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Dillon County, South Carolina

TECHNICAL REPORT REVISION 3

Vertical Expansion of Class 2 Landfill

July 2018

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Vertical Expansion of Class 2 Landfill

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1 INTRODUCTION

1.1 Site Orientation

Dillon County, South Carolina, owns and operates a solid waste landfill campus located just west of State Route 57, south of Dillon. Figure 1, Vicinity Map, illustrates the footprint of the landfill campus relative to the city of Dillon. Figures are provided at the end of the report before the appendices. The campus comprises four closed municipal solid waste (MSW) landfills, a closed industrial solid waste landfill (ISWL), an active MSW transfer station and an active construction and demolition (C&D) landfill.

Portions of the site and surrounding areas were historically farmed until approximately 1996 when the growth of the landfill consumed most of the campus area as it stands today. The landfill property is bound by Lucius Road to the north and Fox Swamp Canal to the east. The southern landfill boundary is defined by the confluence of Maple Creek and Fox Swamp Canal. A CSX railway line primarily defines the western property boundary. However, there are individual tracts of land located between the railroad and the landfill property that are not owned by the County. Figure 2, Site Layout, displays the landfill campus and some of the adjacent property boundaries.

1.2 Site Progression

The initial MSW landfill is made up of approximately 48 acres and is located just north of the confluence of Maple Creek and Fox Swamp Canal. Little is known of this portion of the campus. The landfill campus was expanded to the north in 1972 by the permitting of the second MSW landfill, the 77.6-acre DWP-114. It is assumed that the initial MSW landfill was closed in the mid-1970s following the permitting of Municipal Landfill DWP-114. The second MSW, DWP-114, is owned by a third party and the actual closure date is unknown. It is assumed that closure of DWP-114 followed the permitting of the third MSW, DWP-118, in the early to mid-1980s.

Development of DWP-118 situated north of DWP-114 occurred in 1984. The permit for this landfill comprised three areas divided across the 75-acre tract and the landfill was developed using a phased approach. The first phase area was designated as an MSW landfill special waste area to dispose sludge. According to historical records, the sludge was municipal in nature and was transferred from the nearby South of the Border Amusement Park. This special waste area was closed in the mid-1990s.

The second phase comprised the closed MSW landfill for special waste and the closed ISWL. Table 1, Historic Dillon County Landfills summarizes the history of the landfills.

Table 1. Historic Dillon County Landfills

Landfill Name	Landfill Size	Start Date	Closure Date
Initial MSW Landfill	48.0 Acres	Unknown	Mid-1970s[1]
DWP-114	77.6 Acres	1972	Mid-1980s[1]
DWP-118 MSW Landfill Special Waste	9.3 Acres	Unknown	1996
DWP-118 MSW Landfill	25.3 Acres	1984	1996
DWP-118 ISWL Landfill	40.4 Acres	1993	2012
Class 2 Landfill	27.8 Acres[2]	1996	Open

1) Approximate dates of closure. 2) Initially permitted size of landfill.

2 CLASS 2 LANDFILL DESIGN

The Dillon County Class 2 landfill was initially designed by B.P. Barber and Associates (B.P.B.) to meet the disposal needs for Class 2 solid waste for the County. The original permitted size of the Class 2 landfill was 18.2 acres or 518,168 cubic yards (yd^3). According to the most recent survey, the current landfill has approximately 438,429 yd^3 and 79,739 yd^3 space available. The originally permitted landfill currently has cells 15 and 16 available for waste material, and Cell 15 was approved for waste disposal on March 7, 2018. The vertical expansion will increase the lifetime of the existing landfill while staying inside the same footprint. The vertical expansion is designed based on the volume of space available while conforming to at least a 1,000-foot residential buffer and continuing to remain a minimum of 2 feet above the apparent “historic” high groundwater table. The landfill life extension resulting from the vertical expansion is estimated based on an increased permitted total waste stream of up to 61,700 tons per year from the previous 11,700 tons per year. The increase in permitted total waste stream is consistent with the on-going future needs of the site based on the history of Dillon County’s needs. The Proof of Ownership and South Carolina Department of Health and Environmental Control (SCDHEC) Letter and Form for the vertical expansion are included in Appendix A.

The estimated annual waste collection is 10,000 tons per year based on an average of the total tonnage for the past five years except for 2014 when an ice storm occurred. The estimated annual waste collection is 23,500 cubic yards. The average volume assumed by the tonnage has been calculated based on the waste accrual of the landfill. Note that this estimate is based primarily on assumptions including that the loading rate to date has been uniform. With recent trends in the climate and more frequent storm activity on the East Coast, it may be that loading as seen in 2014 may increase with intense storm frequency. Additional years like 2014 are anticipated and the capacity to serve the community in response to such events is primarily supplied by the facility.

These calculated estimates also assume that the waste will be compacted, and all exposed fill material will be covered at least every 30 days with 6 inches of cover material. The available volume and life are therefore determined as follows:

Total capacity available in the vertically expanded area fill per design: **268,930 cubic yards (yd^3)**

Landfill Life Extension (at average annual rate of disposal):

($268,930\ yd^3$) * ($1,000\ lbs/yd^3$) * (1/2,000 lbs/T) * (1/10,000 T/Yr): **13.4 years**

2.1 Site Geology and Hydrogeology

The Dillon County Class 2 landfill is located within the Coastal Plan Province of South Carolina on the south flank of the Cape Fear Arch. Sediments underlying the landfill consist of unconsolidated, fine to coarse grain quartzitic sands and glauconitic clays. Groundwater depth at the facility varies from land surfaces near the two swamps located adjacent to the landfill to approximately 20 feet below land surface in areas with topographic relief.

The December 2016 and June 2017 groundwater flow directions and rates at the Dillon County Class 2 landfill are comparable to previous years (see Figures 3 and 4). Hydraulic conductivities, used to calculate flow rate, are based on monitor well slug tests previously conducted by C&L Consultants on April 21 and 22, 1999. The calculated hydraulic conductivities varied from 2.54×10^{-3} cm/sec to 3.30×10^{-3} cm/sec, with an average hydraulic conductivity of 3.00×10^{-3} cm/sec or 10.3 ft/day. An effective porosity (n) of 30% was obtained by Law Engineering, in a report dated March 16, 1987. Soils in the uppermost aquifer were described as fine to coarse-grained sands. The average gradient across the site for December 2016 was approximately 0.0021 ft/ft (measured from MW-3 to MW-13 at approximately 5,840 feet), yielding an average groundwater flow rate of about 25.8 ft/yr and the average gradient across the site for June 2017 was approximately 0.00198 ft/ft yielding an average groundwater flow rate of about 24.8 ft/yr.

Water elevations were measured prior to sampling the wells during the first semi-annual monitoring event on December 5, 2016, and during the second semiannual monitoring event on June 20, 2017. As indicated on Table 1, water-level elevations increased during the first semi-annual period (December 2016 water levels), compared to the June 2016 monitoring event and decreased slightly during the second semi-annual period (June 2017 water levels). Additional groundwater data, including laboratory test results is presented in tables 2 through 7. Hydrographs for selected monitor wells are also included in Appendix B.

2.2 Availability of Adequate Soil Cover

The Dillon County Class 2 landfill has adequate soil cover available at a borrow pit located on Old River Road approximately 9.0 miles southeast of the landfill. The borrow pit was previously used to supply the cover material for the ISWL closure. A Parcel Information Report and laboratory test results for the borrow pit are included in Appendix C.

2.3 Land Use

Refer to Figure 5, Property Map, for an overview of the area surrounding the Dillon County Class 2 landfill. Residences are labeled by blocks on Figure 5. Specific features are also provided on this map including miscellaneous buildings, roads, scales, wells and an access gate. No residences were identified or found within 1,000 feet, but an abandoned building to the south of the landfill is near the buffer zone. The structure is noted due to the proximity.

Except for the sediment basin, the waste disposal boundary is not located within 200 feet of any surface water body that holds water for more than 6 consecutive months. The landfill is not within 5,000 feet of an airport used by piston-type aircraft or within 10,000 feet of an airport used by turbojet aircraft. Dillon County Airport is approximately 3.34 miles to the north and Price Airfield SC #89 is approximately 5.38 miles to the northwest.

The 100-year floodplain designation for Maple Swamp Tributary located to the east of the site was obtained from the Federal Emergency Management Agency (FEMA) floodplain map, Map Number 45033C0138C, Effective Date May 24, 2011, for unincorporated Dillon County. The 100-year floodplain map is included in Appendix D. The map indicates that no portion of the landfill will be located in the 100-year floodplain. No site work will restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain or result in washout of solid waste.

A wetland is located to the south of the vertical expansion in the adjacent property. There are approximately 6.5 acres of wetland in the property. The proposed expansion will not impact any wetland, and a minimum 50-foot buffer will be established between the cells and the currently established wetlands.

The extent of wetlands relative to the vertical expansion is shown on the map provided in Appendix D. Since the proposed modification will not change the limits of the waste disposal boundary, no additional spatial location demonstrations are required relating to the wetlands to the south of the vertical expansion.

Silt fence, stormwater conveyance channels, and the sediment basin will be used to prevent sediment from washing into the wetlands. The design of the landfill will prevent waste from entering the wetlands.

3 OPERATION PLAN

The landfill shall be operated in accordance with the procedures herein and as shown on the accompanying plans. The operating plan, site plan, and specific procedures required to operate the landfill will be reviewed with operators prior to working at the landfill and annually thereafter.

The existing site is currently being operated as a Class 2 Landfill. The elevation of the existing landfill base will not change. The filling and covering of the existing landfill will continue as permitted.

3.1 Hours of Operation

The landfill will be restricted to use by Dillon County and its customers as approved by the County. The site will be open from 8:00 AM until 5:00 PM, Monday through Friday (except for New Year's Day, July 4, Thanksgiving and Christmas) and 8:00 AM to 12:00 PM on Saturday. An attendant will be stationed at the gate during all hours of operation.

3.2 Procedure for Fire Prevention

Open burning at this landfill site is prohibited. If waste materials catch fire, landfill personnel will immediately smother the fire by covering the flames with soil. If the fire is not managed immediately, the Dillon County Fire Department will be summoned by calling 911. Multiple fire stations operated by the County are in proximity to the landfill. The South Eighth Avenue Station is the closest at approximately 1.7 miles and can be reached by dialing 911. As an alternative, the West Howard Street Station is located approximately 2.4 miles away and the phone number is (843) 774-1451. Figure 1, is a map that identifies the fire stations relative to the landfill.

Once emergency personnel arrive on-site, an assessment of the emergency will be made to determine if it is desirable to evacuate the surrounding areas. If required, local authorities (police or fire department) will assist local officials in the appropriate evacuation area.

Following the 911 call, the Emergency Response Coordinator (ERC) should be contacted to inform him/her of the characteristics of the emergency.

The ERC will immediately notify SCDHEC during working hours. During working hours, the SCDHEC District office should be contacted at (803) 898-3432. Outside of working hours, contact the SCDHEC 24-hour emergency response number at 1-888-481-0125. The report must include the following:

- The name and phone number of the caller.
- Name and address of the facility.
- Time and type of the incident.
- Types and quantity of the material involved.
- Extent of injuries, if any.
- Assessment of actual or potential hazards to human health or the environment, where applicable.

The ERC will direct effort to contain the incident and minimize the effect. Special attention should be given to preventing the occurrence of fires or release of waste materials from the facility. All reasonable efforts will be taken, including the shutdown of the facility.

The ERC will direct the cleanup. All cleanup will be conducted in accordance with local, state and federal regulations. Special considerations will be given to safety and the protection of the environment.

The ERC will ensure that all equipment used in the emergency is cleaned and fit for its intended use before operations are resumed.

The ERC will notify SCDHEC and local authorities that the facility meets compliance and that all clean-up and disposal procedures have been completed before operations are resumed in the affected areas.

The ERC will record the time, date, and details of an incident that requires the implementation of the Contingency Plan. Within 15 days, a written report of the incident will be submitted to SCDHEC, including:

- Name, address and phone number of owner.
- Name, address and phone number of facility.
- Date, time and type of incident.
- Name and quantity of material involved.
- Extent of injuries, if any.
- Assessment of actual or potential hazards to human health or the environment, where applicable.
- Estimated quantity and disposition of recovered material that resulted from the incident.

3.3 Procedure for Odor Control

Should odor problems occur, the source of the odor should first be determined and the appropriate option for eliminating these problems should be selected. Options may include eliminating the source of the odor or covering these sources more frequently.

3.4 Procedure for Control of Vectors

Vectors are not expected to be a problem at this site. Covering with soil will be initiated immediately when found necessary to control the potential of vectors. Other precautions may be necessary to control problems with vectors.

3.5 Control, Inspection and Measuring of Incoming Waste

Materials will be visually inspected on every truck at the gate to ensure that the material is in fact a material characterized in Appendix I of Regulation 61-107.19, SWM: Solid Waste Landfills and Structural Fill (the Regulation) or is a special material that has been approved for disposal (Reference 1). Volumes will be determined by weight using scales located at the entrance to the landfill campus. Items listed in Appendix II of the Regulation delineate materials that are unacceptable, and therefore, will not be allowed into the landfill (Reference 1). All hazardous and domestic wastes are prohibited from disposal at this site. Any questions concerning the acceptability of a particular waste not listed in Appendix I or II will be directed to the Bureau of Land and Waste Management (SCDHEC).

Only collection vehicles properly registered with the County and displaying the appropriate registration number will be admitted into the facility. Prior to receiving the required registration to deliver waste to the facility, the customer will be required to sign a written agreement, which explicitly defines the types of waste that will be accepted. The weigh master, located in the scale house will be responsible for enforcing this directive. The exception to the procedure is that Dillon County private citizens may unload waste at the facility upon submitting proof of Dillon residency. Registration will not be required of private citizens.

Spot inspection, including the opening of bags and containers, will be made at the weigh station. Inspection will be made of all material deposited on the tipping pad. Unauthorized waste will be

segregated and stored in a secure manner and/or placed back on the delivering vehicle. Discovery of the unauthorized waste will be reported to the proper authorities.

Disposal of unauthorized waste is a violation of state law. Any delivery of regulated hazardous waste will be reported immediately to the County and SCDHEC. Costs associated with this will be borne by the generator and/or the hauler.

If unauthorized waste is discovered and the generator and/or hauler cannot be identified, Dillon County shall assume responsibility for the proper disposal of such waste. If hazardous waste is discovered, facility personnel shall contact DHEC Emergency Response at 1-888-481-0125. The designated disposal site for medical and infectious waste is Diversified Medical Services, LLC (DMS) located in Lexington County Industrial Park in West Columbia, South Carolina.

Any unauthorized receipt of solid wastes that are prohibited in Class 2 landfills shall be removed from the landfill and taken to the MSW transfer station on-site. If necessary, unauthorized waste will be stored in roll-off containers near the MSW transfer station of the landfill campus until it can be taken to the Lee County Regional Landfill.

When the waste material is inspected and consolidated, the responsible landfill personnel will instruct the unloading vehicles to deposit the waste directly on the ground in a uniform layer. Uncovered material that is not acceptable will be loaded back onto the truck by the driver and/or operator. Material found after the driver and truck leave will be removed from the site. The equipment operator will place all the acceptable waste into the working area of the landfill. Equipment will be moved slowly, while compacting or crushing the waste to the smallest practical volume, to prevent damage to the equipment and to avoid injury to landfill personnel. Special care will be exercised while compacting close to the area where vehicles are unloading to avoid collisions or injuries from flying debris. The active disposal area will be limited to a single working face of the landfill. The working face will be as small as possible with a slope of 4-foot horizontal to 1-foot vertical (4H:1V) or less.

3.6 Procedure for Maintaining Stormwater Control Devices

Grading or filling areas to produce positive drainage will eliminate standing water. Due to sequencing in lifts, filling will typically occur at the highest location to avoid run-on. Both temporary and/or permanent berms will be constructed at higher elevation adjacent to fill areas to control stormwater run-off from running onto the active portion of the landfill. Permanent stormwater run-off controls will be constructed as shown on the plans from the base elevation upward as the final surface is completed. All stormwater ditches and the sediment pond will be inspected monthly to ensure they are functioning properly. Prior to construction of the vertical expansion, sediment will be removed from the existing stormwater pipes and pond. Sediment will also be removed from the existing stormwater pipes and pond on an as needed basis afterward.

3.7 Procedure for Covering Waste and Litter Control

It will not be necessary to cover the waste material on a daily or weekly basis. However, all exposed waste material must be covered with a minimum of 6 inches of clean soil at least every 30 days. More frequent coverings will be dictated by landfill conditions and materials (e.g. leaves that pose a wind-blown problem during seasonal periods of the year). Coverage will then be provided as needed. Litter has not been, and is not expected to be, a problem at the site. However, it may be necessary to use a portable fence occasionally to control litter. If necessary, litter will be picked up weekly. All haulers will be instructed to cover their truck beds to avoid litter being blown from the trucks.

3.8 Landfill Sequencing Plan

Refer to the Sequencing Plan drawings found in the Permit Drawing 3, Vertical Expansion 50% Fill and Drawing 4, Final Grading Plan. The landfill currently has cells 15 and 16 available to be consumed and, the cells are part of the initial permitting for the Class 2 landfill. Operations are for the individual cells to be filled from east to west until the available volume is consumed. After the available volume has been consumed, the waste is covered with cover material from the borrow pit, or within 30 days, whichever occurs first. The vertical expansion will begin with Cell 17, which is on the northern end of the existing landfill and is above the previously consumed cells 1 and 2. Table 2, Vertical Expansion Cells, summarizes each new cell's top elevation (El.) of the vertical expansion and the original landfill cell that the vertical expansion cell will be built upon.

Table 2. Vertical Expansion Cells

Cell Number	Top El. (ft.)	Original Cells	Cell Number	Top El. (ft)	Original Cells
Cell 17	140	Cells 1 and 2	Cell 24	148	Cells 8 and 9
Cell 18	147	Cells 2 and 3	Cell 25	149	Cells 9 and 10
Cell 19	147	Cells 3 and 4	Cell 26	149	Cells 10 and 11
Cell 20	147	Cells 4 and 5	Cell 27	148	Cells 11 and 12
Cell 21	148	Cells 5 and 6	Cell 28	147	Cells 12, 13, and 16
Cell 22	148	Cells 6 and 7	Cell 29	147	Cells 13, 14, and 16
Cell 23	148	Cells 7 and 8	Cell 30	134	Cells 14, 15, and 16

3.9 Procedure for Dust Control

Should dust become a problem, water will be sprayed over the access road surface to control dust. A water truck will be available during dry conditions within 24 hours. Watering of other areas may be considered should dust become an excessive problem.

3.10 Required Equipment

The County owns equipment that is dedicated to the operation of the landfill for excavating, earthmoving, grading, spreading, compacting and covering activities. This equipment includes a CAT D6H bulldozer, CAT 322C excavator and CAT 816F compactor, or their equivalent, will remain on-site. Other available equipment designated to the Public Works Department is available for use at the landfill as necessary. The County also has access to equipment from other sources, such as contracting or leasing, on a short-term basis to provide sparse equipment for the landfill if repairs to on-site equipment take longer than 3 days. Additional County equipment, such as a compactor and scraper pans, may be used on a scheduled, as-needed basis.

A few times a year, it will be necessary to use a grader to shape the haul and maintenance roads and make minor changes to existing grades. The primary access road is a gravelly sand material and will be maintained so that it is capable of withstanding anticipated load limits during all weather conditions.

3.11 Facility Signage

Two signs will be posted at the entrance to the site. One sign will provide the following information:

Dillon County Class 2 Landfill
SCDHEC Permit No. 171001-1202
Emergency Phone Numbers: (843) 774-1436
Operating Hours: 8:00 AM – 5:00 PM: Monday through Friday, 8:00 AM – 12:00 PM: Saturday (except holidays)

The second sign will provide the following information:

Acceptable Waste	
Land Clearing Debris	Roofing Material
Earthen Materials	Floor Covering
Stumps	Asbestos Containing Materials
Tree Brush & Limbs	Untreated and Treated Lumber
Rock	Insulation
Construction & Demolition Debris	Hardened Concrete & Cement
Brick	Sheet Materials & Steels
Painted Wastes	Tires
Pipes	
Unacceptable Waste	
Household Waste	Miscellaneous Waste
Polychlorinated Biphenols (PCB's)	Tar
Preservative (Pentaclorophenal & Creosote)	Paint Thinner
Pesticides / Herbicides	Appliances
Mercury Lights	Batteries
Bondo	Fluorescent Lamps
If you have questions, contact Dillon County at: (843) 774-1436	

Asbestos containing materials will be covered immediately with at least 6 inches of clean soil, and the area where the material is buried will be identified and recorded by area number and lift. An approval letter from the Bureau of Air Quality will be required to allow disposal of asbestos from each specified project.

4 CONTINGENCY PLAN

4.1 Procedure for Inoperable Periods

When the facility is not accepting waste (i.e. weekends and holiday), the access gate to the site will be locked. For these brief periods, there will be no need to cover exposed waste. If there is a need to suspend landfill operations temporarily, Dillon County will:

1. Properly store, park or remove equipment used for operations at the site.
2. Ensure that unneeded utilities are shutoff.
3. Lock and secure building and gate entrances to the site.

If shutdown for greater than 30 days, a minimum of 6 inches of cover will be placed over exposed waste. The site will be inspected monthly to ensure everything is secure.

In the event there is a need to permanently suspend operations at the facility, Dillon County will implement landfill closure procedures as outlined in Section 4, Closure and Post Closure Plan.

4.2 Procedure for Fire or Explosion

Inspections will occur at the gate to identify any material that could explode. Open burning at this landfill site is prohibited. Should waste materials catch fire, landfill personnel will immediately smother the fire by covering the flames with soil. If the fire is not managed immediately, the Dillon County Fire Department will be summoned by calling 911. Multiple fire stations operated by the County are located in close proximity to the landfill. The South Eighth Avenue Station is the closest at approximately 1.7 miles and can be reached by dialing 911. As an alternative, the West Howard Street Station is located approximately 2.4 miles and the phone number is (843) 774-1451. Figure 1, is a map that identifies the fire stations relative to the landfill.

Once emergency personnel arrive on-site, an assessment of the emergency will be made to determine if it is desirable to evacuate the surrounding areas. If required, local authorities (police or fire department) will assist local officials in the appropriate evacuation area.

The ERC should be contacted after 911 to provide information regarding the characteristics of the emergency.

The ERC will immediately notify SCDHEC during working hours. During working hours, the SCDHEC District office should be contacted at (803) 898-3432. Outside of working hours, contact the SCDHEC 24-hour emergency response number at 1-888-481-0125. The report must include the following:

- The name and phone number of the caller.
- Name and address of the facility.
- Time and type of the incident.
- Types and quantity of the material involved.
- Extent of injuries, if any.
- An assessment of actual or potential hazards to human health or the environment, where this is applicable.

The ERC will direct effort to contain the incident and minimize the effect. Special attention should be given to preventing the occurrence of fires or release of waste materials from the facility. All reasonable efforts will be taken including the shutdown of part or all of the facility.

The ERC will direct the cleanup. All cleanup will be conducted in accordance with local, state and federal regulations. Special considerations will be given to safety and the protection of the environment.

The ERC will ensure that all equipment used in the emergency is cleaned and fit for its intended use before operations are resumed.

The ERC will notify SCDHEC and local authorities that the facility is in compliance and that all clean-up and disposal procedures have been completed before operations are resumed in the affected areas.

The ERC will record the time, date, and details of any incident that requires the implementation of the Contingency Plan. Within 15 days, a written report of the incident will be submitted to SCDHEC, including:

- Name, address and phone number of owner.
- Name, address and phone number of facility.
- Date, time and type of incident.
- Name and quantity of material involved.
- Extent of injuries, if any.
- An assessment of actual or potential hazards to human health or the environment, where this is applicable.
- Estimated quantity and disposition of recovered material that resulted from the incident.

4.3 Procedure for Handling Unauthorized Waste Materials

Materials will be visually inspected on every truck at the gate to ensure that the material is in fact a material characterized in Appendix I of the Regulation or is a special material that has been approved for disposal (Reference 1). Volumes will be determined by weight using the scales located near the gate. Items listed in Appendix II of the Regulation delineate materials that are unacceptable, and therefore, will not be allowed into the landfill (Reference 1). All hazardous and domestic wastes are prohibited from disposal at this site. Any questions concerning the acceptability of a particular waste not listed in either Appendix I or II of the Regulation will be directed to SCDHEC. Any unauthorized receipt of prohibited wastes shall be removed from the landfill site to an approved facility within 48 hours, unless approved by SCDHEC. If necessary, unauthorized wasted will be stored in roll-off containers until it can be taken to the on-site MSW transfer station where it will be removed from the site and taken to the Lee County Regional landfill.

5 CLOSURE AND POST-CLOSURE CARE PLAN

Within 5 days of closure of the entire landfill, signs will be posted at the entrance that will indicate that the facility is no longer in operation. This verification will be sent to SCDHEC notifying the landfill has been properly closed. Also, upon closure, a plat showing the final boundaries of the waste disposal area of the closed landfill will be recorded at the Dillon County Courthouse.

The finalization of the initial permitted landfill will result in a layout corresponding to that shown on the construction plans as B.P.B. initially designed it. Upon full utilization of the site, the final cover system is designed to minimize infiltration and erosion. Downdrains and tack-on berms are required as part of the stormwater conveyance system for the final grading plan. These conveyance features will be used around the cap to transport rain water to the ditches surrounding the landfill. The tack-on berm were designed to slope toward the inlet of the downdrains. Additional information on the downdrains and tack-on berms can be found on the detail sheets. Check dams will be placed as required in this ditch to filter silt from rain water and help retard flow velocities. Silt fences will be used as required until final grassing is established at the site.

The side slopes will vary from the initial B.P.B. design. The design of the side slopes will be 4H:1V and will be graded not to exceed 5 percent. Because this required change has been made after a majority of the initially permitted landfill has been filled per design, the additional material required to create the side slopes will be made up of cover material.

5.1 Procedure for Capping Site

Closure procedures will be implemented as the cells of the landfill mature and reach the design elevation. Within one month following the termination of disposal in each cell, a minimum of 2-feet of compacted earth cover (or cap) will be applied. The top of the cap will be at or below the elevation shown on Drawing 4, Final Grading Plan.

5.2 Procedure for Certification of Cap

Within 10 days of completing grading and seeding, a professional engineer licensed in the state of South Carolina shall submit to SCDHEC a letter verifying that the landfill has been properly closed in accordance with the requirements outlined in this plan and the facility's permit. The top six inches of the two-foot cap should be capable of sustaining native plant growth. As part of the certification, thickness of the cover layer will be determined by four inspection locations per acre. Upon receipt of verification of closure, SCDHEC will schedule an inspection of the facility.

5.3 Procedure for Seeding Cap and Seed Schedule

Grassing will be initiated within 5 days of completion of the cap. Stabilized grasses will prevent erosion and minimize siltation in the ditches and drainage structures. Completed areas will be inspected twice annually. Clean earth will be used to fill and repair slopes where settlement has occurred to prevent water from pooling above the landfill. Except in unusually adverse weather conditions, a good turf will be rapidly established with proper seeding

Two feet of cover material will be placed over the landfill upon closure. The sides slopes shall be graded to a slope of 4 feet horizontal to 1 foot vertical (4H to 1V). Final cover shall be placed within 6 months of the last acceptance of waste, and the entire area is to be grassed within 5 days of completion. Grassing will consist of different varieties depending on the month of application as shown on Table 3, Grassing Requirements.

Table 3. Grassing Requirements

Planting Dates	Common Name of Seed	Seed (Pounds/Acre)	Mulch Lime/ Fertilizer[1] (Pounds/Acre)
March 1 to August 14	Common Bermuda (hulled)	30	1,000 (Lime) 1,000 (Fertilizer) 4,000 (Mulch)
	Sericea Lespedeza (scarified)	50	
	Weeping Love Grass	10	
August 15 to February 28	Common Bermuda (unhulled)	40	
	Weeping Love Grass	10	
	Annual Rye Grass	5	
	Sericea Lespedeza (unhulled, unscrified)	80	
	Reseeding Crimson Clover	20	
	Rye Grain	20	

1) Fertilizer to be 10-10-10 (N-P-K).

5.4 Procedure for Cap Inspection and Maintenance

Post-closure care of the landfill will be conducted for a minimum of 20 years following closure. The integrity and effectiveness of the final cover will be maintained throughout this period, including making repairs as required to correct potential effects of the settlement, subsidence, erosion, or other events which could damage the cover. A 75 percent or greater vegetative ground cover with no substantial bare spots will be maintained throughout the post-closure period. The landfill property should be inspected quarterly along with ditches and the sedimentation basin. In addition, to the quarterly inspections, the sedimentation basin should also be inspected following major storm events, greater than or equal to a 10-year storm.

5.5 Post-Closure Care Monitoring

Post-closure groundwater monitoring will be conducted per the requirements of R.61.17.19. Part IV. Section E. Following closure of the landfill, the same approved groundwater monitoring system approved by SCDHEC and used during operation will be used for the post-closure period. Monitoring well that make up this system will be sampled annually and analyzed for the R.61-107.19 Appendix III constituents. All groundwater monitoring data shall be submitted to SCDHEC during the post-closure care period within 60 days of sample collection.

6 TRAFFIC CONTROL PLAN

6.1 Procedure for Maintaining All Weather Roads

A few times a year, it will be necessary to use a grader to shape the haul and maintenance roads and make minor changes to existing grades. The primary access road is comprised of a gravelly sand material and will be maintained so it is capable of withstanding the anticipated load limits during all weather conditions.

6.2 Procedure for Maintaining Local Roads to Site

Local roads will be maintained by the appropriate County or State Department of Transportation (DOT) maintenance crews.

6.3 Explanation that Local Roads Can Handle Traffic Load

This vertical expansion is to an existing Class 2 landfill. The expected traffic load is expected to be similar to historical trends.

6.4 Procedure for Maintaining Litter Control on Local Roads to Site

Litter has never been and is not expected to be a problem at the site. However, it may be necessary to use a portable fence occasionally to control litter. If necessary, litter will be picked up weekly. All haulers will be instructed to cover their truck beds to avoid litter becoming an issue.

7 TRAINING PLAN

Dillon County will employ experienced personnel and newly hired employees shall be properly trained by experienced personnel. Employees will receive training in the following areas:

- General Safety orders for the facility operations and maintenance including Occupational Safety and Health Administration (OSHA) requirements.
- Coordination of the waste handling between the equipment operators.
- Coordination of the waste handling operation and the off-loading of waste collection and loading of transport vehicles.
- Proper traffic control procedures, including coordination with the weigh-master.
- Procedures for proper operation, inspection and maintenance of equipment.
- Alternate Waste Handling Procedures – In the event an occurrence such as a fire, flood, or other condition requiring a temporary shutdown of the MSW transfer station, a plan has been developed to permit the continued handling of waste with minimum interruption. Employees will be trained to carry out their responsibilities if such an event shall occur.
    - The employee will receive an overview of the facility Contingency Plan and Emergency Procedures. He/she will know the location of the contingency plan and how to activate it in the event of an emergency.
    - The employee will understand the responsibilities if a fire or other accident should occur. In general, in the event of a major fire or other emergency, the operator's responsibility will be limited to the notification of the Emergency Response Coordinator (ERC) and the evacuation of the affected area.
    - The employees will be familiar with the fire extinguishers, their locations, uses and limitations.
    - The employees shall be knowledgeable of the personal safety equipment; including proper use, maintenance, and limitations.
    - The employee will be familiar with the location, use, and maintenance of other emergency equipment.
    - Training Schedule – All new employees will receive training as described above as part of an 8-hour orientation for new employees. This training will be provided by the Landfill Manager. Documentation that the employee received such training shall be recorded in the employees file. A refresher 6-hour session on these training programs will be held annually and conducted by the Landfill Manager. Documentation of the time, date, material covered, and attendance shall be placed in the operations record. The ERC shall conduct a 6-hour training/refresher session annually. Documentation of the time, date, material covered, and attendance shall be placed in the operations record.
- Emergency Response Coordinator – All persons who act in the position of the ERC or as part of the emergency response team will receive training as required.

7.1 Procedure for Handling Equipment

All personnel will be thoroughly trained in the safe operation of each piece of equipment they will be operating before being allowed to use that equipment unsupervised. Training will include safe operation and emergency procedures, as well as recognizing the need for equipment maintenance. Operators will also be trained on potential hazards of the wastes handled.

7.2 Review of Operational Plan and Contingency Plan

All personnel will be required to be thoroughly familiar with all standard operating procedures and emergency procedures as outlined in the operational and contingency plans prior to being allowed to work unsupervised at the landfill. All personnel will be required to review the plans annually to ensure they are aware of any updated procedures.

7.3 Procedures for Identifying Unauthorized Wastes

All personnel will be trained to identify wastes that are authorized for disposal in a Class 2 landfill as listed in Appendix I of the Regulation (Reference 1). They will also be trained to identify wastes that are unauthorized for disposal in a Class 2 landfill as listed in Appendix II of the Regulation (Reference 1).

All employees will be trained in notification requirements when unauthorized waste is found. All employees will receive training on the random inspection of waste at the scale house and the inspection of all waste on the tipping floor.

Employees will receive training in proper record keeping, including date, time, ticket number, hauler, generator and report of findings.

8 RECORD KEEPING

The importance of record keeping cannot be overemphasized. The landfill at the maximum allowable disposal rate is designed for a life of approximately 13.6 years. However, it is not possible to accurately predict that far in the future. Response to the differing changes and conditions can only be met if there is data available to determine the amount of waste, the type of material, the times when it was deposited, location of disposal, and the generating source. A summary of the daily records will be generated monthly to determine the totals for each waste type and the actual estimated volume of each solid waste for that month. A summary of the monthly reports will be generated quarterly, which will be combined to determine the totals for that fiscal year for the period July 1 through June 30. The annual report will also describe the capacity of the landfill used during the previous year and estimate the remaining permitted capacity. A copy of the annual report will be submitted to SCDHEC, Bureau of Land and Waste Management on or before September 1st of that year. The records for that fiscal year will be bound in one notebook or file on an annual basis and retained for a period of not less than 5 years.

Another factor regarding record keeping is that a single person or office will be responsible for recording and maintaining records. When these duties are clearly defined by one person or office, there is a greater potential for clear consistent record keeping and a reduced likelihood of errors.

Several inspection tasks that will be performed on a less frequent basis than the daily records include

- Inspection of access roads - monthly
- Inspection of drainage courses - monthly
- Maintenance inspection of closed areas - semi-annually

A report of these inspections will be made either in the form of a memo or by a separate log that will be kept with the daily records. This report will include pertinent facts such as inspector name, date, items/areas inspected, and action items. A landfill grid drawing is provided as Drawing 5, Cell Layout that can be used to identify the approximate location of disposal activity. Daily records of this type of information could be used to track the final location of the various loads.

9 DRAINAGE AND SEDIMENT CONTROL

The stormwater run-off from the existing portion of the Class 2 landfill currently flows from ditches on the north and south ends of the landfill to the Sediment Basin west of the landfill. This existing Sediment Basin is approximately 1.65 acres in size. The majority of run-off into the pond is from stabilized areas; therefore, considering the volume of the pond and the additional small portion of flow added from the vertical expansion, the impact will be negligible. The Sediment Control Design for the proposed vertical expansion is provided in Appendix E. Stormwater from the outfall discharges to Maple Swamp Tributary.

10 GROUNDWATER MONITORING SYSTEM

A groundwater monitoring system in compliance with SCDHEC's requirements for a sufficient number of wells situated at appropriate locations and depths to yield representative groundwater samples from the uppermost aquifer has been installed as approved by SCDHEC. This system was completed prior to the November 19, 2009 deadline in accordance with the requirements of the Regulation (Reference 1). A sampling and analysis plan has been approved by SCDHEC and sampling, analysis, and reporting of the monitoring well system began during December 2009. Refer to the revised Groundwater Detection Monitoring Plan in Appendix B which has been updated to include the wells added in November 2009 since the system was originally approved. Figures (6 through 12) summarize the results of the 2017 Annual Groundwater Monitoring for the entire landfill site.

11 DESIGN CALCULATIONS

11.1 Stormwater and Sediment Basin

The hydrological runoff calculations for the Class 2 landfill show that the sediment basin has adequate volume to manage the 100-year, 24-Hour Storm Event as required by SCDHEC. The hydrological runoff for the Class 2 landfill was calculated using EPA Stormwater Management Model (SWMM 5.1.012) for the SCS Methodology. The outflow during the 100-year storm is approximately 62 cubic feet per second (cfs). Appendix E provides the output models for the stormwater.

Currently, the Class 2 landfill uses two 24-inch culverts as outfall points for the sediment basin. A new riser structure design was required to meet the current requirements of SCDHEC. The new outfall was designed to manage the same outflow as the existing culverts. The structure hydraulics were modeled using PondPack V8i. The new riser structure is a concrete 4-foot by 4-foot square structure with fourteen 3-inch orifices at varied elevations. The inlet has been designed as a 48-inch square with trash rack to prevent large debris from clogging the outfall. A 36-inch diameter high-density polyethylene (HDPE) pipe with a 2.4% slope will be the new outfall from the riser structure. The sediment basin was designed for dry detention but contains storage below elevation 101.0' for first flush and sediment cleanout. Discharge through the new outfall will occur once the pond rises to elevation 101.0' which is the pond's 100-yr, 24-hour storm event design elevation. Calculations and additional details about the riser structure are included in Appendix E. Drawing 8, Pond Grading Plan and Outlet Structure, provide additional information regarding the proposed outfall improvements.

11.2 Slope Stability

Slope stability analyses were performed to evaluate the steepest and longest slope for the proposed vertical expansion of the Class 2 landfill. Failure modes evaluated include global stability, stability through the foundation soils and cap veneer stability. The proposed final slope is the steepest and highest slope proposed for the landfill. Therefore, the analysis of this slope can be considered a conservative approximation of the interim slopes.

As part of the vertical expansion design, a slope stability analysis is conducted by a limit equilibrium procedure using the widely accepted Spencer's Method in GeoStudio's SLOPE/W 2007 software

program. Limit equilibrium stability analysis procedures compute a factor of safety (FOS) using equations of static equilibrium. The stability FOS is defined with respect to the shear strength of the soil and the equilibrium shear stress. The shear strength of the soil is expressed by the Mohr-Coulomb equations for total and effective stresses (Reference 2). The equilibrium shear stress is the shear stress required to maintain the potential sliding mass just in equilibrium at the limits of failure. The FOS equals the available shear strength divided by the equilibrium shear stress. The magnitude of the FOS provides a good indicator of slope stability. FOS values less than 1 may be associated with imminent failure, while FOS values significantly greater than 1 generally indicate stable conditions.

Spencer's Method uses the method of slices to discretize a potential sliding mass into vertical slices. A circular or noncircular failure surface can be assumed; for each slice both shear and normal interslice forces are considered. The relationship between the interslice shear and normal forces is assumed to be constant between all slices and the solution satisfies both moment and force equilibrium. To satisfy vertical force, horizontal force and moment equilibrium conditions, Spencer's Method requires an iterative computer solution. Detailed descriptions of the theory, statics equations, assumptions and iterative methods can be found in Chapter 13 of Stability Modeling with GeoStudio's SLOPE/W 2007 Version 7.21 (Reference 3).

SLOPE/W is a computer program that locates the critical failure surface using a search routine in combination with search limits specified by the user. The user specifies a range of potential slide geometries and SLOPE/W calculates a FOS for a large set of yield surfaces representing this range. Initially, a broad search area is investigated. Based on the initial results, the search area is revised and narrowed until the critical yield surface producing the lowest FOS is achieved. In the vertical expansion analyses, trial slip surfaces are circular-type failure surfaces. The final circular failures are then optimized within Slope/W by incrementally altering portions of the trial slip surface to determine if there are other slip surface shapes that result in a lower FOS.

11.2.1 Material Properties

Material properties for the slope stability analyses are based on available data and conservative assumptions. The existing and new waste material is conservatively estimated to have a density of 75 pounds per cubic foot (pcf). The review of the 2016 tonnage for the Class 2 landfill has estimated the unit weight to be approximately 40 pcf. The shear strength properties are estimated to be cohesion of 0 pounds per square foot (psf) and a friction angle (phi) of 35 degrees (°) (Reference 4).

The cover soil and structural fill will be obtained from the borrow pit on Old River Road approximately 9.0 miles southeast of the landfill. The borrow pit was previously used as the cover material for ISWL closure. Three samples of the borrow pit were obtained and tested to determine the physical properties of the material. The material properties are summarized in Table 4, Borrow Pit Material Properties, and laboratory results for the borrow pit materials are included in Appendix C.

Table 4. Borrow Pit Material Properties

Borrow Pit Sample	Unit Weight (pcf)	Hydraulic Conductivity (cm/s)	Strength Properties[1]		Engineering Classification
			Friction angle (Φ') (degrees)	Cohesion (psf)	
CB-07	115	6.6E-6	31	310	SC – Clayey sand
CB-08	104	5.7E-8	19	250	CH – Sandy fat clay
CB-09	108	5.6E-8	28	290	CL – Lean clay with sand

Note: 1) Strength properties are estimated based on Table 5.8. Typical Peak Drained Strengths for Compacted Cohesive Soils (Reference 5).

The cover soil and structural fill properties where conservatively based upon the laboratory results of the borrow pit. The unit weight of the borrow pit material in the stability model is 105 pcf. The combined strength properties are a friction angle of 25 degrees and a cohesion of 270 psf.

The properties of the native soils were obtained from site-specific geotechnical testing. The native soil is a mixture of sand and clay layers. Standard Penetration Test (SPT) correlations yielded a shear strength internal friction parameter for sand varying from 28° to 33° (Reference 6). SPT correlations yielded a shear strength internal friction parameter for clay varying from 28° to 37° (Reference 7). To be conservative, the shear strength for the natural ground was lowered to a phi of 25°. Cohesion was estimated to be 100 psf to prevent shallow failures from occurring in the model. Table 5, Soil Strength Properties and Unit Weights, lists the material characteristics used in the slope stability analyses. Appendix F, includes a boring log and SPT correlation spreadsheets of the natural ground that the landfill is built upon.

Table 5. Soil Strength Properties and Unit Weights

Soil Layer	Unit Weight (pcf)	Strength Properties	
		Friction Angle (Φ') (degrees)	Cohesion (psf)
Cover Soil	105	25	270
Natural Ground	98	25	0
Structural Fill	105	25	270
Waste Material	75	35	0

11.2.2 SLOPE/W Results

Slope stability analyses were performed to evaluate the steepest and longest slope for the proposed landfill. Failure modes evaluated using the SLOPE/W program include the embankment stability and global stability of the vertical expansion. The embankment stability search premise is designated to only include the landfill embankments. The global stability includes the foundation soil by forcing the failure surface through the foundation soils. The proposed final slope is the steepest and highest slope proposed for the facility. Therefore, the analysis of this slope can be considered a conservative approximation of the interim slopes. Table 6, Embankment and Global Stability Results, summarizes the slope stability calculations and Appendix F includes each stability analysis.

Table 6. Embankment and Global Stability Results

Slope Stability Model	Minimum Required FOS	Calculated Minimum FOS	
		North – South Models	East – West Models
Embankment Stability	1.50	2.89	2.93
Global Stability	1.50	2.50	2.97

The results for the embankment and global stability display the FOS's for the vertical expansion meet the minimum requirements as far as slope stability is concerned.

11.2.3 Cap Veneer Stability Results

The stability of the cover soil can be approximated using the infinite slope FOS calculation:

FOS = [W * (cos((2) * (B) * (tan(Φ))) + C] / [W * (cos(B)) * (sin(B))] where:

W= Weight of Cover Soil Over Unit Area (1 sf) = 2 ft * 105 pcf = 210 psf

B = Cover Slope Angle = 18.4°

Φ = Cover Soil Friction Angle = 25°

C = Cover Soil Cohesion = 270 psf

The resulting calculation becomes:

FOS = [210 * (cos((2) * (18.4) * (tan(25))) + 270] / [210 * (cos(18.4)) * (sin(18.4))]

FOS = 349 / 64 = 5.45, which exceeds the minimum required FOS

11.3 Settlement

The maximum settlement of the native soil below the landfill was calculated for the vertical expansion. The material characteristics for the settlement calculations are the same as the slope stability analyses and are noted in Table 5. Calculations are based on site soil borings and laboratory data. The calculated settlement for the expansion is 0.67 feet. Due to the difference in groundwater elevation across the site and shape of the bottom of the landfill, the separation between the base of the landfill and the groundwater elevations varies considerably. This difference is shown on Drawings 6 and 7 of the submitted plans and outlined in Table 7, Difference of Base Elevation and Groundwater After Settlement. The separation between the bottom of the landfill to groundwater is greater than the required 2 feet by SCDHEC. Settlement calculations and laboratory test data are included in Appendix G.

Table 7. Difference of Base Elevation and Groundwater After Settlement

Cross Section	Base of the Landfill El. (ft.)	Maximum Groundwater El. (ft.)	Base and Groundwater El. Difference (ft.)
Section A – Minimum	104.8	100.6	4.2
Section A – Maximum	109.0	98.0	11.0
Section B – Minimum	100.3	97.1	3.2
Section B - Maximum	111.0	98.0	13.0

* All base elevations estimated to have maximum settlement of 0.67 feet.

12 PERMIT REVIEW

Every 5 years from the date of issue, the landfill permit must be reviewed by SCDHEC. Therefore, 4.5 years after the permit is issued, an updated topographic survey map will be submitted to SCDHEC, Bureau of Land and Waste Management. The updated map will show the contours at the beginning and at the end, as well as contours of the period since the last permit review. The remaining life expectancy of the landfill will also be calculated. If environmental problems are detected at any time during the life of the landfill or upon closure, a corrective action plan and schedule for compliance will be submitted to the SCDHEC.

13 REFERENCES

1. South Carolina Department of Health and Environmental Control. 2008. Regulation 61-107.19, SWM: Solid Waste Landfills and Structural Fill, May 23, 2008.

2. U.S. Army Corps of Engineers. 2003. Engineering Manual 1110-2-1902, Slope Stability, October 31, 2003.

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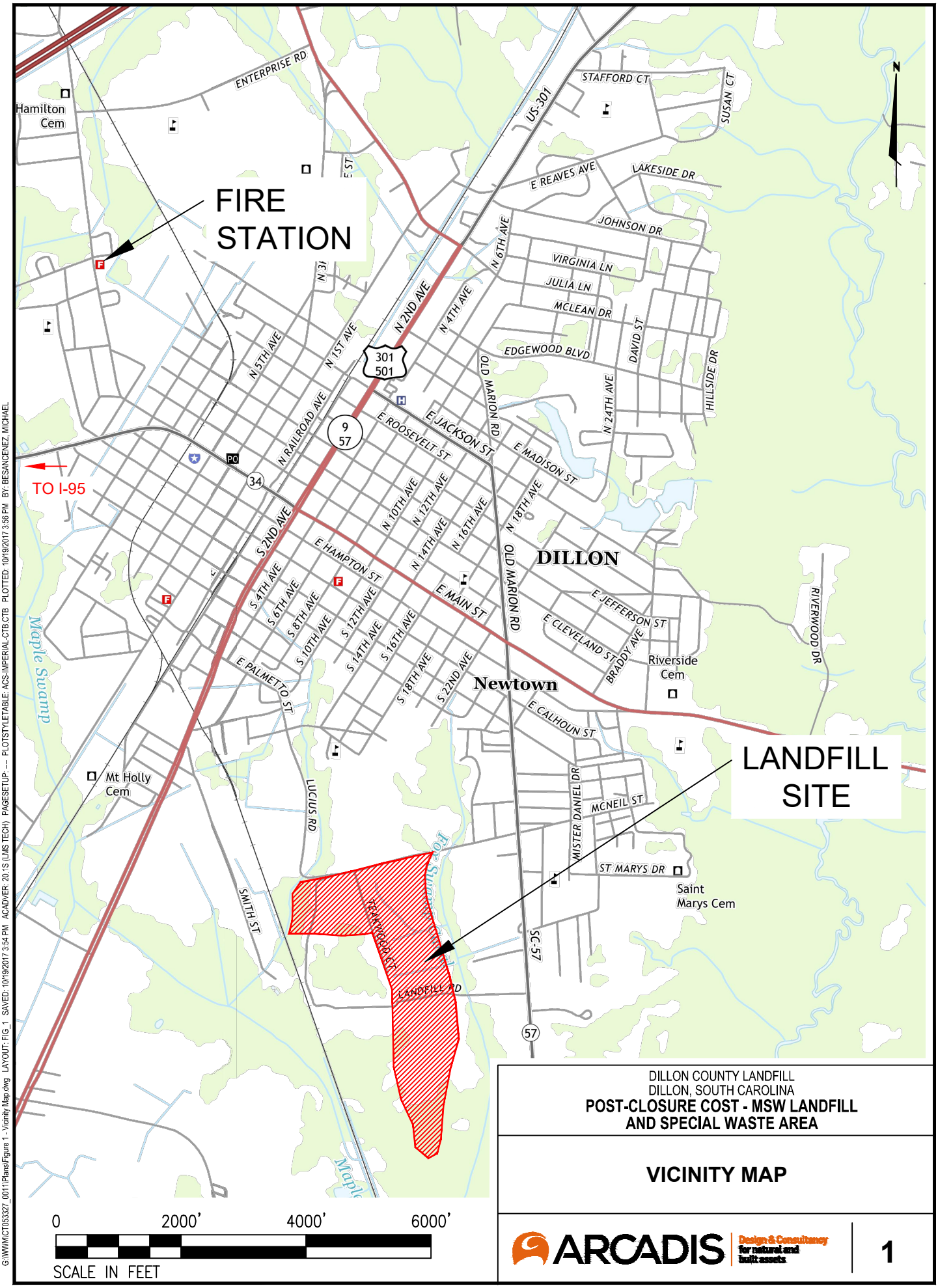
4. "Municipal Solid Waste Slope Failure I: Waste and Foundation Soil Properties", Eid., Hisham T., et.al., ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol 126, No.5, May 2000.

5. Duncan, J.M. and S.G. Wright. 2005. Soil Strength and Slope Stability.

6. Peck, R.B., Hanson, W.E., and Thornburn, T.H. 1974. "Foundation Engineerings", John Wiley and Sons, 514p.

7. Meyerhof, G.G. 1956. Penetration Tests and Bearing Capacity of Cohesionless Soils. Proceedings ASCE, Vol. 82, No. SM1, Paper 866, pp. 1-19.

FIGURES



DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA

POST-CLOSURE COST - MSW LANDFILL AND SPECIAL WASTE AREA

VICINITY MAP

ARCADIS Design & Consultancy for natural and built assets

1

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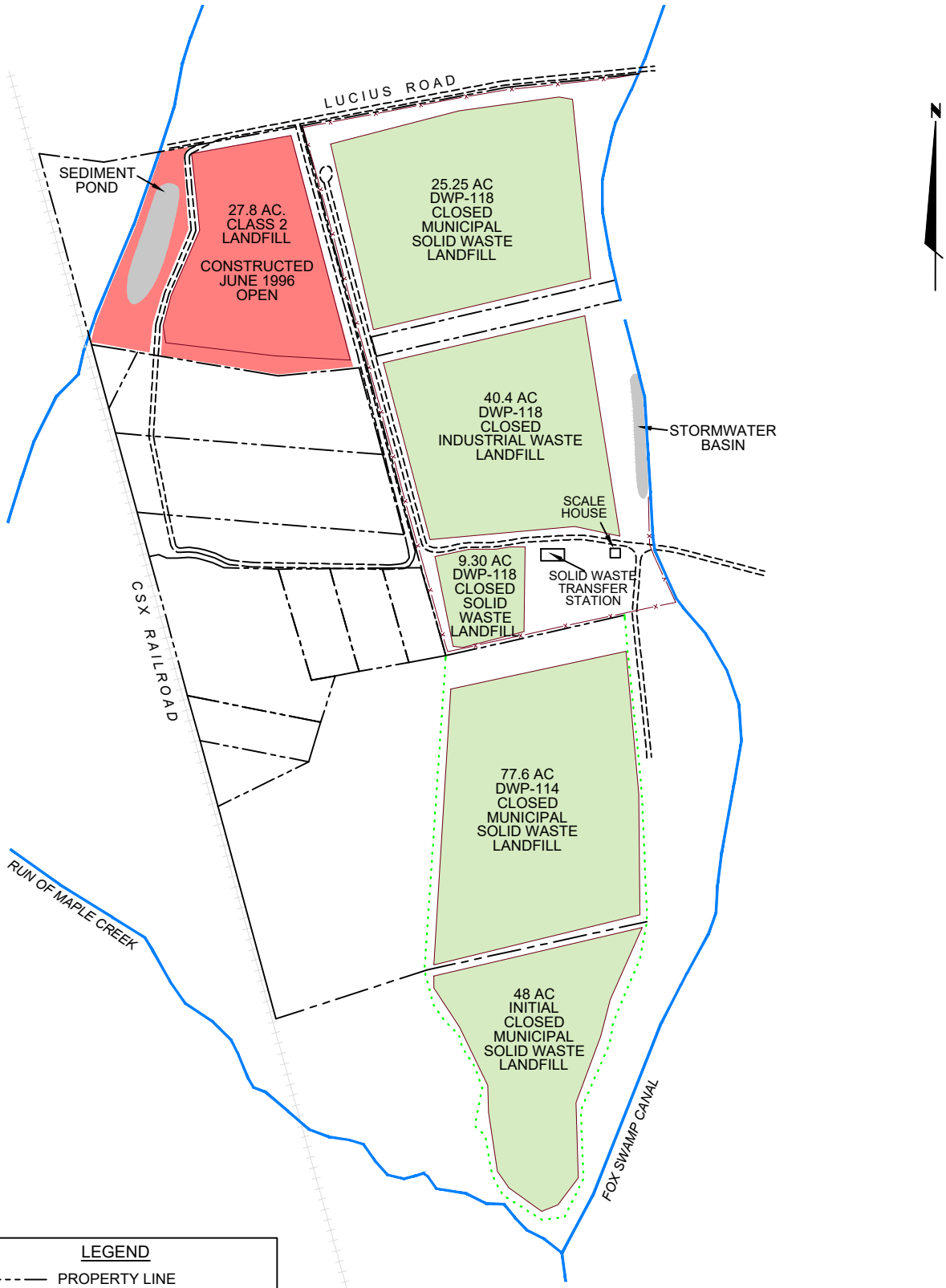

LEGEND

- PROPERTY LINE
- STREAM
- WASTE LIMITS
- DIRT ROAD

SCALE IN FEET

0 800 1600

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

SITE LAYOUT

ARCADIS Design & Consultancy for natural and built assets

2

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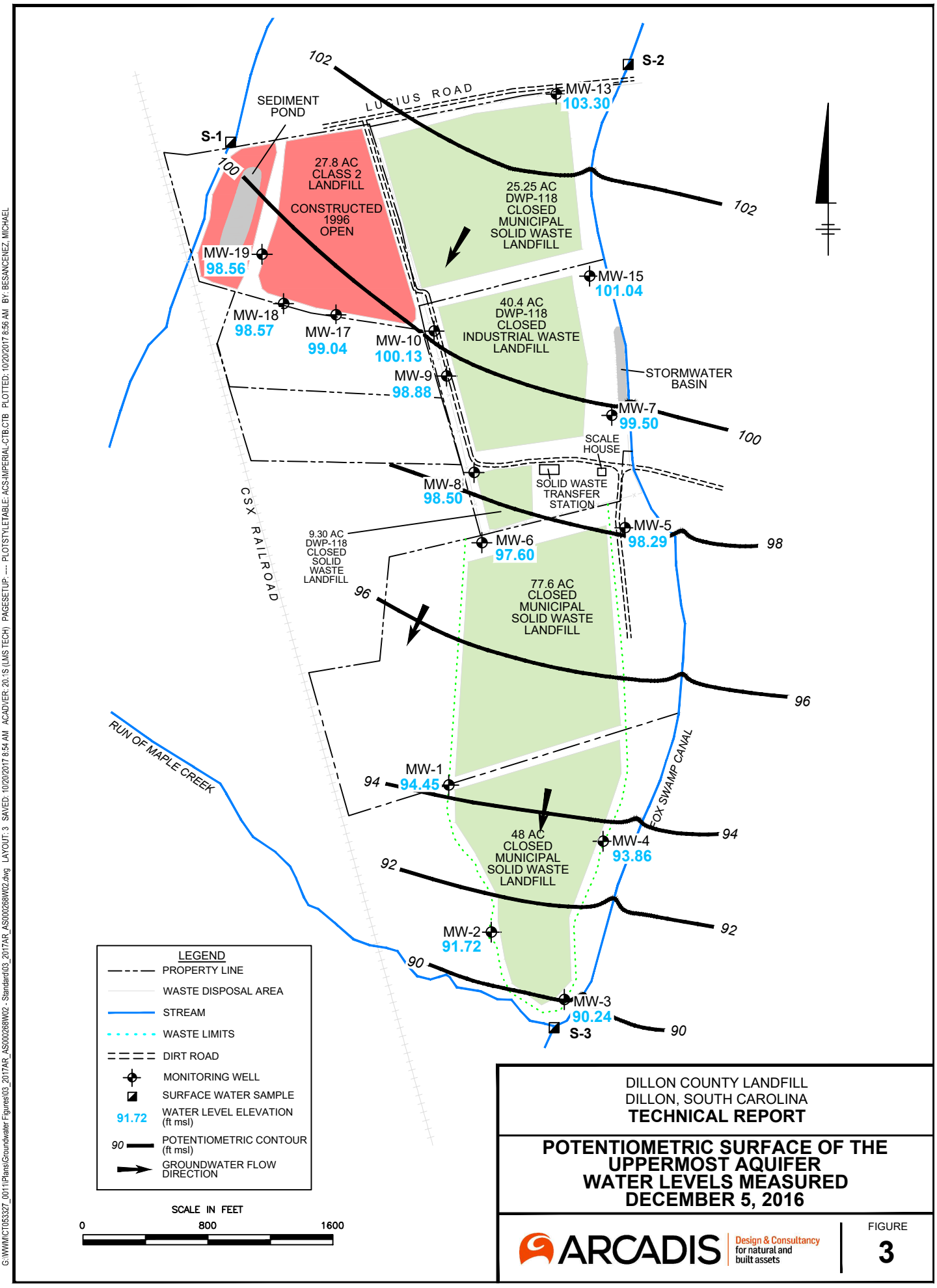

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

POTENTIOMETRIC SURFACE OF THE UPPERMOST AQUIFER WATER LEVELS MEASURED DECEMBER 5, 2016

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

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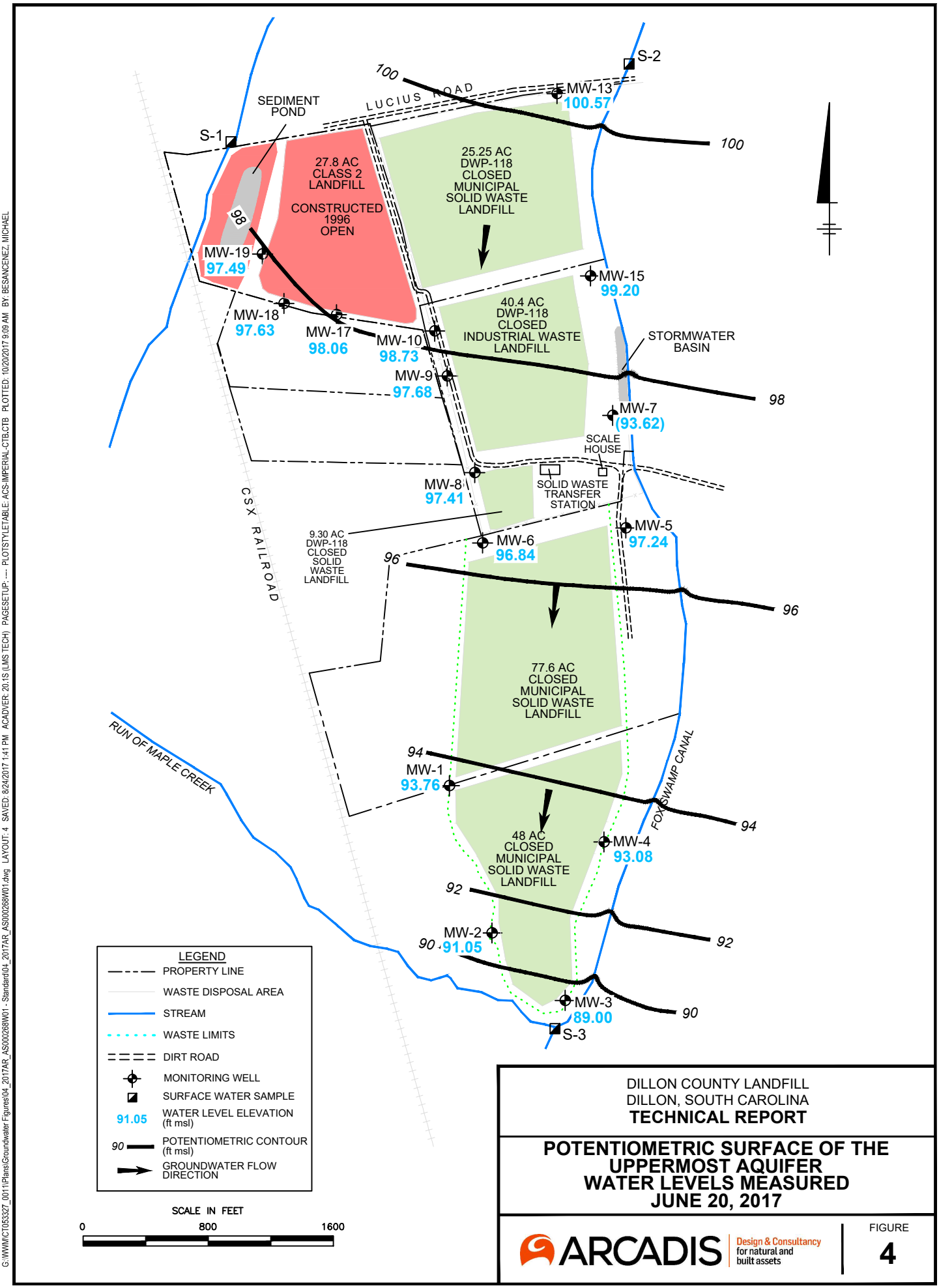

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

POTENTIOMETRIC SURFACE OF THE UPPERMOST AQUIFER WATER LEVELS MEASURED JUNE 20, 2017

ARCADIS Design & Consultancy for natural and built assets

FIGURE
4

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ADJACENT PROPERTY OWNER'S			
PROPERTY NO.	PARCEL ID	OWNER	ZONING
1	069-00-00-074	MITCHELL ENOCH	GENERAL COMMERCIAL (GC)
2	069-00-00-080	HARRIS JAMES	RESIDENTIAL 2 (RS2)
3	069-00-00-082	McLAURIN NANCY DELLA	RESIDENTIAL 2 (RS2)
4	069-00-00-084	DILLON COUNTY	LIGHT INDUSTRIAL (ID-1)
5	069-00-00-085	DILLON COUNTY	LIGHT INDUSTRIAL (ID-1)
6	069-00-00-086	DILLON COUNTY	LIGHT INDUSTRIAL (ID-1)
7	069-00-00-087	DILLON COUNTY	NONE FOUND
8	069-00-00-160	CITY OF DILLON	RESIDENTIAL 2 (RS2)
9	CSX RAILROAD	CSX CORPORATION	N/A
10	069-00-00-079	LOCKAMY SCRAP METAL INC	GENERAL INDUSTRIAL (ID-2)

NOTES:

1. NO DRINKING WATER WELLS WITHIN 100' OF LANDFILL FOOTPRINT.

LEGEND

- VERTICAL EXPANSION LIMIT
- PROPERTY LINE
- 1000' RESIDENTIAL BUFFER LINE
- ¼ MILE LAND USE FOOT PRINT
- BUILDING
- EXISTING UTILITIES
- MW-# GROUND WATER MONITORING WELLS
- (#) ADJACENT PROPERTY OWNER KEY

0 500' 1000'

TRUE NORTH
PLAN NORTH

ARCADIS

LEGAL ENTITY:
ARCADIS U.S., INC.
1210 PREMIER DRIVE, #200
CHATTANOOGA, TN 37421
TEL: 423-756-7193
www.arcadis-us.com

CONSULTANTS

SEALS

TECHNICAL REPORT

DILLON COUNTY,
SOUTH CAROLINA

DILLON COUNTY LANDFILL
VERTICAL EXPANSION
OF CLASS 2 LANDFILL
(PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY

COPYRIGHT: ARCADIS U.S., INC. 2017

DATE: NOVEMBER 2017
PROJECT NO.: CT053327-0011
FILE NAME: FIGURE 5
DESIGNED BY: M. BESANCENEZ
DRAWN BY: T. TITTLE
CHECKED BY: J. BARNETTE

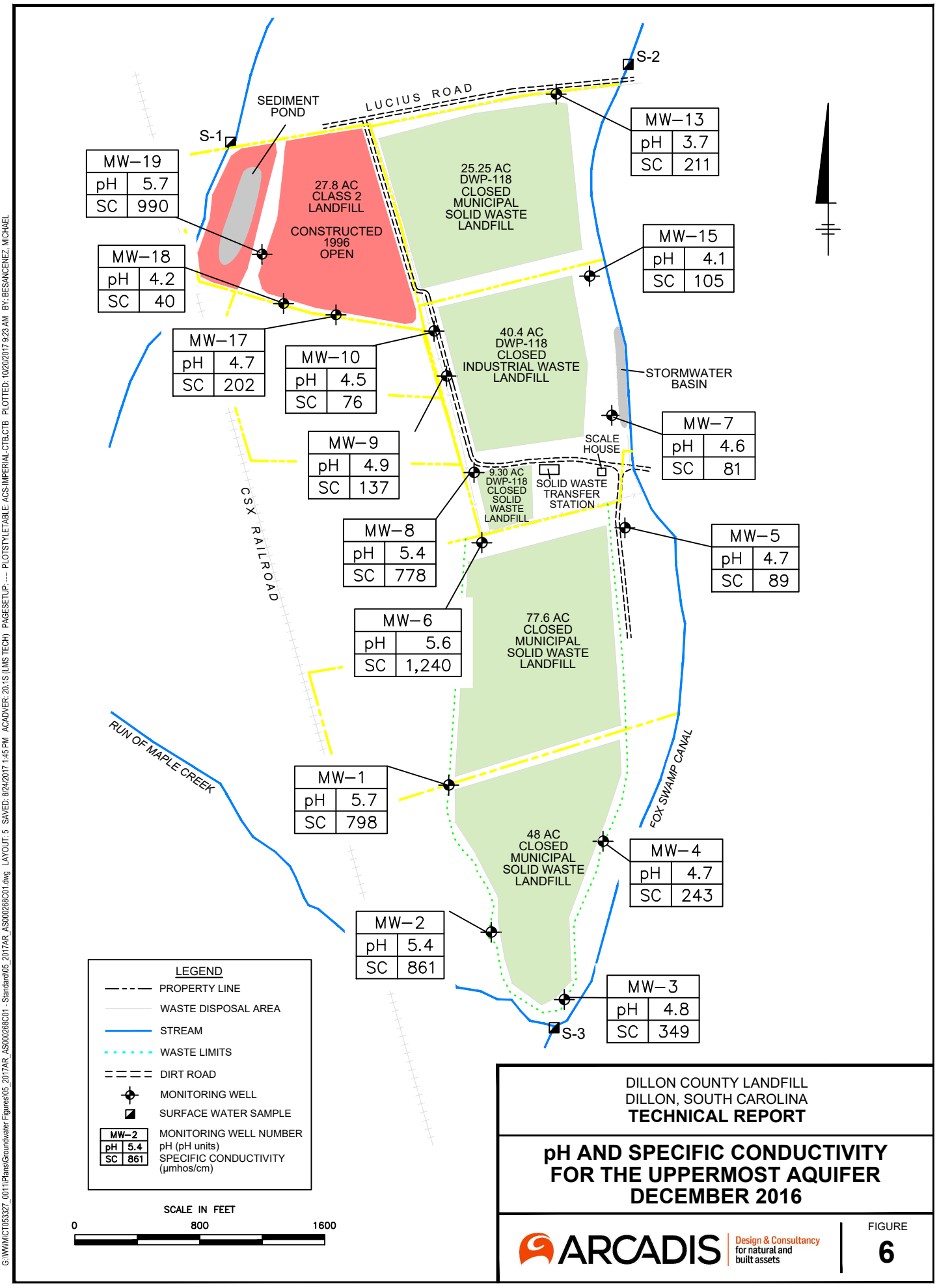
SHEET TITLE

FIGURE 5
PROPERTY MAP

SCALE: AS NOTED

SHEET 5 OF 12

User:MBESANCENEZ Spec:AUS-NCSMOD File:G:\WWM\CT053327_0011\PLANS\FIGURE 5 - PROPERTY BUFFERS.DWG Scale:1:1 SavedDate:10/20/2017 Time:11:04 Plot Date: Besancenez, Michael; 10/31/2017; 11:28 ; Layout:LAYOUT1



DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

pH AND SPECIFIC CONDUCTIVITY FOR THE UPPERMOST AQUIFER DECEMBER 2016

ARCADIS Design & Consultancy for natural and built assets

FIGURE
6

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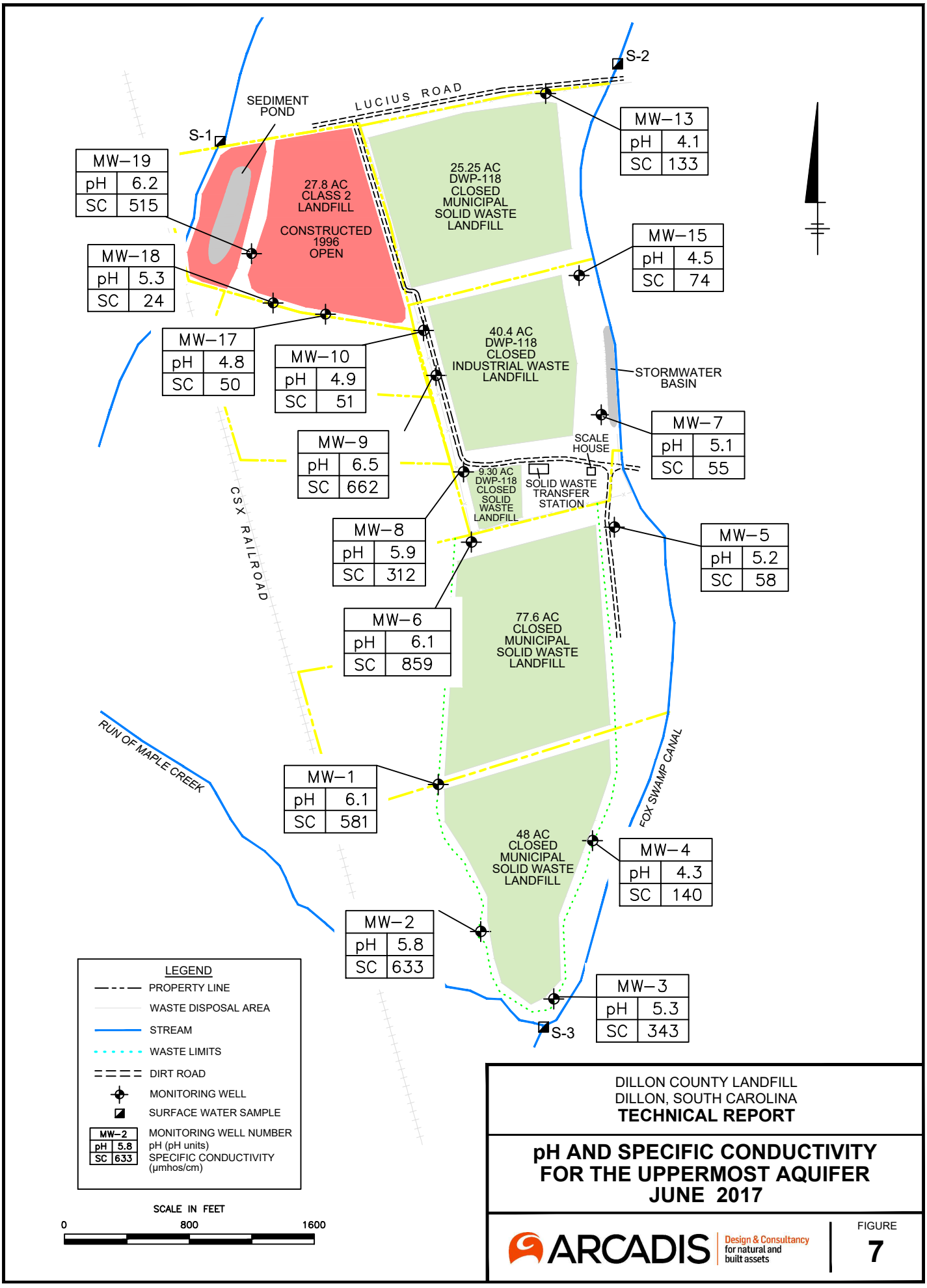

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

pH AND SPECIFIC CONDUCTIVITY FOR THE UPPERMOST AQUIFER JUNE 2017

ARCADIS Design & Consultancy for natural and built assets

FIGURE 7

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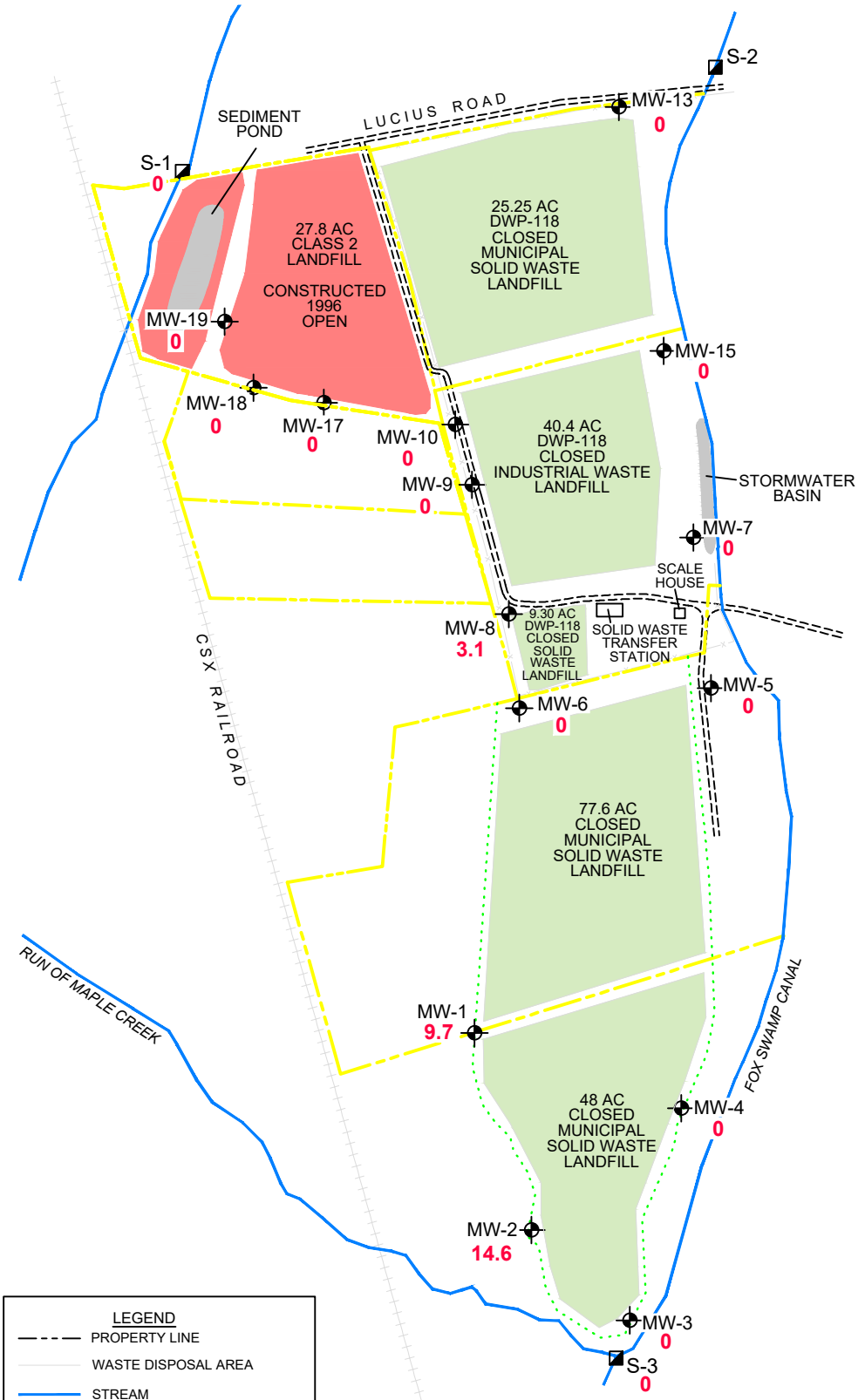

