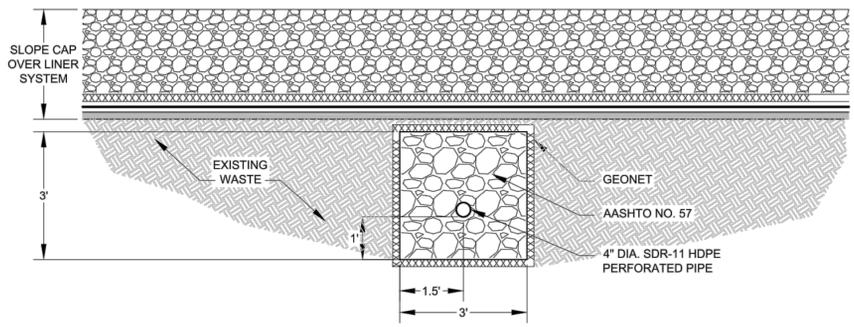
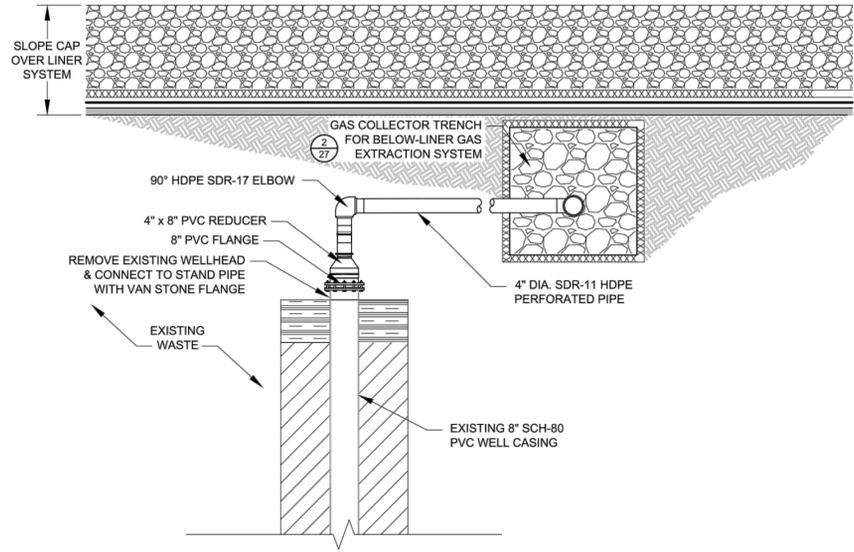


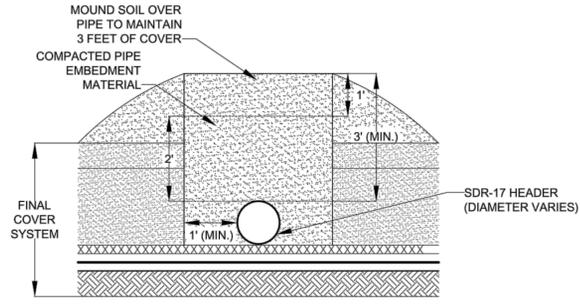
**1**  
**24**  
**STONE COLUMN FOR BELOW-LINER GAS EXTRACTION SYSTEM**  
NOT TO SCALE



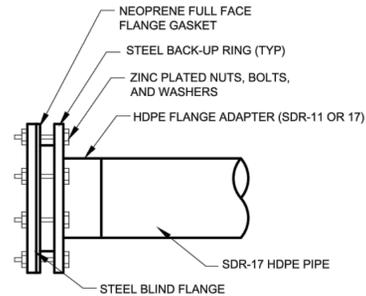
**2**  
**24**  
**GAS COLLECTOR TRENCH FOR BELOW-LINER GAS EXTRACTION SYSTEM**  
NOT TO SCALE



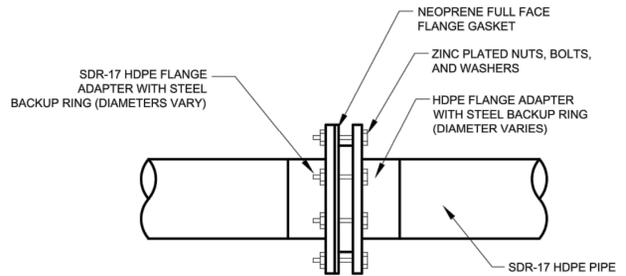
**3**  
**24**  
**TIE-IN TO EXISTING WELLS FOR BELOW-LINER GAS EXTRACTION SYSTEM**  
NOT TO SCALE



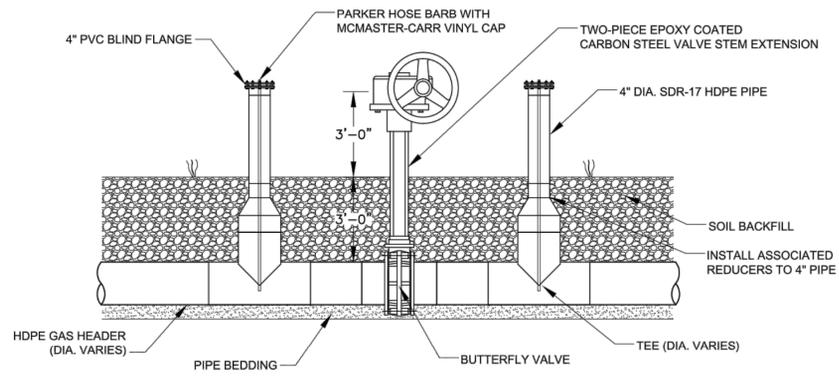
**4**  
**25**  
**GAS HEADER PIPE TRENCH (ABOVE CAP)**  
SCALE: 1\"/>



**5**  
**-**  
**BLIND FLANGE**  
NOT TO SCALE



**6**  
**-**  
**FLANGE TO FLANGE CONNECTION**  
NOT TO SCALE



**7**  
**25**  
**TYPICAL ISOLATION VALVE WITH CLEANOUTS**  
NOT TO SCALE

THIS DRAWING IS THE ORIGINAL DRAWING FROM THE "APPLICATION FOR PERMIT RENEWAL, DRPI INDUSTRIAL WASTE LANDFILL, NEW CASTLE DELAWARE, PREPARED BY GOLDER ASSOCIATES, INC. SEPTEMBER 2007, [MOST RECENTLY] REVISED MARCH 2015" AND SUBMITTED TO DNREC. NO CHANGES OR MODIFICATIONS HAVE BEEN MADE TO THIS DRAWING. IT HAS BEEN INCLUDED IN THIS PERMIT FOR VERTICAL EXPANSION FOR COMPLETENESS.

NOTE:  
1. ORIGINAL DRAWING TAKEN FROM GEOSYNTEC CONSULTANTS FILE 0319-427, DATED SEPTEMBER 2004.

REV	DATE	DES	DESCRIPTION	CADD	CHK	RW
10	10/27/14	JB	ALL GAS DETAILS REVISED PER CURRENT DESIGN	GLS	JB	PAW

PROJECT: **WM DELAWARE RECYCLABLE PRODUCTS, INC. PERMIT RENEWAL FOR CELL 6 EXPANSION NEW CASTLE, DELAWARE**

**PAUL A. WHITNEY**  
PROFESSIONAL ENGINEER  
10/27/14

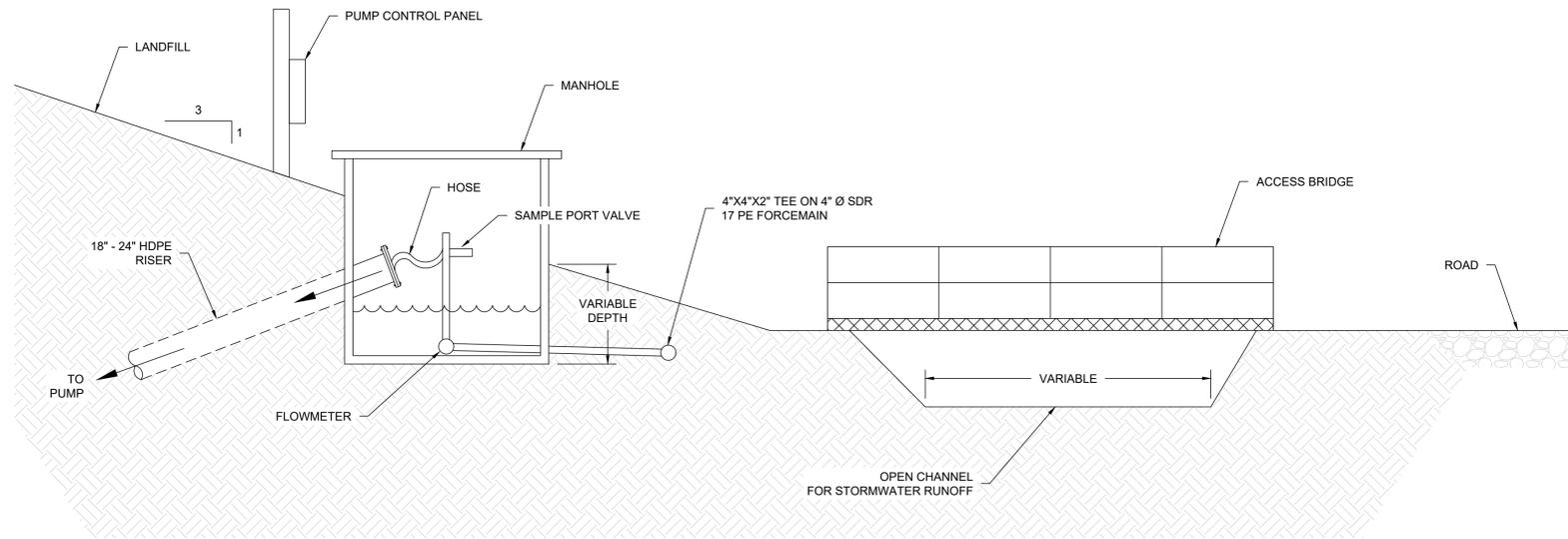
**LANDFILL GAS SYSTEM DETAILS II**

PROJECT No.	14-00742	FILE No.	1400742B026
DESIGN	JB 10/27/14	SCALE	AS SHOWN
CADD	GLS 10/27/14	REV.	0
CHECK	JB 10/27/14	<b>DRAWING 27</b>	
REVIEW	PAW 10/27/14		

