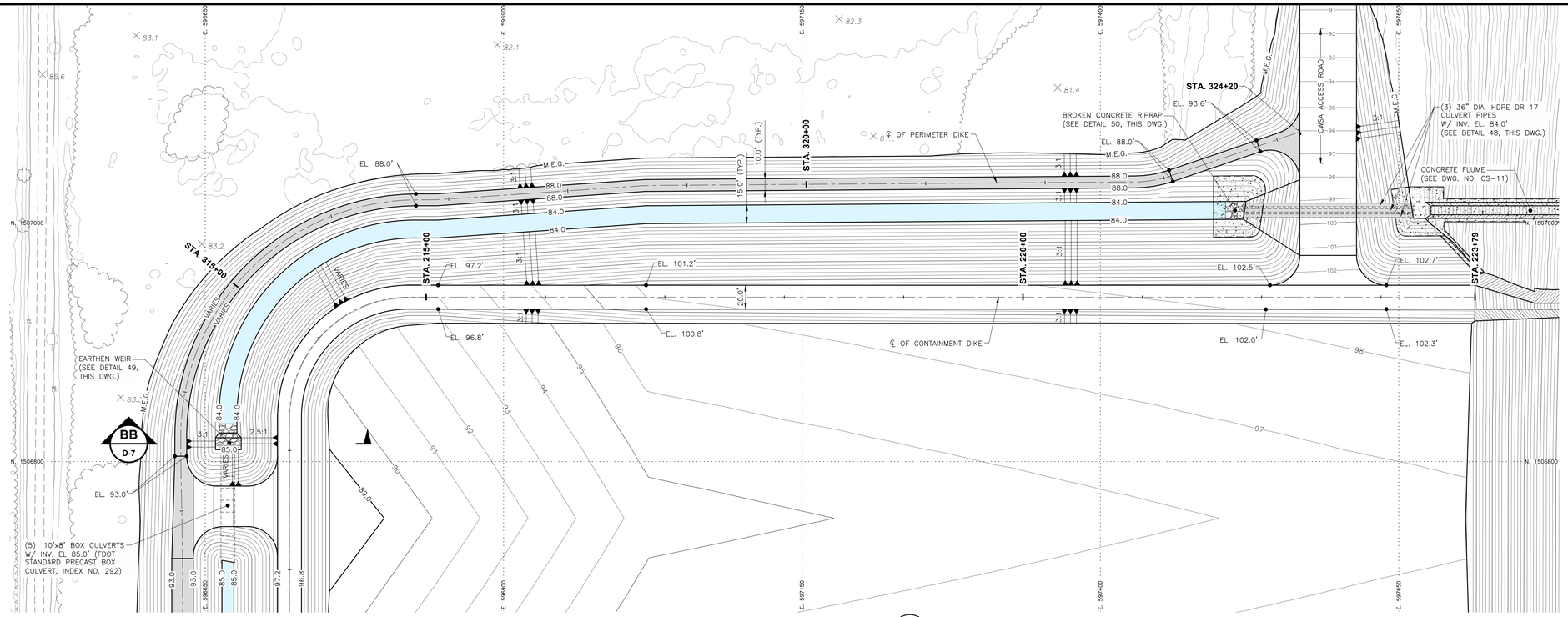
HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

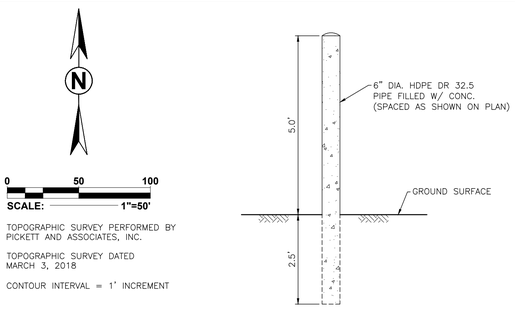
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

SUMP DETAILS AND CROSS SECTIONS

DRAWING NO. D-2

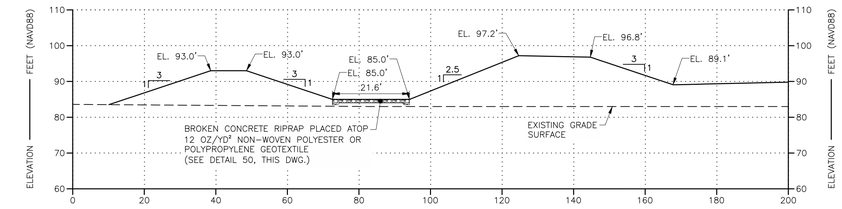
R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\D-2 SUMP DETAILS AND CROSS SECTIONS.dwg 2021/09/03 10:46 AM, Mohammed, Masood





53 - BOLLARD DETAIL (TYP.)

SCALE: 1" = 2'

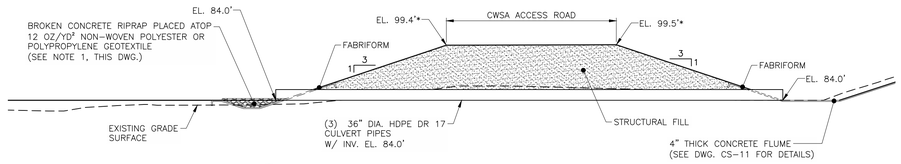


BB / D-7 - ALIGNMENT ACROSS STORMWATER MANAGEMENT DITCH

SCALE: 1" = 20'

47 - PLAN VIEW

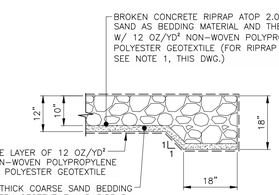
SCALE: 1" = 50'



48 - 36" DIA. CULVERT PIPE DETAIL

SCALE: 1" = 20'

* APPLIES TO THIS LOCATION ONLY



50 - RIPRAP DETAIL

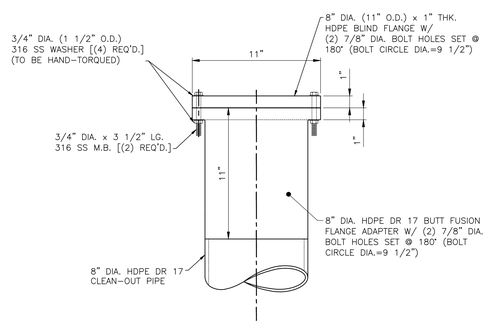
SCALE: 1" = 2'

NOTE 1

THE RIPRAP APRON SHALL CONSIST OF BROKEN CONCRETE WITH THE FOLLOWING GRADATION BY WEIGHT (OR SIZE), BASED ON A SPECIFIC UNIT WEIGHT FOR CONCRETE OF 150 lb/cf:

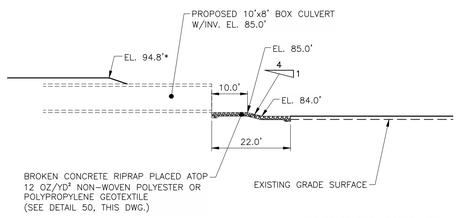
15% 2 lb. TO 5 lb. (3.5" to 4.8" dia.)
35% 7 lb. TO 10 lb. (5.4" to 6.0" dia.)
50% 13 lb. TO 33 lb. (6.6" to 9.0" dia.)

THE RIPRAP APRON SHALL HAVE A MINIMUM THICKNESS OF 12 INCHES, INCLUDING A 2-INCH THICK COARSE SAND BEDDING LAYER. AS AN OPTION TO THE ABOVE GRADED RIPRAP, A UNIFORM SIZE MATERIAL MAY BE USED CONFORMING TO THE D_{50} DIAMETER. ALL THE RIPRAP WOULD THUS BE 7.5 POUNDS IN WEIGHT (OR 5.5 INCHES IN DIAMETER).



51 - 8" DIA. SUMP PIPE ENDCAP DETAIL

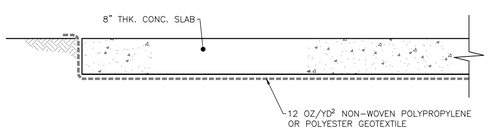
SCALE: 2" = 1'



* APPLIES TO THIS LOCATION ONLY

49 - 10" EARTHEN WEIR DETAIL

SCALE: 1" = 20'

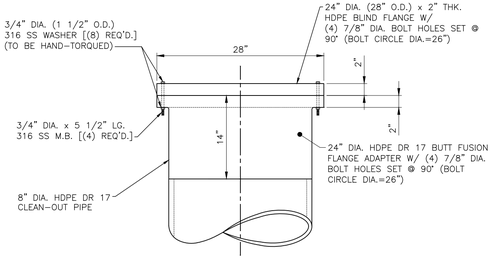


52 - CONCRETE SLAB DETAIL

NOT TO SCALE

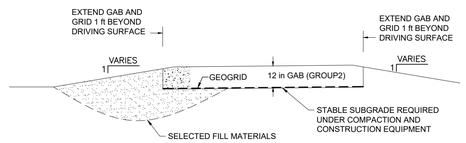
54 - CONCRETE UNIFORM SECTION MAT DETAIL

SCALE: 1" = 1'



55 - 24" DIA. SUMP PIPE ENDCAP DETAIL

SCALE: 1" = 1'



NOTE:

- GEOGRID SHALL BE TENSAR TX5 OR APPROVED EQUIVALENT.
- GAB SHALL BE FDOT SPEC 204, GROUP 2, COMPOSED OF GRANIT,GNEISS OR QUARTZITE.

56 - HAUL ROAD

SCALE: 1" = 20'

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM
0	08/13/19	ISSUED FOR CONSTRUCTION	JM
P5	08/02/19	CHANGED WEEP TUBES SPACING FROM 3' TO 5' O.C.	JM
P4	09/19/18	ISSUED FOR BID	JM
P3	07/24/18	ISSUED FOR REGULATORY REVIEW	JM
P2	06/28/18	ISSUED FOR OWNER'S REVIEW (90% COMPLETE)	JM
P1	04/30/18	ISSUED FOR REGULATORY PRELIMINARY REVIEW	JM
P0	04/20/18	ISSUED FOR OWNER'S REVIEW (50% COMPLETE)	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	12/11/17	CHECKED BY	FKC	04/09/18
DRAWN BY	MAM	12/11/17	CHECKED BY	DTC	04/19/18
FILE NO.: 17-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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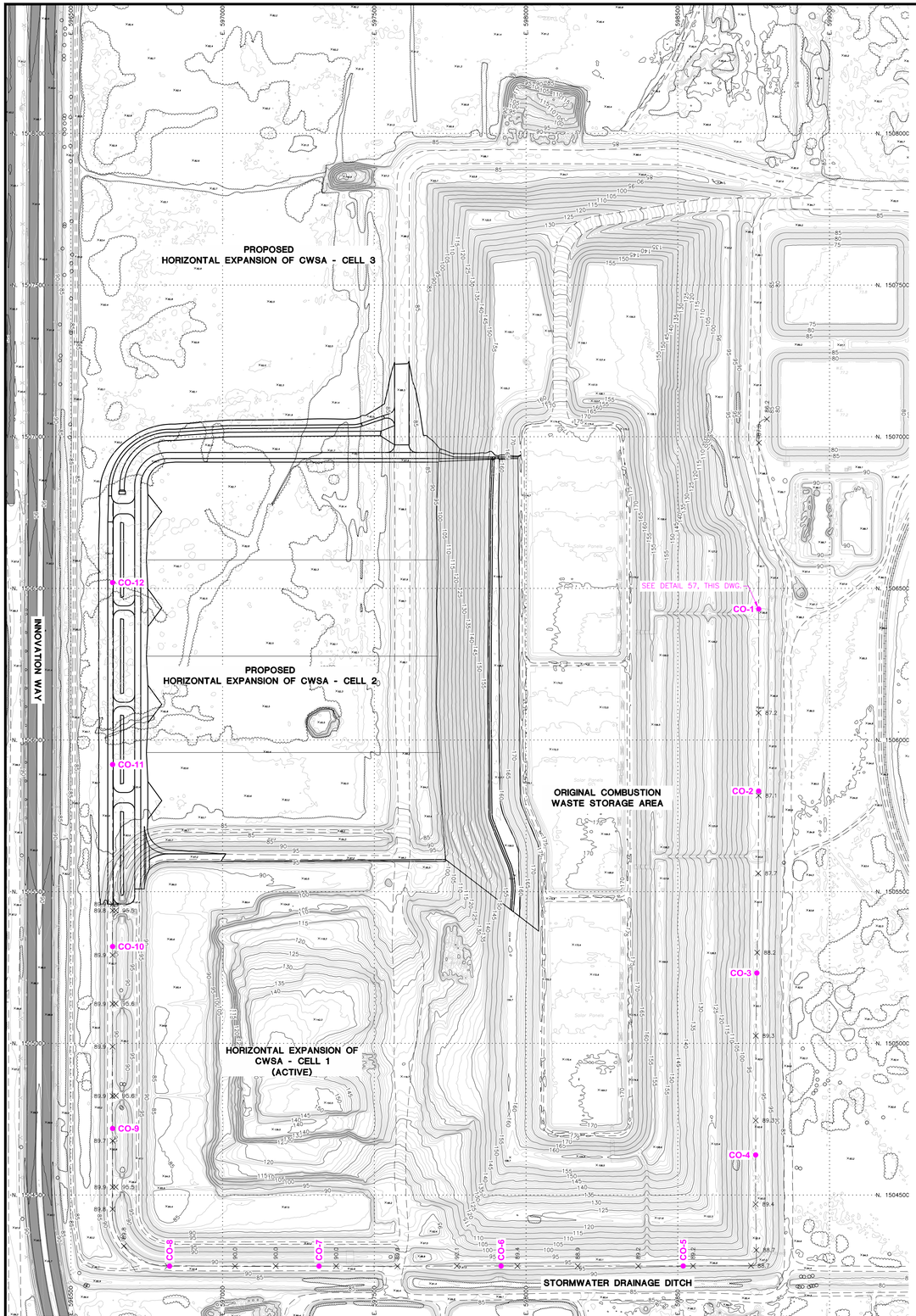
HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STORMWATER MANAGEMENT SYSTEM LAYOUT AND MISCELLANEOUS DETAILS

DRAWING NO. D-7

R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\D-7 STORMWATER MANAGEMENT SYSTEM LAYOUT AND MISC. DETAILS.dwg 2021/09/03 10:46 AM, Mohammed, Mosab



0 200 400

SCALE: 1"=200'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

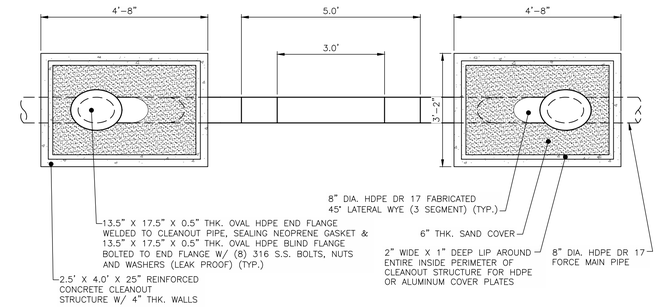
COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

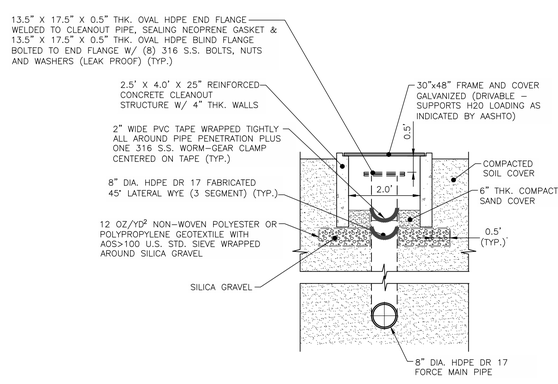
CONTOUR INTERVAL = 1' INCREMENT

CLEANOUT TABLE

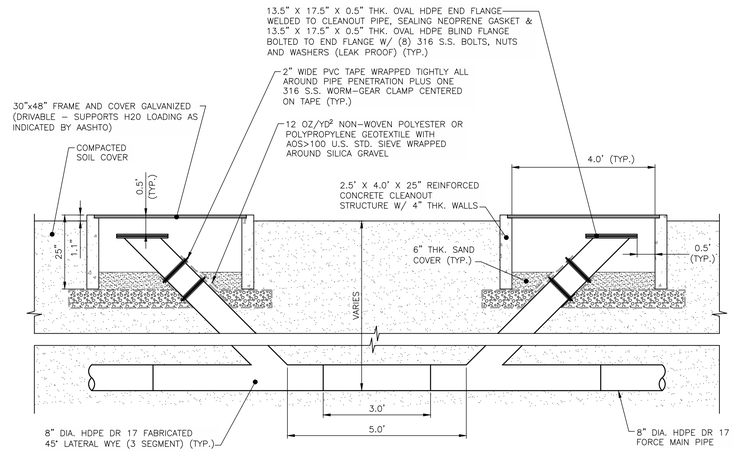
CLEANOUT	NORTHING	EASTING
CO-1	1506431.91	598767.11
CO-2	1505831.91	598766.74
CO-3	1505231.95	598760.91
CO-4	1504631.98	598757.01
CO-5	1504266.03	598518.16
CO-6	1504265.83	597918.16
CO-7	1504265.52	597318.16
CO-8	1504265.52	596825.65
CO-9	1504719.31	596638.01
CO-10	1505319.31	596638.04
CO-11	1505919.31	596638.00
CO-12	1506519.31	596638.00



TOP VIEW (WITHOUT HDPE COVER PLATES)



END VIEW



SIDE VIEW

57 - CLEANOUT DETAIL FOR FORCE MAIN

SCALE: 1" = 2'

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM
0	08/13/19	ISSUED FOR CONSTRUCTION	JM
P4	09/19/18	ISSUED FOR BID	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	09/18/18	CHECKED BY	FKC	09/19/18
DRAWN BY	MAM	09/18/18	CHECKED BY	DTC	09/19/18
FILE NO.: 17-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

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A Tetra Tech Company
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TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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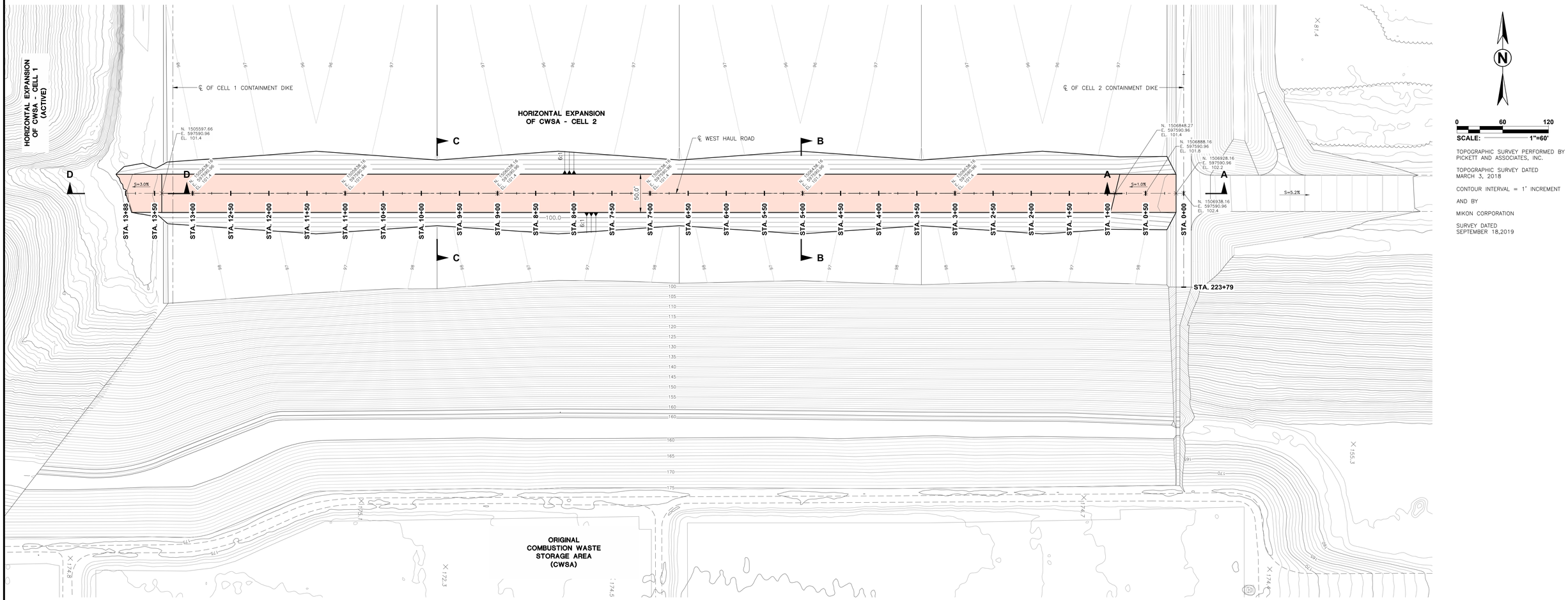
ORANGE COUNTY, FLORIDA

FORCE MAIN CLEANOUT DETAIL

DRAWING NO. **D-8**

R:\Corporate\1\7\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\D-8 CLEANOUT PLAN.dwg 2021/09/03 10:47 AM, Mohammed, Mosaab



0 60 120

SCALE: 1"=60'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC.

TOPOGRAPHIC SURVEY DATED MARCH 3, 2018

CONTOUR INTERVAL = 1' INCREMENT

AND BY

MIKON CORPORATION

SURVEY DATED SEPTEMBER 18,2019

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM

REVISION	DATE	DESCRIPTION	APPR'D

	NAME	DATE		NAME	DATE
DESIGNED BY	MH		CHECKED BY	FKC	
DRAWN BY	MAM		CHECKED BY	JM	

FILE NO.: 17-13-0166 SCALE: AS SHOWN

APPROVED BY:

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TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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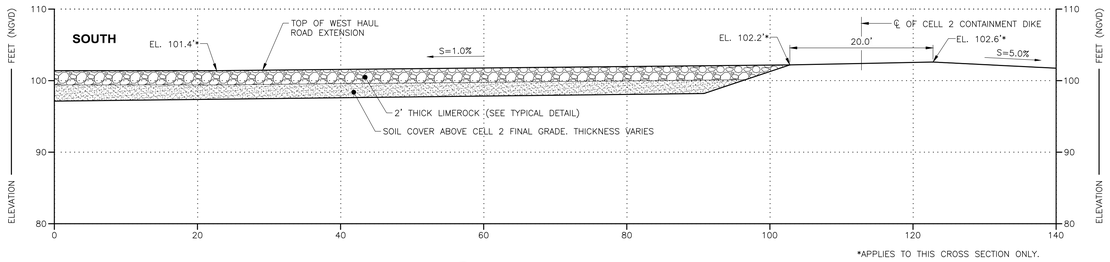
HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

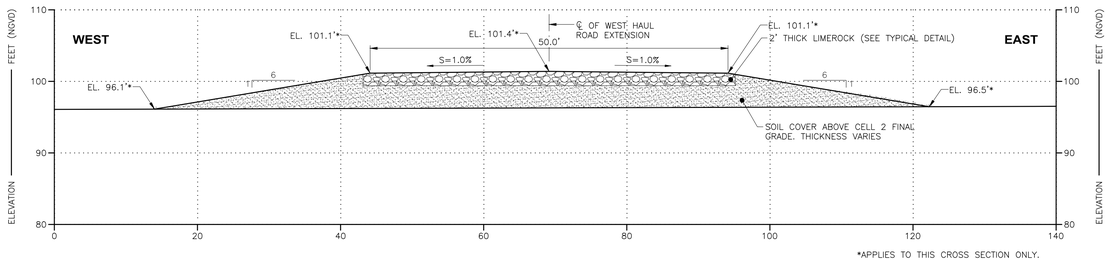
PLAN VIEW

DRAWING NO.
D-9

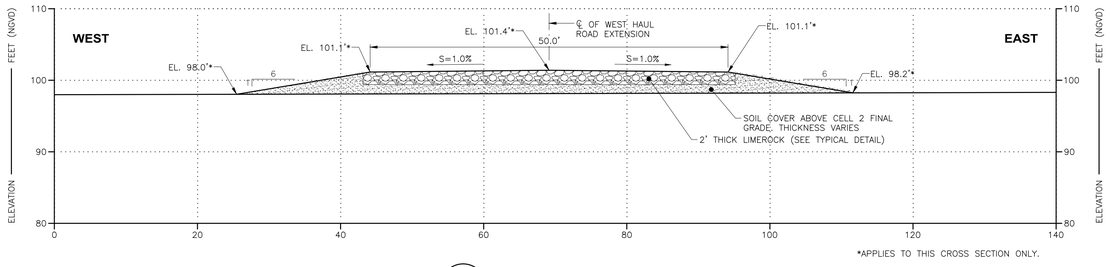
R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\PLAN VIEW.dwg 2021/09/03 10:48 AM, by a.valenciacarvajal



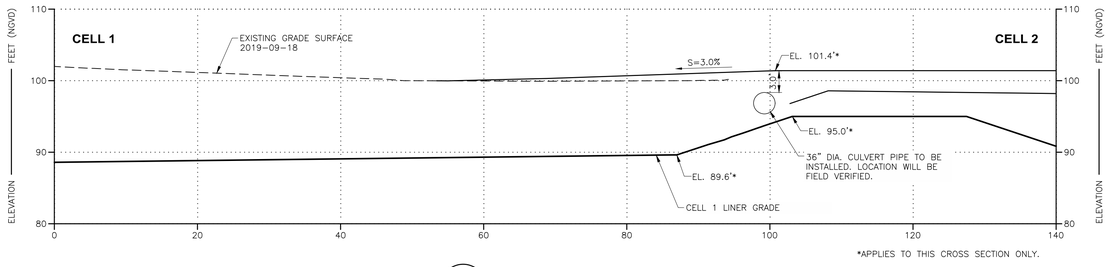
A / CS-1 **CROSS SECTION**
SCALE: 1" = 10'



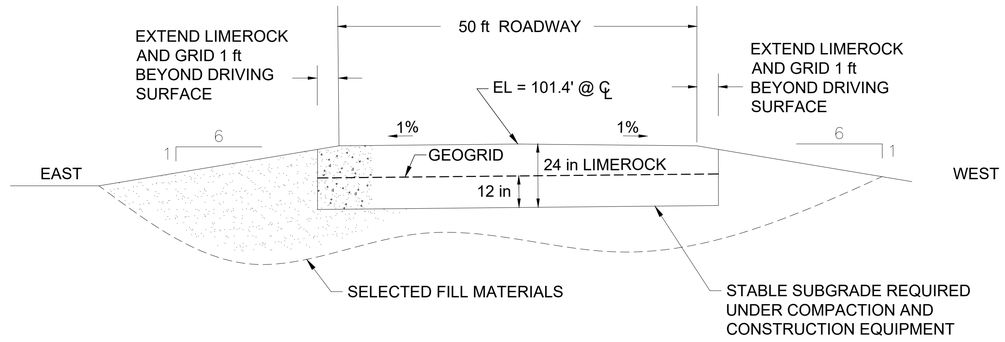
B / CS-1 **CROSS SECTION**
SCALE: 1" = 10'



C / CS-1 **CROSS SECTION**
SCALE: 1" = 10'



D / CS-1 **CROSS SECTION**
SCALE: 1" = 10'



NOTES:

- GEOGRID SHALL BE TENSAR TX5 OR APPROVED EQUIVALENT.
- COMPACT EXISTING GRADE TO AT LEAST 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (MPMDD) AND VERIFY SUBGRADE IS STABLE PRIOR TO FILL PLACEMENT.
- EXISTING GRADE WITHIN 2 FOOT OF THE BOTTOM OF THE LIMEROCK SHALL BE COMPACTED TO AT LEAST 98% MPMDD.
- FILL MATERIALS SHALL BE SELECTED PER FDOT INDEX 505.
- PLACE AND COMPACT STRUCTURAL FILL AND LIMEROCK TO AT LEAST 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.

1 / - **TYPICAL DETAIL**
NOT TO SCALE

REVISION	DATE	DESCRIPTION	APPR'D
1	08/26/21	POST CONSTRUCTION DRAWINGS	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	MH		CHECKED BY	FKC	
DRAWN BY	MAM		CHECKED BY	JM	
FILE NO.: 17-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
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HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 2

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

CROSS SECTIONS AND DETAIL

DRAWING NO. **D-10**

R:\Corporate\17\17-13-0166\HORIZONTAL EXPANSION OF CWSA - CELL 2_Current Sheet Set\CROSS SECTIONS.dwg 2021/09/03 10:48 AM, by dvalenciolcarvajal

COAL WASTE ASH STORAGE EXPANSION
FOR OUC - STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

BID SET
10/31/2018

OUC
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PREPARED BY:

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Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

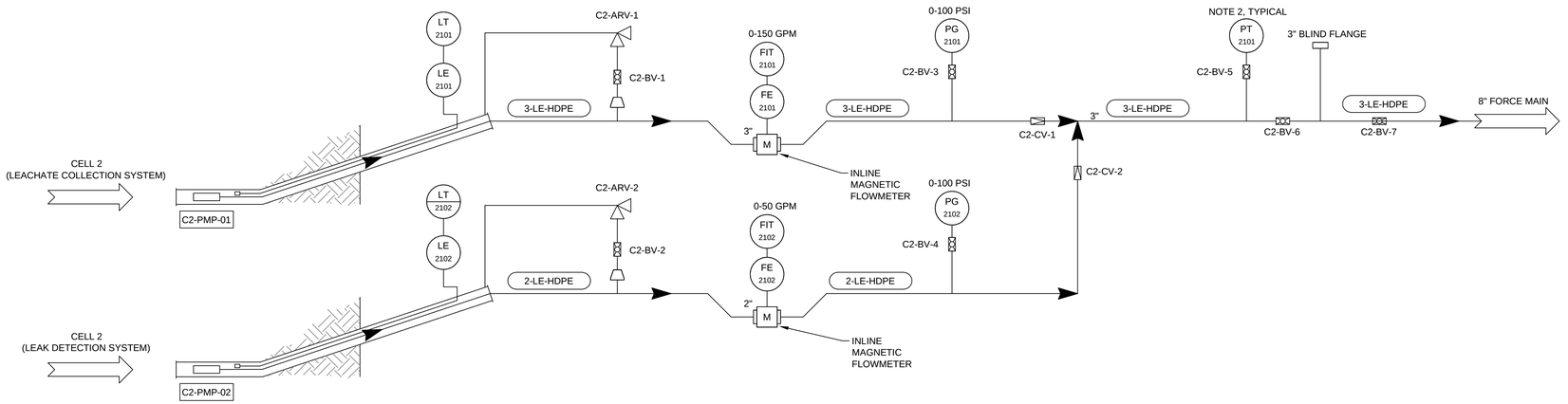
DAVID A. BURGER, P.E.
PROJECT ELECTRICAL ENGINEER
FLORIDA LICENSE NO.:47146

DAVID A. BURGER LICENSE No. 47146 STATE OF FLORIDA PROFESSIONAL ENGINEER

TETRA TECH (NUS) PROJECT NO.
200-01295-18001

G0001
DRAWING NO. G0001

TYPICAL OF 4



NOTES:

1. SYSTEM IS ONE OF FOUR REQUIRED AT CELL 2 INCLUDED IN THIS CONTRACT AND FOUR FUTURE UNITS AT CELL 3 TO BE INSTALLED UNDER A FUTURE CONTRACT.
2. SUBSTITUTE 2,3,4 FOR SUBSEQUENT CONTROL PANELS.
3. MECHANICAL CONTRACTOR TO REPLACE CELL 1 PUMPS AND FLOW METERS, REFER TO SHEET E2000 NOTE 2. FLOW METERS PROVIDED BY INTEGRATOR.
4. MECHANICAL CONTRACTOR TO REPLACE CWSA POND FLOW METERS, REFER TO SHEET E2000 NOTE 1. FLOW METERS PROVIDED BY INTEGRATOR.

REVISION	DATE	DESCRIPTION	APPR'D
	10/31/18	BID SET	MGS

REVISION	DATE	DESCRIPTION	APPR'D

	NAME	DATE		NAME	DATE
DESIGNED BY	MGS	10/31/18			
DRAWN BY	VBD	10/31/18	CHECKED BY	DAB	10/31/18
FILE NO.: TBD			SCALE: AS SHOWN		

APPROVED BY:

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
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TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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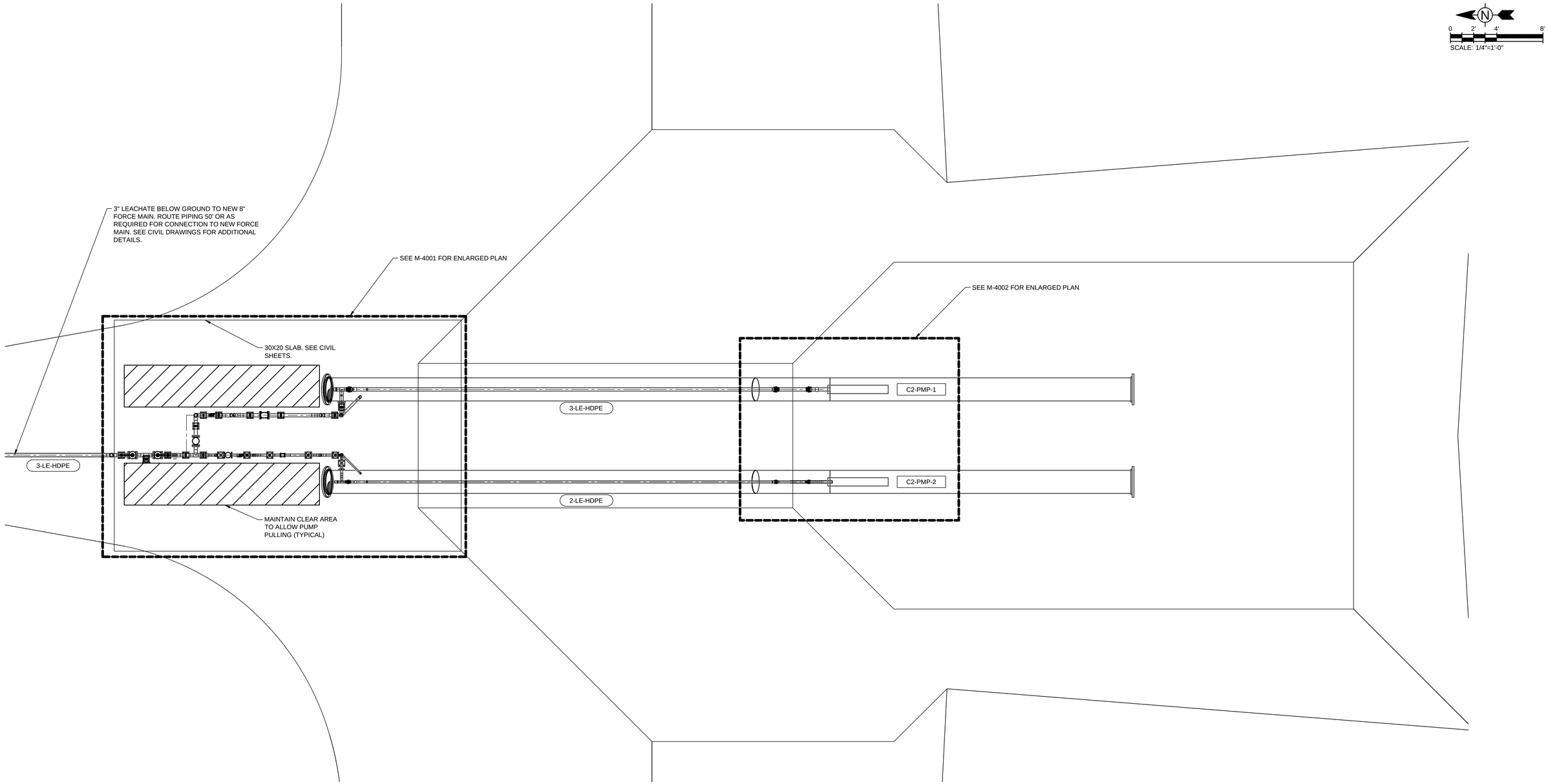
COAL WASTE ASH STORAGE EXPANSION

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

LEACHATE COLLECTION SYSTEM P&ID

DRAWING NO. M2001

\\TS1818FS1\Projects\ER\01295\300-01295-18001\CAD\sheetfiles\M-2001 Leachate Collection System P&ID.dwg 2018/10/31 3:08 PM, Chancellor, Wyatt



LEACHATE COLLECTION SYSTEM OVERALL PLAN

SCALE: 1/4" = 1'-0"

NOTES:

1. SYSTEM IS ONE OF FOUR REQUIRED AT CELL 2 INCLUDED IN THIS CONTRACT AND FOUR FUTURE UNITS AT CELL 3 TO BE INSTALLED UNDER A FUTURE CONTRACT.

DAVID A. BURGER LICENSE No. 47146 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISION	DATE	DESCRIPTION	APPR'D	REVISION	DATE	DESCRIPTION	APPR'D
					10/31/18	BID SET	MGS

	NAME	DATE		NAME	DATE
DESIGNED BY	MGS	10/31/18			
DRAWN BY	VBD	10/31/18	CHECKED BY	DAB	10/31/18
FILE NO.: TBD			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
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8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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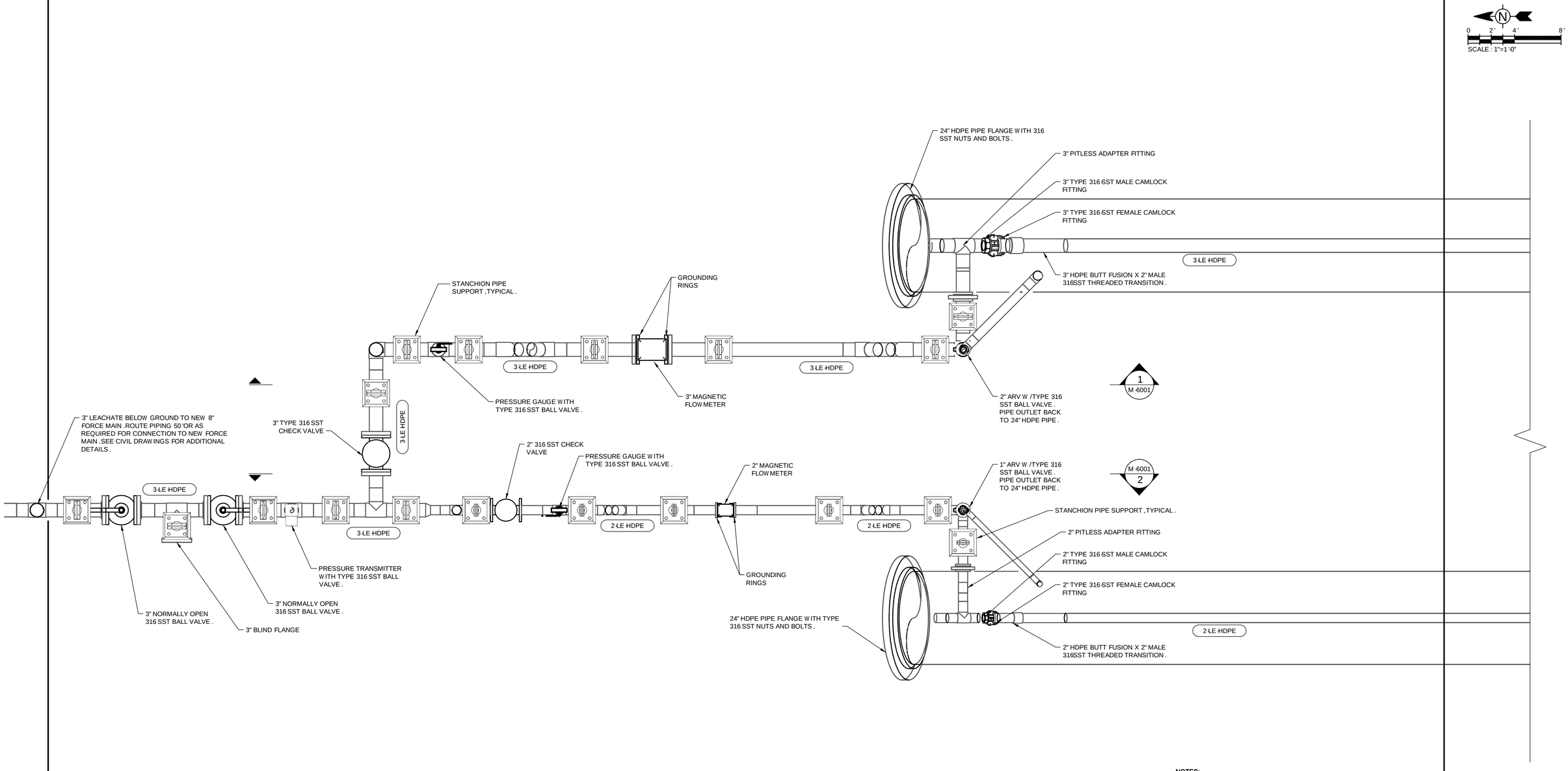
COAL WASTE ASH STORAGE EXPANSION

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

LEACHATE COLLECTION SYSTEM OVERALL PLAN

DRAWING NO. M3001

\\TIS181FS1\Projects\ER\01295\200-01295-18001\CAD\sheetfiles\M-3001 Leachate Collection System Overall Plan.dwg 2018/10/31 3:08 PM, Chancellor, Wyatt



LEACHATE COLLECTION SYSTEM ENLARGED PLAN

SCALE : 1" = 1'-0"

NOTES:

1. SYSTEM IS ONE OF FOUR REQUIRED AT CELL 2 INCLUDED IN THIS CONTRACT AND FOUR FUTURE UNITS AT CELL 3 TO BE INSTALLED UNDER A FUTURE CONTRACT .
2. REFER TO SHEETS M-5001 AND M-5002 FOR INSTALLATION DETAILS .

DAVID A. BURGER LICENSE No. 47146 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISION	DATE	DESCRIPTION	APPR'D

REVISION	DATE	DESCRIPTION	APPR'D
	10/31/18	BID SET	MGS

	NAME	DATE		NAME	DATE
DESIGNED BY	MGS	10/31/18			
DRAWN BY	VBD	10/31/18	CHECKED BY	DAB	10/31/18
FILE NO.: TBD			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
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8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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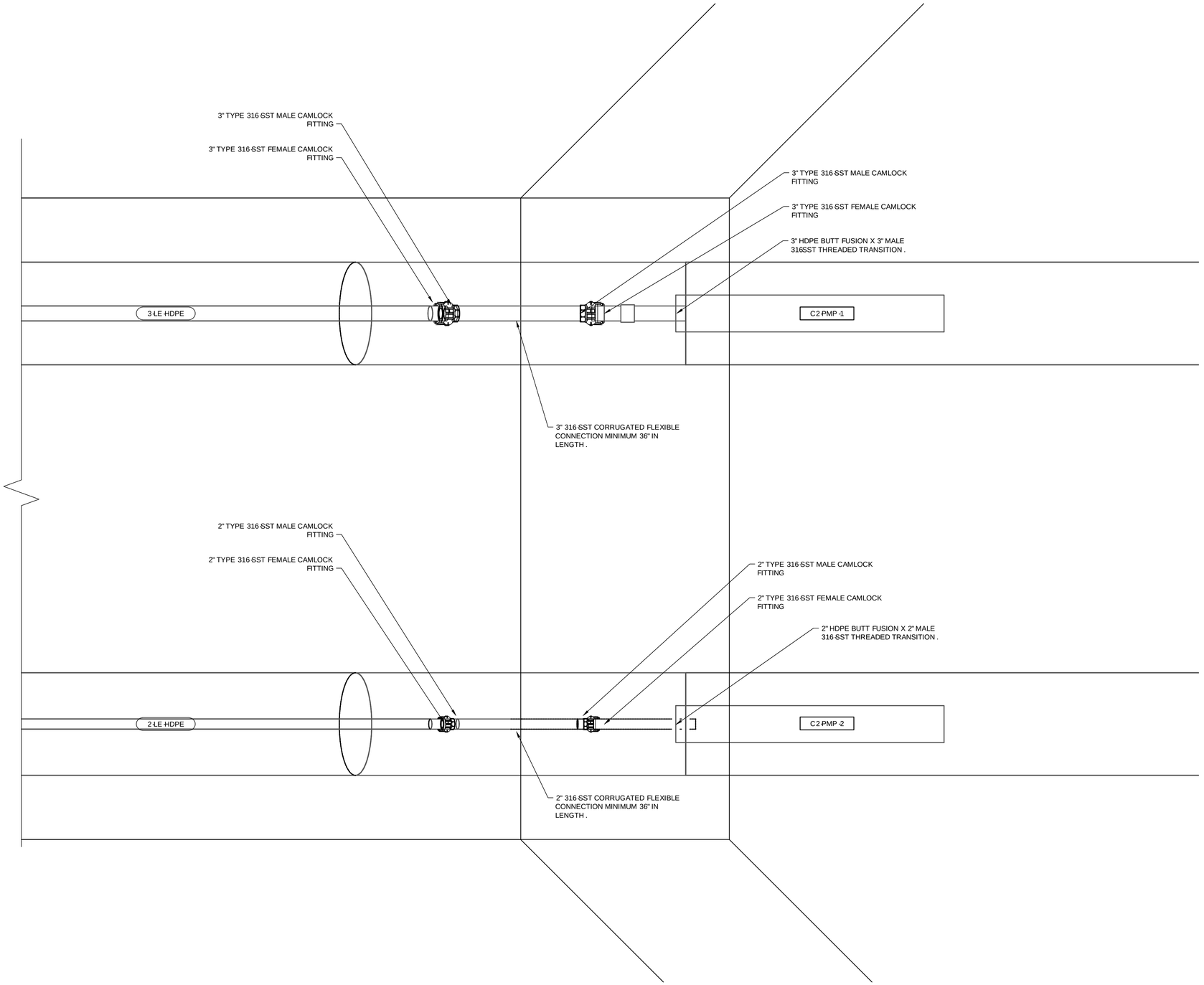
COAL WASTE ACID STORAGE EXPANSION

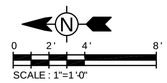
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

LEACHATE COLLECTION SYSTEM ENLARGED PLAN

DRAWING NO.
M4001

\\TFS181FS1\Projects\ER\01295\200-01295-18001\CAD\sheetfiles\M-4001 Leachate Collection System Enlarged Plan.dwg 2018/10/31 3:08 PM, Chancellor, Wyatt





LEACHATE COLLECTION SYSTEM ENLARGED PLAN

SCALE : 1" = 1'-0"

NOTES:

1. SYSTEM IS ONE OF FOUR REQUIRED AT CELL 2 INCLUDED IN THIS CONTRACT AND FOUR FUTURE UNITS AT CELL 3 TO BE INSTALLED UNDER A FUTURE CONTRACT .
2. SUBSTITUTE 2,3,4 FOR SUBSEQUENT CONTROL PANELS .

REVISION	DATE	DESCRIPTION	APPR'D

REVISION	DATE	DESCRIPTION	APPR'D
	10/31/18	BID SET	MGS

	NAME	DATE		NAME	DATE
DESIGNED BY	MGS	10/31/18			
DRAWN BY	VBD	10/31/18	CHECKED BY	DAB	10/31/18
FILE NO.: TBD			SCALE: AS SHOWN		

APPROVED BY:

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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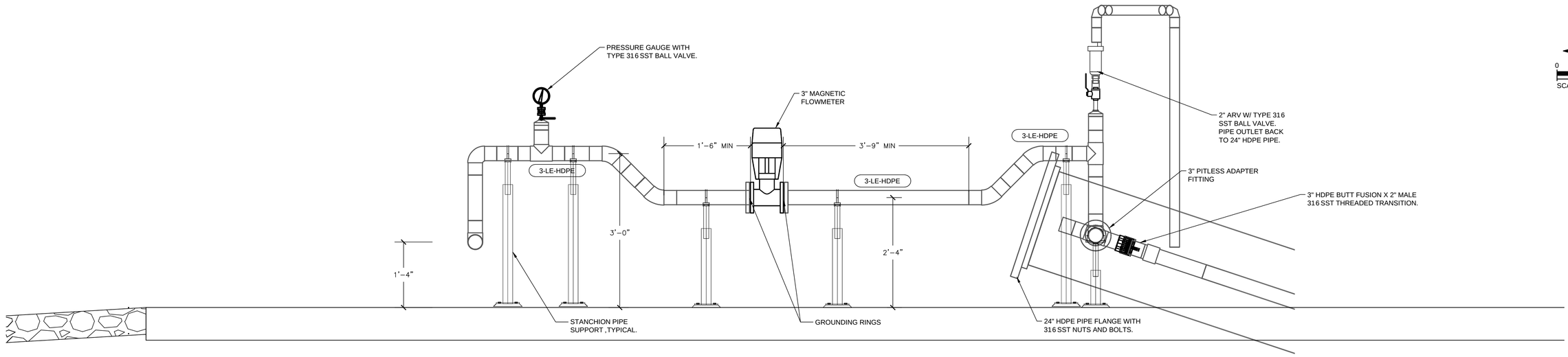
COAL WASTE ACID STORAGE EXPANSION

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

LEACHATE COLLECTION SYSTEM ENLARGED PLAN

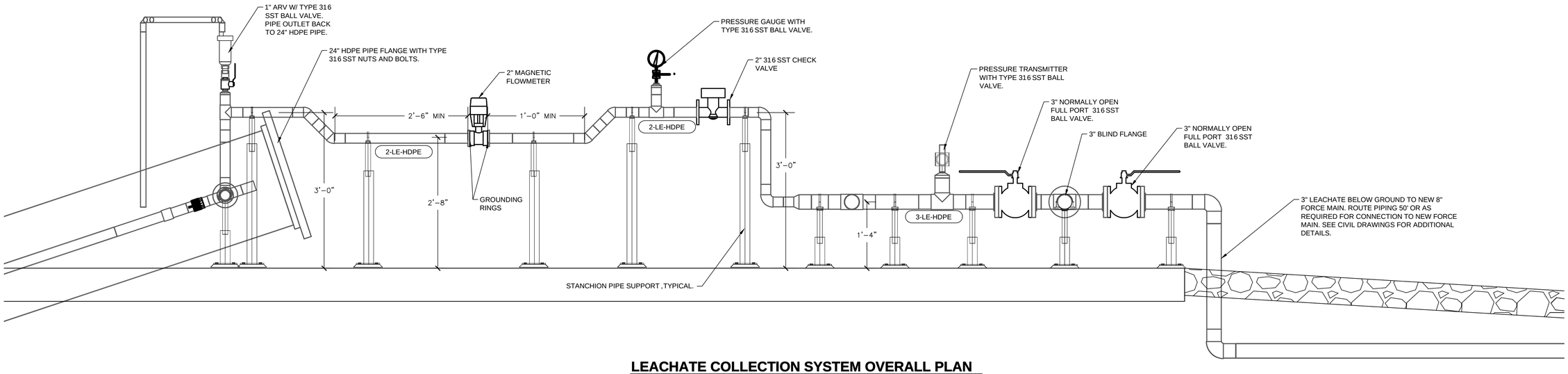
DRAWING NO. M4002

\\1918191\Projects\ER\01295\200-01295-18001\CAD\sheetfiles\M-4002 Leachate Collection System Enlarged Plan.dwg 2018/10/31 3:08 PM, Chancellor, Wyatt



LEACHATE COLLECTION SYSTEM OVERALL PLAN

SCALE: 1/4" = 1'-0"



LEACHATE COLLECTION SYSTEM OVERALL PLAN

SCALE: 1/4" = 1'-0"

DAVID A. BURGER LICENSE No. 47146 STATE OF FLORIDA PROFESSIONAL ENGINEER

NOTES:

1. SYSTEM IS ONE OF FOUR REQUIRED AT CELL 2 INCLUDED IN THIS CONTRACT AND FOUR FUTURE UNITS AT CELL 3 TO BE INSTALLED UNDER A FUTURE CONTRACT.

REVISION	DATE	DESCRIPTION	APPR'D
	10/31/18	BID SET	MGS

REVISION	DATE	DESCRIPTION	APPR'D

	NAME	DATE		NAME	DATE
DESIGNED BY	MGS	10/31/18			
DRAWN BY	VBD	10/31/18	CHECKED BY	DAB	10/31/18
FILE NO.: TBD			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One

COAL WASTE ASH STORAGE EXPANSION

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

LEACHATE COLLECTION SYSTEM SECTIONS

DRAWING NO. M6001

\\TIS181FS1\Projects\ER\01295\200-01295-18001\CAD\sheetfiles\M-6001 Leachate Section Views.dwg 2018/10/31 3:09 PM, Chancellor, Wyatt

CONSTRUCTION DRAWINGS

FOR

HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 1

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

FEBRUARY 2012

Prepared By

Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

ARDAMAN & ASSOCIATES, INC. FILE NO.
10-13-0249

NADIM F. FULEIHAN, Sc.D., P.E.
FLORIDA LICENSE NO. 31953

DRAWING NO. G-1

\\Alewine2\Lost\Corporate\10\10-13-0249\HORIZONTAL EXPANSION OF CWSA - CELL 1\CURRENT SHEET SET\G-1 COVER SHEET.dwg 2/03/2012 9:10:15 AM ahmed.zaghloul

PROPOSED HORIZONTAL EXPANSION - CELL 1

EXISTING COMBUSTION WASTE STORAGE AREA

EXISTING STORMWATER DRAINAGE DITCH

EXISTING STORMWATER DRAINAGE DITCH

PROPOSED WET DETENTION POND

TOS 96.8
97.2
85.0
93.0
93.0
MEG (TOS)

CONCRETE UNIFORM SECTION MAT (SEE DETAIL 24, DWG. NO. D-1)

SEE DETAIL 7, THIS DWG.

(2) TYPE "D" FDOT STRUCTURES (SEE DETAIL 12, DWG. NO. P-3)

(2) 36-INCH SDR 21 HDPE PIPES (SEE DWG. NO. P-3 FOR DETAILS)
INV. EL. 75.5'

INV. EL. 80.20

EXISTING 18" DIA. RCP
INV. EL. 80.91'

POINT NO. 1
N. 1504172.34
E. 597725.50

CONCRETE UNIFORM SECTION MAT (SEE DETAIL 24, DWG. NO. D-1)

(2) 36-INCH SDR 21 HDPE PIPES
INV. EL. 80.0'

TYPE "D" FDOT STRUCTURE (SEE DETAIL 9, DWG. NO. P-3)

INV. EL. 78.71'
INV. EL. 77.93'
INV. EL. 78.31'
INV. EL. 77.29'
INV. EL. 77.54'
INV. EL. 77.65'
INV. EL. 77.15'
INV. EL. 78.33'
4 EXISTING 36" DIA. RCP (TYP.)

STA. 0+00
STA. 5+00
STA. 10+00
STA. 15+00
STA. 20+00
STA. 25+00
STA. 30+00
STA. 35+00

CURVE NO. 4
CURVE NO. 1
CURVE NO. 3
CURVE NO. 2

MINIMUM REQUIRED DEPTH

℄ OF DIVERSION DIKE

MAXIMUM ALLOWABLE DEPTH OF EXCAVATION FOR BORROW MATERIAL

POINT NO. 2
N. 1503346.29
E. 597725.50

R50.0'

℄ OF PERIMETER DIKE

RUNOFF DIVERSION DITCH

MEG

0 100 200
SCALE: 1"=100'

TOPOGRAPHIC SURVEY PERFORMED BY GEOMATIC TECHNOLOGIES, CALIFORNIA.
SURVEY DATE: 07/19/2011
DATUM: NAVD (1988)

TOPOGRAPHIC CONTOUR INTERVAL: 1 FT.

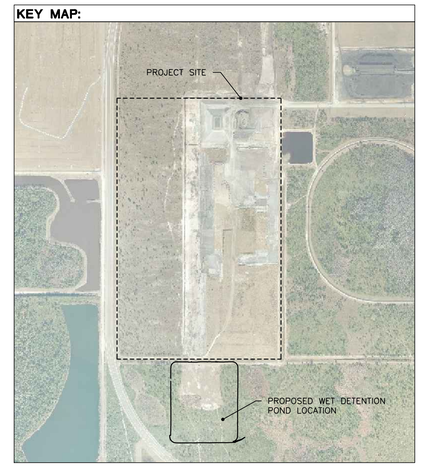
(2) TYPE "D" FDOT STRUCTURES (SEE DETAIL 12, DWG. NO. P-3)

5.0' 5.0' 5.0'

CONCRETE UNIFORM SECTION MAT (SEE DETAIL 24, DWG. NO. D-1)

7 P-1 INLET STRUCTURE
SCALE: 1" = 10'

KEY MAP:



PROPOSED WET DETENTION POND DIKE CREST BASELINE CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 1	68.50'	107.60'	N. 1504172.34	E. 598185.50	STA. 7+83.00	STA. 8+90.60	68.50'	90°00'00"
CURVE NO. 2	68.50'	107.60'	N. 1503060.29	E. 598185.50	STA. 18+65.65	STA. 19+73.25	68.50'	90°00'00"
CURVE NO. 3	68.50'	107.60'	N. 1503060.29	E. 597265.50	STA. 27+56.25	STA. 28+63.85	68.50'	90°00'00"
CURVE NO. 4	68.50'	107.60'	N. 1504172.34	E. 597265.50	STA. 38+38.90	STA. 39+46.50	68.50'	90°00'00"

REVISION	DATE	DESCRIPTION	APPR'D
0	1/27/2012	ISSUED FOR CONSTRUCTION	
P3	1/26/2012	ISSUED FOR PERMITTING – REVISED PER FDEP RAI	
P2	12/01/2011	ISSUED FOR PERMITTING	
P1	11/16/2011	ISSUED FOR CLIENT REVIEW	

	NAME	DATE		NAME	DATE
DESIGNED BY	MH	12/01/2011	CHECKED BY	FKC	12/01/2011
DRAWN BY	AZ	10/06/2011	CHECKED BY	DTC	12/20/2013
FILE NO.: 10-13-0249			SCALE: AS SHOWN		

APPROVED BY:

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One

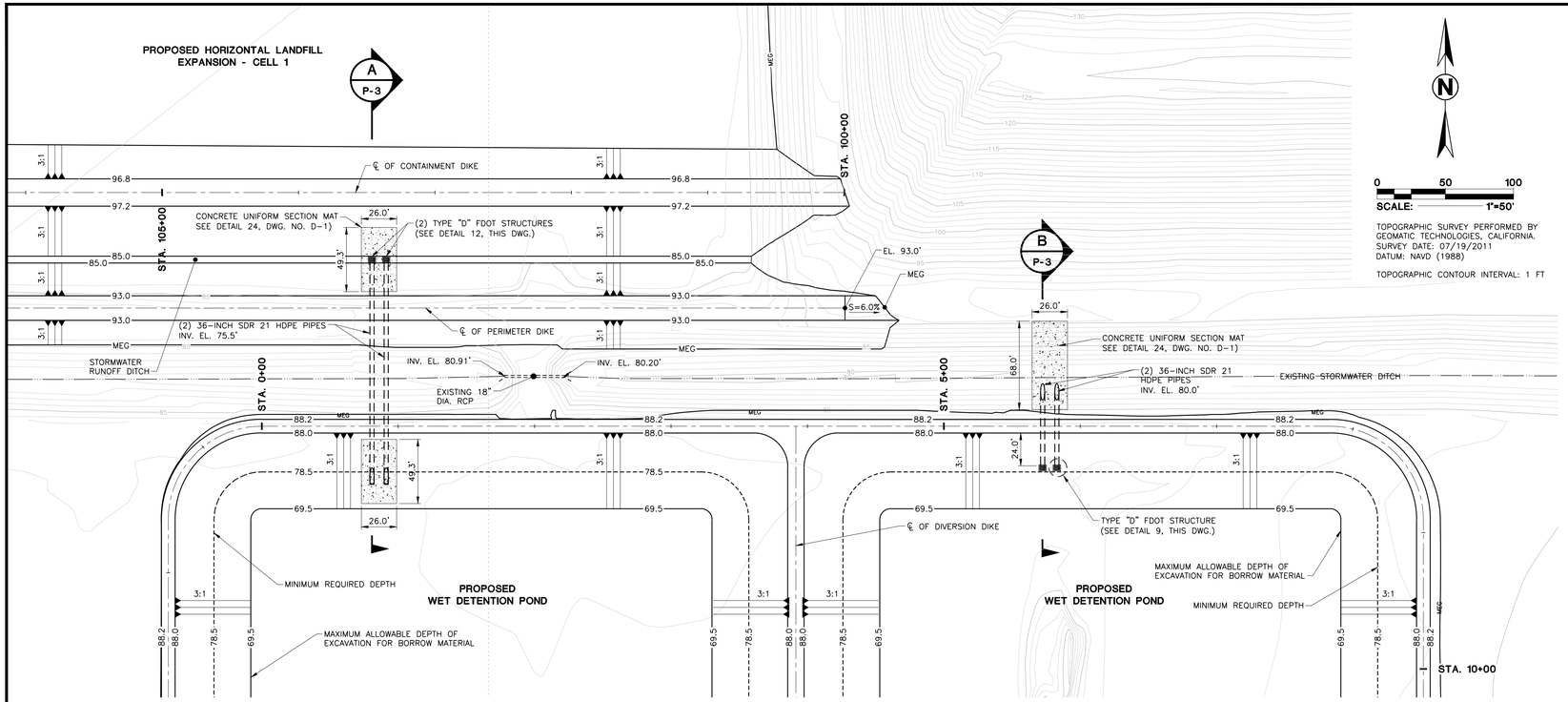
HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 1

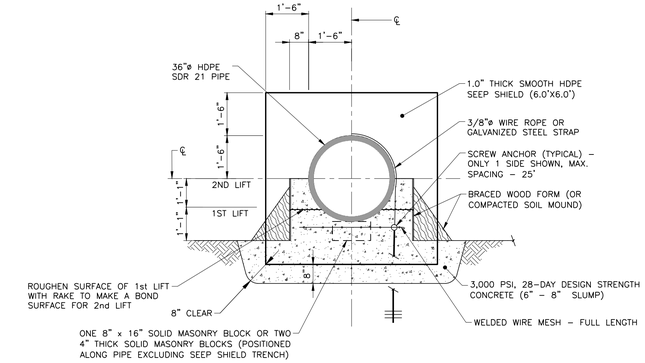
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

PROPOSED WET DETENTION POND PLAN AND DETAILS

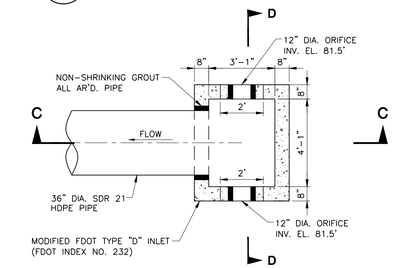
DRAWING NO.
P-1

\\Ardaster\Cad\Corporate\10\10-13-0249\HORIZONTAL EXPANSION OF CWSA - CELL 1\CURRENT SHEET SET\P-2 PROPOSED WET DETENTION POND CROSS SECTIONS.dwg 2/27/2013 1:42:39 PM, ahmed.zaghloul

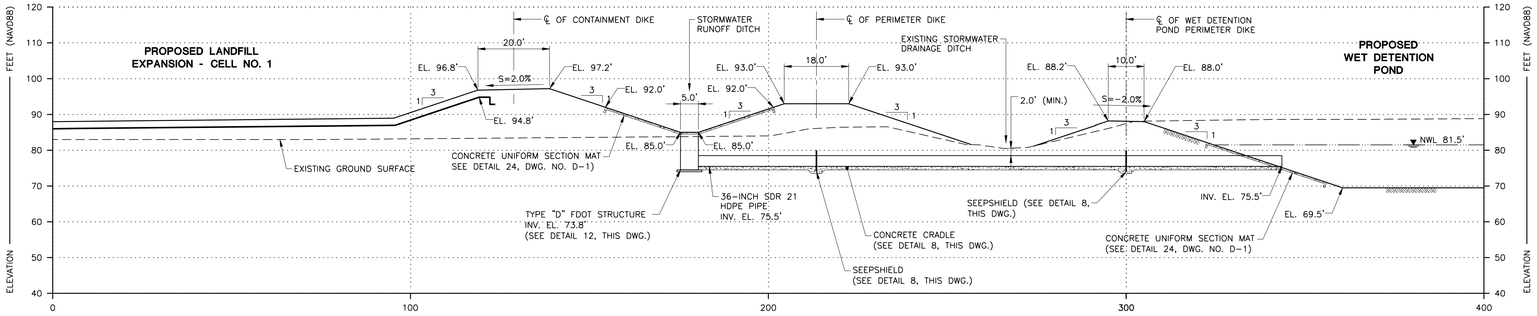




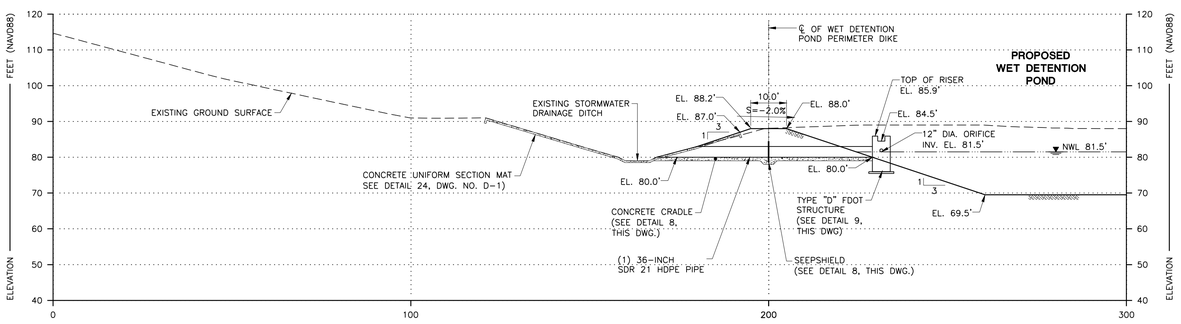
8 P-3 **CONCRETE CRADLE AND SEEPSHIELD INSTALLATION DETAIL**
NOT TO SCALE



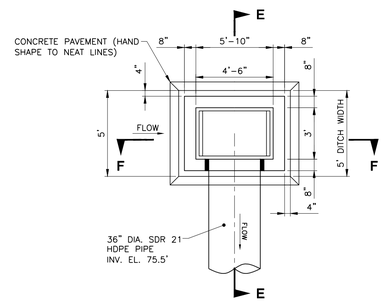
9 P-3 **OUTLET TYPE D FDOT STRUCTURE PLAN VIEW**
NOT TO SCALE



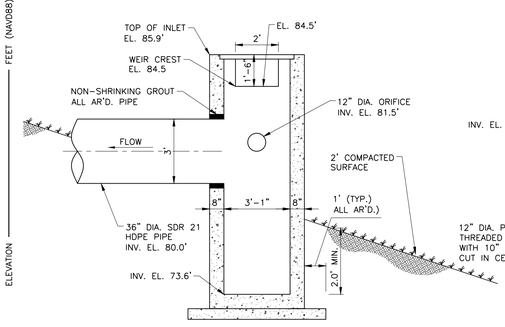
A P-3 **CROSS SECTION A**
SCALE: 1" = 20'



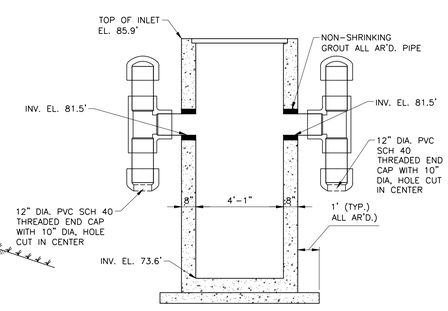
B P-3 **CROSS SECTION B**
SCALE: 1" = 20'



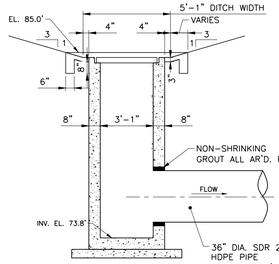
12 P-3 **INLET TYPE D FDOT STRUCTURE PLAN VIEW**
NOT TO SCALE



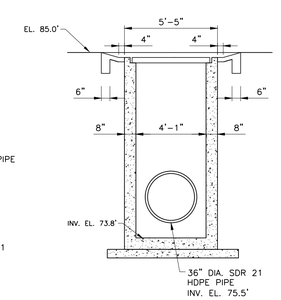
C P-3 **OUTLET CROSS SECTION C-C**
NOT TO SCALE



D P-3 **OUTLET CROSS SECTION D-D**
NOT TO SCALE



E P-3 **INLET CROSS SECTION E-E**
NOT TO SCALE



F P-3 **INLET CROSS SECTION F-F**
NOT TO SCALE

REVISION	DATE	DESCRIPTION	APPR'D
0	1/27/2012	ISSUED FOR CONSTRUCTION	
P3	1/26/2012	ISSUED FOR PERMITTING – REVISED PER FDEP RAI	
P2	12/01/2011	ISSUED FOR PERMITTING	
P1	11/16/2011	ISSUED FOR CLIENT REVIEW	

	NAME	DATE		NAME	DATE
DESIGNED BY	MH	12/01/2011	CHECKED BY	FKC	12/01/2011
DRAWN BY	AZ	10/06/2011	CHECKED BY	DTC	12/20/2011
FILE NO.: 10-13-0249			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

