

SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION

PREPARED FOR:
DEPARTMENT OF SOLID WASTE
MANAGEMENT OF SHENANDOAH COUNTY
349 LANDFILL ROAD
EDINBURG, VA 22824

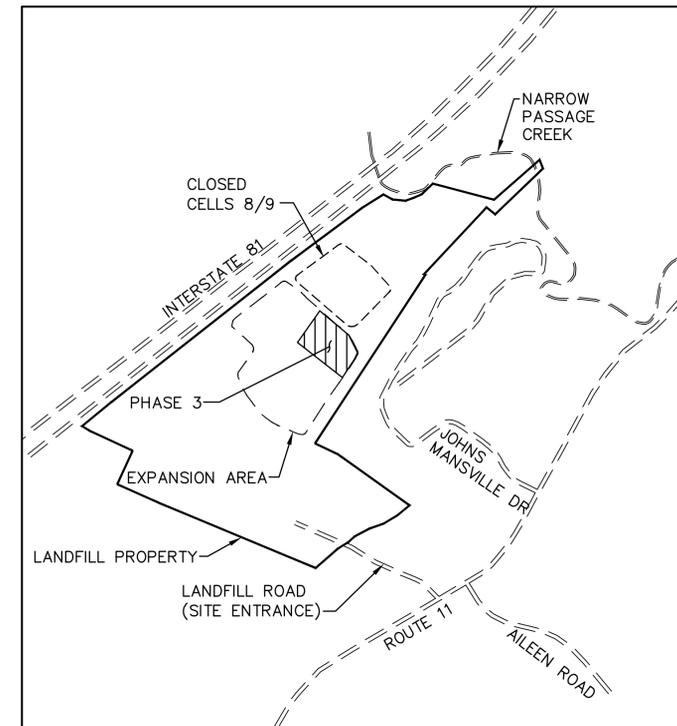
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PREPARED BY:
SCS ENGINEERS

11260 ROGER BACON DRIVE, SUITE 300
RESTON, VA 20190
(703) 471-6150

MAY 22, 2015



LOCATION MAP
NOT TO SCALE



NO.	REVISION	DATE
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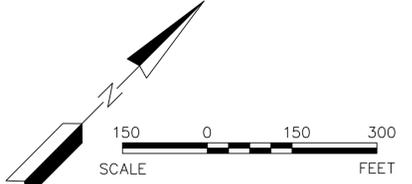
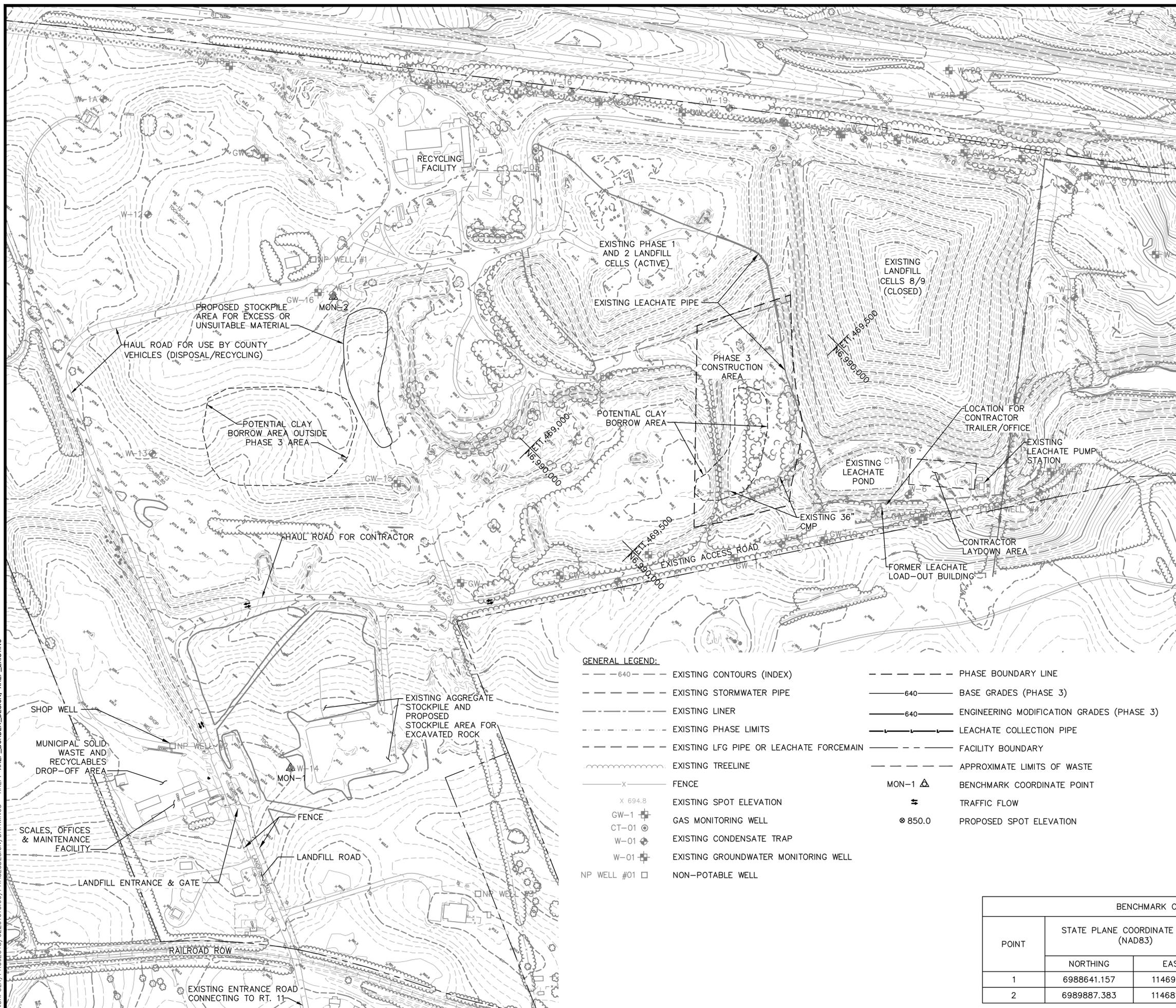
COVER SHEET	SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION
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CLIENT	SHENANDOAH COUNTY DEPT. OF SOLID WASTE MANAGEMENT 349 LANDFILL ROAD EDINBURG, VA 22824
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SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 6830 N. CENTER DRIVE, NORFOLK, VA 23502 PH. (757) 466-3361 FAX. (757) 257-6349	DATE: DCC CHK: PAM APP: AST
PROJ. NO.: 02201010.00 DATE: 05/22/15	DATE: DCC CHK: PAM APP: AST

CADD FILE: SHT01-COVER
DATE: MAY 2015
SCALE: AS SHOWN
DRAWING NO.

NORFOLK/PROJECTS/02201010.00/PHASE3/DESIGN/DRAWINGS XREF: XREF_BORDER_DESIGN, XREF_EXISTING



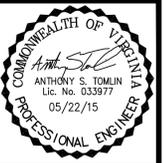
- GENERAL NOTES:**
1. ALL CONSTRUCTION METHODS AND MATERIALS WILL CONFORM TO THE PROJECT SPECIFICATIONS AND ANY OTHER APPLICABLE CITY OR STATE ORDINANCES, CODES, AND LAWS.
 2. PRIOR TO CONSTRUCTION OR EXCAVATION, THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA OF CONSTRUCTION. A MINIMUM OF 72 HOURS PRIOR TO EXCAVATING "MISS UTILITY" OF VIRGINIA MUST BE CONTACTED. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY EXISTING UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION, AT THEIR OWN EXPENSE.
 3. TOPOGRAPHIC INFORMATION WAS COMPILED BY LOUISA AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY DATED 3/15/2013 IN THE PHASE 3 AREA, EXISTING PHASE 1 AND 2 AREA, AND CLOSED CELLS 8/9 AREA. TOPOGRAPHIC INFORMATION FOR OTHER AREAS WAS COMPILED BY AIR SURVEY FROM AERIAL PHOTOGRAPHY DATED 4/28/2004.
 4. LINER LIMITS BASED ON AS-BUILT INFORMATION. VERIFY LINER LIMITS IN PHASE 2 TIE-IN AREA.
 5. THE COORDINATES SHOWN HEREON ARE BASED UPON THE VIRGINIA STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD, 1983 (HORIZ.) & NAVD, 1988 (VERT.).
 6. CONTRACTOR SHALL PROTECT, WELLS AND ASSOCIATED SITE FEATURES DURING CONSTRUCTION. WELLS OR SITE FEATURES DAMAGED BY CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED BY CONTRACTOR AT NO EXPENSE TO COUNTY.
 7. LINER DAMAGED BY CONTRACTOR OPERATIONS SHALL BE REPAIRED BY CONTRACTOR AT NO EXPENSE TO COUNTY.
 8. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING TEMPORARY ROADS AND/OR TEMPORARILY BRIDGING CHANNELS TO ACCESS THE PHASE 3 AREA.

GENERAL LEGEND:

--- 640 ---	EXISTING CONTOURS (INDEX)	---	PHASE BOUNDARY LINE
---	EXISTING STORMWATER PIPE	--- 640 ---	BASE GRADES (PHASE 3)
---	EXISTING LINER	--- 640 ---	ENGINEERING MODIFICATION GRADES (PHASE 3)
---	EXISTING PHASE LIMITS	---	LEACHATE COLLECTION PIPE
---	EXISTING LFG PIPE OR LEACHATE FORCEMAIN	---	FACILITY BOUNDARY
---	EXISTING TREELINE	---	APPROXIMATE LIMITS OF WASTE
X	FENCE	MON-1 Δ	BENCHMARK COORDINATE POINT
X 694.8	EXISTING SPOT ELEVATION	≠	TRAFFIC FLOW
GW-1	GAS MONITORING WELL	⊙ 850.0	PROPOSED SPOT ELEVATION
CT-01	EXISTING CONDENSATE TRAP		
W-01	EXISTING GROUNDWATER MONITORING WELL		
NP WELL #01	NON-POTABLE WELL		

BENCHMARK COORDINATE LISTING

POINT	STATE PLANE COORDINATE SYSTEM (NAD83)		ELEVATION	DESCRIPTION
	NORTHING	EASTING		
1	6988641.157	11469191.875	919.660	MON-1
2	6989887.383	11468154.425	910.380	MON-2



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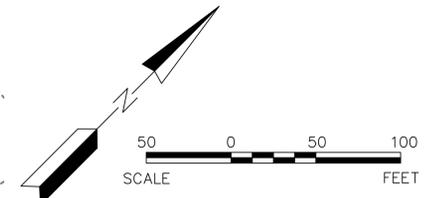
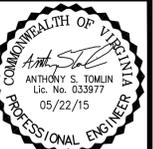
SHEET TITLE: **EXISTING SITE PLAN**
 PROJECT TITLE: **SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION**

CLIENT: **SHENANDOAH COUNTY DEPT. OF SOLID WASTE MANAGEMENT**
 349 LANDFILL ROAD
 EDINBURG, VA 22824

SCS ENGINEERS
 STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC.
 6350 N. CENTER DRIVE, NORFOLK, VA 23502
 PH. (757) 466-3361 FAX. (757) 257-6349

PROJ. NO. 02201010.00
 DATE: 05/22/15
 D/A RW BY: PAM
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 DESK BY: PAM

CADD FILE: **SHT02-EXISTING**
 DATE: **MAY 2015**
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- NOTES:**
- CONTRACTOR SHALL REMOVE FROM THE PHASE 3 AREA THE EXISTING GRAVITY LEACHATE PIPES COMING FROM PHASE 1 AND 2. UNTIL THE PIPES FROM PHASE 1 AND 2 ARE CONNECTED TO NEW PIPING IN THE COMPLETED PHASE 3 AREA, THE CONTRACTOR SHALL PUMP LEACHATE FROM THE PIPES TO THE LEACHATE POND. EXISTING PIPE TO NEW PIPE CONNECTIONS ARE PROVIDED IN (5/3/9)
 - FOR THE REMAINING GRAVITY LEACHATE PIPE BETWEEN PHASE 3 AND THE LEACHATE POND DISCHARGE, CONTRACTOR SHALL REMOVE PIPE A MINIMUM OF 10'-FT BEYOND THE PHASE 3 LIMITS. PERMANENTLY CAP BOTH ENDS OF THE PIPE. DO NOT DISTURB THE LEACHATE POND LINER.
 - DURING PUMPING OPERATIONS, LEACHATE LEVEL SHALL NOT BE ALLOWED TO RISE ABOVE THE CROWN OF LEACHATE (PERFORATED) PIPE.
 - EXISTING PHASE 1 AND 2 LINER LIMITS AND ELEVATIONS FOR TIE-IN TO THE EXISTING LINER SYSTEM ARE APPROXIMATE. CONTRACTOR SHALL INVESTIGATE AHEAD OF CONSTRUCTION TO VERIFY ELEVATIONS AND TIE-IN LOCATIONS. SLOPES AT TIE-IN LOCATIONS SHALL NOT BE STEEPER THAN 3H:1V.
 - BEARING AND CURVE INFORMATION FOR THE LOCATION OF THE LIMITS OF PHASE 3 (ANCHOR TRENCH) IS PROVIDED IN THE PHASE 3 ANCHOR TRENCH TABLE BELOW. NORTHING AND EASTING INFORMATION IS PROVIDED AT SELECT POINTS.
 - EROSION CONTROL MEASURES ILLUSTRATED ON SHEET 12.
 - ROCK ENCOUNTERED WITHIN THE PHASE 3 LIMITS SHALL BE REMOVED AND THE AREA RESTORED PER (2/3/10)
 - SOLUTION FEATURES ENCOUNTERED WITHIN THE PHASE 2 LIMITS SHALL BE REPAIRED PER (3/10)
 - TRENCHES FOR LEACHATE PIPE NOT SHOWN.