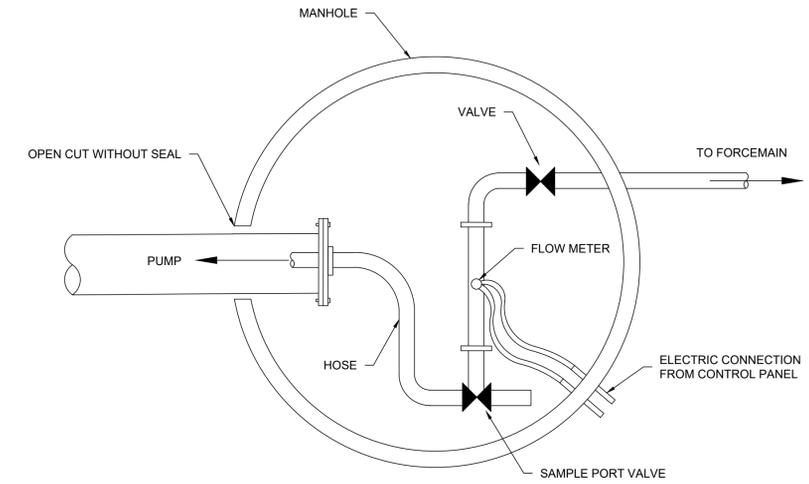
**Golder Associates**  
Bristol, Pennsylvania

Drawing File: 1400742B026.dwg Oct 27, 2014 - 14:03pm

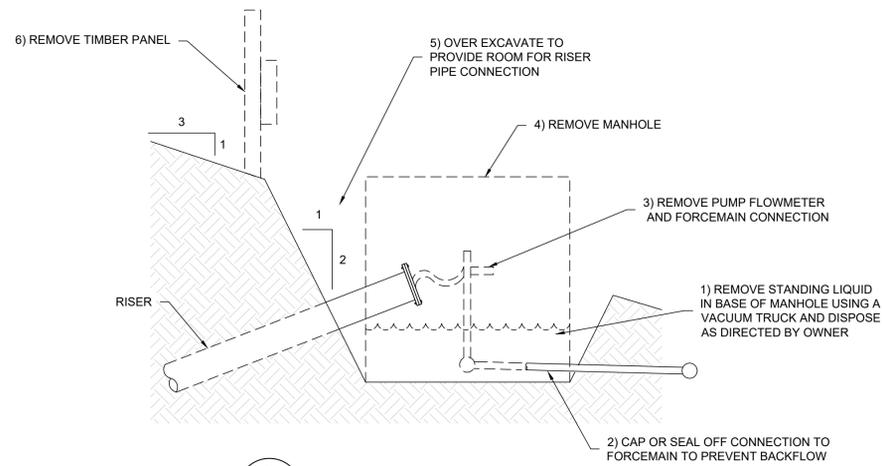




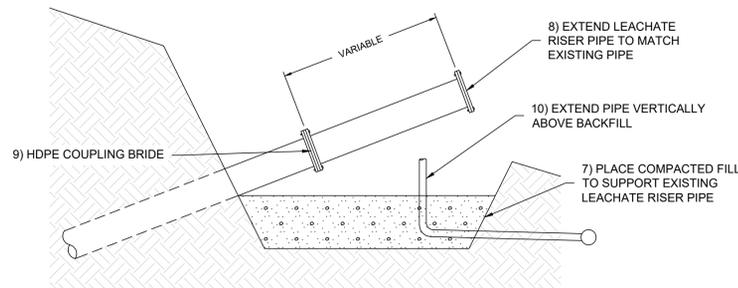
**1**  
-  
DETAIL  
LEACHATE MANHOLE  
SCALE: NTS



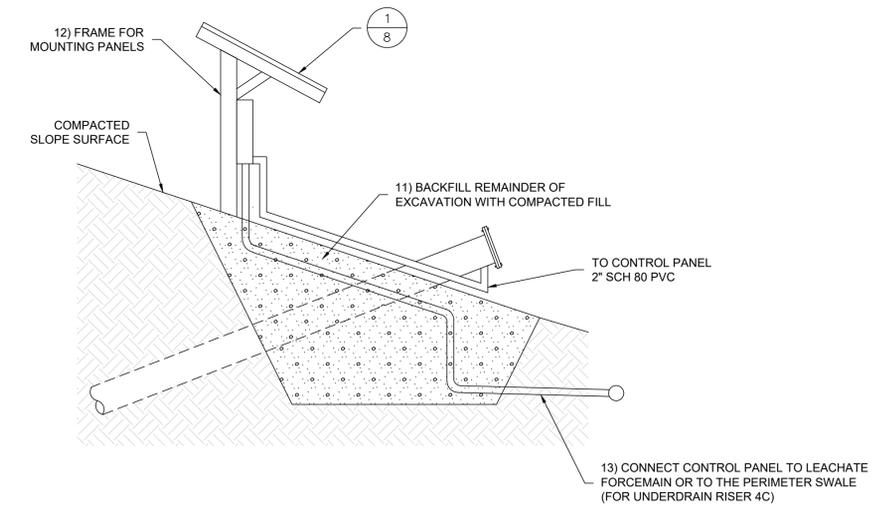
**2**  
-  
PLAN  
EXISTING LEACHATE MANHOLE CONFIGURATION  
SCALE: NTS



**3**  
-  
DETAIL  
FULL RETROFITTING - PHASE 1  
SCALE: NTS



**4**  
-  
DETAIL  
FULL RETROFITTING - PHASE 2  
SCALE: NTS

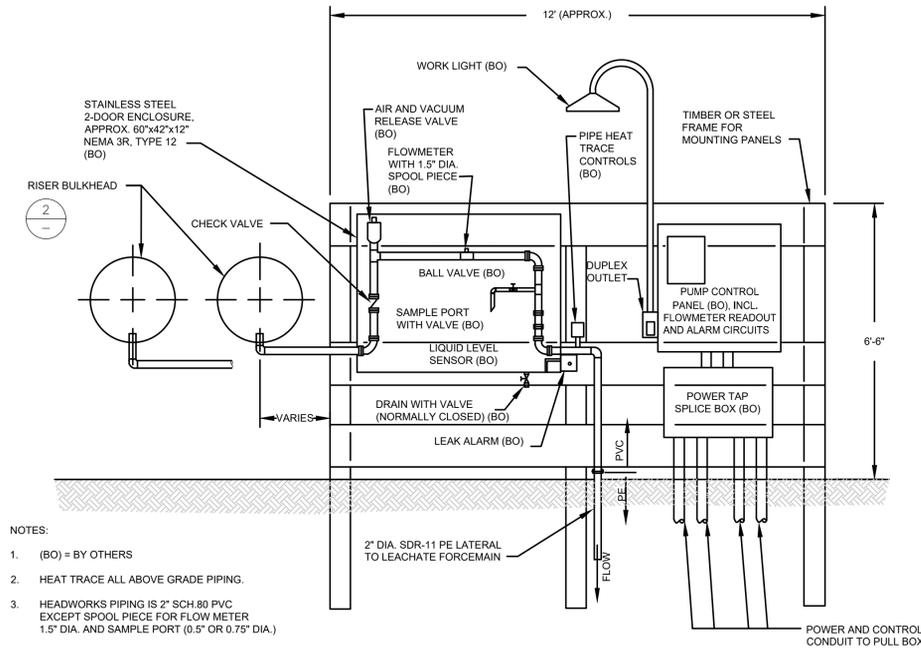


**5**  
-  
DETAIL  
FULL RETROFITTING - PHASE 3  
SCALE: NTS

NOTE:  
1. PIPE SIZES MAY VARY AND MUST BE CONFIRMED ON SITE

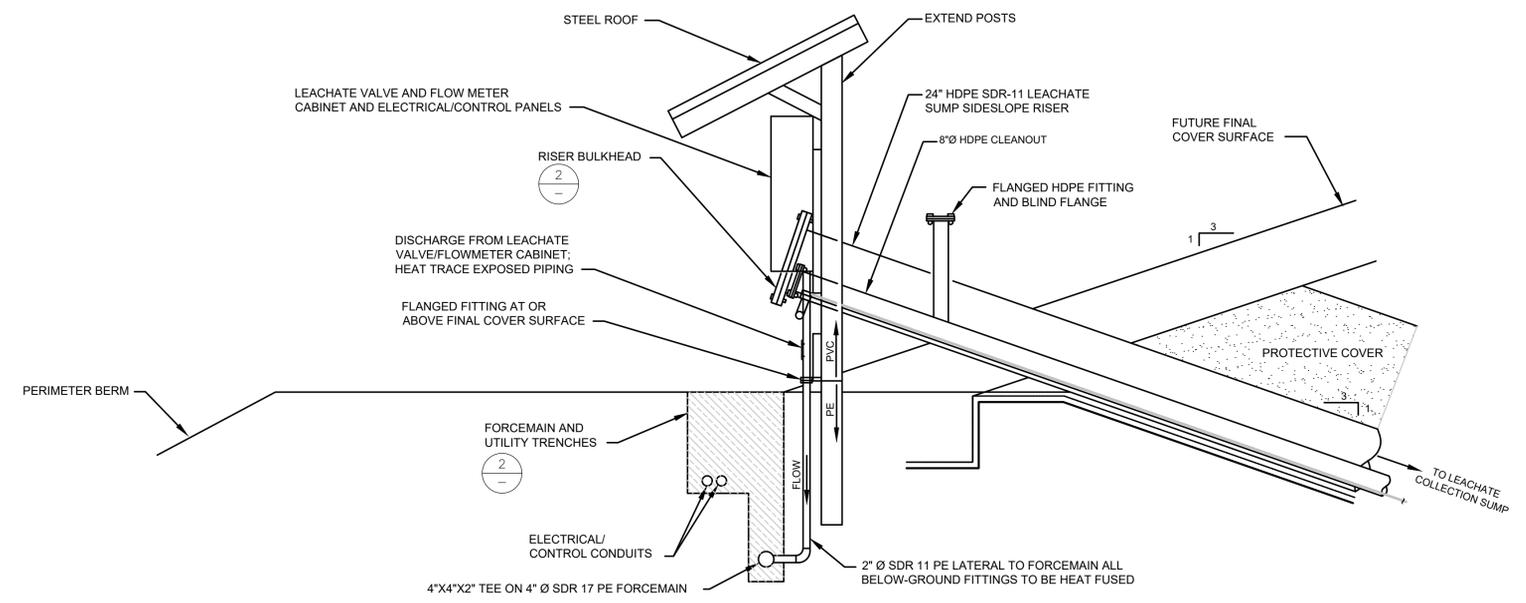
PERMIT DRAWING

REV	DATE	DESCRIPTION	DRN	APP
 				
<p>10221 WINNOCUPPIE CIRCLE, 4TH FLOOR COLUMBIA, MARYLAND 21044 USA PHONE: 410.381.4333</p> <p>246 MARSH LANE NEW CASTLE, DELAWARE 19720 PHONE: 302.655.1390</p>				
<p>TITLE: LEACHATE RETROFIT SCHEMATICS</p>				
<p>PROJECT: VERTICAL EXPANSION DESIGN MODIFICATION APPLICATION</p>				
<p>SITE: DRPI INDUSTRIAL WASTE LANDFILL NEW CASTLE, DELAWARE</p>				
<p>THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.</p> <p><i>C.H. Pardleton</i> SIGNATURE</p>		<p>DESIGN BY: KSS DATE: JUNE 2018</p> <p>DRAWN BY: MF/TJ/BF PROJECT NO.: ME1571</p> <p>CHECKED BY: KSS FILE: 1571-028</p> <p>REVIEWED BY: CHP DRAWING NO.: L1 OF L7</p> <p>APPROVED BY: CHP</p>		
<p>DATE</p>		<p>REGISTERED PROFESSIONAL ENGINEER No. 14185 DELAWARE</p>		