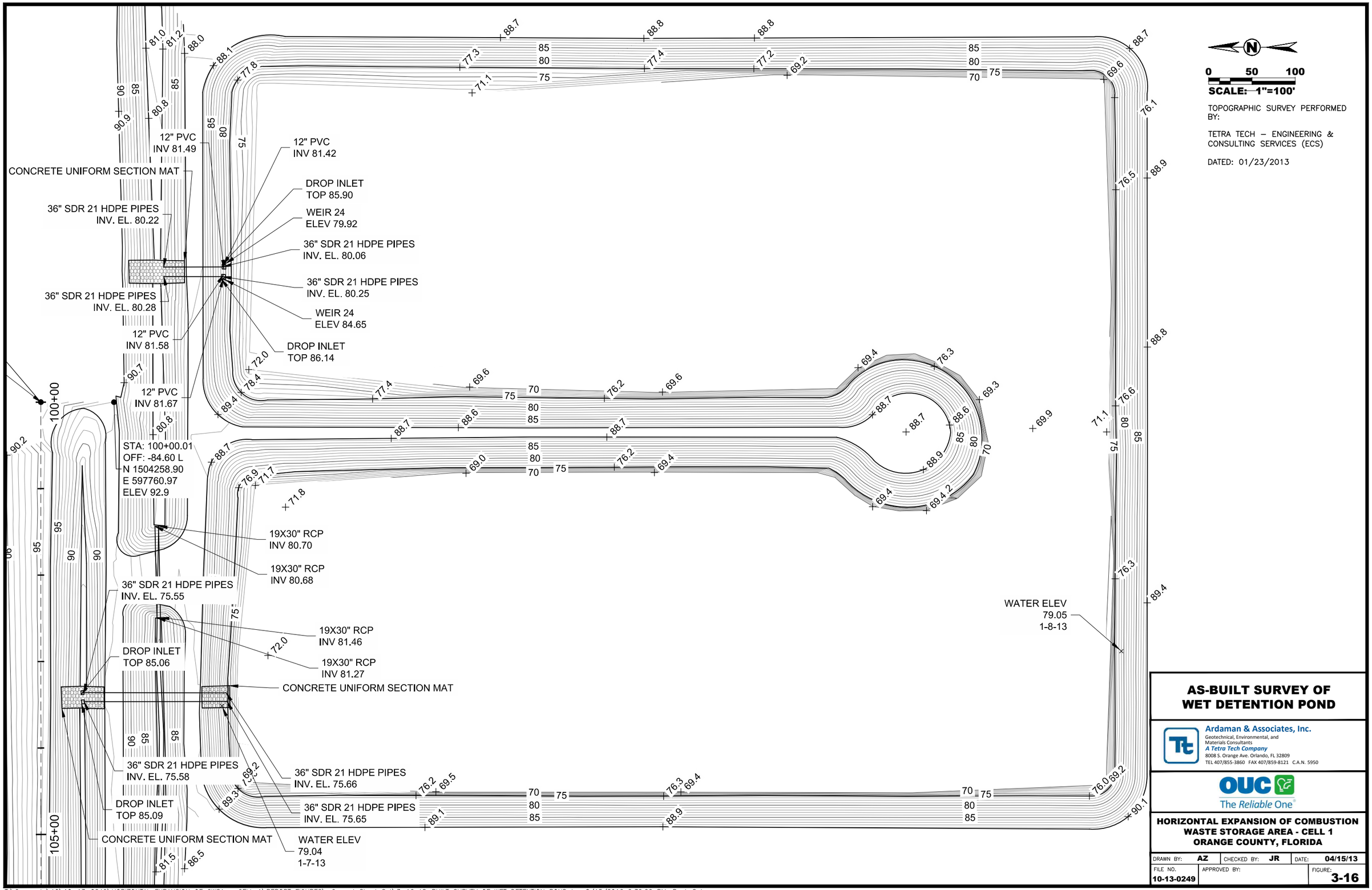
OUC The Reliable One

HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 1
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

PROPOSED WET DETENTION POND CULVERT STRUCTURES PLAN AND CROSS SECTIONS

DRAWING NO. P-3

T:\corporate\10\10-13-0249\HORIZONTAL EXPANSION OF CWSA - CELL 1\CURRENT SHEET SET\P-3 PROPOSED WET DETENTION POND.dwg 2/03/2012 9:26:22 AM, ahmed.zaghloul



TOPOGRAPHIC SURVEY PERFORMED BY:

TETRA TECH – ENGINEERING & CONSULTING SERVICES (ECS)

DATED: 01/23/2013

AS-BUILT SURVEY OF WET DETENTION POND

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One

HORIZONTAL EXPANSION OF COMBUSTION WASTE STORAGE AREA - CELL 1 ORANGE COUNTY, FLORIDA

DRAWN BY:	AZ	CHECKED BY:	JR	DATE:	04/15/13
FILE NO.	10-13-0249	APPROVED BY:		FIGURE:	3-16

12601 Plantside Drive
Louisville, KY 40299
Phone: (502) 245-1353
Fax: (502) 245-7398
www.charah.com

OUC – Stanton Energy Center
Cell 2 of Horizontal Expansion of Original Combustion Waste Storage Area

MATERIAL
N/A

SUPPLIER
L&S Diversified
405 Lake Howell Road, Suite 1001
Maitland, FL 32751

MANUFACTURERS
N/A

Prepared and Submitted by:
Josh Welch
Charah, LLC

Submittal No.	Drawing No.	Date	EOR	CM	Spec Name	Spec No
CIV.072	CS-7	2/4/2021	Jey Mathiyaparanam, Ardaman	Ghadi Mechleb, Ardaman	General Provisions	TS 20.5

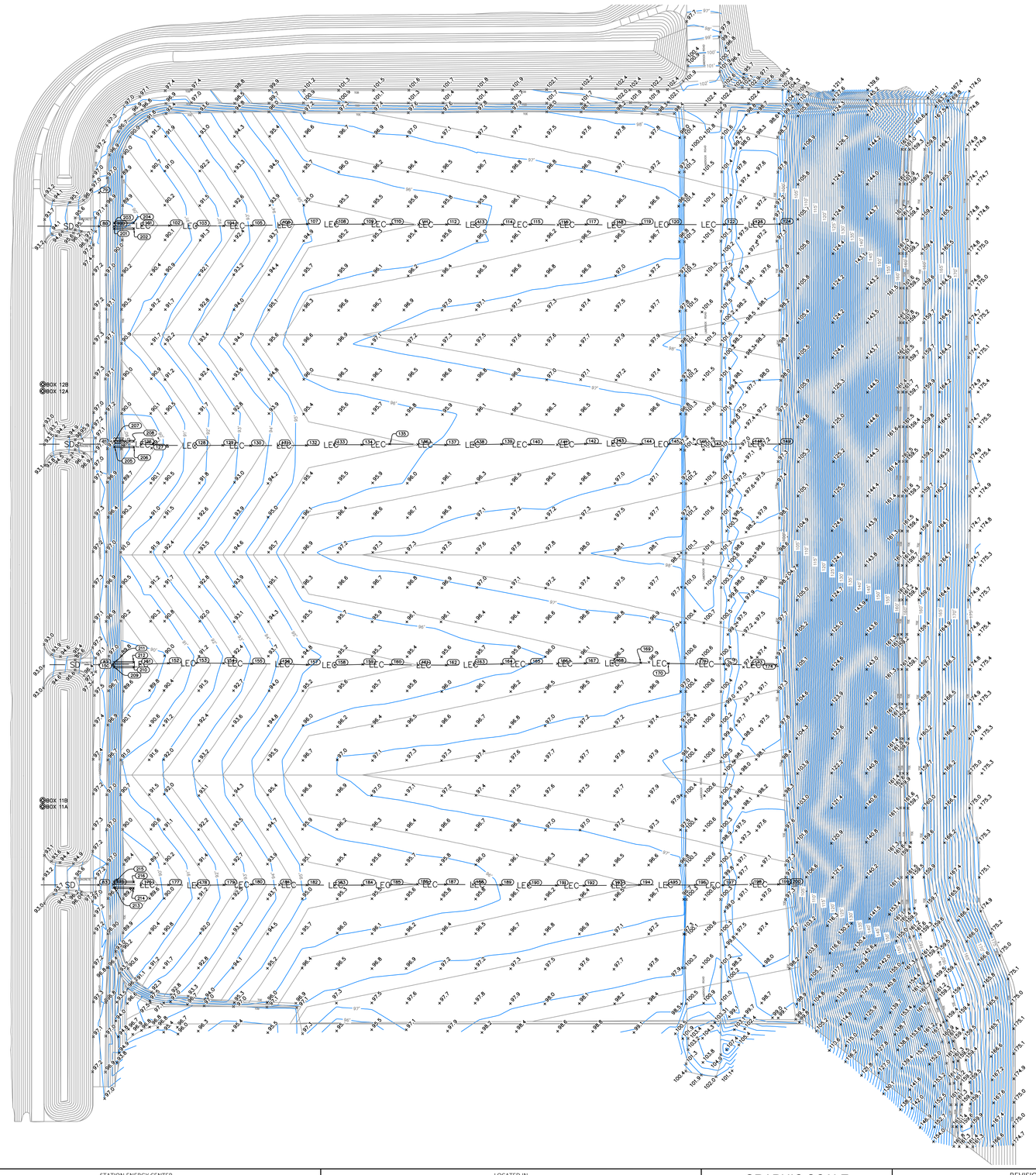
Inclusions:

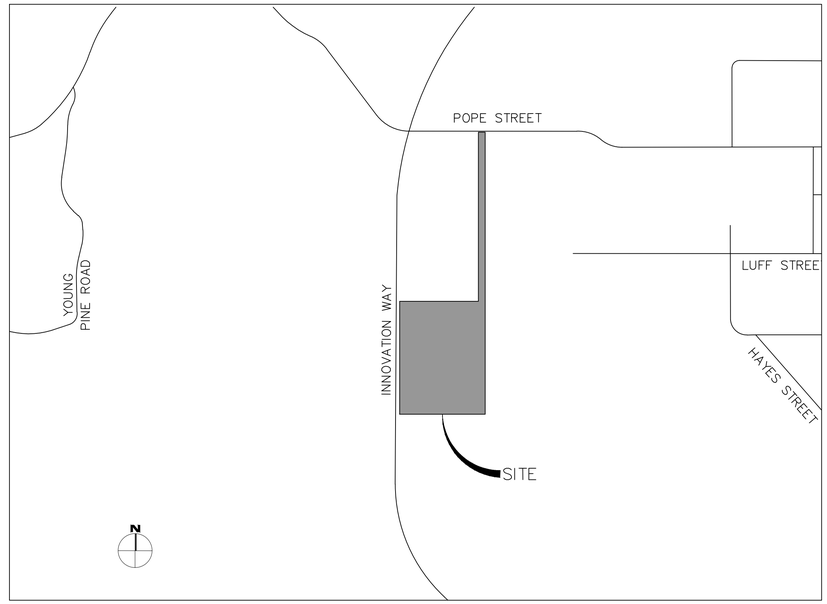
Full submittal; Final As-Built for the Cell #2

- Protective Cover
- Sump Riser Pipes
- Leachate Line

Variation:
I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

*Josh Welch*_____
Josh Welch, Project Engineer
JWelch@Charah.com
502-830-3410





VICINITY MAP: (NOT TO SCALE)

SURVEYOR'S NOTES:

1. THIS SURVEY REPRESENTS AN AS–BUILT SURVEY AS DESCRIBED BY STANDARDS OF PRACTICE FOR SURVEYING AND MAPPING, CHAPTER 5J–17, FLORIDA ADMINISTRATIVE CODES. THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
2. THIS SURVEY IS LIMITED TO: (1) THE LOCATION OF SURFACE IMPROVEMENTS WITHIN PROJECT LIMITS AS DESCRIBED IN THE CONTRACT. (2) SPOT ELEVATIONS AND CONTOURS.
3. THIS NOT A BOUNDARY SURVEY. ANY PARCEL OR BOUNDARY INFORMATION SHOWN IS FOR REFERENCE ONLY.
4. THE HORIZONTAL SURVEY DATA SHOWN WAS PROVIDED BY THE CLIENT. CONTROL PROVIDED IS BASED ON NORTH AMERICAN DATUM OF 1983 (NAD83), WITH A 1990 ADJUSTMENT, STATE PLANE COORDINATES, FLORIDA EAST ZONE. HORIZONTAL POINT HELD IS A 4"X4" CONCRETE MONUMENT WITH FDOT DISK WITH COORDINATES: N:1507918.39 E:597485.15
5. THE VERTICAL DATUM AND ELEVATIONS SHOWN HEREON WERE PROVIDED BY CLIENT AND ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). VERTICAL POINT HELD IS A 4"X4" CONCRETE MONUMENT WITH FDOT DISK, HAVING THE ELEVATION OF 81.58 FEET. L&S DIVERSIFIED MADE REDUNDANT VERTICAL CHECKS TO ORANGE COUNTY BENCHMARKS: "OC–16–1045" & "OC–16–1047".
6. THE SYMBOLS REFLECTED IN THE LEGEND AND ON THIS SURVEY MAY HAVE BEEN ENLARGED FOR CLARITY. THE SYMBOLS HAVE BEEN PLOTTED AT THE CENTER OF THE FIELD LOCATION AND MAY NOT REPRESENT THE ACTUAL SHAPE OR SIZE OF THE FEATURE.
7. THE INFORMATION DEPICTED ON THIS SURVEY REPRESENTS THE RESULTS OF A FIELD SURVEY ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED AS A REPRESENTATION OF THE GENERAL CONDITIONS EXISTING AT THAT TIME.
8. THE SURVEYOR DID NOT INSPECT THE PROPERTY SHOWN HEREON FOR ENVIRONMENTAL HAZARDS.
9. TREES, ORNAMENTAL PLANTS, HEDGES WERE NOT LOCATED.
10. L & S DIVERSIFIED, LLC DID NOT SEARCH THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA FOR OWNERSHIP, RIGHTS–OF–WAY, EASEMENTS OR OTHER MATTERS AFFECTING THE PROPERTY BEING SURVEYED. THERE BE ADDITIONAL RESTRICTIONS NOT SHOWN ON THIS SURVEY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA.
11. THE INFORMATION CONTAINED IN THIS DOCUMENT WAS PREPARED BY L & S DIVERSIFIED, LLC (L&S). L&S HAS TAKEN ALL REASONABLE STEPS TO ENSURE THE ACCURACY OF THIS DOCUMENT. WE CANNOT GUARANTEE THAT ALTERATIONS AND/OR MODIFICATIONS WILL NOT BE MADE BY OTHERS AFTER IT LEAVES OUR POSSESSION. THIS DOCUMENT MUST BE COMPARED TO THE ORIGINAL HARD COPY (WHICH BEARS THE RAISED SURVEYORS CERTIFICATION SEAL IF APPLICABLE) TO ENSURE THE ACCURACY OF THE INFORMATION CONTAINED HEREON AND TO FURTHER ENSURE THAT ALTERATIONS AND/OR MODIFICATIONS HAVE NOT BEEN MADE. L&S MAKES NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE ACCURACY OF THE INFORMATION CONTAINED IN THIS OR ANY DOCUMENT TRANSMITTED OR REVIEWED BY COMPUTER OR OTHER ELECTRONIC MEANS. CONTACT L&S DIRECTLY FOR VERIFICATION OF ACCURACY.
12. THIS SURVEY MAP IS INTENDED TO BE DISPLAYED AT A SCALE OF 1/100 OR SMALLER.
13. THIS SURVEY CANNOT BE RELIED UPON BY PERSONS OR ENTITIES OTHER THAN THE PERSONS OR ENTITIES CERTIFIED TO HEREON.
14. ADDITIONS OR DELETIONS TO THIS SURVEY MAP BY OTHER THAN THE SIGNING PARTY OR PARTIES ARE PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.

SYMBOL AND ABBREVIATION LEGEND:

- ⊕ FOUND BRASS OR ALUMINUM DISK
- ⊡ FOUND CONCRETE MONUMENT
- ○ FOUND IRON PIPE
- ○ FOUND IRON ROD
- ◎ FOUND NAIL & DISK
- ■ SET CONCRETE MONUMENT
- ● SET IRON ROD
- ◉ SET NAIL & DISK
- ⚠ SET TRAVERSE POINT OR BENCHMARK
- E EAST/EASTING

ELEV ELEVATION
HDPE HIGH DENSITY POLYETHYLENE
LB LICENSED BUSINESS
LS LICENSED SURVEYOR
N NORTH/NORTHING
S SOUTH
25 CONTOUR
+24.1 SPOT ELEVATION
FENCE LINE
DRAINAGE PIPE

TOB TOP OF BANK
TOE TOE OF SLOPE

STATION ENERGY CENTER
CHARAH SOLUTIONS

AS-BUILT SURVEY
FINAL SURFACE LAYER

LOCATED IN

SECTIONS 14 AND 23, TOWNSHIP 23 SOUTH, RANGE 31 EAST
CITY OF ORLANDO
ORANGE COUNTY, FLORIDA

GRAPHIC SCALE
80' 0 40' 80' 160'
1 INCH = 80 FEET

REVISIONS

No.	DATE	BY	DESCRIPTION

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THIS SURVEY REPRESENTED HEREON IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF. IT HAS BEEN PREPARED IN ACCORDANCE WITH THE STANDARDS SET FORTH IN CHAPTER 5J-17 OF THE FLORIDA ADMINISTRATIVE CODE PURSUANT TO TO CHAPTERS 177 AND 472 OF THE FLORIDA STATUES.

BRAD ALEXANDER, PSM - LS# 6885
THIS SURVEY MAP AND/OR REPORT IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF THE SIGNEE.

PROJECT No.	190131
SURVEY BY	T.TAYLOR
SURVEY DATE	2020.NOV.10
DRAWN BY	L. ROBERTS
DRAWN DATE	2020.NOV.11
REVIEWED BY	B. ALEXANDER
APPROVED BY	B. ALEXANDER

DRAWING No.
V100
SHEET
1 OF 2

L & S Diversified
Land Surveyors and Mappers
489 S.R. 436 | SUITE 117 | CASSELBERRY, FL | 32707
PHONE 407.681.3836 | FAX 407.681.6541
WWW.LSSURVEYOR.COM | INFO@LSSURVEYOR.COM
PROFESSIONAL SURVEYOR & MAPPER BUSINESS LICENSE | LB#7820

POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
80	1506750.64	596719.60	94.20	DB –A2
81	1506436.14	596718.98	94.25	DB –B
82	1506117.96	596720.40	94.28	DB –C
83	1505800.32	596718.91	94.23	DB –E
100	1506750.61	596741.02	88.47	LC Cell D 1
101	1506751.45	596781.28	88.22	LC Cell D 2
102	1506751.58	596821.01	88.95	LC–Cell D3
103	1506751.15	596859.47	89.76	LC–Cell D4
104	1506751.22	596899.33	90.85	LC–Cell D5
105	1506751.50	596939.63	91.85	LC–Cell D6
106	1506752.36	596979.71	92.84	LC–Cell D7
107	1506753.71	597019.86	93.79	LC–Cell D8
108	1506753.48	597060.16	94.05	LC–Cell D9
109	1506753.61	597100.35	94.25	LC–Cell D10
110	1506753.50	597140.54	94.37	LC–Cell D11
111	1506753.01	597180.48	94.50	LC–Cell D12
112	1506753.18	597220.84	94.66	LC–Cell D13
113	1506752.81	597260.77	94.78	LC–Cell D14
114	1506752.95	597301.30	94.83	LC–Cell D15
115	1506753.19	597341.49	95.00	LC–Cell D16

POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
116	1506752.59	597381.68	95.18	LC–Cell D17
117	1506753.12	597421.90	95.21	LC–Cell D18
118	1506752.37	597461.16	95.24	LC–Cell D–19
119	1506753.44	597501.04	95.33	LC–Cell D–20
120	1506753.09	597540.88	95.59	LC–Cell D–21
122	1506753.21	597621.49	95.78	LC–Cell D–23
123	1506753.16	597661.52	95.78	LC–Cell D–24
124	1506753.81	597701.78	95.78	LC–Cell D–25
125	1506437.06	596739.92	88.71	LC Cell C1
126	1506435.88	596779.90	88.32	LC–Cell C–2
127	1506434.44	596817.71	88.82	LC–Cell C–3
128	1506434.29	596857.69	89.87	LC–Cell C–4
129	1506434.58	596897.96	90.68	LC–Cell C–5
130	1506434.07	596938.02	91.74	LC–Cell C–6
131	1506434.34	596978.07	92.60	LC–Cell C–7
132	1506434.42	597018.45	93.65	LC–Cell C–8
133	1506435.43	597058.59	94.03	LC–Cell C–9
134	1506435.31	597098.63	94.08	LC–Cell C–10
135	1506436.31	597138.89	94.17	LC–Cell C–11
136	1506435.80	597179.10	94.41	LC–Cell C–12

POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
137	1506435.10	597219.40	94.54	LC–Cell C–13
138	1506435.46	597259.86	94.60	LC–Cell C–14
139	1506436.14	597300.20	94.71	LC–Cell C–15
140	1506435.67	597340.39	94.81	LC–Cell C–16
141	1506435.39	597380.54	94.93	LC–Cell C–17
142	1506436.66	597421.13	94.96	LC–Cell C–18
143	1506437.35	597461.04	95.12	LC–Cell C–19
144	1506436.24	597501.34	95.35	LC–Cell C–20
145	1506436.34	597540.80	95.50	LC–Cell C–21
146	1506435.94	597580.80	95.58	R–LC–Cell C–22
147	1506436.07	597620.85	95.66	R–LC–Cell C–23
148	1506436.37	597660.90	95.73	R–LC–Cell C–24
149	1506436.27	597701.69	95.81	LC–Cell C–25
150	1506118.55	596739.45	88.68	R–LC–Cell B–1
151	1506118.80	596779.42	88.39	R–LC–Cell B–2
152	1506120.06	596819.34	89.10	R–LC–Cell B–3
153	1506120.37	596859.27	89.81	LC–Cell B–4
154	1506120.11	596899.39	90.91	LC–Cell B–5
155	1506119.45	596939.52	91.75	LC–Cell B–6
156	1506119.07	596979.66	92.72	LC–Cell B–7

POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
157	1506117.92	597019.72	93.75	LC–Cell B–8
158	1506117.49	597059.70	93.84	LC–Cell B–9
159	1506118.48	597099.91	94.03	LC–Cell B–10
160	1506118.18	597140.15	94.22	LC–Cell B–11
161	1506117.51	597180.26	94.37	LC–Cell B–12
162	1506117.35	597220.32	94.53	LC–Cell B–13
163	1506118.28	597260.46	94.58	LC–Cell B–14
164	1506119.12	597300.43	94.70	LC–Cell B–15
165	1506119.13	597340.57	94.85	LC–Cell B–16
166	1506119.59	597380.67	95.04	LC–Cell B–17
167	1506120.01	597420.74	95.10	LC–Cell B–18
168	1506120.27	597460.83	95.22	LC–Cell B–19
169	1506120.69	597500.94	95.40	LC–Cell B–20
170	1506119.80	597540.93	95.51	R–LC–Cell B–21
171	1506119.15	597580.93	95.61	R–LC–Cell B–22
172	1506118.85	597620.94	95.70	R–LC–Cell B–23
173	1506117.62	597660.97	95.74	R–LC–Cell B–24
174	1506117.88	597697.17	95.81	R–LC–Cell B–25
175	1505800.76	596739.85	88.57	R–LC–Cell A–1
176	1505800.52	596779.76	88.24	R–LC–Cell A–2

POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
177	1505800.33	596819.77	88.36	R–LC–Cell A–3
178	1505799.80	596859.78	89.10	R–LC–Cell A–4
179	1505800.31	596899.67	89.94	R–LC–Cell A–5
180	1505800.85	596939.69	90.96	R–LC–Cell A–6
181	1505800.46	596979.63	91.77	R–LC–Cell A–7
182	1505800.16	597019.46	92.79	R–LC–Cell A–8
183	1505799.94	597059.30	93.84	R–LC–Cell A–9
184	1505799.96	597099.20	94.12	R–LC–Cell A–10
185	1505800.26	597139.12	94.25	LC–Cell A–11
186	1505801.23	597178.93	94.31	LC–Cell A–12
187	1505800.91	597219.04	94.49	LC–Cell A–13
188	1505800.82	597259.01	94.60	LC–Cell A–14
189	1505800.29	597299.01	94.61	LC–Cell A–15
190	1505799.68	597339.06	94.81	LC–Cell A–16
191	1505799.60	597379.07	95.03	LC–Cell A–17
192	1505799.30	597419.16	95.07	LC–Cell A–18
193	1505799.72	597459.15	95.21	LC–Cell A–19
194	1505800.33	597499.25	95.44	LC–Cell A–20
195	1505800.35	597539.26	95.47	LC–Cell A–21
196	1505800.07	597579.65	95.62	LC–Cell A–22

POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
197	1505799.96	597619.67	95.64	LC–Cell A–23
198	1505801.08	597659.74	95.82	LC–Cell A–24
199	1505801.13	597699.64	95.88	LC–Cell A–25
200	1505801.34	597715.35	95.89	LC–Cell A–26
201	1506747.19	596741.35	86.62	Sump D–LDS 1
202	1506747.13	596769.50	86.74	Sump D–LDS 2
203	1506755.20	596741.45	86.68	Sump D–LCS1
204	1506755.36	596769.56	86.64	Sump D–LCS2
205	1506432.31	596741.52	86.64	Sump C–LDS 1
206	1506432.12	596769.65	86.52	Sump C–LDS 2
207	1506440.37	596741.23	86.61	Sump C–LCS1
208	1506440.44	596769.35	86.64	Sump C–LCS2
209	1506114.48	596741.13	86.77	Sump B–LDS1
210	1506114.61	596769.33	86.53	Sump B–LDS2
211	1506121.37	596741.28	86.53	Sump B–LCS–1
212	1506121.57	596769.33	86.64	Sump B–LCS–2
213	1505796.48	596741.02	86.64	Sump A–LDS 1
214	1505795.56	596769.14	86.60	Sump A–LDS 2
215	1505804.50	596741.27	86.63	Sump A–LCS 1
216	1505804.51	596769.43	86.59	Sump A–LCS 2

STATION ENERGY CENTER
CHARAH SOLUTIONS

AS-BUILT SURVEY
FINAL SURFACE LAYER

LOCATED IN

SECTIONS 14 AND 23, TOWNSHIP 23 SOUTH, RANGE 31 EAST
CITY OF ORLANDO
ORANGE COUNTY, FLORIDA

GRAPHIC SCALE

80' 0 40' 80' 160'

1 INCH = 80 FEET

REVISIONS

No.	DATE	BY	DESCRIPTION

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THIS SURVEY REPRESENTED HEREON IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF. IT HAS BEEN PREPARED IN ACCORDANCE WITH THE STANDARDS SET FORTH IN CHAPTER 5J-17 OF THE FLORIDA ADMINISTRATIVE CODE PURSUANT TO TO CHAPTERS 177 AND 472 OF THE FLORIDA STATUES.

BRAD ALEXANDER, PSM - LS# 6885
THIS SURVEY MAP AND/OR REPORT IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF THE NOTARY.

PROJECT No.	190131
SURVEY BY	T. TAYLOR
SURVEY DATE	2020.NOV.10
DRAWN BY	L. ROBERTS
DRAWN DATE	2020.NOV.11
REVIEWED BY	B. ALEXANDER
APPROVED BY	B. ALEXANDER

DRAWING No.
V100
SHEET
2 OF 2

L & S Diversified
Professional Surveyors and Mappers
489 S.R. 436 | SUITE 117 | CASSELBERRY, FL | 32707
PHONE 407.681.3838 | FAX 407.681.6541
WWW.LSSURVEYOR.COM | INFO@LSSURVEYOR.COM
PROFESSIONAL SURVEYOR & MAPPER BUSINESS LICENSE | LB#7629

CONSTRUCTION PLANS

FOR

COMBUSTION WASTE STORAGE AREA
RUNOFF POND

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

MAY 2015

Prepared By

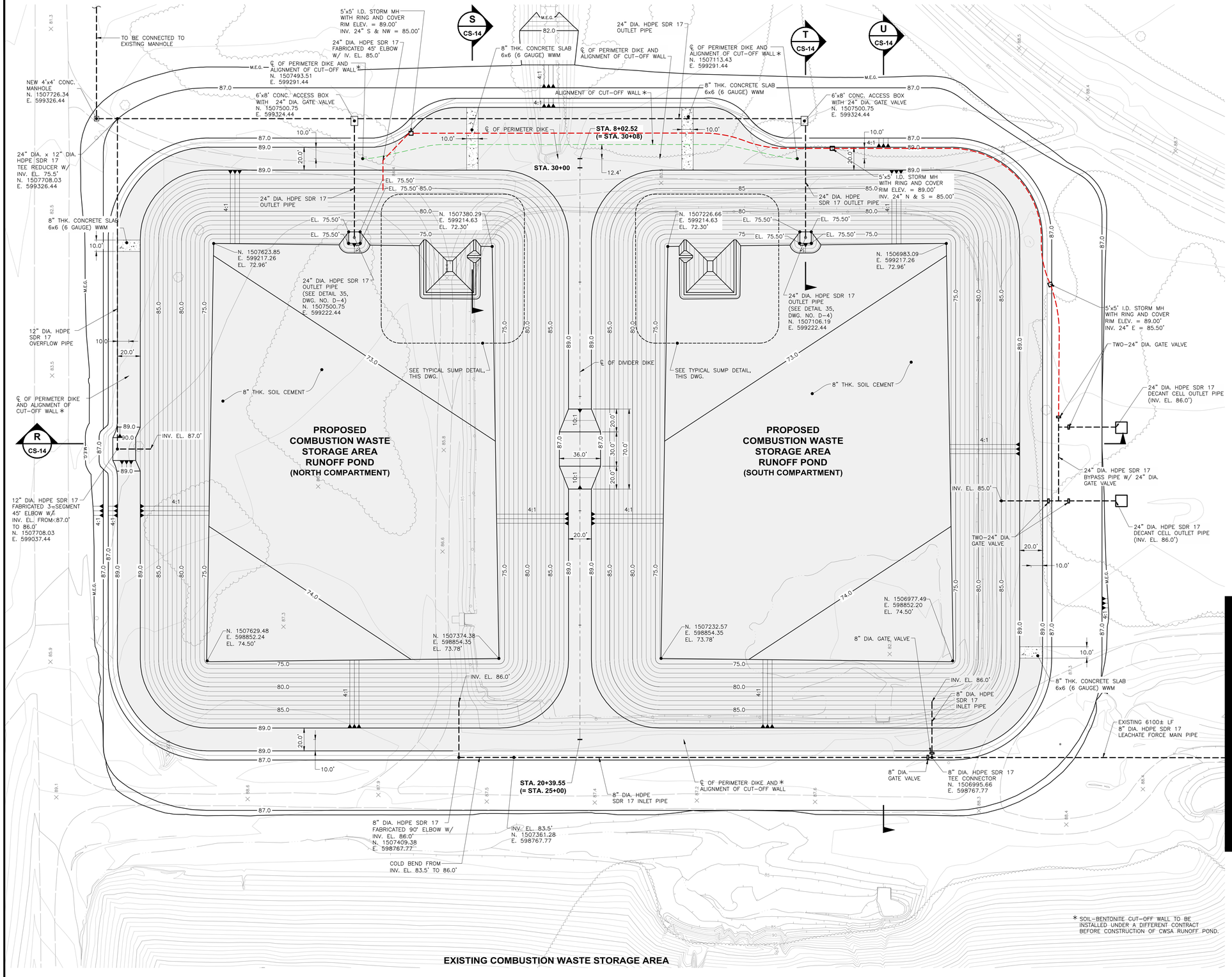
Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

ARDAMAN & ASSOCIATES, INC. FILE NO.
12-13-0166

NADIM F. FULEIHAN, Sc.D., P.E.
FLORIDA LICENSE NO. 31953

DRAWING NO. G-1

T:\Corporate\12\12-13-0166\CWSA RUNOFF POND DESIGN_Current Sheet Set\G-1 COVER SHEET.dwg 8/16/2016 6:11:45 PM, ruben.hoffman



N

0 40 80

SCALE: 1"=40'

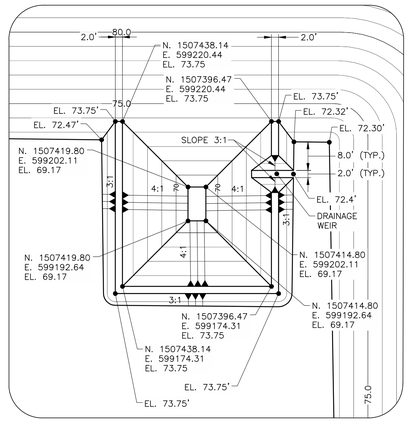
TOPOGRAPHIC SURVEY PERFORMED BY GEOMATIC TECHNOLOGIES, CALIFORNIA. SURVEY DATE: 07/19/2011

DATUM: NAVD (1988)

TOPOGRAPHIC CONTOUR INTERVAL: 1 FT.

LEGEND

SOIL CEMENT



TYPICAL SUMP DETAIL

SCALE: 1" = 20'

3D VIEW OF POND AREA

REVISION	DATE	DESCRIPTION	APPR'D
1	05/14/15	REVISED EAST SIDE OF SITE AND ADDED 24" PIPE INFORMATION	
0	08/07/13	ISSUED FOR CONSTRUCTION	
P1	08/02/13	ISSUED FOR REGULATORY REVIEW	
P0	04/15/13	ISSUED FOR PRELIMINARY REVIEW MEETING WITH FDEP	

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	04/29/13	CHECKED BY	DTC	04/29/13
DRAWN BY	AAD	04/29/13	CHECKED BY	MH	04/29/13
FILE NO.: 12-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One

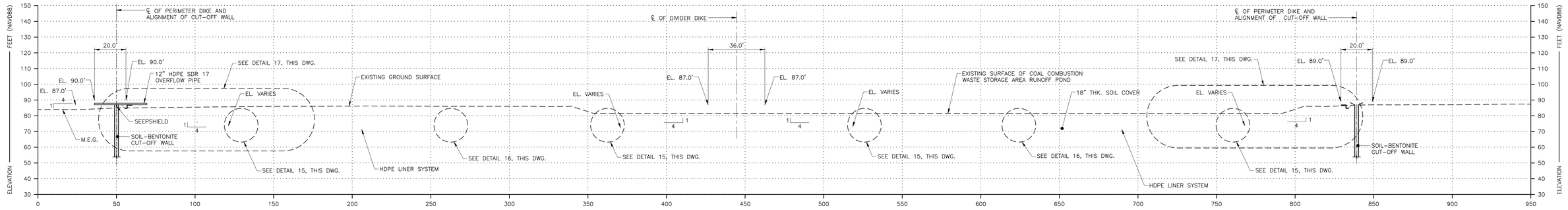
COMBUSTION WASTE STORAGE AREA RUNOFF POND

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

SOIL CEMENT FINAL GRADING PLAN

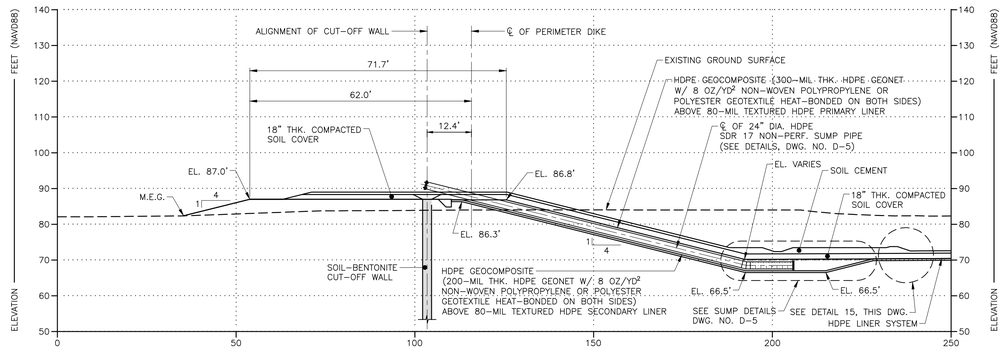
DRAWING NO. CS-9

C:\Users\Carol.Stone\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\XSPS9PR5\CS-9 SOIL CEMENT FINAL GRADING PLAN.dwg 7/21/2015 10:48:10 AM, carol.stone



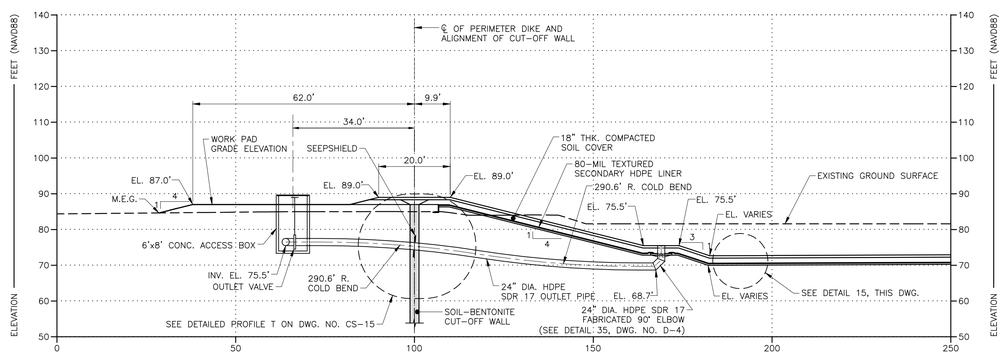
R CS-9 **CROSS SECTION R**

SCALE: 1" = 30'



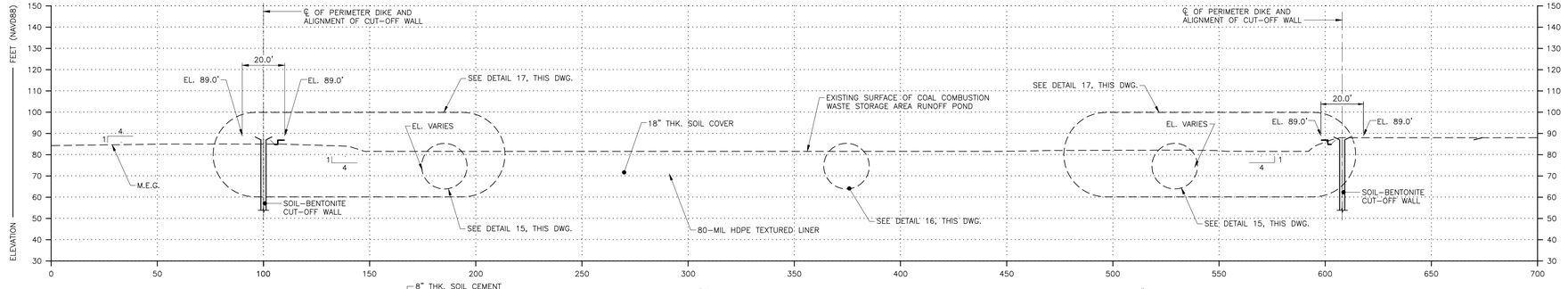
S CS-9 **CROSS SECTION S**

SCALE: 1" = 20'



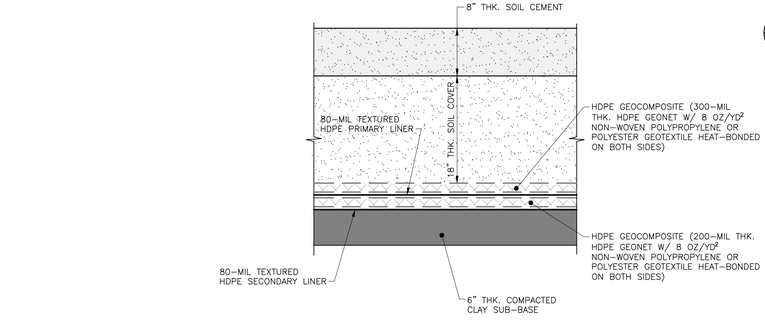
T CS-9 **CROSS SECTION T**

SCALE: 1" = 20'



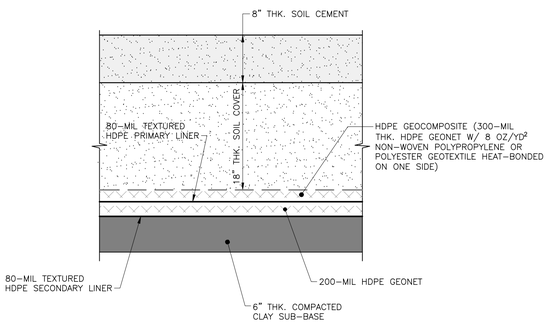
U CS-9 **CROSS SECTION U**

SCALE: 1" = 30'



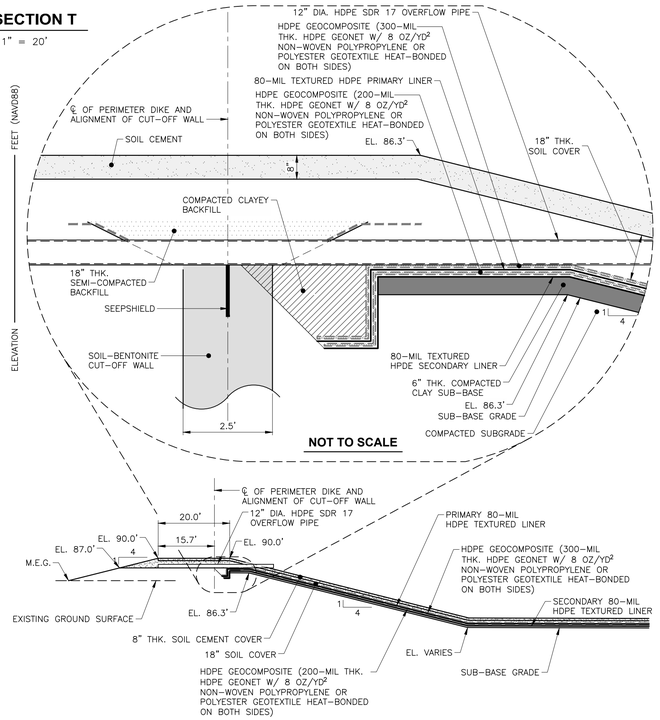
15 - **TYPICAL FINAL GRADE DETAIL**

SCALE: 1" = 1'



16 - **TYPICAL FINAL GRADE DETAIL**

SCALE: 1" = 1'



17 - **TYPICAL FINAL GRADE DETAIL**

SCALE: 1" = 20'

REVISION	DATE	DESCRIPTION	APPR'D
1	05/14/15	REMOVED SECONDARY LINER ANCHOR TRENCH	
0	08/07/13	ISSUED FOR CONSTRUCTION	
P1	08/02/13	ISSUED FOR REGULATORY REVIEW	
P0	04/15/13	ISSUED FOR PRELIMINARY REVIEW MEETING WITH FDEP	

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	04/29/13	CHECKED BY	DTC	04/29/13
DRAWN BY	BTW	04/29/13	CHECKED BY	MH	04/29/13
FILE NO.: 12–13–0166			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One®

COMBUSTION WASTE STORAGE AREA RUNOFF POND

OUC STANTON ENERGY CENTER ORANGE COUNTY, FLORIDA

SOIL CEMENT FINAL GRADING CROSS SECTIONS

DRAWING NO. **CS-14**

C:\Users\Coral.Stone\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\NSPS9PR5\CS-14 FINAL GRADING CROSS SECTIONS.dwg 7/21/2015 10:46:13 AM, coral.stone

CONSTRUCTION PLANS

FOR

DECANT CELL

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

OUC The Reliable One®

NOVEMBER 2013

Prepared By

Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
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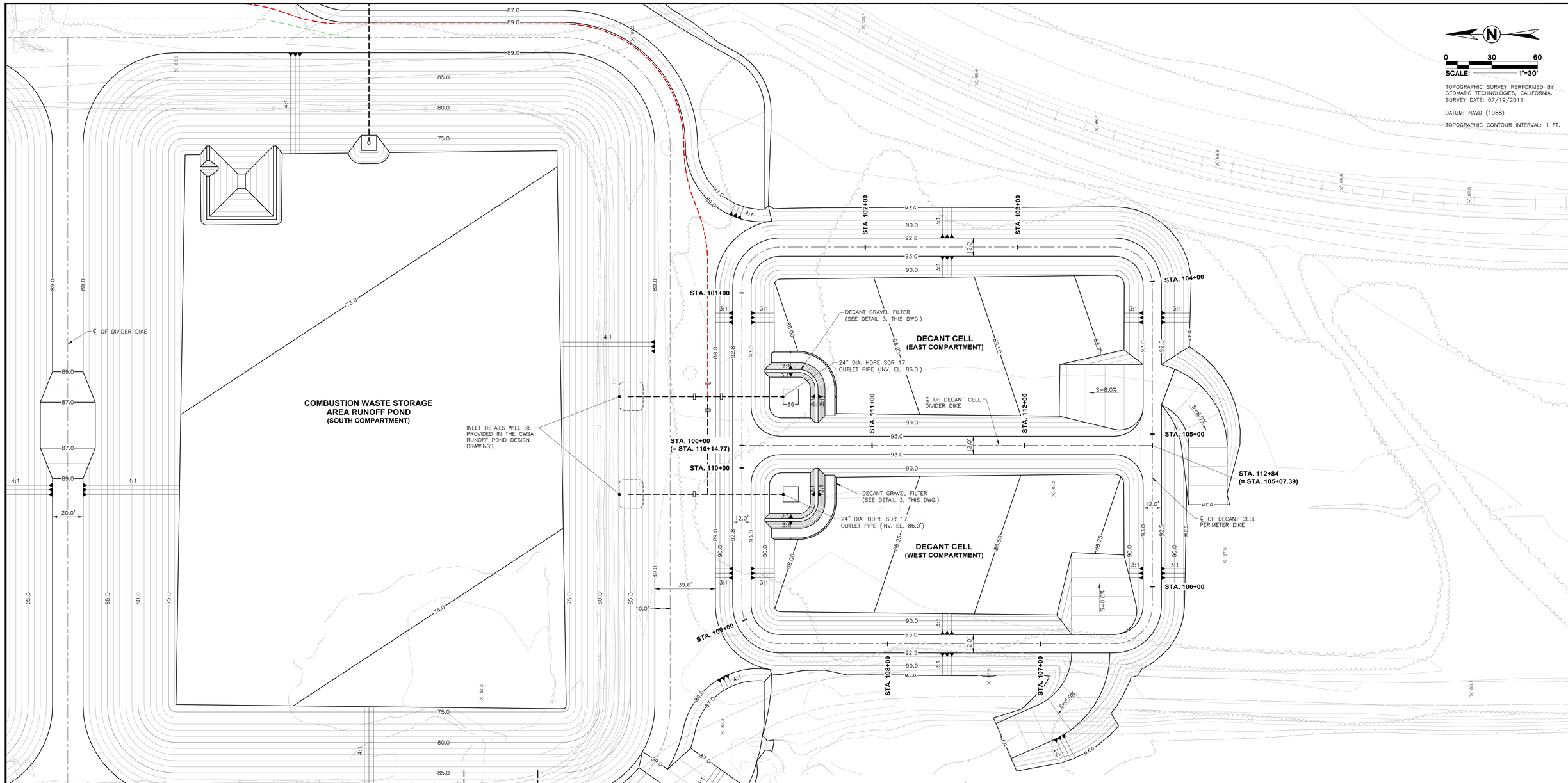
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

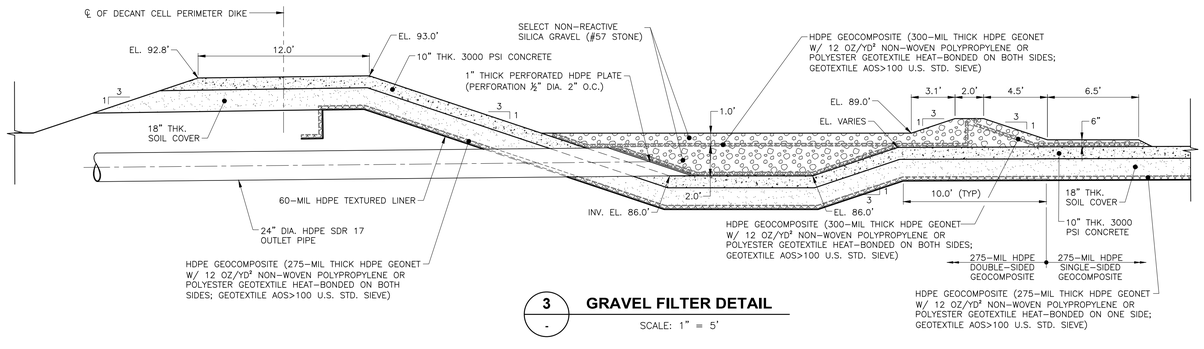
ARDAMAN & ASSOCIATES, INC. FILE NO.
12-13-0166

NADIM F. FULEIHAN, Sc.D., P.E.
FLORIDA LICENSE NO. 31953

DRAWING NO. G-1

T:\Corporate\12\12-13-0166\DECANT CELL_Current Sheet Set\G-1 COVER SHEET.dwg 11/19/2013 9:58:56 AM, Paula.Soto





3 / - GRAVEL FILTER DETAIL

SCALE: 1" = 5'

0 30 60

SCALE: 1"=30'

TOPOGRAPHIC SURVEY PERFORMED BY GEOMATIC TECHNOLOGIES, CALIFORNIA.
SURVEY DATE: 07/19/2011

DATUM: NAVD (1988)

TOPOGRAPHIC CONTOUR INTERVAL: 1 FT.

REVISION	DATE	DESCRIPTION	APPR'D
P3	10/11/13	ISSUED FOR CONSTRUCTION	
P2	08/07/13	ISSUED FOR BID	
P1	05/03/13	ISSUED FOR PERMITTING	
P0	04/15/13	ISSUED FOR PRELIMINARY REVIEW MEETING WITH FDEP	

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	04/29/13	CHECKED BY	DTC	04/29/13
DRAWN BY	AAD	04/29/13	CHECKED BY	MH	04/29/13
FILE NO.: 12-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
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TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One®

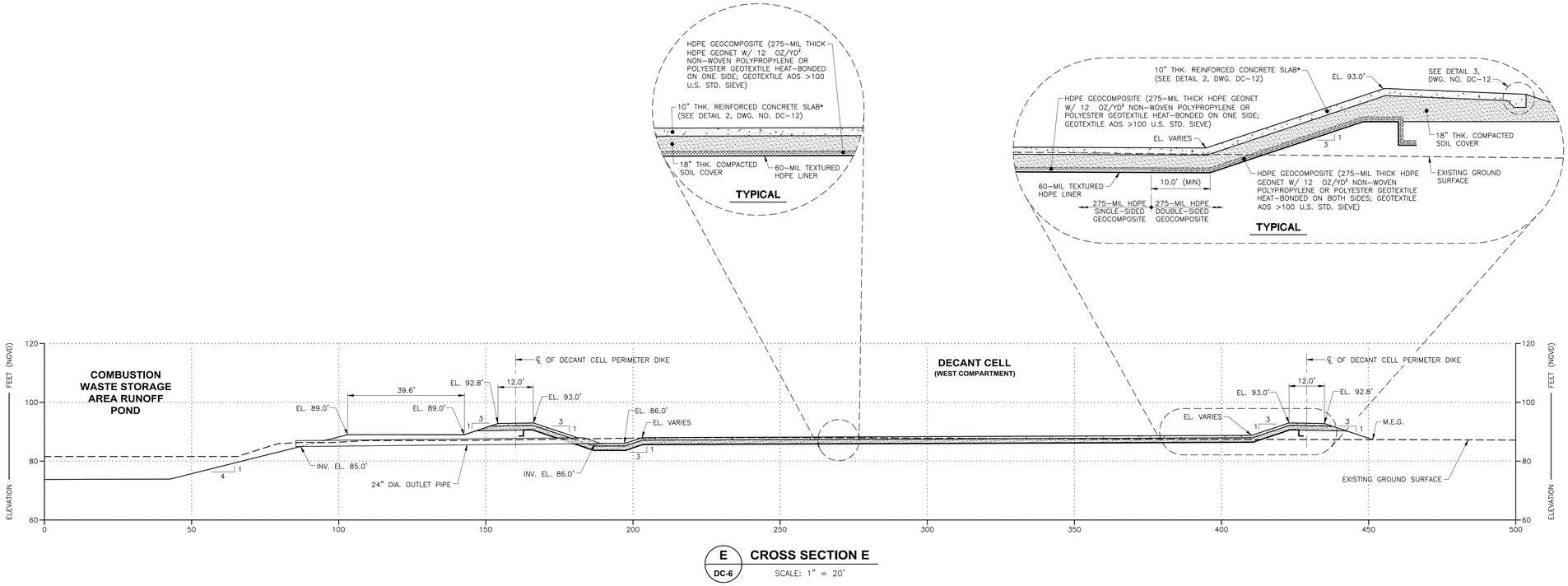
DECANT CELL

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

DECANT CELL GRAVEL FILTER DETAILS

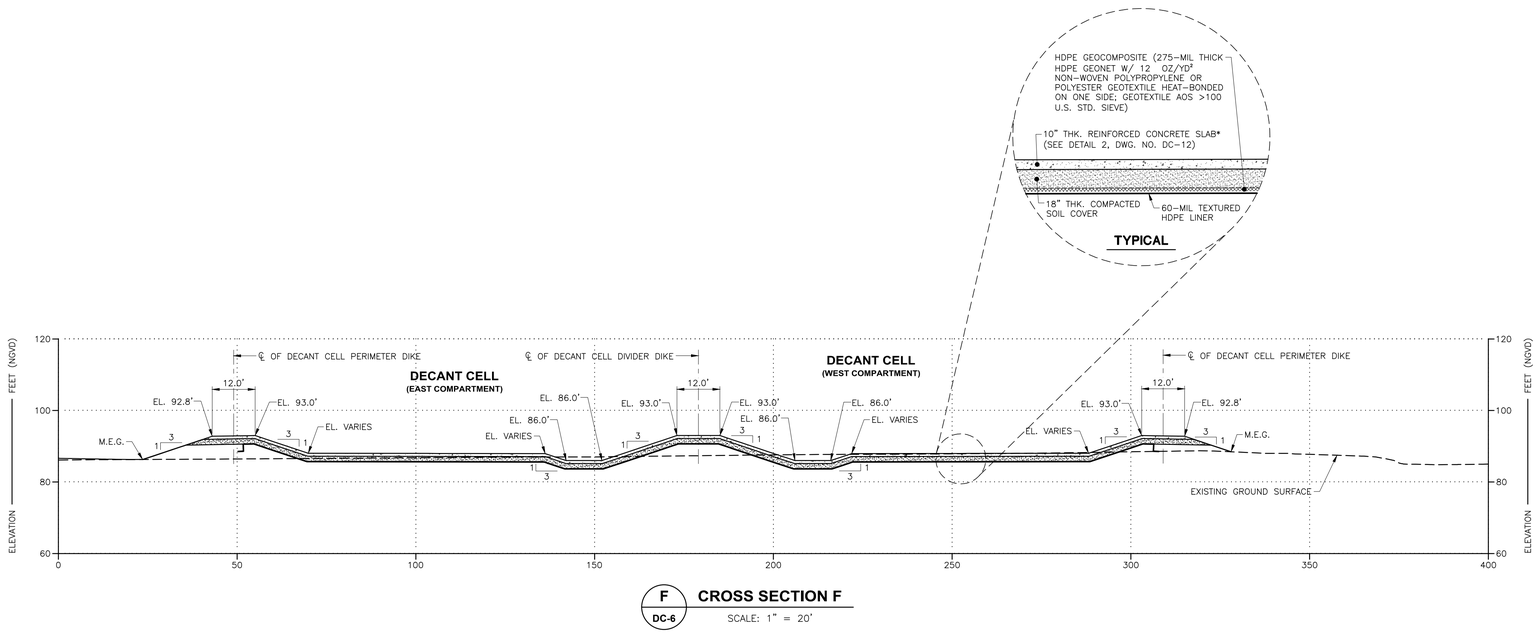
DRAWING NO. DC-7

T:\Corporate\12\12-13-0166\DECANT CELL_Current Sheet Set\DC-7 DECANT CELL GRAVEL FILTER DETAILS.dwg 11/19/2013 10:04:20 AM, Paula.Soto



E DC-6 **CROSS SECTION E**

SCALE: 1" = 20'



F DC-6 **CROSS SECTION F**

SCALE: 1" = 20'

* EXPANSION JOINTS, CONTROL JOINTS AND REINFORCEMENT DETAILS ARE PROVIDED ON DRAWING NUMBERS DC-11 AND DC-12.

REVISION	DATE	DESCRIPTION	APPR'D
P3	10/11/13	ISSUED FOR CONSTRUCTION	
P2	08/07/13	ISSUED FOR BID	
P1	05/03/13	ISSUED FOR PERMITTING	
P0	04/15/13	ISSUED FOR PRELIMINARY REVIEW MEETING WITH FDEP	

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	04/29/13	CHECKED BY	DTC	04/29/13
DRAWN BY	AAD	04/29/13	CHECKED BY	MH	04/29/13
FILE NO.: 12-13-0166			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One®

DECANT CELL

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

DECANT CELL FINAL GRADING CROSS SECTIONS

DRAWING NO. **DC-10**

T:\Corporate\12\12-13-0166\DECANT CELL_Current Sheet Set\DC-10 DECANT CELL FINAL GRADING CROSS SECTIONS.dwg 11/19/2013 10:06:31 AM, Paula.Soto

Appendix 3

Mikon Corporation 2023 Annual Topographic Survey for CWSA

September 27, 2023

Mr. Stuart Cason
Orlando Utilities Commission
Orlando, Florida

<scason@ouc.com>

RE: Stanton Energy Center
Ash Landfill

Dear Mr. Cason:

We have completed the volume determinations of the horizontal expansion of the Fly Ash Landfill at the Stanton Energy Center. The volume of the horizontal area is reported as total volume referenced to base. Total volume includes active and capped (if any) areas. The results are as follows:

VOLUMES

Date of Survey: September 9, 2023

Area	Reference Datum	Type of Volume	Fill (cy)	Cut (cy)
Horizontal	Base [1]	Total	3,070,079	150

[1] Base model developed by MIKON Corporation from survey data obtained September 2013 and the surface of adjacent cell to the east surveyed in 2014 and 2021.

Should you have any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us. We appreciate the opportunity to provide our services to Orlando Utilities.

Respectfully submitted,

MIKON Corporation

Bryan W. Davis

Brian J. Kramer

BWD/BJK:js
Attachments: Landfill Topography Drawing and AutoCAD File

SCALE 1" = 300'
2' CONTOUR INTERVAL

0 300

NORTH

DATE OF SURVEY: SEPTEMBER 9, 2023

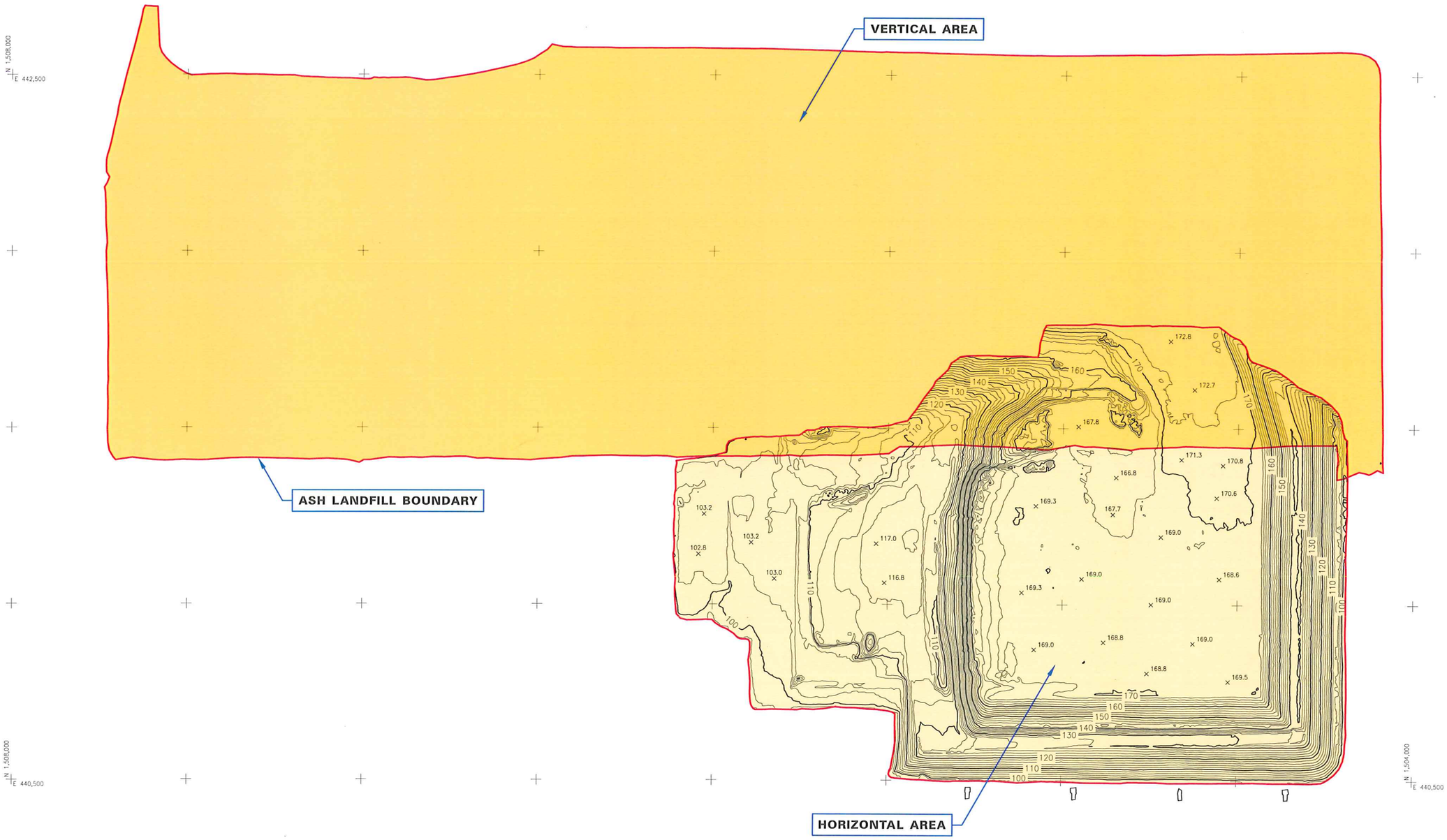
SHEET NOTES:

1. FIELD WORK AND MAPPING FOR LANDFILL TOPOGRAPHY PROVIDED BY MIKON CORPORATION.

PERMITTED AREA = 315.1 ACRES

ASH LANDFILL

VERTICAL AREA	=	93.4 ACRES
HORIZONTAL AREA	=	37.3 ACRES
TOTAL AREA	=	130.7 ACRES



MIKON CORPORATION
4414 SOUTH 40th STREET, Suite 8
ST. JOSEPH, MISSOURI 64503
816-364-2880 fax: 816-364-2126
email: mikon@mikoncorp.com

FILE NAME: STANTON_LF_09.23
DRAWN BY: DNS CHECKED BY: BJK

ORLANDO UTILITIES COMMISSION

STANTON ENERGY CENTER

ASH LANDFILL TOPOGRAPHY

DATE: 09/26/23

SHEET 1 of 1

Appendix 4

WSP Topographic/Waste Quantity Survey Dated February 21, 2024

Map of Topographic / Quantity Survey
of

Horizontal Expansion of Combustion Waste Storage Area - Cell 1

Located in

Curtis H. Stanton Energy Center

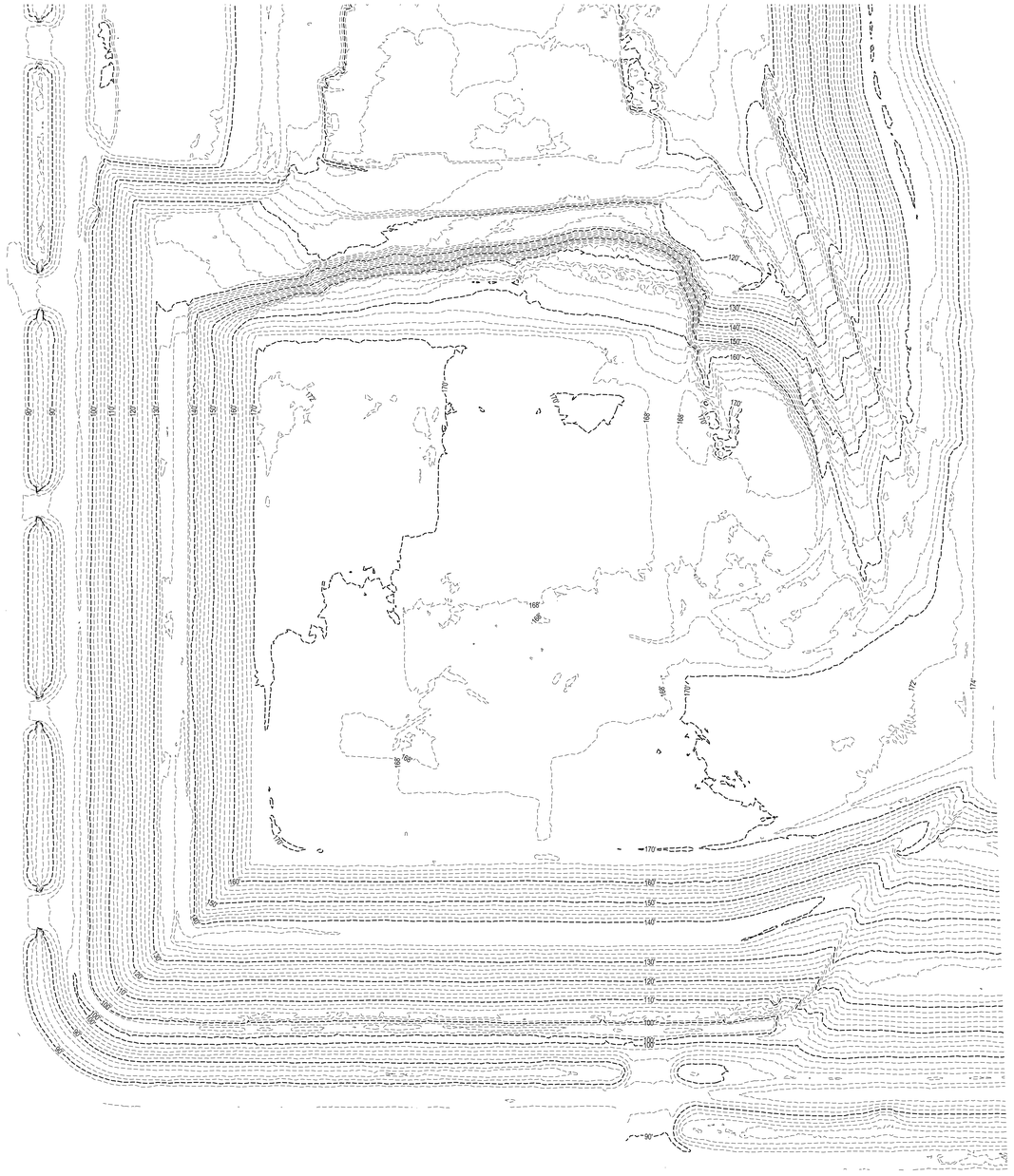
Orange County, Florida

HISTORICAL QUANTITY DATA

SURFACE	FILL (CY)	CUT (CY)	NET FILL (CY)
JAN 2015	34,493.11	1,246.77	33,246.34
JAN 2016	90,582.32	59.63	90,522.69
FEB 2016	51,492.27	1,617.08	49,875.19
MAR 2016	50,521.00	415.20	50,105.80
APR 2016	42,996.09	107.39	42,888.70
MAY 2016	30,746.55	1,315.06	29,431.49
JUN 2016	24,725.26	1,318.89	23,406.37
JUL 2016	23,903.85	720.50	23,183.35
AUG 2016	45,680.73	552.65	45,128.08
SEP 2016	35,277.68	2,717.19	32,560.49
OCT 2016	41,091.95	373.75	40,718.20
NOV 2016	26,769.78	584.59	26,185.19
DEC 2016	39,511.03	71.13	39,439.90
JAN 2017	49,129.26	638.02	48,491.24
FEB 2017	20,414.90	543.32	19,871.58
MAR 2017	18,828.76	75.46	18,753.30
APR 2017	74,873.83	10,370.50	64,503.33
MAY 2017	69,893.77	7,856.80	62,036.97
JUN 2017	36,933.97	1,137.68	35,796.29
JUL 2017	30,986.22	1,659.06	29,327.16
AUG 2017	30,516.37	1,725.25	28,791.12
SEP 2017	37,960.57	2,102.78	35,857.79
OCT 2017	22,549.35	2,232.30	20,317.05
NOV 2017	48,815.96	3,263.68	45,552.28
JAN 2018	77,758.64	36,162.39	41,596.25
FEB 2018	38,056.88	4,604.22	33,452.66
APR 2018	69,275.99	58,750.94	10,525.05
MAY 2018	95,418.82	57,003.63	38,415.19
JUL 2018	177,218.68	54,596.31	122,622.37
JAN 2019	214,742.47	11,673.48	203,068.99
FEB 2019	62,388.98	27,949.34	34,439.64
APR 2019	61,464.19	53,646.10	7,818.09
AUG 2019	156,554.09	10,818.11	145,735.98
OCT 2019	87,009.81	3,936.58	83,073.23
APR 2020	171,029.52	2,389.84	168,639.68
MAY 2020	44,781.15	11,250.01	33,531.14
SEP 2020	160,224.99	21,340.37	138,884.62
APR 2021	228,567.12	7,220.07	221,347.05
JAN 2022	272,695.46	6,566.70	266,128.76
MAY 2022	110,016.03	4,916.45	105,099.58
MAY 2023	258,985.35	31,338.73	227,646.62
AUG 2023	129794.89	5,598.08	124,196.81
DEC 2023	109,860.76	20,387.29	89,473.47

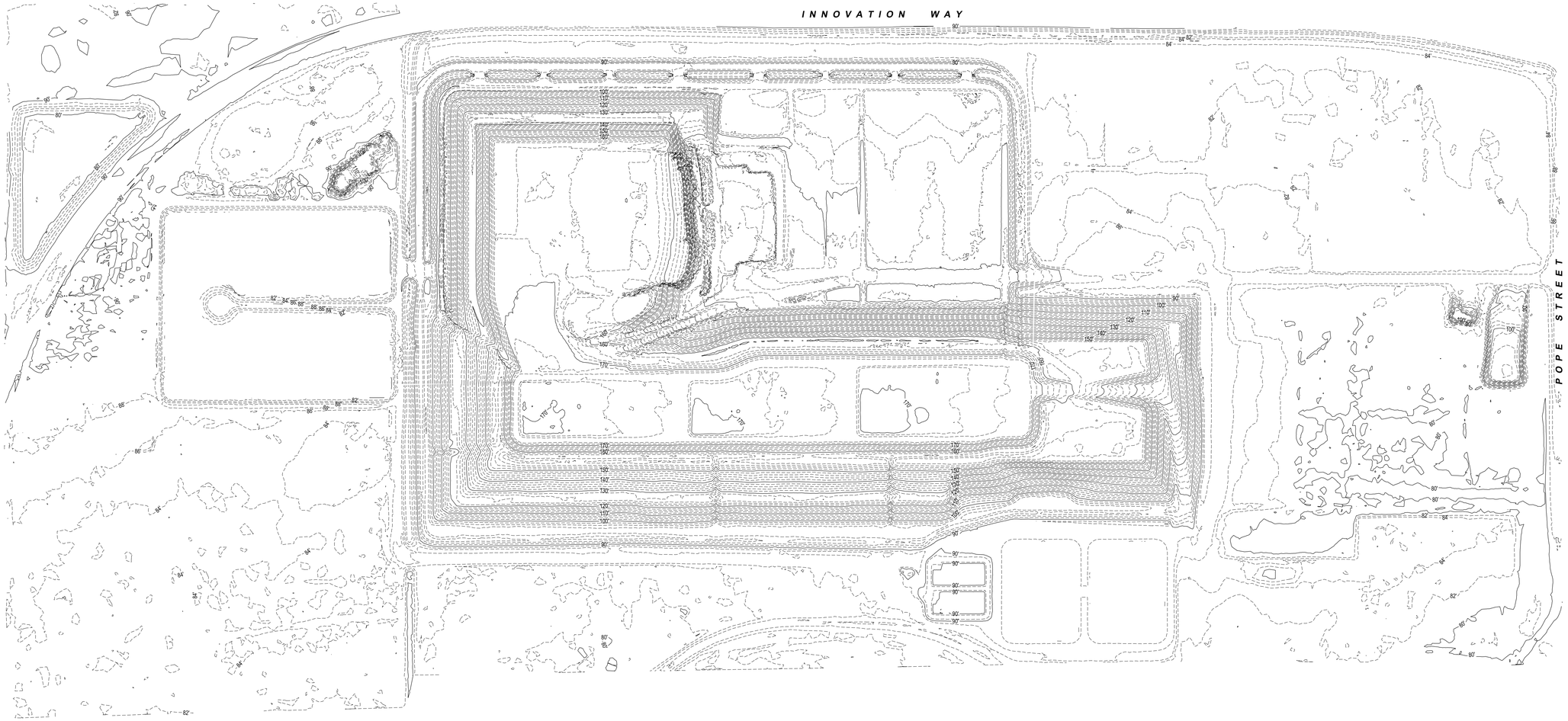
DECEMBER 2023 QUANTITY DATA

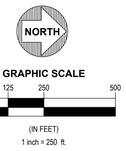
SURFACE	FILL (CY)	CUT (CY)	NET FILL (CY)
AVAILABLE VOLUME REMAINING FROM FEBRUARY 2024 SURVEY TO TOP OF WASTE FINAL DESIGN TEMPLATE	175,890.79	95,475.43	80,415.36