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

TOTAL VOC's IN DECEMBER 2016

ARCADIS Design & Consultancy for natural and built assets

FIGURE
8

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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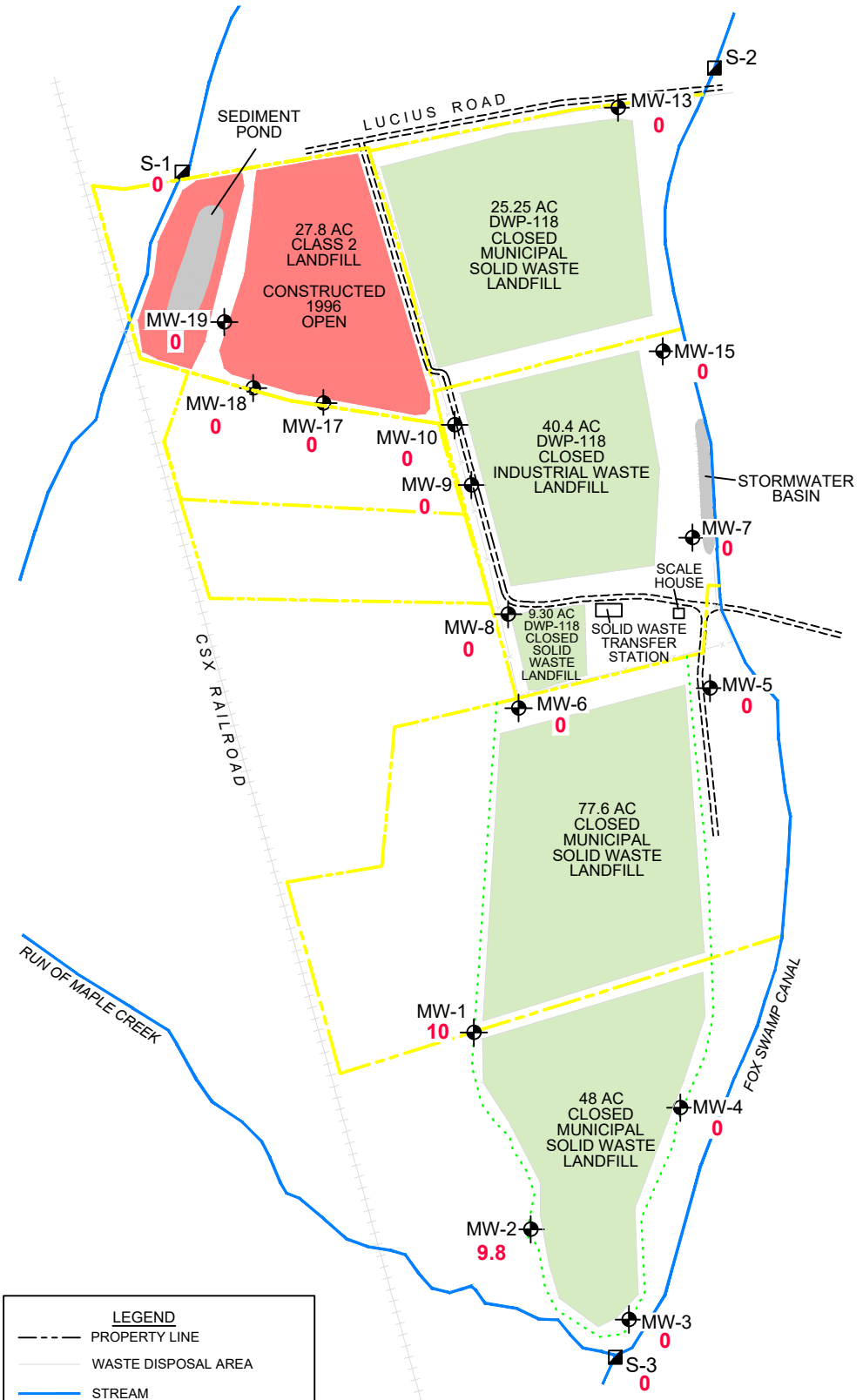

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

TOTAL VOC's IN JUNE 2017

ARCADIS Design & Consultancy for natural and built assets

FIGURE
9

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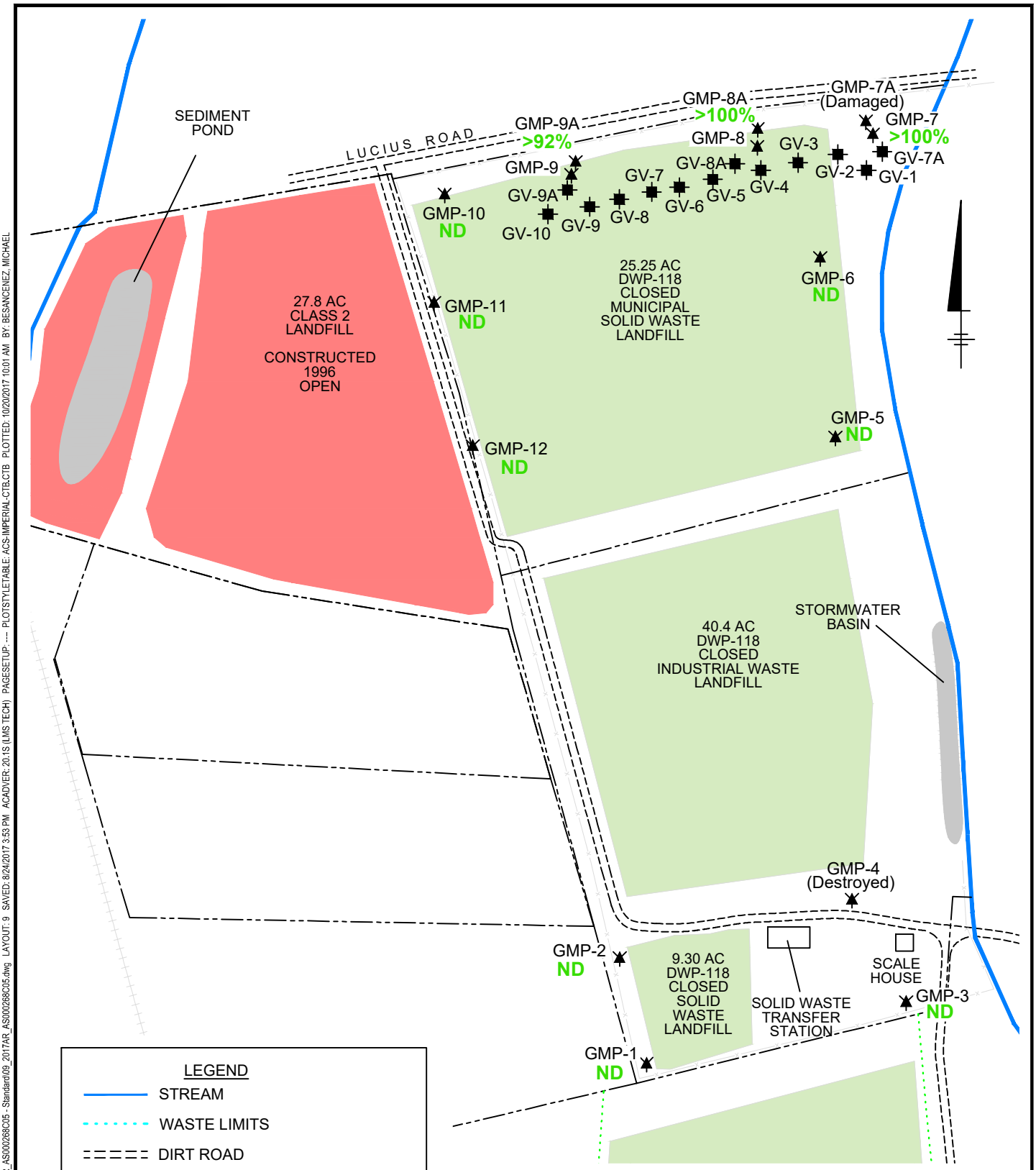

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

DECEMBER 2016
METHANE CONCENTRATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
10

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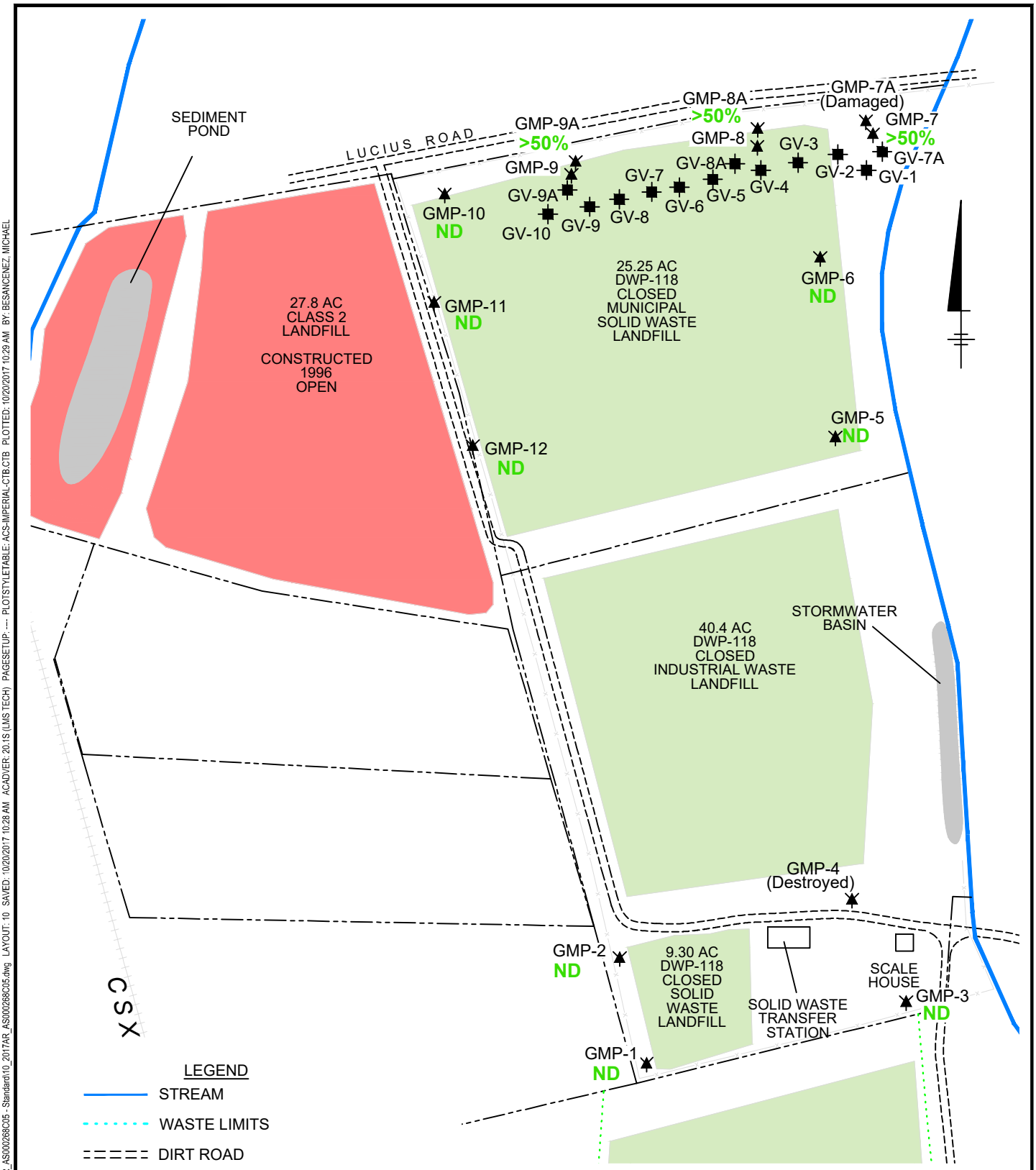

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

MARCH 2017
METHANE CONCENTRATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
11

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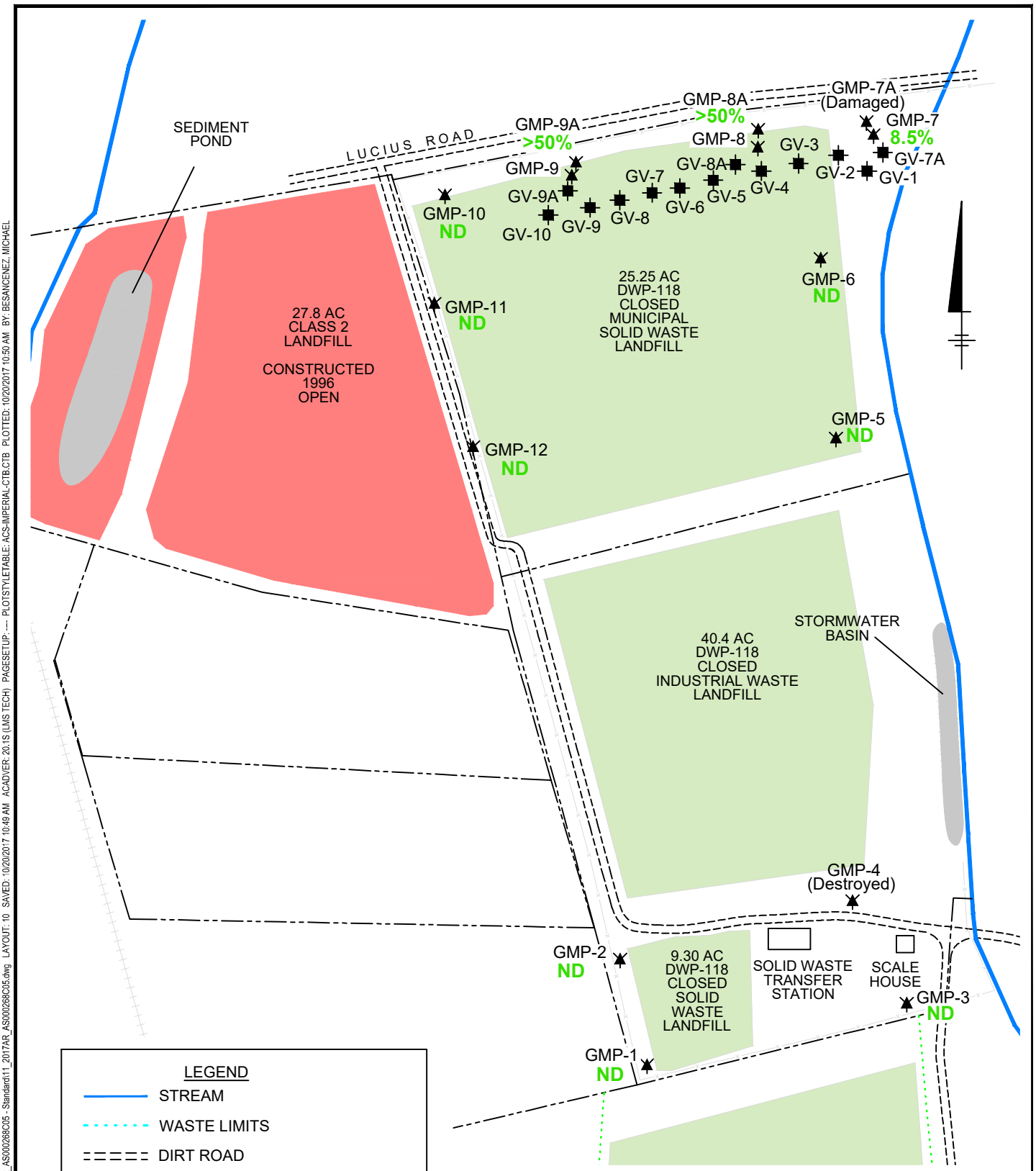

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA
TECHNICAL REPORT

JUNE 2017
METHANE CONCENTRATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
12

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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APPENDIX A

Proof of Ownership and SCDHEC Application and Letter

APPENDIX A

Appendix A Proof of Ownership and SCDHEC Letter and Application

A.1 Proof of Ownership

Parcel Information Report

069-00-00-083

General Information

Map Number 069-00-00-083	Legal Description1 OUTSIDE DILLON 000000	Plat Book 27
Owner Name DILLON COUNTY	Legal Description2	Plat Page 41
Mailing Address1 109 S 3RD AVE	Total Acreage 0	Description Location1
Mailing Address2 DILLON SC	Deed Book 275	Description Location2
Mailing Address3	Deed Page 95	Sale Price $57,436.00
ZipCode 29536	Class1 Code EXGC	Sale Date 1996/01/04
Physical Address 0	Square Feet 0	
Year Built 0	Total Number Acres 0	
Market Acres 0	Total Number Bldgs 0	
Market Appraisal 0	Total Number Lots 0	
Market Lots 0		

Dillon County Tax Assessor's Office
Map 69 Block ___ Parcel 84
Sworn to before me this 19 Day of Dec. 1986
Joyce Hamilton

TITLE TO REAL ESTATE
PATTILLO PRINTING CO., FLORENCE, S. C.
FORM NO. 47

The State of South Carolina
COUNTY DILLON

KNOW ALL MEN BY THESE PRESENTS, that We, Catharine L. Noble and Charles F. Noble, Jr.

in consideration of Thirty Six Thousand Four Hundred and No/100 ($36,400.00)---------- Dollars,

the receipt of which is hereby acknowledged, have granted, bargained, sold, and released, and by these presents do grant, bargain, sell and release unto Dillon County, its successors and assigns forever, the following described real estate, to wit:

69-84 Dist. 8C

All that certain piece, parcel, or tract of land, situate, lying, and being in the County of Dillon, State of South Carolina, containing 34.7 acres, more or less, and being bounded on the North by Lucius Road; East by Wolfe Branch and land of Scott; South by property now owned by Dillon County, formerly owned by Sarah R. Gaddy; and West by a county dirt road.

ALSO: All that certain piece, parcel, or tract of land, situate, lying, and being in the County of Dillon, State of South Carolina, containing 1.7 acres, more or less, being triangular in shape, and bounded on the North by land of Hamilton; Southeast by property of G. G. McLaurin, Sr.; and West by the Seaboard Coastline Railroad.

The above tracts are a portion of the property conveyed to Charles F. Noble, Jr. and Catherine L. Noble by deed of Catherine L. Noble, dated January 4, 1974, and recorded in Deed Book 135 at page 440.

No ASCS crop allotments are conveyed with this land.

Grantors reserve the right to remove any existing buildings located on the property above described for a period of sixty (60) days. Any building not removed within sixty (60) days shall belong to the Grantee.

FILED
JOYCE A. JINNETTE
'86 DEC 18 P1:54
CLERK OF COURT
DILLON COUNTY

COPY
TRUE COPY
CLERK OF COURT
DILLON COUNTY

together with all and singular the rights, members, hereditaments and appurtenances to said premises belonging or in any wise incident or appertaining; to have and to hold all and singular the premises before mentioned unto the grantee(s), and the grantee's(s') heirs or successors and assigns, forever. And, the grantor(s) do(es) hereby bind the grantor(s) and the grantor's(s') heirs or successors, executors and administrators to warrant and forever defend all and singular said premises unto the grantee(s) and the grantee's(s') heirs or successors and against every person whomsoever lawfully claiming or to claim the same or any part thereof.

WITNESS the grantor's(s') hand(s) and seal(s) this 18th day of December 1986

SIGNED, sealed and delivered in the presence of:

Charles E. Curry
Virginia W. Curry

Catharine L. Noble (SEAL)
Catharine L. Noble
Charles F. Noble, Jr. (SEAL)
Charles F. Noble, Jr.
(SEAL)
(SEAL)

State of South Carolina
COUNTY OF DILLON

PROBATE

Personally appeared the undersigned witness and made oath that (s)he saw the within named grantor(s) sign, seal and as the grantor's(s') act and deed deliver the within written deed and that (s)he, with the other witness subscribed above witnessed the execution thereof.

SWORN to before me this 18th day of December 19 86

Charles E. Curry (SEAL)
Notary Public for South Carolina
My Commission Expires 7-30-89

Virginia W. Curry

BOOK 202 PAGE 009

A CERTIFIED TRUE COPY
CLERK OF COURT
DILLON COUNTY

State of South Carolina)
) Title to Real Estate
County of Dillon)

KNOW ALL MEN BY THESE PRESENTS, that We, **Michael L. Hamilton**

in consideration of Fifty Seven Thousand Four Hundred Thirty Six and 33/100 ($57,436.33)—Dollars
receipt of which is hereby acknowledged, has(ve) granted, bargained, sold, and released, and by these presents do(es) grant, bargain, sell and release unto **Dillon County**, its successors and assigns forever, the following described real estate, to wit:
69-83 Dirt 8C

All that certain piece, parcel or tract of land, situate, lying and being in the County of Dillon, State of South Carolina, containing 30.69 acres, more or less, and being shown on a plat surveyed for County of Dillon by Phillip B. Culbrath, RLS, dated December 27, 1995 and recorded in the office of the Clerk of Court for Dillon County in Plat Book 27 at Page 41. Said plat is incorporated in and made a part of this description.

No ASCS crop allotments are conveyed with this property.

For derivation, see Will of Leneau Hamilton as filed in the office of the Probate Court for Dillon County in Estate File 90-ES-53.

GRANTEE'S ADDRESS: 109 South 3rd Avenue, Dillon, SC 29536

together with all and singular the rights, members, hereditaments and appurtenances to said premises belonging or in any wise incident or appertaining; to have and to hold all and singular the premises before mentioned unto the grantee(s) and the grantee's(s') heirs or successors and assigns, forever. And, the grantor(s) do(es) hereby bind the grantor(s) and the grantor's(s') heirs or successors, executors and administrators to warrant and forever defend all and singular said premises unto the grantee(s) and the grantee's(s') heirs or successors against grantor(s) and grantor's(s') heirs or successors, and against every person whomsoever lawfully claiming or to claim the same or any part thereof.

WITNESS the grantor's(s') hand(s) and seal(s) this 9th day of Jan., 1996

SIGNED, sealed and delivered in the presence of:

Virginia W. Curry

Michael L. Hamilton (Seal)
Michael L. Hamilton

Charles E. Curry

_____ (Seal)

State of South Carolina)
) **Probate**
County of Dillon)

Personally appeared the undersigned witness and made oath that (s)he saw the within named grantor(s) sign, seal and as the grantor's(s') act and deed deliver the within written deed and that (s)he, with the other witness subscribed above witnessed the execution thereof.

SWORN to before me this 9th day of Jan., 1996

Charles E. Curry (Seal)
NOTARY PUBLIC FOR SOUTH CAROLINA
My Commission Expires: 4-14-99

Virginia W. Curry

FILED
GWEN T. HYATT
96 JAN -9 PM 4:26
CLERK OF COURT
DILLON COUNTY

D... Tax Assessor's Office
Map 69 Block ____ Parcel 83
Sworn to before me this 11th Day.
Jan. 1996
Grace Hamilton

BOOK 275 PAGE 095

State of South Carolina)
)
County of Dillon)

Title to Real Estate

FILED
GWEN T. HYATT
95 SEP 25 PM 3:48
CLERK OF COURT
DILLON COUNTY

KNOW ALL MEN BY THESE PRESENTS, that I, **Inez Glenn McL. Fowler**

In consideration Thirty Thousand and no/100 ($30,000.00) Dollars

In receipt of which is hereby acknowledged, have granted, bargained, sold, and released, and by these presents do grants, bargain, sell and release unto **Dillon County** its successors and assigns forever, the following described real estate, to wit:

69-87 Dist 8C

All of that certain piece, parcel and tract of land situate, lying and being in the County of Dillon, State of South Carolina in Manning School District 8 about one-half mile south of the City of Dillon, being one of the tract of land conveyed to me by deed of G. G. McLaurin dated January 22, 1990, and recorded in Deed Book 226 at Page 110 and therein described as follows:

"Sixteen and Three One-Hundredths (16.03) acres, bounded on the North by estate lands of Austin Hamilton; on the East by a county road; on the South by McKenzie lands; and on the West by estate lands of Mrs. I.H. Hamilton, the same being more particularly described in plat made by W. W. Allen, C.E., dated August, 1933, and according to said map having the following courses and distances, to wit: Beginning at the Southwest corner of said tract on the I. H. Hamilton lines and running Southeast along said ditch about 1800 feet to a stake corner on a road; thence South along said road 17 degrees 06 minutes East 450 feet to a stake corner on said road; thence North 89 degrees 02 minutes West 1528 feet to the beginning corner on the I. H. Hamilton line."

The above described parcel of land is now bounded on the Northeast of lands of Michael Hamilton; on the Southeast by county road separating this property from property of Dillon County; on the Southwest by property of Marion M. Wiggins and on the Northwest by lands of the City of Dillon. The said tract lies on both sides of the CSX railroad.

The above described tract of land also appears as the northernmost tract containing 16.03 acres designated "Louisa Jackson" on a map made for Salina Herring by J. M. Johnson, C. E. dated March 1917 and recorded in Plat Book 1 at Page 109.

Possession of the property herein conveyed will be given on January 1, 1996.

together with all and singular the rights, members, hereditaments and appurtenances to said premises belonging or in any wise incident or appertaining; to have and to hold all and singular the premises before mentioned unto the grantee(s) and the grantee's(s') heirs or successors and assigns, forever. And, the grantor(s) do(es) hereby bind the grantor(s) and the grantor's(s') heirs or successors, executors and administrators to warrant and forever defend all and singular said premises unto the grantee(s) and the grantee's(s') heirs or successors and against every person whomsoever lawfully claiming or to claim the same or any part thereof.

County Stamp Taxation
In the Amount of
$0
Has Been Paid

WITNESS the grantor's(s') hand(s) and seal(s) this 14th day of September, 1995

SIGNED, sealed and delivered in the presence of:

Inez Glenn McL. Fowler

Dillon County Tax Assessor's Office
Map 69 Block ____ Parcel 87
Sworn to before me this 26th Day
of Sept. 1995
Betty Jo Johnson

BOOK 272 PAGE 145

State of South Carolina)
)
County of Richland) Probate

Personally appeared the undersigned witness and made oath that (s)he saw the within named grantor(s) sign, seal and as the grantor's(s') act and deed deliver the within written deed and that (s)he, with the other witness subscribed above witnessed the execution thereof.

SWORN to before me this 14 day of Sept, 1995

(Seal)

NOTARY PUBLIC FOR SOUTH CAROLINA
My Commission Expires: Notary Public, South Carolina State of Large
My Commission Expires Dec. 9, 2001

State of South Carolina

County of Dillon

Inez Glenn McL. Fowler

to

Dillon County

TITLE TO REAL ESTATE

I hereby certify that the within Deed was filed for record in my office at 2:48 P M. o'clock on the 25 day of Sept 1995 and was immediately entered upon the proper indexes and duly recorded in Book 272 of Deeds, page 145

Clerk of Court of Common Pleas and General Session for Dillon County, S.C.

BOOK 272 PAGE 146

APPENDIX A

Appendix A Proof of Ownership and SCDHEC Letter and Application

A.2 SCDHEC Notice of Determination Letter

Healthy People. Healthy Communities.

August 22, 2017

CERTIFIED MAIL

Dillon County
Attn: Rodney Berry, County Administrator
PO Box 449
Dillon, SC 29536

Final Decision

RE: Verification of Notice received April 27, 2017
Dillon County Class 2 Landfill – Permit #171001-1202
Dillon County

This decision applies to the first phase of the landfill permitting process, which deals with need, consistency, zoning, and certain buffers.

Dear Mr. Berry:

The Department issued its draft determinations of need and consistency on July 11, 2017, for the expansion of the existing landfill. In addition, the Department noticed these draft determinations in *The Dillon Herald* newspaper on July 11, 2017. After careful review of all submittals, the Department's decision is that the proposed Dillon County Class 2 Landfill Expansion satisfies the requirements found in Regulation 61-107.19, *Solid Waste Management: Solid Waste Landfills and Structural Fill*, Part I, Section D.1. In addition, you are approved to increase your annual tonnage rate by 50,000 tons per year. You may proceed with submitting the technical application for a Class 2 Landfill permit.

Notice of this decision will be printed in the Tuesday, August 22, 2017, edition of *The Dillon Herald*. If you have any questions regarding this permit, please contact Justin Koon at (803) 898-1339.

Sincerely,

Joan F. Litton

Joan F. Litton, Director
Division of Mining and Solid Waste Management
Bureau of Land and Waste Management

JFL/jtk

enc: Public Notice

cc: Marty Lindler, Manager and Jessica McLain – SW Compliance
Jason Lambert – Pee Dee EA Region, Florence Office
Michael Besancenez, via email – michael.besancenez@arcadis.com
Charlie Brown, via email – dilloncountylandfill@gmail.com
Bureau File #20168

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Bureau of Land and Waste Management

Notice of Department Decision

Topic: Proposed Expansion and Tonnage Increase at the Dillon County Class 2 Landfill

Location: 901 Landfill Road, Dillon, SC 29536

The South Carolina Department of Health and Environmental has made a final decision that the proposed Dillon County Class 2 Landfill expansion is consistent with the requirements of the DON regulations, the Dillon County and state solid waste management plans as a commercial landfill, local zoning, and the buffer requirements. The facility also meets the requirements to receive a tonnage increase of fifty thousand (50,000) tons per year to its annual disposal rate. The new annual disposal rate is established at sixty-one thousand seven hundred (61,700) tons per year.

This decision becomes the final agency decision fifteen (15) days from the date of the certified mailing (August 22, 2017) of the decision unless a written request for final review is filed with the Department. This decision may be appealed by complying with the procedures for requesting a Final Review before the Board of Health and Environmental Control (the Board) at:

http://www.scdhec.gov/Agency/BoardofDirectors/GuidetoBoardReview/

If anyone has questions regarding the Department Decision on the proposed Dillon County Class 2 Landfill Expansion and/or the procedures for requesting a final review, contact Juli E. Blalock, Manager of the Solid Waste Permitting and Monitoring Section, at (803) 898-1356.

APPENDIX A

Appendix A Proof of Ownership and SCDHEC Letter and Application

A.3 SCDHEC Application

Application for Permit to Construct a Solid Waste Management System
Bureau of Land and Waste Management

Submit to: Division of Mining and Solid Waste Permitting, Bureau of Land and Waste Management
SC Department of Health and Environmental Control, 2600 Bull Street, Columbia, SC 29201-1708
(Please Print or Type)

I. Name of project: Dillon County Class 2 landfill - Vertical Expansion

II. Physical location (Directions to project - use street names, county road numbers, etc.):
901 Landfill Road, Dillon, SC 29536 County: Dillon

Latitude and longitude (nearest 15 seconds) or UTM coordinates:
34°24'1.60"N 79°22'7.78"W

III. In accordance with Title 44, Chapter 96 of the Code of Laws of South Carolina, 1976, as amended, I hereby make application, on behalf of the party(ies) whose name(s) appears below, for a permit to construct and operate the following type of solid waste management project (describe):
Class 2 landfill (Vertical Expansion)

IV. Facility name, mailing address: Dillon County Class 2 Landfill, P.O. Box 449, Dillon, SC 29536 Telephone number: (843) 774-1401

V. Operator's name, mailing address (if different from name of facility owner): Charlie Brown
Telephone number: (843) 774-1436

VI. Landowner's name, mailing address (if different from name of facility or operator): Dillon County
Telephone number:

VII. I have placed my signature and seal upon the documents submitted with this application signifying that I accept responsibility for the information and/or design contained therein. Additional submittals where required will also bear my signature and seal, signifying that I accept responsibility for the information and/or design contained therein.

Engineer's name (print): William P. Helmadollar Jr. Signature: [signature]
Registered Professional Engineer

S.C. Registration No: 24785

VIII. I have read this application and all attached documents. I agree to the requirements and conditions that are contained in it. Also, I agree to the admission of properly authorized persons at all reasonable hours for the purpose of sampling and inspection.

Name of Facility Representative (print): Rodney Berry Signature: [signature]

Facility Representative's title: County Administrator Date: 11-1-17

Name of Operator Representative (print): Charlie Brown Signature: [signature]
(If different from facility representative)

Operator Representative's title: Landfill Supervisor Date: 11-1-17

Name of Landowner (print): Signature:
(if different from facility or operator representative)

Date:

DHEC 1932 (07/1997)

8/30/17

APPENDIX B

Groundwater Monitoring

APPENDIX B

Appendix B Groundwater Monitoring

B.1 Groundwater Monitoring Tables

Table 1
Summary of Monitor Well Water-Level Elevations
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Monitor Well	Elevation[1] (ft. msl)	Sample Date 4/28/98	10/27/98	4/27/99	10/27/99	4/4/00	10/14/00	5/29/01	11/21/01	5/28/02	11/25/02	6/1/04	11/29/04	6/20/05
MW-1	113.36	94.26	92.11	92.31	96.17	93.25	93.16	92.54	91.70	91.88	92.06	92.61	92.61	92.60
MW-2	104.79	92.31	90.45	90.84	94.00	91.39	91.15	90.76	90.11	90.22	90.69	90.85	91.04	90.77
MW-3	96.02	90.50	88.82	89.54	92.62	89.47	89.32	89.06	88.55	88.12	89.24	89.22	89.70	88.95
MW-4	101.20	94.30	92.41	92.80	96.29	93.35	93.21	92.86	91.92	92.08	92.64	92.80	93.03	92.73
MW-5	107.12	98.37	96.12	96.94	100.16	97.70	97.71	96.86	95.46	95.72	96.92	97.11	97.51	96.94
MW-6	112.35	97.15	95.05	95.65	98.82	96.63	96.54	95.73	94.54	94.96	95.13	95.93	95.94	95.95
MW-7	101.76	99.46	96.96	98.05	100.91	98.53	98.57	97.55	96.02	96.46	97.62	97.98	98.37	97.80
MW-8	113.31	98.66	96.41	97.08	99.94	97.95	97.82	97.11	95.70	96.31	96.43	97.33	97.37	97.27
MW-9	113.76	98.91	96.66	97.34	99.99	98.24	98.01	97.34	95.96	96.56	96.62	97.53	97.60	97.50
MW-10	114.02	99.22	97.47	98.34	101.14	99.09	99.07	98.20	96.86	97.72	97.82	98.53	98.63	98.42
MW-11	114.13	100.43	97.81	98.48	102.10	99.18	99.37	98.42	97.61	98.73	98.32	98.62	98.98	98.52
MW-12	115.48	102.23	98.63	99.38	103.73	100.30	100.46	99.30	97.92	98.88	99.12	99.63	100.09	99.53
MW-13	111.73	103.23	98.95	100.08	104.49	100.83	100.91	99.71	98.13	98.98	99.73	100.14	100.84	99.98
MW-14	105.50	101.90	98.70	99.92	103.29	100.54	100.58	99.68	97.85	98.50	99.54	99.86	100.60	99.62
MW-15	105.63	100.43	97.93	99.05	102.01	99.89	99.65	98.75	97.13	97.73	98.63	99.12	99.48	98.82

Table 1
Summary of Monitor Well Water-Level Elevations
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Monitor Well	Elevation[1] (ft. msl)	Sample Date 9/26/05	3/27/06	9/25/06	3/26/07	4/16/07	1/10/08	8/25/08	6/15/09	12/17/09	7/20/10	12/20/10	6/21/11	12/14/11
MW-1	113.36	91.92	92.91	92.16	93.93	---	92.72	92.96	94.12	93.59	93.38	93.22	93.24	92.88
MW-2	104.79	90.19	91.18	90.49	91.31	91.36	90.43	90.45	91.54	91.18	90.86	90.83	90.57	90.45
MW-3	96.02	88.70	89.46	88.95	89.55	---	89.27	88.95	89.90	89.86	89.41	89.63	88.92	89.13
MW-4	101.20	91.80	93.10	93.31	93.69	---	92.16	92.24	93.47	93.05	92.75	92.65	92.59	92.30
MW-5	107.12	96.03	97.56	96.32	97.73	---	95.83	96.53	98.16	97.54	97.19	96.66	97.13	96.56
MW-6	112.35	95.14	96.26	95.35	96.51	96.30	94.62	95.32	96.67	95.80	95.77	95.32	95.82	95.06
MW-7	101.76	96.78	98.35	97.07	98.67	98.69	96.54	97.23	99.27	98.32	98.11	97.80	98.3	97.69
MW-8	113.31	96.41	97.63	96.61	97.93	97.76	95.72	96.13	98.46	97.30	97.27	96.71	97.28	96.43
MW-9	113.76	96.68	97.82	96.86	98.17	98.01	95.95	97.07	99.27	97.55	97.55	96.96	97.55	96.67
MW-10	114.02	97.78	98.93	97.82	99.16	99.00	96.85	97.92	99.98	98.92	98.73	98.03	98.75	97.74
MW-11	114.13	97.92	99.18	98.13	99.31	99.14	---	---	---	---	---	---	---	---
MW-12	115.48	98.65	100.27	98.78	100.46	100.25	---	---	---	---	---	---	---	---
MW-13	111.73	98.88	100.78	99.03	101.08	101.21	98.10	98.88	102.50	101.21	100.49	99.42	100.6	99.38
MW-14	105.50	98.61	100.45	98.65	100.70	---	---	---	---	---	---	---	---	---
MW-15	105.63	97.83	99.51	98.05	99.71	---	97.50	98.29	101.26	99.54	99.24	101.26	99.33	99.75
MW-17	115.01	---	---	---	---	---	---	---	---	98.81	98.74	97.67	98.14	97.41
MW-18	117.38	---	---	---	---	---	---	---	---	98.64	97.87	97.38	97.7	97.14
MW-19	112.87	---	---	---	---	---	---	---	---	99.06	97.83	97.42	97.6	97.28

Table 1
Summary of Monitor Well Water-Level Elevations
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Monitor Well	Elevation[1] (ft. msl)	Sample Date 5/14/12	11/27/12	5/9/13	11/21/13	5/15/14	12/2/14	6/8/15	12/28/15	6/13/16	12/5/16	6/21/17
MW-1	113.36	93.04	92.72	93.39	93.08	93.93	93.28	93.74	94.20	93.92	94.45	93.76
MW-2	104.79	90.49	90.34	90.91	90.50	91.16	90.89	91.04	91.79	91.20	91.72	91.05
MW-3	96.02	88.93	88.99	89.45	88.97	89.22	89.32	89.22	90.13	89.05	90.24	89.00
MW-4	101.20	92.41	92.18	92.79	92.45	93.18	92.73	92.97	93.62	93.13	93.86	93.08
MW-5	107.12	96.74	96.02	97.24	96.86	97.73	96.94	97.47	98.31	97.76	98.29	97.24
MW-6	112.35	95.46	94.85	95.65	96.19	97.18	96.29	96.86	97.35	97.11	97.60	96.84
MW-7	101.76	97.87	97.14	---	---	98.91	98.03	98.45	99.46	---	99.50	93.62
MW-8	113.31	96.75	96.11	97.05	96.68	97.93	96.80	97.44	98.21	97.98	98.50	97.41
MW-9	113.76	97.00	96.36	97.27	96.93	98.17	97.08	97.70	98.52	98.27	98.88	97.68
MW-10	114.02	98.18	97.41	98.70	97.96	99.41	98.22	98.83	100.08	99.57	100.13	98.73
MW-11	114.13	---	---	---	---	---	---	---	---	---	---	---
MW-12	115.48	---	---	---	---	---	---	---	---	---	---	---
MW-13	111.73	100.14	98.77	100.95	99.43	101.45	99.85	101.04	103.00	101.58	102.30	100.57
MW-14	105.50	---	---	---	---	---	---	---	---	---	---	---
MW-15	105.63	99.00	97.83	99.36	98.35	99.86	98.89	99.45	100.94	100.40	101.04	99.20
MW-17	115.01	97.51	96.86	98.04	97.43	98.49	97.60	98.18	98.99	98.63	99.04	98.06
MW-18	117.38	97.18	96.56	97.67	97.05	97.98	97.23	97.71	98.65	98.04	98.57	97.63
MW-19	112.87	97.37	96.64	97.74	97.58	97.89	97.33	97.61	98.77	97.88	98.56	97.49

[1] Measuring point elevation is the top of inner casing.
Note: MW-6 has been broken off approximately 10-inches from ground surface (11-21-2013)

Table 2
Summary of Groundwater Field Parameters
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Monitor Well	04/01/00	10/01/00	05/01/01	11/01/01	05/02/02	11/02/02	06/04/04	11/29/04	06/20/05	9/26/05	03/27/06	9/25/06	3/26/07	4/16/07
							Sample Date							
							pH							
MW-1	6.2	5.9	6.5	6.2	6.6	6.5	6.3	5.6	6.2	6.0	6.5	6.0	6.3	---
MW-2	6.1	5.8	6.3	6.1	6.4	6.3	5.9	5.5	6.1	6.0	6.3	6.0	6.1	6.1
MW-3	5.7	5.4	6.2	5.8	6.3	5.8	5.7	5.5	6.0	5.8	6.2	5.7	5.9	---
MW-4	5.9	5.2	5.6	4.5	5.4	5.2	5.5	4.5	5.8	4.8	6.1	4.7	5.8	---
MW-5	4.5	4.5	5	4.8	5.1	4.9	4.6	5.6	5.0	5.5	6.7	4.6	4.9	---
MW-6	6.1	5.8	6.6	6.3	6.7	6.6	6.2	5.5	6.3	6.0	6.4	6.1	6.0	5.8
MW-7	4.4	4.6	5.5	4.1	5.2	4.7	4.2	5.7	5.4	6.1	6.7	4.3	4.7	4.3
MW-8	4.5	4.2	4.7	4.1	4.8	4.6	4.2	5.6	4.7	5.1	6.2	4.5	4.7	4.4
MW-9	5.5	4.9	5.6	4.8	5.3	5.2	5.6	5.8	5.8	5.7	6.3	5.8	6.0	5.9
MW-10	4.6	4.5	5.1	4.3	5.1	5	4.4	5.7	5.2	5.2	6.5	4.0	4.6	4.2
MW-11	4.5	4.4	5.2	4.1	5.5	5.4	5.7	6.7	5.8	6.0	6.7	5.5	5.8	5.7
MW-12	5.2	4.9	5.1	4.1	4.9	4.7	5.1	5.8	5.5	5.5	6.3	4.9	5.0	5.0
MW-13	4.2	4.1	4.6	3.7	4.9	4.4	4.7	4.9	4.1	4.8	5.8	4.0	4.0	3.8
MW-14	5.8	5.6	6.2	5.7	6.4	6.2	6.0	5.7	6.2	6.3	6.9	5.9	5.6	---
MW-15	4.6	4.4	4.8	4.5	5.2	5	5.1	5.7	5.5	5.8	6.9	4.7	4.8	---
TMW-9D	---	---	---	---	---	---	4.8	6.9	5.5	6.0	6.6	---	5.0	---
TMW-16	---	---	---	---	---	---	6	6.5	4.5	5.3	6.1	---	4.9	---
MW-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-18	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-19	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-3	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 2
Summary of Groundwater Field Parameters
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Monitor Well	1/10/08	8/25/08	6/15/09	12/17/09	7/21/10	12/20/10	6/21/11	12/14/11	5/14/12	11/26/12	5/9/13	11/21/13	5/15/14	12/2/14
							Sample Date							
							pH							
MW-1	6.2	6.2	6.2	6.3	5.6	6.4	6.5	6.3	6.4	6.5	5.9	6.3	6.2	6.0
MW-2	5.9	5.8	6.0	6.0	5.4	6.1	6.3	6.1	5.9	6.2	5.6	6.0	5.7	5.9
MW-3	6.0	3.0	4.8	4.8	4.7	5.5	5.7	4.8	4.7	5.4	4.6	5.6	3.8	5.2
MW-4	6.2	4.5	4.7	4.7	4.3	4.7	4.8	4.4	4.3	4.6	4.3	4.5	3.8	4.2
MW-5	6.2	4.5	4.9	5.1	4.3	4.7	5.1	4.7	4.8	5.0	4.7	4.9	5.0	4.9
MW-6	6.2	4.8	5.8	5.8	5.3	6.0	6.1	6.0	5.7	5.8	5.6	5.8	5.7	5.7
MW-7	4.7	4.7	4.9	5.1	4.3	5.0	5.0	5.1	4.8	5.0	4.7	4.9	4.6	4.7
MW-8	4.6	5.9	4.6	4.8	4.4	4.6	5.2	5.0	5.4	5.3	5.2	5.4	5.4	5.3
MW-9	6.1	4.4	4.7	6.3	5.7	6.3	6.3	6.2	6.6	6.3	6.3	6.4	6.1	6.3
MW-10	4.6	4.5	4.7	4.7	4.6	4.5	6.2	4.5	5.9	5.7	4.9	5.6	4.8	4.7
MW-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	4.1	4.2	4.2	4.2	3.9	4.2	2.5	3.7	4.1	4.1	3.8	4.2	4.2	3.8
MW-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	4.6	4.7	4.2	4.5	4.1	5.0	3.0	5.0	4.3	4.5	4.1	4.6	4.6	4.2
TMW-9D	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TMW-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-17	---	---	---	5.3	5.42	4.64	5.1	4.9	5.2	5.05	5.2	5.2	4.7	5.6
MW-18	---	---	---	4.82	4.92	5.49	5.9	5.1	5.4	5.24	5.6	5.5	5.2	5.1
MW-19	---	---	---	5.88	5.36	6.27	5.9	5.4	6	6.14	5.8	6.3	5.4	5.6
S-1	---	---	---	---	---	6.13	5.9	6.0	6.3	6.74	5.7	6.5	6.0	6.2
S-3	---	---	---	---	---	6.28	5.83	6.0	6.3	6.75	5.7	6.8	6.0	6.1

Table 2
Summary of Groundwater Field Parameters
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Monitor Well	6/8/15	12/28/15	6/13/16	12/5/16	6/20/17
					Sample Date
					pH
MW-1	6.3	6.2	6.5	5.7	6.1
MW-2	5.9	6.0	6.1	5.4	5.8
MW-3	5.6	4.9	5.9	4.8	5.3
MW-4	4.5	4.6	4.9	4.7	4.3
MW-5	5.0	5.3	5.4	4.7	5.2
MW-6	5.9	6.0	6.0	5.6	6.1
MW-7	5.0	5.2	5.2	4.6	5.1
MW-8	5.8	5.5	5.8	5.4	5.9
MW-9	6.6	6.3	6.5	4.9	6.5
MW-10	5.0	4.8	4.8	4.5	4.9
MW-11	---	---	---	---	---
MW-12	---	---	---	---	---
MW-13	4.3	4.3	4.0	3.7	4.1
MW-14	---	---	---	---	---
MW-15	4.7	4.6	4.5	4.1	4.5
TMW-9D	---	---	---	---	---
TMW-16	---	---	---	---	---
MW-17	5.0	6	5.6	4.7	4.8
MW-18	5.4	5.5	4.2	4.2	5.3
MW-19	5.7	4.6	5.3	5.7	6.3
S-1	6.3	6	5.9	6.6	6.2
S-3	6.3	5.9	---	5.8	6.1

Table 2
Summary of Groundwater Field Parameters
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Monitor Well	04/01/00	10/01/00	05/01/01	11/01/01	05/02/02	11/02/02	06/04/04	11/29/04	06/20/05	9/26/05	03/27/06	9/25/06	3/26/07	4/16/07
							Sample Date							
							Specific Conductivity (mhmos/cm)							
MW-1	910	912	965	693	486	778	749	710	723	753	721	658	555	---
MW-2	1,020	971	917	750	430	778	861	854	871	910	884	809	723	803
MW-3	271	331	459	421	290	404	452	300	403	596	347	467	419	---
MW-4	554	251	224	150	136	147	460	202	425	230	538	209	530	---
MW-5	80	73	62	69	51	69	70	90	89	95	82	93	89	---
MW-6	445	450	1,040	808	531	876	421	315	559	326	503	262	408	439
MW-7	134	134	132	106	90	112	139	134	118	126	102	126	129	130
MW-8	99	101	98	85	73	85	98	109	99	103	122	125	122	124
MW-9	185	178	192	181	136	174	465	540	624	671	689	760	661	716
MW-10	57	57	55	58	40	43	65	64	74	119	75	80	90	73
MW-11	86	62	67	69	46	79	138	171	140	154	116	116	118	122
MW-12	111	126	79	73	68	73	67	115	84	87	103	65	83	87
MW-13	133	110	66	121	107	124	115	134	129	148	125	161	144	146
MW-14	482	605	481	405	331	329	262	162	141	271	146	280	149	---
MW-15	81	73	84	81	50	58	82	153	99	128	87	103	88	---
TMW-9D	---	---	---	---	---	---	103	253	237	250	261	---	253	---
TMW-16	---	---	---	---	---	---	245	123	100	121	100	---	102	---
MW-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-18	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-19	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-3	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 2
Summary of Groundwater Field Parameters
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Monitor Well	1/10/08	8/25/08	6/15/09	12/17/09	7/21/10	12/20/10	6/21/11	12/14/11	5/14/12	11/26/12	5/9/13	11/21/13	5/15/14	12/2/14
							Sample Date							
							Specific Conductivity (mhmos/cm)							
MW-1	740	691	750	746	709	748	755	770	670	713	749	676	644	528
MW-2	870	871	872	883	838	961	848	1050	819	871	894	804	639	540
MW-3	200	1	105	106	187	461	378	403	318	432	313	462	627	301
MW-4	190	207	191	187	199	240	221	279	193	219	211	202	4,380	141
MW-5	80	117	108	108	75	73	101	99	85	95	109	92	84	51
MW-6	1,020	136	532	569	580	786	701	929	736	777	789	1010	989	714
MW-7	208	154	105	178	159	122	129	117	85	95	110	91	96	53
MW-8	623	737	177	130	108	157	206	210	225	468	334	403	475	373
MW-9	1,100	133	104	1,240	1,350	1,450	1,440	1,570	1,430	1,570	1,640	1,380	1,300	1,240
MW-10	149	77	144	121	92	56	110	58	150	121	61	112	60	34
MW-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	230	238	176	160	163	170	158	181	164	183	178	146	159	144
MW-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	218	193	173	106	121	118	120	122	112	111	119	97	96	70
TMW-9D	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TMW-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-17	---	---	---	796	461	110	66	404	251	214	113	88	79	369
MW-18	---	---	---	241	59	7	52	88	86	61	94	53	45	34
MW-19	---	---	---	253	350	567	165	265	449	580	199	522	159	189
S-1	---	---	---	---	---	148	130	139	109	174	131	163	66	81
S-3	---	---	---	---	---	136	134	141	112	179	125	13	65	81

Table 2
Summary of Groundwater Field Parameters
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Monitor Well	6/8/15	12/28/15	6/13/16	12/5/16	6/20/17
					Specific Conductivity (mhmos/cm)
MW-1	687	752	560	798	581
MW-2	741	869	555	861	633
MW-3	532	237	451	349	343
MW-4	171	175	146	243	140
MW-5	85	72	58	89	58
MW-6	902	1090	1090	1240	859
MW-7	87	70	59	81	55
MW-8	574	279	573	778	312
MW-9	1,540	1,190	1,410	137	662
MW-10	60	55	50	76	51
MW-11	---	---	---	---	---
MW-12	---	---	---	---	---
MW-13	200	209	169	211	133
MW-14	---	---	---	---	---
MW-15	93	102	85	105	74
TMW-9D	---	---	---	---	---
TMW-16	---	---	---	---	---
MW-17	68	729	140	202	50
MW-18	45	89	26	40	24
MW-19	184	106	130	990	515
S-1	123	117	99	89	35
S-3	123	118	---	83	37

Table 3
Summary of Volatile Organic Compounds in Groundwater
Dillon County Landfill
Dillon Co., South Carolina
revised (7/3/17)

		Volatile Organic Compounds (µg/L)																				
Monitor Well	Date#	AC	Benz	Bis-phth	CB	CH	C_2S	1,2-DB	1,4-DB	1,1-DCA	1,1-DCE	1,2-Cis	1,2-DCP	2-HEX	IPB	MC	MTBE	TCFM	TOL	VC	Others	Total
MW-1	May-01	BDL	3.98	BDL	13.3	BDL	BDL	BDL	4.89	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		22.17
	Nov-01	BDL	BDL	BDL	13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		13
	May-02	BDL	BDL	BDL	13	BDL	BDL	BDL	5.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		18.1
	Nov-02	BDL	BDL	BDL	12	BDL	BDL	BDL	5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		17
	Jun-04	BDL	3.91	BDL	14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.18	BDL	BDL	BDL	BDL	BDL	BDL	BDL		19.09
	Nov-04	1.4	2.7	BDL	12	4.2	1.1	BDL	3.6	0.99	BDL	0.96	0.69	BDL	BDL	BDL	BDL	BDL	BDL	0.27	X (0.61)	28.52
	Jun-05	2.3	2.4	BDL	11	2.4	0.61	0.56	3.2	0.81	BDL	0.75	BDL	BDL	BDL	6.9**	BDL	BDL	0.4	0.2	EB (0.17), VA (1.2), X (1.2)	34.1
	Sep-05	1.9	2.2	BDL	12	1.6	BDL	0.63	3.5	0.65	BDL	0.65	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		23.13
	Mar-06	BDL	2.3	BDL	12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		14.3
	Sep-06	2	2.3	BDL	12	0.82	BDL	0.46	3.6	0.51	BDL	0.82	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	CM (0.31)	22.82
	Mar-07	BDL	2.3	--	11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		13.3
	Jan-08	BDL	BDL	--	9.02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		9.02
	Aug-08	BDL	BDL	--	5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		5
	Jun-09	BDL	BDL	--	13.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		13.5
	Dec-09	BDL	BDL	--	11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		11
	Jul-10	BDL	BDL	--	12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		12
	Dec-10	BDL	BDL	--	12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		12
	Jun-11	BDL	BDL	--	10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		10
	Dec-11	BDL	BDL	--	11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		11
	May-12	BDL	BDL	--	9.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		9.9
	Nov-12	BDL	BDL	--	9.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		9.9
	May-13	BDL	BDL	--	8.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		8.5
	Nov-13	BDL	BDL	--	9.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		9.4
	May-14	BDL	BDL	--	10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		10
	Dec-14	BDL	BDL	--	8.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		8.6
	Jun-15	BDL	BDL	--	8.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		8.2
	Dec-15	BDL	BDL	--	7.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		7.8
	Jun-16	BDL	BDL	--	8.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		8.4
	Dec-16	BDL	BDL	--	9.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		9.7
	Jun-17	BDL	BDL	--	10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		10
MW-2	May-01	BDL	5.15	BDL	6.44	9.03	20.8	BDL	3.18	5.09	BDL	4.18	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		53.87
	Nov-01	BDL	5.5	BDL	7.1	BDL	BDL	BDL	1.2	5.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		19.2
	May-02	BDL	5.6	BDL	7.2	BDL	BDL	BDL	1.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		14
	Nov-02	BDL	BDL	BDL	7.2	BDL	BDL	BDL	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		8.7
	Jun-04	BDL	6.64	BDL	9.28	BDL	BDL	BDL	4.7	BDL	13.4	5.03	BDL	2.65	BDL	BDL	1.09	BDL	BDL	1.01		43.8
	Nov-04	1.3	4.7	BDL	9.2	1.2	0.9	BDL	3.4	1.9	BDL	3.0	BDL	BDL	0.38	5.9	2.0	BDL	0.32	0.41	2 CHT (0.44),	35.77
	Jun-05	1.2	4.6	BDL	7.7	1.1	0.76	BDL	BDL	1.8	BDL	2.8	BDL	BDL	BDL	6.0**	BDL	BDL	0.47	0.32	EB (0.15), X (0.95)	27.85
	Sep-05	5.8	4.1	BDL	7	1.2	BDL	BDL	BDL	2.1	BDL	2.7	BDL	BDL	BDL	BDL	BDL	BDL	0.26	0.38		23.54
	Mar-06	BDL	4.9	BDL	7.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		12.8
	Sep-06	BDL	5.1	BDL	8.2	1	BDL	BDL	BDL	1.6	BDL	2.8	BDL	BDL	BDL	BDL	BDL	BDL	0.3	BDL	CM (0.28)	19.28
	Mar-07	BDL	5.6	--	8.9	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		14.5
	Apr-07	--	--	BDL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	Jan-08	BDL	5.0	BDL	7.95	0.639J	BDL	BDL	BDL	1.45J	BDL	2.60J	BDL	BDL	--	BDL	--	BDL	0.303J	BDL		17.94
	Aug-08	BDL	5.3	BDL	7.96	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		13.26
	Jun-09	BDL	BDL	BDL	8.28	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		8.28
	Dec-09	BDL	BDL	BDL	8.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		8.3
	Jul-10	BDL	5.8	--	9.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		15.3
	Dec-10	BDL	5.1	--	9.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		14.7
	Jun-11	BDL	BDL	--	8.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		8.7
	Dec-11	BDL	5	--	9.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		14.5
	May-12	BDL	BDL	--	9.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		9.3
	Nov-12	BDL	BDL	--	9.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		9.6
	May-13	BDL	BDL	--	8.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		8.8
	Nov-13	BDL	BDL	--	9.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		9.3
	May-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0.0
	Dec-14	BDL	BDL	--	8.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		8.4
	Jun-15	BDL	BDL	--	9.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		9.9
	Dec-15	BDL	BDL	--	9.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		9.4
	Jun-16	BDL	BDL	--	8.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		8.8
	Dec-16	BDL	5	--	9.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		14.6
	Jun-17	BDL	BDL	--	9.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		9.8

Table 3
Summary of Volatile Organic Compounds in Groundwater
Dillon County Landfill
Dillon Co., South Carolina
revised (7/3/17)

Monitor Well	Date#	AC	Benz	Bis-phth	CB	CH	C_2S	1,2-DB	1,4-DB	1,1-DCA	1,1-DCE	1,2-Cis	1,2-DCP	2-HEX	IPB	MC	MTBE	TCFM	TOL	VC	Others	Total
		Volatile Organic Compounds (µg/L)																				
MW-3	May-01	BDL	2.16	BDL	BDL	BDL	32.8	BDL	BDL	BDL	BDL	4.75	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		39.71
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		5.3
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		6
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	2.57	BDL	2.75	BDL	BDL	BDL	2.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.06		8.98
	Nov-04	1.1	2.2	BDL	3.1	BDL	BDL	BDL	1.4	0.37	BDL	2.6	BDL	BDL	BDL	7.4	BDL	BDL	BDL	0.54		18.71
	Jun-05	0.94	1.6	BDL	2.2	BDL	0.75	BDL	1	0.27	BDL	1.8	BDL	BDL	BDL	7.4**	BDL	BDL	0.43	0.35	EB (0.23), X (0.61)	17.58
	Sep-05	BDL	2.2	BDL	3.2	BDL	BDL	BDL	1.5	0.4	BDL	2.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.55	IM (0.57)	10.72
	Mar-06	BDL	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		1.5
	Sep-06	BDL	2.8	BDL	4.2	BDL	BDL	BDL	1.9	0.41	BDL	2.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	CM (0.41)	12.12
	Mar-07	BDL	1.8	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		1.8
	Jan-08	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Aug-08	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-09	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-09	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-10	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	--	5.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		5.7
	Dec-11	BDL	BDL	--	5.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		5.6
	May-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	--	5.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		5.7
	May-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	--	6.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		6.1
	May-14	BDL	BDL	--	5.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		5.4
	Dec-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	--	5.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		5.6
	Dec-16	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
MW-4	May-01	BDL	BDL	BDL	BDL	BDL	13.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		13.8
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	BDL	BDL	2.31	BDL	BDL	BDL	1.67	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		3.98
	Nov-04	BDL	0.99	BDL	0.58	BDL	BDL	BDL	0.33	BDL	BDL	BDL	BDL	BDL	BDL	7.3	BDL	BDL	BDL	BDL		9.2
	Jun-05	BDL	1.7	BDL	1.4	BDL	BDL	BDL	0.48	0.22	BDL	0.32	BDL	BDL	BDL	7.9**	BDL	BDL	0.32	BDL	X (0.52)	12.86
	Sep-05	BDL	1.2	BDL	0.8	BDL	BDL	BDL	0.37	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		2.37
	Mar-06	BDL	2.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		2.4
	Sep-06	BDL	1.2	BDL	0.94	BDL	BDL	BDL	0.51	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	CM (0.27)	2.92
	Mar-07	BDL	3.1	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		3.1
	Jan-08	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Aug-08	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-09	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-09	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-10	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0

Table 3
Summary of Volatile Organic Compounds in Groundwater
Dillon County Landfill
Dillon Co., South Carolina
revised (7/3/17)

Monitor Well	Date#	Volatile Organic Compounds (µg/L)																				
		AC	Benz	Bis-phth	CB	CH	C_2S	1,2-DB	1,4-DB	1,1-DCA	1,1-DCE	1,2-Cis	1,2-DCP	2-HEX	IPB	MC	MTBE	TCFM	TOL	VC	Others	Total
MW-5	May-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.9	BDL	BDL	BDL	BDL		6.9
	Jun-05	BDL	BDL	BDL	BDL	BDL	0.21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	7.0**	BDL	BDL	BDL	BDL		7.21
	Sep-05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Mar-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Sep-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	CM (0.39)	0.39
	Mar-07	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jan-08	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Aug-08	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-09	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-09	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	--	--	BDL	BDL	BDL		0
	Dec-10	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
MW-6	May-01	BDL	8.94	BDL	7.89	14.2	13.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		44.13
	Nov-01	BDL	7.2	BDL	7.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		14.4
	May-02	BDL	6.5	BDL	6.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		13
	Nov-02	BDL	5.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		5.7
	Jun-04	BDL	3.38	BDL	4.1	BDL	BDL	BDL	1.23	BDL	1.38	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		10.09
	Nov-04	BDL	1.2	BDL	2.0	BDL	0.98	BDL	0.4	BDL	BDL	BDL	BDL	BDL	BDL	5.7	BDL	BDL	BDL	BDL		10.28
	Jun-05	BDL	3.9	BDL	4.4	2.3	0.37	BDL	BDL	0.36	BDL	BDL	BDL	BDL	BDL	6.5**	BDL	BDL	0.36	BDL	DFM (0.18), X (0.73)	19.1
	Sep-05	BDL	1	BDL	1.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		2.3
	Mar-06	BDL	4.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		4.6
	Sep-06	BDL	1	BDL	0.8	0.78	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	CM (0.43)	2.97
	Mar-07	BDL	4.7	--	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		4.7
	Apr-07	--	--	BDL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	Jan-08	BDL	8.76	BDL	9.15	3.72J	BDL	BDL	BDL	0.406J	BDL	0.209J	BDL	BDL	--	BDL	--	BDL	BDL	BDL		22.25
	Aug-08	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0.0
	Jun-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0.0
	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.6	BDL	BDL	BDL	BDL	BDL		5.6
	Jul-10	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	--	--	BDL	BDL	BDL		0.0
	Dec-10	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.1		2.1
	Nov-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	2		2
	Nov-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	2.1		2.1
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0

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Dillon County Landfill
Dillon Co., South Carolina
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Monitor Well	Date#	AC	Benz	Bis-phth	CB	CH	C_2S	1,2-DB	1,4-DB	1,1-DCA	1,1-DCE	1,2-Cis	1,2-DCP	2-HEX	IPB	MC	MTBE	TCFM	TOL	VC	Others	Total
		Volatile Organic Compounds (µg/L)																				
MW-7	May-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.59	BDL		1.59
	Nov-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.3	BDL	BDL	BDL	BDL		5.3
	Jun-05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.4**	BDL	BDL	0.27	BDL	X (0.46)	6.13
	Sep-05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.26	BDL		0.26
	Mar-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Sep-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.35	BDL		0.35
	Mar-07	BDL	BDL	BDL	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	BDL		0
	Apr-07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	Jan-08	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Aug-08	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
MW-8	May-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	3.55	BDL	BDL		3.55
	Nov-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.5	0.26	1.5	1.6	BDL	DFM (0.53)	9.39
	Jun-05	BDL	0.19	BDL	BDL	BDL	0.19	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	12**	BDL	1.4	BDL	BDL	DFM (0.45)	14.23
	Sep-05	6.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.5	0.51	BDL	DFM (0.45)	8.86
	Mar-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Sep-06	BDL	0.87	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.34	BDL	0.29	2.4	BDL	X (0.55)	4.45
	Mar-07	BDL	1.4	--	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		1.4
	Apr-07	--	--	BDL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	Jan-08	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	4.63J	BDL		4.63
	Aug-08	BDL	5.93	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		5.93
	Jun-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	4.6		4.6
	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.6		4.6
	Dec-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	2.2		2.2
	Nov-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	2.9		2.9
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	2.2		2.2
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	4.8		4.8
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL	X(6)	6
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	6.1		6.1
	Jul-16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.4		4.4
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	3.1		3.1
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0

Table 3
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Dillon County Landfill
Dillon Co., South Carolina
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Monitor Well	Date#	AC	Benz	Bis-phth	CB	CH	C_2S	1,2-DB	1,4-DB	1,1-DCA	1,1-DCE	1,2-Cis	1,2-DCP	2-HEX	IPB	MC	MTBE	TCFM	TOL	VC	Others	Total
		Volatile Organic Compounds (µg/L)																				
MW-9	May-01	BDL	BDL	1.32	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	11.8	BDL	BDL	BDL	BDL		13.12
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	0.27	BDL	BDL	BDL	BDL	BDL	BDL	BDL	13	BDL	BDL	BDL	BDL		13.27
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	3.48	BDL	BDL	BDL	BDL	BDL	BDL	2.09	BDL	BDL	BDL	BDL	1.22	BDL	1.26	BDL	BDL	BDL		8.05
	Nov-04	BDL	2.2	19	BDL	BDL	BDL	BDL	0.32	1.2	BDL	0.61	BDL	BDL	0.98	5.1	1.4	BDL	BDL	0.55	EB (0.32), TCE (0.35), 1,2,4-TB (0.36), X (1.0)	33.39
	Jun-05	2.2	2.4	BDL	0.17	0.26	BDL	BDL	BDL	1.2	0.23	0.75	BDL	BDL	BDL	7.6**	BDL	BDL	0.32	0.57	EB (0.31), TCE (0.27), X (1.4)	17.68
	Sep-05	2	2.6	BDL	BDL	0.35	BDL	BDL	BDL	1.4	0.26	0.71	BDL	BDL	BDL	0.51	BDL	BDL	BDL	0.61	CM (0.27), EB (0.26), TCE (0.32), X (0.84)	12.13
	Mar-06	BDL	3.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		3.1
	Sep-06	3	3.9	BDL	BDL	0.52	BDL	BDL	BDL	1.2	0.28	0.91	BDL	BDL	BDL	0.42	BDL	BDL	BDL	BDL	CM (0.26), EB (0.69), X (0.84)	12.02
	Mar-07	BDL	4.8	--	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		4.8
	Apr-07	--	--	BDL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	Jan-08	BDL	4.42J	BDL	BDL	BDL	BDL	BDL	BDL	1.12J	BDL	0.734J	BDL	BDL	--	BDL	--	BDL	BDL	BDL		6.27
	Aug-08	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0.0
	Jun-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0.0
	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.1	BDL	BDL	BDL	BDL	BDL		5.1
	Jul-10	BDL	5.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	3.2		9.0
	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		5
	Dec-11	BDL	6.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Di-phth(2.56)	8.76
	May-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	2.2		2.2
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
MW-10	May-01	BDL	BDL	7.04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		7.04
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0.03
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		1.13
	Nov-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.8	BDL	BDL	BDL	BDL		5.8
	Jun-05	BDL	0.31	BDL	BDL	BDL	BDL	BDL	BDL	0.24	BDL	BDL	BDL	BDL	BDL	8.4**	BDL	BDL	0.16	BDL		9.11
	Sep-05	BDL	0.43	BDL	BDL	BDL	BDL	BDL	BDL	0.31	BDL	BDL	BDL	BDL	BDL	0.56	BDL	BDL	BDL	BDL		1.3
	Mar-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Sep-06	BDL	0.81	BDL	0.32	BDL	BDL	BDL	BDL	0.62	BDL	BDL	BDL	BDL	BDL	0.93	BDL	BDL	BDL	BDL		2.68
	Mar-07	BDL	BDL	--	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	5.4**	--	BDL	BDL	BDL	EDB (0.045)	5.45
	Apr-07	--	--	BDL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	Jan-08	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Aug-08	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0

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Monitor Well	Date#	Volatile Organic Compounds (µg/L)																			
		AC	Benz	Bis-phth	CB	CH	C_2S	1,2-DB	1,4-DB	1,1-DCA	1,1-DCE	1,2-Cis	1,2-DCP	2-HEX	IPB	MC	MTBE	TCFM	TOL	VC	Others	Total
MW-11	May-01	BDL	BDL	4.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		4.5
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-04	3.8	0.33	BDL	BDL	BDL	0.56	BDL	BDL	BDL	BDL	0.36	BDL	BDL	BDL	4.6	BDL	BDL	BDL	BDL		9.65
	Jun-05	3.5	0.33	BDL	0.15	BDL	0.53	BDL	BDL	BDL	BDL	0.35	BDL	BDL	BDL	7.9**	BDL	BDL	BDL	0.16		12.92
	Sep-05	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		2
	Mar-06	44	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		44
	Sep-06	2.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		2.3
	Mar-07	BDL	BDL	--	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Apr-07	--	--	BDL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-12	May-01	BDL	BDL	3.09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		3.09
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	176	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		176
	Nov-04	67	BDL	BDL	BDL	BDL	0.77	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	3.8	BDL	BDL	BDL	BDL		71.57
	Jun-05	43	BDL	BDL	BDL	BDL	0.56	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.3**	BDL	BDL	BDL	BDL		49.86
	Sep-05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Mar-06	62	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		62
	Sep-06	8.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		8.2
	Mar-07	BDL	BDL	--	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	5.4**	--	BDL	BDL	BDL		5.4
	Apr-07	--	--	BDL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-13	May-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	3.5	BDL	BDL	BDL	BDL		3.5
	Jun-05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.8**	BDL	BDL	BDL	BDL		6.8
	Sep-05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Mar-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Sep-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Mar-07	BDL	BDL	--	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Apr-07	--	--	BDL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	Jan-08	BDL	BDL	BDL	BDL	BDL	0.467J	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0.47
	Aug-08	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0

Table 3
Summary of Volatile Organic Compounds in Groundwater
Dillon County Landfill
Dillon Co., South Carolina
revised (7/3/17)

Monitor Well	Date#	AC	Benz	Bis-phth	CB	CH	C_2S	1,2-DB	1,4-DB	1,1-DCA	1,1-DCE	1,2-Cis	1,2-DCP	2-HEX	IPB	MC	MTBE	TCFM	TOL	VC	Others	Total
		Volatile Organic Compounds (µg/L)																				
MW-14	May-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.99		4.99
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.4		2.4
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	1.85	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		1.85
	Nov-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	8.2	BDL	BDL	BDL	BDL		8.2
	Jun-05	BDL	0.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.16	BDL	BDL	BDL	5.8**	BDL	BDL	BDL	BDL		6.26
	Sep-05	BDL	0.64	BDL	0.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		1.04
	Mar-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Sep-06	BDL	1.3	BDL	BDL	0.29	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		1.59
	Mar-07	BDL	BDL	BDL	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	5.5**	--	BDL	BDL	BDL		5.5
MW-15	May-01	BDL	BDL	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		1.5
	Nov-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-04	BDL	BDL	BDL	BDL	BDL	0.28	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.0	BDL	BDL	BDL	BDL		5.28
	Jun-05	BDL	BDL	BDL	BDL	BDL	0.31	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.6**	BDL	BDL	BDL	BDL		5.91
	Sep-05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Mar-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Sep-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Mar-07	BDL	BDL	BDL	BDL	BDL	BDL	--	--	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jan-08	1.43J	BDL	BDL	BDL	BDL	0.221J	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		1.65
	Aug-08	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
TMW-9D	Jun-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-04	2.1	0.71	BDL	BDL	BDL	0.48	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.0	BDL	BDL	BDL	BDL	X (0.54)	8.83
	Jun-05	BDL	0.81	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.5**	BDL	BDL	BDL	BDL		6.31
	Sep-05	2.8	0.78	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.37	BDL	BDL	BDL	BDL	CM (0.66)	4.61
	Mar-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Sep-06	2.3	1.1	BDL	BDL	BDL	BDL	BDL	BDL	0.31	BDL	BDL	BDL	BDL	BDL	0.47	BDL	BDL	BDL	BDL	CM (1.1)	5.28
	Mar-07	BDL	1.5	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	7.2**	--	BDL	BDL	BDL		8.7
TMW-16	Jun-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.8	BDL	BDL	BDL	BDL		4.8
	Jun-05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.8**	BDL	BDL	BDL	BDL	ST (0.17)	6.97
	Sep-05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.2	BDL	BDL	BDL	BDL		1.2
	Mar-06	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Sep-06	BDL	0.29	BDL	BDL	BDL	BDL	BDL	BDL	0.26	BDL	BDL	BDL	BDL	BDL	0.67	BDL	BDL	BDL	BDL		1.22
	Mar-07	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0

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Monitor Well	Date#	AC	Benz	Bis-phth	CB	CH	C_2S	1,2-DB	1,4-DB	1,1-DCA	1,1-DCE	1,2-Cis	1,2-DCP	2-HEX	IPB	MC	MTBE	TCFM	TOL	VC	Others	Total
		Volatile Organic Compounds (µg/L)																				
MW-17	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.3	BDL	BDL	BDL	BDL	BDL		5.3
	Jul-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	12		12
	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
MW-18	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	May-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
MW-19	Dec-09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jul-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	11		11
	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.3		11
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Dec-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4	Cap (22)	26
	May-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.2		5.2
	Nov-12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	23		23
	May-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.2	BDL	BDL	BDL	BDL	--	BDL	BDL	5.4		10.6
	Nov-13	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	8		8
	May-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	2.8		2.8
	Dec-14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	5.5		5.5
	Jun-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	BDL		0
S-1	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.3	BDL	BDL	BDL		6.3
	Dec-11	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	BDL		0
	May-12	BDl	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0

Table 3
Summary of Volatile Organic Compounds in Groundwater
Dillon County Landfill
Dillon Co., South Carolina
revised (7/3/17)

Monitor Well	Date#	Volatile Organic Compounds (µg/L)																				
		AC	Benz	Bis-phth	CB	CH	C_2S	1,2-DB	1,4-DB	1,1-DCA	1,1-DCE	1,2-Cis	1,2-DCP	2-HEX	IPB	MC	MTBE	TCFM	TOL	VC	Others	Total
S-3	Dec-10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Jun-11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.1	BDL	BDL	BDL		6.1
	Dec-11	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	BDL	BDL		0
	May-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0
	Nov-12	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Nov-13	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	May-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-14	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-15	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-16	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Dec-16	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0
	Jun-17	BDL	BDL	--	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--	BDL	--	BDL	BDL	BDL		0

Abbreviations

AC = Acetone
Benz = Benzene
Bis-phth = Bis(2-ethylhexyl)phthalate
CB = Chlorobenzene
CH = Chloroethane
C_2S = Carbon disulfide
1,2-DB = 1,2-Dichlorobenzene
1,4-DB = 1,4-Dichlorobenzene
1,1-DCA = 1,1-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
1,2-Cis = 1,2-Cis-Dichloroethene
1,2-DCP = 1,2-Dichloropropane
2-Hex = 2-Hexanone
IPB = Isopropylbenzene
MC = Methylene chloride
MTBE = Methyl tert-Butyl Ether
TCFM = Trichlorofluoromethane
TOL = Toluene
VC = Vinyl Chloride
Diethyl phthalate= Di-phth
Caprolactam=Cap
1,3-DB = 1,3-Dichlorobenzene
DFM = Dichlorodifluoromethane
CM = Chloromethane
2 CHT = 2-Chlorotoluene
EB = Ethylbenzene
EDB = Ethylene dibromide
IM = Iodomethane
ST = Styrene
TCE = Trichloroethene
1,2,4-TB = 1,2,4-Trimethylbenzene
VA = Vinyl Acetate
X = Xylenes

NOTES:
** Compound was detected in field blank
# Analytical data from 2003 was not available for review.

