



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

December 13, 2018

Re: EOLM C&DD Landfill
Director's Final Findings and Orders (DFFO)
DFFO
Construction & Demolition Debris
Allen County
CDDL018889

Oil and Realty Company dba
EOLM Landfill
1710 Lennox Ave
Lima, Ohio 45804

Benjamin Hefner
1500 Fort Amanda Road
Lima, Ohio 45804

Lima Allen County Landfill Inc.
1500 Fort Amanda Road
Lima, Ohio 45804

Subject: EOLM C&DD Landfill
Director's Final Findings & Orders

Dear Sir or Madam:

Transmitted herewith are the Final Findings and Orders of the Director concerning the matter indicated for EOLM C&DD Landfill.

If you have any questions, please contact Troy Harter at (614) 644-3037.

Sincerely,

Brian Dearth, Administrative Officer 1
Division of Materials & Waste Management

ec: Troy Harter, Legal
Teri Finrock, Legal
Bruce McCoy, DMWM, CO
Carl Mussenden, DMWM, CO
John Pasquarette, DMWM, NWDO
Kristin Tillison, DMWM, NWDO
David E. Nash, dnash@mdllp.net

**BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY**

In the Matter Of

Oil and Realty Company	:	
dba EOLM Landfill	:	<u>Director's Final Findings</u>
1710 Lennox Ave	:	<u>and Orders</u>
Lima, Ohio 45804	:	

Benjamin Hefner	:
1500 Fort Amanda Road	:
Lima, Ohio 45804	:

and

Lima Allen County Landfill Inc.	:
1500 Fort Amanda Road	:
Lima, Ohio 45804	:

Respondents

PREAMBLE

It is agreed by the parties hereto as follows:

I. JURISDICTION

These Director's Final Findings and Orders ("Orders") are issued to Oil and Realty Company dba EOLM Landfill, Benjamin Hefner and Lima Allen County Landfill, Inc. ("Respondents") pursuant to the authority vested in the Director of the Ohio Environmental Protection Agency ("Ohio EPA") under Ohio Revised Code ("ORC") Sections 3714.12 and 3745.01.

II. PARTIES BOUND

These Orders shall apply to and be binding upon Respondents and successors in interest liable under Ohio law. No change in ownership of the Respondents or of the facility shall in any way alter Respondents' obligations under these Orders.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as used in ORC Chapter 3714 and the rules promulgated thereunder.

IV. FINDINGS

The Director of Ohio EPA has determined the following findings:

1. The EOLM C&DD Landfill ("Facility") is a "construction and demolition debris facility" as that term is defined in Ohio Administrative Code ("OAC") Rule 3745-400-01(C)(3) located at 1500 Fort Amanda Road, Lima, Allen County, Ohio. The Facility is located on properties identified as parcel numbers 46020001003000 and 46020002003000 by the Allen County Auditor ("Properties").
2. Respondent Lima Allen County Landfill, Inc. is the "owner" of the Facility as that term is defined in OAC Rule 3745-400-01(P)(2).
3. Respondent Benjamin Hefner and Respondent Oil and Realty Company dba EOLM Landfill ("EOLM") are each an "operator" of the Facility as that term is defined in OAC Rule 3745-400-01(C)(5).
4. OAC Rule 3745-400-11(B)(2) states, "The owner or operator shall dispose of construction and demolition debris only within the active licensed disposal area ['ALDA']."
5. By letters dated November 3, 2015 through August 30, 2018, Ohio EPA cited Respondent EOLM for placing C&DD outside of authorized limits, in violation of OAC Rule 3745-400-11(B)(2). Respondents assert that a previous owner is predominantly responsible for the placement of C&DD outside of the authorized limits.
6. OAC Rule 3745-400-11(F)(4)(d) states, "'Cliffing is prohibited. For the purpose of this rule, cliffing is the formation of an edge or cliff by the placement of debris to the working face without compacting.'"
7. By letters dated November 3, 2015 through August 30, 2018, Ohio EPA cited Respondent EOLM for creating and maintaining cliffs along the western slope, between Cell 3 and Cell 4, of the Facility, in violation of OAC Rule 3745-400-11(F)(4)(d).
8. OAC Rule: 3745-400-11(P)(1) states, "The owner or operator shall operate the leachate collection system to maintain no more than one foot of head anywhere on the in situ and/or added geologic material or constructed liner with the exception of the sump area(s).
9. By letters dated November 3, 2015 through August 30, 2018, Ohio EPA cited Respondent EOLM for more than one foot of head anywhere outside the sump areas on the in situ and/or added geologic material or constructed liner, in violation of OAC Rule 3745-400-11(P)(1).
10. On October 3, 2016, representative and attorneys for Ohio EPA and the Respondents met in the Ohio EPA Northwest District Office. During this meeting, the parties agreed that Respondents would submit a Compliance Plan to resolve the violations and that Ohio EPA would review and concur with the Plan and order its implementation through the drafting of consensual orders.

11. By correspondence dated December 29, 2016, Respondent EOLM's consultant Burgess & Niple submitted the initial engineering proposal for the Compliance Plan meant to address remedial activities at the Facility. Ohio EPA reviewed and provided comments to be incorporated into the final Compliance Plan to be prepared for Ohio EPA concurrence.
12. On February 17, March 8, 2017, and March 13, 2017, Ohio EPA personnel visited the Facility to observe the progress of Cell 4 construction, and observed that Cell 4 had been excavated in such a manner that a sheer cliff was created under the western slope of waste placement of Cell 3. Ohio EPA discussed concerns about the stability of the slope between Cells 3 and 4 with representatives of the Facility during these visits.
13. By correspondence dated March 22, 2017, Ohio EPA memorialized its concerns regarding the excavation of Cell 4 and requested the Respondents to construct the cell in accordance with the 2016 license application and to demonstrate the stability of the slope between Cells 3 and 4. Respondents submitted a slope stability analysis on July 7, 2017. See also Finding 27.
14. Following another site visit on April 4, 2017, Ohio EPA and Respondents held a technical discussion on April 12, 2017 to discuss the stability of the slope between Cell 3 and Cell 4 of the Facility. By letter dated April 17, 2017, Ohio EPA memorialized this meeting and recommended, in part, completion of a partial or phased certification of Cell 4 that would expedite Respondent EOLM's ability to begin debris placement in order to start buttressing this slope and increase Cell 3's stability. Respondents followed this recommendation from Ohio EPA by constructing Cell 4 in 2 portions and submitting 2 separate certification reports for Cell 4 approval. See Finding No. 16.
15. By correspondence dated April 24, 2017, Respondent EOLM's consultant Burgess and Niple submitted the complete draft of the Compliance Plan (Second Submittal) meant to address remedial activities at the Facility. This Plan incorporated Ohio EPA comments to the December 29, 2016 initial proposal.
16. By correspondence dated April 28, 2017, Respondent EOLM's consultant Burgess & Niple submitted to Ohio EPA its Construction Certification Report for the Northern Portion of Cell 4 in order to expedite the buttressing of the slope between Cells 3 and 4.
17. The area between Cell 3 and Cell 4 referenced in Findings 7 and 12 was partially buttressed by debris placement in Cell 4 after Cell 4 was approved by Ohio EPA in 2017 (Northern portion of Cell 4 approved May 5, 2017, Southern portion of Cell 4 approved July 18, 2017).
18. OAC Rule 3745-400-11(F)(4)(b) states, "The owner or operator shall clearly mark the limits of the unloading zone with at least two temporary markers."

19. By letter dated June 1, 2017, Ohio EPA cited Respondent EOLM for failure to clearly mark the limits of the unloading zone, in violation of OAC Rule 3745-400-11(F)(4)(b).
20. OAC Rule 3745-400-11(F)(4)(c) states, "[T]he owner or operator shall spread and compact the debris on the working face. When the debris is deposited on the working face, it shall be spread evenly over the working face and compacted to the smallest practical volume."
21. By letters dated June 1, 2017 and August 30, 2018, Ohio EPA cited Respondent EOLM for failure to compact debris on the working face, in violation of OAC Rule 3745-400-11(F)(4)(c).
22. OAC Rule 3745-400-11(H)(1) states, "The owner or operator shall operate the facility in a manner that prevents fires by . . . [c]overing all disposed combustible debris on a weekly basis with soil, clean hard fill, or other material that is noncombustible."
23. By letters dated June 1, 2017 through November 1, 2017, Ohio EPA cited Respondent EOLM for failure to prevent fires by covering all disposed combustible debris, in violation of OAC Rule 3745-400-11(H)(1).
24. OAC Rule 3745-400-11(P)(3) states, "The owner or operator shall manage and dispose of leachate in accordance with applicable regulations."
25. By letters dated June 1, 2017 through November 1, 2017, Ohio EPA cited Respondents for recirculating more leachate than is allowed on specific days, in violation of OAC Rule 3745-400-11(P)(3).
26. By correspondence dated June 30, 2017, Respondent EOLM's consultant Burgess and Niple submitted the Construction Certification Report for the Southern Portion of Cell 4.
27. By correspondence dated July 7, 2017, Respondent EOLM's consultant Burgess and Niple submitted the Slope Stability Analysis for the slope between Cells 3 and 4. The analysis indicated that the slope between Cells 3 and 4 did not meet requirements for factor of safety against slope failure. The analysis indicated that buttressing the western slope of Cell 3 with debris placement in Cell 4 to a slope of 3:1 will result in a factor of safety against slope failure meeting the applicable criteria for slope stability required by the OAC.
28. OAC Rule 3745-400-11(Q)(3) states, "if ponding or erosion occurs in active or inactive licensed disposal areas, the owner or operator shall correct the conditions causing the ponding or erosion."
29. By letter dated January 30, 2018, Ohio EPA cited Respondents for failure to address conditions causing erosion at the Facility, in violation of OAC Rule 3745-400-11(Q)(3).

30. By correspondence dated April 12, 2018, Respondent EOLM's consultant Burgess and Niple submitted a revised draft of the Compliance Plan (Third Submittal) meant to address remedial activities at the Facility. This Plan incorporated Ohio EPA comments to the April 24, 2017 proposal.
31. OAC Rule 3745-400-11(B)(1) states, "owner or operator shall conduct all operations at the facility in strict compliance with the license, any orders, and other authorizing documents issued in accordance with Chapter 3714 of the Revised Code."
32. By letter dated January 30, 2018, Ohio EPA cited Respondents for failure to perform leachate recirculation in accordance with their Leachate Collection, Monitoring, and Compliance Plan, in violation of OAC Rule 3745-400-11(B)(1). Leachate was observed flowing down the cap on Cell 3 and ponding outside the limits of debris placement.
33. By letter dated August 9, 2018, Respondent EOLM submitted a draft final Compliance Plan to Ohio EPA. Following final Ohio EPA comments, Respondent EOLM submitted the final narrative Compliance Plan dated September 28, 2018 (Attachment A)
34. While developing the proposed Compliance Plan, Respondents performed a wetlands delineation for an area where clean fill is intended to be placed in order to grade the existing Eastern Slope of the Facility. Due to the presence of 0.57 acres of wetland in this area, Respondents are required to the appropriate wetlands permit(s) from Ohio EPA Division of Surface Water and the U.S. Army Corps of Engineers prior to filling. Respondents indicated to Ohio EPA on June 26, 2018, that they intended to seek a jurisdictional determination on whether the wetland is regulated under the Clean Water Act and to then apply for the appropriate permit(s).
35. As part of the Compliance Plan, construction activities on the Eastern and Southern Slopes of the Facility will be occurring within the boundaries of a 100-year floodplain. Ohio EPA has communicated to Respondents that prior to commencing construction activities on the Eastern and Southern Slopes, Respondents must receive approval from the local level flood plain administrator.

V. ORDERS

Respondents shall achieve compliance with ORC Chapter 3714. and the rules promulgated thereunder according to the following compliance schedule:

1. Respondents shall implement the Compliance Plan presented in Attachment A and incorporated herein.

2. Upon the effective date of these Orders, Respondents shall cease placing additional construction and demolition debris outside the ALDA.
3. Respondents shall operate the leachate collection system to maintain no more than one foot of head on the in situ material and/or added geologic material or constructed liner with the exception of the sump area(s), in accordance with the Compliance Plan.
4. Upon receipt of approval and permit from Allen County Sanitary Engineering Department, Respondents shall tie the leachate discharge to the County Sanitary sewer.
5. Upon the effective date of these Orders, Respondents shall retain a Professional Engineer ("P.E.") with five (5) years or more of landfill experience, to assist in supervising operational and construction activities at the Facility at least once a month during construction activities and for the first six (6) months after the effective date of these Orders, at least once every 45 days for the next six months after the effective date of these Orders and, at least quarterly thereafter until these Orders are terminated.
6. Within ninety (90) days after the effective date of these Orders, Respondents shall relocate any debris placed outside of authorized limits as identified in the approved Compliance Plan from Cell 3 to Cell 4.
7. Within ninety (90) days after the effective date of these Orders, Respondents shall automate Sump #2 such that leachate is automatically pumped into temporary holding tanks or to the County Sanitary sewer.
8. Within ninety (90) days after completion of Order #7, Respondents shall automate Sump #1 such that leachate is automatically pumped in accordance with the temporary design in the compliance plan to Sump #2.
9. Respondents shall include in its 2019 operating license application, and every subsequent operating license application, a design that will be used to achieve plumbing Sump #1 to a tank and/or sewer.
10. Within one hundred eighty (180) days after the effective date of these Orders, Respondents shall submit to Ohio EPA a written construction certification report demonstrating that the slope between Cell 3 and 4 has been stabilized to a static factor of safety of 1.5 or higher.
11. Within one hundred eighty (180) days after the effective date of these Orders, Respondents shall begin the wetlands permitting processing by submitting the applicable Clean Water Act Section 404 and 401 permit applications, including but not limited to, the wetlands delineation report, to the U.S. Army Corps of Engineers and to Ohio EPA as may be required for a jurisdictional determination of whether the wetland in the area of the East Slope of the Facility is regulated by the Clean Water Act. Following the jurisdictional determination, Respondents shall obtain

the appropriate wetlands permit(s) from Ohio EPA and, if necessary, the U.S. Army Corps of Engineers prior to filling in the wetland near the East Slope of the Facility.

12. Within twenty-four (24) months after the effective date of these Orders, Respondents shall have completed relocation of all debris placed outside of authorized limits as identified in the approved Compliance Plan from the Northern Slope of the Facility to the ALDA in accordance with the Compliance Plan.
13. Within twenty-four (24) months after the effective date of these Orders, Respondents shall have completed grading the Northern Slope of the Facility to comply with the grades from the approved Compliance Plan.
14. Within sixty (60) days of the completion of grading the Northern Slope, Respondents shall have completed capping of the Northern Slope pursuant to OAC Rule 3745-400-07(G).
15. Within thirty-six (36) months after the effective date of these Orders, Respondents shall have completed relocation of all debris placed outside of authorized limits from the Eastern Slope of the Facility as follows:
 - a. If Respondents are able to obtain the necessary wetlands permit(s) referenced in Finding No. 34 and Order No. 11 as well as local authorization to fill within the boundaries of the 100-year flood plain, debris shall be relocated to the ALDA as depicted in the approved Compliance Plan;
 - b. If Respondents are unable to obtain the necessary wetlands permit(s) or local authorization to fill within the boundaries of the 100-year flood plain, debris shall be relocated to the ALDA as depicted in the approved 2016 license application.

If waste relocation from the Eastern Slope cannot be completed within 36 months, Respondents may request a modification of this Order in accordance with **Section IX. Modifications.**

16. Within thirty-six (36) months after the effective date of these Orders, Respondents shall have completed grading and buttressing the Eastern Slope of the Facility as follows:
 - a. If Respondents are able to obtain the necessary wetlands permit(s) referenced in Finding No. 34 and Order No. 11 as well as local authorization to fill within the boundaries of the 100-year flood plain, the Eastern Slope shall comply with the grades identified in the approved Compliance Plan;
 - b. If Respondents are unable to obtain the necessary wetlands permit(s) or local authorization to fill within the boundaries of the 100-year flood plain, the Eastern Slope shall comply with the slopes depicted in the approved 2016 license application unless Respondents request and are granted a modification of this Order in accordance with **Section IX. Modifications.**

If grading and buttressing of the Eastern Slope cannot be completed within 36 months, Respondents may request a modification of this Order in accordance with **Section IX. Modifications.**

17. Within sixty (60) days of the completion of grading the Eastern Slope, Respondents shall have completed capping of the Eastern Slope pursuant to OAC Rule 3745-400-07(G).
18. Within sixty (60) months after the effective date of these Orders, Respondents shall have completed relocation of all debris placed outside of authorized limits from the Southern Slope of the Facility as follows:
 - a. If Respondents are able to obtain local authorization to fill within the boundaries of the 100-year flood plain, debris shall be relocated to the ALDA as depicted in the approved Compliance Plan;
 - b. If Respondents are unable to obtain local authorization to fill within the boundaries of the 100-year flood plain, debris shall be relocated to the ALDA as depicted in the approved 2016 license application.

If waste relocation from the Southern Slope cannot be completed within 60 months, Respondents may request a modification of this Order in accordance with **Section IX. Modifications.**

19. Within sixty (60) months after the effective date of these Orders, Respondents shall have completed grading and buttressing the Southern Slope of the Facility as follows:
 - a. If Respondents are able to obtain local authorization to fill within the boundaries of the 100-year flood plain, the Southern Slope shall comply with the grades identified in the approved Compliance Plan;
 - b. If Respondents are unable to obtain local authorization to fill within the boundaries of the 100-year flood plain, the Southern Slope shall comply with the slopes depicted in the approved 2016 license application.

If grading and buttressing of the Southern Slope cannot be completed within 60 months, Respondents may request a modification of this Order in accordance with **Section IX. Modifications.**

20. Within sixty (60) days of the completion of grading the Southern slope, Respondents shall have completed capping of the Southern Slope pursuant to OAC Rule 3745-400-07(G).
21. Respondents shall submit to Ohio EPA, within thirty (30) days of completing each construction activity specified in Order Nos. 7-20, written construction certification reports demonstrating compliance with each respective Order.

22. Respondents shall pay the amount of thirty thousand dollars (\$30,000) in settlement of Ohio EPA's claim for civil penalties, which may be assessed pursuant to ORC Chapter 3714 and which will be deposited into the environmental remediation fund established pursuant to ORC 3734.281. Payment shall be made in \$5,000 installments, according to the following schedule:
- a. On May 15, 2019;
 - b. On August 15, 2019;
 - c. On November 15, 2019;
 - d. On February 15, 2020;
 - e. On May 15, 2020 and;
 - f. On August 15, 2020.

Payment to Ohio EPA shall be made by official checks made payable to Treasurer, State of Ohio for five thousand dollars (\$5,000) per installment. The official check for each installment shall be remitted to Ohio EPA, Office of Fiscal Administration, P.O. Box 1049, Columbus, Ohio 43216-1049, together with a letter identifying the Respondents and the Facility and a copy of this payment schedule. A copy of these items for each installment shall be sent to Ohio EPA, Division of Materials and Waste Management, Administrative Processing Unit (APU), P.O. Box 1049, Columbus, Ohio 43216-1049. Should a scheduled installment not be made, remaining installments may become due and payable immediately.

VI. TERMINATION

Respondents' obligations under these Orders shall terminate when Respondents certify in writing and demonstrates to the satisfaction of Ohio EPA that Respondents have performed all obligations under these Orders and the Chief of Ohio EPA's Division of Materials and Waste Management acknowledges, in writing, the termination of these Orders. If Ohio EPA does not agree that all obligations have been performed, then Ohio EPA will notify Respondents of the obligations that have not been performed, in which case Respondents shall have an opportunity to address any such deficiencies and seek termination as described above.

The certification shall contain the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate and complete."

This certification shall be submitted by Respondents to Ohio EPA and shall be signed by a responsible official representing Respondents. For the purposes of these Orders, a responsible official is a principal executive officer of at least the level of vice president or his duly authorized representative.

VII. OTHER CLAIMS

Nothing in these Orders shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person, firm, partnership or corporation, not a party to these Orders, for any liability arising from, or related to, operations by Respondents.

VIII. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to these Orders shall be undertaken in accordance with the requirements of all applicable local, state and federal laws and regulations. These Orders do not waive or compromise the applicability and enforcement of any other statutes or regulations applicable to Respondents.

IX. MODIFICATIONS

These Orders may be modified by agreement of the parties hereto. Modifications shall be in writing and shall be effective on the date entered in the journal of the Director of Ohio EPA.

X. NOTICE

All documents required to be submitted by Respondents pursuant to these Orders shall be addressed to:

Ohio Environmental Protection Agency
Northwest District Office
347 N. Dunbridge Road
Bowling Green, Ohio 43402
Attn: DMWM Manager

and to:

Ohio Environmental Protection Agency
Division of Materials and Waste Management
P.O. Box 1049
Columbus, Ohio 43216-1049
Attn: DMWM Enforcement Coordinator

or to such persons and addresses as may hereafter be otherwise specified in writing by Ohio EPA.

XI. RESERVATION OF RIGHTS

Ohio EPA and Respondents each reserve all rights, privileges and causes of action, except as specifically waived in Section XII of these Orders.

XII. WAIVER

In order to resolve disputed claims, without admission of fact, violation or liability, and in lieu of further enforcement action by Ohio EPA for only the violations specifically cited in these Orders, Respondents consent to the issuance of these Orders and agrees to comply with these Orders. Compliance with these Orders shall be a full accord and satisfaction for Respondents' liability for the violations specifically cited herein.

Respondents hereby waive the right to appeal the issuance, terms and conditions, and service of these Orders, and Respondents hereby waive any and all rights Respondents may have to seek administrative or judicial review of these Orders either in law or equity.

Notwithstanding the preceding, Ohio EPA and Respondents agree that if these Orders are appealed by any other party to the Environmental Review Appeals Commission, or any court, Respondents retain the right to intervene and participate in such appeal. In such an event, Respondents shall continue to comply with these Orders notwithstanding such appeal and intervention unless these Orders are stayed, vacated or modified.

XIII. EFFECTIVE DATE

The effective date of these Orders is the date these Orders are entered into the Ohio EPA Director's journal.

XIV. SIGNATORY AUTHORITY

Each undersigned representative of a party to these Orders certifies that he or she is fully authorized to enter into these Orders and to legally bind such party to these Orders.

IT IS SO ORDERED AND AGREED:

Ohio Environmental Protection Agency



Craig W. Butler
Director

IT IS SO AGREED:

Oil and Realty Company dba EOLM Landfill

Benjamin Hefner
Signature

Ben Hefner
Printed or Typed Name

President
Title

Benjamin Hefner

Benjamin Hefner
Signature

Ben Hefner
Printed or Typed Name

President
Title

Lima Allen County Landfill Inc.

Benjamin Hefner
Signature

Ben Hefner
Printed or Typed Name

President
Title

ATTACHMENT A

KT

BURGESS & NIPLE

Entity: EOLM CDD LF
Doc Type: Plan - no CIL
Doc Subtype: Application & Support
Program: CDDL
County: Allen
Secondary ID: CNBL 018889

5085 Reed Road | Columbus, OH 43220 | 614.459.2050

Mr. John Pasquarette
Ohio Environmental Protection Agency
Northwest District Office
347 N. Dunbridge Road
Bowling Green, OH 43402

Re: EOLM-Lima Allen County Landfill, Inc.
C&DD Landfill
NWDO Comments on
EOLM's August 2018 Compliance Plan
Comment Response Letter

RECEIVED

OCT 02 2018

OHIO E.P.A.
N.W.D.O.

September 28, 2018

Dear Mr. Pasquarette:

Burgess & Niple, Inc. (B&N) has written this letter, on behalf of EOLM-Lima Allen County Landfill, Inc. (EOLM); EOLM has received Ohio Environmental Protection Agency's (EPA's) comments, dated September 12, 2018 on the Facility Compliance Plan (Final Design, August 2018), that were transmitted from Mr. Troy Harter of Ohio EPA's Northwest District Office (NWDO) to Mr. Dave Nash of McMahon DeGulis on September 13, 2018. Listed below are the Ohio EPA comments (in italics), each followed by a response prepared on behalf of the facility. Attached with this letter are revised drawings for the Compliance Plan and a revised Compliance Plan Narrative. Revisions are based on the comments listed below.

Ohio EPA Comments

Deficiencies

- 1.) *Responses to Ohio EPA comments 5 and 6 highlight an issue upon which Ohio EPA and EOLM continue to disagree. Ohio EPA has expected regulatory permitting processes associated with plans to fill in a wetland and floodplain to have been implemented by now. EOLM has not initiated these regulatory permitting processes.*
 - a. *With respect to the required wetland permit(s), the draft Orders are being revised to include a contingency in the event that the required wetland permit(s) is/are not obtained.*
 - b. *With respect to the required authorizations to fill in a floodplain, since approvals have not been granted to date, additional language will be incorporated into the Orders to establish a contingency for relocation, grading, and capping the East and South slopes should EOLM fail to receive the required authorization.*

Response: EOLM does not disagree that permits for impacting the delineated wetland acreage and placing fill in the floodplain need to be obtained. The wetland and floodplain permitting processes have not been initiated since the Compliance Plan has not been approved. B&N is under contract with EOLM to complete the permitting and will start the process, if it is agreed that the final impacted area will be defined by this version of the Compliance Plan Final Design, dated September 2018.

- 2.) *As stated in Ohio EPA comment number 6 issued June 4, 2018, an exemption for the portions of the construction and demolition debris landfill that are going to be constructed within the one-hundred-year floodplain must be obtained from Ohio EPA. We will recommend approval for such an exemption request if it is submitted with the local authorization that allows for the proposed filling to the east and south to occur.*

An Order will be added to the proposed Consensual Orders that triggers the submittal of this exemption request when EOLM obtains the local authorization. If the local authorization is not granted the contingency plan referenced in comment 1.b. will be triggered.

Response: EOLM does not disagree that permits for placing fill in the 100-year floodplain need to be obtained. The permitting process has not been initiated since the Compliance Plan has not been approved. B&N is under contract with EOLM to complete the permitting and will start the process, if it is agreed that the final impacted area will be defined by this version of the Compliance Plan Final Design, dated September 2018.

- 3.) *Several sheets including, but not limited to, 2,3,5,8,10,11, and 13 have the ILDA depicted outside the proposed limits of debris (PLOD) and proposed limits of cover (PLOC) on the south side near cross sections F and G. As discussed with Mr. Gray, please ensure the ILDA is moved to correlate with the PLOD and PLOC.*

Response: This item has been discussed with EPA during their review. The legend listed the Active License Disposal Area (ALDA) and Inactive Licensed Disposal Area (ILDA) as "ALDA in the 2018 License Application" and "ILDA in the 2018 License Application." These two areas have been shown throughout the development of the Compliance Plan to show how proposed limits of debris and cover compare to limits of the ALDA and ILDA in the most recent License Application. After Compliance Plan approval, in all future License Applications, the ALDA and ILDA will reflect the proposed limits of debris in the Compliance Plan.

These new limits will be shown on the 2019 License Application. The ILDA has been revised to match the proposed limit of debris along the south side of the landfill in the area of Cross Sections F and G. The ILDA, proposed limit of debris (PLOD), and proposed limit of cover (PLOC) were moved north to provide a 50-foot offset from the utility tower.