PHASE 3 ANCHOR TRENCH			
ID	LENGTH	BEARING OR DELTA	RADIUS
C1	39.46	88.94	25.42
C2	171.16	1.39	7075.53
C3	21.54	4.41	279.63
C4	54.65	13.06	239.80
L1	691.15	S44° 06' 27.11"E	
L2	108.63	N34° 25' 58.35"E	
L3	106.18	N30° 23' 44.86"E	
L4	96.18	N31° 19' 04.50"E	
L5	10.37	N36° 15' 16.62"W	
L6	35.62	N38° 27' 34.86"W	
L7	103.80	N55° 28' 47.31"W	
L8	55.76	N51° 20' 54.41"W	
L9	93.51	N49° 13' 17.52"W	
L10	163.33	N46° 42' 04.19"W	

NORFOLK/PROJECTS/02201010.00/PHASE3DESIGN/DRAWINGS XREF: XREF_BORDER_DESIGN, XREF_EXISTING, XREF_PROPOSED

DATE	REVISION	NO.
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SHEET TITLE
BASE GRADING PLAN

PROJECT TITLE
SHENANDOAH COUNTY LANDFILL
PHASE 3 CONSTRUCTION

CLIENT
SHENANDOAH COUNTY DEPT.
OF SOLID WASTE MANAGEMENT
349 LANDFILL ROAD
EDINBURG, VA 22824

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STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
6350 N. CENTER DRIVE, NORFOLK, VA 23502
PH. (757) 466-3361 FAX. (757) 257-6549

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DATE: 05/22/15
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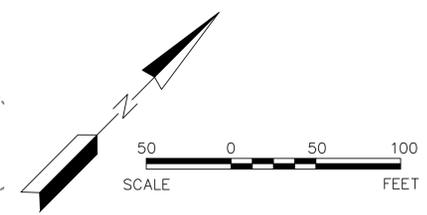
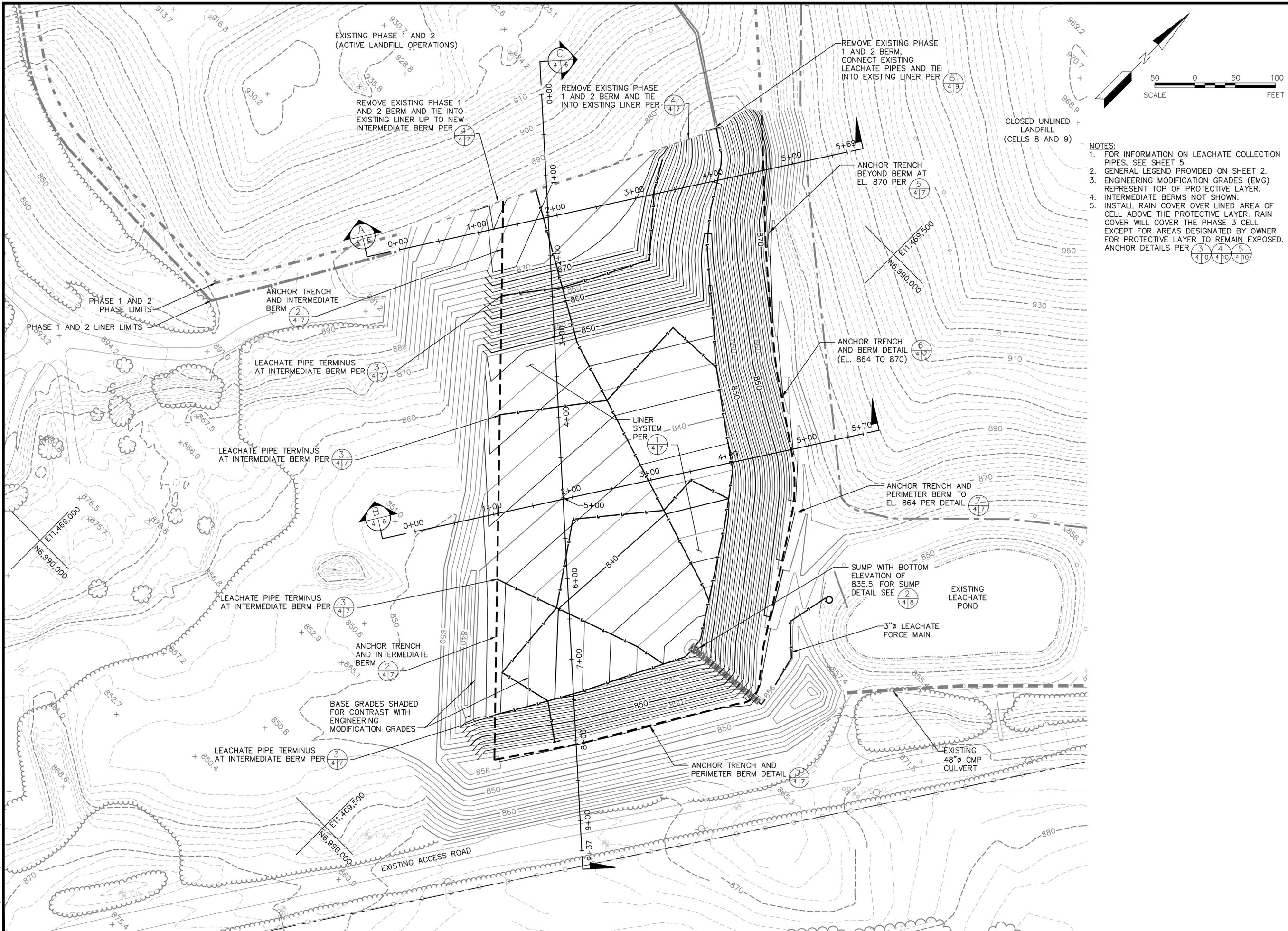
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DATE:
MAY 2015

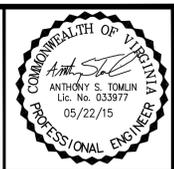
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3 of 14

NORFOLK/PROJECTS/02201010.00/PHASE3DESIGN/DRAWINGS XREF: XREF_BORDER_DESIGN, XREF_EXISTING, XREF_PROPOSED



- NOTES:**
1. FOR INFORMATION ON LEACHATE COLLECTION PIPES, SEE SHEET 5.
 2. GENERAL LEGEND PROVIDED ON SHEET 2.
 3. ENGINEERING MODIFICATION GRADES (EMG) REPRESENT TOP OF PROTECTIVE LAYER.
 4. INTERMEDIATE BERMS NOT SHOWN.
 5. INSTALL RAIN COVER OVER LINED AREA OF CELL ABOVE THE PROTECTIVE LAYER. RAIN COVER WILL COVER THE PHASE 3 CELL EXCEPT FOR AREAS DESIGNATED BY OWNER FOR PROTECTIVE LAYER TO REMAIN EXPOSED. ANCHOR DETAILS PER (3) 410, (4) 410, (5) 410



DATE	REVISION	NO.
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SHEET TITLE: **ENGINEERING MODIFICATION PLAN**
 PROJECT TITLE: **SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION**

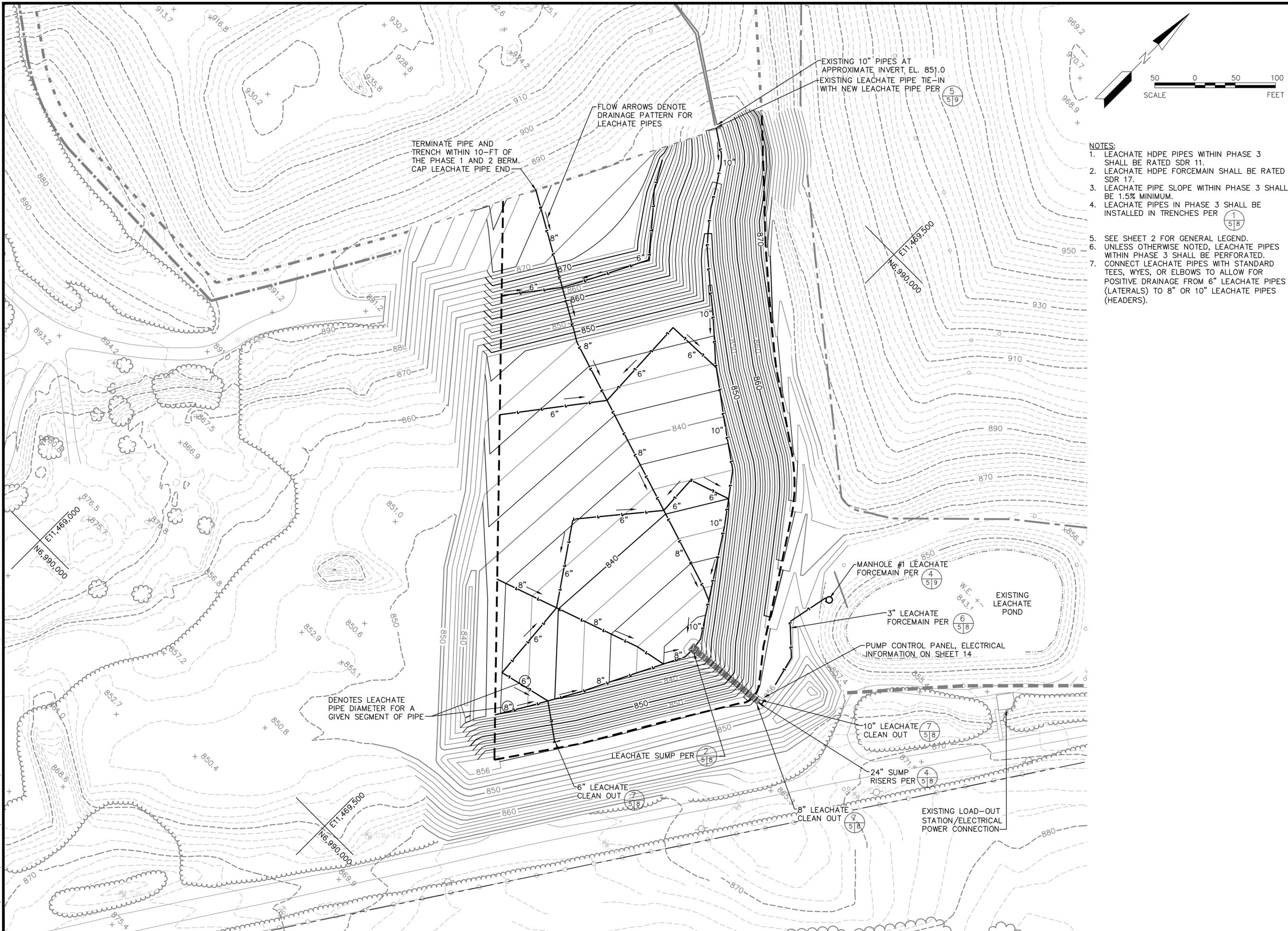
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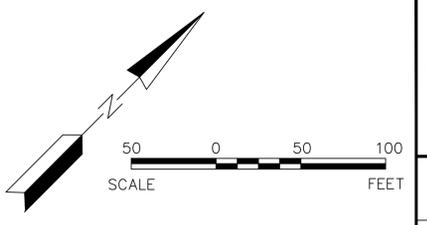
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CADD FILE: **SHT04-ENGMOD**
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 SCALE: **AS SHOWN**

NORFOLK/PROJECTS/02201010.00/PHASE3/DESIGN/DRAWINGS XREF: XREF_BORDER_DESIGN, XREF_EXISTING, XREF_PROPOSED



- NOTES:
1. LEACHATE HDPE PIPES WITHIN PHASE 3 SHALL BE RATED SDR 11.
 2. LEACHATE HDPE FORCEMAIN SHALL BE RATED SDR 17.
 3. LEACHATE PIPE SLOPE WITHIN PHASE 3 SHALL BE 1.5% MINIMUM.
 4. LEACHATE PIPES IN PHASE 3 SHALL BE INSTALLED IN TRENCHES PER (1/58)
 5. SEE SHEET 2 FOR GENERAL LEGEND.
 6. UNLESS OTHERWISE NOTED, LEACHATE PIPES WITHIN PHASE 3 SHALL BE PERFORATED.
 7. CONNECT LEACHATE PIPES WITH STANDARD TEES, WYES, OR ELBOWS TO ALLOW FOR POSITIVE DRAINAGE FROM 6" LEACHATE PIPES (LATERALS) TO 8" OR 10" LEACHATE PIPES (HEADERS).



DATE	REVISION	NO.
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SHEET TITLE
LEACHATE PIPING PLAN

PROJECT TITLE
**SHENANDOAH COUNTY LANDFILL
PHASE 3 CONSTRUCTION**

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**SHENANDOAH COUNTY DEPT.
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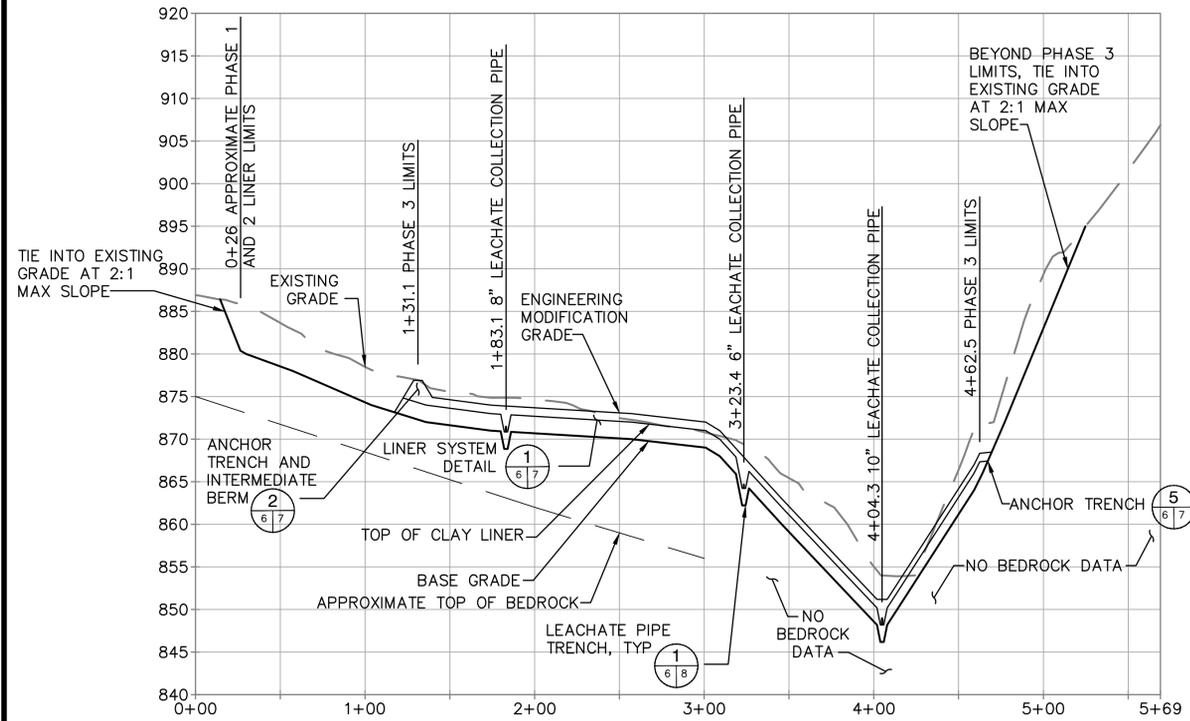
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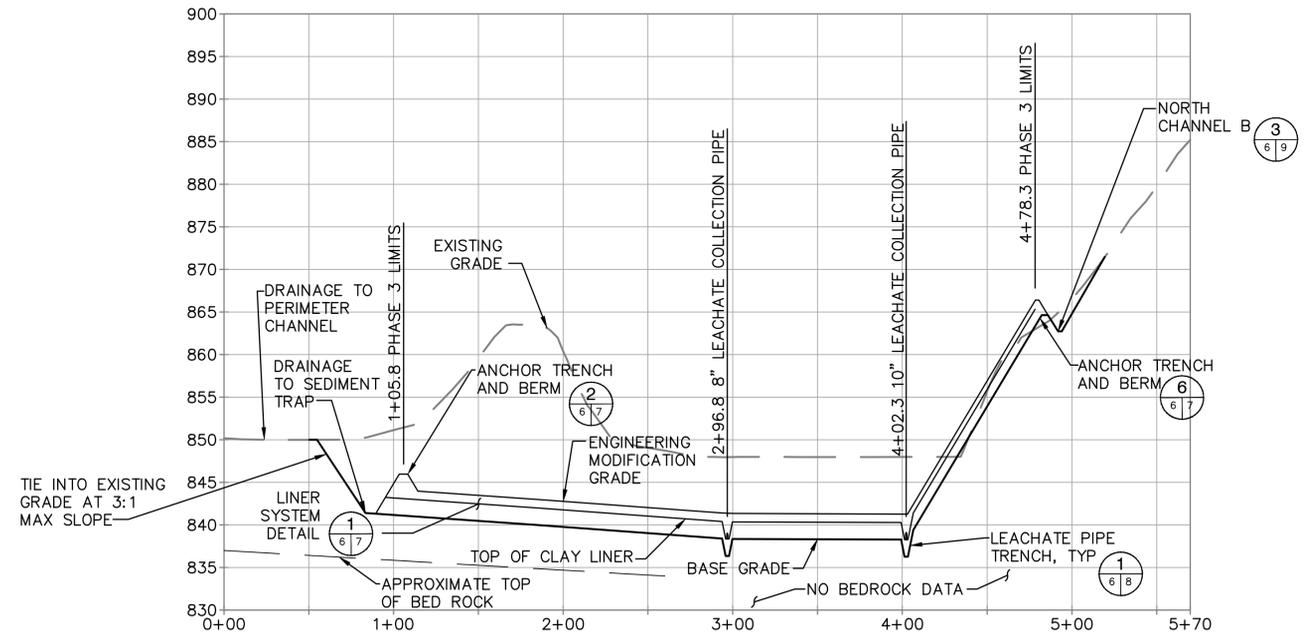
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MAY 2015