Table 4
Summary of Metal Analysis in Groundwater
Dillon County Landfill
Dillon Co., South Carolina
revised 7/3/17)

Metal	Sample Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	TMW-9D	TMW-16	MW-17	MW-18	MW-19	S-1	S-3
Arsenic	Apr-00	0.006	0.007																				
(mg/L)	Oct-00	0.006	0.009																				
	May-01	0.008	0.007				0.005		0.011														
MCL is	Nov-01																						
0.01 mg/L	May-02	0.009																					
	Nov-02		0.007																				
	Jun-04	<0.005	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Nov-04	0.006	0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	0.010	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Jun-05	0.006	0.012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Sep-05	0.008	0.011	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Mar-06	0.009	0.014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	0.009	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Sep-06	0.007	0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Mar-07	0.006	0.011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Jan-08	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0043B	<0.010	<0.010	<0.010	NA	NA	<0.010	NA	<0.010	NA	NA					
	Aug-08	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	<0.010	NA	<0.010	NA	NA					
	Jun-09	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010			<0.010		<0.010							
	Dec-09	<0.005	0.0094	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0054	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005		
	Jul-10	0.011	0.0120	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010			<0.010		<0.010			<0.010	<0.010	<0.010		
	Dec-10	0.007	0.0079	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005	<0.005	<0.005
	Jun-11	6.310	6.1200	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005	<0.005	<0.005
	Dec-11	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0037	0.0009			<0.010		<0.010			<0.010	<0.010	<0.010	<0.010	<0.010
	May-12	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Nov-12	0.012	0.013	<0.0100	<0.0100	<0.0100	<0.0100	<.0060	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	May-13	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Nov-13	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	May-14	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Dec-14	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Jun-15	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Dec-15	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Jun-16	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Dec-16	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Jun-17	0.011	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Barium	Apr-00	0.669	0.586	0.131	0.439	0.083	0.096	0.188	0.111	0.097	0.083	0.045	0.051	0.073	0.184	0.041							
(mg/L)	Oct-00	0.705	0.558	0.143	0.245	0.063	0.109	0.220	0.079	0.144	0.073	0.039	0.048	0.081	0.188	0.051							
	May-01	0.723	0.544	0.143	0.245	0.058	0.367	0.201	0.143	0.164	0.080	0.025	0.032	0.084	0.186	0.046							
MCL is	Nov-01	0.660	0.540	0.190	0.160	0.062	0.220	0.180	0.080	0.160	0.080	0.048	0.035	0.110	0.240	0.069							
2 mg/L	May-02	0.650	0.530	0.230	0.180	0.052	0.140	0.180	0.110	0.150	0.110		0.053	0.120	0.250	0.059							
	Nov-02	0.650	0.560	0.220	0.160	0.046	0.380	0.200	0.100	0.150	0.130	0.053	0.066	0.150	0.180	0.057							
	Jun-04	0.518	0.531	0.133	0.307	0.056	0.240	0.223	0.082	0.387	0.090	0.040	0.032	0.095	0.100	0.049	NA	NA					
	Nov-04	0.519	0.355	0.204	0.216	0.058	<0.020	<0.020	<0.020	0.397	0.065	<0.020	0.038	0.100	0.065	0.083	NA	NA					
	Jun-05	0.542	0.621	0.199	0.356	0.064	0.354	0.144	0.081	0.549	0.097	0.021	0.033	0.109	0.065	0.060	NA	NA					
	Sep-05	0.348	0.605	0.217	0.150	0.059	0.174	0.142	0.073	0.626	0.128	0.027	0.021	0.138	0.114	0.061	NA	NA					
	Mar-06	0.504	0.584	0.221	0.420	0.057	0.257	0.152	0.080	0.889	0.102	0.022	0.024	0.117	0.063	0.055	NA	NA					
	Sep-06	0.510	0.625	0.225	0.253	0.060	0.228	0.203	0.087	0.905	0.094	0.027	0.027	0.179	0.112	0.053	NA	NA					
	Mar-07	0.483	0.577	0.191	0.415	0.081	0.580	0.190	0.070	0.869	0.109	0.033	0.023	0.147	0.069	0.056	NA	NA					
	Jan-08	0.430	0.560	0.130	0.200	0.062	0.900	0.180	0.045	0.840	0.091	NA	NA	0.200	NA	0.050	NA	NA					
	Aug-08	0.420	0.510	0.270	0.210	0.060	0.057	0.057	0.560	0.063	0.084	NA	NA	0.061	NA	0.070	NA	NA					
	Jun-09	0.450	0.540	0.081	0.190	0.044	0.220	0.044	0.082	0.082	0.079			0.170		0.170							
	Dec-09	0.508	0.524	0.157	0.188	0.038	0.179	0.0634	0.0584	1.470	0.0763			0.175		0.0617			0.284	0.0572	0.336		
	Jul-10	0.430	0.538	0.110	0.203	0.042	0.244	0.0733	0.0499	0.875	0.0765			0.161		0.0776			0.273	0.0252	0.215		
	Dec-10	0.431	0.601	0.249	0.237	0.043	0.315	0.0441	0.0752	1.760	0.0844			0.164		0.1640			0.0773	0.0293	0.429	0.1210	0.1240
	Jun-11	0.460	0.563	0.259	0.200	0.045	0.205	0.0598	0.0684	0.738	0.0786			0.149		0.0701			0.0501	0.0225	0.114	0.11	0.116
	Dec-11	0.409	0.579	0.186	0.202	0.040	0.261	0.0415	0.0770	0.813	0.0780			0.149		0.067			0.113	0.0305	0.137	0.102	0.098
	May-12	0.426	0.586	0.201	0.190	0.042	0.222	0.0430	0.1030	0.824	0.0909			0.156		0.0712			0.0715	0.0347	0.192	0.119	0.119
	Nov-12	0.430	0.570	0.229	0.211	0.040	0.241	0.0421	0.1080	0.884	0.0919			0.192		0.0886			0.0638	0.034	0.406	0.0883	0.0883
	May-13	0.443	0.554	0.141	0.187	0.042	0.268	0.0664	0.1140	0.884	0.0937			0.138		0.0646			0.0467	0.0346	0.144	0.109	0.106
	Nov-13	0.398	0.585	0.245	0.185	0.044	0.382	0.1170	0.0913	0.806	0.131			0.149		0.120			0.0394	0.0259	0.349	0.0972	0.0982
	May-14	0.462	0.272	0.252	0.174	0.042	0.533	0.0411	0.1180	0.800	0.091			0.066		0.149			0.0354	0.0213	0.126	0.0663	0.0656
	Dec-14	0.397	0.383	0.169	0.160	0.034	0.424	0.0337	0.1230	1.040	0.087			0.164		0.083			0.163	0.0262	0.233	0.076	0.0734
	Jun-15	0.380	0.482	0.203	0.136	0.038	0.464	0.0599	0.1330	0.662	0.080			0.137		0.061			0.0289	0.021	0.257	0.0936	0.0903
	Dec-15	0.426	0.539	0.113	0.149	0.031	0.459	0.030	0.120	0.890	0.085			0.169		0.064			0.260	0.0363	0.131	0.096	0.094
	Jun-16	0.434	0.548	0.256	0.154	0.038	0.446	0.035	0.146	0.971	0.085			0.171		0.068			0.0494	<0.0200	0.0721	0.111	0.218
	Dec-16	0.402	0.478	0.149	0.140	0.030	0.414	0.032	0.188	0.061	0.120			0.219		0.147			0.0909	0.0263	0.299	0.076	0.078
	Jun-17	0.443	0.633	0.262	0.139	0.035	0.423	0.036	0.110	0.599	0.099			0.190		0.087			0.0292	0.0202	0.227	0.045	0.044
Chromium	Apr-00					0.013	0.018			0.007													
(mg/L)	Oct-00	0.005	0.005			0.006	0.013			0.007													
	May-01								0.026														
	Nov-01								0.008	0.008	0.007	0.025											
	May-02								0.015	0.010	0.019	0.011		0.013									
	Nov-02				0.005					0.010	0.017			0.006									
	Jun-04	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA					
	Nov-04	0.001	0.002	<0.001	0.002	<0.001	<0.001	0.001	<0.001	0.001	0.002	0.001	0.001	0.002	0.002	<0.001	NA	NA					
	Jun-05	0.002	0.002	0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.001	0.002	<0.001	0.002	<0.001	<0.001	<0.001	NA	NA					
	Sep-05	0.002	0.002	0.001	<0.001	<0.001	0.001	0.001	<0.001	0.002	0.002	<0.001	<0.001	0.001	<0.001	<0.001	NA	NA					

Table 4
Summary of Metal Analysis in Groundwater
Dillon County Landfill
Dillon Co., South Carolina
revised 7/3/17)

Metal	Sample Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	TMW-9D	TMW-16	MW-17	MW-18	MW-19	S-1	S-3
Chromium	Mar-06	0.001	0.002	<0.001	<0.001	0.002	<0.001	0.001	0.001	0.002	0.004	<0.001	0.002	0.002	0.002	0.002	NA	NA					
(mg/L)	Sep-06	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.003	<0.001	<0.001	0.001	0.002	<0.001	NA	NA					
(cont'd)	Mar-07	0.001	0.002	<0.001	<0.001	0.006	<0.001	<0.001	<0.001	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	NA	NA					
	Jan-08	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	<0.010	NA	<0.010	NA	NA					
MCL is	Aug-08	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	<0.010	NA	<0.010	NA	NA					
0.1 mg/L	Jun-09	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010			<0.010		<0.010							
	Dec-09	0.0105	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005		
	Jul-10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020			<0.020		<0.020			<0.020	<0.020	<0.020		
	Dec-10	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005	<0.005	<0.005
	Jun-11	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005	<0.005	<0.005
	Dec-11	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.0002	0.0010			<0.020		<0.020			<0.020	<0.020	<0.020	<0.020	<0.020
	May-12	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Nov-12	<0.0100	<0.0100	<0.0100	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	May-13	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Nov-13	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	May-14	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Dec-14	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Jun-15	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Dec-15	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Jun-16	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Dec-16	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Jun-17	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
Copper	Apr-00																						
(mg/L)	Oct-00																						
	May-01																						
Action	Nov-01								0.009		0.006												
Level is	May-02						0.007		0.009	0.007	0.013												
1.3 mg/L	Nov-02									0.012	0.018												
	Jun-04	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA					
	Nov-04	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	0.011	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA					
	Jun-05	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA					
	Sep-05	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA					
	Mar-06	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	NA	NA					
	Sep-06	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA					
	Mar-07	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA					
	Jan-08	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	<0.010	NA	<0.010	NA	NA					
	Aug-08	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	<0.010	NA	<0.010	NA	NA					
	Jun-09	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010			<0.010		<0.010							
	Dec-09	0.0102	<0.002	0.0024	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0024			<0.002		<0.002			0.0022	0.0048	<0.002		
	Jul-10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020			<0.020		<0.020			<0.020	<0.020	<0.020		
	Dec-10	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	0.0031			<0.002		<0.002			<0.002	<0.002	0.0033	<0.002	<0.002
	Jun-11	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0026			<0.002		<0.002			<0.002	<0.002	<0.002	0.0024	0.0025
	Dec-11	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.001	0.0026			<0.020		<0.020			<0.020	<0.020	<0.020	<0.020	<0.020
	May-12	<0.0200	<0.0200	<0.0200	<0.020	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Nov-12	<0.0200	<0.0200	<0.0200	<0.020	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	0.055	<0.0200	<0.0200
	May-13	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Nov-13	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	May-14	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Dec-14	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Jun-15	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Dec-15	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Jun-16	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Dec-16	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Jun-17	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
Lead	Apr-00					0.013	0.006	0.006	0.008	0.012			0.005	0.006									
(mg/L)	Oct-00	0.018	0.018	0.007		0.008	0.018	0.006	0.007	0.008				0.005									
	May-01			0.007		0.006		0.009	0.029	0.006													
Action	Nov-01	0.004	0.004		0.007			0.007	0.010	0.009	0.008			0.006	0.004								
Level is	May-02		0.005	0.005		0.004		0.010	0.016	0.012	0.014		0.006	0.007	0.005	0.006							
0.015 mg/L	Nov-02				0.007				0.011	0.014	0.016	0.004	0.004	0.006		0.007							
	Jun-04	0.005	0.021	0.006	0.004	0.005	0.002	0.017	0.004	0.006	0.005	0.004	0.005	0.008	0.003	0.004	NA	NA					
	Nov-04	0.003	0.008	0.076	0.003	0.003	0.002	0.008	0.003	0.003	0.003	0.004	0.004	0.007	0.003	0.007	NA	NA					
	Jun-05	0.004	0.014	0.067	0.003	0.004	<0.001	0.005	0.003	0.004	0.004	0.004	0.005	0.008	0.004	0.004	NA	NA					
	Sep-05	0.001	0.006	0.075	<0.001	0.003	<0.001	<0.001	0.007	0.003	0.004	0.003	0.002	0.007	0.001	0.002	NA	NA					
	Mar-06	<0.001	0.004	0.054	<0.001	0.002	<0.001	0.006	0.002	0.003	0.003	0.002	0.003	0.006	0.001	0.002	NA	NA					
	Sep-06	<0.001	0.002	0.056	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	0.001	<0.001	<0.001	0.008	<0.001	<0.001	NA	NA					
	Mar-07	0.021	0.004	0.017	0.002	0.008	<0.001	0.006	0.002	0.003	0.003	0.002	0.002	0.008	<0.001	0.002	NA	NA					
	Jan-08	<0.015	0.0032B	0.060	<0.015	<0.015	<0.015	0.0083B	<0.015	<0.015	<0.015	NA	NA	0.0072B	NA	<0.015	NA	NA					
	Aug-08	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	NA	NA	<0.015	NA	<0.015	NA	NA					
	Jun-09	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015			<0.015		<0.015							
	Dec-09	0.0699	<0.001	<0.001	<0.001	<0.001	<0.001	0.0015	0.0013	<0.001	0.0015			0.0067		0.0011			0.0041	0.0016	0.0011		
	Jul-10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010			<0.010		<0.010			<0.010	<0.010	<0.010		
	Dec-10	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.0010	0.0018	0.003	0.0015			0.006		0.0066			0.00158	<0.001	0.00538	<0.001	<0.001
	Jun-11	<.0001	0.002	0.004	<.0001	0.002	<.0001	0.0012	<.0001	<.0001	0.0014			0.006		0.0013			0.00121	<.0001	<.0001	0.0029	0.0031
	Dec-11	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0013			<0.010		<0.010			<0.010	<0.010	<0.010	<0.010	<0.010

Table 4
Summary of Metal Analysis in Groundwater
Dillon County Landfill
Dillon Co., South Carolina
revised 7/3/17)

Metal	Sample Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	TMW-9D	TMW-16	MW-17	MW-18	MW-19	S-1	S-3
Lead	May-12	<0.0100	<0.0400	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
(cont'd)	Nov-12	<0.0150	<0.0150	<0.0150	<0.015	<0.0150	<0.0150	0.015	<0.0150	<0.0150	<0.0150			<0.0150		<0.0150			<0.0150	<0.0150	<0.0150	<0.0150	<0.0150
	May-13	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Nov-13	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	May-14	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Dec-14	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Jun-15	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Dec-15	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Jun-16	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Dec-16	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	Ju-17	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Mercury	Jun-04		0.00088				<0.0002	<0.0002	0.00091	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	NA					
mg/L	Nov-04		<0.0002				<0.0002	<0.0002	0.00053	<0.0002	0.00033	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	NA					
	Jun-05		<0.0002				<0.0002	<0.0002	0.00150	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	NA					
	Sep-05		0.0002				<0.0002	<0.0002	0.00055	<0.0002	0.00026	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	NA					
	Mar-06		<0.0002				<0.0002	<0.0002	0.00085	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	NA					
	Sep-06		<0.0002				<0.0002	<0.0002	0.00045	<0.0002	<0.0002	<0.0002	<0.0002	0.00046	0.00021	<0.0002	NA	NA					
	Mar-07	NA	<0.0002	NA	NA	NA	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	NA					
	Jan-08	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0010	<0.0002	NA	NA	0.00009B	NA	<0.0002	NA	NA					
	Aug-08	NA	<0.0002	NA	NA	NA	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	NA	<0.0002	NA	<0.0002	NA	NA					
	Jun-09	NA	<0.0002	NA	NA	NA	<0.0002	NA	NA	NA	NA			NA		<0.0002							
	Dec-09	NA	<0.0002	NA	NA	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002	0.00035	0.00032		
	Jul-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA		NA			NA	NA	NA		
	Dec-10	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Jun-11	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Dec-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA		NA			NA	NA	NA	NA	NA
	May-12	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	Nov-12	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	May-13	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	Nov-13	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	May-14	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	Dec-14	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	Jun-15	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	Dec-15	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	Jun-16	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	Dec-16	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
	Jun-17	--	--	--	--	--	--	--	--	--	--			--		--			--	--	--	--	--
Selenium	Apr-00	0.007																					
(mg/L)	Oct-00	0.010		0.007			0.005																
	May-01			0.007																			
MCL is	Nov-01																						
0.05 mg/L	May-02		0.006																				
	Nov-02	0.014	0.011	0.008																			
	Jun-04	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Nov-04	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Jun-05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Sep-05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Mar-06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Sep-06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Mar-07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA					
	Jan-08	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	NA	NA	<0.040	NA	<0.040	NA	NA					
	Aug-08	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	NA	NA	<0.040	NA	<0.040	NA	NA					
	Jun-09	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040			<0.040		<0.040							
	Dec-09	<0.005	0.0088	0.0062	0.0053	<0.005	<0.005	<0.005	<0.005	0.0077	<0.005			<0.005		<0.005			0.0068	<0.005	<0.005		
	Jul-10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050			<0.050		<0.050			<0.050	<0.050	<0.050		
	Dec-10	<0.005	<0.005	0.007	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005	<0.005	<0.005
	Jun-11	<0.005	<0.005	0.009	0.006	<0.005	0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005	<0.005	<0.005
	Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.006	0.0020			<0.050		<0.050			<0.050	<0.050	<0.050	<0.050	<0.050
	May-12	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.00500
	Nov-12	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	May-13	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Nov-13	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	May-14	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Dec-14	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Jun-15	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Dec-15	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Jun-16	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Dec-16	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Jun-17	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Vanadium	Apr-00			0.005		0.019	0.023		0.016	0.010	0.006				0.013								
(mg/L)	Oct-00					0.013	0.014		0.009	0.012	0.006				0.009								
	May-01	0.006				0.007		0.012	0.125	0.005	0.007												
	Nov-01																						
	May-02								0.060														
	Nov-02																						
	Jun-04	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA					
	Nov-04	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA					
	Jun-05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA					
	Sep-05	<0.005	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA					

Table 4
Summary of Metal Analysis in Groundwater
Dillon County Landfill
Dillon Co., South Carolina
revised 7/3/17)

Metal	Sample Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	TMW-9D	TMW-16	MW-17	MW-18	MW-19	S-1	S-3
Vanadium (cont'd)	Mar-06	<0.005	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA					
	Sep-06	0.061	0.066	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.062	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA					
	Mar-07	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.065	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA					
	Jan-08	<0.020	0.0042B	<0.020	<0.020	<0.020	0.0021B	0.011B	0.0017B	0.0018B	0.0018B	NA	NA	<0.020	NA	<0.020	NA	NA					
	Aug-08	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NA	NA	<0.020	NA	<0.020	NA	NA					
	Jun-09	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020			<0.020		<0.020							
	Dec-09	0.0303	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005		
	Jul-10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050			<0.050		<0.050			<0.050	<0.050	<0.050		
	Dec-10	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005	<0.005	<0.005
	Jun-11	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005		<0.005			<0.005	<0.005	<0.005	<0.005	<0.005
	Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.0005	0.0002			<0.050		<0.050			<0.050	<0.050	<0.050	<0.050	<0.050
	May-12	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Nov-12	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	May-13	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Nov-13	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	May-14	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Dec-14	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Jun-15	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Dec-15	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Jun-16	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Dec-16	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
	Jun-17	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500			<0.0500		<0.0500			<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Zinc (mg/L)	Apr-00	0.018	0.020	0.007	0.015	0.037	0.096	0.008	0.014	0.015	0.010	0.013	0.022	0.032	0.016	0.017							
	Oct-00		0.012			0.018	0.046	0.013		0.018	0.023		0.010										
	May-01		0.011			0.016	0.015	0.026	0.009		0.008		0.006		0.011								
	Nov-01								0.022														
Secondary is 5 mg/L	May-02					0.042	0.035			0.039													
	Nov-02																						
	Jun-04	<0.010	0.028	<0.010	<0.010	0.012	0.016	<0.010	<0.010	<0.010	<0.010	<0.010	0.016	0.011	<0.010	<0.010	NA	NA					
	Nov-04	0.012	0.018	<0.010	<0.010	0.011	0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA					
	Jun-05	0.032	0.032	<0.010	0.016	0.014	0.017	<0.010	<0.010	<0.010	0.015	0.011	0.014	0.013	0.014	<0.010	NA	NA					
	Sep-05	0.010	0.016	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	0.010	<0.010	NA	NA					
	Mar-06	0.020	0.030	0.013	0.017	0.034	0.023	0.014	<0.010	0.013	0.016	0.011	0.016	<0.010	<0.010	<0.010	NA	NA					
	Sep-06	0.016	0.017	0.013	0.016	<0.010	<0.010	<0.010	<0.010	0.011	0.014	0.010	0.019	0.012	0.010	<0.010	NA	NA					
	Mar-07	<0.010	<0.010	<0.010	<0.010	0.014	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA					
	Jan-08	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.013B	NA	NA	0.0088B	NA	<0.020	NA	NA					
	Aug-08	<0.020	<0.020	<0.020	<0.020	0.023	<0.020	<0.020	<0.020	<0.020	<0.020	NA	NA	<0.020	NA	<0.020	NA	NA					
	Jun-09	<0.020	<0.020	<0.020	<0.020	0.077	<0.020	0.052	<0.020	<0.020	<0.020			<0.020		<0.020							
	Dec-09	0.0379	<0.010	<0.010	<0.010	0.0617	<0.010	<0.010	<0.010	<0.010	<0.010			<0.010		<0.010			<0.010	0.0182	<0.010		
	Jul-10	<0.020	<0.020	0.030	<0.020	0.0334	0.058	<0.020	<0.020	<0.020	<0.020			<0.020		<0.020			<0.020	<0.020	<0.020		
	Dec-10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010			<0.010		<0.010			<0.010	<0.010	<0.010	<0.010	<0.010
	Jun-11	<0.010	<0.010	<0.010	<0.010	0.034	<0.010	<0.010	<0.010	0.015	<0.010			<0.010		<0.010			<0.010	<0.010	<0.010	0.0236	0.0260
	Dec-11	<0.020	<0.020	<0.020	<0.020	0.022	<0.020	0.0220	<0.020	0.003	0.0058			<0.020		<0.020			<0.020	<0.020	<0.020	0.0210	<0.020
	May-12	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	0.0294	0.0303
	Nov-12	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	0.037	<0.0200	<0.0200
	May-13	<0.0200	<0.0200	<0.0200	<0.0200	0.025	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	0.0307	0.0321
	Nov-13	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	May-14	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	0.021	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	0.0436	0.0424
	Dec-14	<0.0200	<0.0200	<0.0200	<0.0200	0.020	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Jun-15	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
	Dec-15	0.087	<0.0200	<0.0200	0.023	0.025	0.024	0.032	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	0.0454	0.0539
	Jun-16	<0.0200	<0.0200	<0.0200	<0.0200	0.020	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	0.022	0.0267	<0.0200
	Dec-16	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	0.0518	0.0617
	Jun-17	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200			<0.0200		<0.0200			<0.0200	<0.0200	<0.0200	0.0220	0.0210

mg/L=milligrams per liter
NA=Not Analyzed
B=Qualifier indicating the result is betweem the reporting detection limit (RDL) and th method detection limit (MDL)

NOTES:
Analytical data from 2003 was not available for review.

Table 5
Summary of Methane Readings
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

	Methane (PPM)														
Date	GMP-1	GMP-2	GMP-3	GMP-4	GMP-5	GMP-6	GMP-7	GMP-7A	GMP-8	GMP-8A	GMP-9	GMP-9A	GMP-10	GMP-11	GMP-12
6/6/1998	0	0	0	0	0	10.4	6	---	8.3	---	9.4	---	0	0	0
9/10/1998	0	0	0	0	0	12.2	6.6	---	11.4	---	13.8	---	0	0	0
2/9/2000	0	0	0	0	0	42	69	---	75	---	76	---	0	0	0
4/18/2000	0	0	0	0	0	64	---	70	---	2.4	---	71	0	0	0
8/8/2000	0	0	0	0	0	44	---	41	---	48	---	46	0	0	0
10/4/2000	0	0	0	0	0	5.6	---	10.7	---	12.4	---	14.8	0	0	0
1/23/2001	0	0	0	0	0	15	---	0	---	0	---	5	0	0	0
5/7/2001	0	0	0	0	0	0	---	0	---	0	---	22	0	0	0
7/30/2001	0	0.3	0	0	0	0	---	0	---	0	---	0	0	0	0
10/25/2001	0	0	0	0	0	0	---	0	---	0	---	4	0	0	0
2/21/2002	0	0	0	0	0	17	---	0	---	0	---	12	0	0	0
6/18/2002	0	0	0	0	0	0	---	0	---	0	---	0	0	0	0
7/6/2002	0	0	0	0	0	0	---	0	---	0	---	0	0	0	0
10/16/2002	0	0	0	0	0	5	---	0	---	0	---	11	0	0	0
6/28/2004	0.25	0	0.4	---	1.8	0.25	---	0	---	5	---	0	0	0	0
9/17/2004	0	0	5	---	2.8	0	---	---	---	5	---	5	0	0	0
12/13/2004	0	0	0	---	1	0.3	---	---	---	5	---	5	0	0	0
3/21/2005	0	0	0	---	0	0	---	---	---	>5	---	0.6	0	0.75	0
6/21/2005	0	0	0	---	0	0	---	---	---	0.15	---	0.2	0	0	0
9/26/2005	0	0	0	---	0	0.15	---	---	---	0.15	---	0	0	0	0
11/9/2005	0	0	0	---	0	1.95	---	---	---	2.5	---	0	0	0	0
3/10/2006	0	0	0	---	0	0.2	---	---	---	2.5	---	2.5	0	0	0
5/26/2006	0	0.1	0	---	0	0	---	---	---	0	---	2.5	0	0	0
8/25/2006	0	0.1	0	---	0.1	2.5	---	---	---	2.5	---	2.5	0	0	0
11/17/2006	0.15	0.1	0.2	---	0	0.1	---	---	---	2.5	---	0	0	0.15	0
2/23/2007	0.1	0	0	---	0	0	---	---	---	0.1	---	5	0.15	0.1	0
5/25/2007	0	0	0	---	0	0.3	---	---	---	1.1	---	>5	0.15	0	0

Table 5
Summary of Methane Readings
Dillon County Landfill
Dillon Co., South Carolina
revised (6/26/17)

Date	GMP-1	GMP-2	GMP-3	GMP-4	GMP-5	GMP-6	GMP-7	GMP-7A	GMP-8	GMP-8A	GMP-9	GMP-9A	GMP-10	GMP-11	GMP-12
							Methane (PPM)								
							Methane (%)								
1/9/2008	0.3	0.3	0.3	---	0.3	2.7	---	4.3	---	35.4	---	55.2	0.3	0.4	0.3
8/26/2008	0	0	0	---	0	0	1.2	---	---	8.2	---	7.1	0	0	0
6/15/2009	0	0	0	---	0	0	1.6	---	---	7.9	---	6.8	0	0	0
12/18/2009	0	0	0	---	0	0	18.8	---	---	1.4	---	0.4	0	0	0
4/28/2010	0	0.1	0	---	0	0	3.8	---	---	3.1	---	41.8	0.3	0.2	0.1
7/21/2010	0	0.4	0	---	0	0	4.1	---	---	3.6	---	42.4	0.1	0.4	0.2
8/31/2010	0	0	0	---	0	0.1	0.8	---	---	0.4	---	43.9	0.5	0.5	0.4
12/21/2010	0	0	0	---	0	0	1.1	---	---	7.1	---	6.9	0	0	0
2/24/2011	0.5	0.5	0.4	---	0	0	5.4	---	---	19.2	---	1.8	0.4	0.4	0.4
6/20/2011	0	0	0	---	0	0	0.9	---	---	6.9	---	6.1	0	0	0
12/14/2011	0	0	0	---	0	0	0.9	---	---	6.8	---	6.6	0	0	0
2/17/2012	0	0	0	---	0	0	2.6	---	---	9.2	---	37.5	0	0	0
5/14/2012	0	0	0	---	0	0	0.8	---	---	6.9	---	6.4	0	0	0
8/22/2012	0.3	0.3	0.3	---	0.4	1.1	2.2	---	---	0.2	---	16.2	0.3	0.3	0.3
11/26/2012	0	0	0	--	0	0	0.7	--	--	6.8	--	6.6	0	0	0
2/19/2013	0	0	0.1	---	0	0	25.2	---	---	34.4	---	43.5	0	0	0
5/10/2013	0	0	0	---	0	0	19.1	---	---	35.2	---	34.5	0	0	0
							% LEL Methane								
8/12/2013	0	0	0	---	0	0	0	---	---	30	---	>90	0	>90	0
11/22/2013	0	0	0	---	0	0	1	---	---	2	---	70	1	0	0
2/21/2014	0	0	0	---	0	0	>50	---	---	>50	---	>50	0	0	0
5/16/2014	0	0	0	---	0	0	>50	---	---	8	---	>50	0	0	0
8/22/2014	0	0	0	---	0	0	57	---	---	0	---	>99	0	0	0
12/9/2014	0	0	0	---	0	0	>50	---	---	7	---	>50	0	0	0
3/6/2015	0	0	0	---	0	0	9	---	---	0	---	6	0	0	0
6/9/2015	0	27	0	---	0	0	>100	---	---	0	---	>100	0	0	0
8/28/2015	0	29	0	---	0	0	>100	---	---	0	---	>100	0	0	0
12/30/2015	0	0	0	---	0	0	>100	---	---	>100	---	93	0	0	0
3/25/2016	0	0	0	---	0	0	22	---	---	>90	---	>90	4	2	0
6/14/2016	0	1	0	---	0	0	>80	---	---	>80	---	>80	0	1	0
12/7/2016	0	0	0	---	0	0	>100	---	---	>100	---	92	0	0	0
3/30/2017	0	0	0	---	0	0	>50	---	---	>50	---	>50	0	0	0
6/21/2017	0	0	0	---	0	0	8.5	---	---	>50	---	>50	0	0	0

GMPs 8, and 9 were replaced by GMPs 8A, and 9A after 4/5/2000 and now serve as gas vents (GV-7, 8, and 9).

Table 6
Summary of Occurence and Selection of Parameters for Statistical Analysis
Dillon County Landfill
Dillon County., South Carolina
Revised (07/03/2017)

Analyte	(units)	Federal MCL		Range of Detects in On-Site Wells [a] (Dec 2016 and June 2017 Sampling)	Included in the Statistical Analysis? (**YES** / no) [b]	Historical Range of Detects (Apr 2000 – June 2017) Site Monitoring Wells [a]	Historical Range of Detects (Apr 2000 – June 2017) MW-13 (Upgradient Well)
Antimony	(µg/L)	6		ND (<6)	no	—	—
Arsenic	(µg/L)	10		ND (<10)	no	5.0 – 14	—
Barium	(µg/L)	2,000		26 - 971	**YES**	41 – 1760	61 – 200
Beryllium	(µg/L)	4		ND (<4)	no	—	—
Cadmium	(µg/L)	5		ND (<5)	no	—	—
Chromium	(µg/L)	100		ND (<20)	no	1.0 – 26	1.0 – 13
Cobalt	(µg/L)	NA (11)	[c]	ND (<50)	no	—	—
Copper	(µg/L)	1,300		ND (<20)	no	6.0 – 18	—
Lead	(µg/L)	15		ND(<10)	no	1.0 – 76	5.0 – 8.0
Mercury	(µg/L)	2		—	no	0.26 – 1.5	0.09 [d] – 0.46
Nickel	(µg/L)	NA (730)	[c]	ND<40	no	—	—
Selenium	(µg/L)	50		ND (<50)	no	6.0 – 14	ND
Silver	(µg/L)	100	SMCL	ND (<5)	no	—	—
Thallium	(µg/L)	2		ND (<2)	no	—	—
Tin	(µg/L)	NA (22,000)	[c]	—	no	—	—
Vanadium	(µg/L)	NA (260)	[c]	ND(<50)	no	1.7 [d] – 125	ND
Zinc	(µg/L)	5,000	SMCL	87(<20)	**YES**	7.0 – 95.6	8.8 [d] – 32
pH	(s.u.)	6.5 - 8.5	SMCL	4 - 6.5	**YES**	3.0 – 6.9	2.5 – 5.8
Specific Conductance	(µmhos)	NA		26 - 1410	**YES**	1 – 15,460	66 – 238

[a] Site monitoring wells include MW-1 through MW-10 and MW-15, MW-17 through MW-19 (excluding the background well MW-13).
[b] The statistical analysis is performed for all of the listed analytes that were detected in the Nov 2012 and May 2013 sampling events.
[c] The Federal MCL is not available (NA). The USEPA (May 19, 2009) Regional Screening Level for residential tap water is provided to indicate that the detection limit is adequate for the protection of human health.
[d] Result is between the reporting detection limit (RDL) and method detection limit (MDL)

µg/L	Micrograms per liter.	ND	Not detected at the indicated detection limit.
µmhos	Micromhos.	SMCL	Secondary MCL.
MCL	Federal Maximum Contaminant Level.	s.u.	Standard units.
NA	Not available.		

Table 7
Summary of Conclusions of the Statistical Analysis
Dillon County Landfill
Dillon County, South Carolina
(Revised 07/03/2017)

Monitor Well	Parameter of Interest								
	Arsenic	Barium	Copper	Lead	Selenium	Vanadium	Zinc	pH	SpCond
MW-1	> >	> >						> >	> >
MW-2	> >	> >						> >	> >
MW-3					> >			> >	
MW-4				< <				> >	
MW-5		< <					>>	> >	< <
MW-6				< <				> >	> >
MW-7								>>	
MW-8								>>	
MW-9		> >						> >	>>
MW-10								> >	< <
MW-15									
MW-17								>>	
MW-18		< <		< <				> >	< <
MW-19								> >	

The specified alpha (a) (significance level, or Type I level) for the statistical tests is 0.05.

> > Parameter is significantly higher than background (upgradient well MW-13).
< < Parameter is significantly lower than background (upgradient well MW-13).

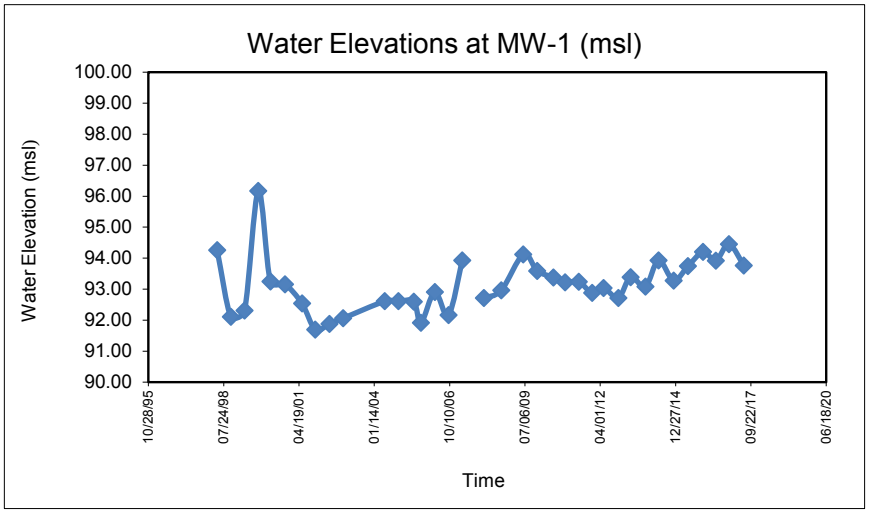
SpCond Specific conductance.

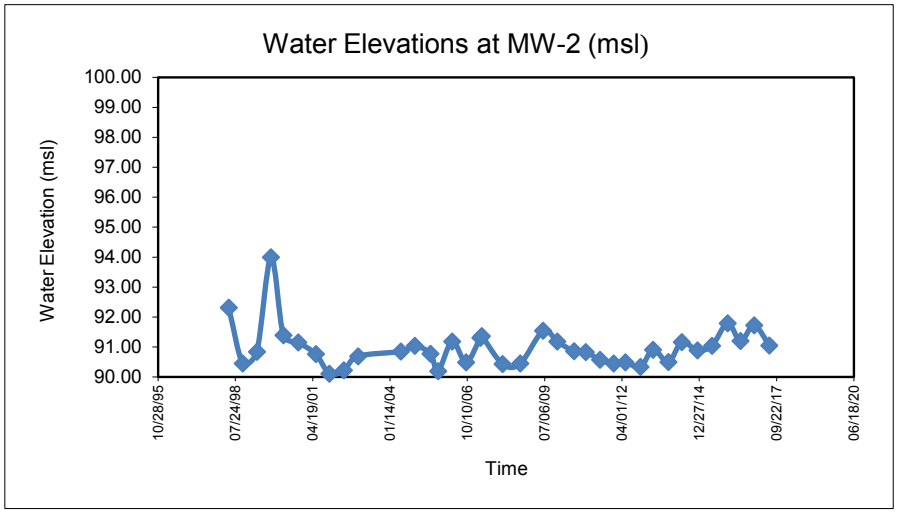
APPENDIX B

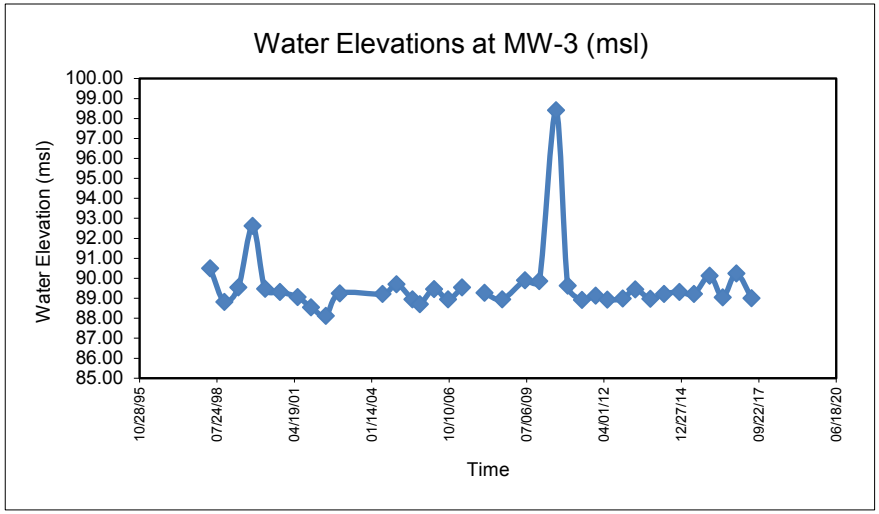
Appendix B Groundwater Monitoring

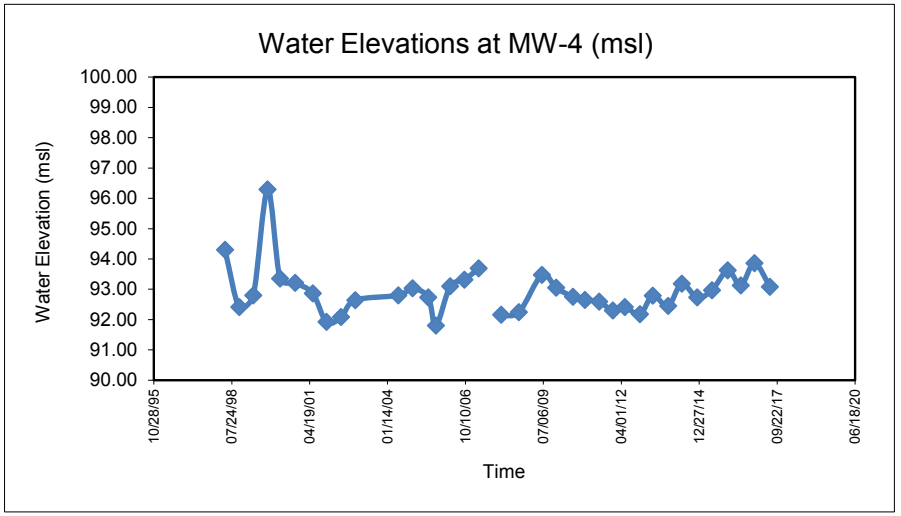
B.2 Hydrographs

Appendix A. Water-Level Elevations in Monitor Wells
Dillon County Landfill

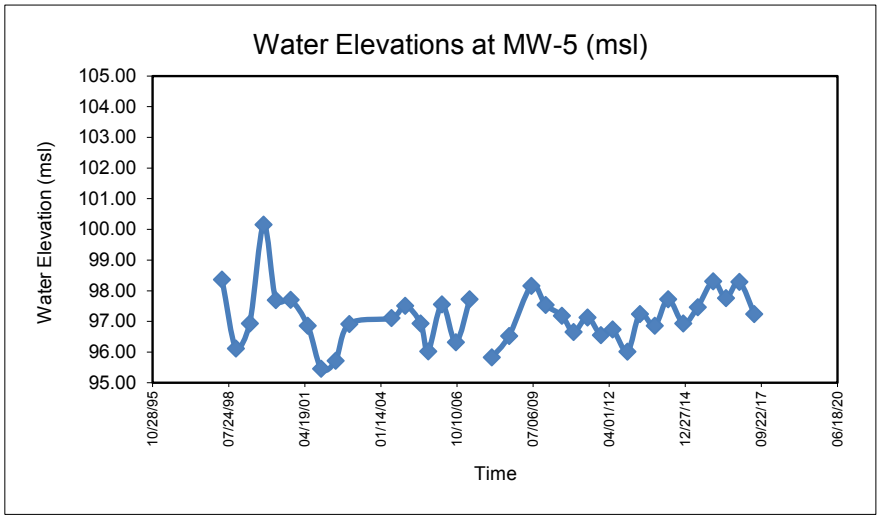


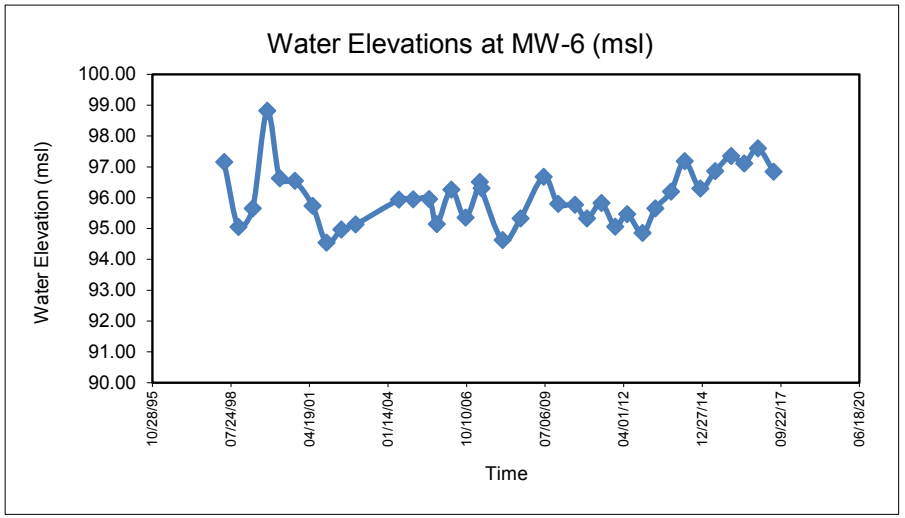


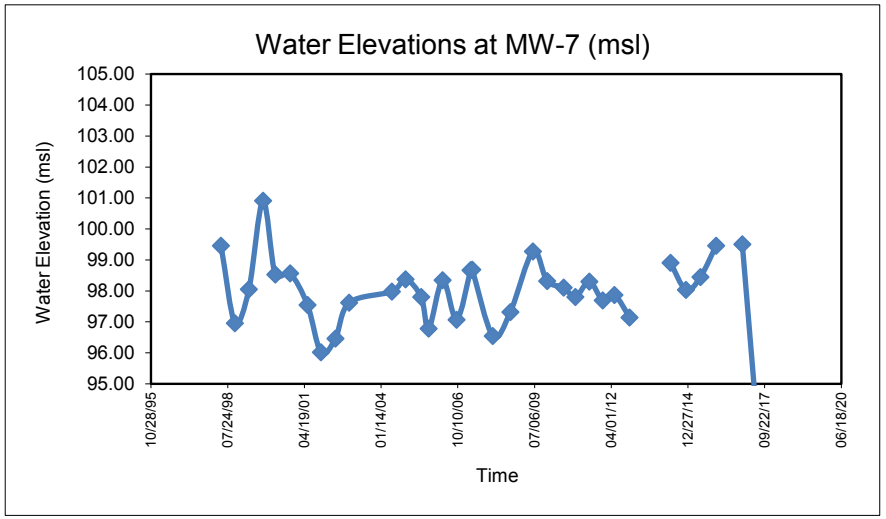


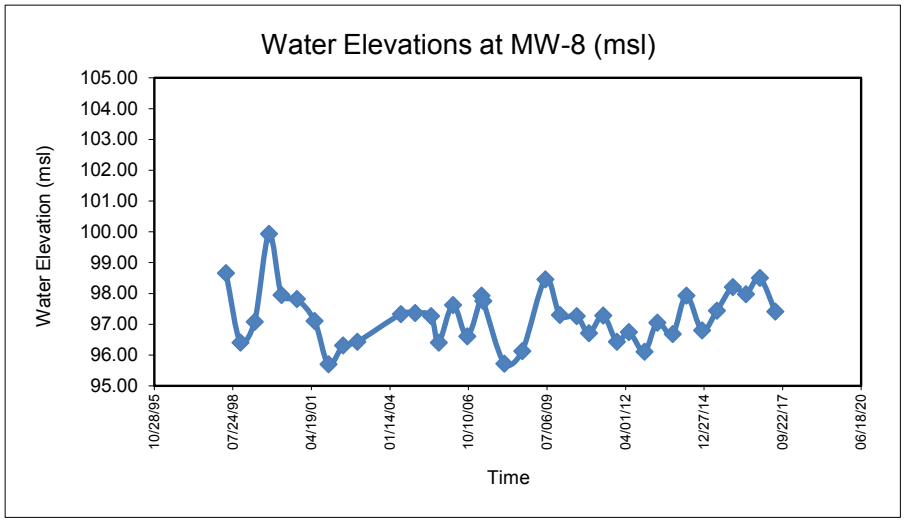


Appendix A. Water-Level Elevations in Monitor Wells
Dillon County Landfill

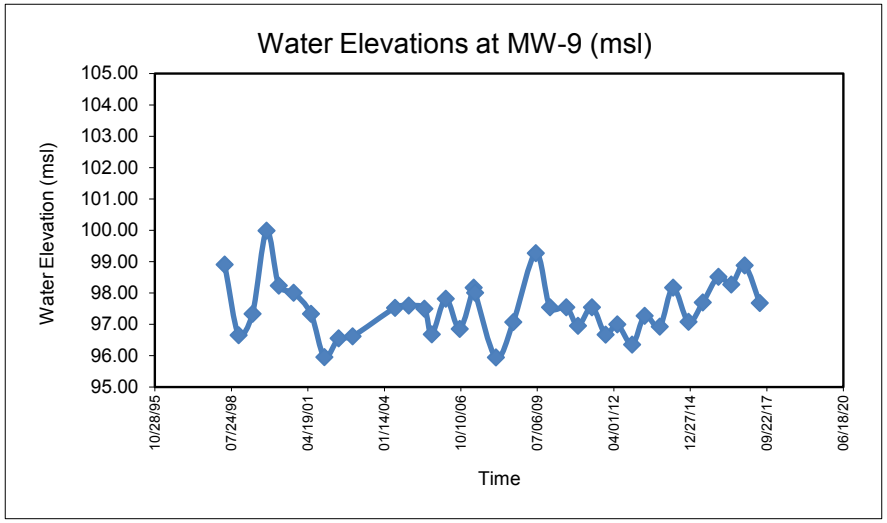


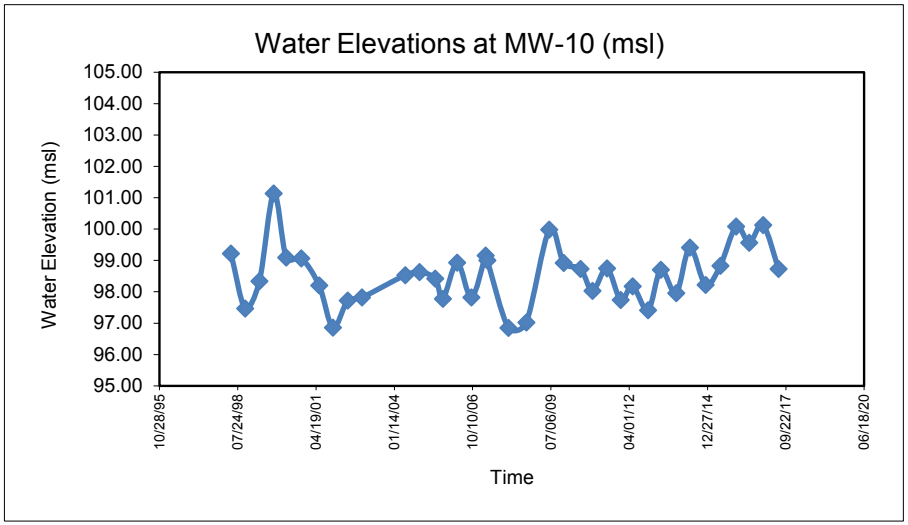


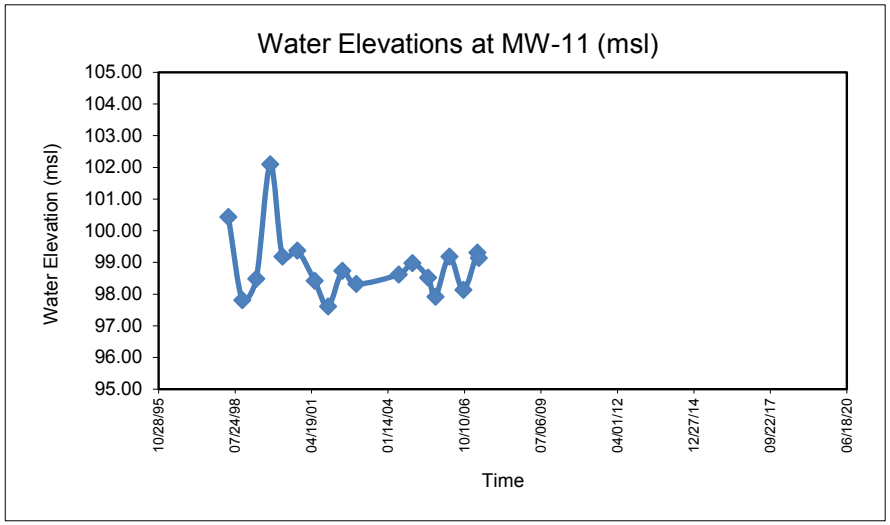


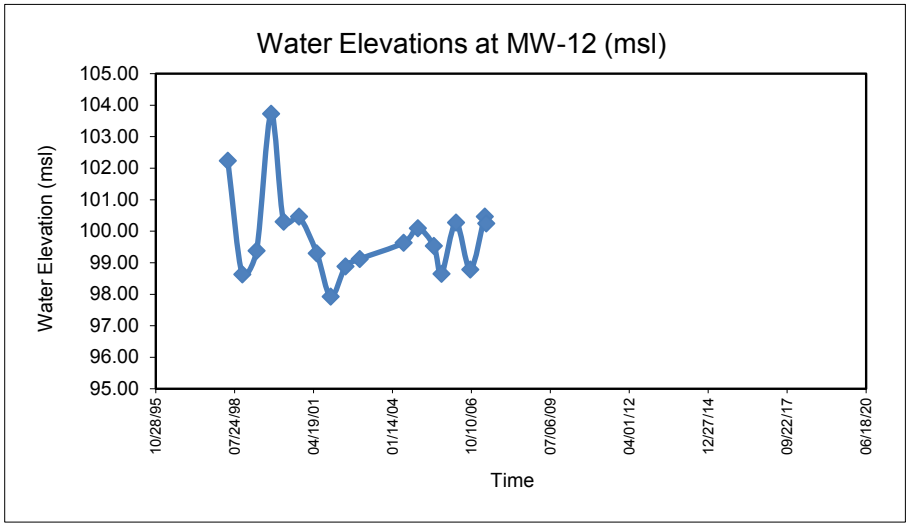


Appendix A. Water-Level Elevations in Monitor Wells
Dillon County Landfill

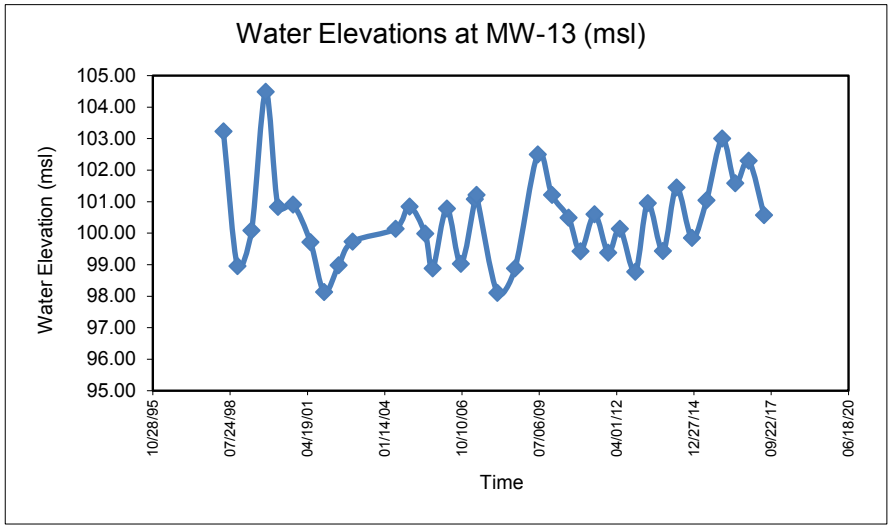


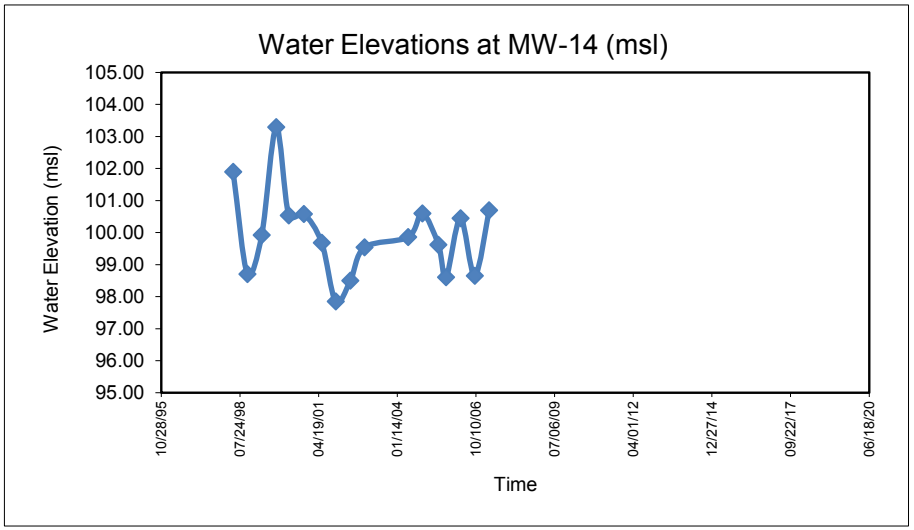


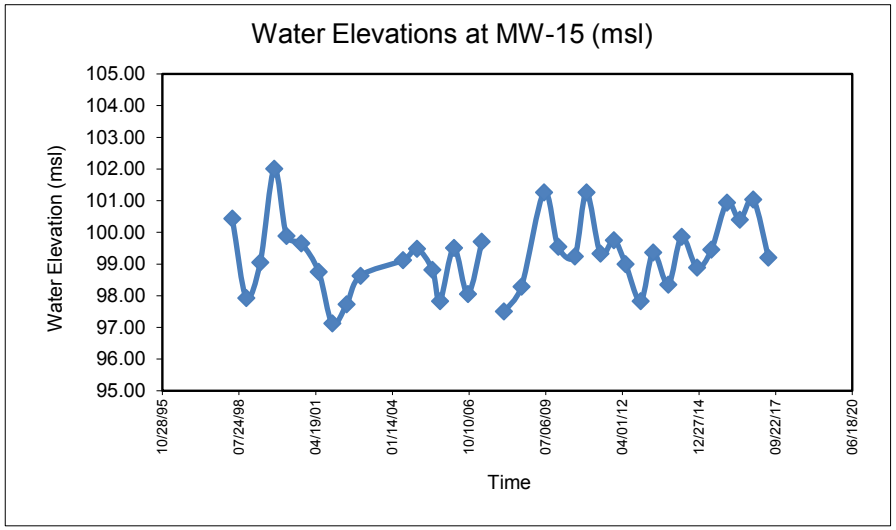


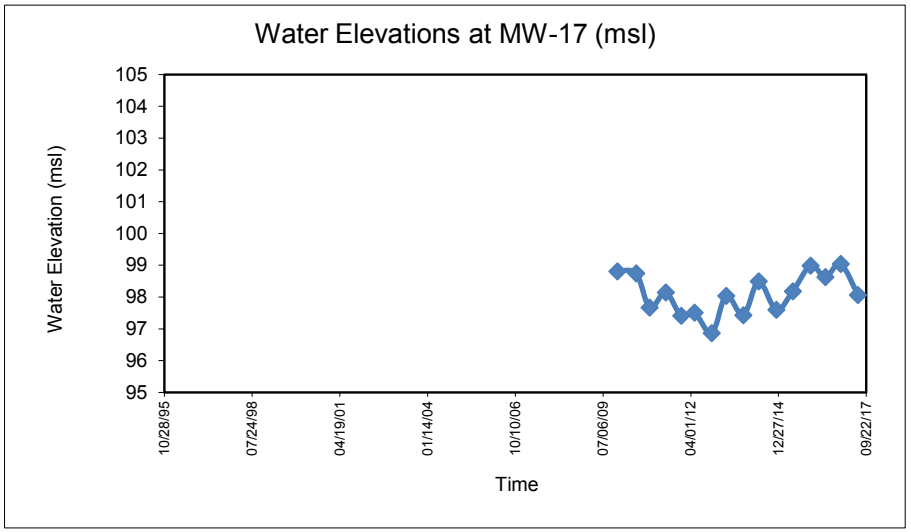


Appendix A. Water-Level Elevations in Monitor Wells
Dillon County Landfill

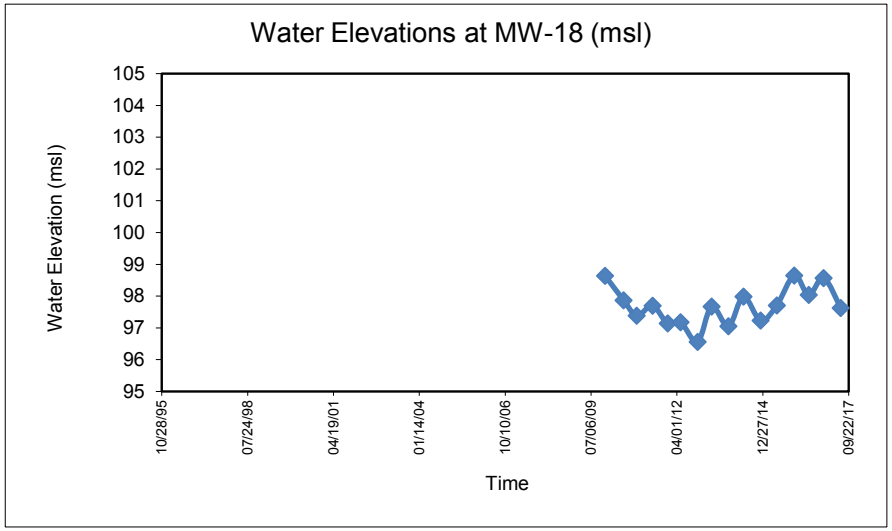


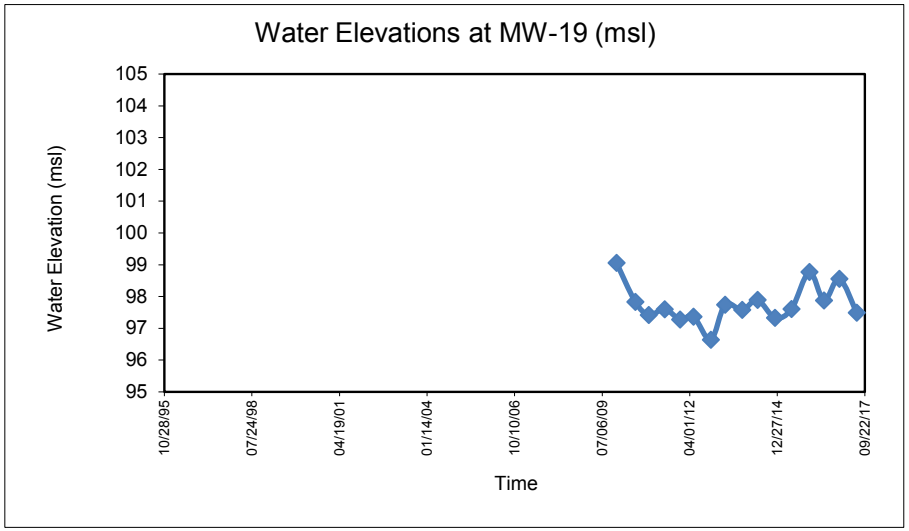






Appendix A. Water-Level Elevations in Monitor Wells
Dillon County Landfill





APPENDIX C

Borrow Pit

Thomas, Paul R.

From: sabdolpour@oasis-cs.com
Sent: Tuesday, August 03, 2010 11:30 AM
To: Thomas, Paul R.
Cc: Sparkman, Jon; Rad, Majid
Subject: Dillon Co. closure sample results
Attachments: img-100803151639.pdf

Paul,

Attached are copies of results for samples collected from Dillon co. CB-01 and 02 were collected from landfill stockpile and CB-07,08 and 09 were taken from River Rd, farmland and future pond location.Have you decided about rest of the samples at the lab?Please let me know if there is any question.

Regards,

Saeed Abdolpour
Field Manager
Oasis Construction Services
Phone Number:(678)739-2400
Cell Number: (678)662-3380
Email Address: sabdolpour@oasis-cs.com

ARCADIS

SUBJECT:

JOB NO:

BY: DATE:

CHKD: DATE:

PAGE

SHEET 1

Landfill Stockpile	Proctor Comp.	Hyd. Cond (k)
CB-01	120.1 pcf	2.4 E-6 cm/s
CB-02	123.8 pcf	9.7 E-6 cm/s

River Road Pond Site		
CB-07	115.2 pcf	6.6 E-6 cm/s
CB-08	103.8 pcf	5.7 E-8 cm/s
CB-09	108.3 pcf	5.6 E-8 cm/s

1×10^{-6} 1×10^{-5} 5×10^{-5}

.000001 < .00001 < .00005

Slower Faster

AGM Form 30 12-01

Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

To: Saeed Abdolpour ✓

Firm: Oasis Construction Services, Inc.
Fax No.: (404) 212 7631 ✓

From: Nader S. Rad

Subject: *Dillon County LF Closure*

Cover Page plus **15** **page(s)**

Message:

Test results for the Samples CB-01, CB-02, CB-07, CB-08 and CB-09 are attached. **Please check the Project Name to make sure it is correct.**

Please do not hesitate to call to discuss the test results, or should you require additional information.

Nader

Sent by: NSR **Date:** 8/2/10 **Time:** 10:30

Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

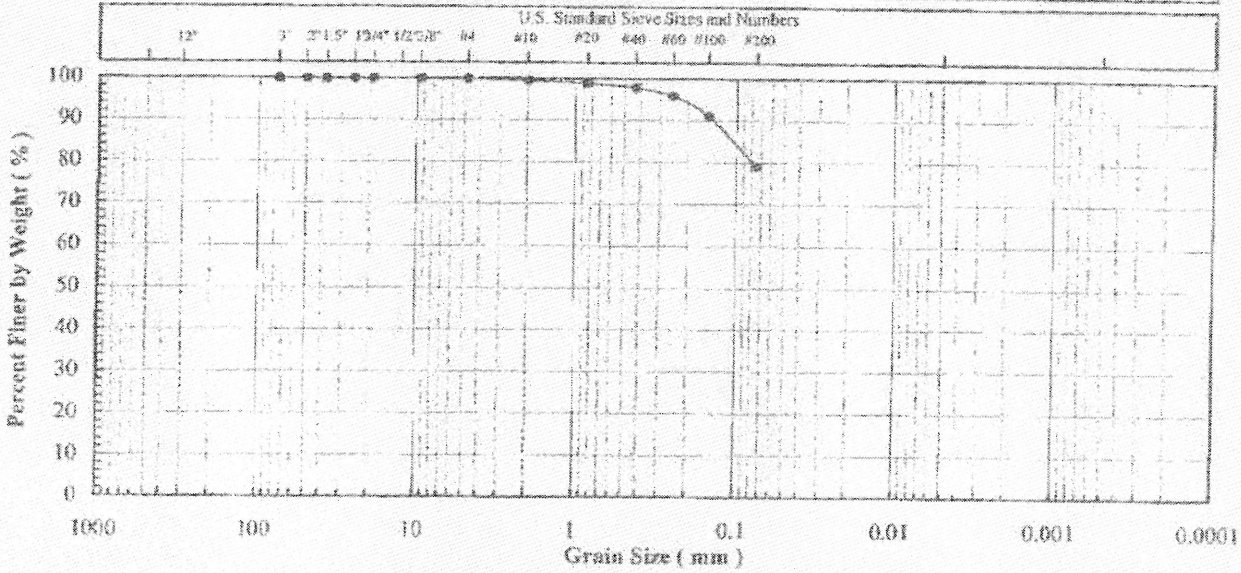
Project Name:	Dillon County LF Closure
Project No:	436
Client Sample ID:	CB-09
Lab Sample No:	G070

ASTM C136, D422, D854, D1140, D2216, D2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits

Boulder	Cobbles	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
		Gravel		Sand			Fines	



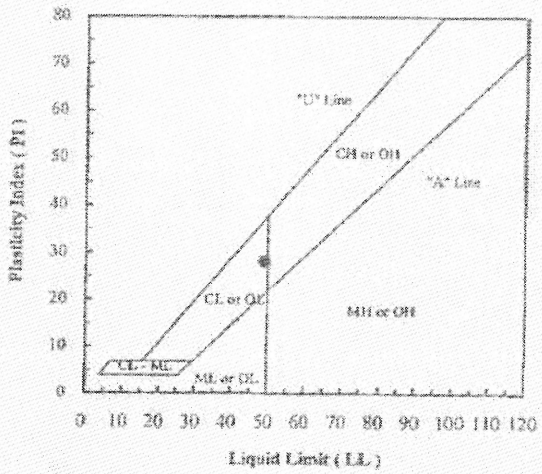
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.6
#20	0.850	99.0
#40	0.425	97.9
#60	0.250	96.0
#100	0.150	91.2
#200	0.075	79.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	20.8
Fines (%):	79.2
Silt (%):	
Clay (%):	

Specific Gravity (-):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
CB-09	G070	18.9	79.2	49	21	28	CL - Lean clay with sand

Note(s):

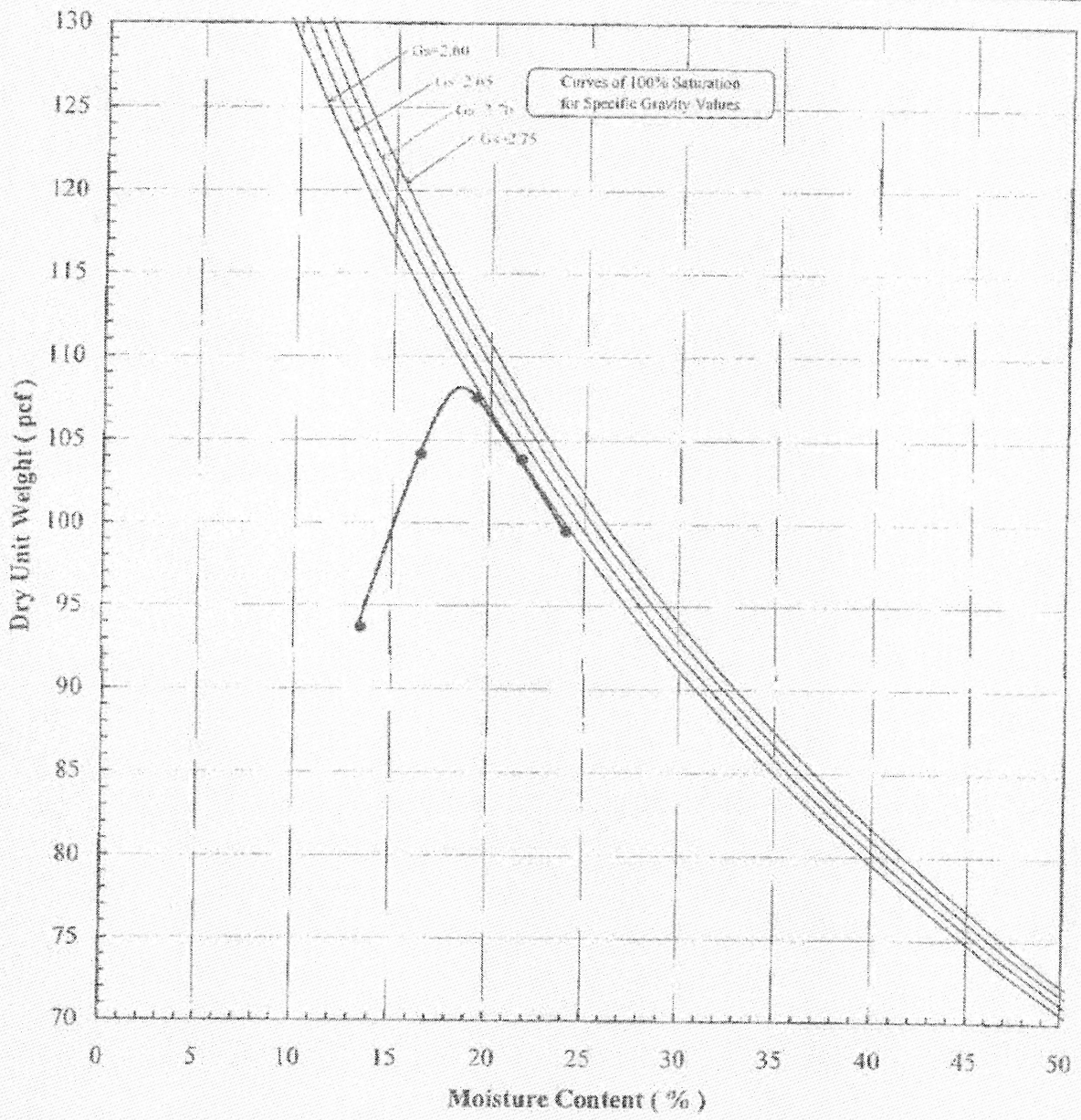
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name: Dillon County LF Closure
Project No: 436
Client Sample ID: CB-09
Lab Sample No: G070

ASTM D 698

COMPACTION MOISTURE-DENSITY RELATIONSHIP

Standard - Method B



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Remarks
CB-09	G070	108.3	18.4	

Note(s):

Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

FLEXIBLE WALL PERMEABILITY TEST (1)

ASTM D5084 *

Project Name:	Dillon County LF closure
Project Number:	436
Client Name:	Oasis Construction Services
Site Sample ID:	CB-09
Lab Sample Number:	G070
Material Type:	Soil
Specified Value (cm/sec):	NA
Date Test Started:	7/28/2010

Remolded Specimen	Proctor (5) Compaction		Specimen Initial Conditions (6)		Test Conditions					Hydraulic Conductivity
	Max. DUW	Opt. MC	Dry Unit Weight	Moisture Content	Cell Press.	Back Press.	Consolid. Press.	Permeant Liquid (7)	Average Gradient	
(-)	(pcf)	(%)	(pcf)	(%)	(psi)	(psi)	(psi)	(-)	(-)	(cm/s)
Notes 2 , 3 & 4	108.3	18.4	102.7	21.2	75.0	70.0	5.0	DTW	14	5.6E-8

Notes:

1. Method C, "Falling-Head, Increasing-Tailwater" test procedures were followed during the testing.
2. All particles larger than 3/8 inch, if any, were discarded when forming the remolded specimen.
3. Remolded specimen was formed by tamping the soil in one-centimeter-thick layers.
4. Remolded specimen approximately 2.87 inches in diameter and 2.36 inches in height.
5. Maximum Dry Unit Weight (DUW) and Optimum Moisture Content (MC) based on Standard Proctor Compaction Test (ASTM D 698).
6. Based on the target values of 95% of the maximum dry unit weight and the optimum moisture content plus 3%.
7. Type of permeant liquid: DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

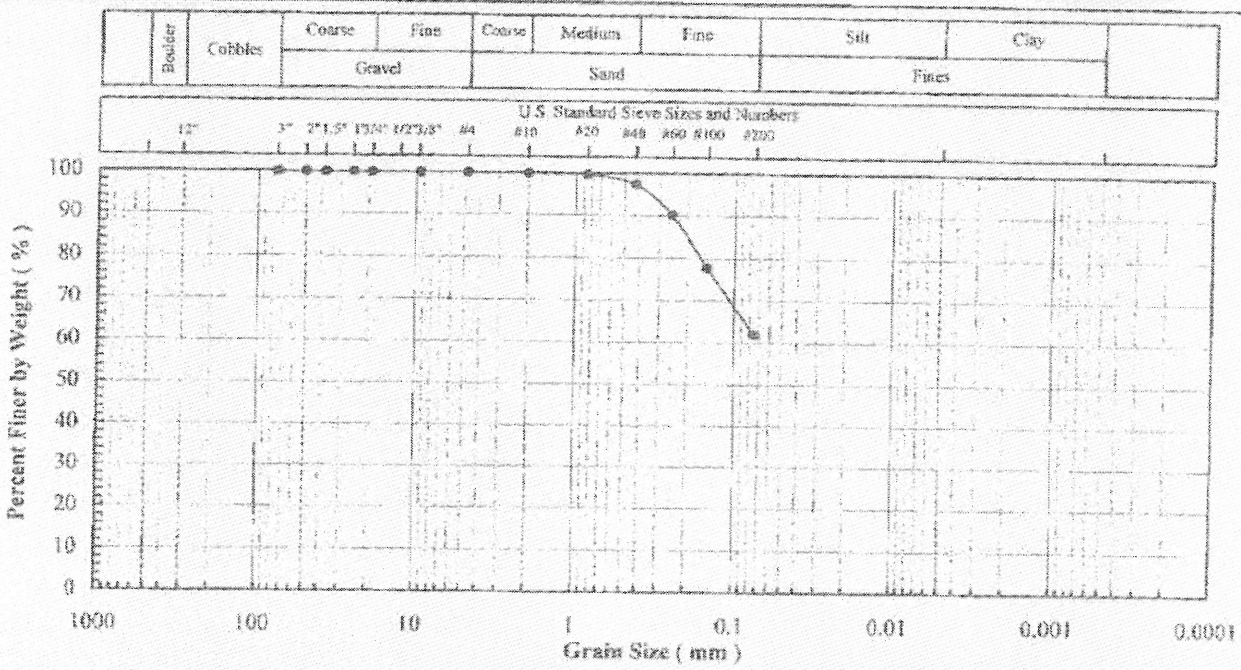
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	Dillon County LF Closure
Project No:	436
Client Sample ID:	CB-08
Lab Sample No:	G069

ASTM C 136, D 422, D 854, D 1140, D 5216, D 2487, D 4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



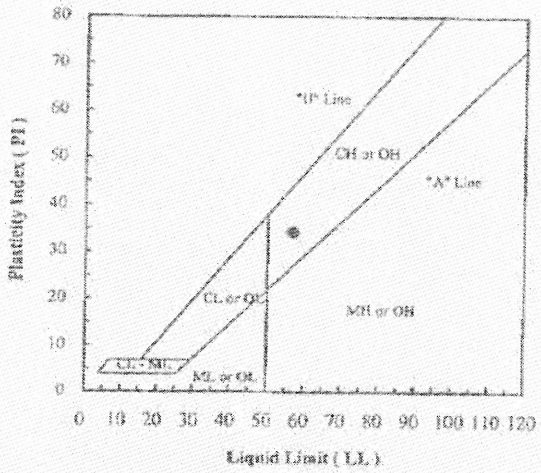
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.9
#20	0.850	99.7
#40	0.425	97.4
#60	0.250	90.2
#100	0.150	77.8
#200	0.075	62.1

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	37.9
Fines (%):	62.1
Silt (%):	
Clay (%):	

Specific Gravity (-):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
CB-08	G069	22.7	62.1	57	23	34	CH - Sandy fat clay

Note(s):

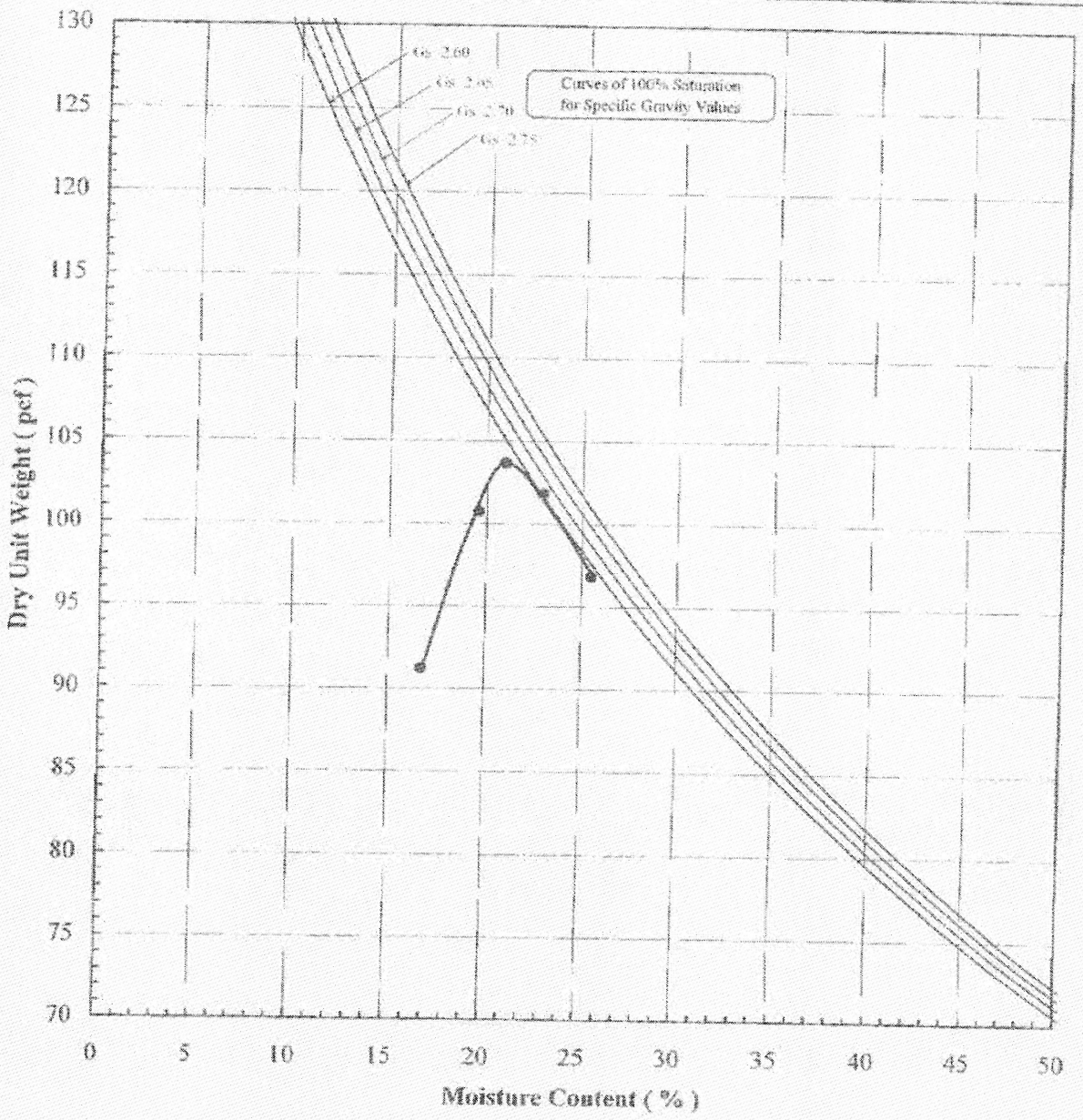
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name: Dillon County LF Closure
Project No: 436
Client Sample ID: CB-08
Lab Sample No: G069

ASTM D 698

COMPACTION MOISTURE-DENSITY RELATIONSHIP

Standard - Method B



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Remarks
CB-08	G069	103.8	21.0	

Note(s)

Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

FLEXIBLE WALL PERMEABILITY TEST [1]

ASTM D5084 *

Project Name:	Dillon County LF closure
Project Number:	436
Client Name:	Oasis Construction Services
Site Sample ID:	CB-08
Lab Sample Number:	G069
Material Type:	Soil
Specified Value (cm/sec):	NA
Date Test Started:	7/28/2010

Remolded Specimen	Proctor [5] Compaction		Specimen Initial Conditions [6]		Test Conditions					Hydraulic Conductivity
	Max. DUW	Opt. MC	Dry Unit Weight	Moisture Content	Cell Press.	Back Press.	Consolid. Press.	Permeant Liquid [7]	Average Gradient	
(-)	(pcf)	(%)	(pcf)	(%)	(psi)	(psi)	(psi)	(-)	(-)	(cm/s)
Notes 2 , 3 & 4	103.8	21.0	98.4	24.1	75.0	70.0	5.0	DTW	14	5.7E-8

Notes:

1. Method C, "Falling-Head, Increasing-Tailwater" test procedures were followed during the testing.
2. All particles larger than 3/8 inch, if any, were discarded when forming the remolded specimen.
3. Remolded specimen was formed by tamping the soil in one-centimeter-thick layers.
4. Remolded specimen approximately 2.87 inches in diameter and 2.36 inches in height.
5. Maximum Dry Unit Weight (DUW) and Optimum Moisture Content (MC) based on Standard Proctor Compaction Test (ASTM D 698).
6. Based on the target values of 95% of the maximum dry unit weight and the optimum moisture content plus 3%.
7. Type of permeant liquid: DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

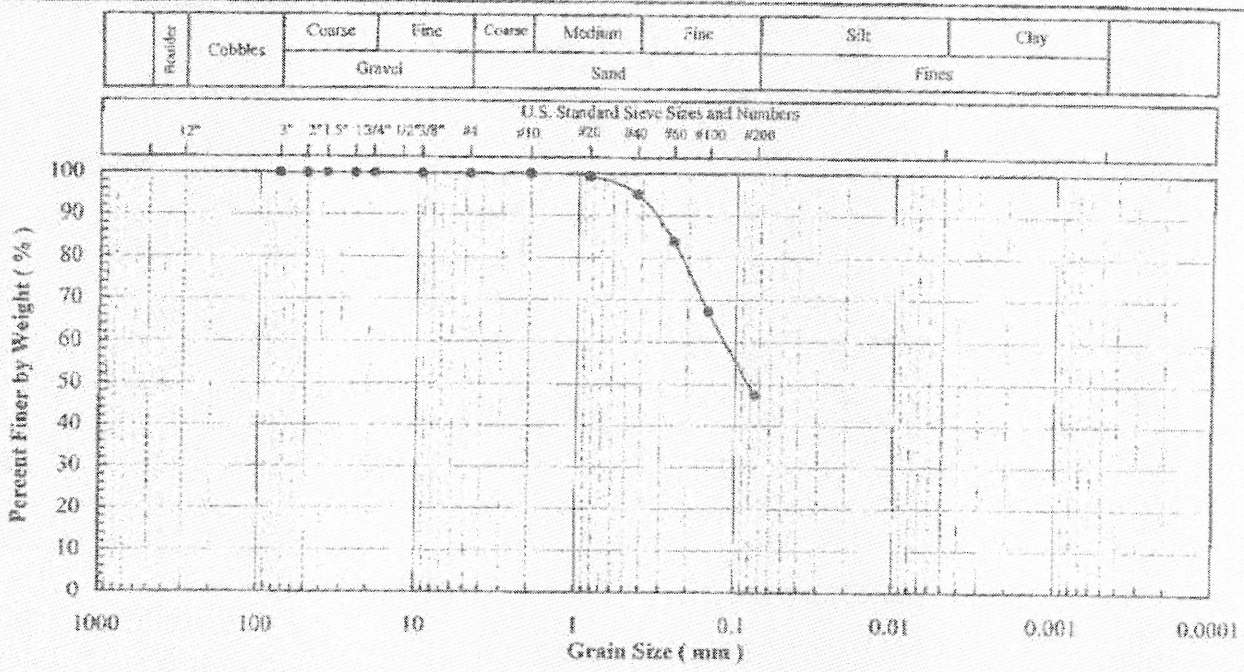
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	Dillon County LF Closure
Project No:	436
Client Sample ID:	CB-07
Lab Sample No:	G068

ASTM C 136, D 422, D 854, D 1140, D2216, D 2487, D4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits



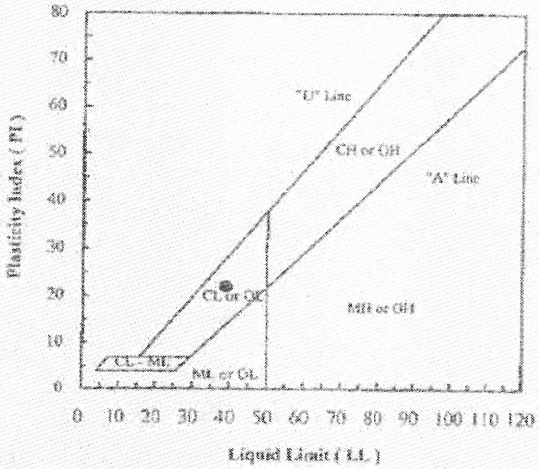
Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.4
#40	0.425	95.1
#60	0.250	83.9
#100	0.150	67.3
#200	0.075	47.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	52.4
Fines (%):	47.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	

Specific Gravity (-):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
CB-07	G068	15.7	47.6	39	17	22	SC - Clayey sand

Note(s):

Engineering classification is based on the assumption that the fines are either CL or CH.