- 4.) *The Authorized and Proposed Limits Plan View Drawing included with the narrative, depicts two areas on the south slope (Southwest Slope, and South Slope). The draft Orders only reference the South Slope. To maintain consistency with the Orders, please revise the drawing to accurately reflect the South Slope area. As part of this revision, please expand the area defined as the "South Slope" so that it includes all portions of the southern slope of the facility that are currently filled above the final grades depicted in the 2016 license. The drawing currently includes an overfilled portion of the facility as part of the Southwest Slope rather than the South Slope.*

Response: This item has been discussed with EPA during their recent review of the Compliance Plan. This comment only refers to the drawing included with the narrative. The southwest area was shown on the original submittal for volume calculations. Reference to the southwest slope will be removed. The south slope will only refer to the area where current topography as of September 2015 is above the final grades shown in the 2016 License Application. In order for EOLM to maintain compliance with the Compliance Plan, the limits of the east, south, and north areas of compliance have been added to Sheets 3 and 4.

- 5.) *In order to prevent potential erosion concerns in the future, the area near easting 1515400 and northing 390000 will need to have rip rap added or grades need to be changed.*

Response: Erosion control in the area of northing 390,000 and easting 1,515,400 will be addressed in the 2019 License Application. Contours in this area indicate an area of concentrated storm water flow may be present after installation of the final cap system in the area. The erosion control shown on Sheet 6 is from the 2019 License Application.

- 6.) *Final grade on Sheet 6, are not continuous between sections G and H along the southern and central portions of the landfill.*

Response: In the area referenced, proposed final grade contours meet existing grade inside the PLOC, where bold contours meet light contours. For clarity, proposed contours have been extended to the PLOC around the perimeter of the landfill.

- 7.) *Sheet 5 needs contours of top of C&DD and top of clean hard fill along southern portion of the south slope.*

Response: In the area referenced, proposed final debris and clean hard fill contours meet existing grade inside the PLOC, where bold contours meet light contours. For clarity, proposed contours were extended to the PLOC around the perimeter of the landfill.

- 8.) *The following are corrections that Ohio EPA requests to be made to the narrative received by e-mail on August 29, 2018:*

- a. *The introductory paragraph states " ...this Compliance Plan to return the facility to compliance with current solid waste disposal regulations." Please reference construction and demolition debris instead of solid waste regulations.*
- b. *A bullet in the compliance plan narrative references a 2017 License Application and Financial Assurance section. However, a 2019 License Application and Financial Assurance section is included. Please ensure the correct date is referenced in the introductory bullets.*
- c. *Section 2, Proposed Changes to the Site Design section, second paragraph states "Volume estimates have been updated and are described in Section 7". The Volume estimates are in Section 6. Please revise narrative to reflect correct section.*
- d. *Section 3, East End, of the compliance plan narrative, states "If permitting cannot be obtained, the Compliance Plan will be revised to include an alternative design for the east end of the facility". This conflicts with the draft Orders, which will require debris on the East Slope to be relocated as depicted in the 2016 license application if permitting is not obtained. Respondents may seek a modification of the Orders if the permits are not obtained. Please revise the narrative to coincide with the draft Orders.*
- e. *Section 7, Direct Discharge of Leachate to the Allen County Sanitary Sewer, states "After approval of the tie to the sanitary by the County and approval of a Permit to Install (PTI), EOLM will install a force main from sump 2 to a new common manhole on EOLM property". Please note, draft order 7 requires Sump #2 to be automated to the county sewer or holding tanks within ninety days after the effective date of the orders. Please revise to be consistent. Ohio EPA recommends removing "after approval of the tie to the sanitary by the County and approval of a Permit to Install (PTI)" and adding a contingent statement about the holding tank(s).*
- f. *Section 10, 2019 License Application and Financial Assurance, states "Upon approval of this Compliance Plan and DFFOs future License Applications for the facility will be prepared in accordance with the approved Compliance Plan." As previously communicated in an e-mail dated August 15, 2018, the 2019 license application must be submitted to Ohio EPA by September 30, 2018., per OAC Rule 3745-37-02(D)(3)).*

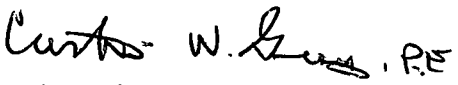
Response: The narrative will be revised as requested in Items a through e. Item f was previously discussed with Ohio EPA during their recent review of the Compliance Plan. In reference to Item f, work is continuing on the 2019 License Application. Aerial survey data has been collected. The 2019 License Application will be submitted to Ohio EPA by September 28, 2018.

September 28, 2018

Page 5

If you have any questions or comments on the information in this letter, please do not hesitate to call.

Sincerely,


Curtis W. Gray, PE

CWG:cmc

Attachments

copy: Mr. Troy Harter (Ohio EPA)
Ms. Terri Finnefrock (Ohio EPA, Legal) (w/o attachments)
Mr. Ben Hefner (EOLM, Inc.)
Mr. David Nash (McMahon DeGulis, LLP)

RECEIVED

OCT 02 2018

**OHIO E.P.A.
N.W.D.O.**

ATTACHMENT 1

COMPLIANCE PLAN NARRATIVE

BURGESS & NIPLE

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EOLM-LIMA ALLEN COUNTY LANDFILL, INC. COMPLIANCE PLAN

OCT 02 2018

OHIO E.P.A.
N.W.D.O.

PLAN TO RETURN TO COMPLIANCE WITH THE CURRENT LICENSE APPLICATION SEPTEMBER 28, 2018

EOLM-Lima Allen County Landfill, Inc. (EOLM) owns and operates a Construction and Demolition Debris (C&DD) landfill located in Lima, Ohio under license with the Ohio Environmental Protection Agency (EPA). On behalf of EOLM, Burgess & Niple, Inc. (B&N), has prepared this Compliance Plan to return the facility to compliance with current C&DD regulations. Future License Applications for the facility will also be prepared meeting the requirements of this final Compliance Plan. This engineering proposal titled "Compliance Plan" is a combination of the technical description contained herein, an attached comment/response letter, and the attached engineering drawings (Sheets 1 through 16), dated September 2018. In addition, it is the intent of Ohio EPA to have this Compliance Plan be an attachment to the pending Director's Final Findings and Orders (DFFO's).

This Compliance Plan narrative has been organized into the following sections:

- Contextual Background
- Overall Eastern Portion of the Facility
- East End
- North Slope
- South Slope
- Cell 4 and Sump 2
- Sump 1
- Volume Estimates
- Implementation Schedule
- 2019 License Application and Financial Assurance.

Attached to this Compliance Plan is a comment/response letter addressing the latest review comments from Ohio EPA, figures, leachate system head loss calculations, leachate pump information, erosion calculations, and engineering design drawings (Sheets 1 through 16).

1. Contextual Background

This Compliance Plan arose out of the Ohio EPA Notice of Violation (NOV) dated July 20, 2016, a meeting between Ohio EPA and EOLM on October 3, 2016, and EOLM's Project Summary submitted to Ohio EPA dated October 11, 2016. Also, as agreed between Ohio EPA and EOLM, the initial Compliance Plan was considered a draft design document from which the parties would continue working to resolve open issues, arriving at this final Compliance Plan.

When EOLM acquired the facility in October 2000, there were areas of the eastern portion of the facility with elevations of debris and clean fill that already exceeded the approved elevations and were not in compliance with the License Application at the time, or with the initial License Application for the facility. During 2015, alternate plans were submitted to Ohio EPA for the EOLM facility. During 2016, there were meetings and written correspondences between Ohio EPA, EOLM, McMahon DeGulis, and B&N. Through these meetings and written correspondences, EOLM was directed to prepare and submit an engineering plan.

Updated mapping obtained for the 2018 License Application preparation is used as existing grade and is the basis for design in this Compliance Plan. This Compliance Plan, submitted on behalf of EOLM, addresses alleged overheight violations where economically and technically feasible and, where not feasible, the overheight will be left in place and incorporated into EOLM's approved plan documents. This Compliance Plan will be incorporated into DFFO's to be negotiated by the parties. Along with approval of a final Compliance Plan, any remaining overheight violations will be resolved through the DFFO's.

Previously submitted proposals and plans are all replaced by this final Compliance Plan and details from the previous submittals have been incorporated into the attached drawings. To develop this final Compliance Plan, EOLM has worked with Ohio EPA through a series of submittals, meetings, and conference calls. Previous submittals of this document are as follows:

- | | |
|----------------------|---|
| • May 2, 2014 | Proposed Design Change for the South Slope of the EOLM Facility |
| • September 23, 2014 | Ohio EPA Comments on the South Slope Correction Plan |
| • February 6, 2015 | Response to Ohio EPA Comments on South Slope Correction Plan |
| • December 29, 2016 | Compliance Plan Initial Submittal (30 to 60 percent design) |
| • January 27, 2016 | Ohio EPA Comments on the Compliance Plan Initial Submittal |
| • April 24, 2017 | Second Design Submittal |
| • June 30, 2017 | Ohio EPA Comments on Second Submittal |
| • April 12, 2018 | Third Design Submittal |
| • June 4, 2018 | Ohio EPA Comments on Third Submittal |
| • June 26, 2018 | Meeting Held on Design Submittal and Proposed DFFOs |
| • August 8, 2018 | Final Design Submittal. |

The materials in question at the facility have been in place prior to the original License Application and prior to the current owner buying the facility. In addition, much of the stockpiled overheight material is believed to be soil that was excavated as part of development of the original disposal area.

2. Proposed Changes to the Site Design

As shown in the 2016 License Application, the east, north, and south sides would need cut to original plan of 4:1 in order to return to compliance with the currently approved 2016 License Application. The attached figure shows the extent of each area on the eastern end of the landfill that is being altered as part of this Compliance Plan. Shown on the design drawings are the current Active Licensed Disposal Area (ALDA), current Inactive Licensed Disposal Area (ILDA), proposed limit of debris, and proposed limit of cover.

Updated mapping of the entire eastern portion of the facility was obtained by aerial survey on September 1, 2017 as part of the 2018 License Application preparation. This Compliance Plan uses the updated mapping for the entire facility. Volume estimates have been updated and are described in Item 6.

Through this proposal, the final limit of debris placement and the final limit of cap system will be changed from the previous License Applications. The overall top elevation of the facility will not change. The lateral extent of debris placement at the toe of each slope will not go beyond the existing limit of debris placement. No debris will be placed outside the current limits of debris placement on the eastern end of the facility. Where exterior slopes are flattened from previous

5. South Slope

In this Compliance Plan Narrative, the south slope refers to areas previously labeled as “south” and “southwest,” the areas were combined. The eastern portion of the south slope of the landfill will be filled to a slope of maximum 4H:1V to tie into the new eastern slope that will be established under this plan. Along the south slope of the facility there will be a minor amount of excavation of existing material along Section H. Flattening the south slope will be accomplished by adding clean fill soil to the toe of slope, removing materials from the center portion of the slope, and relocating the C&DD to the top of the slope as shown on Section H. If the material removed from the center portion of the slope is comprised of C&DD, the C&DD will be placed in the areas where there is available airspace below the cap and not at the toe of slope for flattening the slope. If the materials removed from the center portion of the slope are soils, this soil will be used for clean fill on the east and south sides of the facility. Cap placement will be completed after regrading.

6. Volume Estimates

In previous design submittals and proposals, volume estimates of C&DD overheight as compared to License Applications at the time were presented. Since the topographic mapping for the complete facility was updated in September 2018 and final design of the Compliance Plan is being submitted with this narrative, updated volume estimates were calculated based on the final design. All volume estimates in previous Compliance Plans are outdated and void.

Table 1
Volume Estimates for Proposed Changes

<i>Proposed Volumes of Material to be Removed or Filled</i>			
Area of the Eastern Portion of the Facility	Volume of Material Overheight in Relation to New top of C&DD to be Cut and Relocated (cy)	Volume of Material to be filled to achieve final slopes of the New Top of C&DD (cy)	Net (cy)
South slope	17,353	36,125 (clean)	18,772 (fill)
North slope	22,009	4,663	17,346 (cut)
East slope	1,827	34,595 (clean)	32,768 (fill)
Total	41,189	75,383	34,194 (fill)

7. Direct Discharge of Leachate to the Allen County Sanitary Sewer

EOLM and B&N are also currently working with The Allen County Sanitary Engineer's Office to permit a tie-in of the EOLM leachate collection system to the sanitary sewer system located west of the facility. Sheet 14 shows the proposed layout for the discharge piping from Cell 4 to the existing sanitary sewer. The detail design to tap into the Allen County Sanitary Sewer was submitted to County representatives on July 16, 2018. Cell 4, located immediately west of Cell 3, was constructed, certified, and opened for debris receipt in 2017. Sump 2 is located on the north side of Cell 4. If Sump 2 is not connected to the County sanitary sewer within 90 days, discharge will be directed to holding tanks. A gravity sewer will be installed from the new EOLM manhole to the existing County sanitary sewer manhole. After approval of the tie to the sanitary by the County and approval of a Permit to Install (PTI), EOLM will install a force main from Sump 2 to a new common manhole on EOLM property. Sump 2 will be automated in accordance with the compliance schedule to be included in the DFFOs.

8. Sump 1

After Sump 2 and associated equipment are installed and operating, leachate collected in Sump 1 will be temporarily pumped from Cell 1 to Cell 4 for collection into Sump 2. Leachate from Sump 2 will be discharged into the sanitary sewer system through the newly established tie. Until the tie to the County sewer is established and the temporary line is installed, leachate collected in Sump 1 will continue to be pumped from the existing pumps in Cell 1 into trucks to be transported to the wastewater treatment plant, following current operations or to recirculation after approval.

9. Implementation Schedule

Implementation of this Compliance Plan will be accomplished in steps. A summary of the compliance dates is contained in the DFFOs. EOLM may choose to complete some of the tasks ahead of the deadlines in the DFFOs.

10. 2019 License Application and Financial Assurance

Upon approval of this Compliance Plan and DFFOs, future License Applications for the facility will be prepared in accordance with the approved Compliance Plan. To prepare the License Application for 2019, an updated aerial survey will be obtained in August or early September 2018. The License Application will reflect final grades, limits of debris, and limits of cover as approved in the Compliance Plan submitted in August 2018, and shown in this Compliance Plan – Final Design, September 2018. For reference, the detail design layout of the leachate discharge system to the Allen County sanitary sewer will also be shown in the 2019 License Application. This detail design will show plumbing Sumps 1, 2, and future Sumps 3 and 4 to the County sewer. The 2019 License Application financial assurance cost estimates will also be revised based on the approved Compliance Plan and updated annual topographic mapping.

License Applications, either existing grade will be maintained or clean soils will be used as fill materials. Future debris placement outside the existing limits of debris placement will only occur west of Cross Section H, within the ALDA, ILDA, or any permitted future expansion area.

If C&DD is encountered during excavation for material relocation, the C&DD will only be moved up the slope into the ALDA or to the west end of the ALDA (Cells 3 and 4 or future constructed and approved cells) for placement. The toe of the slope (along the south slope to be filled and flatten the slope) is to be filled with only clean soils or clean fill comprised of aggregate, rock, or crushed/uncrushed concrete from an off-site source. Clean soils used for filling the toe of slope of the east slope or south slope will most likely be from soils excavated from the ILDA future cell development area in the western portion of the site. A cap maintenance haul road will be incorporated into east and north sides of the facility for future maintenance and watershed control.

The existing limit of C&DD placement will remain the same on the east end of the facility. Sections A and B (Sheet 7 of 16) show material to be excavated from the east slope. This excavated material will be transported to the current ALDA for placement. Material placed at the toe of slope on the eastern portion of the facility will not contain C&DD and will most likely be material excavated from future cells of development in the western portion of the facility or clean hard fill from an off-site source.

The final slope on the east end of the facility is shown on Sheet 4 of 16 – East End Grading, Debris and Clean Hard Fill Relocation Plan, Sheet 6 of 16 – East End Overall Final Grade Top of Final Cover, and Sheet 8 of 16 – Sections C, F, and G.

3. East End

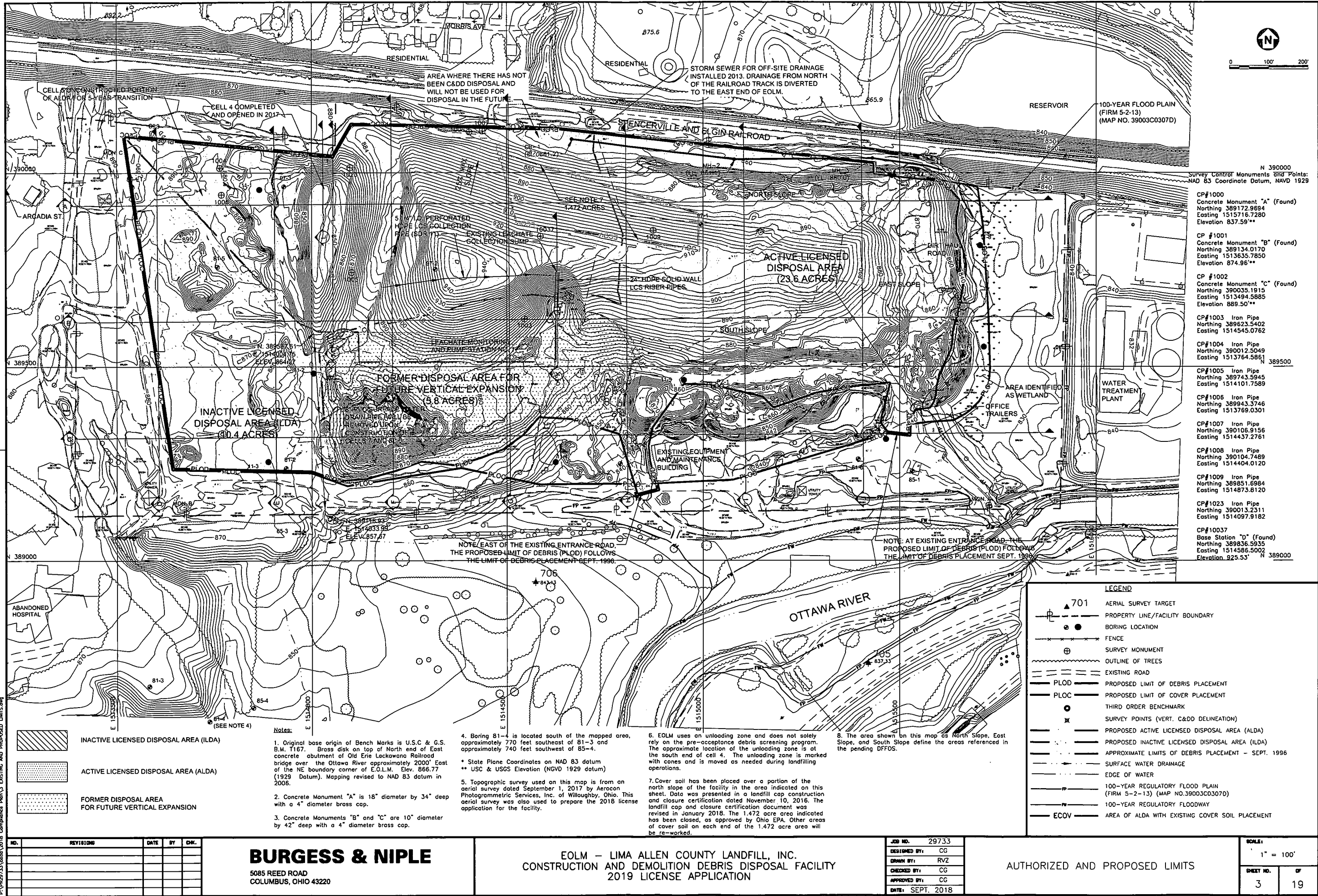
The slope on the east end of the landfill is proposed to be flattened by the addition of clean fill. For areas outside the current limit of debris, only current on-site stockpiles of clean soil, on-site stockpiles of clean hard fill designated for this use, clean hard fill from an off-site source, or soil from an off-site source will be used.

The proposed placement of fill along the east end to flatten the slope will require EOLM to obtain a permit to fill the wetland area previously identified along the current toe of slope of the east end. If permitting cannot be obtained, and if DFFO's requires debris on the east slope to be relocated as depicted on the 2016 License Application, EOLM will seek modifications to the orders.

4. North Slope

On the north slope of the facility, all C&DD and cover soils will be located on the EOLM property in the final design. The proposed design calls for cutting the slope back to 4:1. Addition of fill material to flatten the slope is not proposed on the north side of the east end of the landfill. A bench has been incorporated into the design as can be seen on Section H (10 feet wide), Section I (60 feet wide), and Section J (85 feet wide). The final slope above and below the bench is a maximum of 4:1.

As previously discussed with Ohio EPA, EOLM does not need to remove soil used to fill the old drainage ditch placed during installation of the culvert which runs along the north side of the facility. Also, as previously discussed, C&DD placed prior to 1997 will remain in place. Existing grade along the north side of the facility is between 2:1 and 2.2:1 as shown on Sections H, I, and J. It is proposed to flatten these areas to a maximum of 4:1 slope prior to placement of cap soils.



P:\PR2013\2018 Compliance Plan\3 EXISTING AND PROPOSED LIMITS.dwg

NO.	REVISIONS	DATE	BY	CHK.

BURGESS & NIPLE
5085 REED ROAD
COLUMBUS, OHIO 43220

EOLM - LIMA ALLEN COUNTY LANDFILL, INC.
CONSTRUCTION AND DEMOLITION DEBRIS DISPOSAL FACILITY
2019 LICENSE APPLICATION

JOB NO.	29733
DESIGNED BY:	CG
DRAWN BY:	RVZ
CHECKED BY:	CG
APPROVED BY:	CG
DATE:	SEPT. 2018

AUTHORIZED AND PROPOSED LIMITS

SCALE:	1" = 100'
SHEET NO.	3
OF	19

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OCT 02 2018

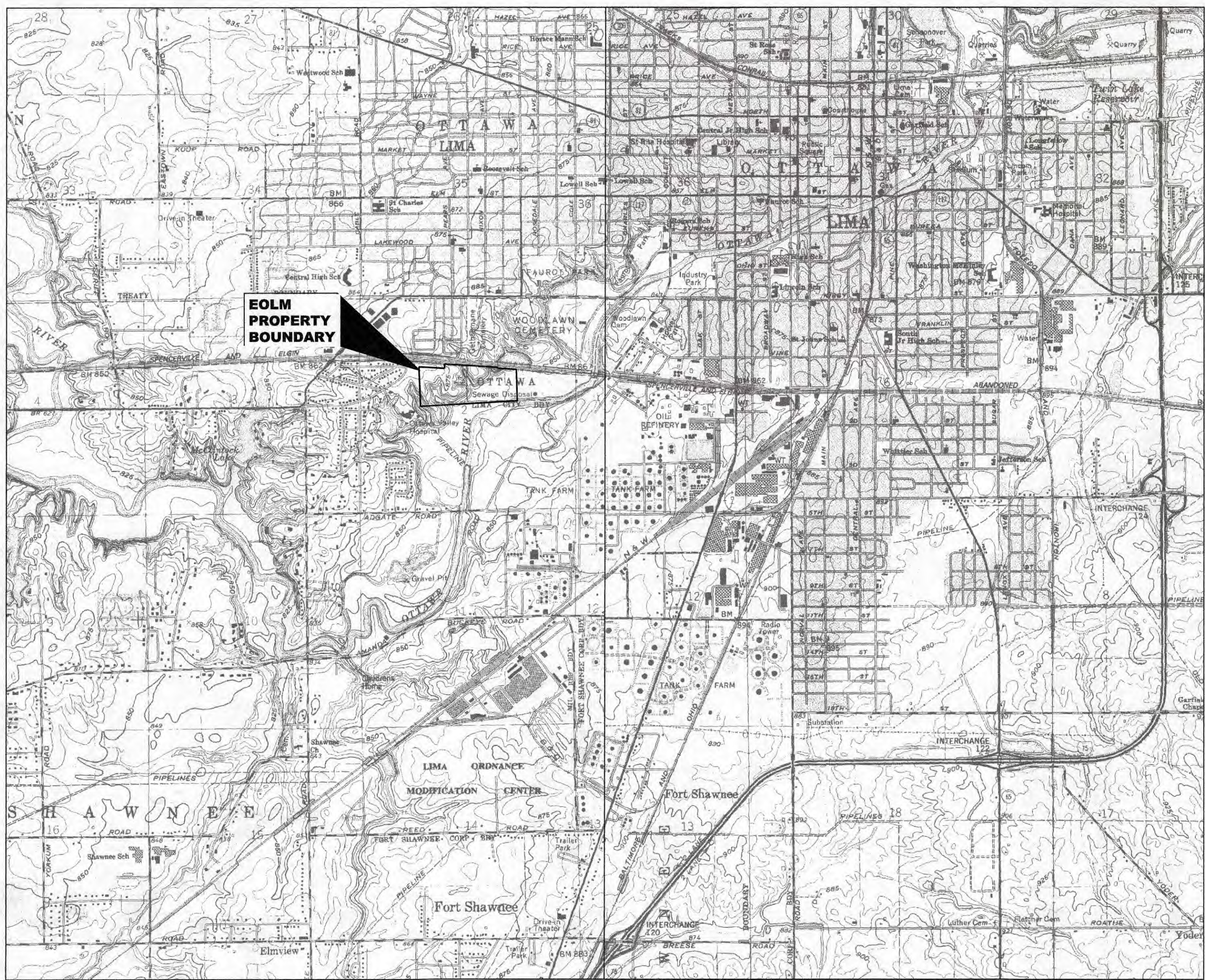
**OHIO E.P.A.
N.W.D.O.**

ATTACHMENT 2

COMPLIANCE PLAN DRAWINGS

EOLM
LIMA ALLEN COUNTY LANDFILL, INC.
1500 FORT AMANDA ROAD
LIMA, OHIO 45804

CONSTRUCTION AND DEMOLITION
DEBRIS LANDFILL
ALLEN COUNTY, OHIO
FACILITY COMPLIANCE PLAN
(FINAL DESIGN, SEPTEMBER 2018)



VICINITY MAP
CRIDERSVILLE AND LIMA QUADRANGLES
SCALE 1"=2000'

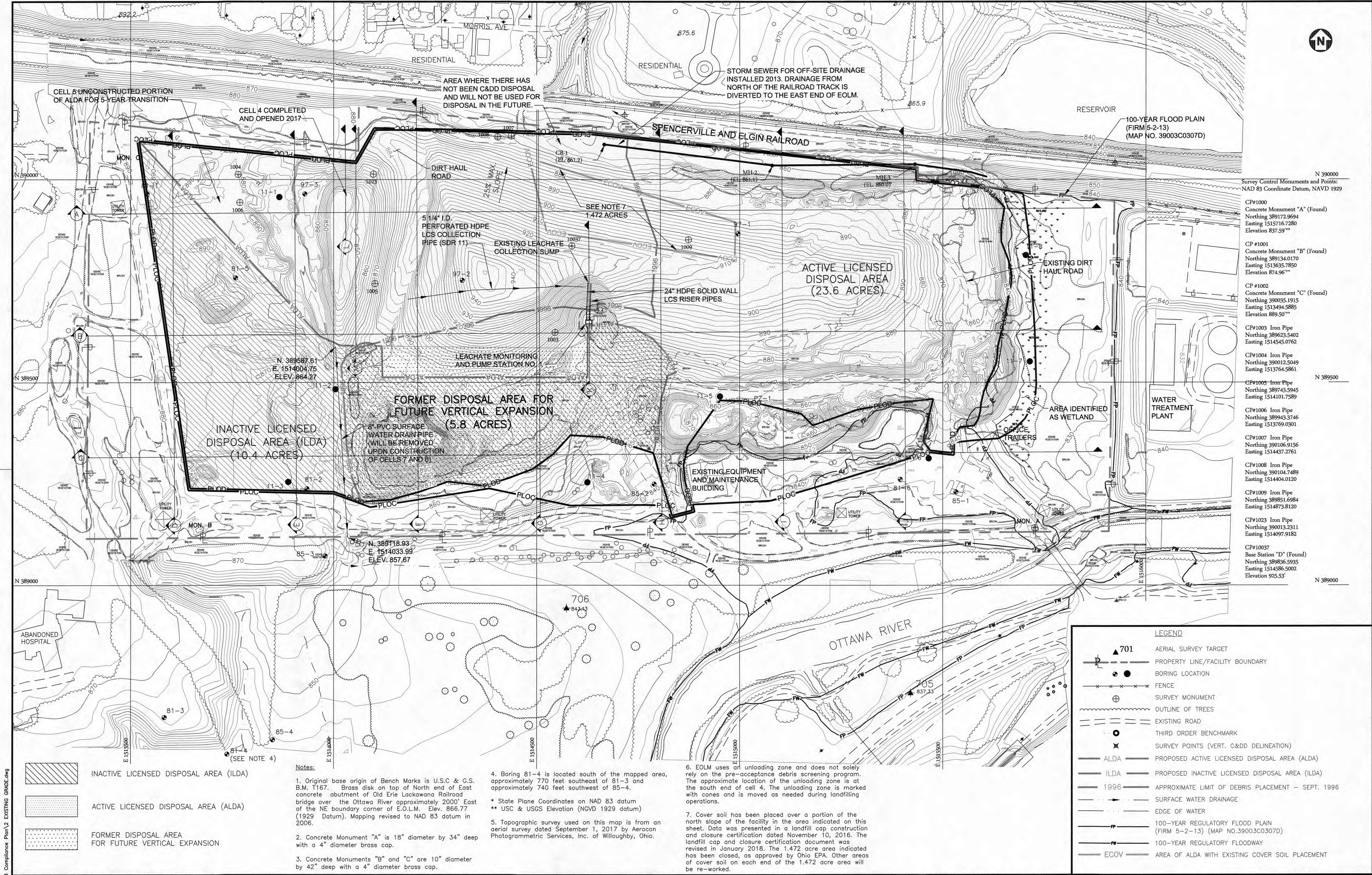
LIST OF DRAWINGS	
SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	EXISTING GRADE
3	AUTHORIZED AND PROPOSED LIMITS
4	EAST END GRADING DEBRIS AND CLEAN HARD FILL RELOCATION PLAN
5	EAST END OVERALL FINAL - TOP OF C&DD/TOP OF CLEAN FILL
6	EAST END OVERALL FINAL GRADE - TOP OF FINAL COVER
7	SECTIONS A AND B
8	SECTIONS C, F, AND G
9	SECTIONS H, I, J, K, L, AND M
10	LEACHATE COLLECTION PLAN
11	LEACHATE COLLECTION PLAN AND ELECTRICAL LAYOUT - SUMP 1
12	LEACHATE COLLECTION SYSTEM DETAILS - SUMP 1 (CELL 1)
13	LEACHATE COLLECTION SYSTEM LAYOUT - SUMP 2 (CELL 4)
14	CELL 4 PIPE PROFILES AND SUMP NO. 2 DETAILS
15	LEACHATE COLLECTION SYSTEM DETAILS - CELL 6 AND 8
16	GENERAL DETAILS

NOTE: A FINAL DESIGN SUBMITTAL OF THE EOLM - LIMA ALLEN COUNTY LANDFILL, INC. COMPLIANCE PLAN WAS SENT TO OHIO EPA ON AUGUST 29, 2018. REVISIONS CONTAINED IN THIS SUBMITTAL ARE BASED ON REVIEW COMMENTS FROM OHIO EPA, DATED SEPTEMBER 12, 2018, RECEIVED BY EMAIL SEPTEMBER 13, 2018. AFTER OHIO EPA REVIEW OF THIS DOCUMENT, THIS COMPLIANCE PLAN WILL BE APPROVED BY OHIO EPA OR AN ADDITIONAL DESIGN SUBMITTAL WILL BE COMPLETED, IF NECESSARY.