SCALE:
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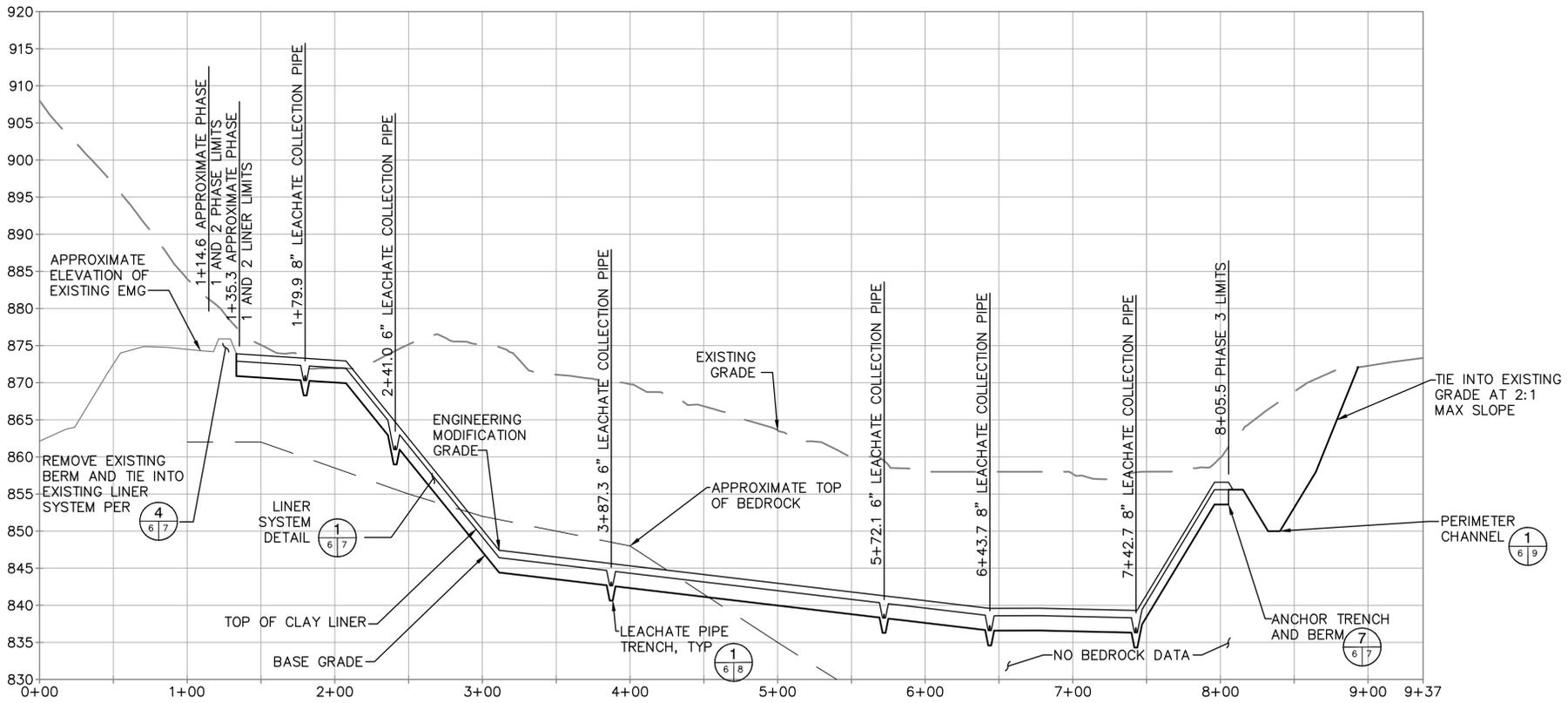
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SECTION **A**
3,4 6

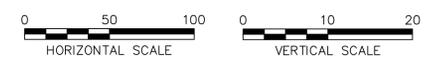


SECTION **B**
3,4 6



SECTION **C**
3,4 6

- NOTES:
- EXISTING PHASE 1 AND 2 BERM IS BETWEEN THE PHASE 1 AND 2 PHASE LIMITS (LIMITS OF WASTE) AND THE PHASE 1 AND 2 LINER LIMITS.
 - TOP OF BEDROCK APPROXIMATED FROM PROFILES PROVIDED IN THE LANDFILL PERMIT DRAWINGS. ACTUAL TOP OF BEDROCK WILL VARY IN FIELD AND ROCK PINNACLES/OUTCROPS HAVE BEEN ENCOUNTERED IN PAST CELL CONSTRUCTION.



NO.	REVISION	DATE

SHEET TITLE: **CROSS SECTIONS**
PROJECT TITLE: **SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION**

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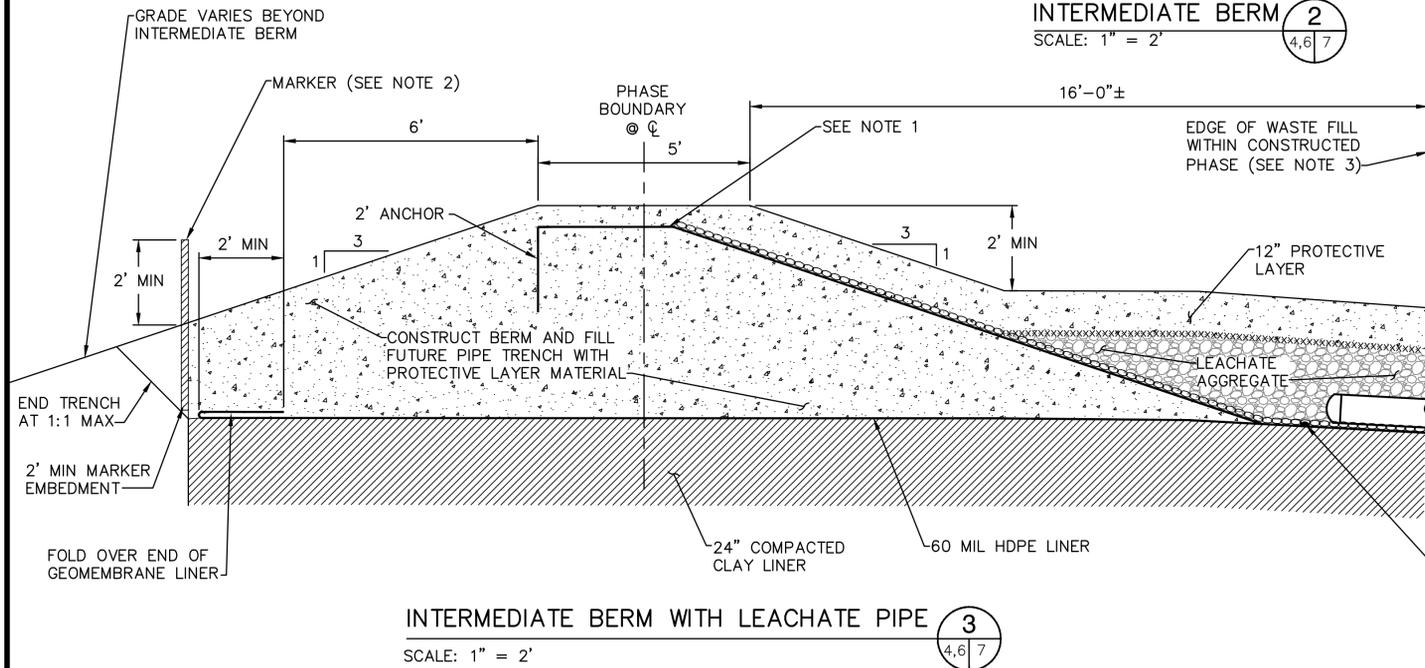
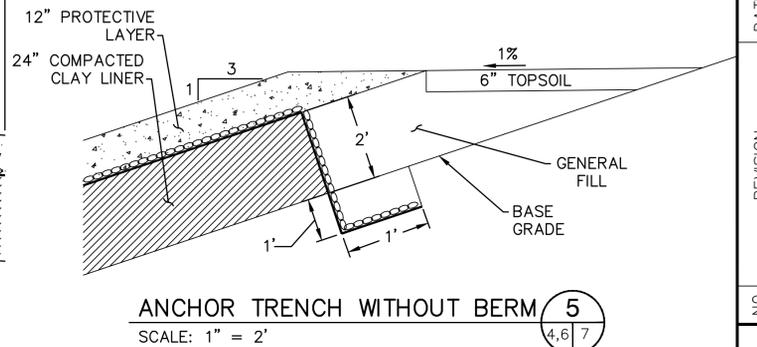
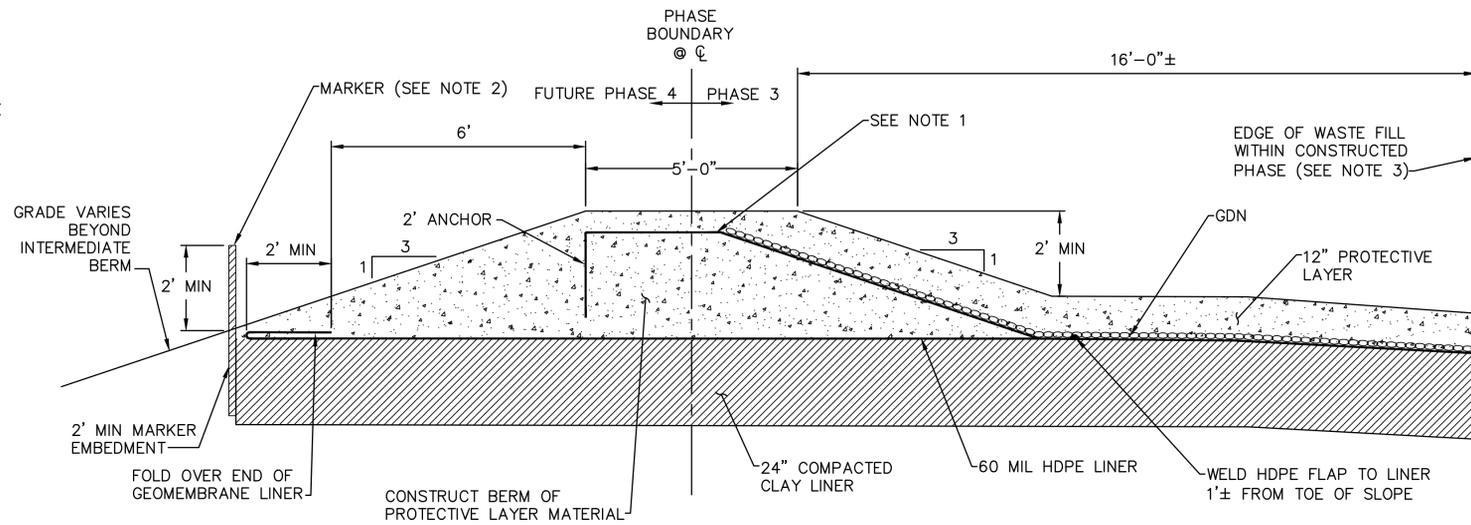
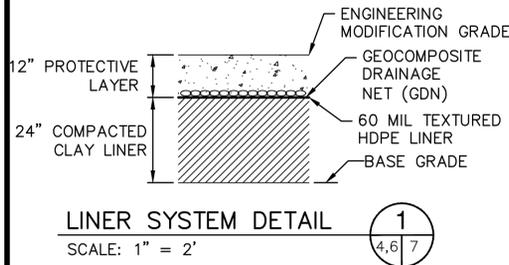
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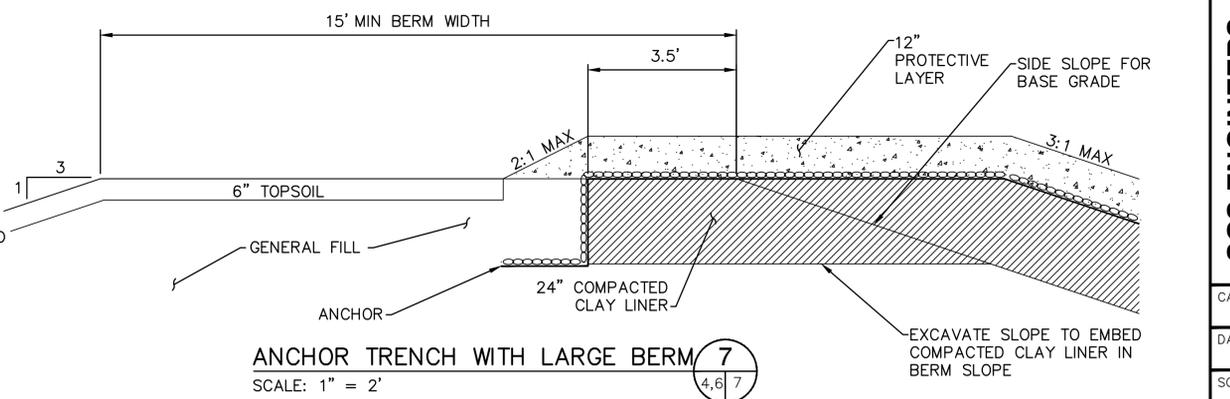
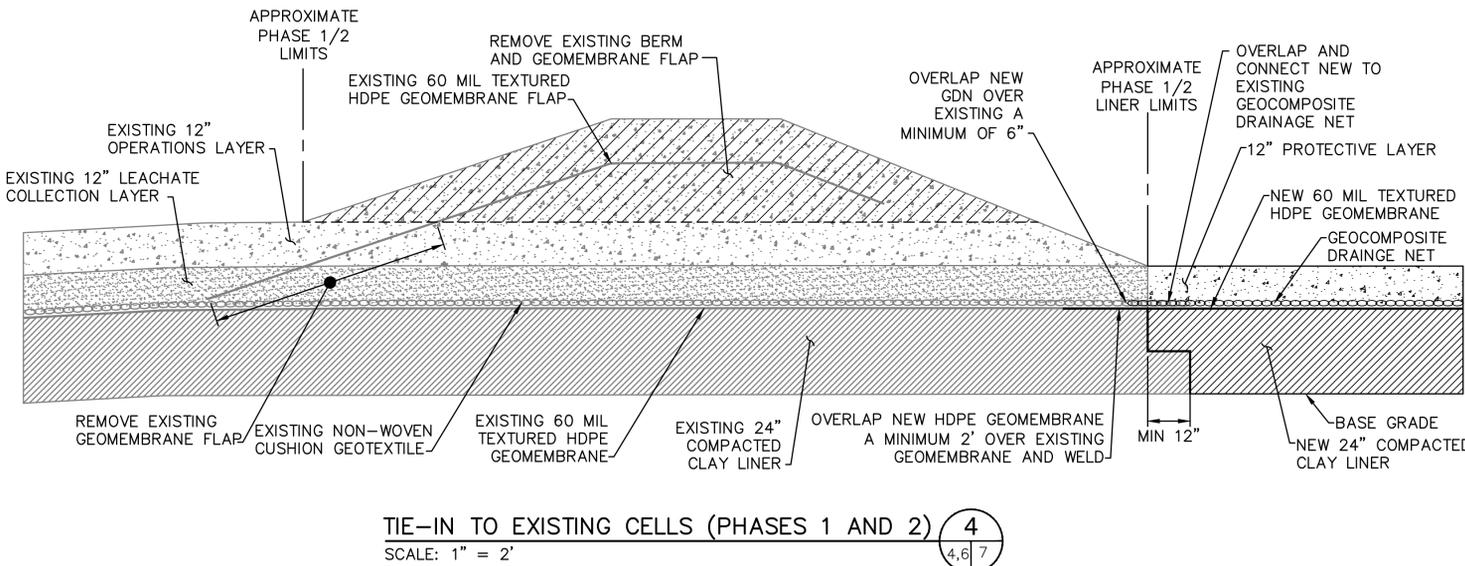
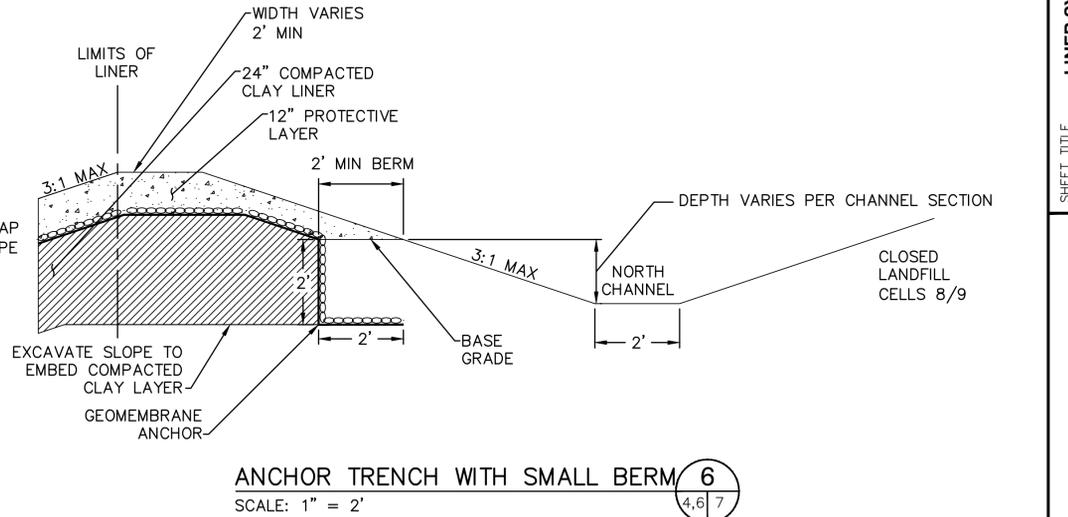
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- INTERMEDIATE BERM NOTES:**
- FLAP SHALL BE LABELED WITH INDELIBLE MARKER AT 25' INTERVALS: "REMOVABLE FLAP NOT PART OF LINER SYSTEM." WELD FLAP TO 60 MIL TEXTURED HDPE LINER.
 - MARKERS SHALL BE 2" DIA. STD. STEEL PIPE AT 50' INTERVALS PAINTED FLUORESCENT ORANGE & LABELED: "GEOMEMBRANE LINER EDGE."
 - PLACE LOW-PROFILE BARRIERS ALONG INTERMEDIATE BERMS AT A SPACING OF 50 FEET ON CENTER. BARRIER SHALL BE PLASTIC JERSEY MODEL JB-10 OR APPROVED EQUAL. FILL WITH WATER. MAKE PLACEMENT AFTER RAIN COVER IS INSTALLED.



