

**Part III
Attachment III-D
Appendix III-D.3**

LANDFILL DESIGN AND DETAILS

**Pescadito Environmental Resource Center
MSW No. 2374
Webb County, Texas**

PESCADITO
ENVIRONMENTAL RESOURCE CENTER

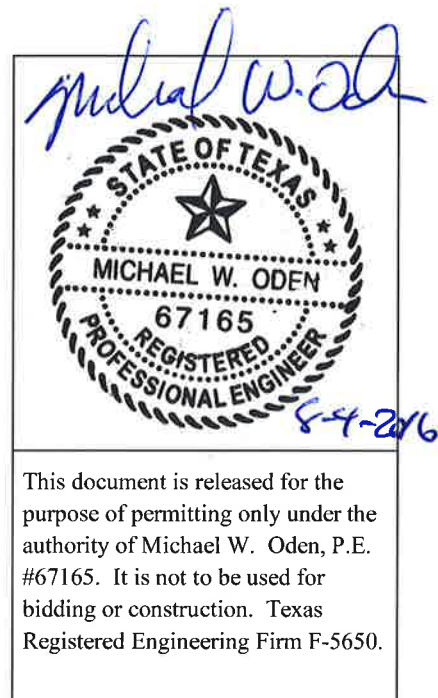
**Initial Submittal March 2015
Revised September 2015
Revised August 2016**

**Prepared for:
Rancho Viejo Waste Management, LLC
1116 Calle del Norte
Laredo, TX 78041**

**Prepared by:
CB&I Environmental and
Infrastructure, Inc.**



**12005 Ford Rd, Suite 600
Dallas, TX 75234**




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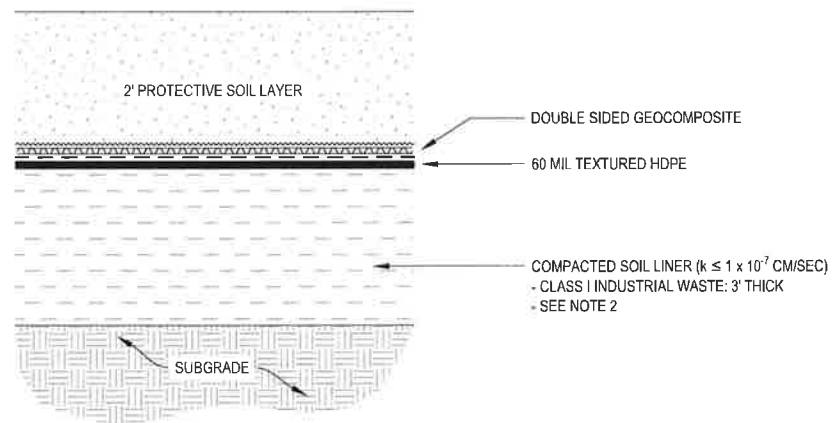
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8-4-2016



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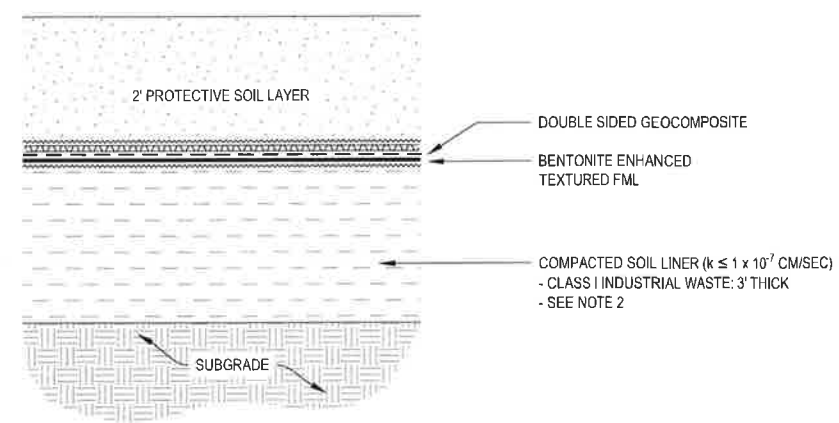
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**BOTTOM LINER DETAIL
OPTION 2**