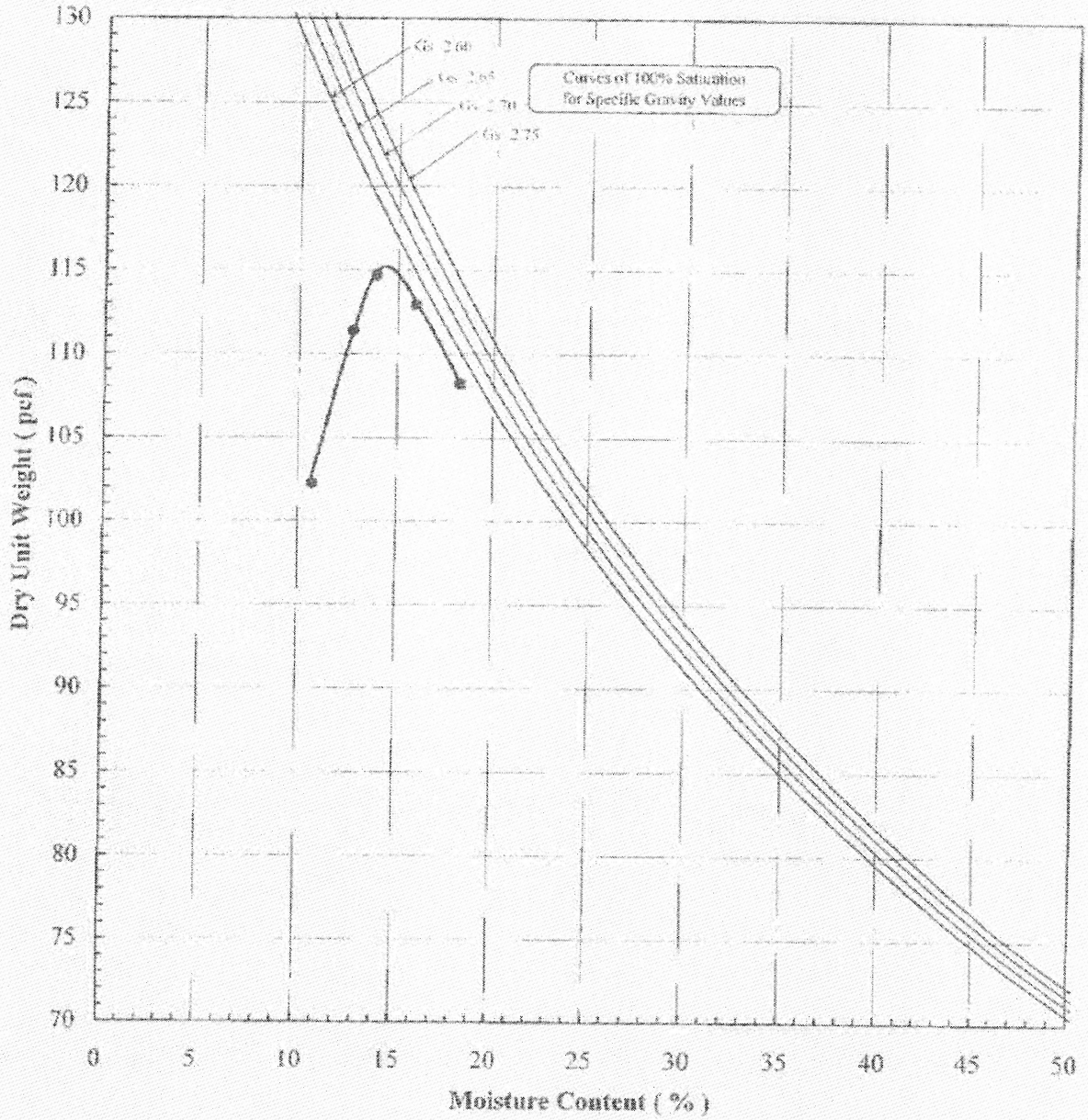
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

Project Name:	Dillon County LF Closure
Project No:	436
Client Sample ID:	CB-07
Lab Sample No:	G068

ASTM D 698

COMPACTION MOISTURE-DENSITY RELATIONSHIP

Standard - Method B



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Remarks
CB-07	G068	115.2	14.3	

Note(s):

Excel Geotechnical Testing, Inc.
"Excellence in Testing"
941 Forrest Street, Roswell, Georgia 30075
Tel: (770) 650 1666 Fax: (770) 650 5786

FLEXIBLE WALL PERMEABILITY TEST [1]

ASTM D5084 *

Project Name:	Dillon County LF closure
Project Number:	436
Client Name:	Oasis Construction Services
Site Sample ID:	CB-07
Lab Sample Number:	G068
Material Type:	Soil
Specified Value (cm/sec):	NA
Date Test Started:	7/28/2010

Remolded Specimen	Proctor [5] Compaction		Specimen Initial Conditions [6]		Test Conditions					Hydraulic Conductivity
	Max. DUW	Opt. MC	Dry Unit Weight	Moisture Content	Cell Press.	Back Press.	Consolid. Press.	Permeant Liquid [7]	Average Gradient	
(-)	(pcf)	(%)	(pcf)	(%)	(psi)	(psi)	(psi)	(-)	(-)	(cm/s)
Notes 2 , 3 & 4	115.2	14.3	109.3	17.2	75.0	70.0	5.0	DTW	4	6.6E-6

Notes:

1. Method C, "Falling-Head, Increasing-Tailwater" test procedures were followed during the testing.
2. All particles larger than 3/8 inch, if any, were discarded when forming the remolded specimen.
3. Remolded specimen was formed by tamping the soil in one-centimeter-thick layers.
4. Remolded specimen approximately 2.87 inches in diameter and 2.36 inches in height.
5. Maximum Dry Unit Weight (DUW) and Optimum Moisture Content (MC) based on Standard Proctor Compaction Test (ASTM D 698).
6. Based on the target values of 95% of the maximum dry unit weight and the optimum moisture content plus 3%.
7. Type of permeant liquid: DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

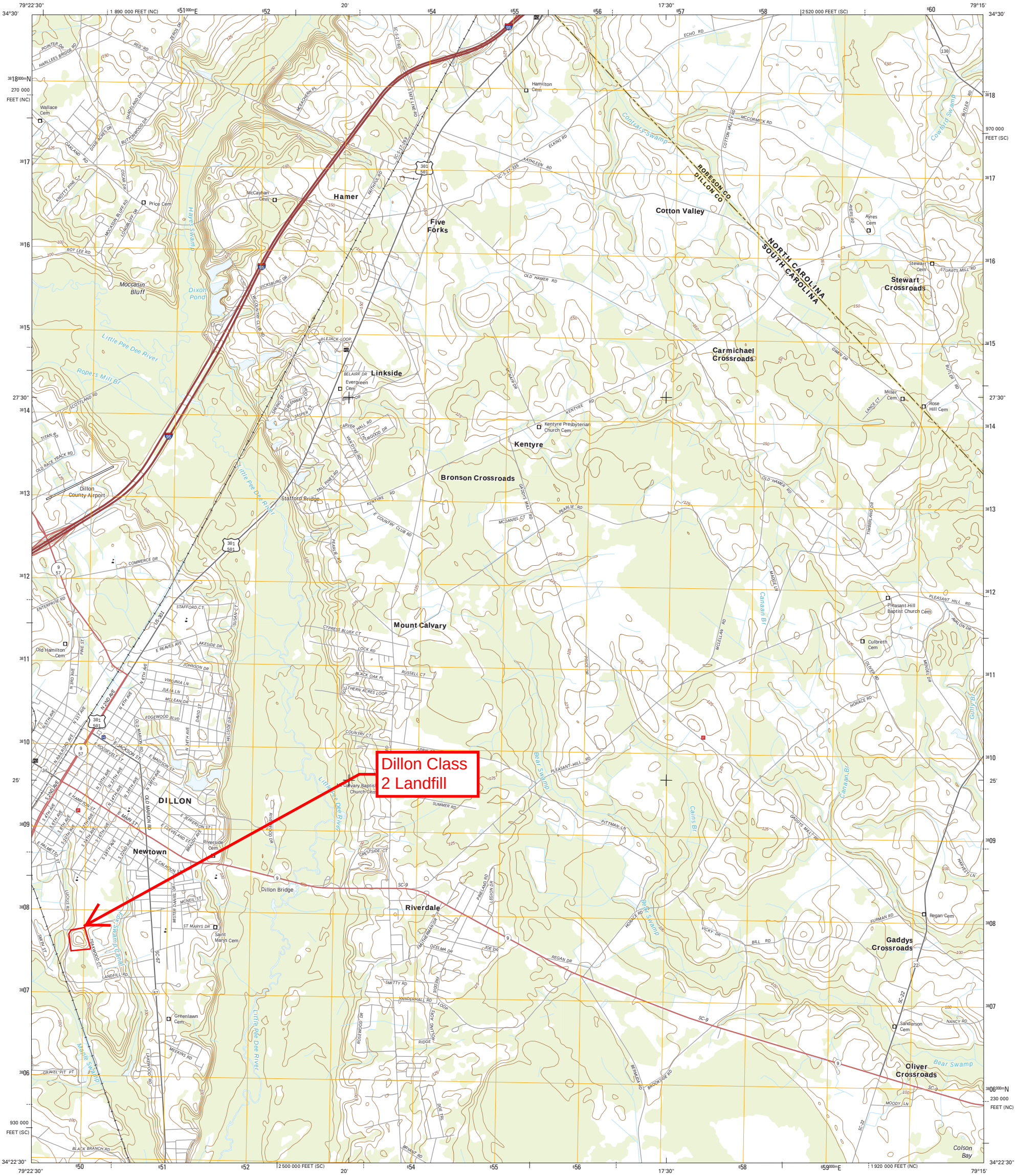
APPENDIX D

Site Features

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

DILLON EAST QUADRANGLE
SOUTH CAROLINA-NORTH CAROLINA
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: South Carolina Coordinate System of 1983, North Carolina Coordinate System of 1983

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, May 2011
Roads.....HERE, ©2013
Names.....GNIS, 2013
Hydrography.....National Hydrography Dataset, 2011
Contours.....National Elevation Dataset, 2009
Boundaries.....Multiple sources; see metadata file 1972 - 2013

MN
GN
8° 26´
150 MILS
0° 57´
17 MILS
UTM GRID AND 2014 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PU
Grid Zone Designation
17S

SCALE 1:24 000

KILOMETERS: 1 0.5 0 1 2
METERS: 1000 500 0 1000 2000
MILES: 1 0.5 0 1
FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.16

SOUTH CAROLINA
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES
1 Minturn
2 Rowland
3 McDonald
4 Dillon West
5 Gaddysville
6 Latta
7 Fork
8 Lake View

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

DILLON EAST, SC-NC
2014

NSN. 7643016392208
NGA REF NO. USGSX24K12283

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was South Carolina State Plane (FIPSZONE 3900). The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC- 3, #9202
1315 East- West Highway
Silver Spring, MD 20910- 3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242,** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was derived from 2007 U.S. Census Bureau TIGER data at 1:24000.

This map reflects more detailed and up- to- date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de- annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1- 800- 358- 9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1- 800- 358- 9620 and its website at http://www.msc.fema.gov/.

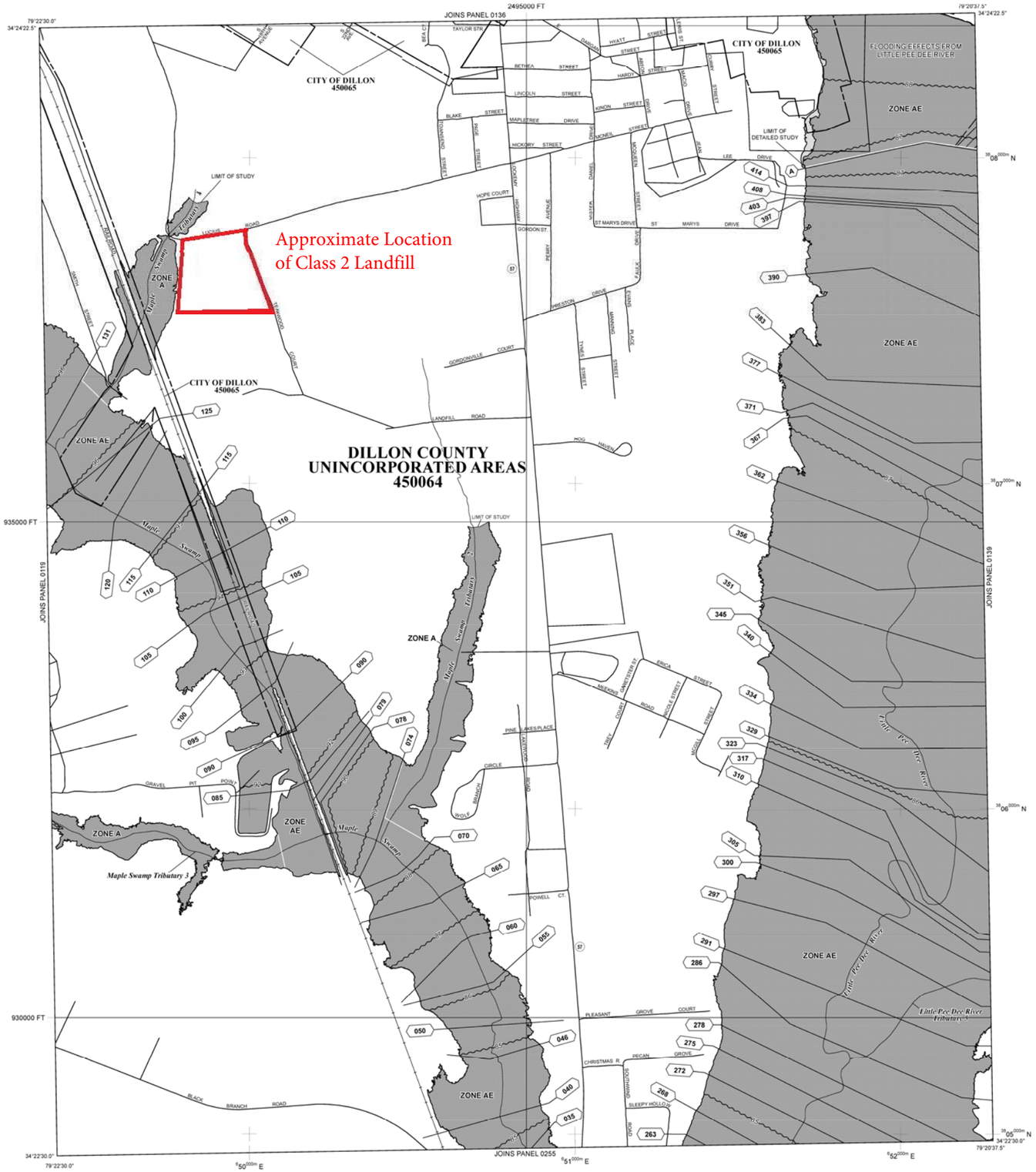
If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1- 877- 336- 2627) or visit the FEMA website at http://www.fema.gov/.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line," in some cases, may deviate significantly from the channel centerline or appear outside of the SFHA.

DNR

This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of South Carolina and the Federal Emergency Management Agency (FEMA). The State of South Carolina has implemented a long term approach of floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map floodplain areas at the local level. As a part of this effort, the state of South Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

http://www.dnr.state.sc.us



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	Floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

A — A	Cross section line
23 - - - - - 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
$^{42}75^{000m}$N	1000-meter Universal Transverse Mercator grid ticks, zone 17
6000000 FT	5000-foot grid values: South Carolina State Plane coordinate system, (FIPSZONE 3900), Lambert Conformal Conic
DX5510	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
May 24, 2011
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1- 800- 638- 6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0138C

FIRM
FLOOD INSURANCE RATE MAP
DILLON COUNTY, SOUTH CAROLINA
AND INCORPORATED AREAS

PANEL 138 OF 350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DILLON COUNTY	450064	0138	C
DILLON, CITY OF	450065	0138	C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
45033C0138C

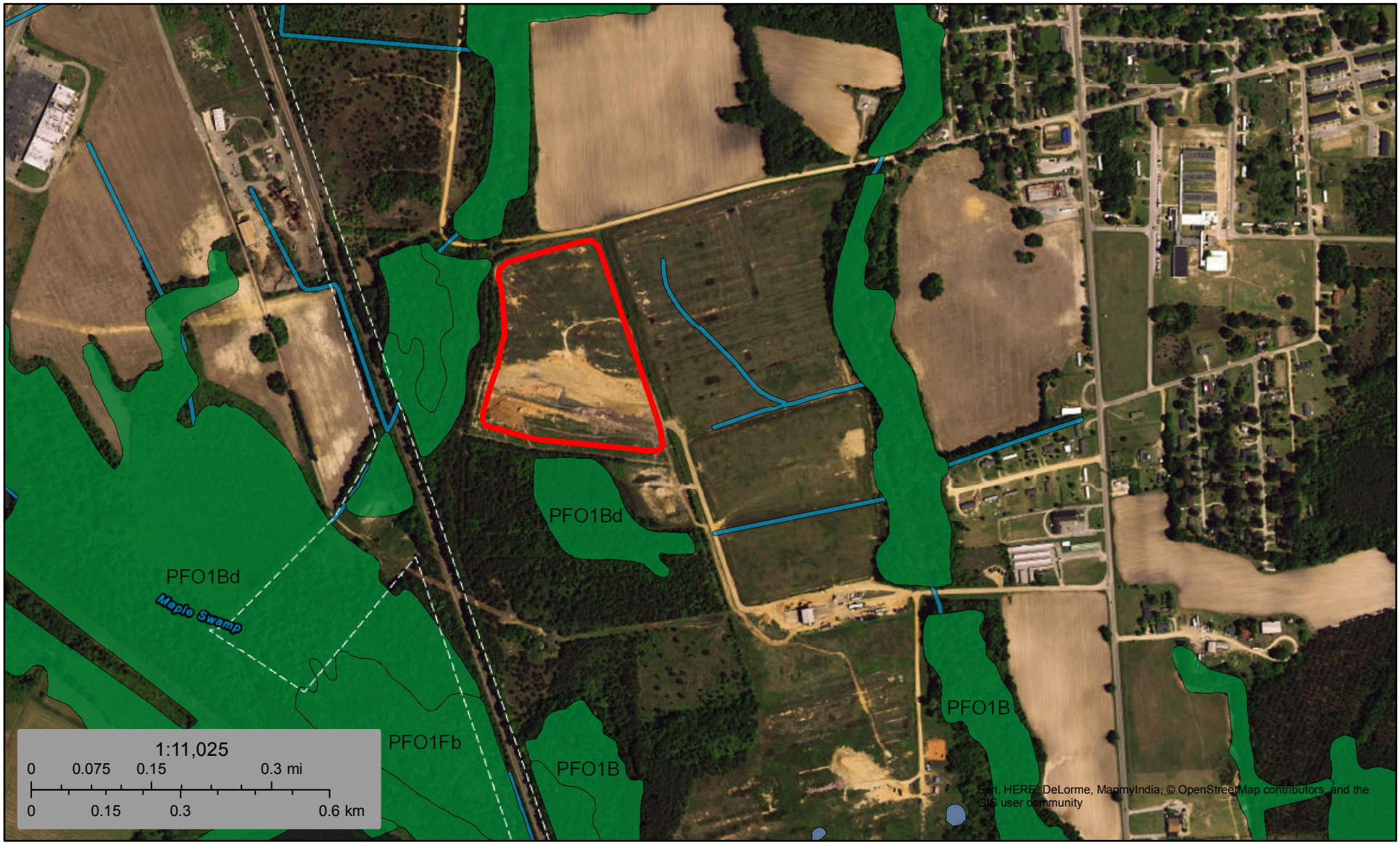
EFFECTIVE DATE
MAY 24, 2011

Federal Emergency Management Agency

U.S. Fish and Wildlife Service

National Wetlands Inventory

Dillon County Landfill Site



February 27, 2017

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

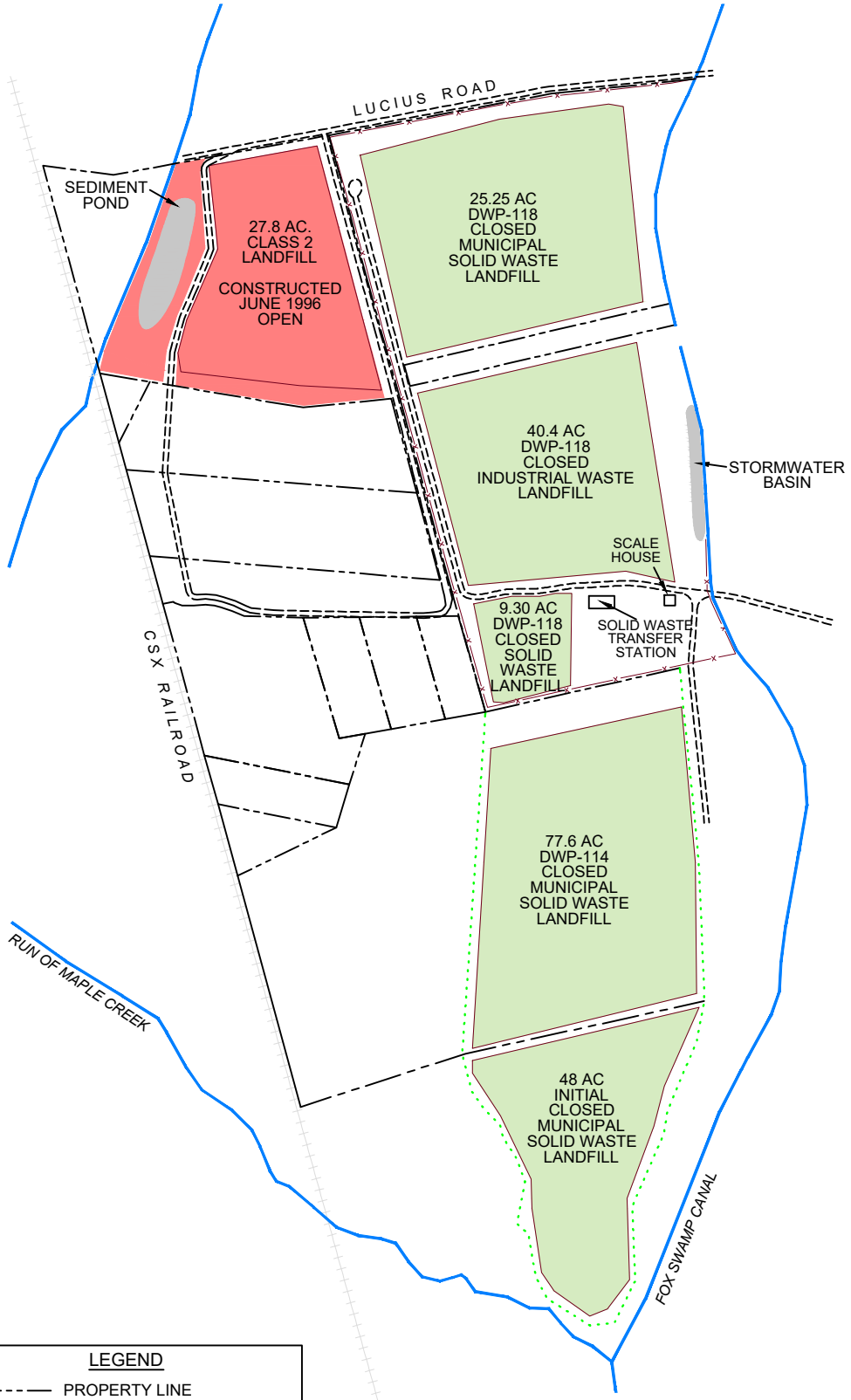
APPENDIX E

Stormwater and Sediment Basin Design

APPENDIX E

Appendix E Stormwater and Sediment Basin Design

E.1 Study Area



LEGEND

- PROPERTY LINE
- STREAM
- WASTE LIMITS
- DIRT ROAD

SCALE IN FEET

0 800 1600

DILLON COUNTY LANDFILL
DILLON, SOUTH CAROLINA

APPENDIX E - SEDIMENT AND STORMWATER BASIN

STUDY AREA

ARCADIS Design & Consultancy for natural and built assets

1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\WWMCT053327_0011\Plans\Figure 2 - Site Layout Appendix E.dwg LAYOUT: FIG_2 2-27-2017 SAVED: 10/19/2017 4:02 PM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACS-IMPERIAL-CTB.CTB PLOTTED: 10/20/2017 11:31 AM BY: BESANCENEZ, MICHAEL

APPENDIX E

Appendix E Stormwater and Sediment Basin Design

E.2 SWMM Model

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.010)
--------------------------------------------------------------


*******************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
*******************************************************

****************
Analysis Options
****************
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... CURVE_NUMBER
Flow Routing Method ...... DYNWAVE
Starting Date ............ JAN-01-2016 00:00:00
Ending Date .............. JAN-03-2016 06:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:15:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 01:00:00
Routing Time Step ........ 30.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 1
Head Tolerance ........... 0.005000 ft


**************************        Volume         Depth
Runoff Quantity Continuity     acre-feet        inches
**************************     ---------       -------
Total Precipitation ......        16.220        10.020
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         1.619         1.000
Surface Runoff ...........        14.651         9.051
Final Storage ............         0.000         0.000
Continuity Error (%) .....        -0.308
```

```
**************************        Volume         Volume
Flow Routing Continuity        acre-feet       10^6 gal
**************************     ---------      ---------
Dry Weather Inflow .......         0.000          0.000
Wet Weather Inflow .......        14.642          4.771
Groundwater Inflow .......         0.000          0.000
RDII Inflow ..............         0.000          0.000
External Inflow ..........         0.000          0.000
External Outflow .........        11.897          3.877
Flooding Loss ............         2.740          0.893
Evaporation Loss .........         0.000          0.000
Exfiltration Loss ........         0.000          0.000
Initial Stored Volume ....         0.109          0.035
Final Stored Volume ......         0.110          0.036
Continuity Error (%) .....         0.025


***************************
Time-Step Critical Elements
***************************
Link 8 (48.56%)
Link 4 (2.53%)
Link 6 (2.04%)
Link 7 (1.47%)


********************************
Highest Flow Instability Indexes
********************************
Link 6 (7)
Link 3 (6)
Link 5 (5)
Link 4 (5)


*************************
Routing Time Step Summary
*************************
Minimum Time Step           :     0.50 sec
Average Time Step           :    14.97 sec
Maximum Time Step           :    30.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     2.00
Percent Not Converging      :     0.02


***************************
```

Subcatchment Runoff Summary
****

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
7	10.02	0.00	0.00	1.00	9.04	1.07	43.92	0.903
8	10.02	0.00	0.00	1.00	9.05	2.10	85.99	0.903
9	10.02	0.00	0.00	1.00	9.05	1.60	65.45	0.903

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min	Reported Max Depth Feet
1	JUNCTION	0.46	2.00	120.00	0 12:09	2.00
2	JUNCTION	0.64	2.00	118.00	0 12:08	2.00
5	OUTFALL	0.00	0.00	98.50	0 00:00	0.00
6	OUTFALL	0.00	0.00	98.50	0 00:00	0.00
3	STORAGE	1.01	5.30	107.50	0 12:24	4.87
4	STORAGE	2.41	5.31	104.00	0 12:30	5.31

****
Node Inflow Summary
****

	Maximum	Maximum		Lateral

Node	Type	Lateral Inflow CFS	Total Inflow CFS	Time of Max Occurrence days hr:min	Inflow Volume 10^6 gal	Total Flow Volume 10^6 gal	Balance Error Percent
1	JUNCTION	43.92	43.92	0 12:30	1.07	1.07	-0.133
2	JUNCTION	85.99	85.99	0 12:30	2.1	2.1	-0.028
5	OUTFALL	0.00	30.75	0 12:30	0	1.93	0.000
6	OUTFALL	0.00	30.80	0 12:30	0	1.95	0.000
3	STORAGE	65.45	145.85	0 12:30	1.6	4.29	0.137
4	STORAGE	0.00	173.03	0 12:28	0	4.32	-0.060

****
Node Surcharge Summary
****

Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Feet	Min. Depth Below Rim Feet
1	JUNCTION	0.43	0.500	0.000
2	JUNCTION	0.42	0.000	0.000

****
Node Flooding Summary
****

Flooding refers to all water that overflows a node, whether it ponds or not.

Node	Type	Hours Flooded	Maximum Rate CFS	Time of Max Occurrence days hr:min	Total Flood Volume 10^6 gal	Maximum Ponded Depth Feet

```
  ---------------------------------------------------------------------------
  1                       0.37     11.54      0  12:30       0.103     0.000
  2                       0.42     37.96      0  12:30       0.380     0.000
  4                       0.54    101.55      0  12:30       0.410     0.000


  **********************
  Storage Volume Summary
  **********************


-------------------------------------------------------------------------------------
---------------
                         Average     Avg  Evap Exfil       Maximum     Max    Time
of Max    Maximum
                          Volume    Pcnt  Pcnt  Pcnt        Volume    Pcnt
Occurrence    Outflow
  Storage Unit          1000 ft3    Full  Loss  Loss      1000 ft3    Full    days
hr:min        CFS

-------------------------------------------------------------------------------------
---------------
  3                        2.368       5     0     0        28.181      61       0
12:24     173.03
  4                       55.652      32     0     0       174.235     100       0
12:30      61.56


  ***********************
  Outfall Loading Summary
  ***********************

  ------------------------------------------------------------
                         Flow       Avg       Max       Total
                         Freq      Flow      Flow      Volume
  Outfall Node           Pcnt       CFS       CFS    10^6 gal
  ------------------------------------------------------------
  5                     86.07     11.68     30.75       1.928
  6                     99.99     10.09     30.80       1.949
  ------------------------------------------------------------
  System                93.03     21.77     61.56       3.876