NORFOLK/PROJECTS/02201010.00/PHASE3DESIGN/DRAWINGS XREF: XREF_BORDER_DESIGN

DATE	REVISION	NO.

SHEET TITLE
LINER SYSTEM DETAILS

PROJECT TITLE
SHENANDOAH COUNTY LANDFILL
PHASE 3 CONSTRUCTION

CLIENT
SHENANDOAH COUNTY DEPT.
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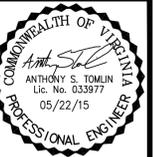
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CADD FILE:
SHT07-LINER

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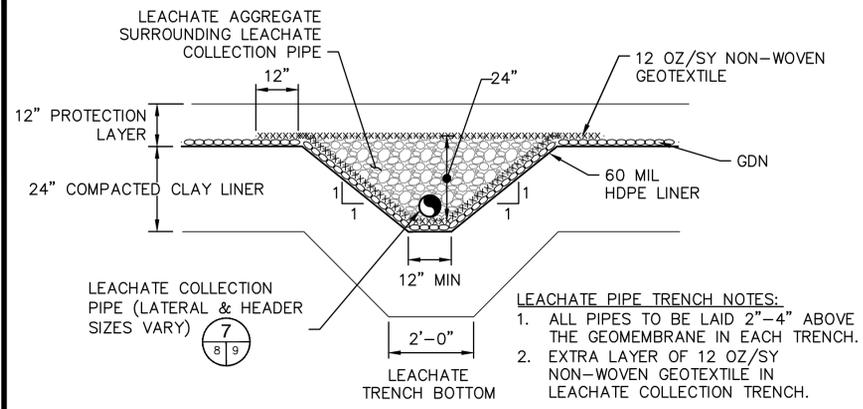
DATE	
REVISION	
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SHEET TITLE: LEACHATE COLLECTION, SUMP, AND CONVEYANCE DETAILS
 PROJECT TITLE: SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION

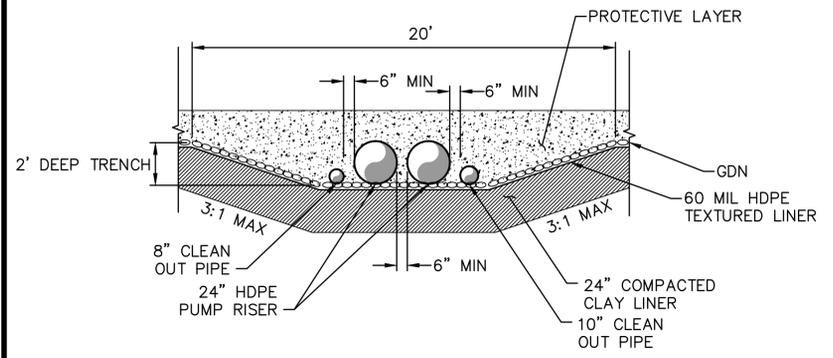
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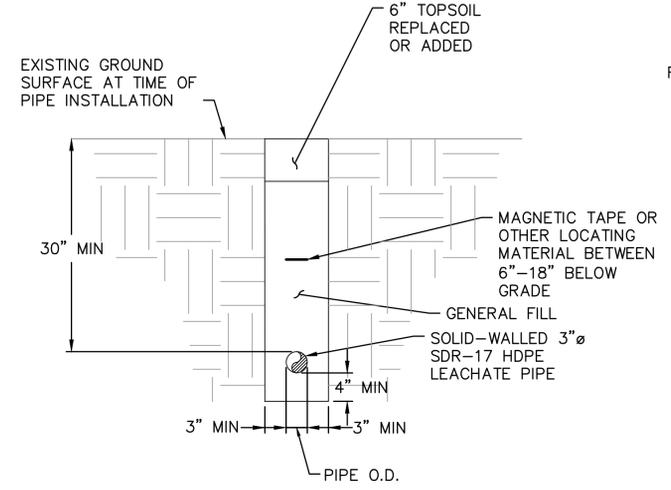
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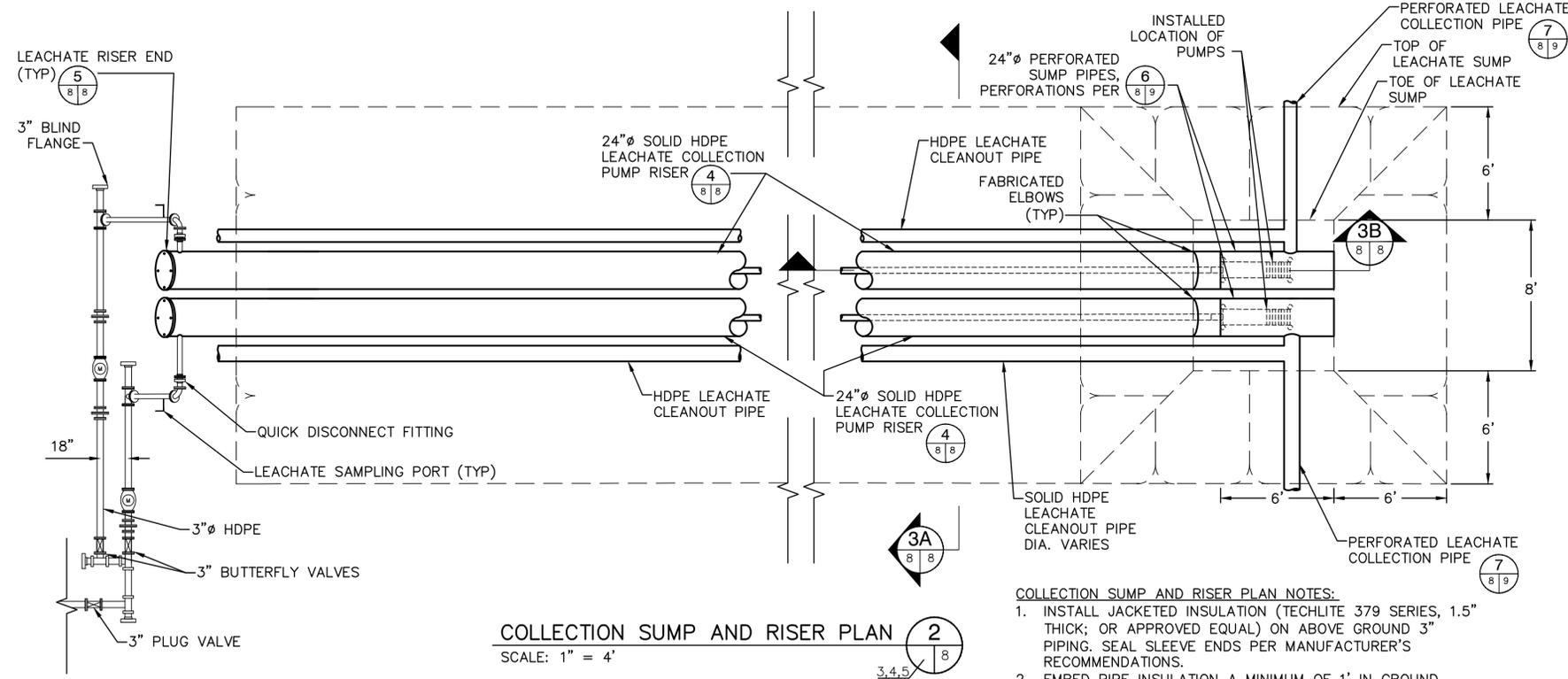
LEACHATE PIPE TRENCH (IN PHASE 3)
 SCALE: 1" = 2'
 1 5,6 8



TYPICAL LEACHATE SIDESLOPE RISER SECTION
 SCALE: 1" = 4'
 3A 8 8

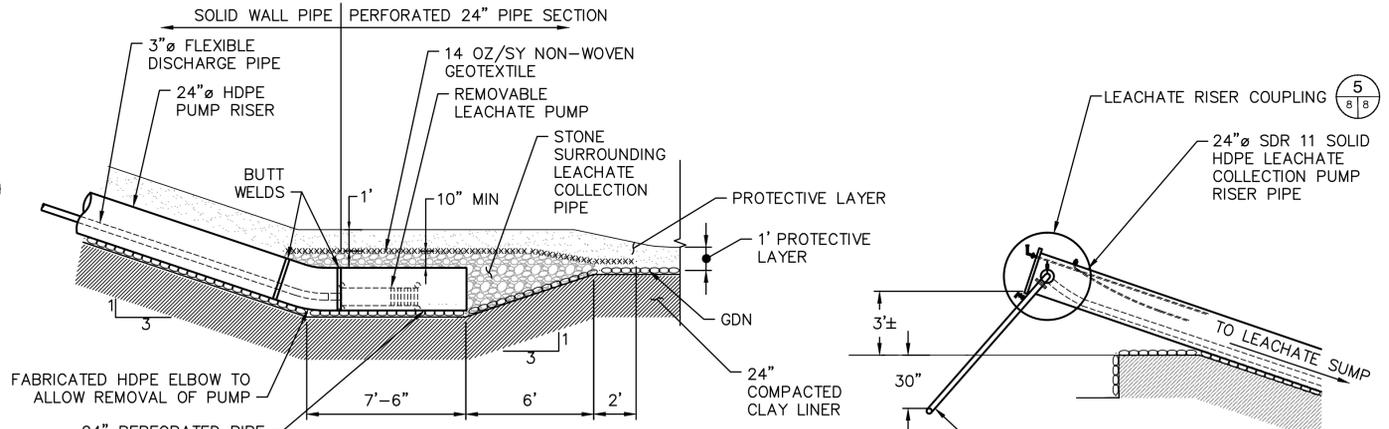


LEACHATE FORCE MAIN PIPE TRENCH DETAIL
 SCALE: 1" = 1'
 6 5 8



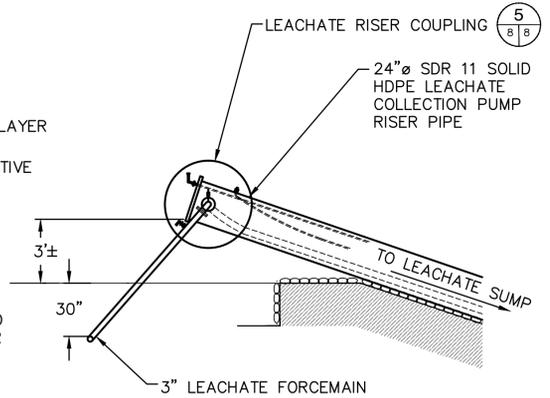
COLLECTION SUMP AND RISER PLAN
 SCALE: 1" = 4'
 2 3,4,5 8

- COLLECTION SUMP AND RISER PLAN NOTES:**
- INSTALL JACKETED INSULATION (TECHLITE 379 SERIES, 1.5" THICK; OR APPROVED EQUAL) ON ABOVE GROUND 3" PIPING. SEAL SLEEVE ENDS PER MANUFACTURER'S RECOMMENDATIONS.
 - EMBED PIPE INSULATION A MINIMUM OF 1' IN GROUND.