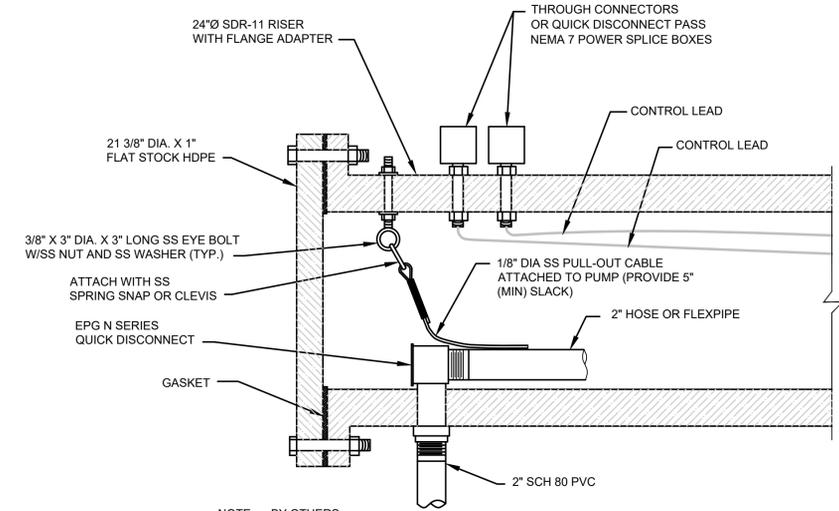
- NOTES:
- (BO) = BY OTHERS
  - HEAT TRACE ALL ABOVE GRADE PIPING.
  - HEADWORKS PIPING IS 2" SCH 80 PVC EXCEPT SPOOL PIECE FOR FLOW METER 1.5" DIA. AND SAMPLE PORT (0.5" OR 0.75" DIA.)

**A**  
ELEVATION  
LEACHATE RISER HEADWORKS AND CONTROL PANEL  
SCALE: NTS



NOTE: (BO) = BY OTHERS

**1**  
DETAIL  
LEACHATE RISER HEADWORKS AND CONTROL PANEL  
SCALE: NTS



NOTE: = BY OTHERS

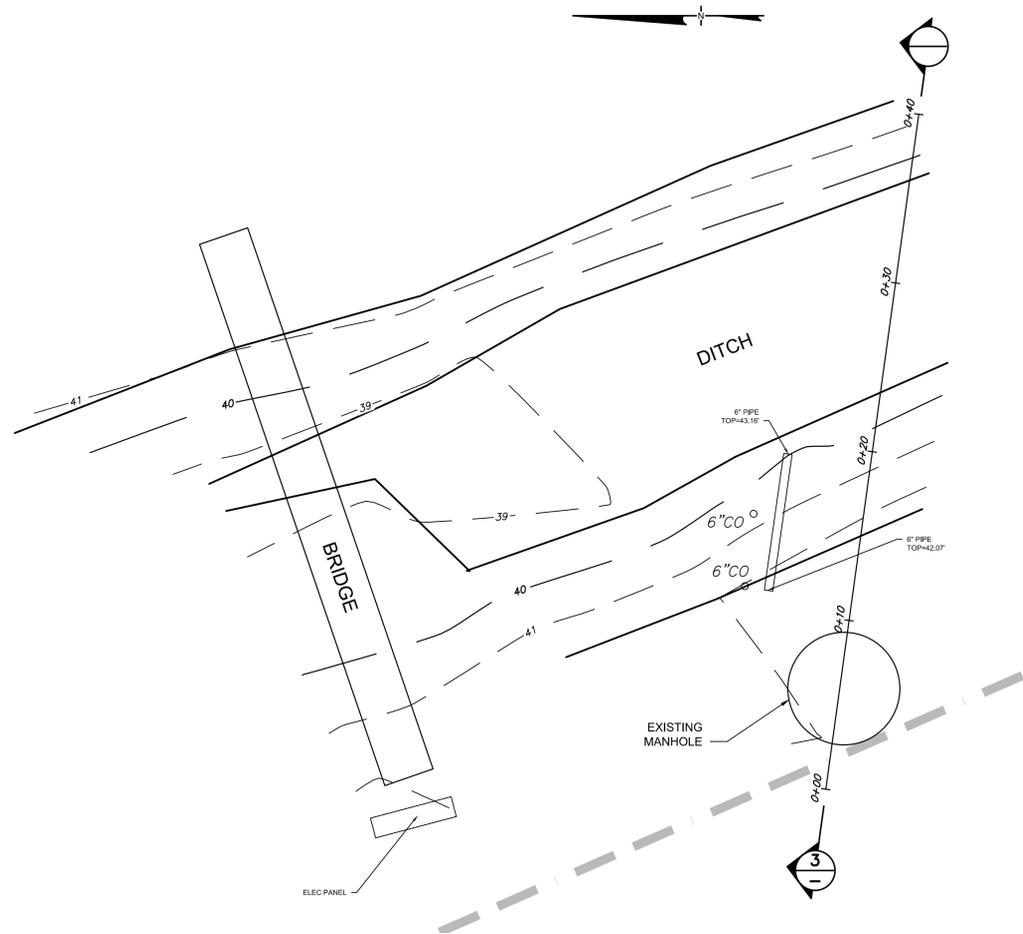
**2**  
DETAIL  
RISER BULKHEAD  
SCALE: NTS

NOTES:

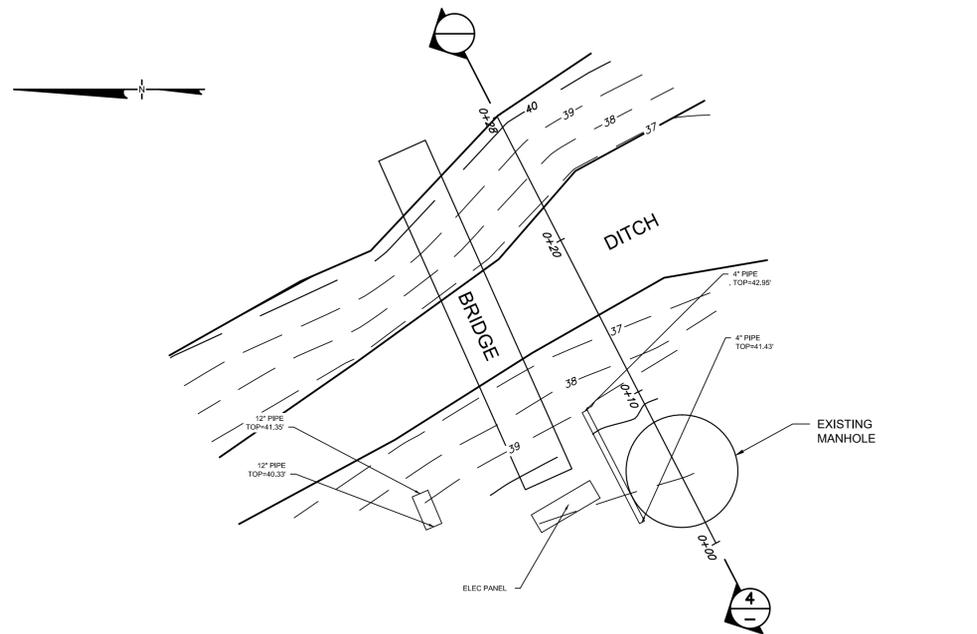
- PIPING AND FITTINGS FROM THE RISER THROUGH THE HEADWORKS SHALL BE SCHEDULE 80 PVC. PIPING SHALL BE 2" NOMINAL DIAMETER EXCEPT WHERE OTHER DIAMETERS ARE REQUIRED IN CONJUNCTION WITH THE FLOW SENSOR (SEE NOTE 6) AND SAMPLING PORT.
- BALL VALVES SHALL BE SCHEDULE 80 PVC BALL VALVES WITH FLANGED ENDS AS MANUFACTURED BY SLOON OR APPROVED EQUIVALENT.
- CHECK VALVES SHALL BE SPLIT DISC CHECK VALVES WITH TRUE UNION OR FLANGED ENDS, TECHNO MODEL NO. 5104-PVC-P OR APPROVED EQUIVALENT.
- AIR AND VACUUM RELEASE VALVES SHALL BE ALL PLASTIC CONSTRUCTION: HAYWARD 2" TRUE UNION AIR RELEASE VALVE; JOIN MODEL ARVD32 1" AIR RELEASE VALVE; IPEX MODEL VAPV507E OR VAPV512E; OR APPROVED EQUIVALENT.
- FLOW METERS SHALL BE EPG COMPANIES, INC. FLOW METER SYSTEMS FEATURING EPG MODEL 52 EP 150 FLOW SENSORS. A STRAIGHT RUN OF 1 1/2" SCH. 80 PVC PIPE SHALL BE PROVIDED FOR AT LEAST 20' UPSTREAM AND 10' DOWNSTREAM OF THE FLOW SENSOR.
- A MADISON MODEL NO. 4YM32 LIQUID LEVEL SENSOR SHALL BE INSTALLED AS A LEAK DETECTION DEVICE AT THE BOTTOM OF THE FLOW METER/VALVE ENCLOSURE. CONTROLS SHALL BE WIRED TO INITIATE AN ALARM AND SHUT DOWN LEACHATE PUMPS UPON DETECTION OF LIQUID IN THE BASE OF THE CABINET.
- FITTINGS AND VALVES WITHIN LEACHATE FORCE MAIN MANHOLES SHALL BE EITHER POLYETHYLENE OR SCHEDULE 80 PVC.