  ********************
  Link Flow Summary
  ********************

  ---------------------------------------------------------------------------
```

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days	hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
1	CONDUIT	32.38	0	12:21	3.97	0.90	0.90
2	CONDUIT	48.02	0	12:21	3.89	0.79	0.86
3	CONDUIT	43.09	0	12:28	13.72	2.52	1.00
4	CONDUIT	44.88	0	12:27	14.29	1.97	1.00
5	CONDUIT	46.73	0	12:25	14.87	2.01	1.00
6	CONDUIT	46.59	0	12:25	14.83	2.36	1.00
7	CONDUIT	30.75	0	12:30	9.89	1.18	0.97
8	CONDUIT	30.80	0	12:30	9.91	1.19	0.97
9	WEIR	0.00	0	00:00			0.00

****
Flow Classification Summary
****

Conduit	Adjusted /Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
		---------- Fraction of Time in Flow Class ----------								
1	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
2	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
3	1.00	0.31	0.00	0.00	0.25	0.00	0.00	0.44	0.00	0.32
4	1.00	0.42	0.00	0.00	0.28	0.00	0.00	0.30	0.00	0.13
5	1.00	0.34	0.00	0.00	0.29	0.00	0.00	0.37	0.00	0.24
6	1.00	0.01	0.00	0.00	0.27	0.00	0.00	0.72	0.00	0.41
7	1.00	0.04	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.50
8	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.54

****
Conduit Surcharge Summary
****

Conduit	Hours Full Both Ends	Hours Full Upstream	Hours Full Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
1	0.01	0.43	0.01	0.01	0.01
2	0.01	0.42	0.01	0.01	0.01
3	0.61	1.03	0.76	0.94	0.55
4	0.45	0.83	0.86	0.55	0.22
5	0.64	1.00	0.98	0.55	0.25
6	0.69	1.05	0.95	0.63	0.29
7	0.01	2.04	0.01	1.13	0.01
8	0.01	2.05	0.01	1.16	0.01

Analysis begun on: Wed May 16 13:21:38 2018
Analysis ended on: Wed May 16 13:21:39 2018
Total elapsed time: 00:00:01

APPENDIX E

Appendix E Stormwater and Sediment Basin Design

E.3 Outfall Loading Summary

Outfall Loading Summary

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
5	86.07	11.68	30.75	1.928
6	99.99	10.09	30.80	1.949

APPENDIX E

Appendix E Stormwater and Sediment Basin Design

E.4 Composite Outfall Structure Detailed Report

Composite Outlet Structure Detailed Report: Dillon Riser

Element Details

Label	Dillon Riser	Notes	Dillon Standpipe Riser

Headwater Range

Headwater Type	User Defined Headwater	Increment (Headwater)	0.50 ft
Minimum (Headwater)	100.00 ft	Maximum (Headwater)	105.50 ft

SpotElevation (ft)

Tailwater Setup

Tailwater Type	Downstream Channel	Catalog Conduit	DNstream Channel
Downstream Channel Type	Channel Catalog		

Tailwater Tolerances

Maximum Iterations	30	Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft	Flow Tolerance (Minimum)	0.100 ft³/s
Headwater Tolerance (Maximum)	0.50 ft	Flow Tolerance (Maximum)	10.000 ft³/s
Tailwater Tolerance (Minimum)	0.01 ft		

Outlet Structure

Outlet Structure Type	Orifice

Outlet Structure (IDs and Direction)

Outlet ID	Orifice Row 1	Downstream ID	CV
Flow Direction	Forward Flow Only	Notes	Bottom Row Perforations in Riser (Downstream Outfall = Culvert)

Outlet Structure (Advanced)

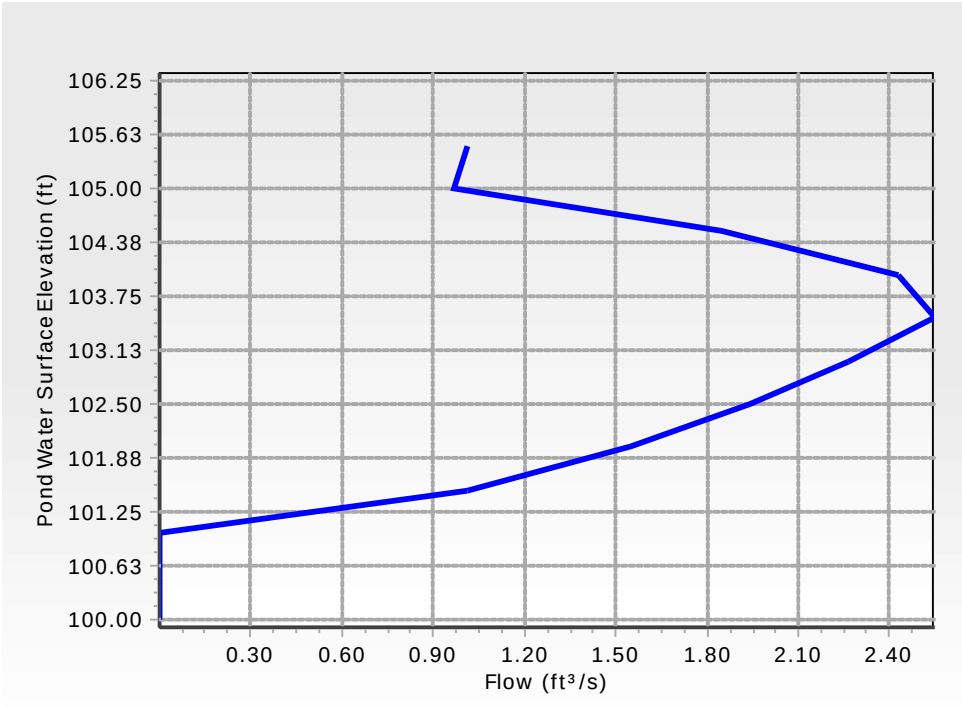
Elevation (On)	0.00 ft	Elevation (Off)	0.00 ft

Outlet Structure (Orifice)

Orifice	Circular Orifice	Orifice Coefficient	0.600
Number of Openings	7	Orifice Diameter	3.0 in

Composite Outlet Structure Detailed Report: Dillon Riser

Outlet Structure (Common)	
Elevation	101.00 ft



RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Orifice Row 1 (Orifice-Circular)

Upstream ID = (Pond Water Surface)
Downstream ID = CV (Culvert-Circular)

Water Surface Elevation (ft)	Device Flow (ft³/s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)
100.00	0.00	0.00	0.00	0.00
100.50	0.00	0.00	0.00	0.00
101.00	0.00	0.00	0.00	0.00
101.50	1.01	101.50	Free Outfall	0.00
102.00	1.55	102.00	Free Outfall	0.00
102.50	1.94	102.50	Free Outfall	100.41
103.00	2.26	103.00	Free Outfall	100.52
103.50	2.55	103.50	Free Outfall	100.57
104.00	2.43	104.00	101.85	101.85
104.50	1.85	104.50	103.25	103.25
105.00	0.97	105.00	104.66	104.66
105.50	1.01	105.50	105.13	105.13

Composite Outlet Structure Detailed Report: Dillon Riser

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Orifice Row 1 (Orifice-Circular)

Upstream ID = (Pond Water Surface)
Downstream ID = CV (Culvert-Circular)

Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft³/s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
0.00	0.00	97.50	0.00
0.00	0.00	97.50	0.00
0.00	0.00	97.50	0.00
0.00	0.00	97.71	0.00
0.00	0.00	97.88	0.00
0.00	0.00	97.98	0.00
0.00	0.00	98.05	0.00
0.00	0.00	98.05	0.00
0.00	0.00	98.67	0.00
0.00	0.00	99.15	0.00
0.00	0.00	99.35	0.00
0.00	0.00	99.39	0.00

Message
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
H =.38
H =.88
H =1.38
H =1.88
H =2.38
H =2.15
H =1.25
H =.34
H =.38

Outlet Structure

Outlet Structure Type	Riser

Outlet Structure (IDs and Direction)

Outlet ID	SP	Downstream ID	CV
Flow Direction	Forward Flow Only	Notes	Standpipe Riser Outfalls to Culvert

Outlet Structure (Advanced)

Elevation (On)	0.00 ft	Elevation (Off)	0.00 ft

Outlet Structure (Riser)

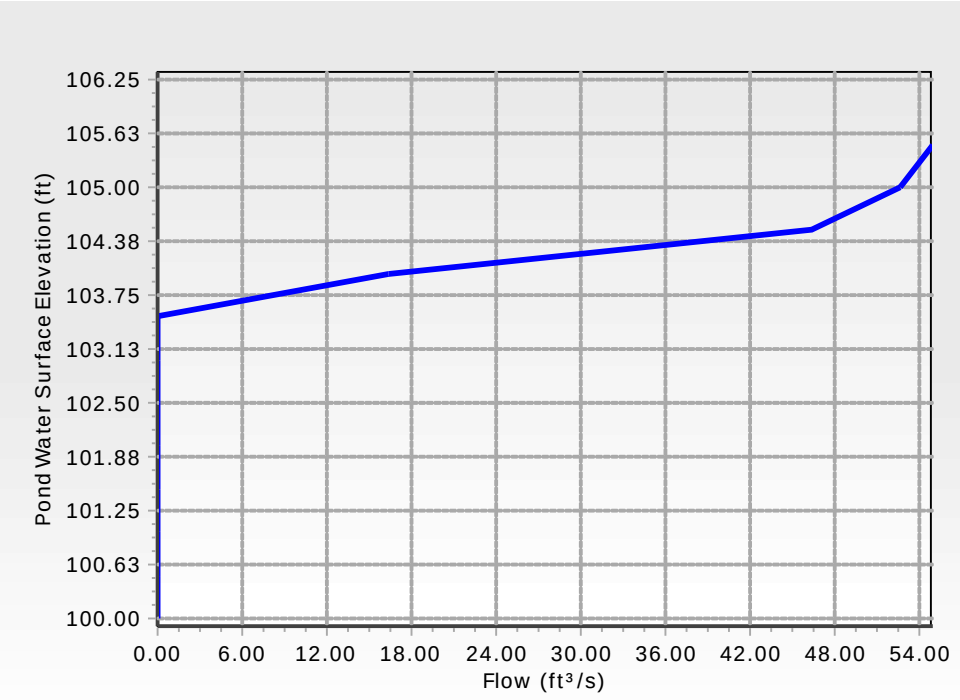
Riser	Inlet Box	Orifice Area	16.0 ft²

Composite Outlet Structure Detailed Report: Dillon Riser

Outlet Structure (Riser)			
Weir Length	16.00 ft	Transition Elevation	0.00 ft
Weir Coefficient	2.90 (ft^0.5)/s	Transition Height	0.00 ft
Orifice Coefficient	0.700	K Reverse	1.000

Outlet Structure (Common)	
Elevation	103.50 ft

Outlet Structure (Riser, Advanced)			
Use Orifice Depth to Crest?	False	Use Submerged Weir Equation?	False



RATING TABLE FOR ONE OUTLET TYPE
Structure ID = SP (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = CV (Culvert-Circular)

Water Surface Elevation (ft)	Device Flow (ft³/s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)
100.00	0.00	0.00	0.00	0.00
100.50	0.00	0.00	0.00	0.00
101.00	0.00	0.00	0.00	0.00
101.50	0.00	0.00	0.00	0.00

Composite Outlet Structure Detailed Report: Dillon Riser

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = SP (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = CV (Culvert-Circular)

Water Surface Elevation (ft)	Device Flow (ft³/s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)
102.00	0.00	0.00	0.00	0.00
102.50	0.00	0.00	0.00	100.41
103.00	0.00	0.00	0.00	100.52
103.50	0.00	0.00	0.00	100.57
104.00	16.40	104.00	Free Outfall	101.85
104.50	46.40	104.50	Free Outfall	103.25
105.00	52.68	105.00	104.66	104.66
105.50	55.02	105.50	105.13	105.13

Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft³/s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
0.00	0.00	97.50	0.00
0.00	0.00	97.50	0.00
0.00	0.00	97.50	0.00
0.00	0.00	97.71	0.00
0.00	0.00	97.88	0.00
0.00	0.00	97.98	0.00
0.00	0.00	98.05	0.00
0.00	0.00	98.05	0.00
0.00	0.00	98.67	0.00
0.00	0.00	99.15	0.00
0.00	0.00	99.35	0.00
0.00	0.00	99.39	0.00

Message
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
Weir: H =0.5ft
Weir: H =1ft
CHARGED RISER: Orifice Equation Control to TW; H=.34
CHARGED RISER: Orifice Equation Control to TW; H=.38

Outlet Structure

Outlet Structure Type	Culvert	Culvert Type	Circular

Composite Outlet Structure Detailed Report: Dillon Riser

Outlet Structure (IDs and Direction)			
Outlet ID	CV	Downstream ID	Tailwater
Flow Direction	Forward Flow Only	Notes	Culvert Conduit Outfalls to Receiving Channel

Outlet Structure (Advanced)			
Elevation (On)	0.00 ft	Elevation (Off)	0.00 ft

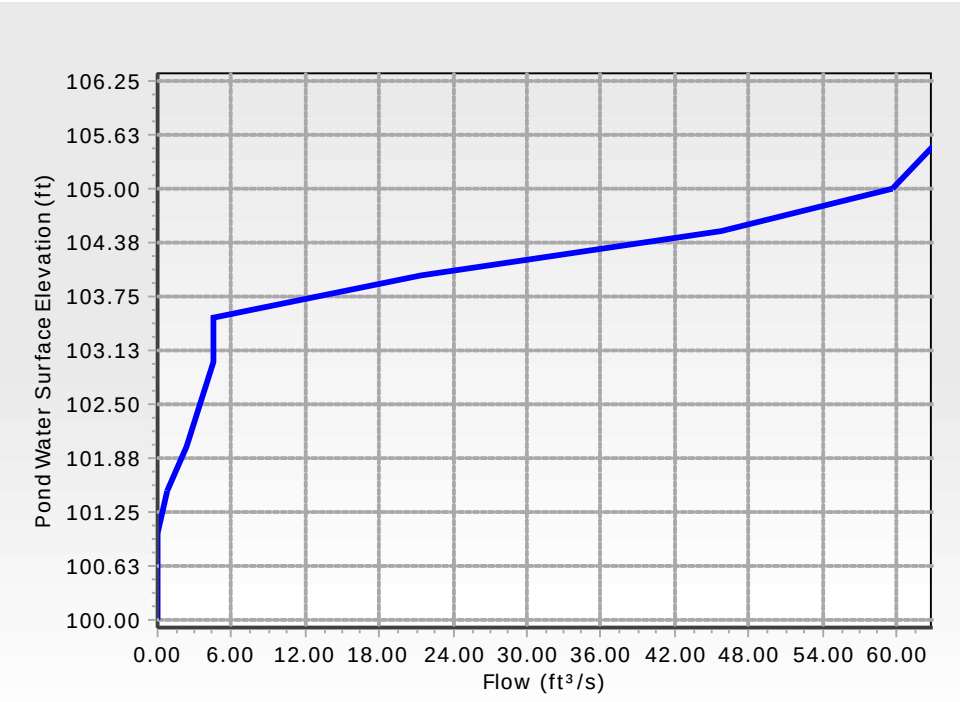
Culvert Data			
Number of Barrels	1	Downstream Invert	98.80 ft
Length	50.00 ft	Diameter	36.0 in
Upstream Invert	99.50 ft		

Unsubmerged->Submerged			
Specify Transitions	False	Compute Inlet Control Only	False

Culvert Coefficients			
Inlet Description	Inlet Data	C	0.0398
Chart	Chart 1	Y	0.6700
Nomograph	Nomograph 1	Manning's n	0.025
Equation Form	Form 1	Ke	0.500
K	0.0098	Kr	0.500
M	2.0000	Slope Correction Factor	-0.500

Culvert (Advanced)			
Convergence Tolerance	0.10 ft	Number of Backwater Sections	3
Specify Number of Backwater Sections	True		

Composite Outlet Structure Detailed Report: Dillon Riser



RATING TABLE FOR ONE OUTLET TYPE
Structure ID = CV (Culvert-Circular)

Mannings open channel maximum capacity: 44.14 ft³/s
Upstream ID = Orifice Row 2, SP, Orifice Row 1
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Device Flow (ft³/s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)
100.00	0.00	0.00	0.00	97.50
100.50	0.00	0.00	0.00	97.50
101.00	0.00	0.00	0.00	97.50
101.50	0.76	0.00	97.71	97.71
102.00	2.29	0.00	97.88	97.88
102.50	3.43	100.41	97.98	97.98
103.00	4.58	100.52	98.05	98.05
103.50	4.58	100.57	98.05	98.05
104.00	21.36	101.85	98.67	98.67
104.50	45.69	103.25	99.15	99.15
105.00	59.63	104.66	99.35	99.35
105.50	62.94	105.13	99.39	99.39

Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft³/s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
0.00	0.00	97.50	0.00

Composite Outlet Structure Detailed Report: Dillon Riser

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = CV (Culvert-Circular)

Mannings open channel maximum capacity: 44.14 ft³/s
Upstream ID = Orifice Row 2, SP, Orifice Row 1
Downstream ID = Tailwater (Pond Outfall)

Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft³/s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
0.00	0.00	97.50	0.00
0.00	0.00	97.50	0.00
0.00	0.00	97.71	0.00
0.00	0.00	97.88	0.00
0.00	0.05	97.98	0.00
0.00	0.37	98.05	0.00
0.00	0.24	98.05	0.00
0.00	0.10	98.67	0.00
0.00	4.41	99.15	0.00
0.00	5.01	99.35	0.00
0.00	5.90	99.39	0.00

Message
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
BACKWATER CONTROL.. Vh= .081ft hwDi= .311ft Lbw= 50.0ft Hev= .00ft
BACKWATER CONTROL.. Vh= .164ft hwDi= .549ft Lbw= 50.0ft Hev= .00ft
BACKWATER CONTROL.. Vh= .194ft hwDi= .591ft Lbw= 50.0ft Hev= .00ft
BACKWATER CONTROL.. Vh= .237ft hwDi= .706ft Lbw= 50.0ft Hev= .00ft
BACKWATER CONTROL.. Vh= .237ft hwDi= .706ft Lbw= 50.0ft Hev= .00ft
BACKWATER CONTROL.. Vh= .580ft hwDi= 1.568ft Lbw= 50.0ft Hev= .00ft
BACKWATER CONTROL.. Vh= .754ft hwDi= 2.657ft Lbw= 50.0ft Hev= .00ft
FULL FLOW...Lfull=31.57ft Vh=1.106ft HL=2.592ft Hev= .00ft
FULL FLOW...Lfull=36.80ft Vh=1.232ft HL=3.060ft Hev= .00ft

Outlet Structure

Outlet Structure Type	Orifice

Outlet Structure (IDs and Direction)

Outlet ID	Orifice Row 2	Downstream ID	CV

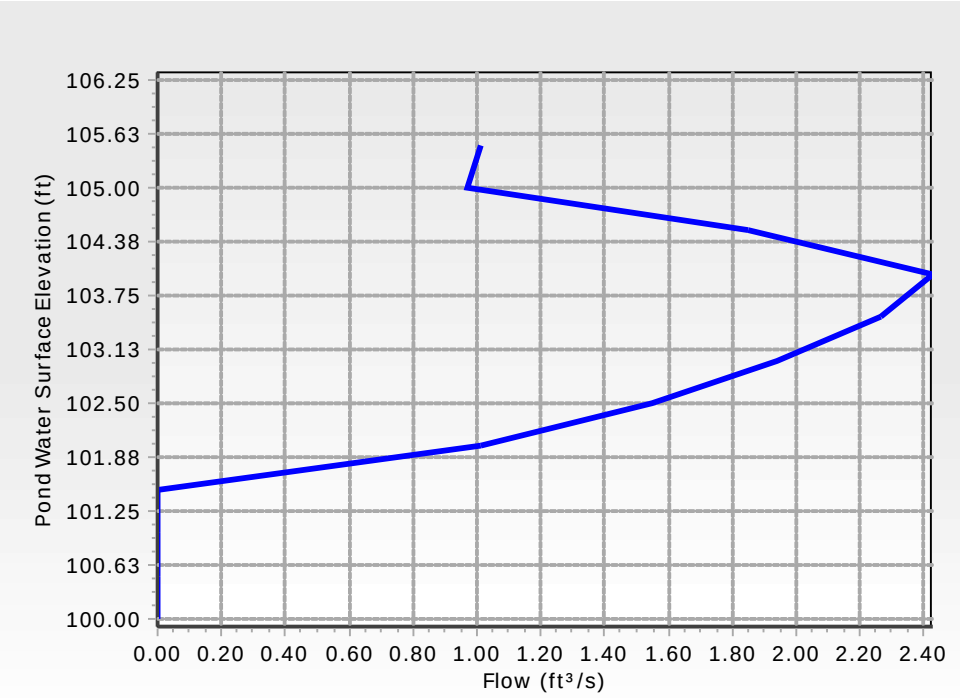
Composite Outlet Structure Detailed Report: Dillon Riser

Outlet Structure (IDs and Direction)			
Flow Direction	Forward Flow Only	Notes	Bottom Row Perforations in Riser (Downstream Outfall = Culvert)

Outlet Structure (Advanced)			
Elevation (On)	0.00 ft	Elevation (Off)	0.00 ft

Outlet Structure (Orifice)			
Orifice	Circular Orifice	Orifice Coefficient	0.600
Number of Openings	7	Orifice Diameter	3.0 in

Outlet Structure (Common)	
Elevation	101.50 ft



RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Orifice Row 2 (Orifice-Circular)

Upstream ID = (Pond Water Surface)
Downstream ID = CV (Culvert-Circular)

Composite Outlet Structure Detailed Report: Dillon Riser

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Orifice Row 2 (Orifice-Circular)

Upstream ID = (Pond Water Surface)
Downstream ID = CV (Culvert-Circular)

Water Surface Elevation (ft)	Device Flow (ft³/s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)
100.00	0.00	0.00	0.00	0.00
100.50	0.00	0.00	0.00	0.00
101.00	0.00	0.00	0.00	0.00
101.50	0.00	0.00	0.00	0.00
102.00	1.01	102.00	Free Outfall	0.00
102.50	1.55	102.50	Free Outfall	100.41
103.00	1.94	103.00	Free Outfall	100.52
103.50	2.26	103.50	Free Outfall	100.57
104.00	2.43	104.00	101.85	101.85
104.50	1.85	104.50	103.25	103.25
105.00	0.97	105.00	104.66	104.66
105.50	1.01	105.50	105.13	105.13

Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft³/s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
0.00	0.00	97.50	0.00
0.00	0.00	97.50	0.00
0.00	0.00	97.50	0.00
0.00	0.00	97.71	0.00
0.00	0.00	97.88	0.00
0.00	0.00	97.98	0.00
0.00	0.00	98.05	0.00
0.00	0.00	98.05	0.00
0.00	0.00	98.67	0.00
0.00	0.00	99.15	0.00
0.00	0.00	99.35	0.00
0.00	0.00	99.39	0.00

Message
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
H =.38
H =.88
H =1.38
H =1.88
H =2.15
H =1.25
H =.34
H =.38

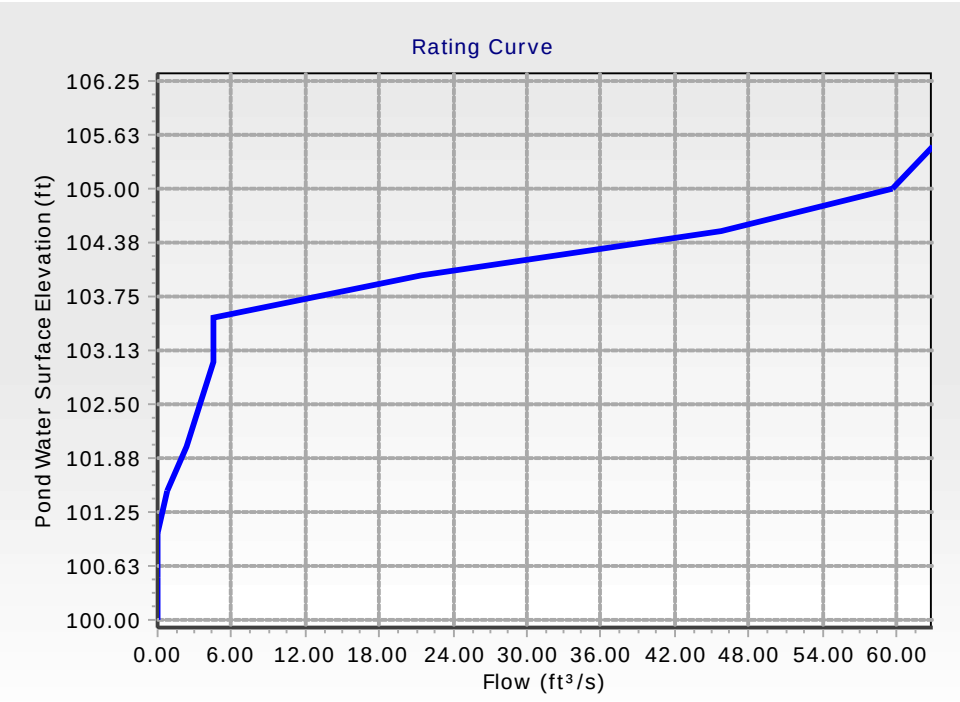
Composite Outlet Structure Detailed Report: Dillon Riser

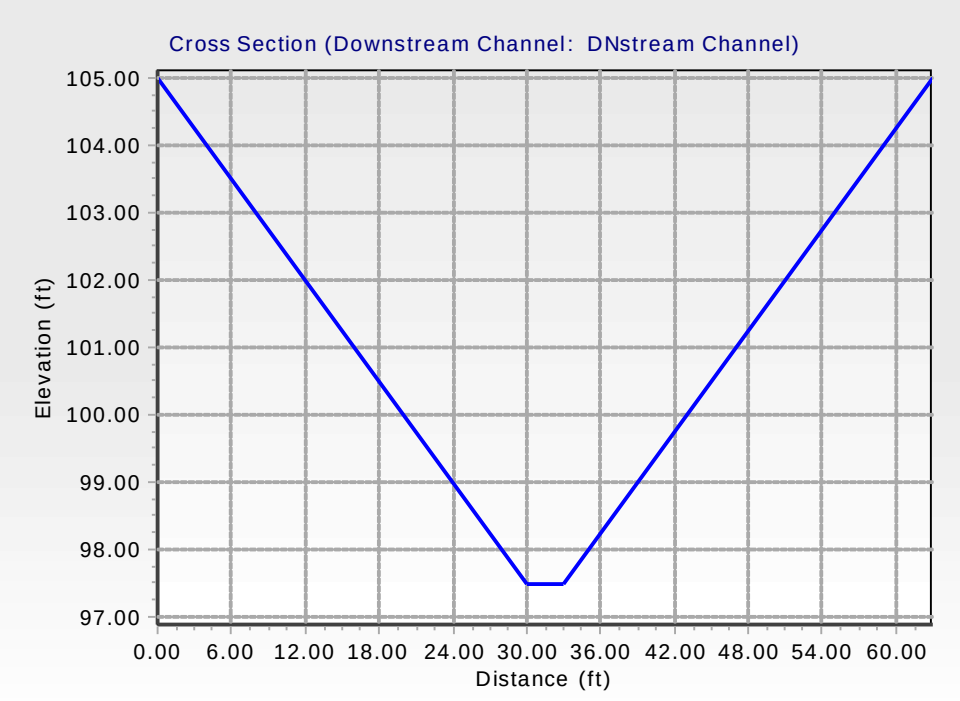
Composite Rating Table
Tailwater Elevation = 97.50 ft (Dillon Riser)

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
100.00	0.00	97.50	0.00
100.50	0.00	97.50	0.00
101.00	0.00	97.50	0.00
101.50	0.76	97.71	0.00
102.00	2.29	97.88	0.00
102.50	3.43	97.98	0.00
103.00	4.58	98.05	0.00
103.50	4.58	98.05	0.00
104.00	21.36	98.67	0.00
104.50	45.69	99.15	0.00
105.00	59.63	99.35	0.00
105.50	62.94	99.39	0.00

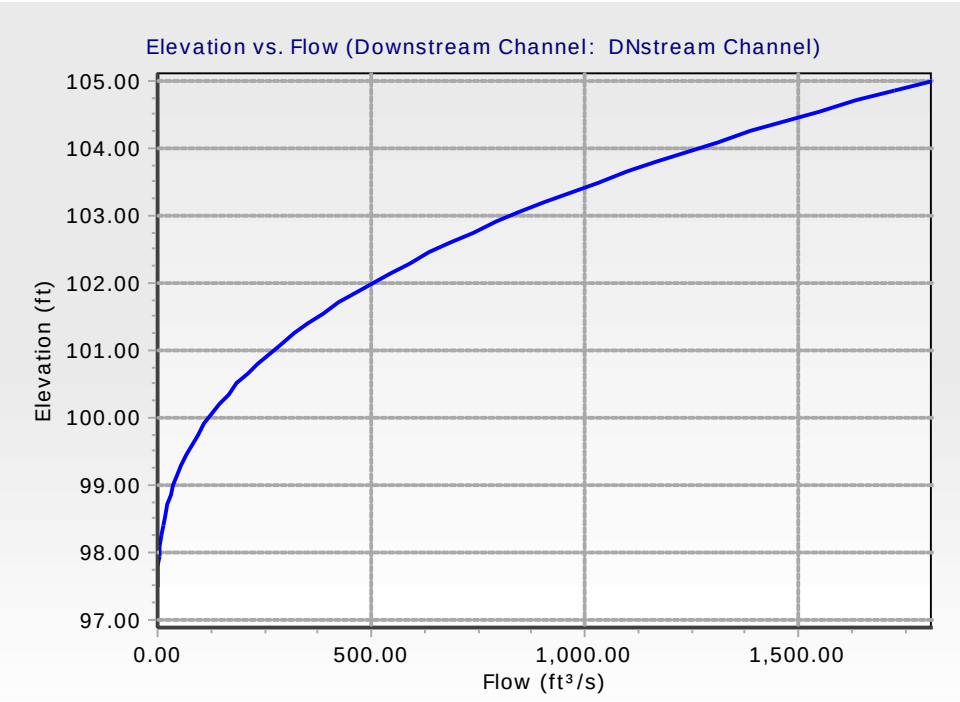
Contributing Structures
(no Q: Orifice Row 2,SP,Orifice Row 1,CV)
(no Q: Orifice Row 2,SP,Orifice Row 1,CV)
(no Q: Orifice Row 2,SP,Orifice Row 1,CV)
Orifice Row 1,CV (no Q: Orifice Row 2,SP)
Orifice Row 2,Orifice Row 1,CV (no Q: SP)
Orifice Row 2,Orifice Row 1,CV (no Q: SP)
Orifice Row 2,Orifice Row 1,CV (no Q: SP)
Orifice Row 2,Orifice Row 1,CV (no Q: SP)
Orifice Row 2,SP,Orifice Row 1,CV
Orifice Row 2,SP,Orifice Row 1,CV
Orifice Row 2,SP,Orifice Row 1,CV
Orifice Row 2,SP,Orifice Row 1,CV

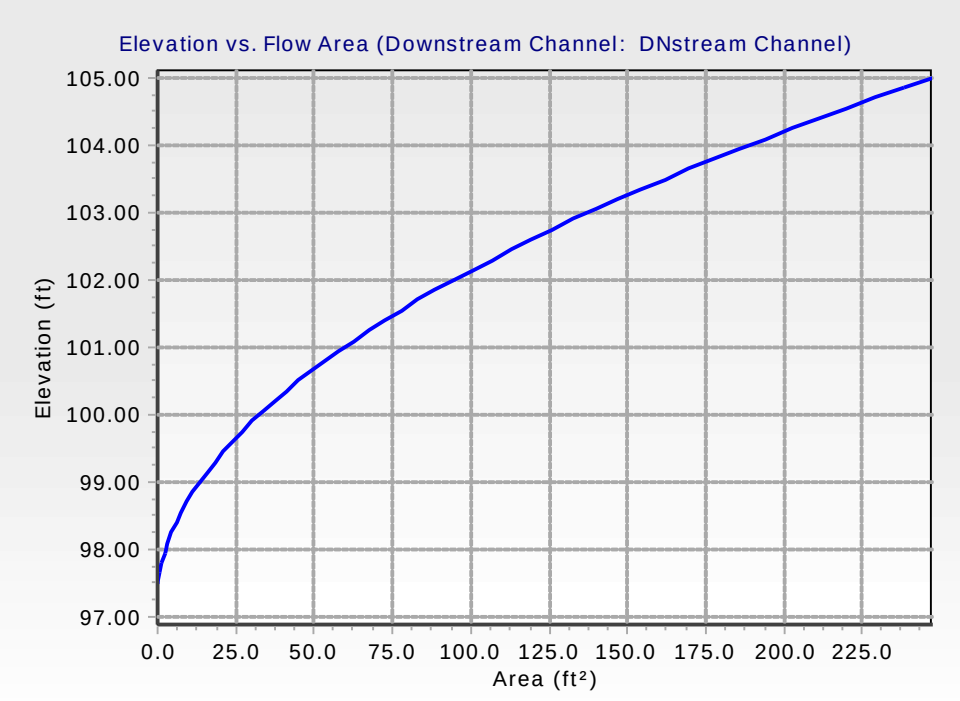
Composite Outlet Structure Detailed Report: Dillon Riser



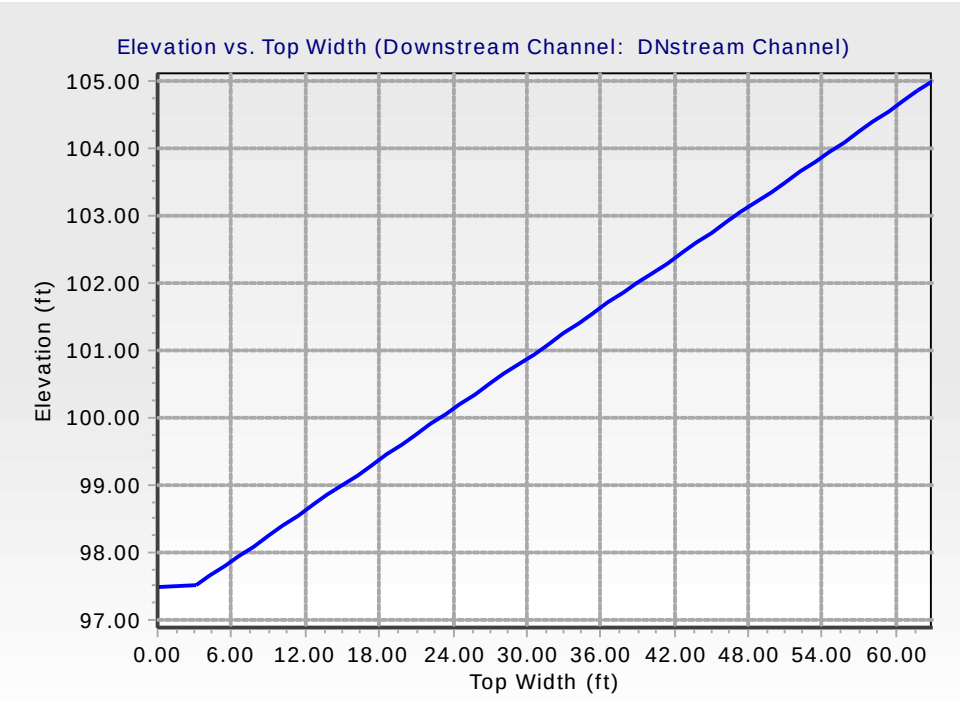


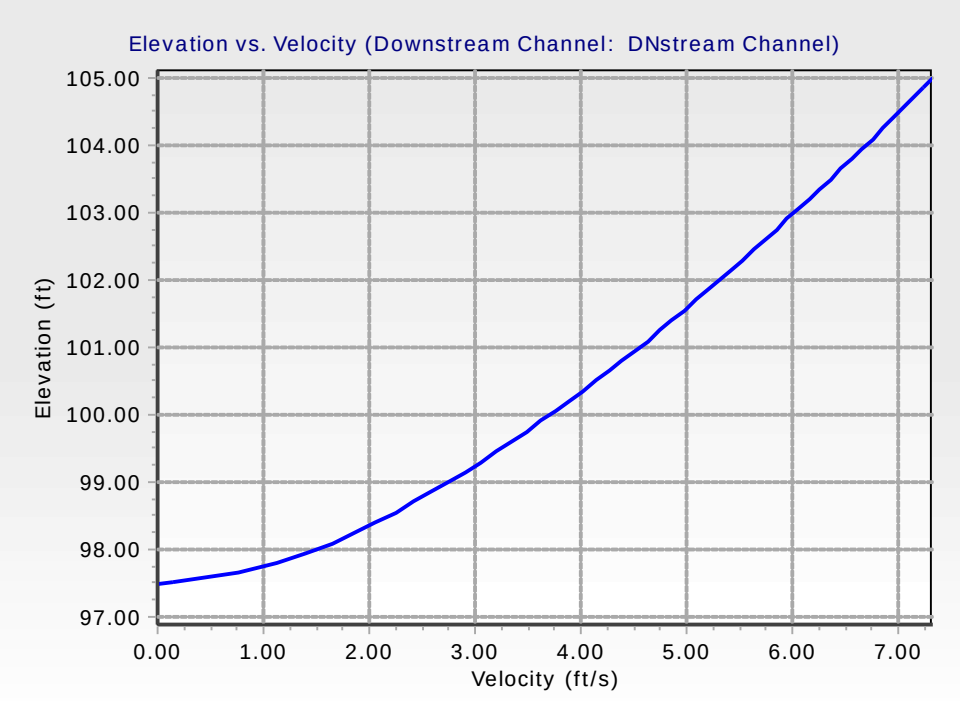
Composite Outlet Structure Detailed Report: Dillon Riser



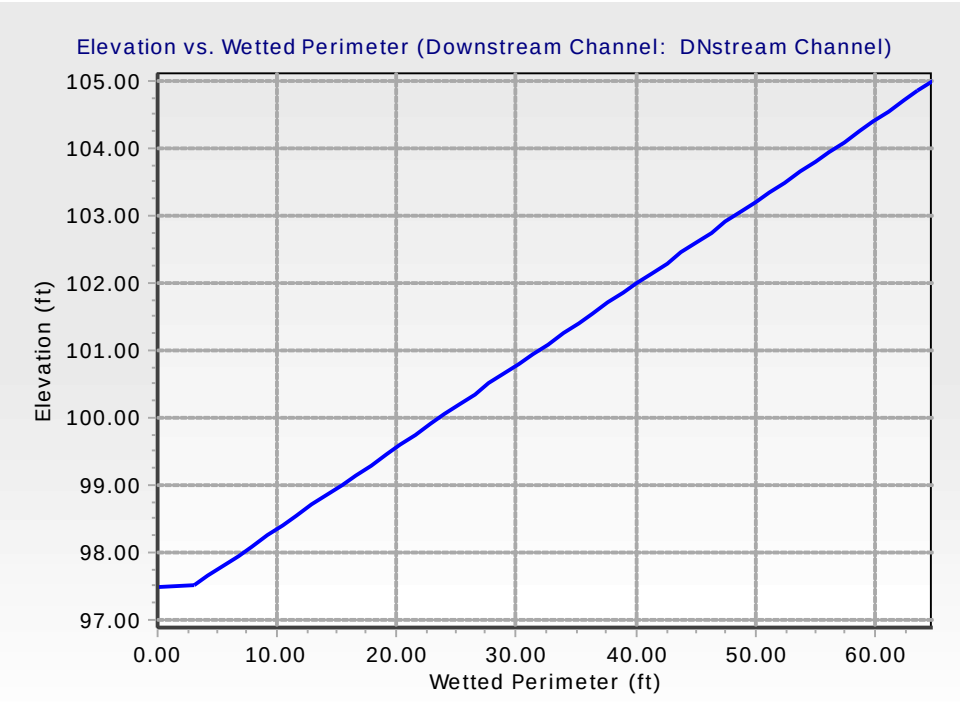


Composite Outlet Structure Detailed Report: Dillon Riser





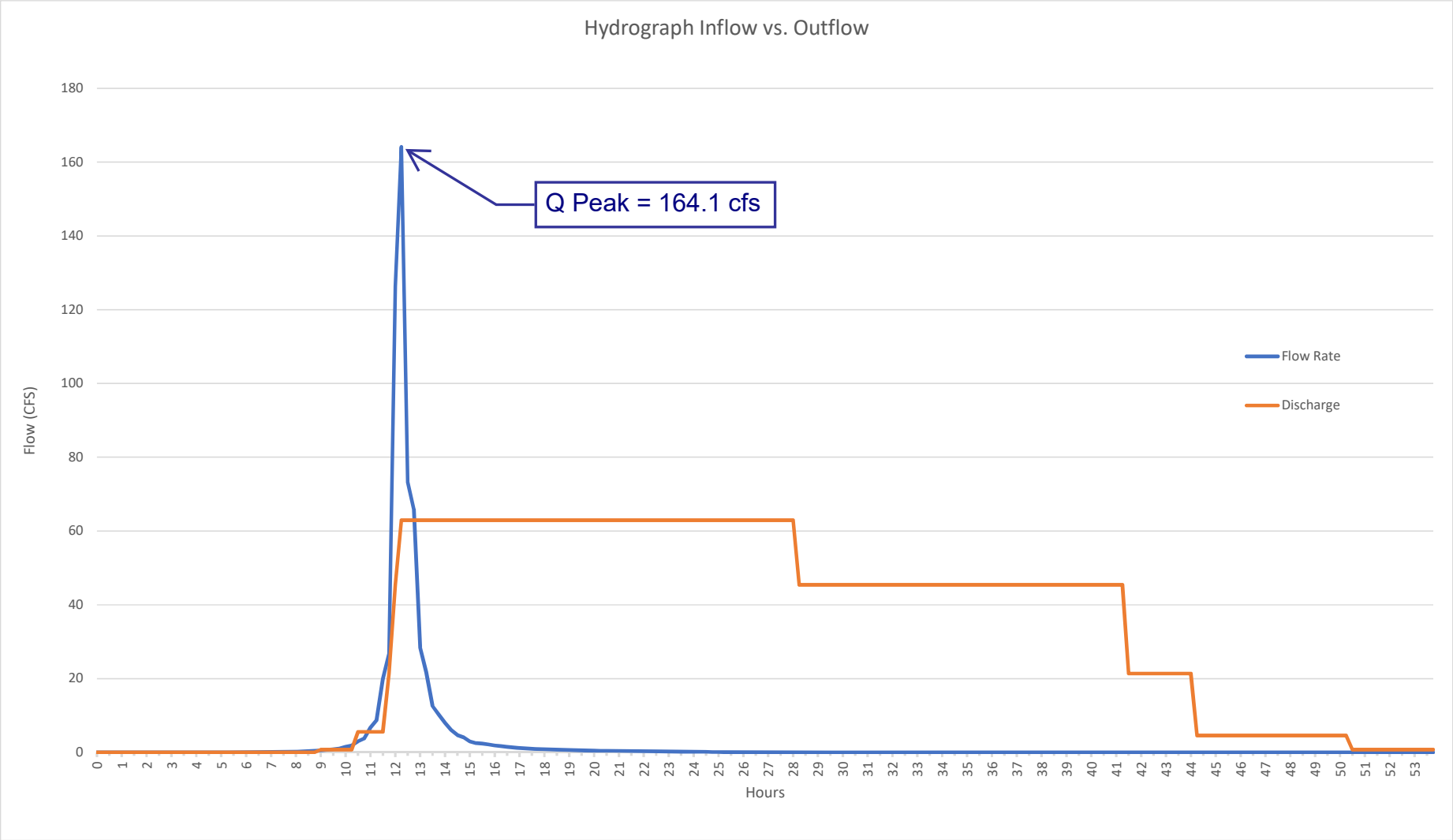
Composite Outlet Structure Detailed Report: Dillon Riser



APPENDIX E

Appendix E Stormwater and Sediment Basin Design

E.5 Hydrograph Inflow vs. Outflow


Hydrograph Inflow vs. Outflow
Q Peak = 164.1 cfs
Flow Rate
Discharge
Flow (CFS)
Hours
0
20
40
60
80
100
120
140
160
180

APPENDIX F

Slope Stability Analysis

APPENDIX F

Appendix F Slope Stability Analysis

F.1 Boring Log

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well SS-1-1 Project/No. CT053327.0012 Page 1 of ____

Site Location Dillon Cty LF Drilling Started 8-30-12 Drilling Completed 8-30-12

Drilling Contractor GEO LAB Driller S. Horver Helper R. Strom

Drilling Fluid Used none Drilling Method HSA

Length and Diameter of Coring Device 2" x 2' Sampling Interval 2 feet

Land-Surface Elev. ____ feet ☐ Surveyed ☐ Estimated Datum ____

Total Depth Drilled ____ Feet Hole Diameter ____ Coring Device SS

Prepared By J. OBRIEN Hammer Weight 140 Hammer Drop Hydralic ins.

Sampling Data:

Depth	Grab/Composite	Time	Laboratory Analysis
7-9	grab		

Soil Characterization:

Sample/Core Depth (Feet bls) From	To	Core Recovery (Feet)	OVM Reading (ppm)	Blow Counts per 6 Inches	Sample/Core Description Soil type, %, Grain Size, Angularity, Grading, Consistency, Plasticity, Color, etc.
0	2	2	—	2,3,2,1	0-6" m-sand, tan; 6-12" m-sand & silt DRK BRW;
2	4				12-24" m-sand & clay lt brwn
2	4	2	—	2,1,2,4	0-18" clayey sand LT BRWN; 18-24" clay w/some m-sand
4	6	2	—	2,4,6,10	0-12" clayey sand LT BRW, 12"-24" clay w/some sand
					red, orange, grey
* 6	8	2	—	2,7,11,17	0-12" clay w/little sand - red, orange, lt grey
					12"-24" clay lt grey
8	10	2	—	2,6,8,13	0-6" clayey sand - red, grey; 6"-9" f. sand - tan;
					9-18" clay LT. grey, m-sand w/ clay - orange/red
10	12	2	—	5,6,9,5	0-12" clayey silt - grey/red; 12-16" silty F. sand grey;
					16-20" silty m sand - orange; 20-24" clayey sand grey
12	14	2	—	4,4,5,4	m-sand w/ some silt Pink/grey
14	16	1.75	—	1,2,1,1	0-8" m-sand orange/sat; 8-20" m sand grey - ~~sat~~ wet
19	21	2	—	1,2,3,3	0-6" clayey sand LT. grey; 6-24" m to m sand grey ~~sat~~ wet
24	26	2	—	4,2,2,1	0-12" - m to crs sand tan; 12-24" crs sand to f. gravel SAT tan
29	31	1.75	—	1,2,1,2	crs sand to f. gravel - tan, Sat
34	36	0	—	1,0,1,3	SAT
39	41	0	—	2,2,6,8	Sat
44	46	1.5	—	10,11,12,14	clay drk grey dense
* 49	51	2	—	4,9,10,10	clay - dense drk blue/grey
54	56	2	—	5,9,11,12	clay " " " "
59	61	2	—	5,8,11,11	~~0-6" F sand drk grey; 6-24" - clay drk grey~~
					0-18" clay drk grey; 18-24" F. Sand DRK grey

46-48 & 48-50

APPENDIX F

Appendix F Slope Stability Analysis

F.2 SPT Correlation Spreadsheets

For	Dillon County Vertical Expansion	Job No.	CT053327.0011	Appendix	F
Calculation	SPT conversion to angle of internal friction	Made By	MB	Checked by	Tim Newton
		Date	5/27/2017	Date	07/19/2017

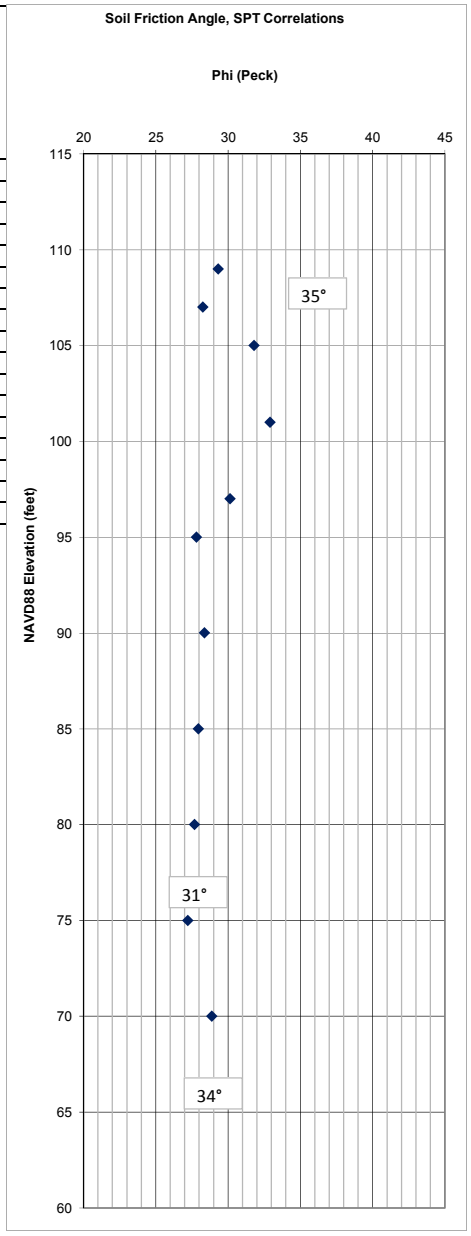
ARCADIS

Boring #	SS-1-1				
Ground Water Elevation		Top Elevation		Energy Ratio	
95	ft	110	ft	60%	

Sequence	Sample Depth ft. (bgs)	Sample Elevation ft.	USCS Group Symbol	Total Unit Weight (pcf)	Blow Counts N	N 60	Pressure due to the soil layer (psf)	σ'_z, Effective Overburden (psf)	C_N	$(N_1)_{60}$	**Phi (per Peck)**	**Phi (per Peck)**	USCS code
1	1	109	S	110	5	5	110	110	1.6	8	29	29	0
2	3	107	CS	110	3	3	220	330	1.6	5	28	28	0
3	5	105	CS	110	10	10	220	550	1.6	16	32	32	0
4	7	103	CL	120	18	18	240	790	1.6	29	-	-999	5
5	9	101	CS	110	14	14	220	1010	1.4	20	33	33	0
6	11	99	CL	120	15	15	240	1250	1.3	19	-	-999	5
7	13	97	S	110	9	9	220	1470	1.2	10	30	30	0
8	15	95	S	110	3	3	220	1690	1.1	3	28	28	0
9	20	90	S	110	5	5	238	1928	1.0	5	28	28	0
10	25	85	S	110	4	4	238	2166	1.0	4	28	28	0
11	30	80	S	110	3	3	238	2404	0.9	3	28	28	0
12	35	75	S	110	1	1	238	2642	0.9	1	27	27	0
13	40	70	S	110	8	8	238	2880	0.8	7	29	29	0
14	45	65	CL	120	23	23	288	3168	0.8	18	-	-999	5
15	50	60	CL	120	19	19	288	3456	0.8	14	-	-999	5
16	55	55	CL	120	20	20	288	3744	0.7	15	-	-999	5
17	60	50	CL	120	19	19	288	4032	0.7	13	-	-999	5
			Average N		11								

Notes:

1. A layer of limestone was found between the depths of 14 feet to 16 feet.
2. MFEBHH20 was drilled using B-57 rig with a safety hammer of 140 lbs.
3. For the safety hammer, the energy efficiency is approximately 60%, and the energy correction factor is approximately 1.0.
4. The Unit weight for all samples was asumed to be 110 pcf.
5. The groundwater information has been assumed as the depth were the sample moisture condition is indicated as saturated in the field log.



Dillon County Vertical Expansion				
Boring #		SS-1-1		
Ground Water Elevation		Top Elevation		Energy Ratio
95	ft	110	ft	60%

Sequence	Sample Depth ft. (bgs)	Sample Elevation ft.	USCS Group Symbol	Total Unit Weight (pcf)	Blow Counts N	N 60	Pressure due to the soil layer (psf)	σ'_z, Effective Overburden (psf)	C_N	$(N_1)_{60}$	$(N_1)_{60}/8$ ~ Su (ksf)	$(N_1)_{60}/8$ ~ Su (psf)	Phi	**Phi (per Peck)**	**Phi (per Meyerhof)**	Phi (per Meyerhof)	USCS code
1	1	109	S	110	5	5	110	110	1.7	9	-	-999	32	30	34	34	0
1	3	107	CS	110	3	3	330	330	1.7	5	-	-999	30	28	31	31	0
2	5	105	CS	110	10	10	220	550	1.7	17	-	-999	37	32	37	37	0
3	7	103	CL	120	18	18	240	790	1.6	29	3.6	3580	40	36	-	-999	5
4	9	101	CS	110	14	14	220	1010	1.4	20	-	-999	37	33	37	37	0
5	11	99	CL	120	15	15	240	1250	1.3	19	2.4	2372	37	33	-	-999	5
6	13	97	S	110	9	9	220	1470	1.2	10	-	-999	33	30	35	35	0
7	15	95	S	110	3	3	220	1690	1.1	3	-	-999	31	28	30	30	0
8	20	90	S	110	5	5	238	1928	1.0	5	-	-999	30	28	31	31	0
9	25	85	S	110	4	4	238	2166	1.0	4	-	-999	32	28	30	30	0
10	30	80	S	110	3	3	238	2404	0.9	3	-	-999	31	28	29	29	0
11	35	75	S	110	1	1	238	2642	0.9	1	-	-999	30	27	28	28	0
12	40	70	S	110	8	8	238	2880	0.8	7	-	-999	31	29	32	32	0
13	45	65	CL	120	23	23	288	3168	0.8	18	2.3	2284	37	32	-	-999	5
14	50	60	CL	120	19	19	288	3456	0.8	14	1.8	1807	36	31	-	-999	5
15	55	55	CL	120	20	20	288	3744	0.7	15	1.8	1827	36	31	-	-999	5
16	60	50	CL	120	19	19	288	4032	0.7	13	1.7	1673	35	31	-	-999	5

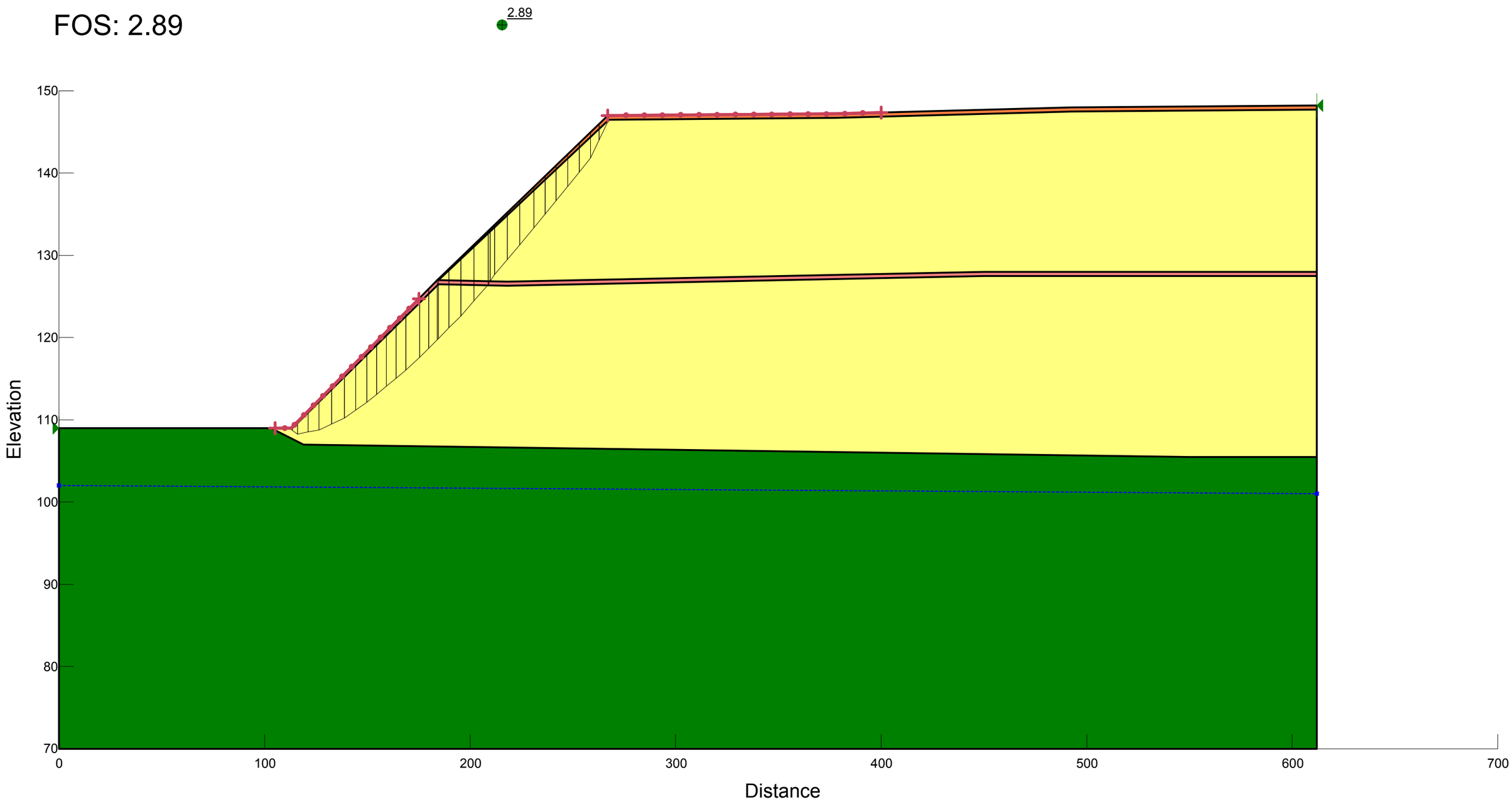
APPENDIX F

Appendix F Slope Stability Analysis

F.3 Slope Stability Plates

Dillon County Class 2 Landfill
Section A North - Embankment Stability

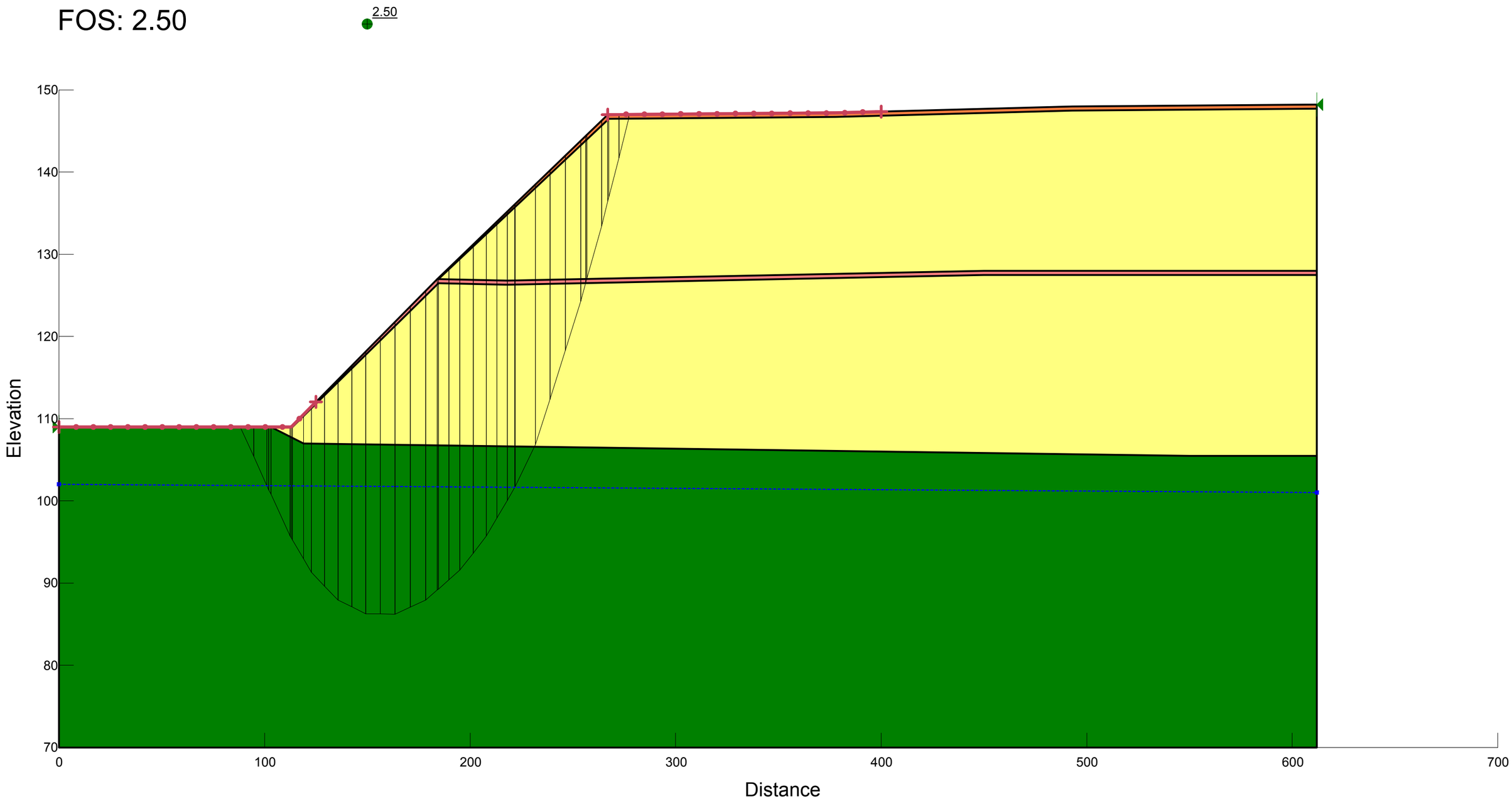
FOS: 2.89



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground - Impenetrable Model: Bedrock (Impenetrable)

Dillon County Class 2 Landfill
Section A North - Global Stability

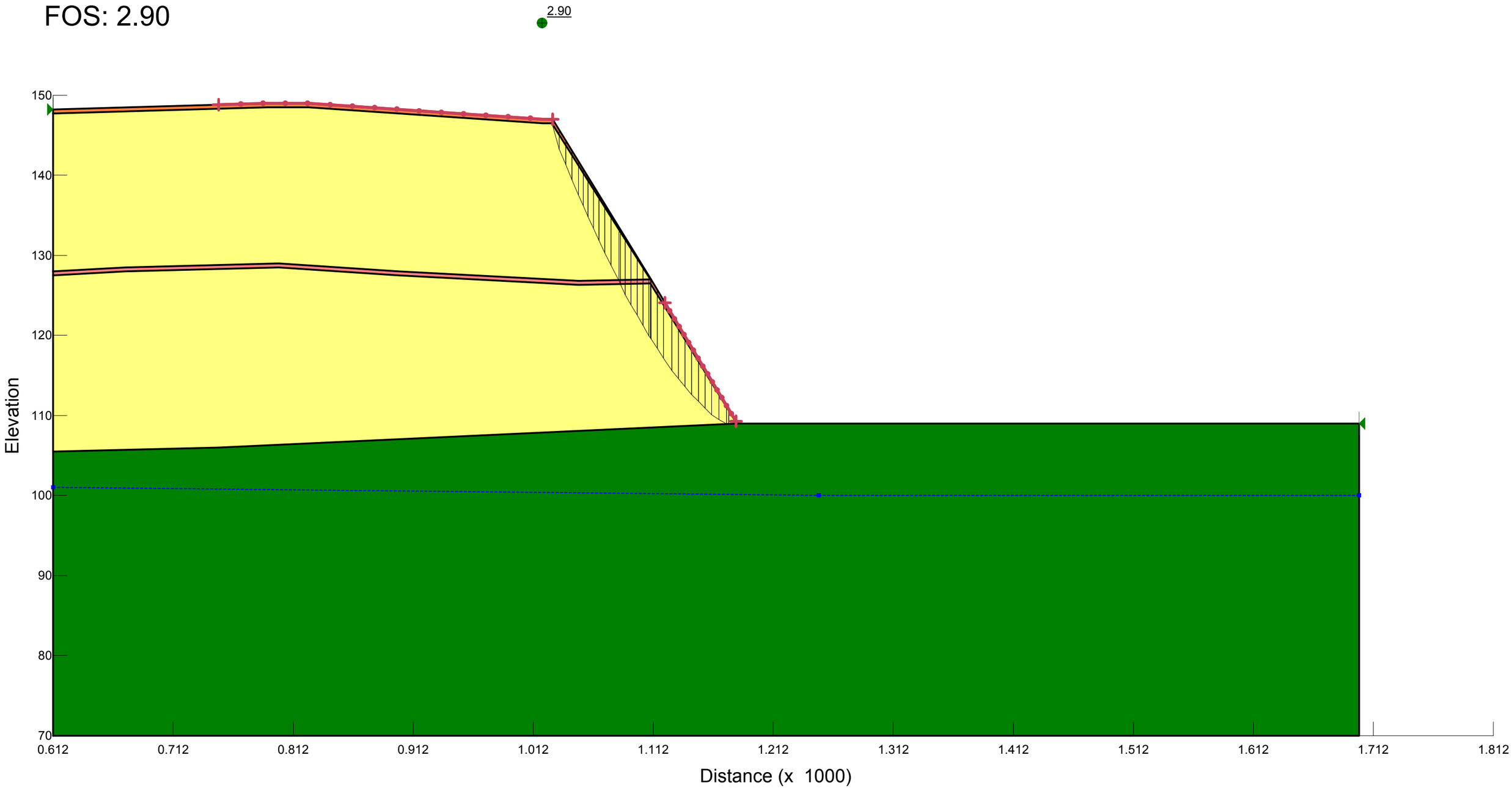
FOS: 2.50



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground Model: Mohr-Coulomb Unit Weight: 98 pcf Cohesion: 0 psf Phi: 25 °

Dillon County Class 2 Landfill
Section A South - Embankment Stability

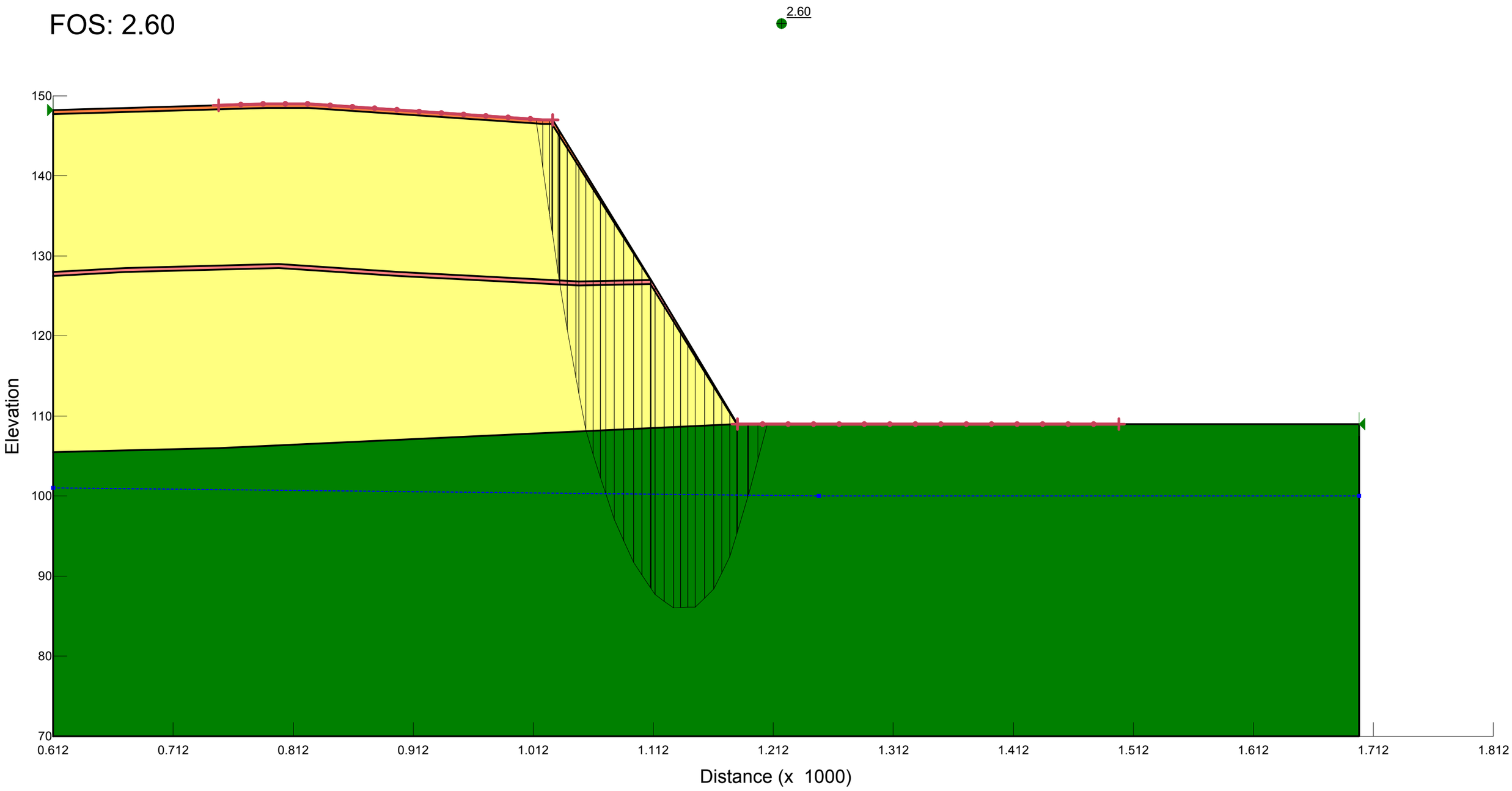
FOS: 2.90



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground - Impenetrable Model: Bedrock (Impenetrable)

Dillon County Class 2 Landfill
Section A South - Global Stability

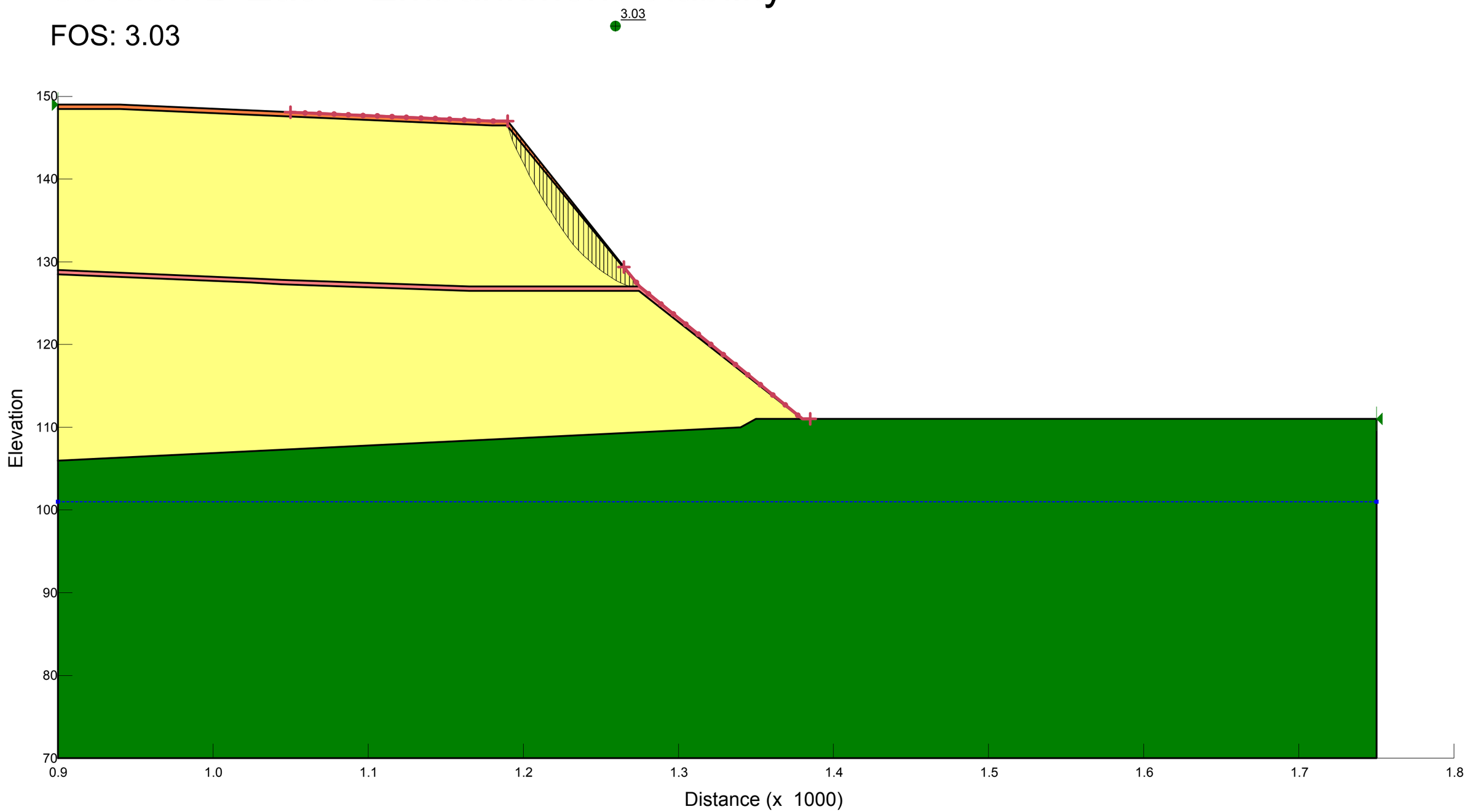
FOS: 2.60



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground Model: Mohr-Coulomb Unit Weight: 98 pcf Cohesion: 0 psf Phi: 25 °

Dillon County Class 2 Landfill
Section B East - Embankment Stability

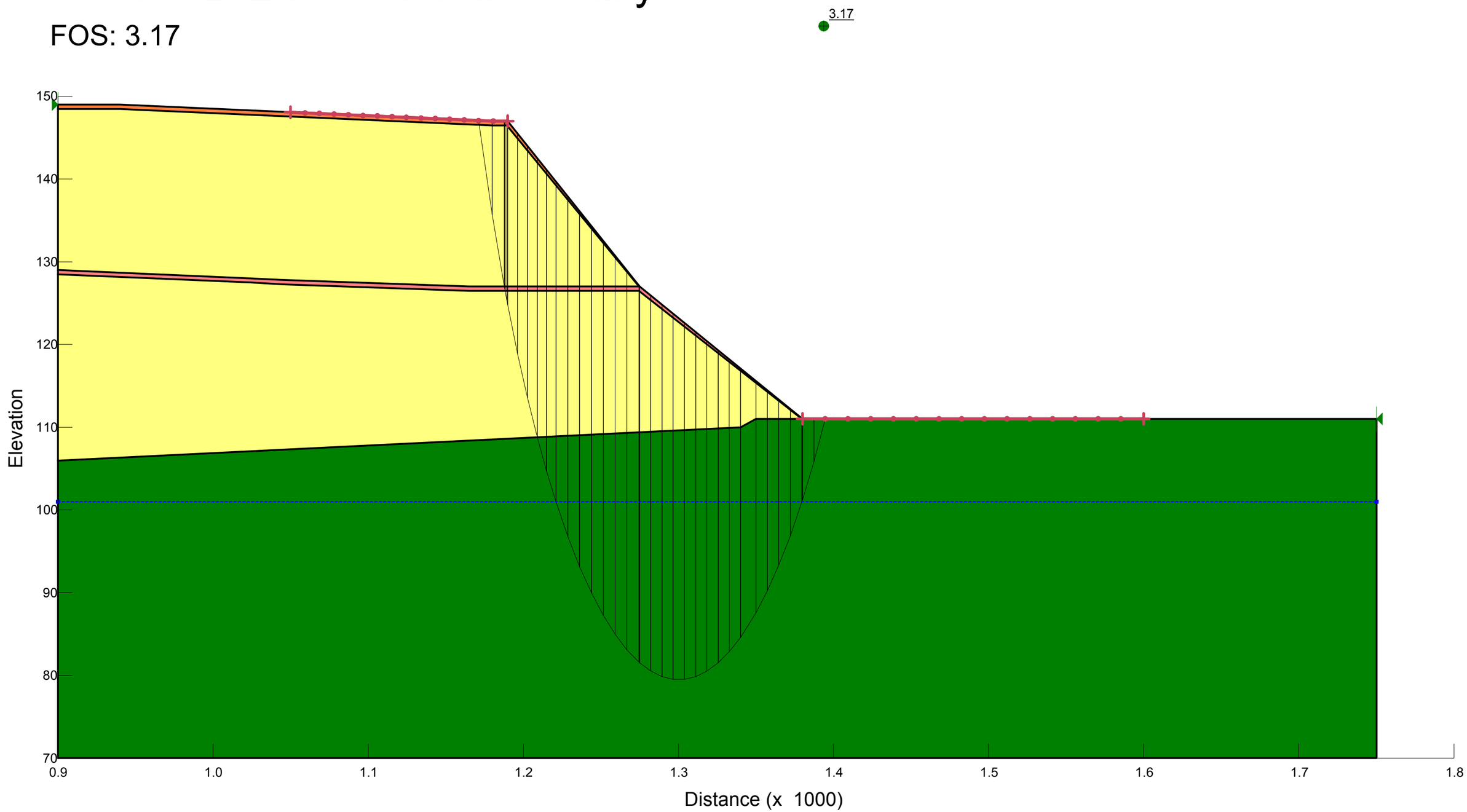
FOS: 3.03



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground - Impenetrable Model: Bedrock (Impenetrable)

Dillon County Class 2 Landfill
Section B East - Global Stability

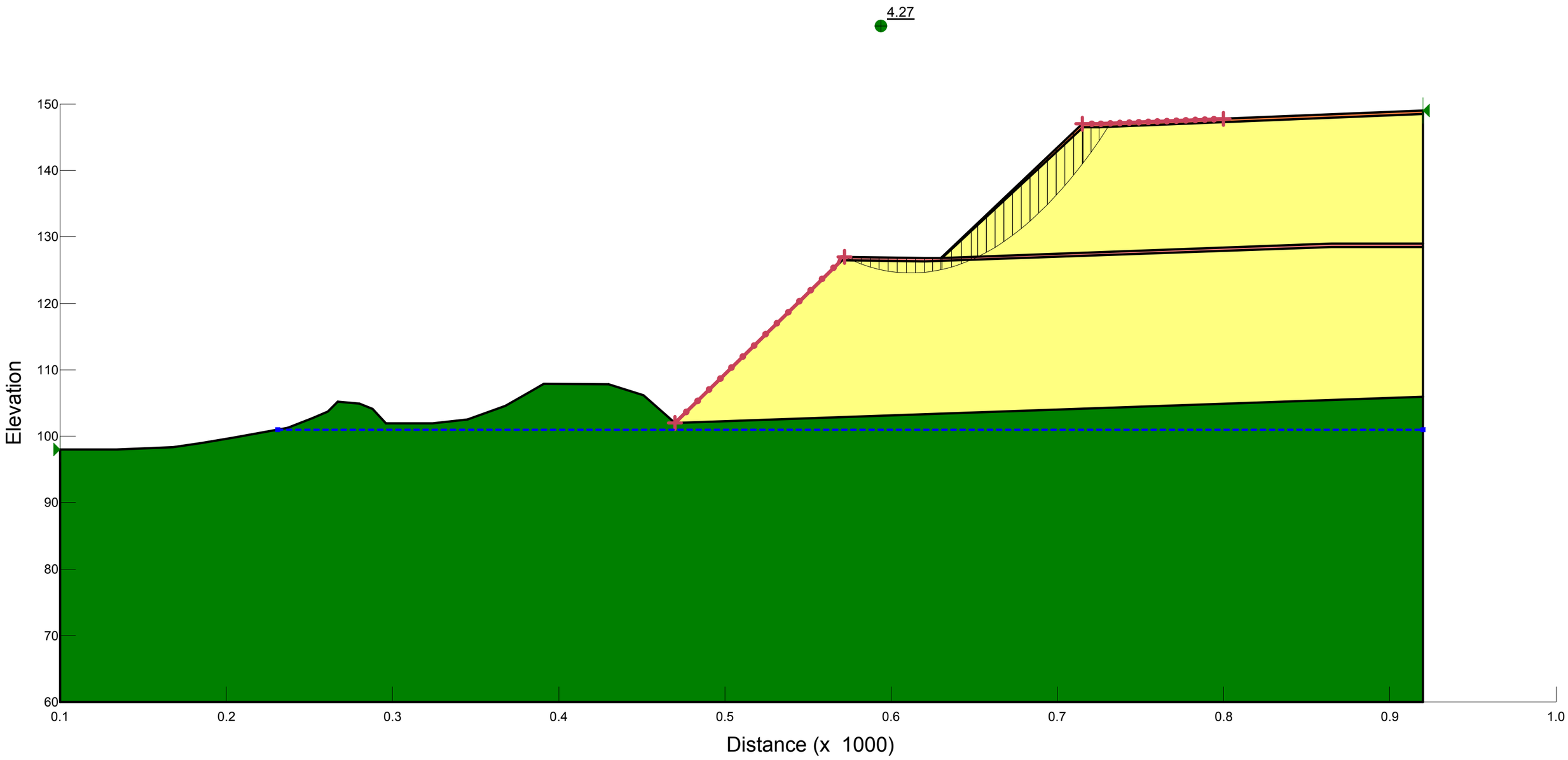
FOS: 3.17



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground Model: Mohr-Coulomb Unit Weight: 98 pcf Cohesion: 0 psf Phi: 25 °

Dillon County Class 2 Landfill
Section B West - Complete Embankment Stability

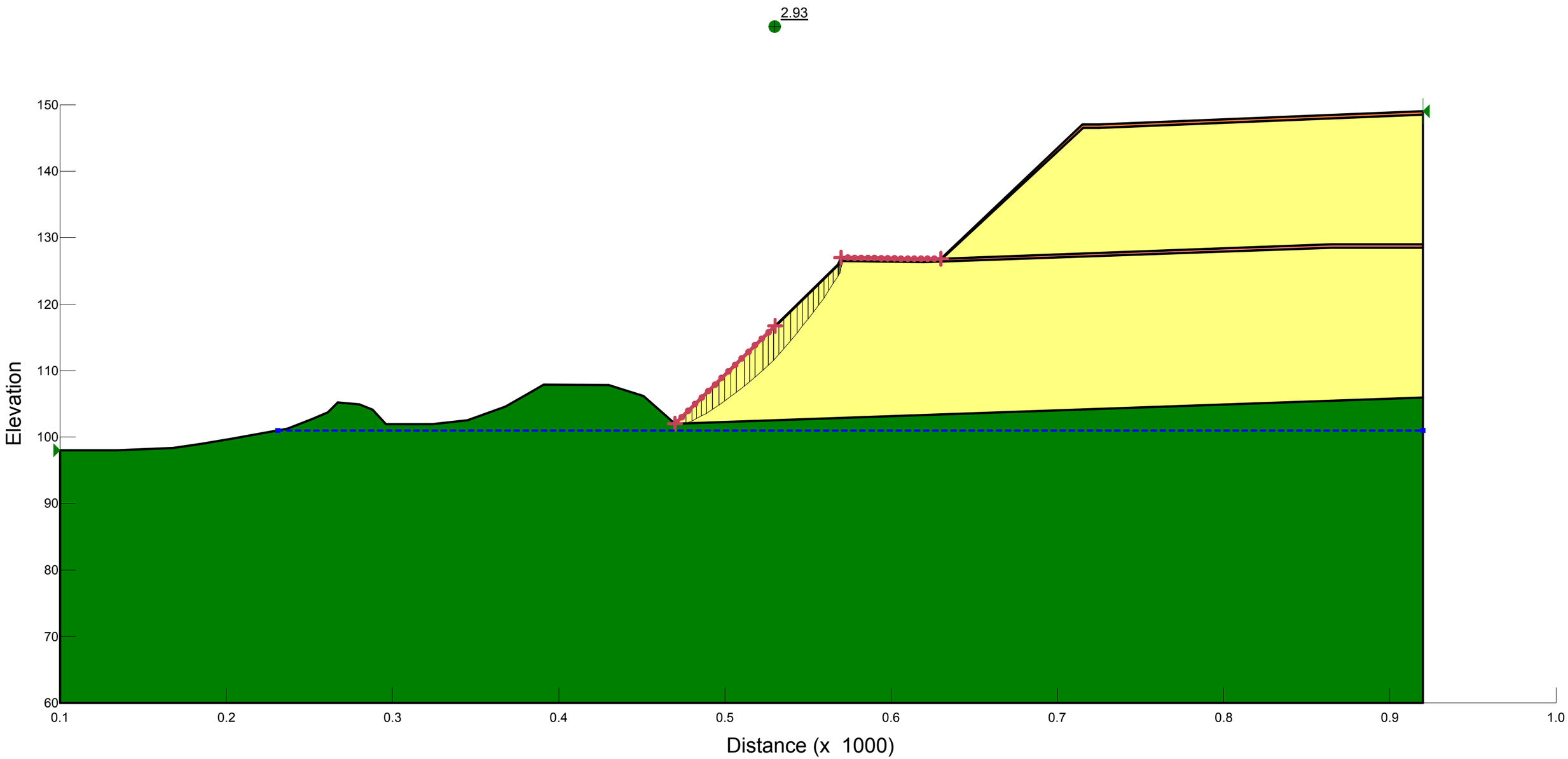
FOS: 4.27



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground - Impenetrable Model: Bedrock (Impenetrable)

Dillon County Class 2 Landfill
Section B West - Existing Embankment Stability

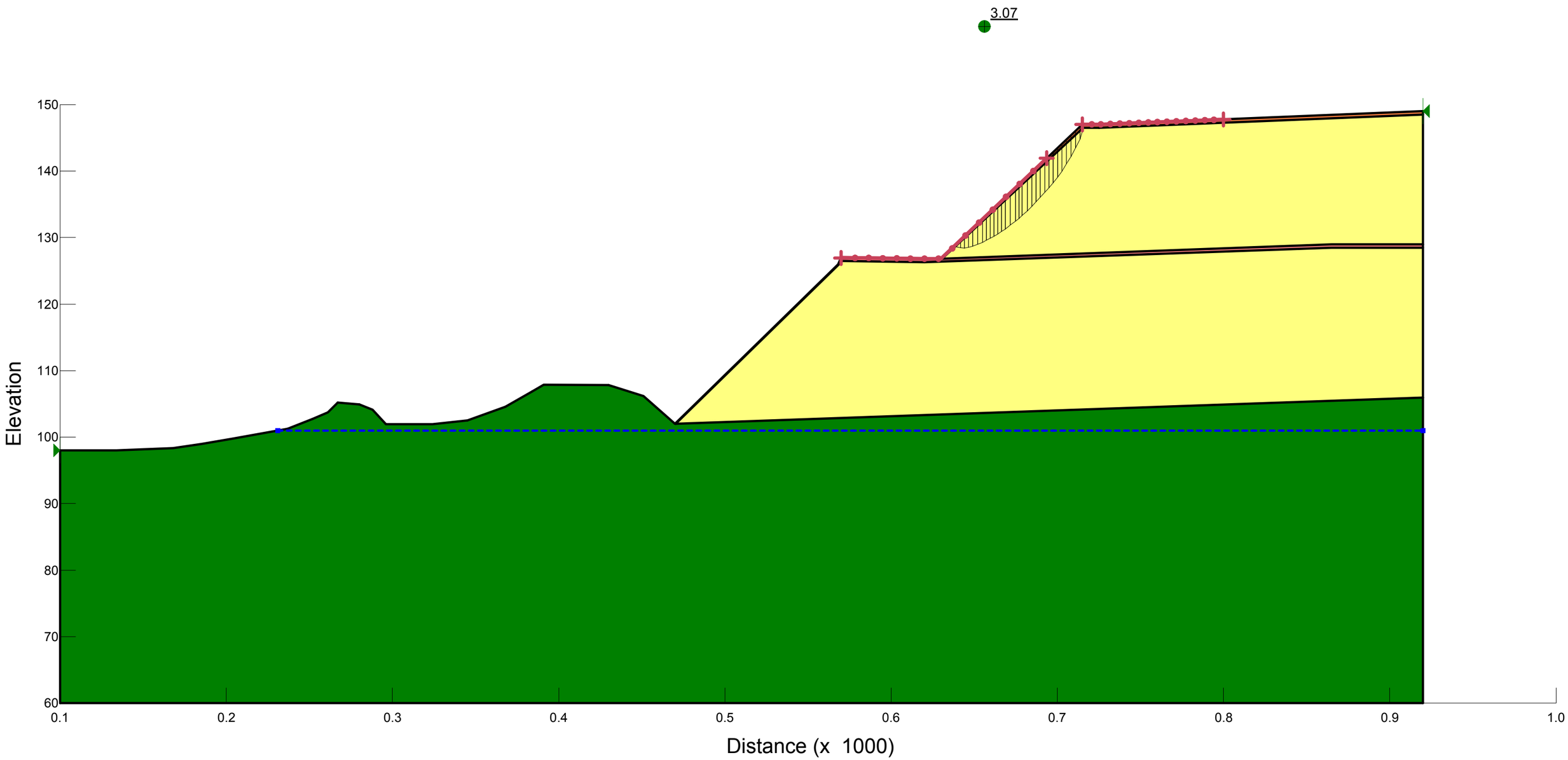
FOS: 2.93



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground - Impenetrable Model: Bedrock (Impenetrable)

Dillon County Class 2 Landfill
Section B West - Embankment Exp. Stability

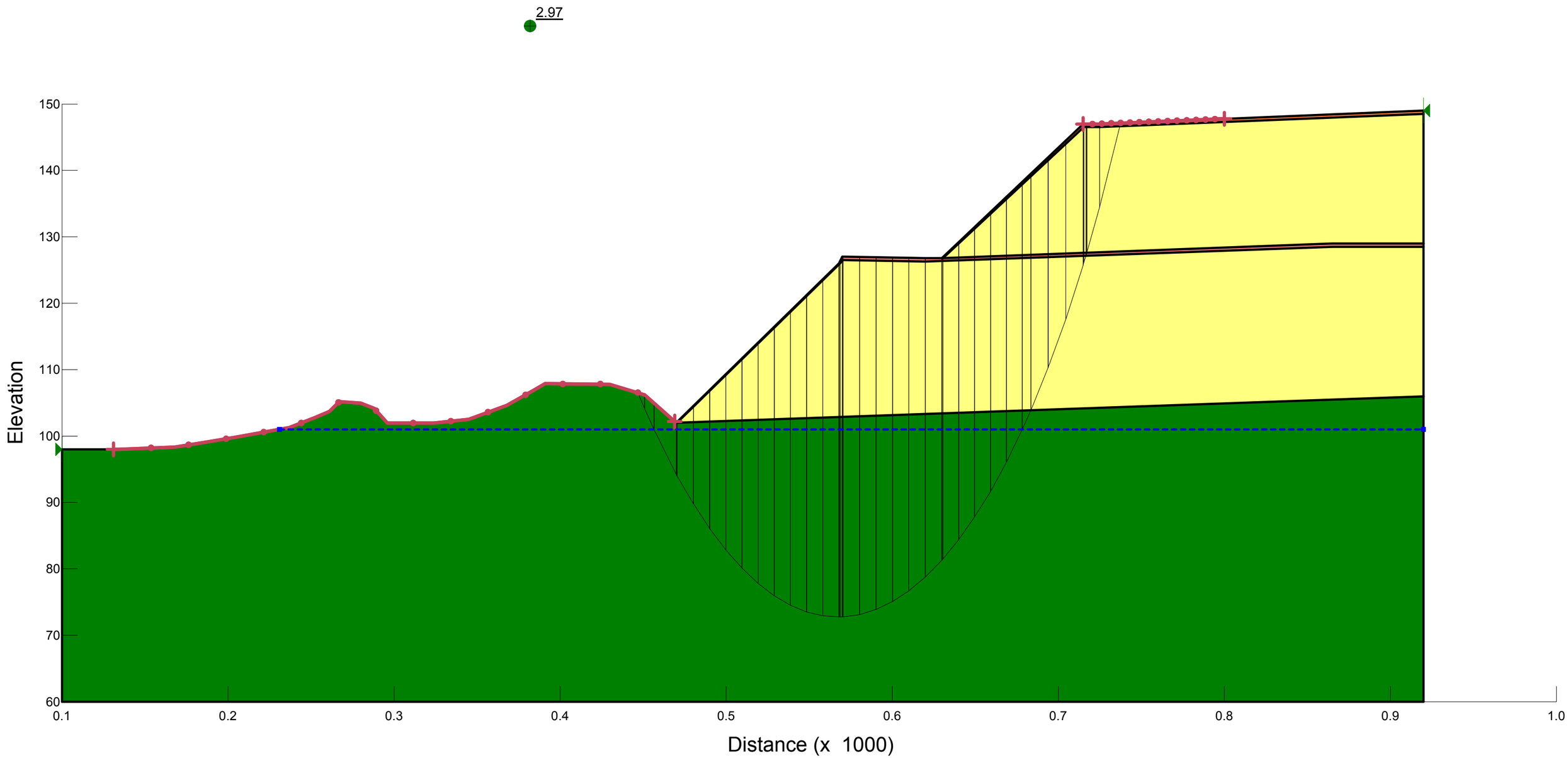
FOS: 3.07



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground - Impenetrable Model: Bedrock (Impenetrable)

Dillon County Class 2 Landfill
Section B West - Global Stability

FOS: 2.97



Name: Waste Material Model: Mohr-Coulomb Unit Weight: 75 pcf Cohesion: 0 psf Phi: 35 °
Name: Structural Fill Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Cover Soil Model: Mohr-Coulomb Unit Weight: 105 pcf Cohesion: 270 psf Phi: 25 °
Name: Natural Ground Model: Mohr-Coulomb Unit Weight: 98 pcf Cohesion: 0 psf Phi: 25 °

APPENDIX G

Settlement Analysis

1.0 OBJECTIVE:

Estimate the maximum settlement of the native soil below the landfill under final grading.

2.0 GIVEN

1. Site Soil Borings and Laboratory Data.

3.0 ASSUMPTIONS

1. Based on a review of soil data, the soils underlying the site are primarily clayey sand with varying fines content. Clayey soils are encountered at depths greater than 40 feet below ground surface. For the purposes of this calculation, settlements in the deep clays are assumed to be minimal.

2. Based on laboratory testing, the initial void ratio of the layer is 0.635.

3. Density of the compressible layer is 98 pcf.

4. Based on a review of previous and proposed design drawings, the following elevations are assumed for the area of greatest settlement:

   Original Ground: 112'
   Bottom of Landfill: 106'
   Top of Landfill – Original Design:129'
   Top of Landfill – Proposed Design: 149'
   Groundwater Elevation: 98'

5. Based on review of the 2016 tonnage for the Class 2 landfill has estimated the unit weight to be approximately 40 pcf. Conservatively assume the waste density to be 50 pcf.

6. Based on laboratory testing, Compression Index (Cc) = 0.063 at design loads

4.0 CALCULATIONS

S = Cc/ (1+e_o) * H * log [(Po' + dP)/Po'] where:

S = Estimated Settlement (ft)

Cc = Compression Index (0.017)

e_o = initial void ratio (0.063)

H – thickness of compressible layer (ft)