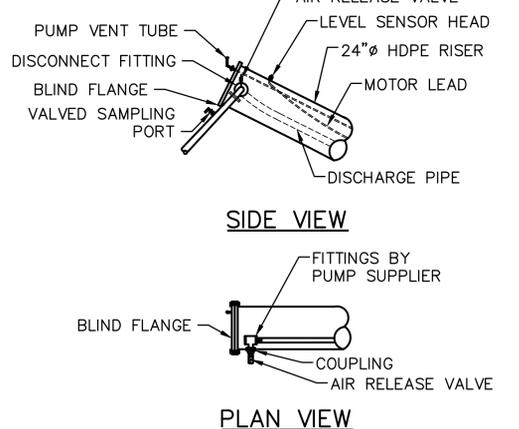


LEACHATE COLLECTION SUMP SECTION
 SCALE: 1" = 4'
 3B 8 8

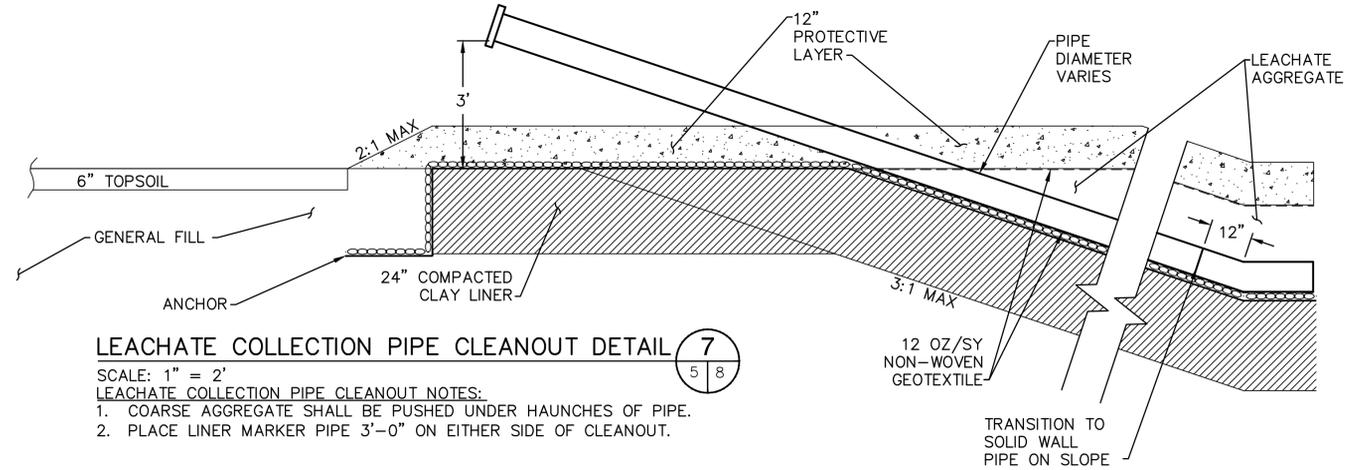
- NOTES:**
- CONTRACTOR SHALL GRIND SMOOTH THE WELD BEAD ON THE INTERIOR OF THE 24" PUMP RISER PIPES, 24" ELBOWS AND 24" PERFORATED PIPES.
 - PUMP SENSOR ELEVATIONS ARE NOTED IN SPECIFICATION SECTION 11300, LEACHATE PUMP STATION EQUIPMENT.



LEACHATE RISER
 SCALE: 1" = 4'
 4 4,5,8 8

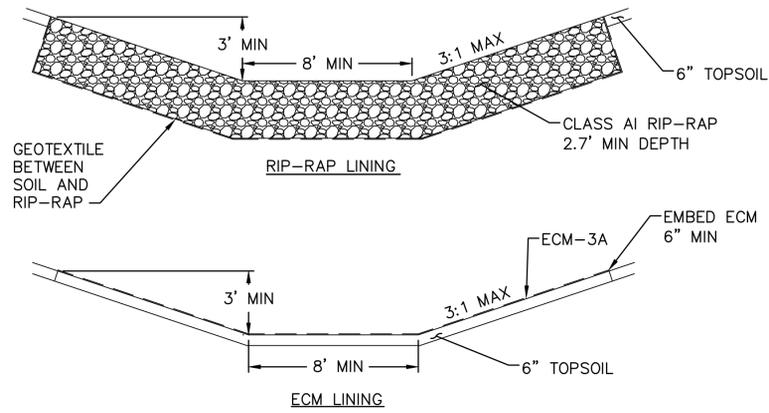


LEACHATE RISER COUPLING DETAIL
 SCALE: 1" = 4'
 5 8 8



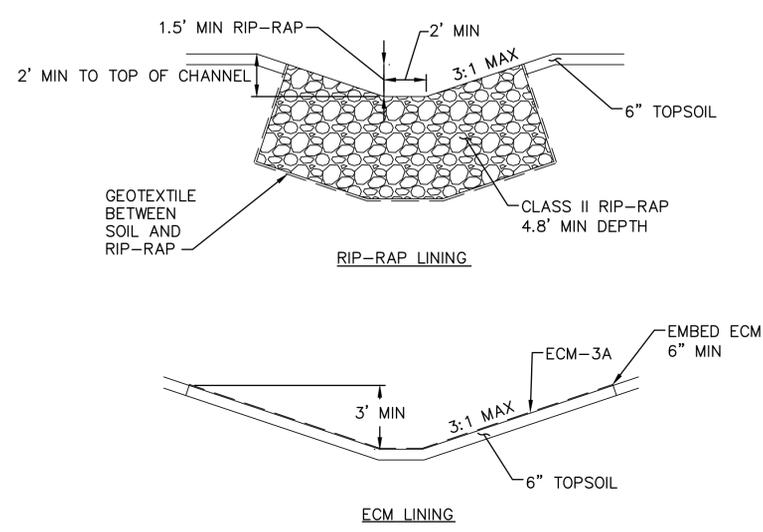
LEACHATE COLLECTION PIPE CLEANOUT DETAIL
 SCALE: 1" = 2'
LEACHATE COLLECTION PIPE CLEANOUT NOTES:
 1. COARSE AGGREGATE SHALL BE PUSHED UNDER HAUNCHES OF PIPE.
 2. PLACE LINER MARKER PIPE 3'-0" ON EITHER SIDE OF CLEANOUT.
 7 5 8

NORFOLK/PROJECTS/02201010.00/PHASE3DESIGN/DRAWINGS XREF: XREF_BORDER_DESIGN



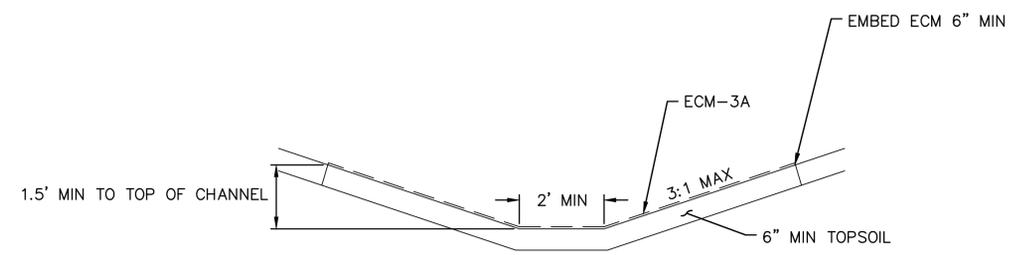
PERIMETER CHANNEL DETAIL 1
SCALE: 1" = 4'

- PERIMETER CHANNEL NOTES:**
1. PROVIDE RIP-RAP FROM CULVERT TO EL. 848 (CHANNEL INVERT).
 2. PROVIDE ECM FROM EL. 848 TO 849.37 (CHANNEL INVERT).
 3. EMBED ECM A MINIMUM OF 6" IN GROUND ALONG INTERFACE AND IN CONTACT WITH GEOTEXTILE FOR RIP-RAP.
 4. EMBED ECM ALONG EDGES A MINIMUM OF 6".
 5. OVERLAP AND SECURE ECM PER VESCH STD. 3.36, SOIL STABILIZATION BLANKETS AND MATTING, FOR TREATMENT-2.



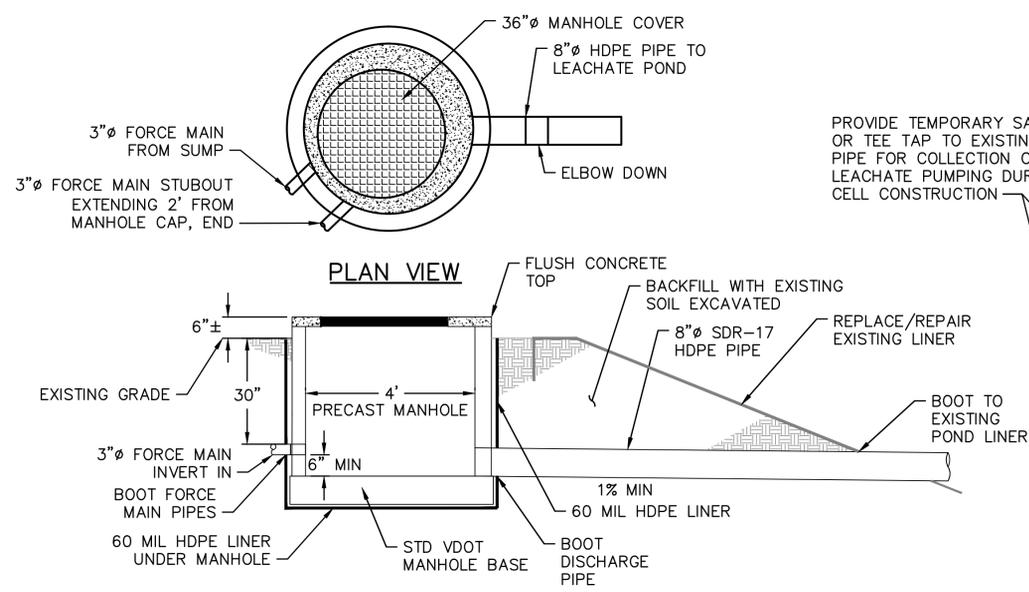
NORTH CHANNEL A 2
SCALE: 1" = 4'

- NORTH CHANNEL A NOTES:**
1. PROVIDE RIP-RAP LINING FROM CULVERT TO EL. 856 (CHANNEL INVERT).
 2. PROVIDE ECM-3A FROM EL. 856 (CHANNEL INVERT) TO EL. 862 (NORTH CHANNEL B TRANSITION).
 3. EMBED ECM A MINIMUM OF 6" IN GROUND ALONG INTERFACE AND IN CONTACT WITH GEOTEXTILE FOR RIP-RAP.
 4. EMBED ECM ALONG EDGES A MINIMUM OF 6".
 5. OVERLAP AND SECURE ECM PER VESCH STD. 3.36, SOIL STABILIZATION BLANKETS AND MATTING, FOR TREATMENT-2.

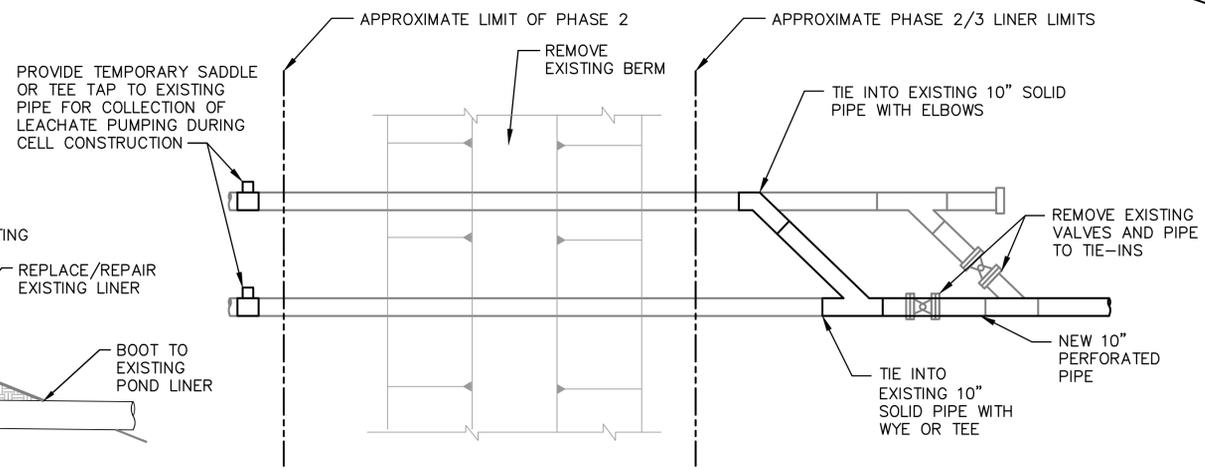


NORTH CHANNEL B 3
SCALE: 1" = 2'

- NORTH CHANNEL B NOTES:**
1. TRANSITION FROM 2' DEEP CHANNEL IN NORTH CHANNEL A TO 1.5' MIN DEPTH BETWEEN EL. 862 AND 863 (CHANNEL INVERT).
 2. EMBED ECM ALONG EDGES A MINIMUM OF 6".
 3. OVERLAP AND SECURE ECM PER VESCH STD. 3.36, SOIL STABILIZATION BLANKETS AND MATTING, FOR TREATMENT-2.

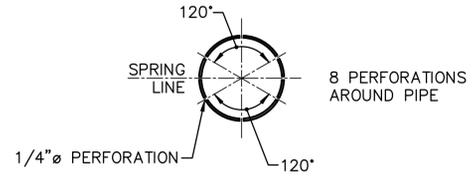
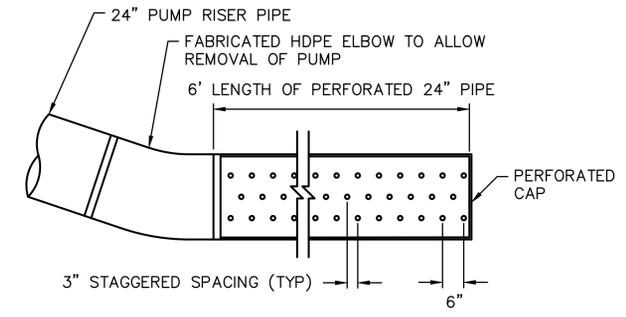


MANHOLE #1 LEACHATE FORCEMAIN DETAIL 4
SCALE: 1" = 2'

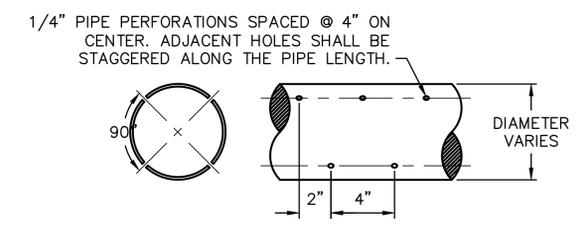


EXISTING LEACHATE PIPE TIE-IN 5
SCALE: 1" = 4'

- TIE-IN NOTES:**
1. BERM TO REMAIN UNTIL DOWNSTREAM LEACHATE SYSTEM IS CONSTRUCTED TO MINIMIZE LEACHATE DISCHARGE TO SOILS OR UNFINISHED CELL.
 2. PUMP SHALL HAVE A MINIMUM 15 GPM CAPACITY AT 50' HEAD.