1
D.3-2

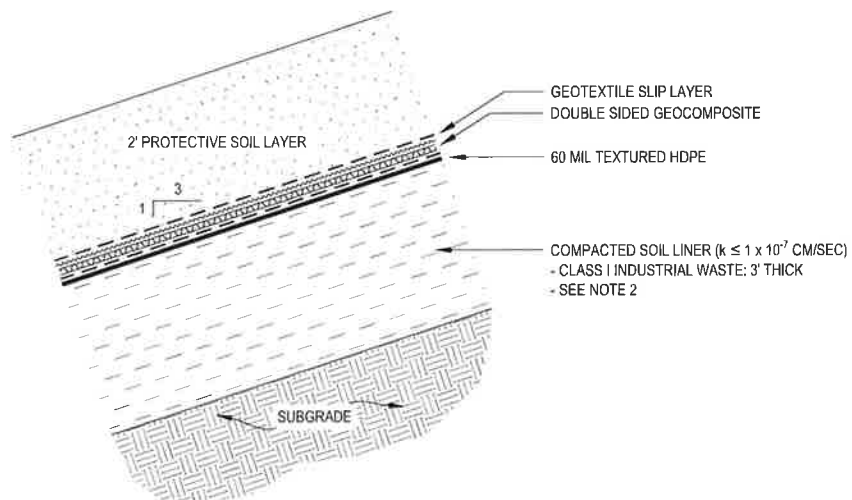
SCALE: 1"=3'



**BOTTOM LINER DETAIL
OPTION 1**

2
D.3-2

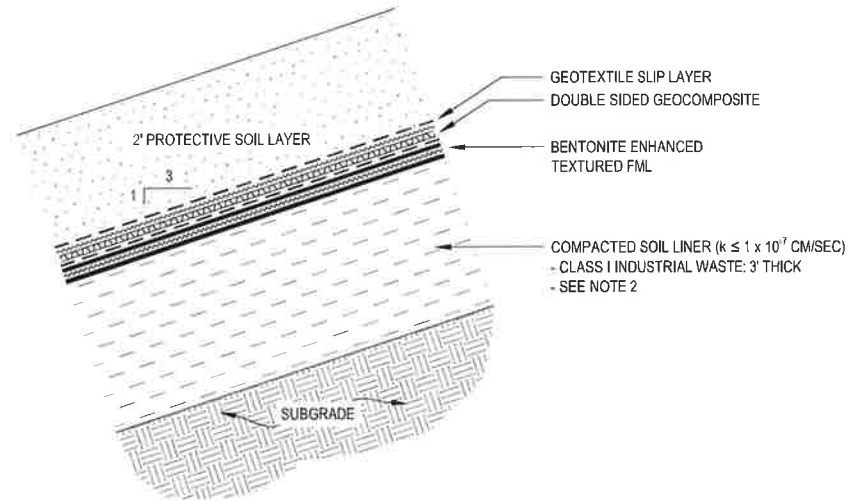
SCALE: 1"=3'



**SIDEWALL DETAIL
OPTION 2**

3
D.3-2

SCALE: 1"=3'



**SIDEWALL
OPTION 1**

4
D.3-2

SCALE: 1"=3'

- NOTES:
1. GEOSYNTHETIC MATERIALS SHOWN WITH EXAGGERATED THICKNESS FOR CLARITY.
 2. IF PERMIT IS MODIFIED TO SPECIFY CELLS TO NOT RECEIVE CLASS I INDUSTRIAL WASTE, THE COMPACTED SOIL LINER THICKNESS WILL BE 2-FEET.

LINE AND SHADING LEGEND

GEOTEXTILE (WOVEN)		DOUBLE SIDED GEOCOMPOSITE	
GEONET			
GEOTEXTILE (NON-WOVEN)			
	GEOMEMBRANE		PLYWOOD
	GEOSYNTHETIC CLAY LINER		BENTONITE ENHANCED FML
	TOPSOIL		NATIVE SOIL
	GENERAL FILL		CONCRETE
	SELECT GRANULAR FILL		RIPRAP
	SOIL BARRIER LAYER FILL		BITUMINOUS PAVING
	SELECT AGGREGATE FILL		GRAVEL
	COMPACTED SOIL		AGGREGATE BASE COURSE