Po' – initial effective stress at the mid-point of the compressible layer (psf)

dP – additional stress at the mid-point of the compressible layer (additional load due to soil and waste placement) (psf)

Po' = Weight of soil above compressible layer + weight of compressible layer at H/2 – water level above mid-point of compressible layer (16') x 62.4 pcf

Divide the compressible layers into four 8' segments and calculate the settlement for each. (See Attached Spreadsheet).

Example Calculation

Interval 98' - 90'

Po' = [(106' - 98') * 98 pcf] + [(8'/2 * 98 pcf) – (4'*62.4 pcf) = 926.4 psf

dP = waste height * 50 pcf

P = (149 - 106) * 50 pcf = 2,150 psf

S = [0.017/(1+0.635)] * 8' * log [(926 psf + 2150 psf)/926 psf]

S = 0.016'

See attached spreadsheet (p. 6) for complete calculation

6.0 CONCLUSIONS:

The total estimated maximum settlement is 0.67 feet.

Due to the difference in groundwater elevation across the site and shape of the bottom of the landfill, the separation between the base of the landfill and the groundwater elevations varies considerably. This difference is shown on Drawings 6 and 7 of the submitted plans and outlined in Table 1, Difference of Base Elevation and Groundwater After Settlement. The separation between the bottom of the landfill to groundwater is greater than the required 2 feet by SCDHEC.

Table 1. Difference of Base Elevation and Groundwater After Settlement

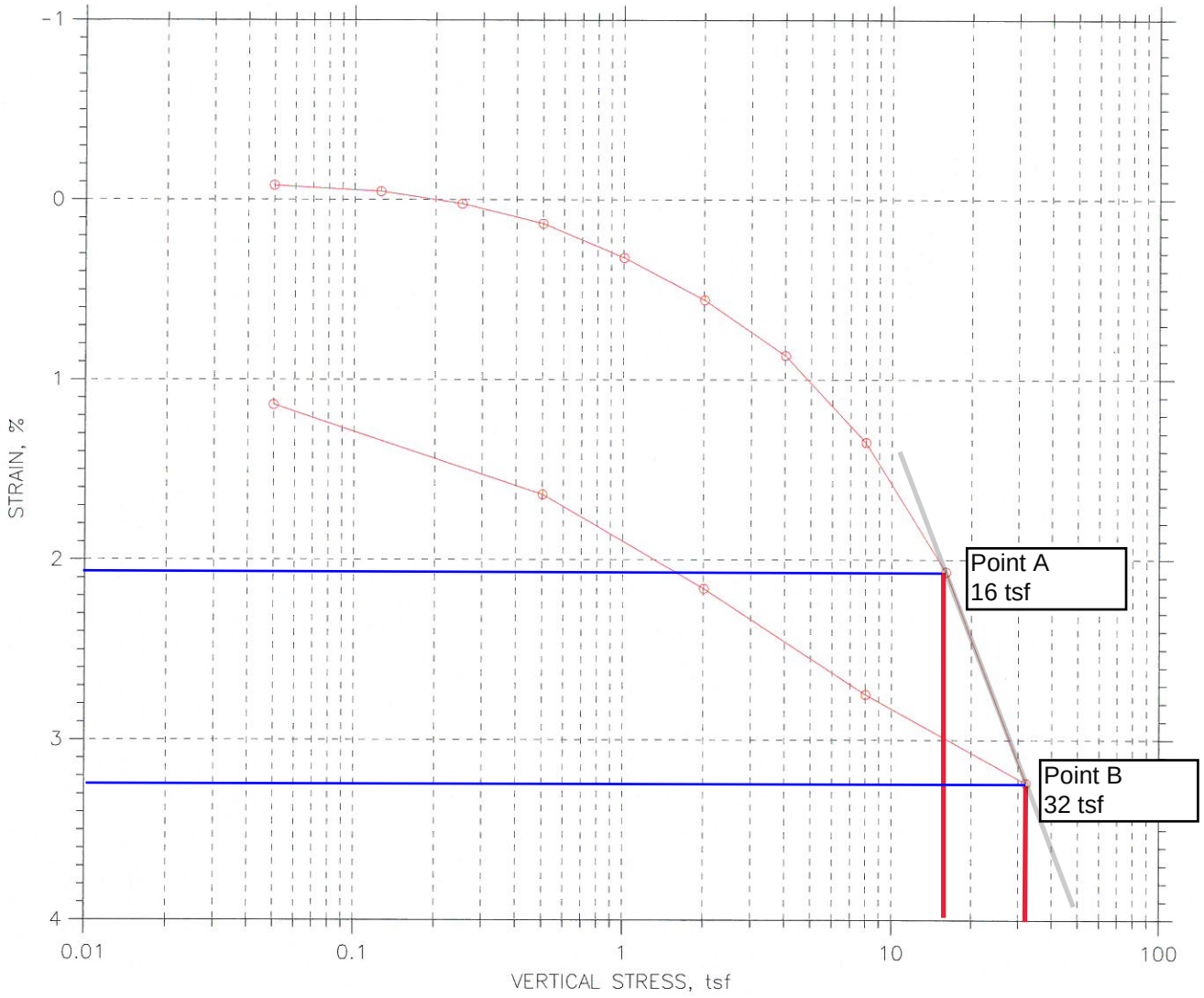
Cross Section	Base of the Landfill El. (ft.)	Maximum Groundwater El. (ft.)	Base and Groundwater El. Difference (ft.)
Section A – Minimum	104.8	100.6	4.2
Section A – Maximum	109.0	98.0	11.0
Section B – Minimum	100.3	97.1	3.2
Section B - Maximum	111.0	98.0	13.0

* All base elevations estimated to have maximum settlement of 0.67 feet.

Settlement Calculation
Graph used for Compression Index Cc

One-Dimensional Consolidation by ASTM D 2435 - Method B

SUMMARY REPORT



					Before Test	After Test
Overburden Pressure: ---				Water Content, %	24.00	24.03
Preconsolidation Pressure: ---				Dry Unit Weight, pcf	98.968	99.654
Compression Index: ---				Saturation, %	98.13	100.00
Diameter: 2.5 in		Height: 1.017 in		Void Ratio	0.63	0.62
LL: ---	PL: ---	PI: ---	GS: 2.59			

GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		
	Displacement at End of Increment		

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Settlement Calculation
Data used for Compression Index Cc

One-Dimensional Consolidation by ASTM D 2435 - Method B

Project: Dillon County 1F
Boring No.: ---
Sample No.: SS-1
Test No.: C3.1

Location: ---
Tested By: jm
Test Date: 9/24/12
Sample Type: Intact

Project No.: GTX-1875
Checked By: MCM
Depth: 8.4-8.5
Elevation: ---

Soil Description: Moist, red and light tan clayey sand
Remarks: System 5077 - Using ICONP 1.0.11.279
Displacement at End of Increment

	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft^2/sec	Mv 1/tsf	k cm/sec
1	0.0500	-0.0008260	0.635	-0.0812	0.000	0.00e+000	-1.62e-002	0.00e+000
2	0.125	-0.0004787	0.634	-0.0471	0.195	1.30e-004	4.55e-003	5.64e-007
3	0.250	0.0002199	0.633	0.0216	49.238	5.16e-007	5.50e-003	2.70e-009
4	0.500	0.001342	0.631	0.132	4.864	5.21e-006	4.41e-003	2.19e-008
5	1.00	0.003272	0.628	0.322	4.654	5.43e-006	3.80e-003	1.96e-008
6	2.00	0.005660	0.624	0.557	4.346	5.79e-006	2.35e-003	1.29e-008
7	4.00	0.008793	0.619	0.865	2.858	8.76e-006	1.54e-003	1.28e-008
8	8.00	0.01371	0.611	1.35	2.911	8.52e-006	1.21e-003	9.80e-009
9	16.0	0.02101	0.600	2.07	2.851	8.60e-006	8.98e-004	7.34e-009
10	32.0	0.03292	0.581	3.24	2.694	8.93e-006	7.32e-004	6.22e-009
11	8.00	0.02794	0.589	2.75	4.627	5.16e-006	2.04e-004	1.00e-009
12	2.00	0.02196	0.598	2.16	5.632	4.29e-006	9.79e-004	3.99e-009
13	0.500	0.01664	0.607	1.64	7.869	3.10e-006	3.49e-003	1.03e-008
14	0.0500	0.01157	0.615	1.14	13.717	1.80e-006	1.11e-002	1.90e-008

	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft^2/sec	Mv 1/tsf	k cm/sec	Ca %
1	0.0500	-0.0008260	0.635	-0.0812	0.000	0.00e+000	-1.62e-002	0.00e+000	0.00e+000
2	0.125	-0.0004787	0.634	-0.0471	0.000	0.00e+000	4.55e-003	0.00e+000	0.00e+000
3	0.250	0.0002199	0.633	0.0216	0.000	0.00e+000	5.50e-003	0.00e+000	0.00e+000
4	0.500	0.001342	0.631	0.132	0.000	0.00e+000	4.41e-003	0.00e+000	0.00e+000
5	1.00	0.003272	0.628	0.322	0.000	0.00e+000	3.80e-003	0.00e+000	0.00e+000
6	2.00	0.005660	0.624	0.557	0.000	0.00e+000	2.35e-003	0.00e+000	0.00e+000
7	4.00	0.008793	0.619	0.865	0.000	0.00e+000	1.54e-003	0.00e+000	0.00e+000
8	8.00	0.01371	0.611	1.35	0.000	0.00e+000	1.21e-003	0.00e+000	0.00e+000
9	16.0	0.02101	0.600	2.07	0.251	2.27e-005	8.98e-004	1.94e-008	0.00e+000
10	32.0	0.03292	0.581	3.24	0.532	1.05e-005	7.32e-004	7.32e-009	0.00e+000
11	8.00	0.02794	0.589	2.75	1.300	4.27e-006	2.04e-004	8.29e-010	0.00e+000
12	2.00	0.02196	0.598	2.16	1.929	2.91e-006	9.79e-004	2.71e-009	0.00e+000
13	0.500	0.01664	0.607	1.64	2.891	1.96e-006	3.49e-003	6.51e-009	0.00e+000
14	0.0500	0.01157	0.615	1.14	3.762	1.52e-006	1.11e-002	1.61e-008	0.00e+000

$P_A = 16 \quad e_A = 0.600 \quad \varepsilon_A = 2.07$

$P_B = 32 \quad e_B = 0.581 \quad \varepsilon_B = 3.24$

$$C_c = \frac{\Delta e}{\text{Log}\left(P_B/P_A\right)} = \frac{0.019}{\text{Log}\left(32/16\right)} = 0.063$$

Dillon County Class 2 Landfill - Settlement Calculation																
Interval		Compressible Layer				Hydrostatic at H/2			*Po' at H/2*	Waste			*Delta P*	Cc	e_o	*S (ft)*
		H_c (ft)	H/2	Density (pcf)	P_c (psf)	h_w	Density (pcf)	P_{up} (psf)		h_{waste}	Density	P_{waste}				
106	98	8	4	98	392	0	62.4	0	*392*	43	50	2,150	*2,150*	0.063	0.635	*0.25*
98	90	8	4	98	1176	4	62.4	250	*926*	43	50	2,150	*2,150*	0.063	0.635	*0.16*
90	82	8	4	98	1960	12	62.4	749	*1,211*	43	50	2,150	*2,150*	0.063	0.635	*0.14*
82	74	8	4	98	2744	20	62.4	1,248	*1,496*	43	50	2,150	*2,150*	0.063	0.635	*0.12*
															Total S	**0.67**

ATTACHMENT I

Laboratory Data

Bowles, Joseph E. (1992). *Engineering Properties of Soils and their Measurement*, New York, McGraw-Hill, Inc.

From an arithmetic plot of e vs. pressure one can obtain the *coefficient of compressibility* a_v (Fig. 13-8) defined as:

$$a_v = \frac{\Delta e}{\Delta p} \tag{13-13}$$

with the negative sign disregarded. Also one can obtain the *coefficient of volume compressibility* m_v as

$$m_v = \frac{a_v}{1 + e_o} \tag{13-14}$$

Note that m_v is the reciprocal of the stress-strain modulus ($1/E_s$).

From a semilog plot (most common method of presenting data) of void ratio vs. log pressure (see Fig. 13-9), we obtain, from the straight-line part past the preconsolidation pressure, the *compression index*, C_c,

$$C_c = \frac{\Delta e}{\log(p_2/p_1)} \tag{13-15}$$

The negative sign should be ignored. If there is an unload branch we can obtain the *swell index* C_s as

$$C_s = \frac{\Delta e_s}{\log(p_2/p_1)} \tag{13-16}$$

Again ignore the negative sign. The initial branch of the usual consolidation test on an "undisturbed" field soil has a characteristic slope of the first two plotted points (25 and 50 kPa) of Fig. 13-9. If you let the sample rebound from the 1600 kPa point back to 100 kPa and then recompress to 1600 kPa, you also obtain the characteristic slope of an "undisturbed" soil. The best-fit slope of this curve part is called the *recompression index* C_r and is computed as

$$C_r = \frac{\Delta e_r}{\log(p_2/p_1)} \tag{13-17}$$

Again neglect the negative sign. If you have several recompression branches you should use an average value of C_r from all of the branches.

In Equations (13-15), (13-16), and (13-17) you should extend the line slopes across one log cycle so that $\log(p_2/p_1) = \log 10 = 1$. Project both cycle ends to the ordinate to get the corresponding change in void ratio Δe.

2. *Plot of strain ϵ vs. log pressure.* This method of presenting consolidation test parameters is relatively recent but is becoming a preferred method. It has the advantage of not requiring so many computations, and plotting progresses with the test. The strain at the end of any load increment is simply

$$\epsilon = \frac{\Delta H}{H_i} \tag{13-18}$$

where ΔH is from Eq. (13-11) and H_i = initial sample height. These values are plotted as in Fig. 13-10. The slope of the curve portion past the preconsolidation pressure is called the *compression ratio* C_c', which is computed as

$$C_c' = \frac{\Delta \epsilon}{\log(p_2/p_1)} \tag{13-19}$$

Neglect the negative sign. By analogy one can obtain the recompression ratio C_r' and the swell ratio C_s'.

The following relationship exists between the compression index C_c and the compression ratio:

$$C_c = C_c'(1 + e_o) \tag{13-20}$$

F: PRECONSOLIDATION PRESSURE

When the void ratio vs. log pressure or strain vs. log pressure curve has been drawn, it will be found that if the test has been performed on an undisturbed sample from the field, it will have a characteristic sharp[8] curve bend such as point 0 of Fig. 13-10. This characteristic shape is attributed to the sample being unloaded of its overburden pressure when it was recovered from the field. This conclusion has been drawn from observing a similar curve shape obtained by loading and unloading consolidation-test samples in the laboratory as illustrated by the single load cycle in Fig. 13-9.

Special Note: It has been found that the characteristic shape is not clearly defined if the sample is permitted to swell during the reload branch. If it appears the sample may swell, the saturation ring should not be filled until the second or third load increment has been applied. You can ascertain if this is a problem by observing the dial gauge after the first load when you fill the ring. If it indicates swell, remove the water in the ring with a battery bulb.

From observation of the void ratio vs. log pressure (or strain vs. log pressure) curve, Casagrande (1936) proposed that the preconsolidation pressure could be estimated as follows (see Figs. 13-9 and 13-10):

a. At the sharpest part of the curve, estimated by eye, draw a tangent.
b. Through this point of tangency, draw a horizontal line such as line $0 - C$ of Fig. 13-9.
c. Bisect the angle formed in steps a and b above.
d. Extend the straight line of the e vs. log p (or ϵ vs. log p) curve until it intersects the angle-bisector line.
e. Drop a vertical line to the abscissa and read the corresponding value of pressure p.

If	Preconsolidation state
$p \le p_0$	*normally* consolidated—use p_0
$p > p_0$	*preconsolidated*—use $p_c = p_0$

In all cases p, p_o and p_c are intergranular or *effective* stresses.

f. On the e vs. log p curve, the in situ void ratio e_o can be estimated as follows:
   (1) For a normally consolidated soil extend the intersection of the p_o *point on the curve horizontally to the ordinate.*
   (2) For a preconsolidated soil extend a horizontal line from the angle bisector point B of Fig. 13-9 to the ordinate.

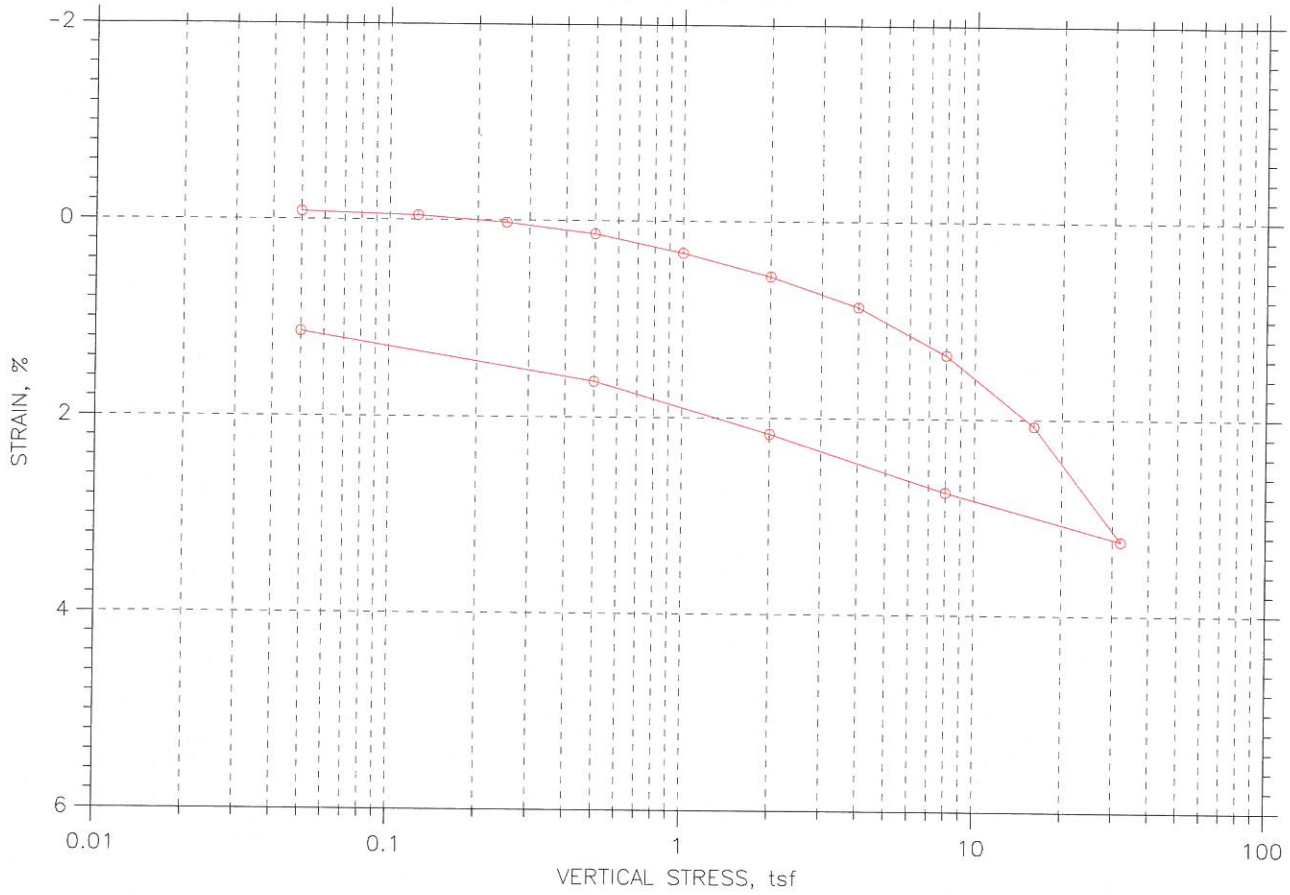
Carefully note that the initial void ratio of any undisturbed field specimen will be somewhat larger than in situ from sample expansion. This expansion, due to loss of overburden pressure, always occurs. Some empirical procedure is necessary to estimate the in situ value.

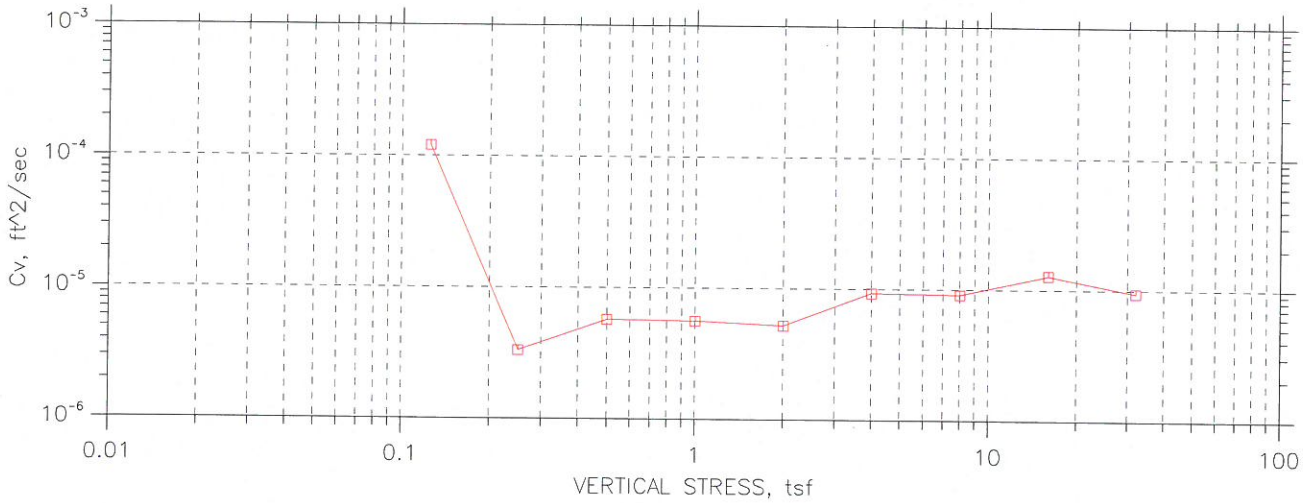
If the e vs. log p or ϵ vs. log p curve appears curved throughout without a clearly defined sharp curvature, one must either estimate the preconsolidation pressure or use

[8]Since this is a remolded sample, the "sharp" break characteristic of an undisturbed soil is not well identified. In this type of situation you must identify the preconsolidation point as best you can.

One-Dimensional Consolidation by ASTM D 2435 - Method B

SUMMARY REPORT





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		
	Displacement at End of Increment		

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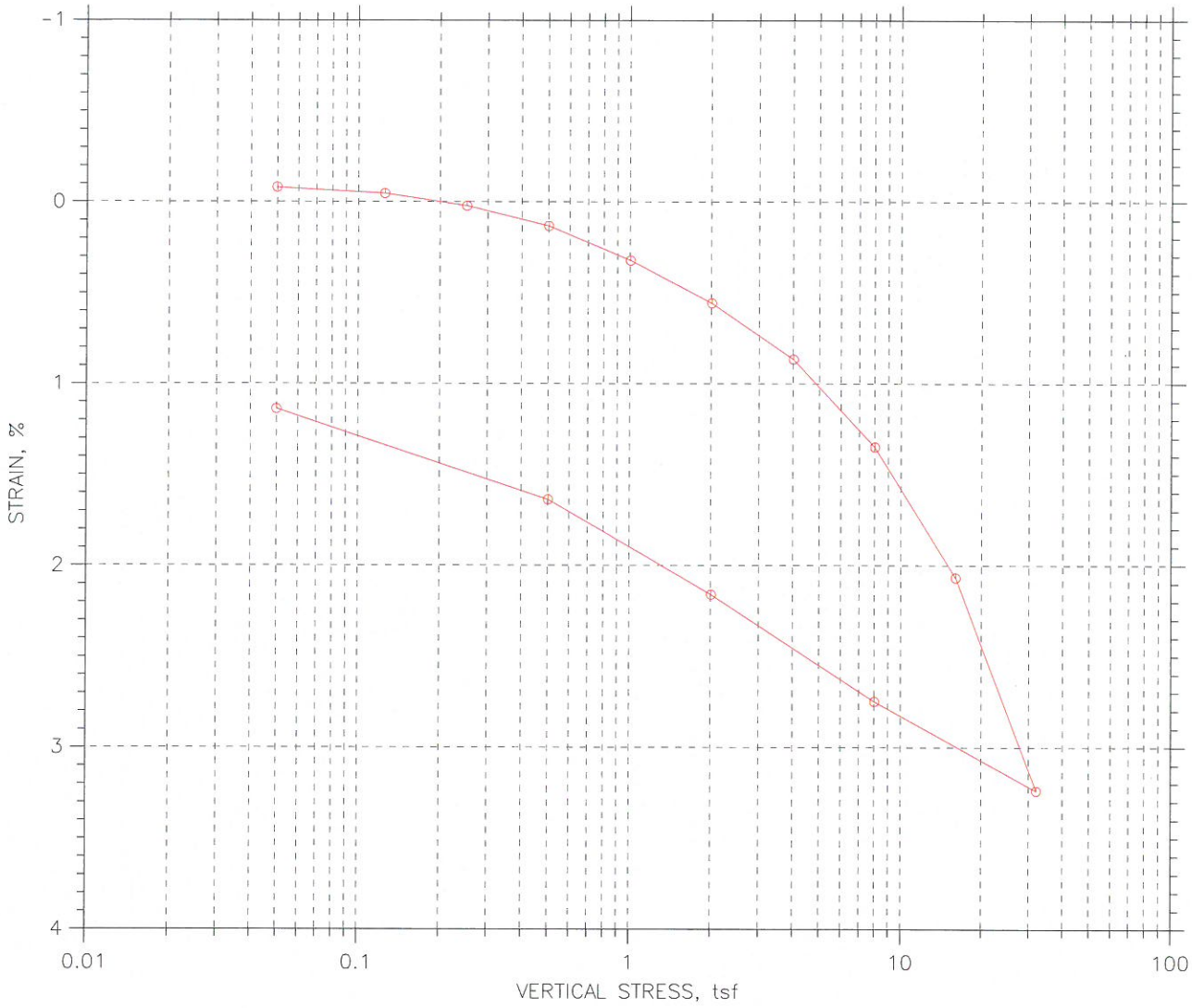
One-Dimensional Consolidation by ASTM D 2435 - Method B

SUMMARY REPORT



					Before Test	After Test
Overburden Pressure: ---				Water Content, %	24.00	24.03
Preconsolidation Pressure: ---				Dry Unit Weight, pcf	98.968	99.654
Compression Index: ---				Saturation, %	98.13	100.00
Diameter: 2.5 in		Height: 1.017 in		Void Ratio	0.63	0.62
LL: ---	PL: ---	PI: ---	GS: 2.59			

GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		
	Displacement at End of Increment		

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One-Dimensional Consolidation by ASTM D 2435 - Method B

Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
Boring No.: ---	Tested By: jm	Checked By: MCM
Sample No.: SS-1	Test Date: 9/24/12	Depth: 8.4-8.5
Test No.: C3.1	Sample Type: Intact	Elevation: ---

Soil Description: Moist, red and light tan clayey sand
Remarks: System 5077 - Using ICONP 1.0.11.279

Estimated Specific Gravity: 2.59	Liquid Limit: ---	Specimen Diameter: 2.50 in
Initial Void Ratio: 0.633	Plastic Limit: ---	Initial Height: 1.02 in
Final Void Ratio: 0.622	Plasticity Index: ---	Final Height: 1.01 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	A20	RING	a22	a22
Wt. Container + Wet Soil, gm	117.51	177.79	177.82	177.82
Wt. Container + Dry Soil, gm	98.010	146.66	146.66	146.66
Wt. Container, gm	16.640	16.970	16.970	16.970
Wt. Dry Soil, gm	81.370	129.69	129.69	129.69
Water Content, %	23.96	24.00	24.03	24.03
Void Ratio	---	0.633	0.622	---
Degree of Saturation, %	---	98.13	100.00	---
Dry Unit Weight, pcf	---	98.968	99.654	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.

One-Dimensional Consolidation by ASTM D 2435 - Method B

Project: Dillon County 1F
Boring No.: ---
Sample No.: SS-1
Test No.: C3.1

Location: ---
Tested By: jm
Test Date: 9/24/12
Sample Type: Intact

Project No.: GTX-1875
Checked By: MCM
Depth: 8.4-8.5
Elevation: ---

Soil Description: Moist, red and light tan clayey sand
Remarks: System 5077 - Using ICONP 1.0.11.279
Displacement at End of Increment

	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft^2/sec	Mv 1/tsf	k cm/sec
1	0.0500	-0.0008260	0.635	-0.0812	0.000	0.00e+000	-1.62e-002	0.00e+000
2	0.125	-0.0004787	0.634	-0.0471	0.195	1.30e-004	4.55e-003	5.64e-007
3	0.250	0.0002199	0.633	0.0216	49.238	5.16e-007	5.50e-003	2.70e-009
4	0.500	0.001342	0.631	0.132	4.864	5.21e-006	4.41e-003	2.19e-008
5	1.00	0.003272	0.628	0.322	4.654	5.43e-006	3.80e-003	1.96e-008
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7	4.00	0.008793	0.619	0.865	2.858	8.76e-006	1.54e-003	1.28e-008
8	8.00	0.01371	0.611	1.35	2.911	8.52e-006	1.21e-003	9.80e-009
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	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft^2/sec	Mv 1/tsf	k cm/sec	Ca %
1	0.0500	-0.0008260	0.635	-0.0812	0.000	0.00e+000	-1.62e-002	0.00e+000	0.00e+000
2	0.125	-0.0004787	0.634	-0.0471	0.000	0.00e+000	4.55e-003	0.00e+000	0.00e+000
3	0.250	0.0002199	0.633	0.0216	0.000	0.00e+000	5.50e-003	0.00e+000	0.00e+000
4	0.500	0.001342	0.631	0.132	0.000	0.00e+000	4.41e-003	0.00e+000	0.00e+000
5	1.00	0.003272	0.628	0.322	0.000	0.00e+000	3.80e-003	0.00e+000	0.00e+000
6	2.00	0.005660	0.624	0.557	0.000	0.00e+000	2.35e-003	0.00e+000	0.00e+000
7	4.00	0.008793	0.619	0.865	0.000	0.00e+000	1.54e-003	0.00e+000	0.00e+000
8	8.00	0.01371	0.611	1.35	0.000	0.00e+000	1.21e-003	0.00e+000	0.00e+000
9	16.0	0.02101	0.600	2.07	0.251	2.27e-005	8.98e-004	1.94e-008	0.00e+000
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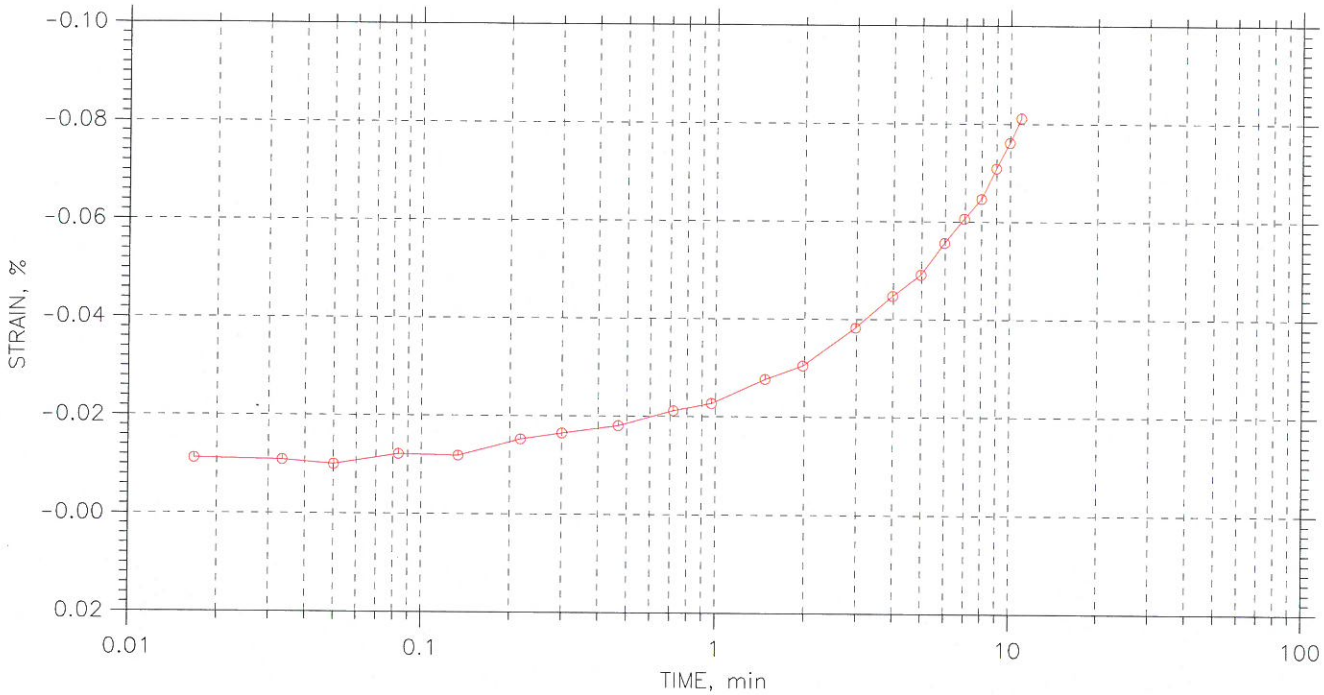
12	2.00	0.02196	0.598	2.16	1.929	2.91e-006	9.79e-004	2.71e-009	0.00e+000
13	0.500	0.01664	0.607	1.64	2.891	1.96e-006	3.49e-003	6.51e-009	0.00e+000
14	0.0500	0.01157	0.615	1.14	3.762	1.52e-006	1.11e-002	1.61e-008	0.00e+000

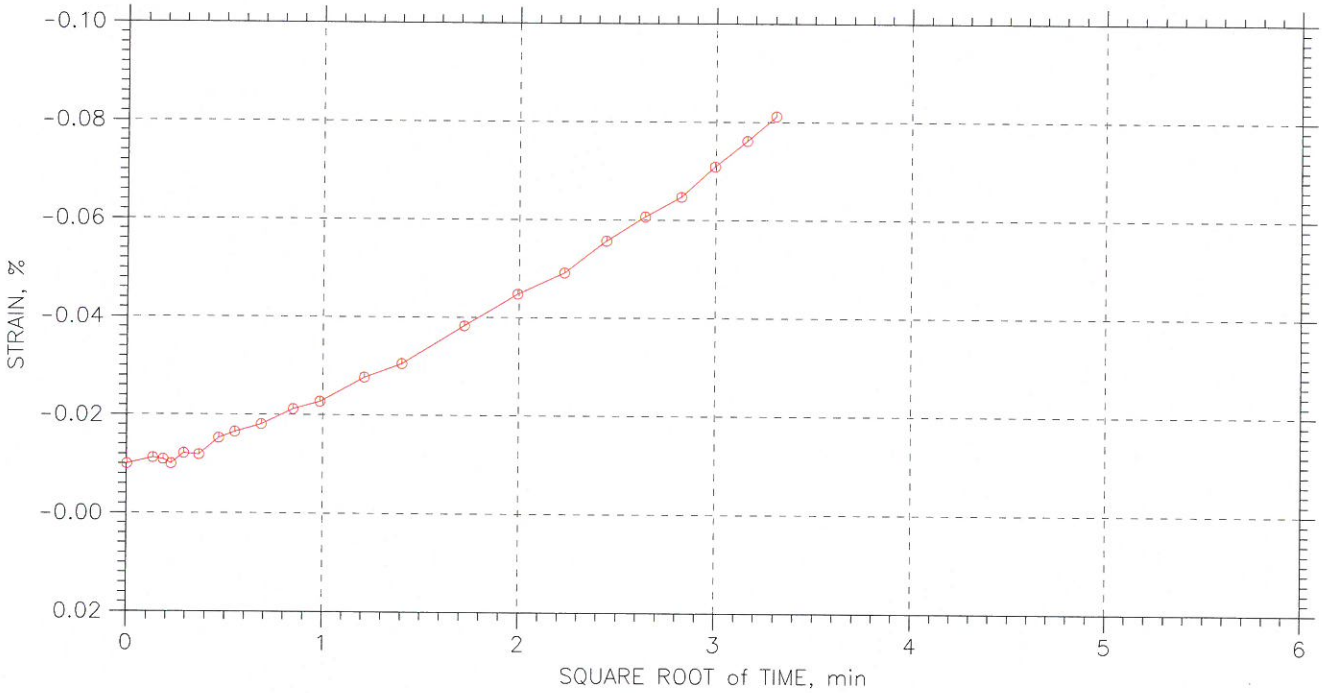
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 1 of 14

Stress: 0.05 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

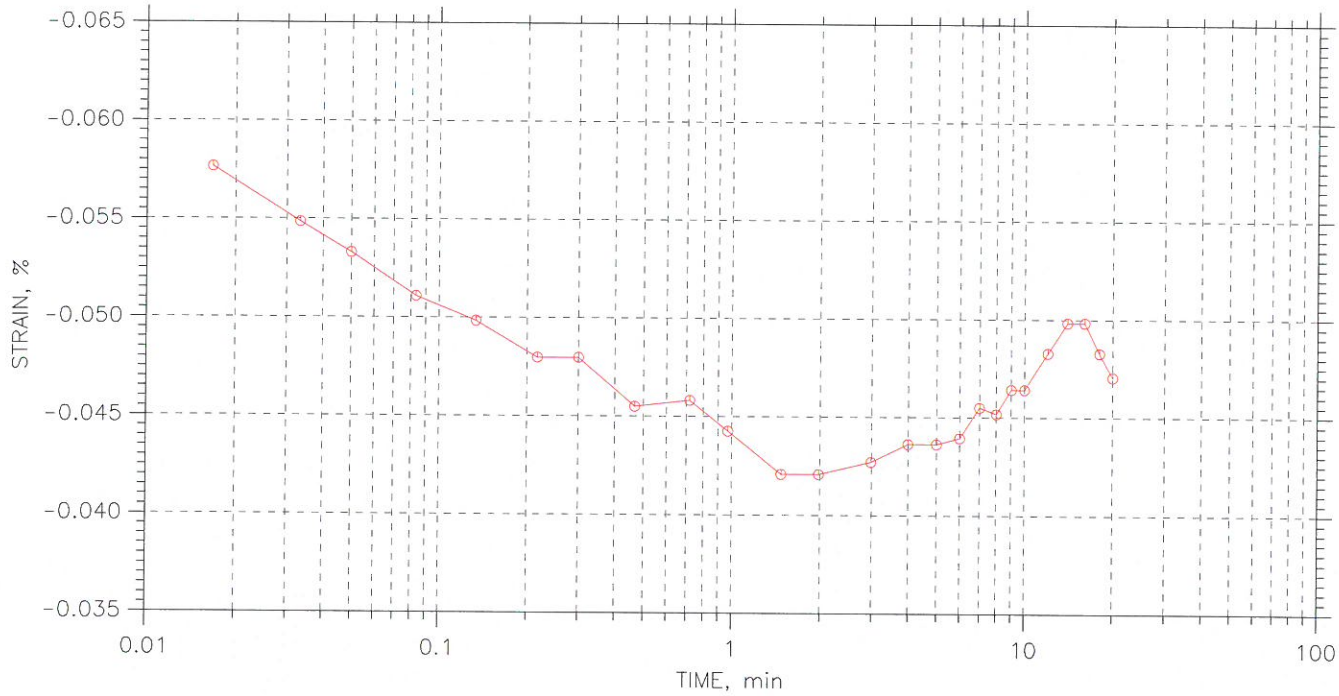
Tue, 25-SEP-2012 10:05:44

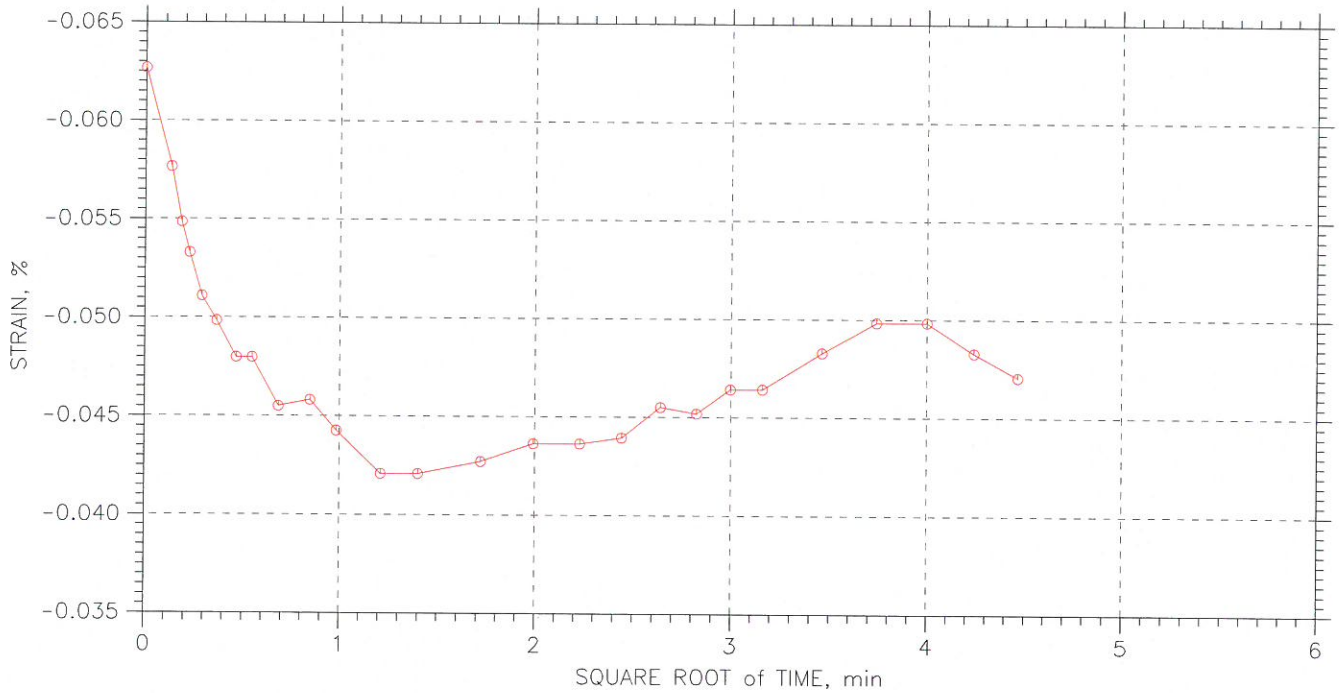
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 2 of 14

Stress: 0.125 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

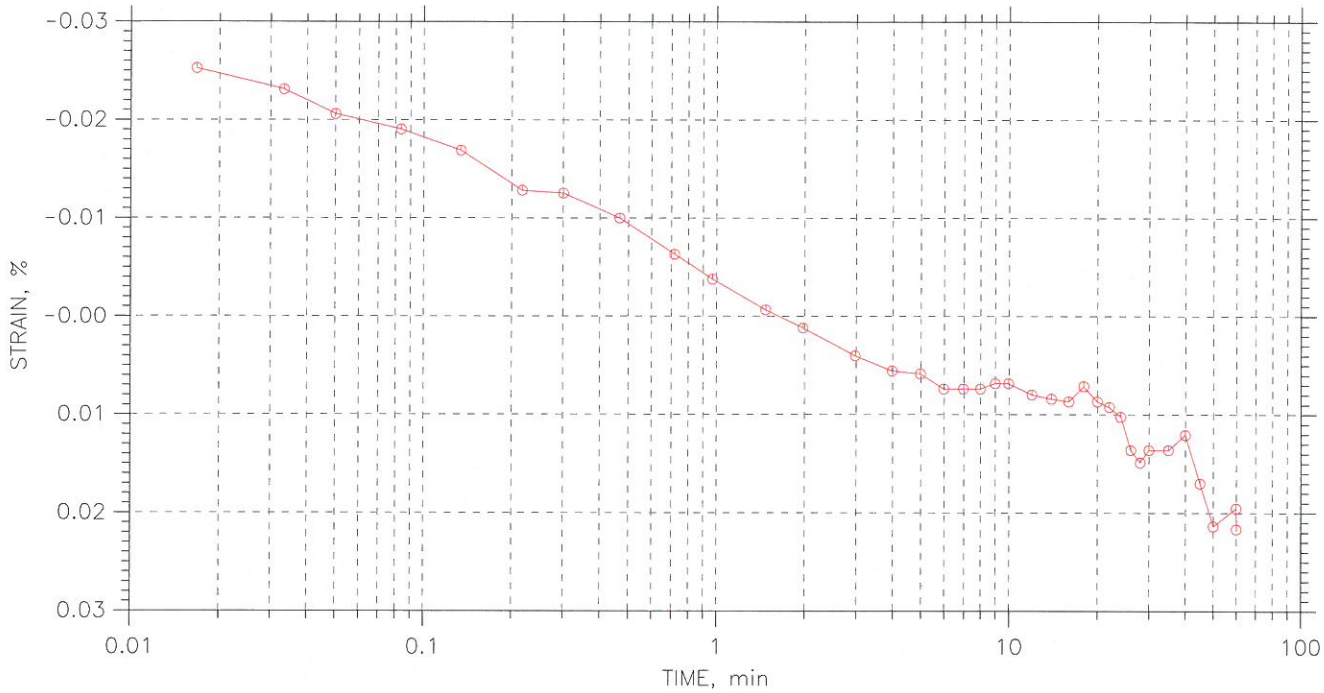
Tue, 25-SEP-2012 10:05:45

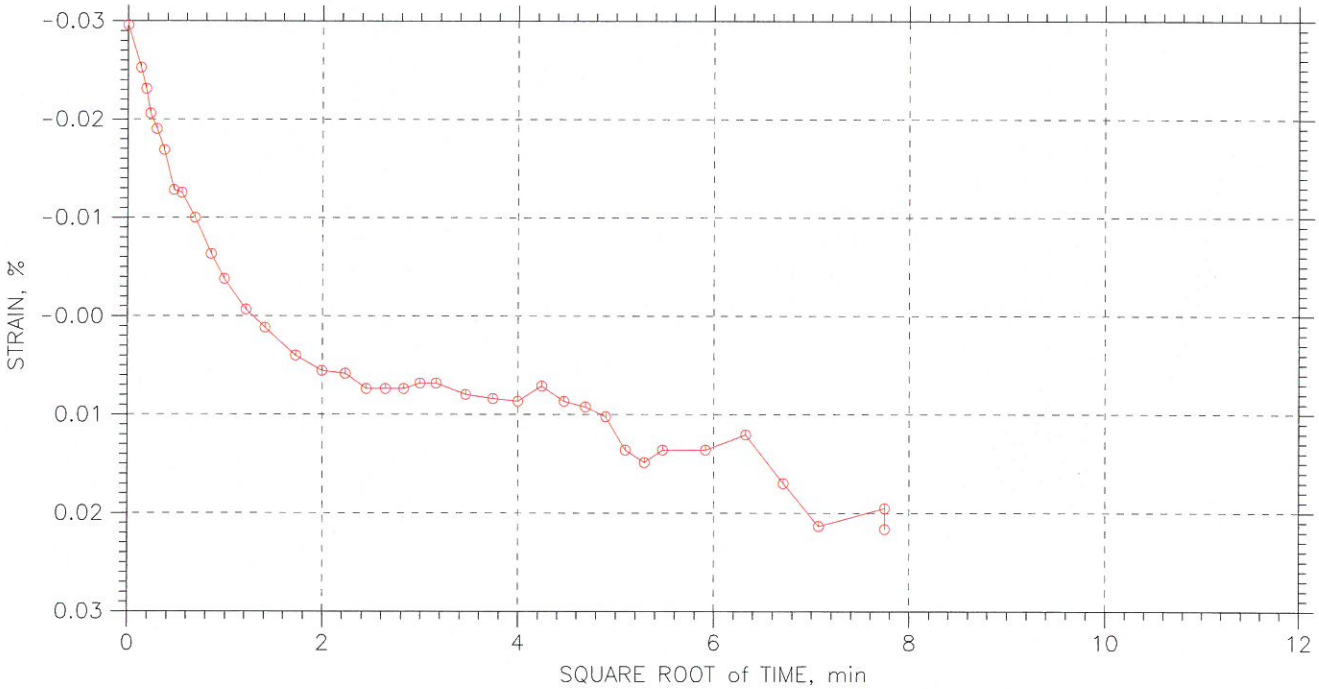
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 3 of 14

Stress: 0.25 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

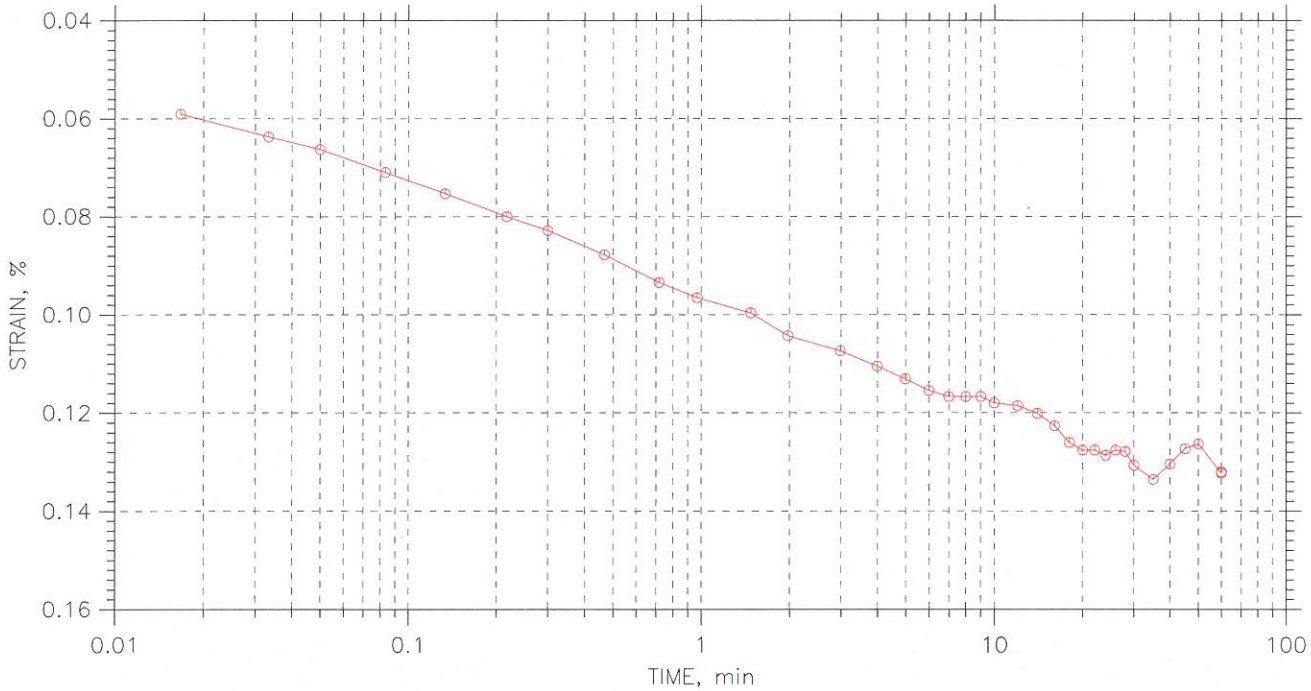
Tue, 25-SEP-2012 10:05:45

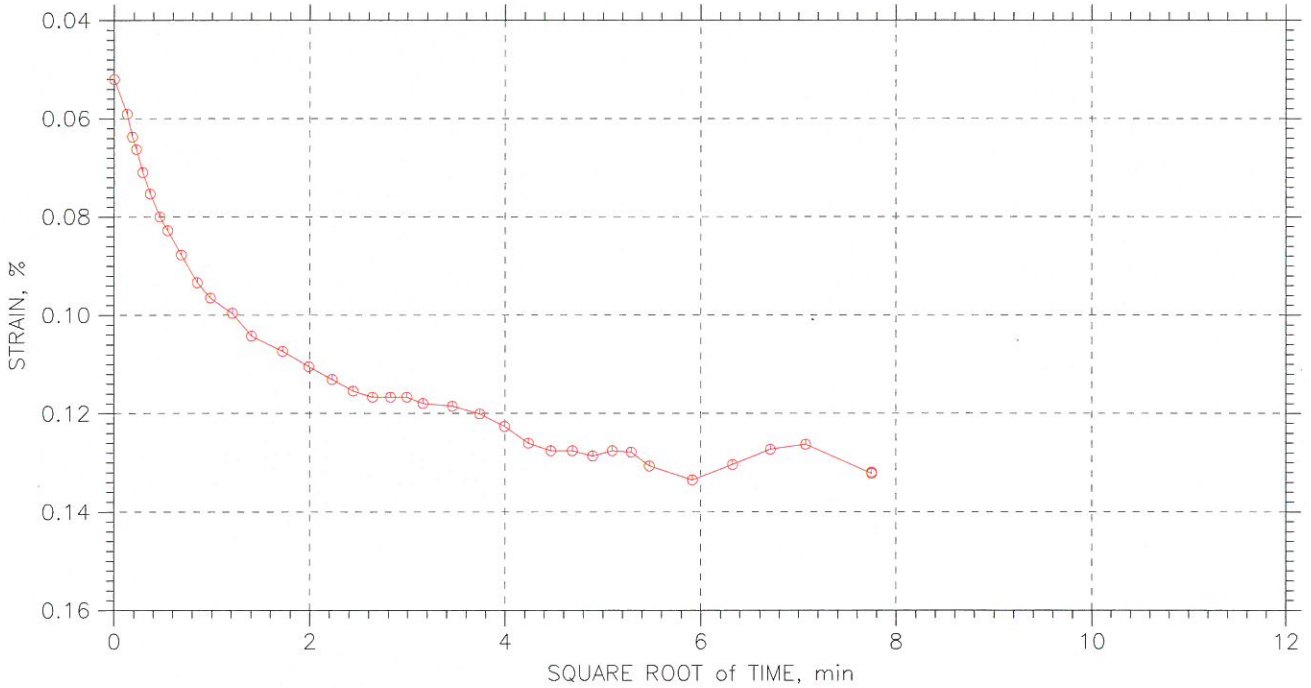
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 4 of 14

Stress: 0.5 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

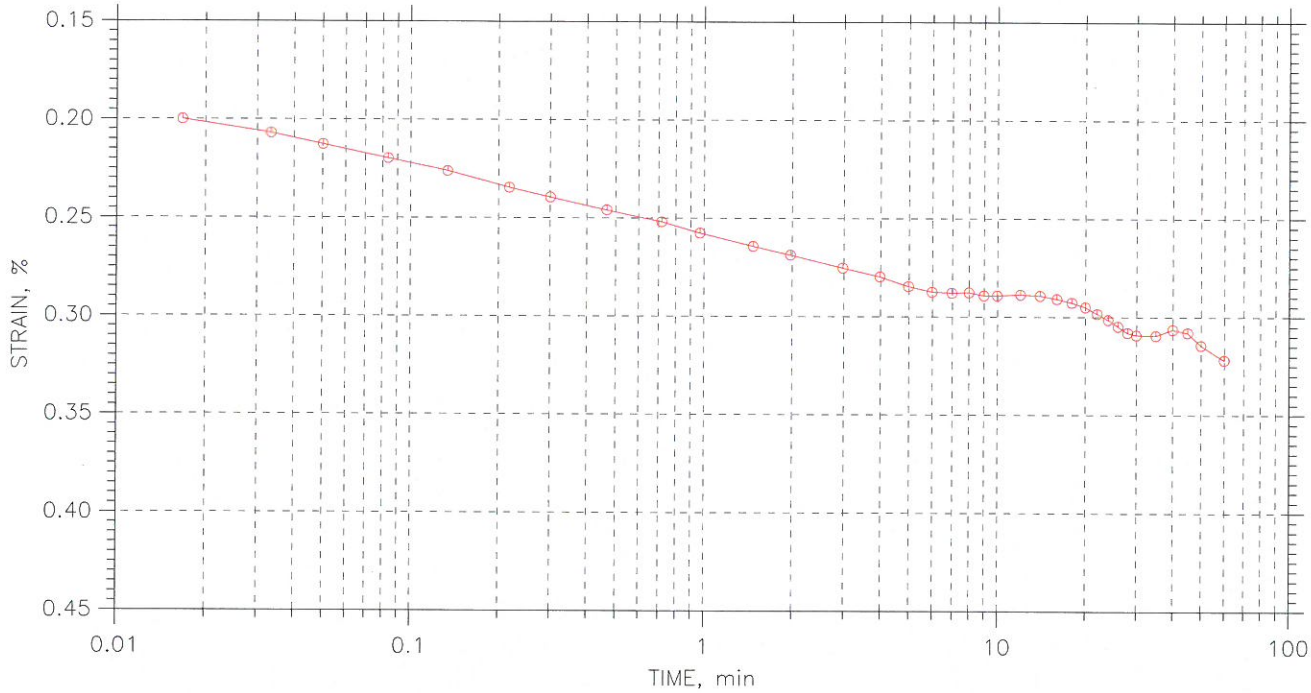
Tue, 25-SEP-2012 10:05:45

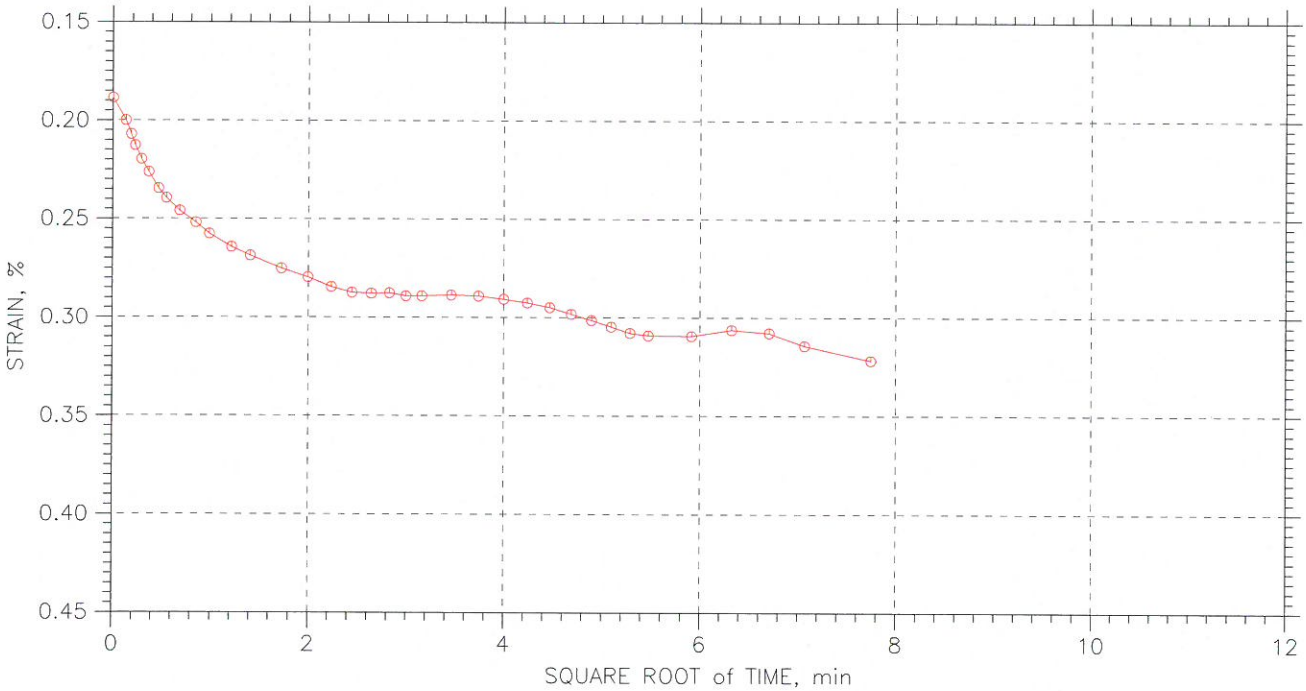
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 5 of 14

Stress: 1 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

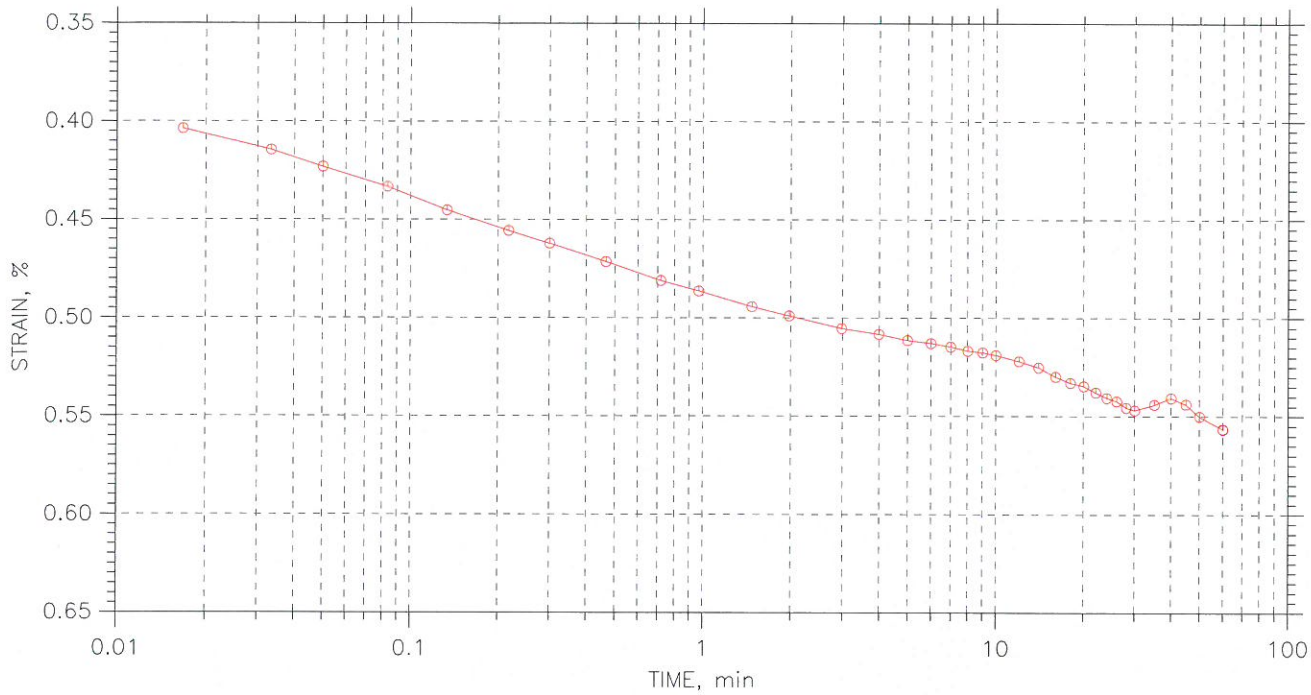
Tue, 25-SEP-2012 10:05:46

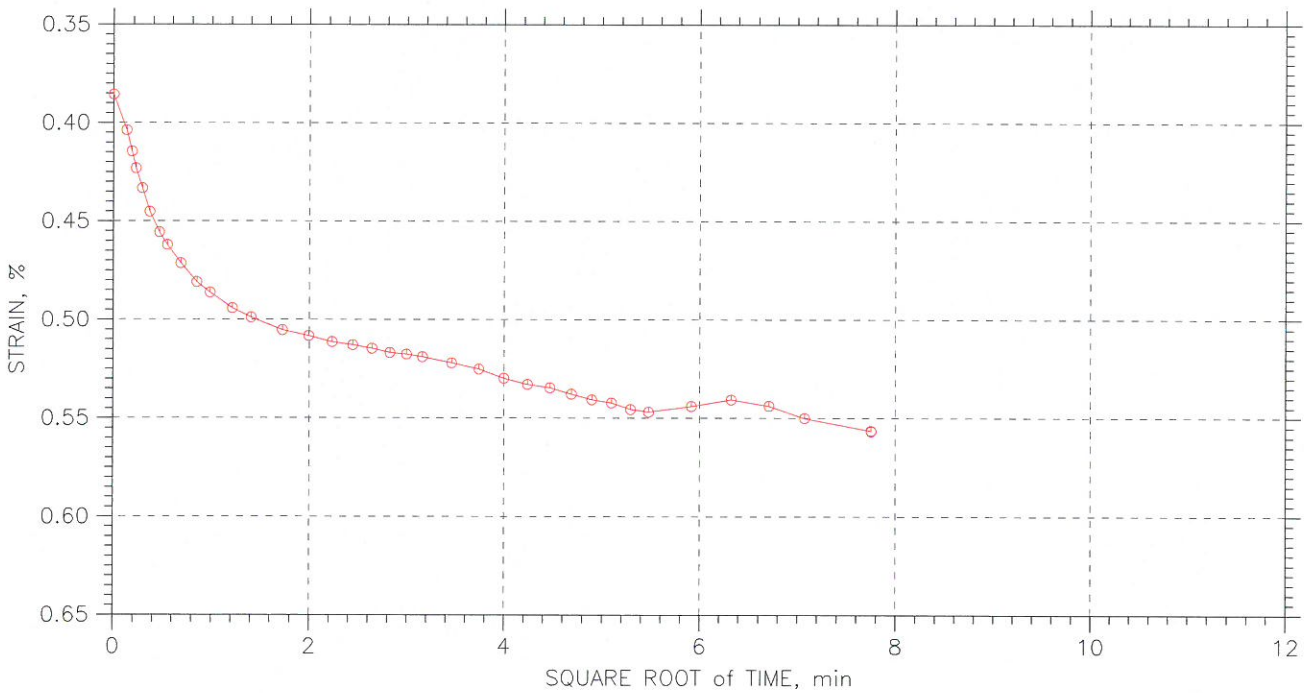
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 6 of 14

Stress: 2 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

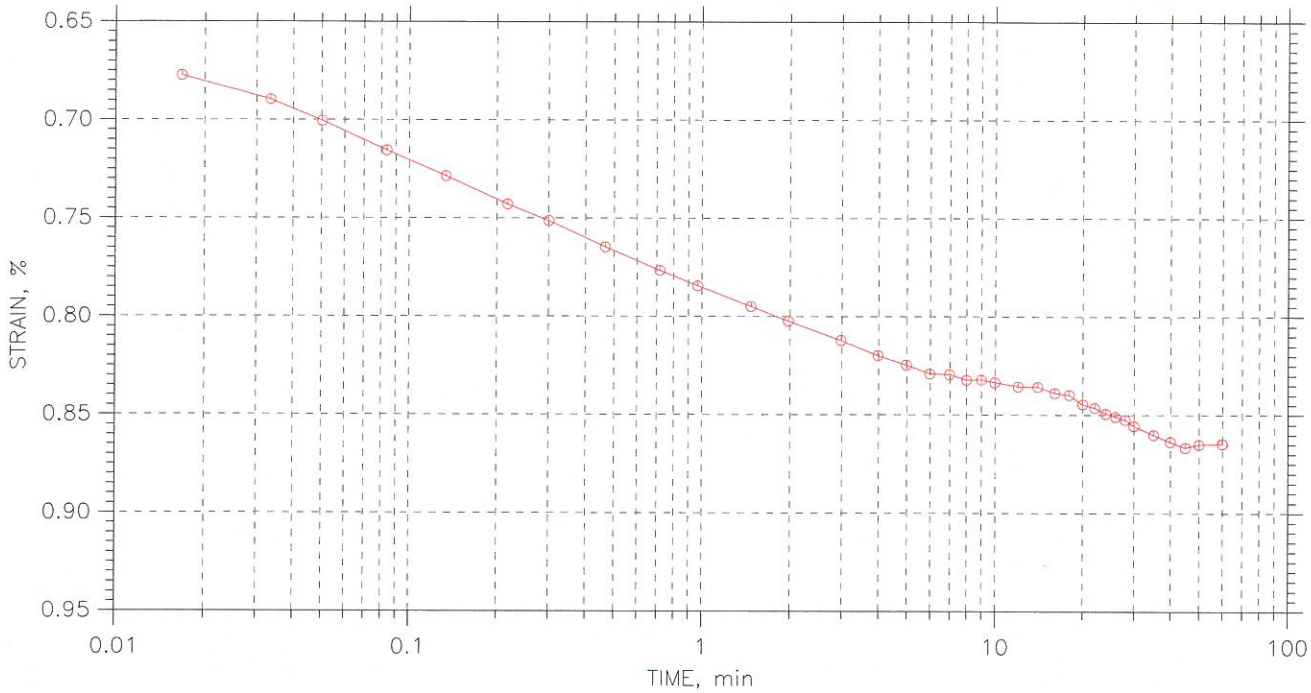
Tue, 25-SEP-2012 10:05:46

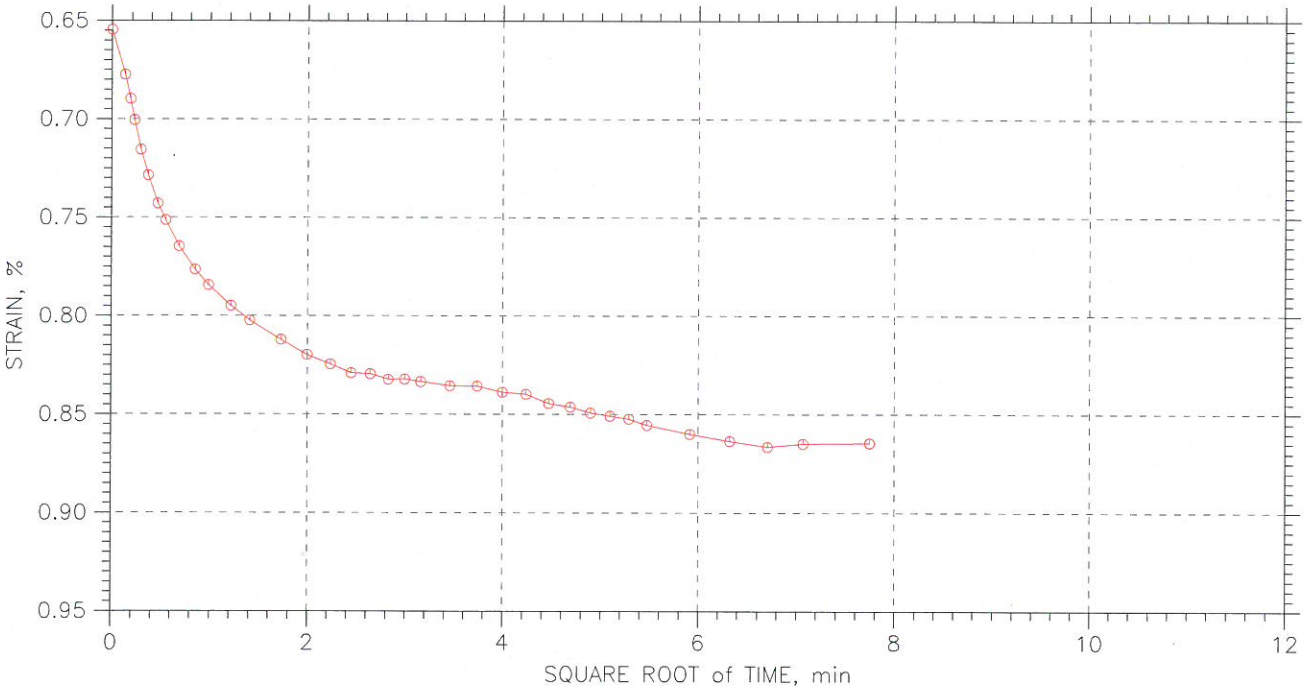
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 7 of 14

Stress: 4 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

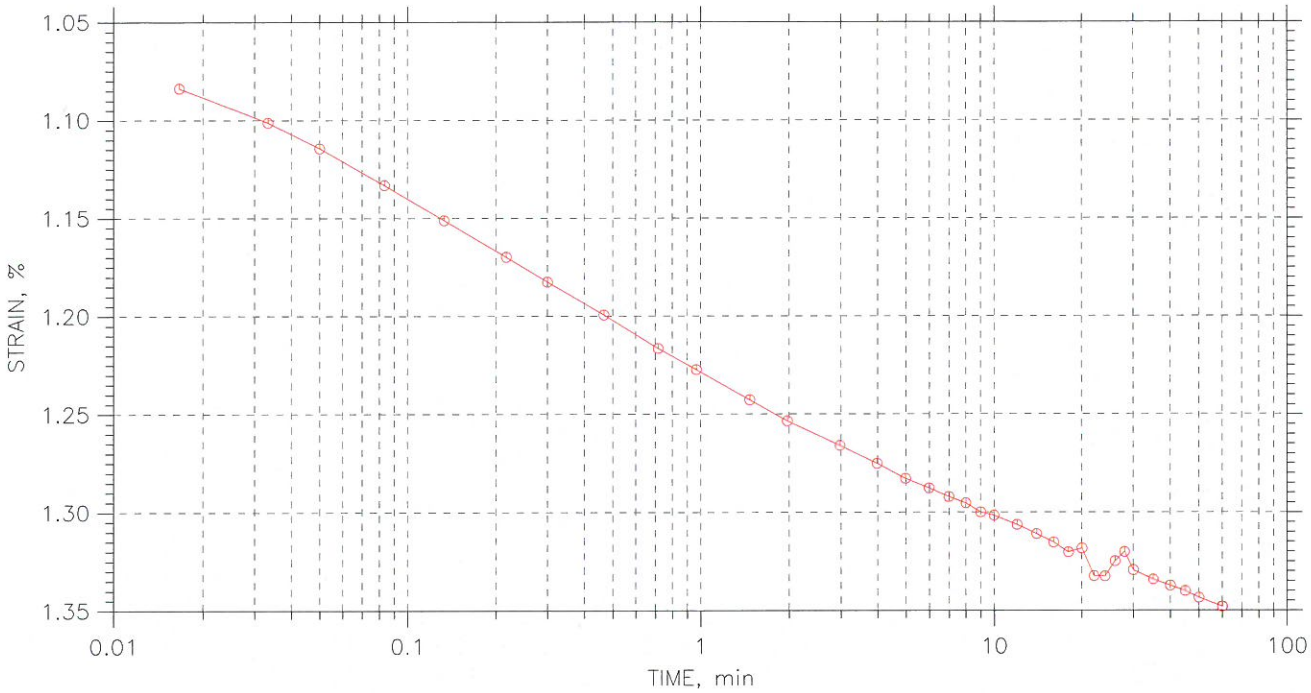
Tue, 25-SEP-2012 10:05:46

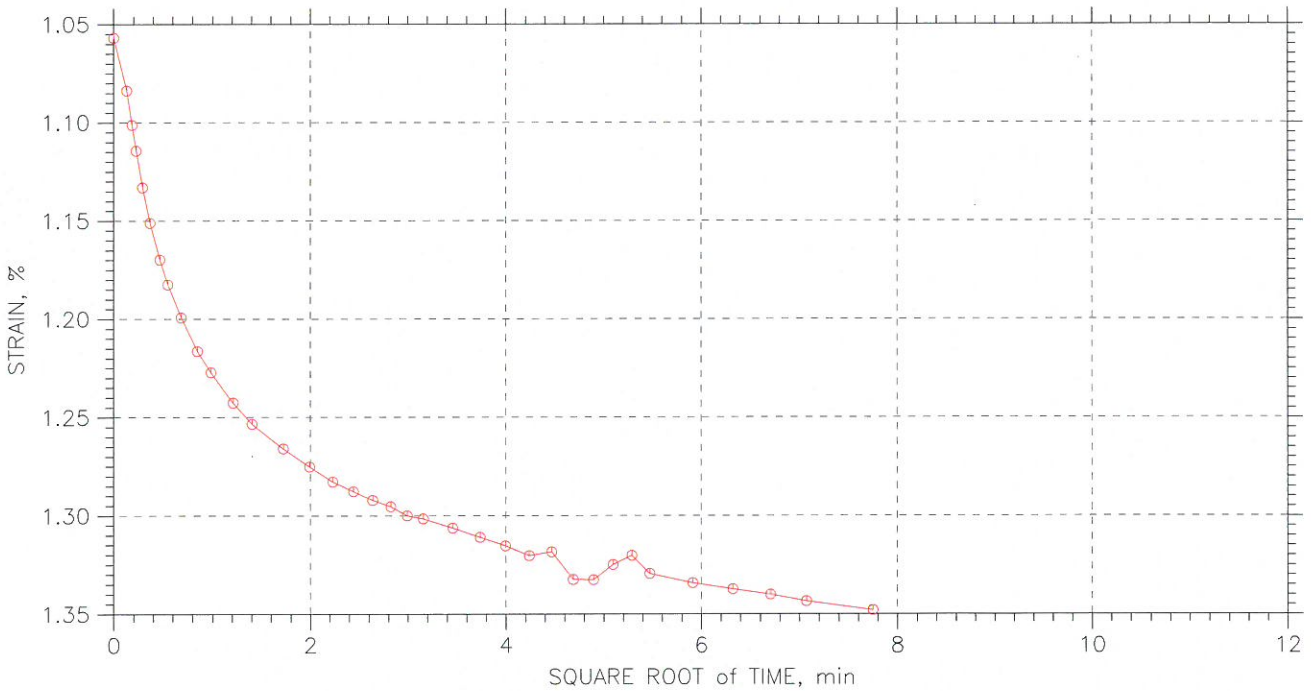
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 8 of 14

Stress: 8 tsf





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	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

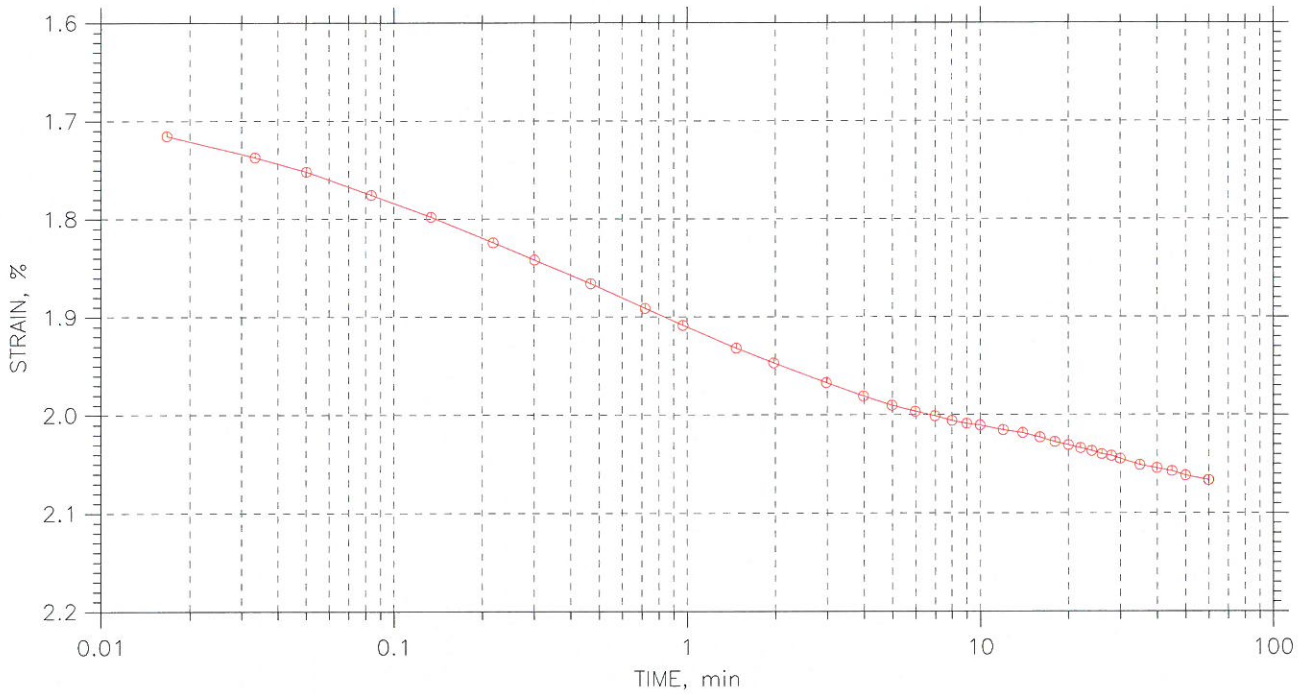
Tue, 25-SEP-2012 10:05:47

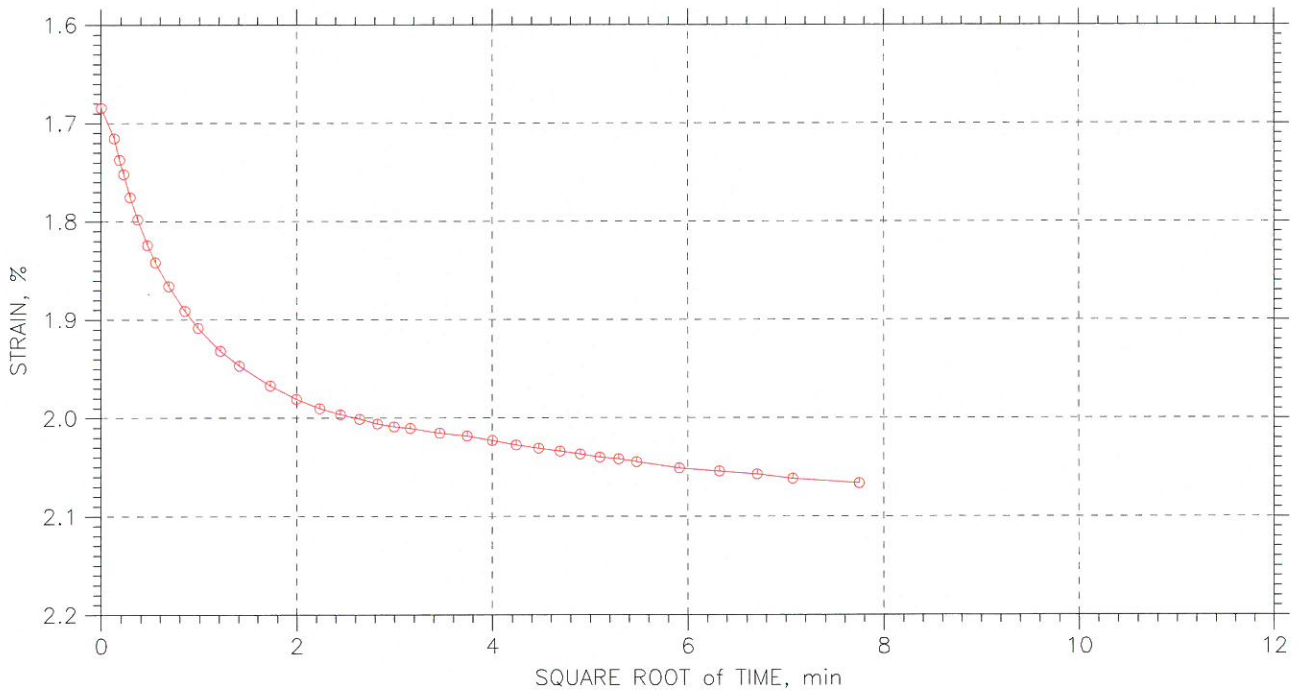
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 9 of 14

Stress: 16 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
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	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

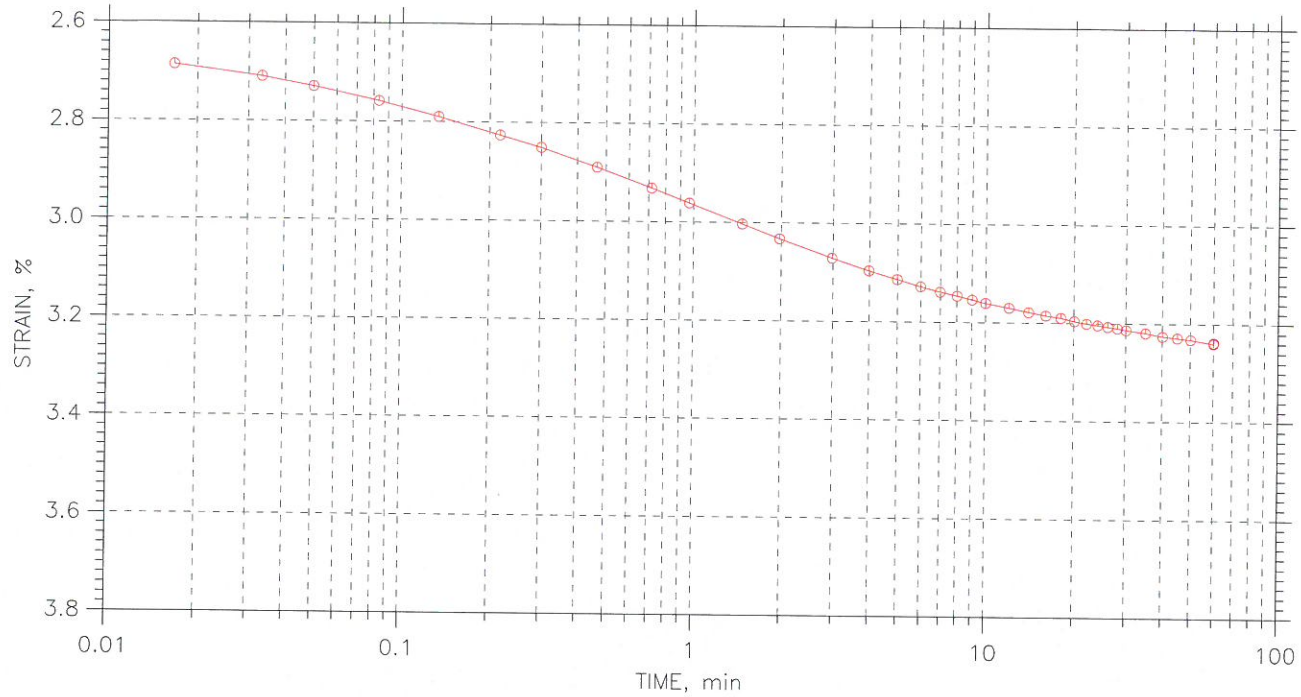
Tue, 25-SEP-2012 10:05:47

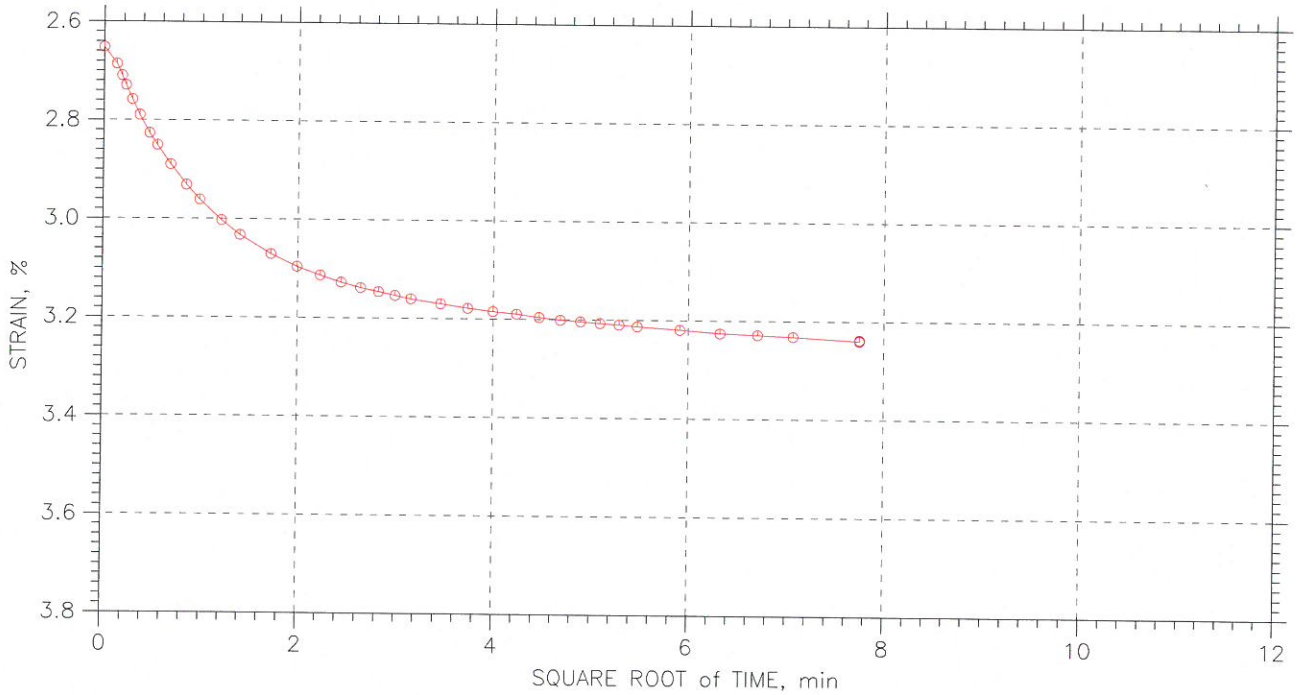
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 10 of 14

Stress: 32 tsf





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	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

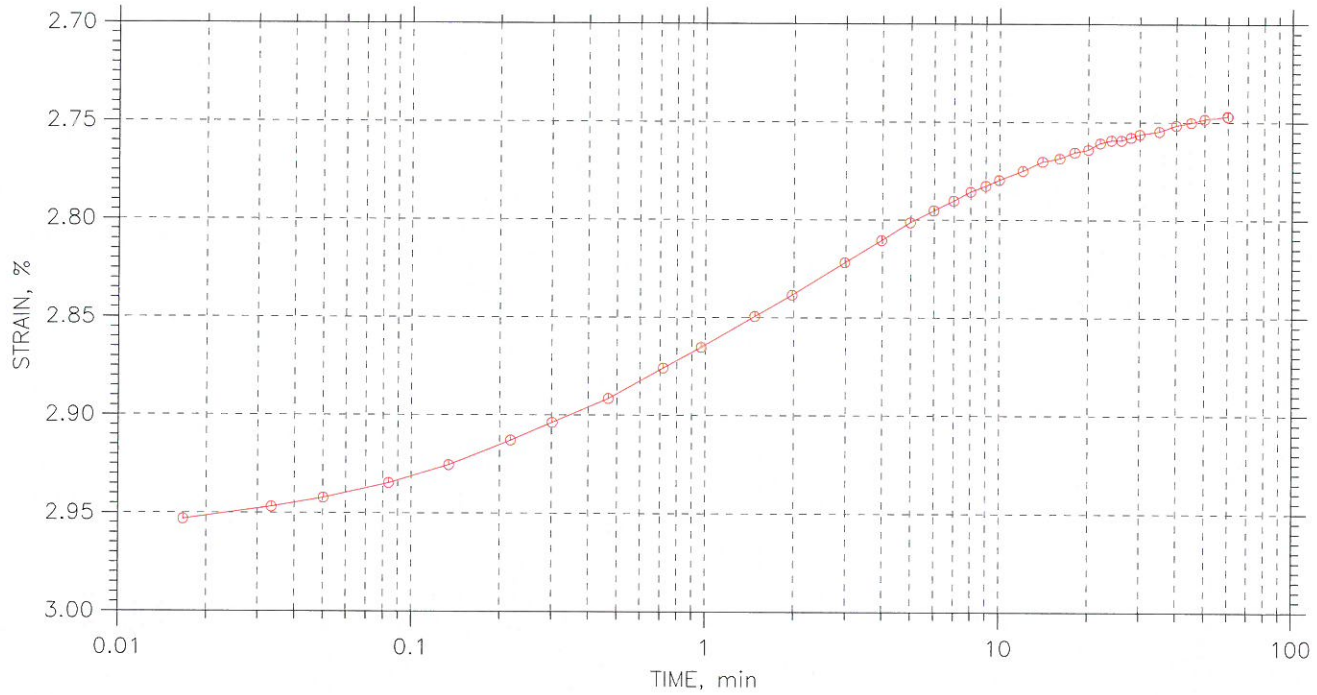
Tue, 25-SEP-2012 10:05:47

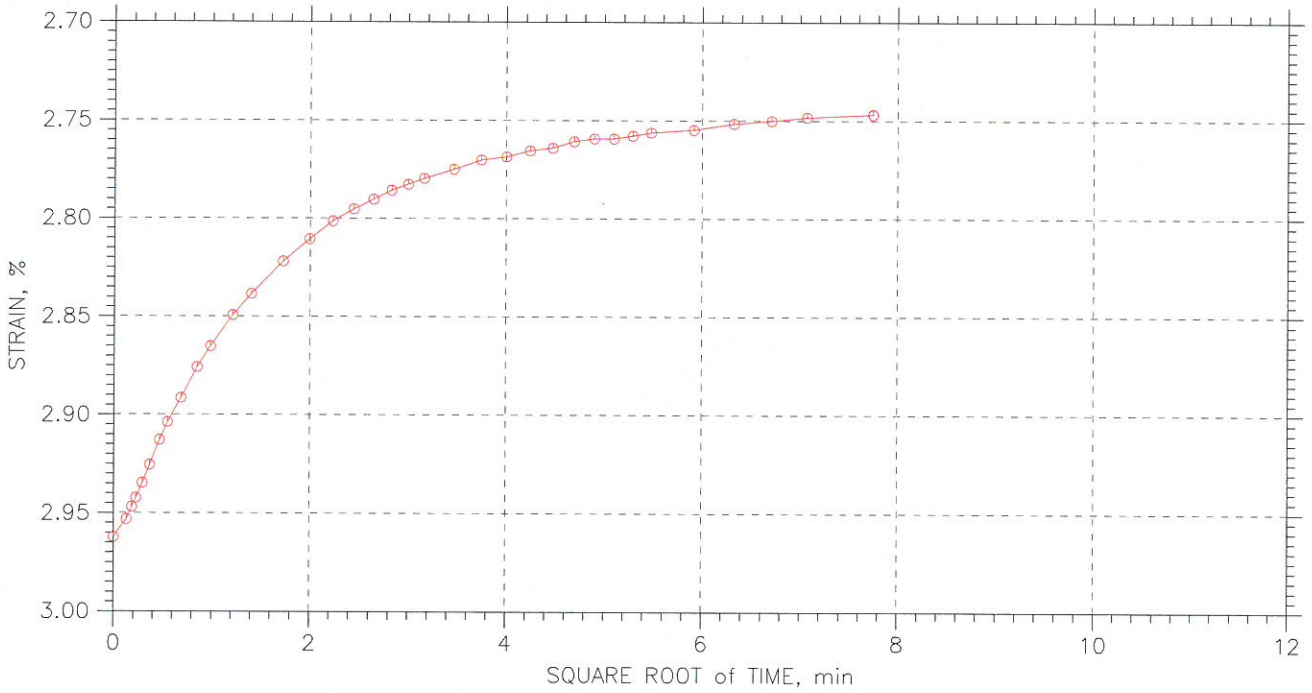
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 11 of 14

Stress: 8 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

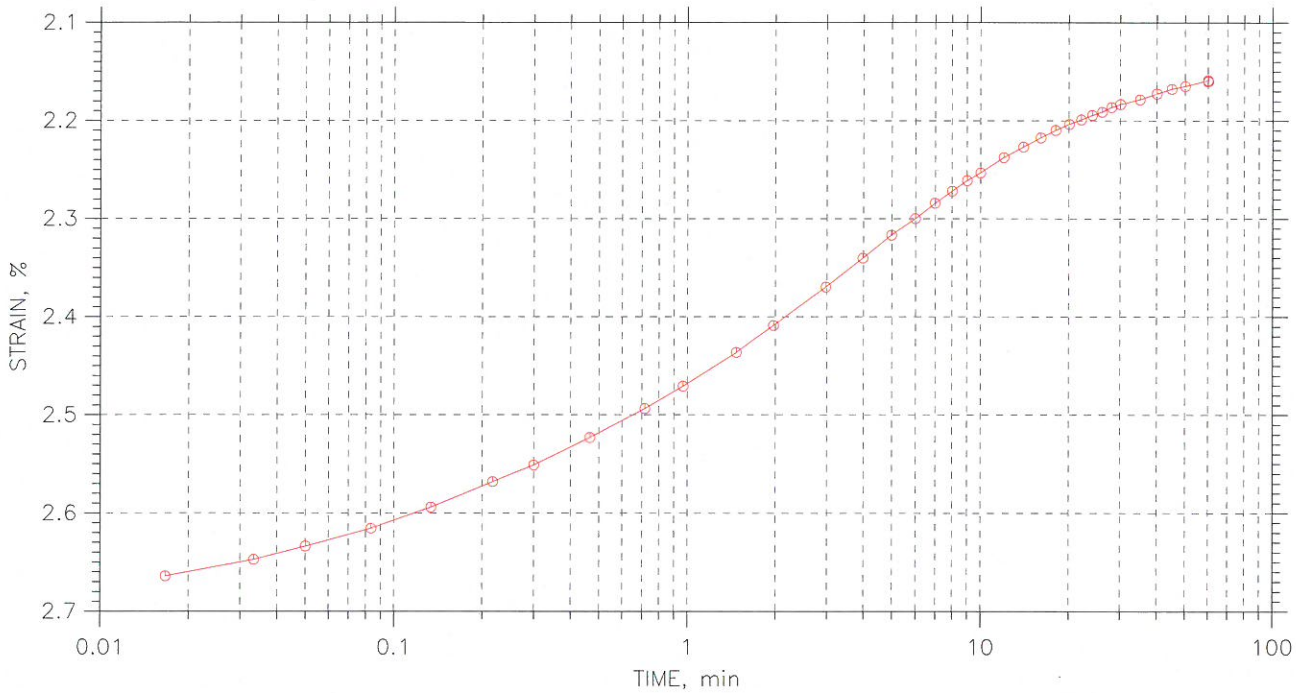
Tue, 25-SEP-2012 10:05:48

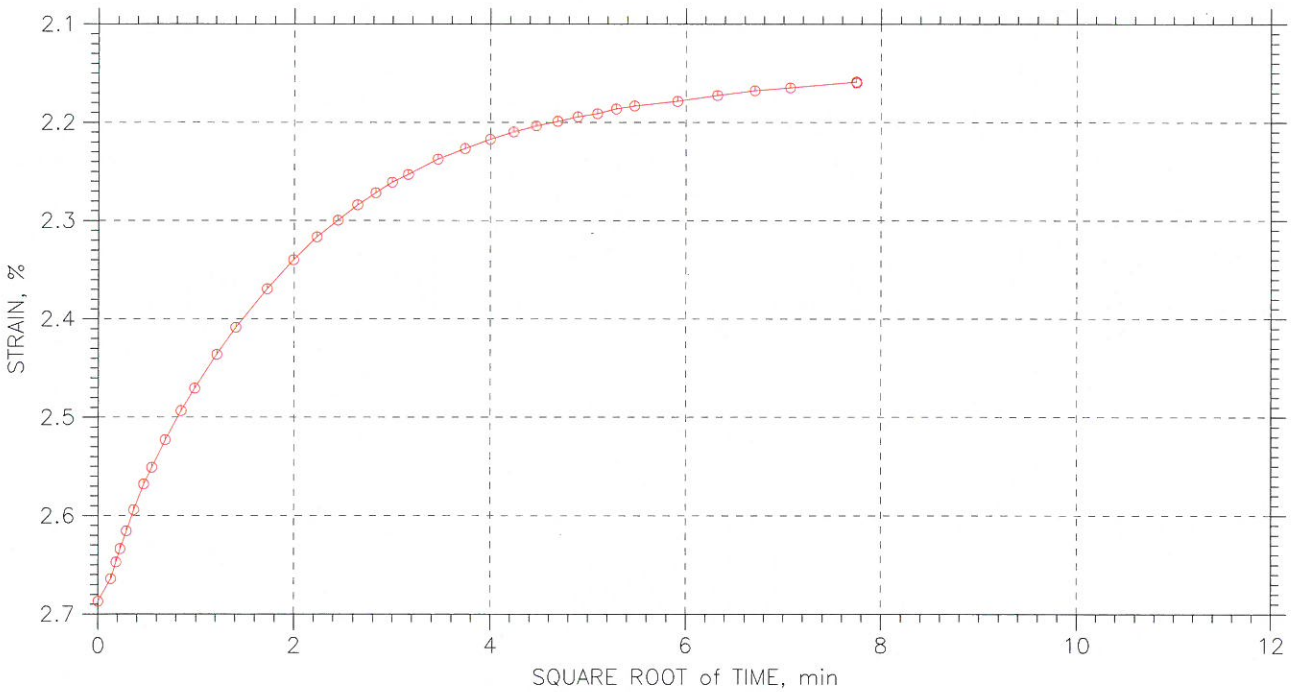
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 12 of 14

Stress: 2 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

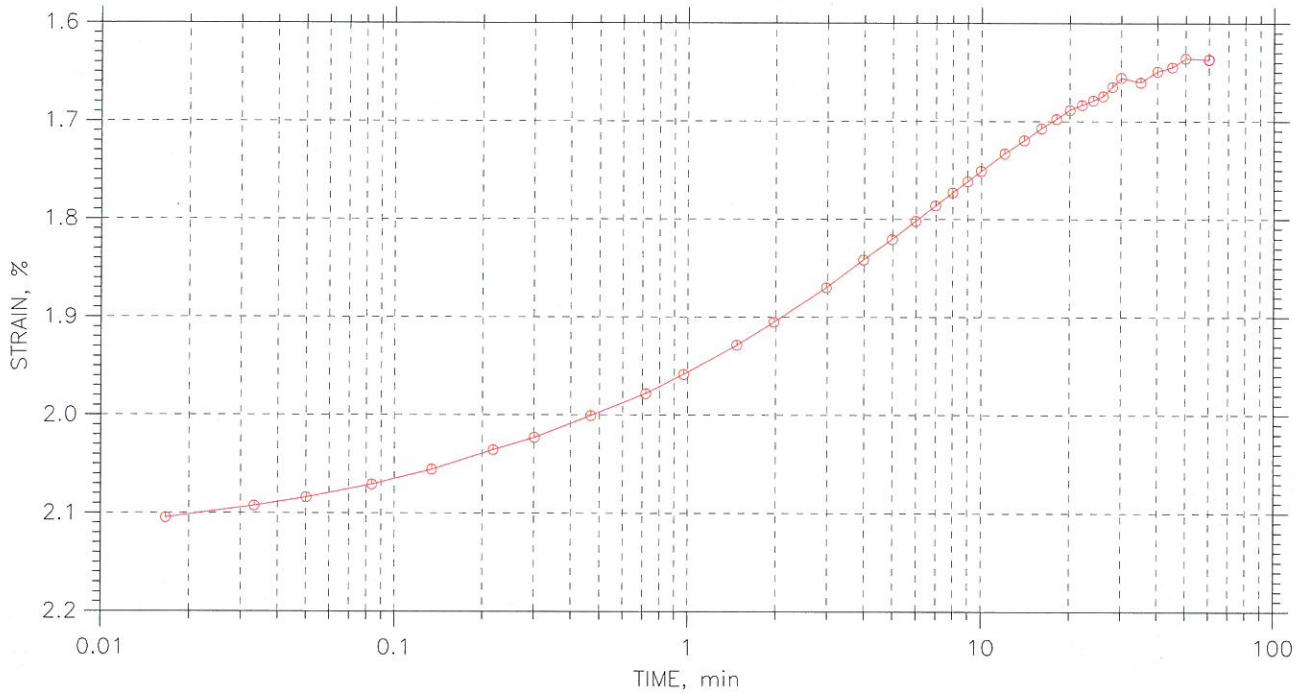
Tue, 25-SEP-2012 10:05:48

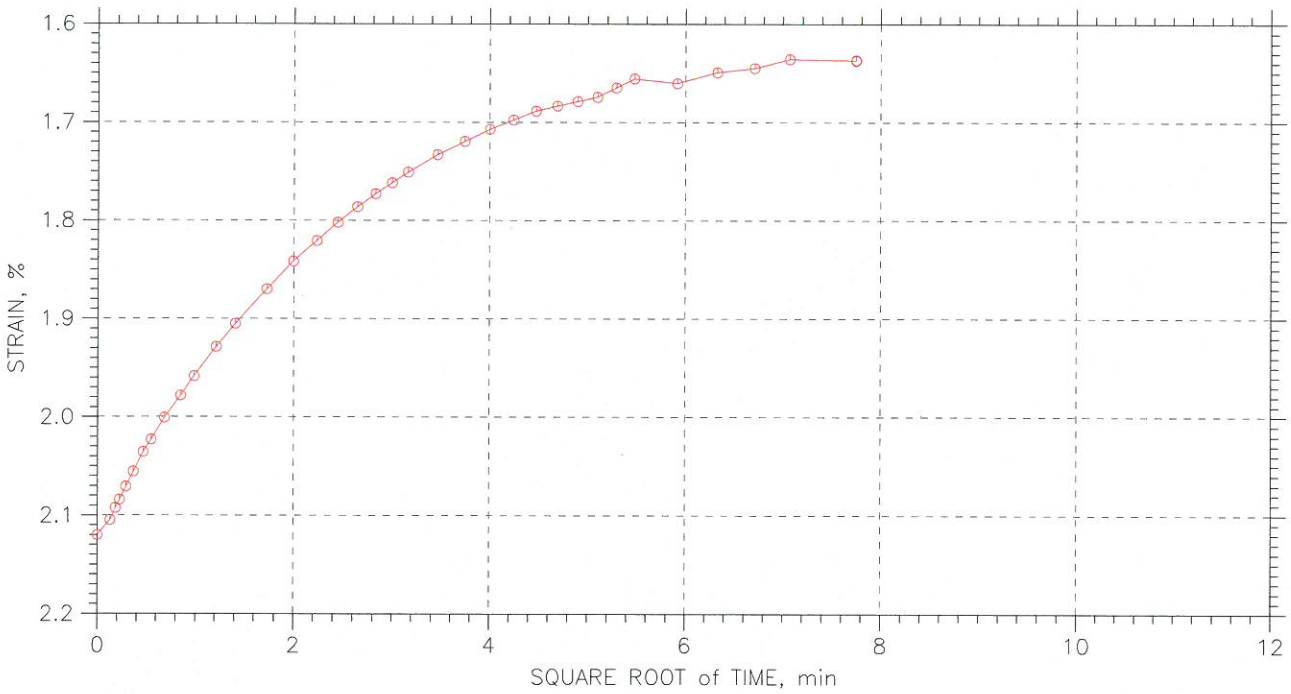
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 13 of 14

Stress: 0.5 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
	Boring No.: ---	Tested By: jm	Checked By: MCM
	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
	Depth: 8.4-8.5	Sample Type: Intact	Elevation: ---
	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

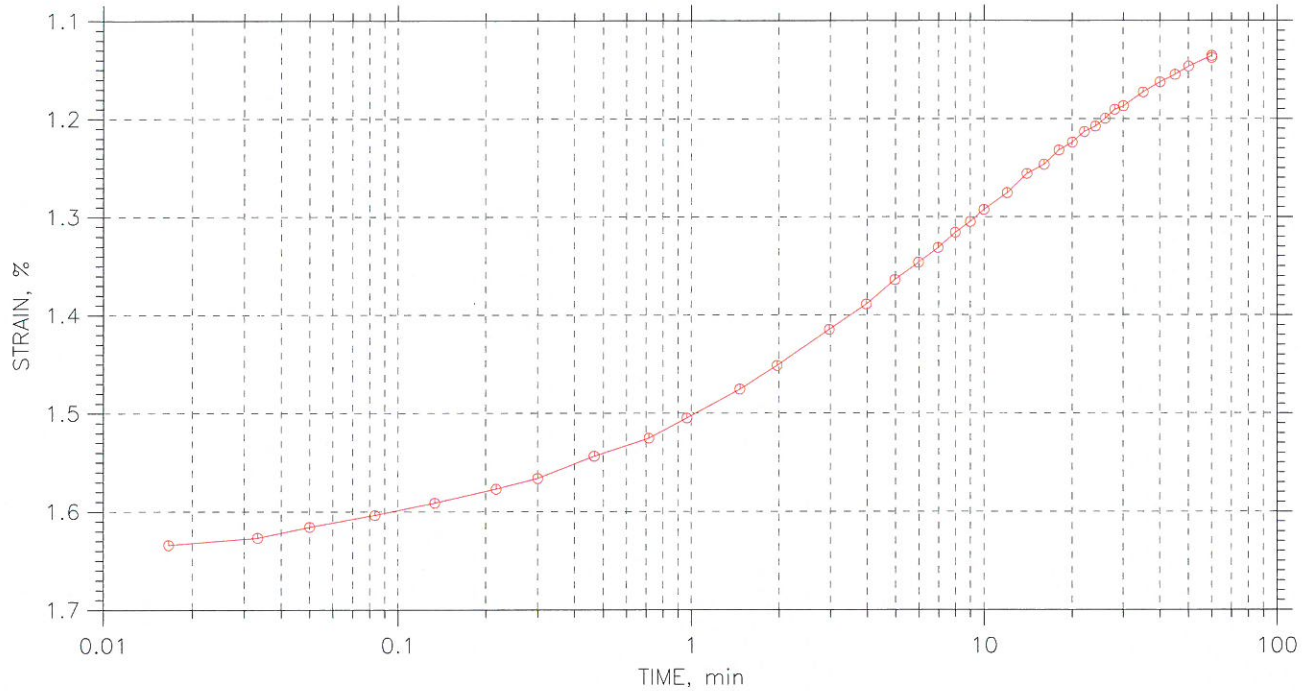
Tue, 25-SEP-2012 10:05:48

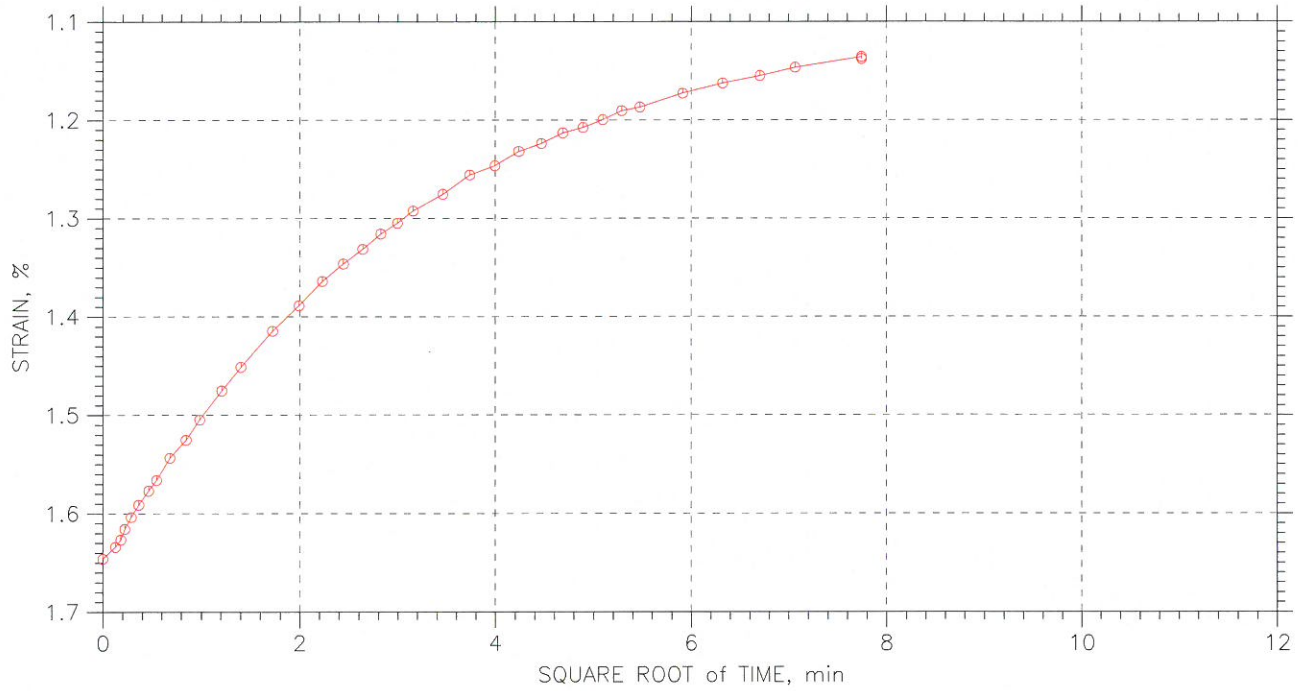
One-Dimensional Consolidation by ASTM D 2435 - Method B

TIME CURVES

Constant Load Step 14 of 14

Stress: 0.05 tsf





GeoTesting EXPRESS	Project: Dillon County 1F	Location: ---	Project No.: GTX-1875
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	Sample No.: SS-1	Test Date: 9/24/12	Test No.: C3.1
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	Description: Moist, red and light tan clayey sand		
	Remarks: System 5077 - Using ICONP 1.0.11.279		

Tue, 25-SEP-2012 10:05:48

Arcadis U.S., Inc.

1210 Premier Drive

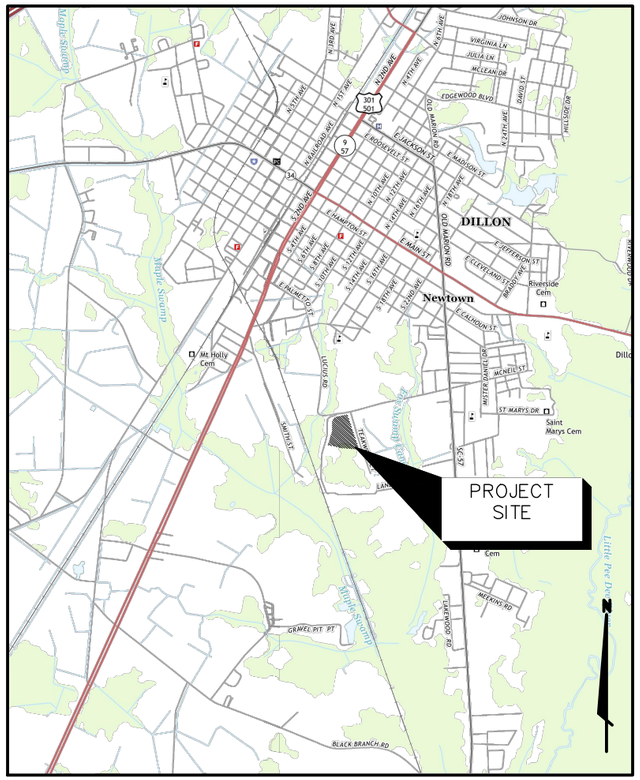
Suite 200

Chattanooga, Tennessee 37421

Tel 423 756 7193

Fax 423 756 7197

www.arcadis.com



LOCATION MAP
NOT TO SCALE

DILLON COUNTY LANDFILL
DILLON COUNTY, SOUTH CAROLINA

VERTICAL EXPANSION TO THE EXISTING CLASS 2 LANDFILL
PERMIT NO. 171001-1202

JULY 23, 2018

INDEX OF SHEETS

DESCRIPTION	SHEET NO.
COVER	1
EXISTING CONDITIONS & BOUNDARY	2
VERTICAL EXPANSION 50% FILL	3
FINAL GRADING PLAN	4
CELL LAYOUT	5
CROSS SECTION A	6
CROSS SECTION B	7
POND GRADING PLAN & OUTLET STRUCTURE	8
EROSION AND SEDIMENT CONTROL PLAN	9
MISCELLANEOUS DETAILS	10
EROSION AND SEDIMENT CONTROL DETAILS 1 OF 2	11
EROSION AND SEDIMENT CONTROL DETAILS 2 OF 2	12
VEGETATIVE PLAN	13

SOUTH CAROLINA ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

SCDHEC PERMIT REVISION #3

APPROVED _____

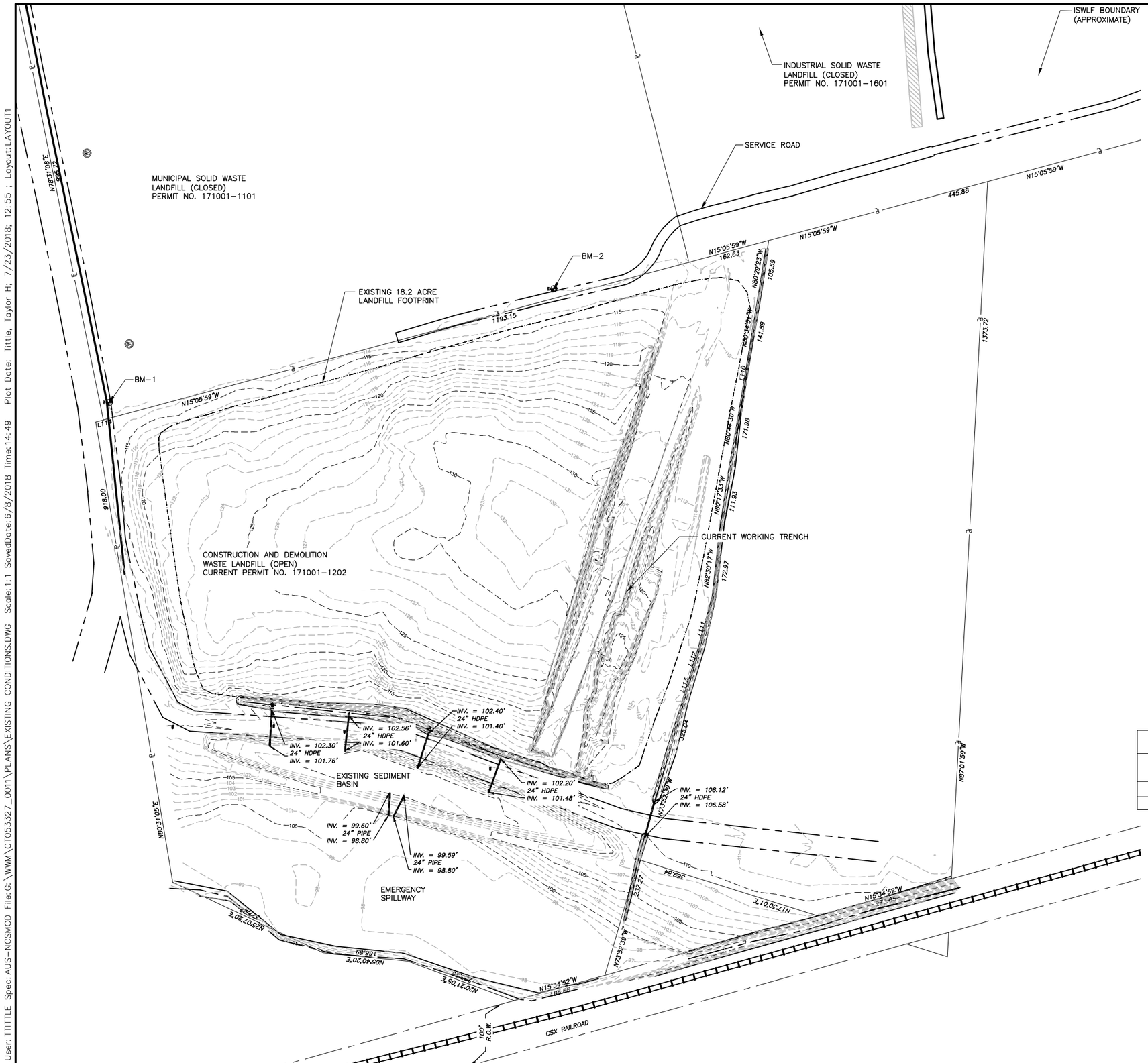
LEGAL ENTITY: ARCADIS U.S., INC.

ARCADIS Design & Consultancy for natural and built assets

COUNTY COUNCIL
JAMES M. CAMPBELL
TRACEY F. FINKLEA
STEVEN C. GRICE
GEROME R. MCLEOD
HAROLD D. MOODY
JACK H. SCOTT
ROBERT A. SCOTT

ADMINISTRATOR
LISA B. GRAY
(843) 774-1401

SOLID WASTE MANAGER
CHARLIE BROWN
(843) 774-1436



GENERAL NOTES:

1. EXISTING TOPOGRAPHIC DATA PROVIDED BY NESBITT SURVEYING COMPANY ON A TOPOGRAPHIC SURVEY TITLED TOPOGRAPHIC MAP DILLON COUNTY LANDFILL DATED 7/21/2016. STAMPED & SIGNED BY DAVID A. NESBITT S.C. RLS# 7623 AND SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION # C01197.
2. PROPOSED GRADES SHOWN ARE FINISHED GRADES. NO SLOPES SHALL BE STEEPER THAN 4H:1V ON THE LANDFILL.
3. THE CONTRACTOR SHALL EXERCISE CARE TO PROTECT EXISTING ROADS, LANDSCAPING, BUFFERS, CONSERVATION EASEMENTS, WETLANDS, MONITORING WELLS, SIGNAGE, ETC. ANY DAMAGE TO THESE FACILITIES OR COMPONENTS SHALL REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. REPAIR OR REPLACEMENT SHALL BE AT THE DISCRETION OF THE OWNER.
4. CONSTRUCTION ACTIVITIES SHALL NOT INTERFERE WITH OPERATION OF THE EXISTING TRANSFER STATION OR THE EXISTING OPERATIONS.
5. LOCATIONS OF UTILITIES, MONITORING WELLS, AND GAS COLLECTION AND CONTROL SYSTEM (GCCS) COMPONENTS ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE UTILITIES, WELLS, AND GCCS COMPONENTS PRIOR TO CONSTRUCTION.
6. WASTE EXCAVATED AS A RESULT OF GRADING SHALL BE DISPOSED BY THE CONTRACTOR IN THE C&D LANDFILL DISPOSAL AREA.
7. COORDINATES (IF SHOWN) ARE BASED ON SITE CONTROL ESTABLISHED FROM SOUTH CAROLINA STATE PLANE. COORDINATES AND/OR DIMENSIONS ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. ANY DISCREPANCIES BETWEEN COORDINATES AND/OR DIMENSIONS PROVIDED ON THE PLANS AND ACTUAL FIELD CONDITIONS OR WHAT IS SHOWN GRAPHICALLY SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY AND BEFORE CONTINUING WITH THE WORK.
8. SOIL AND OTHER CONSTRUCTION MATERIALS MAY ONLY BE STOCKPILED IN AREAS DESIGNATED BY THE OWNER. STOCKPILE AREAS MAY NOT TRAP SURFACE WATER.
9. NECESSARY BARRICADES, SUFFICIENT LIGHTS, SIGNS, FLAGGERS AT ROAD CROSSINGS AND OTHER TRAFFIC CONTROL METHODS AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF WORKERS AND THE PUBLIC SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT.

PERMANENT BENCHMARK LOCATIONS

PERMANENT BENCHMARK LOCATION	NORTHING	EASTING	DESCRIPTION
BM–1	938021.38	2492440.07	C.S. PIN
BM–2	937147.52	2492663.56	C.S. PIN

LEGEND

- APPROXIMATE LIMITS OF WASTE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE (PL)
- RIGHT OF WAY
- BENCHMARK (BM)
- MONITORING WELL (W)

0 100' 200'

ARCADIS
LEGAL ENTITY:
ARCADIS U.S., INC.
1210 PREMIER DRIVE, STE 200
CHATTANOOGA, TN 37421
TEL: 423–756–7193
www.arcadis.com

CONSULTANTS

SEALS

ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION SOUTH CAROLINA

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001–1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
3	7/23/18	PERMITS RE–SUBMITTAL	WPH