Entity: EOLM
Doc Type: Final Design
Doc Subtype: Construction & Support
Program: CDD
County: Allen
Secondary ID: CDD 018999

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OCT 02 2018
OHIO E.P.A.
N.W.D.O.

NO.	REVISIONS	DATE	BY	CHK.	BURGESS & NIPLE 5085 REED ROAD COLUMBUS, OHIO 43220	EOLM - LIMA ALLEN COUNTY LANDFILL, INC. CONSTRUCTION AND DEMOLITION DEBRIS DISPOSAL FACILITY FACILITY COMPLIANCE PLAN (FINAL DESIGN, SEPTEMBER 2018)	JOB NO. 29733 DESIGNED BY: CG DRAWN BY: RVZ CHECKED BY: CG APPROVED BY: CG DATE: SEPT. 2018	COVER SHEET	SCALE: AS NOTED	
									SHEET NO. 1	OF 16



Notes:

1. Original base origin of Bench Marks is U.S.C. & G.S. B.M. T167. Brass disk on top of North end of East concrete abutment of Old Erie Lackawanna Railroad bridge over the Ottawa River approximately 2000' East of the NE boundary corner of E.O.L.M. Elev. 866.77 (1929 Datum). Mapping revised to NAD 83 datum in 2006.

2. Concrete Monument "A" is 18" diameter by 34" deep with a 4" diameter brass cap.

3. Concrete Monuments "B" and "C" are 10" diameter by 42" deep with a 4" diameter brass cap.

4. Boring 81-4 is located south of the mapped area, approximately 770 feet southeast of 81-3 and approximately 740 feet southwest of 85-4.

5. Topographic survey used on this map is from an aerial survey dated September 1, 2017 by Aerocon Photogrammetric Services, Inc. of Willoughby, Ohio.

6. EOLM uses an unloading zone and does not solely rely on the pre-acceptance debris screening program. The approximate location of the unloading zone is at the south end of cell 4. The unloading zone is marked with cones and is moved as needed during landfilling operations.

7. Cover soil has been placed over a portion of the north slope of the facility in the area indicated on this sheet. Data was presented in a landfill cap construction and closure certification dated November 10, 2016. The landfill cap and closure certification document was revised in January 2018. The 1.472 acre area indicated has been closed, as approved by Ohio EPA. Other areas of cover soil on each end of the 1.472 acre area will be re-worked.

NO.	REVISIONS	DATE	BY	CHK.

BURGESS & NIPLE

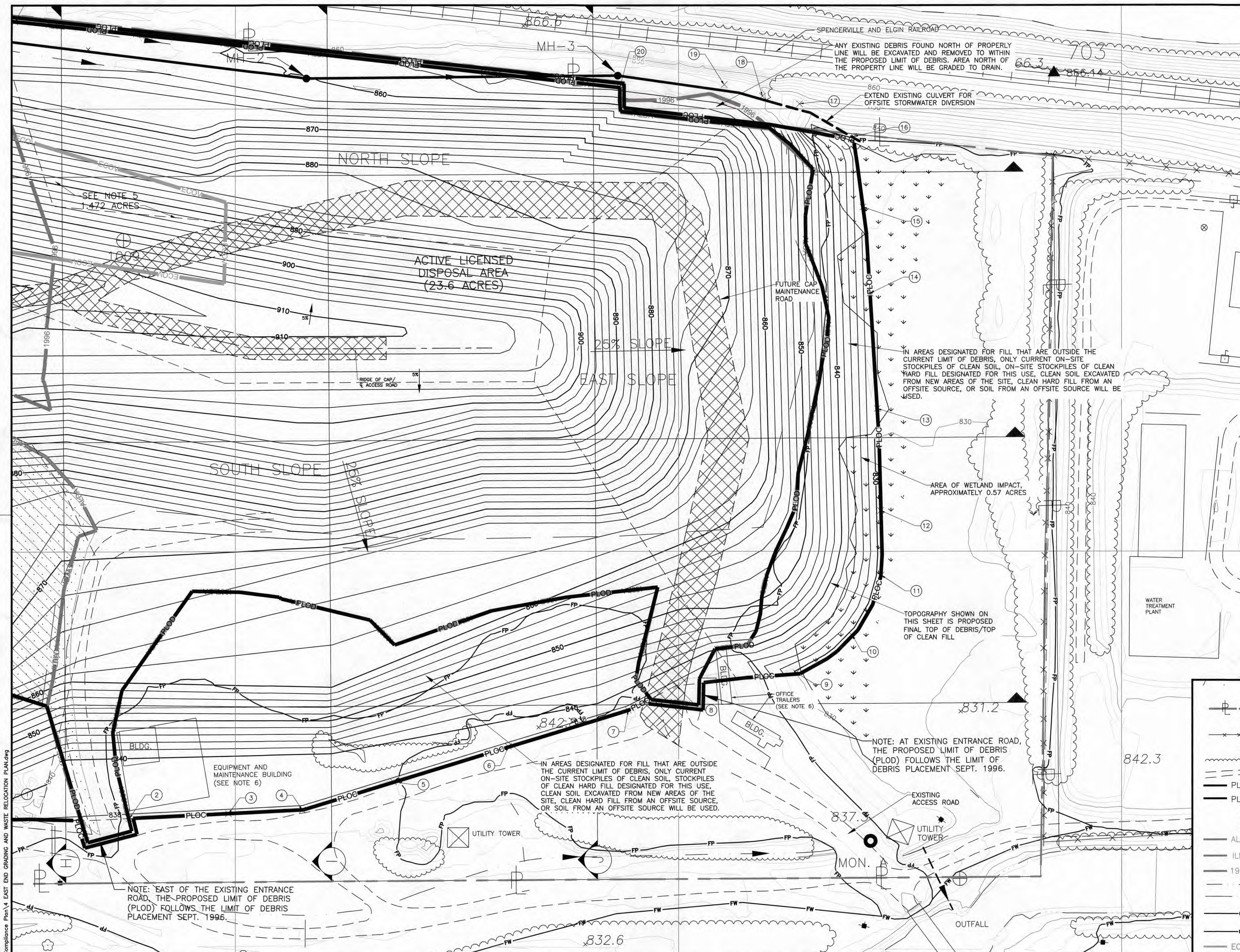
5085 REED ROAD
COLUMBUS, OHIO 43220

EOLM - LIMA ALLEN COUNTY LANDFILL, INC.
CONSTRUCTION AND DEMOLITION DEBRIS DISPOSAL FACILITY
FACILITY COMPLIANCE PLAN (FINAL DESIGN, SEPTEMBER 2018)

JOB NO.	29733
DESIGNED BY:	CG
DRAWN BY:	RVZ
CHECKED BY:	CG
APPROVED BY:	CG
DATE:	SEPT. 2018

EXISTING GRADE

SCALE:	1" = 100'
SHEET NO.	2
OF	16



PROPOSED LIMIT OF COVER		
Point #	Northing	Easting
1	389196.76	1514738.88
2	389198.38	1514880.03
3	389203.84	1514992.21
4	389207.89	1515075.28
5	389239.79	1515178.18
6	389279.66	1515308.01
7	389320.61	1515443.30
8	389347.97	1515497.83
9	389362.98	1515632.94
10	389405.08	1515695.94
11	389473.10	1515728.93
12	389546.00	1515728.13
13	389661.25	1515724.37
14	389791.57	1515716.29
15	389889.07	1515708.23
16	389968.63	1515697.86
17	390005.54	1515636.66
18	390014.34	1515594.87
19	390027.26	1515551.65
20	390023.91	1515433.90
21	390098.14	1514751.09

- FUTURE CAP MAINTENANCE ROAD
- 2018 ACTIVE LICENSED DISPOSAL AREA (ALDA)
- 2018 INACTIVE LICENSED DISPOSAL AREA (ILDA)

- Notes:
1. Original base origin of Bench Marks is U.S.C. & G.S. B.M. T167. Brass disk on top of North end of East concrete abutment of Old Erie Lackawanna Railroad bridge over the Ottawa River approximately 2000' East of the NE boundary corner of E.O.L.M. Elev. 866.77 (1929 Datum). Mapping revised to NAD 83 datum in 2006.
 2. Concrete Monument "A" is 18" diameter by 34" deep with a 4" diameter brass cap.
 3. Concrete Monuments "B" and "C" are 10" diameter by 42" deep with a 4" diameter brass cap.
 4. Boring 81-4 is located south of the mapped area, approximately 770 feet southeast of 81-3 and approximately 740 feet southwest of 85-4.
 - * State Plane Coordinates on NAD 83 datum
** USC & USGS Elevation (NGVD 1929 datum)
 5. Cover soil has been placed over a portion of the north slope of the facility in the area indicated on this sheet. Data was presented in a landfill cap construction and closure certification dated November 10, 2016. The landfill cap and closure certification document was revised in January 2018. The 1.472 acre area indicated has been closed, as approved by Ohio EPA. Other areas of cover soil on each end of the 1.472 acre area will be re-worked.
 6. Existing equipment and maintenance building to be relocated prior to filling final slope. The northern office trailer will be relocated prior to filling the final slope.

- LEGEND
- AERIAL SURVEY TARGET
 - PROPERTY LINE/FACILITY BOUNDARY
 - BORING LOCATION
 - FENCE
 - SURVEY MONUMENT
 - OUTLINE OF TREES
 - EXISTING ROAD
 - PROPOSED LIMIT OF DEBRIS PLACEMENT
 - PROPOSED LIMIT OF COVER PLACEMENT
 - THIRD ORDER BENCHMARK
 - SURVEY POINTS (VERT. C&DD DELINEATION)
 - PROPOSED ACTIVE LICENSED DISPOSAL AREA (ALDA)
 - PROPOSED INACTIVE LICENSED DISPOSAL AREA (ILDA)
 - APPROX. LIMIT OF DEBRIS PLACEMENT - SEPT. 1996
 - SURFACE WATER DRAINAGE
 - EDGE OF WATER
 - 100-YEAR REGULATORY FLOOD PLAIN (FIRM 5-2-13) (MAP NO.39003C0307D)
 - 100-YEAR REGULATORY FLOODWAY
 - AREA OF ALDA WITH EXISTING COVER SOIL PLACEMENT

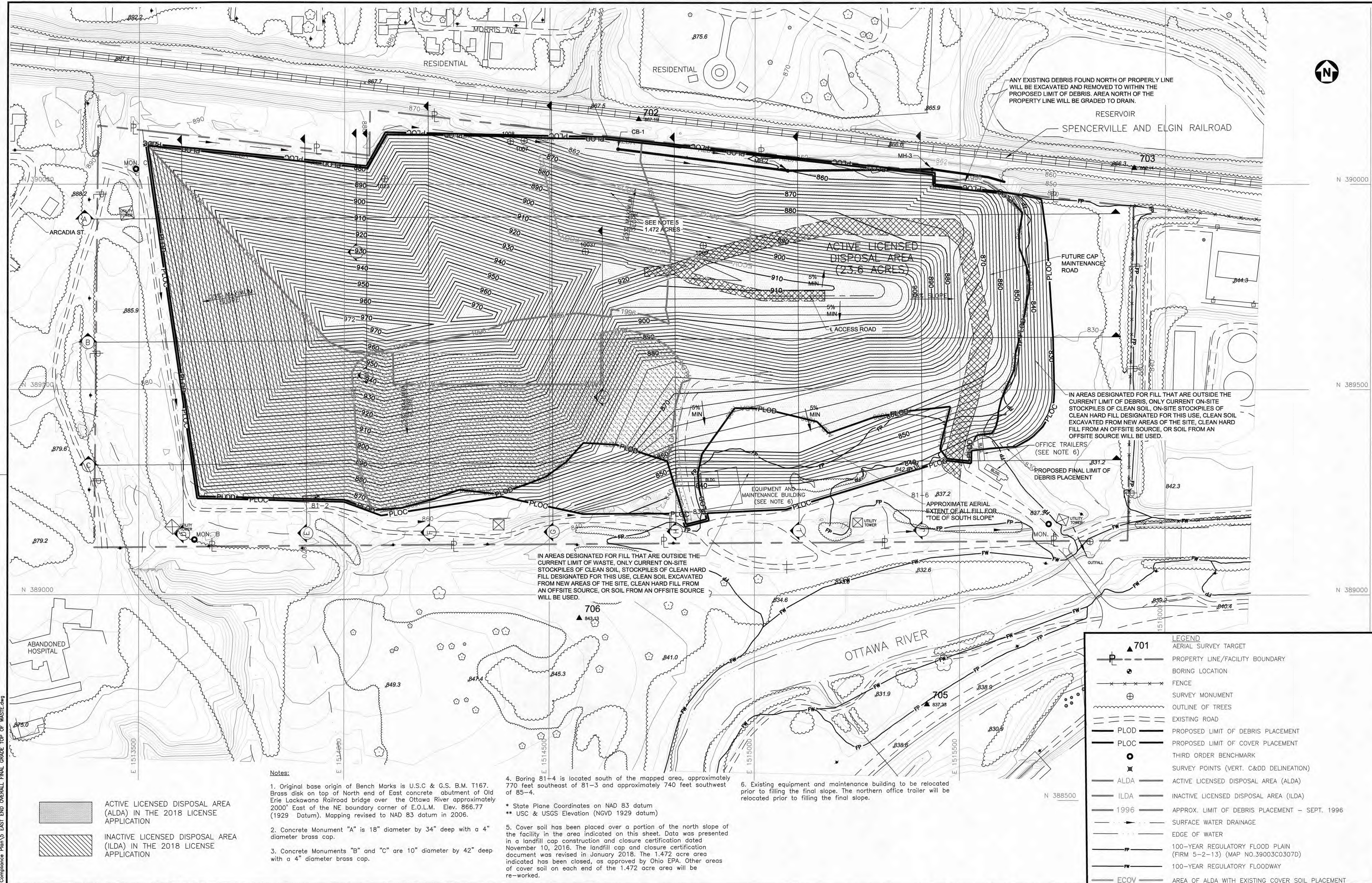
NO.	REVISIONS	DATE	BY	CHK.

BURGESS & NIPLE
5085 REED ROAD
COLUMBUS, OHIO 43220

EOLM - LIMA ALLEN COUNTY LANDFILL, INC.
CONSTRUCTION AND DEMOLITION DEBRIS DISPOSAL FACILITY
FACILITY COMPLIANCE PLAN (FINAL DESIGN, SEPTEMBER 2018)

JOB NO.	29733
DESIGNED BY:	CG
DRAWN BY:	RVZ
CHECKED BY:	CG
APPROVED BY:	CG
DATE:	SEPT. 2018

EAST END GRADING, DEBRIS AND CLEAN HARD FILL RELOCATION PLAN		SCALE: 1" = 50'
SHEET NO.	4	OF 16



P:\PR29733\cadd\2018 Compliance Plan\5 EAST END OVERALL FINAL GRADE TOP OF WASTE.dwg

NO.	REVISIONS	DATE	BY	CHK.

BURGESS & NIPLE

5085 REED ROAD
COLUMBUS, OHIO 43220

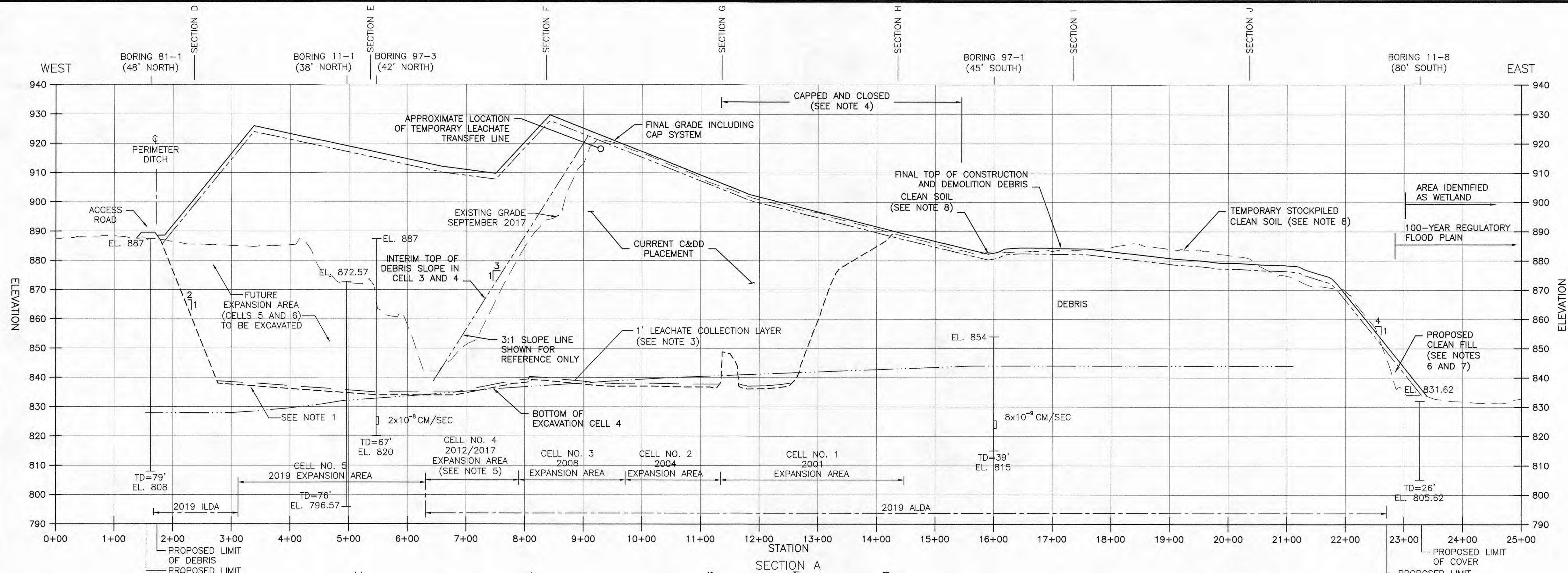
EOLM - LIMA ALLEN COUNTY LANDFILL, INC.
CONSTRUCTION AND DEMOLITION DEBRIS DISPOSAL FACILITY
FACILITY COMPLIANCE PLAN (FINAL DESIGN, SEPTEMBER 2018)

JOB NO.	29733
DESIGNED BY:	CG
DRAWN BY:	RVZ
CHECKED BY:	CG
APPROVED BY:	CG
DATE:	SEPT. 2018

EAST END OVERALL FINAL
TOP OF C&DD/TOP OF CLEAN FILL

SCALE:	1" = 100'
SHEET NO.	5
OF	16

P:\PR29733\cadd\2018 Compliance Plan\7 SECTIONS A AND B.dwg

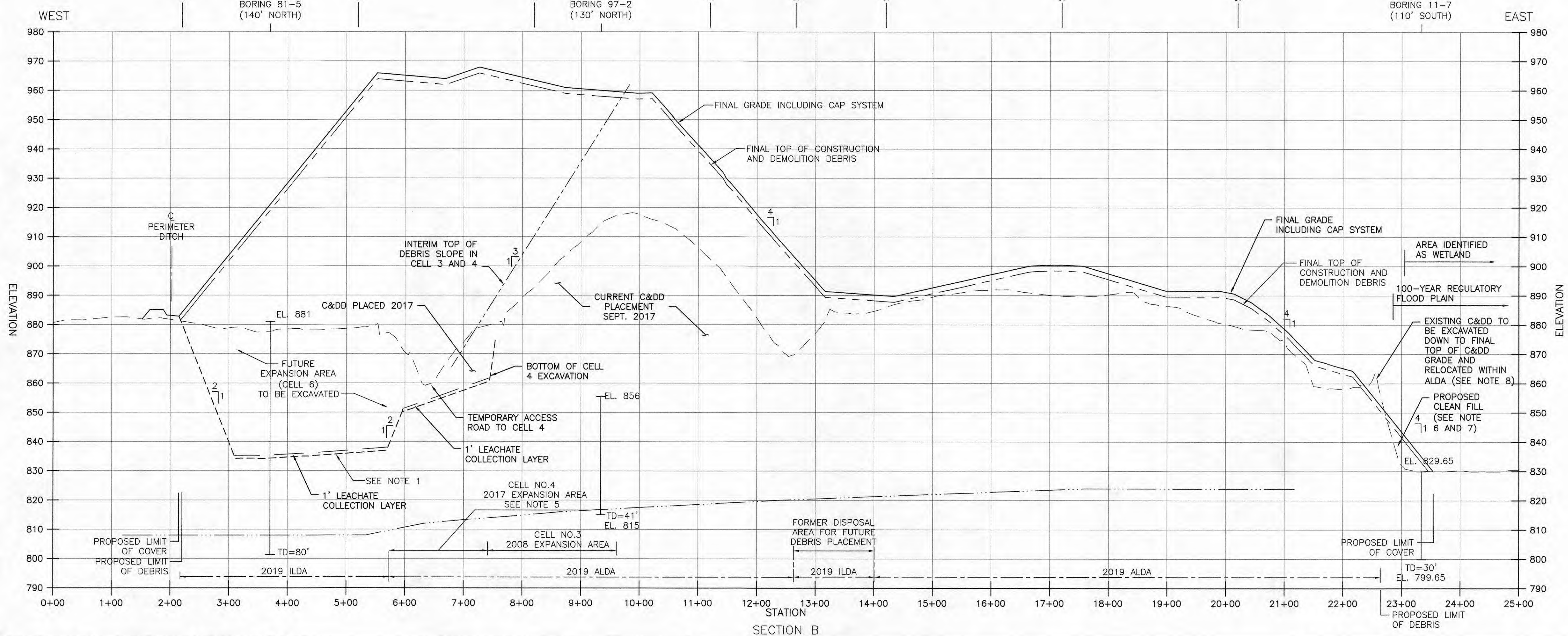


LEGEND

- TOP OF LEACHATE COLLECTION LAYER
- BOTTOM OF EXCAVATION
- AUGUST 23, 2018 SURVEY SURFACE
- FINAL GRADE INCLUDING CAP SYSTEM
- FINAL TOP OF CONSTRUCTION AND DEMOLITION DEBRIS
- TOP OF SAND LAYER
- LEACHATE COLLECTION PIPE (SEE DETAIL SHEET 10)
- HISTORICAL SOIL BORING LOCATION SHOWING APPROXIMATE SURFACE AND BOTTOM ELEVATION AT THE TIME OF INSTALLATION

NOTES:

- THERE IS A NORTH-SOUTH SLOPE THAT IS OUT OF SECTION.
- BORINGS LOCATED OUT OF SECTION HAVE BEEN PROJECTED INTO THE SECTION.
- LCS LAYER WAS INSTALLED IN CELLS 1 THROUGH 4 AND WILL BE INSTALLED IN THE FUTURE EXPANSION AREAS. (CELLS 5 THROUGH 8)
- A PORTION OF THE NORTH SIDE OF THE FACILITY SHOWN ON SECTION A WAS CAPPED AND CLOSED. SEE LANDFILL CAP CONSTRUCTION AND CLOSURE CERTIFICATION DATED NOVEMBER 10, 2016. THE CLOSURE DOCUMENT WAS REVISED AND RESUBMITTED IN JANUARY 2018, BASED ON COMMENTS RECEIVED FROM OHIO EPA. 2017 AERIAL SURVEY ELEVATIONS ARE TOP OF COVER SOIL (AS CONSTRUCTED).
- CELL 4 WAS CONSTRUCTED AND CERTIFIED IN 2017. DEBRIS DISPOSAL STARTED IN CELL 4 IN 2017.
- IN AREAS DESIGNATED FOR FILL THAT ARE OUTSIDE THE CURRENT LIMIT OF DEBRIS, ONLY CURRENT ON-SITE STOCKPILES OF CLEAN SOIL, STOCKPILES OF CLEAN HARD FILL PREVIOUSLY SEGREGATED FOR BENEFICIAL USE, CLEAN SOIL EXCAVATED FROM NEW AREAS OF THE SITE, CLEAN HARD FILL FROM AN OFFSITE SOURCE, OR SOIL FROM AN OFFSITE SOURCE WILL BE USED.
- IF CLEAN SOIL IS USED TO FILL THE EASTERN END OF THE FACILITY, THE TOP 2 FEET OF SOIL WILL BE PLACED AS CAP, AS SHOWN IN THE STANDARD CAP SECTION ON SHEET 16.
- IF CONSTRUCTION AND DEMOLITION DEBRIS IS FOUND WHEN REMOVING OVERHEIGHT MATERIALS, THE DEBRIS WILL BE RELOCATED TO THE ALDA AND NOT USED FOR FLATTENING THE SLOPES OUTSIDE THE CURRENT LIMIT OF DEBRIS OR FOR CAP CONSTRUCTION.