24\"/>



PERFORATED LEACHATE PIPING DETAIL 7
SCALE: 1" = 2'

NO.	REVISION	DATE

DETAILS - 1
SHEET TITLE
PROJECT TITLE
**SHENANDOAH COUNTY LANDFILL
PHASE 3 CONSTRUCTION**

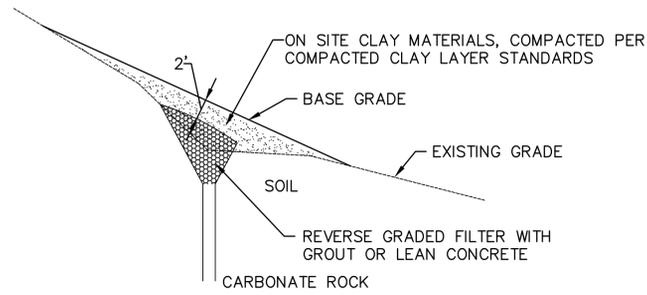
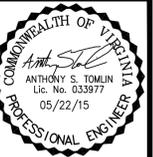
**SHENANDOAH COUNTY DEPT.
OF SOLID WASTE MANAGEMENT**
349 LANDFILL ROAD
EDINBURG, VA 22824

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
6330 N. CENTER DRIVE, NORFOLK, VA 23502
PH. (757) 466-3361 FAX. (757) 257-6349

PROJ. NO. 02201010.00
DATE: 05/22/15
DWN. BY: DCC
CHK. BY: PAM
APP. BY: PAM
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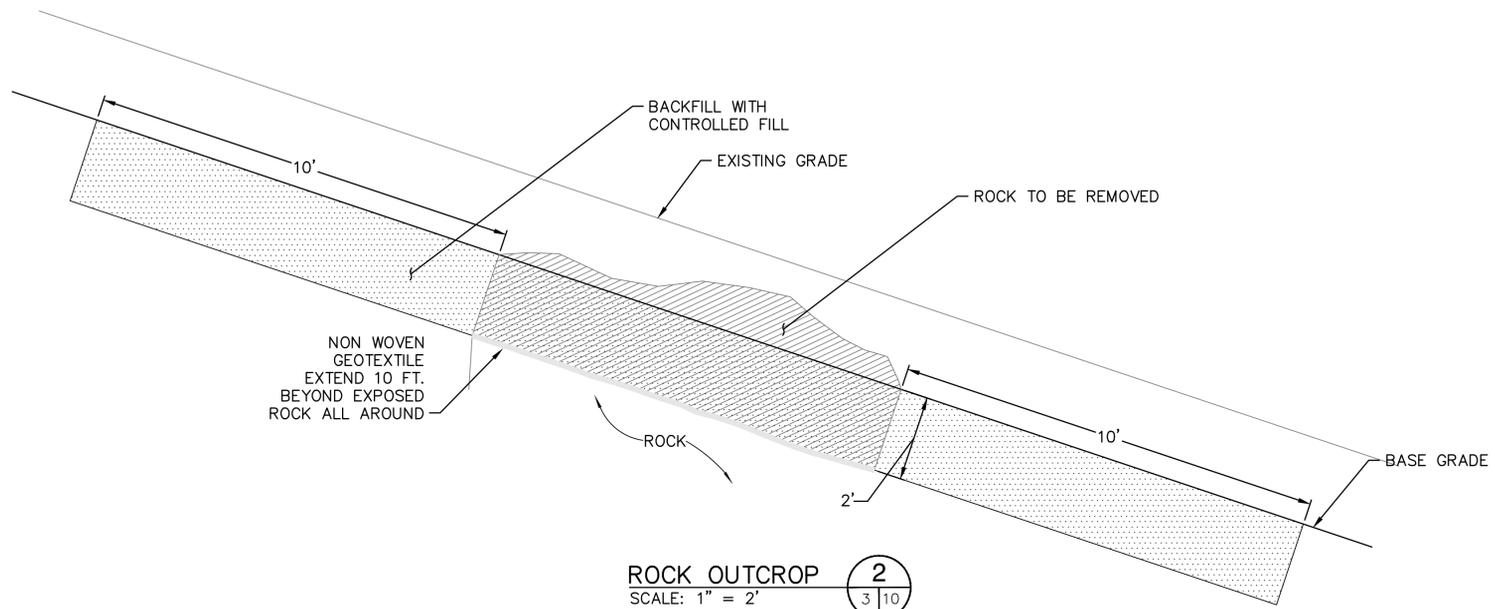
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DATE: MAY 2015
SCALE: AS SHOWN
DRAWING NO.

NORFOLK/PROJECTS/02201010.00/PHASE3DESIGN/DRAWINGS XREF: XREF_BORDER_DESIGN



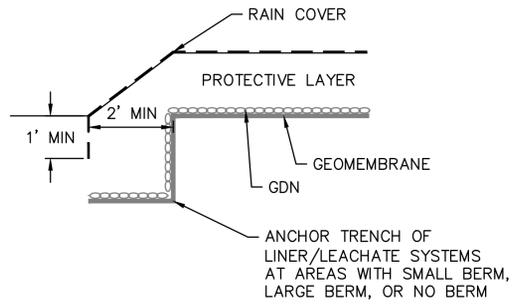
SOLUTION FEATURE REPAIR (1)
SCALE: 1" = 2'

NOTES ON SOLUTION FEATURE REPAIR DETAIL:
1. SOLUTION FEATURES ARE NOT ANTICIPATED. DETAIL PROVIDED FOR INFORMATIONAL PURPOSES.
2. CONTRACTOR TO ALERT ENGINEER TO POTENTIAL SOLUTION FEATURES. IF IN THE OPINION OF THE ENGINEER A REPAIR IS NEEDED THEN CONTRACTOR PERFORMS REPAIR IN ACCORDANCE WITH THE DETAIL. REPAIRS WILL BE INCORPORATED INTO CONTRACT AS CHANGE ORDER.



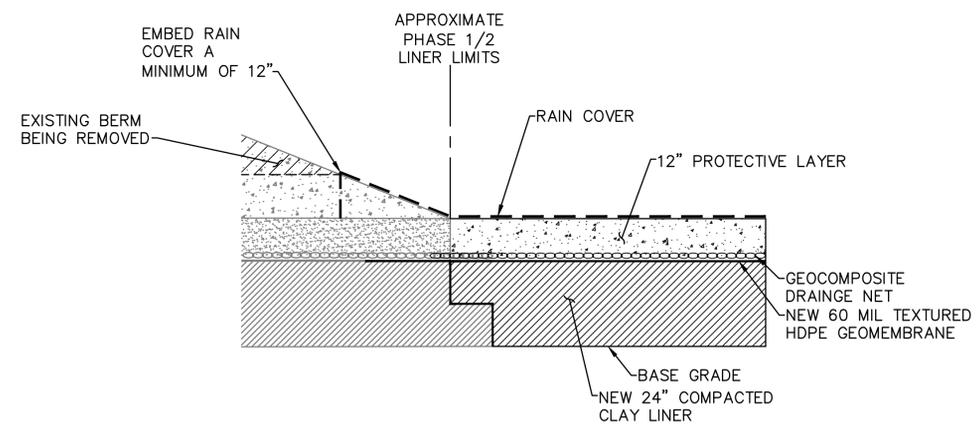
ROCK OUTCROP (2)
SCALE: 1" = 2'

ROCK OUTCROP NOTES:
1. ROCK SHALL BE REMOVED WITHIN 2 FEET OF BASE GRADE LAYER.
2. PER SECTION C ON SHEET 6, ROCK IS ANTICIPATED TO BE ENCOUNTERED BETWEEN BASE GRADE ELEVATIONS 840 TO 855.

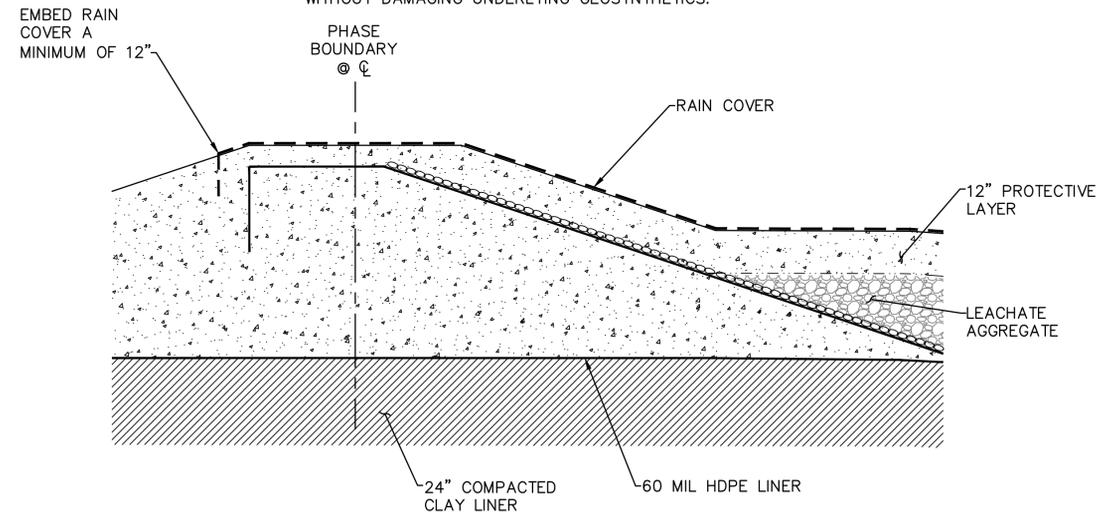


RAIN COVER ANCHOR TYPICAL (3)
SCALE: 1" = 2'

RAIN COVER NOTES:
1. SEPARATE RAIN COVER EMBEDMENT FROM ANCHOR TRENCH ON EXTERIOR BERMS TO AVOID DAMAGE OF GEOSYNTHETICS IN ANCHOR TRENCH.
2. IF RAIN COVER MANUFACTURER RECOMMENDED EMBEDMENT IS GREAT THAN 1' THEN USE MANUFACTURE'S RECOMMENDATIONS WITHOUT DAMAGING UNDERLYING GEOSYNTHETICS.



RAIN COVER ANCHOR AT TIE-IN TO EXISTING CELLS (PHASES 1 AND 2) (4)
SCALE: 1" = 2'



RAIN COVER ANCHOR AT INTERMEDIATE BERM (5)
SCALE: 1" = 2'

NO.	REVISION	DATE

SHEET TITLE: **DETAILS - 2**
PROJECT TITLE: **SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION**

CLIENT: **SHENANDOAH COUNTY DEPT. OF SOLID WASTE MANAGEMENT**
349 LANDFILL ROAD
EDINBURG, VA 22824

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC.
6330 N. CENTER DRIVE, NORFOLK, VA 23502
PH: (757) 466-3361 FAX: (757) 257-6349

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DWN. BY: DCC
CHK. BY: PAM
D/A RW BY: PAM
APP. BY: AST

CADD FILE: **SHT10-DETAILS**
DATE: **MAY 2015**
SCALE: **AS SHOWN**
DRAWING NO.

NORFOLK/PROJECTS/02201010.00/PHASE3DESIGN/DRAWINGS XREF:

GENERAL EROSION & SEDIMENTATION NOTES

1. SOIL STABILIZATION.
 A. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.
 B. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS, BUT LESS THAN ONE YEAR.
 C. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

2. SOIL STOCKPILE STABILIZATION.
 DURING CONSTRUCTION, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. TEMPORARY PROTECTION AND PERMANENT STABILIZATION SHALL BE APPLIED TO ALL SOIL STOCKPILES ON SITE AND BORROW AREAS OR SOIL INTENTIONALLY TRANSFERRED OFF SITE.

3. PERMANENT STABILIZATION.
 PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS:
 - UNIFORM
 - MATURE ENOUGH TO SURVIVE
 - WILL INHIBIT EROSION

4. SEDIMENT BASINS & TRAPS.
 SEDIMENT BASINS, SEDIMENT TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT, IF NEEDED, SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

5. STABILIZATION OF EARTHEN STRUCTURES.
 STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

6. SEDIMENT TRAPS & SEDIMENT BASINS.
 SEDIMENT TRAPS AND BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN AS FOLLOWS:
 SEDIMENT TRAPS:
 - ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES
 - MINIMUM STORAGE CAPACITY OF 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA
 SEDIMENT BASINS:
 - CONTROL DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES
 - MINIMUM STORAGE CAPACITY OF 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA
 - THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A TWENTY-FIVE YEAR STORM OF 24-HOUR DURATION

7. CUT AND FILL SLOPES DESIGN & CONSTRUCTION.
 CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

8. CONCENTRATED RUNOFF DOWN SLOPES.
 CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.

9. SLOPE MAINTENANCE.
 WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

10. STORM SEWER INLET PROTECTION.
 ALL STORM SEWER INLETS MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE STORMWATER CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED/TREATED TO REMOVE SEDIMENT.

11. STORMWATER CONVEYANCE PROTECTION.
 BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND THE RECEIVING CHANNEL.

12. WORK IN LIVE WATERCOURSE.
 WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED:
 - PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT, AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION
 - NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS
 - EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS

13. CROSSING LIVE WATERCOURSE.
 WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.

14. REGULATION OF WATERCOURSE CROSSING.
 ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

15. STABILIZATION OF WATERCOURSE.
 THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

16. UNDERGROUND UTILITY LINE INSTALLATION.
 UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
 - NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES
 - EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY
 - MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION
 - RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS
 - COMPLY WITH APPLICABLE SAFETY REGULATIONS

17. VEHICULAR SEDIMENT TRACKING.
 WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS:
 - PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE
 - WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY
 - SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER

18. REMOVAL OF TEMPORARY MEASURES.
 ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

19. STORMWATER MANAGEMENT.
 PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION, AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY, AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA:
 - CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE, OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.
 - ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED:
 + NATURAL CHANNELS -USE 2-YEAR STORM EVENT
 + MANMADE CHANNELS -USE 2- AND 10-YEAR STORM EVENT
 + PIPE AND PIPE SYSTEMS -USE 10-YEAR STORM EVENT
 - IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL PROVIDE CHANNEL, PIPE, OR PIPE SYSTEM IMPROVEMENT OR PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, SITE DESIGN, STORMWATER DETENTION, OR OTHER MEASURES THAT IS SATISFACTORY TO THE PROGRAM AUTHORITY TO PREVENT DOWNSTREAM EROSION.
 - PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS
 - IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.
 - OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.
 - INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY
 - IN APPLYING THESE STORMWATER RUNOFF CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT AS A WHOLE SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT.
 - ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER THAT MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

20. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30, EROSION AND SEDIMENT CONTROL REGULATIONS.

21. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

22. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

23. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

24. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

25. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

SEQUENCE OF CONSTRUCTION

1. INSTALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES.
2. CONSTRUCT PERIMETER CHANNEL AND NORTH CHANNELS A AND B.
3. INSTALL DIVERSION BERMS, 24" SLOPE DRAIN TO NORTH CHANNEL.
4. DIVERT RUN-OFF TO PERIMETER CHANNEL OR NORTH CHANNEL AROUND PHASE 3 CELL.
5. CONSTRUCT SEDIMENT TRAP (TO BE PUMPED) ON SOUTHWEST SIDE OF PHASE 3 CELL.
6. EXCAVATE CELL AND LEACHATE PIPE TRENCHES. SEGREGATE CLAY, GENERAL FILL, AND ROCK MATERIALS.
7. INSTALL ADDITIONAL DIVERSION DIKES TO MINIMIZE RUN-ON TO PHASE 3 CELL.
8. INSTALL CLAY, GEOMEMBRANE, AND GDN.
9. INSTALL LEACHATE PIPE, AGGREGATES, AND PROTECTIVE LAYER.
10. INSTALL PUMP, CONTROLS, AND FORCEMAIN.
11. MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN OPERATIONAL CONDITION. MEASURES TO REMAIN AFTER CONSTRUCTION.

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION:
 THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT A SOLID WASTE DISPOSAL CELL (PHASE 3) FOR THE SHENANDOAH COUNTY LANDFILL. THE PHASE 3 WILL BE BUILT IN ACCORDANCE WITH THE DRAWINGS. THE APPROXIMATE DISTURBED AREA WILL BE 10.2 ACRES.

EXISTING CONDITIONS:
 THE SITE IS ADJACENT TO EXISTING LANDFILL CELLS. THE EXISTING SLOPES ARE GENERALLY 3:1 NORTH AND WEST OF THE SITE (INTO PHASE 3) THE SITE SLOPES GENERALLY TO THE EXISTING 48" CULVERT.

ADJACENT AREAS:
 THE PROPOSED SITE IS WITHIN THE SHENANDOAH COUNTY LANDFILL'S PERMITTED LIMITS.

SOIL DESCRIPTIONS:
 THE AREA HAS BEEN USED FOR BORROW OPERATIONS AND FILLING WITH UNSUITABLE SOILS AND ROCK RUBBLE. THE EXISTING MATERIAL IS ESTIMATED TO BE HYDROLOGIC SOIL GROUP C.

CRITICAL AREAS:
 THE 3:1 SLOPES ADJACENT TO THE PHASE 3 AREA ARE THE ONLY CRITICAL SLOPES.

EROSION AND SEDIMENT CONTROL MEASURES:
 UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30, EROSION AND SEDIMENT CONTROL REGULATIONS.