REV. NO.	DATE	DESCRIPTION
1	8/2016	REVISED LINER DETAILS; ADDED NOTE 2



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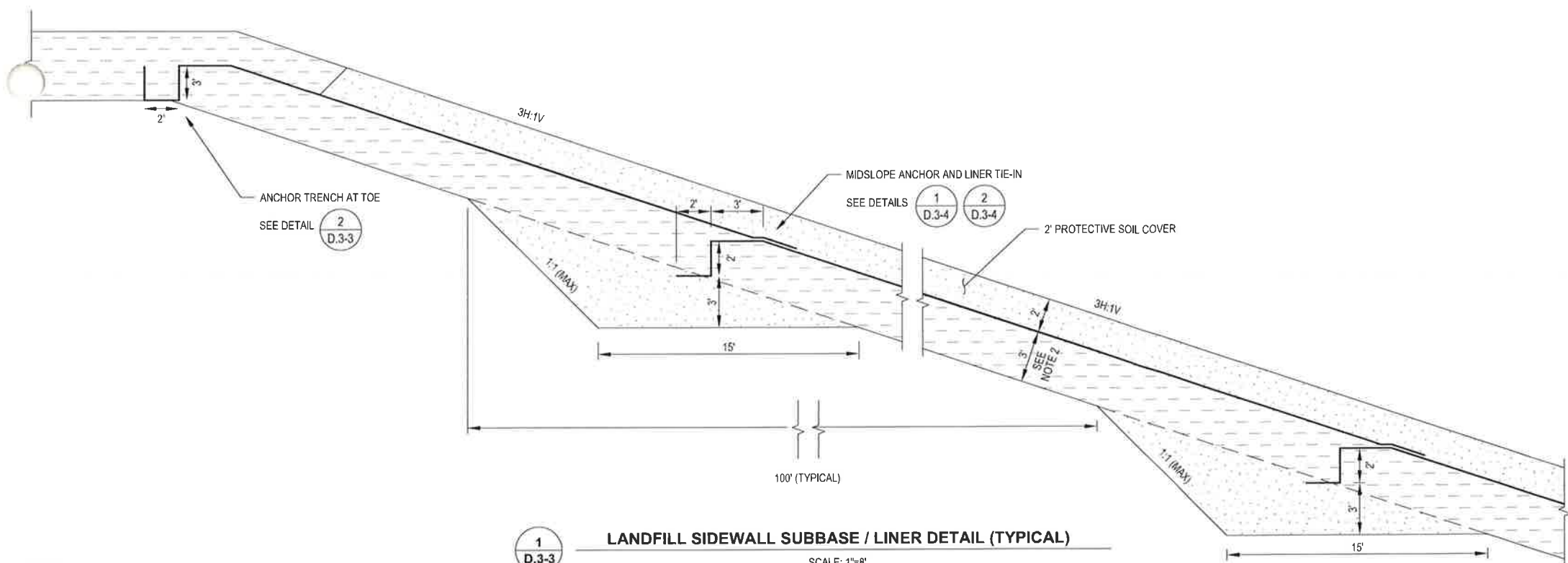
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**PESCADITO ENVIRONMENTAL RESOURCE CENTER
WEBB COUNTY, TEXAS
MSW 2374**

LINER DETAILS

PROJ. NO.:	148866	DATE:	APRIL 2015
DESIGNED BY:	-	DRAWING NO.:	III D.3-2
DRAWN BY:	MTE		
CHECKED BY:	RDS		
APPROVED BY:	MWO		2 OF 11 SHEETS