REV	DATE	DESCRIPTION	DRN	APP
<b>Geosyntec consultants</b> 10221 WINDSPIN CIRCLE, 4TH FLOOR COLUMBIA, MARYLAND 21044 USA PHONE: 410.381.4333				
<b>WM WASTE MANAGEMENT</b> DELAWARE RECYCLABLE PRODUCTS, INC. 246 MARSH LANE NEW CASTLE, DELAWARE 19720 PHONE: 302.655.1380				
TITLE: LEACHATE MANAGEMENT AND GROUNDWATER CONTROL SYSTEM DETAILS				
PROJECT: VERTICAL EXPANSION DESIGN MODIFICATION APPLICATION				
SITE: DRPI INDUSTRIAL WASTE LANDFILL NEW CASTLE, DELAWARE				
THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.		DESIGN BY: KSS DATE: JUNE 2018 DRAWN BY: MF/TJ/BF PROJECT NO.: ME1571 CHECKED BY: KSS FILE: 1571-029 REVIEWED BY: CHP DRAWING NO.: APPROVED BY: CHP		
		<b>L2</b> OF <b>L7</b>		

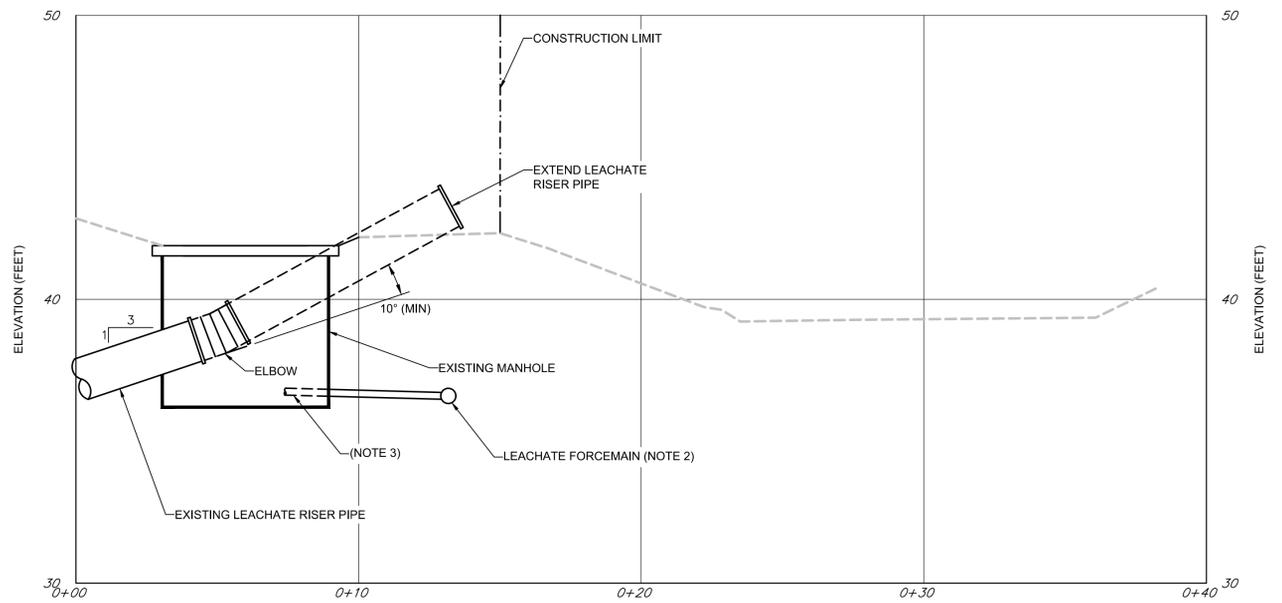
PERMIT DRAWING



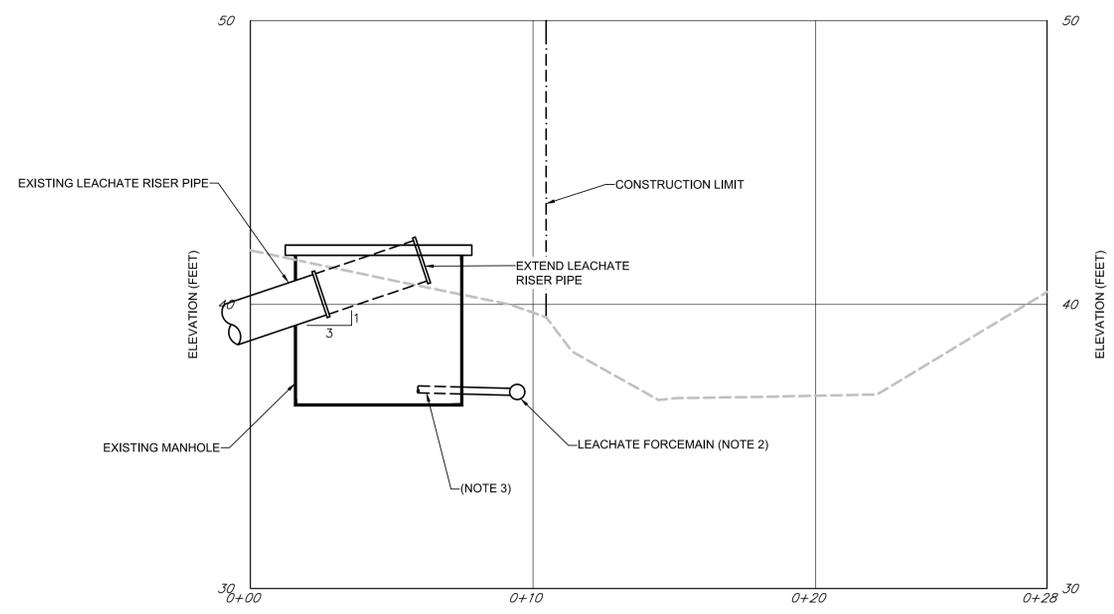
**1**  
**8** PLAN  
LEACHATE RISER 3-4  
SCALE: 1" = 5'



**2**  
**8** PLAN  
LEACHATE RISER 4B-SOUTH  
SCALE: 1" = 5'



**3**  
- PROFILE  
LEACHATE RISER 3-4  
SCALE: 1" = 3'

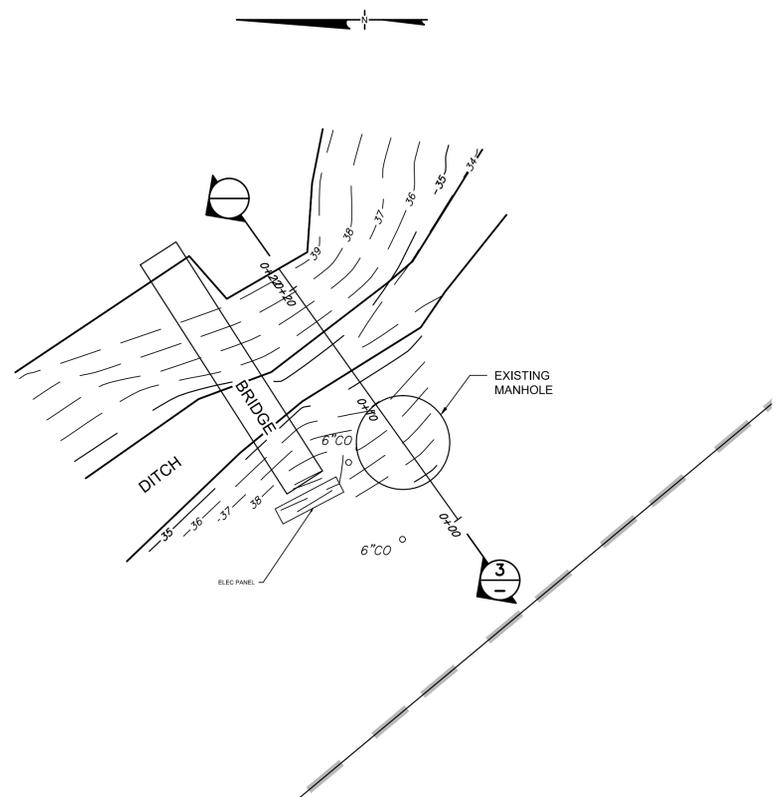


**4**  
- PROFILE  
LEACHATE RISER 4B-SOUTH  
SCALE: 1" = 3'

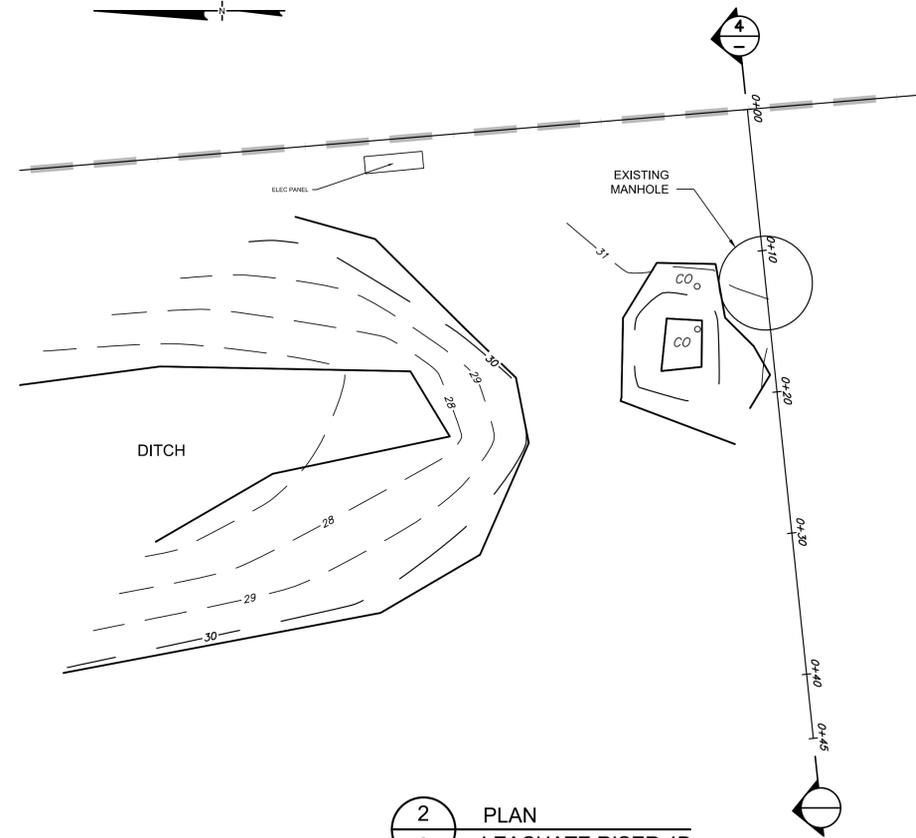
- NOTE:
1. FOLLOW PROCEDURE DESCRIBED ON SHEET 3
  2. LEACHATE FORCEMAIN AND DRAIN LINE LOCATION AND DEPTH ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
  3. EXISTING CONNECTIONS BETWEEN RISER AND FORCEMAIN NOT SHOWN FOR CLARITY. PROPOSED CONNECTION BETWEEN RISER AND FORCEMAIN SHALL BE CONSTRUCTED AS SHOWN IN DETAIL 5 ON DRAWING 3.