Appendix 5

WSP Topographic Survey of CWSA on December 19, 2023





Map of Topographic Survey
of a portion of
OUC Stanton Energy Center
Located in
Orange County, Florida

Surveyor's Notes / Report:

1. *This map of Topographic Survey is not valid without the signature and the original raised seal of the signing Florida licensed Surveyor and Mapper.*
2. *This Topographic Survey was compiled utilizing aerial Photogrammetric Mapping and Light Detecting and Ranging (LiDAR) technology for the purpose of determining and mapping elevations and subsequent contour lines over an area identified by the client.*
3. *Break-lines were collected from color digital aerial photography captured during the flight mission. These were draped to a bare earth surface model created from the LiDAR data while simultaneously viewing the conventional photography in 3-Dimensions on a softcopy workstation.*
4. *This map is intended to be displayed at a scale of 1"=250' or smaller. Contour interval is two (2) foot. The expected positional accuracy of well-defined and identified surveyed positions complies with Florida Administrative Code Rule Chapter 5J-17, Standards of Practice.*
5. *All map features contained herein represents actual visible site conditions existing at the time of aerial photography and LiDAR captured simultaneously December 19, 2023.*
6. *For purposes of clarity all spot elevations and other related topographic data may not be depicted hereon. The work product is intended to be a digital product deliverable. This data is available in electronic format in WSP file "6374181079" and other related digital files and has been furnished to the client.*
7. *Additions or deletions to this topographic survey are prohibited without written consent of the signing Florida licensed surveyor and mapper. The signing party is not responsible for additions, deletion or manipulation of the data contained in the topographic survey map or associated digital file.*
8. *Lands shown hereon were not abstracted by the Surveyor for rights-of-way, easements, ownership or other instruments of record. No title opinion or abstract of matters affecting title or boundary to the subject property or those of adjoining land owners has been provided to the Surveyor for review.*
9. *Underground improvements such as foundations and utilities were not located.*
10. *This survey does not address the identification or location of jurisdictional wetlands or sovereign lands, if any, that may lie within or adjacent to the lands surveyed.*
11. *Horizontal Datum and Coordinates noted hereon are relative to the Florida State Plane Coordinate System, Transverse Mercator projection, Florida East Zone (FL E 0901), US Survey Foot, North American Datum of 1983/2011 Adjustment.*
12. *Elevations shown hereon are relative to the North American Vertical Datum of 1988 (NAVD88) based on the following recovered or reset benchmarks:*

JH7	*BM14*
5/8" Iron Rod & Cap "WOOD Trav"	*PIP Concrete Monument with 3" Disk Stamped "HVM 4"*
Northing: 1507046.73	*Northing: 1507740.55*
Easting: 598110.834	*Easting: 600838.18*
Elevation: 175.057	*Elevation: 81.04*

13. *This Map of Survey is certified to: ORLANDO UTILITIES COMMISSION*

ROBERT MICHAEL JONES CERTIFICATE 4201 STATE OF FLORIDA REGISTERED LAND SURVEYOR

ROBERT M. JONES
FLORIDA PROFESSIONAL SURVEYOR AND MAPPER
LICENSE No. LS 4201

Prepared by:

WSP Environment & Infrastructure, Inc.
550 Northlake Boulevard, Suite 1000
Altamonte Springs, FL 32701 USA
Phone: (407) 522-7570
www.wsp.com
Certificate of Authorization Number LB-0007932

Prepared for:

ORLANDO UTILITIES COMMISSION
5971 Perishing Avenue
Orlando, Florida 32822
Phone: 407-384-4077

OUC The Reliable One®

Revision	Date

Revision	Date

Dwg. Date: 02/20/2024
Photo Date: 2022
Drawn by: TW
Checked by: RMJ

County: Orange County, Florida
Field Books:
Office No.: 6374.18.1079
Dwg. Name: 6374181079 -Big Topo Sta.dwg

Project Title:
Map of Topographic Survey
of a portion of
OUC Stanton Energy Center
Located in
Orange County, Florida

Sheet No. 1 of 1

X:\US\ORLAND_GIS\Projects\6374.2\6181\6374181079 - OUC Continuing Survey Services\Tony Work\1200 Tasks\20240220 - Big Topo Sta\Acad\ASCII\ 20 2024\6374181079 - Big Topo Sta.dwg, 2/20/2024 3:50:05 PM

Appendix 6

Screen Displays from FGD Sludge Conditioning Facility Control Room

Screen displays on the following pages include:

- Silos and Thickeners
- Unit 1 Vacuum Filters
- Unit 2 Vacuum Filters
- Mixers and Discharge Conveyors

MAIN MENU 1 | MAIN MENU 2 | TURBINE MENU | COMMON MENU | TRAIN A & C FA/CVY SY | MIX & DSCH CONVEYOR | SEC-1 VAC FILTERS | SEC-2 VAC FILTERS | THICKNER 1A UNDFLW | THICKNER 1B UNDFLW | THICKNER 1C UNDFLW | U1 RTN/SEAL WTR SYS | U2 RTN/SEAL WTR SYS

07/01/15 16:47:14

SCRUBBER SOLIDS

OVATION

XXXXX XXXX
SEC-1

DRIVE TORQUE 31 PCT
1A1 | 39 | 60 | 57 | 354 BGPM | -0 % SL
1A2 | 40 | 61 | 58 | -0 GPM | -1 % SL
SEP-1A
91 PCT
1A3 | 41 | 62 | 59 | 354 BGPM | -0 % SL
RAKE POS

DRIVE TORQUE 41 PCT
1B1 | 42 | 66 | 63 | -4 BGPM | -0 % SL
1B2 | 43 | 67 | 64 | 212 GPM | 42 % SL
SEP-1B
19 PCT
1B3 | 44 | 68 | 65 | -0 GPM | -0 % SL
RAKE POS

DRIVE TORQUE 29 PCT
1C1 | 369 | 381 | 378 | 178 GPM | 48 % SL
1C2 | 368 | 380 | 377 | 1 GPM | 14 % SL
SEP-1C
0.50 PCT
1C3 | 367 | 379 | 376 | 0 GPM | 1 % SL
RAKE POS

SPEED CNTRL 1

SPEED CNTRL 2

HIGH LVL
22 FT OF 53 FT
LIME M/A

471 MW
SEC-2

LIME 0 BTONS
FLY ASH 1 1886 TONS
41 FT OF 53 FT FLUID AIR
FLY ASH 2
28 FT OF 53 FT FLUID AIR

1 | 2 | 356 | 358 | 360 | 361
3 | 355 | 7 | 8 | 357 | 359
0 TPH | 0.13 TPH | -0 TPH | 0 TPH | -0 TPH | -0 TPH
2A | 2C | 1A | 1B | 1C | 1D
7A 0 TONS | 7C 0 BTONS | 5D 0 TONS
5A 0 TONS | 5C 0 TONS
5B 0 TONS
6B
6C
M 6 | M 412
6A
M 5 | M 411 | M 363

FLYASH M/A

3A | 1B | 3B | 1C | 3C

STKR 4B
0 TPH
0 TONS

STKR 4A
-0 TPH
856 TONS

1A | 2A -0.0 IN | -0.0 IN | 2D 50 FPCT
2B -0.0 IN
2C -0.5 BIN
19 PCT | 2F
2 PCT | 2E
1D

RADIAL STACKER

STEAM TEMP	STEAM FLOW	STEAM PRESS	FUR PRESS	GEN MW	AIR FLOW	FUEL FLOW	WATER FLOW	DRUM LEVEL	BFPT SPEED
1007 DEGF	3336 KLBH	2400 PSI	-0.71 INWC	471 MW	3931 KLBH	73 PCT	3104 KLBH	-0.04 IN	5383 RPM

07/01/15 16:51:38

SEC-1 VACUUM FILTERS

OVATION

1ASEG02

BLOWER 1A NP -0.0 IN LEVEL 50 PCT SPEED
JOG LOCAL
SEP 2A
REMOTE NP JOG LOW LEVEL
MIX 2A
REMOTE JOG

BLOWER 1B NP -0.0 IN LEVEL 50 PCT SPEED
JOG LOCAL
SEP 2B
REMOTE NP LOW LEVEL
MIX 2B
REMOTE

BLOWER 1C NP -0.5BIN LEVEL 50 PCT SPEED
JOG LOCAL
SEP 2C
REMOTE NP LOW LEVEL
MIX 2C
REMOTE

THKNR UNFLW PUMPS

VACUUM FILTERS

NP CONVEYOR 1A JOG
NP CONVEYOR 1B
NP CONVEYOR 1C

MIX-3A
MIX-3B
MIX-3C

SERVICE WATER
0BPCT

NP EXH 2A REMOTE S 24
RECEIVER 2A
REMOTE P2A S 27

NP EXH 2B REMOTE S 25
RECEIVER 2B
REMOTE P2B S 28

NP EXH 2C REMOTE S 26
RECEIVER 2C
REMOTE P2C S 29

VACUUM FILTER FILTRATE PUMPS

RETURN WTR TANK 3

STEAM TEMP	STEAM FLOW	STEAM PRESS	FUR PRESS	GEN MW	AIR FLOW	FUEL FLOW	WATER FLOW	DRUM LEVEL	BFPT SPEED
1005 DEGF	3337 KLBH	2401 PSI	-0.67 INWC	471 MW	3922 KLBH	73 PCT	3108 KLBH	-0.40 IN	5388 RPM

07/01/15 16:52:11

SEC-2 VACUUM FILTERS

OVATION ASEG02

THKNR UNFLW PUMPS

50FPCT LEVEL
0BPCT SPEED
SEP 2D

2 PCT LEVEL
-0 PCT SPEED
SEP 2E

50FPCT LEVEL
-1BPCT SPEED
SEP 2F

VACUUM FILTERS

REMOTE NP REMOTE MIX 2D

REMOTE NP REMOTE MIX 2E

REMOTE NP REMOTE MIX 2F

NP JOG CONVEYOR 1A NP

NP CONVEYOR 1D

MIX-3A

MIX-3C

SERVICE WATER

0 GPM

NP EXH 2D S 308 NP
REMOTE

NP EXH 2E S 312
LOCAL

NP EXH 2F S 316
LOCAL

RECEIVER 2D
REMOTE 2D

RECEIVER 2E
REMOTE 2E

RECEIVER 2F
LOCAL 2F

VACUUM FILTER FILTRATE PUMPS

RETURN WTR TANK 3

STEAM TEMP	STEAM FLOW	STEAM PRESS	FUR PRESS	GEN MW	AIR FLOW	FUEL FLOW	WATER FLOW	DRUM LEVEL	BFPT SPEED
1005 DEGF	3337 KLBH	2401 PSI	-0.69 INWC	471 MW	3913 KLBH	73 PCT	3097 KLBH	-0.32 IN	5383 RPM

07/01/15 16:43:31

MIXERS & DISCHARGE CONVEYORS

OVATION

ASEG06

TRANSFER CVY 6A

TRANSFER CVY 6B

TRANSFER CVY 6C

VAC FLT DISCH CVY-1C

VAC FLT DISCH CVY-1D

412

363

411

SCRUBBER SOLIDS SEAL WTR PUMPS

VAC FLT DISCH CVY-1A & CVY-1B

VAC FILTER SEAL WATER PUMPS

NP

M

6A

6B

6C

STACKER CVY-4B

MIXER DC 3A

STABILIZATION MIXER-3A

MIXER DC 3B

STABILIZATION MIXER-3B

MIXER DC 3B

STABILIZATION MIXER-3C

CVY-2A

CVY-2B

CVY-2C

RADIAL STACKER CVY-4A

CVY-3B

CVY-3A

0 TPH

0 TONS

FINISH TREND

RADIAL STACKER

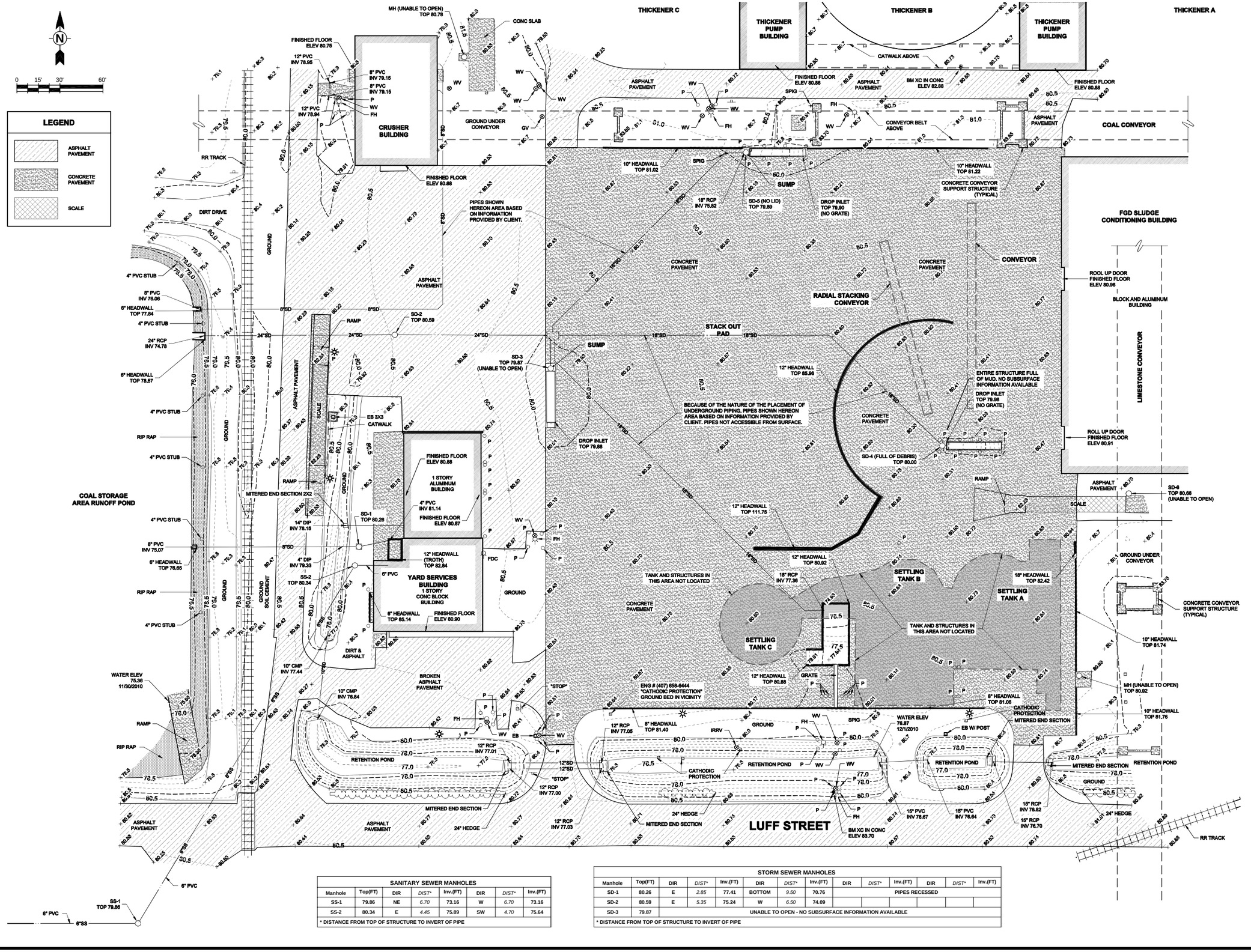
-0 TPH

856 TONS

STEAM TEMP	STEAM FLOW	STEAM PRESS	FUR PRESS	GEN MW	AIR FLOW	FUEL FLOW	WATER FLOW	DRUM LEVEL	BFPT SPEED
1004 DEGF	3337 KLBH	2401 PSI	-0.45 INWC	471 MW	3905 KLBH	73 PCT	3108 KLBH	0.10 IN	5384 RPM

Appendix 7

Survey of Stack Out Pad Area



SANITARY SEWER MANHOLES							
Manhole	Top(FT)	DIR	*DIST**	Inv.(FT)	DIR	*DIST**	Inv.(FT)
SS-1	79.86	NE	*6.70*	73.16	W	*6.70*	73.16
SS-2	80.34	E	*4.45*	75.89	SW	*4.70*	75.64

* DISTANCE FROM TOP OF STRUCTURE TO INVERT OF PIPE

STORM SEWER MANHOLES												
Manhole	Top(FT)	DIR	*DIST**	Inv.(FT)	DIR	*DIST**	Inv.(FT)	DIR	*DIST**	Inv.(FT)	DIR	*DIST**	Inv.(FT)
SD-1	80.26	E	*2.85*	77.41	BOTTOM	*9.50*	70.76	PIPES RECESSED					
SD-2	80.59	E	*5.35*	75.24	W	*6.50*	74.09						
SD-3	79.87	UNABLE TO OPEN - NO SUBSURFACE INFORMATION AVAILABLE											

* DISTANCE FROM TOP OF STRUCTURE TO INVERT OF PIPE

ABBREVIATIONS

EM	ELECTRIC METER	JBL	JURISDICTIONAL BOUNDARY	PG	PAGE
ET	ELECTRIC TRANSFORMER		LINE	PK	PK NAIL
F	FOUND	(M)	MEASURED	RCP	REINFORCED CONC PIPE
FF	FINISHED FLOOR	MB	MAILBOX	RR	RAILROAD
FH	FIRE HYDRANT	MH	MANHOLE	RW	RECLAIMED WATER
FO	FIBER OPTIC	MW	MONITORING WELL	S	SET
G	GAS	ND	NAIL & DISK	SC	SECTION CORNER
GM	GAS METER	NL	NAIL	SH	SPRINKLER HEAD
GV	GAS VALVE	OHE	OVERHEAD UTILITY LINES	SMH	SANITARY MANHOLE
INV	INVERT	OR	OFFICIAL RECORDS	SS	SANITARY SEWER
IP	IRON PIPE	P	POST	SD	STORM DRAIN
IR	IRON ROD	(P)	PER PLAT	SV	SANITARY SEWER VALVE
IRRV	IRRIGATION VALVE	PB	PLAT BOOK	TB	TELEPHONE RISER
				TEL	TELEPHONE
				TP	TRAVERSE POINT
				TSC	TRAFFIC SIGNAL CONTROL
				TSP	TRAFFIC SIGNAL POLE
				TW	CABLE TV RISER
				UE	UNDERGROUND UTILITY LINES
				W	WATER
				WM	WATER METER
				WV	WATER VALVE
				XC	X CUT

ANT	ANTENNA	UTILITY MARKER (AS SHOWN)	
BM	BENCHMARK	UTILITY MANHOLE (AS SHOWN)	
(C)	CALCULATED	UTILITY METER (AS SHOWN)	
CO	CLEANOUT	UTILITY RISER (AS SHOWN)	
CONC	CONCRETE	UTILITY VALVE (AS SHOWN)	
CM	CONCRETE MONUMENT	UTILITY POLE (AS SHOWN)	
CMP	CORREGATED METAL PIPE	WELL	
CPP	CORREGATED PLASTIC PIPE		
DIP	DUCTILE IRON PIPE		
DH	DRILL HOLE		
EB	ELECTRIC RISER		
ELEC	ELECTRIC		

LEGEND

BM	BENCHMARK	CO	CLEANOUT
ND	NAIL & DISK		DECIDUOUS TREE
TP	TRAVERSE POINT		ELECTRIC TRANSFORMER
F	FOUND IRON (TYPE)		EVERGREEN TREE
S	SET IRON (TYPE)		FIRE HYDRANT
F	FOUND MONUMENT (TYPE)		FLAG (AS SHOWN)
S	SET MONUMENT (TYPE)		GUY ANCHOR
SC	SECTION CORNER		LIGHT POLE
		MB	MAIL BOX
			PALM TREE
		P	POST
			SATEUITE DISH
			SPIGOT
			SPRINKLER HEAD
			TRAFFIC SIGN

MARK	DATE	DESCRIPTION	BY

TETRA TECH
www.tetratech.com
201 EAST PINE STREET, SUITE 1000
ORLANDO, FL 32801
PHONE (407) 839-3955 FAX: (407) 839-3790

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

Client: ORLANDO UTILITIES COMMISSION
Proj. Loc.: ORANGE COUNTY, FL

SPECIFIC PURPOSE & TOPOGRAPHIC SURVEY OF THE

STANTON ENERGY CENTER
ORLANDO, FL
SECTION 13 - T 23 S - R 31 E

Project No.:	200-08391-11001
Designed By:	N/A
Drawn By:	CIS
Checked By:	LEJ

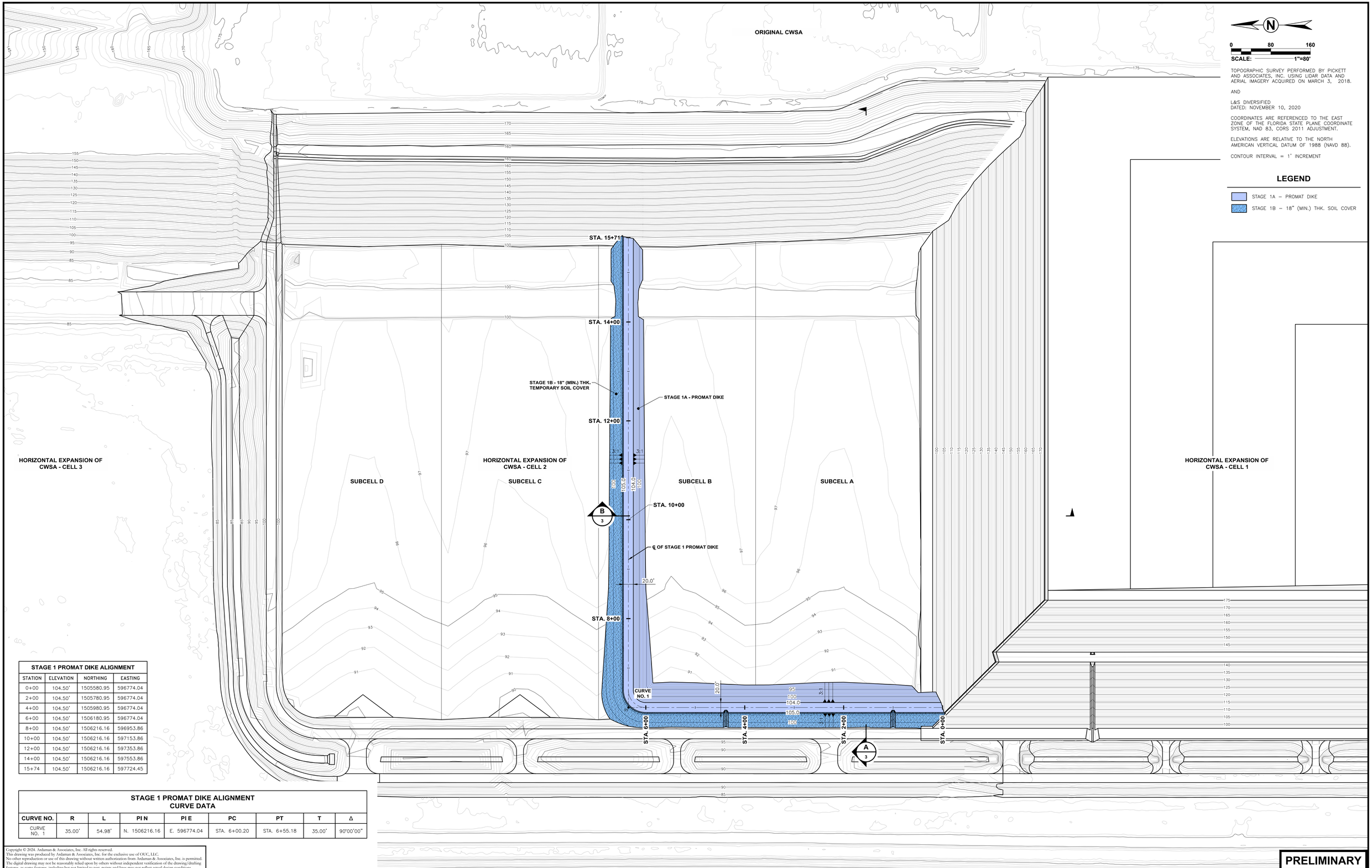
V102

Copyright: Tetra Tech

1/5/2011 2:06:28 PM - P:\ENV\08391\200-08391-11001\CAD\MODEL\FILES\V-XP SURVEYBASE.DWG - SANFORD, CHAD\WICK

Appendix 8

Sequence of Waste Placement in Cell 2



TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1A – PROMAT DIKE
- STAGE 1B – 18" (MIN.) THK. SOIL COVER

STAGE 1 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
0+00	104.50'	1505580.95	596774.04
2+00	104.50'	1505780.95	596774.04
4+00	104.50'	1505980.95	596774.04
6+00	104.50'	1506180.95	596774.04
8+00	104.50'	1506216.16	596953.86
10+00	104.50'	1506216.16	597153.86
12+00	104.50'	1506216.16	597353.86
14+00	104.50'	1506216.16	597553.86
15+74	104.50'	1506216.16	597724.45

STAGE 1 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 1	35.00'	54.98'	N. 1506216.16	E. 596774.04	STA. 6+00.20	STA. 6+55.18	35.00'	90°00'00"

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PRELIMINARY

REVISION	DATE	DESCRIPTION	APPR'D
P4	05/29/24	ISSUED FOR OWNER'S REVIEW	JM
P3	05/20/24	ISSUED FOR OWNER'S REVIEW	JM
P2	03/14/24	ISSUED FOR OWNER'S REVIEW	JM
P1	02/22/24	UPDATED WITH 20-FOOT WIDE DIKE PER OUC REQUEST	JM
P0	01/26/24	ISSUED FOR OWNER'S REVIEW (30% COMPLETION)	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	01/22/24	CHECKED BY	FKC	
DRAWN BY	PM	01/23/24	CHECKED BY	AP	

FILE NO.: 23-13-0060 SCALE: AS SHOWN

APPROVED BY:

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

OUC The Reliable One

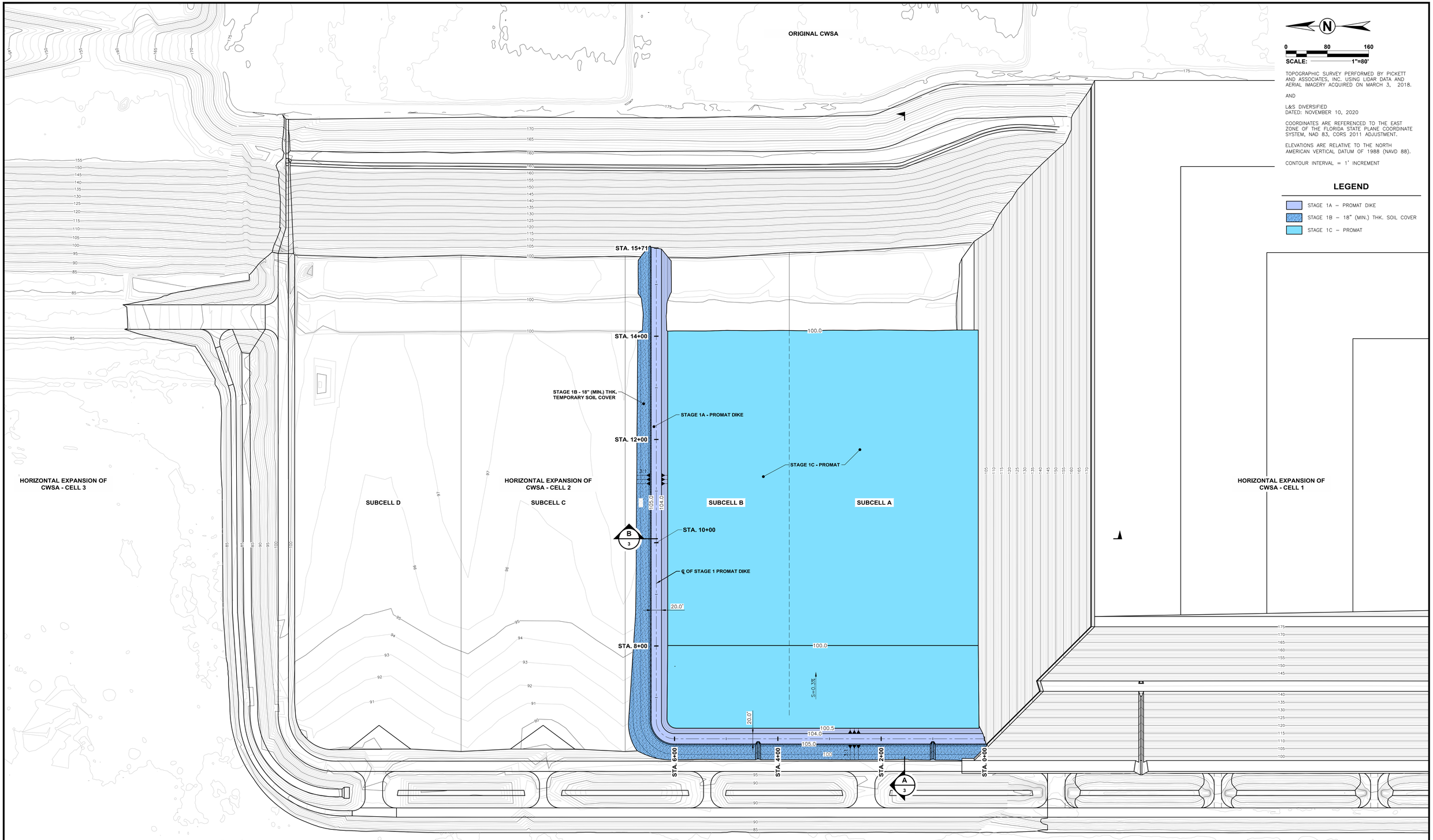
OUC - CELL 2 - OPERATION PLAN

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STAGES 1A AND 1B PLAN VIEW

DRAWING NO. 1

R:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\1 STAGES 1A AND 1B PLAN VIEW.dwg 2024/08/05 9:32 PM, McLendon, Paula



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PRELIMINARY

REVISION	DATE	DESCRIPTION	APPR'D
P4	05/29/24	ISSUED FOR OWNER'S REVIEW	JM
P3	05/20/24	ISSUED FOR OWNER'S REVIEW	JM
P2	03/14/24	ISSUED FOR OWNER'S REVIEW	JM
P1	02/22/24	UPDATED WITH 20-FOOT WIDE DIKE PER OUC REQUEST	JM
P0	01/26/24	ISSUED FOR OWNER'S REVIEW (30% COMPLETION)	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	01/22/24	CHECKED BY	FKC	
DRAWN BY	PM	01/23/24	CHECKED BY	AP	
FILE NO.: 23-13-0060			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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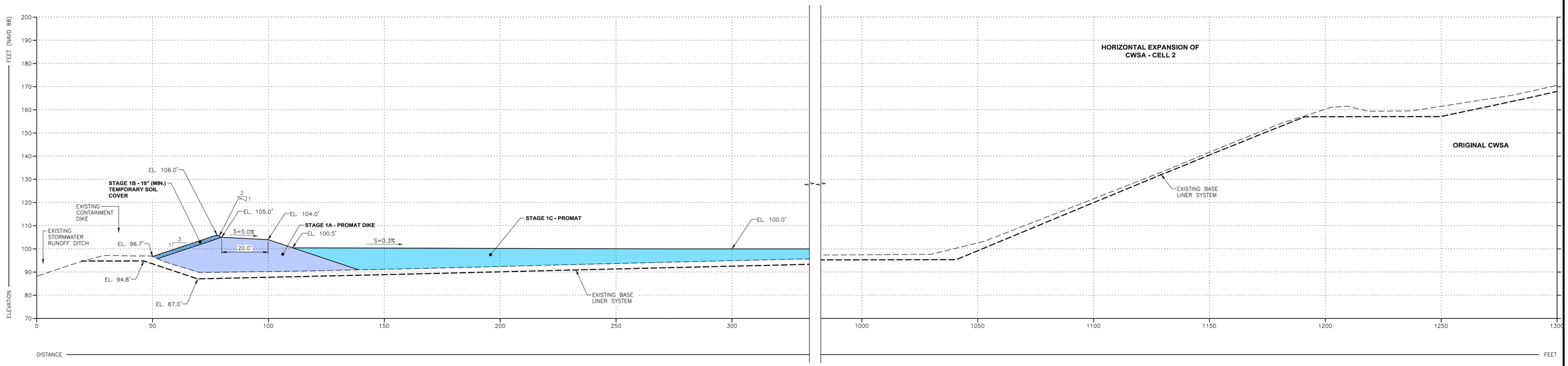
ORANGE COUNTY, FLORIDA

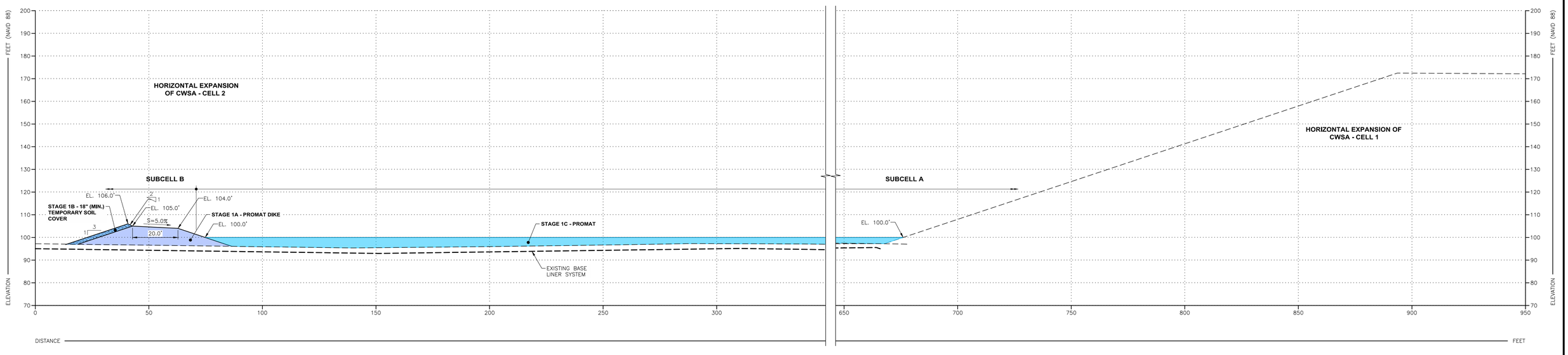
STAGE 1C PLAN VIEW

DRAWING NO. 2



A-1 / A-2 **CROSS SECTION**

SCALE: 1" = 20'



B-1 / B-2 **CROSS SECTION**

SCALE: 1" = 20'

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P0	01/26/24	ISSUED FOR OWNER'S REVIEW (30% COMPLETION)	JM

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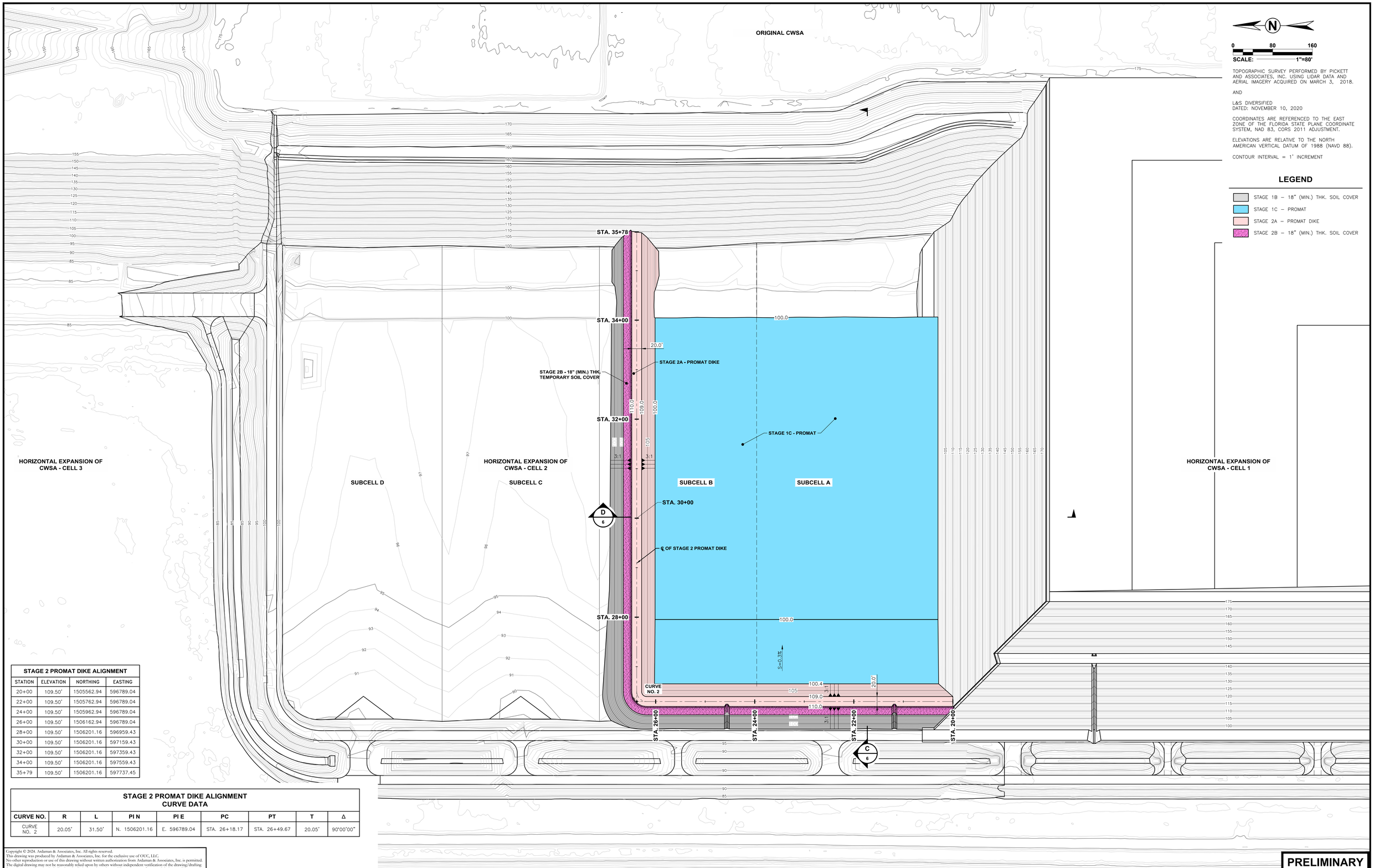
ORANGE COUNTY, FLORIDA

STAGES 1A, 1B AND 1C CROSS SECTIONS

DRAWING NO. **3**

I:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\3 STAGES 1A, 1B AND 1C CROSS SECTIONS.dwg 2024/08/05 9:34 PM, Mclendon, Paula



N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B – 18" (MIN.) THK. SOIL COVER
- STAGE 1C – PROMAT
- STAGE 2A – PROMAT DIKE
- STAGE 2B – 18" (MIN.) THK. SOIL COVER

STAGE 2 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
20+00	109.50'	1505562.94	596789.04
22+00	109.50'	1505762.94	596789.04
24+00	109.50'	1505962.94	596789.04
26+00	109.50'	1506162.94	596789.04
28+00	109.50'	1506201.16	596959.43
30+00	109.50'	1506201.16	597159.43
32+00	109.50'	1506201.16	597359.43
34+00	109.50'	1506201.16	597559.43
35+79	109.50'	1506201.16	597737.45

STAGE 2 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 2	20.05'	31.50'	N. 1506201.16	E. 596789.04	STA. 26+18.17	STA. 26+49.67	20.05'	90°00'00"

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P0	01/26/24	ISSUED FOR OWNER'S REVIEW (30% COMPLETION)	JM

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STAGES 2 A AND 2B PLAN VIEW

DRAWING NO. 4

R:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\4 STAGES 2 A AND 2B PLAN VIEW.dwg 2024/08/05 9:30 PM Mclendon, Paula

ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

SUBCELL D

HORIZONTAL EXPANSION OF CWSA - CELL 2

SUBCELL C

SUBCELL B

SUBCELL A

HORIZONTAL EXPANSION OF CWSA - CELL 1

STA. 35+76

STA. 34+00

STA. 32+00

STA. 30+00

STA. 28+00

STA. 26+00

STA. 24+00

STA. 22+00

STA. 20+00

STAGE 2A - PROMAT DIKE

STAGE 2B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 2C - PROMAT

℄ OF STAGE 2 PROMAT DIKE

102.6

103.0

103.5

109.0

110.0

20.0'

3:1

S=0.1%

D
6

C
6

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B – 18" (MIN.) THK. SOIL COVER
- STAGE 2A – PROMAT DIKE
- STAGE 2B – 18" (MIN.) THK. SOIL COVER
- STAGE 2C – PROMAT

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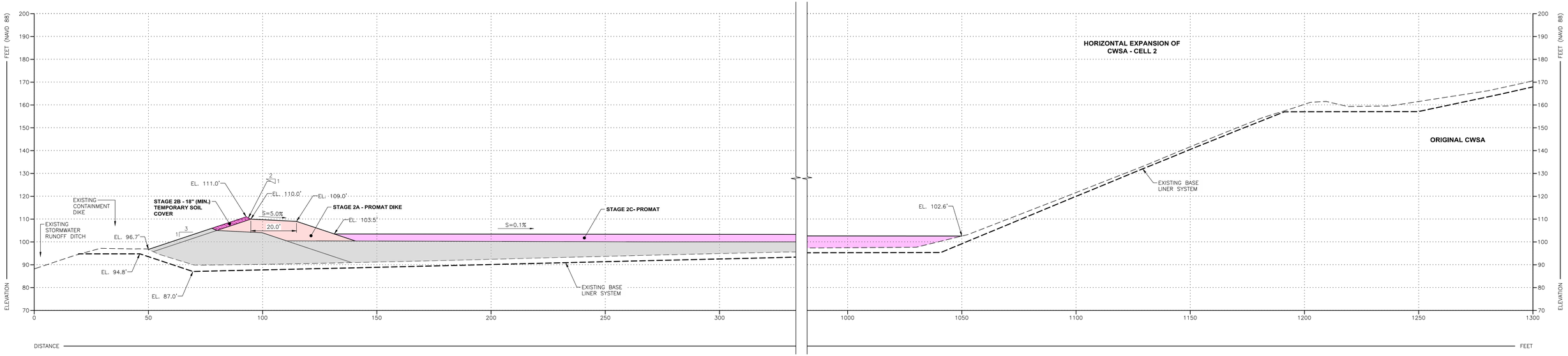
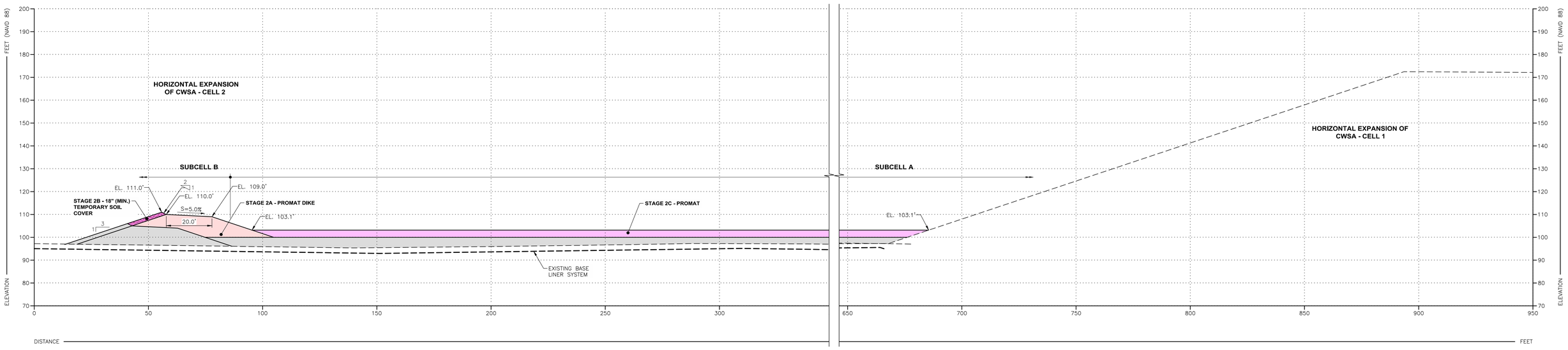
ORANGE COUNTY, FLORIDA

STAGE 2C PLAN VIEW

DRAWING NO. 5



C/4/5 **CROSS SECTION**
SCALE: 1" = 20'



D/4/5 **CROSS SECTION**
SCALE: 1" = 20'

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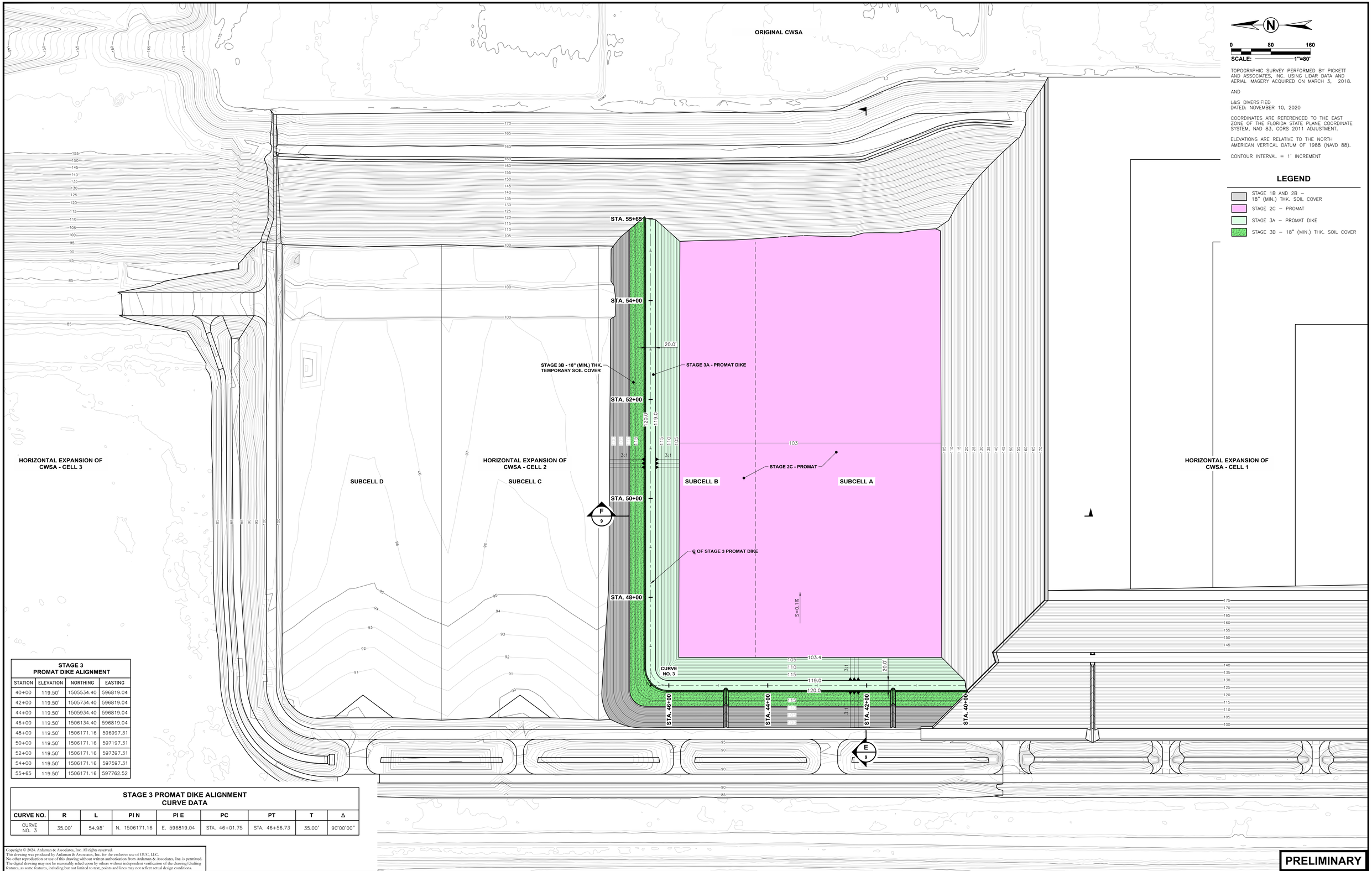
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STAGES 2A, 2B AND 2C CROSS SECTIONS

DRAWING NO. 6

r:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\6 STAGES 2A, 2B AND 2C CROSS SECTIONS.dwg 2024/08/05 9:36 PM, Mclendon, Paula



STAGE 3 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
40+00	119.50'	1505534.40	596819.04
42+00	119.50'	1505734.40	596819.04
44+00	119.50'	1505934.40	596819.04
46+00	119.50'	1506134.40	596819.04
48+00	119.50'	1506171.16	596997.31
50+00	119.50'	1506171.16	597197.31
52+00	119.50'	1506171.16	597397.31
54+00	119.50'	1506171.16	597597.31
55+65	119.50'	1506171.16	597762.52

STAGE 3 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 3	35.00'	54.98'	N. 1506171.16	E. 596819.04	STA. 46+01.75	STA. 46+56.73	35.00'	90°00'00"

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P2	03/14/24	ISSUED FOR OWNER'S REVIEW	JM

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DRAWN BY	PM	03/13/24	CHECKED BY	AP	
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OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STAGES 3A AND 3B PLAN VIEW

DRAWING NO. 7

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B AND 2B – 18" (MIN.) THK. SOIL COVER
- STAGE 3A – PROMAT DIKE
- STAGE 3B – 18" (MIN.) THK. SOIL COVER
- STAGE 3C – PROMAT

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P2	03/14/24	ISSUED FOR OWNER'S REVIEW	JM

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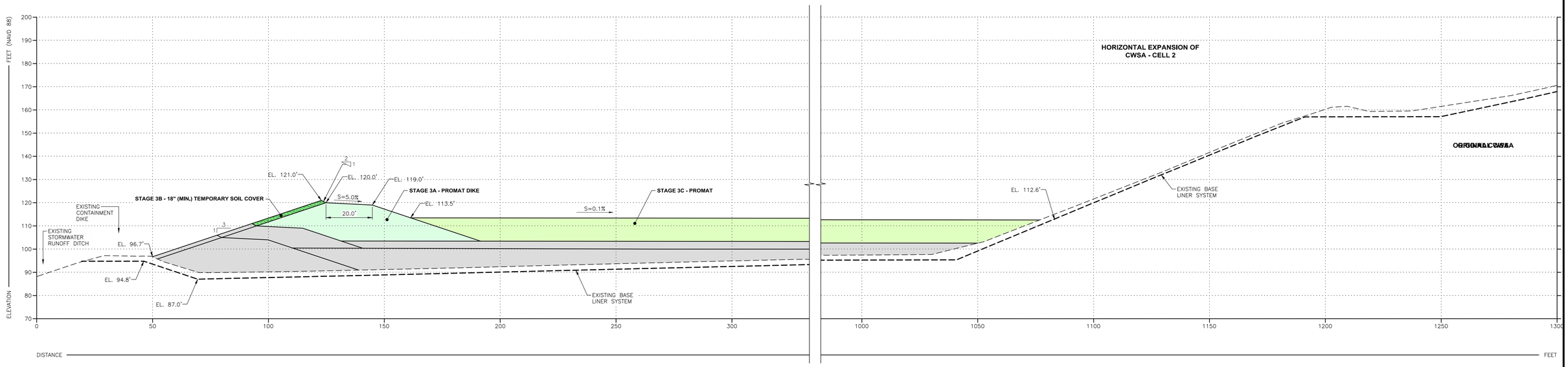
ORANGE COUNTY, FLORIDA

STAGE 3C PLAN VIEW

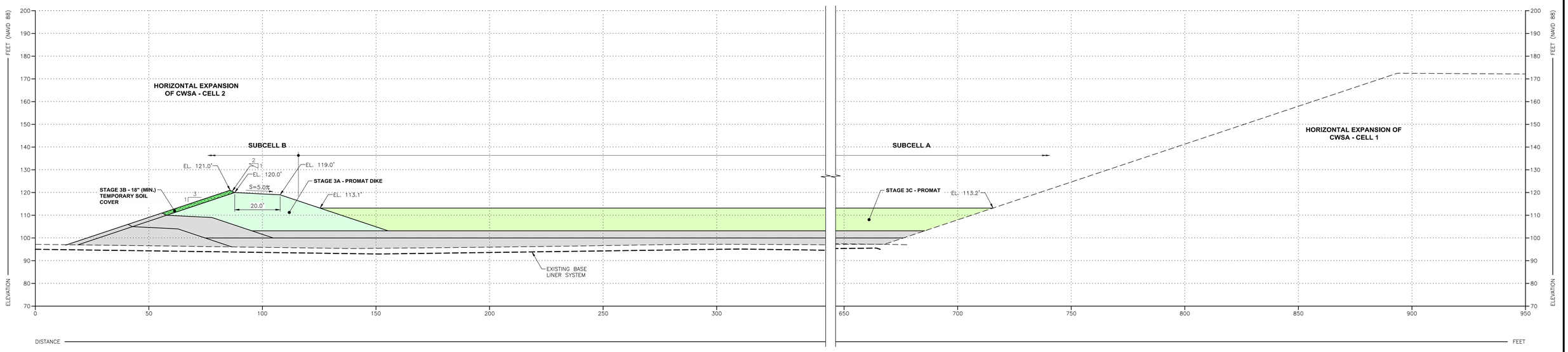
DRAWING NO. 8

R:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\8 STAGE 3C PLAN VIEW.dwg 2024/08/05 9:38 PM, McLendon, Paula



E 7 8 **CROSS SECTION**

SCALE: 1" = 20'



F 7 8 **CROSS SECTION**

SCALE: 1" = 20'

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OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STAGES 3A, 3B AND 3C CROSS SECTIONS

DRAWING NO. 9

ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

SUBCELL A

STA. 75+62

STA. 74+00

STA. 72+00

STA. 70+00

STA. 68+00

STA. 66+00

STA. 64+00

STA. 62+00

STA. 60+00

STAGE 4B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 4A - PROMAT DIKE

STAGE 3C - PROMAT

℄ OF STAGE 4 PROMAT DIKE

CURVE NO. 4

20.0'

113.0

129.0

130.0

3:1

S=0.1%

H 12

G 12

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B AND 3B – 18" (MIN.) THK. SOIL COVER
- STAGE 3C – PROMAT
- STAGE 4A – PROMAT DIKE
- STAGE 4B – 18" (MIN.) THK. SOIL COVER

STAGE 4 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
60+00	129.50'	1505504.37	596849.04
62+00	129.50'	1505704.37	596849.04
64+00	129.50'	1505904.37	596849.04
66+00	129.50'	1506104.37	596849.04
68+00	129.50'	1506141.16	597027.28
70+00	129.50'	1506141.16	597227.28
72+00	129.50'	1506141.16	597427.28
74+00	129.50'	1506141.16	597627.28
75+62	129.50'	1506141.16	597789.21

STAGE 4 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 4	35.00'	54.98'	N. 1506141.16	E. 596849.04	STA. 66+01.78	STA. 66+56.76	35.00'	90°00'00"

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OUC - CELL 2 - OPERATION PLAN

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STAGES 4A AND 4B PLAN VIEW

DRAWING NO. 10

ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

SUBCELL A

STA. 75+62

STA. 74+00

STA. 72+00

STA. 70+00

STA. 68+00

STA. 66+00

STA. 64+00

STA. 62+00

STA. 60+00

STAGE 4B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 4A - PROMAT DIKE

STAGE 4C - PROMAT

℄ OF STAGE 4 PROMAT DIKE

20.0'

123.0

123.5

129.0

130.0

136.0

129.0

125

175

3:1

S=0.1%

H 12

G 12

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B AND 3B – 18" (MIN.) THK. SOIL COVER
- STAGE 4A – PROMAT DIKE
- STAGE 4B – 18" (MIN.) THK. SOIL COVER
- STAGE 4C – PROMAT

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PRELIMINARY

REVISION	DATE	DESCRIPTION	APPR'D
P4	05/29/24	ISSUED FOR OWNER'S REVIEW	JM
P3	05/20/24	ISSUED FOR OWNER'S REVIEW	JM
P2	03/14/24	ISSUED FOR OWNER'S REVIEW	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	03/13/24	CHECKED BY	FKC	
DRAWN BY	PM	03/13/24	CHECKED BY	AP	
FILE NO.: 23-13-0060			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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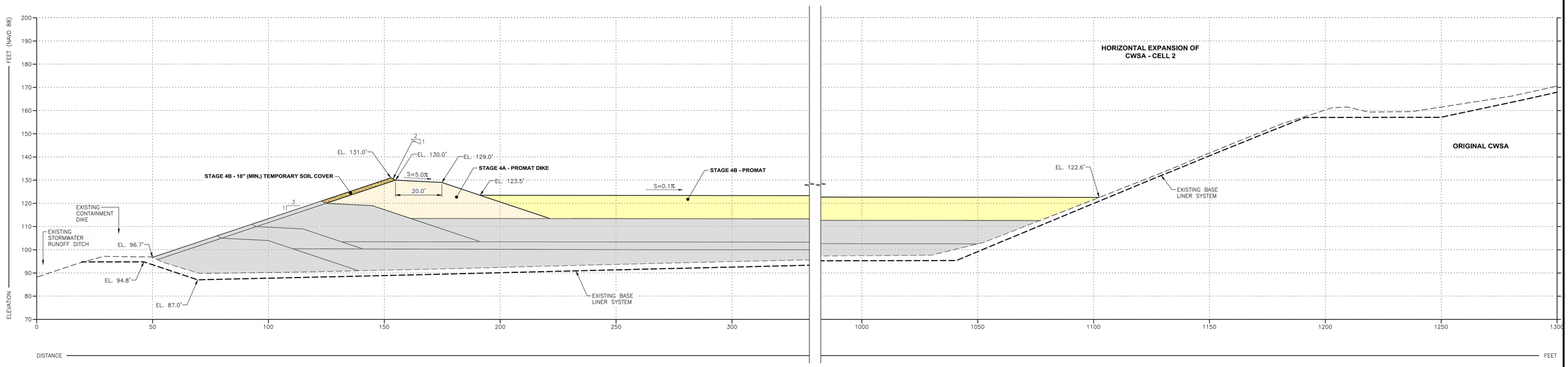
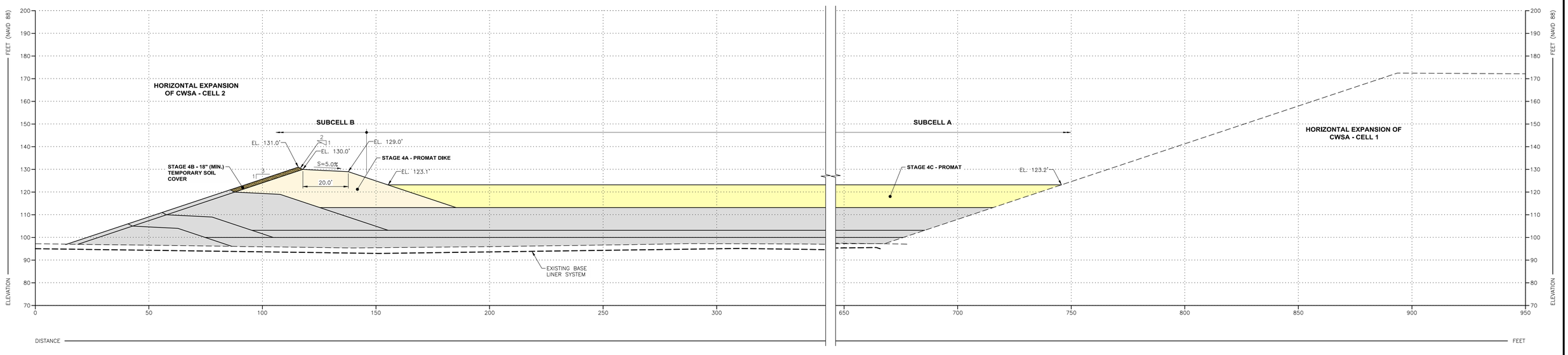
ORANGE COUNTY, FLORIDA

STAGE 4C PLAN VIEW

DRAWING NO. 11



G/10/11 CROSS SECTION
SCALE: 1" = 20'



H/10/11 CROSS SECTION
SCALE: 1" = 20'

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OUC - CELL 2 - OPERATION PLAN

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STAGES 4A, 4B AND 4C CROSS SECTIONS

DRAWING NO. **12**

ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

SUBCELL A

STA. 95+57

STA. 94+00

STA. 92+00

STA. 90+00

STA. 88+00

STA. 86+00

STA. 84+00

STA. 82+00

STA. 80+00

STAGE 5B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 5A - PROMAT DIKE

STAGE 4C - PROMAT

℄ OF STAGE 5 PROMAT DIKE

CURVE NO. 5

20.3'

123.0

3:1

S=0.1%

J 15

I 15

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B, 3B AND 4B – 18" (MIN.) THK. SOIL COVER
- STAGE 4C – PROMAT
- STAGE 5A – PROMAT DIKE
- STAGE 5B – 18" (MIN.) THK. SOIL COVER

STAGE 5
PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
80+00	138.47'	1505477.51	596876.39
82+00	138.50'	1505677.49	596877.39
84+00	138.50'	1505877.49	596877.39
86+00	138.50'	1506077.49	596877.39
88+00	138.50'	1506112.80	597057.09
90+00	138.50'	1506112.80	597257.09
92+00	138.50'	1506112.80	597457.09
94+00	138.50'	1506112.81	597657.09
95+59	138.50'	1506112.81	597814.59

STAGE 5 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 5	34.85'	54.28'	N. 1506112.19	E. 596877.54	STA. 86+00.28	STA. 86+54.56	34.39'	89°14'14"

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ORANGE COUNTY, FLORIDA

STAGES 5A AND 5B PLAN VIEW

DRAWING NO. 13

r:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\13 STAGES 5A AND 5B PLAN VIEW.dwg 2024/08/05 9:36 PM. Mclendon, Paula

ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

SUBCELL A

STA. 95+57

STA. 94+00

STA. 92+00

STA. 90+00

STA. 88+00

STA. 86+00

STA. 84+00

STA. 82+00

STA. 80+00

STAGE 5B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 5A - PROMAT DIKE

STAGE 5C - PROMAT

℄ OF STAGE 5 PROMAT DIKE

20.3'

3:1

S=0.1%

J
15

I
15

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

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L&S DIVERSIFIED
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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B, 3B AND 4B – 18" (MIN.) THK. SOIL COVER
- STAGE 5A – PROMAT DIKE
- STAGE 5B – 18" (MIN.) THK. SOIL COVER
- STAGE 5C – PROMAT

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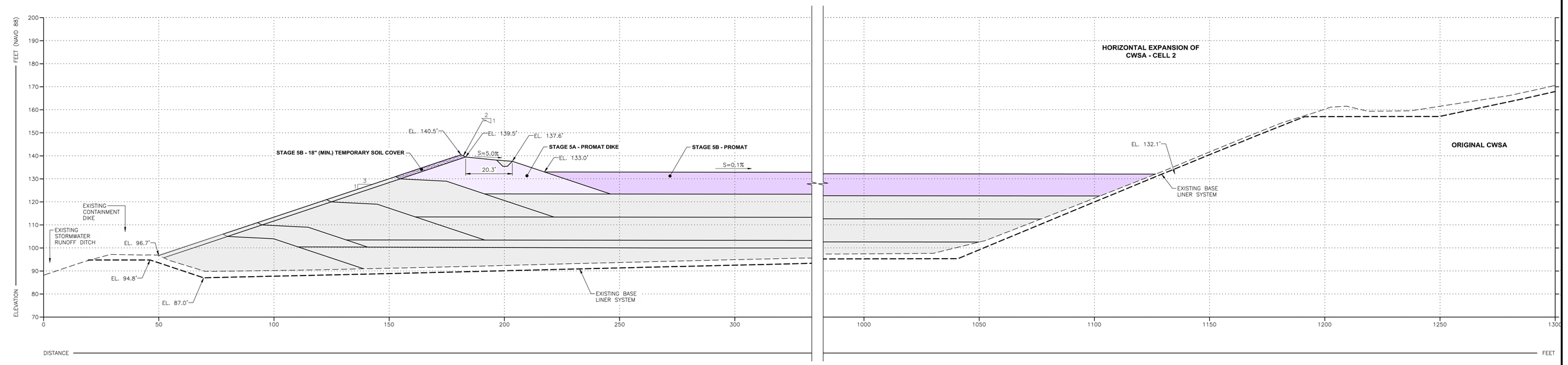
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STAGE 5C PLAN VIEW

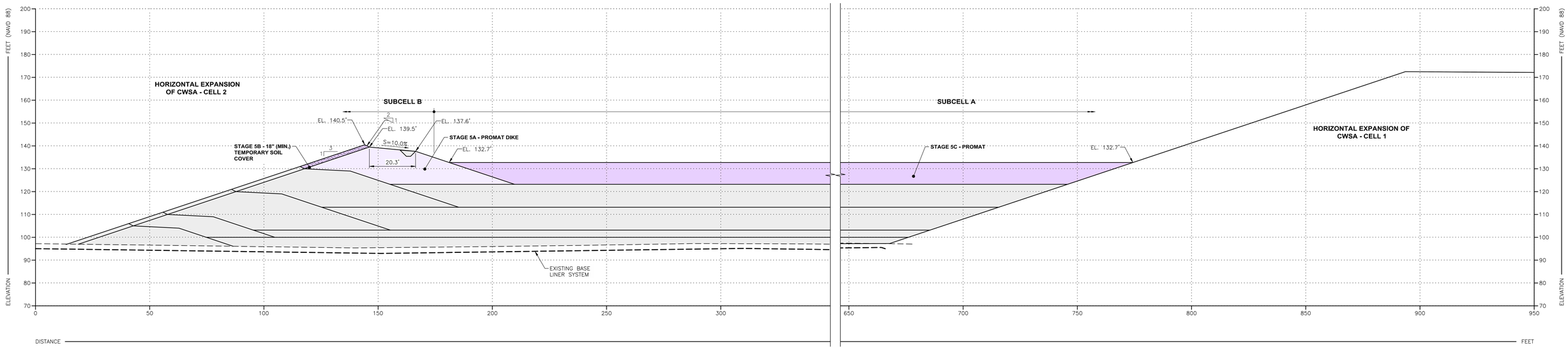
DRAWING NO. 14

F:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\14 STAGE 5C PLAN VIEW.dwg 2024/08/05 9:37 PM, Mclendon, Paula



I/13/14 **CROSS SECTION**

SCALE: 1" = 20'



J/13/14 **CROSS SECTION**

SCALE: 1" = 20'

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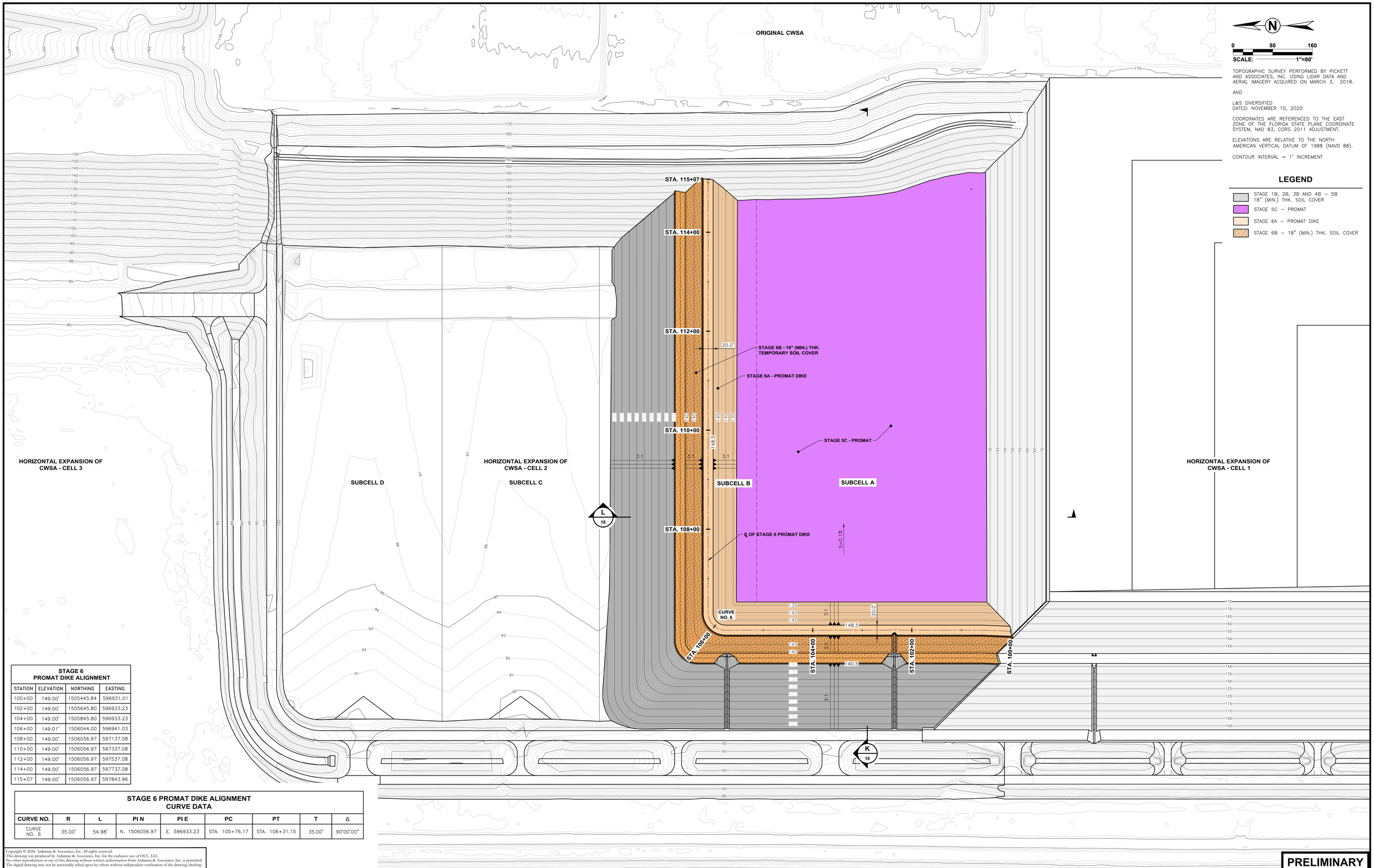
ORANGE COUNTY, FLORIDA