NO.	REVISIONS	DATE	BY	CHK.

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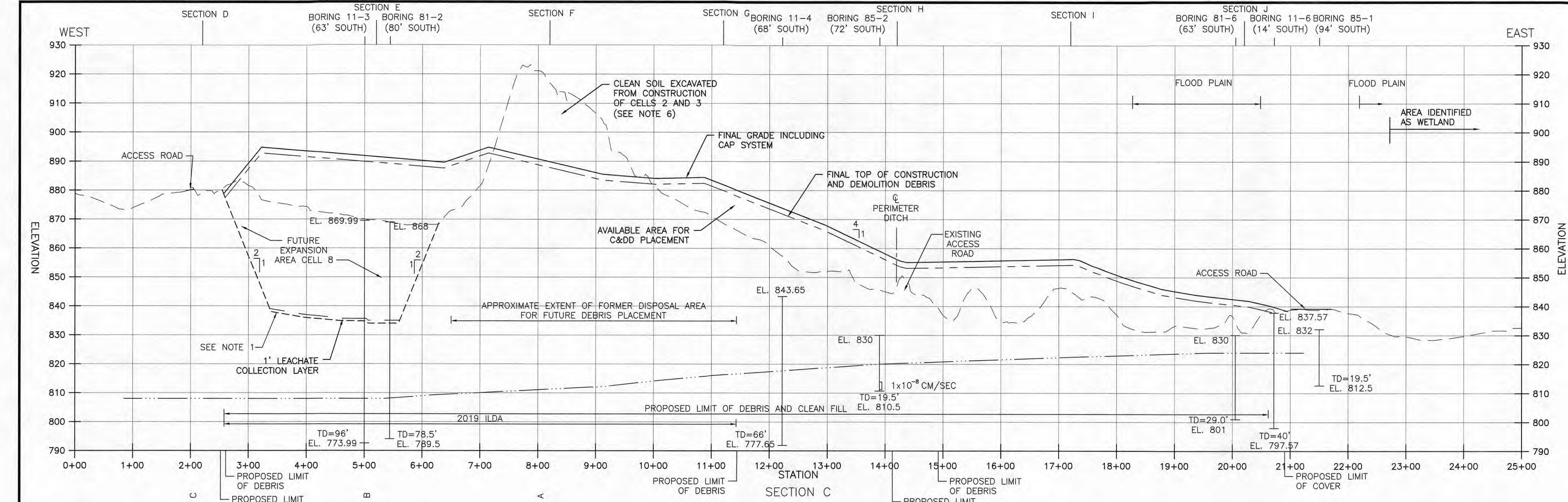
5085 REED ROAD
COLUMBUS, OHIO 43220

EOLM - LIMA ALLEN COUNTY LANDFILL, INC.
CONSTRUCTION AND DEMOLITION DEBRIS DISPOSAL FACILITY
FACILITY COMPLIANCE PLAN (FINAL DESIGN, SEPTEMBER 2018)

JOB NO.	29733
DESIGNED BY:	CG
DRAWN BY:	RVZ
CHECKED BY:	CG
APPROVED BY:	CG
DATE:	SEPT. 2018

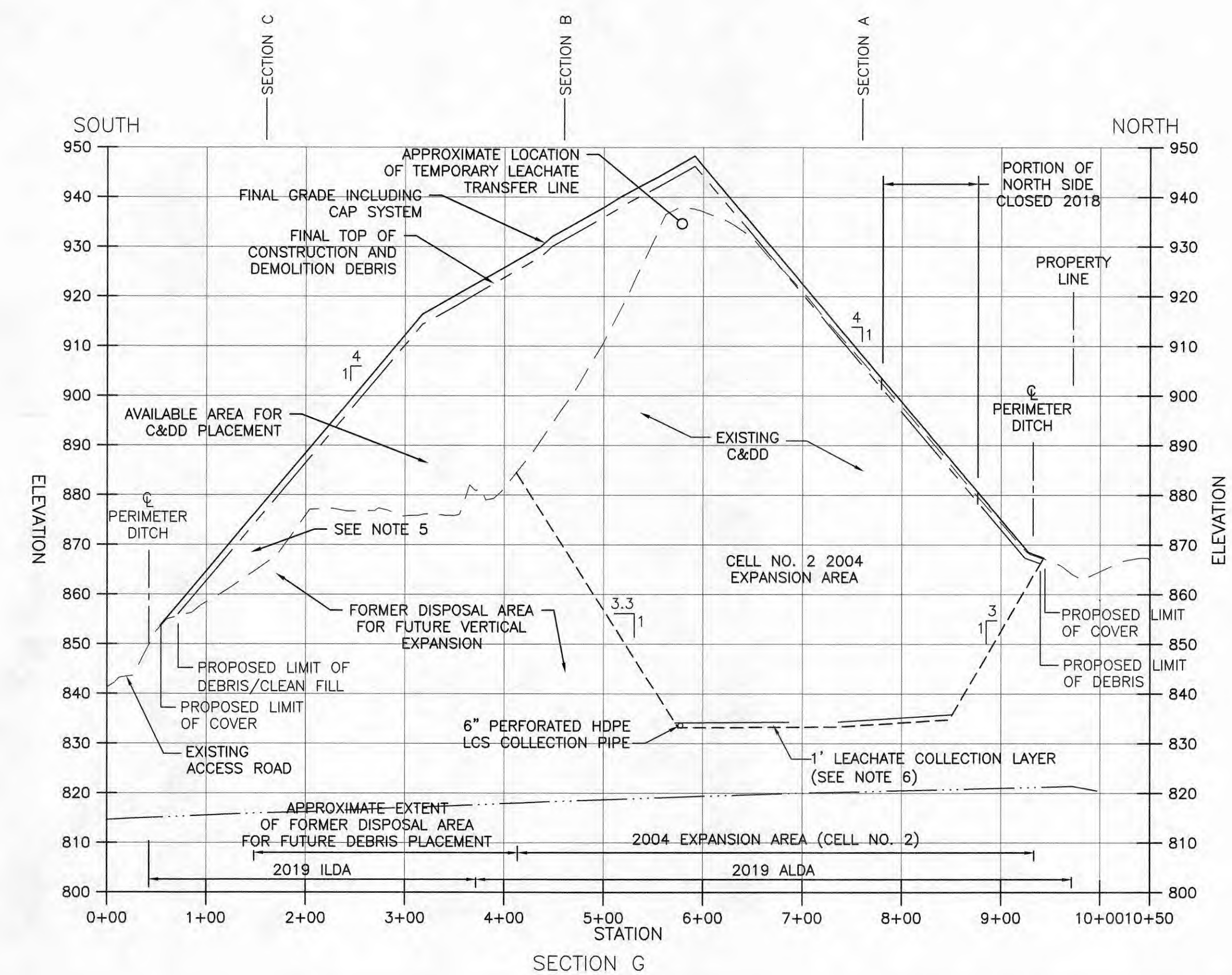
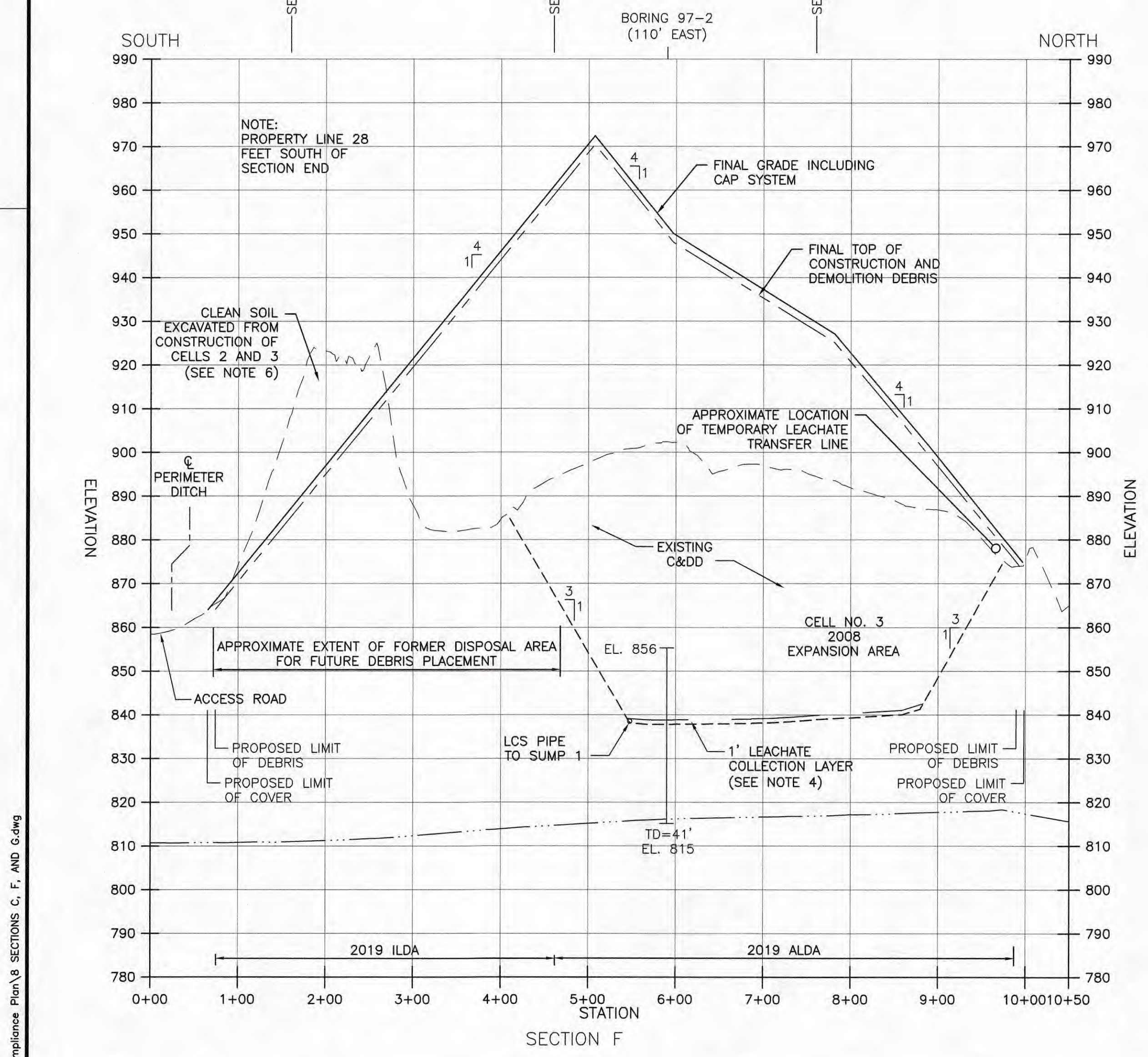
SECTIONS A AND B

SCALE:	1" = 100' HORZ. 1" = 20' VERT.
SHEET NO.	7
OF	16



- LEGEND**
- TOP OF LEACHATE COLLECTION LAYER
 - - - - - BOTTOM OF EXCAVATION
 - - - - - AUGUST 23, 2018 SURVEY SURFACE
 - FINAL GRADE INCLUDING CAP SYSTEM
 - - - - - FINAL TOP OF CONSTRUCTION AND DEMOLITION DEBRIS
 - TOP OF SAND LAYER
 - o LEACHATE COLLECTION PIPE (SEE DETAIL SHEET 10)
 - I HISTORICAL SOIL BORING LOCATION SHOWING APPROXIMATE SURFACE AND BOTTOM ELEVATION AT THE TIME OF INSTALLATION

- NOTES:**
1. SECTION C IS A SIDE SLOPE SECTION, THE ACTUAL BOTTOM OF THE FACILITY WILL SLOPE NORTH TO SOUTH AND OUT OF SECTION.
 2. BORINGS LOCATED OUT OF SECTION HAVE BEEN PROJECTED INTO THE SECTION.
 3. A PORTION OF THE NORTH SIDE OF THE FACILITY WAS CAPPED. SEE LANDFILL CAP CONSTRUCTION AND CLOSURE CERTIFICATION DATED NOVEMBER 10, 2016. THE CLOSURE CERTIFICATION REPORT WAS REVISED IN JANUARY 2018. IN THE AREA OF CAP PLACEMENT ON THE NORTH SIDE OF THE FACILITY, 2017 SURVEY ELEVATIONS ARE TOP OF COVER SOIL (AS CONSTRUCTED). ELEVATION OF AS-BUILT COVER IS BELOW THE ELEVATIONS IN THE CURRENT LICENSE APPLICATION (2018).
 4. A LEACHATE COLLECTION SYSTEM (LCS) LAYER WAS INSTALLED IN THE 2001, 2004, 2008, AND 2017 EXPANSION AREAS.
 5. IN AREAS DESIGNATED FOR FILL THAT ARE OUTSIDE THE CURRENT LIMIT OF DEBRIS, ONLY CURRENT ON-SITE STOCKPILES OF CLEAN SOIL, STOCKPILES OF CLEAN HARD FILL PREVIOUSLY SEGREGATED FOR BENEFICIAL USE, CLEAN SOIL EXCAVATED FROM NEW AREAS OF THE SITE, CLEAN HARD FILL FROM AN OFFSITE SOURCE, OR SOIL FROM AN OFFSITE SOURCE WILL BE USED.
 6. IF CONSTRUCTION AND DEMOLITION DEBRIS IS FOUND WHEN REMOVING OVERHEIGHT MATERIALS, THE DEBRIS WILL BE RELOCATED TO THE ALDA AND NOT USED FOR FLATTENING THE EXISTING SLOPES OUTSIDE THE CURRENT LIMIT OF DEBRIS OR FOR CAP CONSTRUCTION.



NO.	REVISIONS	DATE	BY	CHK.

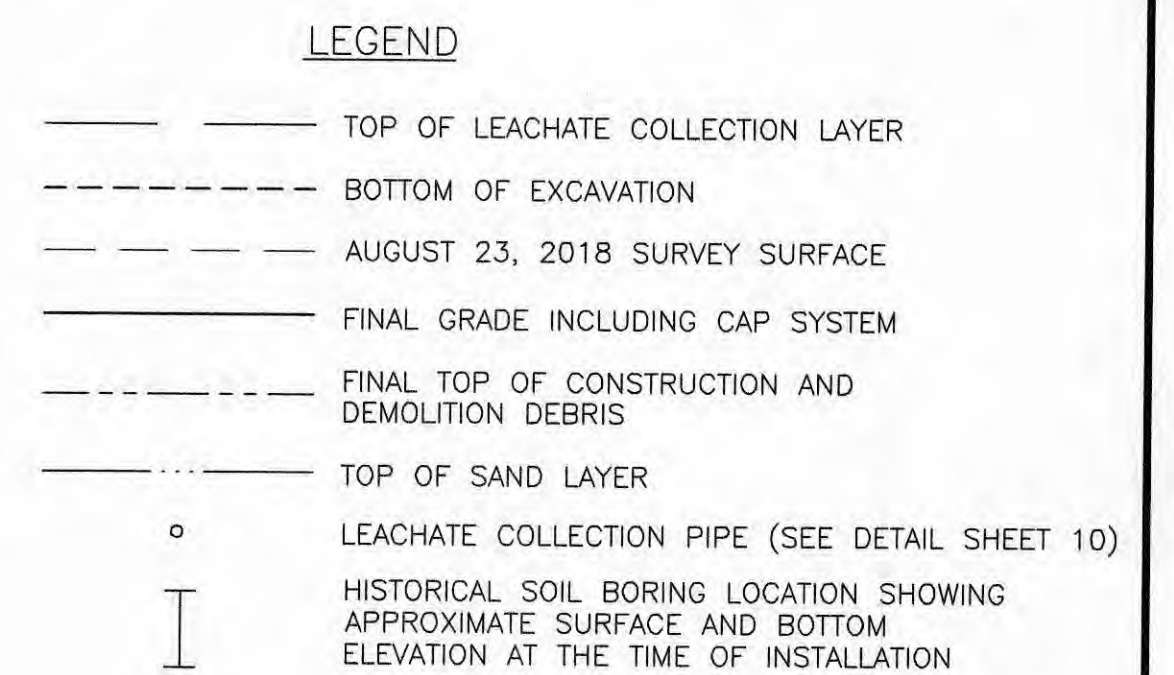
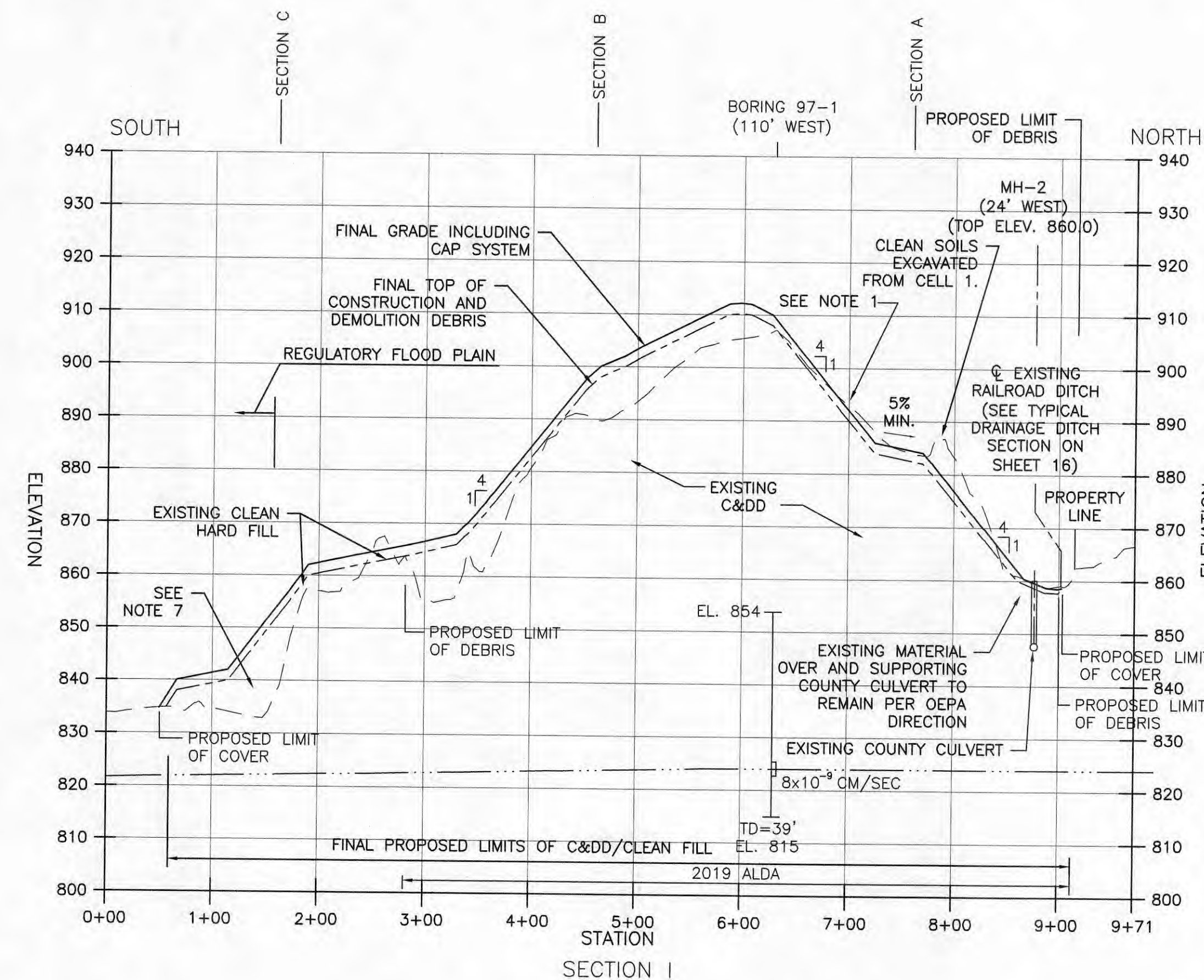
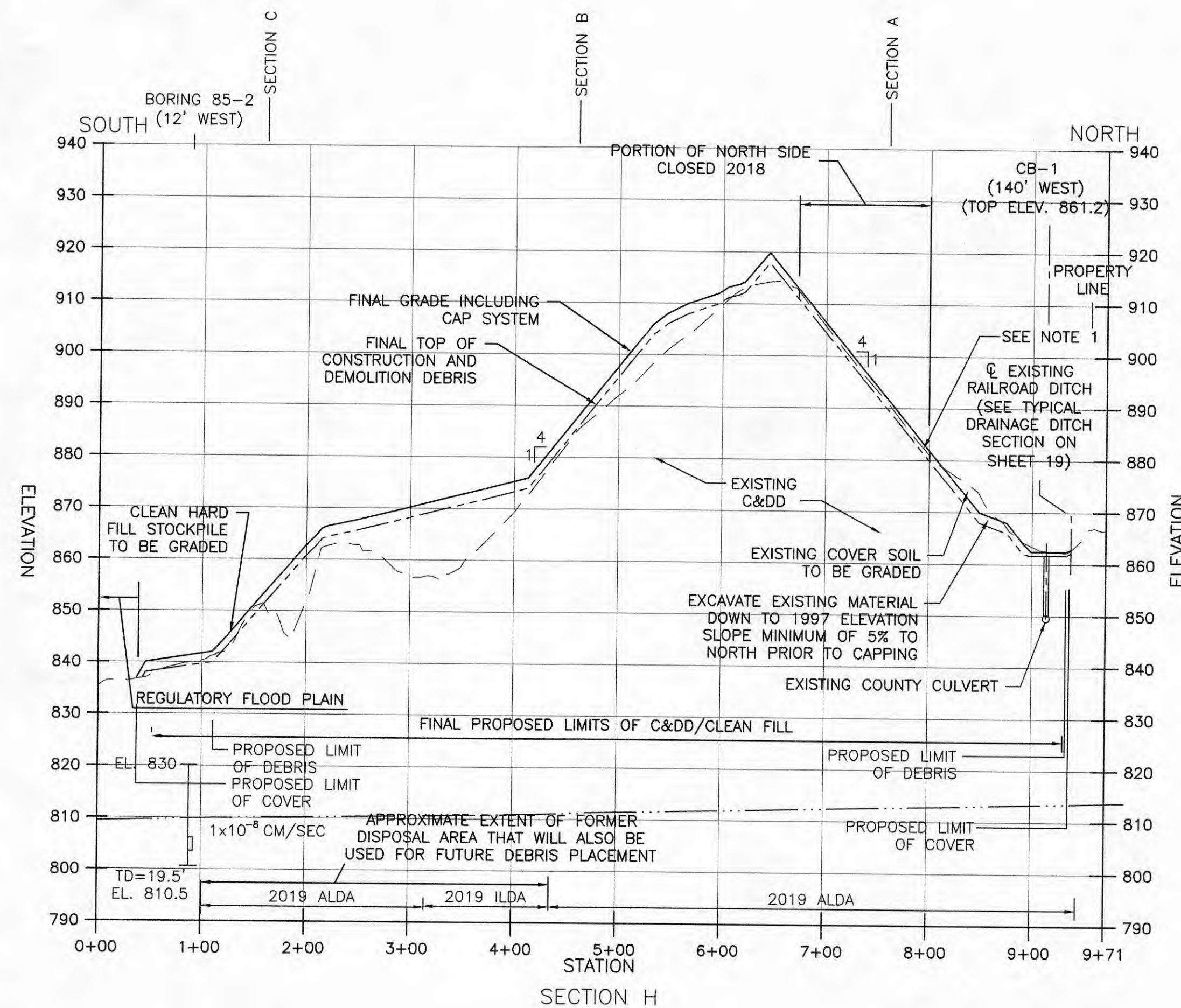
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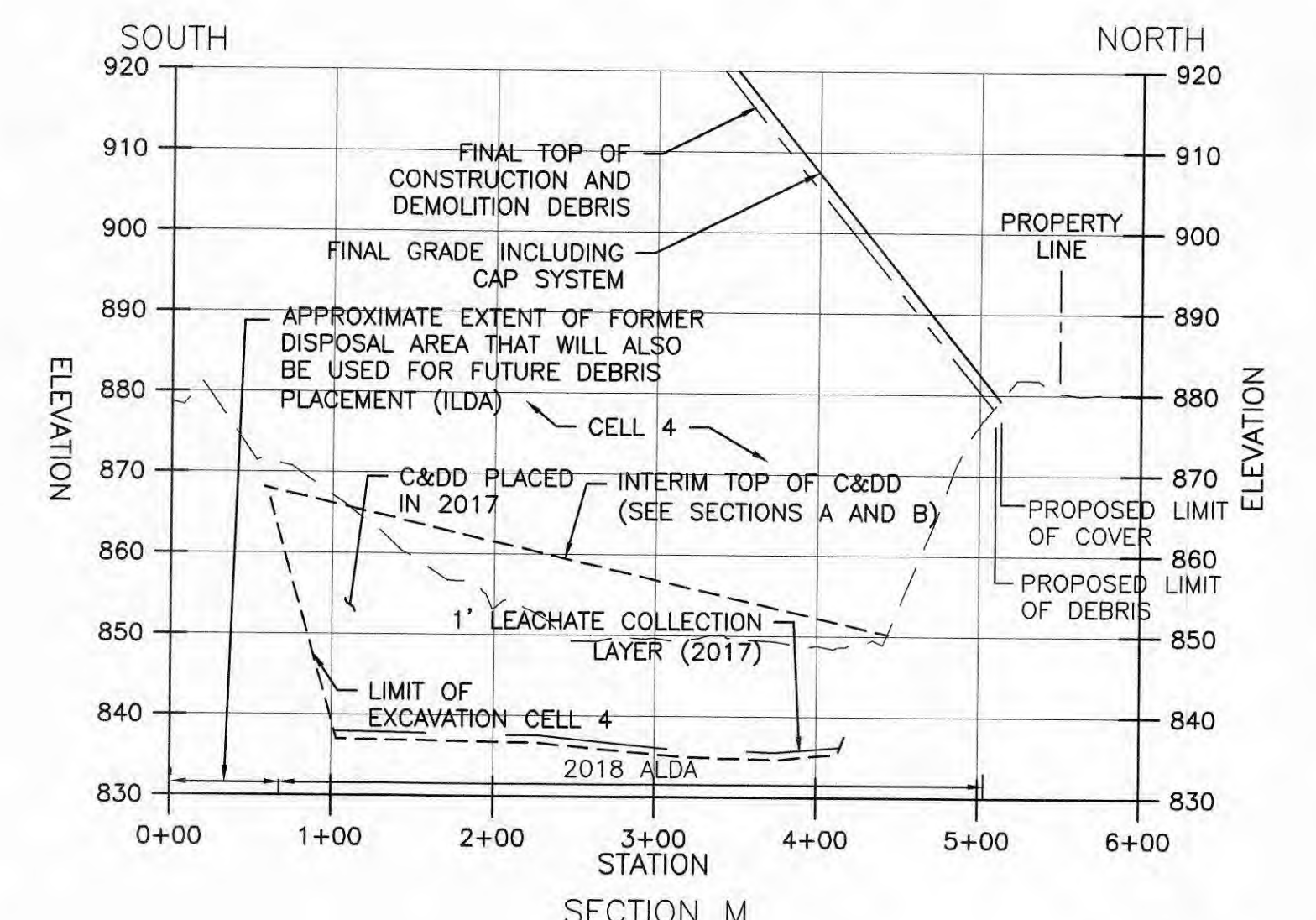
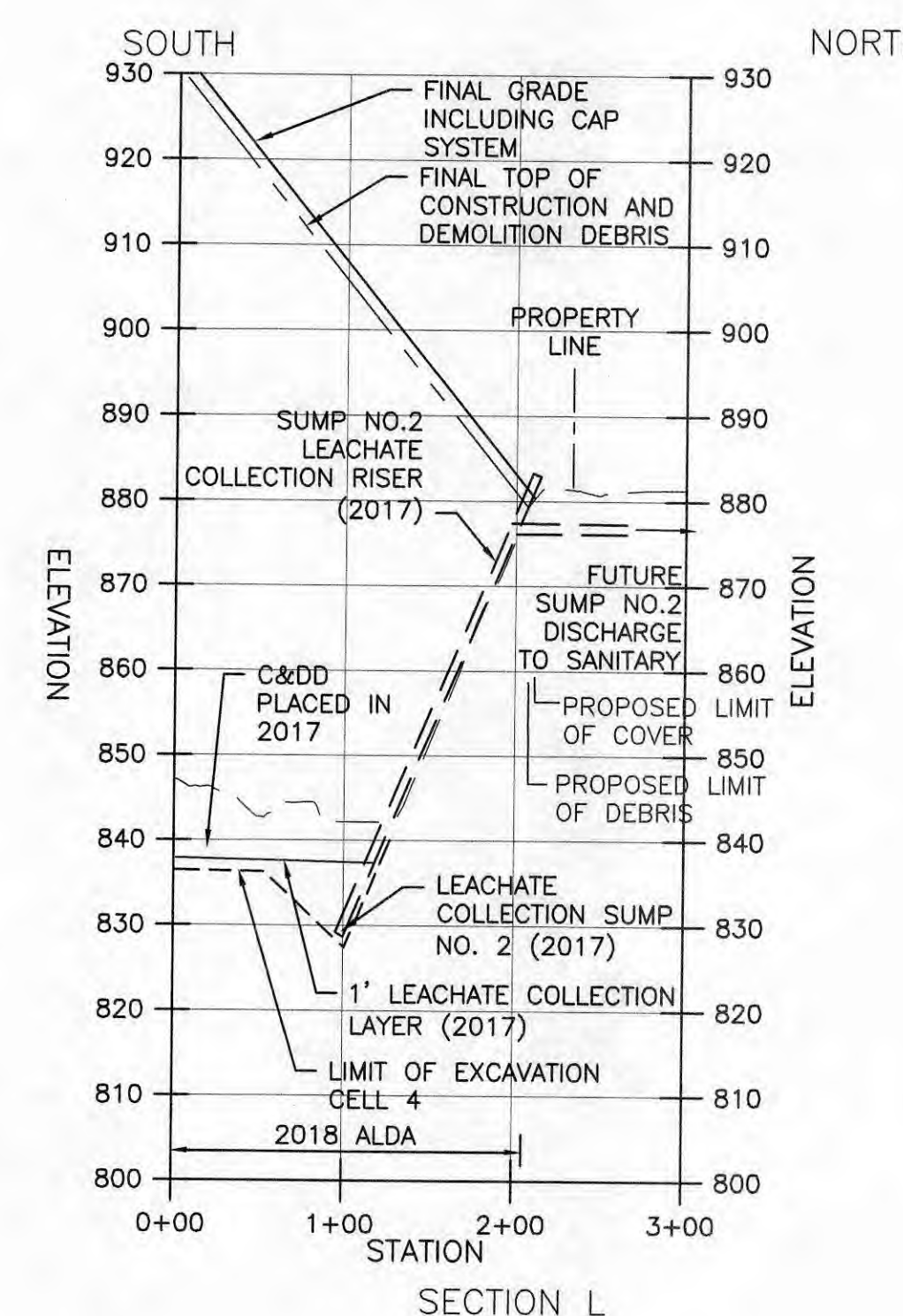
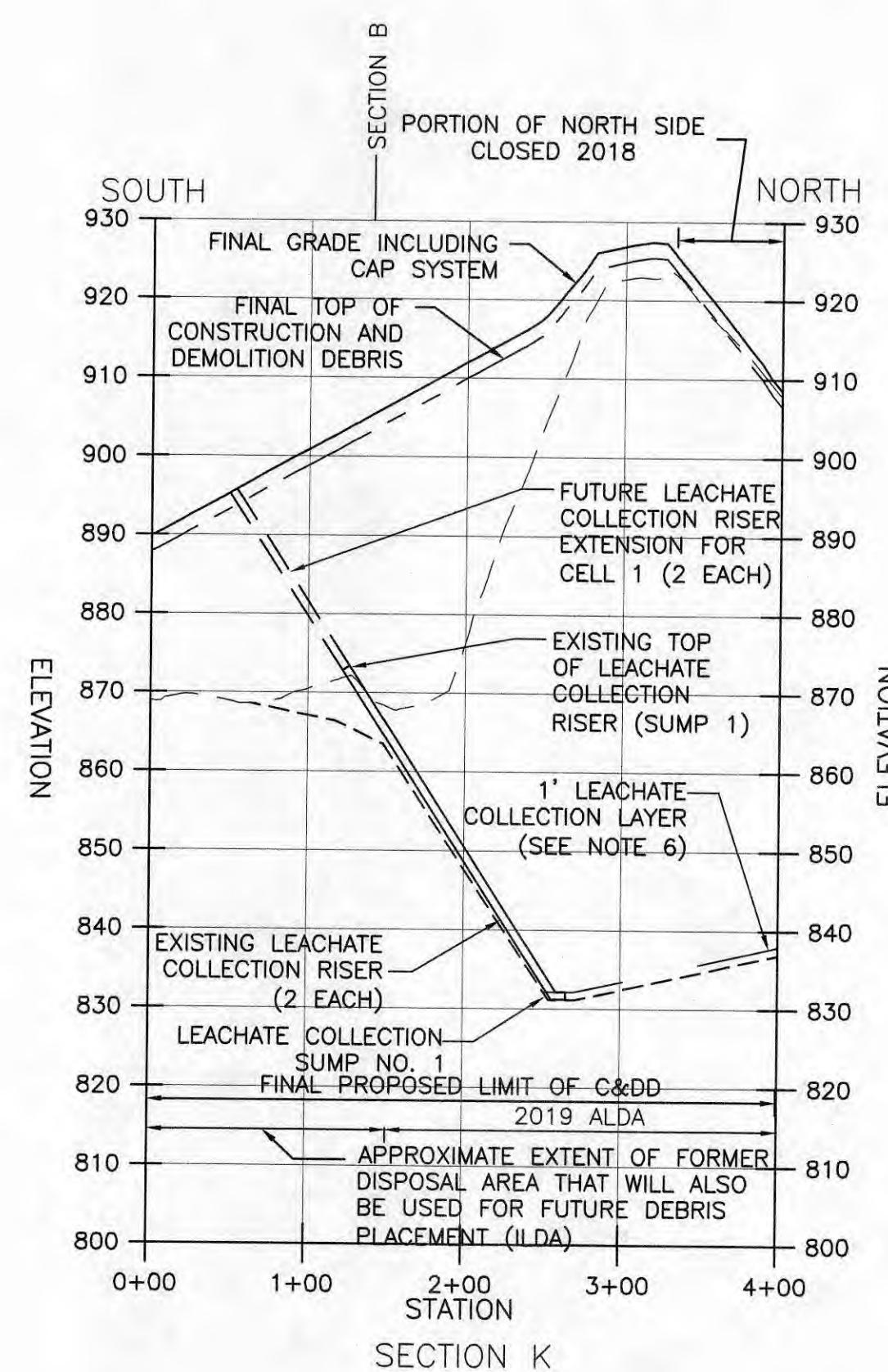
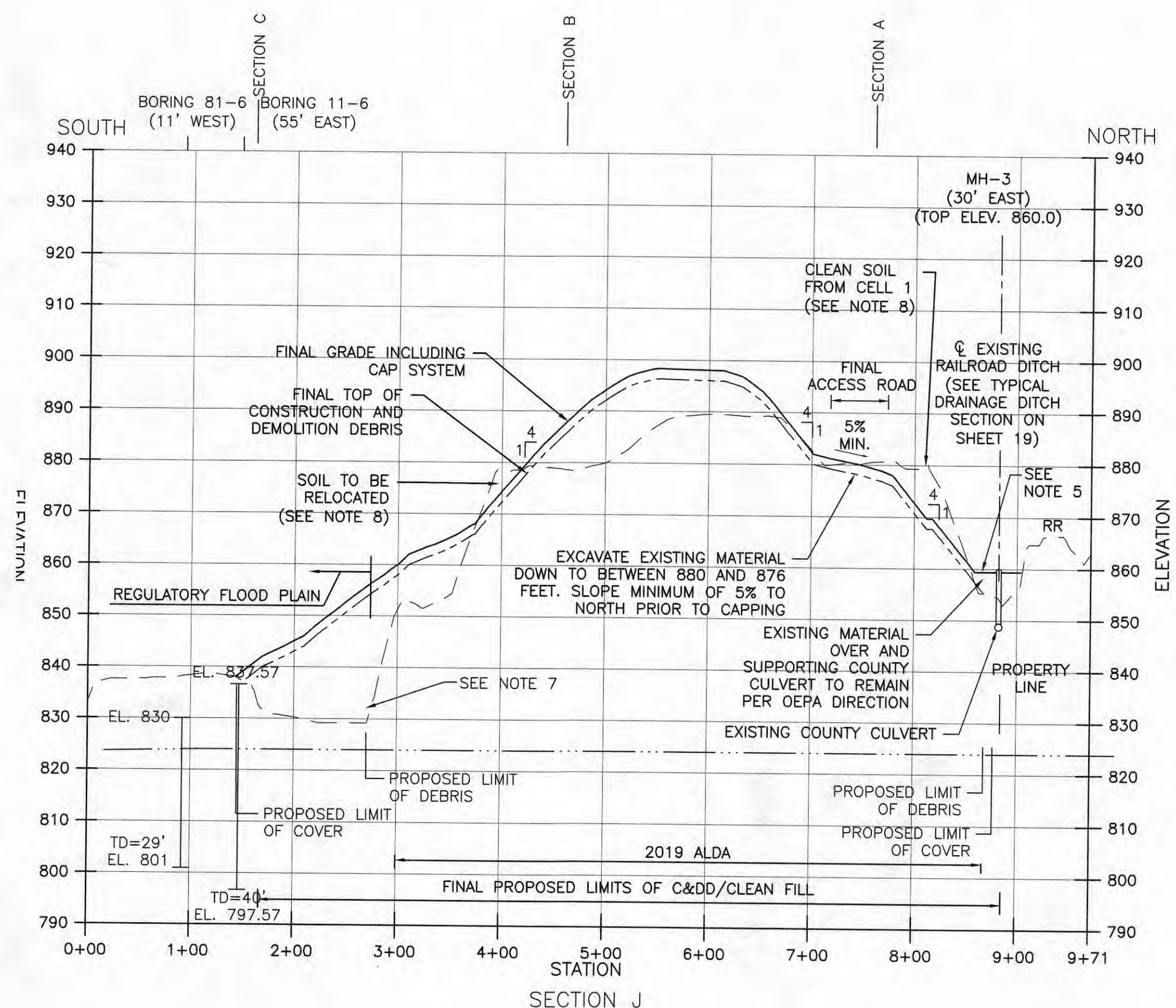
JOB NO.	29733
DESIGNED BY:	CG
DRAWN BY:	RVZ
CHECKED BY:	CG
APPROVED BY:	CG
DATE:	SEPT. 2018