PERMIT DRAWING

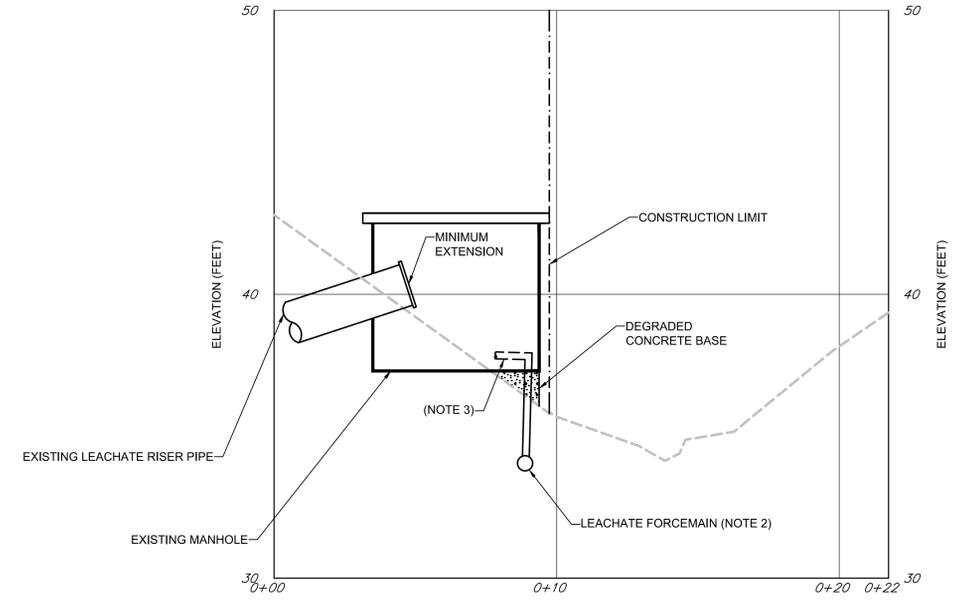
REV	DATE	DESCRIPTION	DRN	APP
<b>Geosyntec</b> <small>consultants</small> 10221 WINCOPPIN CIRCLE, 4TH FLOOR COLUMBIA, MARYLAND 21044 USA PHONE: 410.381.4333				
<b>WM WASTE MANAGEMENT</b> <small>DELAWARE RECYCLABLE PRODUCTS, INC.</small> 240 MARSH LANE NEW CASTLE, DELAWARE 19720 PHONE: 302.655.1300				
<b>TITLE:</b> LEACHATE RISER PLAN PROFILE I				
<b>PROJECT:</b> VERTICAL EXPANSION DESIGN MODIFICATION APPLICATION				
<b>SITE:</b> DRPI INDUSTRIAL WASTE LANDFILL NEW CASTLE, DELAWARE				
<small>THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.</small>  SIGNATURE		DESIGN BY: KSS DATE: JUNE 2018 DRAWN BY: MF/TJ/BF PROJECT NO.: ME1571 CHECKED BY: KSS FILE: 1571-030-34 REVIEWED BY: CHP DRAWING NO.: APPROVED BY: CHP <b>L3</b> OF <b>L7</b>		
				



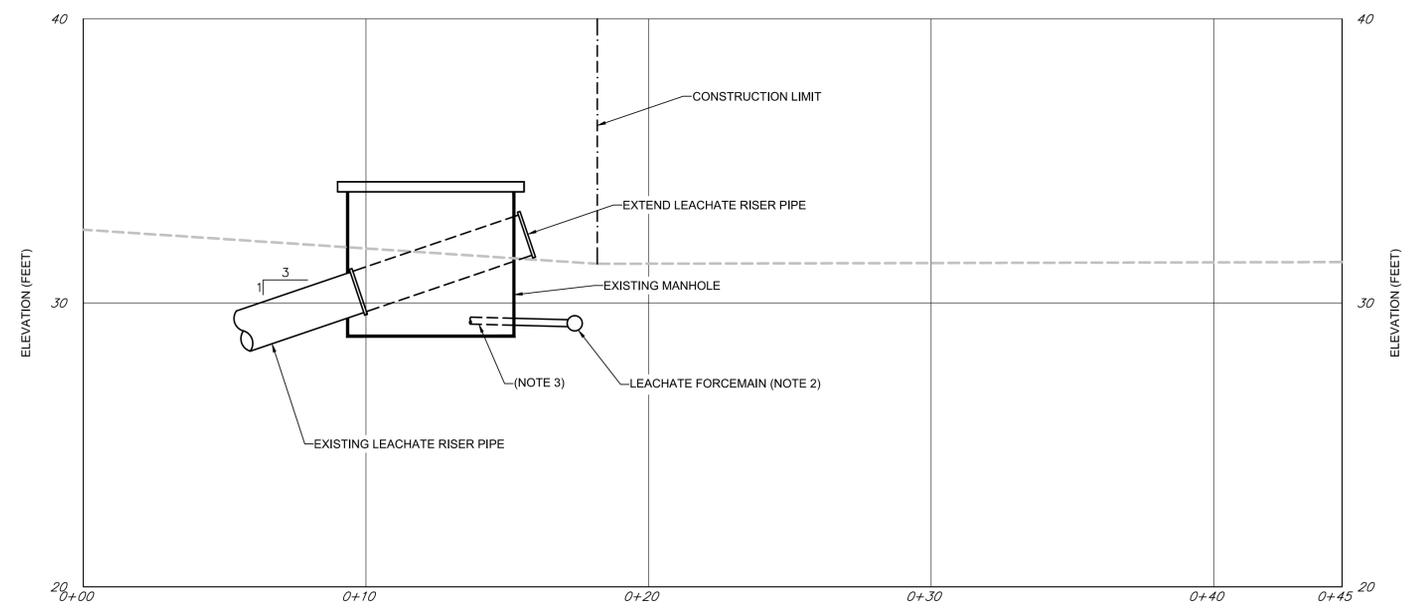
**1**  
**8** PLAN  
LEACHATE RISER 4B-NORTH  
SCALE: 1" = 6'



**2**  
**8** PLAN  
LEACHATE RISER 4D  
SCALE: 1" = 6'



**3**  
- PROFILE  
LEACHATE RISER 4B-NORTH  
SCALE: 1" = 3'

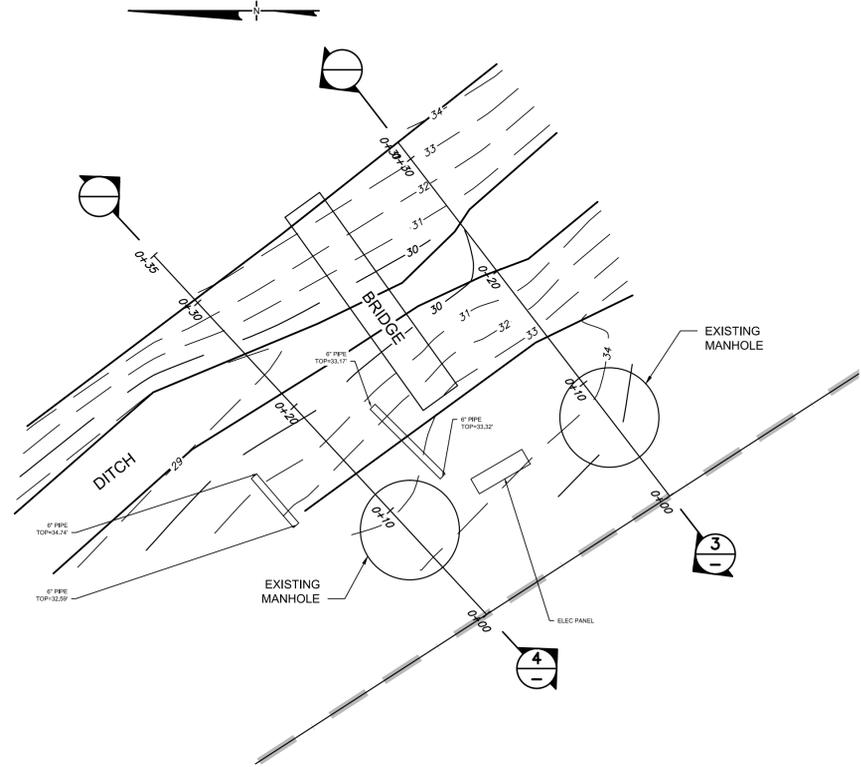


**4**  
- PROFILE  
LEACHATE RISER 4D  
SCALE: 1" = 3'

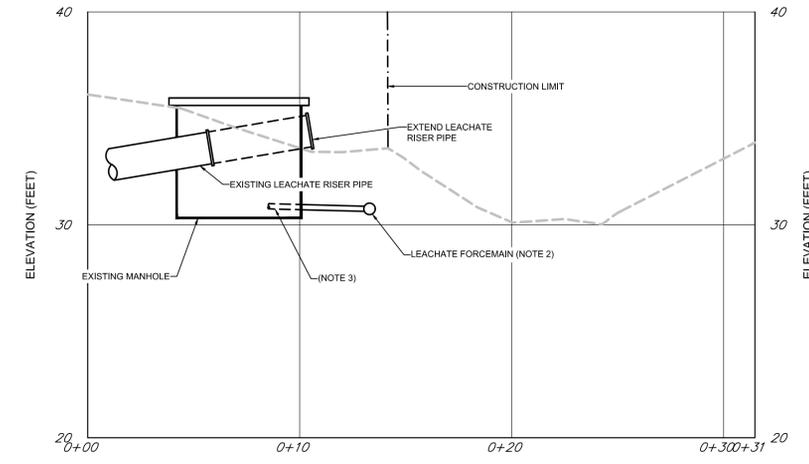
- NOTE:
1. FOLLOW PROCEDURE DESCRIBED ON SHEET 3
  2. LEACHATE FORCEMAIN AND DRAIN LINE LOCATION AND DEPTH ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
  3. EXISTING CONNECTIONS BETWEEN RISER AND FORCEMAIN NOT SHOWN FOR CLARITY. PROPOSED CONNECTION BETWEEN RISER AND FORCEMAIN SHALL BE CONSTRUCTED AS SHOWN IN DETAIL 5 ON DRAWING 3.