STAGES 5A, 5B AND 5C CROSS SECTIONS

DRAWING NO. 15



N

0 80 160

SCALE: 1"=80'

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AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B, 3B AND 4B – 5B 18" (MIN.) THK. SOIL COVER
- STAGE 5C – PROMAT
- STAGE 6A – PROMAT DIKE
- STAGE 6B – 18" (MIN.) THK. SOIL COVER

STAGE 6
PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
100+00	149.00'	1505445.84	596931.01
102+00	149.00'	1505645.80	596933.23
104+00	149.00'	1505845.80	596933.23
106+00	149.01'	1506044.00	596941.03
108+00	149.00'	1506056.97	597137.08
110+00	149.00'	1506056.97	597337.08
112+00	149.00'	1506056.97	597537.08
114+00	149.00'	1506056.97	597737.08
115+07	149.00'	1506056.97	597843.96

STAGE 6 PROMAT DIKE ALIGNMENT
CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 6	35.00'	54.98'	N. 1506056.97	E. 596933.23	STA. 105+76.17	STA. 106+31.15	35.00'	90°00'00"

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ORANGE COUNTY, FLORIDA

STAGES 6A AND 6B PLAN VIEW

DRAWING NO. 16

ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

SUBCELL A

STA. 115+07

STA. 114+00

STA. 112+00

STA. 110+00

STA. 108+00

STA. 106+00

STA. 104+00

STA. 102+00

STA. 100+00

20.0'

STAGE 6B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 6A - PROMAT DIKE

STAGE 6C - PROMAT

℄ OF STAGE 6 PROMAT DIKE

149.5

148.5

3:1

S=0.1%

L 18

K 18

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B, 3B, 4B AND 5B – 18" (MIN.) THK. SOIL COVER
- STAGE 6A – PROMAT DIKE
- STAGE 6B – 18" (MIN.) THK. SOIL COVER
- STAGE 6C – PROMAT

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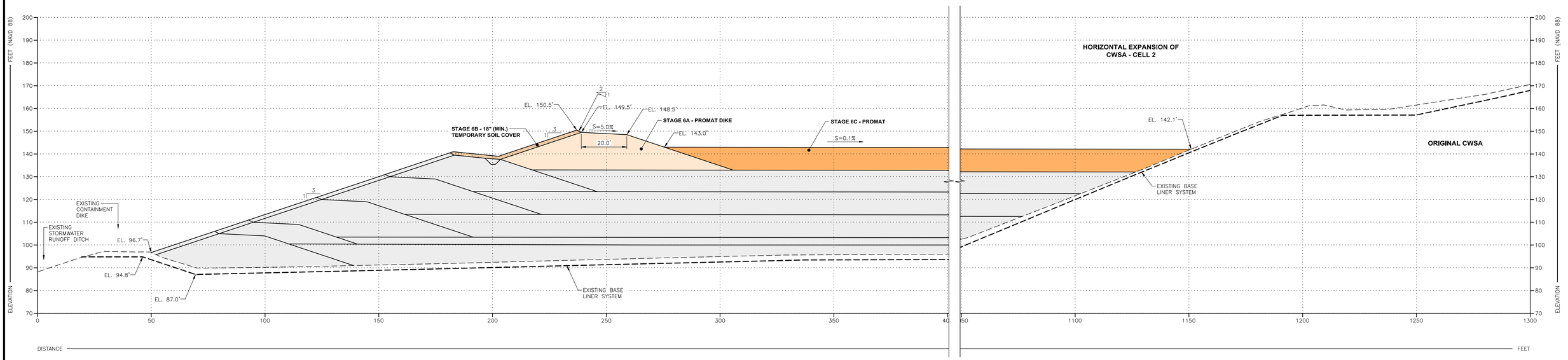
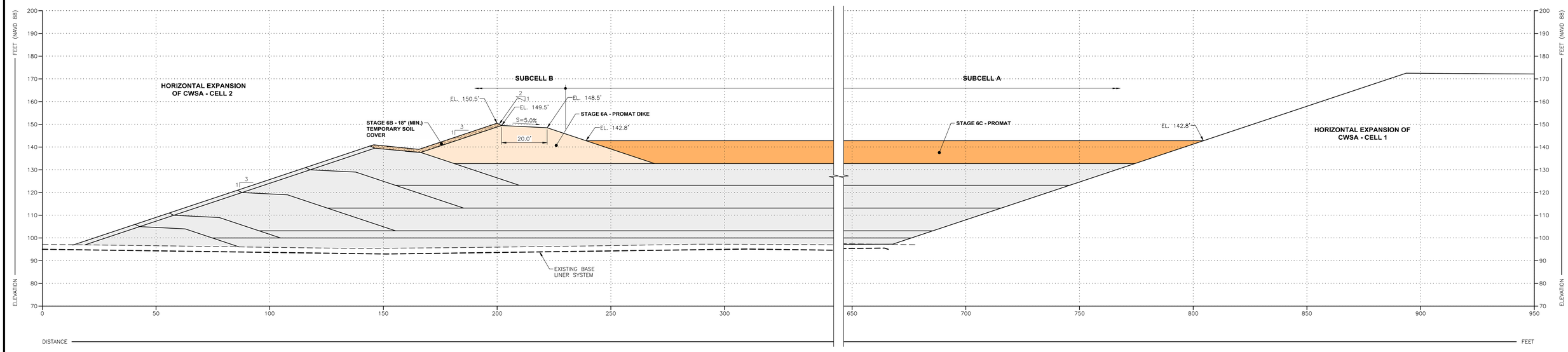
ORANGE COUNTY, FLORIDA

STAGE 6C PLAN VIEW

DRAWING NO. 17



K **CROSS SECTION**
16 / 17
SCALE: 1" = 20'



L **CROSS SECTION**
16 / 17
SCALE: 1" = 20'

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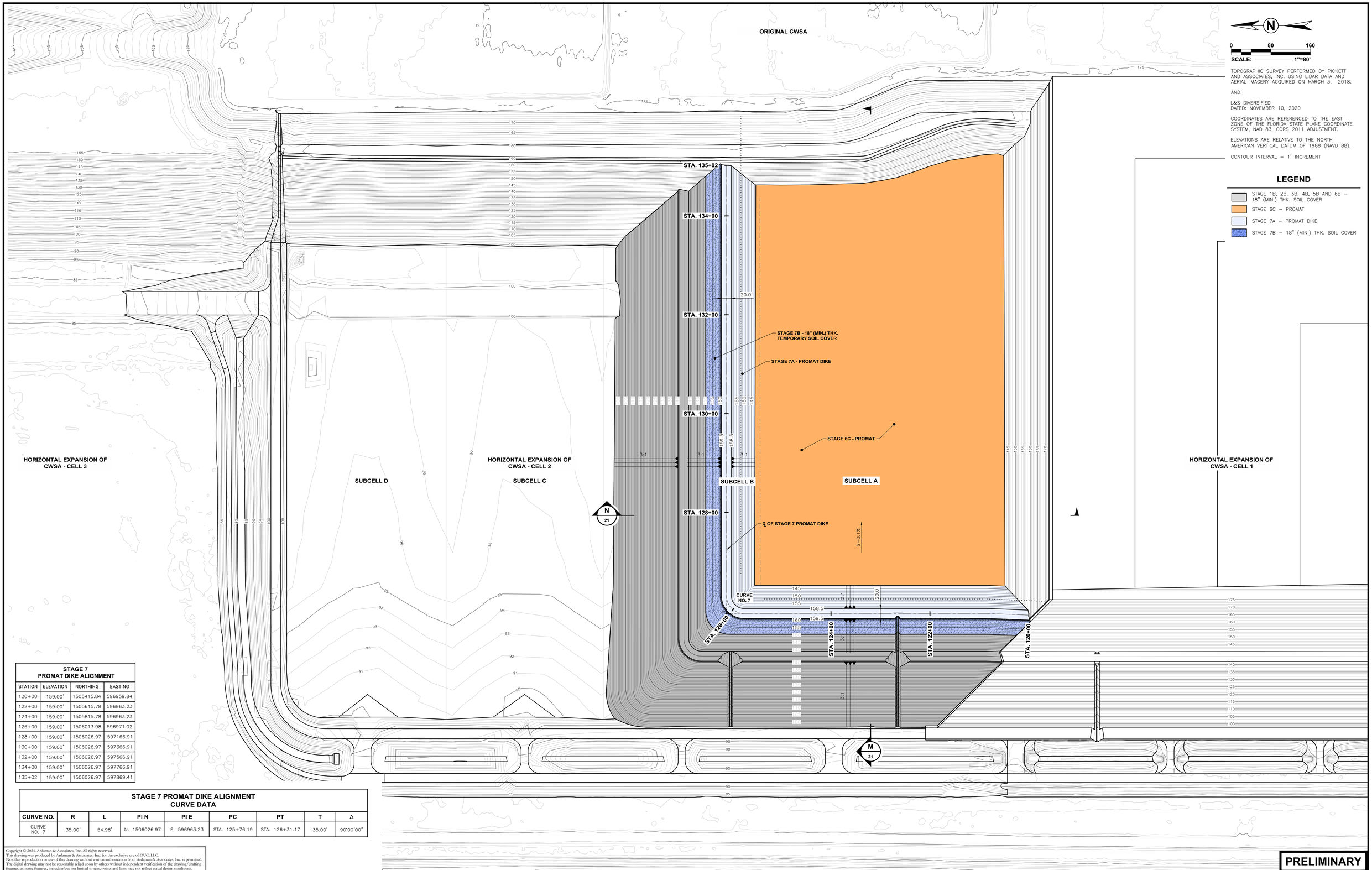
OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STAGES 6A, 6B AND 6C CROSS SECTIONS

DRAWING NO. 18



STAGE 7 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
120+00	159.00'	1505415.84	596959.84
122+00	159.00'	1505615.78	596963.23
124+00	159.00'	1505815.78	596963.23
126+00	159.00'	1506013.98	596971.02
128+00	159.00'	1506026.97	597166.91
130+00	159.00'	1506026.97	597366.91
132+00	159.00'	1506026.97	597566.91
134+00	159.00'	1506026.97	597766.91
135+02	159.00'	1506026.97	597869.41

STAGE 7 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 7	35.00'	54.98'	N. 1506026.97	E. 596963.23	STA. 125+76.19	STA. 126+31.17	35.00'	90°00'00"

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OUC - CELL 2 - OPERATION PLAN

OUC STANTON ENERGY CENTER
ORANGE COUNTY, FLORIDA

STAGES 7A AND 7B PLAN VIEW

DRAWING NO. 19

ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

SUBCELL A

STA. 135+02

STA. 134+00

STA. 132+00

STA. 130+00

STA. 128+00

STA. 126+00

STA. 124+00

STA. 122+00

STA. 120+00

20.0'

STAGE 7B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 7A - PROMAT DIKE

STAGE 7C - PROMAT

℄ OF STAGE 7 PROMAT DIKE

158.5

160.5

155

S=0.1%

3:1

N 21

M 21

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B, 3B, 4B, 5B AND 6B – 18" (MIN.) THK. SOIL COVER
- STAGE 7A – PROMAT DIKE
- STAGE 7B – 18" (MIN.) THK. SOIL COVER
- STAGE 7C – PROMAT

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PRELIMINARY

REVISION	DATE	DESCRIPTION	APPR'D
P4	05/29/24	ISSUED FOR OWNER'S REVIEW	JM
P3	05/20/24	ISSUED FOR OWNER'S REVIEW	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	05/01/24	CHECKED BY	FKC	
DRAWN BY	PM	05/02/24	CHECKED BY	AP	
FILE NO.: 23-13-0060			SCALE: AS SHOWN		

APPROVED BY:

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Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, Fl 32809
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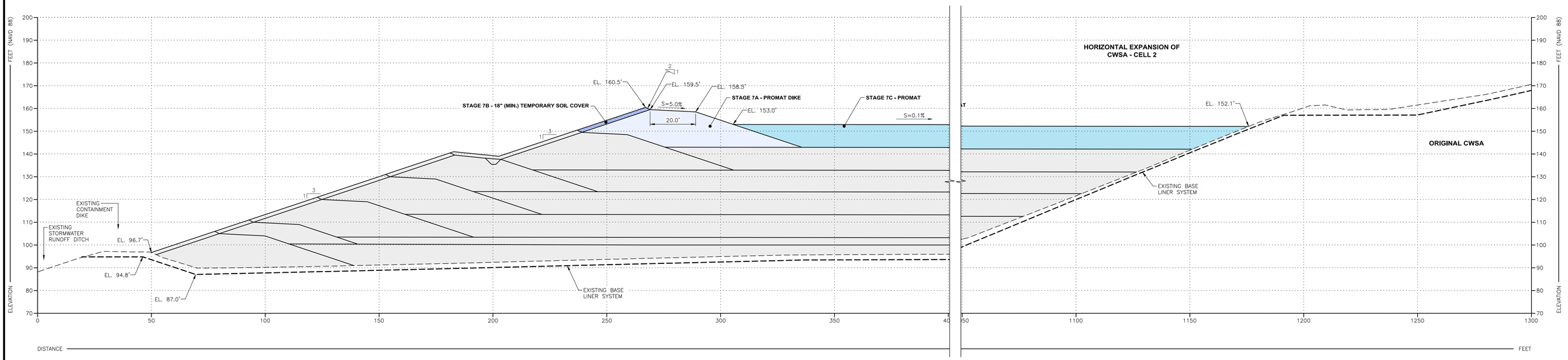
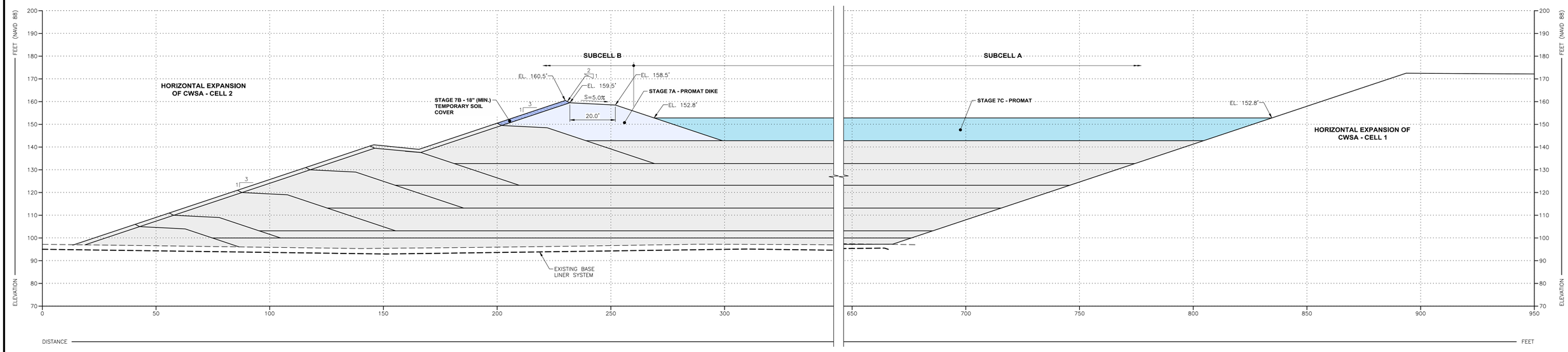
STAGE 7C PLAN VIEW

DRAWING NO. 20



M 19 20 **CROSS SECTION**

SCALE: 1" = 20'



N 19 20 **CROSS SECTION**

SCALE: 1" = 20'

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ORANGE COUNTY, FLORIDA

STAGES 7A, 7B AND 7C CROSS SECTIONS

DRAWING NO. **21**

I:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\21 STAGES 7A, 7B AND 7C CROSS SECTIONS.dwg 2024/08/05 9:44 PM, McLendon, Paula

ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

SUBCELL A

STA. 155+59

STA. 154+00

STA. 152+00

STA. 150+00

STA. 148+00

STA. 146+00

STA. 144+00

STA. 142+00

STA. 140+00

STAGE 8B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 8A - PROMAT DIKE

STAGE 7C - PROMAT

℄ OF STAGE 8 PROMAT DIKE

CURVE NO. 8

20.0'

3:1

S=0.1%

P 24

O 24

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B, 3B, 4B, 5B, 6B AND 7B – 18" (MIN.) THK. SOIL COVER
- STAGE 7C – PROMAT
- STAGE 8A – PROMAT DIKE
- STAGE 8B – 18" (MIN.) THK. SOIL COVER

STAGE 8
PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
140+00	172.50'	1505375.34	596998.76
142+00	172.50'	1505575.25	597003.70
144+00	172.50'	1505775.25	597003.70
146+00	172.50'	1505973.46	597011.50
148+00	172.50'	1505986.46	597207.53
150+00	172.50'	1505986.46	597407.53
152+00	172.50'	1505986.46	597607.53
154+00	172.50'	1505986.46	597807.53
155+58	172.50'	1505986.47	597965.46

STAGE 8 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 8	35.00'	54.64'	N. 1505987.97	E. 597002.58	STA. 145+77.32	STA. 146+31.95	34.66'	89°26'38"

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STAGES 8A AND 8B PLAN VIEW

DRAWING NO. 22

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ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

SUBCELL A

STA. 155+59

STA. 154+00

STA. 152+00

STA. 150+00

STA. 148+00

STA. 146+00

STA. 144+00

STA. 142+00

STA. 140+00

STAGE 8B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 8A - PROMAT DIKE

STAGE 8C - PROMAT

℄ OF STAGE 6 PROMAT DIKE

20.0'

3:1

S=0.1%

P 24

O 24

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

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L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B, 3B, 4B, 5B, 6B, AND 7B – 18" (MIN.) THK. SOIL COVER
- STAGE 8A – PROMAT DIKE
- STAGE 8B – 18" (MIN.) THK. SOIL COVER
- STAGE 8C – PROMAT

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STAGE 8C PLAN VIEW

DRAWING NO. 23

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ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

SUBCELL A

STA. 155+59

STA. 154+00

STA. 152+00

STA. 150+00

STA. 148+00

STA. 146+00

STA. 144+00

STA. 142+00

STA. 140+00

℄ OF STAGE 6 PROMAT DIKE

STAGE 8B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 8A - PROMAT DIKE

STAGE 8D - PROMAT

20.0'

3:1

S=0.6%

P 24

O 24

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- STAGE 1B, 2B, 3B, 4B, 5B, 6B, AND 7B – 18" (MIN.) THK. SOIL COVER
- STAGE 8A – PROMAT DIKE
- STAGE 8B – 18" (MIN.) THK. SOIL COVER
- STAGE 8D – PROMAT

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DRAWN BY			CHECKED BY		
FILE NO.: 23-13-0060			SCALE: AS SHOWN		
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STAGE 8D PLAN VIEW

DRAWING NO. 24

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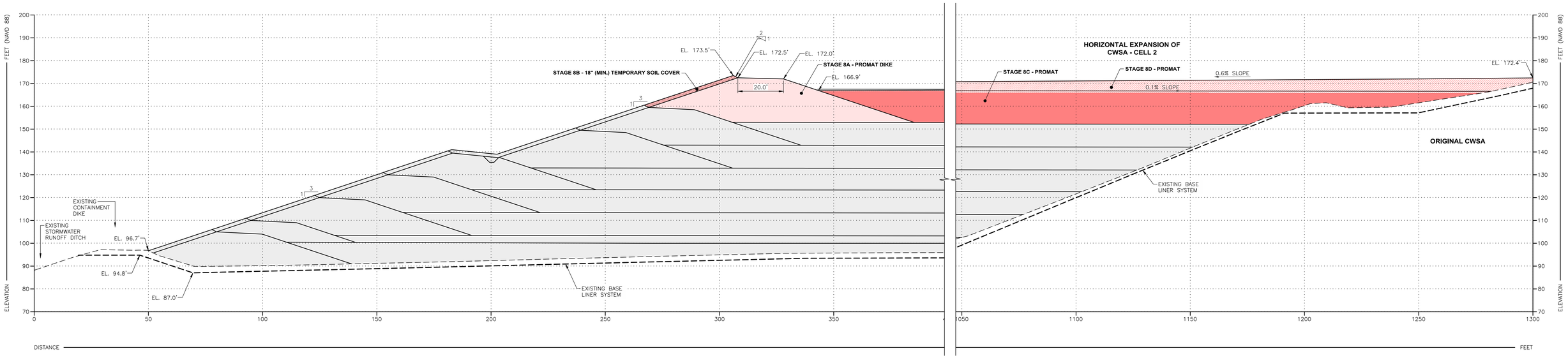
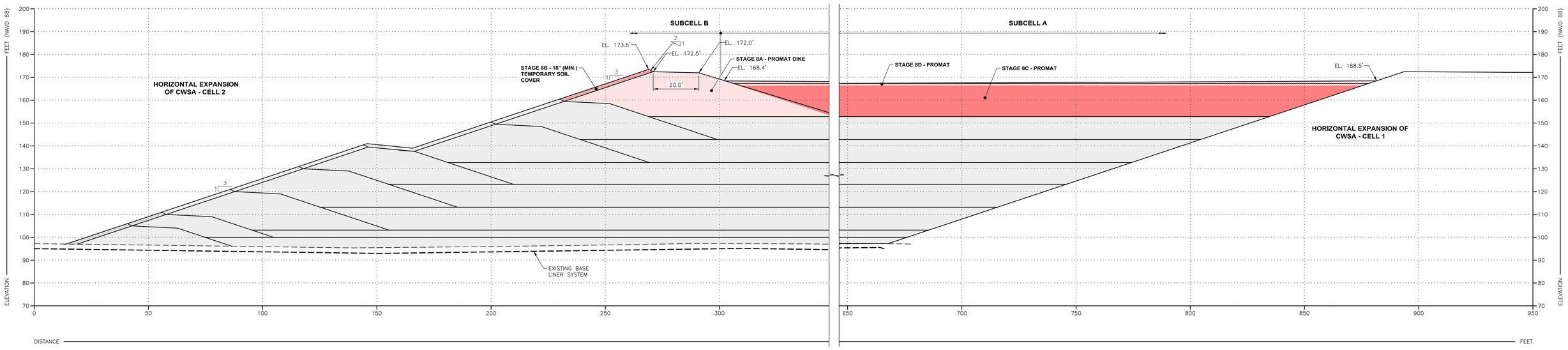


O 22 23 CROSS SECTION
SCALE: 1" = 20'



P 22 23 CROSS SECTION
SCALE: 1" = 20'

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STAGES 8A, 8B, 8C AND 8D CROSS SECTIONS

DRAWING NO. 25

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ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

STA. 215+97

STA. 214+00

STA. 212+00

STA. 210+00

STA. 208+00

STA. 206+00

STA. 204+00

STA. 202+00

STA. 200+00

STAGE 9B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 9A - PROMAT DIKE

℄ OF STAGE 9 PROMAT DIKE

STA. 208+61.75
N. 1506894.6744
E. 596986.8967

CURVE NO. 9

20.0'

3:1

104.0

105.0

R 27

Q 27

N

0 80 160

SCALE: 1"=80'

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DATED: NOVEMBER 10, 2020

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 9A – PROMAT DIKE
- STAGE 9B – 18" (MIN.) THK. SOIL COVER

STAGE 9 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
200+00	104.50'	1506211.70	596774.04
202+00	104.50'	1506411.70	596774.04
204+00	104.50'	1506611.70	596774.04
206+00	104.50'	1506811.70	596774.04
208+00	104.50'	1506890.76	596925.27
210+00	104.50'	1506897.62	597125.08
212+00	104.50'	1506899.14	597325.11
214+00	104.50'	1506900.69	597525.10
215+97	104.50'	1506902.22	597722.42

STAGE 9 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PIN	PIE	PC	PT	T	Δ
CURVE NO. 9	58.01'	87.76'	N. 1506881.94	E. 596774.04	STA. 206+15.50	STA. 207+03.26	54.74'	86°41'01"

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STAGES 9A AND 9B PLAN VIEW

DRAWING NO. 26

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ORIGINAL CWSA

STA. 215+97

STA. 214+00

STAGE 9B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STA. 212+00

STAGE 9A - PROMAT DIKE

STAGE 9C - PROMAT

HORIZONTAL EXPANSION OF CWSA - CELL 3

SUBCELL D

HORIZONTAL EXPANSION OF CWSA - CELL 2

SUBCELL C

SUBCELL B

HORIZONTAL EXPANSION OF CWSA - CELL 1

20.0'

3:1

3:1

S=0.1%

R 27

STA. 210+00

℄ OF STAGE 9 PROMAT DIKE

STA. 208+00

Q 27

STA. 206+00

STA. 204+00

STA. 202+00

STA. 200+00

105.0

104.0

98

N

0 80 160

SCALE: 1"=80'

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 9A – PROMAT DIKE
- STAGE 9B – 18" (MIN.) THK. SOIL COVER
- STAGE 9C – PROMAT

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ORANGE COUNTY, FLORIDA

STAGE 9C PLAN VIEW

DRAWING NO. 27

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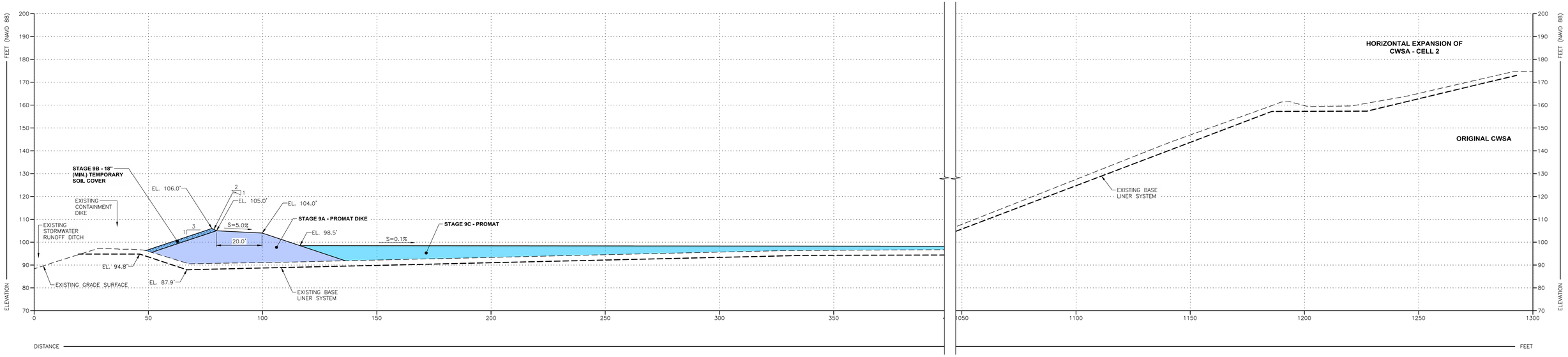
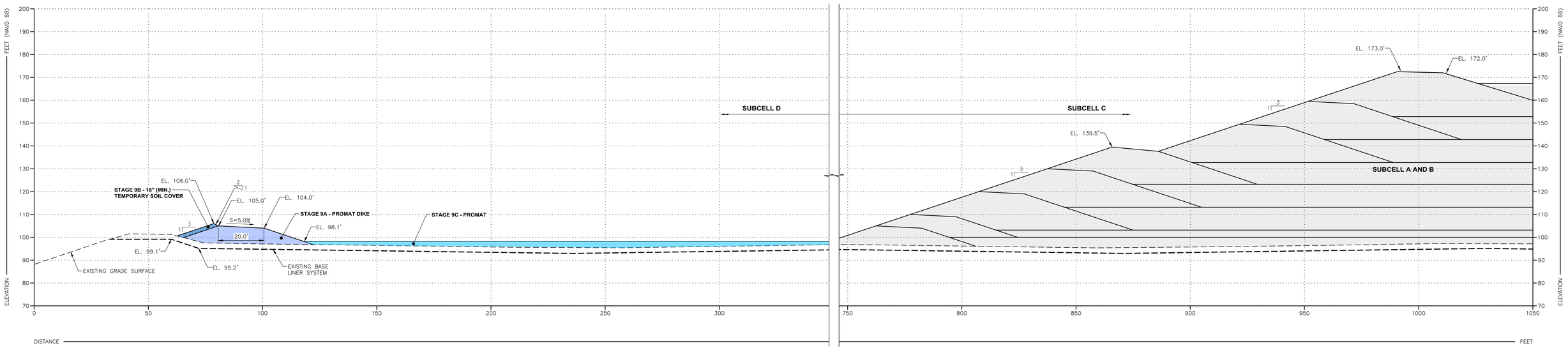


Q 25 26 CROSS SECTION
SCALE: 1" = 20'



R 25 26 CROSS SECTION
SCALE: 1" = 20'

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REVISION	DATE	DESCRIPTION	APPR'D
P4	05/29/24	ISSUED FOR OWNER'S REVIEW	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	05/01/24	CHECKED BY	FKC	
DRAWN BY	PM	05/02/24	CHECKED BY	AP	
FILE NO.: 23-13-0060			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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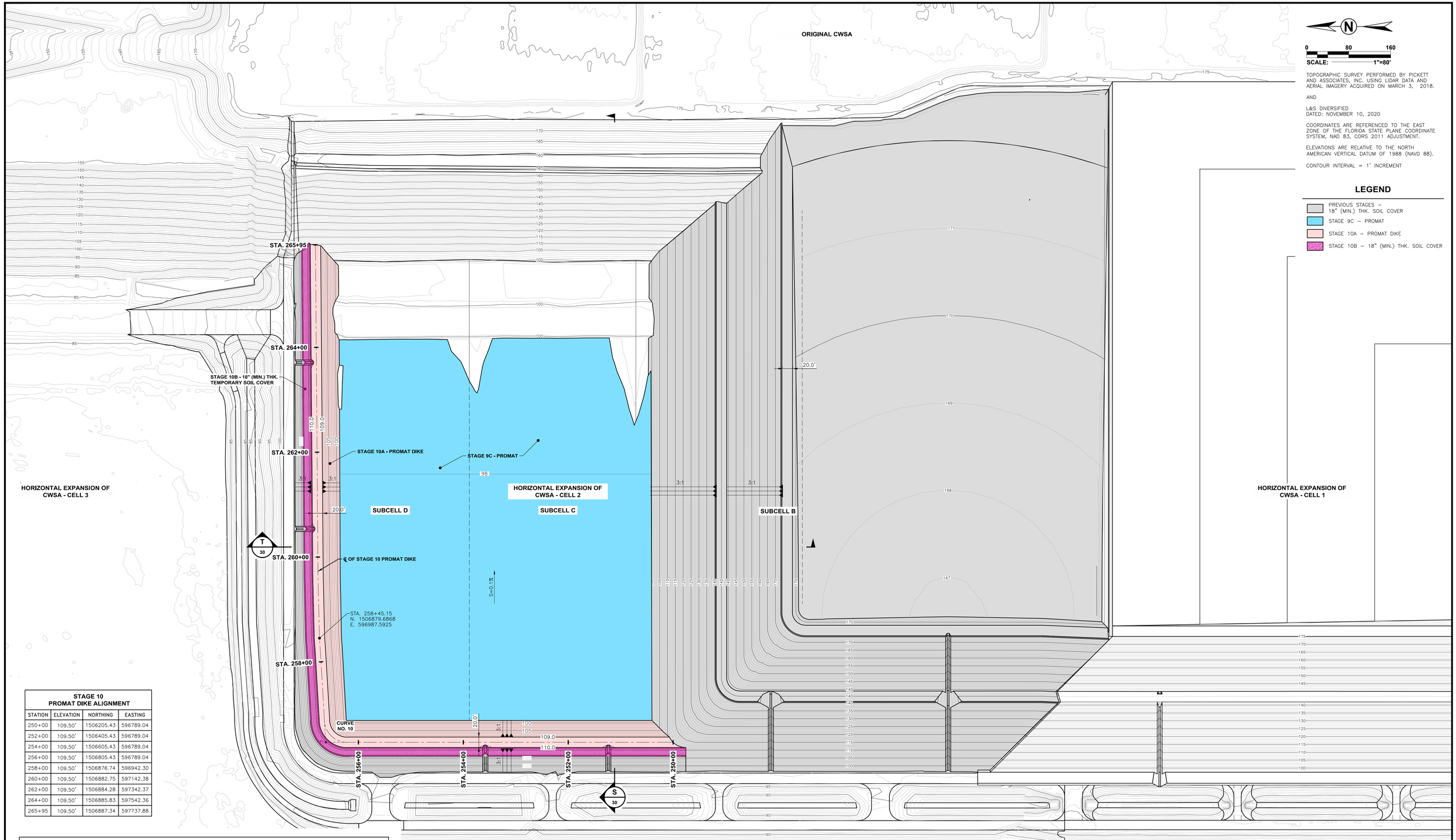
ORANGE COUNTY, FLORIDA

STAGES 9A, 9B AND 9C CROSS SECTIONS

DRAWING NO. **28**

R:\Corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\2B STAGES 9A, 9B AND 9C CROSS SECTIONS.dwg 2024/08/05 9:49 PM, McLendon, Michael



N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 9C – PROMAT
- STAGE 10A – PROMAT DIKE
- STAGE 10B – 18" (MIN.) THK. SOIL COVER

STAGE 10 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
250+00	109.50'	1506205.43	596789.04
252+00	109.50'	1506405.43	596789.04
254+00	109.50'	1506605.43	596789.04
256+00	109.50'	1506805.43	596789.04
258+00	109.50'	1506876.74	596942.30
260+00	109.50'	1506882.75	597142.38
262+00	109.50'	1506884.28	597342.37
264+00	109.50'	1506885.83	597542.36
265+95	109.50'	1506887.34	597737.88

STAGE 10 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PIN	PIE	PC	PT	T	Δ
CURVE NO. 10	43.01'	65.07'	N. 1506867.78	E. 596789.04	STA. 256+21.76	STA. 256+86.83	40.59'	86°41'01"

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STAGES 10A AND 10B PLAN VIEW

DRAWING NO. 29

R:\Corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\28 STAGES 10A AND 10B PLAN VIEW.dwg 2024/08/05 9:50 PM, MiLendon, Michael

ORIGINAL CWSA

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 10A – PROMAT DIKE
- STAGE 10B – 18" (MIN.) THK. SOIL COVER
- STAGE 10C – PROMAT

STA. 265+95

STA. 264+00

STAGE 10B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 10C - PROMAT

STA. 262+00

STAGE 10A - PROMAT DIKE

HORIZONTAL EXPANSION OF CWSA - CELL 3

SUBCELL D

HORIZONTAL EXPANSION OF CWSA - CELL 2

SUBCELL C

SUBCELL B

HORIZONTAL EXPANSION OF CWSA - CELL 1

STA. 260+00

℄ OF STAGE 10 PROMAT DIKE

STA. 258+00

STA. 256+00

STA. 254+00

STA. 252+00

STA. 250+00

S=0.1%

20.0'

109.0

110.0

103

105

3:1

T 30

S 30

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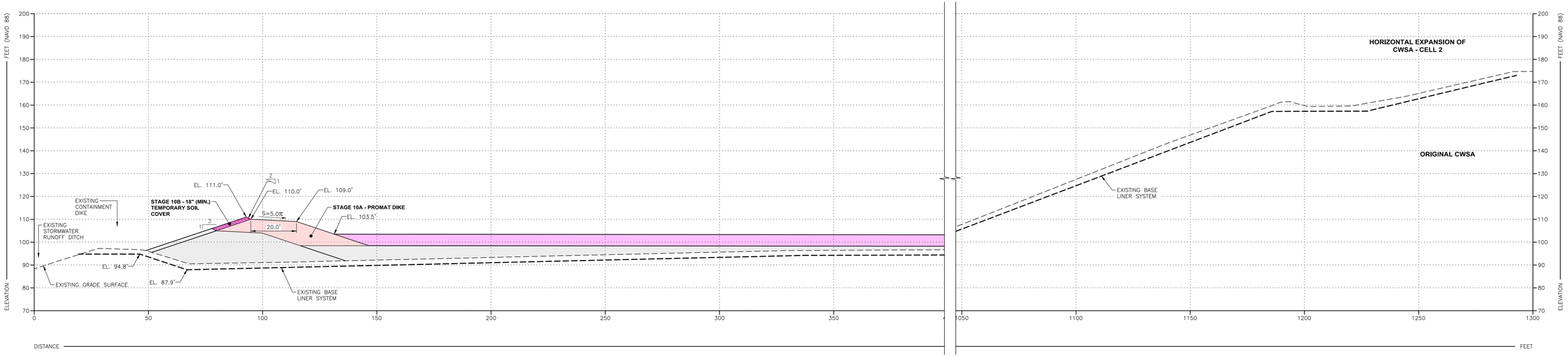
STAGE 10C PLAN VIEW

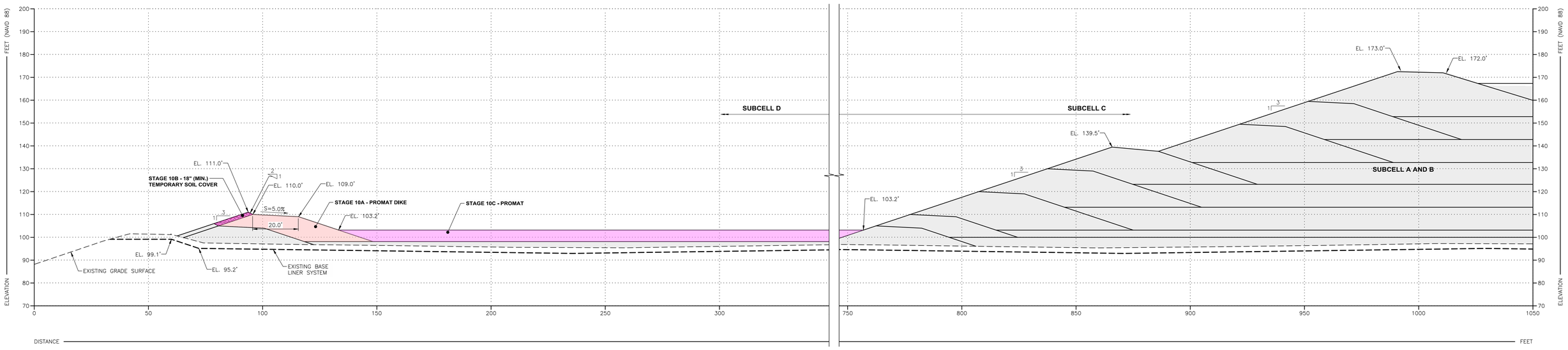
DRAWING NO. 30

I:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\29 STAGE 10C PLAN VIEW.dwg 2024/08/05 9:48 PM, McLendon, Paula



S 28 29 CROSS SECTION

SCALE: 1" = 20'



T 28 29 CROSS SECTION

SCALE: 1" = 20'

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STAGES 10A, 10B AND 10C CROSS SECTIONS

DRAWING NO. **31**

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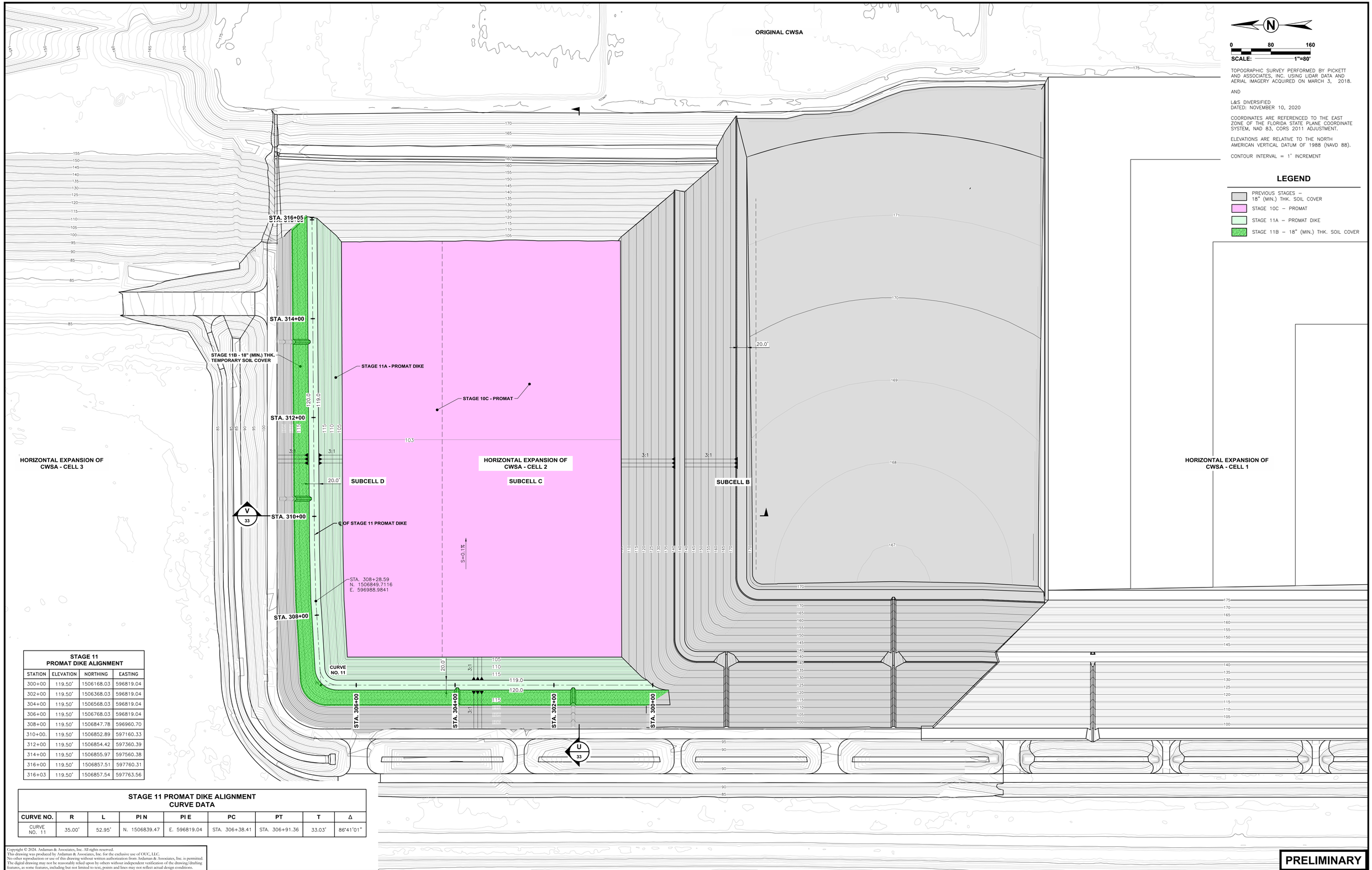

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 10C – PROMAT
- STAGE 11A – PROMAT DIKE
- STAGE 11B – 18" (MIN.) THK. SOIL COVER

STAGE 11 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
300+00	119.50'	1506168.03	596819.04
302+00	119.50'	1506368.03	596819.04
304+00	119.50'	1506568.03	596819.04
306+00	119.50'	1506768.03	596819.04
308+00	119.50'	1506847.78	596960.70
310+00.	119.50'	1506852.89	597160.33
312+00	119.50'	1506854.42	597360.39
314+00	119.50'	1506855.97	597560.38
316+00	119.50'	1506857.51	597760.31
316+03	119.50'	1506857.54	597763.56

STAGE 11 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 11	35.00'	52.95'	N. 1506839.47	E. 596819.04	STA. 306+38.41	STA. 306+91.36	33.03'	86°41'01"

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STAGES 11A AND 11B PLAN VIEW

DRAWING NO. 32

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ORIGINAL CWSA

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 11A – PROMAT DIKE
- STAGE 11B – 18" (MIN.) THK. SOIL COVER
- STAGE 11C – PROMAT

STA. 316+05
STA. 316+00
STA. 314+00
STA. 312+00
STA. 310+00
STA. 308+00
STA. 306+00
STA. 304+00
STA. 302+00
STA. 300+00

STAGE 11A - PROMAT DIKE

STAGE 11B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 11C - PROMAT

℄ OF STAGE 11 PROMAT DIKE

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

V 33

U 33

20.0'

97

119.0

120.0

3:1

S=0.1%

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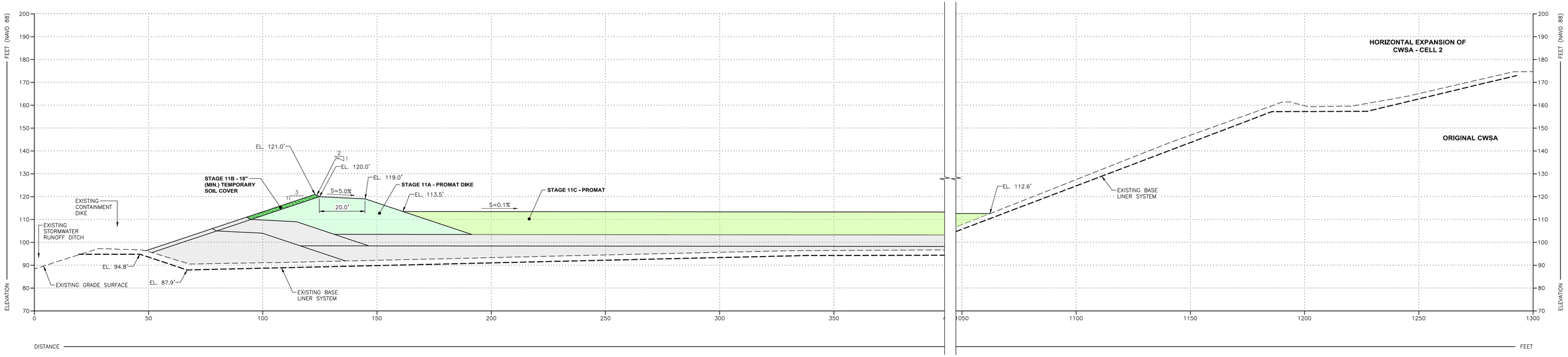
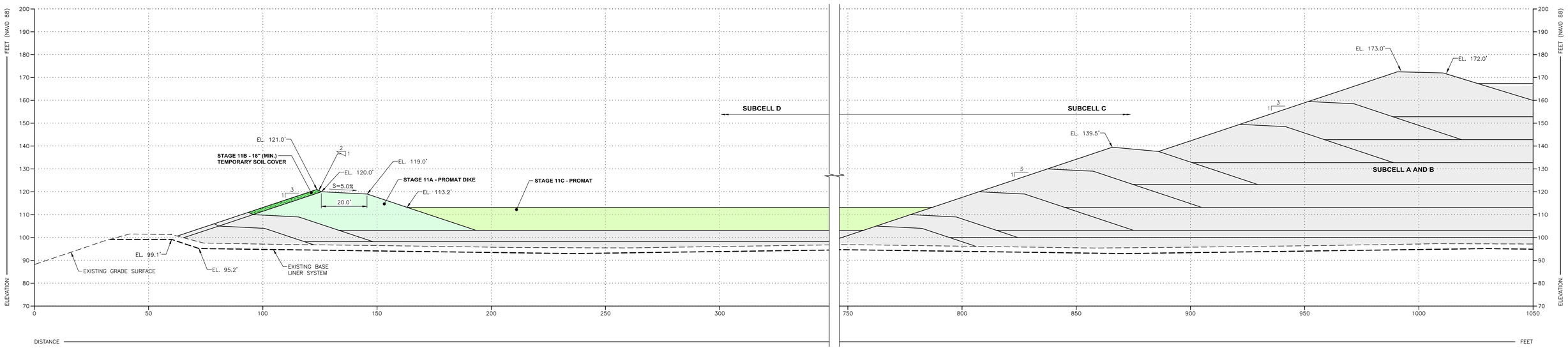
STAGE 11C PLAN VIEW

DRAWING NO. 33



U | 31 | 32 **CROSS SECTION**

SCALE: 1" = 20'



V | 31 | 32 **CROSS SECTION**

SCALE: 1" = 20'

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STAGES 11A, 11B AND 11C CROSS SECTIONS

DRAWING NO. **34**

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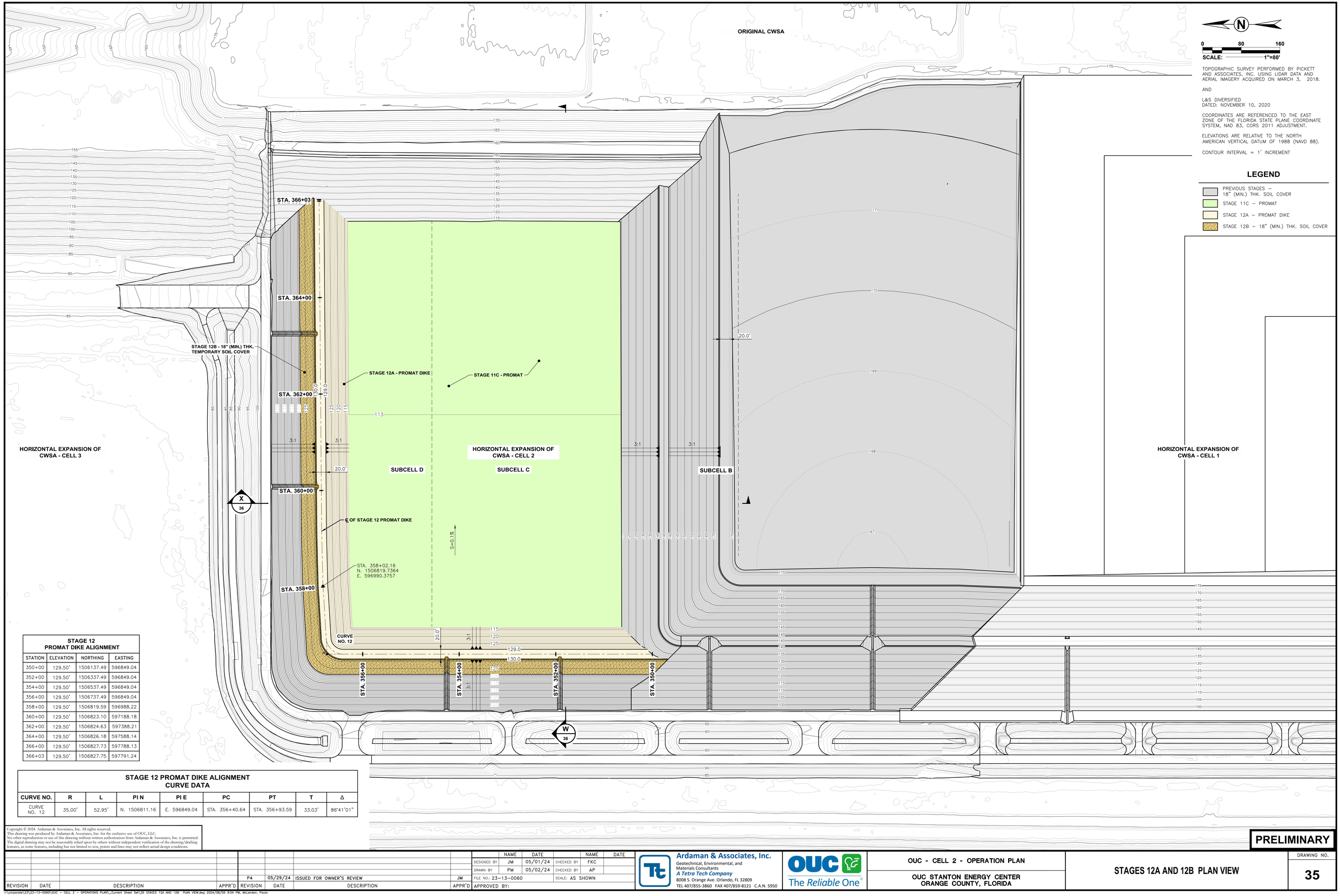

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L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 11C – PROMAT
- STAGE 12A – PROMAT DIKE
- STAGE 12B – 18" (MIN.) THK. SOIL COVER

STAGE 12 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
350+00	129.50'	1506137.49	596849.04
352+00	129.50'	1506337.49	596849.04
354+00	129.50'	1506537.49	596849.04
356+00	129.50'	1506737.49	596849.04
358+00	129.50'	1506819.59	596988.22
360+00	129.50'	1506823.10	597188.18
362+00	129.50'	1506824.63	597388.21
364+00	129.50'	1506826.18	597588.14
366+00	129.50'	1506827.73	597788.13
366+03	129.50'	1506827.75	597791.24

STAGE 12 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 12	35.00'	52.95'	N. 1506811.16	E. 596849.04	STA. 356+40.64	STA. 356+93.59	33.03'	86°41'01"

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STAGES 12A AND 12B PLAN VIEW

DRAWING NO. 35

ORIGINAL CWSA

STA. 366+00

STA. 364+00

STA. 362+00

STA. 360+00

STA. 358+00

STA. 356+00

STA. 354+00

STA. 352+00

STA. 350+00

STAGE 12B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 12C - PROMAT

STAGE 12A - PROMAT DIKE

℄ OF STAGE 12 PROMAT DIKE

S=0.1%

20.0'

130.0

129.0

125

3:1

HORIZONTAL EXPANSION OF CWSA - CELL 3

SUBCELL D

HORIZONTAL EXPANSION OF CWSA - CELL 2

SUBCELL C

SUBCELL B

HORIZONTAL EXPANSION OF CWSA - CELL 1

X 36

W 36

N

0 80 160

SCALE: 1"=80'

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 12A – PROMAT DIKE
- STAGE 12B – 18" (MIN.) THK. SOIL COVER
- STAGE 12C – PROMAT

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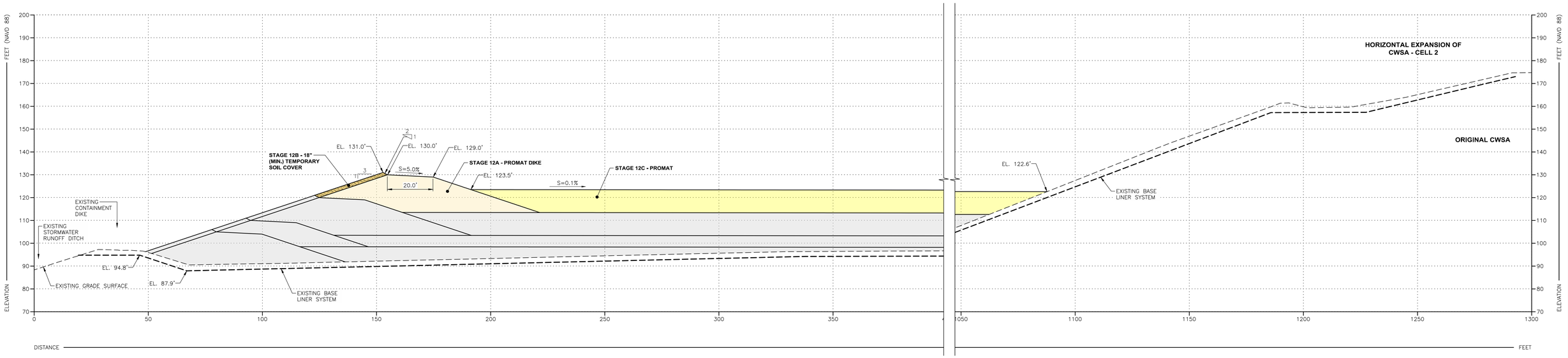
STAGE 12C PLAN VIEW

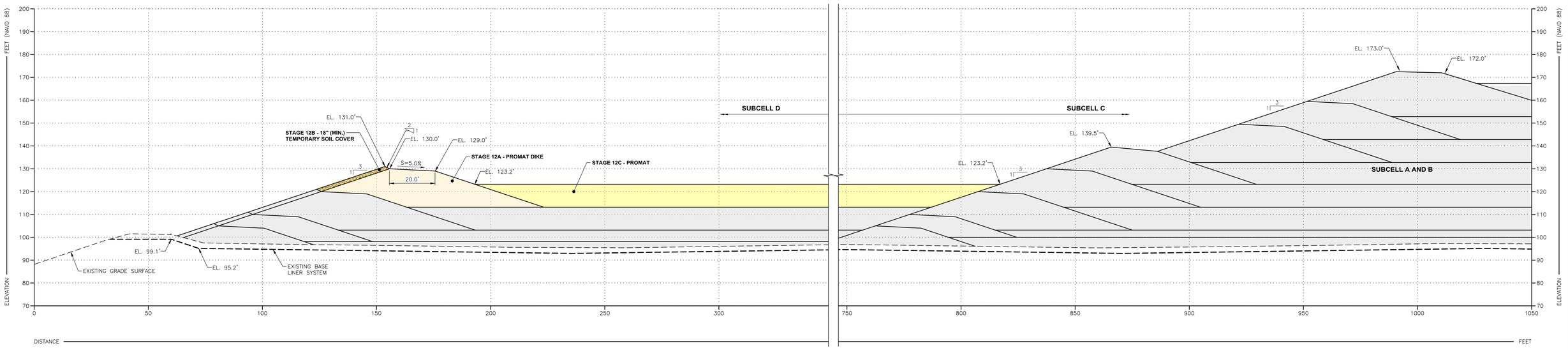
DRAWING NO. 36

R:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\36 STAGE 12C PLAN VIEW.dwg 2024/08/05 11:05 PM, McLendon, Paulo



W 34 35 **CROSS SECTION**

SCALE: 1" = 20'



X 34 35 **CROSS SECTION**

SCALE: 1" = 20'

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REVISION	DATE	DESCRIPTION	APPR'D
P4	05/29/24	ISSUED FOR OWNER'S REVIEW	JM

	NAME	DATE		NAME	DATE
DESIGNED BY	JM	05/01/24	CHECKED BY	FKC	
DRAWN BY	PM	05/02/24	CHECKED BY	AP	
FILE NO.: 23-13-0060			SCALE: AS SHOWN		
APPROVED BY:					

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
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STAGES 12A, 12B AND 12C CROSS SECTIONS

DRAWING NO. **37**

I:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\36 STAGES 12A, 12B AND 12C CROSS SECTIONS.dwg 2024/06/05 9:48 PM. McLendon, Paula

ORIGINAL CWSA

N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 12C – PROMAT
- STAGE 13A – PROMAT DIKE
- STAGE 13B – 18" (MIN.) THK. SOIL COVER

STA. 416+30

STA. 416+00

STA. 414+00

STA. 412+00

STA. 410+00

STA. 408+00

STA. 406+00

STA. 404+00

STA. 402+00

STA. 400+00

STAGE 13B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 12C - PROMAT

STAGE 13A - PROMAT DIKE

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

Z 39

Y 39

℄ OF STAGE 13 PROMAT DIKE

STA. 408+07.83
N. 1506791.2767
E. 596991.6970

CURVE NO. 13

20.0'

20.3'

3:1

S=0.1%

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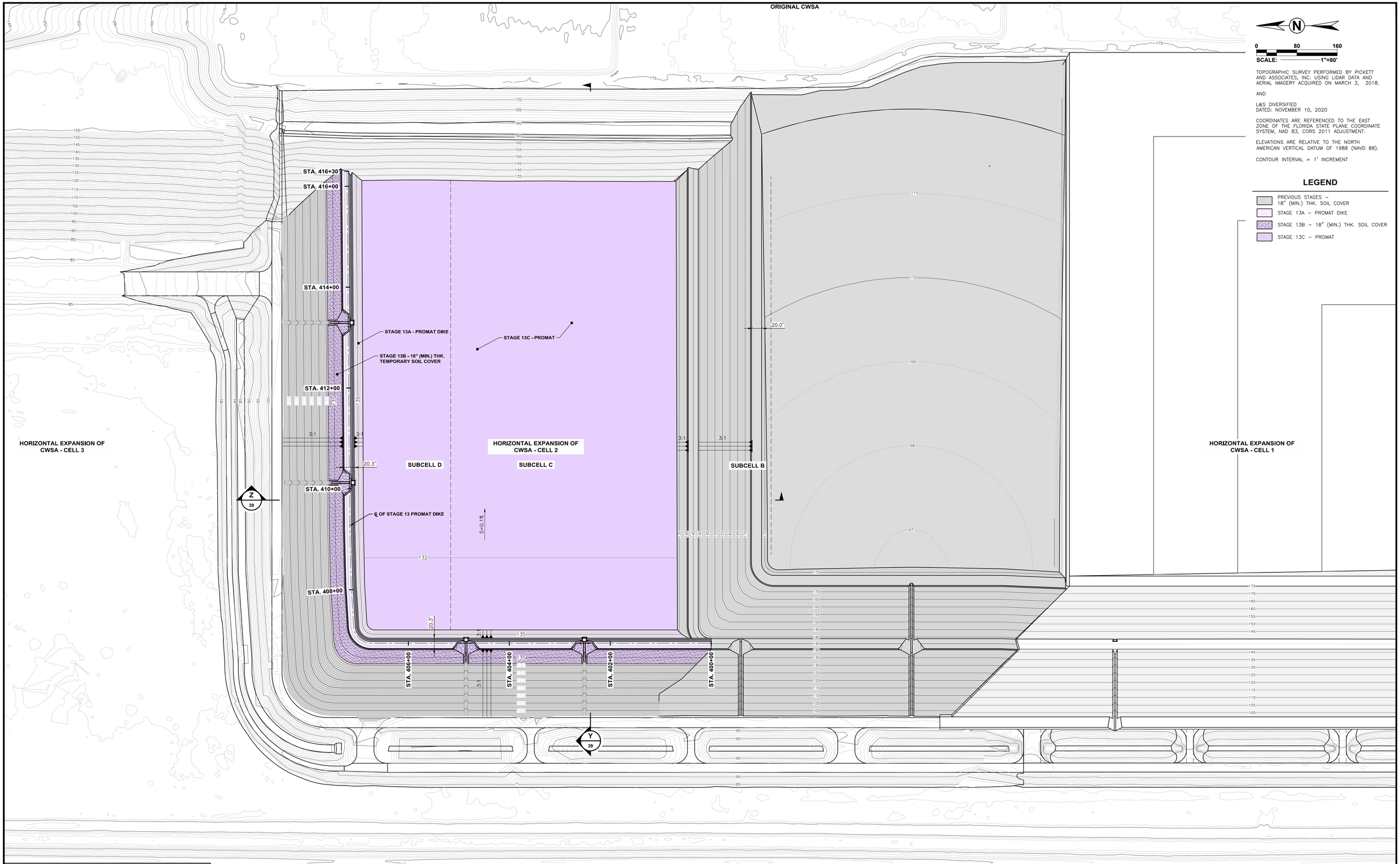
STAGES 13A AND 13B PLAN VIEW

DRAWING NO. 38

ORIGINAL CWSA



0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

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L&S DIVERSIFIED
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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 13A – PROMAT DIKE
- STAGE 13B – 18" (MIN.) THK. SOIL COVER
- STAGE 13C – PROMAT

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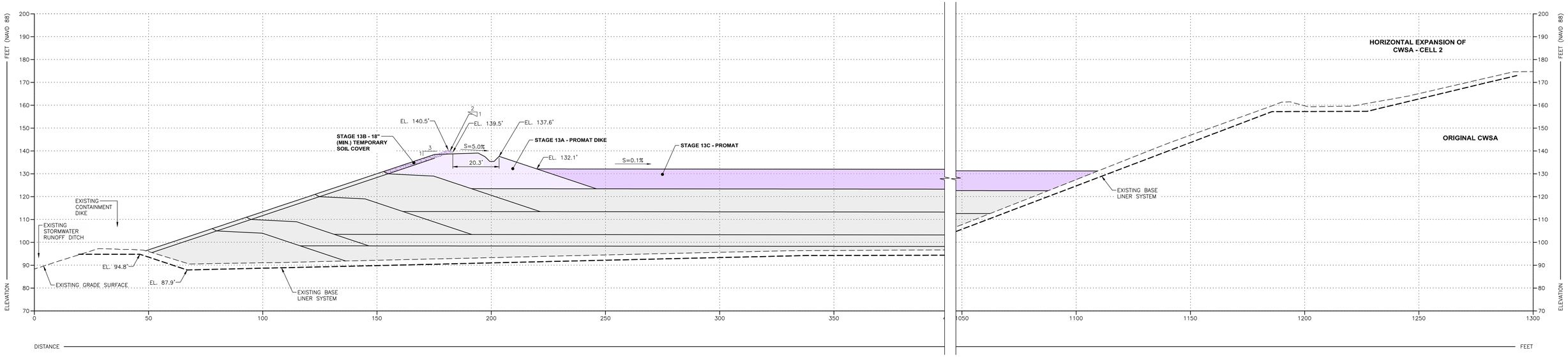
STAGE 13C PLAN VIEW

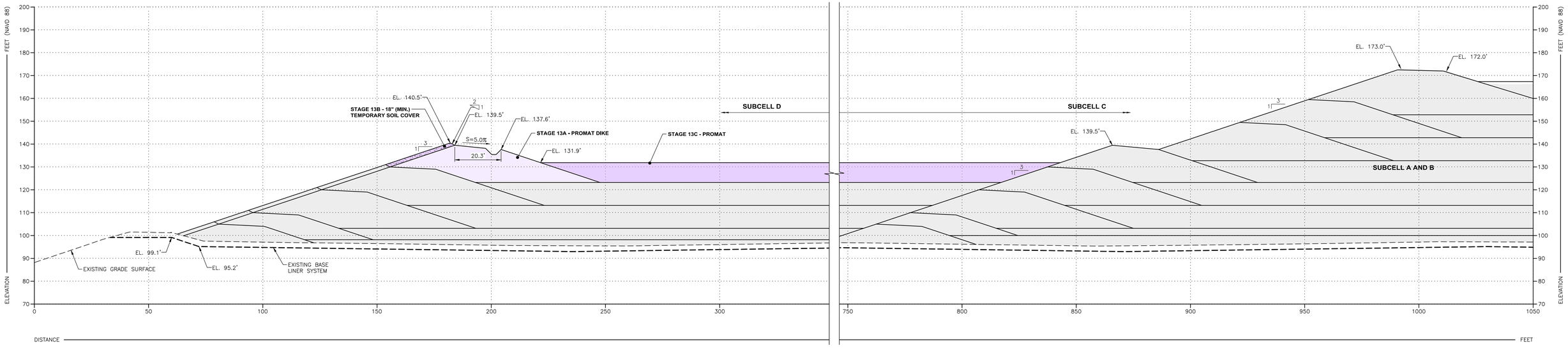
DRAWING NO. 39

R:\Corporate\23\23-13-0060\OUC – CELL 2 – OPERATIONS PLAN_Current Sheet Set\39 STAGE 13C PLAN VIEW.dwg 2024/08/05 10:07 PM, McLendon, Michael



Y 37 38 CROSS SECTION

SCALE: 1" = 20'



Z 37 38 CROSS SECTION

SCALE: 1" = 20'

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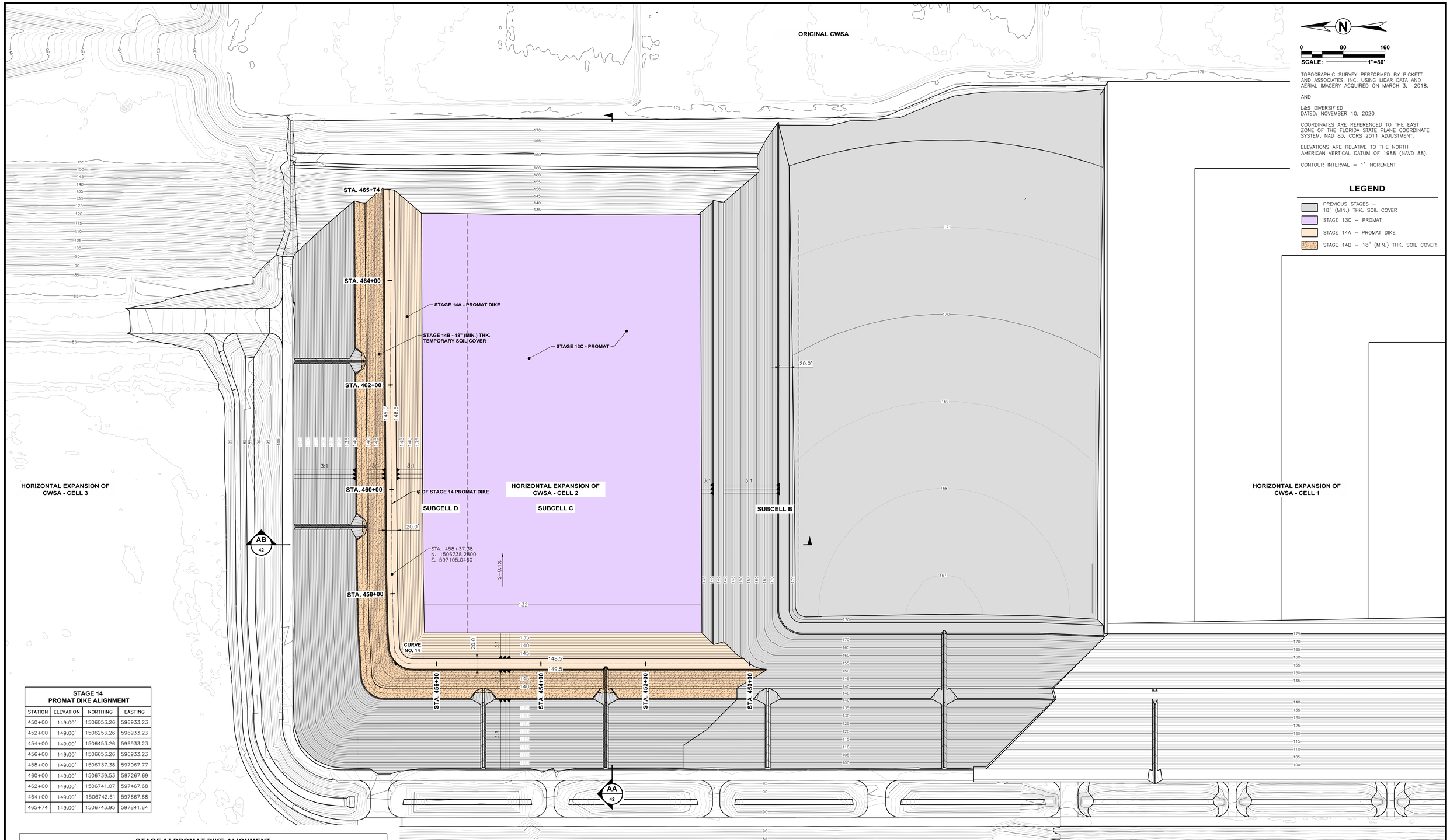
STAGES 13A, 13B AND 13C CROSS SECTIONS