SECTIONS C, F, AND G

SCALE:	
1" = 100' HORZ.	1" = 20' VERT.
SHEET NO.	OF
8	16



- NOTES:**
- DURING LATE 2010 AND 2011, APPROXIMATELY 11,200 C.Y. OF MATERIAL WAS REMOVED FROM THE NORTH SLOPE OF THE FACILITY BETWEEN SECTIONS H AND J.
 - BORINGS LOCATED OUT OF SECTION HAVE BEEN PROJECTED INTO THE SECTION.
 - A PORTION OF THE NORTH SIDE OF THE FACILITY WAS CAPPED. SEE LANDFILL CAP CONSTRUCTION AND CLOSURE CERTIFICATION DATED NOVEMBER 10, 2016 AS REVISED JANUARY 2018. TOPOGRAPHY SHOWN IN THE CAPPED AREA IS TOP OF COVER SOIL. (AS CONSTRUCTED)
 - DURING THE SPRING OF 2015, THE TOPS OF THE EXISTING CATCH BASIN AND TWO MANHOLES ALONG THE NORTH SIDE OF THE FACILITY WERE SURVEYED.
 - EXISTING CATCH BASINS (CB-1 AND CB-2) EXISTING MANHOLES (MH-2 AND MH-3) HAVE BEEN PROJECTED ONTO THE CLOSEST SECTION.
 - A LEACHATE COLLECTION SYSTEM (LCS) LAYER WAS INSTALLED IN THE 2001, 2004, 2008, AND 2017 EXPANSION AREAS.
 - IN AREAS DESIGNATED FOR FILL THAT ARE OUTSIDE THE CURRENT LIMIT OF DEBRIS, ONLY CURRENT ON-SITE STOCKPILES OF CLEAN SOIL, STOCKPILES OF CLEAN HARD FILL PREVIOUSLY SEGREGATED FOR BENEFICIAL USE, CLEAN SOIL EXCAVATED FROM NEW AREAS OF THE SITE, CLEAN HARD FILL FROM AN OFFSITE SOURCE, OR SOIL FROM AN OFFSITE SOURCE WILL BE USED.
 - IF CONSTRUCTION AND DEMOLITION DEBRIS IS FOUND WHEN REMOVING OVERHEIGHT MATERIALS, THE DEBRIS WILL BE RELOCATED TO THE ALDA AND NOT USED FOR FLATTENING THE EXISTING SLOPES OUTSIDE THE CURRENT LIMIT OF DEBRIS OR FOR CAP CONSTRUCTION.



P:\29733\2018 Compliance Plan\9 SECTIONS H, I, J, K, AND L.dwg

NO.	REVISIONS	DATE	BY	CHK.

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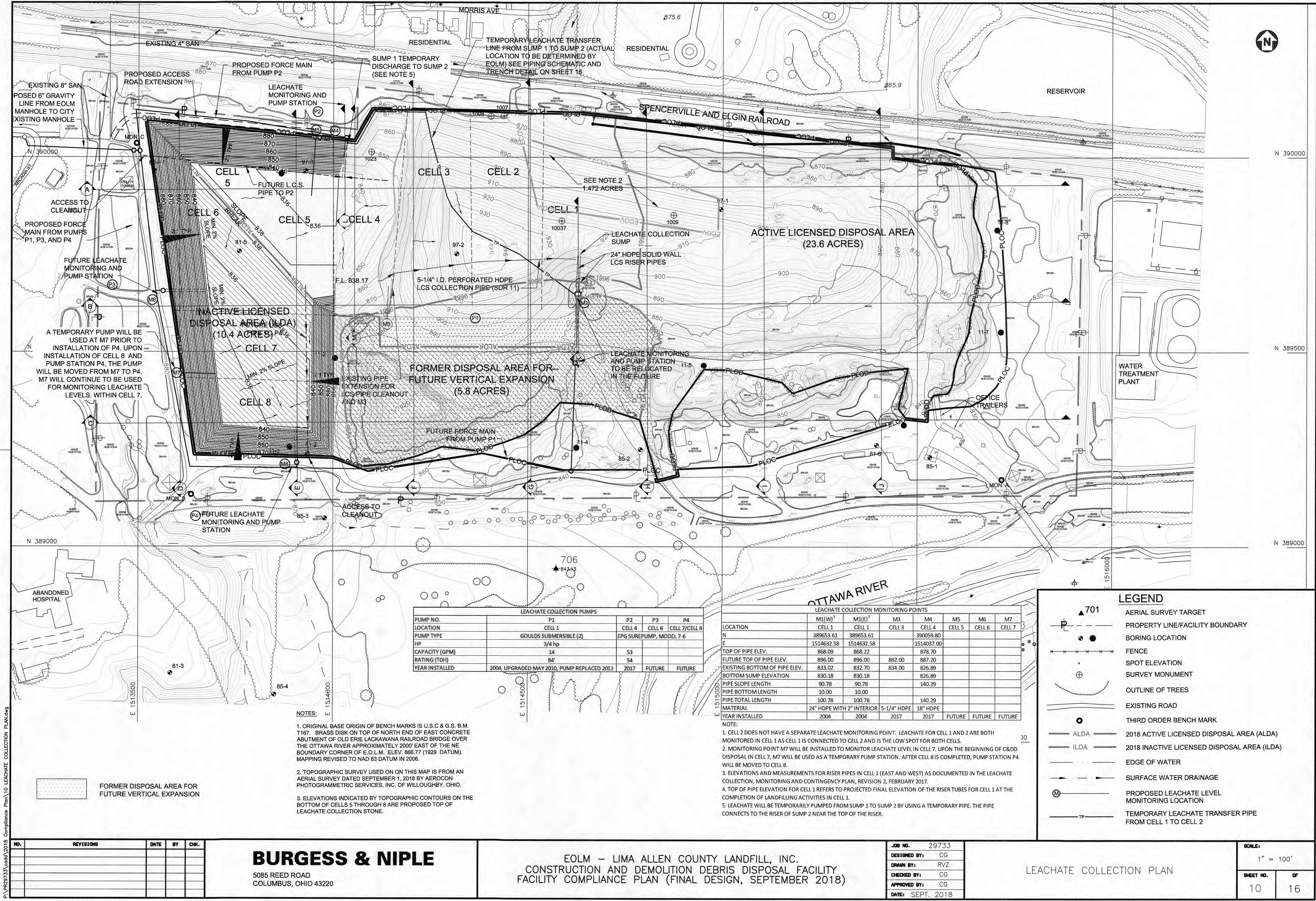
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DATE:	SEPT. 2018

SECTIONS H, I, J, K, L, AND M

SCALE: 1" = 100' HORZ. 1" = 20' VERT.	
SHEET NO. 9	OF 16



P:\R20733\cadd\2018 Compliance Plan\10 LEACHATE COLLECTION PLAN.dwg

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APPROVED BY: CG
DATE: SEPT. 2018

LEACHATE COLLECTION PLAN

SCALE:

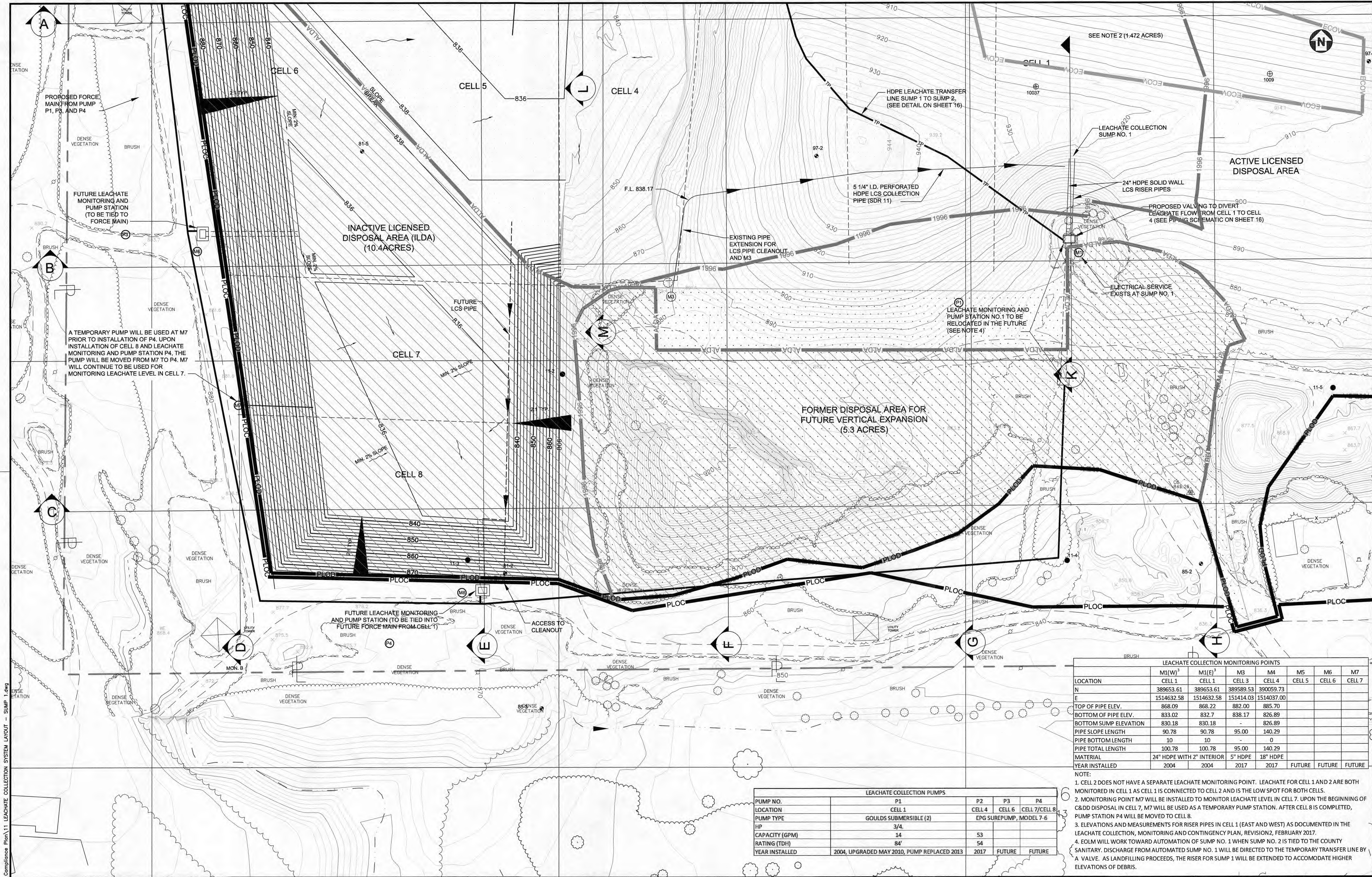
1" = 100'

SHEET NO.

10

OF

16



LEACHATE COLLECTION MONITORING POINTS							
	M1(W)	M1(E)	M3	M4	M5	M6	M7
LOCATION	CELL 1	CELL 1	CELL 3	CELL 4	CELL 5	CELL 6	CELL 7
N	389653.61	389653.61	389589.53	390059.73			
E	1514632.58	1514632.58	151414.03	1514037.00			
TOP OF PIPE ELEV.	868.09	868.22	882.00	885.70			
BOTTOM OF PIPE ELEV.	833.02	832.7	838.17	826.89			
BOTTOM SUMP ELEVATION	830.18	830.18	-	826.89			
PIPE SLOPE LENGTH	90.78	90.78	95.00	140.29			
PIPE BOTTOM LENGTH	10	10	0	0			
PIPE TOTAL LENGTH	100.78	100.78	95.00	140.29			
MATERIAL	24" HDPE WITH 2" INTERIOR	5" HDPE	18" HDPE				
YEAR INSTALLED	2004	2004	2017	2017	FUTURE	FUTURE	FUTURE

- NOTE:
- CELL 2 DOES NOT HAVE A SEPARATE LEACHATE MONITORING POINT. LEACHATE FOR CELL 1 AND 2 ARE BOTH MONITORED IN CELL 1 AS CELL 1 IS CONNECTED TO CELL 2 AND IS THE LOW SPOT FOR BOTH CELLS.
 - MONITORING POINT M7 WILL BE INSTALLED TO MONITOR LEACHATE LEVEL IN CELL 7. UPON THE BEGINNING OF C&DD DISPOSAL IN CELL 7, M7 WILL BE USED AS A TEMPORARY PUMP STATION. AFTER CELL 8 IS COMPLETED, PUMP STATION P4 WILL BE MOVED TO CELL 8.
 - ELEVATIONS AND MEASUREMENTS FOR RISER PIPES IN CELL 1 (EAST AND WEST) AS DOCUMENTED IN THE LEACHATE COLLECTION, MONITORING AND CONTINGENCY PLAN, REVISION 2, FEBRUARY 2017.
 - EOLM WILL WORK TOWARD AUTOMATION OF SUMP NO. 1 WHEN SUMP NO. 2 IS TIED TO THE COUNTY SANITARY. DISCHARGE FROM AUTOMATED SUMP NO. 1 WILL BE DIRECTED TO THE TEMPORARY TRANSFER LINE BY A VALVE. AS LANDFILLING PROCEEDS, THE RISER FOR SUMP 1 WILL BE EXTENDED TO ACCOMMODATE HIGHER ELEVATIONS OF DEBRIS.

LEACHATE COLLECTION PUMPS				
PUMP NO.	P1	P2	P3	P4
LOCATION	CELL 1	CELL 4	CELL 6	CELL 7/CELL 8
PUMP TYPE	GOULDS SUBMERSIBLE (2)	EPG SUREPUMP, MODEL 7-6		
HP	3/4			
CAPACITY (GPM)	14	53		
RATING (TDH)	84'	54'		
YEAR INSTALLED	2004, UPGRADED MAY 2010, PUMP REPLACED 2013	2017	FUTURE	FUTURE

NO.	REVISIONS	DATE	BY	CHK.