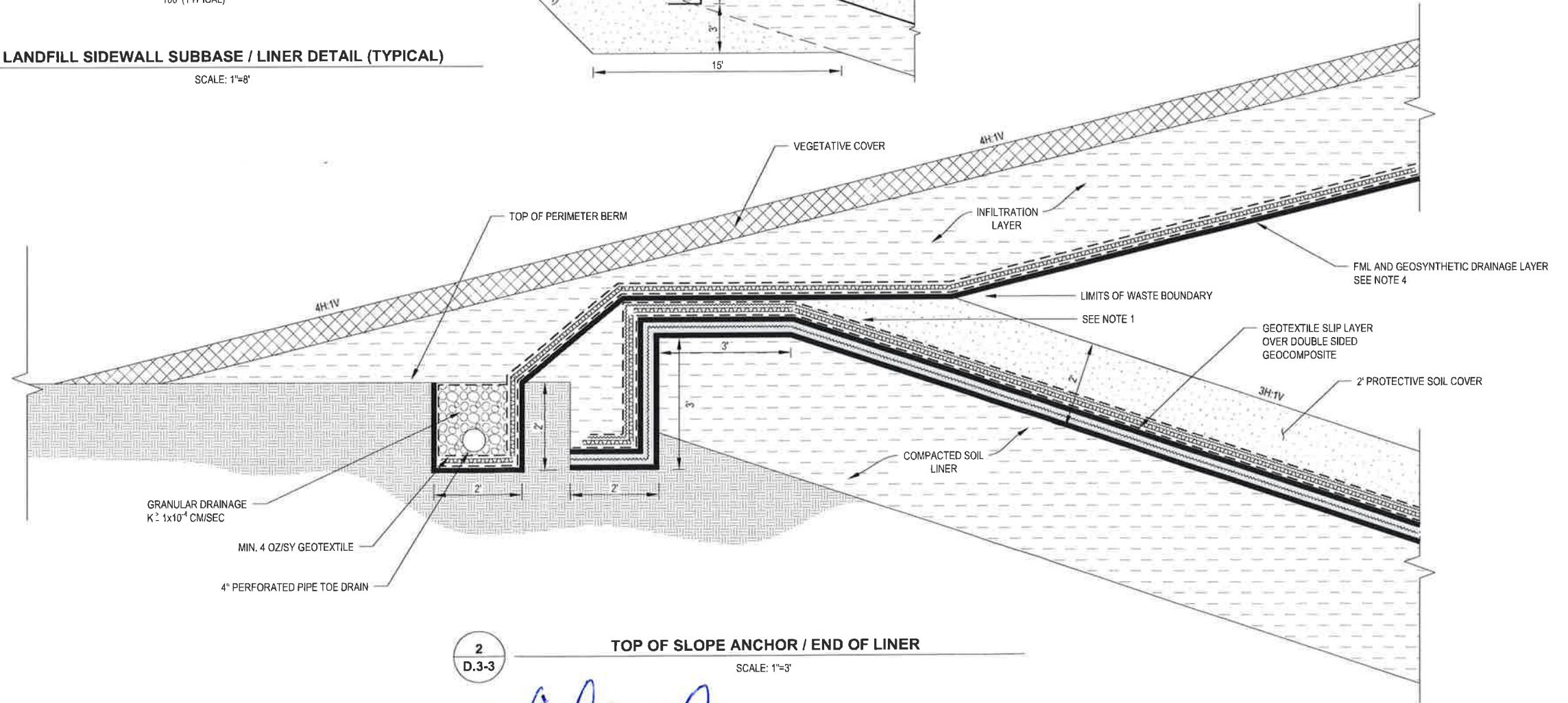


1
D.3-3
LANDFILL SIDEWALL SUBBASE / LINER DETAIL (TYPICAL)
SCALE: 1"=8'

- NOTES:**
1. GEOSYNTHETIC MATERIALS SHOWN WITH EXAGGERATED THICKNESS FOR CLARITY.
 2. 3' THICK COMPACTED SOIL LINER SHOWN FOR CELLS TO RECEIVE CLASS I INDUSTRIAL WASTES. CELLS TO RECEIVE MUNICIPAL SOLID WASTE ONLY MAY HAVE 2' THICK COMPACTED SOIL LINER.
 3. LINER AND PROTECTIVE COVER THICKNESS MEASURED PERPENDICULAR TO SLOPE.
 4. FINAL COVER SYSTEM IS DESCRIBED IN APPENDIX III-D.8. IF CLASS I INDUSTRIAL WASTE IS PLACED IN THE CELL, A FML AND DRAINAGE LAYER WILL BE INCLUDED IN THE FINAL COVER SYSTEM OVER THE CELL.

LINE AND SHADING LEGEND

GEOTEXTILE (WOVEN)		DOUBLE SIDED GEOCOMPOSITE
GEONET		
GEOTEXTILE (NON-WOVEN)		
GEOTEXTILE (NON-WOVEN)		FINAL COVER
GEONET		DOUBLE SIDED GEOCOMPOSITE
GEOTEXTILE (NON-WOVEN)		
GEOMEMBRANE		
GEOSYNTHETIC CLAY LINER		
TOPSOIL		
GENERAL FILL		
SELECT GRANULAR FILL		
SOIL BARRIER LAYER FILL		
SELECT AGGREGATE FILL		
COMPACTED SOIL		
PLYWOOD		
BENTONITE ENHANCED FML		
NATIVE SOIL		
CONCRETE		
RIPRAP		
BITUMINOUS PAVING		
GRAVEL		
AGGREGATE BASE COURSE		



2
D.3-4
TOP OF SLOPE ANCHOR / END OF LINER
SCALE: 1"=3'

REV. NO.	DATE	DESCRIPTION
1	8/2016	ADDED TOE DRAIN; NOTE 4

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STATE OF TEXAS
MICHAEL W. ODEN
67165
REGISTERED PROFESSIONAL ENGINEER