DRAWING NO. 40

R:\corporate\23\23-13-0060\OUC - CELL 2 - OPERATIONS PLAN_Current Sheet Set\40 STAGES 13A, 13B AND 13C CROSS SECTIONS.dwg 2024/08/05 10:48 PM, McLendon, Paula



0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

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ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 13C – PROMAT
- STAGE 14A – PROMAT DIKE
- STAGE 14B – 18" (MIN.) THK. SOIL COVER

STAGE 14 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
450+00	149.00'	1506053.26	596933.23
452+00	149.00'	1506253.26	596933.23
454+00	149.00'	1506453.26	596933.23
456+00	149.00'	1506653.26	596933.23
458+00	149.00'	1506737.38	597067.77
460+00	149.00'	1506739.53	597267.69
462+00	149.00'	1506741.07	597467.68
464+00	149.00'	1506742.61	597667.68
465+74	149.00'	1506743.95	597841.64

STAGE 14 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PIN	PIE	PC	PT	T	Δ
CURVE NO. 14	35.00'	52.57'	N. 1506731.42	E. 596933.23	STA. 456+45.49	STA. 456+98.06	32.67'	86°03'49"

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FILE NO.: 23-13-0060 SCALE: AS SHOWN

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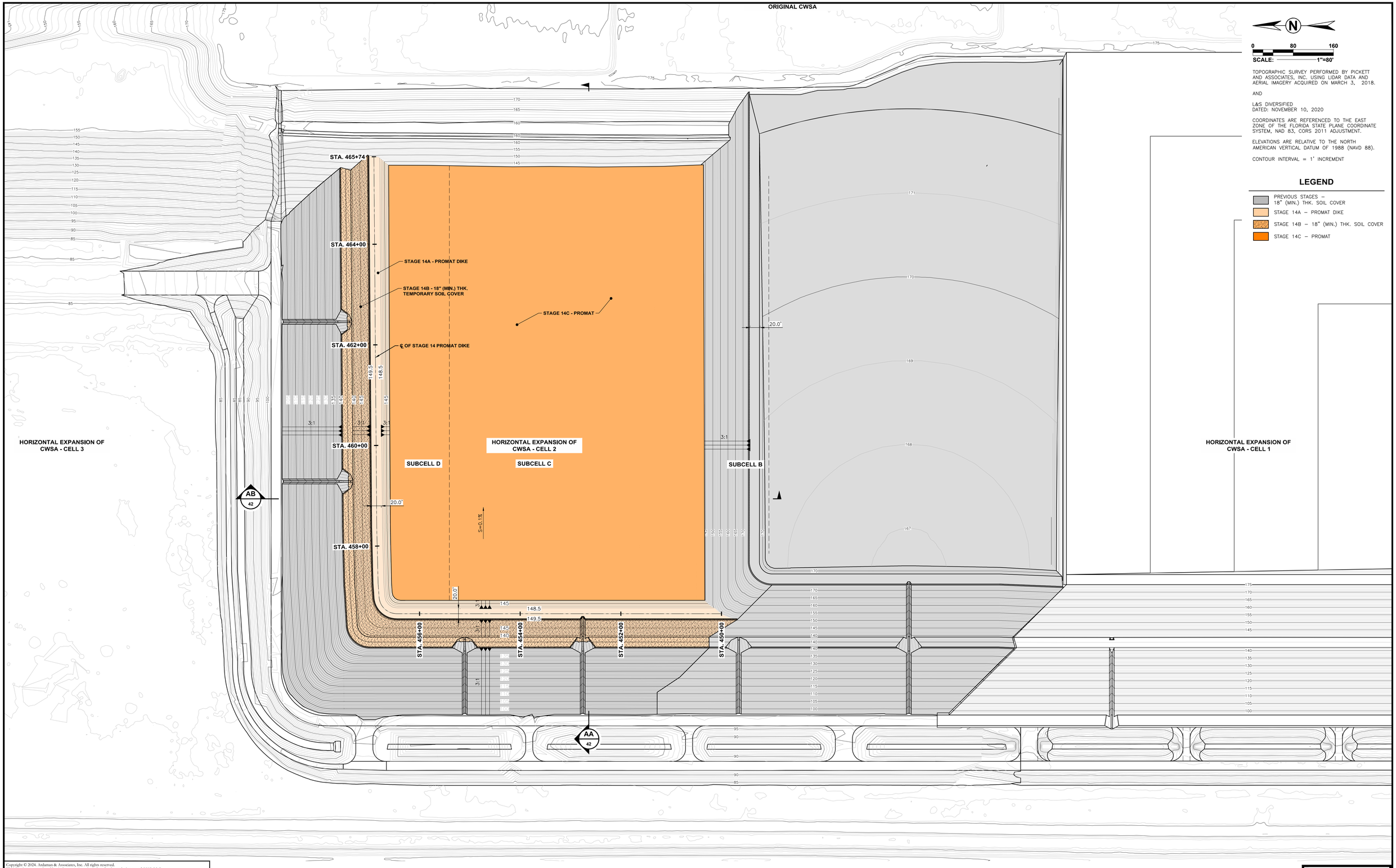
ORANGE COUNTY, FLORIDA

STAGES 14A AND 14B PLAN VIEW

DRAWING NO. 41

ORIGINAL CWSA



N

0 80 160

SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

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L&S DIVERSIFIED
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ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 14A – PROMAT DIKE
- STAGE 14B – 18" (MIN.) THK. SOIL COVER
- STAGE 14C – PROMAT

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ORANGE COUNTY, FLORIDA

STAGE 14C PLAN VIEW

DRAWING NO. 42

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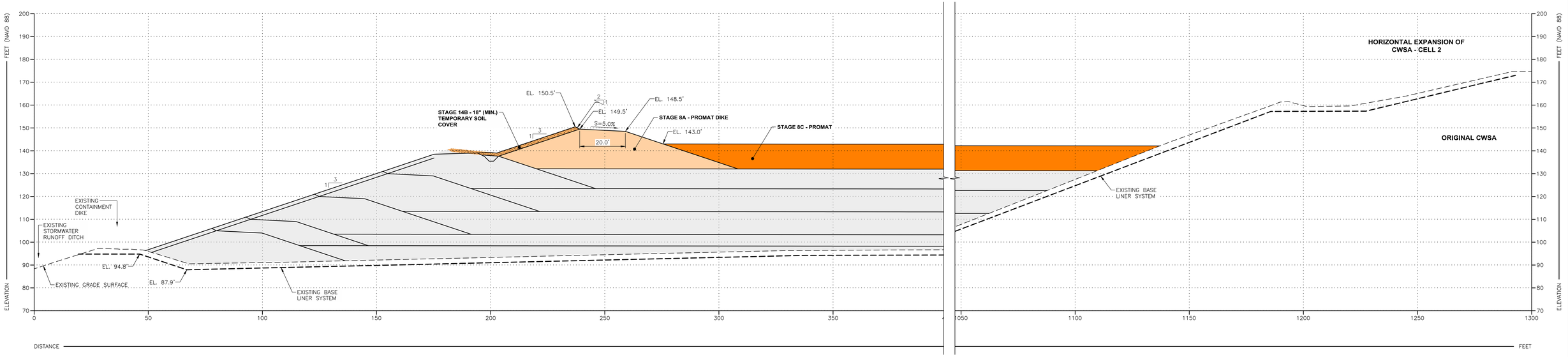
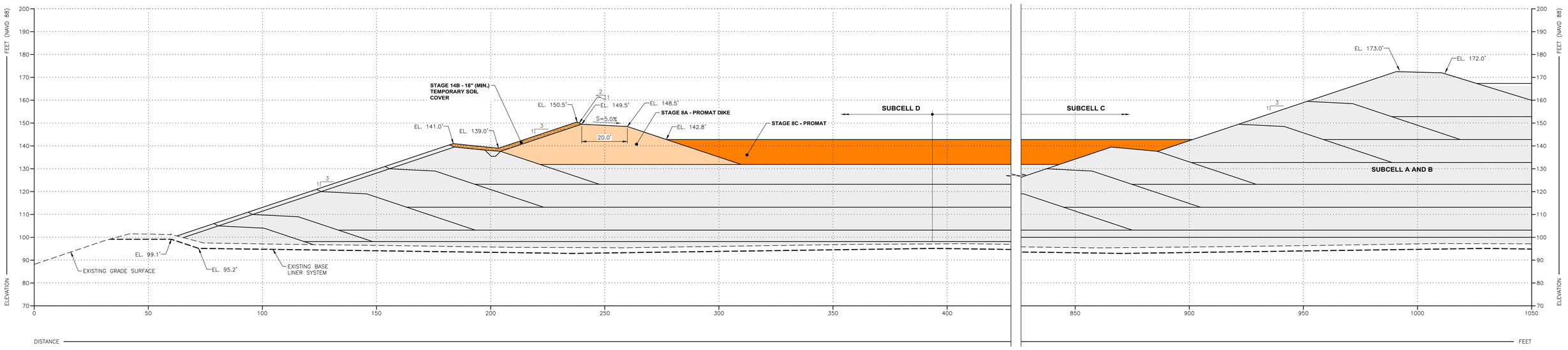


AA 40 41 **CROSS SECTION**

SCALE: 1" = 20'



AB 40 41 **CROSS SECTION**

SCALE: 1" = 20'

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ORANGE COUNTY, FLORIDA

STAGES 14A, 14B AND 14C CROSS SECTIONS

DRAWING NO. **43**

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ORIGINAL CWSA

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

STA. 515+72

STA. 514+00

STA. 512+00

STA. 510+00

STA. 508+00

STA. 506+00

STA. 504+00

STA. 502+00

STA. 500+00

STAGE 15A - PROMAT DIKE

STAGE 15B - 18" (MIN.) THK. TEMPORARY SOIL COVER

℄ OF STAGE 15 PROMAT DIKE

STAGE 14C - PROMAT

STA. 508+09.95
N. 1506708.2859
E. 597105.9232

CURVE NO. 15

20.0'

3:1

S=0.1%

AD 45

AC 45

0 80 160

SCALE: 1"=80'

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 14C – PROMAT
- STAGE 15A – PROMAT DIKE
- STAGE 15B – 18" (MIN.) THK. SOIL COVER

STAGE 15 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
500+00	159.00'	1506023.49	596963.23
502+00	159.00'	1506223.49	596963.23
504+00	159.00'	1506423.49	596963.23
506+00	159.00'	1506623.49	596963.23
508+00	159.00'	1506708.05	597095.88
510+00	159.00'	1506709.75	597296.00
512+00	159.00'	1506711.29	597495.99
514+00	159.00'	1506712.83	597695.99
515+72	159.00'	1506714.16	597868.01

STAGE 15 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 15	35.00'	52.43'	N. 1506703.27	E. 596963.23	STA. 506+47.25	STA. 506+99.67	32.54'	85°49'23"

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ORANGE COUNTY, FLORIDA

STAGES 15A AND 15B PLAN VIEW

DRAWING NO. 44

ORIGINAL CWSA

N

0 80 160

SCALE: 1"=80'

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 15A – PROMAT DIKE
- STAGE 15B – 18" (MIN.) THK. SOIL COVER
- STAGE 15C – PROMAT

STA. 515+72

STA. 514+00

STA. 512+00

STA. 510+00

STA. 508+00

STA. 506+00

STA. 504+00

STA. 502+00

STA. 500+00

STAGE 15A - PROMAT DIKE

STAGE 15B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STAGE 15C - PROMAT

℄ OF STAGE 15 PROMAT DIKE

20.0'

S=0.1%

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

SUBCELL B

AD 45

AC 45

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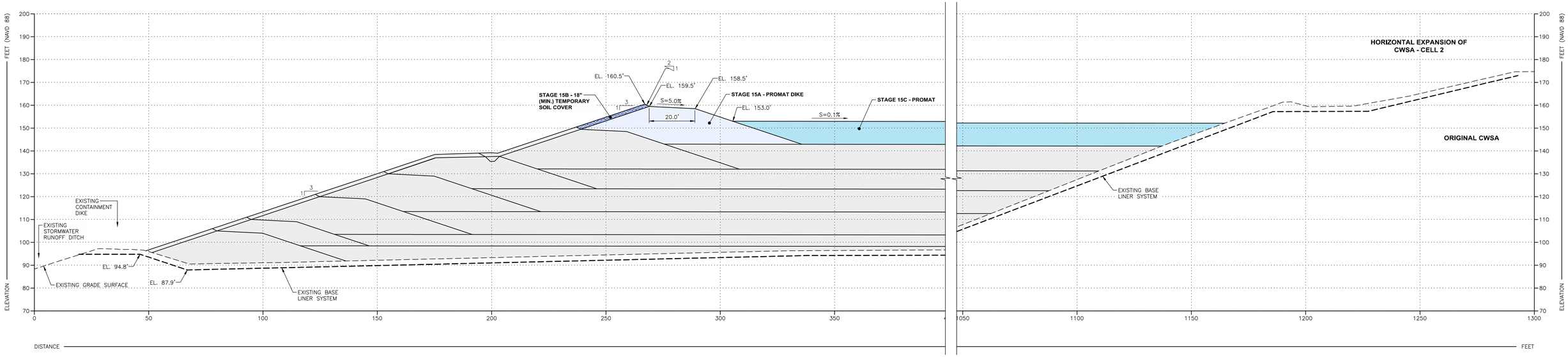
STAGE 15C PLAN VIEW

DRAWING NO. 45

R:\corporate\23\23-13-0060\OUC – CELL 2 – OPERATIONS PLAN_Current Sheet Set\45 STAGE 15C PLAN VIEW.dwg 2024/08/05 10:39 PM, McLendon, Paula



AC 43/44 CROSS SECTION

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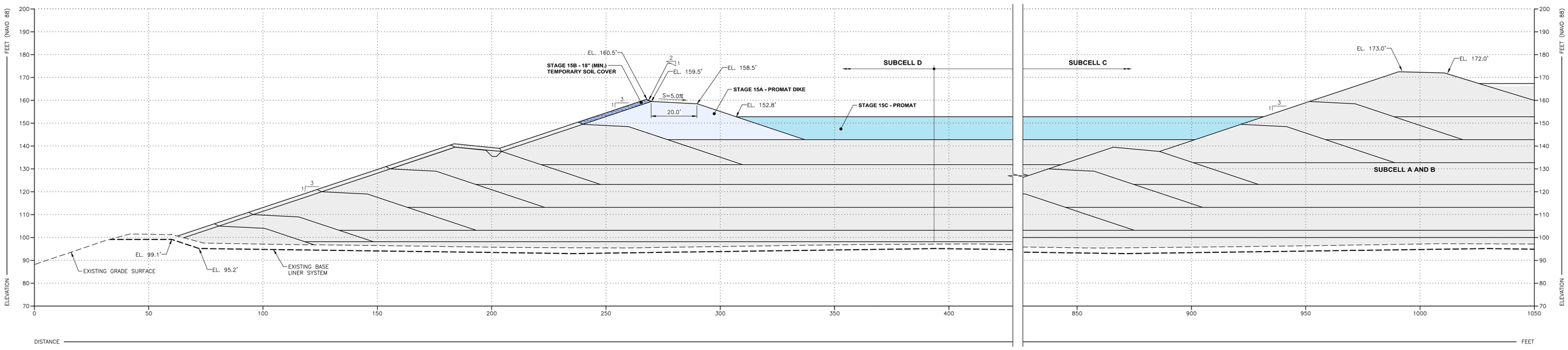

AD 43/44 CROSS SECTION

SCALE: 1" = 20'

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P4	05/29/24	ISSUED FOR OWNER'S REVIEW	JM

REVISION	DATE	DESCRIPTION	APPR'D

	NAME	DATE		NAME	DATE
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DRAWN BY	PM	05/02/24	CHECKED BY	AP	
FILE NO.: 23-13-0060			SCALE: AS SHOWN		
APPROVED BY:					

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Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

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ORANGE COUNTY, FLORIDA

STAGES 15A, 15B AND 15C CROSS SECTIONS

DRAWING NO. **46**

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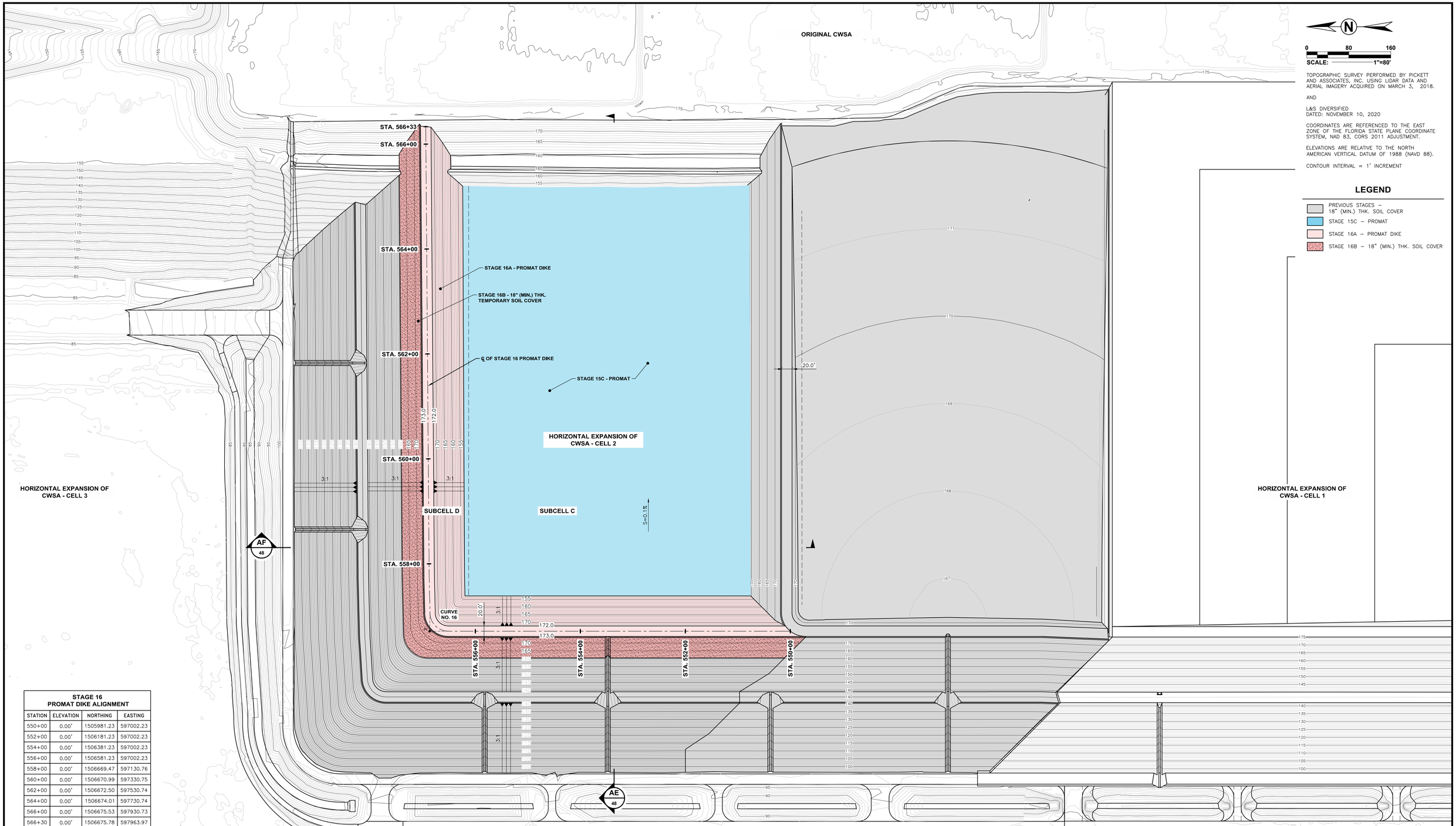

N

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SCALE: 1"=80'

TOPOGRAPHIC SURVEY PERFORMED BY PICKETT AND ASSOCIATES, INC. USING LIDAR DATA AND AERIAL IMAGERY ACQUIRED ON MARCH 3, 2018.

AND

L&S DIVERSIFIED
DATED: NOVEMBER 10, 2020

COORDINATES ARE REFERENCED TO THE EAST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, CORS 2011 ADJUSTMENT.

ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 15C – PROMAT
- STAGE 16A – PROMAT DIKE
- STAGE 16B – 18" (MIN.) THK. SOIL COVER

STAGE 16 PROMAT DIKE ALIGNMENT

STATION	ELEVATION	NORTHING	EASTING
550+00	0.00'	1505981.23	597002.23
552+00	0.00'	1506181.23	597002.23
554+00	0.00'	1506381.23	597002.23
556+00	0.00'	1506581.23	597002.23
558+00	0.00'	1506669.47	597130.76
560+00	0.00'	1506670.99	597330.75
562+00	0.00'	1506672.50	597530.74
564+00	0.00'	1506674.01	597730.74
566+00	0.00'	1506675.53	597930.73
566+30	0.00'	1506675.78	597963.97

STAGE 16 PROMAT DIKE ALIGNMENT CURVE DATA

CURVE NO.	R	L	PI N	PI E	PC	PT	T	Δ
CURVE NO. 16	34.88'	55.55'	N. 1506668.42	E. 597002.22	STA. 556+51.53	STA. 557+07.08	35.65'	91°15'34"

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STAGES 16A AND 16B PLAN VIEW

DRAWING NO. 47

PRELIMINARY

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ORIGINAL CWSA

N

0 80 160

SCALE: 1"=80'

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CONTOUR INTERVAL = 1' INCREMENT

LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 9A – PROMAT DIKE
- STAGE 9B – 18" (MIN.) THK. SOIL COVER
- STAGE 9C – PROMAT

STA. 566+33

STA. 566+00

STA. 564+00

STA. 562+00

STA. 560+00

STA. 558+00

STA. 556+00

STA. 554+00

STA. 552+00

STA. 550+00

STAGE 16A - PROMAT DIKE

STAGE 16B - 18" (MIN.) THK. TEMPORARY SOIL COVER

℄ OF STAGE 13 PROMAT DIKE

STAGE 16C - PROMAT

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 1

SUBCELL D

SUBCELL C

S=0.1%

20.0'

173.0

172.0

3:1

AF 48

AE 48

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FILE NO.: 23-13-0060 SCALE: AS SHOWN

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STAGE 16C PLAN VIEW

DRAWING NO. 48

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ORIGINAL CWSA

STA. 566+33

STA. 566+00

STAGE 16A - PROMAT DIKE

STA. 564+00

STAGE 16B - 18" (MIN.) THK. TEMPORARY SOIL COVER

STA. 562+00

℄ OF STAGE 13 PROMAT DIKE

STAGE 16D - PROMAT

20.0'

HORIZONTAL EXPANSION OF CWSA - CELL 2

HORIZONTAL EXPANSION OF CWSA - CELL 3

HORIZONTAL EXPANSION OF CWSA - CELL 1

STA. 560+00

SUBCELL D

SUBCELL C

S=0.85%

S=0.85%

AF 48

STA. 558+00

STA. 556+00

STA. 554+00

STA. 552+00

STA. 550+00

AE 48

3:1

172.0

173.0

N

0 80 160

SCALE: 1"=80'

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LEGEND

- PREVIOUS STAGES – 18" (MIN.) THK. SOIL COVER
- STAGE 16A – PROMAT DIKE
- STAGE 16B – 18" (MIN.) THK. SOIL COVER
- STAGE 16D – PROMAT

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DRAWN BY			CHECKED BY		
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STAGE16D PLAN VIEW

DRAWING NO. 49

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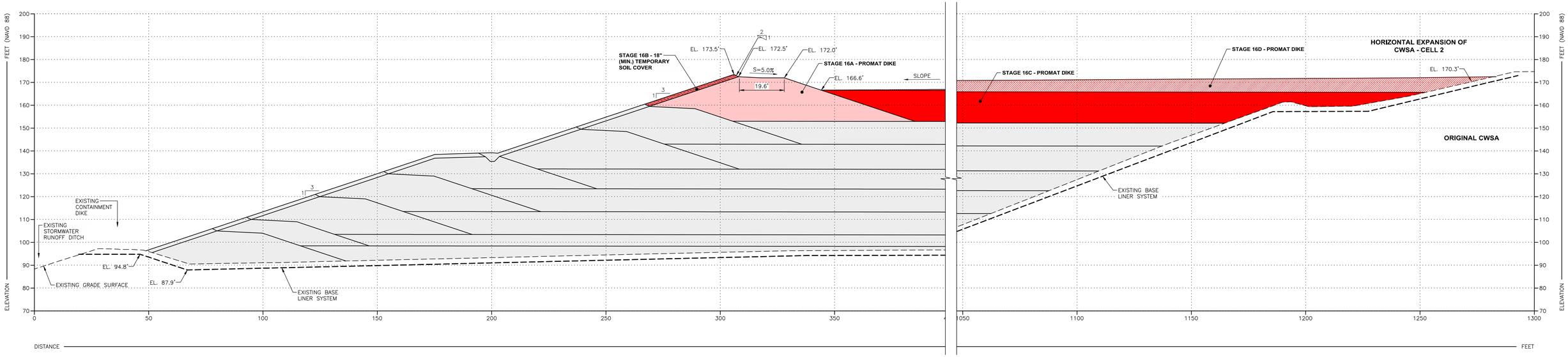
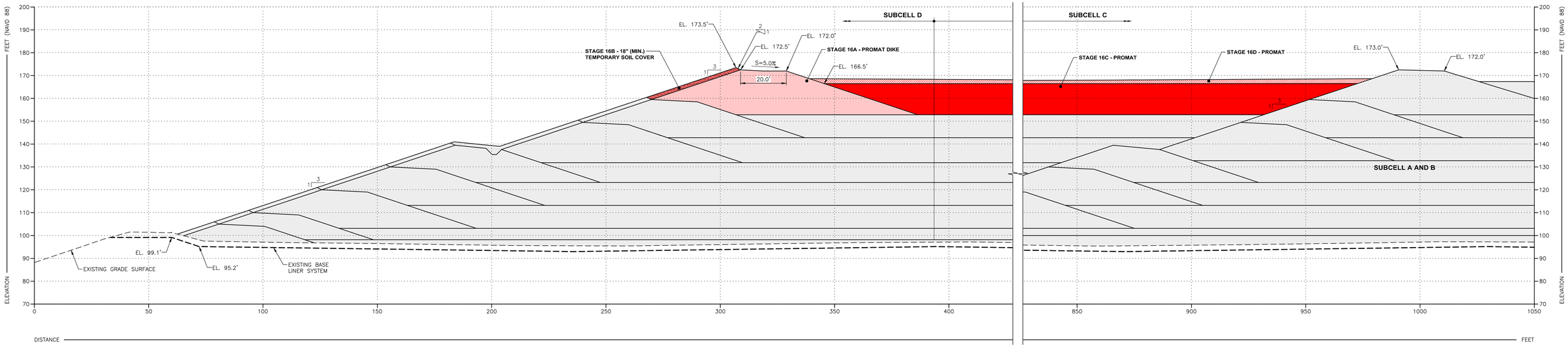


AE 46/47 CROSS SECTION

SCALE: 1" = 20'



AF 46/47 CROSS SECTION

SCALE: 1" = 20'

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STAGES 16A, 16B, 16C AND 16D CROSS SECTIONS

DRAWING NO. **50**

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Appendix 9

Fugitive Dust Control Plan

CCR Fugitive Dust Control Plan
Curtis H. Stanton Energy Center
Orange County, Florida

The Orlando Utility Commission (OUC) operates the Curtis H. Stanton Energy Center which is subject to the requirements of 40 CFR Part 257, Hazardous And Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities. The requirements for a coal combustion residuals (CCR) fugitive dust control plan are set forth in § 257.80. This CCR fugitive dust control plan follows the requirements a set forth in the rule.

§ 257.80 Air criteria.

(a) The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit must adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management and material handling activities.

(b) CCR fugitive dust control plan. The owner or operator of the CCR unit must prepare and operate in accordance with a CCR fugitive dust control plan as specified in paragraphs (b)(1) through (b)(7) of this section. This requirement applies in addition to, not in place of, any applicable standards under the Occupational Safety and Health Act.

(1) The CCR fugitive dust control plan must identify and describe the CCR fugitive dust control measures the owner or operator will use to minimize CCR from becoming airborne at the facility. The owner or operator must select, and include in the CCR fugitive dust control plan, the CCR fugitive dust control measures that are most appropriate for site conditions, along with an explanation of how the measures selected are applicable and appropriate for site conditions. Examples of control measures that may be appropriate include: locating CCR inside an enclosure or partial enclosure; operating a water spray or fogging system; reducing fall distances at material drop points; using wind barriers, compaction, or vegetative covers; establishing and enforcing reduced vehicle speed limits; paving and sweeping roads; covering trucks transporting CCR; reducing or halting operations during high wind events; or applying a daily cover.

Fugitive Dust Control Measures:

A) Water Applications and Sweeping Operations

OUC hires an on-site contractor to perform coal combustion residue (CCR) operations. The contractor will have an individual employee perform visible emission observations. Based on the experience of the observer, when visible emissions are observed, the observer will use this indicator to determine if there is a need to apply water as a dust suppressant or to remove material from paved roadways with a sweeper. Water may be applied with a water spray truck in the landfill when work activities are causing a disturbance of the erodible surface and on all roadways during operational activities. Sweeping operations may be performed on the paved haul roads whenever CCR materials build-up on the paved haul roads.

The on-site contractor will keep a daily log to show the following:

i) when and what observations are made
ii) when water is applied to the landfill
iii) when the roadways are sprayed with water
iv) when the roadways are swept
v) reasons the above control measures are not implemented, e.g., during a precipitation event.

These dust control measures will be performed until areas are observed to be sufficiently free of fugitive emissions, i.e., until observations for visible emissions do not indicate the need to apply additional fugitive dust control measures.

B) Vehicular and Equipment Speed Limits

A 15 mile per hour (mph) speed limit is posted within the plant facilities and enforced by OUC security personnel. Based on the observations of the contracted emissions observer, the speed limit for vehicular and heavy equipment travel within the plant facilities and on the haul roads may be reduced if necessary.

Time spent in non-paved areas by hauling vehicles is limited to only that necessary.

Justification:

"Water acts as a dust suppressant by forming cohesive moisture films among the discrete grains of surface material. In turn, the moisture level depends on the moisture added by natural precipitation, the moisture removed by evaporation, and moisture movement beneath the surface. The evaporation rate depends on the degree of air movement over the surface, material texture and mineralogy, and the degree of compaction or crusting. The moisture-holding capacity of the air is also important, and it correlates strongly with the surface temperature. Vehicle traffic intensifies the drying process primarily by increasing air movement over the surface."[1] *"Following the wetting of a soil or other surface material, fine particles will move to form a surface crust. The surface crust acts to hold in soil moisture and resist erosion." "Exposed soil that lacks a surface crust (e.g., a disturbed soil or a very sandy soil) is much more susceptible to wind erosion."*[2] *Application of dust suppressants, in this case water, on disturbed areas are 80% efficient in controlling PM_{10} emissions.*[3]

---

[1] Western Regional Air Partnership (WRAP), September 2006. *Fugitive Dust Handbook*, pg. 1-5.
[2] Ibid., pg.1-6.
[3] Ibid., pg. 8-19

(2) If the owner or operator operates a CCR landfill or any lateral expansion of a CCR landfill, the CCR fugitive dust control plan must include procedures to emplace CCR as conditioned CCR. Conditioned CCR means wetting CCR with water to a moisture content that will prevent wind dispersal, but will not result in free liquids. In lieu of water, CCR conditioning may be accomplished with an appropriate chemical dust suppression agent.

Fugitive Dust Control Measures:

All CCR materials undergo processing prior to placement in the landfill that results in a wetted product. If the material is too wet to pass a paint-filter test, it is placed in a decanting cell.

(3) The CCR fugitive dust control plan must include procedures to log citizen complaints received by the owner or operator involving CCR fugitive dust events at the facility.

The OUC Environmental Division will keep a log documenting all complaints from citizens regarding CCR fugitive dust events received by the OUC Marketing and Community Relations Division.

(4) The CCR fugitive dust control plan must include a description of the procedures the owner or operator will follow to periodically assess the effectiveness of the control plan.

The OUC Environmental Division will keep a log documenting all complaints from citizens regarding CCR fugitive dust events received by the OUC Marketing and Community Relations Division. The log will be reviewed on a monthly basis and used by OUC Environmental Division to evaluate the appropriateness of fugitive dust control measures and to modify those measures as needed.

(5) The owner or operator of a CCR unit must prepare an initial CCR fugitive dust control plan for the facility no later than **October 19, 2015**, or by initial receipt of CCR in any CCR unit at the facility if the owner or operator becomes subject to this subpart after **October 19, 2015**. The owner or operator has completed the initial CCR fugitive dust control plan when the plan has been placed in the facility's operating record as required by § 257.105(g)(1).

The Fugitive Dust Control Plan will be posted on OUC web site no later than October 19, 2015.

(6) Amendment of the plan. The owner or operator of a CCR unit subject to the requirements of this section may amend the written CCR fugitive dust control plan at any time provided the revised plan is placed in the facility's operating record as required by §257.105(g)(1). The owner or operator must amend the written plan whenever there is a change in conditions that would substantially affect the written plan in effect, such as the construction and operation of a new CCR unit.

OUC will amend the Fugitive Dust Control Plan if the planned operational controls are ineffective or there is a change at the facility that reduces the effectiveness of the current control operations.

(7) The owner or operator must obtain a certification from a qualified professional engineer that the initial CCR fugitive dust control plan, or any subsequent amendment of it, meets the requirements of this section.

I certify that this CCR fugitive dust control plans meets the requirements of 40 CFR 257.80.

P.E. Signature — *October 2nd, 2015* *Date*

Mr. Charles Doud
Printed Name

 # 58596 — *Florida*
Registration Number — *State*

(Affix seal)

Appendix 10

Water Quality Monitoring Plan Implementation Schedule

Attachment F to the Conditions of Certification - MPIS

Stanton Energy Center Combustion Waste Landfill

WACS Facility: 97663

WATER QUALITY MONITORING PLAN IMPLEMENTATION SCHEDULE (MPIS)

1/6/2017

GENERAL

The Department of Environmental Protection Central District's Industrial Wastewater (IWW) and Solid Waste (SW) programs developed this Monitoring Plan Implementation Schedule (MPIS) to incorporate groundwater monitoring requirements into the Licensee's Conditions of Certification. The MPIS applies to the following units and associated ponds and areas.

- Units A and B
  - make-up pond (unlined)
  - wastewater pond (lined)
  - recycle pond (lined)
- Units 1 and 2
  - stormwater pond (unlined)
  - coal storage area runoff pond (lined)
  - combustion waste area runoff pond (lined)
  - coal storage area
  - combustion waste storage area

The Department's Central District IWW and SW programs are responsible for reviewing and approving all revisions to this document in accordance with Section A, Condition XX (Procedures for Post-Certification Submittals), unless otherwise determined by the Department, and Section B, Specific Condition I.A. (Groundwater Monitoring) of these Conditions.

At a minimum, projects which involve any one of the following shall be reviewed for a determination on the requirement of a modification to these Conditions and if a modification is required, it shall be processed in accordance with Section 403.516(1)(c), F.S., and Rule 62-17.211, F.A.C., as applicable:

- new major sources of wastewater
- new wastewater treatment facilities or improvements made to existing wastewater treatment facilities, including those which provide for a new or expanded land application system;
- pollutants not addressed in the MPIS or these Conditions resulting from a change in the solid waste disposal facility or the industrial wastewater facility; or
- other projects that cause or may cause changes to the quantity and/or quality of discharges to groundwater as a result of solid waste disposal or industrial wastewater treatment.

1. The MPIS is effective immediately. **(62-701.510(1)(b) & (c), 62-520.600(5), F.A.C.)**

2. The field testing, sample collection, and preservation and laboratory testing, including quality control procedures, shall be in accordance with Chapter 62-160, F.A.C. Approved methods as published by the

Department or as published in Standard Methods, ASTM, or EPA Methods shall be used. **(62-701.510(2)(b), F.A.C.)**

3. The organization collecting samples for this Licensee must use the Field and Laboratory Standard Operating Procedures (DEP-SOP-001/01) referenced in Chapter 62-160, F.A.C. Sampling personnel must have a copy of the SOP for purging and sampling in the field when sampling and must be knowledgeable of its contents, procedures and forms. The laboratory designated to conduct the chemical analyses must be certified by the Florida Department of Health Environmental Laboratory Certification Program (DoH ELCP). This Certification must be for the test method and analyte(s) that are reported. **(62-160.210(1), 62-160.300(1), F.A.C.)**

   NOTE: DEP-SOP-001/01 can be accessed at: http://www.dep.state.fl.us/water/sas/sop/index.htm

4. If, at any time, analyses detect parameters which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., in the detection wells or at the edge of the Zone of Discharge, the Licensee shall provide notification of the exceedances in writing to the Department at DEP_CD@dep.state.fl.us within 14 days of receipt of the sampling data and indicate:

   - whether the original data will be accepted as representative of current ground water conditions, or
   - whether resampling will be accomplished to confirm the data.

   If the Licensee chooses to resample the well, it shall do so within thirty (30) days of receipt of the original sampling data. Should the Licensee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility.

   If the resampling event detects parameters which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., the Licensee shall:

   - provide notification of the exceedances in writing to the Department at DEP_CD@dep.state.fl.us within 14 days of receipt of the resampling data.
   - submit the confirmed data to the Department at DEP_Cd@dep.state.fl.us within 60 days from the lab analyses date
   - use "CONF" (for confirmation data) in the report type column.

   Upon notification by the Department, the Licensee shall initiate evaluation monitoring in accordance with Rule 62-701.510(6) F.A.C.

GROUND WATER QUALITY MONITORING

5. Zone of Discharge. The zone of discharge for this facility shall be a three-dimensional volume described below. It is shown in Attachment B of the MPIS (drawing dated 12/20/2013). Class G-II water quality standards must be as Description of Revised ZOD – Stanton Energy Center
   a. West side: a line parallel to 100 feet west of the edge of the "Area Designated for Solid Waste Management" (landfill area) or the property boundary, whichever is closer to the landfill.

b. North side:
   i. a straight line 100 feet north of and parallel to the landfill area to the northeast corner of landfill area, then
   ii. a straight line to MW-23
c. East side: an arc connecting MW-23 to MW-25 to MW-26
d. South side:
   i. A straight line from MW-26 to MW-20
   ii. A straight line to 100 feet south of the southeast corner of the landfill area.
   iii. A straight line 100 feet south of and parallel to the landfill area to the southwest corner of the landfill completing the perimeter of the ZOD.
e. Vertical Dimension: To the depth of each well. Compliance will be monitored by MW-3D and MW-11D.

6. The twenty-two (22) active ground water monitoring wells and two (2) piezometers designated for water quality testing and water level measurements are listed on **Attachment A** of the MPIS and shown on **Attachment B** of the MPIS. **(62-701.510(3)(d)2 & 3, F.A.C.)**

7. Semi-annual samples from the ground water monitoring well shall be collected in April and October. The samples shall be analyzed for the following Ground Water Monitoring Parameters. **(62-701.510(5)(c)**

Field Parameters	**Laboratory Parameters**
1. Static water level in wells before purging	1. Chloride
2. Dissolved oxygen	2. Nitrate
3. pH	3. Sulfate
4. Specific conductivity	4. Total Dissolved Solids
5. Temperature	5. Arsenic
6. Turbidity	6. Barium
	7. Cadmium
	8. Lead
	9. Manganese
	10. Mercury
	11. Molybdenum
	12. Nickel
	13. Sodium
	14. Vanadium
	15. Gross Alpha (pCi/L)
	16. Ra 226 if gross alpha > 15 pCi/L
	17. Ra 228 if gross alpha >15 pCi/L

8. Turbidity and Dissolved Oxygen Concentrations
    a. The requirements of the current version of FS_2212, Well Purging Techniques, shall be met. If the field parameter criteria (Turbidity ≤ 20 NTU and Dissolved Oxygen ≤ 20% saturation) cannot be met, the sample logs must indicate the samples met the alternate criteria in Section 3.5 of FS_2212.
    b. Monitoring wells that in recent history have had turbidity values >20 NTU are MW-2, MW-16, MW-18, MW-19 and MW-26. These wells will continue to be sampled and reported to the Department regardless of the turbidity values.
    c. Other site monitoring wells, not listed in 8.b., above, whose turbidity values are greater than 20 NTU during the sampling event, will be sampled at the higher turbidity value. The sample logs shall document the individual occurrences, as described in 8.a., above. After the third consecutive instance of field turbidity values greater than 20 NTU from a monitoring well not listed in 8.b, Licensee shall contact the Department for further discussion. The discussion will be to review the sampling protocol and data, and then discuss and agree on a course of action.
    d. If a contaminant's concentration is greater than criteria and Licensee claims the exceedance is due to turbidity, then further evaluation, redevelopment, reinstallation or remediation of the well(s) must be considered.
    e. All water quality analyses submitted to the FDEP in compliance with the COC shall be performed on unfiltered samples unless filtering has been approved by the Department.

9. Please confer with your consultant and analytical laboratory prior to sampling to ensure the analytical method is capable of achieving detection limits at or below the Groundwater Cleanup Target Levels (GCTLs) in Table I, Chapter 62-777, F.A.C. except those listed in Table C of the "FDEP Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits dated 10/12/2004". GCTLs that are not water quality standards are used as screening tools and interim guidelines for ground water minimum criteria until standards are promulgated.

MONITORING WELL REQUIREMENTS

10. If a monitoring well or piezometer becomes damaged or inoperable, the Licensee shall notify the Department at DEP_CD@dep.state.fl.us within seven (7) days. The written report shall describe what problem has occurred and the remedial measures that have been taken to prevent a recurrence. The Department can require the replacement of inoperable monitoring wells or piezometers. **(62-4.070(3), F.A.C.)**

11. New or replacement monitoring well design or placement must be approved by the Department. Either:
    a. Proposed well construction details based on site-specific borings must be submitted with all supporting data (grain size distribution analyses, in-situ hydraulic conductivity testing, depth to water, etc.) for the Department's approval prior to well installation, OR,

       The Department approves in advance of installation that the anticipated lithology and the proposed well construction is similar to close wells in the MPIS and that the final determination of this information (grain size distribution analyses, in-situ hydraulic conductivity testing, depth to water, etc.) can be evaluated by an engineer or geologist at the time of well installation and submitted with the well completion information.

    b. Use of hollow stem auger equipment is recommended. Other drilling methods must be approved by the Department prior to well installation. **(62-520.600(3), F.A.C.)**

12. All wells and piezometers shall be clearly and permanently labeled and the well site maintained so that the well is visible at all times. Unless otherwise authorized by the Department, new monitoring wells, and existing monitoring wells at the time of permit renewal, shall have protective bollards or other devices installed around them if they are located in areas of high traffic flow to prevent damage from passing vehicles. **(62-701.510(3)(d)5, F.A.C.)**

13. An abandonment plan for abandoning any well that is unsuitable for ground water monitoring or for any piezometer must be approved by the Department prior to abandonment. **(62-701.510(3)(d)6, F.A.C.)**

REPORTING REQUIREMENTS

FIELD ACTIVITIES

14. The Department must be notified at DEP_CD@dep.state.fl.us at least fourteen (14) days prior to the installation and/or sampling of any monitoring well(s). **[62-701.510(8)(a), F.A.C.]**

MONITORING WELL COMPLETION

One (1) electronic copy (Adobe pdf format) of **Attachment C-Monitoring Well Completion Report** of the MPIS (as modified by the Central District) and required Attachments (for example, construction diagram and lithologic log), must be submitted to the Department at DEP_CD@dep.state.fl.us within thirty (30) days after installation of any new or replacement monitoring well(s). In addition, as-built well construction diagrams and soil boring logs that cover the entire depth of the monitoring well(s) must be submitted to the Department at DEP_CD@dep.state.fl.us.

NOTE: The top of casing elevation of each well, to an accuracy of 0.01 feet, and the latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, with an accuracy of 15 feet, must be determined and certified by a Florida Licensed Surveyor and Mapper and provided on the form. **(62-701.510(3)(d)1 & 62-532.410, F.A.C.)**

SURVEYING

15. One (1) electronic copy (Adobe pdf format) of a drawing must be submitted to the Department at DEP_CD@dep.state.fl.us within thirty (30) days following monitoring well installation showing the location of all monitoring sites (active, abandoned, and Evaluation Monitoring), piezometers, water bodies and waste filled areas. The location of features on the drawing must be horizontally and vertically located by standard surveying techniques. The drawing shall include all monitoring well locations, each monitoring well name and identification (WACS) number, the top of casing, pad elevation, permanent benchmark(s) and/or corner monument marker(s) referenced to NGVD 1929 with an accuracy of 0.01 feet. The latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, with an accuracy of 15 feet, must be determined and provided on the drawing. The survey shall be conducted and certified by a Florida Licensed Surveyor and Mapper. **(62-701.510(1)(c)&(3)(d)1, F.A.C.)**

16. If a monitoring well is being replaced or new wells are being added to this ground water monitoring plan, only the new wells need to be surveyed as long as all other monitoring wells in the MPIS have been surveyed and certified by a Florida Licensed Surveyor and Mapper and there is no reason to believe that the elevations have

changed. The location and elevation determinations and the certification must be provided with the Monitoring Well Completion Form for the new well.

SEMI-ANNUAL SAMPLING

17. Required monitoring reports must be submitted to the Department within sixty (60) days from completion of laboratory analyses. Requirements for submitting the report are outlined in **Attachment D (ADaPT electronic reporting requirement)** of the MPIS. **(62-701.510(8), F.A.C.)**

WATER ELEVATIONS

18. Water levels in all monitoring wells, whether sampled or not, all piezometers and all surface water sites must be measured to the nearest 0.01 foot. The depth to water shall be converted to feet NGVD 1929 and this elevation shall be reported semi-annually.

19. All water level measurements must be made within a one-day period.

20. These measurements should be reported in a table that includes well name, date water level measured, measuring point elevation referenced to NGVD 1929, depth to water and calculated water level elevation referenced to NGVD 1929. The ground water and surface water elevations shall be reported in the ADaPT data format for the upload into WACS. **(62-701.510(8)(a)8, F.A.C.)**

GROUND WATER CONTOUR MAPS

21. Ground water elevation contour map(s) must be submitted semi-annually to the Department. Ground water elevation contour map(s) should include monitoring well and piezometer locations, ground water elevation at each monitoring well or piezometer location referenced to NGVD 1929, a bar scale, north arrow, ground water contour interval, date of measurement and ground water flow direction. The map(s) must incorporate adjacent and on-site surface water elevations where appropriate. These maps shall be signed and sealed pursuant to Florida Statutes (F.S.) Chapters 471 and 492. These statutes require that documents requiring the practice of professional engineering or professional geology, as described in Chapter 471 or 492, F.S., to be signed and sealed by the professional(s) who prepared or approved them. This certification must be made by a licensed professional who is able to demonstrate competence in this subject area. **(62-701.510(8)(a)9, F.A.C.)**

REQUIREMENTS for ELECTRONIC REPORTING of WATER QUALITY DATA

22. Required water quality monitoring reports and all ground water, and surface water analytical results shall be submitted as described in **Attachment D (ADaPT electronic reporting requirement)** of the MPIS. Required monitoring reports must be submitted to the Department within sixty (60) days from completion of laboratory analyses. **(62-160.240 and 62-160.340, F.A.C.)**

TECHNICAL REPORT

23. A technical report, signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, shall be submitted to the Department at DEP_CD@dep.state.fl.us approximately every two and one-half years during the active life of the facility, and every five years during the long-term care

period. The report shall summarize and interpret the water quality monitoring results and water level measurements collected since the last Technical Report. The report shall contain, at a minimum, the following **[62-701.510(8)(b), F.A.C.]:**

a) Tabular displays of any data which shows that a monitoring parameter has been detected, and graphical displays of any leachate key indicator parameters detected (such as pH, specific conductance, TDS, TOC, sulfate, chloride, sodium and iron), including hydrographs for all monitor wells;
b) Trend analyses of any monitoring parameters consistently detected;
c) Comparisons among shallow, middle, and deep zone wells;
d) Comparisons between background water quality and the water quality in detection and compliance wells;
e) Correlations between related parameters such as total dissolved solids and specific conductance;
f) Discussion of erratic and/or poorly correlated data;
g) An interpretation of the ground water contour maps, including an evaluation of ground water flow rates; and
h) An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

24. An electronic copy (Adobe pdf format) of the Technical Report shall be submitted to the Department at DEP_CD@dep.state.fl.us on the following schedule: **[62-701.510(8)(b), F.A.C.]**

Attachment F to the Conditions of Certification - MPIS

Report	Sampling Periods Covered	Number of Semi-annual Sampling Events in Report	Date Technical Report Due
1	Second Semi-Annual Event 2015 through Second Semi-Annual Event 2017	5	March 31, 2018
2	First Semi-Annual Event 2018 through First Semi-Annual Event 2020	5	August 31, 2020
3	Second Semi-Annual Event 2020 through Second Semi-Annual Event 2022	5	March 31, 2023
4	First Semi-Annual Event 2023 through First Semi-Annual Event 2025	5	August 31, 2025
5	Second Semi-Annual Event 2025 through Second Semi-Annual Event 2027	5	March 31, 2028
6	First Semi-Annual Event 2028 through First Semi-Annual Event 2030	5	August 31, 2030
7	Second Semi-Annual Event 2030 through Second Semi-Annual Event 2032	5	March 31, 2033
8	First Semi-Annual Event 2033 through First Semi-Annual Event 2035	5	August 31, 2035
9	Second Semi-Annual Event 2035 through Second Semi-Annual Event 2037	5	March 31, 2038
10	First Semi-Annual Event 2038 through First Semi-Annual Event 2040	5	August 31, 2040

Attachment F to the Conditions of Certification - MPIS

List of Attachments to Attachment F of the Conditions

Attachment A – Monitoring Well Lists

Attachment B – Location Map of Ground Water Monitoring Sites

Attachment C – Monitoring Well Completion Report Form

Attachment D – ADaPT Electronic Reporting Requirements

Attachment E –Water Quality Monitoring Certification Form

Attachment F – Water Sampling Log

ATTACHMENT A

STANTON ENERGY CENTER COMBUSTION WASTE LANDFILL

WACS_FACILITY: 97663

MONITORING SITES

	Monitoring Site Number	WACS Well	Well Type	Program	GW/SW Class	WACS Report Type
Ground Water						
1.	MW-1	23173	DE	IW	G-II	SEMGW
2.	MW-2	23174	DE	IW	G-II	SEMGW
3.	MW-3	23175	DE	IW	G-II	SEMGW
4.	MW-3D	26320	CO	IW	G-II	SEMGW
5.	MW-4	23176	DE	IW	G-II	SEMGW
6.	MW-5	23177	DE	IW	G-II	SEMGW
7.	MW-7	23179	DE	IW/SW	G-II	SEMGW
8.	MW-10	23182	CO	SW	G-II	SEMGW
9.	MW-11	23183	DE	SW	G-II	SEMGW
10.	MW-11D	26321	CO	SW	G-II	SEMGW
11.	MW-14	23186	DE	IW	G-II	SEMGW
12.	MW-16	26322	BG	SW	G-II	SEMGW
13.	MW-17	26323	DE	SW	G-II	SEMGW
14.	MW-18	26324	DE	SW	G-II	SEMGW
15.	MW-19	26325	DE	SW	G-II	SEMGW
16.	MW-20	26326	CO	SW	G-II	SEMGW
17.	MW-21	26327	DE	IW	G-II	SEMGW
18.	MW-22	27472	DE	IW	G-II	SEMGW
19.	MW-23	29023	CO	IW	G-II	SEMGW
20.	MW-24	29024	DE	IW	G-II	SEMGW
21.	MW-25	29025	CO	IW	G-II	SEMGW
22.	MW-26	29026	CO	IW/SW	G-II	SEMGW
Piezometers						
1.	MW-6	23178	PZ	IW/SW	G-II	SEMGW
2.	MW-9R	23662	PZ	SW	G-II	SEMGW

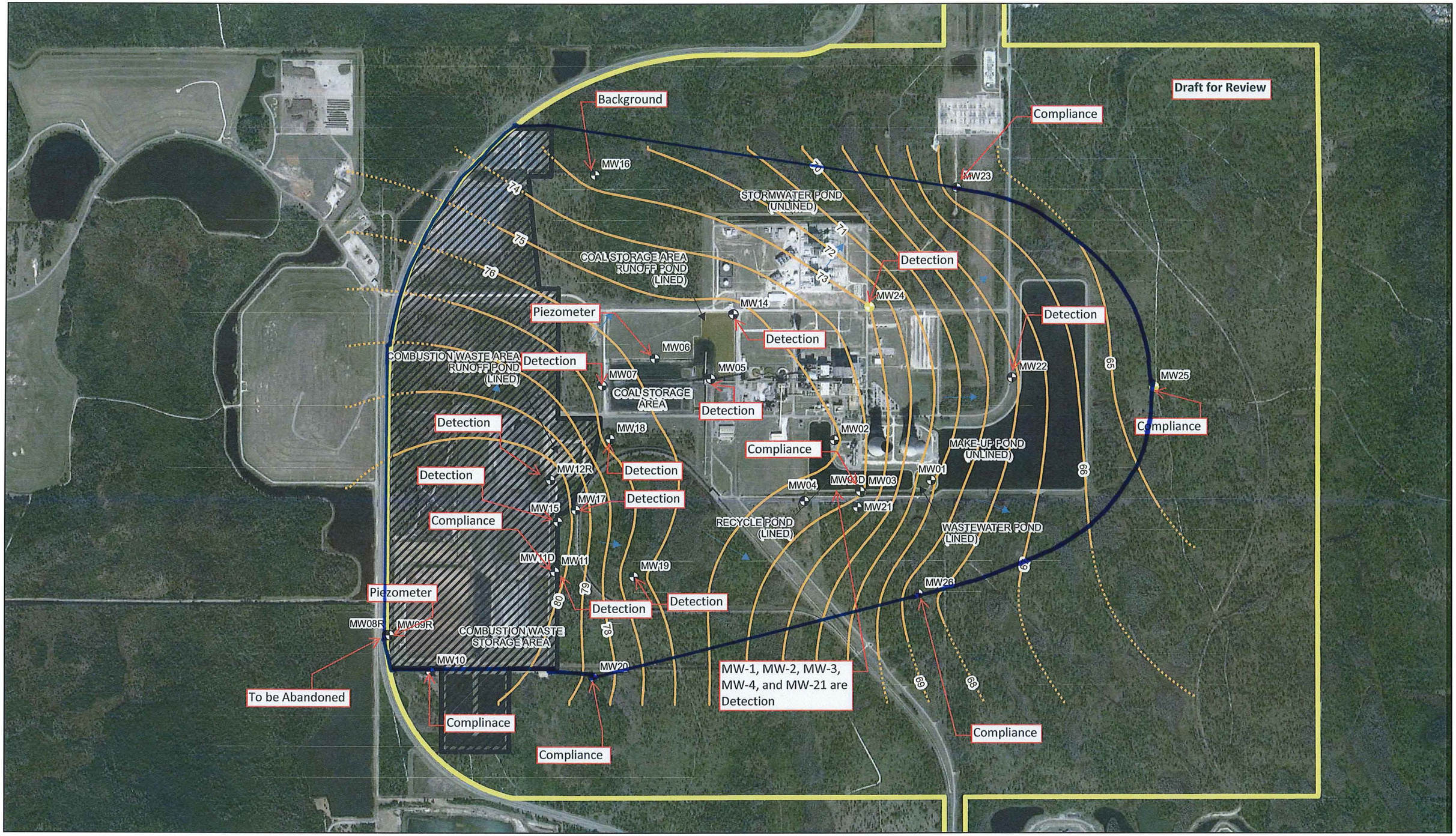
Well Type Codes

(BG) Background (CO) Compliance (DE) Detection (PZ) Piezometer

Program Codes

(IW) Industrial Wastewater (SW) Solid Waste

Attachment B



Zone of Discharge at OUC Stanton Energy Center
December 20, 2013

CH2MHILL

ATTACHMENT C

Florida Department of Environmental Protection

3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767

MONITORING WELL COMPLETION REPORT FORM

Facility Name: **Stanton Energy Center Combustion Waste Landfill**			Date:
DEP Permit No.:		WACS Facility ID #:**97663**	
WACS Monitoring Site ID #:		WACS Monitoring Site Name:	
Well Type: ❑ Background ❑ Detection ❑ Compliance ❑ Other_____			
LATITUDE AND LONGITUDE (See Next Page For Requirements):			
Coordinate Accuracy:	Datum:		Elevation Datum:
Collection Method:		Collection Date:	
Collector Name:		Collector Affiliation:	
Aquifer Monitored:			
Drilling Method:		Date Installed:	
Installed By:			
Bore Hole Diameter:		Total Depth:(BLS)	
Casing Type:	Casing Diameter:		Casing Length:
Screen Type:	Screen Slot Size:		Screen Length:
Screen Diameter:	Screen Interval: _____ To_____(BLS)		
Filter Pack Type:		Filter Pack Grain Size:	
Filter Interval Covered:	Filter Interval: _____ To_____(BLS)		
Sealant Type:	Sealant Interval: _____ To_____(BLS)		
Grout Type:	Grout Interval: _____ To_____(BLS)		
Top Of Casing Elev. (NGVD):		Ground Surface Elev. (NGVD):	
Post Development Water Level Elev. (NGVD):		Date And Time Measured:	
Describe Well Development:			
Remarks:			
Name Of Person Preparing Report:			
Organization:		Phone Number:	

NOTE Attach As-Built Mw Construction Diagram, Lithologic Log, And Survey Drawing (See Next Page).
(NGVD)=National Geodetic Vertical Datum of 1929 (BLS) = Below Land Surface

Attachment F to the Conditions of Certification - MPIS

Additional Survey Notes:

1. Latitude and Longitude Requirements and Definitions:

   a. **Latitude** must be measured in degrees, minutes and seconds, to at least two (2) decimal places.

   b. **Longitude** must be measured in degrees, minutes and seconds, to at least two (2) decimal places.

   c. **Eastings and northings** (State Plane Coordinates) **must** be converted to latitude and longitude.

   d. **Coordinate Accuracy:** the measured, estimated degree of correctness of the measurement. An accuracy of 15 feet or 5 meters is required.

   e. **Datum:** the horizontal reference for measuring locations on the Earth's surface. NAD83-North American Datum of 1983 is preferred.

   f. **Elevation Datum:** the reference datum from which elevation measurements are made. NGVD29 (National Geodetic Vertical Datum of 1929 is required.

   g. **Collection Method:** the method or mechanism used to derive the measurements, e.g. GPS, map, aerial photo, etc.

   h. **Collection Date:** the date and time on which the measurements were taken.

   i. **Collector Name:** the name of the person taking the measurement.

   j. **Collector Affiliation:** the agency or company for whom the collector works.

2. As specified in the MPIS, a drawing must be submitted within thirty (30) days following monitoring well installation in electronic format to DEP_CD@dep.state.fl.us The drawing must show the location of all monitoring wells (active and abandoned), water bodies and waste filled areas. The location of features on the drawing must be horizontally and vertically located by standard surveying techniques. The drawing shall include all monitoring well locations, each monitoring well name and identification (WACS) number, the top of casing, pad elevation, permanent benchmark(s) and/or corner monument marker(s) referenced to NGVD with an accuracy of 0.01 feet. The latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, with an accuracy of 15 feet, must be determined and provided on the drawing. The survey shall be conducted and certified by a Florida Licensed Surveyor and Mapper. [***62-701.510(1)(c)&(3)(d)1, F.A.C.***]

3. If a monitoring well is being replaced or new wells are being added to an existing ground water monitoring plan, only the new wells needs to be surveyed as long as all other monitoring wells in the MPIS have been surveyed and certified by a Florida Licensed Surveyor and Mapper and there is no reason to believe that the elevations have changed. This location and elevation determinations and the certification must be provided with the Monitoring Well Completion Form for the new well.

Attachment D

Guidance for Submitting Electronic Water Quality Data

1/6/2017

I General Information

Water quality monitoring reports and all groundwater, surface water, and leachate (when required) analytical results for the Solid Waste Program shall be submitted to the Department electronically via email, FTP site, compact disc, or flash drive media readable by Microsoft Windows.
(Rules 62-160.240 and 62-160.340, F.A.C.)

Water quality monitoring reports shall be submitted in Adobe pdf format. The water quality Electronic Data Deliverable (EDD) shall be compatible with software called Florida DEP Automated Data Processing Tool (ADaPT) - -unless otherwise approved by the Department.

ADaPT has been developed to evaluate and upload water quality data into the Department's Water Assurance Compliance System (WACS) database. A copy of this ADaPT software with installation instructions and EDD specifications can be downloaded from the following website address:
http://www.dep.state.fl.us/waste/ADaPT/

II. Monitoring Report

The groundwater monitoring report shall be submitted in Adobe PDF format, with the EDDs as an attachment. The report shall include the following items:

1. Cover letter;
2. Summary of exceedances and sampling issues (if any, for example, variation from SOP field criteria);
3. Conclusions and recommendations;
4. Groundwater contour maps;
5. Chain of custody forms;
6. Water levels, water elevation table;
7. Groundwater Monitoring Report Certification, using the appropriate Department form **(Attachment E**);
8. Appropriate sampling information on Form FD 9000-24 (DEP-SOP-001/01) (**Attachment F);**
9. Laboratory EDDs and associated Lab EDD Error Logs, Field EDDs that are compatible with ADaPT software and ADaPT export file(s).

(NOTE: You no longer have to complete or submit the DEP Form 62-522.900(2), Parameter Monitoring Report.)

The monitoring report (including ADaPT EDDs) shall be emailed to the Department using the following email address: ADaPT.EDDs.and.Reports@dep.state.fl.us.

Submit all ADaPT files in a single zip file named as follows:
12345_200811_swldd.zip

Submit the monitoring report in a single (text, no scanned content) PDF file named as follows:
12345_200811_swgwmr.pdf

Please do not submit multiple documents for the monitoring report; combine all documents in a single PDF document. Less preferable, zip these documents into a single zip file named as follows:
12345_200811_swgwmr.zip

(Note: refer to Section III below for details of file nomenclature.)

If attachments are too large to email, monitoring reports may also be transmitted to the Department's Solid Waste program using the following FTP site: ftp://ftp.dep.state.fl.us/pub/WACS-ADaPT/EDDS_and_Reports

Note: When submitting files to the FTP site, please combine all ADaPT EDDs and the groundwater monitoring report into a single zip file (sw_12345_200811_gwmr.zip).

Please email us at ADaPT.EDDs.and.Reports@dep.state.fl.us informing us of what files were transmitted via FTP for which facility sampling event.

If you are unable to submit the groundwater monitoring report electronically via email or FTP, it can also be sent by regular mail to:

Florida Department of Environmental Protection
Solid Waste Section, MS 4565
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

III. ADaPT EDDs

The ADaPT EDD consists of two electronic deliverables:
(1) a Laboratory EDD, identified as swldd.txt; and
(2) a Field EDD identified as swfdd.txt.

The Laboratory EDD shall be submitted in a comma separated (csv format) text file using the .txt filename extension. The Laboratory EDD file name format shall be:
[WACS Facility I.D] underscore [Begin Sampling Year and Month (yyyymm)] underscore SWldd.txt
For example, with WACS Facility I.D. # 12345 where sampling started in November and ended in December of 2008, the Laboratory EDD file name should be: 12345_200811_swldd.txt

The Field EDD shall be submitted in the same comma separated (.csv format) text file as the Laboratory EDD. The Field EDD file name format shall be:
[WACS Facility I.D.] underscore [Begin Sampling Year and Month (yyyymm)] underscore swfdd.txt
For example, with WACS Facility I.D. # 12345 where sampling started in November and ended in December of 2008, the file name should be: 12345_200811_swfdd.txt

For confirmation sampling, add the term “conf” to the EDD filenames as follows:
12345_200811_conf_swldd.txt for the Laboratory EDD or
12345_200811_conf_swfdd.txt for the Field EDD.

For radiochemistry results, add the term “_rad” similar to confirmation sampling indicated above.

IV. Signatures Required

Water quality monitoring reports and interpretative documents (such as recommendations about exceedances and/or contour maps) shall be signed and sealed by a Florida registered professional geologist or professional engineer with experience in hydrogeological investigations.

An electronic signed and sealed signature page may be submitted with the report provided a stamped seal is used. If a raised seal is used, ensure that the seal is legible (gray the embossed seal and scan). Otherwise, you must separately mail the signed and sealed page.

V. Process Required

Three steps are generally required.

First, the Laboratory EDD, in comma separated text format, must be submitted by the laboratory. In order to validate the QA/QC aspects of the Laboratory EDD, the Licensee shall ensure the laboratory processes the Laboratory EDD through ADaPT using both their laboratory specific library and the Department's Division of Waste Management Master library and corrects all critical errors and explains all non-critical errors prior to submittal.

Second, the appropriate entity (laboratory, consultant, or Licensee) shall process the Field EDD through ADaPT and correct all Field EDD errors prior to submittal.

Third, as a completeness check, the laboratory, licensee or consultant shall process both the Laboratory EDD and the Field EDD through ADaPT and confirm a successful export to disk and submit the ADaPT generated export file (ADaPTYYYYMMDDHHMMSS.txt).

VI. Resources

In the event help is needed to prepare these EDDs, or monitoring testsite information needs updating in the WACS Oracle database, or if you need help in submitting the groundwater monitoring report, please contact the Department's Central District office:

Florida Department of Environmental Protection
Central District Office
Waste and Air Resource Programs
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
DEP_CD@dep.state.fl.us

You can also receive assistance by Clark Moore, clark.b.moore@dep.state.fl.us, (850) 245-8739 or by emailing ADaPT.EDDs.and.Reports@dep.state.fl.us.

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(31), F.A.C
Form Title: Water Quality Monitoring Certification
Effective Date: January 6, 2010
Incorporated in Rule 62-701.510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

(1) Facility Name Stanton Energy Center Combustion Waste Landfill

Address _____

City _____ Zip _____ County _____

Telephone Number (____) _____

(2) WACS Facility ID 97663

(3) DEP Permit Number _____

(4) Authorized Representative's Name _____ Title _____

Address _____

City _____ Zip _____ County _____

Telephone Number (____) _____

Email address (if available) _____

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

_____ _____

(Date) (Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization _____

Analytical Lab NELAC / HRS Certification # _____

Lab Name _____

Address _____

Phone Number (____) _____

Email address (if available) _____

Attachment F
WATER SAMPLING LOG
DEP-SOP-001/01 FS 2200 Groundwater Sampling
Form FD 9000-24

FACILITY NAME Stanton Energy Center Combustion Waste Landfill WACS I.D. 97663	FACILITY LOCATION:	
MONITORING_SITE_NUM:	WACS_WELL:	DATE:

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Appendix 11

CCR Rule Monitoring Well Locations

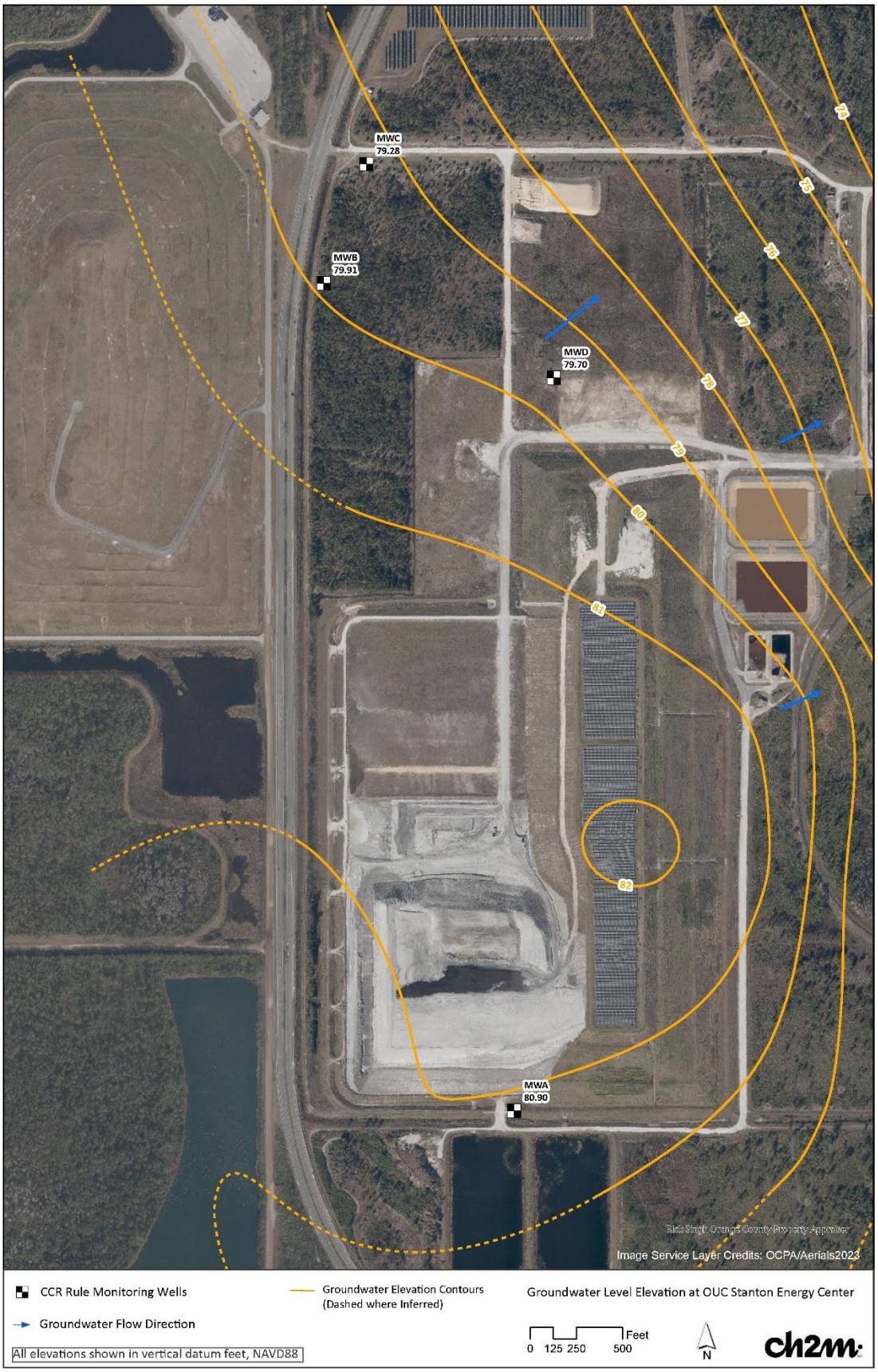


Figure 2. 2023 First Semi-Annual Event Groundwater Levels

2023 Coal Combustion Residuals Annual Groundwater Monitoring and Corrective Action Report

Appendix 12

Weekly Landfill Inspection Form

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company

OUC The Reliable One®

WEEKLY VISUAL INSPECTION OF CELLS 1 AND 2 AT OUC STANTON ENERGY CENTER

Date and Time _____ Inspected By _____

Weather Condition _____

Please check whether items below are OK or NA. OK = Acceptable NA = Needs Attention

Item	OK	NA	Explanations if NA
Condition of Containment Dike			
Condition of Perimeter Dike			
Condition of Landfill Cells			
Condition of Landfill Base Area without Waste			
Condition of Landfill Slope Area without Waste			
Condition of Box Culverts			
Condition of Drainage Ditch			
Condition of Inlets to Wet Detention Pond			

Any wastes outside designated boundary?	☐ Yes	☐ No
Any wastes or leachate above liner anchor trench on containment dike slope?	☐ Yes	☐ No
Any significant standing water at landfill base?	☐ Yes	☐ No
Any significant standing water on landfill top?	☐ Yes	☐ No
Any significant erosion areas that need attention?	☐ Yes	☐ No
Any exposed geomembrane or geocomposite?	☐ Yes	☐ No
Any active alarms in leachate sumps control panels?	☐ Yes	☐ No
Any significant blockage to surface drainage?	☐ Yes	☐ No
Any flowing or significant standing water in drainage ditch?	☐ Yes	☐ No
Any significant vegetation overgrowth that needs attention?	☐ Yes	☐ No
Any auxiliary pumps operating to remove water?	☐ Yes	☐ No

If any of the above answer is “Yes”, please further explain locations and conditions below.