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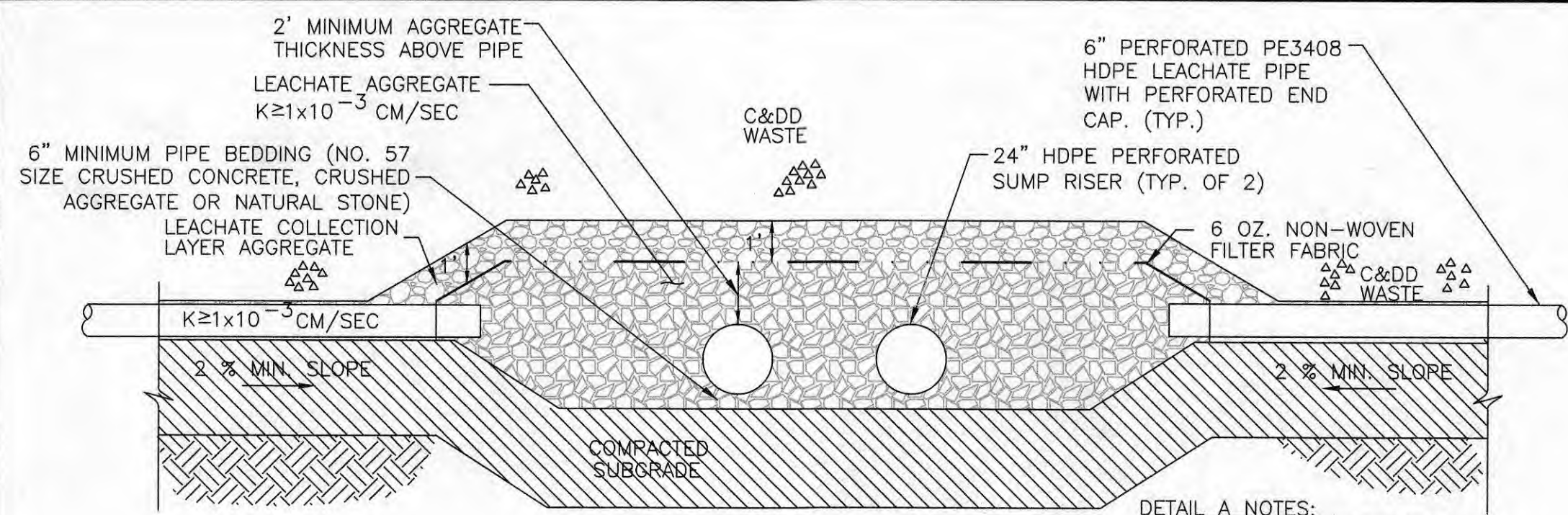
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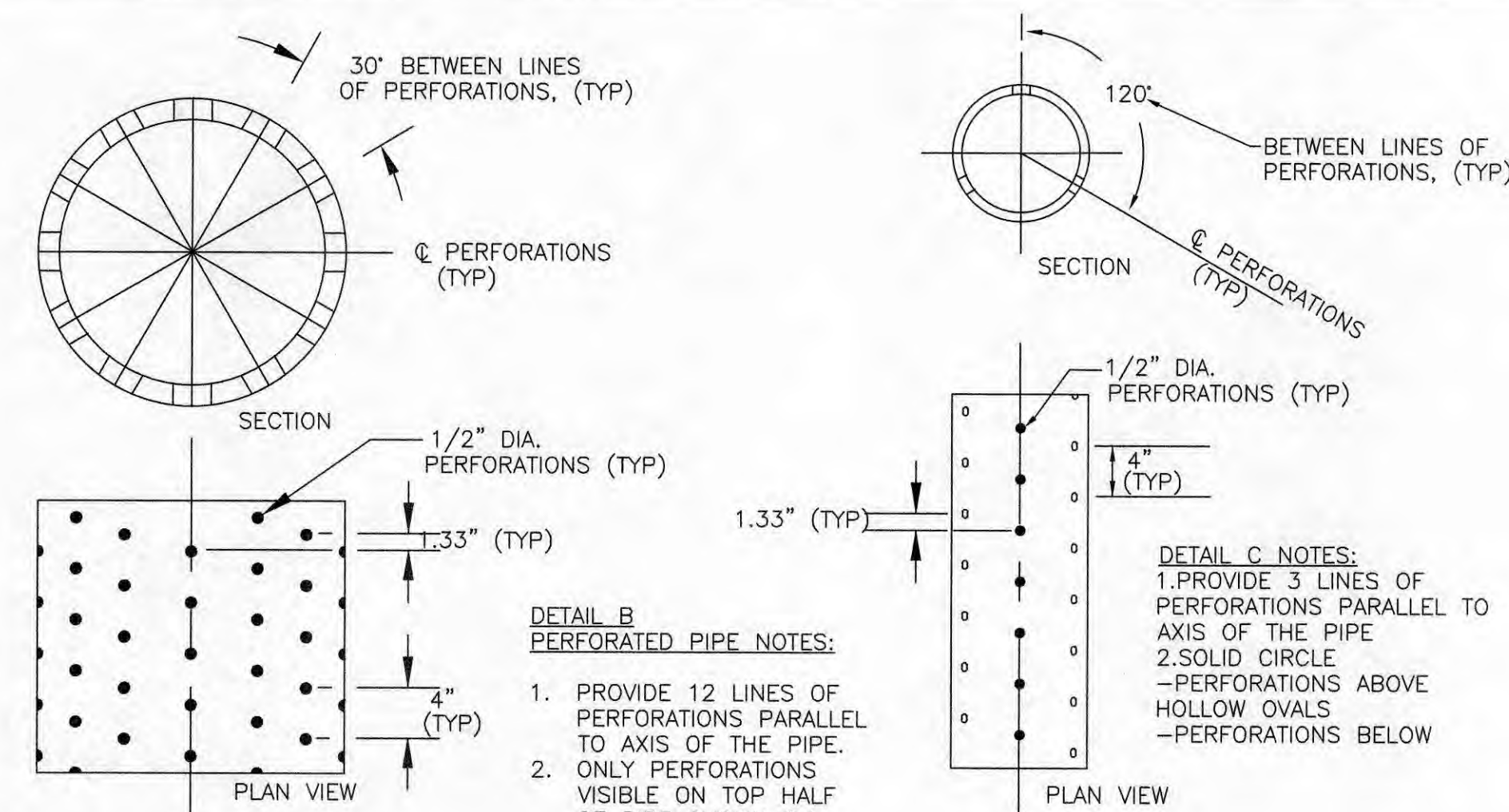
LEACHATE COLLECTION PLAN AND
ELECTRICAL LAYOUT - SUMP 1

SCALE:	
1" = 50'	
SHEET NO.	OF
11	16

P:\PR29733\CADD\2018 COMPLIANCE PLAN\12 LEACHATE COLLECTION SYSTEM DETAILS SUMP 1.DWG

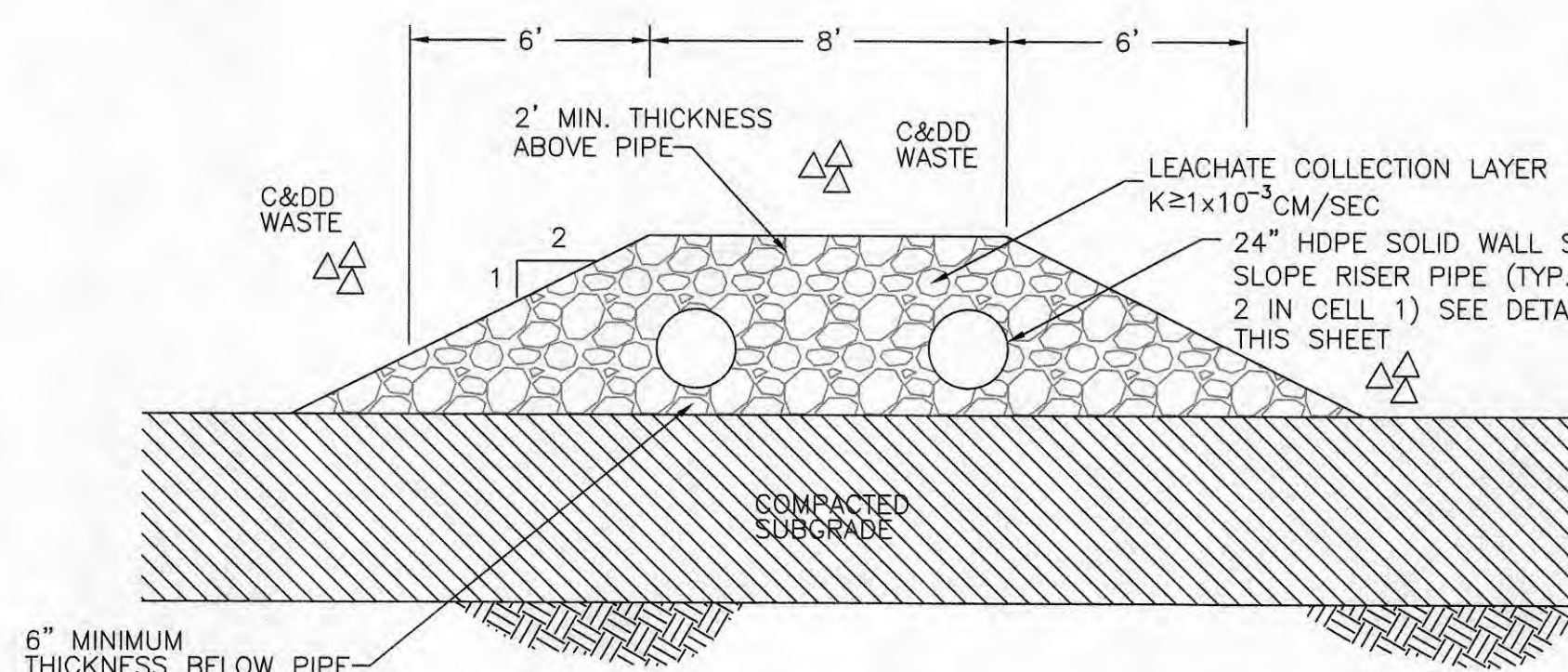


EXISTING LEACHATE COLLECTION SUMP NO.1
DETAIL A SECTION A-A
N.T.S.



DETAIL B
24" HDPE RISER PIPE
PERFORATION DETAIL
N.T.S.

DETAIL C
6" HDPE LEACHATE PIPE
PERFORATION DETAIL
N.T.S.



DETAIL D
SIDE SLOPE SECTION
EXISTING SIDE SLOPE RISER PIPES (IN CELL 1)
N.T.S.

LEACHATE COLLECTION SUMP NOTES:

1. TYPICAL DETAILS FOR LEACHATE COLLECTION SUMP NO. 1 WERE INCLUDED IN THE 2005 LICENSE APPLICATION. AS-BUILT DETAILS AND DIMENSIONS ARE NOT AVAILABLE FOR SUMP NO. 1.
2. AS-BUILT DETAILS FOR SUMP NO. 2 ARE SHOWN ON SHEET 13.
3. DETAILS FOR FUTURE SUMPS 3 AND 4, LOCATED IN CELLS 6 AND 8 RESPECTIVELY, WILL BE CONSTRUCTED THE SAME AS SUMP 2.

LEACHATE AGGREGATE 2" MIN. ODOT NO. 57 SIZE STONE LEACHATE AGGREGATE (CRUSHED CONCRETE, CRUSHED AGGREGATE OR NATURAL STONE) ABOVE PIPE

LEACHATE COLLECTION LAYER (MINIMUM THICKNESS 12 INCHES) $K > 1 \times 10^{-3}$ CM/SEC

6 OZ. NON-WOVEN FILTER FABRIC GEOTEXTILE IN SUMP NO. 1 AREA ONLY (BETWEEN AGGREGATE AND LEACHATE COLLECTION LAYER)

12" AGGREGATE (MIN.) ODOT NO. 57 SIZE STONE LEACHATE AGGREGATE (CRUSHED CONCRETE, CRUSHED AGGREGATE OR NATURAL STONE)

PERFORATED FLAT END CAP

LEACHATE COLLECTION SUMP NO.1
DETAIL A SECTION B-B
N.T.S.

2' MIN ONLY OVER SLOPE RISER PIPES FOR PIPE PROTECTION

1/2" Ø SOLVENT WELDED OPEN ENDED PVC PIPE INSTALLED INSIDE OF RISER AND EXTENDED TO BOTTOM OF RISER.

24" HDPE SOLID WALL SIDE SLOPE RISER PIPE (TYP. OF 2, SEE DETAIL A PLAN, THIS SHEET)

2" PVC INV. EL. 868.22

ACCESS POINT FOR LEACHATE LEVEL MONITORING IN SUMP NO.1 USING DIRECT READING LIQUID LEVEL METER

24" HDPE INV. EL. 868.09

2" PVC PIPE TO BOTTOM OF SUMP

6" PERFORATED PE3408 HDPE PIPE (5-1/4" I.D.), SEE DETAIL C, THIS SHEET

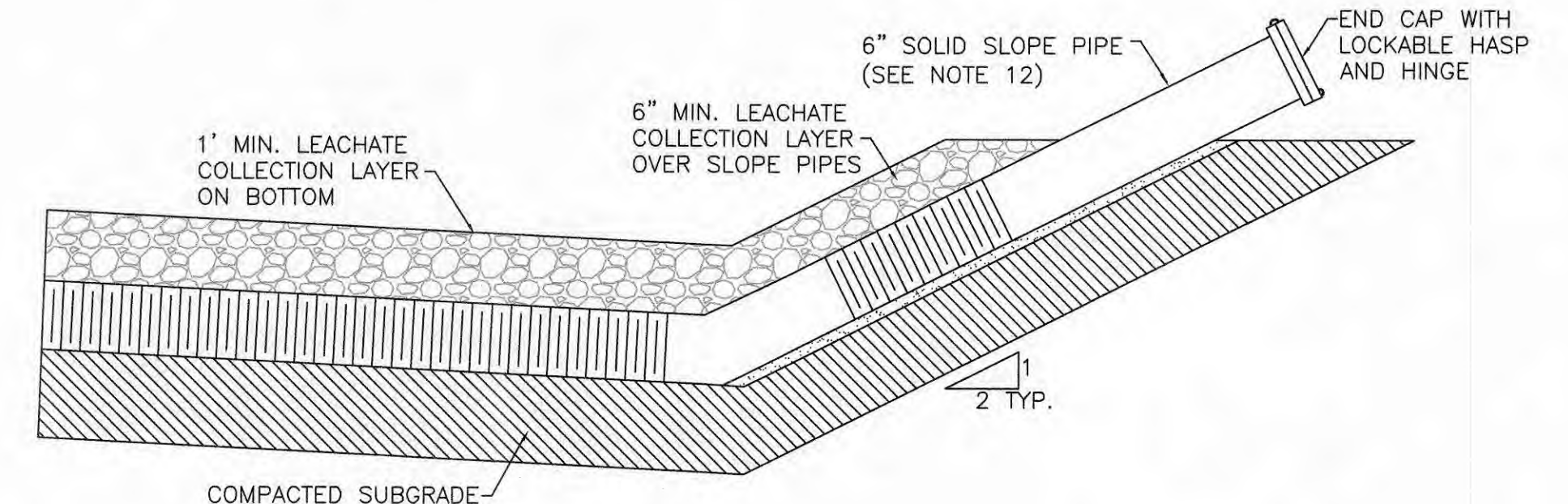
6 OZ. NON-WOVEN FILTER FABRIC AROUND LCS AGGREGATE

LEACHATE COLLECTION LAYER $K \geq 1 \times 10^{-3}$ CM/SEC

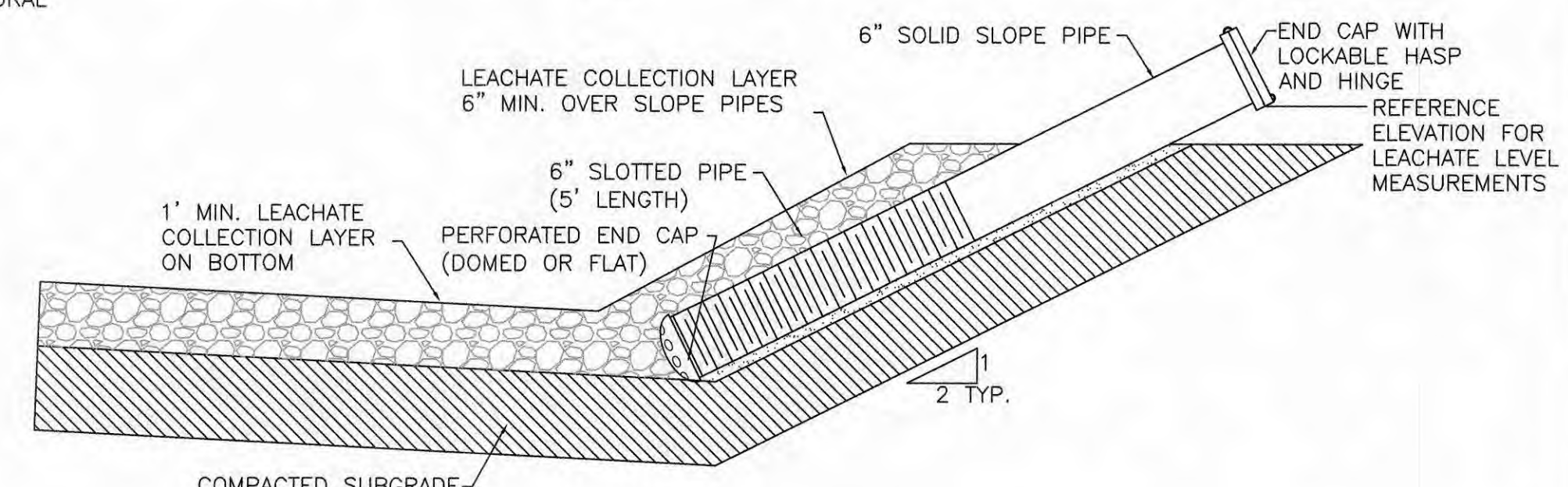
COMPACTED SUBGRADE

2% MIN.

DETAIL E
TYPICAL SECTION BOTTOM LEACHATE COLLECTION PIPE
N.T.S.



DETAIL F
TYPICAL LEACHATE PIPE CLEANOUT ACCESS AND MONITORING POINT
N.T.S.



DETAIL G
TYPICAL LEACHATE MONITORING POINT (FOR MONITORING ONLY)
N.T.S.

LEACHATE SYSTEM EQUIPMENT SCHEDULE (CELL 1)	
EQUIPMENT	EXISTING LEACHATE SYSTEM (CELL 1) DUAL PUMP SYSTEM
LEACHATE PUMPS	TWO GOULDS SUBMERSIBLE STN. STL. 3/4 HP. 14 GPM #10 GS 07422 C (MAY 2010)
PUMP DISCHARGE PIPING	HDPE
24-INCH DIAMETER RISER PIPES	HDPE, 2 PIPES
24-INCH PERFORATED PIPE	HDPE, 2 PIPES
6-INCH DIAMETER LEACHATE COLLECTION PIPE (BOTTOM OF C&DD)	PE 3408 HDPE (5-1/4" I.D.)
FILTER FABRIC WRAP FOR LEACHATE STONE	6 OZ. PER SQUARE YARD, NON WOVEN
LEACHATE COLLECTION AGGREGATE AROUND PIPE AND IN SUMP	CRUSHED STONE/AGGREGATE/CONCRETE WITH $K > 1 \times 10^{-3}$ CM/SEC
LEACHATE COLLECTION LAYER	CRUSHED STONE/AGGREGATE/CONCRETE WITH $K > 1 \times 10^{-3}$ CM/SEC
LEACHATE LEVEL MONITORING PIPE	N/A
LEACHATE SYSTEM CLEAN-OUT PIPE	HDPE, WELDED JOINTS
FLOW METER	N/A
LEACHATE LEVEL METER	SOLINST - DIRECT READING LIQUID LEVEL METER
SICPE - SMOOTH INTERIOR CORRUGATED POLYETHYLENE	

LEACHATE SYSTEM DESIGN AND OPERATION NOTES:

1. SHEET 10 SHOWS FUTURE SUMP LOCATIONS. THIS DETAIL SHOWS THE DIMENSIONS OF A TYPICAL SUMP THAT WILL BE EXCAVATED WITHIN THE LOWEST CONTOUR OF EACH CELL WITH A SUMP. THE DIMENSIONS OF THE LOWEST CONTOUR WILL VARY WITHIN EACH CELL, HOWEVER A SUMP WILL BE EXCAVATED AT EACH LOCATION.
2. 6 OUNCE PER SQUARE YARD FILTER FABRIC WAS USED TO COVER THE AGGREGATE WITHIN SUMP NO. 1. FILTER FABRIC WAS NOT PINNED BUT WAS COVERED WITH THE NEXT LAYER OF AGGREGATE.
3. A LEACHATE LEVEL MONITORING SYSTEM HAS BEEN INSTALLED IN CELL 1 AS SHOWN IN DETAIL A AND LEACHATE LEVELS ARE MONITORED REGULARLY. LEACHATE LEVELS ARE CHECKED EACH DAY BY A FACILITY EMPLOYEE. LEACHATE PUMPS ARE TURNED ON EACH DAY, AS NEEDED, TO REMOVE ACCUMULATED LEACHATE. PUMP OPERATION IS RECORDED IN THE DAILY LOG BOOK.
4. ANYTIME THE LEVEL OF LEACHATE IN SUMP NO. 1 REACHES ELEVATION 835 AMSL (EQUAL TO 60 INCHES OF WATER IN THE SUMP, THE LEACHATE CONTINUES TO BE REMOVED VIA PUMPING USING ONE OF THE TWO PUMPS THAT ARE SPECIFICALLY DEDICATED FOR THIS PURPOSE. BOTH PUMPS ARE OPERATED MANUALLY. 60 INCHES OF WATER IN THE SUMP IS LESS THAN ONE FOOT OF LEACHATE ON THE BOTTOM OF THE LANDFILL OUTSIDE THE SUMP.
5. RECIRCULATED LEACHATE IS APPLIED TO THE EXISTING ACTIVE WASTE DISPOSAL AREAS OF THE LANDFILL FOLLOWING THE REQUIREMENTS OF THE LEACHATE PLAN, FEB 2017. LEACHATE FOR RECIRCULATION IS NOT DISTRIBUTED OUTSIDE THE ALDA LIMITS OF WASTE. THIS LEACHATE RECIRCULATION METHOD IS FOLLOWED EACH DAY.
6. THE RISER PIPE FOR SUMP 1 CAN BE USED TO COLLECT SAMPLES FOR DETERMINING LEACHATE QUALITY AND TO MONITOR LEACHATE LEVEL. THE LEACHATE COLLECTION RISER IS ACCESSIBLE FOR CLEANING VIA THE UPSTREAM END AT THE SOUTHERN SIDE OF THE ALDA.
7. THE TOTAL LENGTH OF THE 5-1/4 INCH PERFORATED HDPE LEACHATE COLLECTION PIPE IN CELLS 1, 2, AND 3 IS APPROXIMATELY 480 FEET AS MEASURED DURING AN OCTOBER 7, 2010 INSPECTION CONDUCTED BY ALLEN HUGHES SPETIC TANK SERVICE, INC. LEACHATE COLLECTION PIPE CLEANING DEVICES CAN TYPICALLY HANDLE STRETCHES OF 500 FEET OR MORE. THE LEACHATE COLLECTION PIPE IS ACCESSIBLE FOR CLEANING VIA THE UPSTREAM END AT THE WESTERN SIDE OF CELL 3 NEAR THE TOP OF THE SOUTH EDGE OF THE CELL.
8. THE LEACHATE COLLECTION SYSTEM IS DESIGNED TO COLLECT LEACHATE WITHIN THE LIMITS OF DEBRIS PLACEMENT. THE LEACHATE PUMPS ARE OPERATED DAILY, AS NEEDED, TO REMOVE LEACHATE AND ARE CAPABLE OF MAINTAINING LESS THAN ONE FOOT DEPTH OF LEACHATE OVER THE COMPACTED SUBGRADE, EXCLUDING THE IMMEDIATE AREA OF THE LEACHATE COLLECTION SUMP. (SEE NOTE 4).
9. SEE DESIGN CALCULATIONS AND OPERATIONS PLAN WITHIN THE LEACHATE COLLECTION, MONITORING, AND CONTINGENCY PLAN REVISION 2 (FEBRUARY, 2017)
10. THE EXISTING LEACHATE COLLECTION SUMP IN CELL 1 IS EQUIPPED WITH 2 PUMPS. ONE AS A PRIMARY AND ONE AS A BACKUP.
11. WITHIN THE EXISTING AND FUTURE LEACHATE SUMPS AT THE FACILITY, THE 6-INCH OR 8-INCH DIAMETER LEACHATE COLLECTION PIPES WILL TERMINATE WITHIN THE LEACHATE AGGREGATE AT EACH SUMP. EACH PIPE WILL HAVE A PERFORATED END CAP.
12. THE EXISTING LEACHATE COLLECTION PIPES IN CELL 1 ARE 6" DIAMETER HDPE.
13. 24" DIAMETER SIDE SLOPE RISERS FOR CELL 1 ARE SHOWN IN DETAIL D.

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DRAWN BY:	AFJP
CHECKED BY:	CG
APPROVED BY:	CG
DATE:	SEPT. 2018

LEACHATE COLLECTION SYSTEM DETAILS
SUMP 1 (CELL 1)

SCALE:

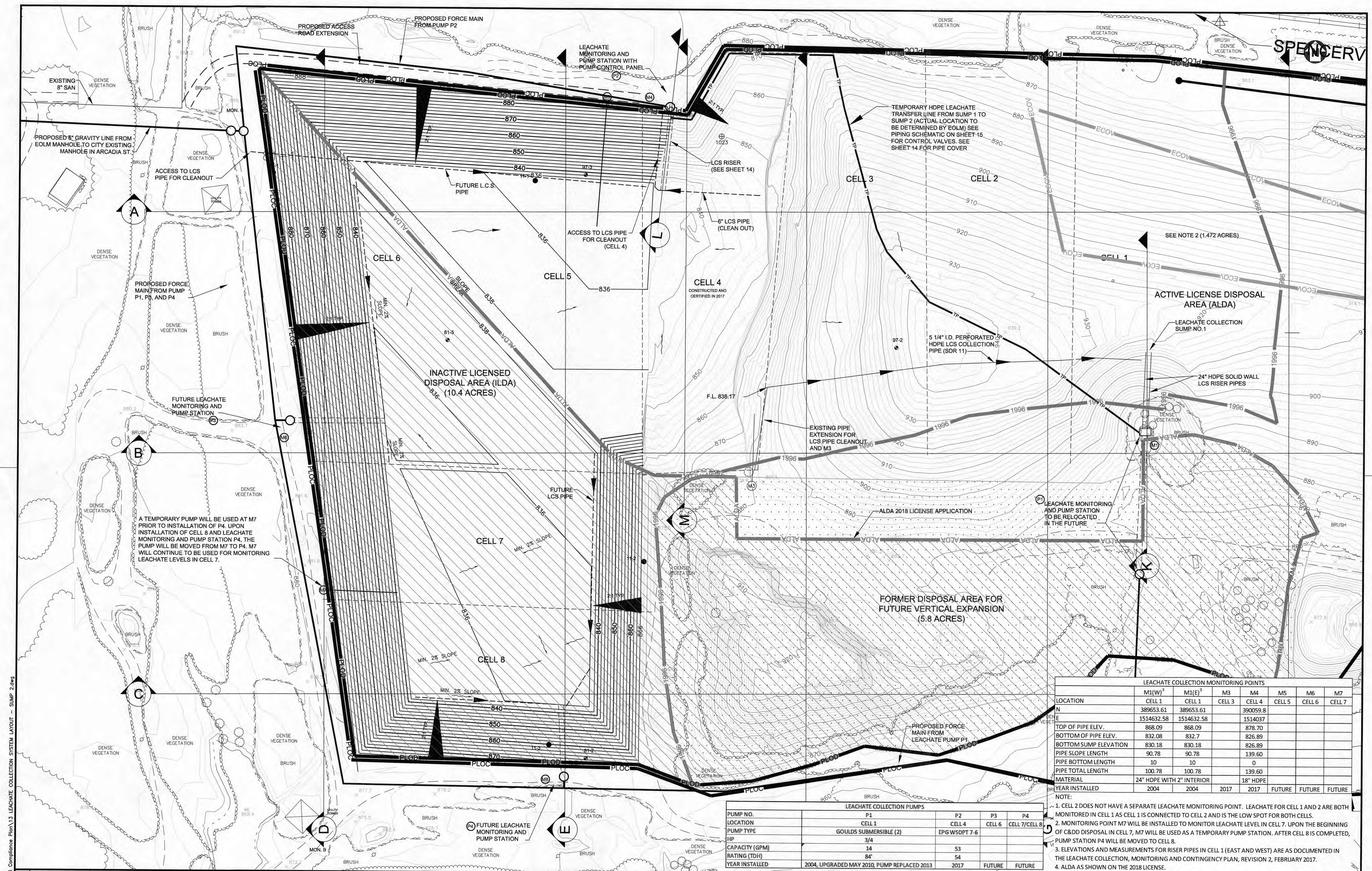
AS NOTED

SHEET NO.