PERMIT DRAWING

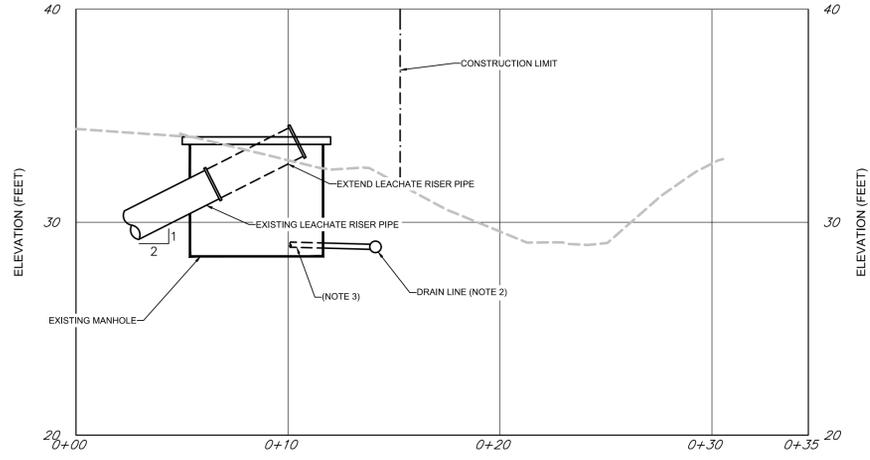
REV	DATE	DESCRIPTION	DRN	APP
 				
<small>10221 WINGOPIN CIRCLE, 4TH FLOOR COLUMBIA, MARYLAND 21044 USA PHONE: 410.381.4333</small>				
<small>246 MARSH LANE NEW CASTLE, DELAWARE 19720 PHONE: 302.655.1360</small>				
<b>TITLE: LEACHATE RISER PLAN PROFILE II</b>				
<b>PROJECT: VERTICAL EXPANSION DESIGN MODIFICATION APPLICATION</b>				
<b>SITE: DRPI INDUSTRIAL WASTE LANDFILL NEW CASTLE, DELAWARE</b>				
<small>THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.</small>  SIGNATURE				DESIGN BY: KSS DATE: JUNE 2018 DRAWN BY: MFT/JBF PROJECT NO.: ME1571 CHECKED BY: KSS FILE: 1571-030-34 REVIEWED BY: CHP DRAWING NO.: APPROVED BY: CHP
<b>L4</b> OF <b>L7</b>				



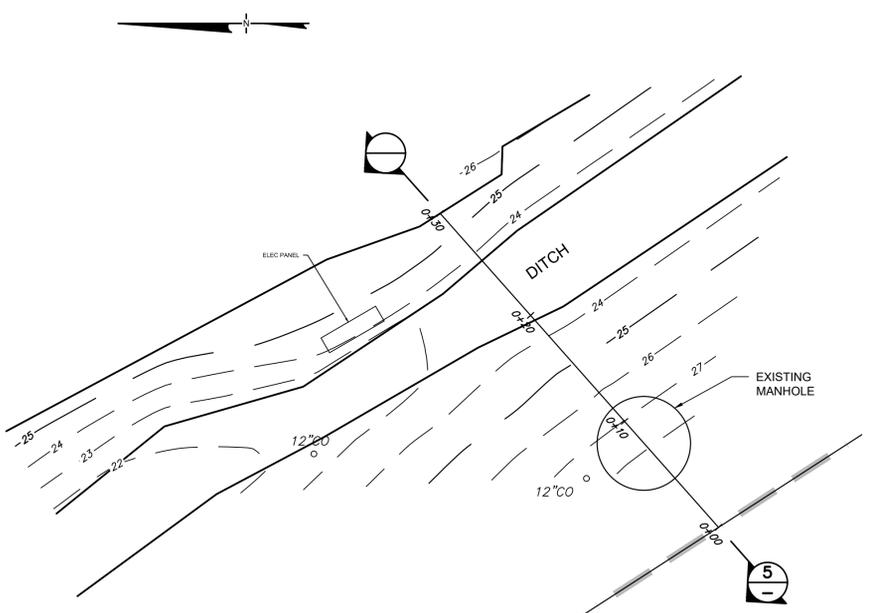
1 PLAN  
8 LEACHATE RISER 4A  
SCALE: 1" = 6'



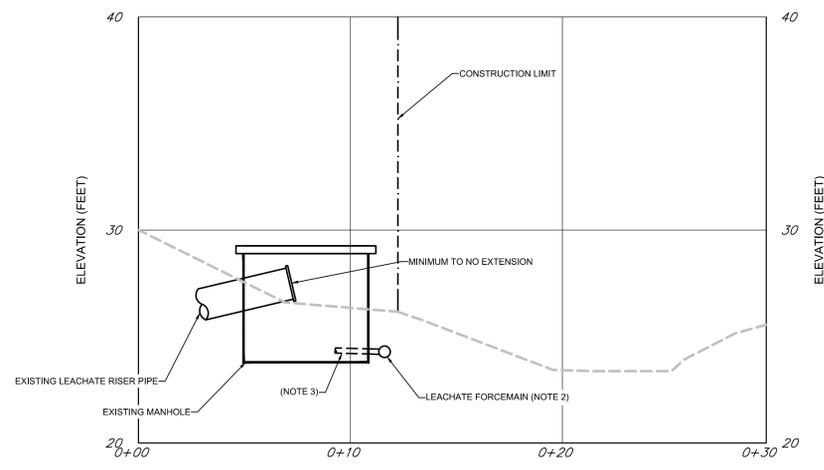
3 PROFILE  
- LEACHATE RISER 4A  
SCALE: 1" = 4'



4 PROFILE  
- UNDERDRAIN RISER 4A  
SCALE: 1" = 4'



2 PLAN  
8 LEACHATE RISER 4E  
SCALE: 1" = 6'

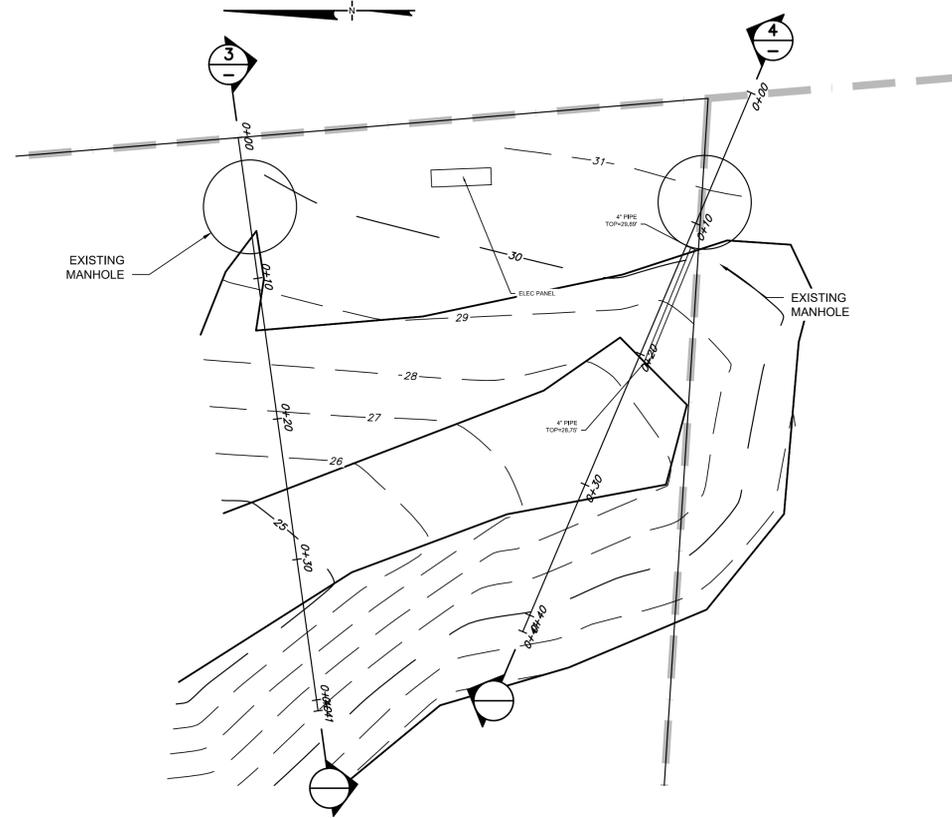


5 PROFILE  
- LEACHATE RISER 4E  
SCALE: 1" = 4'

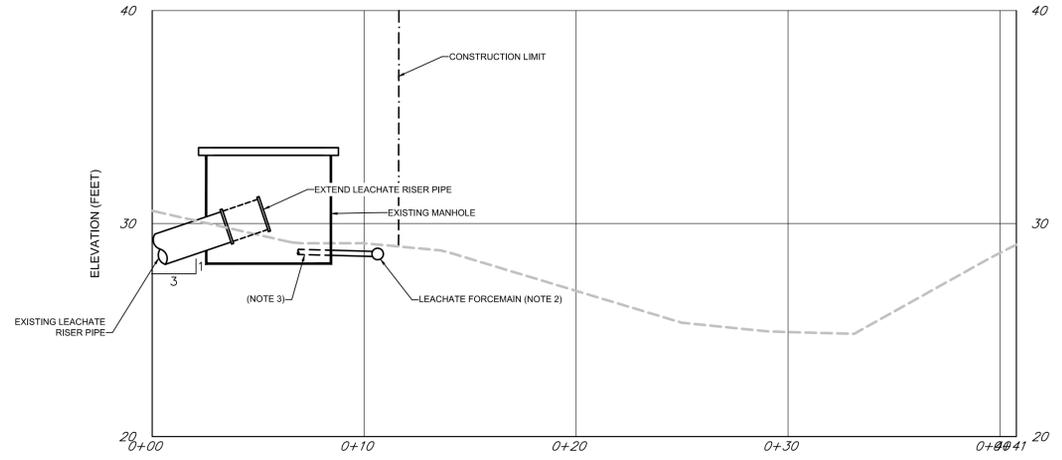
- NOTE:
1. FOLLOW PROCEDURE DESCRIBED ON SHEET 3
  2. LEACHATE FORCEMAIN AND DRAIN LINE LOCATION AND DEPTH ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
  3. EXISTING CONNECTIONS BETWEEN RISER AND FORCEMAIN NOT SHOWN FOR CLARITY. PROPOSED CONNECTION BETWEEN RISER AND FORCEMAIN SHALL BE CONSTRUCTED AS SHOWN IN DETAIL 5 ON DRAWING 3.