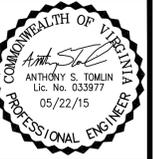
MANAGEMENT STRATEGIES:
 1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE. SEE "SEQUENCE OF CONSTRUCTION" FOR FURTHER DETAILS.
 2. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY THE CONTRACTOR WITH FLAGS, SIGNS, ETC.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES AND TO ADD MEASURES AS NEEDED TO MINIMIZE EROSION AND RUN-ON INTO THE PHASE 3 CELL.
 4. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY EROSION AND SEDIMENT PRACTICES, IF ANY, WILL BE CLEANED UP AND REMOVED.

PERMANENT AND TEMPORARY STABILIZATION:
 SEEDING WILL BE IN ACCORDANCE WITH THE TEMPORARY AND PERMANENT SEEDING MIXTURES PROVIDED IN THE SPECIFICATION SECTION 02900, LANDSCAPING.

SOIL STOCKPILES AND BORROW AREAS:
 UNSUITABLE OR EXCESS SOILS WILL BE STOCKPILED IN AREAS DESIGNATED BY THE OWNER. IF ADDITIONAL SOILS ARE NEEDED THEY MAY BE EXCAVATED FROM OWNER DESIGNATED BORROW AREAS OR IMPORTED.

MAINTENANCE SCHEDULE:
 ALL EROSION AND SEDIMENT CONTROL INSPECTIONS FOR THE SITE WILL BE MADE WEEKLY AND AFTER EACH RAIN EVENT THAT PRODUCES RUN OFF. FURTHERMORE, IN THE EVENT OF DAMAGE TO THE EROSION OR SEDIMENT CONTROL MEASURES, REPAIRS WILL BE MADE IMMEDIATELY. CONTRACTOR IS RESPONSIBLE FOR THE INSPECTIONS AND REPAIRS.

SEEDING:
 TEMPORARY AND PERMANENT SEEDING MIXTURES ARE PROVIDED IN THE SPECIFICATION SECTION 02900, LANDSCAPING. UNLESS OTHERWISE NOTED, APPLICABLE RATES AND SEEDING DATES SHALL BE AS NOTED IN VESCH STD 3.32, PERMANENT SEEDING, FOR THE APPALACHIAN MOUNTAIN REGION, AND STD 3.31, TEMPORARY SEEDING AS APPLICABLE.



NO.	REVISION	DATE

SHEET TITLE
EROSION AND SEDIMENT CONTROL NOTES

PROJECT TITLE
SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION

CLIENT
SHENANDOAH COUNTY DEPT. OF SOLID WASTE MANAGEMENT
 349 LANDFILL ROAD
 EDINBURG, VA 22824

SCS ENGINEERS
 STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC.
 6330 N. CENTER DRIVE, NORFOLK, VA 23502
 PH. (757) 466-3361 FAX. (757) 257-6349

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 DATE: 05/22/15
 IN CHARGE BY: PAM
 DATE: 05/22/15

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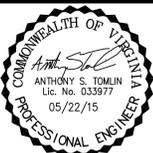
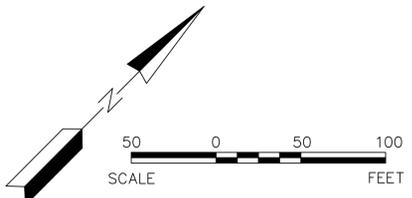
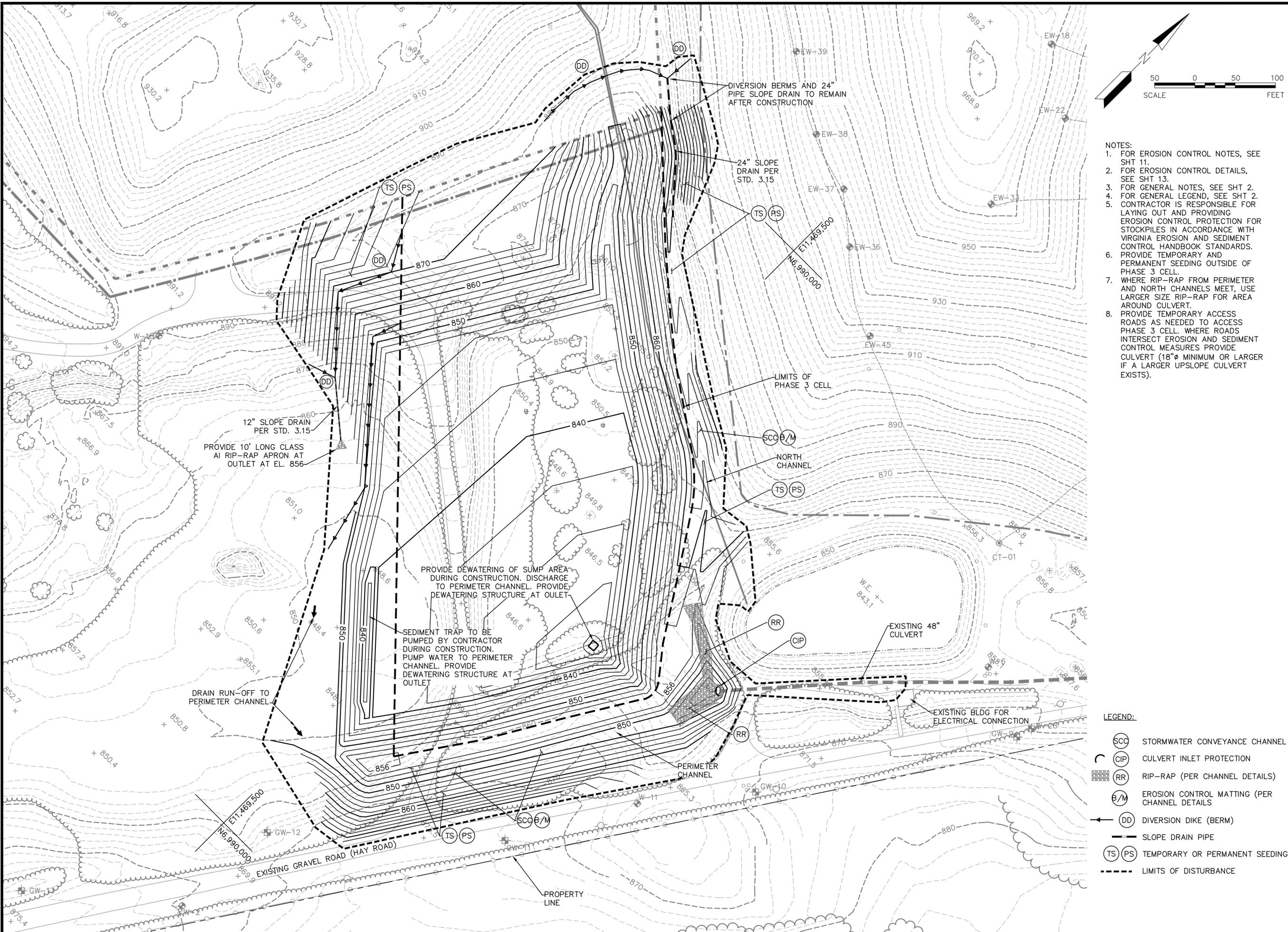
DATE:
 MAY 2015

SCALE:
 AS SHOWN

DRAWING NO.

NORFOLK/PROJECTS/02201010.00/PHASE3DESIGN/DRAWINGS XREF.

NORFOLK/PROJECTS/02201010.00/PHASE3DESIGN/DRAWINGS XREF: XREF_BORDER_DESIGN, XREF_EXISTING, XREF_PROPOSED



- NOTES:
1. FOR EROSION CONTROL NOTES, SEE SHT 11.
 2. FOR EROSION CONTROL DETAILS, SEE SHT 13.
 3. FOR GENERAL NOTES, SEE SHT 2.
 4. FOR GENERAL LEGEND, SEE SHT 2.
 5. CONTRACTOR IS RESPONSIBLE FOR LAYING OUT AND PROVIDING EROSION CONTROL PROTECTION FOR STOCKPILES IN ACCORDANCE WITH VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK STANDARDS.
 6. PROVIDE TEMPORARY AND PERMANENT SEEDING OUTSIDE OF PHASE 3 CELL.
 7. WHERE RIP-RAP FROM PERIMETER AND NORTH CHANNELS MEET, USE LARGER SIZE RIP-RAP FOR AREA AROUND CULVERT.
 8. PROVIDE TEMPORARY ACCESS ROADS AS NEEDED TO ACCESS PHASE 3 CELL. WHERE ROADS INTERSECT EROSION AND SEDIMENT CONTROL MEASURES PROVIDE CULVERT (18"Ø MINIMUM OR LARGER IF A LARGER UPSLOPE CULVERT EXISTS).

NO.	REVISION	DATE

SHEET TITLE: EROSION AND SEDIMENT CONTROL PLAN
 PROJECT TITLE: SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION

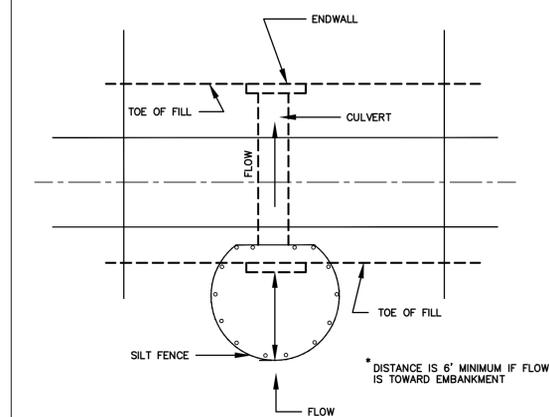
CLIENT: SHENANDOAH COUNTY DEPT. OF SOLID WASTE MANAGEMENT
 349 LANDFILL ROAD
 EDINBURG, VA 22824

SCS ENGINEERS
 STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC.
 6830 N. CENTER DRIVE, NORFOLK, VA 23502
 PH. (757) 466-3361 FAX. (757) 257-6549
 PROJ. NO. 02201010.00
 DESK BY: PAST
 DWN. BY: DCC
 CHK. BY: PAM
 O/A RW BY: PAM
 APP. BY: PAST

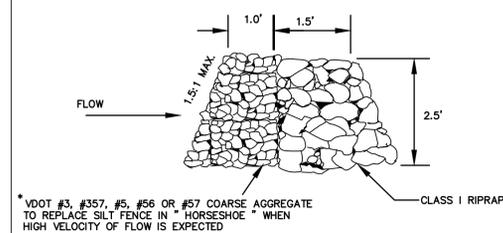
- LEGEND:
- (SCC) STORMWATER CONVEYANCE CHANNEL
 - (CIP) CULVERT INLET PROTECTION
 - (RR) RIP-RAP (PER CHANNEL DETAILS)
 - (B/M) EROSION CONTROL MATTING (PER CHANNEL DETAILS)
 - (DD) DIVERSION DIKE (BERM)
 - SLOPE DRAIN PIPE
 - (TS) (PS) TEMPORARY OR PERMANENT SEEDING
 - - - LIMITS OF DISTURBANCE

CADD FILE: SHT12-E&SCONT
 DATE: MAY 2015
 SCALE: AS SHOWN
 DRAWING NO.

SILT FENCE CULVERT INLET PROTECTION



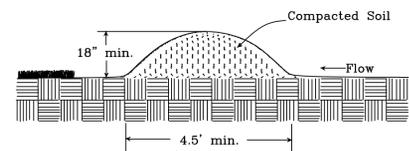
*OPTIONAL STONE COMBINATION



SOURCE: ADAPTED FROM VDOT STANDARD SHEETS AND VA. DSWC

PLATE: 3.08-1

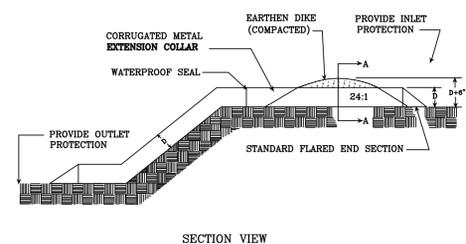
TEMPORARY DIVERSION DIKE



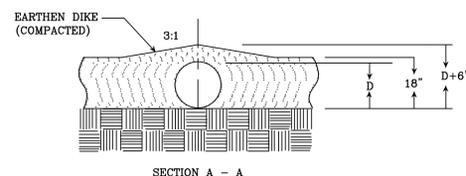
SOURCE: VA. DSWC

PLATE 3.09-1

TEMPORARY SLOPE DRAIN



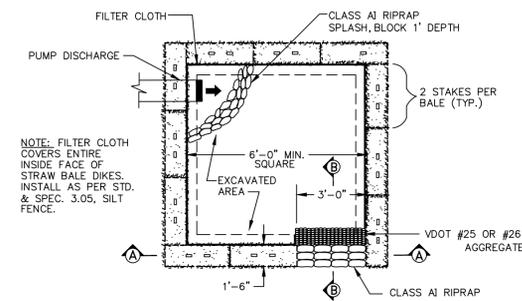
NOTE: SEDIMENT MAY BE CONTROLLED AT OUTLET IF UPLAND PONDING WILL CREATE PROBLEMS



SOURCE: VA. DSWC

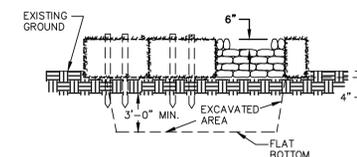
PLATE 3.15-1

STRAW BALE/SILT FENCE PIT

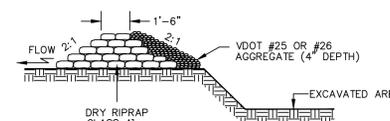


NOTE: FILTER CLOTH COVERS ENTIRE INSIDE FACE OF STRAW BALE DIKES. INSTALL AS PER STD. & SPEC. 3.05, SILT FENCE.

PLAN VIEW



CROSS-SECTION A-A



CROSS-SECTION B-B

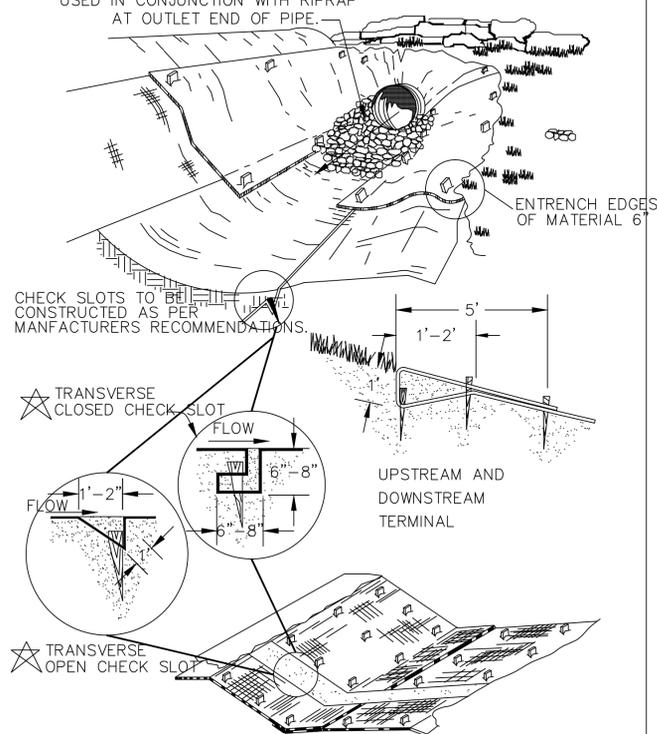
SOURCE: VA. DSWC

DEWATERING STRUCTURE

PLATE: 3.26-3

TYPICAL TREATMENT-2 SOIL STABILIZATION MATTING INSTALLATION

SOIL STABILIZATION MATTING SHALL BE USED IN CONJUNCTION WITH RIPRAP AT OUTLET END OF PIPE.