12

OF

16



LEACHATE COLLECTION MONITORING POINTS							
	M1(W) ¹	M1(E) ²	M3	M4	M5	M6	M7
LOCATION	CELL 1	CELL 1	CELL 3	CELL 4	CELL 5	CELL 6	CELL 7
N	389653.61	389653.61		390059.8			
E	1514632.58	1514632.58		1514037			
TOP OF PIPE ELEV.	868.09	868.09		878.70			
BOTTOM OF PIPE ELEV.	832.08	832.7		826.89			
BOTTOM SUMP ELEVATION	830.18	830.18		826.89			
PIPE SLOPE LENGTH	90.78	90.78		139.60			
PIPE BOTTOM LENGTH	10	10		0			
PIPE TOTAL LENGTH	100.78	100.78		139.60			
MATERIAL	24\"/>		18\"/>				
YEAR INSTALLED	2004	2004	2017	2017	FUTURE	FUTURE	FUTURE

- NOTE:
- CELL 2 DOES NOT HAVE A SEPARATE LEACHATE MONITORING POINT. LEACHATE FOR CELL 1 AND 2 ARE BOTH MONITORED IN CELL 1 AS CELL 1 IS CONNECTED TO CELL 2 AND IS THE LOW SPOT FOR BOTH CELLS.
 - MONITORING POINT M7 WILL BE INSTALLED TO MONITOR LEACHATE LEVEL IN CELL 7. UPON THE BEGINNING OF C&DD DISPOSAL IN CELL 7, M7 WILL BE USED AS A TEMPORARY PUMP STATION. AFTER CELL 8 IS COMPLETED, PUMP STATION P4 WILL BE MOVED TO CELL 8.
 - ELEVATIONS AND MEASUREMENTS FOR RISER PIPES IN CELL 1 (EAST AND WEST) ARE AS DOCUMENTED IN THE LEACHATE COLLECTION, MONITORING AND CONTINGENCY PLAN, REVISION 2, FEBRUARY 2017.
 - ALDA AS SHOWN ON THE 2018 LICENSE.

LEACHATE COLLECTION PUMPS				
PUMP NO.	P1	P2	P3	P4
LOCATION	CELL 1	CELL 4	CELL 6	CELL 7/CELL 8
PUMP TYPE	GOULDS SUBMERSIBLE (2)	EPG WSDPT 7-6		
HP	3/4			
CAPACITY (GPM)	14	53		
RATING (TDH)	84'	54		
YEAR INSTALLED	2004, UPGRADED MAY 2010, PUMP REPLACED 2013	2017	FUTURE	FUTURE

NO.	REVISIONS	DATE	BY	CHK.

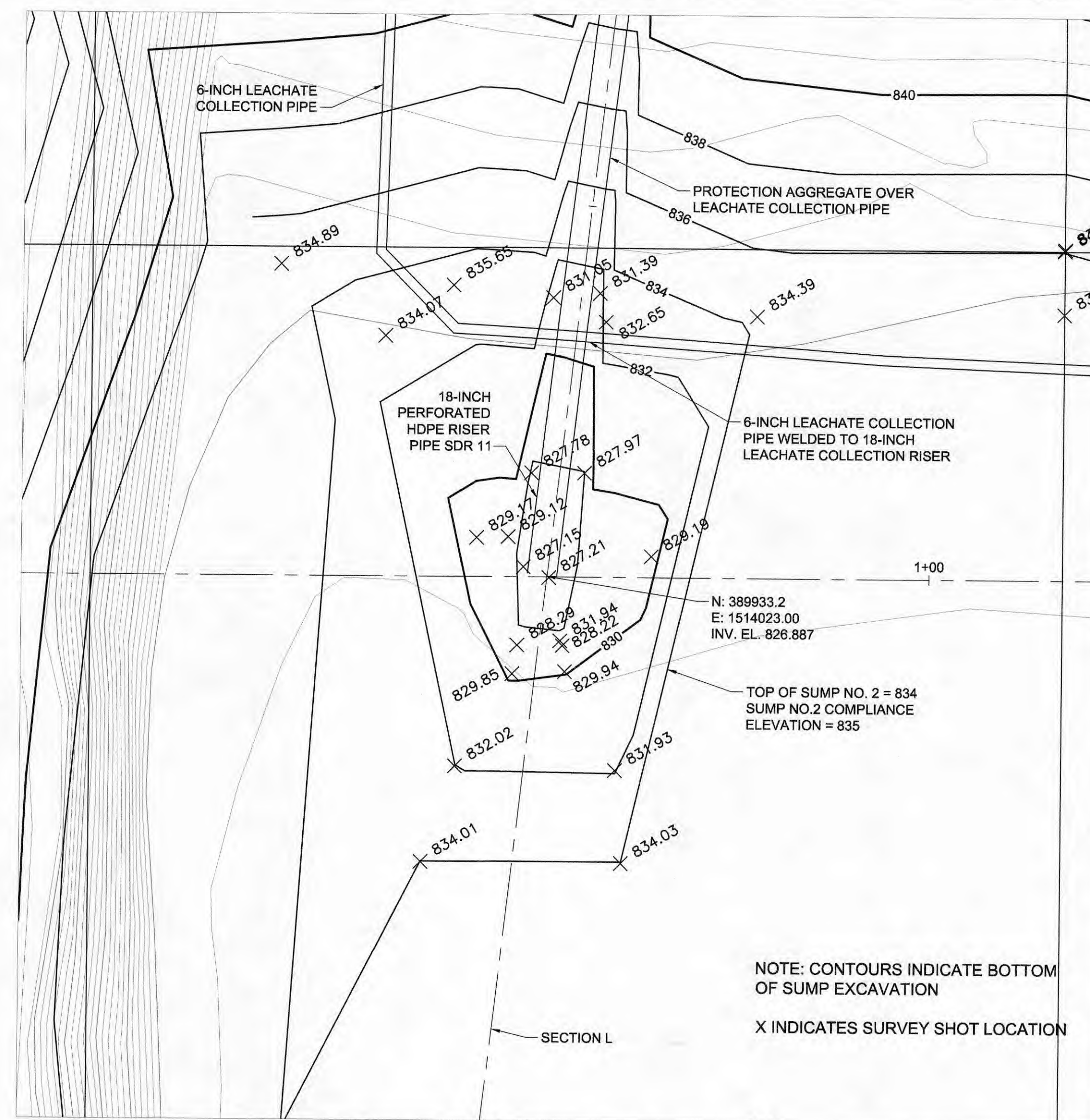
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EOLM - LIMA ALLEN COUNTY LANDFILL, INC.
CONSTRUCTION AND DEMOLITION DEBRIS DISPOSAL FACILITY
FACILITY COMPLIANCE PLAN (FINAL DESIGN, SEPTEMBER 2018)

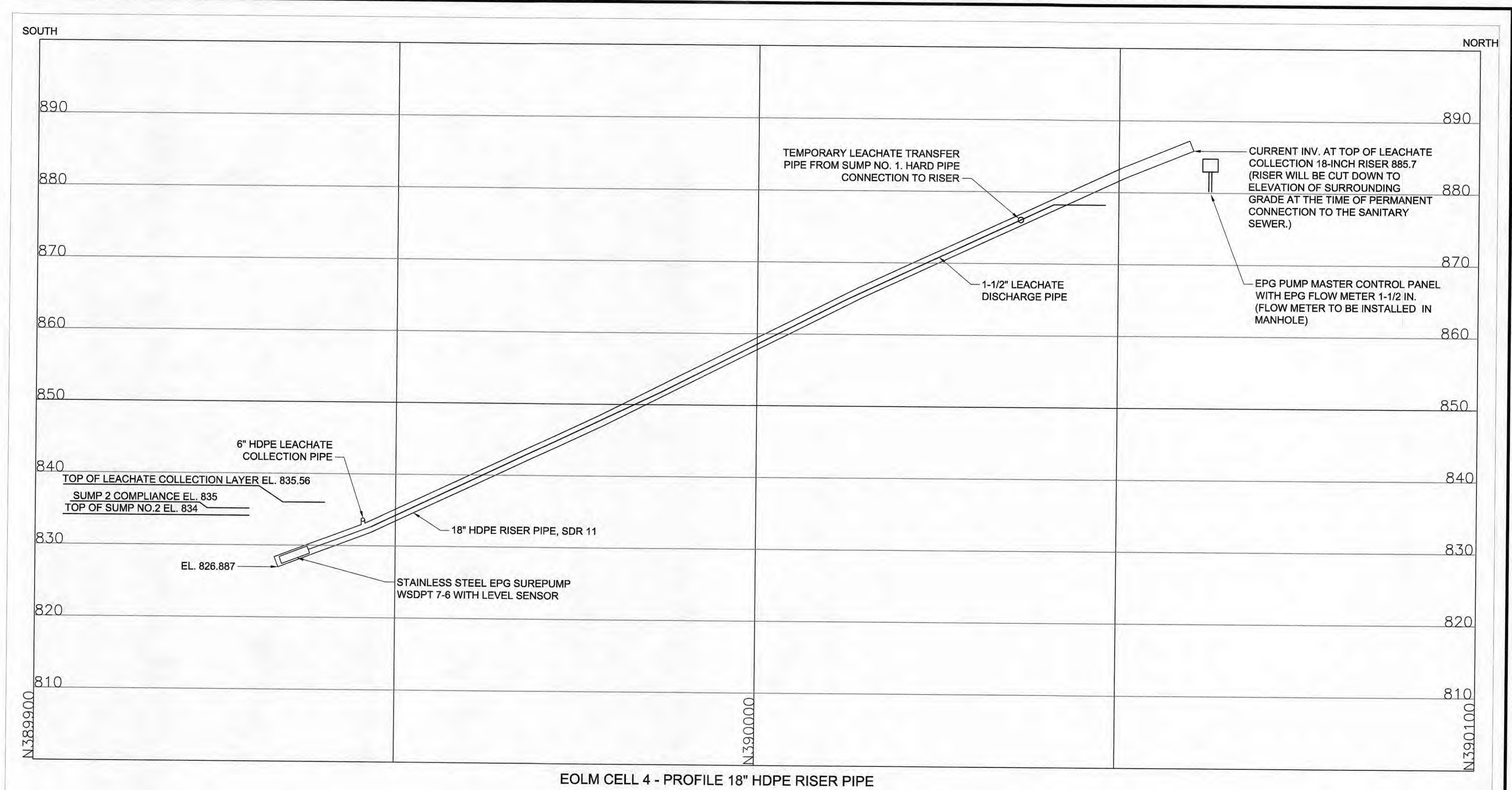
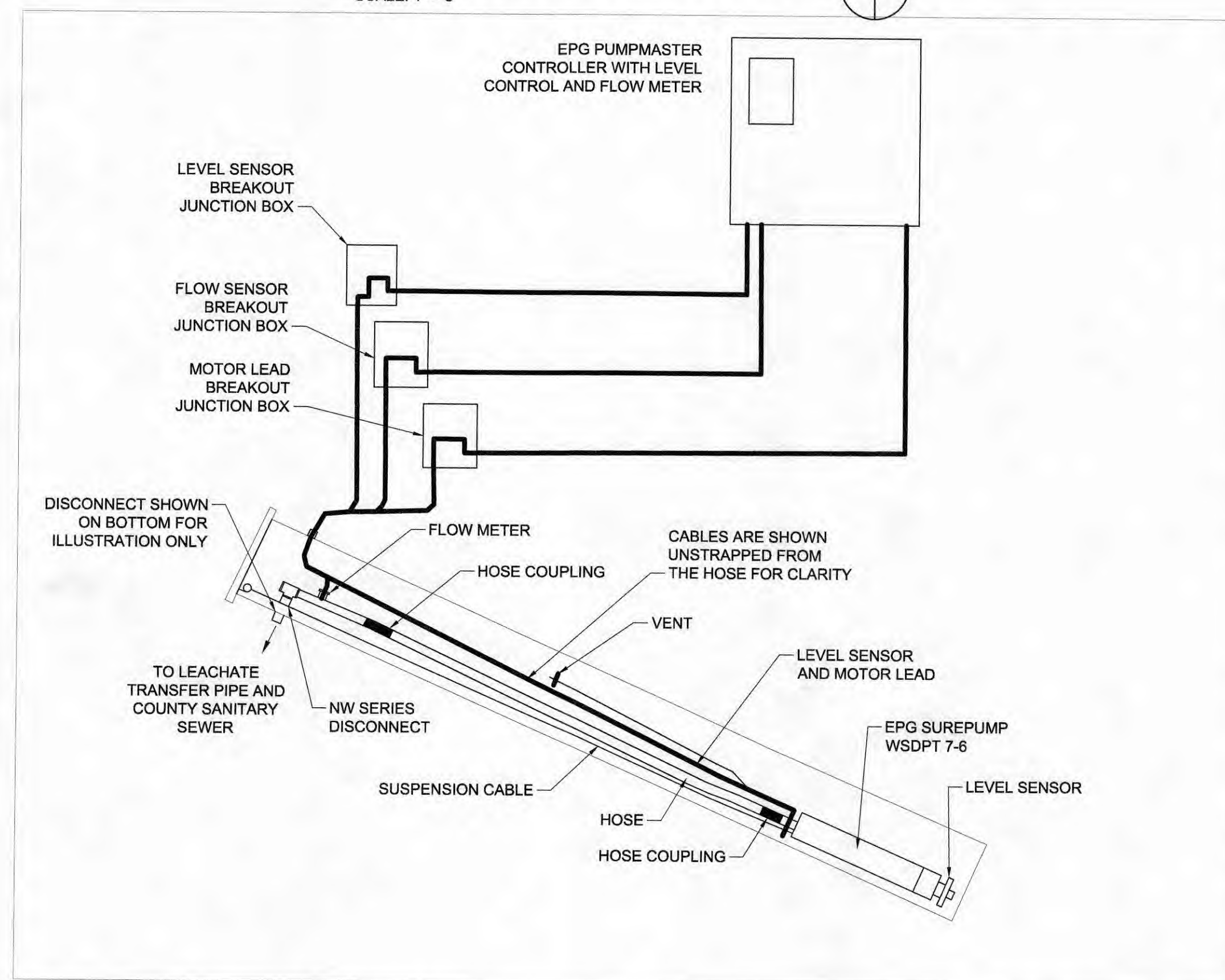
JOB NO. 29733
DESIGNED BY: CG
DRAWN BY: RVZ
CHECKED BY: CG
APPROVED BY: CG
DATE: SEPT. 2018

LEACHATE COLLECTION SYSTEM LAYOUT
SUMP 2 (CELL 4)

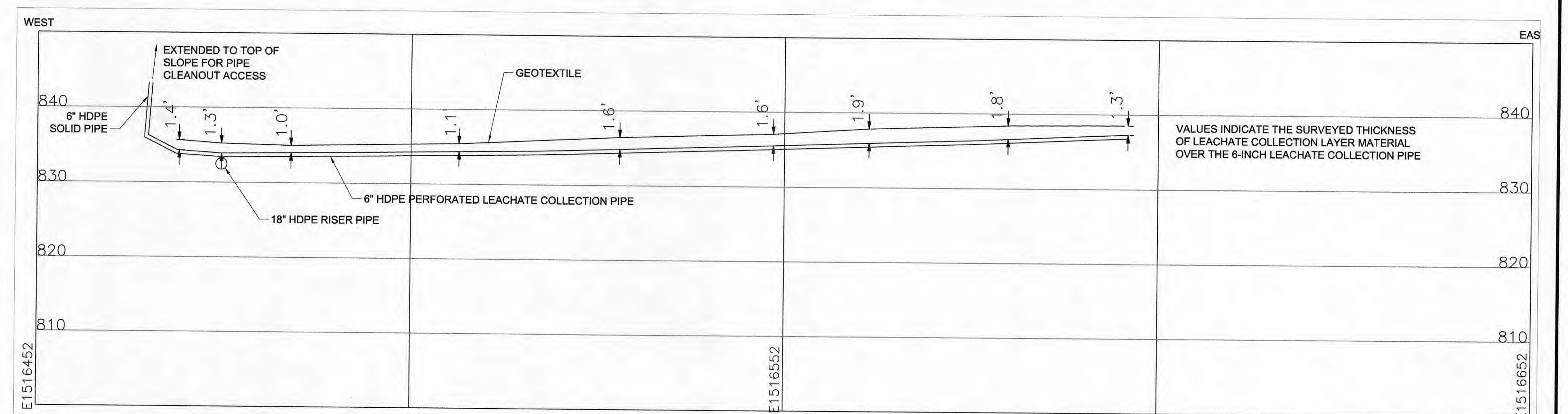
SCALE:	
1" = 50'	
SHEET NO.	OF
13	16



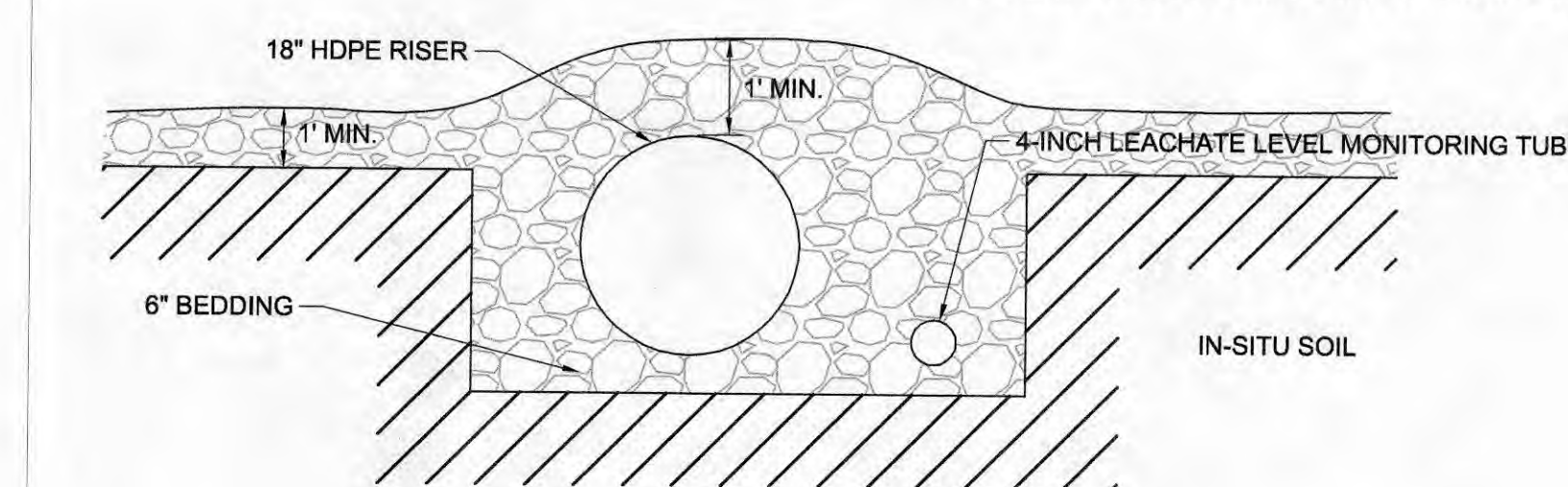
SUMP NO. 2 DETAIL PLAN
SCALE: 1" = 5'



EOLM CELL 4 - PROFILE 18" HDPE RISER PIPE



EOLM CELL 4 - PROFILE 6" HDPE LEACHATE COLLECTION PIPE AND COVERAGE DETAIL

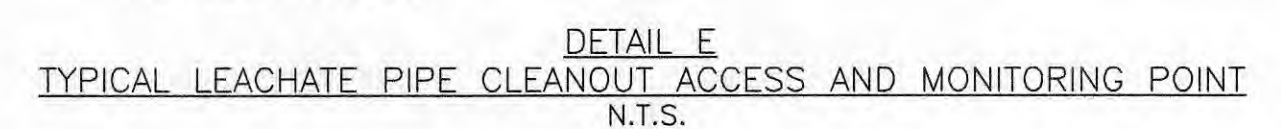
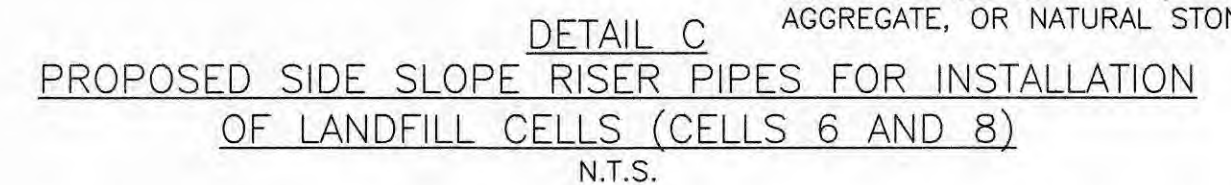
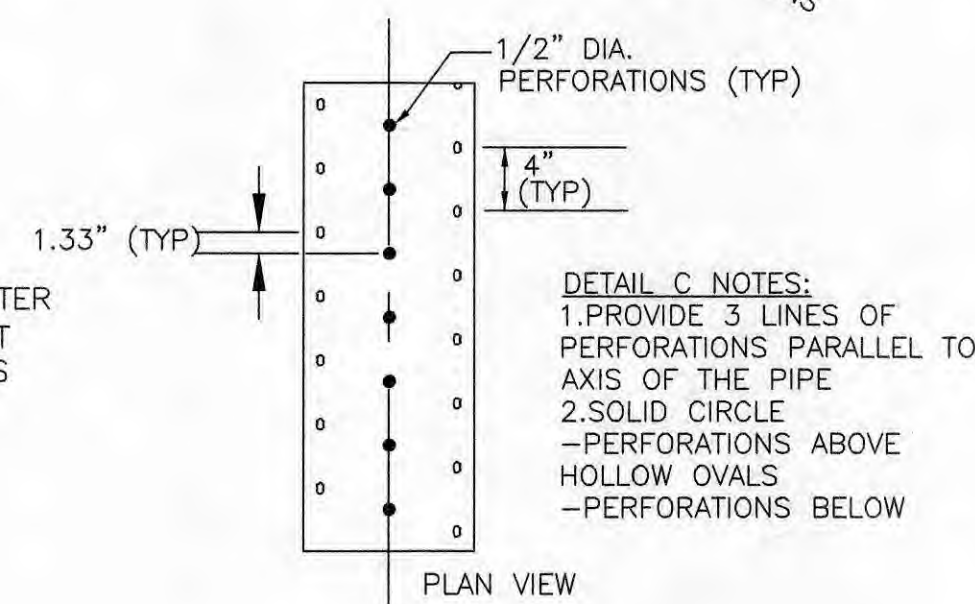
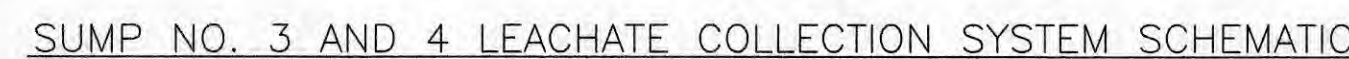
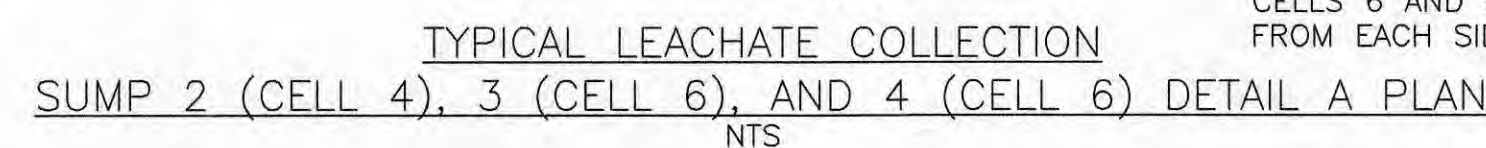
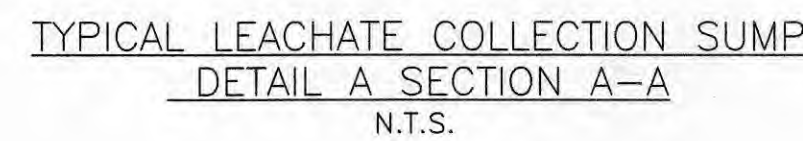


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CELL 4 PIPE PROFILES
AND SUMP NO.2 DETAILS

SCALE:
1" = 20'
SHEET NO. 14 OF 16



LEACHATE SYSTEM EQUIPMENT SCHEDULE	
EQUIPMENT	PROPOSED LEACHATE SYSTEM (CELLS 4, 6, 8) SINGLE PUMP SYSTEM PER CELL
LEACHATE PUMPS	EPG WHEELED 4" STAINLESS STEEL SUMP DRAINER WSDPT 76, MODEL 7-6, 1.5 HP.
CONTROL PANEL	YCL 9250T EOG PUMPMASTER 230 V, 1 PHASE. DISPLAYS LIQUID LEVEL FLOW/RATE WITH TOTALIZER, ALARMS, HIGH LEVEL ALARM LIGHT.
PUMP DISCHARGE PIPING	HDPE-WELDED JOINTS
18-INCH DIAMETER RISER PIPES	SOLID SICPE WITH GASKETED JOINTS
18-INCH PERFORATED PIPE	SLOTTED SICPE WITH GASKETED JOINTS
6-INCH DIAMETER LEACHATE COLLECTION PIPE (BOTTOM OF C&DD AND UPSLOPE TO CLEANOUT)	HDPE - WELDED JOINTS
FILTER FABRIC WRAP FOR LEACHATE STONE	6 OZ. PER SQUARE YARD, NON WOVEN
LEACHATE COLLECTION AGGREGATE AROUND PIPE AND IN PIPE SUMP	NO. 57 SIZE CRUSHED ROCK OR CRUSHED CONCRETE
LEACHATE COLLECTION LAYER	CRUSHED STONE WITH $K \geq 1 \times 10^{-3}$ CM/SEC
LEACHATE LEVEL MONITORING	WITH PUMP CONTROLS. LEVEL DISPLAYED ON CONTROL PANEL
LEACHATE SYSTEM CLEAN-OUT PIPE	HDPE - WELDED JOINTS
FLOW METER	EPG FLOW METER 1-1/2"
LEACHATE LEVEL METER	WITH EPG SURE PUMP
HDPE - HIGH DENSITY POLYETHYLENE	
SICPE - SMOOTH INTERIOR CORRUGATED POLYETHYLENE	

LEACHATE SYSTEM DESIGN AND OPERATION NOTES:

1. SHEET 10 SHOWS THE FUTURE SUMP LOCATIONS. THIS DETAIL SHOWS THE DIMENSIONS OF A TYPICAL SUMP THAT WILL BE EXCAVATED WITHIN THE LOWEST CONTOUR OF EACH CELL WITH A SUMP. THE DIMENSIONS OF THE LOWEST CONTOUR WILL VARY WITHIN EACH CELL, HOWEVER THE TYPICAL SUMP SHOWN WILL BE EXCAVATED AT EACH SUMP LOCATION.
2. 6 OUNCE PER SQUARE YARD NON-WOVEN FILTER FABRIC WILL BE USED TO COVER THE AGGREGATE WITHIN EACH SUMP.
3. A LEACHATE LEVEL MONITORING SYSTEM WILL BE INSTALLED IN EACH SUMP. LEACHATE LEVELS WILL BE CHECKED EACH DAY BY A FACILITY EMPLOYEE.
4. THE LEACHATE SYSTEM WILL START AUTOMATICALLY AND LEACHATE WILL BE REMOVED VIA PUMPING PRIOR TO THE LEVEL OF LEACHATE REACHING AN ELEVATION OF 12 INCHES ABOVE THE BOTTOM OF THE LANDFILL OUTSIDE THE SUMPS.
5. THE LEACHATE IS APPLIED TO THE EXISTING ACTIVE WASTE DISPOSAL AREAS OF THE LANDFILL. LEACHATE FOR RECIRCULATION IS NOT DISTRIBUTED OUTSIDE THE ALDA LIMITS OF WASTE. THIS LEACHATE RECIRCULATION METHOD IS FOLLOWED EACH DAY WHERE SITE CONDITIONS AND WASTE RECEIPT ALLOW FOR RECIRCULATION.
6. THE RISER PIPE FOR SUMPS 3 AND 4 IN CELLS 6 AND 8 CAN BE USED TO COLLECT SAMPLES FOR DETERMINING LEACHATE QUALITY AND TO MONITOR LEACHATE LEVEL. THE LEACHATE COLLECTION RISER IS ACCESSIBLE FOR CLEANING VIA THE UPSTREAM END.
7. THE LEACHATE COLLECTION PIPE IS ACCESSIBLE FOR CLEANING VIA THE UPSTREAM END.
8. THE LEACHATE COLLECTION SYSTEM IS DESIGNED TO COLLECT LEACHATE WITHIN THE LIMITS OF DEBRIS PLACEMENT. THE LEACHATE PUMPS WILL OPERATE AUTOMATICALLY TO REMOVE LEACHATE AND ARE CAPABLE OF MAINTAINING LESS THAN ONE FOOT DEPTH OF LEACHATE OVER THE COMPACTED SUBGRADE, EXCLUDING THE IMMEDIATE AREA OF THE LEACHATE COLLECTION SUMP. (SEE NOTE 4).
9. SEE DESIGN CALCULATIONS AND OPERATIONS PLAN WITHIN THE LEACHATE COLLECTION, MONITORING, AND CONTINGENCY PLAN, REVISION 2 (FEBRUARY 2017).
10. SUMP NO.2 IN CELL 4 AND THE FUTURE SUMPS WILL HAVE ONE LEACHATE PUMP (FUTURE LEACHATE PUMPS TO BE LOCATED IN CELLS 6 AND 8).
11. WITHIN THE EXISTING AND FUTURE LEACHATE SUMPS AT THE FACILITY, THE 6-INCH OR 8-INCH DIAMETER LEACHATE COLLECTION PIPES WILL TERMINATE WITHIN THE LEACHATE AGGREGATE AT EACH SUMP. EACH PIPE WILL HAVE A PERFORATED END CAP. THERE WILL NOT BE ANY DIRECT PIPE CONNECTION BETWEEN THE LEACHATE COLLECTION PIPES AND THE PERFORATED SUMP RISER PIPES.
12. ALL FUTURE LEACHATE COLLECTION PIPES AND CLEANOUT PIPES WILL BE 6" DIAMETER.
13. 18" DIAMETER SIDE SLOPE RISERS ARE PLANNED FOR CELLS 6 AND 8 AS SHOWN IN DETAIL C.