REV	DATE	DESCRIPTION	DRN	APP
<b>Geosyntec consultants</b> 10221 WINGPIN CIRCLE, 4TH FLOOR COLUMBIA, MARYLAND 21044 USA PHONE: 410.381.4333				
<b>WM WASTE MANAGEMENT</b> DELAWARE RECYCLABLE PRODUCTS, INC. 246 MARSH LANE NEW CASTLE, DELAWARE 19720 PHONE: 302.655.1390				
<b>LEACHATE RISER PLAN PROFILE III</b>				
<b>PROJECT: VERTICAL EXPANSION DESIGN MODIFICATION APPLICATION</b>				
<b>SITE: DRPI INDUSTRIAL WASTE LANDFILL NEW CASTLE, DELAWARE</b>				
THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED. <i>C.H. Pendleton</i> SIGNATURE		DESIGN BY: KSS DATE: JUNE 2018 DRAWN BY: MFT/JBF PROJECT NO.: ME1571 CHECKED BY: KSS FILE: 1571-030-34 REVIEWED BY: CHP DRAWING NO.: APPROVED BY: CHP		
DATE:		<b>L5 OF L7</b>		

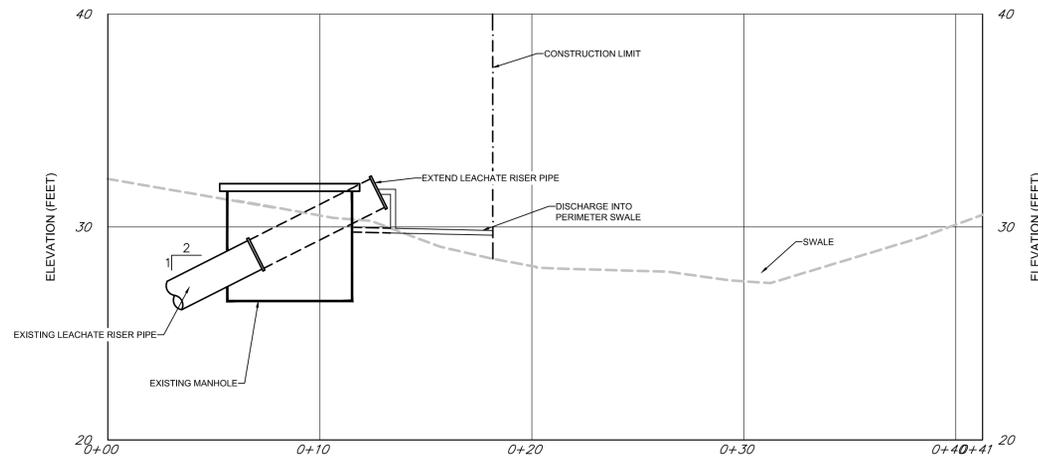
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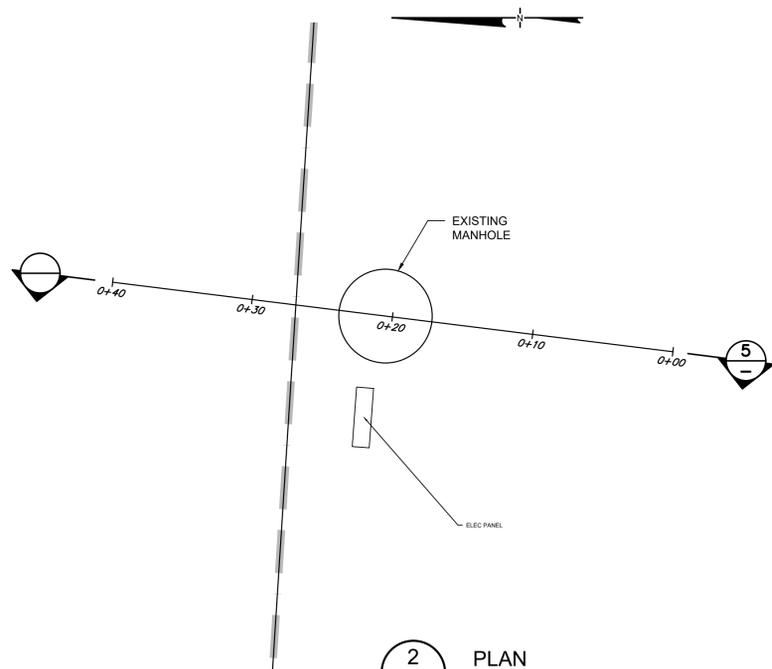
**1**  
8 PLAN  
LEACHATE RISER 4C  
SCALE: 1" = 6'



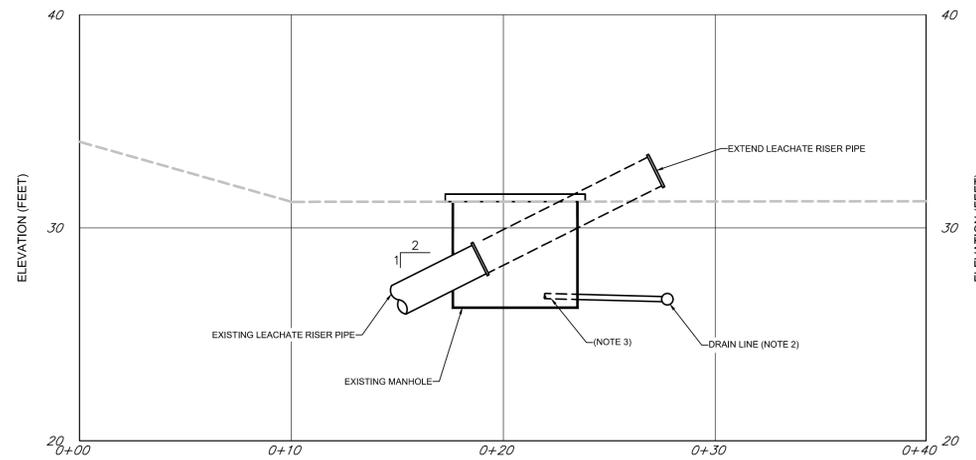
**3**  
- PROFILE  
LEACHATE RISER 4C  
SCALE: 1" = 4'