_____

_____

_____

_____

Notes _____

_____

_____

Appendix 13

Best Management Practices/Storm Water Pollution Prevention Plan

Prepared for:

Orlando Utilities Commission
Curtis H. Stanton Energy Center
5100 South Alafaya Trail
Orlando, Florida 32831

Best Management Practices/Storm Water Pollution Prevention Plan

Subject Site: Curtis H. Stanton Energy Center
Stanton Units 1 and 2
5100 South Alafaya Trail
Orlando, Florida 32831

Prepared by:

1200 Riverplace Boulevard, Suite 710
Jacksonville, Florida 32207

Geosyntec consultants

FL7809

July 2022

Plan Certification and Management Approval

This Best Management Practices/Storm Water Pollution Prevention Plan has been prepared for the Orlando Utilities Commission (OUC) Curtis H. Stanton Energy Center Units 1 and 2 in accordance with the requirements of the State of Florida Industrial Wastewater Facility Permit (Permit FL0681661) for discharges to waters of the state. The Curtis H. Stanton Energy Center management will commit the needed manpower, equipment, and materials to implement this plan and prevent the release of pollutants in storm water runoff.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The Curtis H. Stanton Energy Center management will commit the necessary resources to accomplish the goals identified in this Plan.

I have read the Plan Certification and acknowledge these requirements.

Signature:	
Name:	Wade Gillingham
Title:	Vice President – Electric and Water Production
Date:	

Certification and Reporting Signatory Requirements

In accordance with Rule 62-620.305(c) of the Florida Administrative Code, all reports required by the permit and other information requested by the Department (FDEP) under this chapter shall be signed as follows: For public agencies, a principal executive officer or ranking elected official shall sign all permit applications. A principal executive officer includes the chief executive officer of the agency or a senior executive officer having the responsibility for the overall operations of a principal geographic unit of the agency, for example, a regional or district administrator, a director of public works, or city or county manager.

Reports required by permits and other information requested by the Department (FDEP) shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if: (a) The authorization is made in writing by a person

described above; (b) The authorization specifies either an individual or a position having overall responsibility for the operation of the regulated facility or activity, such as the position of plant manager, superintendent, certified chief operator, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the permitted facility; and, (c) The written authorization is submitted to the Department (FDEP).

If an authorization is no longer valid because a different individual or position has overall responsibility for the operation of the facility or activity, a new authorization satisfying the above requirements must be submitted to the Department (FDEP) prior to or together with any reports, information, or applications to be signed by an authorized representative.

Registered Professional Engineer's Certification

As certified below, and in accordance with the requirements of the State of Florida Industrial Wastewater Facility Permit (Permit FL0681661) for discharges to waters of the state and the Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313:

"I hereby certify that I have examined this Best Management Practices/Storm Water Pollution Prevention Plan for the Curtis H. Stanton Energy Center Units 1 & 2, and that it was prepared under my direction or supervision in accordance with good engineering practices, including industry standards, and is adequate for the facility. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

The Spill Prevention, Control, and Countermeasure (SPCC) Plan and any other facility plans or reports that are referenced herein are not a part of this Professional Engineer's Certification.

Signed: _____

Glenn Ray Carwell, P.E.
Senior Engineer
Geosyntec Consultants, Inc.
State of Florida Registration No. 88314

Date: _____

Record of Plan Amendments

This Best Management Practices/Storm Water Pollution Prevention Plan (Plan) will be amended or modified whenever there is a change in design, construction, operation, or maintenance that has a significant effect on the potential for discharge of pollutants to waters of the state, or if the Plan is ineffective in achieving the objectives of reducing pollutants in storm water. This Plan has been amended as described below to eliminate, or further minimize, pollutants in stormwater discharges associated with operation of the Makeup Pond at the Curtis H. Stanton Energy Center. Please note that OUC may make non-technical amendments to reflect administrative changes, as needed. Technical amendments to the Plan will require a review and Professional Engineer's certification.

Amendment Number	Date of Amendment	Description of Amendment
1	November 2016	Update of information in SWPPP reflecting changes in new pond construction and new NPDES permit (Black & Veatch)
2	July 2022	Update of information in SWPPP reflecting changes in new pond construction and renewal of the NPDES permit (Geosyntec Consultants)

Geosyntec consultants

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1. INTRODUCTION

1.1 Background

The purpose of this Best Management Practices/Storm Water Pollution Prevention Plan ("SWPPP" or "Plan") is to demonstrate Orlando Utilities Commission's (OUC) compliance with Condition VII of the State of Florida National Pollutant Discharge Elimination System (NPDES) Industrial Wastewater Facility Permit (Permit FL0681661). The permit specifies terms that the facility must follow for stormwater management, including control measures and Best Management Practices (BMPs) to minimize pollutants in stormwater runoff. Implementation of this Plan will, as much as possible, prevent the release of pollutants in stormwater runoff from operational activities associated with the makeup water supply pond (Makeup Pond) to Waters of the State. The Plan requires that the facility operator select and implement BMPs such as regularly scheduled activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution in runoff to the Makeup Pond and discharged from the pond. The five major phases for developing a Plan are: (1) planning and organization, (2) assessment, (3) BMP selection and Plan design, (4) implementation, and (5) evaluation and site inspection. These five phases are discussed in **Sections 2** through **6**; general and special requirements are discussed in **Sections 7** and **8**, respectively.

1.2 Facility Information

The Curtis H. Stanton Energy Center (Stanton), located southeast of Orlando in Orange County, Florida, includes 3,280 acres certified for power generation by the State of Florida under the Power Plant Siting Act. Most of the undeveloped acreage has been left in its preexisting condition as buffer between the generating facilities and the surrounding area. The site's longitude and latitude are 81° 10' 97" W and 28° 29' 75" N, respectively. The Stanton site lies in the central part of the Florida peninsula, within the Atlantic Coastal Plain Physiographic Province. The project site elevations vary from approximately 54 feet at the northeastern corner to 92 feet near the west site boundary. Natural soils onsite are fine sands with variable organic content. There are no naturally occurring surface water bodies on the developed portions of the site. The Econlockhatchee River is located 1 mile east of the site. A facility location map is included as **Figure 1-1**. A site boundary map is provided as **Figure 1-2**.

Stanton consists of two coal-fired steam electric generating units (Units 1 and 2) with a total nominal generating capacity of 945 megawatts (MW), one 633 MW dual-fueled (natural gas/No. 2 fuel oil) combined cycle unit (Unit A), and one 300 MW dual-fueled (natural gas/No. 2 fuel oil) combined cycle unit (Unit B). OUC operates Units 1, 2, and B; Nextera operates Unit A. For description purposes on the scope of this Plan, Units 1 and 2 includes all of the site except for Units A and B.

Stanton uses water from three sources: onsite Upper Floridan Aquifer wells, Orange County Eastern Water Reclamation Facility (OCEWRF) reclaimed water, and Orange County Landfill stormwater runoff. The well water is used to supply the site service/fire/demineralization systems,

as well as the potable water system. The OCEWRF and landfill stormwaters are directed to the Makeup Pond which is used to supply the condenser cooling water for Units 1 and 2, as well as the plant's reclaimed service water system.

This Plan and the associated NPDES Industrial Wastewater Facility Permit are focused on the Makeup Pond and its specific watershed within the Stanton facility. The Site Certification and NPDES Industrial Wastewater Facility Permit regulate operation of the Makeup Pond normally as a zero-discharge facility except for designed seepage and emergency discharges from the Makeup Pond overflow spillway. Emergency overflows only occur during extreme 100-year rainfall events via a discharge structure (Outfall D-001) to onsite wetlands which flow to Cowpen Branch and ultimately to Econlockhatchee River, both Class III, Fresh Waters. The point of discharge is located approximately at latitude 28º 28' 43" N, longitude 81º 09' 25" W. The Makeup Pond receives water from the following sources, as shown on **Figure 1-3**:

- Treated effluent from the OCEWRF (covered under a separate NPDES Permit FL0038849);
- Stormwater from the Orange County Landfill (covered under a separate NPDES Permit FL003713);
- Treated effluent from an onsite packaged sanitary wastewater treatment plant (covered under a separate Conditions of Certification PA 81-14);
- Stormwater runoff from roof and yard drains (Makeup Pond watershed);
- Direct precipitation to the Makeup Pond;
- Emergency overflow from the plant Recycle Basin (Internal Outfall I-004); and
- Wastewater associated with dewatering underground vaults and the groundwater suppression systems for the coal pile runoff ponds, recycle basin, and recycle basin expansion.

The Makeup Pond watershed area is estimated at about 335 acres. Please note, the Stanton site is also regulated under the requirements of the National Pollutant Discharge Elimination System (NPDES) Multi-Sector Generic Permit (MSGP) for Stormwater Discharges associated with Industrial Activity (FLR05G867). The MSGP and its associated separate Plan address only stormwater management in the Unit A and B sub-basin on the Stanton site. That sub-basin includes an unlined stormwater detention basin that collects, treats, and discharges stormwaters only from that specific 52-acre area.

1.3 Policy Statement

OUC management and facility staff have the responsibility to ensure that the Stanton facility is operated in compliance with applicable regulatory requirements. One of management's major responsibilities is to inform the facility staff of the applicable requirements.

2. PLANNING AND ORGANIZATION

The following sections characterize the two steps that will facilitate the development and implementation of the Plan. These steps are designed to help organize the staff responsible for the Plan and to assist in making decisions regarding the Plan.

2.1 Pollution Prevention Team

A Pollution Prevention Team/Environmental Compliance Assurance will be established to oversee implementation, maintenance, and revision of this BMP plan. The team will meet as needed to review and evaluate the effectiveness of the BMP plan and suggest revisions. In addition, the group will meet after any significant spills to identify practical corrective actions to prevent reoccurrence.

The Team members and the duties of each member are as follows:

- Environmental Coordinator – Serve as the BMP Plan Team Leader. The leader will coordinate all aspects of plan implementation and maintenance, coordinate employee training, maintain all records, ensure follow-up measures are taken, and ensure reports are submitted.

- Operations and Maintenance Personnel – Participate on the Team and make the Team aware of any process changes and any changes in raw materials associated with those changes.

- Environmental Consultants – Assist the team on an as needed basis with the selection of pollution prevention management options and plan revisions.

2.2 Review of Other Environmental Management Plans

In addition to this Plan, three (3) Spill Prevention Control and Countermeasure (SPCC) Plans have been implemented at Stanton. Each SPCC Plan pertains to specific units and contains detailed information regarding oil storage and measures to prevent and respond to an oil spill. One of the three SPCC Plans pertains to Stanton Units 1 and 2, one pertains to Stanton Unit A, and one pertains to Stanton Unit B. A separate SWPPP under an NPDES MSGP (FLR05G867) addresses only stormwater management in the Units A and B sub-basin on the Stanton site.

Table 2-2 illustrates a comparison between this Plan and the SPCC Plan for consistency and to determine which, if any, provisions can be incorporated into this Plan. Many BMPs and inspections are similar between this Plan and the SPCC Plan.

Stanton is also subject to reporting under Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 for water priority chemicals; therefore, the Pollution Prevention Team must designate a person who will be accountable for spill prevention at the facility and must

identify this person in the Plan. The designated person is responsible for establishing necessary spill emergency procedures and reporting requirements to isolate, contain, and clean up spills and emergency releases of Section 313 water priority chemicals.

Table 2-1. Potentially Relevant Elements of Other Facility Environmental Plans

Required Elements of Each Plan	PLAN	SPCC
Identification of Pollutants of Concern	Description of potential pollutant sources Risk identification Material inventory Test for illicit connections	Requires prediction of direction, rate of flow and total quantity of oil that could be discharged
Coordinator	Pollution Prevention Team under supervision of VP Electric and Water Production	Designated person who is accountable for oil spill prevention and who reports to VP Electric and Water Production
Operational Controls	Preventative maintenance program Good housekeeping Spill prevention and response procedures Site-specific stormwater BMPs Activity-specific BMPs	Requires appropriate spill prevention and containment procedures BMPs
Structural Controls	Sediment and erosion control Site-specific stormwater BMPs Activity-specific BMPs BMPs for non-stormwater discharges Provide containment, drainage control, and/or diversionary structures to prevent contamination of stormwater discharges associated with industrial activity from facilities subject to EPCRA Section 313 Security for EPCRA Section 313 facilities	Appropriate containment and/or diversionary structures or equipment Security – including fences and gates, locks for flow and drain valves and pumps, and lighting BMPs
Inspections	Routine visual inspection of designated equipment and plant areas, including materials handling, by qualified plant personnel who will also develop procedures to ensure follow up Annual site inspection to verify the accuracy of pollutant source descriptions, drainage map and controls	Testing and inspection of pollution prevention/control equipment by owner/operator on a scheduled, periodic basis Inspections should be in accordance with written procedures developed for the facility by the owner/operator

3. ASSESSMENT – DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

This section discusses what materials or practices are (or may be) a source of contaminants to stormwater draining to the Makeup Pond. The sections below discuss the site map which identifies/locates potential pollutant sources, stormwater management opportunities, material inventories, and an evaluation of past spills or leaks.

3.1 Site Maps and Drainage System

The site maps, **Figures 3-1 (a, b & c)**, are a complete illustration of the sub-basin features and facilities. Runoff from the Makeup Pond watershed is collected in an engineered system of ditches and ponds, that segregate contact and non-contact stormwaters. The non-contact collection system is shown on **Figures 3-2 (a & b)**.

3.2 Materials Inventory

The Plan must provide an inventory of the types of materials that are handled, stored, or processed onsite and document areas within the facility where industrial materials or activities may be exposed to precipitation. Significant materials are of particular concern and are defined in 40 Code of Federal Regulations (CFR) Part 122.26(b)(12):

Significant materials include, but are not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical the facility is required to report pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

"Exposed" significant materials are simply those materials, which due to their storage location, have the potential to mix with and/or contaminate stormwater runoff and discharge offsite. A list of exposed significant materials at Stanton is maintained in **Appendix A**.

3.2.1 General Site Assessment

The Stanton facility was designed and is operated as a zero-discharge facility. The Makeup Pond watershed supports the coal units (Units 1 and 2), associated material handling equipment and facilities, and required interconnects with Units A and B (not stormwater discharges). Under normal operating conditions, Makeup Pond water is used as a source of non-potable service and cooling water; discharges from the pond emergency spillway (Outfall D-001) will not occur under normal operating and most rainfall conditions. No municipal water supply or sewage systems are at risk.

Precipitation falling on non-contact areas of the Makeup Pond watershed (building roofs, open areas, parking areas, roadways) is directed to the Makeup Pond through a system of roadside and perimeter swales, ditches, and culverts. Precipitation falling on the coal pile is collected separately from non-contact areas and directed to the North and South Coal Ponds. Precipitation falling on the CWSA is routed to the North and South CWSA Ponds. Non-contact stormwater from the CWSA is routed to a 22-acre stormwater pond.

Overflow from the four ponds collecting contact stormwater is directed to the lined Recycle Basin through manholes and underground piping. Discharge from the Recycle Basin is routed for use as scrubber makeup water and bottom ash transport water; only emergency overflow from the Recycle Basin is routed to the Makeup Pond. Cooling tower and boiler blowdown are routed to the Wastewater Pond for treatment in the brine concentrator system.

As shown on **Figure 1-3**, and discussed in **Section 1.2**, other water sources contribute flow to the Makeup Pond under normal operating and rainfall conditions. Onsite lined storage ponds at the plant include the Recycle Basin, Recycle Basin Expansion, two coal pile runoff ponds (North and South Coal Ponds), and two Combustion Waste Storage Area (CWSA) runoff ponds (North and South CSWA Ponds). Modifications to these lined ponds were completed in 2019 and included rerouting of drainage from collection systems beneath the pond liners that serve as a groundwater suppression system to prevent pond liner uplift when water levels in the ponds are low, or the groundwater onsite is high due to heavy rainfall. Currently, the drainage from the groundwater suppression systems associated with the Recycle Basin, Recycle Basin Expansion, and the North and South Coal Ponds is directed to the Makeup Pond via a stormwater drainage ditch system. The drainage from the groundwater suppression system associated with the North and South CWSA Ponds is recycled back into the CWSA ponds.

3.2.2 Risk Identification

Inputs to the Makeup Pond are identified in **Figure 1-3**. Most inputs could be considered as a low risk to contaminate stormwaters due to source controls, segregation, or design measures to prevent or contain accidents. Chemical supplies and materials maintained onsite include maintenance materials; water treatment supplies; oil in containers, equipment, and transformers; air pollution control supplies such as anhydrous ammonia and limestone; and coal. Due to standard handling and storage procedures, no particular pollutants other than suspended solids from the site non-contact drainage system, have a reasonable potential to be present in the surface stormwater runoff at the site. As a zero-discharge facility, the suspended solids would settle out and not be a major constituent released from the Makeup Pond under normal operating conditions. OUC has no direct control over the quality of stormwater or reclaimed water received from the Orange County Landfill and OCEWRF, respectively, but can halt deliveries if qualities or quantities become an issue for Stanton operations.

Oil, chemical, gasoline tanks and transformers are either located in a building with floor drains routed to an oil/water separator or the neutralization basin (discharges to the Recycle Basin), or

outdoors with appropriate secondary containment. The only exposed raw material is essentially the coal pile; conveyors are enclosed. Other chemical or oil tanks, hazardous materials storage areas, limestone storage, or combustion waste products are located within secondary containments, buildings, or silos. Fly ash, bottom ash, scrubber sludge, boiler hopper ash, coal rejects and brine concentrator solids are collected and stored in either bins, tanks, or silos for transfer to the CWSA by truck. Marketable by-products, such as the fly ash, are sold.

Indoor and outdoor areas with the potential for oil contamination are contained or routed directly to oil/water separators before discharge to the Recycle Basin. Chemical storage areas are indoors or within containments, and floor drains in chemical storage areas are routed to the neutralization basin for treatment before discharge to the Recycle Basin.

The following sources have been identified as having the highest potential to contaminate stormwaters:

- Transformer rupture - oil contamination. Stormwater runoff is controlled or minimized by secondary containments which are routed to oil/water separators.

- Oil storage tank rupture or leak - oil contamination. Stormwater runoff is controlled or minimized by location within a building and/or secondary containment which are routed to oil/water separators.

- Site Roads - automotive fluids or spillage from material supply and waste hauling trucks. Pervious surfaces will slow and trap minor leaks or spills; swales adjacent to roadways provide opportunity to stop flow before pollutant could enter Makeup Pond.

3.3 Past Spills and Leaks

The Plan provides a table (**Table 3-1**) to list significant spills and leaks of toxic or hazardous pollutants that have occurred at the facility. There have been no reportable spills over the past three (3) years. A significant spill includes releases more than reportable quantities, defined as follows:

> *Reportable Quantity (RQ) Discharge: An RQ release occurs when a quantity of a hazardous substance or oil is spilled or released within a 24-hour period of time and exceeds the RQ level assigned to that substance under CERCLA or the CWA. These levels or quantities are defined in terms of gallons or pounds. Regulations listing these quantities are contained in 40 CFR Part 302.4, 40 CFR Part 117.21, and 40 CFR Part 110.*

3.4 Antidegradation and Waste Minimization

OUC has implemented BMPs to prevent pollutants from entering the Stanton Makeup Pond watershed/stormwater system. The BMPs described in **Section 4** of this Plan present an approach

to prevent toxic or hazardous substances from a variety of sources and industrial activities from entering stormwater runoff. The main BMP to prevent or minimize discharges from the Makeup Pond is to maintain the water level at approximately two feet below (El. 76') the emergency spillway discharge elevation (El. 78'). This practice provides an unused storage, or surge volume, of approximately 57 million gallons which minimizes the potential for discharge, with the understanding that emergency discharges may occur during extreme storm events (i.e., 100-year rainfall events).

The largest inputs to the Makeup Pond are treated effluent from the OCEWRF (14 million gallons per day [MGD]) and stormwater from the Orange County Landfill (2.5 MGD). Deliveries of these waters are controlled by OUC, considering the electric generation rate and Makeup Pond level.

Structural improvements to the Recycle Basin, coal runoff ponds, and CWSA runoff ponds were completed in 2019. Surface water discharges (formerly identified as Outfalls D-002 and D-003) from the groundwater suppression system associated with each pond were eliminated.

Table 3-1. List of Significant Spills and Leaks

LIST OF SIGNIFICANT SPILLS AND LEAKS	Completed by: G.R. Carwell Title: Consultant Date: July 2022

Directions: Record below significant spills and significant leaks of toxic or hazardous pollutants that have occurred at the facility in the three years prior to the effective date of the permit.

Definitions: Significant spills include, but are not limited to, releases of oil or hazardous substances more than the reportable quantities (RQ) assigned under CERCLA/SARA and/or the CWA. Regulations listing these quantities are contained in 40 CFR Part 302.4, 40 CFR Part 117.21, and 40 CFR Part 110. The State of Florida RQs for spills of wastewater are greater than 1000 gallons or petroleum spill greater than 25 gallons.

1st Year Prior - **NONE**

Date (month/day/year)	Spill	Leak	Location (as indicated on site map)	Description				Response Procedure		Preventative Measures Taken
				Type of Material	Quantity	Source, If Known	Reason	Amount of Material Recovered	Material No Longer Exposed to Stormwater (True/False)	

2nd Year Prior – **NONE**

Date (month/day/year)	Spill	Leak	Location (as indicated on site map)	Description				Response Procedure		Preventative Measures Taken
				Type of Material	Quantity	Source, If Known	Reason	Amount of Material Recovered	Material No Longer Exposed to Stormwater (True/False)	

3rd Year Prior – **NONE**

Date (month/day/year)	Spill	Leak	Location (as indicated on site map)	Description				Response Procedure		Preventative Measures Taken
				Type of Material	Quantity	Source, If Known	Reason	Amount of Material Recovered	Material No Longer Exposed to Stormwater (True/False)	

4. BMP IDENTIFICATION

BMPs are measures used to prevent or mitigate pollution from a range of activities. BMPs are a very broad class of measures and may include processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce pollution. These measures may be simple and inexpensive, or sophisticated and costly. The sophisticated measures are known as advanced BMPs, which are often tailored to a specific pollutant source or activity at a facility.

This section describes the baseline BMPs and advanced BMPs that form the basis of the pollution prevention measures within the Stanton Makeup Pond watershed area. The baseline BMPs present a general approach to preventing toxic or hazardous substances from a variety of industrial activities from entering stormwater runoff. The advanced BMPs are tailored to specific pollution sources at a particular location. The BMPs are divided into two types: site-specific BMPs and activity specific BMPs. The site-specific BMPs are tailored to the needs of a particular site and outline the controls required to prevent onsite pollutants from coming in contact with stormwater. The activity specific BMPs focus on an activity and provide guidelines for administering pollution source control. BMPs also include employee training and record keeping as described in further detail in **Section 5.1** and **Section 6.5** of this Plan

4.1 Site-Specific BMPs

Baseline BMPs are practices that are inexpensive, relatively simple, and applicable to a wide variety of industries and activities. Stanton has such measures in place for maintaining a clean and orderly work environment, providing accident and fire prevention, preserving employee health and safety, and complying with other environmental regulations. These measures emphasize prevention of pollutants entering stormwater runoff rather than treatment of stormwater to remove pollutants.

Site-specific BMPs are divided into eleven categories. The following subsections describe how each of these BMPs prevent or minimize potential for storm water pollution at Stanton.

4.1.1 Good Housekeeping

Good housekeeping practices are designed to maintain a clean and orderly work environment. Often, the most effective first step towards preventing pollution in stormwater from industrial sites involves improving the facility's basic housekeeping methods. There are some simple procedures a facility can use to promote good housekeeping, including proper operation and maintenance of industrial machinery and processes, material storage practices, material inventory controls, routine, and regular clean-up schedules, maintaining well organized work areas, and educational programs for employees regarding these practices.

Plant personnel are responsible for maintaining a clean and orderly work environment. Personnel are expected to be alert for any housekeeping problems and to either take care of the problem or,

in special circumstances (e.g., hazardous materials), notify the Shift Supervisor, who will communicate the problem to facility management.

4.1.2 Operation and Maintenance

Operation and maintenance practices ensure that processes and equipment are working well. Listed below are the basic operation and maintenance BMPs incorporated in the site program:

- Maintaining dry and clean floors and ground surfaces by using broom, shovels, vacuum cleaners, or cleaning machines;
- Arranging for regular pickup and disposal of garbage and waste material;
- Maintaining covers on waste containers/dumpsters unless waste is being added;
- Making sure equipment is working properly; and
- Routinely inspecting for leaks beneath equipment that could lead to discharges of chemicals or contact of stormwater with raw materials, intermediate materials, waste materials, or products; completing repair or conducting maintenance to eliminate or minimize leakage.

In addition to the operation and maintenance practices above, visual inspections are completed on a regular basis and include evaluations of the operation and maintenance practices (see **Section 4.1.7**).

4.1.3 Material Storage Practices

Improper storage can result in the release of materials and chemicals that can cause contamination of stormwater runoff. Proper storage techniques include the following:

- Providing adequate aisle space to facilitate material transfer and easy access for inspections of storage containers;
- Storing containers, drums, and bags away from direct traffic routes to prevent accidental spills;
- Stacking containers according to manufacturers' instructions to avoid damaging the container from improper weight distribution;
- Storing containers on racks, pallets, or similar devices to prevent corrosion of the containers, which can result when containers come in contact with moisture on the ground;
- Hazardous materials must be segregated according to chemical compatibility;

- Ensuring that the materials of construction for containers handling hazardous substances or toxic pollutants are compatible with the containers' contents and surrounding environment; and

- Absorbent materials should be available to clean any spillage or leakage.

4.1.4 Outdoor Storage of Materials

Materials are stored indoors, under a roof, or covered where practical. Since it is not practical to enclose all outdoor storage areas in the short-term, non-structural BMPs to prevent storm water pollution from those areas that cannot be covered have been implemented.

For materials stored outside in a manner other than that described previously, the following management practices are used at outdoor storage areas:

- Drums and other containers will be stored with container lids secured;

- New drums or other containers that show evidence of damage at time of delivery will not be accepted;

- Used containers will be discarded if rust or corrosion is noted;

- The contents of damaged containers will be carefully emptied into a new container and the damaged container discarded;

- Used pallets will be properly discarded when excessively worn or oil or chemical residue is noted;

- Scrap metal stored outdoors exposed to precipitation will be wiped free and clean of oil residue and other contaminants;

- Drums or other containers stored outside will be placed on pallets; and

- Arrange for frequent and proper disposal or reuse of scrap metal.

4.1.5 Material Inventory Procedures

Keeping an up-to-date inventory of materials (hazardous and nonhazardous) onsite can help keep material cost down, track material storage and handling, and identify which materials and activities pose the most risk to the environment. The following instructions explain the basic steps used to maintain a complete material inventory:

- Responsibility for hazardous materials inventory rests on a limited number of people;

- Hazardous materials that require special handling, storage, use, and disposal considerations are clearly identified on the material inventory sheets; and

- Chemical substances present in the workplace are clearly identified; containers are labeled to show name and type of substance, health hazards, suggestions for handling, and general first aid information; and waste containers are closely tracked.

Improved material tracking and inventory practices, such as instituting a shelf-life program, reducing waste from overstocking, and proper disposal of outdated materials are routine practices at Stanton. The amount and type of hazardous materials used at Stanton are controlled through evaluations made prior to purchasing.

4.1.6 Employee Participation

Frequent and proper training of employees in good housekeeping techniques reduces the possibility that the chemicals or equipment will be mishandled. Employees are involved in good housekeeping practices by incorporated this topic into regular meeting and safety programs.

Section 5.1 provides more information on employee training programs at Stanton.

4.1.7 Preventive Maintenance

Preventive maintenance involves the regular inspection, testing, adjustment, repair, or replacement of equipment. Timely maintenance of equipment prevents breakdown or failure. The preventive maintenance program identifies conditions leading to the breakdown or failure of equipment, resulting in the release of oil, raw materials, or chemicals.

Key elements of the preventive maintenance program are identifying appropriate equipment and establishing a schedule for regular inspection and maintenance of that equipment. Instructions for inspecting and testing various equipment follow:

- Personnel report any puddles, spots, fumes, or other signs of leaks; corrective action is taken immediately;

- Equipment and operational systems are inspected and tested, especially for evidence of slow leaks, cracks, or corrosion in pipes, pumps, storage tanks and bins, pressure vessels, pressure release valves, and process and material handling equipment; supporting materials and foundations are evaluated for signs of failure;

- Equipment is adjusted, repaired, or replaced as necessary to maintain parts in good working order; and

- Records are maintained on results of inspections, repairs, other maintenance activities, and corrective actions taken.

In addition to the routine inspections of equipment made by Plant Operations personnel, environmental personnel conduct supplemental routine inspections.

4.1.8 Routine Facility Inspections

Routine visual inspections of the facility are conducted to confirm that BMPs are in place and working. The visual inspections are conducted by OUC Environmental Affairs personnel on a weekly basis. Whenever possible, visual inspections will be conducted during a storm event.

Simple visual inspection checklists have been developed which identify the equipment and areas to be inspected on a weekly basis. Example checklists showing the date, name of inspector, equipment or area inspected, problems identified, and any corrective actions taken are provided in **Appendix A**. The following areas are included in the inspection program:

- Storage areas and secondary containments; and,
- Stormwater management devices such as ditches, culverts, swales, ponds and discharge structures.

The following problems will be reported to the Supervisor, Power Plant Operations or Supervisor, Power Plant Maintenance for immediate action:

- Corroded drums or drums without plugs or covers;
- Corroded or damaged tanks, tank supports, and tank drain valves;
- Torn bags or bags exposed to rainwater;
- Corroded or leaking pipes and leaking or improperly closed valves and valve fittings;
- Leaking pumps and/or hose connections;
- Damaged stormwater conveyance or storage facilities designed to direct stormwater away from stored materials or materials handling areas; and
- Windblown dry chemicals.

4.1.9 Spill Prevention and Response

Spills and leaks are one of the largest potential sources of stormwater pollutants at industrial facilities. The emphasis of OUC procedures is on spill prevention, which is preferable to spill clean-up from both an environmental and cost standpoint. As previously mentioned, an SPCC Plan is in effect at Stanton.

Design of proper transfer and storage areas and establishment of appropriate storage and material handling procedures have greatly reduced the potential for stormwater contamination. Materials handling areas (delivery/receiving areas) susceptible to spills and leaks have been assessed for establishment of advanced BMPs. Structural modifications, such as containments, are provided at materials loading/unloading areas, fueling stations, materials storage areas, and maintenance shops, to prevent stormwater contamination.

In the event of a spill, personnel can affect a timely response to spills which eliminates or reduces potential stormwater contamination. The leader of the Spill Response Team responds to oil, chemical, and hazardous substance spills. Procedures for responding to oil spills are identified in the SPCC Plan.

Other practices have been identified through the environmental audit program and routine visual inspections and implemented to reduce the risk of spills. These practices are as follows:

- Installation of leak detection devices and overfill protection equipment on aboveground storage tanks;
- Construction of secondary concrete or lined earthen containment berms;
- Adoption of procedures for filling tanks and other equipment to minimize spills;
- Prompt corrective action to problems identified in inspections; and
- Review of material transfer and handling procedures on a regular basis.

4.1.10 Sediment and Erosion Control

The Makeup Pond watershed area has minimal erosion potential as the majority of the basin ground surface area is covered with vegetation, aggregate, or hard surface. Damaged areas are repaired promptly to prevent excessive erosion. Storm drainage facilities are cleaned as required to assure proper operation.

The Makeup Pond inner side slopes and spillway are constructed of a soil-cement composition to prevent erosion.

4.1.11 Management of Runoff

Stormwater runoff from the site is managed to minimize, if not eliminate, the impact of runoff on the surrounding land. Because of the subtropical environment in Florida, a storm drainage retention system has been constructed for the Makeup Pond watershed. When a significant rainfall event occurs, non-contact stormwater runoff moves as sheet flow to a system of ditches, culverts, and underground piping to the Makeup Pond. Stormwater management facilities are designed to direct stormwater away from areas of exposed materials or potential pollutants. Traditional

stormwater management practices are also used to direct stormwater with pollutants to area sumps, lined containment ponds, or the Recycle Basin.

4.1.12 Site Security

The Stanton facility is secured by fences and attended by a manned security station at the main entrance from South Alafaya Trail. The south gate off SR-528 is unmanned but remotely controlled by a card reader or callbox to the guard house. The facility operates 24 hours a day, 7 days a week, and is never left unattended.

4.2 Activity-Specific BMPs

The activity specific BMPs focus on an activity, such as fueling vehicles and filling elevated tanks, and provide guidelines for administering pollution source control. The following subsections describe the applicable activity specific BMPs at Stanton.

4.2.1 Fuel Storage and Unloading Activities

Before driving onsite, fuel trucks are checked for leaks. Plant personnel oversee the fuel unloading operations and are trained in correct unloading procedures and spill prevention measures. Stormwater contamination from fuel unloading operations often occurs because of an accumulation of small actions such as topping off fuel tanks, dripping automotive fluids, and hosing down fuel areas. During unloading or filling operations, spills, lines, and hoses will be monitored closely; large tanks are equipped with overfill prevention equipment.

The fill procedures for the Emergency Generator Fuel Tank and Fire Pump Fuel Tank are identical. When the truck pulls into position and sets its brake, the employee positions 5-gallon buckets beneath the hose connection at the truck and the fill connection in the piping to catch drips and small leaks. The employee then unlocks the fill valve and opens it. There is no fill pump on the Plant piping; the only pump is on the truck.

4.2.2 Fueling Stations

OUC vehicles at the site are fueled onsite with either gasoline or diesel. Bulk storage tanks are located within the Fleet Maintenance Building, although this building is in the Units A and B watershed area. A diesel fueling area is located by the car wash. Small, gasoline-fueled equipment is filled manually from supply cans creating a potential pollution source wherever the filling operations take place. Staff responds to small spills immediately by placing absorbent on the spill and properly cleaning the affected area.

4.2.3 Oil and Chemical Product Storage and Unloading Activities

Before driving onsite, bulk chemical trucks are checked for leaks. Materials spilled, leaked, or lost from storage areas may accumulate in soils or on other surfaces and could potentially be carried away by stormwater runoff. The most common causes for accidental releases from the

storage areas include material handling problems, spills and overfills due to operator error, and external corrosion of tanks and containers.

Trained personnel oversee materials handling operations to prevent accidental releases of pollutants. Staff conducts regular inspections to confirm that tanks and containers are clearly labeled. Material storage systems are inspected as part of the routine inspections as described in **Section 4.1**.

4.2.4 Vehicle Parking Areas

Parking areas for plant personnel and visitors are subject to leaking automotive fluids. Spills or leaks in these impervious areas are to be cleaned up with absorbent materials for dry cleanup methods.

4.2.5 Bulk Oil Storage and Oil-Bearing Equipment

Oil bearing equipment (transformers) and bulk oil storage tanks are located within secondary containments in compliance with the facility SPCC Plan. Concrete containments and lined earthen berms have been constructed to provide secondary containment around these tanks and transformers. Stormwater collected in secondary containment areas is released to oil/water separators prior to the water being discharged to the Recycle Basin or another internal lined retention impoundment.

4.2.6 Fugitive Dust Emissions

The stormwater system may receive fugitive dust emissions from coal and ash handling areas and aggregate roadways at Stanton. Design features and BMPs are in-place to manage and minimize fugitive coal, fly ash, limestone, and roadway emissions.

Unit trains deliver coal to the Stanton facility. Cars are unloaded at the enclosed, but open-ended, dumper building. The coal is transferred to the Transfer House by covered conveyor to the crusher building for immediate use, emergency stockout pile, or active/reserve storage pile. Additional dust controls include bag filters, water sprays, telescopic chutes, and enclosed conveyors.

Outdoor maintenance and cleaning of equipment is performed near the coal Transfer House. This activity includes the use of blast media.

Fly ash is collected by electrostatic precipitators and stored in silos. Bag filters control fugitive emissions from the vacuum transport system to the silos.

Limestone additive for the FGD system is delivered to the site by truck. The limestone pile is stored in a two-sided, covered building.

The aggregate roadways are subject to water sprays to minimize dust.

5. IMPLEMENTATION

This section discusses the implementation of the Plan at Stanton through employee training.

5.1 Employee Training

Employee training is an important element of implementing the Plan. Employee training is conducted annually using electronic "on-demand" individual training sessions. An electronic record of training completion is maintained to ensure that employees remain in compliance with this required training. The goal of the training program is to ensure that appropriate personnel are familiar with chemicals and potential pollutants used at the site, learn how to prevent spills, and respond effectively if spills do occur.

The employee training program will address topics such as program and regulatory drivers, potential pollutant sources, stormwater management, BMPs, and compliance requirements. Records of the training sessions will be maintained electronically and available on site for a minimum of three (3) years.

5.1.1 Stormwater Quality and Spill Prevention

Stormwater quality can be protected with proper management of materials and spill prevention measures. Many spills can be prevented by following the BMPs described in **Section 4**. Equally important is spill prevention reinforced by observing the material handling procedures and storage requirements posted on container labels, provided on SDS, and outlined in the SPCC Plan.

Employees are required to report significant spills (based on volume and material) immediately to the Supervisor, Power Plant Operations who, in turn, notifies one of the Designated Persons listed in the plan. The Designated Persons will determine if the spill is reportable and direct response actions. Employees are educated in proper responses to spills, including clean-up of some spills and disposal of the clean-up materials. Employees are informed of when it is appropriate to leave clean-up procedures to the Facility Response Team or a third-party responder. In addition, employees are apprised of potential spill areas and drainage routes in the facility with relevant examples given of past spills (if any), how the spills were handled, and changes that may have occurred because of the spills.

5.1.2 Good Housekeeping

Maintaining a clean and orderly work environment decreases the likelihood of pollutants entering stormwater runoff. Good housekeeping is discussed in the annual employee training module and other employee meetings. The site is inspected routinely using the form in **Appendix A** schedule includes grounds maintenance to ensure that ditches and culverts are free of obstructions and berms are intact.

A primary emphasis in training is the importance of good housekeeping practices as employees proceed through their workday, such as cleaning small, nonhazardous spills and leaks, and checking for spills and leaks, and corrosion on drums or tanks. Good housekeeping BMPs are reviewed in the employee training module. Special attention is given to the following areas in training sessions:

- Location and proper use of cleaning items such as brooms, vacuums, sorbents, foams, neutralizing agents, and other spill response equipment;
- Sweeping and vacuuming daily and as necessary;
- Any changed or updated procedures in material handling or storage; and
- Methods for securing and storing drums and containers.

5.1.3 Materials Management Practices

Employees are apprised of the location and availability of SDS (on OUC's internal website) for chemicals onsite and instructed on how to interpret these sheets and container labels to obtain appropriate handling information. Toxic and hazardous materials have labels identifying proper handling and storage methods. The importance of following procedures in handling these materials, and of restricting handling and storage to specially identified areas, is a key part of employee training.

Material management practices also encompass the activities of onsite contractors and temporary personnel. Project personnel monitor the valves, piping, and tanks during transfers of material from delivery vehicles to check for signs of leakage. Containers are not accepted if labels are missing or illegible.

Following are several procedures which are covered in training sessions:

- Equipment and Vehicle Maintenance Areas -- Prevent spills by not "topping off" gas tanks or oil reservoirs when fueling;
- Check under vehicles for dripping automotive fluids;
- Do not wash oil or other automotive fluids into the sanitary or stormwater systems; spread absorbent over small spills of oil and other automotive fluids; and dispose of this absorbent material in specially marked containers on site;
- Wash parts or equipment inside over a parts washing container, so that wash water or solvent can be collected and either recycled or disposed of properly;

- Good Housekeeping Materials -- Do not wash cleaning solutions or solvents into the sanitary or stormwater systems; dispose of the material in containers identified for recycling or reuse; and

- Painting -- Correct procedures for spray painting include using the minimum amount of material for the job, not spraying on windy days, and using a drop cloth or ground cloth to collect and dispose of overspray; properly dispose of spent aerosol cans.

5.1.4 EPCRA Section 313 Facility Requirements

Employee and contract personnel who work in areas where EPCRA Section 313 water priority chemicals (including ammonia and chlorine) are used or stored will be trained in the following areas, at least once per year:

- Preventative measures, including spill prevention and response and preventative maintenance;

- Pollution control laws and regulations;

- Stanton's SPCC Plan and SWPPP; and

- Features and operations at Stanton that are designed to minimize discharges of EPCRA Section 313 water priority chemicals, particularly spill prevention procedures.

6. EVALUATION AND MONITORING

An annual evaluation of the Plan will be conducted by Environmental Affairs personnel in accordance with permit requirements. This annual evaluation requires inspection of areas of Stanton contributing to the stormwater inflow to the Makeup Pond, an evaluation of the effectiveness of BMPs, and a review of past records of inspections and reports.

Maintaining records for inspections is an important element of the Plan. Recording events that occur onsite is an effective way of tracking the progress of pollution prevention efforts and waste minimization. Regular evaluations and report reviews ensure that the Plan and procedures are kept current.

6.1 Routine Inspections

As described in **Section 4.1**, Environmental Affairs personnel inspect designated equipment and areas of the facility on a weekly basis. For the Stanton facility, this includes fueling areas, loading and unloading areas, maintenance areas, and oil and chemical storage areas. Copies of inspection forms are retained on file in the Environmental Affairs Department.

6.2 Annual Comprehensive Site Compliance Evaluation

OUC's Environmental Affairs Department is responsible for conducting the annual site compliance evaluation to assess the effectiveness of the Plan. The annual evaluation will verify the accuracy of the Plan in describing the potential pollutant sources, site drainage patterns, and the effectiveness of the pollutant and stormwater discharge controls. If the evaluation identifies areas that need additional or modified controls, the Vice President of Electric and Water Production has the authority to implement the controls and incorporate those controls into the Plan.

Before performing an annual site compliance evaluation, the Environmental Affairs Department reviews the Plan to assess the effectiveness of current BMPs in reducing stormwater pollutant loads. The review focuses on material handling, transfer, and storage areas and the equipment and containment structures associated with these locations. Existing BMPs are reevaluated for current operation and maintenance practices. Past facility operations are examined to determine if operational modifications are necessary or if additional practices need to be included in the Plan. Examination of records that report events, such as spills, is the means of tracking the progress of the pollution prevention efforts.

After the Plan and past operations are reviewed, the site compliance inspection is performed. The inspection determines if storm water pollution prevention measures are accurately identified, in place, and working properly. The annual inspection has the following guidelines:

- Inspect stormwater drainage areas for evidence of pollutants;

- Inspect areas in the Makeup Pond watershed with a potential for exposure to pollutants, including material storage and handling areas;
- Evaluate the effectiveness of existing measures to reduce pollutant loadings and to determine whether additional measures are required;
- Observe structural controls, sediment and erosion controls, and other structural BMPs to ensure proper operation;
- Inspect any equipment needed to implement the Plan, such as spill response equipment;
- Indicate current conditions on drainage map; and
- Develop an annual site compliance inspection report.

If it is determined that changes are necessary, the Plan will be revised by Environmental Affairs personnel within two weeks of the inspection and the changes implemented in accordance with a schedule that will be dependent on the level of risk identified, approval of funds, contract, and outage schedule.

6.3 Samples and Reports

If a discharge occurs over the Makeup Pond spillway via Outfall D-001, then sampling and analytical testing (see list in permit for parameters including Acute Whole Effluent Toxicity) will be done with the results reported on the Discharge Monitoring Report as required by the permit. In addition, the permit authorizes discharge via an Internal Outfall I-004, which is an emergency flow from the Recycle Basin to the Makeup Pond. If this discharge occurs, then sampling and analytical testing (TSS and O&G) will be done with the results reported on the Discharge Monitoring Report as required by the permit.

6.4 Monitoring and Analysis Results

Stanton's NPDES Industrial Waste Permit requires monitoring of the surface water discharge D-001. Effluent limitations and monitoring requirements for surface water discharges are provided in the Part I.A of the permit. The facility's NPDES Permit also requires monitoring of the internal outfall I-004. Grab samples are collected per discharge from these outfalls and sampled for required parameters as listed in the permit.

Effluent limitations and monitoring requirements for internal outfall discharges are provided in Part I. of the NPDES permit. Sample test results from a Makeup Pond discharge event via Outfall D-001 were provided to the FDEP and were also included as part of the permit renewal submittal in 2021.

6.5 Impoundment Integrity Inspections

Stanton's NPDES permit requires all impoundments to be inspected annually by qualified personnel with knowledge and training in impoundment integrity. These inspections are usually completed by a third-party engineer and will be arranged by the Environmental Affairs Department personnel responsible for ensuring completion of required inspections. Within 30 days after the annual inspection, a qualified, responsible officer shall certify to the Department's Central District Office that no breaches or structural defects resulting in the discharges to surface waters of the State, and that no changes were observed which may indicate a potential compromise to impoundment integrity during the previous calendar year. Information concerning corrective actions taken as a result of the inspections shall be kept on-site in accordance with Permit Condition V.2.

The certification shall also include a statement that the industrial wastewater treatment pond (IWTP) provides the necessary minimum wet weather detention volume to contain the combined volume for all direct rainfall, all rainfall runoff to the pond resulting from the 10-year, 24-hour rainfall event, and the maximum dry weather plant waste flows which could occur during a 24-hour period.

Follow-up inspections must also be done and documented by the Environmental Affairs Department within 7 days after large or extended rain events (i.e., 25-year, 24-hour precipitation event).

6.6 Recordkeeping and Internal Reporting

The generation of reports, as part of the ongoing inspection and preventive maintenance goals of the Plan, provides accurate records from which to evaluate the effectiveness of the Plan. Changes in design, construction, operation, maintenance, or product usage are documented and kept on file with the Plan to facilitate review for future annual site evaluations and can help identify potential recurring problem areas. In addition, written reports of spills and/or inspection deficiencies (tracked in the electronic Work Order system) will indicate the need for improved BMPs and identify areas where waste minimization measures may be useful.

After the annual site compliance inspection, a report will be prepared by Environmental Affairs personnel to document the observations. It will include the following information:

- Date of inspection;
- Person(s) conducting the inspection;
- Summary of inspection observations/results;
- Follow-up actions to be performed;

- Certification that the facility is in compliance, or a list of incidents of noncompliance, with the Plan; and

- Signature of the Vice President of Electric and Water Generation.

Annual evaluation reports are kept on file. These records and attachments are reviewed prior to subsequent annual site evaluations to help determine the effectiveness of equipment, operations, and BMPs. Records and reports will be retained for at least three (3) years from the date of the report.

Formal written reports for past spill incidents will include the following information and recommendations:

- Date and time of incidents, weather conditions, duration, cause, environmental problems, response procedures, parties notified, recommendations, and operating procedures and equipment to prevent recurrence; and

- Documentation of reports in which the National Response Center was notified (e.g., discharges of a reportable quantity).

7. GENERAL REQUIREMENTS

The following discusses some of the administrative requirements related to organization and development of the Plan.

- The Plan must be signed by an "authorized representative" who has been delegated the authority to sign and certify this;
- For EPCRA Section 313 facilities, such as Stanton, the Plan should be reviewed and certified by a licensed Professional Engineer (P.E.) and recertified every three (3) years or after the Plan is significantly changed; and
- Plan is required to be maintained onsite. Plan and required records must also be kept one (1) year after the permit expires.

7.1 Activity Schedule

Weekly
Site inspection: leak detection, corrosion, material exposure, damaged stormwater or containment facilities, fueling areas, loading and unloading areas, maintenance areas, and oil and chemical storage areas

Annually
Refresher employee training

Annual Comprehensive Site Compliance Evaluation: confirm the status of potential pollutant sources, site map, pollutant controls

Annual Evaluation Report

Every Three (3) Years
Plan review and certification by licensed P.E.

As needed
Revise Plan whenever there is a change in design, construction, operation, or maintenance that would have a significant potential for pollutant discharge, Plan is ineffective, or administrative changes are required.

8. SPECIAL REQUIREMENTS

In addition to the minimum baseline BMPs discussed in previous sections, Stanton is subject to additional "special" requirements, because the facility is subject to EPCRA Section 313 reporting requirements. The following section describes the additional "special" requirements.

8.1 EPCRA Section 313 Reporting Facilities

Section 313 of EPCRA (40 CFR 372) requires operators of manufacturing facilities that handle toxic chemicals in amounts exceeding threshold levels to report to the government on an annual basis. Because these types of facilities handle large amounts of toxic chemicals, EPA concluded that they have an increased potential to degrade the water quality of receiving streams. To address this risk, EPA established specific control requirements in its general permit. These requirements apply to Section 313 facilities that report for "water priority chemicals" (such as chlorine and ammonia) that have been identified by EPA as especially toxic to water ecosystems. EPA's Office of Water has designated over 250 of the EPCRA Section 313 toxic chemicals as "Section 313 water priority chemicals." The most recent list of Section 313 water priority chemicals can be found in the September 29, 1995, Federal Register (60 FR 50804).

Additional requirements are enhanced BMPs to address specific stormwater concerns associated with the handling of toxic chemicals. Along with these enhanced BMP requirements, there are specific requirements for facilities subject to Section 313, which are discussed in the following section.

8.1.1 Specific Requirements

The following specific control requirements will be practiced in areas where Section 313 water priority chemicals are stored, handled, processed, or transferred:

- Provide containment, drainage control, and/or diversionary structures:
  - Prevent or minimize run-on by installing curbing, culverts, gutters, sewers, or other controls.
  - Prevent or minimize exposure by covering storage piles.

- Prevent discharges from these areas of the plant:
  - Use manually activated valves with drainage controls in these areas.
  - Equip the plant with a drainage system to return spilled material to the facility.

- Prevent discharges from liquid storage areas:
  - Store liquid materials in compatible storage containers.
  - Provide secondary containment designed to hold the volume of the largest storage tank plus precipitation (unless the tank and containment are located indoors/not exposed to precipitation).

- Prevent discharges from loading/unloading areas:
  - Use drip pans.
  - Implement a spill contingency and integrity testing plan.

- Prevent discharges from handling/processing/transferring areas:
  - Use covers, guards, overhangs, door skirts.
  - Conduct visual inspections or leak tests for aboveground piping.

- Introduce facility security programs to prevent spills:
  - Use fencing, lighting, traffic control, and/or secure equipment and buildings.

APPENDIX A

MATERIAL INVENTORY LIST

APPENDIX B

INSPECTION FORMS (BLANK)

Appendix 14

Stormwater Management System Inspection Instructions and Checklist

INSTRUCTIONS FOR STORMWATER MANAGEMENT SYSTEM INSPECTIONS

An inspection log with explanations of observations made will document each inspection and become part of the operating record for the facility. Inspection logs will be in a checklist/fill-in-the-blank format. All site inspection reports will include the date, place, time, weather, and names of the individual(s) conducting the inspection.

A typical inspection log form is attached. The log is formatted to ensure that a specific itinerary is followed, and that all pertinent parts of the system identified are inspected. The inspection logs will be supplemented, as necessary, with written reports documenting problem areas and maintenance actions performed.

The inspection logs will be completed for each of the specific areas listed in the inspection schedule and will be maintained in a binder. Separate written reports, documenting maintenance activities and remedial actions, shall be recorded together with these logs.

Quarterly and post-storm event Inspections should include (i) the culverts, perimeter ditch and concrete flume on the north side of Cell 2, (ii) the box culverts and perimeter ditch on the west side of Cells 1 and 2, (iii) the perimeter ditch and culvert on the south side of Cell 1,(iv) the wet detention pond south of Cell 1 including inflow and outflow structures and bleed down; (v) the ditches and culverts along the haul road on the east side of the CWSA, (vi) the natural drainageway and culverts north of the wet detention pond,(vii) the culverts and concrete flumes from the top of the closed vertical expansion, and (viii) the diversion bench on the side slope of Cell 2.

INSTRUCTIONS FOR STORMWATER MANAGEMENT SYSTEM INSPECTIONS

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The inspection logs will be completed for each of the specific areas listed in the inspection schedule and will be maintained in a binder. Separate written reports, documenting maintenance activities and remedial actions, shall be recorded together with these logs.

Quarterly and post-storm event Inspections should include (i) the culverts, perimeter ditch and concrete flume on the north side of Cell 2, (ii) the box culverts and perimeter ditch on the west side of Cells 1 and 2, (iii) the perimeter ditch and culvert on the south side of Cell 1,(iv) the wet detention pond south of Cell 1 including inflow and outflow structures and bleed down; (v) the ditches and culverts along the haul road on the east side of the CWSA, (vi) the natural drainageway and culverts north of the wet detention pond,(vii) the culverts and concrete flumes from the top of the closed vertical expansion, and (viii) the diversion bench on the side slope of Cell 2.

Stormwater Management System Inspection Checklist Form				
SITE:				**WEATHER:**
DATE:				**INSPECTOR :**
	CONDITIONS TO CHECK	**YES**	**NO**	**DETAILS OF PROBLEM/DEFECT AND CORRECTIVE ACTION(S) IMPLEMENTED AND DATE**
DO NOT DIG OR DRIVE OBJECT				
WITHIN LINED AREAS INSIDE				
OF ANCHOR TRENCH				
STORMWATER DRAINAGE	Any Obstructions	❑	❑	
AND CONVEYANCE SYSTEMS	Excessive Bank Erosion	❑	❑	
	Ponding	❑	❑	
• SWALES, DITCHES, AND CHANNELS	Adequate Vegetation	❑	❑	
• INTAKE STRUCTURES	Excessive Vegetation	❑	❑	
• OUTLET ENDS	Excessive Scouring	❑	❑	
• BOX CULVERTS	Excessive Siltation, Obstructions, Damage	❑	❑	
• CULVERTS	Any Significant Differential Settling or Ponding	❑	❑	
• CONCRETE FLUMES	Settling and Ponding	❑	❑	
WET DETENTION POND	Any Obstructions	❑	❑	
	Excessive Erosion	❑	❑	
• BOTTOM SURFACE	Excessive Siltation	❑	❑	
• CONTROL STRUCTURE INTAKE & OUTLET	Adequate Vegetation	❑	❑	
• STORMWATER DISCHARGE OVER WEIR	Excessive Vegetation	❑	❑	
• TOP OF STRUCTURE	Did any discharge over weir occur? List date.	❑	❑	
• ORIFICE	If YES, was a water sample obtained from discharge?	❑	❑	
	Was report submitted to FDEP regarding discharge?	❑	❑	

Appendix 15

Excerpts from OUC Contractor Orientation Information Guide

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER
CONTRACTOR ORIENTATION

Emergency Phone # 43111 or 3111

CONTRACTOR / COMPANY NAME *

Print Name of Company Above

OUC REPRESENTATIVE*	CONTRACTOR REPRESENTATIVE*
Print Name Above	*Print Name Above*

Phone #*	Extension #*	Phone #*	Extension #

JOB/WORK INFORMATION

Date of Orientation*	Date Work Begins*	Date Work is Scheduled to Conclude*

Indicate Peak Number Of Contractor Personnel Expected To Be On Site In Box On The Right		Check The Box On The Right If The Contractor Will Be Bringing Materials On Site That Require An MSDS	

System Contractor Is Working On*

Nature Of Work On Site*

SCOPE OF CONTRACTOR ORIENTATION

All Contractors Working On Site Are Required To Review Sections I - IV.

Work Covered by Section V. Special Hazards And Work Conditions

Check Each Box Below that Represents the Needs of the Contractor for Section V of the Contractor Orientation.

	1. Fall Arrest		5. Respiratory Protection		9. Process Safety Management
	2. Lockout/Tagout		6. Confined Space Procedure		10. Commercial Diving
	3. Exposed Energized Electrical Work		7. Welding & Cutting/Hot Work		
	4. Scaffold Requirements		8.Trenching and Excavations		

The Following Procedures And Rules Have Been Developed To Protect The Employees And Equipment Of The Orlando Utilities Commission at Stanton Energy Center. It Is Not Meant To Be All Inclusive Nor Does It Relieve Any Contractor Of Any Of Their Responsibility As Defined In The Contract, Or Any Federal, State, Or Local Regulation.

AREAS OF SPECIAL CONCERN

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

CONTRACTOR EMPLOYEE NOTIFICATION

The Contractor is responsible for informing their personnel of the above rules, regulations and information. All employees who will be on site to perform work shall sign the Contractor Employee Notification List. Failure to sign the Contractor Employee Notification List may result in removal of the Contractor employee from site.

CONTRACTOR INJURY/ILLNESS REPORTS

Per the terms of your contract, the Contractor shall conduct investigations on all incidents involving injury to Contractor or subcontractor employees or equipment damage. "Near Miss" incidents where significant injury or equipment damage could have but did not occur shall also be investigated. All investigations shall include corrective action to be taken to prevent re-occurrence and shall be documented in a detail report and submitted to the Owner within 7 calendar days of the incident. The Contractor shall maintain accurate accident and injury records as defined in OSHA Part 1904, Recording and Reporting Occupational Injuries and Illnesses. All OSHA Recordable injuries and illnesses shall be reported to the Owner no later than 12 hours after the accident.

VIOLATIONS

1. Violations of the above rules and regulations may result in the employee and/or contractor being removed from the site.

* _____ * _____

OUC Representative Contractor Representative

EMERGENCY EVACUATION NOTIFICATION☐

1. I have read and understand that the Contractor Representatives must provide a completed Contractor Evacuation List to Security before any personnel enter or any work will begin on site located at the main gate Security office.

* _____

Contractor Representative

All areas with * must be filled out.

CONTRACTOR EMPLOYEE NOTIFICATION LIST

I have been informed, and understand the rules; regulations and information contained in the SEC Contractor Orientation, and understand violation of these rules may result in my removal from site.

COMPANY NAME:			
Print Name		Signature	Date
1.			
2.			
3.			
4			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			

Competent and Qualified Person Designation Explanation

Definitions:

Competent Person - means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, AND who has the authorization to take prompt corrective measures to eliminate them.

Qualified Person - means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, the work or the project. Note: Generally speaking, a "Qualified Person" is considered to have a higher level of expertise than a "Competent Person".

Explanation of Competent and Qualified Form:

29 CFR 1926 and 29 CFR 1910 (OSHA) requires your company to provide Competent Persons and/or Qualified Persons for various types of work. The Competent and Qualified Form has multiple boxes to be checked indicating the person(s) designated as "Competent/Qualified Person" for your company, depending on the scope of work. By checking each appropriate box as "Competent/Qualified Person" on the Competent and Qualified Form you are also indicating the person named has met any OSHA requirements for performing duties at this level of responsibility and has the authority to take prompt corrective measures to eliminate hazards and enforce safety rules for your company. Some of the check boxes on the Competent and Qualified Form may not have a specific OSHA regulation that mentions a "Competent or Qualified Person", however, this form is used to ensure OUC contacts the person(s) with the appropriate training and authority to take the actions necessary for the safety of your company's employees. While OUC does not require documentation prior to beginning work on site, OUC reserves the right to request documentation of the training and qualifications of those personnel designated as "Competent/Qualified Person" on the Competent and Qualified Form should plant management deem it necessary at a later date.

Example:

The ABC Construction Company will be replacing underground water piping attached to the potable water tank. Their work will require Lockout/Tag out, Confined Space Work, Welding & Cutting and Excavation while on site.

Name of Competent/Qualified Person:					
	1. Fall Arrest		5. Respiratory Protection		9. Hazardous Materials
✓	2. Lockout/Tag out	✓	6. Confined Space Procedure		10. Commercial Diving
	3. Exposed Energized Electrical Work	✓	7. Welding & Cutting/Hot Work		11. Other
	4. Scaffold Requirements	✓	8.Trenching and Excavations		

The Contractor Representative prints the name of the person(s) on the form who is to be the "Competent or Qualified Person" and checks each item in their scope of work for which they will be the "Competent or Qualified Person", if one person is to be the sole "Competent or Qualified Person", then the contractor should have each item in their scope of work check under his name. If multiple personnel, or personnel with varying qualifications are needed, write the name of the "Competent or Qualified Person" in the space provided and check only those items in the scope of work for which they will be the "Competent or Qualified Person".

Competent and Qualified Form

Based upon their training and experience, the following personnel have the authority of a Competent/Qualified Person Representative for the specific types of work noted by the check marks in the table below. ***This document must be filled out if Section V is filled out.***

Name of Competent/Qualified Person:					
☐	1. Fall Arrest	☐	5. Respiratory Protection	☐	9. Hazardous Materials
☐	2. Lockout/Tagout	☐	6. Confined Space Procedure	☐	10. Commercial Diving
☐	3. Exposed Energized Electrical Work	☐	7. Welding & Cutting/Hot Work	☐	11. Other
☐	4. Scaffold Requirements	☐	8.Trenching and Excavations		

Name of Competent/Qualified Person:					
☐	1. Fall Arrest	☐	5. Respiratory Protection	☐	9. Hazardous Materials
☐	2. Lockout/Tagout	☐	6. Confined Space Procedure	☐	10. Commercial Diving
☐	3. Exposed Energized Electrical Work	☐	7. Welding & Cutting/Hot Work	☐	11. Other
☐	4. Scaffold Requirements	☐	8.Trenching and Excavations		

Name of Competent/Qualified Person:					
☐	1. Fall Arrest	☐	5. Respiratory Protection	☐	9. Hazardous Materials
☐	2. Lockout/Tagout	☐	6. Confined Space Procedure	☐	10. Commercial Diving
☐	3. Exposed Energized Electrical Work	☐	7. Welding & Cutting/Hot Work	☐	11. Other
☐	4. Scaffold Requirements	☐	8.Trenching and Excavations		

Name of Competent/Qualified Person:					
☐	1. Fall Arrest	☐	5. Respiratory Protection	☐	9. Hazardous Materials
☐	2. Lockout/Tagout	☐	6. Confined Space Procedure	☐	10. Commercial Diving
☐	3. Exposed Energized Electrical Work	☐	7. Welding & Cutting/Hot Work	☐	11. Other
☐	4. Scaffold Requirements	☐	8.Trenching and Excavations		

Name of Competent/Qualified Person:					
☐	1. Fall Arrest	☐	5. Respiratory Protection	☐	9. Hazardous Materials
☐	2. Lockout/Tagout	☐	6. Confined Space Procedure	☐	10. Commercial Diving
☐	3. Exposed Energized Electrical Work	☐	7. Welding & Cutting/Hot Work	☐	11. Other
☐	4. Scaffold Requirements	☐	8.Trenching and Excavations		

Name of Competent/Qualified Person:					
☐	1. Fall Arrest	☐	5. Respiratory Protection	☐	9. Hazardous Materials
☐	2. Lockout/Tagout	☐	6. Confined Space Procedure	☐	10. Commercial Diving
☐	3. Exposed Energized Electrical Work	☐	7. Welding & Cutting/Hot Work	☐	11. Other
☐	4. Scaffold Requirements	☐	8.Trenching and Excavations		

INFORMATION GUIDE

EMERGENCY # 43111 or 3111

OUC REPRESENTATIVE _____ EXT. # _____
WATCH ENGINEER EXT. # 43718 or 43507
PLANT PAGING SYSTEM = DIAL 84 and state announcement.

EVACUATION AREA(S):

PRIMARY = AREA # 3 ON MAP - IMMEDIATELY SOUTH OF SEC 1 AQC BLDG.
SECONDARY = AREA # 4 ON MAP - IMMEDIATELY WEST OF SEC 2 CHIMNEY

EMERGENCY PROCEDURES:

1. Medical, Fire and Other Plant Emergencies

For medical, fire and other plant emergencies the Control Room shall be notified using the plant emergency telephone number 3111.

The person making the call should be prepared to relay the following information:
- Type of emergency
- Location of emergency
- Severity of emergency
- Name of caller and telephone number call is being made from

The person making the call shall not break communication until directed to by the Control Room.

Medical and chemical emergencies will be announced over the Public Address system in conjunction with three two (2) second tones of the alarm system. Do not evacuate when the three two-second tones are used.

2. Evacuation Plan

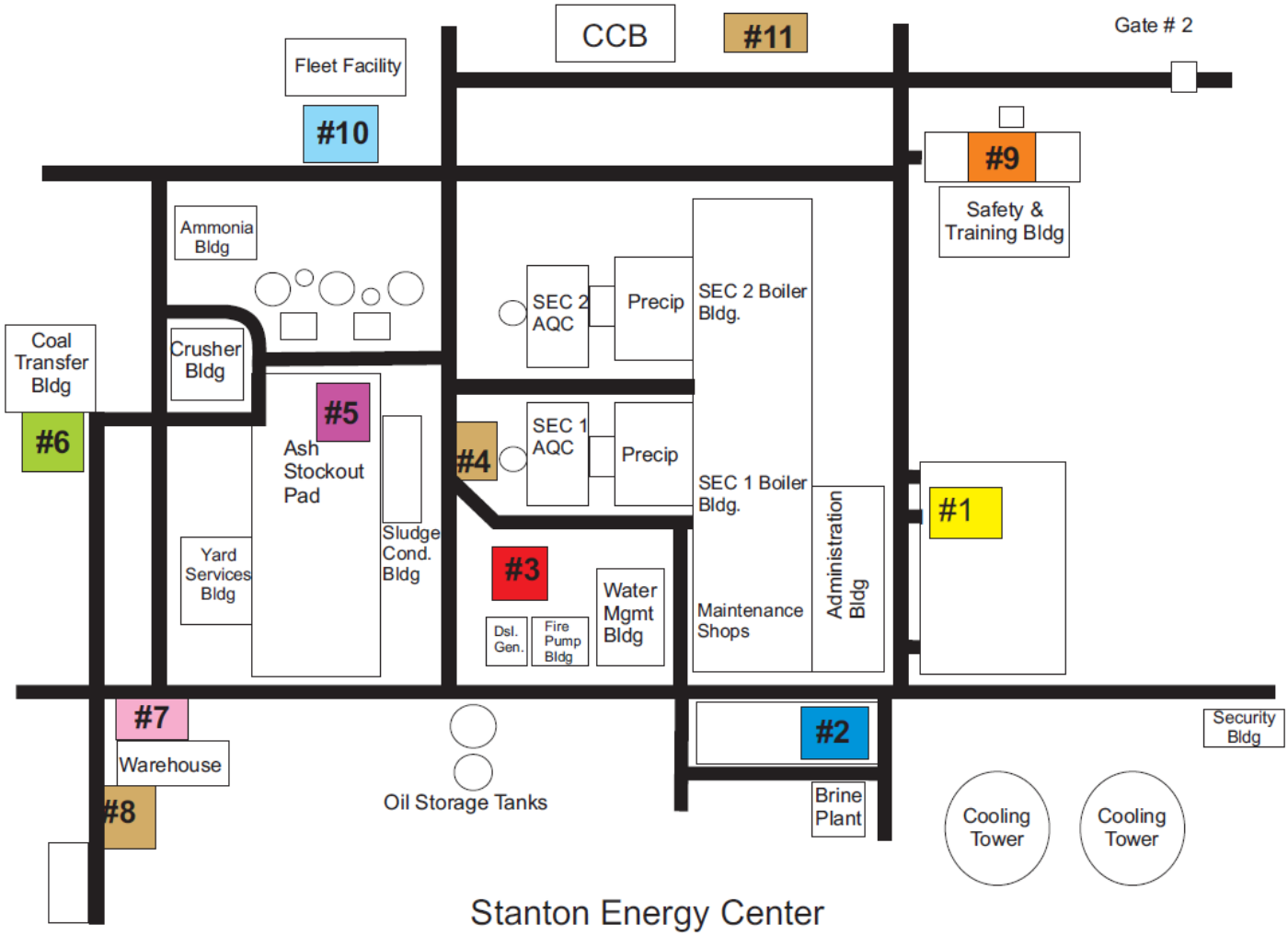
A. In the event a plant evacuation is required an alarm will be sounded three (3) times at 15-second intervals. In between each alarm a verbal announcement will inform all personnel as to the nature of the emergency. Regardless of the verbal announcement, personnel shall evacuate upon hearing the three tones at 15-second intervals and report to their evacuation areas. Regardless of where a fire is located all personnel must report to their evacuation areas when the three 15-second tones are used.

B. Outside contractor personnel shall assemble on the south side of the Air Quality Control Building, location 3 on the evacuation map. The alternate assembly point will be on the west side of the chimney, location 4 on the evacuation map. Elevators shall not be used for plant evacuations.

C. Supervisors shall be responsible to account for their personnel in the assigned areas. The Contractor Representative(s) will provide a Contractor Evacuation List to Security prior to any personnel beginning work or entering the site. The Contractor Representative will also insure that all of the Contractor's personnel entering the site are informed of their evacuation area. Site Security shall drive to each evacuation area and check in with each Supervisor. Supervisors shall inform Security of any missing persons.

D. During the emergency use of the paging system, OUC radios, or calls to the Control Room should be limited to only those calls concerning additional information about the current emergency, or to report a new emergency. An "all clear" will be sounded when normal communications may resume.