2	6/11/18	PERMITS RE–SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018
PROJECT NO.: CT053327–0011
FILE NAME: EXISTING CONDITIONS
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

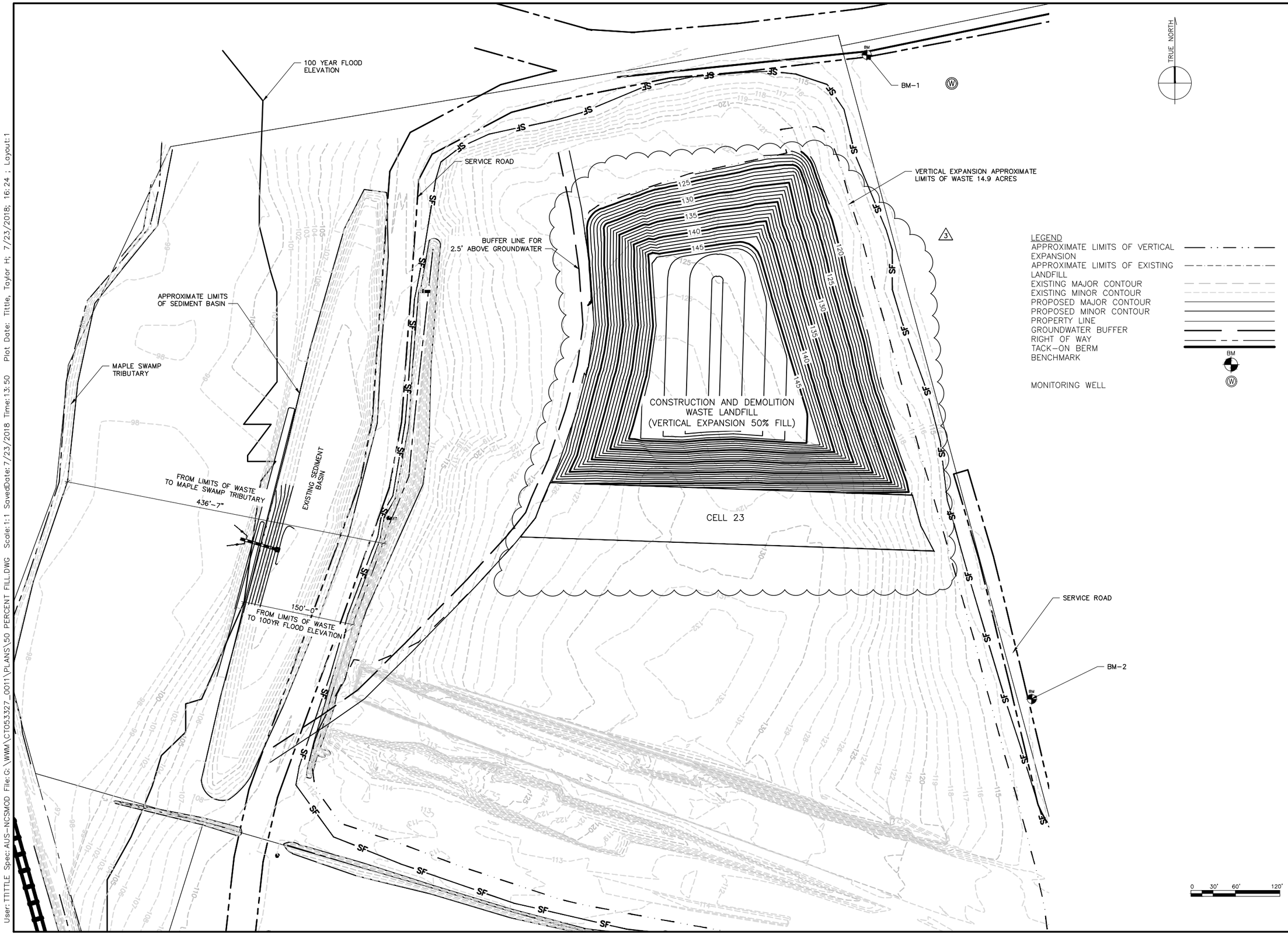
EXISTING CONDITIONS & BOUNDARY

SCALE: 1" = 100'

SHEET 2 OF 13

User: TTITTLE Spec: AUS–NCSMOD File: G:\WWM\CT053327_0011\PLANS\EXISTING CONDITIONS.DWG Scale: 1:1 SavedDate: 6/8/2018 Time: 14:49 Plot Date: Tittle, Taylor H; 7/23/2018; 12:55 ; Layout: LAYOUT1

User: TTITTLE Spec: AUS-NCSMOD File: G:\WMM\CT053327_0011\PLANS\50 PERCENT FILL.DWG Scale: 1:1 SavedDate: 7/23/2018 Time: 13:50 Plot Date: Tittle, Taylor H; 7/23/2018; 16:24 ; Layout: 1



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SEALS

SOUTH CAROLINA ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR III 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

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2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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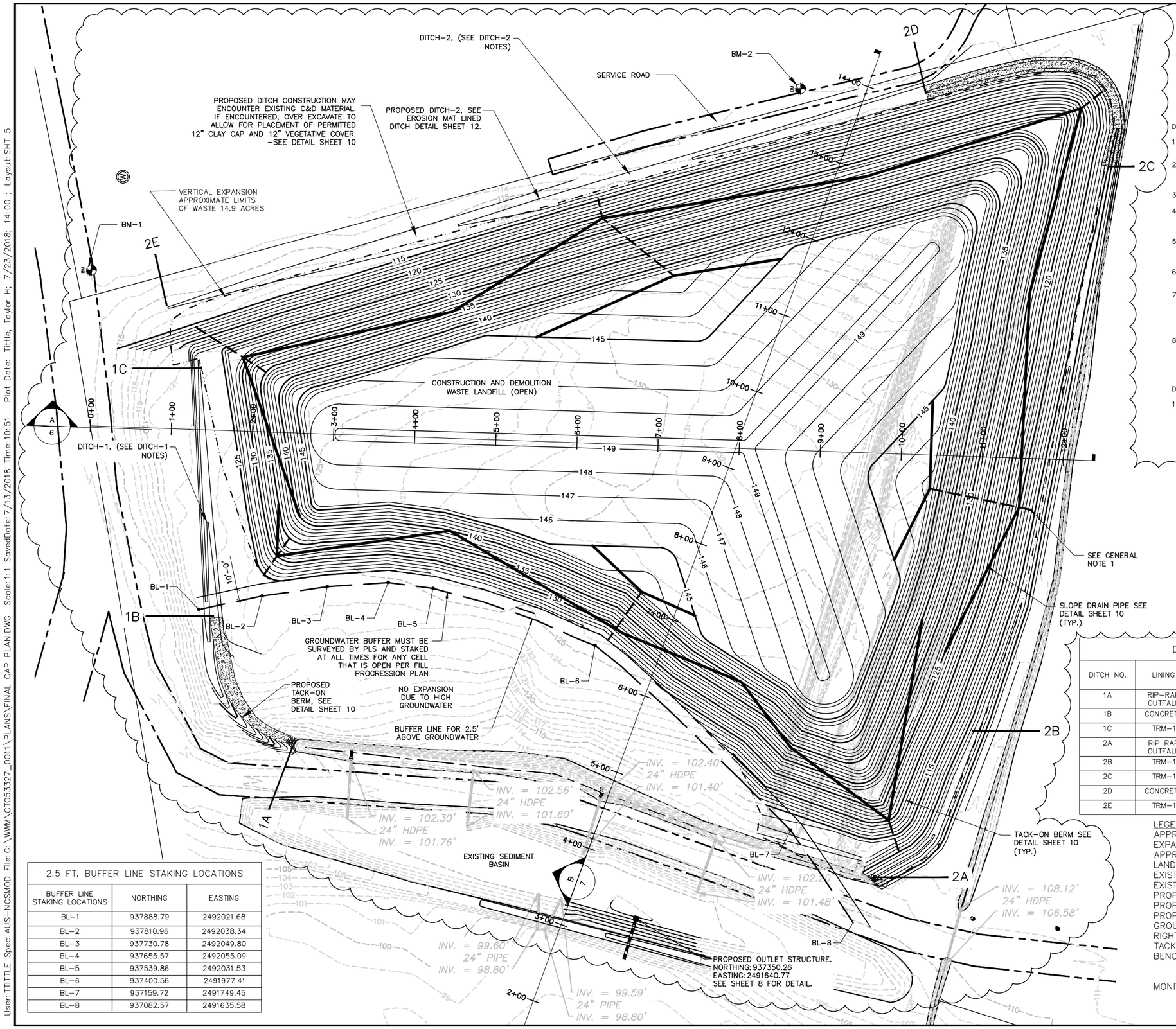
DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: 50 PERCENT FILL
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

VERTICAL EXPANSION 50% FILL

SCALE:

SHEET 3 OF 13



User: TTITTLE Spec: AUS-NCSMOD File:G:\WWM\CT053327_0011\PLANS\FINAL CAP PLAN.DWG Scale:1:1 SavedDate:7/13/2018 Time:10:51 Plot Date: Tittle, Taylor H; 7/23/2018; 14:00 ; Layout:SHT 5

DITCH-1 NOTES:

1. PREPARE THE SOIL BEFORE INSTALLING BLANKETS, INCLUDING THE APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6 INCH DEEP BY 6 INCH WIDE TRENCH. BACKFILL AND COMPACT THE DITCH AFTER STAPLING.
3. ROLL THE CENTER BLANKET IN THE DIRECTION OF FLOWING WATER AT THE BOTTOM OF THE CHANNEL.
4. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6 INCH OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4 INCHES APART TO SECURE THE BLANKET.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6 INCH DEEP BY 6 INCH WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. BLANKETS ON THE SIDE SLOPES MUST BE OVERLAPPED 4 INCHES OVER THE CENTER OF THE BLANKET AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4 INCHES OVER THE ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4 INCHES BELOW THE FIRST ROW IN A STAGGERED PATTERN.
8. THE TERMINAL END OF THE BLANKETS MUCH BE ANCHORED IN A 6 INCH DEEP BY 6 INCH WIDE TRENCH. BACK FILL AND COMPACT THE TRENCH AFTER STAPLING.

DITCH-2 NOTES:

1. IF ANY WASTE MATERIAL IS ENCOUNTERED ALONG OR BEYOND THE EAST DITCH IT SHALL BE IMMEDIATELY REMOVED AND INCORPORATED INTO THE WORKING FACE OF THE LANDFILL. ADDITIONALLY, IF WASTE IS ENCOUNTERED ALONG THE DITCH, THE FULL EXTENT OF WASTE BEYOND THE DITCH AND/OR PERMITTED FOOTPRINT WILL NEED TO BE DETERMINED.

DRAINAGE CHANNEL SCHEDULE

DITCH NO.	LINING	BOTTOM WIDTH (FEET)	DEPTH (FEET)	M	Q (CFS)	V (FPS)
1A	RIP-RAP OUTFALL	2	–	0.025	32.38	3.97
1B	CONCRETE	2	–	0.015	–	–
1C	TRM-1	2	1	0.018	–	–
2A	RIP RAP OUTFALL	2	4	0.025	48.02	3.89
2B	TRM-1	2	3	0.018	–	–
2C	TRM-1	2	2	0.018	–	–
2D	CONCRETE	2	1	0.015	–	–
2E	TRM-1	2	1	0.018	–	–

2.5 FT. BUFFER LINE STAKING LOCATIONS

BUFFER LINE STAKING LOCATIONS	NORTHING	EASTING
BL-1	937888.79	2492021.68
BL-2	937810.96	2492038.34
BL-3	937730.78	2492049.80
BL-4	937655.57	2492055.09
BL-5	937539.86	2492031.53
BL-6	937400.56	2491977.41
BL-7	937159.72	2491749.45
BL-8	937082.57	2491635.58

LEGEND

- APPROXIMATE LIMITS OF VERTICAL EXPANSION
- APPROXIMATE LIMITS OF EXISTING LANDFILL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPERTY LINE
- GROUNDWATER BUFFER
- RIGHT OF WAY
- TACK-ON BERM
- BENCHMARK
- MONITORING WELL

0 30' 60' 120'

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR III 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
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1	11/03/17	PERMITS	WPH

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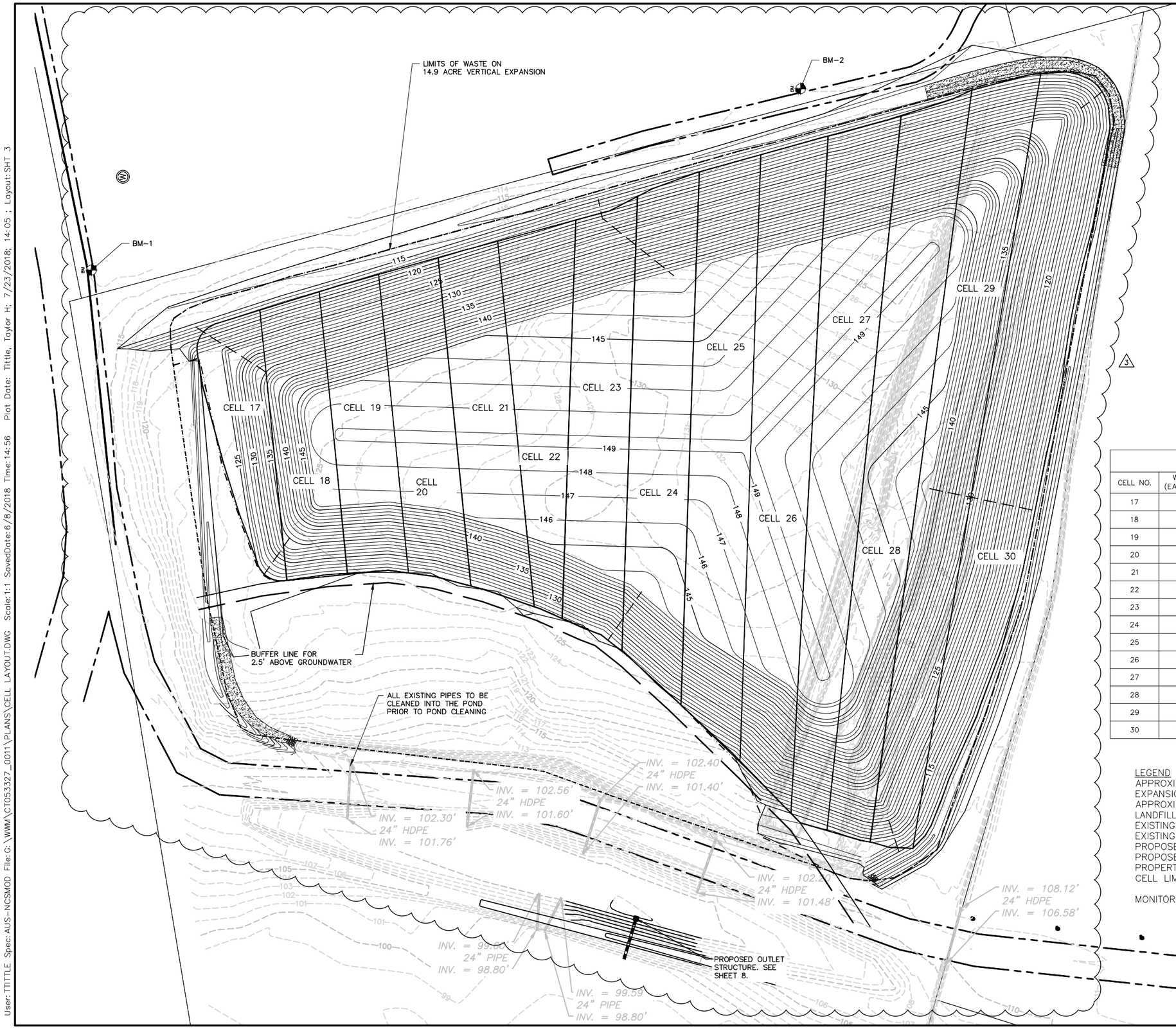
DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: FINAL CAP PLAN
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

FINAL GRADING PLAN

SCALE: SCALE: 1" = 60'



CELL LAYOUT					
CELL NO.	WIDTH (EAST) FT	WIDTH (WEST) FT	LENGTH (NORTH) FT	LENGTH (SOUTH) FT	SIDE SLOPE
17	81	35	275	335	4:1
18	75	75	335	350	4:1
19	75	75	350	370	4:1
20	75	75	370	407	4:1
21	75	75	407	453	4:1
22	100	38	453	492	4:1
23	82	85	492	562	4:1
24	82	99	562	658	4:1
25	79	100	658	748	4:1
26	87	91	748	837	4:1
27	94	50	837	887	4:1
28	94	56	887	936	4:1
29	88	54	936	968	4:1
30	108	22	968	922	4:1

LEGEND

APPROXIMATE LIMITS OF VERTICAL EXPANSION
APPROXIMATE LIMITS OF EXISTING LANDFILL
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
PROPOSED MAJOR CONTOUR
PROPOSED MINOR CONTOUR
PROPERTY LINE
CELL LIMITS

MONITORING WELL

0 30' 60' 120'

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ARCADIS US INC. No. C01687 — SOUTH CAROLINA — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 — WILLIAM P. HELMADOLLAR III — 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

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1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: CELL LAYOUT
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

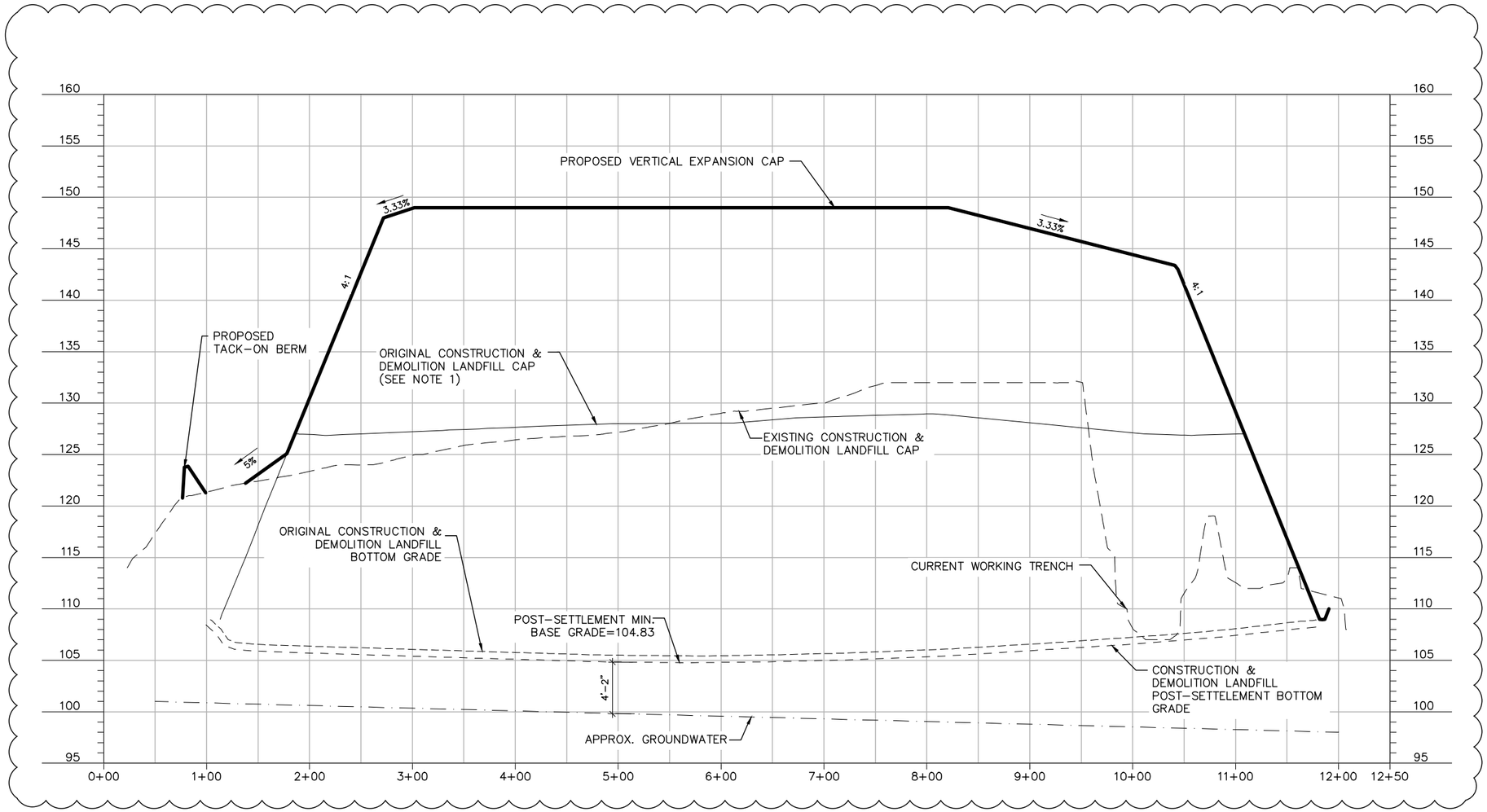
SHEET TITLE

CELL LAYOUT

SCALE: AS NOTED

SHEET 5 OF 13

User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\CELL LAYOUT.DWG Scale:1:1 SavedDate:6/8/2018 Time:14:56 Plot Date: Tittle, Taylor H; 7/23/2018; 14:05 ; Layout:SHT 3



A 4 SECTION A

HORIZONTAL 0 30' 60' 120'

VERTICAL 0 6' 12'

NOTES:

1. THE LANDFILL IS CURRENTLY OPERATING BELOW THE ORIGINAL PERMITTED CAPACITY.

LEGEND

PROP. VERTICAL EXPANSION CAP

EX. CONSTRUCTION & DEMO LANDFILL CAP

APPROX. GROUNDWATER

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

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2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018

PROJECT NO.: CT053327-0011

FILE NAME: SECTION A

DESIGNED BY: MICHAEL BESANCENEZ

DRAWN BY: TAYLOR TITTLE

CHECKED BY: JAMES A. BARNETTE

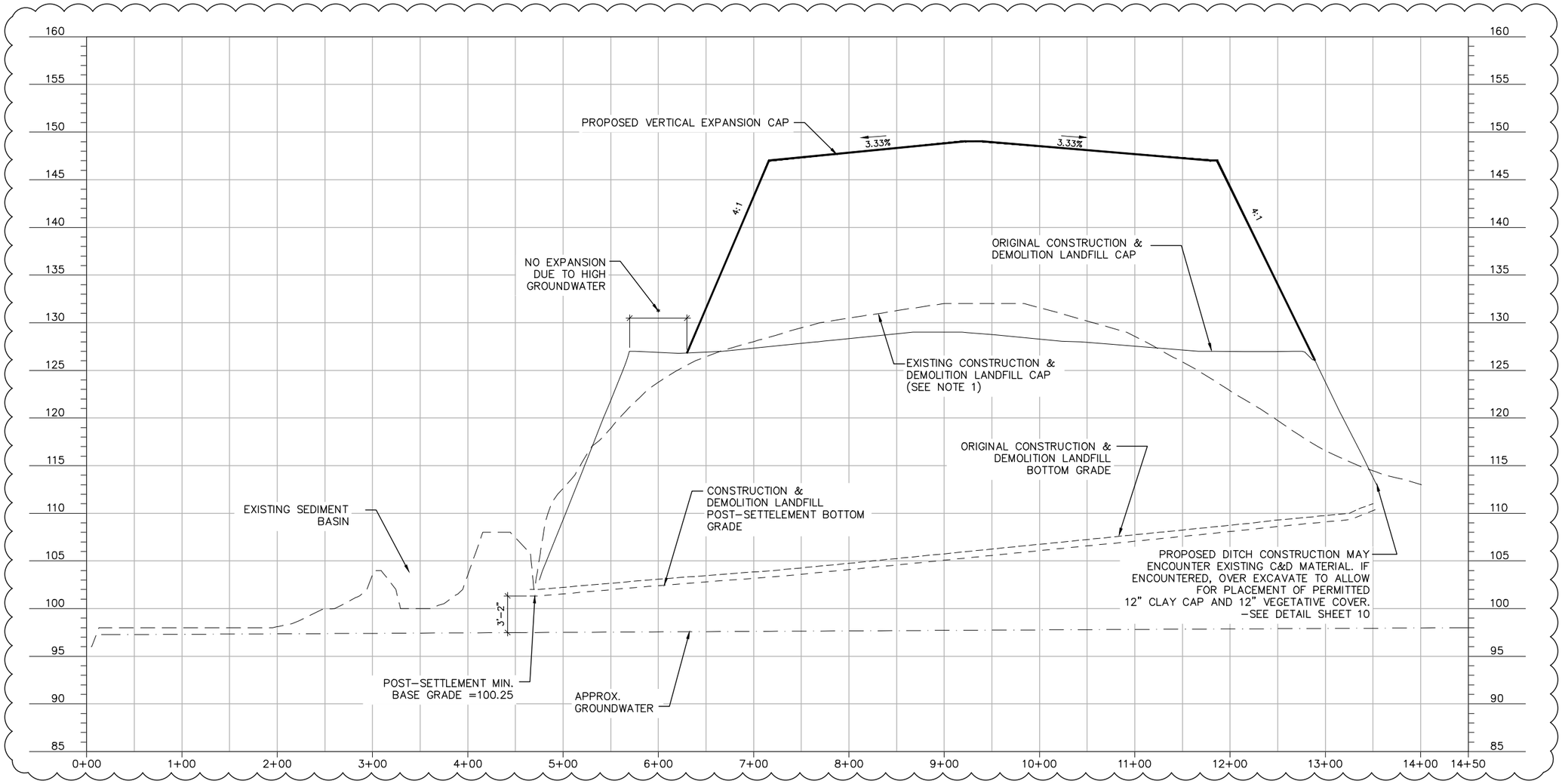
SHEET TITLE

CROSS SECTION A

SCALE: AS SHOWN

SHEET 6 OF 13

User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\SECTION A.DWG Scale: 1:1 SavedDate: 7/13/2018 Time: 10:33 Plot Date: Tittle, Taylor H; 7/23/2018; 14:07 ; Layout: SECTION A



B / 4 SECTION B

HORIZONTAL 0 30' 60' 120'

VERTICAL 0 6' 12'

NOTES:

1. THE LANDFILL IS CURRENTLY OPERATING BELOW THE ORIGINAL PERMITTED CAPACITY.

LEGEND

PROP. VERTICAL EXPANSION CAP

EX. CONSTRUCTION & DEMO LANDFILL CAP

APPROX. GROUNDWATER

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DILLON COUNTY, SOUTH CAROLINA

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ARCADIS PROJ. NO. CT053327.0011

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2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018

PROJECT NO.: CT053327-0011

FILE NAME: SECTION B

DESIGNED BY: MICHAEL BESANCENEZ

DRAWN BY: TAYLOR TITTLE

CHECKED BY: JAMES A. BARNETTE

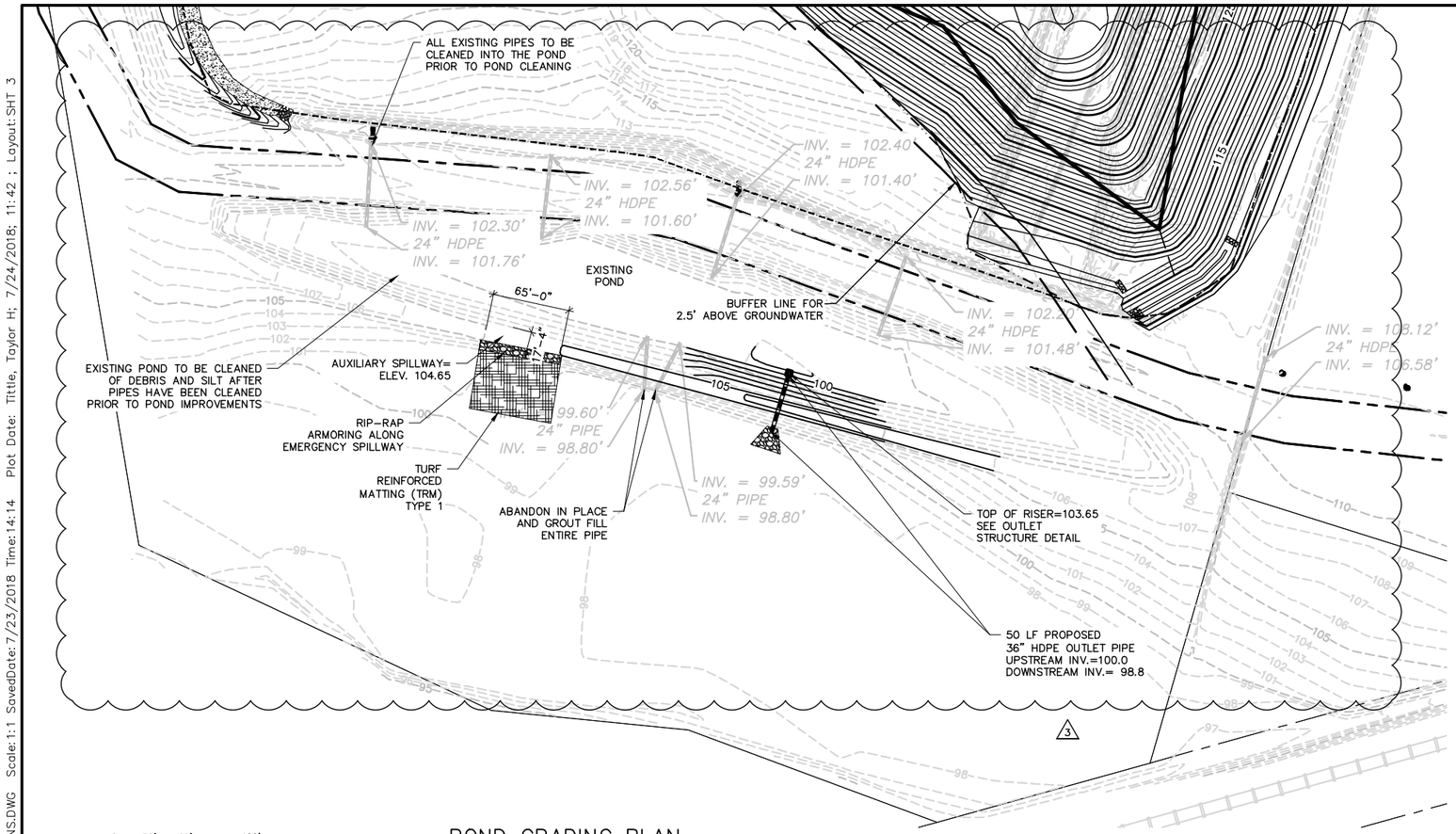
SHEET TITLE

CROSS SECTION B

SCALE: AS SHOWN

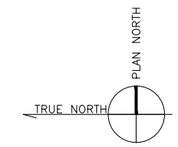
SHEET 7 OF 13

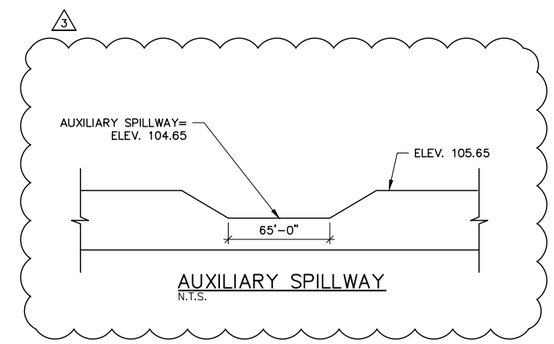
User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\SECTION B.DWG Scale: 1:1 SavedDate: 7/13/2018 Time: 10:50 Plot Date: Tittle, Taylor H; 7/23/2018; 14:10 ; Layout: SECTION B



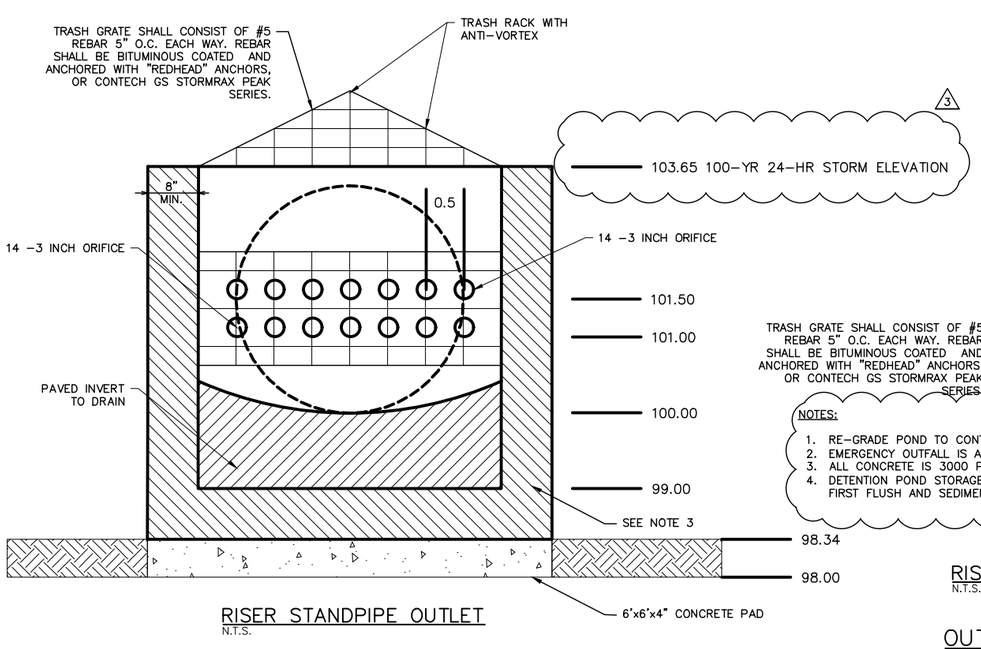
0 30' 60' 120'

POND GRADING PLAN
AS SHOWN

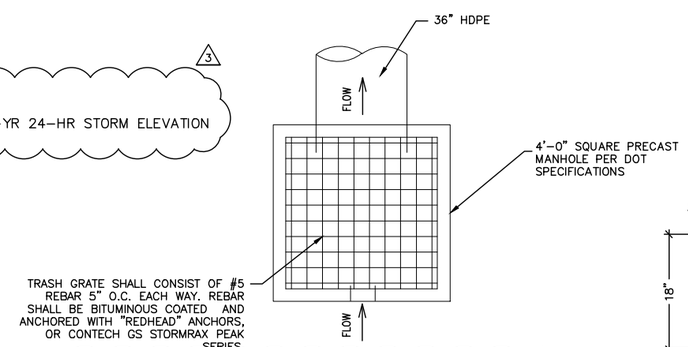




AUXILIARY SPILLWAY
N.T.S.



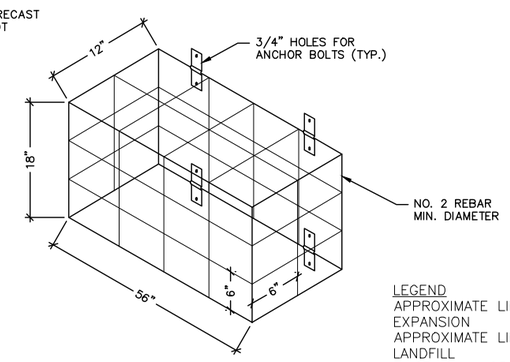
RISER STANDPIPE OUTLET
N.T.S.



NOTES:

1. RE-GRADE POND TO CONTOURS PROVIDED.
2. EMERGENCY OUTFALL IS ASSUMED AT ELEVATION 104.65'
3. ALL CONCRETE IS 3000 PSI.
4. DETENTION POND STORAGE BELOW ELEVATION 101.0' IS INTENDED FOR FIRST FLUSH AND SEDIMENT CLEANOUT.

RISER STANDPIPE OUTLET PLAN
N.T.S.



ORIFICE OUTLET TRASH RACK
N.T.S.

OUTLET STRUCTURE DETAIL

LEGEND

- APPROXIMATE LIMITS OF VERTICAL EXPANSION
- APPROXIMATE LIMITS OF EXISTING LANDFILL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPERTY LINE
- RIGHT OF WAY

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CONSULTANTS

SEALS

SOUTH CAROLINA ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR III 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

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1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: POND GRADING PLAN & SECTION
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

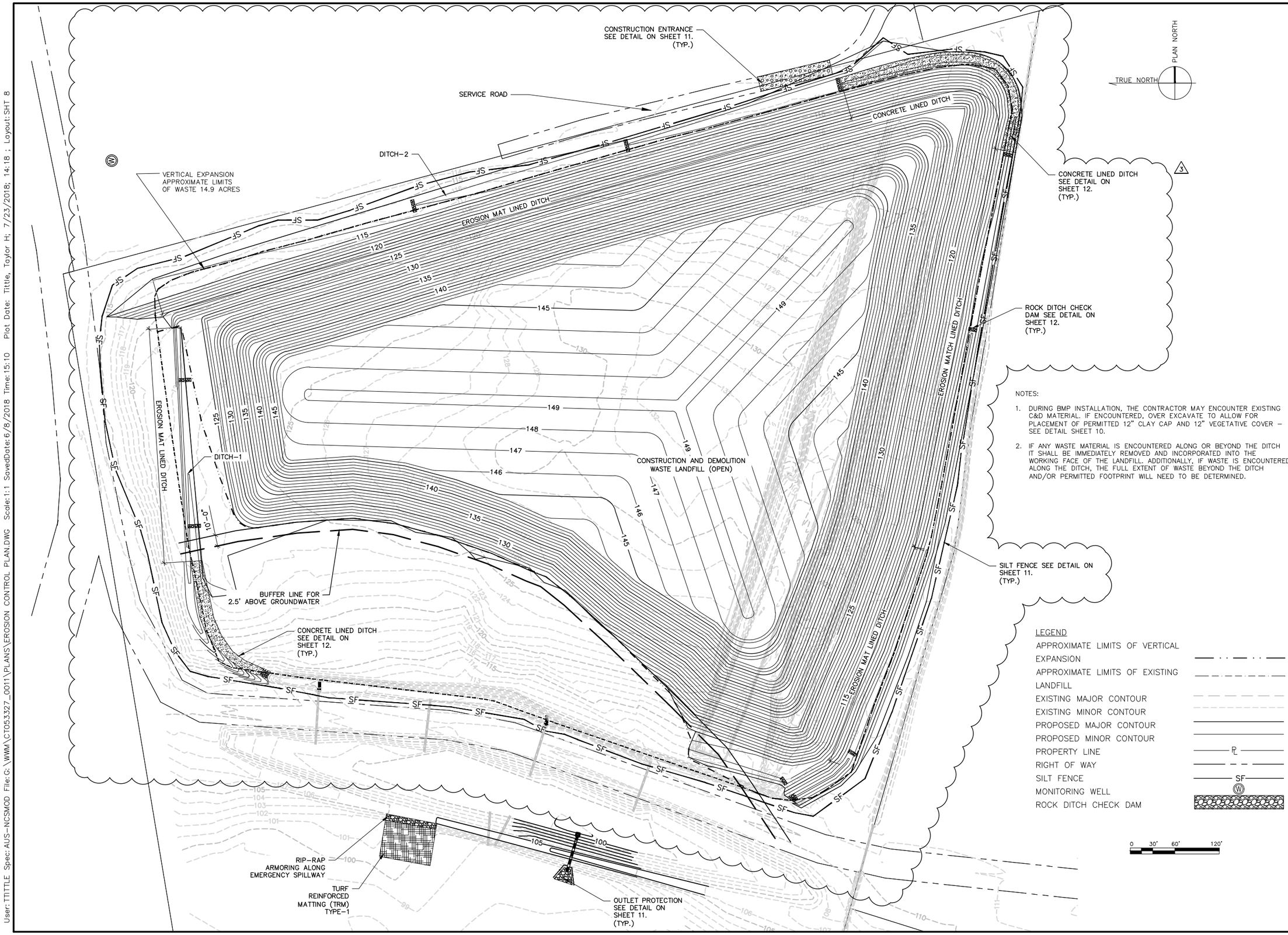
SHEET TITLE

POND GRADING PLAN & OUTLET STRUCTURE

SCALE: SCALE: 1" = 60'

SHEET 8 OF 13

User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\POND GRADING PLAN & SECTIONS.DWG Scale: 1:1 SavedDate: 7/23/2018 Time: 14:14 Plot Date: Tittle, Taylor H; 7/24/2018; 11:42 ; Layout: SHT 3



NOTES:

1. DURING BMP INSTALLATION, THE CONTRACTOR MAY ENCOUNTER EXISTING C&D MATERIAL. IF ENCOUNTERED, OVER EXCAVATE TO ALLOW FOR PLACEMENT OF PERMITTED 12" CLAY CAP AND 12" VEGETATIVE COVER – SEE DETAIL SHEET 10.
2. IF ANY WASTE MATERIAL IS ENCOUNTERED ALONG OR BEYOND THE DITCH IT SHALL BE IMMEDIATELY REMOVED AND INCORPORATED INTO THE WORKING FACE OF THE LANDFILL. ADDITIONALLY, IF WASTE IS ENCOUNTERED ALONG THE DITCH, THE FULL EXTENT OF WASTE BEYOND THE DITCH AND/OR PERMITTED FOOTPRINT WILL NEED TO BE DETERMINED.

LEGEND

APPROXIMATE LIMITS OF VERTICAL EXPANSION	
APPROXIMATE LIMITS OF EXISTING LANDFILL	
EXISTING MAJOR CONTOUR	
EXISTING MINOR CONTOUR	
PROPOSED MAJOR CONTOUR	
PROPOSED MINOR CONTOUR	
PROPERTY LINE	PL
RIGHT OF WAY	
SILT FENCE	SF
MONITORING WELL	W
ROCK DITCH CHECK DAM	

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

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2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE:	JULY 23, 2018
PROJECT NO.:	CT053327-0011
FILE NAME:	EROSION CONTROL PLAN
DESIGNED BY:	MICHAEL BESANCENEZ
DRAWN BY:	TAYLOR TITTLE
CHECKED BY:	JAMES A. BARNETTE

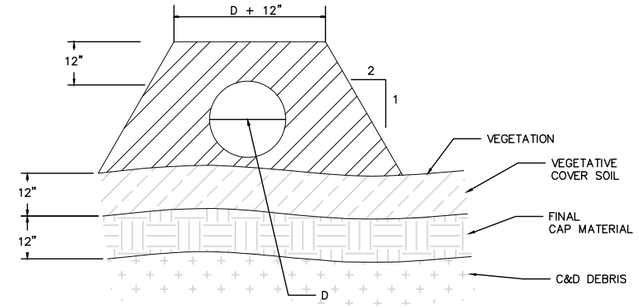
SHEET TITLE

EROSION & SEDIMENT CONTROL PLAN

SCALE:
SCALE: 1" = 60'

SHEET 9 OF 13

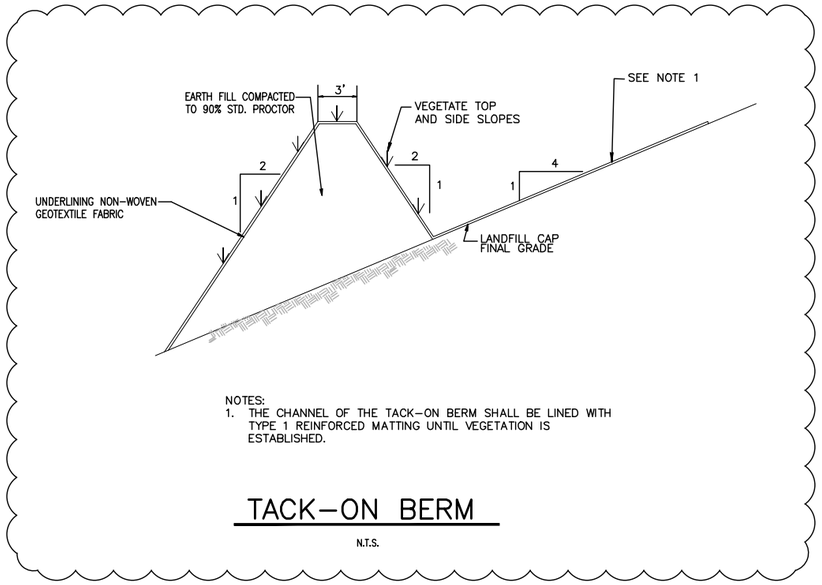
User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\EROSION CONTROL PLAN.DWG Scale: 1:1 SavedDate: 6/8/2018 Time: 15:10 Plot Date: Tittle, Taylor H; 7/23/2018; 14:18 ; Layout: SHT 8



FINAL CLOSURE COVER W/ DOWNDRAIN

N.T.S.

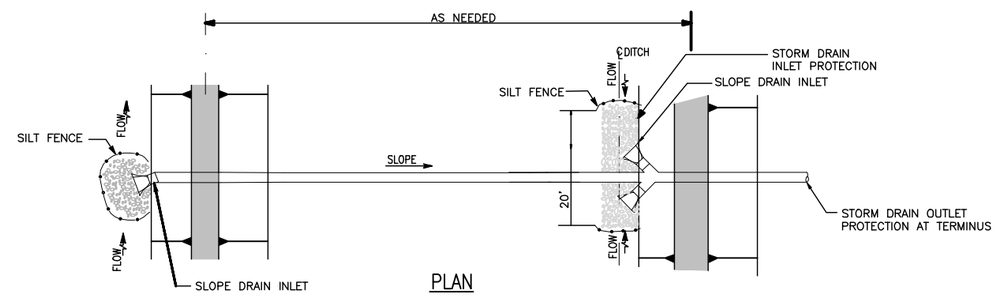
3



NOTES:
1. THE CHANNEL OF THE TACK-ON BERM SHALL BE LINED WITH TYPE 1 REINFORCED MATTING UNTIL VEGETATION IS ESTABLISHED.

TACK-ON BERM

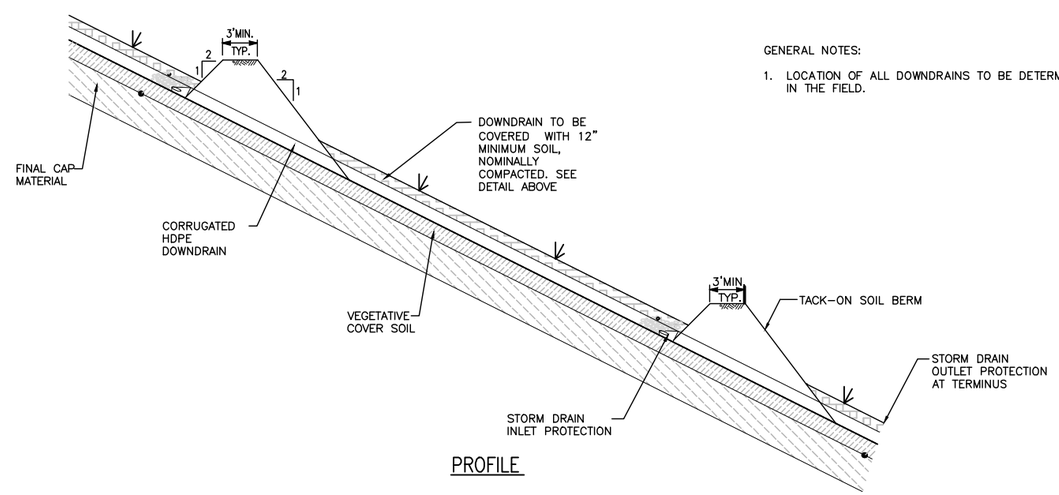
N.T.S.



PLAN

GENERAL NOTES:

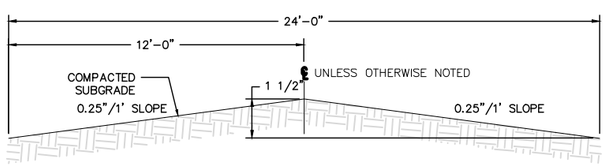
1. LOCATION OF ALL DOWNDRAINS TO BE DETERMINED IN THE FIELD.



PROFILE

SLOPE DRAIN PIPE

N.T.S.



COMPACTED EARTH ROAD SECTION

N.T.S.

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CONSULTANTS

SEALS

SOUTH CAROLINA ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR III 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
3	7/23/18	PERMITS RE-SUBMITTAL	WPH
2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: MISC DETAILS
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

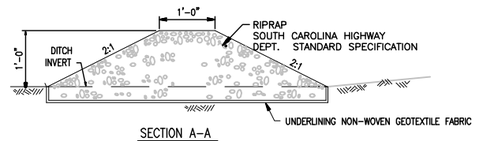
MISCELLANEOUS DETAILS

SCALE: AS SHOWN

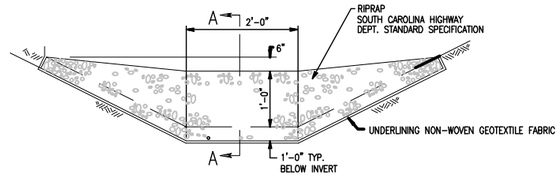
User: TITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\MISC DETAILS.DWG Scale: 1:1 SavedDate: 7/13/2018 Time: 12:16 Plot Date: Tittle, Taylor H; 7/23/2018; 14:19 ; Layout: LAYOUT1

EROSION CONTROL NOTES

1. EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS ARE MINIMUM REQUIREMENTS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE EMPLOYED WHERE DETERMINED NECESSARY BY LOCAL AUTHORITIES OR THE ENGINEER BASED UPON ACTUAL SITE CONDITIONS.
2. EROSION CONTROL MEASURES MAY HAVE TO BE ALTERED FROM THOSE SHOWN ON THE DRAWINGS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE DRAINAGE PATTERNS SHOWN ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION.
3. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLE OR SITE ONTO PUBLIC ROADWAYS OR INTO STORM DRAINS SHALL BE REMOVED BY THE END OF THE DAY.
4. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMIT OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE ACTIVITY SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO DISTURBANCE ACTIVITY SHALL OCCUR OUTSIDE THE LIMITS INDICATED ON THE DRAWINGS.
5. CONSTRUCTION ON THE SITE SHALL BEGIN WITH INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL UPSTREAM DISTURBED GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS HAVE BEEN PAVED OR GRAVELED.
6. INSPECT AND REPAIR EROSION CONTROL MEASURES AT LEAST WEEKLY AND PRIOR TO EACH ANTICIPATED RAINFALL, AND AFTER 0.25" RAINFALL EVENTS.
7. REMOVE ACCUMULATED SILT FROM SEDIMENT BARRIERS AND CHECK DAMS WHICH BECOME SILTED ABOVE ONE-HALF OF THEIR ORIGINAL HEIGHT.
8. PERMANENT VEGETATION SHALL BE PROVIDED AT THE EARLIEST SUITABLE GROWING SEASON.
9. TEMPORARY MULCHING SHALL BE PROVIDED TO DISTURBED AREAS NOT TO RECEIVE PERMANENT STABILIZATION WITHIN 14 CALENDAR DAYS OF COMPLETION OF CONSTRUCTION IN THAT AREA.
10. WHEN ANY CONSTRUCTION BORDERS A DRAINAGE COURSE, NO BUILDING OR OTHER EXCAVATION SPOIL DIRT, CONSTRUCTION TRASH OR DEBRIS, ETC., SHALL BE DEPOSITED IN THE DRAINAGE COURSE OR ASSOCIATED FLOODPLAIN.
11. DISCHARGE OF STORMWATER RUNOFF FROM DISTURBED AREAS TO A STREAM SHALL BE CONTROLLED TO THE EXTENT THAT TURBIDITY OF THE STREAM DOWNSTREAM SHALL NOT BE NOTICEABLY HIGHER THAN THE TURBIDITY LEVEL OF THE RECEIVING STREAM IMMEDIATELY UPSTREAM FROM THE STORMWATER RUNOFF DISCHARGE AT THE TIME OF SUCH DISCHARGE.
12. DISPOSE OF WASTE SOILS, CLEARED AND GRUBBED MATERIALS OFF-SITE AT A LOCATION SECURED BY THE CONTRACTOR, AND IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
13. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
14. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.



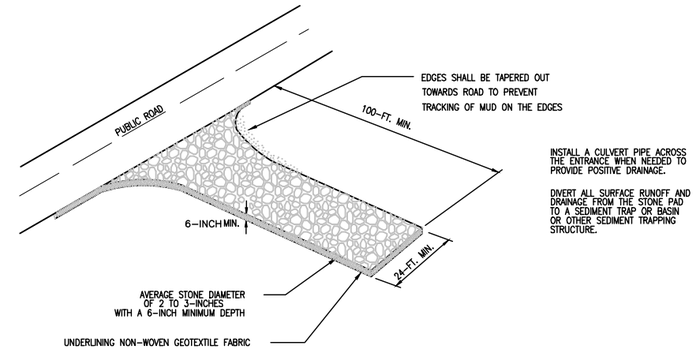
SECTION A-A



ELEVATION

RIP RAP CHECK DAM

N.T.S.



STABILIZED CONSTRUCTION EXIT

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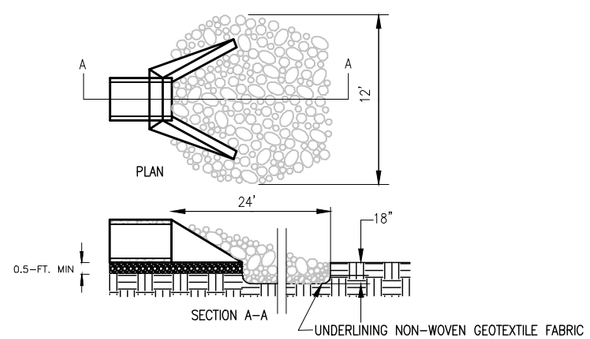
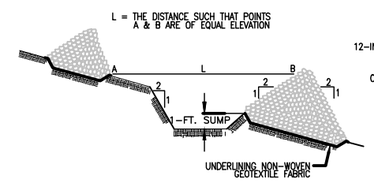


STORM DRAIN OUTLET PROTECTION

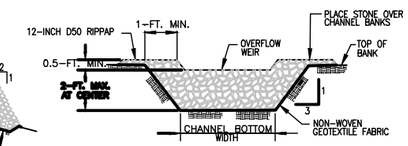
N.T.S.

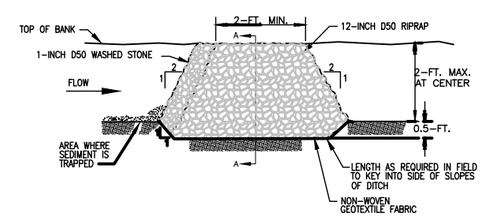
SPACING BETWEEN DITCH CHECK

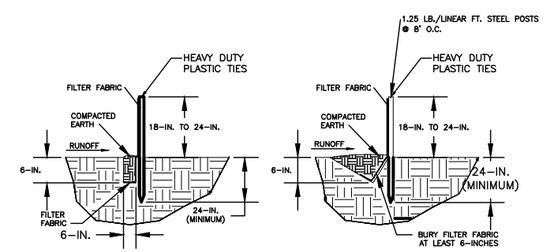


TYPICAL DITCH CHECK SECTION

CROSS SECTION A-A THRU STONE DITCH CHECK







FLAT-BOTTOM TRENCH DETAIL V-SHAPED TRENCH DETAIL

SILT FENCE

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

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2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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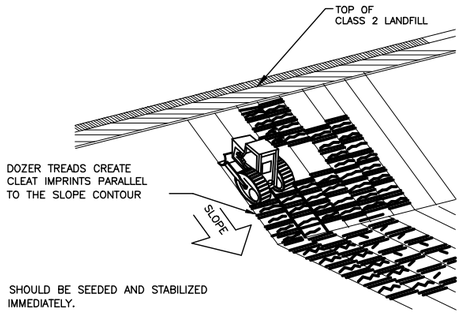
DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: E&SC 1 OF 2
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

EROSION & SEDIMENT CONTROL DETAILS (SHEET 1 OF 2)

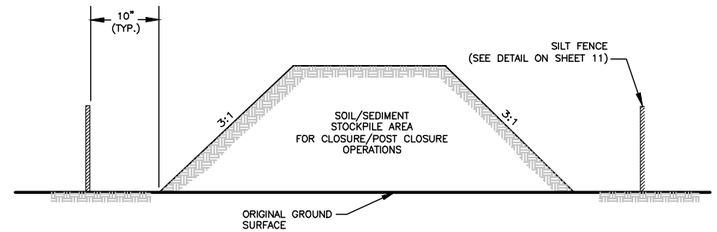
SCALE: AS NOTED

User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\E&SC 1 OF 2.DWG Scale: 1:1 SavedDate: 6/8/2018 Time: 15:13 Plot Date: Tittle, Taylor H; 7/23/2018; 14:21 ; Layout: LAYOUT1



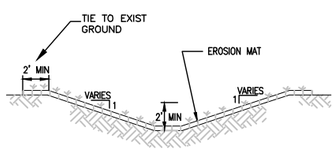
TRACKING

N.T.S.



TEMPORARY STOCKPILE AREA

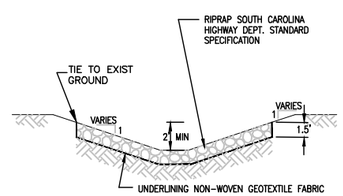
N.T.S.



EROSION MAT LINED DITCH

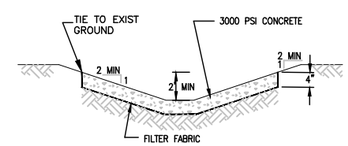
N.T.S.

NOTE:
CURLEX EROSION CONTROL BLANKET OR CURLEX DOUBLE NET (CURLEX II),
AS SUPPLIED BY AMERICAN EXCELSIOR, OR APPROVED EQUAL.



RIP RAP LINED DITCH

N.T.S.



CONCRETE LINED DITCH

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DILLON COUNTY,
SOUTH CAROLINA

DILLON COUNTY LANDFILL
VERTICAL EXPANSION
OF CLASS 2 LANDFILL
(PERMIT NO. 171001-1202)

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: E&SC 2 OF 2
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

EROSION & SEDIMENT
CONTROL DETAILS
(SHEET 2 OF 2)

SCALE:
AS SHOWN

User:TTITTLE Spec:AUS-NCSMOD File:G:\WWM\CT053327_0011\PLANS\E&SC 2 OF 2.DWG Scale:1:1 SavedDate:6/8/2018 Time:15:14 Plot Date: Tittle, Taylor H; 7/23/2018; 14:22 ; Layout:LAYOUT1

VEGETATIVE PLAN

TEMPORARY SEEDING

LIMITS OF CLAY & VEGETATIVE COVER SHALL BE VEGETATED WITH TEMPORARY SEEDING AT THE COMPLETION OF THE CAP INSTALLATION. THE LANDFILL WILL BE SOWN WITH GRASS AS DESCRIBED BELOW

SEEDBED PREPARATION

BEFORE FERTILIZING AND SEEDING, THE SOIL SURFACES MUST BE TRIMMED AND WORKED TO TRUE LINE FREE FROM UNSIGHTLY VARIATION, BUMPS, RIDGES, DEPRESSIONS, AND ALL DETRIMENTAL MATERIAL AND ROOTS. STONES LARGER THAN 3 INCHES IN ANY DIMENSION MUST BE REMOVED FROM THE SOIL. NOT EARLIER THAN 24 HOURS BEFORE THE SEED IS TO BE SOWN, THE SOIL SURFACE TO BE SEEDED MUST BE CULTIVATED THOROUGHLY TO A DEPTH NOT LESS THAN 6 INCHES WITH A WEIGHTED DISC, TILLER, PULVIMIXER, OR OTHER EQUIPMENT, UNTIL THE SURFACE IS SMOOTH. IF THE PREPARED SURFACE BECOMES ERODED OR CRUSTED BEFORE THE SEED IS SOWN, THE SURFACE MUST AGAIN BE BROUGHT TO A CONDITION SUITABLE FOR SEEDING.

GROUND PREPARATION OPERATIONS SHOULD BE PERFORMED ONLY WHEN THE GROUND IS IN A TILLABLE AND WORKABLE CONDITION.

FERTILIZATION AND LIMING

FOLLOWING SEEDBED PREPARATION, 10-10-10 FERTILIZER SHOULD BE APPLIED TO ALL AREAS TO BE SEEDED AT A RATE OF 1000 POUNDS PER ACRE. FERTILIZER SHOULD BE SPREAD EVENLY OVER THE SEEDBED AND SHOULD BE LIGHTLY HARROWED, RAKED, OR OTHERWISE INCORPORATED INTO THE SOIL FOR A DEPTH OF AT LEAST 6 INCHES ON SLOPES FLATTER THAN 3 HORIZONTAL TO 1 VERTICAL (3H:1V). FERTILIZER NEED NOT BE INCORPORATED IN THE SOIL AS SPECIFIED ABOVE WHEN APPLIED WITH POWER SPRAYER EQUIPMENT. IF SEED AND FERTILIZER ARE APPLIED WITH A HYDRAULIC SEEDER, THE SEED MUST BE APPLIED SEPARATELY FROM THE FERTILIZER. AGRICULTURAL LIMESTONE SHOULD BE MIXED THOROUGHLY INTO THE SOIL AT A RATE OF 3-4 TONS PER ACRE, DEPENDING ON THE SOIL CLASSIFICATION. THE RATE OF APPLICATION OF LIMESTONE MAY BE REDUCED IF PH TESTS INDICATE THIS TO BE DESIRABLE.

TYPICALLY THE SECOND YEAR AFTER SEEDING, 10-10-10 FERTILIZER SHOULD BE APPLIED AT THE SAME RATE OF THE INITIAL APPLICATION.

IF VEGETATION FAILS TO GROW, SOIL MUST BE TESTED TO DETERMINE IF ACIDITY OR NUTRIENT IMBALANCE IS RESPONSIBLE. FULL SEEDBED PREPARATION SHALL BE PERFORMED ACCORDING TO TEST RESULTS TO ESTABLISH A FULL STAND OF GRASS.

SEEDING

SEEDING OF THE SPECIFIED GROUP MUST BE SOWN AS SOON AS PREPARATION OF THE SEEDBED HAS BEEN COMPLETED. NO SEED MUST BE SOWN DURING HIGH WINDS NOR UNTIL THE SURFACE IS SUITABLE FOR WORKING AND IS IN A PROPER CONDITION.

SEEDING MUST BE PERFORMED DURING THE DATES SHOWN IN TABLE 1.1. SEED MIXTURES CAN BE SOWN TOGETHER PROVIDED THEY ARE KEPT IN A THOROUGHLY MIXED CONDITION DURING THE OPERATION. SEEDS MUST BE UNIFORMLY SOWN BY AN APPROVED MECHANICAL METHOD TO SUIT THE SLOPE AND SIZE OF THE AREAS TO BE SEEDED, PREFERABLY WITH A BROADCAST-TYPE SEEDER, WINDMILL HAND SEEDER, OR POWER-DRAWN SEED DRILLS. HYDROSEEDING AND HYDROMULCHING CAN BE USED ON STEEP EMBANKMENTS PROVIDED FULL COVERAGE IS OBTAINED. CARE MUST BE TAKEN TO ADJUST THE SEEDER TO ENSURE THE PROPER RATE BEFORE SEEDING BEGINS AND TO MAINTAIN THE ADJUSTMENTS DURING SEEDING. SEED IN HOPPERS MUST BE AGITATED TO PREVENT SEGREGATION OF THE VARIOUS SEEDS IN A SEEDING MIXTURE. IMMEDIATELY AFTER SOWING, THE SEEDS MUST BE COVERED TO A DEPTH OF 1 INCH BY A CULTIPACKER OR A SUITABLE ROLLER. LEGUMINOUS SEEDS SHALL BE COVERED TO A DEPTH OF 1/2 INCH, AND MUST BE INOCULATED PRIOR TO SEEDING WITH AN APPROVED, COMPATIBLE NITROGEN-FIXING INOCULATE ACCORDING TO THE MANUFACTURER'S MIXING INSTRUCTIONS.

TABLE 1.1
TEMPORARY SEEDING
REQUIREMENTS
(RATES PER ACRE)

AREA	SOWING SEASON	SPECIES	PURE LIVE SEED/ACRE (lbs)
TEMPORARY			
All	1/1 - 4/30	Kobe Lespedeza	60
Slopes	3/1 - 8/30	Browntop Millet	50
All	1/1 - 4/30	Korean Lespedeza (Unhulled, Unscarified)	60
All	9/1 - 11/30	Reseeding Crimson Clover	20
All	8/1 - 3/30	Rye Grain	55

Source: SCDOT Designation SC-M-810 "Supplemental Technical Specification for Seeding"

MULCHING

ALL AREAS TO BE GRASSED SHOULD BE MULCHED WITH WOOD CHIPS, STRAW, HAY, JUTE MATTING, OR SYNTHETIC FIBERS. MULCH SHOULD BE HELD IN PLACE BY AN APPROVED MULCH BINDER OR A BIODEGRADABLE MATTING. THE BINDER SHOULD BE MIXED THOROUGHLY AND APPLIED WITH THE MULCH. MULCH AND BINDER SHOULD BE APPLIED BY SUITABLE EQUIPMENT AT RATES GIVEN IN TABLE 1.2.

TABLE 1.2
Mulching Requirements
(Rates per Acre)

MULCH TYPE	APPLICATION RATE (tons)	DEPTH (inches)
Dry straw or hay	1.5-2.0	Not applicable
Wood Chips or Bark	5 to 6	Not applicable
Jute Matting	Per manufacturer's recommendations	

PERMANENT SEEDING

PERMANENT SEEDING SHALL BE NSTALLED IN ACCORDANCE WITH THE CLOSURE / POST-CLOSURE CARE PLAN. TABLE 1.3, PERMANENT SEEDING REQUIREMENTS, LISTS THE APPROVED TYPES OF SEEDING.

TABLE 1.3
PERMANENT SEEDING
REQUIREMENTS
(RATES PER ACRE)

PLANTING DATES	COMMON NAME OF SEED	PURE LIVE SEED/ACRE (lbs)	MULCH LIME/ FERTILIZER (POUNDS/ACRE)
MARCH 1 TO AUGUST 14	COMMON BERMUDA (HULLED)	30	1,000 (LIME) 1,000 (FERTILIZER) 4,000 (MULCH)
	SERICEA LESPEDEZA (SCARIFIED)	50	
	WEEPING LOVE GRASS	10	
AUGUST 15 TO FEBRUARY 28	COMMON BERMUDA (UNHULLED)	40	
	WEEPING LOVE GRASS	10	
	ANNUAL RYE GRASS	5	
	SERICEA LESPEDEZ (UNHULLED, UNSCARIFIED)	80	
	RESEEDING CRIMSON CLOVER	20	
	RYE GRAIN	20	
FERTILIZER TO BE 10-10-10 (N-P-K)			

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CONSULTANTS

SEALS

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

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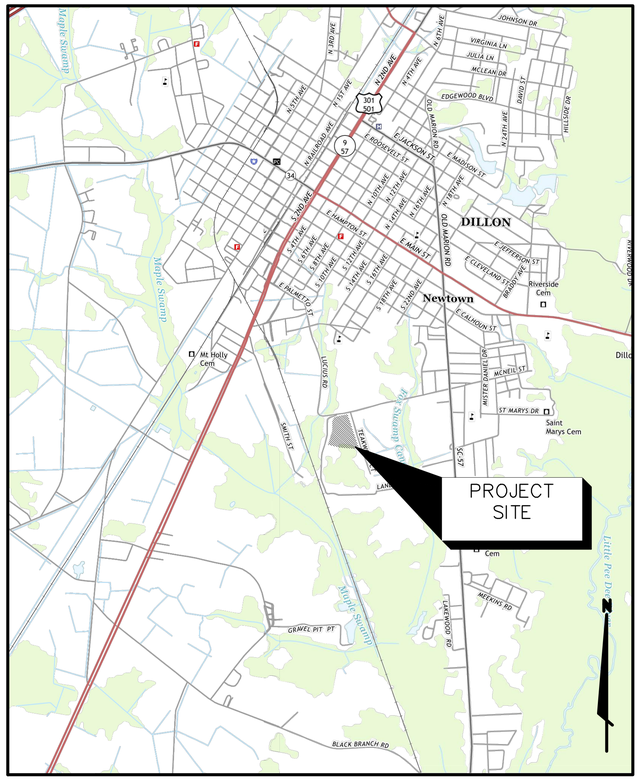
DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: OPERATION PLAN
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

VEGETATIVE PLAN

SCALE: NOT TO SCALE

User: TITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\OPERATION PLAN.DWG Scale: 1:1 SavedDate: 6/8/2018 Time: 15:16 Plot Date: Tittle, Taylor H; 7/23/2018; 14:24 ; Layout: LAYOUT1



LOCATION MAP
NOT TO SCALE

DILLON COUNTY LANDFILL
DILLON COUNTY, SOUTH CAROLINA

VERTICAL EXPANSION TO THE EXISTING CLASS 2 LANDFILL
PERMIT NO. 171001-1202

JULY 23, 2018

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CELL LAYOUT	5
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SOUTH CAROLINA ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

SCDHEC PERMIT REVISION #3

APPROVED _____

LEGAL ENTITY: ARCADIS U.S., INC.

ARCADIS Design & Consultancy for natural and built assets

COUNTY COUNCIL
JAMES M. CAMPBELL
TRACEY F. FINKLEA
STEVEN C. GRICE
GEROME R. MCLEOD
HAROLD D. MOODY
JACK H. SCOTT
ROBERT A. SCOTT

ADMINISTRATOR
LISA B. GRAY
(843) 774-1401

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CHARLIE BROWN
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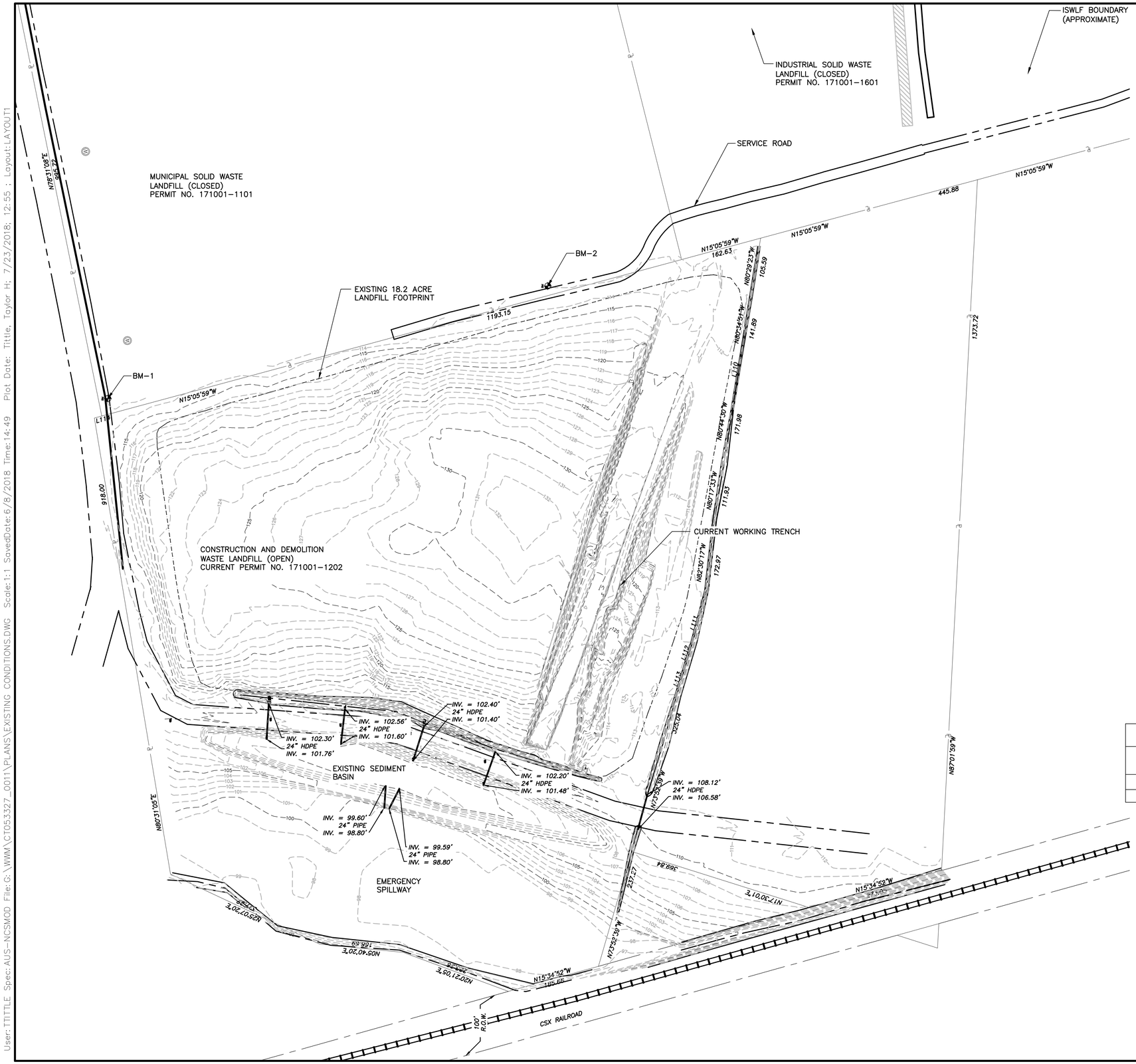

GENERAL NOTES:

1. EXISTING TOPOGRAPHIC DATA PROVIDED BY NESBITT SURVEYING COMPANY ON A TOPOGRAPHIC SURVEY TITLED TOPOGRAPHIC MAP DILLON COUNTY LANDFILL DATED 7/21/2016. STAMPED & SIGNED BY DAVID A. NESBITT S.C. RLS# 7623 AND SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION # C01197.
2. PROPOSED GRADES SHOWN ARE FINISHED GRADES. NO SLOPES SHALL BE STEEPER THAN 4H:1V ON THE LANDFILL.
3. THE CONTRACTOR SHALL EXERCISE CARE TO PROTECT EXISTING ROADS, LANDSCAPING, BUFFERS, CONSERVATION EASEMENTS, WETLANDS, MONITORING WELLS, SIGNAGE, ETC. ANY DAMAGE TO THESE FACILITIES OR COMPONENTS SHALL REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. REPAIR OR REPLACEMENT SHALL BE AT THE DISCRETION OF THE OWNER.
4. CONSTRUCTION ACTIVITIES SHALL NOT INTERFERE WITH OPERATION OF THE EXISTING TRANSFER STATION OR THE EXISTING OPERATIONS.