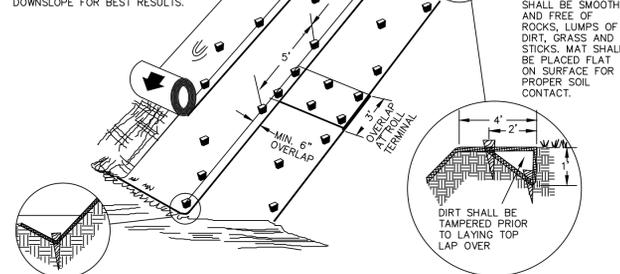
SOURCE: VDOT ROAD AND BRIDGE STANDARDS

PLATE: 3.36-4

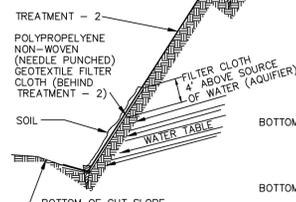
TYPICAL TREATMENT - 2 SOIL STABILIZATION MATTING SLOPE INSTALLATION

FILL SLOPE SECTION

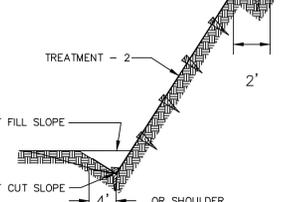
SOIL STABILIZATION MATS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE FOR BEST RESULTS.



SLOPE LINING (WET SLOPE)



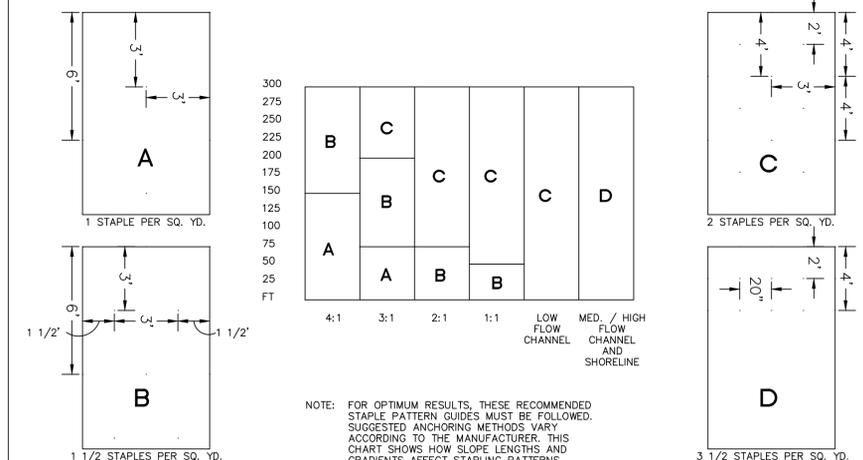
SLOPE LINING (DRY SLOPE)



SOURCE: VDOT ROAD AND BRIDGE STANDARDS

PLATE: 3.36-5

GENERAL STAPLE PATTERN GUIDE AND RECOMMENDATIONS FOR TREATMENT - 2 (SOIL STABILIZATION MATTING)



NOTE: FOR OPTIMUM RESULTS, THESE RECOMMENDED STAPLE PATTERN GUIDES MUST BE FOLLOWED. SUGGESTED ANCHORING METHODS VARY ACCORDING TO THE MANUFACTURER. THIS CHART SHOWS HOW SLOPE LENGTHS AND GRADIENTS AFFECT STAPLING PATTERNS.

SOURCE: PRODUCT LITERATURE FROM NORTH AMERICAN GREEN

PLATE: 3.36-6

NOTES:

1. CONTRACTOR MAY USE OPTIONAL STONE CIP IN LIEU OF SILT FENCE CIP.
2. PROVIDE SILT FENCE AROUND SOIL STOCKPILES AS NEEDED TO REDUCE SEDIMENT TRANSPORT FROM STOCKPILES.
3. STORMWATER CONVEYANCE CHANNELS DENOTED ON THE EROSION AND SEDIMENT CONTROL PLAN ARE PERMANENT STRUCTURES. FOR STORMWATER CONVEYANCE CHANNEL SECTIONS, SEE SHEET 9.
4. DIVERSION BERMS AND SLOPE DRAINS DENOTED ON THE EROSION AND SEDIMENT CONTROL PLAN ARE PERMANENT STRUCTURES.

DATE	REVISION	NO.

EROSION AND SEDIMENT CONTROL DETAILS

SHEET TITLE
 PROJECT TITLE
**SHENANDOAH COUNTY LANDFILL
 PHASE 3 CONSTRUCTION**

CLIENT
**SHENANDOAH COUNTY DEPT.
 OF SOLID WASTE MANAGEMENT**
 349 LANDFILL ROAD
 EDINBURG, VA 22824

SCS ENGINEERS
 STEARNS, CONRAD AND SCHMIDT
 CONSULTING ENGINEERS, INC.
 6350 N. CENTER DRIVE, NORFOLK, VA 23502
 PH. (757) 466-3361 FAX. (757) 257-6349

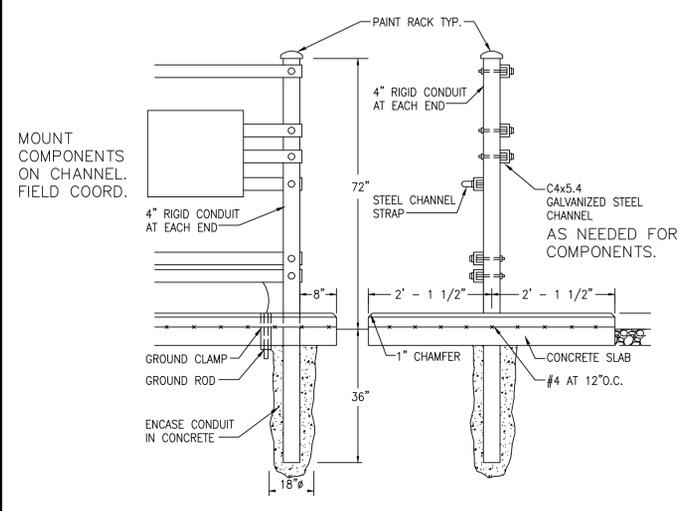
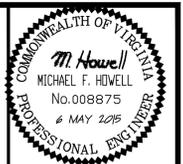
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DATE: MAY 2015

SCALE: AS SHOWN

DRAWING NO.

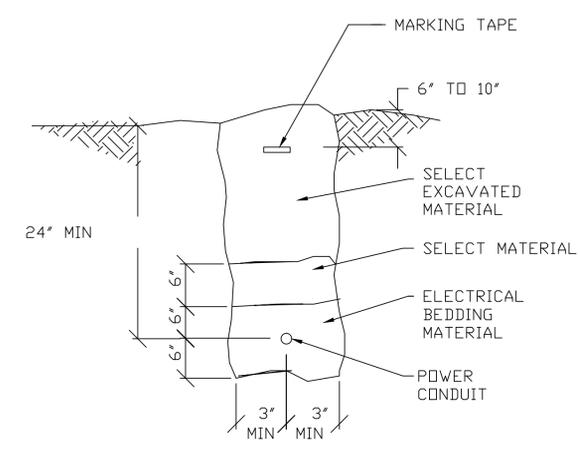
NORFOLK PROJECTS/02201010.00/PHASE3DESIGN/DRAWINGS XREF: Copyright 2015: COMFORT DESIGN INC. Michael F. Howell, P.E. 4/14/2015 11:45 AM ShenLand.dwg



7
14 1:20
PANEL MOUNTING STRUCTURE



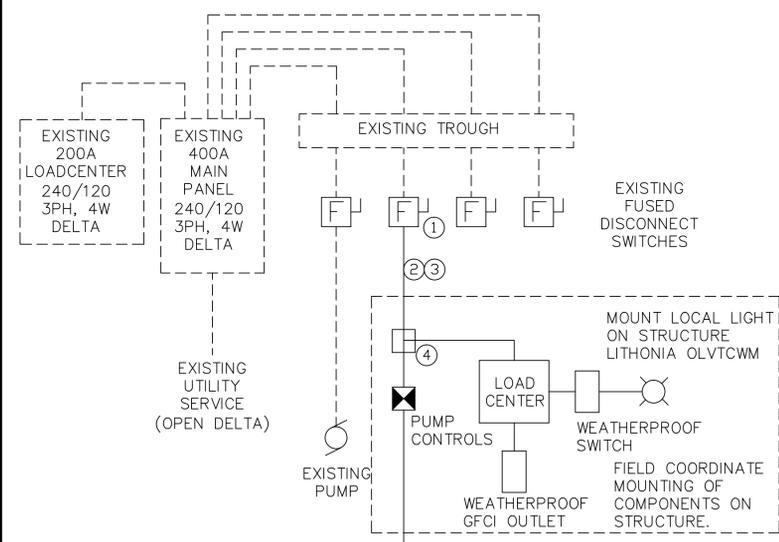
1
14 N.T.S.
COMMISSION EXISTING FUSED SWITCH



6
14 N.T.S.
TRENCH DETAIL



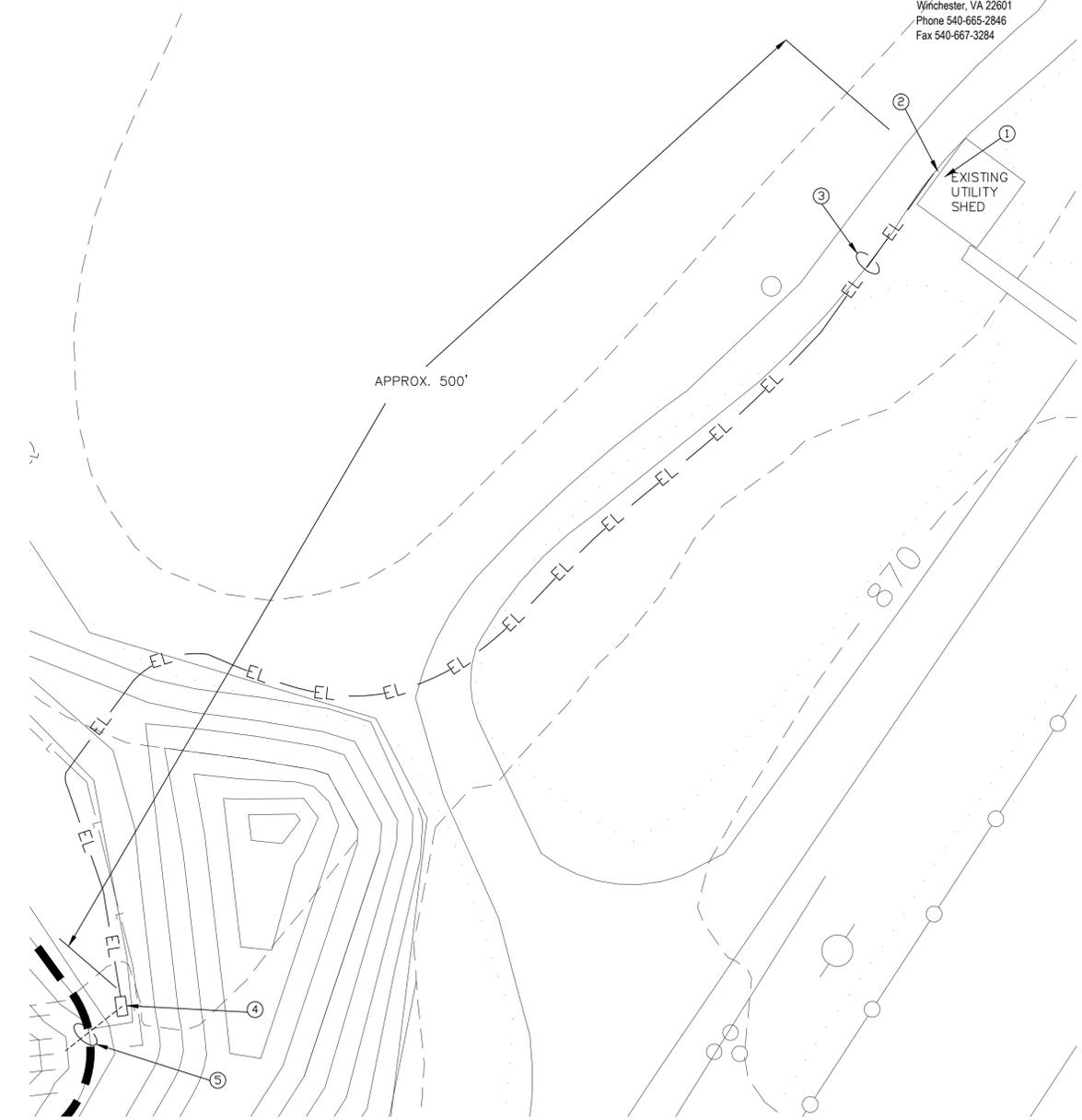
2
14 N.T.S.
INSTALL NEW 1-1/4 IN. PVC



5
14 1:20
ONE LINE DIAGRAM



3
14 N.T.S.
PROPOSED ROUTE FOR NEW MOTOR CIRCUIT



4
14 1:20
PROPOSED ELECTRICAL WORK

STATEMENT OF ELECTRICAL WORK

- ① INSTALL 30A TIME DELAY FUSES IN EXISTING FUSED DISCONNECT SWITCH.
- ② INSTALL #10 CU NEUTRAL WIRE FROM PANEL TO DISCONNECT. CONNECT NEW 30A, 3PH, 4W BRANCH CIRCUIT TO LOAD SIDE OF EXISTING FUSED DISCONNECT SWITCH AND EXTEND OUT THROUGH EXISTING 1-1/4" STUB OUT.
- ③ INSTALL NEW 1-1/4" SCHEDULE 40 PVC FROM EXISTING STUB OUT TO LOCATION OF NEW MOTOR CONTROLLER. EXTEND NEW 30A, 3PH, 4W MOTOR BRANCH CIRCUIT FROM BUILDING TO LOCATION OF NEW MOTOR CONTROLLER. BRANCH CIRCUIT WIRING: 4 X #6 CU THWN & # 10 CU EGC IN 1-1/4" PVC (40).
- ④ CONNECT NEW MOTOR BRANCH CIRCUIT TO PUMP CONTROLLER FURNISHED BY PUMP SUPPLIER. REFER TO PUMP CONTROLLER STAND DETAIL. TAP BRANCH CIRCUIT AND PROVIDE NEMA 3R SINGLE PHASE LOAD CENTER WITH 30A MAIN BREAKER AND (2) 15A SINGLE POLE 120VC BREAKERS, ONE FOR WEATHERPROOF GFCI RECEPTACLE AND ANOTHER FOR LOCAL LIGHT FIXTURE.
- ⑤ MAKE FINAL CONNECTIONS TO PUMP MOTORS AND CONTROLS. PUMP CONTROL AND POWER WIRING FROM CONTROLLER TO PUMPS AND CONTROLS FURNISHED BY PUMP SUPPLIER. FIELD COORDINATE INSTALLATION.
- ⑥ COMMISSION AND TEST SYSTEM. ALL WORK SHALL COMPLY WITH NEC REQUIREMENTS. PROVIDE OPERATIONAL TRAINING TO LANDFILL STAFF.

NO.	REVISION	DATE

SHEET TITLE	ELECTRICAL PLANS
PROJECT TITLE	SHENANDOAH COUNTY LANDFILL PHASE 3 CONSTRUCTION

CLIENT	SHENANDOAH COUNTY DEPT. OF SOLID WASTE MANAGEMENT 349 LANDFILL ROAD EDINBURG, VA 22824
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SCS ENGINEERS STEARNES, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 6330 N. CENTER DRIVE, NORFOLK, VA 23502 PH. (757) 466-3361 FAX. (757) 466-4344	DATE: 02/20/10 ENR. BY: AST	CHK. BY: PAM	APP. BY: AST
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