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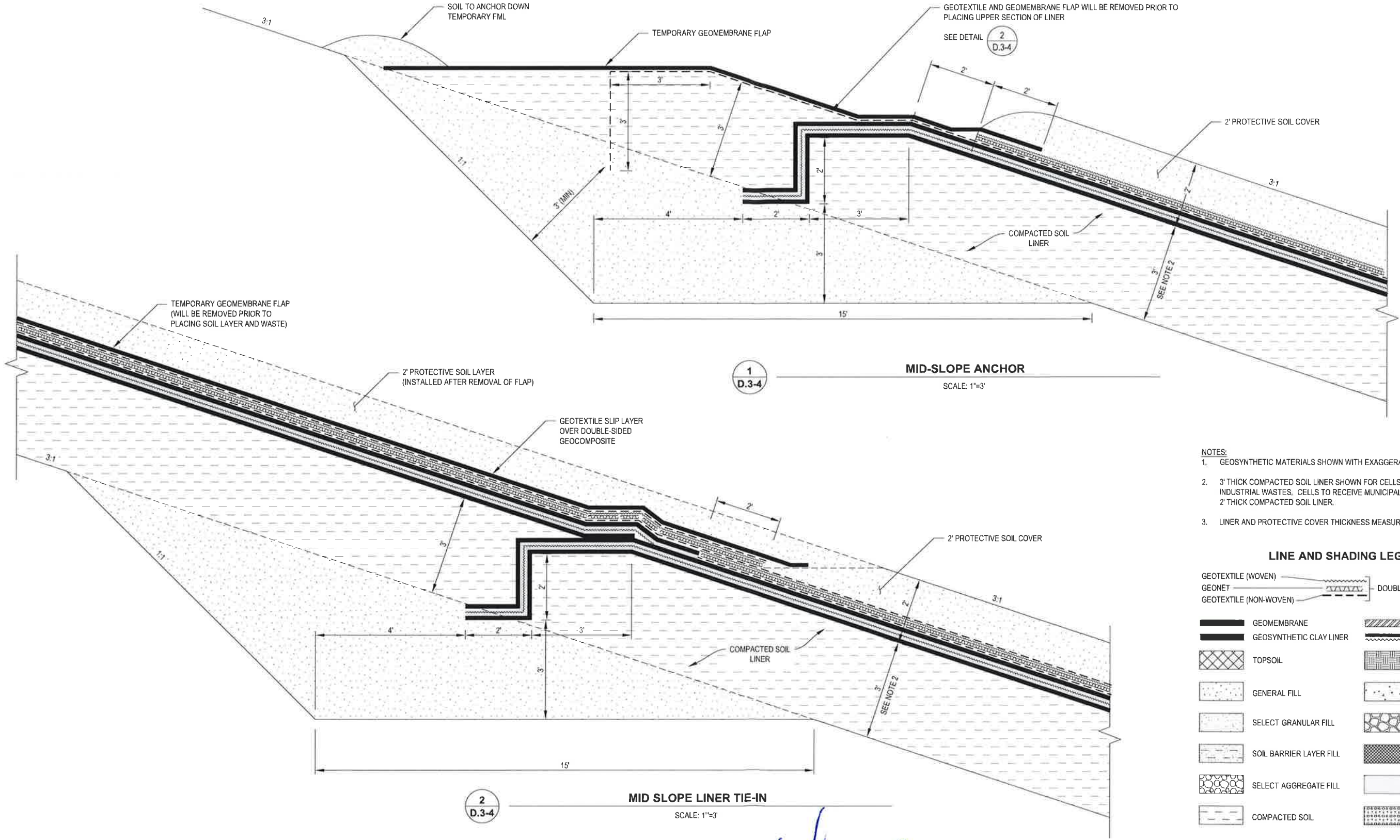
6-11-2014

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MSW 2374**

LINER AND FINAL COVER DETAILS

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APPROVED BY:	MWO		

3 OF 11 SHEETS



1
D.3-4

MID-SLOPE ANCHOR

SCALE: 1"=3'

2
D.3-4

MID SLOPE LINER TIE-IN

SCALE: 1"=3'

- NOTES:**
1. GEOSYNTHETIC MATERIALS SHOWN WITH EXAGGERATED THICKNESS FOR CLARITY.
 2. 3" THICK COMPACTED SOIL LINER SHOWN FOR CELLS TO RECEIVE CLASS I INDUSTRIAL WASTES. CELLS TO RECEIVE MUNICIPAL SOLID WASTE ONLY MAY HAVE 2" THICK COMPACTED SOIL LINER.
 3. LINER AND PROTECTIVE COVER THICKNESS MEASURED PERPENDICULAR TO SLOPE.

LINE AND SHADING LEGEND

GEOTEXTILE (WOVEN)		DOUBLE SIDED GEOCOMPOSITE	
GEONET			
GEOTEXTILE (NON-WOVEN)			
	GEOMEMBRANE		PLYWOOD
	GEOSYNTHETIC CLAY LINER		BENTONITE ENHANCED FML
	TOPSOIL		NATIVE SOIL
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	SELECT GRANULAR FILL		RIPRAP
	SOIL BARRIER LAYER FILL		BITUMINOUS PAVING
	SELECT AGGREGATE FILL		GRAVEL
	COMPACTED SOIL		AGGREGATE BASE COURSE