**4**  
- PROFILE  
UNDERDRAIN RISER 4C  
SCALE: 1" = 4'



**2**  
8 PLAN  
CELL 1, 2, 3 & 5  
SCALE: 1" = 6'

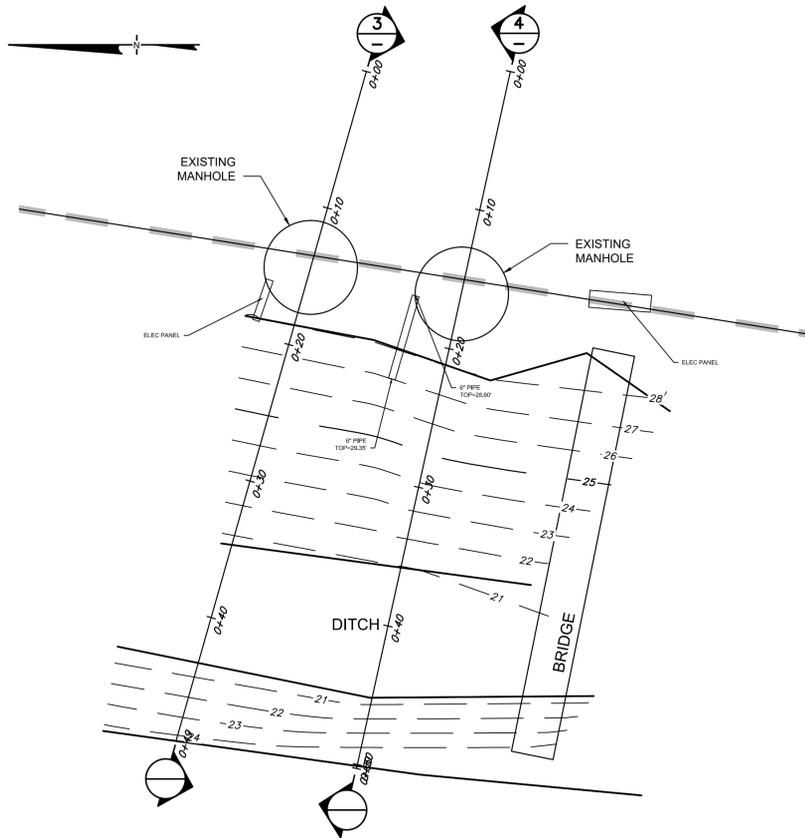


**5**  
- PROFILE  
CELL 1, 2, 3 & 5  
SCALE: 1" = 4'

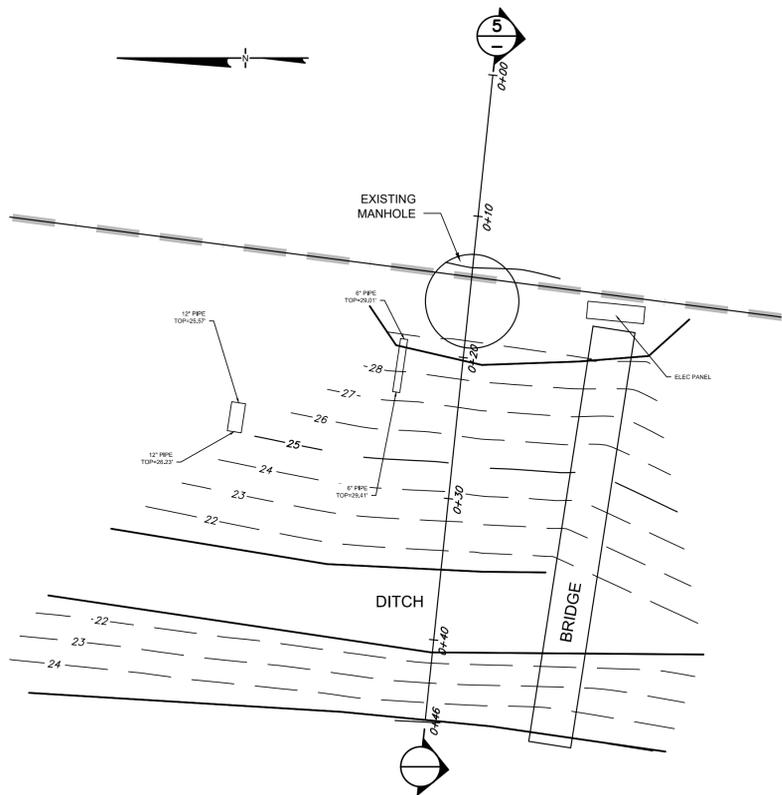
- NOTE:
1. FOLLOW PROCEDURE DESCRIBED ON SHEET 3
  2. LEACHATE FORCEMAIN AND DRAIN LINE LOCATION AND DEPTH ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
  3. EXISTING CONNECTIONS BETWEEN RISER AND FORCEMAIN NOT SHOWN FOR CLARITY. PROPOSED CONNECTION BETWEEN RISER AND FORCEMAIN SHALL BE CONSTRUCTED AS SHOWN IN DETAIL 5 ON DRAWING 3.

REV	DATE	DESCRIPTION	DRN	APP
<b>Geosyntec consultants</b> 10221 WINCOPPIN CIRCLE, 4TH FLOOR COLUMBIA, MARYLAND 21044 USA PHONE: 410.381.4333				
<b>WM WASTE MANAGEMENT</b> DELAWARE RECYCLABLE PRODUCTS, INC. 240 MARSH LANE NEW CASTLE, DELAWARE 19720 PHONE: 302.655.1300				
<b>TITLE:</b> LEACHATE RISER PLAN PROFILE IV				
<b>PROJECT:</b> VERTICAL EXPANSION DESIGN MODIFICATION APPLICATION				
<b>SITE:</b> DRPI INDUSTRIAL WASTE LANDFILL NEW CASTLE, DELAWARE				
THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.		DESIGN BY: KSS DATE: JUNE 2018 DRAWN BY: MF/TJ/BF PROJECT NO.: ME1571 CHECKED BY: KSS FILE: 1571-030-34 REVIEWED BY: CHP DRAWING NO.: APPROVED BY: CHP <b>L6</b> OF <b>L7</b>		
<i>C.H. Pendleton</i> SIGNATURE				

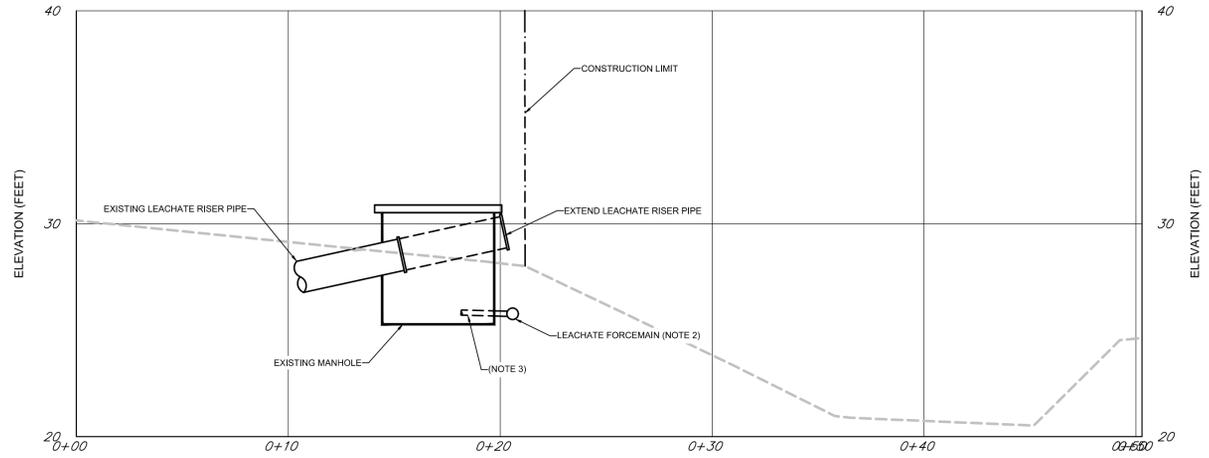
PERMIT DRAWING



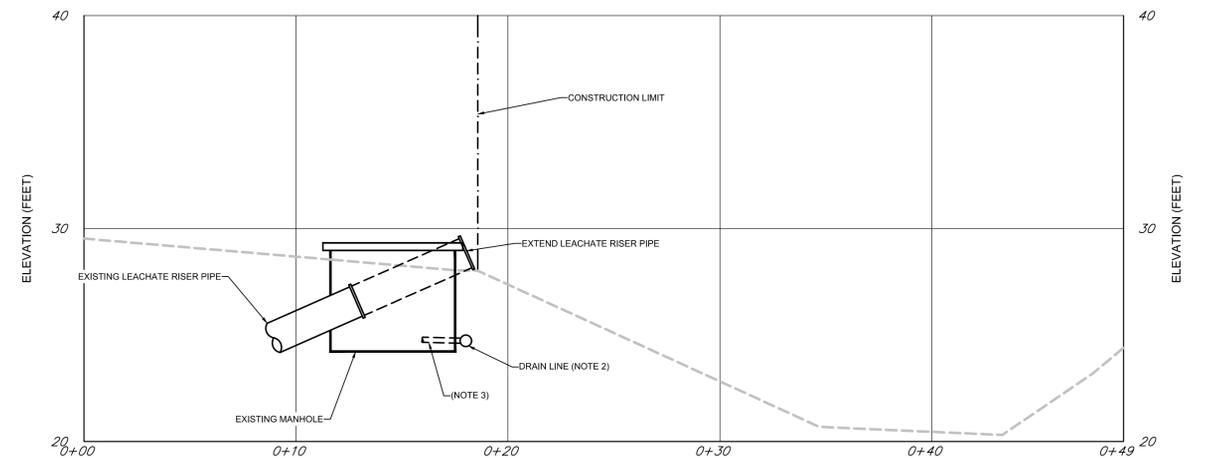
**1**  
8 PLAN  
LEACHATE RISER 5A  
SCALE: 1" = 6'



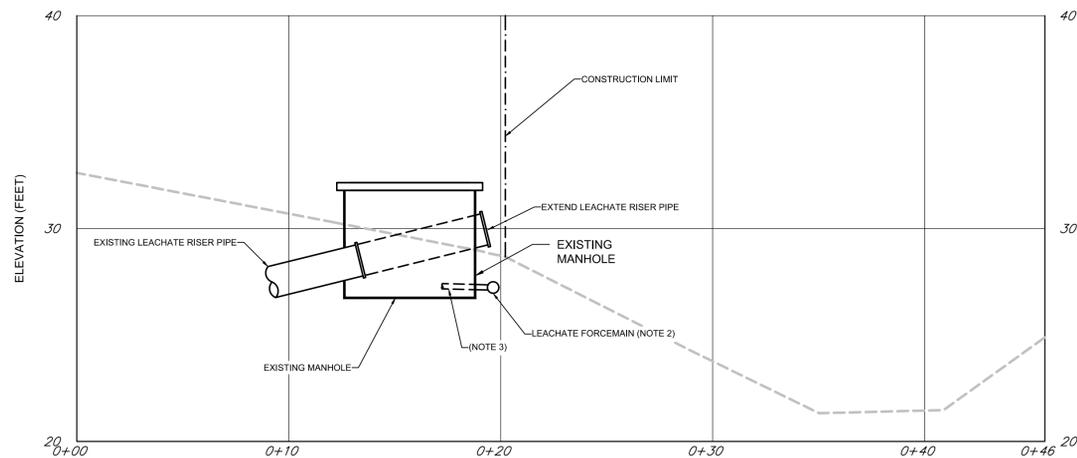
**2**  
8 PLAN  
LEACHATE RISER 5B  
SCALE: 1" = 6'



**3**  
- PROFILE  
LEACHATE RISER 5A  
SCALE: 1" = 4'



**4**  
- PROFILE  
UNDERDRAIN RISER 5A  
SCALE: 1" = 4'



**5**  
- PROFILE  
LEACHATE RISER 5B  
SCALE: 1" = 4'

- NOTE:
1. FOLLOW PROCEDURE DESCRIBED ON SHEET 3
  2. LEACHATE FORCEMAIN AND DRAIN LINE LOCATION AND DEPTH ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY CONTRACTOR.
  3. EXISTING CONNECTIONS BETWEEN RISER AND FORCEMAIN NOT SHOWN FOR CLARITY. PROPOSED CONNECTION BETWEEN RISER AND FORCEMAIN SHALL BE CONSTRUCTED AS SHOWN IN DETAIL 5 ON DRAWING 3.

REV	DATE	DESCRIPTION	DRN	APP
<b>Geosyntec consultants</b> 10221 WINCOPPIN CIRCLE, 4TH FLOOR COLUMBIA, MARYLAND 21044 USA PHONE: 410.381.4333				
<b>WM WASTE MANAGEMENT</b> DELAWARE RECYCLABLE PRODUCTS, INC. 240 MARSH LANE NEW CASTLE, DELAWARE 19720 PHONE: 302.655.1300				
<b>LEACHATE RISER PLAN PROFILE V</b>				
<b>VERTICAL EXPANSION DESIGN MODIFICATION APPLICATION</b>				
<b>DRPI INDUSTRIAL WASTE LANDFILL NEW CASTLE, DELAWARE</b>				
THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.		DESIGN BY: KSS DATE: JUNE 2018 DRAWN BY: MF/TJ/BF PROJECT NO.: ME1571 CHECKED BY: KSS FILE: 1571-030-34 REVIEWED BY: CHP DRAWING NO.: APPROVED BY: CHP <b>L7</b> OF <b>L7</b>		
SIGNATURE <i>C.H. Pevdleton</i>		REGISTERED PROFESSIONAL ENGINEER DELAWARE No. 14185		

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