5. LOCATIONS OF UTILITIES, MONITORING WELLS, AND GAS COLLECTION AND CONTROL SYSTEM (GCCS) COMPONENTS ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE UTILITIES, WELLS, AND GCCS COMPONENTS PRIOR TO CONSTRUCTION.
6. WASTE EXCAVATED AS A RESULT OF GRADING SHALL BE DISPOSED BY THE CONTRACTOR IN THE C&D LANDFILL DISPOSAL AREA.
7. COORDINATES (IF SHOWN) ARE BASED ON SITE CONTROL ESTABLISHED FROM SOUTH CAROLINA STATE PLANE. COORDINATES AND/OR DIMENSIONS ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. ANY DISCREPANCIES BETWEEN COORDINATES AND/OR DIMENSIONS PROVIDED ON THE PLANS AND ACTUAL FIELD CONDITIONS OR WHAT IS SHOWN GRAPHICALLY SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY AND BEFORE CONTINUING WITH THE WORK.
8. SOIL AND OTHER CONSTRUCTION MATERIALS MAY ONLY BE STOCKPILED IN AREAS DESIGNATED BY THE OWNER. STOCKPILE AREAS MAY NOT TRAP SURFACE WATER.
9. NECESSARY BARRICADES, SUFFICIENT LIGHTS, SIGNS, FLAGGERS AT ROAD CROSSINGS AND OTHER TRAFFIC CONTROL METHODS AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF WORKERS AND THE PUBLIC SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT.

PERMANENT BENCHMARK LOCATIONS

PERMANENT BENCHMARK LOCATION	NORTHING	EASTING	DESCRIPTION
BM–1	938021.38	2492440.07	C.S. PIN
BM–2	937147.52	2492663.56	C.S. PIN

LEGEND

- APPROXIMATE LIMITS OF WASTE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE (PL)
- RIGHT OF WAY
- BENCHMARK (BM)
- MONITORING WELL (W)

0 100' 200'

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www.arcadis.com

CONSULTANTS

SEALS

SOUTH CAROLINA ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001–1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
3	7/23/18	PERMITS RE–SUBMITTAL	WPH
2	6/11/18	PERMITS RE–SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018
PROJECT NO.: CT053327–0011
FILE NAME: EXISTING CONDITIONS
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

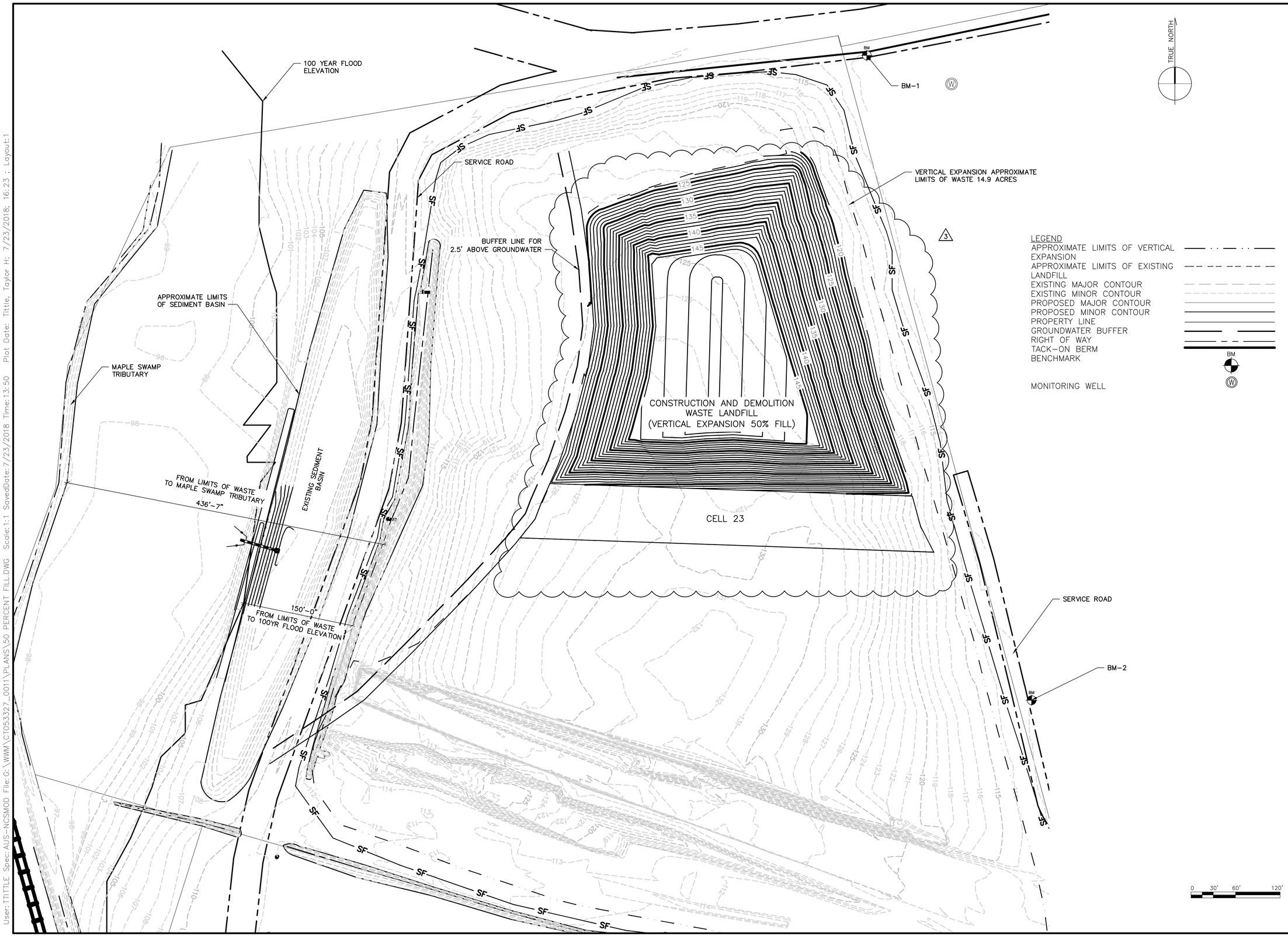
SHEET TITLE

EXISTING CONDITIONS & BOUNDARY

SCALE: 1" = 100'

SHEET 2 OF 13

User: TITTLE, Spec: AUS–NCSMOD File: G:\WWM\CT053327_0011\PLANS\EXISTING CONDITIONS.DWG Scale: 1:1 SavedDate: 6/8/2018 Time: 14:49 Plot Date: Tittle, Taylor H; 7/23/2018; 12:55 ; Layout: LAYOUT1



User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\50 PERCENT FILL.DWG Scale: 1:1 SavedDate: 7/23/2018 Time: 13:50 Plot Date: Tittle, Taylor H; 7/23/2018; 16:23 ; Layout: 1

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
3	7/23/18	PERMITS RE-SUBMITTAL	WPH
2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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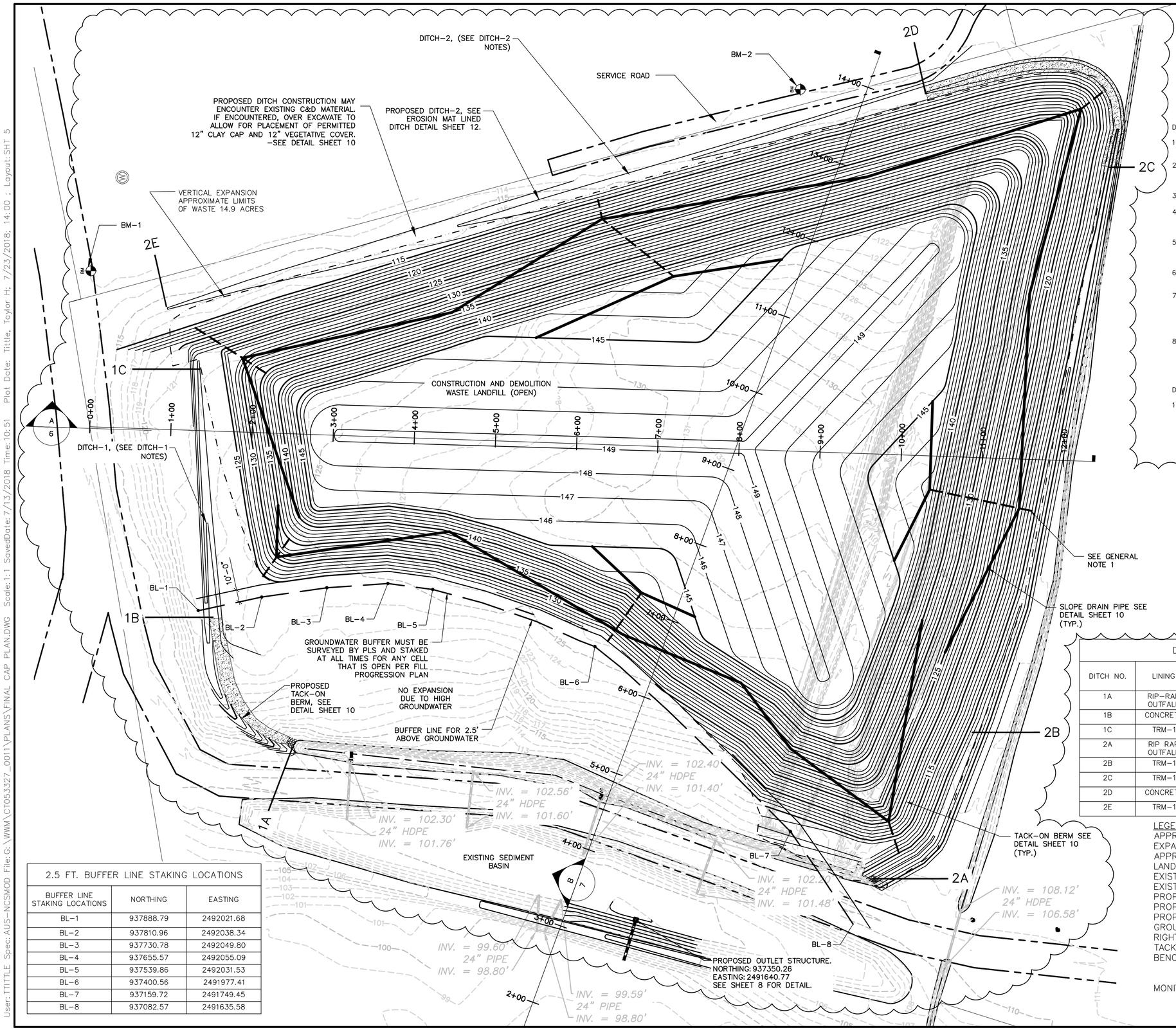
DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: 50 PERCENT FILL
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

VERTICAL EXPANSION 50% FILL

SCALE:

SHEET 3 OF 13



DITCH-1 NOTES:

1. PREPARE THE SOIL BEFORE INSTALLING BLANKETS, INCLUDING THE APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6 INCH DEEP BY 6 INCH WIDE TRENCH. BACKFILL AND COMPACT THE DITCH AFTER STAPLING.
3. ROLL THE CENTER BLANKET IN THE DIRECTION OF FLOWING WATER AT THE BOTTOM OF THE CHANNEL.
4. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6 INCH OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4 INCHES APART TO SECURE THE BLANKET.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6 INCH DEEP BY 6 INCH WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. BLANKETS ON THE SIDE SLOPES MUST BE OVERLAPPED 4 INCHES OVER THE CENTER OF THE BLANKET AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4 INCHES OVER THE ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4 INCHES BELOW THE FIRST ROW IN A STAGGERED PATTERN.
8. THE TERMINAL END OF THE BLANKETS MUCH BE ANCHORED IN A 6 INCH DEEP BY 6 INCH WIDE TRENCH. BACK FILL AND COMPACT THE TRENCH AFTER STAPLING.

DITCH-2 NOTES:

1. IF ANY WASTE MATERIAL IS ENCOUNTERED ALONG OR BEYOND THE EAST DITCH IT SHALL BE IMMEDIATELY REMOVED AND INCORPORATED INTO THE WORKING FACE OF THE LANDFILL. ADDITIONALLY, IF WASTE IS ENCOUNTERED ALONG THE DITCH, THE FULL EXTENT OF WASTE BEYOND THE DITCH AND/OR PERMITTED FOOTPRINT WILL NEED TO BE DETERMINED.

DRAINAGE CHANNEL SCHEDULE

DITCH NO.	LINING	BOTTOM WIDTH (FEET)	DEPTH (FEET)	M	Q (CFS)	V (FPS)
1A	RIP-RAP OUTFALL	2	–	0.025	32.38	3.97
1B	CONCRETE	2	–	0.015	–	–
1C	TRM-1	2	1	0.018	–	–
2A	RIP RAP OUTFALL	2	4	0.025	48.02	3.89
2B	TRM-1	2	3	0.018	–	–
2C	TRM-1	2	2	0.018	–	–
2D	CONCRETE	2	1	0.015	–	–
2E	TRM-1	2	1	0.018	–	–

2.5 FT. BUFFER LINE STAKING LOCATIONS

BUFFER LINE STAKING LOCATIONS	NORTHING	EASTING
BL-1	937888.79	2492021.68
BL-2	937810.96	2492038.34
BL-3	937730.78	2492049.80
BL-4	937655.57	2492055.09
BL-5	937539.86	2492031.53
BL-6	937400.56	2491977.41
BL-7	937159.72	2491749.45
BL-8	937082.57	2491635.58

LEGEND

- APPROXIMATE LIMITS OF VERTICAL EXPANSION
- APPROXIMATE LIMITS OF EXISTING LANDFILL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPERTY LINE (PL)
- GROUNDWATER BUFFER
- RIGHT OF WAY
- TACK-ON BERM
- BENCHMARK (BM)
- MONITORING WELL (W)

0 30' 60' 120'

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CONSULTANTS

SEALS

SOUTH CAROLINA ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24735 WILLIAM P. HELMADOLLAR III 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
3	7/23/18	PERMITS RE-SUBMITTAL	WPH
2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: FINAL CAP PLAN
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

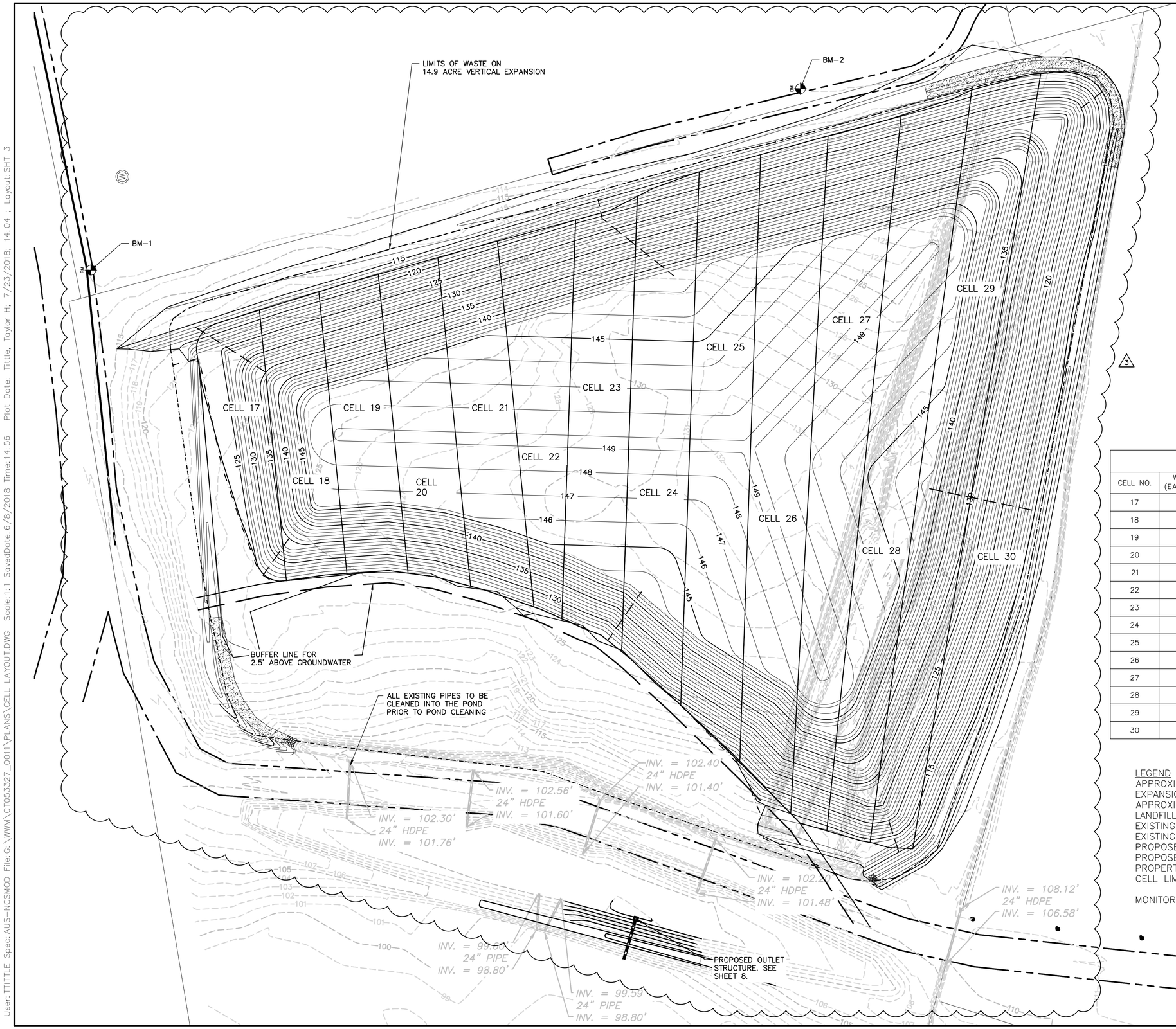
SHEET TITLE

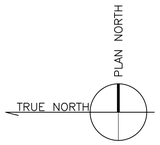
FINAL GRADING PLAN

SCALE: SCALE: 1" = 60'

SHEET 4 OF 13

User: TTITTLE Spec: AUS-NCSMOD File: G:\WMA\CT053327_0011\PLANS\FINAL CAP PLAN.DWG Scale: 1:1 SavedDate: 7/13/2018 Time: 10:51 Plot Date: Tittle, Taylor H; 7/23/2018; 14:00 ; Layout: SHT 5





CELL LAYOUT					
CELL NO.	WIDTH (EAST) FT	WIDTH (WEST) FT	LENGTH (NORTH) FT	LENGTH (SOUTH) FT	SIDE SLOPE
17	81	35	275	335	4:1
18	75	75	335	350	4:1
19	75	75	350	370	4:1
20	75	75	370	407	4:1
21	75	75	407	453	4:1
22	100	38	453	492	4:1
23	82	85	492	562	4:1
24	82	99	562	658	4:1
25	79	100	658	748	4:1
26	87	91	748	837	4:1
27	94	50	837	887	4:1
28	94	56	887	936	4:1
29	88	54	936	968	4:1
30	108	22	968	922	4:1

LEGEND

APPROXIMATE LIMITS OF VERTICAL EXPANSION
APPROXIMATE LIMITS OF EXISTING LANDFILL
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
PROPOSED MAJOR CONTOUR
PROPOSED MINOR CONTOUR
PROPERTY LINE
CELL LIMITS
MONITORING WELL

0 30' 60' 120'

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SOUTH CAROLINA ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

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2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: CELL LAYOUT
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

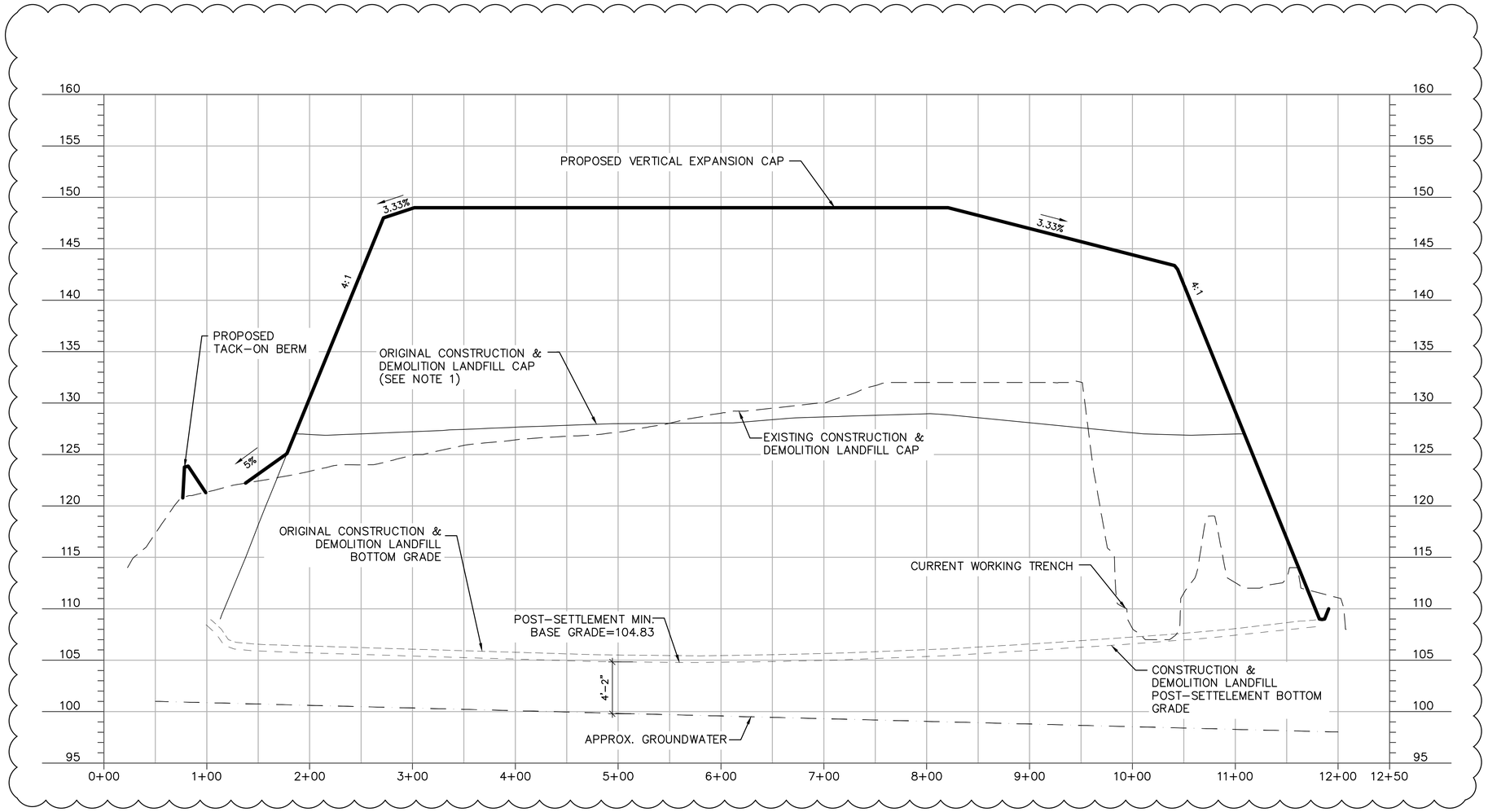
SHEET TITLE

CELL LAYOUT

SCALE: AS NOTED

SHEET 5 OF 13

User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\CELL LAYOUT.DWG Scale: 1:1 SavedDate: 6/8/2018 Time: 14:56 Plot Date: Tittle, Taylor H; 7/23/2018; 14:04 ; Layout: SHT 3



A 4 SECTION A

HORIZONTAL 0 30' 60' 120'

VERTICAL 0 6' 12'

NOTES:

1. THE LANDFILL IS CURRENTLY OPERATING BELOW THE ORIGINAL PERMITTED CAPACITY.

LEGEND

PROP. VERTICAL EXPANSION CAP

EX. CONSTRUCTION & DEMO LANDFILL CAP

APPROX. GROUNDWATER

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SOUTH CAROLINA ARCADIS US INC. No. C01687 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
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2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018

PROJECT NO.: CT053327-0011

FILE NAME: SECTION A

DESIGNED BY: MICHAEL BESANCENEZ

DRAWN BY: TAYLOR TITTLE

CHECKED BY: JAMES A. BARNETTE

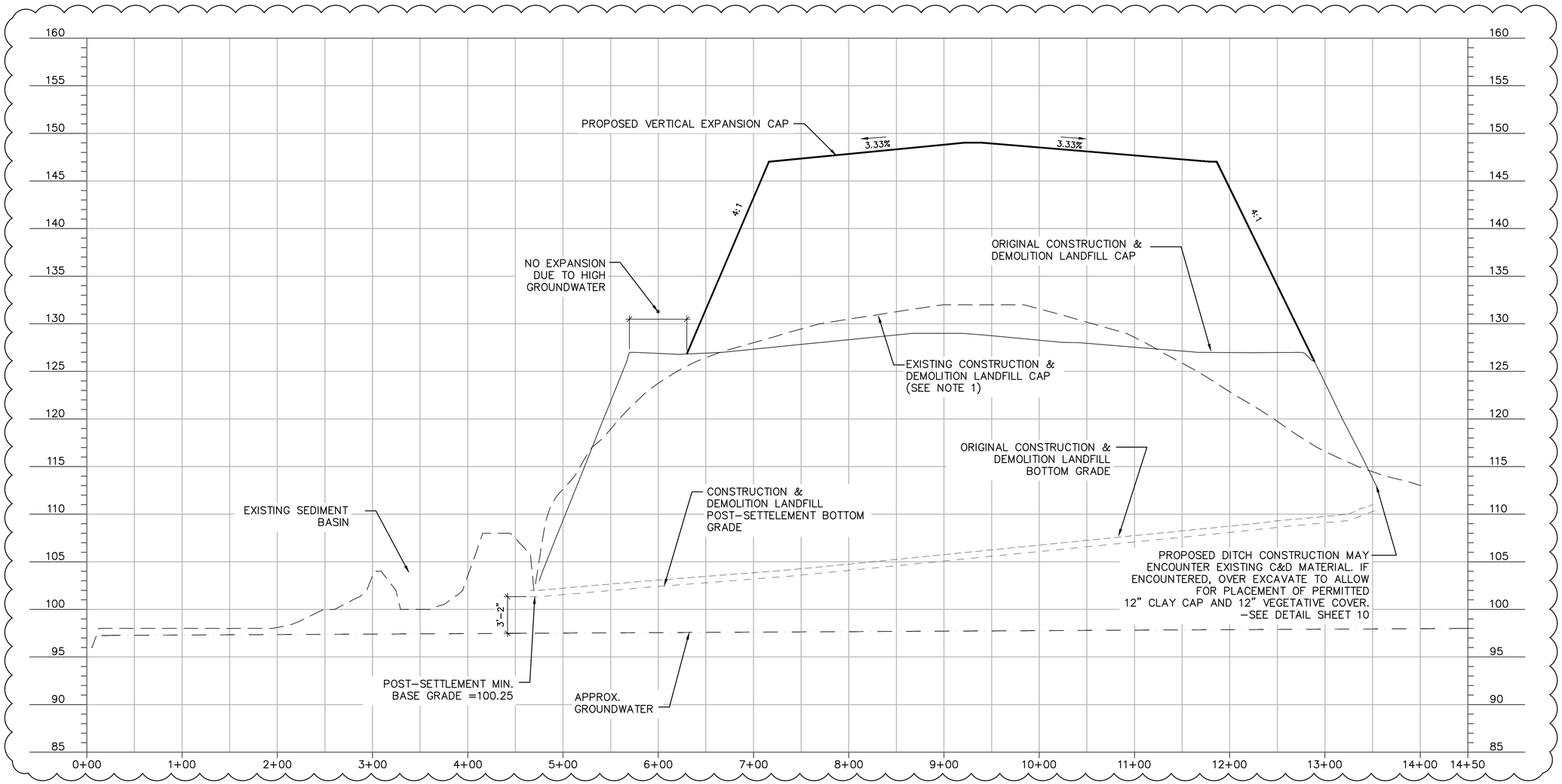
SHEET TITLE

CROSS SECTION A

SCALE: AS SHOWN

SHEET 6 OF 13

User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\SECTION A.DWG Scale: 1:1 SavedDate: 7/13/2018 Time: 10:33 Plot Date: Tittle, Taylor H; 7/23/2018; 14:08 ; Layout: SECTION A



B
4
SECTION B

HORIZONTAL 0 30' 60' 120'

VERTICAL 0 6' 12'

NOTES:

1. THE LANDFILL IS CURRENTLY OPERATING BELOW THE ORIGINAL PERMITTED CAPACITY.

LEGEND
PROP. VERTICAL EXPANSION CAP
EX. CONSTRUCTION & DEMO
LANDFILL CAP
APPROX. GROUNDWATER

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
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2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: SECTION B
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

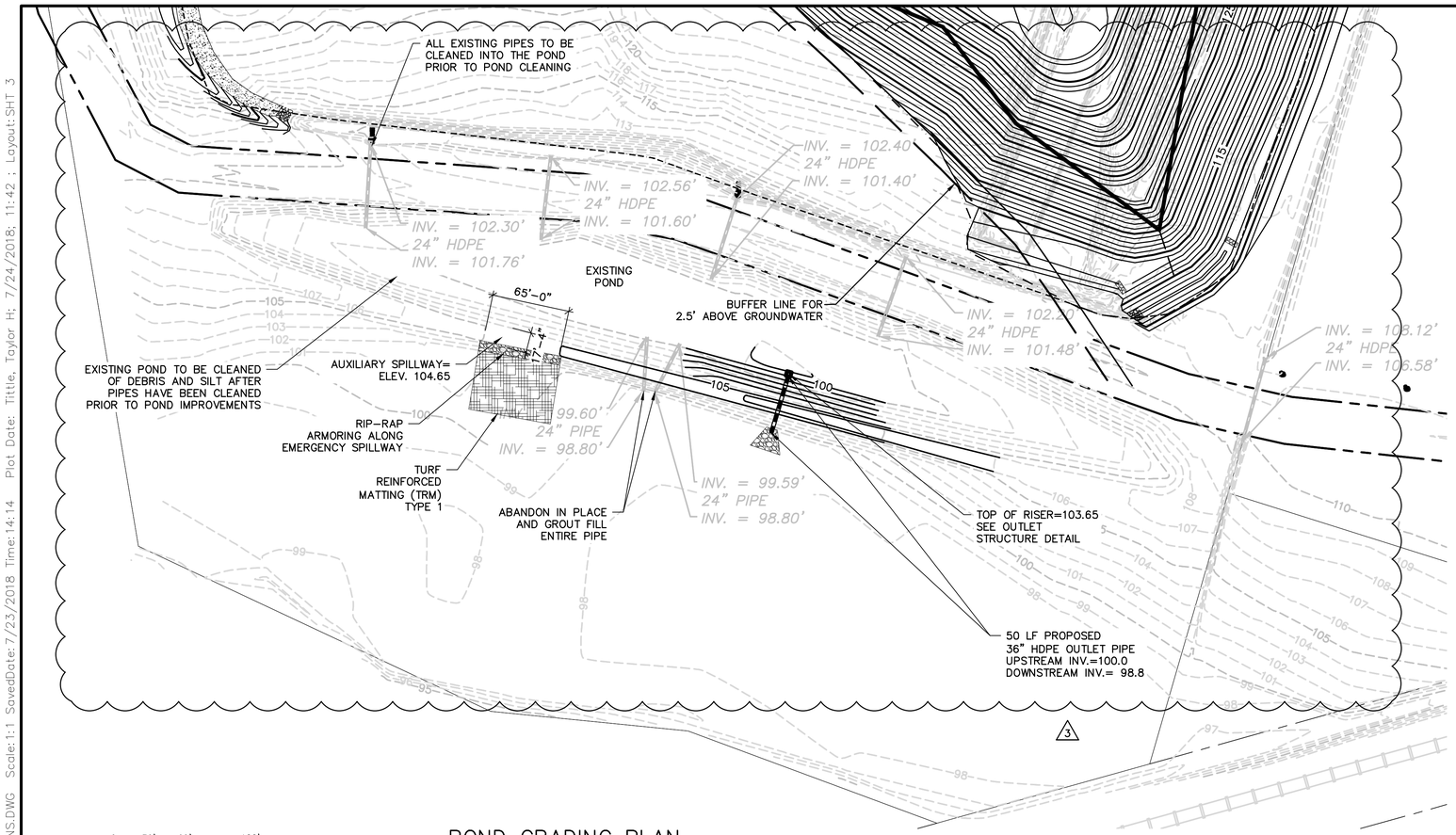
SHEET TITLE

CROSS SECTION B

SCALE: AS SHOWN

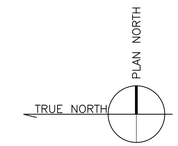
SHEET 7 OF 13

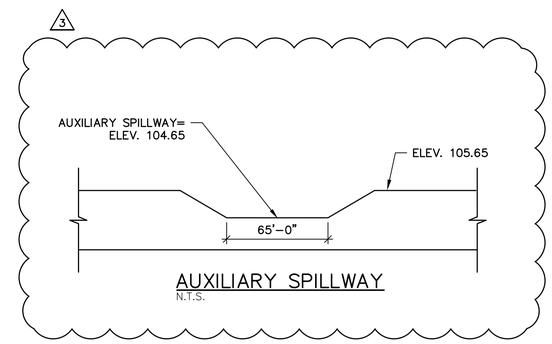
User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\SECTION B.DWG Scale: 1:1 SavedDate: 7/13/2018 Time: 10:50 Plot Date: Tittle, Taylor H; 7/23/2018; 14:10 ; Layout: SECTION B



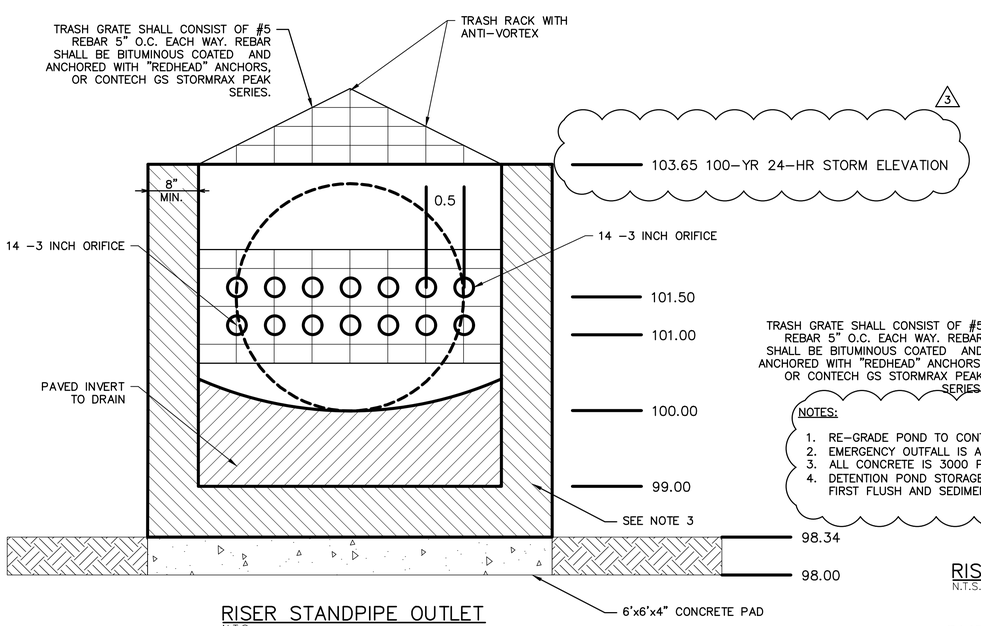
0 30' 60' 120'

POND GRADING PLAN
AS SHOWN

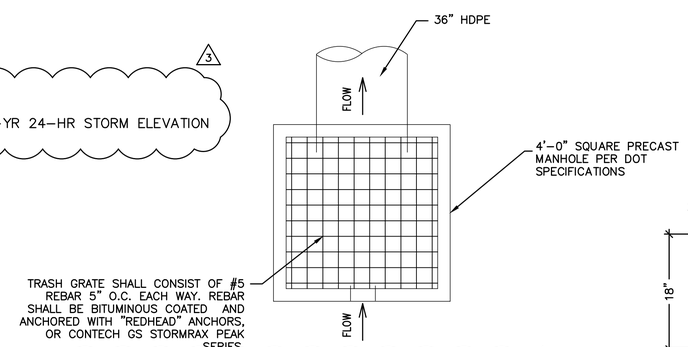




AUXILIARY SPILLWAY
N.T.S.



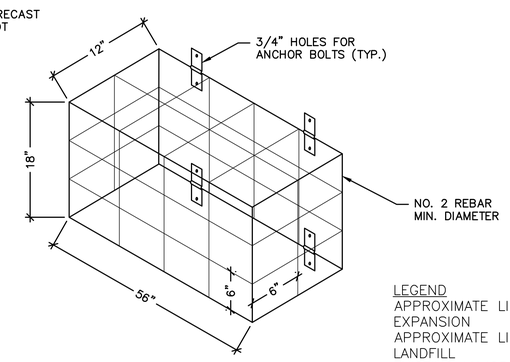
RISER STANDPIPE OUTLET
N.T.S.



NOTES:

1. RE-GRADE POND TO CONTOURS PROVIDED.
2. EMERGENCY OUTFALL IS ASSUMED AT ELEVATION 104.65'
3. ALL CONCRETE IS 3000 PSI.
4. DETENTION POND STORAGE BELOW ELEVATION 101.0' IS INTENDED FOR FIRST FLUSH AND SEDIMENT CLEANOUT.

RISER STANDPIPE OUTLET PLAN
N.T.S.



ORIFICE OUTLET TRASH RACK
N.T.S.

OUTLET STRUCTURE DETAIL

LEGEND

- APPROXIMATE LIMITS OF VERTICAL EXPANSION
- APPROXIMATE LIMITS OF EXISTING LANDFILL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPERTY LINE
- RIGHT OF WAY

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TEL: 423-756-7193
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CONSULTANTS

SEALS

ARCADIS US INC. No. C01687 — SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 24735 — WILLIAM P. HELMADOLLAR — 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
3	7/23/18	PERMITS RE-SUBMITTAL	WPH
2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: POND GRADING PLAN & SECTION
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

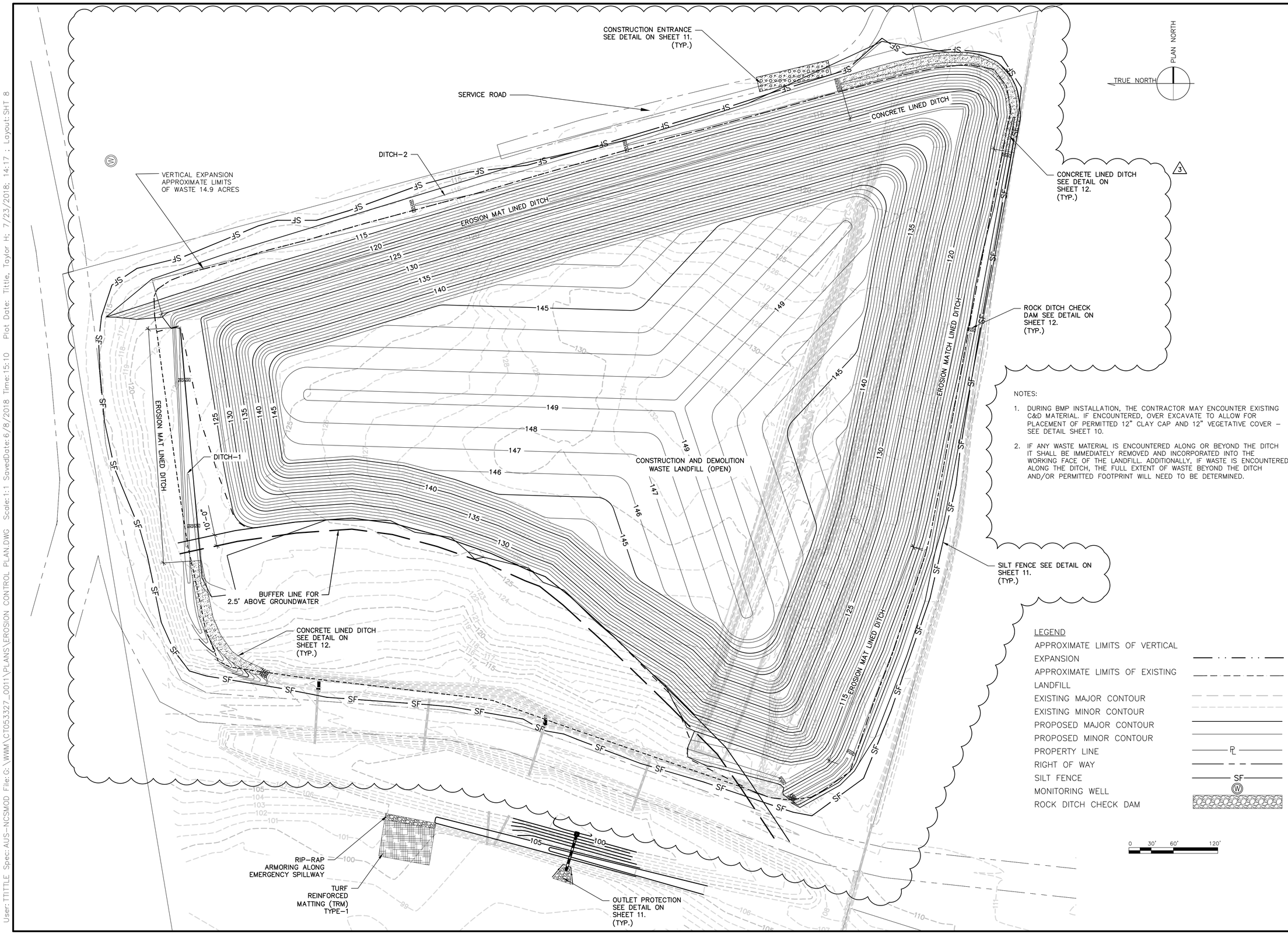
SHEET TITLE

POND GRADING PLAN & OUTLET STRUCTURE

SCALE: SCALE: 1" = 60'

SHEET 8 OF 13

User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\POND GRADING PLAN & SECTIONS.DWG Scale: 1:1 SavedDate: 7/23/2018 Time: 14:14 Plot Date: Tittle, Taylor H; 7/24/2018; 11:42 ; Layout: SHT 3



NOTES:

1. DURING BMP INSTALLATION, THE CONTRACTOR MAY ENCOUNTER EXISTING C&D MATERIAL. IF ENCOUNTERED, OVER EXCAVATE TO ALLOW FOR PLACEMENT OF PERMITTED 12" CLAY CAP AND 12" VEGETATIVE COVER – SEE DETAIL SHEET 10.
2. IF ANY WASTE MATERIAL IS ENCOUNTERED ALONG OR BEYOND THE DITCH IT SHALL BE IMMEDIATELY REMOVED AND INCORPORATED INTO THE WORKING FACE OF THE LANDFILL. ADDITIONALLY, IF WASTE IS ENCOUNTERED ALONG THE DITCH, THE FULL EXTENT OF WASTE BEYOND THE DITCH AND/OR PERMITTED FOOTPRINT WILL NEED TO BE DETERMINED.

LEGEND

- APPROXIMATE LIMITS OF VERTICAL EXPANSION
- APPROXIMATE LIMITS OF EXISTING LANDFILL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPERTY LINE (PL)
- RIGHT OF WAY
- SILT FENCE (SF)
- MONITORING WELL (W)
- ROCK DITCH CHECK DAM

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ARCADIS US INC. No. C01687 SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

NO.	DATE	ISSUED FOR	BY
3	7/23/18	PERMITS RE-SUBMITTAL	WPH
2	6/11/18	PERMITS RE-SUBMITTAL	WPH
1	11/03/17	PERMITS	WPH

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DATE:	JULY 23, 2018
PROJECT NO.:	CT053327-0011
FILE NAME:	EROSION CONTROL PLAN
DESIGNED BY:	MICHAEL BESANCENEZ
DRAWN BY:	TAYLOR TITTLE
CHECKED BY:	JAMES A. BARNETTE

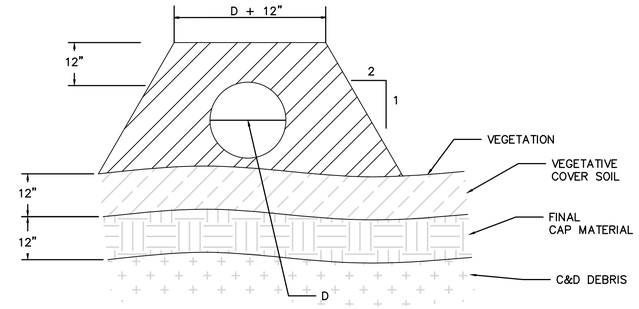
SHEET TITLE

EROSION & SEDIMENT CONTROL PLAN

SCALE:
SCALE: 1" = 60'

SHEET 9 OF 13

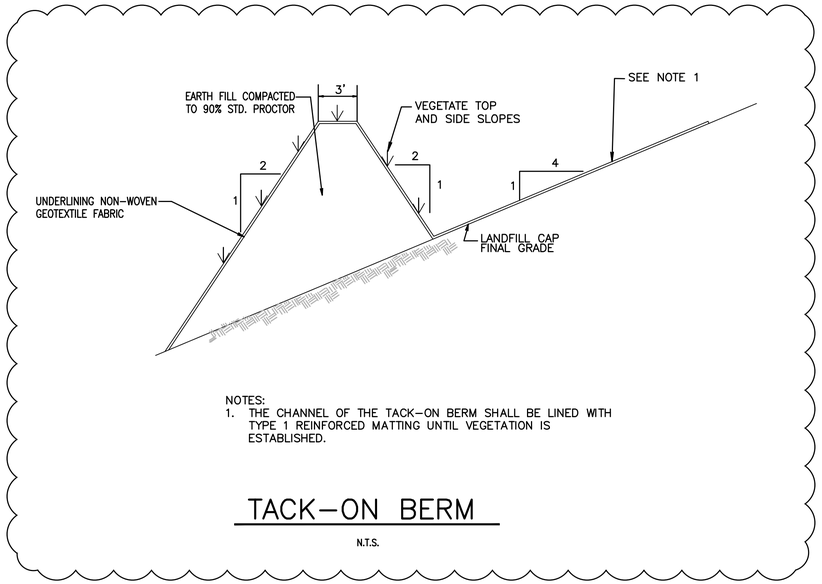
User: TTITTLE Spec: AUS-NCSMOD File: G:\WMA\CT053327_0011\PLANS\EROSION CONTROL PLAN.DWG Scale: 1:1 SavedDate: 6/8/2018 Time: 15:10 Plot Date: Tittle, Taylor H; 7/23/2018; 14:17 ; Layout: SHT 8



FINAL CLOSURE COVER W/ DOWNDRAIN

N.T.S.

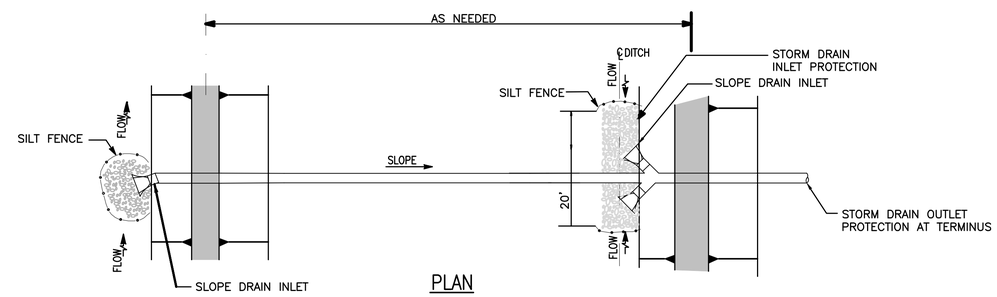
3



NOTES:
1. THE CHANNEL OF THE TACK-ON BERM SHALL BE LINED WITH TYPE 1 REINFORCED MATTING UNTIL VEGETATION IS ESTABLISHED.

TACK-ON BERM

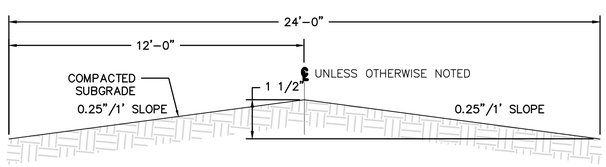
N.T.S.



PLAN

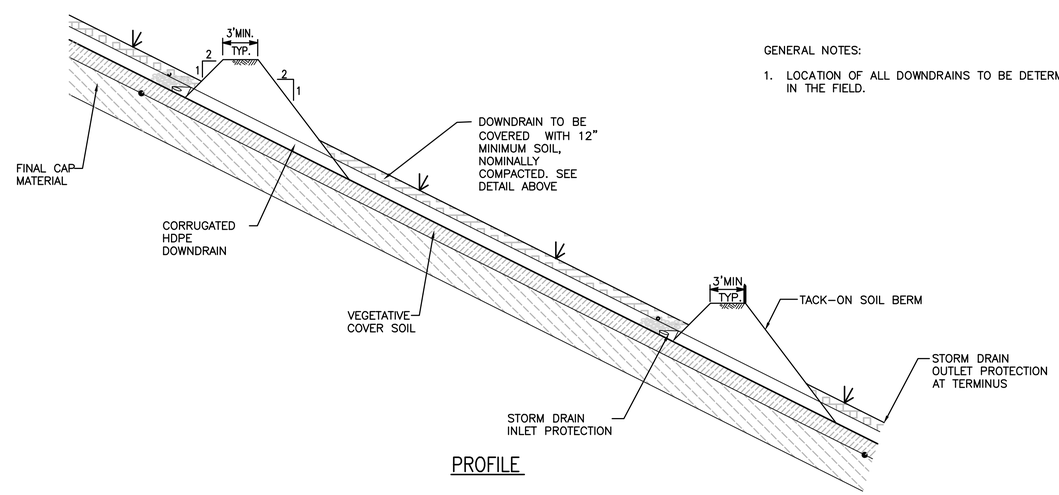
GENERAL NOTES:

1. LOCATION OF ALL DOWNDRAINS TO BE DETERMINED IN THE FIELD.



COMPACTED EARTH ROAD SECTION

N.T.S.



PROFILE

SLOPE DRAIN PIPE

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: MISC DETAILS
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

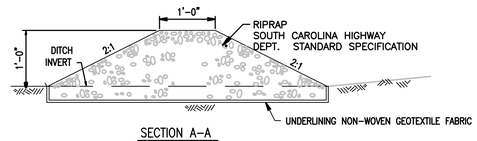
MISCELLANEOUS DETAILS

SCALE: AS SHOWN

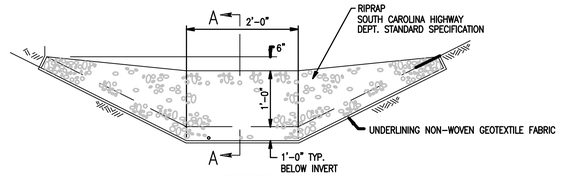
User: TTITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\MISC DETAILS.DWG Scale: 1:1 SavedDate: 7/13/2018 Time: 12:16 Plot Date: Tittle, Taylor H; 7/23/2018; 14:20 ; Layout: LAYOUT1

EROSION CONTROL NOTES

1. EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS ARE MINIMUM REQUIREMENTS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE EMPLOYED WHERE DETERMINED NECESSARY BY LOCAL AUTHORITIES OR THE ENGINEER BASED UPON ACTUAL SITE CONDITIONS.
2. EROSION CONTROL MEASURES MAY HAVE TO BE ALTERED FROM THOSE SHOWN ON THE DRAWINGS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE DRAINAGE PATTERNS SHOWN ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION.
3. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLE OR SITE ONTO PUBLIC ROADWAYS OR INTO STORM DRAINS SHALL BE REMOVED BY THE END OF THE DAY.
4. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMIT OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE ACTIVITY SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO DISTURBANCE ACTIVITY SHALL OCCUR OUTSIDE THE LIMITS INDICATED ON THE DRAWINGS.
5. CONSTRUCTION ON THE SITE SHALL BEGIN WITH INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL UPSTREAM DISTURBED GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS HAVE BEEN PAVED OR GRAVELED.
6. INSPECT AND REPAIR EROSION CONTROL MEASURES AT LEAST WEEKLY AND PRIOR TO EACH ANTICIPATED RAINFALL, AND AFTER 0.25" RAINFALL EVENTS.
7. REMOVE ACCUMULATED SILT FROM SEDIMENT BARRIERS AND CHECK DAMS WHICH BECOME SILTED ABOVE ONE-HALF OF THEIR ORIGINAL HEIGHT.
8. PERMANENT VEGETATION SHALL BE PROVIDED AT THE EARLIEST SUITABLE GROWING SEASON.
9. TEMPORARY MULCHING SHALL BE PROVIDED TO DISTURBED AREAS NOT TO RECEIVE PERMANENT STABILIZATION WITHIN 14 CALENDAR DAYS OF COMPLETION OF CONSTRUCTION IN THAT AREA.
10. WHEN ANY CONSTRUCTION BORDERS A DRAINAGE COURSE, NO BUILDING OR OTHER EXCAVATION SPOIL DIRT, CONSTRUCTION TRASH OR DEBRIS, ETC., SHALL BE DEPOSITED IN THE DRAINAGE COURSE OR ASSOCIATED FLOODPLAIN.
11. DISCHARGE OF STORMWATER RUNOFF FROM DISTURBED AREAS TO A STREAM SHALL BE CONTROLLED TO THE EXTENT THAT TURBIDITY OF THE STREAM DOWNSTREAM SHALL NOT BE NOTICEABLY HIGHER THAN THE TURBIDITY LEVEL OF THE RECEIVING STREAM IMMEDIATELY UPSTREAM FROM THE STORMWATER RUNOFF DISCHARGE AT THE TIME OF SUCH DISCHARGE.
12. DISPOSE OF WASTE SOILS, CLEARED AND GRUBBED MATERIALS OFF-SITE AT A LOCATION SECURED BY THE CONTRACTOR, AND IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
13. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
14. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.



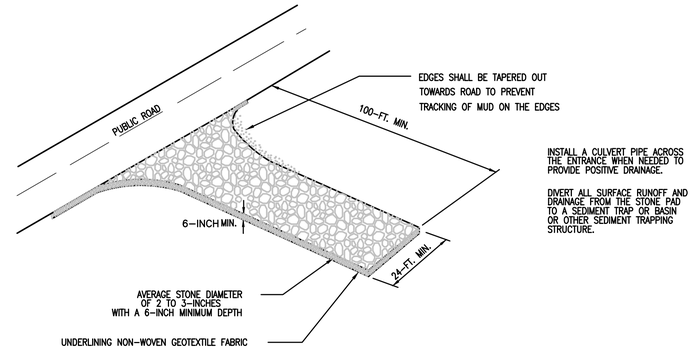
SECTION A-A



ELEVATION

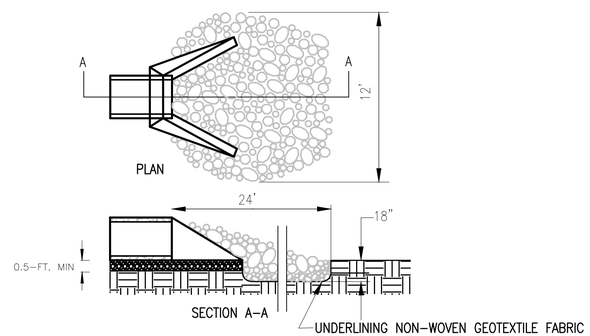
RIP RAP CHECK DAM

N.T.S.



STABILIZED CONSTRUCTION EXIT

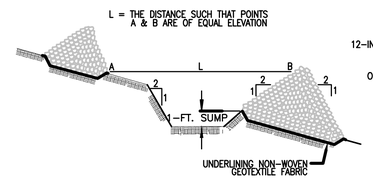
N.T.S.



STORM DRAIN OUTLET PROTECTION

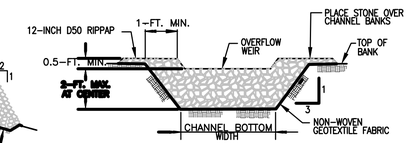
N.T.S.

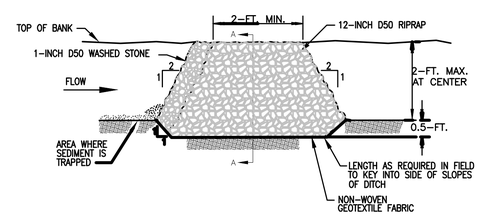
SPACING BETWEEN DITCH CHECK

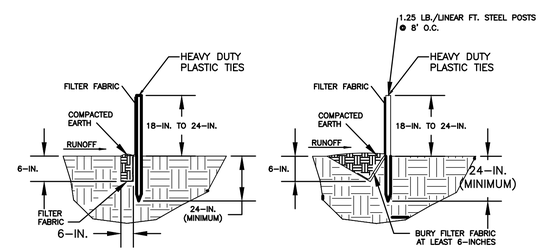


TYPICAL DITCH CHECK SECTION

CROSS SECTION A-A THRU STONE DITCH CHECK







FLAT-BOTTOM TRENCH DETAIL V-SHAPED TRENCH DETAIL

SILT FENCE

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM A. HELMADOLLAR 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001-1202)

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: E&SC 1 OF 2
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

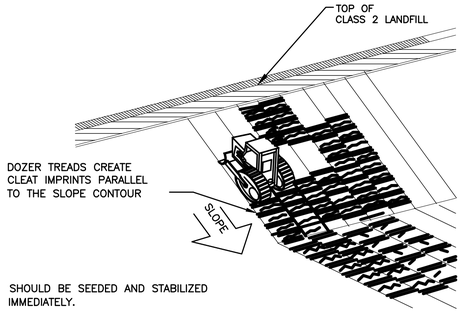
SHEET TITLE

EROSION & SEDIMENT CONTROL DETAILS (SHEET 1 OF 2)

SCALE: AS NOTED

SHEET 11 OF 13

User: TITTLE Spec: AUS-NCSMOD File: G:\WWM\CT053327_0011\PLANS\E&SC 1 OF 2.DWG Scale: 1:1 SavedDate: 6/8/2018 Time: 15:13 Plot Date: Tittle, Taylor H; 7/23/2018; 14:21 ; Layout: LAYOUT1



TRACKING

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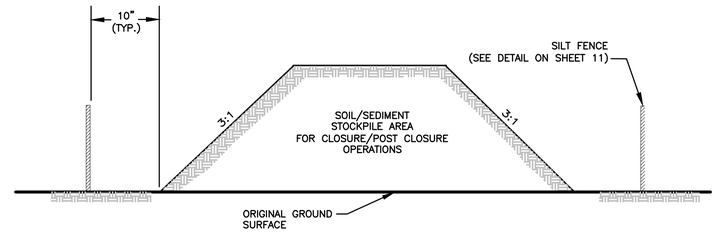

TEMPORARY STOCKPILE AREA

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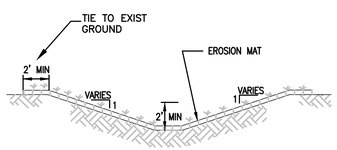
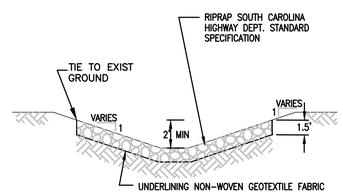


EROSION MAT LINED DITCH

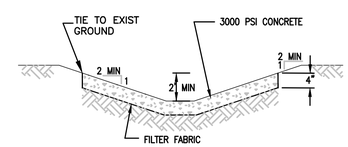
N.T.S.

NOTE:
CURLEX EROSION CONTROL BLANKET OR CURLEX DOUBLE NET (CURLEX II),
AS SUPPLIED BY AMERICAN EXCELSIOR, OR APPROVED EQUAL.



RIP RAP LINED DITCH

N.T.S.



CONCRETE LINED DITCH

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DILLON COUNTY,
SOUTH CAROLINA

DILLON COUNTY LANDFILL
VERTICAL EXPANSION
OF CLASS 2 LANDFILL
(PERMIT NO. 171001-1202)

ARCADIS PROJ. NO. CT053327.0011

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DATE: JULY 23, 2018
PROJECT NO.: CT053327-0011
FILE NAME: E&SC 2 OF 2
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

EROSION & SEDIMENT
CONTROL DETAILS
(SHEET 2 OF 2)

SCALE:
AS SHOWN

SHEET 12 OF 13

User:TTITTLE Spec:AUS-NCSMOD File:G:\WWM\CT053327_0011\PLANS\E&SC 2 OF 2.DWG Scale:1:1 SavedDate:6/8/2018 Time:15:14 Plot Date: Tittle, Taylor H; 7/23/2018; 14:22 ; Layout:LAYOUT1

VEGETATIVE PLAN

TEMPORARY SEEDING

LIMITS OF CLAY & VEGETATIVE COVER SHALL BE VEGETATED WITH TEMPORARY SEEDING AT THE COMPLETION OF THE CAP INSTALLATION. THE LANDFILL WILL BE SOWN WITH GRASS AS DESCRIBED BELOW

SEEDBED PREPARATION

BEFORE FERTILIZING AND SEEDING, THE SOIL SURFACES MUST BE TRIMMED AND WORKED TO TRUE LINE FREE FROM UNSIGHTLY VARIATION, BUMPS, RIDGES, DEPRESSIONS, AND ALL DETRIMENTAL MATERIAL AND ROOTS. STONES LARGER THAN 3 INCHES IN ANY DIMENSION MUST BE REMOVED FROM THE SOIL. NOT EARLIER THAN 24 HOURS BEFORE THE SEED IS TO BE SOWN, THE SOIL SURFACE TO BE SEEDED MUST BE CULTIVATED THOROUGHLY TO A DEPTH NOT LESS THAN 6 INCHES WITH A WEIGHTED DISC, TILLER, PULVIMIXER, OR OTHER EQUIPMENT, UNTIL THE SURFACE IS SMOOTH. IF THE PREPARED SURFACE BECOMES ERODED OR CRUSTED BEFORE THE SEED IS SOWN, THE SURFACE MUST AGAIN BE BROUGHT TO A CONDITION SUITABLE FOR SEEDING.

GROUND PREPARATION OPERATIONS SHOULD BE PERFORMED ONLY WHEN THE GROUND IS IN A TILLABLE AND WORKABLE CONDITION.

FERTILIZATION AND LIMING

FOLLOWING SEEDBED PREPARATION, 10–10–10 FERTILIZER SHOULD BE APPLIED TO ALL AREAS TO BE SEEDED AT A RATE OF 1000 POUNDS PER ACRE. FERTILIZER SHOULD BE SPREAD EVENLY OVER THE SEEDBED AND SHOULD BE LIGHTLY HARROWED, RAKED, OR OTHERWISE INCORPORATED INTO THE SOIL FOR A DEPTH OF AT LEAST 6 INCHES ON SLOPES FLATTER THAN 3 HORIZONTAL TO 1 VERTICAL (3H:1V). FERTILIZER NEED NOT BE INCORPORATED IN THE SOIL AS SPECIFIED ABOVE WHEN APPLIED WITH POWER SPRAYER EQUIPMENT. IF SEED AND FERTILIZER ARE APPLIED WITH A HYDRAULIC SEEDER, THE SEED MUST BE APPLIED SEPARATELY FROM THE FERTILIZER. AGRICULTURAL LIMESTONE SHOULD BE MIXED THOROUGHLY INTO THE SOIL AT A RATE OF 3–4 TONS PER ACRE, DEPENDING ON THE SOIL CLASSIFICATION. THE RATE OF APPLICATION OF LIMESTONE MAY BE REDUCED IF PH TESTS INDICATE THIS TO BE DESIRABLE.

TYPICALLY THE SECOND YEAR AFTER SEEDING, 10–10–10 FERTILIZER SHOULD BE APPLIED AT THE SAME RATE OF THE INITIAL APPLICATION.

IF VEGETATION FAILS TO GROW, SOIL MUST BE TESTED TO DETERMINE IF ACIDITY OR NUTRIENT IMBALANCE IS RESPONSIBLE. FULL SEEDBED PREPARATION SHALL BE PERFORMED ACCORDING TO TEST RESULTS TO ESTABLISH A FULL STAND OF GRASS.

SEEDING

SEEDING OF THE SPECIFIED GROUP MUST BE SOWN AS SOON AS PREPARATION OF THE SEEDBED HAS BEEN COMPLETED. NO SEED MUST BE SOWN DURING HIGH WINDS NOR UNTIL THE SURFACE IS SUITABLE FOR WORKING AND IS IN A PROPER CONDITION.

SEEDING MUST BE PERFORMED DURING THE DATES SHOWN IN TABLE 1.1. SEED MIXTURES CAN BE SOWN TOGETHER PROVIDED THEY ARE KEPT IN A THOROUGHLY MIXED CONDITION DURING THE OPERATION. SEEDS MUST BE UNIFORMLY SOWN BY AN APPROVED MECHANICAL METHOD TO SUIT THE SLOPE AND SIZE OF THE AREAS TO BE SEEDED, PREFERABLY WITH A BROADCAST–TYPE SEEDER, WINDMILL HAND SEEDER, OR POWER–DRAWN SEED DRILLS. HYDROSEEDING AND HYDROMULCHING CAN BE USED ON STEEP EMBANKMENTS PROVIDED FULL COVERAGE IS OBTAINED. CARE MUST BE TAKEN TO ADJUST THE SEEDER TO ENSURE THE PROPER RATE BEFORE SEEDING BEGINS AND TO MAINTAIN THE ADJUSTMENTS DURING SEEDING. SEED IN HOPPERS MUST BE AGITATED TO PREVENT SEGREGATION OF THE VARIOUS SEEDS IN A SEEDING MIXTURE. IMMEDIATELY AFTER SOWING, THE SEEDS MUST BE COVERED TO A DEPTH OF 1 INCH BY A CULTIPACKER OR A SUITABLE ROLLER. LEGUMINOUS SEEDS SHALL BE COVERED TO A DEPTH OF 1/2 INCH, AND MUST BE INOCULATED PRIOR TO SEEDING WITH AN APPROVED, COMPATIBLE NITROGEN–FIXING INOCULATE ACCORDING TO THE MANUFACTURER'S MIXING INSTRUCTIONS.

TABLE 1.1
TEMPORARY SEEDING
REQUIREMENTS
(RATES PER ACRE)

AREA	SOWING SEASON	SPECIES	PURE LIVE SEED/ACRE (lbs)
TEMPORARY			
All	1/1 – 4/30	Kobe Lespedeza	60
Slopes	3/1 – 8/30	Browntop Millet	50
All	1/1 – 4/30	Korean Lespedeza (Unhulled, Unscarified)	60
All	9/1 – 11/30	Reseeding Crimson Clover	20
All	8/1 – 3/30	Rye Grain	55

Source: SCDOT Designation SC–M–810 "Supplemental Technical Specification for Seeding"

MULCHING

ALL AREAS TO BE GRASSED SHOULD BE MULCHED WITH WOOD CHIPS, STRAW, HAY, JUTE MATTING, OR SYNTHETIC FIBERS. MULCH SHOULD BE HELD IN PLACE BY AN APPROVED MULCH BINDER OR A BIODEGRADABLE MATTING. THE BINDER SHOULD BE MIXED THOROUGHLY AND APPLIED WITH THE MULCH. MULCH AND BINDER SHOULD BE APPLIED BY SUITABLE EQUIPMENT AT RATES GIVEN IN TABLE 1.2.

TABLE 1.2
Mulching Requirements
(Rates per Acre)

MULCH TYPE	APPLICATION RATE (tons)	DEPTH (inches)
Dry straw or hay	1.5–2.0	Not applicable
Wood Chips or Bark	5 to 6	Not applicable
Jute Matting	Per manufacturer's recommendations	

PERMANENT SEEDING

PERMANENT SEEDING SHALL BE NSTALLED IN ACCORDANCE WITH THE CLOSURE / POST–CLOSURE CARE PLAN. TABLE 1.3, PERMANENT SEEDING REQUIREMENTS, LISTS THE APPROVED TYPES OF SEEDING.

TABLE 1.3
PERMANENT SEEDING
REQUIREMENTS
(RATES PER ACRE)

PLANTING DATES	COMMON NAME OF SEED	PURE LIVE SEED/ACRE (lbs)	MULCH LIME/ FERTILIZER (POUNDS/ACRE)
MARCH 1 TO AUGUST 14	COMMON BERMUDA (HULLED)	30	1,000 (LIME) 1,000 (FERTILIZER) 4,000 (MULCH)
	SERICEA LESPEDEZA (SCARIFIED)	50	
	WEEPING LOVE GRASS	10	
AUGUST 15 TO FEBRUARY 28	COMMON BERMUDA (UNHULLED)	40	
	WEEPING LOVE GRASS	10	
	ANNUAL RYE GRASS	5	
	SERICEA LESPEDEZ (UNHULLED, UNSCARIFIED)	80	
	RESEEDING CRIMSON CLOVER	20	
	RYE GRAIN	20	
FERTILIZER TO BE 10–10–10 (N–P–K)			

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CONSULTANTS

SEALS

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24785 WILLIAM P. HELMADOLLAR III 7/23/2018

DILLON COUNTY, SOUTH CAROLINA

DILLON COUNTY LANDFILL VERTICAL EXPANSION OF CLASS 2 LANDFILL (PERMIT NO. 171001–1202)

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DATE: JULY 23, 2018
PROJECT NO.: CT053327–0011
FILE NAME: OPERATION PLAN
DESIGNED BY: MICHAEL BESANCENEZ
DRAWN BY: TAYLOR TITTLE
CHECKED BY: JAMES A. BARNETTE

SHEET TITLE

VEGETATIVE PLAN

SCALE: NOT TO SCALE

User: TTITTLE Spec: AUS–NCSMOD File: G:\WWM\CT053327_0011\PLANS\OPERATION PLAN.DWG Scale: 1:1 SavedDate: 6/8/2018 Time: 15:16 Plot Date: Tittle, Taylor H; 7/23/2018; 14:24 ; Layout: LAYOUT1