REV. NO.	DATE	DESCRIPTION
1	8/2016	ADDED NOTE CALLOUT

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 67165
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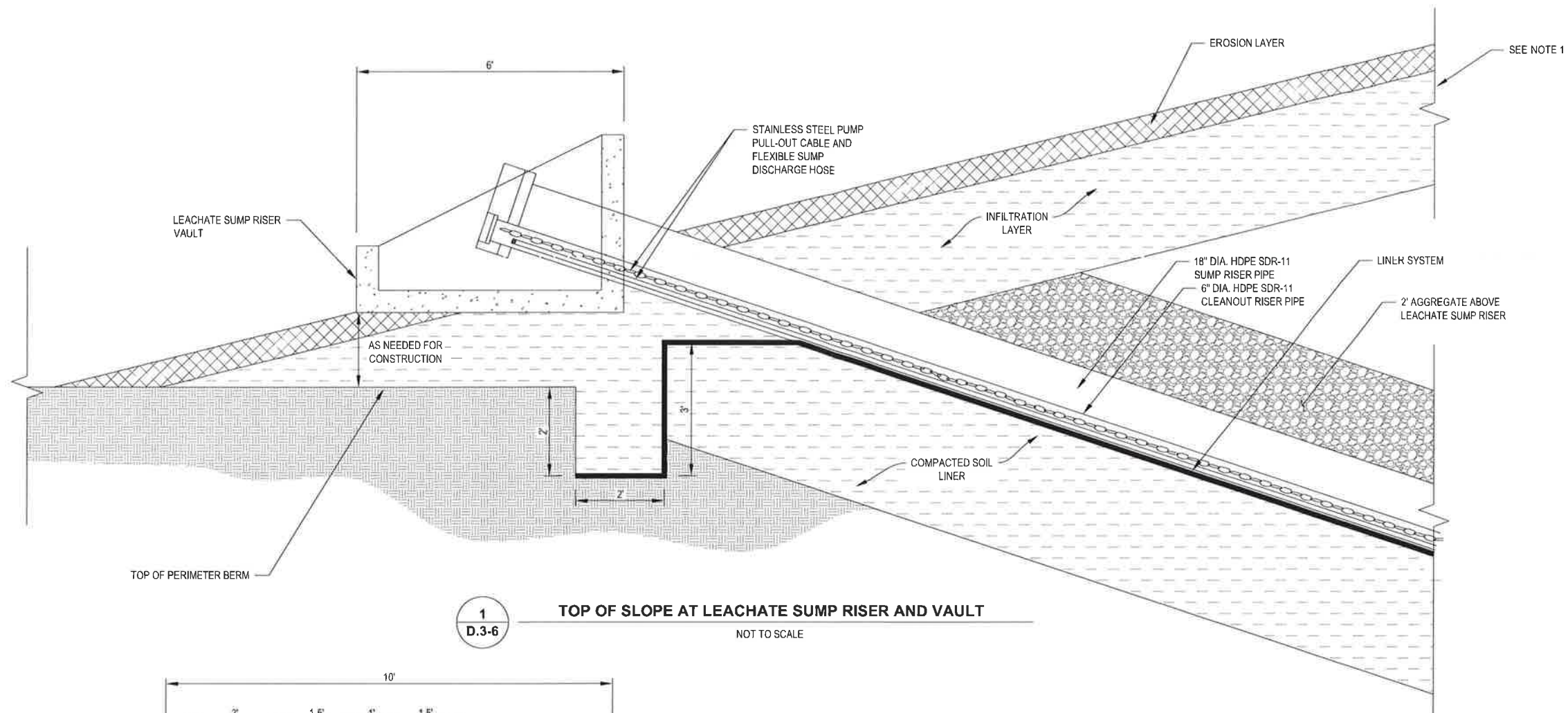
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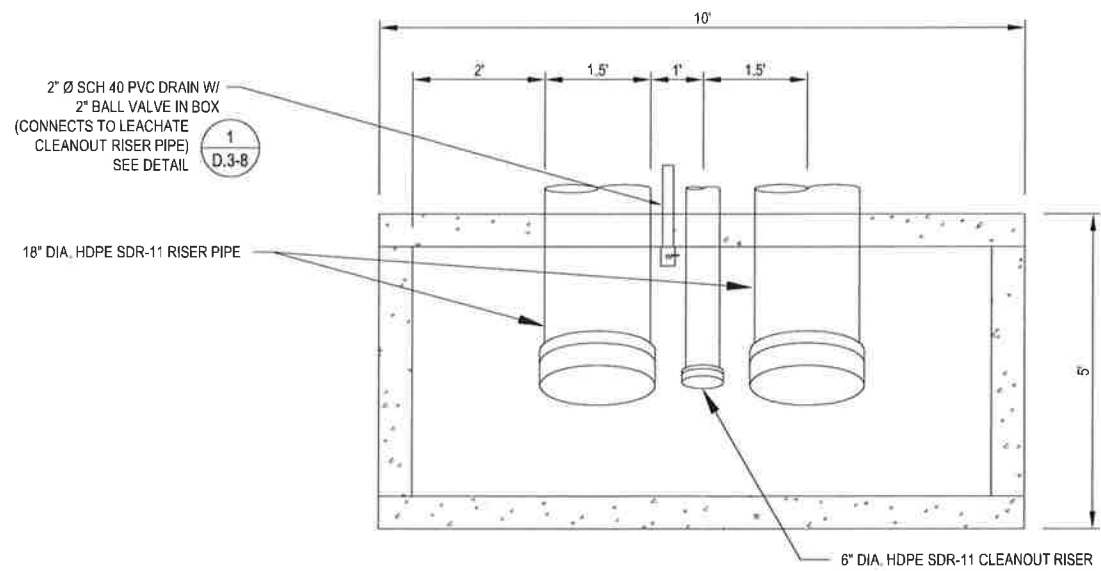
LINER DETAILS