E. Personnel shall remain at their assembly areas until released by the Watch Engineer in charge of the emergency scene.



Stanton Energy Center
Evacuations Areas

1) VISITOR PARKING LOT
2) ADMIN. & PLANT SERVICES PARKING LOT
3) SOUTH OF AQC ACROSS ROAD
4) WEST OF UNIT # 1 CHIMNEY
5) PAD WEST OF STOCK OUT PILES
6) SOUTH OF TRANSFER BUILDING
7) N. E. OF WAREHOUSE (Primary)
8) S. W. OF WAREHOUSE (Alternate)
9) SAFETY & TRAINING PARKING LOT
10) FLEET FACILITY
11) CCB

I. SECURITY

1. Identification and Access

A. Authorization for any Contractor, or person to enter to the site, or to remain on site, can be denied solely at the discretion of the Management or the designated OUC Representatives of Stanton Energy Center.
B. All Contractor employees will provide photographic identification to Security as requested upon entering or exiting.
C. All Contractor employees shall be required to wear an identification badge. The badge shall be worn in plain view on the upper part of the body.
D. No employee shall enter any electrical enclosure or substation without prior approval.
E. Contractor Employees shall only be allowed in pre-approved areas.
F. The use of the plant restroom facilities shall be prohibited unless prior arrangements have been made.
G. Smoking shall only be allowed in designated areas.

2. Materials and Equipment

A. Property removal forms are required to take any material or equipment off site. They shall be signed by the appropriate OUC Supervisor.
B. The following are specifically prohibited at the Stanton Energy Center: Firearms or other deadly weapons, explosives or fireworks, alcoholic beverages, narcotics or non-prescription drugs, pets, open fires, posting of unauthorized signs.
C. All vehicles and equipment entering the site are subject to search by Security or other personnel designated by OUC. OUC reserves the right to forbid access to any vehicle, as well as the driver and occupants of any vehicle that is not searched or has deficiencies that may impair the safety of the vehicle or equipment.
D. Material and equipment shall be stored only in pre-approved areas. Unless prior approval is obtained, the use of OUC trash bins, dumpsters, etc., is not allowed. Contractors must make arrangements for storage and removal of all waste products or trash.
E. The use of cameras or video equipment shall be prohibited unless prior arrangements have been made.

II. HAZARDOUS MATERIALS ON SITE

A. The following Extremely Hazardous Materials are found on site in the locations noted (areas covered by the Process Safety Management are in the ***BOLD, Italicized*** print):

1. Anhydrous Ammonia
   A. Ammonia Storage Tank, north side of Unit #1 Boiler Building
   B. ***Ammonia Storage Tanks, Ammonia Storage Building for the SCR System***
   C. ***SCR System in Unit #2 Boiler Building***
   D. Ammonia Feed systems in Unit #1 & #2 Boiler Buildings
2. Asbestos
   A. Some of the breakers on site have transite arc chutes, an Asbestos Containing Material (ACM). Before any work is performed inside SUS breakers, a determination must be made if the breaker has ACM. Any case in which the breaker has ACM, the breaker shall be cleaned of any friable ACM material before work may be performed on the breaker, except by those personnel who meet the requirements for the work to be performed, as found in 29 CFR 1926.1101.
   B. Several of the gaskets used on the steam turbine have ACM impregnated in the gaskets. The removal of these gaskets also must meet the requirements for the work to be performed, as found in 29 CFR 1926.1101.
3. Biocide
   A. South of Unit #1 Main Transformers.

4. Chlorine
    A. *Unit #1 & #2 Cooling Towers*
    B. Domestic Wastewater Treatment Facility
    C. Water Management Building
    D. Cooling Tower Blowdown Treatment (Brine Plant)
    E. Gas Storage Facility
5. Hydrogen
    A. Hydrogen Building
6. Liquid Nitrogen
    A. Liquid Nitrogen Storage Tank *Note: This tank is filled intermittently and is not always available.*
7. Radioactive Materials
    A. Radioactive sources are used for measuring purposes on various piping and vessels. Each source is marked with the appropriate warning sign. Unless entering a vessel using a source, or involved in removal/renovation of a source the exposure on the site is within the levels determined as acceptable for members of the public by the Florida Bureau of Radiation Control and the Nuclear Regulatory Commission.

8. Sodium Hydroxide
    A. Condensate Polishing areas of Unit #1 & #2 Boiler Buildings
    B. Water Management Building
    C. Cooling Tower Blowdown Treatment (Brine Plant)
9. Sulfuric Acid
    A. Unit #1 & #2 Cooling Towers
    B. Water Management Building
    C. Cooling Tower Blowdown Treatment (Brine Plant)
    D. Unit #1 Boiler Building (North side) and Unit #2 Boiler Building (North side)

B. All Contractor personnel working on site must be aware of the presence and hazards of these materials. Any personnel working in the immediate area must be notified of the appropriate actions to take in an emergency involving these materials. The actions to be taken are:

1. Exit the area immediately.
2. Notify the Control Room using the Emergency Procedures noted in the Emergency Procedures section of this document.
3. Follow the directions given by OUC personnel as to evacuation, etc.

C. Contractors whose scope of work will include performing maintenance, repair, renovation or specialty work on any system involving extremely hazardous materials shall perform a Job Hazard Analysis (JHA) for the work to be performed in conjunction with OUC personnel.

D. Contractors bringing hazardous or toxic materials on site shall provide, upon request, an emergency plan for any spill/release of the material they are using, and the appropriate training records for the type of work of the personnel are expected to perform.

E. Potable (Drinking) Water and Re-Use Water

1. The only water that is acceptable for drinking on site is the following:
    a. Spigots found at sinks in offices or restrooms.
    b. Spigots found at sinks inside kitchens.
    c. Drinking fountains.

    DO NOT DRINK FROM ANY OTHER SOURCE OF WATER
2. Emergency Eyewash/Showers use potable water supplies, but it is not recommended they be used for drinking unless thoroughly flushed.
3. All plant Service Water and Fire Water is Re-Use water. This includes all outlets in the plant environment. The Re-Use water is treated wastewater from a local Orange County sewage treatment plant. Water reuse involves taking domestic wastewater, giving it a high degree of treatment, and using the resulting high-quality reclaimed water for a new, beneficial purpose. Extensive treatment and disinfection ensure that public health and environmental quality are protected. The treatment of wastewater prevents it from being considered a hazard for incidental contact. However, Re-Use Water is not considered suitable for drinking, or hygiene activities such as washing the face, hands, etc. When prolonged contact is likely to occur, rubber gloves, rain suits etc. should be used.

III. EMERGENCY PROCEDURES

1. Medical, Fire and Other Plant Emergencies

A. For medical, fire and other plant emergencies the Control Room shall be notified using the plant emergency telephone number 3111.
   1. The person making the call should be prepared to relay the following information:
      Type and Location of emergency.
      Severity of emergency.
      Name of caller and telephone number call is being made from.
   2. The person making the call shall not break communication until directed to by the Control Room.

B. Medical and chemical emergencies will be announced over the Public Address system in conjunction with three two (2) second tones of the alarm system. Do not evacuate when the three two-second tones are used.

2. Evacuation Plan

A. In the event a plant evacuation is required an alarm will be sounded three (3) times at 15-second intervals. In between each alarm a verbal announcement will inform all personnel as to the nature of the emergency. Regardless of the verbal announcement, personnel shall evacuate upon hearing the three tones at 15-second intervals and report to their evacuation areas. Regardless of where a fire is located all personnel must report to their evacuation areas when the three 15-second tones are used.

B. Outside contractor personnel shall assemble on the south side of the Air Quality Control Building, location 3 on the evacuation map. The alternate assembly point will be on the west side of the chimney, location 4 on the evacuation map. Elevators shall not be used for plant evacuations.

C. Supervisors shall be responsible to account for their personnel in the assigned areas. A Contractor Evacuation List will be provided by the Contractor Representatives to Security prior to any personnel beginning work or entering the site. The Contractor Representative will also insure that all of the Contractor's personnel entering the site are informed of their evacuation area. Site Security shall drive to each evacuation area and check in with each Supervisor. Supervisors shall inform Security of any missing persons.

D. During the emergency use of the paging system, OUC radios, or calls to the Control Room should be limited to only those calls concerning additional information about the current emergency, or to report a new emergency. An "all clear" will be sounded when normal communications may resume.

E. Personnel shall remain at their assembly areas until released by the Watch Engineer in charge of the emergency scene.

IV. GENERAL SAFETY

1. Work Apparel and Hearing Protection

A. Hardhats and safety glasses shall be worn at all times (except while in air-conditioned areas or vehicles with enclosed cabs).

B. Good leather work shoes or boots shall be worn. Athletic and open toed shoes shall not be allowed.
   Exception: Athletic style shoes which meet the requirements and specifications established in the American Standard Safety Requirements for Foot Protection ANSI *Z41-1991 may be worn*.

C. Shirts covering the full trunk and upper arm shall be worn. Cut off jeans or shorts shall not be allowed. Minimum acceptable apparel is considered a Cotton Tee-Shirt and Cotton Pants. Personnel who may be exposed to arcs or flames shall not wear apparel that may increase their injuries in an accident. Further guidelines for proper apparel for personnel who may be exposed to arcs or flames can be found in 29 CFR 1910.269 and the additional requirements noted in Section V, Paragraph - 3 Exposed Energized Electrical Work of this document.

D. Hearing protection shall be worn while working in excessively noisy areas or when using tools that exceed 90 decibels. Further information on hearing protection requirements may be found in 29 CFR 1910.95.

2. Vehicular Safety

A. Unless otherwise stated, only company owned or rented vehicles will be allowed on site. All contractor employee personal vehicles shall park in the construction parking lot unless otherwise designated.
B. Personnel riding in the bed of a pickup truck shall not sit above the floor of the bed unless provided with a suitable seat with a backrest that prevents them from falling out of the vehicle. Sitting on the tailgate while the vehicle is in motion is strictly prohibited.
C. Personnel shall not ride on the running boards, fenders, etc., of any vehicle.
D. All persons operating motor vehicles must have the appropriate license for the vehicle being operated.
E. The project speed limit is 15 mph unless otherwise posted.

3. Housekeeping

A. Special attention shall be given to keeping the inside of the structures and surrounding grounds clean and free from trash and debris. Work areas and storage areas shall be continuously cleaned each workday.
B. All hoses, cables, extension cords, and similar materials shall be located, arranged, grouped and routed overhead so that they will not block any access way or work area, and will permit easy cleaning and maintenance.
C. Material and supplies shall be stored in an orderly manner to prevent their falling or spreading, and to eliminate tripping and stumbling hazards.
D. Flammable and combustible liquids shall only be stored, or dispensed, using Underwriters Laboratories or Factory Mutual listed safety containers and only in approved quantities.
E. Gas or diesel powered vehicles and equipment shall not be allowed in any building unless prior approval has been obtained; a Welding and Cutting Permit is utilized to receive approval.
F. Upon completion of work, all equipment, material and waste shall be removed from the plant site.
G. Any operation that produces air contaminants above the permissible exposure limits noted on the Material Safety Data Sheet for the material being used, or above the limits set in Table Z-1-A (29 CFR 1910.1000), shall provide engineering controls to restrict the exposure of air contaminants above the limits to only those personnel working in the immediate area of the work to be performed. The suggested method of protecting the adjacent areas from air contaminants above the limits is a ventilation/exhaust system with tenting if necessary. The exhaust of the system must have the appropriate filter(s) to prevent the air contaminants from producing an exposure above the permissible exposure limits. Other methods of controlling the air contaminant exposure requires approval by the Manager of Maintenance or PRBU Safety & Training Manager prior to beginning to perform the work.

   The need for protecting the adjacent areas from air contaminants shall be assumed unless the Contractor can provide documentation from a Certified Industrial Hygienist that the exposure level is below the permissible exposure limits. Any dust or other contaminant produced from the operation is the Contractor's responsibility, and the Contractor shall ensure it is cleaned/removed upon completion of the work unless prior arrangements have been made.

4. Hazardous or Toxic Materials

A. The Contractor shall provide Material Safety Data Sheets covering all hazardous materials furnished under or otherwise associated with the work under this contract in accordance with applicable federal, state and local laws. Before entering the site, the contractor must provide a copy of all the Material Safety Data Sheets for the materials that will be used on site to perform their work, or any of their subcontractor's work. Should additional materials be needed after work has begun, the materials must receive approval by OUC and the MSDS must be on site and supplied to OUC before the material is brought on site.
B. All hazardous and toxic material brought on site, ***or generated by the work process***, shall be clearly labeled with the Contractor's name. All containers must have the appropriate labels containing the information on the hazards of the materials. The minimum requirements for day use containers or similar containers that do not have the appropriate manufacturers warning label are: the trade name of the product, a hazard warning such as the NFPA 704 system or H.M.I.S. System.

C. Hazardous and toxic materials shall only be stored in pre-approved locations.

D. Contractors are responsible for all hazardous materials or toxic materials brought on site or generated by their work and shall properly dispose of all hazardous and toxic material for which they are responsible at their cost unless prior arrangements are made. Contractors shall immediately report any spills to the appropriate OUC representative.

5. Fire Equipment and Fire Hydrants

A. Fire equipment and fire hydrants shall not be used unless there is an emergency or unless prior approval has been given.
B. To prevent hydrant damage when using a fire hydrant, it shall be opened all the way when in use and closed all the way when not in use.
C. If a plant fire extinguisher is used it shall be turned in to the appropriate OUC representative.

6. Ladders

A. All ladders and use of ladders shall comply with 29 CFR 1910.25, 1910.26 and 1910. 27.
B. Site Specific Rules regarding ladders are the following:
   1. Portable metal ladders shall not be used. Exception: Such ladders may be used in specialized work, as high voltage substations, where non-conductive ladders might present a greater hazard. These ladders shall be properly marked.
   2. Ladders shall not be used as scaffold platforms.
   3. Boxes, chairs, etc., shall not be used as ladders.
   4. Portable straight ladders shall be used only if they have non-skid bases.
   5. When working from a portable ladder, employees shall ensure that the ladder is securely placed, held, tied, or otherwise made secure to prevent slipping or falling.
   6. Personnel working from portable ladders shall wear fall arrest equipment whenever they are exposed to a fall of 24 feet or more.

7. Mechanical

A. Pulley, gear and similar equipment guards shall be replaced if removed.
B. No work shall be performed in close proximity to running conveyor belts.
C. No one shall ride, stand on, or cross over a conveyor.

8. Cranes, Hoists, Forklifts and Heavy Equipment

A. Prior approval must be obtained before using any plant crane, hoist, forklift or heavy equipment.
B. Only qualified persons shall operate any crane, hoist, forklift or heavy equipment.
C. All Contractor hoists and cranes must meet the requirements as specified in 29 CFR 1910 and 1926.
D. Upon request, the Contractor must provide the inspection records of any Contractor supplied hoist or crane to be used on site.
E. All forklift operators must have a license/certification as being qualified to operate a forklift and a current valid evaluation indicating they have the skills necessary for the type of forklift they will be using.

9. Area Protection and Access

A. Work area protection is the adequate protecting of all employees by the use of suitable barriers, warning signs, lights, flags, flagmen, etc., as the job requires on approaches to work areas, excavations, open manholes, floor holes, etc. Proper work area protection shall be preplanned.
B. Safe access shall be provided to all work areas.
C. Any open floor hole with a vertical dimension greater than four (4) feet shall have a suitable barrier with appropriately constructed guardrails, midrails and toeboards, or suitable cover, designed for 2 times the intended load. For short duration jobs, warning tape with signs denoting that 100% Fall Protection is needed, in conjunction with a standby employee to ensure personnel entering the designated area wear the appropriate fall arrest equipment, may be utilized. The barricade tape must be placed at least six (6) feet from the edge of the fall exposure and the standby employee must be present AT ALL TIMES WHEN THE FLOOR HOLE IS OPEN.
D. Open manholes are required to have a suitable barrier with appropriately constructed guardrails, midrails and toeboards.

E. Any *Leading Edge* type of fall exposure (roof, walkway without handrails etc.) in excess of four (4) feet shall be protected appropriately constructed guardrails, midrails and toeboards. For short duration jobs, warning tape with signs denoting 100% Fall Protection is needed may be used. The barricade tape must be placed at least six (6) feet from the edge of the fall exposure. All personnel entering past the barricade tape must wear the appropriate fall arrest equipment.

10. Tools and Equipment

A. All portable power tools, portable lighting, and other temporary equipment require the use of a Ground Fault Circuit Interrupter (GFCI).
B. Electrical equipment and tools shall be wired and grounded as required by applicable electrical codes.
C. Appropriate guarding shall be used on tools and equipment.
D. Defective tools and equipment must be identified as defective by tagging, marking etc. and may not be used until repaired.
E. Use of OUC tools or equipment is forbidden unless authorized by the OUC Representative.

11. Operation and Modification of Equipment

A. Contractor employees shall not operate any switch, valve, breaker, etc., unless they receive approval from their OUC representative and the Tagging Authority for the equipment they need to operate.
B. Contractor employees shall not make any circuit logic, control modifications, or other modification to equipment without approval from the appropriate OUC representative.

V. SPECIAL HAZARDS AND WORK CONDITIONS

1. Fall Arrest

A. Fall arrest equipment shall be properly used when exposed to a fall in excess of six (6) feet, when the use of other fall protection means are not practical. Fall protection shall be provided 100% of the time personnel are exposed to a fall in excess of six (6) feet, with the exception of working from a portable ladder with a fall exposure of twenty-four (24) feet in height or lower. Any time personnel work from a portable ladder in excess of than twenty-four (24) feet, or climb a fixed ladder that has a fall exposure greater than twenty-four (24) feet; the appropriate fall protection measures must be taken. Appropriate fall arrest equipment is considered the following:

1. A full body harness is required for use as part of the fall arrest system. A body belt or a chest harness is not considered proper fall arrest equipment.
2. All lanyards used for fall arrest shall have double locking snap hooks.
3. All lanyards used for fall arrest shall have a shock absorber that limits the arresting force to less than 900 pounds in the event of a fall.
4. Those devices which limit the fall distance in such a manner as to ensure the arresting force does not exceed 900 pounds may be used without a shock absorber (e.g.: retractable lifelines, ladder clamps, etc.).

Note: Floor Holes and Leading Edge Fall Exposures require fall protection or fall arrest at an exposure of 4 feet.

B. Additional requirements and information on fall protection may be found in 29 CFR SUBPART M.

2. LOTO Procedure (Lockout/Tagout)

A. Stanton Energy Center requires all contractors to comply with 29 CFR 1910.269(d) - Hazardous Energy Control (Lockout/Tagout) Procedures, the SEC LOTO Procedure will be used to ensure the control of hazardous energy.
B. No personnel shall work in such proximity to any part of an electric power circuit that he may contact in the performance of the work unless protected against electrical shock. Effective protection is considered to be the following:
    1. De-energize the circuit and use of the SEC LOTO Procedure.
    2. If the circuit is required to be worked on while energized, it must be guarded by effective insulation or other means and must conform to the guidelines for work performed on energized equipment, as found in 29 CFR 1910.269 and the additional requirements noted in Paragraph - 3. Exposed Energized Electrical Work of this document.

C. Anytime personnel must de-energize or de-pressurize equipment to perform their work safely, the requirements of the SEC LOTO Procedure must be followed. Precautions to relieve, or block, stored energy must also be taken. Examples are, but are not limited to:
    1. Capacitors.
    2. Pressure trapped in piping or vessels.
    3. Spring operated equipment.
    4. Hydraulics.
    5. Eccentrics

D. The SEC LOTO Procedure uses three different colored tags for the purposes of preventing equipment from being operated. Violation of any of these tags may cause serious injury or equipment damage. Any contractor employee violating a LOTO Tag will be removed from site.

E. Red Tags: Operations hangs Red Tags to prevent operation of equipment. Equipment that is Red Tagged may only be operated by Operations personnel, and only after approval has been obtained from the Tagging Authority.
    1. The SEC LOTO Procedure requires "Blockout" with Red Tags. Blockout is the use of a heavy-duty tie-wrap to prevent inadvertent operation of equipment similar in manner to the use of a lock for this purpose.

F. Yellow Tags: Personnel designated as Primary Authorized Employees hang Yellow Tags. Equipment that is Yellow Tagged may only be operated under the authority and by direct communication with, the Primary Authorized Employee.
    1. The SEC LOTO Procedure requires "Blockout," or Lockout, to be used with Yellow Tags in compliance with the provisions of the SEC LOTO Procedure. Blockout is the use of a heavy-duty tie-wrap to prevent inadvertent operation of equipment similar in manner to the use of a lock for this purpose. The decision as to which is appropriate, Blockout or Lockout, is the responsibility of the Primary Authorized Person.

G. A Yellow Tag shall not be placed on equipment that has a Yellow or Red Tag already placed on it, and a Red Tag shall not be placed on equipment with a Yellow Tag or Red Tag hung on it.

H. Blue Tags: When equipment is tagged to prevent injury to personnel, a Blue Tag is hung adjacent to a Red or Yellow Tag by a person designated as a Lead Authorized Person. <u>No equipment may be operated while a Blue Tag is attached to the equipment.</u>
    1. Only Lead Authorized Persons may hang OUC/PRBU Blue Tags and perform the other duties assigned this designation in the SEC LOTO Procedure.
    2. A Blue Tag shall only be removed by the Lead Authorized Person who hangs the tag, except under the Emergency Release Provisions of the SEC LOTO Procedure.
    3. Contractor employees who have been designated as Lead Authorized Persons may provide Blue Tag administration for contractor employees using the provisions of the SEC LOTO Procedure. Only personnel designated by the OUC PRBU Safety & Training Manager may be Lead Authorized Persons. The designation of Lead Authorized Person is based upon successfully passing training requirements and demonstration of the proper use of the SEC LOTO Procedure.
    4. Contractors who have no person designated as a Lead Authorized Person will have their personnel work under the Blue Tags of an OUC Representative that has the designation. The OUC Lead Authorized Person will create an Authorized Person Clearance Log. All contractor employees working under the Blue Tags of an OUC Lead Authorized Person shall sign on the Authorized Person Clearance Log before beginning work, and shall sign off of the Authorized Person Clearance Log when the work is complete, or when they will no longer be working on the equipment. The OUC Lead Authorized Person shall not remove a Blue Tag if any signatures are not cleared from (signed off) the Authorized Person Clearance Log.
    5. Each contractor employee is responsible for his or her own LOTO device (signature). No person shall sign for another person, work under the signature of another person, or sign off for another person on the Authorized Person Clearance Log except under the Emergency Provisions of the SEC LOTO Procedure.
    6. When the OUC Lead Authorized Person deems it necessary, they have the authority to require all contractor employees to sign off the Authorized Person Clearance Log at the end of each work shift when contractor employees are leaving the site for the day.
    7. The OUC Lead Authorized Person has the authority to require the contractor to designate a "Senior Authorized Person". The Senior Authorized Person is responsible to ensure all contractor employees sign on and off the Authorized Person Clearance Log as needed for their protection and provide the completed Authorized Person Clearance Log to the OUC Lead Authorized Person as needed to control hazardous energy.

3. Exposed Energized Electrical Work

A. No employee shall approach or take any conductive object closer to exposed, energized lines or equipment than set forth in TABLE 1 in this section unless, the employee is *Qualified* as per the definition in 29 CFR 1910.269 and the employee is insulated from the energized part(s) using gloves, sleeves, or tools rated for the voltage of the exposed, energized part(s), or the exposed energized part(s) are insulated from the employee.

B. All personnel performing exposed, energized, electrical work on equipment under the exclusive control of Stanton Energy Center shall barricade unshielded areas and wear the appropriate level of protective apparel (ATPV Rating) within the barricaded area. The distance the unshielded area shall be barricaded shall conform to the following:

50 volts to 599 volts = 10 feet
Greater Than 600 Volts = 20 feet

Note: Exposed, energized, work on electrical equipment not under the exclusive control of Stanton Energy Center shall conform to the appropriate guidelines and regulations per the authority having control of the equipment.

C. All electrical protective devices shall meet the requirements of 29 CFR 1910.137 as minimum standard.

D. Additional requirements may be found in 29 CFR 1910.269.

TABLE 1

AC LIVE-LINE EXPOSURE MINIMUM APPROACH DISTANCE

NOMINAL VOLTAGE PHASE TO PHASE	DISTANCE	
	PHASE TO GROUND EXPOSURE (FT - IN)	PHASE TO PHASE EXPOSURE (FT - IN)
50 to 1000	AVOID CONTACT	AVOID CONTACT
1100 to 15000	2 - 1	2 - 2
15100 to 36000	2 - 4	2 - 7
36100 to 46000	2 - 7	2 - 10
46100 to 72500	3 - 0	3 - 6
72600 to 121000	3 - 2	4 - 3
138000 to 145000	3 - 7	4 - 11
161000 to 169000	4 - 0	5 - 8
230000 to 242000	5 - 3	7 - 6
345000 to 362000	8 - 6	12 - 6
500000 to 550000	11 - 3	18 - 1
765000 to 800000	14 - 11	26 - 0

4. Scaffold Requirements

A. Detailed regulations on specific types of scaffolding are given in 29 CFR, Part 1926 Subpart L.
B. Competent persons as defined by 29 CFR 1926.450 (b) must be designated to supervise the erecting, moving, dismantling, and alteration of scaffolds.
C. A Competent Person shall check all scaffolding each shift (prior to use) to ensure it is of sufficient strength and rigidity to safely support the weight of workers and material to which it will be subjected.
D. The following rules are site-specific requirements for scaffolding and supports.

1. Scaffolds 4 feet and higher must have standard guardrails and midrails installed on all open sides and ends of the platform where feasible. If standard guardrails and midrails are not installed on all open sides and ends of the platform, the scaffold must denoted as requiring fall protection using the Yellow Scaffold Tag. Toeboards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor unless other precautions are taken for personnel.
2. All scaffolds shall have the appropriate tag hung indicating their suitability for use. Only the competent person in charge of the erection/dismantling of the scaffold may sign the scaffold tag. The scaffold tag shall be signed and dated in the spaces provided on the back of the tag. Any other pertinent information may be written on the back of the tag.
    a. When any scaffold is incomplete (such as during erection or dismantling) or damaged, the red colored scaffold tag shall be hung appropriately. The front of the red scaffold tag will read as follows:

WARNING-THIS SCAFFOLD IS NOT COMPLETE-DO NOT USE

In the event a piece(s) of scaffold is damaged it shall be tagged and the reason noted on the back of the tag under the warning header. The damaged piece of scaffold shall be removed from service and placed out of service, with the tag remaining in place, until the scaffold piece(s) is repaired or destroyed.

b. In the event a scaffold must be built which is unable to have the guardrails and midrails, or has a ladder access with a fall hazard of greater than 24 feet, fall protection shall be used. Any scaffold which requires the use of fall protection shall have a yellow scaffold tag hung appropriately. The front of the yellow scaffold tag will read as follows:

CAUTION-FALL PROTECTION MUST BE USED ON THIS SCAFFOLD

For those scaffolds which require fall protection only because the ladder access exceeds 24 feet, the competent person shall indicate on the back of the yellow scaffold tag (under CAUTION header) that fall protection is needed only while climbing/descending the ladder access.

c. Those scaffolds that are complete and meet the proper specifications shall have a green scaffold tag hung appropriately. The front of the green scaffold tag will read as follows:

. ATTENTION: THIS SCAFFOLD WAS BUILT TO MEET PROPER SPECIFICATIONS IT IS SAFE TO USE.

d. Any scaffold which is tagged with a green or yellow scaffold tag shall have the tags removed and replaced with a red scaffold tag before any modification may be made which changes the safety status of the scaffold.

e. Scaffold tags shall be hung at approximately eye level and adjacent to each ladder access. In the event the scaffold does not have a ladder access, the tag shall be placed at each access location where it is easily visible before accessing the scaffold.

5. Respiratory Protection

A. Respirator protection shall be worn when required. The Contractor's Respiratory Program shall meet the applicable O.S.H.A standard for the operation or maintenance to be performed. Upon request, the records of your respirator program shall be provided to OUC for the personnel needing to use respiratory protection. This information must contain, but not be limited to, the following:

1. Training record for the type of respirator to be used.
2. Medical clearance for respirator use.
3. Fit test records for tight fitting respirators requiring a seal on the face.
4. Methods used to determine the change out schedule for respirator cartridges.

The PRBU Safety & Training Manager is the PRBU Respiratory Program Administrator has final authority on the type and level of respiratory protection used; unless the Contractor provides written authorization to use a different level of respiratory protection from the Contractor's Respirator Program Administrator. The written authorization must include the data and methodology used to determine the level of respiratory protection.

B. Additional information on respiratory protection may be found in 29 CFR 1910.134 and 1910.120.

6. Confined Space Procedure

A. A Confined Space Entry Permit shall be obtained before entering into any confined space. The Confined Space Entry Permit shall be obtained from the appropriate OUC Representative.

1. A confined space is any one of the following areas that employees may need to enter in the course of their work:
   a. A structure such as a boiler or condenser
   b. A container such as a tank, drum, sump, vault, or other vessel
   c. A pipe, ventilation or exhaust duct, sewer, coal silo, mill, manhole.

2. Any structure which was not designed for continuous human occupancy where there may be a lack of oxygen or where potentially explosive, flammable, poisonous, asphyxiant, suffocant, or anesthetic vapors or gases could be

present in hazardous amounts. Any structure in which engulfment or entrapment is possible. Confined spaces should be marked; however, lack of proper marking does not relieve personnel of determining if the space requires to be considered as a confined space prior to entry.

B. Responsibilities:
    1. Contractors Representatives: Shall coordinate their requests for a Confined Space Permit through their OUC representative. Unless other arrangements are made through the OUC representative, it is the Contractor's responsibility to assign a qualified person to authorize a Confined Space Permit, as the Person in Charge of the Work, and to provide a rescue plan, the personnel, equipment and/or devices necessary to ensure the requirements of the Confined Space Permit are met.
    2. Supervisors: It shall be all supervisors' responsibility to inform their employees of the requirements of the Confined Space Entry Procedure and the hazards associated with working in confined spaces and to initiate disciplinary action for any violation of the procedure.
    3. Employees: It shall be all employees' responsibility to abide by the requirements of the Confined Space Entry Procedure.
C. Personnel required to enter a confined space shall obtain a Confined Space Entry Permit from the appropriate authorized person.
D. The employee issuing the permit and the employee requesting the permit shall fill out the permit and it shall be posted in a conspicuous location near the entrance to the confined space.
E. The following items shall be considered and the appropriate actions taken before anyone enters the confined space:
    1. The atmosphere shall be tested to determine the oxygen percentage level and the presence of explosive or toxic gases, fumes, or dust.
        a. Only an approved instrument shall be used. Instruments found not working properly shall immediately be repaired.
        b. Employees conducting the tests shall be properly trained.
        c. All levels of the confined space shall be tested to ensure there are no pockets of hazardous gases, fumes, or oxygen deficient areas.
        d. If long work in the confined space is anticipated, tests shall be conducted periodically to ensure that safe conditions are maintained. A test shall be conducted a minimum of once each shift to ensure the atmosphere remains in a safe condition.
        e. Constant monitoring may be required based on the hazards and the work being performed (i.e., welding, painting, coating, using chemicals). In the Air Quality Control Building constant monitoring for Sulfur Dioxide is required inside the modules and the connecting ductwork while the boiler is in operation.

F. All test results shall be recorded on the Confined Space Entry Permit.
G. Detailed requirements for welding in confined spaces are given in 29 CFR, Part 1910.252.
H. Entry into a confined space with an unsafe atmosphere shall be avoided if at all possible. An employee required to enter a confined space with an unsafe atmosphere shall be equipped with the necessary personal protective equipment. Any entry into a confined space with an unsafe atmosphere requires a consultation with OUC Plant Management and the methods of protecting employees must be agreed upon before work may be performed. Any entry into a confined space with an atmosphere that is Immediately Dangerous to Life or Health (IDLH) requires a Job Hazard Analysis (JHA) and consultation with Plant Management, the PRBU Safety & Training Manager or designee.
I. The confined space shall be ventilated as required to ensure a continuous supply of breathing air to the work area.
J. The SEC LOTO Procedure shall be used to ensure all equipment and systems that could affect the confined space are rendered inoperative.
K. If required, the space shall be prepared by isolation, draining, venting and cleaning.
L. No employee shall enter a confined space unless a standby employee (hole man) is stationed outside the entrance.
    1. It shall be the standby employee's responsibility to provide assistance to the employees working in the confined space, and to summon emergency assistance in the event of an emergency.
    2. The standby employee shall not enter the confined space or leave the area without being replaced by another employee.
    3. It shall be the standby employee's responsibility to keep track of employees entering and exiting the confined space. He/she shall log them in and out on the back of the Confined Space Entry Permit.
M. The “Person in Charge of the Work” as denoted on the OUC-SEC Confined Space Permit shall ensure a rescue plan, rescue equipment and fire equipment are available in the event of an emergency. The rescue plan must indicate the

equipment required for extricating personnel in an emergency and must be at the entrance to the confined space under the control of the standby employee with a copy of the OUC - SEC Confined Space Permit.

1. If the contractor is providing their own rescue services:
    a. The name of the response team or person(s)and their response time must be indicated on the Rescue Plan. The response time must be no longer than four minutes for the rescuer(s) to respond to the scene.
    b. The availability of rescue services for each shift that entry occurs in the confined space must be denoted on the Confined Space Permit in the appropriate location.
    c. The OUC Representative and Watch Engineer must be notified each shift entry occurs that the contractor is providing their own rescue services for the confined space.
2. If OUC is providing rescue services:
    a. There must be an SEC approved Rescue Plan and there must also be a SEC Rescue Checklist for use by the SEC Emergency Response Team at the entrance to the confined space under the control of the standby employee.
    b. Any deviation(s) from a SEC approved rescue plan must be approved by the PRBU Safety & Training Division.
    c. Any confined space that must be entered for which there is not a SEC pre-approved rescue plan requires a plan to be written and approved by the PRBU Safety & Training Division before entry is allowed.
    d. In cases where there is not a PRBU Safety & Training representative available, the OUC Representative and a SEC Confined Space Qualified ERT member may authorize the deviation to the Rescue Plan or write a new rescue plan.
    e. To ensure SEC ERT Confined Space Rescue Services are available, the Person in Charge of the Work shall call the Watch Engineer, and verify the availability of rescue services and denote it in the appropriate space on the Confined Space Permit.

N. A communication system shall be preplanned to include communications between the standby person and employees inside the confined space, and a method to call for emergency assistance.
O. Safe access to the confined space shall be maintained at all times.
    1. If the confined space is entered by a ladder, the ladder shall remain in place and shall be fastened in a firm position while employees are inside the confined space.
    2. If possible, all cords, hoses, leads, etc., shall be routed through an entrance other than the employee access into the confined space.
P. All electrical equipment used shall be properly grounded. GFCI protection is required for use with portable lighting and portable power tools used in confined spaces.
Q. To prevent the latching of self-locking doors or hatches while employees are working inside a confined space, the locking devices shall be made inoperative before employees enter.
R. No work activities that cause or produce open flames, such as welding, shall be performed without a Welding and Cutting Permit.
S. Electric welding, gas welding, cutting, or any other hot work, shall not be performed on the interior, exterior, or near the openings of any confined space that may contain flammable or explosive vapors until the confined space has been properly cleared.
T. Compressed gas bottles other than compressed air shall not be allowed in a confined space.
U. All entryways deeper than five (5) feet vertically require a mechanical device (e.g., Tripod) for emergency extrication to be in place at all times while personnel are in the Confined Space.
V. After the permit has been hung, but before any employee enters the confined space, a pre-entry briefing with all employees required to enter the confined space shall be conducted by the person in charge of the work. The briefing shall cover all the items required to safely enter the confined space and the hazards associated with working in confined spaces.
W. When the work in the confined space is complete, the person that requested the permit shall ensure all personnel and equipment are out of the confined space. They shall then sign off on the permit and turn it in to their supervisor. The supervisor shall turn it in to the PRBU Safety Coordinator or their OUC representative.
X. Failure to follow the guidelines of the confined space procedure may require work to stop until the correct procedures are followed. The determination as to who is responsible for the cost of a work stoppage will be determined by the OUC Representative and Contractor Representative.

7. Welding and Cutting/Hot Work

A. A welding and cutting/ hot work permit is required whenever welding, cutting or heating is done. Welding and cutting permits shall be coordinated through the appropriate OUC representative.
B. When welding or cutting in elevated positions, precautions shall be taken to prevent sparks and hot metal from falling on people and equipment below. Walls, roofs, ceilings, pipes, tanks and partitions shall be assessed to determine if welding or cutting on them will cause a fire due to conductive heat, radiated heat or sparks from the hot work process. Conveyors and ductwork shall be considered when performing welding, cutting or other hot work that might carry sparks or otherwise cause a fire at a distant location. The conveyors or ducts must be protected, or shut down to prevent fires due to the welding, cutting or hot work if is determined the work may cause a fire. The person requesting the permit or the OUC Representative shall notify the Watch Engineer or appropriate Operations Area Supervisor when beginning work, and at the end of each shift that the day's hot work has concluded until the hot work being performed under the permit is complete.
C. Welding screens shall be used while working next to other employees or walkways and stairways.
D. Suitable fire extinguishing equipment shall be immediately available at all locations where welding and cutting work is being performed.
E. A fire watch shall be provided during and after the work is completed to ensure no fire hazards exist. The minimum length of time for a fire watch is 30 minutes, however, based upon the determination of the OUC Representative, the fire watch may be required for up to an hour.

8. Trenching and Excavations

A. Before any work is started, all underground structures and utilities affected by the work shall be located and marked. A map or drawing of the proposed excavation or trenching and any obstructions must be reviewed by all personnel involved in the trenching or excavation and agreement reached as to the methods used to ensure no underground utilities or structures are damaged during the process of the excavation or trenching.
B. All excavations 5 foot or deeper shall be shored or sloped in accordance with Federal, State and local standards.
C. All excavations 4 feet or deeper shall have a ladder for access into the excavation with no more than 25 feet of travel in any direction.
D. Spoil piles shall be kept a minimum of 2 feet from the edge of the excavation.
E. The soil type on site is to be considered Type C for excavations and trenches.
F. All excavations or trench operations shall be inspected and supervised by a “Competent Person” as designated in 29 CFR 1926 Sub Part P - Excavations.
G. Further information on the requirements for excavations and trenching can be found in 29 CFR 1926 Sub Part P - Excavations.

9. Process Safety Management

A. The Stanton Energy Center has two systems which are covered by 29 CFR 1910.119 Process Safety Management of Highly Hazardous Chemicals:
    1. The Selective Catalytic Reduction Ammonia system (SCR) which is used to reduce NOx emissions on SEC Unit # 2.
    2. The Chlorine Injection system used to chemically treat the cooling water at both the SEC Unit # 1 & # 2 Cooling Towers.

B. In accordance with 29 CFR 1910.119 (h) (1) (Process Safety Management), the Orlando Utilities Commission is required to review the safety performance and safety program of contractors who perform maintenance or repair, turnaround, major renovation, or specialty work on or adjacent to systems that are covered by the standard as part of the evaluation used to determine the award of contracts. In order for your company to be evaluated for award of the contract, a completed, signed and dated Contractor Safety Evaluation form must be submitted along with a copy of the contractor’s Experience

Modification Rate (EMR) on Insurance Company Letterhead. Failure to submit the Contractor Safety Evaluation will remove the Contractor from the qualified contractor/vendor list and the contractor will not be eligible for award of the contract.

C. All contractors awarded work that is on the systems covered by the Process Safety Management Standard shall provide documentation that all employees have received training in the potential fire, explosion, or toxic release hazards related to his/her job and the process and the applicable provisions of the emergency plan. The documentation shall include the identity of the contract employee, the date of the training, and the means used to verify that the employee understood the training. In addition, a Job Hazard Analysis (JHA) is required for all work on systems covered by the Process Safety Management Standard and the JHA must be reviewed by all personnel involved in the work prior to the work beginning, and as needed, during the progress of the work. Any modification to the JHA during the job must be approved by the senior contractor supervisor on site and either the OUC/PRBU Safety & Training Manager or Stanton Energy Center Maintenance Manager, or their designees.
D. All contractors awarded work that is on the systems covered by the Process Safety Management Standard shall report any injuries or illness related to work in the process areas immediately and shall provide an injury and illness log on a weekly basis to the Safety & Training Manager.
E. All contractors awarded work that is on the systems covered by the Process Safety Management Standard shall comply with all other pertinent provisions of 29 CFR 1910.119 that are not mentioned in this document.

10. Commercial Diving Operations

A. All diving operations shall conform to the non-diving safety procedures contained in the Contractor Orientation.
B. The Watch Engineer on duty shall be made aware of each day's planned diving activities.
C. Diving operations will be supervised by an OUC representative.
D. Any diving operation taking place at the intake of a pump or pumps shall be a surface supplied air dive with helmet and shall meet all requirements as outlined in 29 CFR 1910.425.
E. An operational 2-way voice communication system shall be used for all dives.
F. Communications shall be checked at least each 3 minutes. A correct response from the diver is required to continue the dive.
G. All divers must be line-tended.
H. Detailed information concerning the requirements for diving operations is given in 29 CFR 1910. SUBPART T Commercial Diving Operations.

Appendix 16

Excerpts from OUC Emergency Operational Guide, Emergency Plan Procedures

Appendix 16

Excerpts from OUC Emergency Operational Guide, Emergency Plan Procedures

OUC Emergency Numbers

To report an EMERGENCY (requiring immediate help)

Reliable Plaza, Gardenia, Pershing & St. Cloud
Call: **9-911** EMS and **x44911** SMC

Stanton Energy Center
Call: **x43111** Control Center

Indian River Plant
Call: **3-911** EMS and **x44911** SMC

OUC The Reliable One®

SMC = OUC Security Monitoring Center
When calling from an outside phone, dial 407-434-4911 to reach the SMC

OUC Non-Emergency Numbers

To Report a Non-Emergency Accident or Injury

Call: **x46111** Service Dispatch

OUC The Reliable One®

Other Phone Numbers

Security Guards

x46100 407-434-6100 — ***Reliable Plaza***
x46200 407-434-6200 — ***Pershing***
x46300 407-434-6300 — ***Gardenia***
x43136 407-434-3136 — ***SEC Main Gate***

Stanton Energy Center
407-658-6444

OUC Emergency Operational Guide
Emergency Plan Procedures

ORLANDO UTILITIES COMMISSION
ORLANDO, FLORIDA

REVISED JUNE 2015

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Letter from Ken Ksionek
General Manager and CEO, OUC – The *Reliable* One

We will always remember the hurricane season of 2004. Our years of planning and preparation were put to the test not once, but three times in 45 days. We learned a lot as a result of the storms and since have incorporated those lessons into our hurricane procedures. Above all, those storms reinforced the fact that we must never become complacent.

As we enter another hurricane season, we must realize that our customers will expect us to perform even better than we did in 2004. The bar has been raised even higher. While experience is helpful, preparation is paramount. That is why OUC has taken our hurricane preparedness to the next level, sending all employees through National Incident Management System (NIMS) training. NIMS courses were created by the Federal Emergency Management Agency (FEMA) to provide a consistent nationwide template to enable all government, private sector and non-governmental organizations to work together during domestic incidents. The courses are for people involved with emergency planning, response or recovery efforts.

Even if your current job does not involve you directly in restoration activities, every OUC employee is considered essential and will be called upon to support our goal of restoring power and water to customers as safely and quickly as possible.

Personnel will be re-assigned during major storms and may be involved in a number of activities such as answering customer phone calls or assisting with logistics. That is why it is important for each and every OUC employee to become familiar with our hurricane procedures.

I urge you to review the Emergency Operational Guide and discuss your role with your immediate supervisor. In addition, the OUC web has a special section that can help you develop a personal hurricane plan.

Remember, our success in responding to another major storm or emergency depends on you.

At OUC, we will continue to prepare for the worst – while we hope for the best.

Sincerely,

Ken Ksionek
General Manager & CEO

OUC Emergency Preparedness

Overview
The emergency plan procedure is established to provide a continuing program to prepare for, respond to, and recover from any emergency or disaster and to assure maximum protection, continuity, and recovery of personnel, property, and services.

OUC recognizes the essential role that must be played by all personnel in planning to minimize the effects of any type of disaster, which might strike the Commission's, electric, and water facilities distribution or support systems. Two general types of disasters that could threaten normal operations are Natural Disasters or Manmade Disasters.

Natural Disasters: (Types of natural phenomena)
• Hurricanes
• Severe Thunderstorms/Lightning
• Extreme Cold Weather Conditions
• Tornadoes/High Winds
• Flooding
• Fires
• Sinkholes
• Drought

Man-Made Disasters:
• Terrorist Attacks
• Civil Disorders
• Chemical/Hazardous Material Spills
• Arson
• Vandalism
• Bomb Threats
• Major Fires or Explosions
• Transportation Accidents or Derailments

The most common type of emergency condition encountered in the past has been hurricanes. OUC has been through a number of these conditions and has a standard procedure in place. If the disaster is the result of terrorist action, some advance warning may be received. In the event of terrorist attack, the Commission's contribution of electric power and uncontaminated water supply is essential to survival and to post attack recovery. The effectiveness of this contribution will depend upon any blast damage to the system and the extent of completion of pre-attack preparation.

Employee Expectations
Maximum support to OUC's Divisions is required by both management and employees in times of emergency. Emergency preparedness plans are designed to show employees where and when to report to a pre-assigned station. While OUC is under a level I status an employee may be asked to perform duties different from their normal work load. They may also report to a different person depending on the task assigned.

Because OUC provides an essential public service, the forced closing of its facilities is unlikely. However, as a result of severe weather conditions which may include hazardous driving conditions and other weather-related problems beyond employees' control (e.g., the closing of schools), work attendance maybe affected. In such instances, special procedures will be observed with respect to employee attendance and punctuality. Refer to the Commission's Employee Handbook, Weather Policy.

Employee's Family Shelter

There are no OUC facilities designated as emergency sheltering/housing. Family members should utilize the Red Cross sheltering system. Local jurisdictions may have shelters available for emergency workers and their families even though their areas have not been required to evacuate. This sheltering information will be announced to Commission employees as soon as that information is made available. The other plan is to prepare yourself and your family to evacuate the area or be prepared to remain sheltered in place. These arrangements need to be made in advance of any land falling storms. Hurricane preparedness guides are available to employees through the OUC Web.

Training and Testing

Information meetings and workshops shall be held from time to time for the purpose of familiarizing all employees with the Emergency Plan. Training drills will be conducted as needed.

UNIFIED COMMAND

If a significant event occurs where there is need to work in a unified command structure with other organizations outside of the OUC, the incident command center will be set up to run OUC operations and a joint incident commander will be located at the main Incident command post for the event.

If the event involves large customers, liaison officers will be set up as needed to work with those large customers to assist OUC in restoring power and communicate status as needed.

CONCEPTS OF OPERATION

Typically, day-to-day emergencies do not require the formal Emergency Operation Plan (EOP) activation. They may start from emergency calls originating at the public level and expand to large scale events. When such emergencies do expand and resources are required outside the immediate capabilities or availability, the EOP may become active to support required operations.

The executive policy group is responsible for the overall emergency policy and coordination of the restoration process for OUC customers.

The Incident Commander has the overall responsibility for coordinating and supporting emergency operations for the entire event.

Operational Periods
Operational periods are normally 12 hours in duration. The Incident Commander, based on need may alter these periods. During a Hurricane or some other strong wind storm OUC will operate having two operational periods:

Operational Period 1 - 16 hrs. 5:00am to 9:00pm
Operational Period 2 - 8 hrs. 9:00pm to 5:00am

A part of the operational period is the operational period planning cycle. This cycle denotes the schedule of events (creating the action plan, hold briefings etc.) which will occur in the management of the event.

Activation Level
Only with a decision by the Commission's General Manager\Chief Executive Officer or the established line of succession to this authority will place the EOP in operation for either a Natural Disaster or a National Emergency. These activation levels have been established to prepare for an event.

For Information - Provide awareness to a general threat; day-to-day operations continues, threat is identified and a heightened state of awareness is observed as the threat continues.

Level III - Threat possible to OUC General day-to-day operations continues. The threat is identified and a heightened state of awareness is observed as the threat continues. The threat is monitored on periodic basis and information is gathered about the threat.

Level II - Pre-emergency Period (Threat possible within 72 hours) The Emergency Plan may partially be activated at the discretion of the CEO depending on the decision to bring in additional resources.

Level I - Imminent Danger (Threat possible within 12 - 36 hours) This is full activation of the Emergency Plan The operation is carried out for 24 hours and operational periods are established.

Incident Phases
A threat or incident is divided into four main phases:

- Preparation Phase
- Operational Phase
- Demobilization Phase
- Recovery Phase

For a major event which could cause widespread damage to the distribution system. The Energy Delivery Business Unit subdivides the operational phase into four periods which triggers various task depending on the period:

Operational Phase

- Main Feeder Restoration Period
- Lateral Restoration Period
- System sweep Period
- Trouble Call Response Period

Period 1 – Feeder Restoration

The first phase should be on the restoration of the main feeder. This will facilitate the restoration of the backbone of the circuit as well as establishing the feed to the critical customer involved, if any. This also enables the restoration of many lift stations, traffic lights, and underground subdivisions fed directly off the main feeder. Depending on the amount of damage to the distribution system, this process may take several days to complete. Construction crews will communicate with the Distribution Control Center (DCC) to report when the feeder is ready to be energized and to notify them as to any isolation of feeder segments that was necessary in order to facilitate restoration. When any portion of a feeder is energized, it is important to follow all pertinent safety procedures, especially when mutual aid crews are involved. Where a problem on laterals would take less than 15 minutes to repair, the problem should be corrected before proceeding to energize the feeder. If it is not immediately obvious that a lateral can be safely energized, then it is to be opened pending assessment. In general underground dips can be left closed.

Period 2 – Lateral Restoration

The second phase of restoration focuses on the laterals. The Planning Section will create restoration priorities based on situation and resource status that will be enacted by the Pershing, Gardenia and St. Cloud Division. During this phase, crews are to establish service to all customers on those segments who are available to receive service. Safety Inspection Branch members are utilized to assist in work preparation for the construction crews. A Re-instate Task Force will be initiated at the discretion of the Incident Commander or Operations Section Chief.

Period 3 – System Sweep

Phase three of restoration requires the crews to sweep the feeder. If the Incident Commander determines that the magnitude of damage is not significant enough to warrant a house-to-house survey, crews will be directed based on outage data from the OMS system. During this phase, restoration crews are given area maps detailing any outstanding outage call or reinstate order associated with the feeder. Once completed, every customer who is able to receive service should be in service. The Distribution OPS Group will be responsible for addressing any outages that subsequently occur on a swept feeder. The goal should be to ensure that customers who have had service restored, and then lose service, are restored by the next day.

Period 4 – Trouble Call Response

Phase four of restoration has the majority of crews transitioned to addressing trouble calls, re-instates, and new service order issues. This may take several days depending on the number of calls received. Once calls have been reduced to a normal level, Operations and Construction divisions will return to normal operating procedures.

INCIDENT COMMAND CENTER (ICP) – For Major Events

The Incident Command Center will be located on the second floor of the Pershing Operations building. Staff will report to this location as directed by the Incident Commander. Seating assignments will be made upon arriving to the post. When reporting to the ICC, one should bring a laptop computer and the IP phone assigned to the individual.

Depending on the complexity of the event, the ICC may be moved to a field location that is more suitable for the event.

ORGANIZATION

The plan is organized using NIMS as a guide, and many facets of the Incident Command System (ICS) criteria.

This document contains detailed information on structure and function when the Emergency Plan is activated. Included are task lists for each position, or expected positions. Since ICS is flexible, not all positions may be required in every event, disaster or emergency.

Each Section Chief has the latitude to scale the operation accordingly. An example of minimizing scalability would be for a particular branch or unit to be absorbed within the responsibilities of a Section Chief, Branch Director or Group/Division Supervisor.

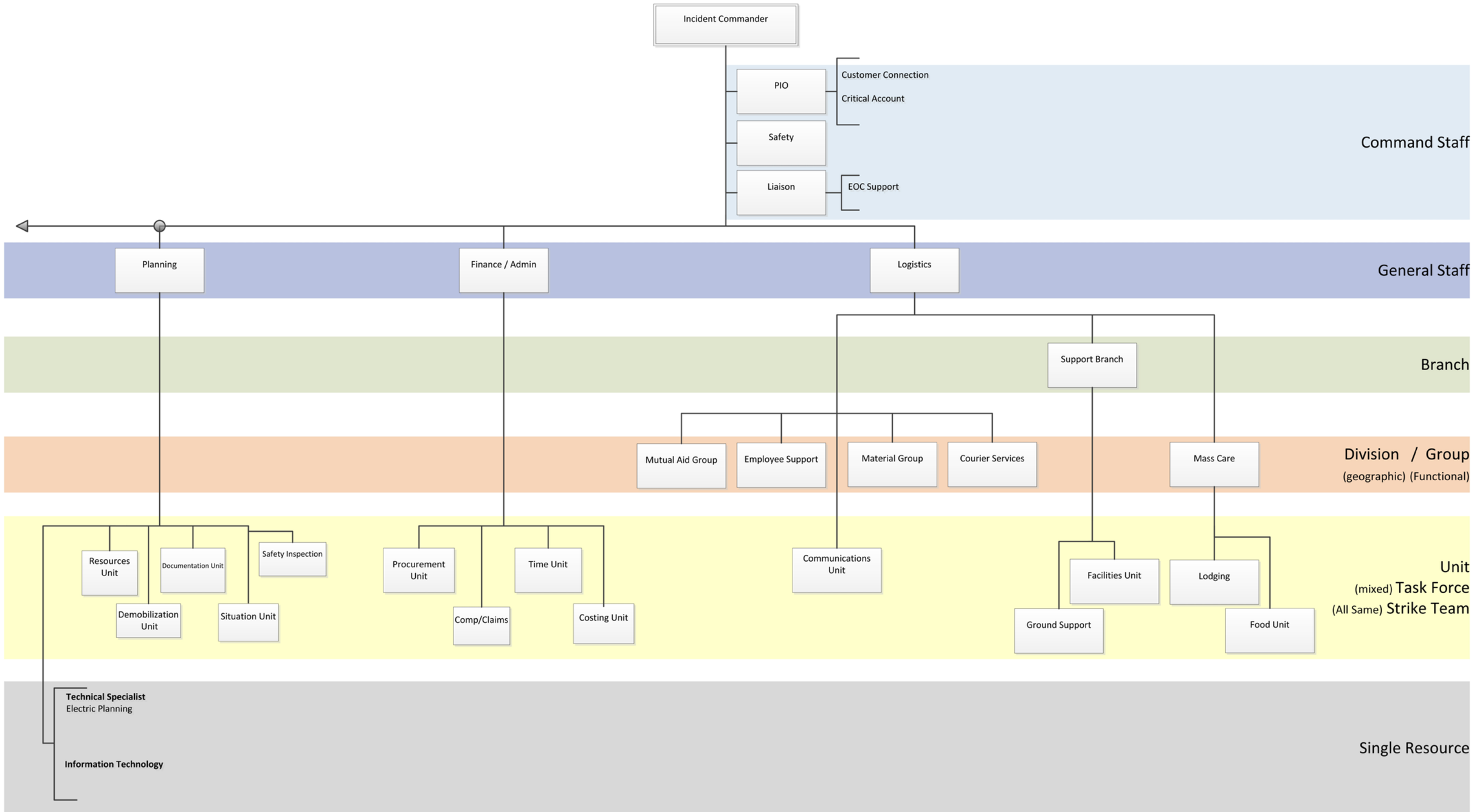
Should the need arise to advance the scale of the operation beyond listed functions or tasks, the Incident Commander or their representative has the basic tools, through generic task lists, to accomplish the expansion as is necessary.

Listed below are examples of possible organizational structures depending on the nature of the incident:

- Major wind storm
- Major water incident (Example: main break requiring multiple response efforts)
- Major Plant Incident (Example: Plant explosion causing widespread damage)

INCIDENT ORGANIZATION CHART (ICS 207)

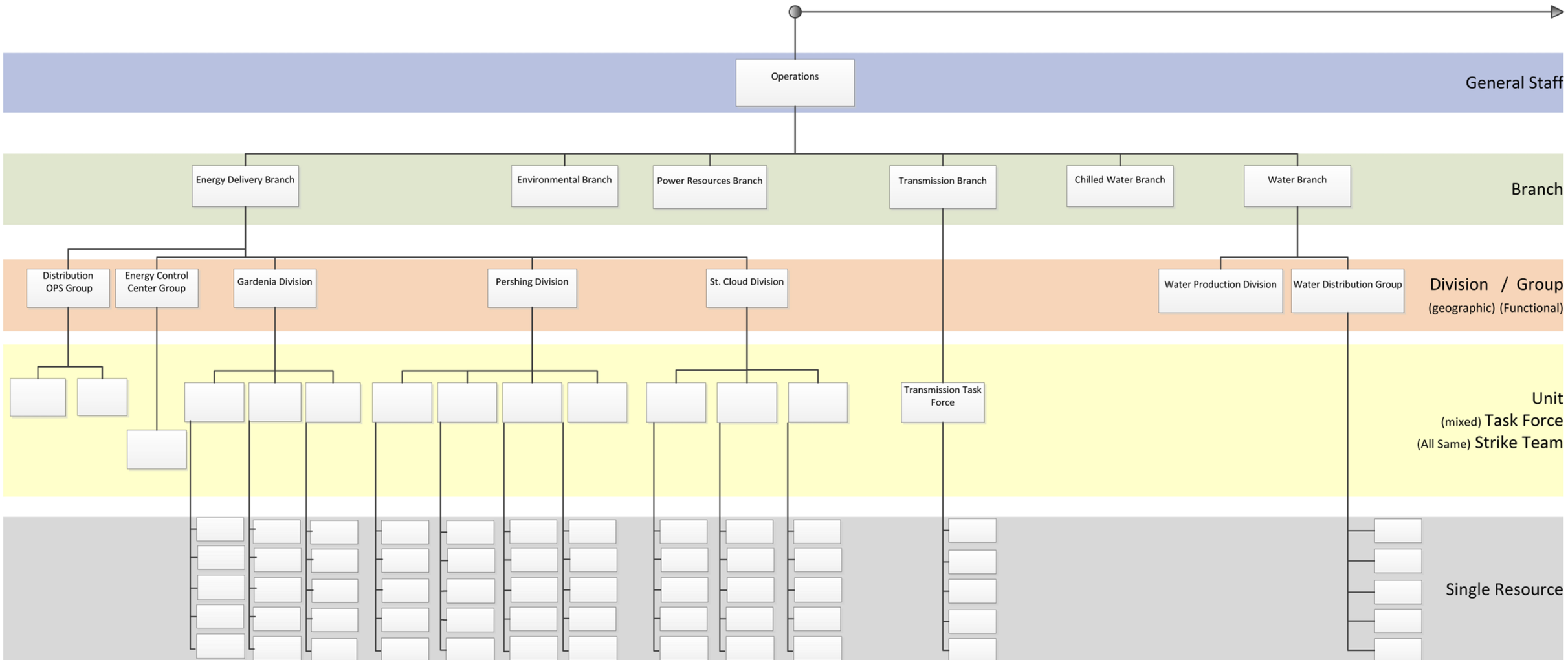
1. Incident Name:	2. Operational Period:	Date From:	Date To:
		Time To:	Time To:



ICS 207	IAP Page ____	4. Prepared By: Name:	Position/Title:	Signature:_____

INCIDENT ORGANIZATION CHART (ICS 207b)

1. Incident Name:	2. Operational Period:	Date From:	Jun. 27, 2012	Date To:	Jun 27, 2012
Hurricane		Time To:	06:00 am	Time To:	21:00



ICS 207	IAP Page ____	4. Prepared By: Name:	Position/Title:	Signature:_____

GENERAL RESPONSIBILITIES

Executive Policy Group (EPG)
The Executive Policy Group (EPG) is comprised of the CEO, and all Vice Presidents. The EPG provides executive level policy decisions relating to objective priorities in a declared emergency or other event that may strain resources providing emergency services.

The EPG provides priority direction and control necessary to conduct emergency operation and the management of resources to respond to the effects of any disaster, emergency or similar event.

Incident Commander
- Primary role is to establish objectives to manage/coordinate through the process.
- Commander facilitates the overall Plan.
- Commander may serve as an advisor to the EPG if not already a member.
- Informs the customers and public within the affected area(s) with complete, accurate, and consistent information about public safety and electric and water service.

Public Information Officer (PIO)
- The PIO is responsible for developing the format for press conferences in coordination with the Incident Commander and the Executive Policy Group.
- The PIO is responsible for maintaining a positive relationship with the media representatives, and supervises all Public Information activities.
- The PIO oversees the flow information that is given to the media as well as OUC customers

Safety Officer
- The Safety Officer is responsible for monitoring safety procedures and activities during restoration procedure
- The Safety Officer is responsible to stop or modify all unsafe operations, notifying the Incident Commander of actions taken.
- Security is assigned to the Safety Officer.

Liaison Officer
- The Liaison Officer is a point of contact for governmental entities in assisting and cooperating with cities and counties, including representatives located at the EOC's.
- Monitor incident operations to identify current and potential intergovernmental problems.
- Participate in planning meetings, providing critical governmental issues.

Operations Section

This section is headed by an Operations Section Chief who is responsible for the management and coordination of all tactical operations of the incident. The Operations Chief helps formulate, interpret and execute strategy established by the Commander. The Operations Section Chief or the designee conducts Operational Period Briefings at the beginning of each operational period.

The Operations Section Chief may extend duties to Branch Directors and conduct Branch Tactical Planning based on the current situation.

Multipurpose staging areas for resources are also under the management of this section. The Operations Section may consist of the following branches:

- Energy Delivery
- Transmission
- Water
- Power Generation
- Environmental
- Chilled Water

Logistics Section

This Section is headed by the Logistics Section Chief who is responsible for meeting the logistical needs of the incident by providing and coordinating all support needs. The logistics section may consist of the following:

- Support Branch
- Mutual Aid Group
- Communications Unit
- Mass Care Group
- Material Group
- Courier Services Group
- Employee Support Group

Planning Section

This section is headed by the Planning Section Chief who is responsible for the collection, evaluation, dissemination of information about the development of the incident and the status of resources. One of the sections primary roles is to create the Incident Action Plan (IAP) for each operational period.

The Planning Chief conducts the Planning Meeting, and is responsible for producing the incident action plan. The Planning Section consists of the following:

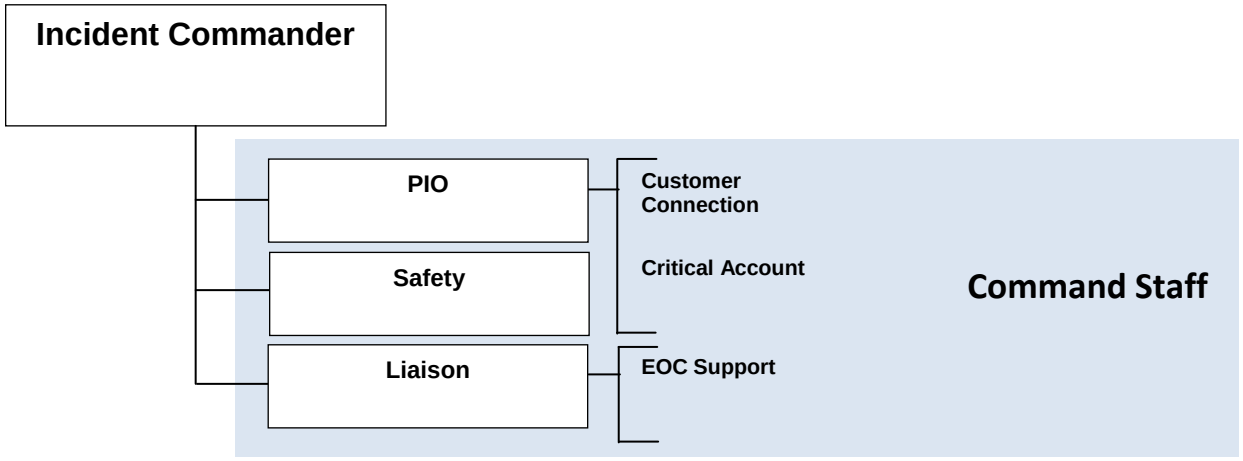
- Situation Unit
- Documentation Unit
- Electric Planning Unit
- Demobilization Unit
- Information Technology
- Safety Inspection Unit

Finance/Admin Section

This Section is headed by the Finance/Admin Section Chief who is responsible for tracking all incident costs and providing financial guidance to the Commander for financial issues that may impact incident operations. The Finance/Admin Section consists of the following units:

- Procurement Unit
- Risk / Claims Unit
- Costing Unit

COMMAND AND GENERAL STAFF



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Incident Commander and Deputy Incident Commander

- **Report to the Executive Policy Group**

Responsibilities

1. Ensure for the safety, welfare, and accountability for all personnel assigned to the incident.
2. Establish the appropriate staffing level and continuously monitor organizational effectiveness ensuring that appropriate modifications occur as required.
3. Exercise overall management responsibility between the operational area(s).
4. In conjunction with the General Staff, set objectives for response efforts.
5. Ensure that all actions are accomplished within the priorities established.
6. Determine the need for Unified Command.
7. Maintain the Operational Planning cycle and other meetings as required.

Preparation Phase:

- ❑ Communicate to all personnel-advising them of the activation status.
- ❑ Finalize employee assignments.
- ❑ Provide time for the employee's domestic responsibilities in order that they may be available for the emergency.
- ❑ Advise personnel to have Company ID with them.
- ❑ Determine appropriate level of activation based on situation as known.
- ❑ Determine which sections are needed, assign Section Chiefs as appropriate and ensure staffing sections as required.
- ❑ Determine which Command Staff positions are required and ensure staffing as soon as possible.
- ❑ Schedule the initial Incident Action Planning meeting.
- ❑ Establish Phases and Planning cycle and communicate to the team.

Operational Phase:

- ❑ Monitor general staff activities to ensure that all appropriate actions are being taken.
- ❑ In conjunction with the Public Information Officer, review and approve (coordinate with EPG) media releases including the outage number for final approval.
- ❑ Based on current status reports, establish initial strategic objectives.
- ❑ In coordination with Command Staff, prepare operational management function objectives.
- ❑ Convene the initial Incident Action Planning meeting. Ensure that all Section Chiefs, necessary Command Staff, and other key agency representatives are in attendance.
- ❑ Ensure that appropriate Incident Action Plan procedures are followed.
- ❑ Once the Incident Action Plan is completed, review, approve and authorize its implementation.
- ❑ Conduct periodic briefings for the Policy Group or their representatives.
- ❑ Brief relief at shift change, ensuring that ongoing activities are identified.

Demobilization Phase:

- ❑ Authorize demobilization of sections, branches and units when they are no longer required.
- ❑ Notify the operational area(s) and other appropriate organizations of the planned demobilization.
- ❑ Deactivate the Emergency Plan at the designated time.

Safety/Security Officer

- **Report to the Incident Commander**

The purpose of the Safety/Security Officer is to oversee the safe operation of the incident. This includes providing safety briefings to the incident workforce, inspection of field events, and providing security of incident resources.

Responsibilities

1. Conduct safety briefing to all outside personnel prior to them working on OUC facilitates.
2. Provide 24 hour security for OUC facilities.
3. Control access into Base/Staging areas in accordance with direction from the Incident Commander.
4. Monitor operational procedures and activities to insure they are being conducted in safe manner considering the existing situation and conditions.
5. Stop or modify all unsafe operations outside the scope of the Incident Action Plan, notifying the Incident Commander of actions taken.
6. Coordinate with operational commands on safety concerns and correct immediately.

<u>Preparation Phase:</u>

- ❑ The security contractor office will be alerted regarding the potential for implementing a recall program for all guards (off duty, leaves, etc.) Depending on the degree of urgency and circumstances, the security contractor will be apprised to the possibility of extended work hours.
- ❑ Make decision to bring in additional security officers depending on needs.

<u>Operational Phase:</u>

- ❑ Develop a safety plan in coordination with the Incident Commander.
- ❑ Conduct safety briefings as outside personnel arrive on property.
- ❑ Perform random inspection of crews to verify all is complying with safe work practices
- ❑ Prepare and present safety briefings for the Incident Commander and General Staff at appropriate meetings.
- ❑ Keep the Commander advised of unsafe conditions; take action when necessary.
- ❑ Coordinate with the Finance/Admin Section in preparing any personnel injury claims or records necessary for proper case evaluation and closure.
- ❑ Brief relief at shift change, ensuring that ongoing activities are identified and follow-up requirements are known.

Public Information Officer

- **Report to the Incident Commander**

The purpose of the Public Information Officer is to provide timely and accurate information to OUC customers and the general public concerning the availability of electric and water service from the Orlando Utilities Commission during times of severe weather or other emergencies that may affect capacity and demand.

During events with multi-operational periods, outage numbers (water & electric) will be announced at 6:00am, 11:00am, and 5:00pm each day and will be reflected daily on the IAP. This outage number will be the official number approved by the incident commander and CEO and will not change until the new number is provided at the designated time.

Responsibilities (See Appendix A for detailed plan)

1. Develop and maintain credibility with customers, the public, and news media before a crisis occurs.
2. Take action to maintain that credibility through the emergency condition and recovery.
3. Provide timely, accurate, consistent and complete information about OUC issues and activities.
4. Remain accessible.
5. Provide customers with latest information available using IVR technology and phone.
6. Positively influence media coverage with prepared information.
7. Provide news media with escorted access to work locations when safety conditions permit.
8. Repeat safety and/or conservation messages frequently as required.
9. Place Public Appeals or Messages.
10. Prepare Releases And Statements.
11. Handle Media Calls and Coordinate News Media Field Activity
12. Act As Spokesperson.

<u>Preparation Phase:</u>

- ❑ Determine staffing requirements and make required personnel assignments for the Public information Office.
- ❑ Issue Media advisories.

<u>Operational Phase:</u>

- ❑ Obtain policy guidance from the Incident Commander with regard to media releases.
- ❑ Keep the Commander advised of unusual requests for information and all unfavorable media comments.
- ❑ Recommend measure to improve media relations if necessary.
- ❑ Issue post-emergency news release.
- ❑ Implement schedule of news network releases.
- ❑ Assess need for activation of radio or TV advertising.
- ❑ Re-establish contact with news media.
- ❑ Schedule and conduct media briefings if necessary.
- ❑ Work with the Employee Support Branch to update Employee Web/Info line.
- ❑ Conduct shift change briefings in detail, ensuring that in-progress activities are identified and follow-up requirements are known.

Customer Connection Unit

The Customer Connection Unit is responsible for communicating to the customer any information that is available during the event. The unit is headed by the Customer Connection Unit Leader (Assistant PIO).