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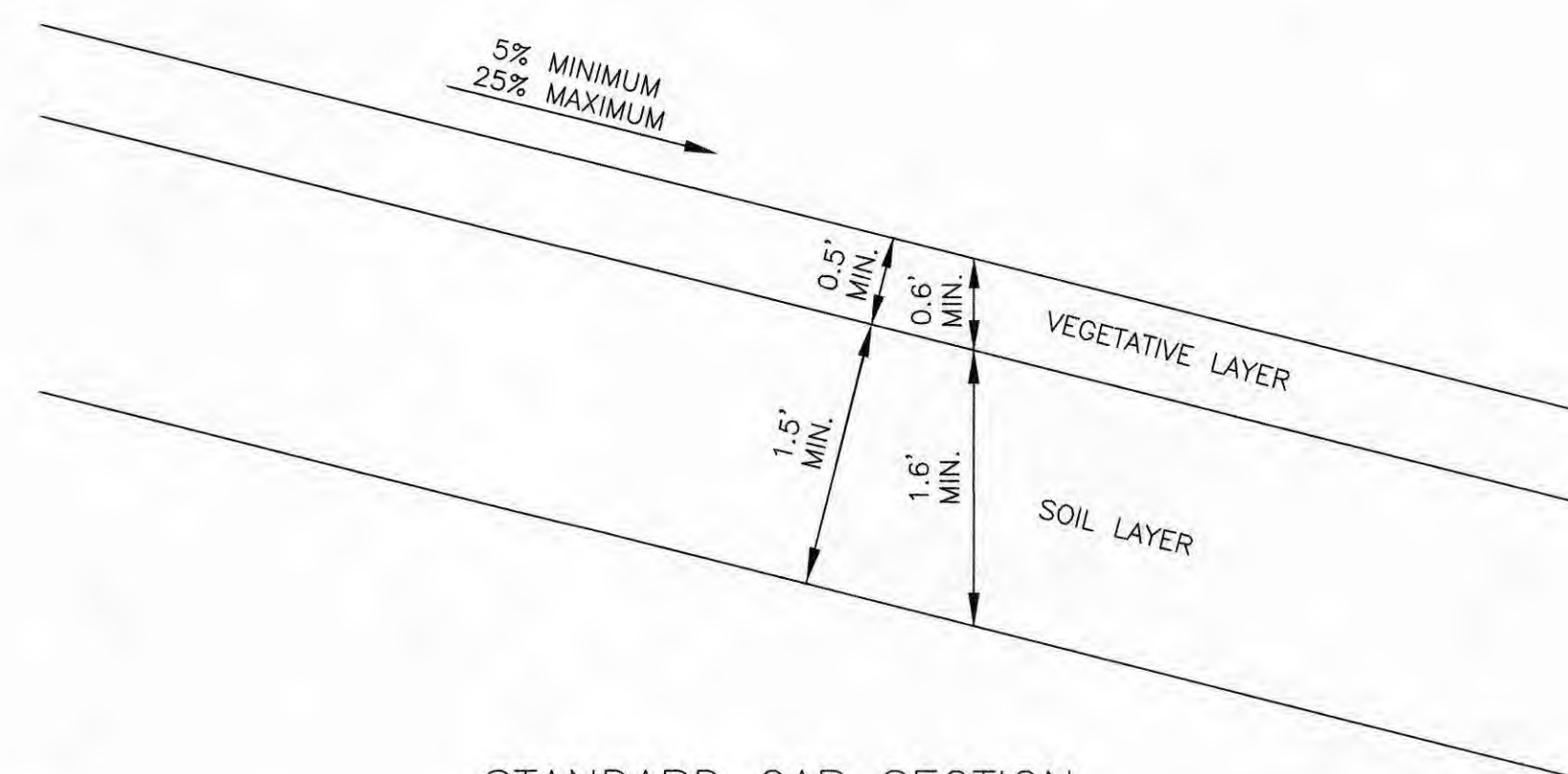
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LEACHATE COLLECTION SYSTEM DETAILS
CELLS 6 AND 8

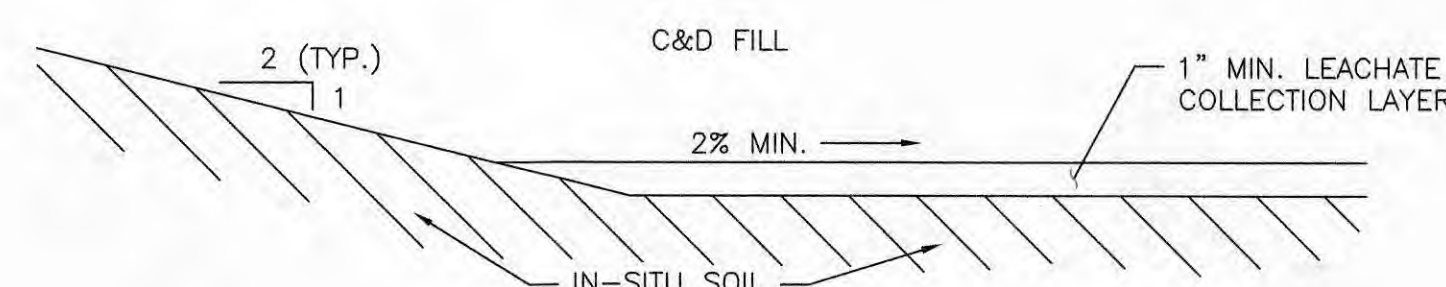
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SHEET NO.	OF
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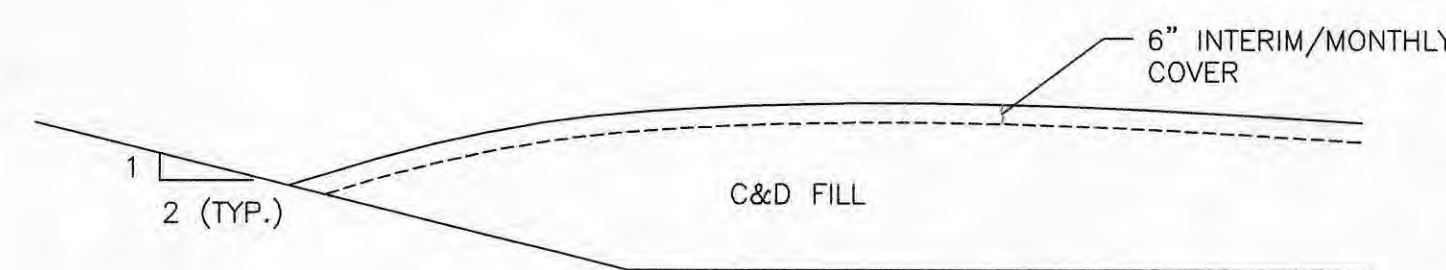
STANDARD CAP SECTION
SCALE: NONE

NOTES:

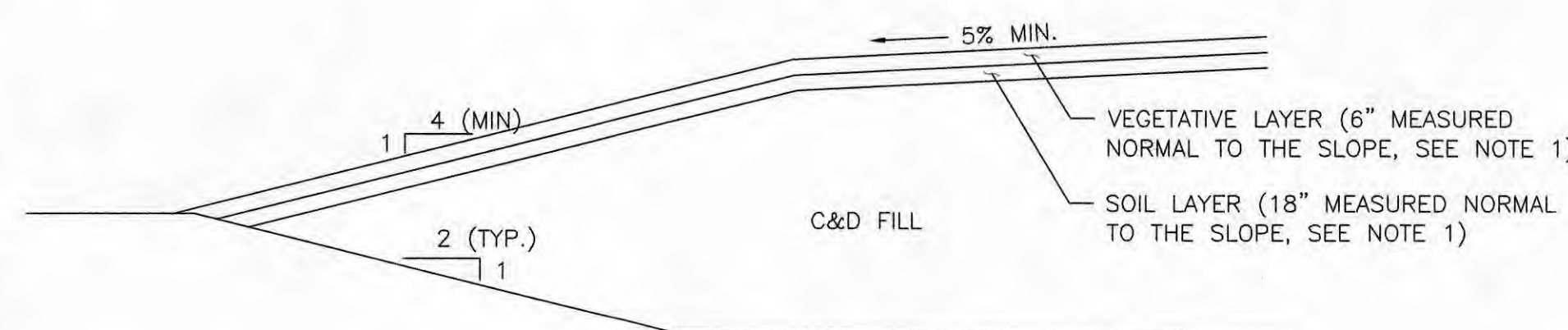
- FOR THICKNESS MEASUREMENTS THAT ARE NORMAL TO THE SLOPE, THE SOIL LAYER SHALL BE A MINIMUM OF 1.5 FEET THICK AND THE VEGETATIVE LAYER SHALL BE A MINIMUM OF 0.5 FEET THICK.
- IF THE LAYER THICKNESS IS MEASURED VERTICALLY, THE REQUIRED THICKNESS OF EACH LAYER WILL BE INCREASED BY 0.1 FOOT. (TO 1.6' AND 0.6')



STANDARD BOTTOM SECTION
SCALE: NONE



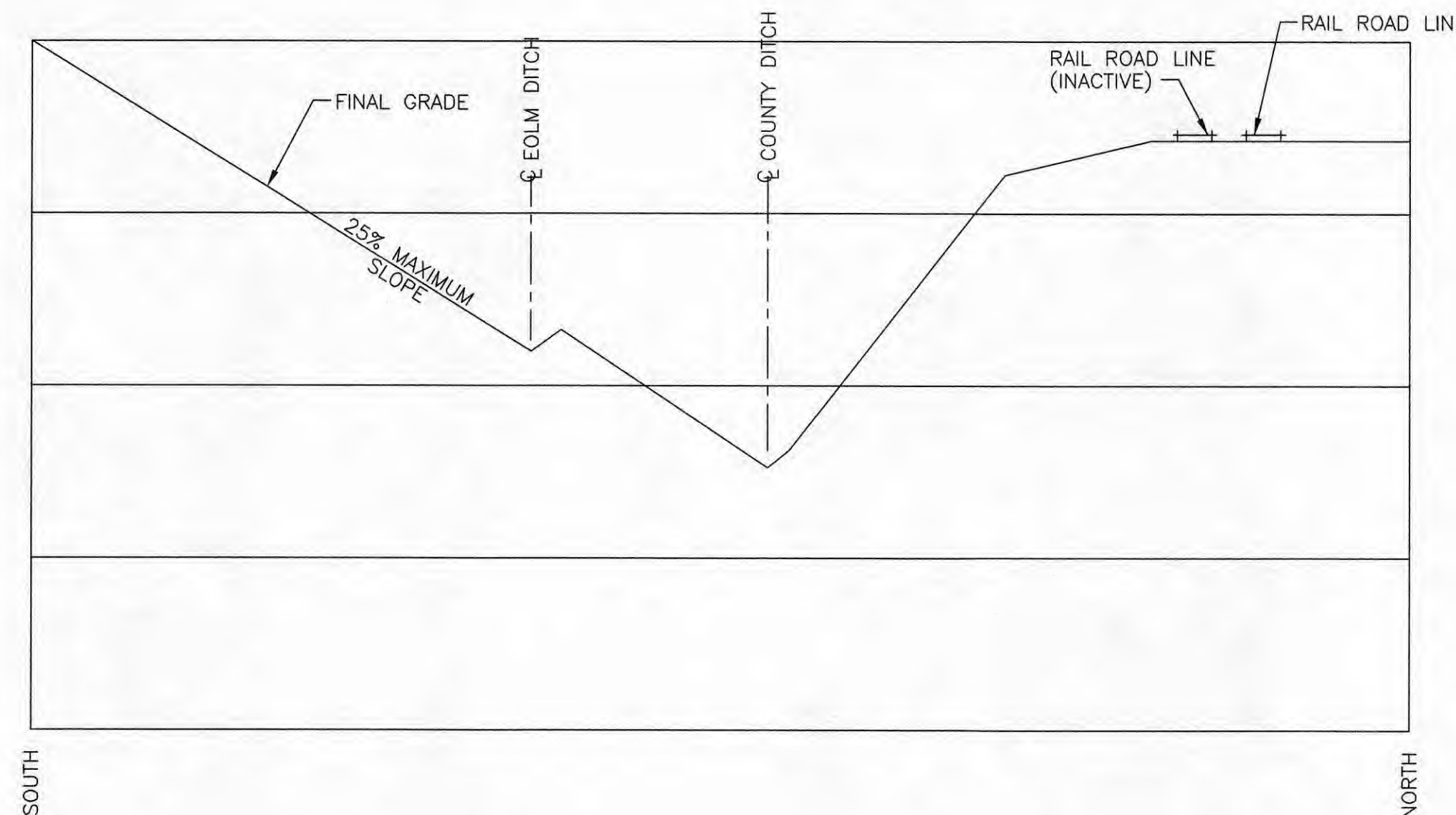
STANDARD SECTION - OPERATING CONDITIONS
SCALE: NONE



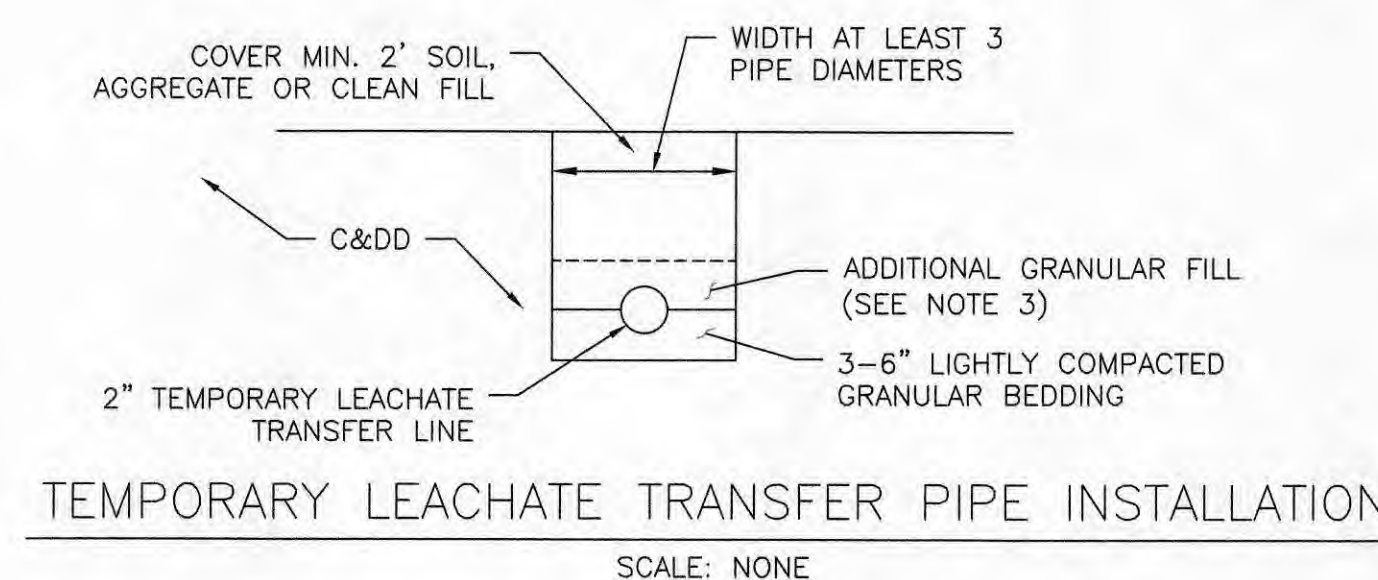
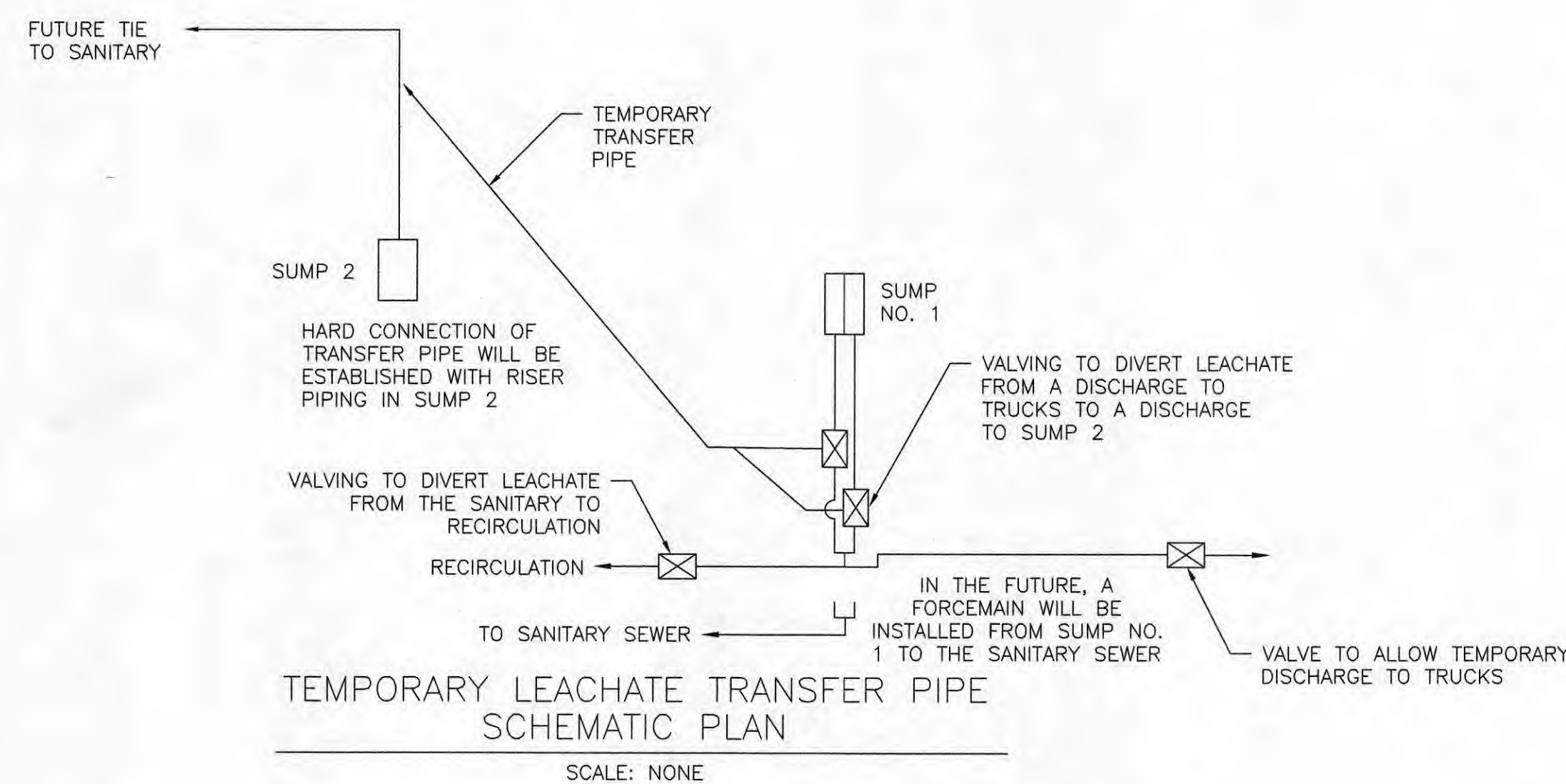
STANDARD SECTION - CLOSED CONDITIONS
SCALE: NONE

NOTES:

- FOR THICKNESS MEASUREMENTS THAT ARE NORMAL TO THE SLOPE, THE SOIL LAYER SHALL BE A MINIMUM OF 1.5 FEET THICK AND THE VEGETATIVE LAYER SHALL BE A MINIMUM OF 0.5 FEET THICK.
- IF THE LAYER THICKNESS IS MEASURED VERTICALLY, THE REQUIRED THICKNESS OF EACH LAYER WILL BE INCREASED BY 0.1 FOOT. (TO 1.6' AND 0.6')



TYPICAL DRAINAGE DITCH SECTION (NORTH SIDE OF PROPERTY)
(LOCATION SHOWN ON SHEET NO. 9 SECTIONS H, I, AND J)



NOTE:

- THE TEMPORARY LEACHATE TRANSFER PIPE WILL BE TRENCHED INTO THE C&D.
- THE TRENCH WILL BE BACKFILLED WITH AGGREGATE, SOIL OR CLEAN HARD FILL, AFTER WHICH C&D LANDFILLING WILL CONTINUE OVER THE TOP.
- AT THE LOCATION OF PIPE ELBOWS OR BENDS IN THE PIPE ALIGNMENT, ADDITIONAL GRANULAR BEDDING WILL BE PLACED AROUND AND OVER THE PIPE A MINIMUM OF 6 INCHES TO PROVIDE THRUST PROTECTION.
- THE TRANSFER LINE WILL BE ABANDONED IN PLACE AFTER USE.

STANDARD CAP SYSTEM SPECIFICATIONS

1. STANDARD CAP SYSTEM WILL BE USED ON ALL AREAS OF DEBRIS PLACEMENT.

2. SOIL LAYER

A. GRADATION:	SIZE	PERCENT SMALLER
	6"	100%
	3"	95%
	#4 SIEVE	75%
	#200 SIEVE	50%

B. PLASTICITY: SOIL SHALL POSSESS PLASTICITY PROPERTIES LYING ABOVE THE A-LINE IN THE USCS OR, HAVE AT LEAST 15% CLAY SIZE PARTICLES BY WEIGHT (0.002 INCH OR FINER)

C. SOIL MAY BE ALTERNATIVE TYPE ACCEPTABLE TO THE LICENSING AUTHORITY.

D. SOIL SHALL NOT BE COMPRISED OF SOLID WASTE OR CONSTRUCTION AND DEMOLITION DEBRIS.

E. THICKNESS: CONSTRUCTED USING LOOSE LIFTS 12" THICK OR LESS. TOTAL THICKNESS OF THE SOIL LAYER SHALL BE A MINIMUM OF 18 INCHES AS MEASURED NORMAL TO THE SLOPE.

F. COMPACTION: THE COMPACTED DENSITY OF THE RECOMPACTED SOIL LAYER SHALL BE DEMONSTRATED:

- BY PROOF ROLLING WITH A PNEUMATIC TIRE OR SMOOTH STEEL DRUM ROLLER PROVIDING AT LEAST 65 PSI CONTACT PRESSURE, OR
- AT LEAST 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY AT A FREQUENCY OF AT LEAST 5 TIMES PER ACRE PER LIFT, OR
- AT LEAST 90% OF THE MAXIMUM MODIFIED PROCTOR DENSITY AT A FREQUENCY OF AT LEAST 5 TIMES PER ACRE PER LIFT.
- IF THE MAXIMUM OR STANDARD PROCTOR DENSITY IS TO BE USED TO DEMONSTRATE COMPACTION, THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT ALSO BE ESTABLISHED BY METHOD ASTM D 698 OR ASTM D 1557 AT LEAST ONCE FOR EVERY 5000 CUBIC YARDS OF SOIL PRIOR TO USE.

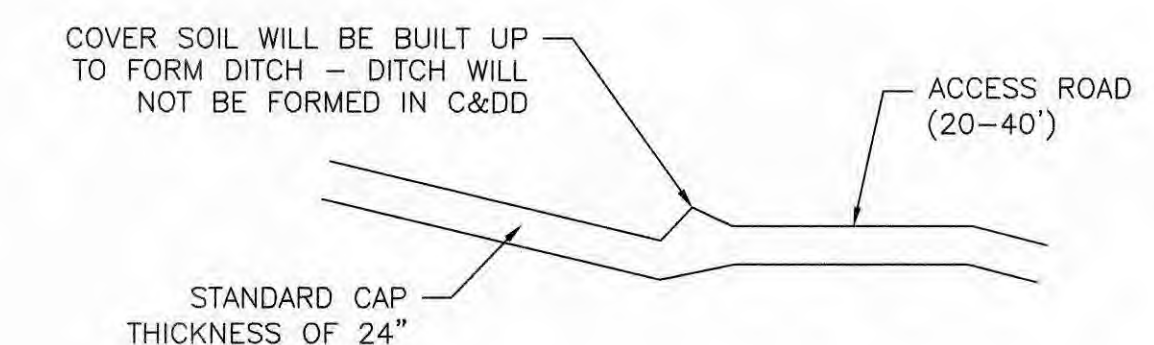
3. VEGETATIVE LAYER

A. THICKNESS: VEGETATIVE LAYER SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES AS MEASURED NORMAL TO THE SLOPE. IF THE LAYER THICKNESS IS MEASURED VERTICALLY, THE REQUIRED THICKNESS WILL BE INCREASED 0.1 FOOT.

B. FERTILITY: SOIL SHALL HAVE SUFFICIENT FERTILITY TO SUPPORT DENSE VEGETATION.

4. A COMPLETE AND DENSE PERENNIAL VEGETATIVE COVER OF HEALTHY GRASSES OR OTHER VEGETATION SHALL BE ESTABLISHED AND MAINTAINED ON ALL EXPOSED FINAL COVER.

5. THE STANDARD CAP SHALL HAVE A MINIMUM SLOPE OF 3 PERCENT AND A MAXIMUM SLOPE OF 25 PERCENT AND SHALL BE GRADED TO ELIMINATE PONDING, PROMOTE DRAINAGE, AND MINIMIZE EROSION.



TYPICAL SURFACE WATER DRAINAGE DITCH SECTION (ALONG HAUL ROAD)

SCALE: NONE

P:\PR29733\CADD\2018 COMPLIANCE PLAN\16 GENERAL DETAILS.DWG

NO.	REVISIONS	DATE	BY	CHK.

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GENERAL DETAILS

SCALE:

AS NOTED

SHEET NO.

16

OF

16