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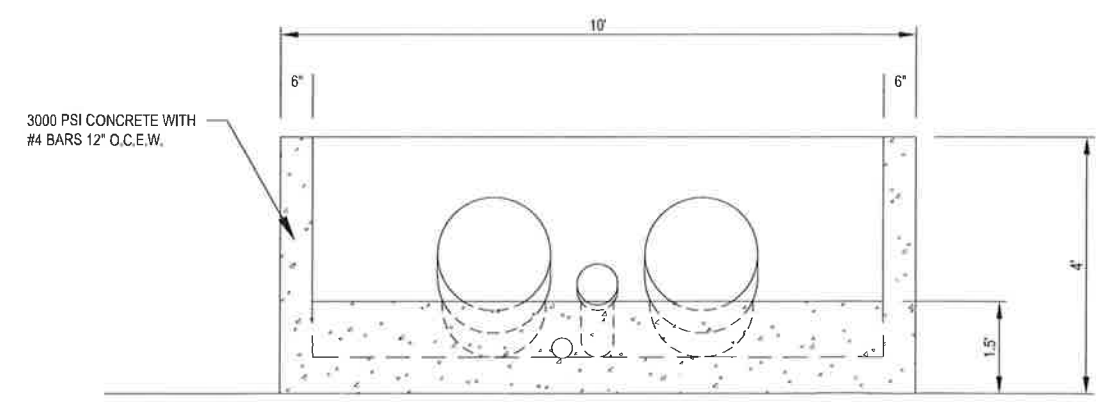
4 OF 11 SHEETS



1
D.3-6
TOP OF SLOPE AT LEACHATE SUMP RISER AND VAULT
NOT TO SCALE



2
D.3-6
RISER VAULT PLAN
NOT TO SCALE



3
D.3-6
RISER VAULT SECTION
NOT TO SCALE

NOTES:
1. FINAL COVER SYSTEM IS DESCRIBED IN APPENDIX III-D.8. IF CLASS I INDUSTRIAL WASTE IS PLACED IN THE CELL, A FML AND DRAINAGE LAYER WILL BE INCLUDED IN THE FINAL COVER SYSTEM OVER THE CELL.

REV. NO.	DATE	DESCRIPTION
1	8/2016	ADDED NOTE 1

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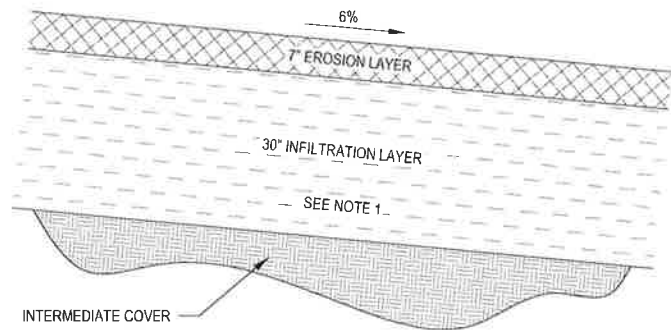
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LEACHATE COLLECTION DETAILS

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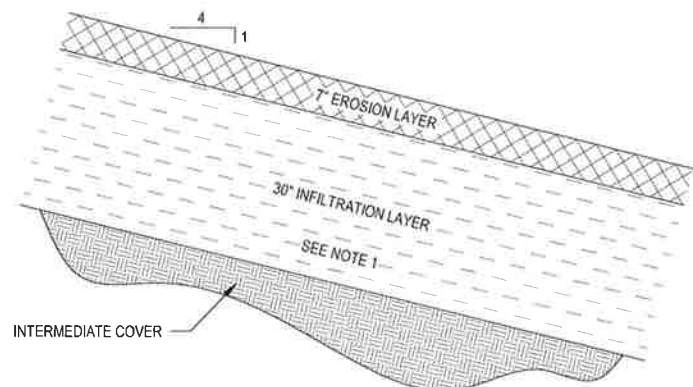
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1
D.3-11