Customer Connection Unit Leader

- **Report to the Public Information Officer**

Responsibilities:

1. Provide customers with latest information available using IVR technology, and phone

Preparation Phase:

- ❑ Perform training on Hurricane Procedures/Outage Call Taking.
- ❑ Ensure Web Application—Prompt Response System (See Appendix B for detailed plan) is available to all trained call takers.
- ❑ Ensure OMS is updated with latest H.T.E./CIS data.
- ❑ Communicate employee assignment including schedules and operating locations.
- ❑ Identify Hotline and other pertinent phone numbers and employee responsible for updating these phone numbers.
- ❑ Identify Call Takers who will ride out the storm.
- ❑ Prepare notification signs both in English/Spanish and send to all Service Centers.
- ❑ Add upfront messages to CS, OMS and Auto Attendant.
- ❑ Customer Service staff to call all Medical Alert customers and alert of hurricane procedure.

Operational Phase:

During the Storm

- ❑ Ensure for the safety, welfare, and accountability of all personnel assigned to the Group.
- ❑ Ensure all assigned employees are at their respective location.
- ❑ Ensure CS/IVR systems are placed in “Hurricane Mode” (Customers will have option to report outage via OMS and record a telephone number to receive a returned call).
  Streamline the Outage main menu to only include options to report and Electrical problem, Water problem, or to report a Hazardous condition. Selection of Hazardous condition transfers to agent.
- ❑ CS IVR and Auto Attendant will include message to call outage number 407-823-9150 to report and outage.
- ❑ Update message on Hotline and other pertinent phone numbers.
- ❑ No ETR will be given at this stage.

Period 1 Feeder Restoration

- ❑ Assigned call takers schedule will include 24x7 staffing.
- ❑ Once both call centers are staffed with call takers to handle outage calls initiate Outage application.
  Replace the Admin Customer Service IVR call flow with the Outage application. No other business call is handled.
- ❑ Change upfront message on CS/OMS IVR
- ❑ Provide Outage Information on OUC Web.

Period 2 Lateral Restoration

- ❑ After feeders have been cleared, an outbound call will be made to all customers that reported an outage. Advising them that power should have been restored—if customer has no power they are to call back and report their outage.
  OMS data to IT for Televox Outbound Call. Televox data returned to IT and used to verify outage data. Outage data cleared from OMS
- ❑ ETR will be announced on the second call validation (after a 5 –6 second delay and call will be routed to call taker).
- ❑ Utilize outbound calling to be coordinated between the Operations Section, the Planning Section, and the PIO.
- ❑ After a large percentage of our customers have been restored, initiate additional option.
  Modify the Outage application to include a menu option for customers needing a reinstate. (i.e. after repairs have been made to the customers premise). Also, if the IVR determines that the problem has already been reported, transfer the caller to a CSR after a 5-6sec delay.
- ❑ Initiate Preferred Contractor Network referral for electrical problems.

Period 3 System Sweep

- ❑ ETR recordings will change to next day restoration
- ❑ Reinstate Group in Operations Section begins operation.
- ❑ Determine if CSR's will begin handling normal customer service business, initiate CS IVR change.
  Re-Enable the normal Customer Service application while continuing to handle outage calls at Admin.
- ❑ Return CS IVR back to normal operations—while call takers continue to handle outage calls.
- ❑ Customer Connections decides that Admin CSR's are no longer needed to handle the increased Outage call volume, initiate CS IVR change
  Return Customer Service IVR application to its normal operating state. (i.e. transfer outage calls to Pershing)
- ❑ Return CS IVR back to normal operations—outage calls transferred to Pershing.
- ❑ Upon restoring power to all effected customers, return the IVR systems back to their normal operating state.
  Return the IVR's to their normal operating state.

Critical Account Unit

Critical Account Unit Leader

- **Reports to the Public Information Officer**

Critical Account Unit provides an emergency interface between Operations Section and, Customer Connection Branch focusing on OUC's critical accounts, which include emergency, health care, governmental agencies, and key accounts. A direct phone line will be established to be used for purposes related to these critical accounts. All other accounts shall use the normal outage phone line.

Preparation Phase:

- ❑ Insure that the Equipment Requirements are completed
- ❑ Insure that an appropriate voicemail recording is provided on the phone should the phones be in use or unoccupied
- ❑ Insure that the direct phone number has been provided to the Account Executives so that they may contact their respective key accounts within the Key Account List
- ❑ Insure that all accounts established as a critical account have been notified
- ❑ Provide the phone number only to manager level and above personnel within the call center
- ❑ Provide the phone number to Energy Delivery Branch Director and above
- ❑ Make sure a Lead Operations Engineer will be assigned to unit to be the lead field person in directing critical account restoration crews. Obtain the Lead Operations Engineer's cellular numbers and insure that he or she understands how the Critical Account Unit will function (in the event that a Lead Operations Engineer is not assigned or available, work directly with dispatch to have work assigned)
- ❑ Refresh or take a quick training in entering and reviewing outage calls in OMS (Training can be obtained by contacting Service Dispatch management)

Operational Phase:

- ❑ Ensure for the safety, welfare, and accountability of all personnel assigned to the incident.
- ❑ Upon receiving critical account calls, the team member must:
  1. Enter the critical account customer outage into OMS unless already listed
  2. Write the outage on to the white board (this enables operations personnel to view which critical accounts have yet to be restored)
  3. Record the outage on a spreadsheet so as to have a record of the critical customer calls; organization, contact, phone, when called, when restored
  4. Contact the Lead Operations Engineer and notify him or her of the outage
     a. The Lead Operations Engineer will assign the work to his crews and notify dispatch via the dispatch Radio which crew will be working the call already logged in OMS
     b. Once the customer has been restored, the engineer will notify dispatch and the Critical Accounts Unit via radio

- ❑ Upon receiving notification that the outage has been restored, the team member must:
  1. Immediately call the critical account customer to confirm that their power has been restored hopefully prior to the line crews leaving
  2. Erase the critical customer from the white board once restoration is confirmed
  3. Log the information again into the spreadsheet
  4. Email the spreadsheet information to Customer Connection and Planning Section Chief as requested or at least once a day.

Liaison Officer

- **Report to the Incident Commander**

The Liaison Officer is responsible for communicating emergencies and problems reported by area EOCs and forwarding provided information to the appropriate OUC Command Staff. OUC will utilize this information to ensure that necessary action is taken to address the issues reported. EOC Support staff will be stationed at local government EOC's. While there, employees will interface with other agencies to improve the situation as quickly as possible.

The impact of the disaster on OUC customers is reported to EOC authorities on a regular basis, so that they may combine it with information from the other entities present at the EOC. EOCs provide frequent status reports to the governor's office. This helps ensure that the overall impact of the disaster is quickly and accurately accessed, so that appropriate action may be taken to resolve major issues.

EOC Support Group Supervisor

- **Report to Liaison Officer**

Responsibilities:

1. Communicate emergencies and problems from the EOC relating to OUC and forward information to the appropriate area at OUC.
2. Interface with other agencies to improve situations as quickly as possible.
3. Report OUC's status to EOC authorities which is relayed to the governor's office

Preparation Phase:

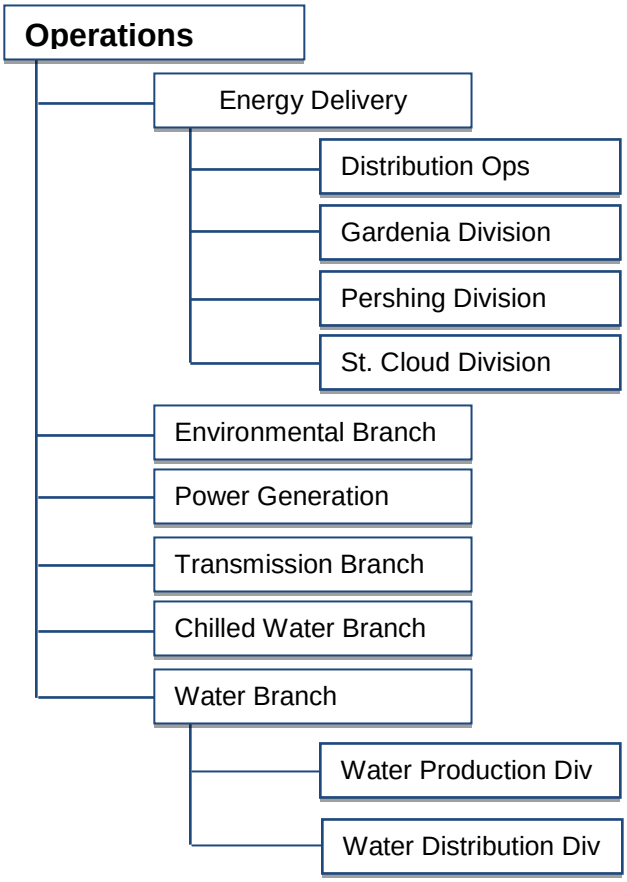
- ❑ Review and update contact information for employees.
- ❑ 2a. Review Scheduling requirements.
- ❑ 2b. Complete Employee Schedule Worksheet.
- ❑ Provide employees with directions to the EOCs.
- ❑ Provide employees with a tour of the EOCs.
- ❑ Review the rules of what information will be forwarded on to OUC from the EOCs. Update if necessary.
- ❑ If software and hardware is needed for communication, test the software and hardware and communication method.
- ❑ Notify IT of laptop needs. (One laptop per EOC site)
- ❑ Distribute cell phones if employees need them.
- ❑ Provide contact information to employees, they may want to update their cell phone's address book.
- ❑ Provide training for employees instructing them what and how to forward information to OUC.
- ❑ Provide training on how to:
  - boot up the laptop
  - connect to OUCs system
  - login to the problem tracking system
  - enter items in the problem tracking system
  - find items entered in the problem tracking system
- ❑ Provide direction on how current information will be disbursed to the EOCs. Source of information may be the OUC website. Media trained employees may be used to report information such as customers without power, what is being done by OUC to prepare for the disaster, what makes up a customer account vs. people without power.

Operations

Operations Emergency Plan Procedures

Operations Section

(See page 13 & 14 for detailed Organizational Chart)



Power Resources Branch

The Power Resources Branch is responsible for securing all OUC power plants prior to an event and restoring their operations in the event of a major incident. The Power Resources Branch Director shall have primary responsibility for implementation and direction of the procedures to secure and restore the plants as deemed necessary.

Power Resources Branch Director

- **Report to the Operation's Section Chief**

Responsibilities: (See Appendix E for detailed plan)

Power Resources Director's role is to oversee securing the plant before an incident and restoring the plant to normal operating status as needed.

Preparation Phase

LEVEL 2

- ❑ All loose material on the plant premises which might create damage during high winds shall be removed or secured.
- ❑ Bracing for roll up doors should be located.
- ❑ The radiator for the Emergency Diesel Generator should be assessed for additional protection from wind-driven hazards and protective action taken.
- ❑ Contact CCA and ensure they are aware of the hurricane status and are taking the appropriate precautions.
- ❑ All pumps and auxiliary equipment at all outlying pump structures shall be checked for proper operation
- ❑ All plant sump pumps and ash pumps shall be checked for status and operation condition
- ❑ The location and condition of foul weather gear shall be checked and should obtain new gear as necessary.
- ❑ If high rainfall is predicted, check position of all basin outlet gates.
- ❑ Operating condition of plant auxiliary power systems shall be checked
- ❑ Advise all plant personnel that a Watch is in effect, and explain the time to be given for their domestic responsibilities in order that they may be available for emergency. Review the OUC Employee Handbook Section 1 page 171 - 175, Weather Policy, and explain assignments that will probably be made as the situation develops.
- ❑ Review personnel roster and plan to provide the extra personnel that may be required for the anticipated emergency
- ❑ Secure air-monitoring stations by checking for loose items and continue normal operation.
- ❑ Check No. 2 oil tank and check No. 5 oil tank levels. Top off raw water, potable and de-ionized water tanks. Top off emergency diesel generator and fire pumps
- ❑ Plant vehicles should be properly serviced and fueled.
- ❑ Contact OUC Telecommunications to acquire microwave phones for use as needed.
- ❑ Make certain that supplies of battery-powered lights, spare bulbs, and spare batteries for all battery-powered devices are adequate

- ❑ Check operation and security of normal and emergency communication equipment between plants and Load Dispatch Center.
- ❑ Determine food requirements and other supplies required for those personnel remaining at the plant during the hurricane.
- ❑ Close windows and doors
- ❑ Place a 6" pump for use in drainage & flood control inside the building near the unit # 2 Forced Draft Fans
- ❑ Make a copy of plant operating procedures for hurricane conditions available in the Control Room
- ❑ Top off coal silo and additive storage tanks. Override key for additive feed storage tank mixers.
- ❑ Operations personnel shall be alerted to standby for Pond Water Level Control if not during normal duty hours.
- ❑ Check operation of battery-operated AM/FM radio, OUC radios and cellular phone.
- ❑ Decide if it is advisable to disconnect electrical supply to all streetlights for the fixtures at Coal Handling.

LEVEL 1

- ❑ Switching operations will be implemented as directed by the Control Center to place the system in the most reliable condition
- ❑ Bracing for roll up doors should be applied
- ❑ All plant vehicles will be moved to the most secure positions available on the plant sites
- ❑ Systems should be shut down to control nuisance breaker trips and electrical shorts in various areas of the site. This will be performed as directed
- ❑ Remaining road signs should be removed
- ❑ The Stacker/Reclaimer should be secured
- ❑ The equipment at the Sludge Conditioning Building should be secured
- ❑ Verify the Auxiliary Boiler is available for use

<u>Operational Phase:</u>

During event

- ❑ Plant loads will be adjusted as directed by the Load Dispatcher.
- ❑ Availability of units and estimated availability of damaged units will be furnished to the Load Dispatchers.
- ❑ Units will be loaded as directed as system recovery proceeds.

After Event

- ❑ The Plant Director or his designee will coordinate the operation of the Indian River Plant Combustion Turbines as needed to support the needs of the Stanton Energy Center and OUC Transmission System during, and after, the Hurricane.
- ❑ Damage to plant and equipment will be assessed as rapidly as possible, and reported Estimates of repair requirements and assistance, beyond the capabilities of plant personnel, shall be a part of this report.
- ❑ Availability of units and estimated availability of damaged units will be furnished to the System Operators.
- ❑ Units will be loaded as directed as system recovery proceeds.
- ❑ Verify with System Operations, integrity of the 17-21 Distribution Line. This is the power for phone system at SEC.
- ❑ The Stanton Energy Center has minor damage, or no damage, at the discretion of the Plant Director SEC personnel may be assigned to assist other areas of the Commission to complete recovery operations.

Environmental Branch

The Environmental Branch is responsible for cleaning up any kind of chemical spill that may occur as a result of a major incident.

Environmental Branch Director

- **Report to the Operation's Section Chief**

Responsibilities:
Environmental Branch Director's role is to oversee the environmental issues that may arise during the restoration of OUC facilities.

Preparation Phase:

- ❑ Each business unit will be called and coordinate ENVD support services availability by being on- site or by cell phone.
- ❑ Communicate Hurricane plans with the local FDEP Central District office.
- ❑ Communicate any variance of environmental permit conditions given by FDEP to the appropriate divisions.

Operational Phase:

- ❑ The Environmental personnel will support the business units for accessing damage as rapidly as possible. Depending on the severity of the storm, staff may be assigned as needed to support restoration efforts. Typically, staff assigned to SEC will provide support for plant operations and staff assigned at Pershing will be providing support to the Safety Inspection and Courier Teams. Assignments may vary depending on the area and severity of damage.

TERMS

What is a Hurricane?
A hurricane is a type of tropical cyclone, which is a generic term for a low pressure system that generally forms in the tropics. The cyclone is accompanied by thunderstorms and, in the Northern Hemisphere, a counterclockwise circulation of winds near the earth's surface. Tropical cyclones are classified as follows:

Tropical Depression
An organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds* of 38 mph (33 kt**) or less

Tropical Storm
An organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 mph (34-63 kt)

*** Sustained winds**
A 1-minute average wind measured at about 33 ft (10 meters) above the surface.

**** 1 knot** = 1 nautical mile per hour or 1.15 statute miles per hour. Abbreviated as "kt".

Hurricane
An intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph (64 kt) or higher

HURRICANE WATCH indicates the **possibility** that you could experience hurricane conditions (sustained winds of 74 mph or higher) within **48 hours.**
This watch should trigger your family's disaster plan, and protective measures should be initiated, especially those actions that require extra time such as securing a boat, leaving a barrier island, etc.

HURRICANE WARNING indicates that sustained winds of at least 74 mph are **expected** within **36** hours or less.
Once this warning has been issued, your family should be in the process of completing protective actions and deciding the safest location to be during the storm.

****HURRICANE WATCH – STANTON ENERGY CENTER/INDIAN RIVER PLANT ****
(ACTIVATION LEVEL II - 48 HOUR NOTICE OF POSSIBLE HURRICANE FORCE WINDS)

PLANT MANAGEMENT

- Advise all **Personnel** that a Watch is in effect
- **Contact Stanton A and** regarding OUC weather plans and the status of their preparations
- **Review OUC Weather Policy** with employees and remind all personnel to keep OUC identification with them when traveling to/from SEC
- **Develop staffing plan**. Request volunteers from Operations and Maintenance group. Advise personnel of the possibility of extended shift work. Verify that employee emergency phone numbers are current ***(See list at end of document).*** **NOTE: Depending upon the location and direction of the storm, SEC Employees residing in Brevard County may need to be released early to allow safe travel home.**
- Direct all plant vehicles should be serviced and fueled.
- **Finalize list and begin procurement of supplies and food** needed to sustain personnel at site during storm. **(*See guide at end of document*)**
- **Sleeping Accommodations** – Provide air mattresses and sheets for 80 persons (supplied from OUC-Pershing)
- **Create time and material tracking system (work orders, etc.) for labor hours and material costs to support FEMA provisions.**
- **FUELS**
  1. Evaluate the need for using OUC tank trailers and trucks or renting additional tank trucks and scheduling drivers to provide No. 2 Fuel Oil to IRP. Determine location for staging trucks if needed.
  2. Evaluate Coal Suppliers and Rail Company plans for delivery through anticipated duration of hurricane watch and warning.
  3. Make provisions for railroad (crossing equipment, signs, etc.) repair after the hurricane has passed.
- **WAREHOUSE** - Begin securing supplies on pallets **(*See guide at end of document*)**
- **Contact OUC ICC Operations Section Chief or Incident Commander to communicate action taken.**

UNIT 1/2 OPERATIONS	PLANT MAINTENANCE	SITE MAINTENANCE	STANTON B	INDIAN RIVER PLANT
Verify operational status of **outlying pumps and auxiliary equipment**	Locate bracing for **roll up doors**	**Remove loose materials** on plant grounds	Verify operational status of **outlying pumps and auxiliary equipment**	Verify operational status of **outlying pumps, sump pums and auxiliary equipment**
Verify operational status of plant **sump and ash pumps**	Inspect **Emergency Diesel Generator radiator** for risk of wind damage	**Inspect buildings** for secure wall panels, doors, etc.	Locate bracing for **roll up doors**	**Remove loose materials** on plant grounds
Check position of all **basin outlet gates**	Organize **standby crew** to reside onsite during the hurricane	**Secure mobile equipment**, and vehicles	**Remove loose materials** on plant grounds	Inspect **Emergency Diesel Generator radiator** for risk of wind damage
Verify operational status of **Aux Boiler and auxiliary power systems** **Test Fire Aux Boiler**	Secure air-monitoring stations	De-install **non-essential road signs**	**Inspect buildings** for secure wall panels, doors, etc. **Close all windows and doors**	**Inspect buildings** for secure wall panels, doors, etc. **Close all windows and doors**
Check/top off **bulk oil tank** (No. 2 and 6) levels	Close all windows and doors		**Secure mobile equipment**, and vehicles	**Secure mobile equipment**, and vehicles

UNIT 1/2 OPERATIONS	PLANT MAINTENANCE	SITE MAINTENANCE	STANTON B	INDIAN RIVER PLANT
Verify operational status of emergency communication systems - Radios– Base Station at Main Control Room, Remote Units - Land Lines - Cell Phones	Rent (2) 6" drainage-flood control pump (one Mudhen pump)		Verify operational status **auxiliary power systems**	Verify operational status **auxiliary power systems**
Provide copy of Hurricane Procedures to Main Control Room	Evaluate need to isolate electrical service for fixtures at Coal Handling		Check/top off **bulk oil tank**	Check/top off **bulk oil tank** **Fill Portable fuel containers/top off portable equipment**
Top off coal silos	Power off: 1. Front Street Lights - Breaker Panel 1-APC-LPL-F531 (at Emergency Diesel Generator Bldg.) 2. Coal Pile Lights – Breaker Panel 1-APC-LPL-F922 (in the Coal Transfer Bldg.)		Verify operational status of emergency communication systems - Radios– - Land Lines - Cell Phones	Verify operational status of emergency communication systems - Radios– - Land Lines - Cell Phones
Top off additive storage tanks			Verify Remote Operation of outlying facilities from Control Room	Verify Remote Operation of outlying facilities from Control Room
Empty Brine Tanker – Park vehicle in the A&B Centrifuge Room				Organize standby crew to reside onsite during the hurricane
Verify Remote Operation of outlying facilities from Control Room				De-install non-essential road signs
				Provide copy of Hurricane Procedures to Main Plant Control Room
				Top off raw, portable and de-ionized water tanks

****HURRICANE WATCH – STANTON ENERGY CENTER/INDIAN RIVER PLANT ****
(ACTIVATION LEVEL I - 36 HOUR NOTICE OF POSSIBLE HURRICANE FORCE WINDS)

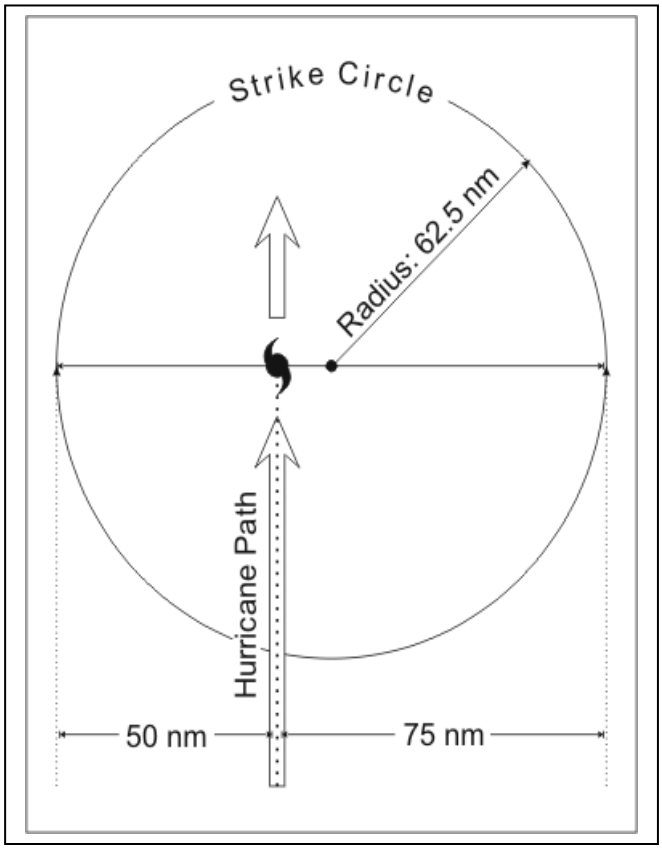
PLANT MANAGEMENT

- **Advise all SEC employees that a Hurricane Warning is in effect.**
- Receive instructions from **Load Dispatch**
- Contact **DTE Energy** to advise plans for **Landfill Gas**.
- **Finalize and Communicate Staffing Plan** to operate facility during storm
- Complete procurement of supplies and food.
- Monitor news reports for road closures
- Insure that all personnel not assigned to work during the storm are sent home 12 hours in advance.
- Move all plant vehicles to secure locations (indoors) with keys left in the vehicles.
- Move all employee vehicles to location TBD.
- Insure that all work assignments have been communicated to appropriate personnel 12 hours in advance of hurricane winds.
- **WAREHOUSE – Move supply pallets to Crane Bay by Unit 1 Boiler Building.**

OPERATIONS	MAINTENANCE	SITE MAINTENANCE	STANTON B	INDIAN RIVER PLANT
Park diesel tank truck near Emergency Diesel Generator Bldg.	Install bracing for roll up doors	De-Install remaining road signs	Install bracing for roll up doors	Evaluate the need to isolate all Chemical feed systems (Ammonium Sulfate, Sulfuric Acid, Caustic, Bulk Fuel Oil Tanks, etc.)
Evaluate the need to isolate all **Chemical feed systems** (Ammonia, Sulfuric Acid, Caustic, Chlorine, Bulk Fuel oil tanks, etc.) Verify that gas cylinders are secure	Move 2 six inch diesel sump pumps under Unit 1 and Unit 2 Precipitators		Evaluate the need to isolate all **Chemical feed systems** (Ammonia, Sulfuric Acid, Bulk Fuel oil tanks, etc.)	Open drain valve to neutralization basin at water plant
To prevent nuisance alarms and electrical outage, consider shutdown of the following; 1. Coal handling 2. 2 Spray Levels – Units 1 and 2 AQC 3. Precipitator Fields 4. Brine Plant	Secure all Outside Overhead Cranes			Verify Intake Gantry Crane is secure
Assess the need to Shut off Fire Suppression system to GSU MAT and RATS				
Evaluate the need to isolate the Biogas supply				

OPERATIONS	MAINTENANCE	SITE MAINTENANCE	STANTON B	INDIAN RIVER PLANT
Secure the Stacker/Reclaimer				
Secure equipment in Sludge Conditioning Bldg. (radial stacker, conveyors, vehicles, etc.) (**HVFL Operations)**				

****HURRICANE STRIKE – STANTON ENERGY CENTER/INDIAN RIVER PLANT **** ***(HURRICANE FORCE WINDS HAVE REACHED SITE)***
PLANT MANAGEMENT
• Category 1 and 2 Hurricanes – Adjust Plant Loads as directed by Load Dispatch • Category 3 and Higher – Evaluate need to shutdown Units • **Move all onsite personnel to designated storm-protected areas (Maintenance Shops) inside SEC Main Building and IRP.**



****POST HURRICANE STRIKE – STANTON ENERGY CENTER/INDICAN RIVER PLANT**** ***(HURRICANE HAS TRAVELED AWAY FROM AREA – WIND SPEED < 30 mph)***				
PLANT MANAGEMENT				
• **Initiate Site Damage Evaluation and Repair** • Coordinate with Load Dispatch to Evaluate Storm impact on Coal and Natural Gas Supply • **Contact OUC ICC Operations Section Chief or Incident Commander** to communicate status. • **Notify Employees of return-to-work plans**				
OPERATIONS	**PLANT MAINTENANCE**	**SITE MAINTENANCE**	**STANTON B**	**INDIAN RIVER PLANT**
Inspect chemical storage tanks - Return chemical and gas supply systems to normal status.	Return Overhead Cranes to normal status	Re-Install all road signs	Inspect chemical storage tanks - Return chemical and gas supply systems to normal status.	Inspect site for debris
Return Stacker Reclaimer to normal status	Use pumps to transfer water as needed	Inspect site for debris	Return mobile equipment/ vehicles to normally designated parking locations.	Inspect buildings for damage and repair as needed.
Return mobile equipment/ vehicles to normally designated parking locations.	Remove bracing for roll up doors	Inspect buildings for damage and repair as needed.	Inspect site for debris	
	Re-Energize all breakers supporting Street and Coal Pile Lighting		Remove bracing for roll up doors	
			Return mobile equipment/ vehicles to normally designated parking locations.	

STAFFING OPTIONS	SUPPLIES (SMALL ARTICLES PALLETIZED)
Operations Crews 2 (weekday) = 30 3 (weekend) = 45	1 Case of Duct Tape
Machine Shop - 10	4 Rolls of Plastic 20' wide x 100' (6 mil)
Electric Shop - 5	24 D Cell Batteries
Instrument Shop - 5	12 Flashlights (2 D Cell Type)
Management - 3	8 6 Volt Flashlights (Lantern)
Security Personnel - 3	4 100' Electrical Extension Cord
VFL - 2	1 Spool (600') of 3/8" Rope
Engineers - 3	1 Spool (600') of 1/4" Rope
Labor Crew - 9 (2 Janitorial)	8 Cases of Aerosol Tire Sealant
Fleet Mechanic - 1	8 6 Volt Batteries
Warehouse - 2	1 Bundle (48 sheets) of plywood (1/ □" thick)
Environmental - 1	1 Bundle (96 boards) of 2" x 4" x 8' boards
Safety - 1	20 Assorted size tarps
TOTAL: 75-90	Portable Flood lights (placed in the I&C Pick-up Truck)
	Note: 200 ea. – 40 lb. bags of Builders Sand with 200 reinforced polypropylene bags on pallets covered with shrink wrap should be staged at the SEC # 1 FD Fans by the North Door (These bags and sand should normally be kept in the Temporary Warehouse out of the weather).

MEAL AND FOOD SUPPY GUIDE

PLAN – Supply meals for 4 days for 80 individuals. All meals prepared in 2nd Floor Kitchen or 2nd Floor warehouse area. Management will be responsible for purchasing food and preparing meals

MEAL PLAN
DAY 1 - DINNER- 06:00 PM CATER MEAL FOR ALL PLANT HURRICANE TEAM MEMBERS
DAY 2 BREAKFAST BACON/SAUSAGE EGGS TOAST
DAY 2 LUNCH HOT DOGS BAKED BEANS CHIPS ICED TEA
DAY 2 DINNER HAMBURGERS AND CHICKEN CORN ICED TEA
DAY 3 - BREAKFAST PANCAKES BACON
DAY 3 - LUNCH PIZZA ICED TEA
DAY 3 - DINNER SPAGHETTI WITH MEAT SAUCE GARLIC BREAD
DAY 4 BREAKFAST BACON/SAUSAGE EGGS BUSCUITS
DAY 4 LUNCH/DINNER BBQ BOSTON BUTTS GREEN BEANS POTATOES ICED TEA

FOOD LIST TO SUPPORT MEAL PLAN	
MEATS	**QUANTITY**
Meatballs	250 meatballs
Hamburgers	440 hamburger patties
Hot Dogs	
Chicken	120 pieces
Boston Butts	61lbs. / 8 Butts
Bacon	X Lbs.
Sausage Links	X Lbs.
Pasta	32 Lbs.
Pizzas	24 (14 inch)
Potatoes	
Green Beans	
Baked Beans	
Corn	
Pancakes	
Eggs	
Garlic Bread	16 loaves
Sliced Bread	
Hot Dog Buns	
Chips	
Spaghetti Sauce	36 Jars
Tea	
Syrup	6 Bottles
Charcoal	

Appendix 17

Fire Emergency Procedures

3.5 SEC FIRE EMERGENCY PROCEDURES

3.5.1 Major Fire

A. The Control Room shall be notified using the plant emergency telephone number 3111. The person making the call should be prepared to relay the following information: Type of emergency, location of emergency, severity of emergency, name of caller and telephone number call is being made from. The person making the call shall not break communication until directed to by the Control Room.

B. The Watch Engineer or Watch Engineer's designee (Control Center Operator) shall enact the plant evacuation plan and alert the Emergency Response Team.

1. Sound the fire alarm 3 times at 15 second intervals. Using the emergency paging system, announce the following between each alarm signal: "We have a fire emergency at (then give the exact location of the emergency. Give the building name, floor, direction and equipment reference point.) Please report to your assigned evacuation area."
2. All personnel shall evacuate all buildings and gather at their assigned areas with the exception of the following: (Note: the following should remain only if safe to do so.)

Main Bldg.	- Control Center I (Control Center Operator)
Scrubber	- Env. Systems Operator (Control Center Operator)
Waste Water Treatment Bldg.	- Aux. Operator I (Control Center Operator)
Sludge Conditioning Bldg.	- Lead Operator (Control Center Operator)

(Note: elevators should not be used to evacuate the building.)

3. The assigned evacuation areas are as follows:

a. Personnel assigned to the Control Center Building, Administration and Plant Services Building shall gather in the Visitor Parking Lot, location 1 on the SEC Evacuation Map. The alternate assembly point will be the Administration and Plant Services Parking Lot, location 2 on the SEC Evacuation Map.

b. Personnel assigned to the Waste Water Treatment Building will assemble in the Administration and Plant Services Parking Lot, location 2 on the SEC Evacuation Map. The alternate assembly point will be the Visitor Parking Lot, location 1 on the SEC Evacuation Map.

c. Personnel assigned to the Air Quality Control Building shall assemble on the south side of the building across the pavement, location 3 on the SEC Evacuation Map. The alternate assembly point shall be on the west side of the Unit #1 chimney, location 4 on the SEC Evacuation Map. (Rev. 3/27/96)

d. Personnel assigned to the Sludge Conditioning Building shall assemble on the pad west of the sludge stock out piles, location 5 on the SEC Evacuation Map. The alternate assembly point shall be on the west side of the Unit #1 chimney, location 4 on the SEC Evacuation Map. (Rev. 3/27/96)

e. Personnel assigned to the Material Handling Area shall assemble at the south side of the Transfer Building, location 6 on the SEC Evacuation Map. The alternate assembly point shall be the area west of the sludge stock out piles, location 5 on the SEC Evacuation Map.

f. Personnel assigned to the Permanent Warehouse shall assemble on the north edge of the parking lot on the north side of the building, location 7 on the SEC Evacuation Map. The alternate assembly area will be on the southwest corner of the fenced-in area, on the south side of the building, location 8 on the SEC Evacuation Map.

g. All site visitors shall assemble in the Visitor Parking Lot, location 1 on the SEC Evacuation Map. The alternate assembly area shall be the Administration and Plant Services Parking Lot, location 2 on the SEC Evacuation Map. Plant Security shall account for visitors using the gate log book.

h. Outside contractor personnel shall assemble on the south side of the Air Quality Control Building, location 3 on the SEC Evacuation Map. The alternate assembly point shall be on the west side of the Unit #1 chimney, location 4 on the SEC Evacuation Map. (Rev. 3/27/96)

i. Contract labor shall assemble in the Administration and Plant Services parking lot, location 2 on the SEC Evacuation Map. The alternate assembly area shall be the Visitor Parking Lot, location 1 on the SEC Evacuation Map.

j. Personnel assigned to the Safety & Training building will utilize the parking lot north of the Safety & Training building as their primary evacuation area. The primary evacuation area will be designated as Area #9. The main parking lot east of the Administration Building is designated as the alternate evacuation area (Area #1) for personnel assigned to the Safety & Training building. During normal working hours All OUC personnel assigned to the Stanton Energy Center as their normal workplace who are attending training at the Safety & Training building must report to their regular evacuation area. All other OUC personnel, or non-OUC personnel attending training will be accounted for as if assigned to the Safety & Training building. The Training Coordinator, or his designee, will determine if any personnel are missing from the PRBU Safety & Training Division, and will utilize the attendance roster(s) to verify personnel in training classes are in evacuation area #9 (or area #1 if alternate is used). Any personnel not in the evacuation area must be reported as missing. After normal working hours All personnel attending the Craft training classes will report to area #9 (or area #1 if alternate is used). The Lead Craft Training Instructor, or designee, will utilize the attendance list to verify the personnel in evacuation area #9 (or #1 if alternate is used). Any personnel not in the evacuation area must be reported as missing. (ERT members will be reported as missing because they will respond to the scene, not the evacuation area). (Revised 7/30/98)

k. Personnel assigned to the SEC Fleet Maintenance Facility will utilize area #10 (west of the building) as their primary evacuation area and area #11 (south of the building) as their alternate evacuation area. (Revised 12/1/98)

4. Supervisors shall be responsible to account for their personnel in the assigned areas. Site security shall drive to each evacuation area and check-in with each Supervisor. Supervisors shall inform security of any missing persons. After checking with each evacuation area, security shall report to the Watch Engineer in charge of the emergency scene. (Note: Supervisors shall list members of the Emergency Response Team as missing when reporting to security. Emergency Response Team members shall report to the Watch Engineer in charge of the emergency scene. The Watch Engineer shall keep a list of members that have reported. The Watch Engineer shall compare their list to Security's list to ensure all Emergency Response Team members are accounted for.)

5. Personnel shall remain at their assembly areas until released by the Watch Engineer in charge of the emergency scene.

C. The Watch Engineer or Watch Engineer's designee (Control Center Operator) shall call 911 and request outside emergency services.

D. Upon hearing the evacuation notice, the Plant Emergency Response Team shall report to the emergency location. It shall be the Watch Engineer's responsibility to have the emergency vehicle and trailer taken to the emergency location. The Watch Engineer or Watch Engineer's designee shall be in charge of the emergency scene.

E. The Watch Engineer or Watch Engineer's designee shall contact the Service Dispatcher, extension 4088 or outside line 9-384-4088. Information relayed to the Service Dispatcher shall include:

- Type of emergency,
- Location,
- That 911 has been called.

F. The Watch Engineer or Watch Engineer's designee shall send a person to the Main Gate. The person shall wait for the emergency vehicles and escort them to the accident scene.

G. It shall be the Watch Engineer's or Watch Engineer's designee's responsibility to notify the following:

- Plant Director appropriate Supervisor,
- PRBU Safety & Training Manager,
- Environmental Engineer,
- others as deemed necessary or as denoted in the ERT Standard Operating Procedures.

H. Personnel should not use the radio, PA system, or phone the Control Room except in regards to safe plant operation, or personnel involved in the emergency. To ensure personnel know when the emergency is over, an "All Clear" message will be given to indicate the emergency is over. The following is how the "All Clear" will be administered: (Rev. 1/19/96) Upon determining the incident is secure and it is safe to resume normal plant communications, the Watch Engineer or Senior Emergency Response Team member will have the following message announced over the PA system: "Attention all plant personnel, the emergency is now secure, you may resume normal communications". (Rev. 1/19/96) The Watch Engineer or Senior Emergency Response Team member will have each area evacuated, checked, and have any personnel in the evacuation areas notified the emergency is over and they may return to work either to the whole Plant or individual buildings. After evacuation, no personnel shall enter a building or leave the Plant site until so directed. (Rev. 1/19/96)

I. During a fire emergency, site security shall limit access to the site and egress from the site to emergency personnel only.

J. A Fire Watch will be posted as decided necessary by the Watch Engineer.

3.5.2 Minor Fires

A. At Stanton Energy Center all fires must be reported. Those that have been extinguished will be considered as a minor fire. If the fire has not been extinguished it is considered a Major Fire. Follow PRBU Guidelines in reporting and notifying the proper personnel.

B. The Control Center shall be notified.

C. The Watch Engineer and those designated from the Emergency Response Team shall check the emergency scene to ensure possible re-ignition or other fire hazards are eliminated. The Watch Engineer or Watch Engineer's designee shall notify the Emergency Response Team members deemed necessary by name using the plant paging system (84).

D. The Emergency Response Team members will assemble at the minor fire emergency scene and size up the emergency.

E. After the minor fire emergency scene is determined safe by the Watch Engineer and the designated Emergency Team Members, personnel may return to work.

F. At any time the minor fire emergency re-ignites, or otherwise begins to burn, the procedure for major fires may be initiated.

F. A Fire Watch will be posted as decided necessary by the Watch Engineer.

The Watch Engineer or Watch Engineer's designees shall then contact the Commission Service Dispatcher, extension 4088 or outside line 9-384-4088. Information relayed to the Field Operations Dispatcher shall include:

- type of emergency,
- location,
- fire is under control.

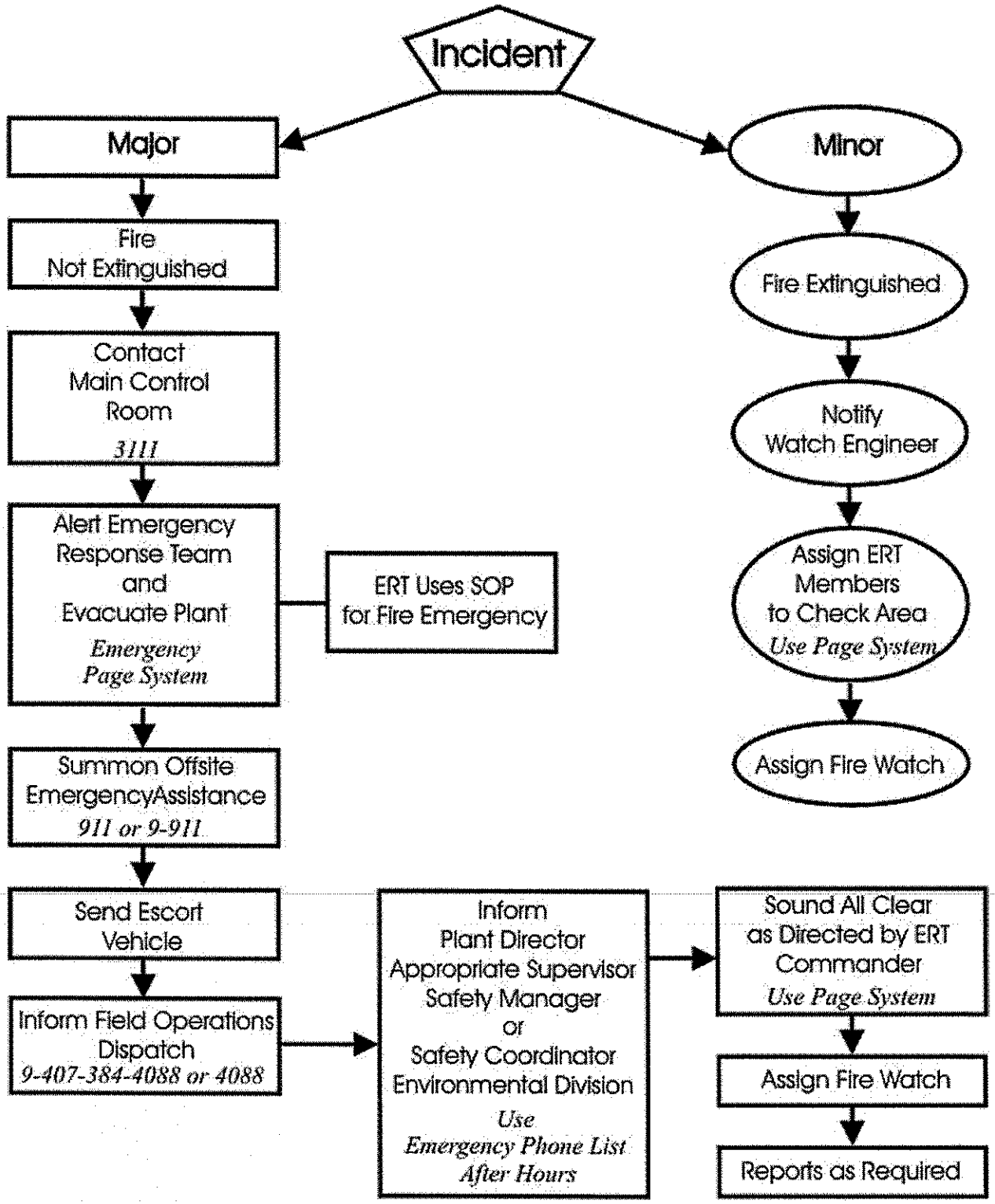
G. It shall be the Watch Engineer's or Watch Engineer's designee's responsibility to notify the following:

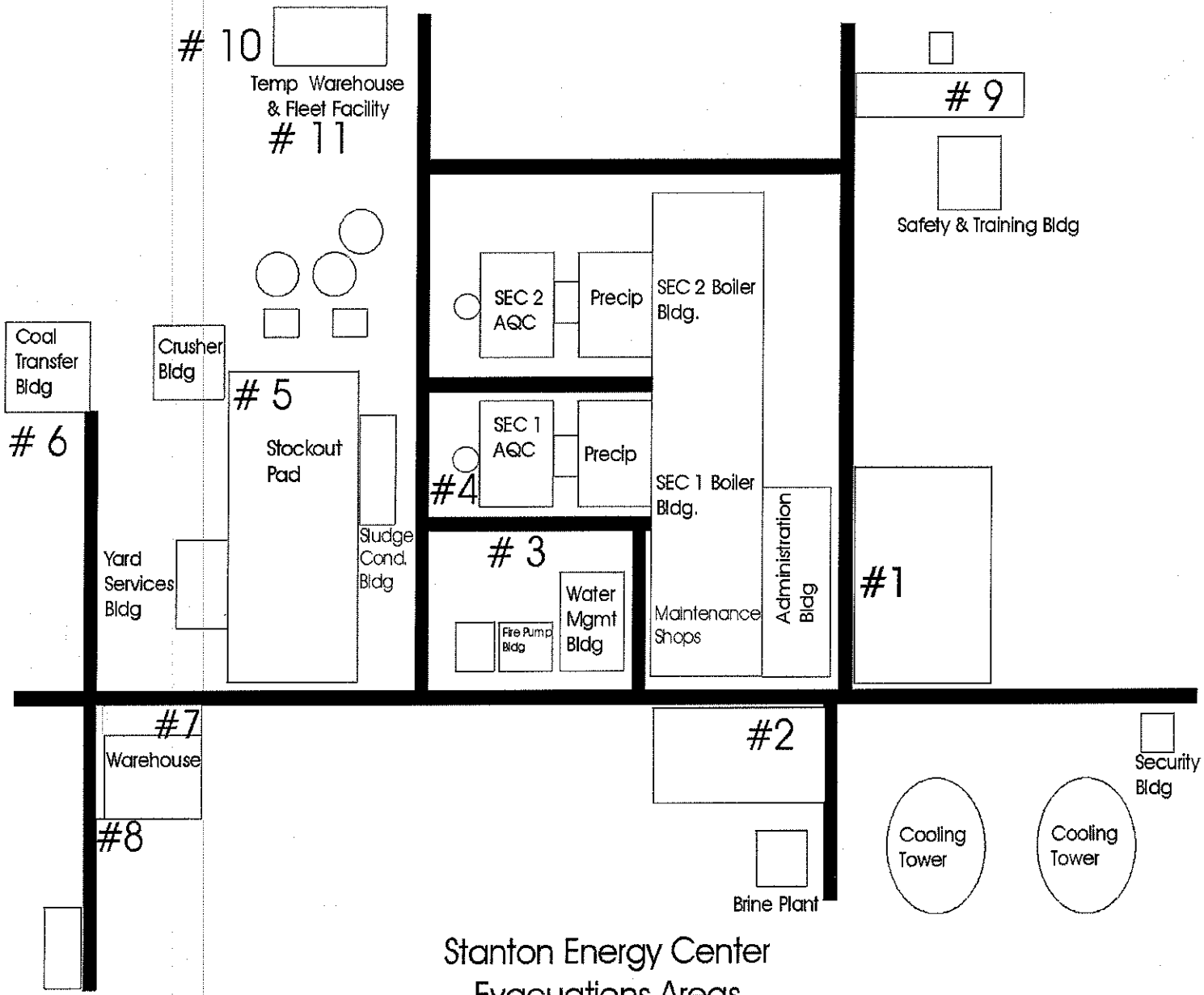
- Plant Director,
- appropriate Supervisor,
- PRBU Safety & Training Manager, Others as deemed necessary.

3.5.3 Reports

a. Reports as required shall be completed as soon as possible after each fire emergency.

Stanton Energy Center
Fire Procedure Flow Diagram





Stanton Energy Center
Evacuations Areas

SOP FOR INCIPIENT FIRES

1. Report to the fire trailer and Team Leader **(Watch Engineer). Insure your name is noted as having responded on ERT list on door of command center.**

2. Should Watch Engineer be unable to respond, the senior team member shall assume control of the team's actions.

3. **Insure non-team members evacuate emergency area**, they should be told to proceed to their evacuation area until further notification.

4. **Assign an escort for county fire service** to scene of emergency.

5. **Assess fire magnitude - take appropriate action.**

A. Safe distance assessment can be performed if the fire is readily visible without exposure to fire hazards. This can be performed without SCBA or fire protective clothing.

- OR –

Close proximity assessment/dispatch scout team if fire is not readily visible and must be investigated, fire protective clothing and SCBA should be considered. There must be at least 2 team members or scouts sent to assess the fire situation. Each scout should take a portable fire extinguisher. (One Class C and one Class ABC unless the type of fire is known) The Team Leader may direct scout team to pull or wait for hoselines instead of taking portable fire extinguishers if necessary.

Scout team should determine:

I. **Are any personnel in area? Are they injured?** Rescue should only be attempted if risk to team members is minimal or warranted.

II. **What is on fire and type of fire?**

III. **Do electrical systems need to be disabled?**
(Both AC and DC power may be available)

IV. **Can scout team extinguish the fire?**
(Scout team should extinguish fire at this time if it can be accomplished safely)
Note: If extinguishment is accomplished team should start procedures taken for - Step #6 - Fire is declared extinguished.

V. **Is fire beyond incipient stage, or can ERT extinguish the fire?**

VI. **Are automatic fire systems in area? Are they working?**

B. Lay hoselines while scouts assess situation. (If sufficient numbers of team members are present) Should hoselines be needed the second team should advance the hose to protect the scout position. The scout team should return to report to the Team Leader or do as directed by Team Leader if unable to extinguish the fire.

C. Establish plan of attack based on scout teams assessment. At this point the Team Leader must decide if fire is beyond incipient stage if scout team is unable to extinguish fire during close proximity assessment.

D. Extinguish the fire with hoselines or portable fire extinguishers, if scout team does not accomplish extinguishment. This situation must be assessed as the fire may be beyond the incipient stage if the scout team extinguishers do not provide sufficient extinguishment capabilities.

6. **Fire is declared extinguished** by the Team Leader. The Team Leader will insure that the area is secure and check for possible secondary ignition points. The Team Leader will report to the plant director or his designee as to whether it is safe to give an all clear for plant personnel to return to their workstations.

7. **Fire can not be extinguished** and is declared beyond the incipient stage and into the free burning stage. When the fire is declared to be beyond the incipient stage team members should retreat to a safe location and follow the SOP for free burning fires.

SOP FOR FREE BURNING FIRES

8. **Establish plan of defense** based on steps 1 - 5 of **Incipient Fire** procedures, scout teams assessment and results of the teams actions to this point.

9. **Take defensive action/await county fire services.** The primary concern is protecting the lives of team members and plant personnel. Rescue of personnel in emergency area should only be attempted if risk to team members performing rescue is minimal or warranted.

Defensive actions to be taken:

A. De-energize electrical power where needed to assist in fighting the fire and preventing contact with energized electrical equipment by team members or county fire service personnel. It should be remembered that some systems have auxiliary DC power, this power should also be de-energized.

B. Lay hoselines and protect exposures. Pay special attention to compressed gas cylinders, tanks or drums which may pressurize and B.L.E.V.E.

C. Ensure automatic fire systems are operating if provided. (It may be necessary to manually activate a system) automatic fire systems should remain in operation until the fire is declared extinguished by the appropriate authority.

D. Close or open valves to assist in control or extinguishment of fire.

E. Ensure fire water supply. It may be necessary to start diesel fire pumps, if electrical pump should fail or be disabled. The diesel fire pumps may also be used to augment water supply, if electrical pump cannot keep up sufficient water flow.

Note: It is possible for fire pumps to out produce flow to water tanks. If fire is of major proportions, county fire service personnel may need to pump water from ponds to increase water supply. (Consult - Fire Water Augmentation SOP)

10. **Arrival of county fire services** the Team Leader must relinquish control of the fire scene to the on-scene commander. The Team Leader should remain to assist the on-scene commander. Other team members should assist, as directed by the Team Leader.

11. **Fire is declared extinguished** by the on-scene commander or appropriate authority. The Team Leader shall notify the plant director or his designee as to whether the all clear for plant personnel to return to their workstations may be given.

12. **Clean up and equipment protection** may be necessary. This function may be performed in part or wholly by team members. The Plant Director, along with the Team Leader will determine what procedures may be necessary.

Appendix 18

Month-End Reconciled Comparison Report (MERCR) for December 2023

Month End Reconciled Comparison Report

MONTH	LIME SUB DELIVERED (ASH)	LIME SUB INTO PROMAT (Mass Balance)	BOTTOM ASH PRODUCED (ASH)		B/A SOLD	F/A PRODUCED (ASH)		F/A SOLD OUC (ASH)	PROMAT PRODUCED WWB (Mass Balance)	OUC F/A INTO PROMAT (Mass Balance)	FILTER CAKE WWB (Mass Balance)	Material Check Minus Added Water
			UNIT #1	UNIT #2		UNIT #1	UNIT #2					
Jan-23	6,908.66	6,262.65	237.80	178.49	0.00	2,438.09	1,934.68	6,432.60	26,732.00	0.00	19,774.00	26,036.65
Feb-23	5,488.71	5,362.20	134.76	204.36	0.00	1,549.70	2,350.17	4,374.28	18,580.00	0.00	12,622.00	17,984.20
Mar-23	6,575.70	6,916.05	44.91	410.08	0.00	467.77	4,693.92	4,620.56	36,045.00	41.00	28,320.00	35,277.05
Apr-23	6,483.24	5,996.70	346.60	438.45	0.00	3,983.62	5,042.14	7,019.52	33,910.00	758.00	26,489.00	33,243.70
May-23	6,274.20	6,473.25	328.16	355.75	0.00	3,773.82	4,091.11	9,288.00	36,747.00	0.00	29,555.00	36,028.25
Jun-23	6,478.47	6,052.20	392.26	430.84	0.00	4,510.97	4,954.68	8,551.04	30,722.00	547.00	23,691.00	30,290.20
Jul-23	6,630.19	6,391.00	650.15	682.09	0.00	7,476.67	7,844.06	11,612.19	27,160.00	672.00	20,100.00	27,163.00
Aug-23	6,536.06	6,491.80	664.56	731.39	0.00	7,642.39	8,410.95	12,986.46	22,150.00	1,163.00	16,457.00	24,111.80
Sep-23	7,753.94	7,530.60	488.65	563.02	0.00	5,619.51	6,474.73	10,389.53	29,763.00	496.00	21,649.00	29,675.60
Oct-23	1,772.04	2,132.00	218.51	441.46	0.00	2,512.88	5,076.80	8,724.11	27,374.00	0.00	24,176.00	26,308.00
Nov-23	2,166.67	777.00	300.49	206.46	0.00	3,455.67	2,374.25	5,277.86	19,890.00	460.00	18,265.00	19,502.00
Dec-23	4,621.65	1,974.00	263.30	80.92	0.00	3,027.94	930.62	3,199.20	25,442.00	203.00	22,278.00	24,455.00
TOTAL	**67,689.53**	**62,359.45**	**4,070.15**	**4,723.31**	**0.00**	**46,459.03**	**54,178.11**	**92,475.35**	**334,515.00**	**4,340.00**	**263,376.00**	330,075.45

WWB - Wet Weight Basis

F/A Produced	100,637.14
B/A Produced	8,793.46
Total Ash	109,430.60

F/A Sold or in L/F	96,815.35
Balance in Inventory	3,821.79
Available storage	4,000 Tons

Lime Sub Delivered	67,689.53
Lime in ProMat	58,015.27
Balance in Inventory	9,674.26
Available storage	1,800 tons

Notes: OUC F/A Into ProMat = Disposal

Notes: Added 12% due to lime feeder error.

Notes:

Appendix 19

Summaries of Waste Quantities from January 2015 through December 2023

Waste Quantities for 2015

Month	SEC Fly Ash Produced (tons)	Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat (% solids)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)
January	3,955	8,555	164	2,978	1,503	11,840	14,469	71.98	10,415	344
February	6,067	6,693	0	3,307	2,737	14,091	16,822	68.81	11,576	528
March	13,450	10,985	1,935	2,930	3,263	27,461	33,337	66.87	22,294	1,170
April	6,287	11,811	203	3,831	2,023	22,914	25,140	71.09	17,871	547
May	4,826	7,386	10	2,594	3,198	14,354	17,562	68.71	12,067	420
June	11,345	10,987	0	4,975	3,745	22,756	26,501	72.43	19,194	986
July	12,438	11,490	1,560	4,668	3,734	27,516	34,871	73.14	25,505	1,082
August	13,171	10,594	1,869	6,825	4,552	24,327	34,778	71.45	24,848	1,145
September	10,305	11,049	1,154	5,426	4,366	27,363	33,156	72.02	23,879	896
October	6,979	8,970	24	4,882	3,544	19,981	23,549	72.00	16,956	607
November	10,449	10,185	0	4,692	3,575	26,999	30,574	72.36	22,124	909
December	7,168	8,082	0	4,405	2,961	21,487	21,482	64.24	13,799	623
Total	106,440	116,787	6,919	51,513	39,201	261,089	312,241	70.63	220,528	7,418

wwb – Wet Weight Basis

dwb – Dry Weight Basis

Waste Quantities for 2016

Month	SEC Fly Ash Produced (tons)	Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat (% solids)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)
January	6,894	7,249	0	3,045	3,162	11,890	15,205	72.00	10,948	599
February	11,340	11,600	0	4,905	5,340	46,210	51,796	70.73	36,637	986
March	10,532	12,072	0	5,650	4,853	46,106	50,959	67.78	34,541	916
April	5,909	6,776	0	866	1,281	13,745	15,026	66.26	9,956	514
May	5,574	5,847	0	1,386	832	19,242	20,074	60.21	12,086	485
June	6,961	7,382	0	4,504	3,865	20,205	24,070	65.30	15,717	605
July	7,377	8,323	0	5,219	4,331	19,094	23,425	63.36	14,842	641
August	9,963	9,006	1,921	7,442	6,800	37,014	45,742	67.18	30,728	867
September	12,740	8,348	2,627	6,128	5,347	40,391	48,905	67.18	32,853	1,107
October	8,204	8,638	0	4,338	3,628	31,292	37,920	67.18	25,474	712
November	11,043	8,642	2,127	2,519	2,423	34,230	38,780	67.18	26,051	960
December	13,931	8,146	5,934	5,187	4,556	48,624	59,114	67.18	39,711	1,211
Total	110,468	102,029	12,609	51,189	46,418	368,043	431,016	67.18	289,544	9,603

wwb – Wet Weight Basis

dwb – Dry Weight Basis

ProMat percent solids based on mass balance for January through July.

Waste Quantities for 2017

Month	SEC Fly Ash Produced (tons)	Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat (% solids)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)	Bottom Ash Sold (tons)
January	10,352	8,243	2,108	5,520	5,863	37,936	45,907	70.00	32,135	900	1,455
February	6,231	8,463	0	5,137	5,236	21,032	26,268	70.00	18,388	542	1,272
March	13,079	9,510	2,419	3,528	5,366	30,280	38,065	70.00	26,646	1,137	1,467
April	13,199	9,022	4,234	1,819	2,781	46,710	53,725	70.00	37,608	1,148	1,371
May	15,504	10,869	4,098	3,811	3,733	40,984	48,815	70.00	34,171	1,348	2,946
June	12,630	10,738	1,707	6,717	5,806	18,377	25,890	70.00	18,123	1,098	1,290
July	13,739	10,557	3,038	4,828	5,554	33,664	42,256	70.00	29,579	1,195	1,215
August	15,179	13,171	2,904	7,604	6,421	35,149	44,474	70.00	31,132	1,320	1,543
September	9,966	8,634	2,529	5,470	5,080	25,271	32,880	70.00	23,016	867	0
October	11,552	11,325	0	6,594	5,835	25,487	31,322	70.00	21,925	1,005	1,260
November	14,188	15,363	179	5,685	4,718	32,968	37,865	70.00	26,506	1,234	943
December	14,409	11,604	1,823	5,109	5,426	27,532	34,781	70.00	24,347	1,253	823
Total	150,028	127,499	25,039	61,821	61,819	375,390	462,248	70.00	323,574	13,046	15,585

wwb – Wet Weight Basis

dwb – Dry Weight Basis

ProMat percent solids assumed to be 70.

Waste Quantities for 2018

Month	SEC Fly Ash Produced (tons)	Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat (% solids)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)	Bottom Ash Sold (tons)
January	17,007	14,811	2,782	7,083	6,092	37,643	46,916	70.00	32,841	1,479	1,104
February	4,498	6,925	132	4,710	3,958	11,718	16,677	70.00	11,674	391	1,436
March	10,822	11,750	0	5,091	5,007	18,866	24,878	70.00	17,415	941	1,465
April	12,048	12,831	0	5,648	5,611	22,937	29,357	70.00	20,550	1,048	1,187
May	13,874	13,615	963	7,803	7,253	36,015	45,823	70.00	32,076	1,206	1,408
June	13,958	13,295	174	7,242	7,981	36,504	49,411	70.00	34,588	1,214	929
July	15,502	16,102	0	8,072	8,223	39,066	49,095	70.00	34,367	1,348	1,274
August	15,447	16,093	155	8,178	8,760	42,627	53,465	70.00	37,426	1,343	1,653
September	10,164	9,077	0	5,650	5,918	25,935	33,153	70.00	23,207	884	901
October	8,941	9,973	0	5,468	5,394	24,279	30,561	70.00	21,393	777	895
November	14,658	11,331	0	3,083	3,819	39,410	44,296	70.00	31,007	1,275	1,073
December	12,615	11,619	267	5,382	5,487	28,419	35,377	70.00	24,764	1,097	484
Total	149,534	147,423	4,473	73,411	73,503	363,419	459,009	70.00	321,306	13,003	13,809

wwb – Wet Weight Basis

dwb – Dry Weight Basis

ProMat percent solids assumed to be 70.

Waste Quantities for 2019

Month	SEC Fly Ash Produced (tons)	Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat (% solids)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)	Bottom Ash Sold (tons)
January	15,235	14,116	1,849	6,442	5,885	34,821	43,382	70.00	30,367	1,307	0
February	6,286	6,212	0	5,846	5,549	15,378	21,708	70.00	15,196	547	927
March	9,199	8,517	0	6,301	6,463	23,318	30,690	70.00	21,483	800	2,563
April	7,207	8,019	0	5,168	5,139	16,236	22,098	70.00	15,469	627	1,664
May	14,762	12,181	1,210	6,412	7,171	29,548	38,937	70.00	27,256	1,284	1,263
June	14,182	13,372	1,506	5,877	6,588	29,275	38,296	70.00	26,807	1,233	1,664
July	16,291	16,355	458	5,396	4,588	29,072	34,763	70.00	24,334	1,417	1,635
August	13,147	10,690	2,931	5,304	5,206	18,629	27,498	70.00	19,249	1,143	1,172
September	12,213	7,813	4,131	4,187	4,302	10,891	19,930	70.00	13,951	1,062	1,162
October	14,627	11,120	1,236	3,848	5,503	37,525	42,103	70.00	29,472	1,272	823
November	14,385	11,247	2,064	6,252	5,450	44,694	52,975	70.00	37,083	1,251	692
December	11,706	11,763	182	6,475	5,503	35,644	42,103	70.00	29,472	1,018	730
Total	149,241	131,404	15,567	67,506	67,347	325,031	414,483	70.00	290,138	12,960	14,296

wwb – Wet Weight Basis

dwb – Dry Weight Basis

ProMat percent solids assumed to be 70.

Waste Quantities for 2020

Month	SEC Fly Ash Produced (tons)	Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat (% solids)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)	Bottom Ash Sold (tons)
January	8,998	10,114	788	6,773	5,032	29,302	35,869	70.00	25,108	781	1,579
February	5,973	5,627	0	3,487	3,931	13,478	17,544	70.00	12,281	519	2,824
March	5,512	5,347	100	3,121	2,519	12,613	15,318	70.00	10,723	3,385	2,906
April	6,148	4,481	615	2,591	2,543	7,191	10,327	70.00	7,229	535	737
May	7,933	8,024	0	4,024	5,343	16,130	21,657	70.00	15,160	690	1,249
June	12,439	9,051	1,804	5,236	4,920	23,000	29,893	70.00	20,925	1,082	954
July	12,161	9,506	4,340	6,840	6,065	28,062	40,673	70.00	28,471	1,058	1,665
August	17,197	9,554	7,448	6,893	6,945	33,140	50,059	70.00	35,041	1,495	1,729
September	12,692	10,459	4,416	6,435	6,374	27,639	40,023	70.00	28,016	1,104	2,605
October	11,237	9,172	3,528	1,986	1,961	24,741	31,210	70.00	21,847	977	1,440
November	8,731	6,348	1,067	6,345	1,974	25,474	29,502	70.00	20,651	759	967
December	12,850	8,483	6,710	5,989	4,192	35,278	48,276	70.00	33,793	1,117	361
Total	121,870	96,166	30,816	59,719	51,800	276,048	370,351	70.00	259,246	13,502	19,016

wwb – Wet Weight Basis

dwb – Dry Weight Basis

ProMat percent solids assumed to be 70.

Waste Quantities for 2021

Month	SEC Fly Ash Produced (tons)	Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat (% solids)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)	Bottom Ash Sold (tons)
January	15,122	9,056	5,380	4,788	4,781	33,557	44,674	70.00	31,272	1,315	170
February	7,776	8,328	0	6,224	4,824	10,482	16,270	70.00	11,389	676	1,052
March	12,622	10,193	1,791	6,376	5,118	26,468	35,936	70.00	25,155	1,098	1,254
April	12,766	12,258	274	6,381	5,304	25,392	33,622	70.00	23,535	1,110	1,756
May	15,639	12,436	921	6,176	5,245	27,832	36,808	70.00	25,766	1,360	1,889
June	14,216	15,063	0	6,683	5,475	26,310	34,522	70.00	24,165	1,236	2,063
July	12,301	11,758	0	5,889	6,585	21,004	30,881	70.00	21,617	1,070	2,296
August	13,749	13,599	0	6,149	5,682	25,180	33,703	70.00	23,592	1,196	2,560
September	13,459	11,694	1,894	5,996	5,253	25,555	35,328	70.00	24,730	1,170	2,404
October	10,087	10,061	1,049	3,973	3,509	26,836	33,148	70.00	23,204	877	1,765
November	7,148	7,948	181	4,952	4,171	18,892	25,329	70.00	17,730	622	1,656
December	5,714	5,796	0	3,510	1,477	15,607	17,822	70.00	12,475	497	622
Total	140,600	128,189	11,490	67,095	57,424	283,115	378,043	70.00	264,630	12,226	19,485

wwb – Wet Weight Basis

dwb – Dry Weight Basis

ProMat percent solids assumed to be 70.

Waste Quantities for 2022

Month	SEC Fly Ash Produced (tons)	Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat (% solids)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)	Bottom Ash Sold (tons)
January	7,202	6,447	408	3,934	4,038	13,321	19,915	70.00	13,941	626	1,169
February	6,022	5,766	278	4,874	5,970	12,691	19,857	70.00	13,900	244	580
March	7,367	6,703	124	5,787	5,519	10,710	17,201	70.00	12,041	641	522
April	8,690	6,921	2,220	4,889	4,966	11,956	26,081	70.00	18,257	756	1,160
May	9,533	6,347	3,641	6,018	6,002	10,212	21,024	70.00	14,717	829	1,616
June	9,992	8,403	1,599	7,516	5,938	8,719	14,192	70.00	9,934	869	1,475
July	9,810	9,297	511	5,839	6,221	10,940	20,378	70.00	14,265	853	1,214
August	8,670	9,271	0	7,002	5,707	18,257	24,842	70.00	17,389	754	0
September	7,962	7,101	0	6,200	5,721	8,044	19,330	70.00	13,531	692	0
October	10,925	11,838	196	6,946	6,904	18,323	22,987	70.00	16,091	950	0
November	12,099	8,971	1,434	4,449	4,523	21,400	21,251	70.00	14,876	1,052	0
December	10,297	10,165	778	6,378	6,640	14,307	26,625	70.00	18,638	895	0
Total	108,569	97,229	11,189	69,833	68,149	158,880	253,683	70.00	177,578	9,161	7,736

wwb – Wet Weight Basis

dwb – Dry Weight Basis

ProMat percent solids assumed to be 70.

Waste Quantities for 2023

Month	SEC Fly Ash Produced (tons)	Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat (% solids)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)	Bottom Ash Sold (tons)
January	4,373	6,433	0	6,909	6,263	19,774	26,732	70.00	18,712	416	0
February	3,900	4,374	0	5,489	5,362	12,622	18,580	70.00	13,006	339	0
March	5,162	4,621	41	6,576	6,916	28,320	36,045	70.00	25,232	455	0
April	9,026	7,020	758	6,483	5,997	26,489	33,910	70.00	23,737	785	0
May	7,865	9,288	0	6,274	6,473	29,555	36,747	70.00	25,723	684	0
June	9,466	8,551	547	6,478	6,052	23,691	30,722	70.00	21,505	823	0
July	15,321	11,612	672	6,630	6,391	20,100	27,160	70.00	19,012	1,332	0
August	16,053	12,986	1,163	6,536	6,492	16,457	22,150	70.00	15,505	1,396	0
September	12,094	10,390	496	7,754	7,531	21,649	29,763	70.00	20,834	1,052	0
October	7,590	8,724	0	1,772	2,132	24,176	27,374	70.00	19,162	660	0
November	5,830	5,278	460	2,167	777	18,265	19,890	70.00	13,923	507	0
December	3,959	3,199	203	4,622	1,974	22,278	25,442	70.00	17,809	344	0
Total	100,637	92,475	4,340	67,690	62,359	263,376	334,515	70.00	234,161	8,793	0

wwb – Wet Weight Basis

dwb – Dry Weight Basis

ProMat percent solids assumed to be 70.

Annual Waste Quantities for Cell 1 and Cell 2

Year	SEC Fly Ash Produced (tons)	SEC Fly Ash Sold (tons)	SEC Fly Ash into ProMat (tons)	Lime Substitute Delivered (tons)	Lime Substitute into ProMat (tons)	FGD Sludge Filter Cake (tons wwb)	ProMat Produced (tons wwb)	ProMat Produced (tons dwb)	Bottom Ash Produced (tons)	Bottom Ash Sold (tons)
2015	71,855	71,357	4,607	35,873	26,477	170,429	204,911	146,305	6,248	–
2016	110,468	102,029	12,609	51,189	46,418	368,043	431,016	289,544	9,603	–
2017	150,028	127,499	25,039	61,821	61,819	375,390	462,248	323,574	13,046	15,585
2018	149,534	147,423	4,473	73,411	73,503	363,419	459,009	321,306	13,003	13,809
2019	149,241	131,404	15,567	67,506	67,347	325,031	414,483	290,138	12,960	14,296
2020	121,870	96,166	30,816	59,719	51,800	276,048	370,351	259,246	13,502	19,016
2021	140,600	128,189	11,490	67,095	57,424	283,115	378,043	264,630	12,226	622
2022	108,569	97,229	11,189	69,833	68,149	158,880	253,683	177,578	9,161	7,736
2023	100,637	92,475	4,340	67,690	62,359	263,376	334,515	234,161	8,793	0
Total	1,102,802	993,771	120,130	554,137	515,296	2,583,731	3,308,259	2,306,481	98,543	71,064

Waste quantities are for Cell 1 prior to April 28, 2022 and Cells 1 and 2 after April 28, 2022.