FINAL COVER - TOP SLOPE

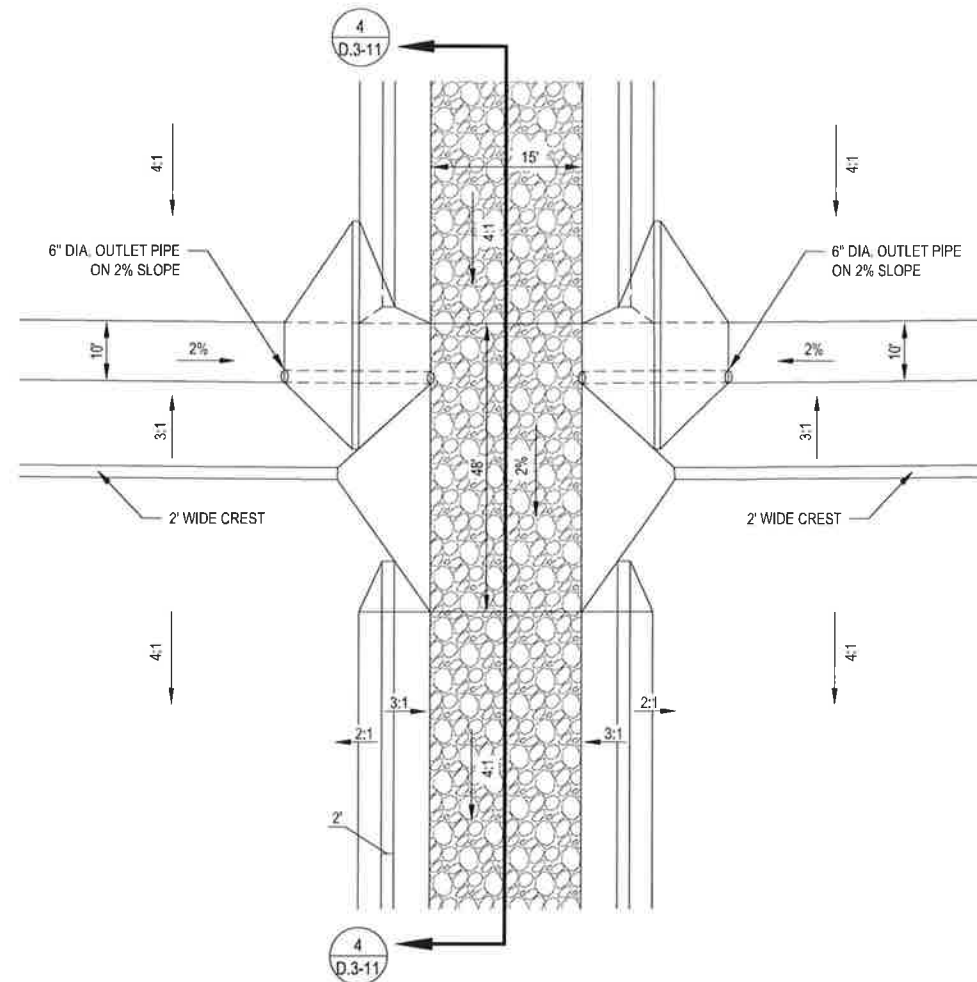
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2
D.3-11

FINAL COVER - SIDE SLOPE

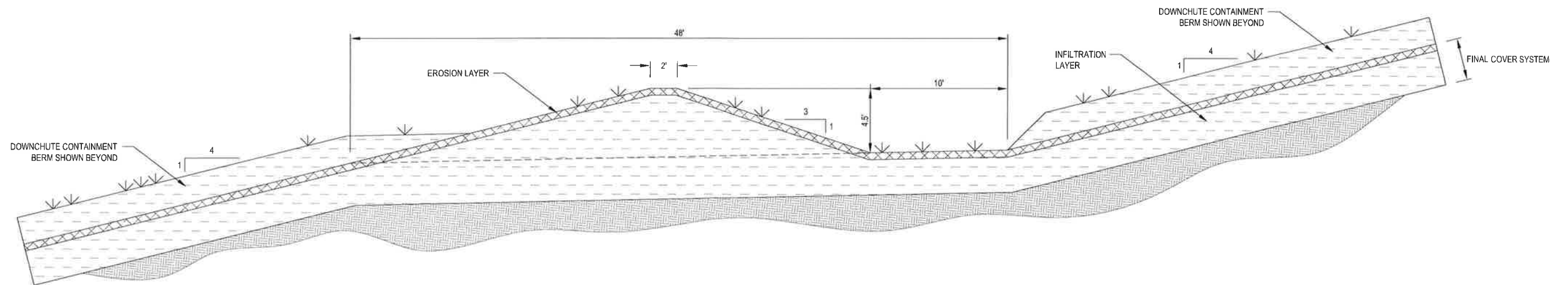
NOT TO SCALE



3
D.3-11

TERRACE BERM AND DOWNCHUTE - SECTION VIEW

NOT TO SCALE



4
D.3-11

TERRACE BERM AND DOWNCHUTE - PROFILE VIEW

NOT TO SCALE

NOTES:

- 1. FINAL COVER SYSTEM IS DESCRIBED IN APPENDIX III-D.8. IF CLASS I INDUSTRIAL WASTE IS PLACED IN THE CELL, A FML AND DRAINAGE LAYER WILL BE INCLUDED IN THE FINAL COVER SYSTEM OVER THE CELL.

REV. NO.	DATE	DESCRIPTION
1	8/2016	REVISED CALL OUTS; ADDED NOTE 1



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8-4-2016

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FINAL COVER DETAILS

PROJ. NO.:	148866	DATE:	APRIL 2015
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DRAWN BY:	MTE		
CHECKED BY:	RDS		
APPROVED BY:	MWO		