

November 30, 2006

Ms. Jennifer Easterly
Wisconsin Department of Natural Resources
625 E. County Road Y, Suite 700
Oshkosh, WI 54901-9731

Re: Design for Permanent Piping for Gas Extraction System
Ripon Highway FF/NN Landfill, WDNR License # 467, BRRTS # 02-20-000915

Dear Jennie:

Enclosed is the design report for converting the temporary aboveground piping to permanent underground piping for the landfill gas extraction system at the Ripon FF/NN Landfill. The design includes a buried knock-out tank for the separation and collection of potential condensate from the gas. If you have any questions please give me a call.

Sincerely,

GeoTrans, Inc.



Michael R. Noel, P.G.
Vice President, Principal Hydrogeologist

Enclosures

cc: Nelson Olavarria, Cooper Industries
Steve Barg, City of Ripon
Lee Archiquette, Wisconsin DNR
Bernard Schorle, U.S. EPA

**ENGINEERING DESIGN PLANS AND SPECIFICATIONS
PERMANENT CONVEYANCE PIPING
ACTIVE LANDFILL GAS EXTRACTION SYSTEM
HWY FF/NN LANDFILL
WDNR LICENSE # 467, BRRTS # 02-20-000915
RIPON, WISCONSIN**

November 29, 2006

Prepared For:

FF/NN PRP Group

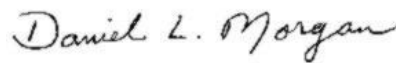
Prepared By:

**GeoTrans, Inc.
175 N. Corporate Drive, Suite 100
Brookfield, Wisconsin 53045**

Project No. 1011.004



**Michael R. Noel, P.G., Vice-President
Principal Hydrogeologist**



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Senior Engineer**

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1.0 INTRODUCTION

An interim landfill gas extraction system for the Highway FF/NN Landfill in Ripon, Wisconsin was installed in March 2006. The system was installed in accordance with the August 5, 2005 Design Report and October 5, 2005 Design Supplement that was conditionally approved by the Wisconsin Department of Natural Resources in a letter dated October 17, 2005. The interim system included temporary aboveground piping for the gas extraction system. This design report includes plans and specifications to make the system permanent by burying the gas piping and adding a condensate collection tank.

2.0 REPORT NARRATIVE

Based on the performance to date of the volatile organic compound (VOC) landfill gas extraction system, the current installed system is adequate in meeting the regulatory requirements for controlling methane gas migration and for capturing air born VOC contaminants and improving groundwater quality. To allow the gas extraction system to operate through the winter and to protect the horizontal piping from the elements and animal damage, burial of the piping below the surface grade is recommended. Burial of piping will also make maintenance of the cap (i.e. mowing) much easier.

Burial of the piping will address the two most likely sources of performance loss in the following manner:

- 1) As the ambient outdoor temperature drops, the warmer air extracted from the landfill will condense on the piping interior walls as it moves towards the gas extraction equipment trailer location. To date, very little condensate has been in evidence along the horizontal piping and no condensate has been collected in the tank. Burying the piping will provide thermal protection and allow any condensate to flow downhill towards the equipment trailer for collection in a drip tank for subsequent off-site characterization and disposal. Due to the location of the geomembrane of the landfill cap, burial depth will be limited to less than two feet below the ground surface. While this is above the frost line, it will provide a substantial amount of protection from wind, extreme cold, and surface disruption.
- 2) Burial of the horizontal piping will also avoid damage caused by animals. Deer have crushed the above ground piping in several places and any potential gnawing or burrowing will be eliminated by placing up to two feet of cover soil over the buried horizontal piping.

The mechanical elements of the piping have performed satisfactorily to date. The three-inch corrugated drain tile used for the above-ground horizontal piping will be replaced with three-inch schedule 40 PVC piping buried at up to two feet below grade. Adhesive-joined PVC joints will eliminate the air leakage problems that were initially present with the corrugated above-ground piping.

The other additional design element will be to add a 100-gallon drip tank at the equipment trailer location. The tank fluid level will be inspected monthly and emptied as required. All liquid waste will be properly disposed of off site with proper characterization and documentation included in the groundwater status reports submitted to the WDNR.

3.0 ENGINEERING JUSTIFICATION

The modifications required to winterize the active gas extraction system are in compliance with NR 504.08 (2) (f) through (n) as follows:

(f) Each gas extraction well (all are existing) currently has and will retain a flow control valve and sampling access port.

(g) Each gas header is plumbed so that gas can move in two directions at every tee, thus allowing pressure relief. At the three west leg ends, pressure relief could occur back down an adjacent well, but this could occur in any looped system without backflow prevention.

(h) The minimum slope will follow the original landfill cap design, which complied with the 2% slope requirement for pipes over the waste mass.

(i) Polyethylene pipe is being used for the new buried gas extraction piping.

(j) The blower in the gas extraction equipment trailer will produce 0-170 cubic feet of air per minute at up to 14 inches of mercury (= 15.9 feet of water = 190 inches of water). This assures a minimum vacuum of 10 inches of water at the wells furthest from the blower.

(k) A 100-gallon drip tank is included and is installed immediately before the blower to separate condensate from the gas while under maximum operating vacuum.

(l) All of the installed gas extraction piping will be placed within the limits of the waste. No additional clay cap or secondary containment is necessary.

(m) The system is designed to collect all condensate. Volumes of condensate will be measured using a water level probe and calculated using the 100-gallon drip tank dimensions. Samples of condensate can be collected with a bailer from the drip tank through the drop tube installed to allow access to the tank for the water level probe, a bailer, and a suction hose to pump out the condensate for disposal.

(n) No flare is required at this site due to prior engineering analyses.

The following figures are attached and provide the design for the gas collection system:

- Figure 1 – Existing Active Landfill Gas Extraction System Layout
- Figure 2 – 2006 Active Landfill Gas Extraction System Winterization – Well Head Details
- Figure 3 – 2006 Active Landfill Gas Extraction System Winterization – Manifold/Drip Tank Details

In addition, a complete set of the March 15, 1996 “Final Cover/ System Construction” plans (nine 36” x 24”size sheets) are included for reference and to comply with the

applicable portions of NR 514.05 (10) (a) and (b), and NR 5.14.05 (11). Only the changes necessary to complete the winterization of the existing active landfill gas extraction system are detailed in Figures 1, 2, and 3.

4.0 DESCRIPTIVE SPECIFICATIONS

4.1 Summary Scope of Work

The 3-inch diameter black corrugated piping currently routed along the ground surface from the landfill gas extraction wells to the vacuum blower trailer located at the northeast corner of the landfill shown in Figure 1 (attached) will be replaced with subsurface 3-inch diameter schedule 40 PVC piping.

4.2 Removals

The existing 3-inch diameter black corrugated piping will be disconnected at the well head, decoupled, rolled up into 3-5 foot diameter rolls, removed from the site, and stored at a location designated by the City of Ripon.

At the well head, the duct tape will be removed and the black, corrugated piping will be disconnected. All well head fittings and piping will be preserved. Duct tape adhesive will be removed from any pipe used as a contact surface for a cemented PVC joint.

At the horizontal joints, the “y” connections will be disconnected as necessary to allow the black, corrugated piping to be rolled up and removed. At the vacuum blower, the black corrugated piping will be removed at the manifold.

4.3 Well Head Connections

At each well head, GeoTrans will verify whether a 3-inch PVC slip coupling or nipple is required to connect to the existing well head piping. The new horizontal nipple will be used as the final make-up piece so that it can be cut to fit once the new vertical pipe is buried to connect to the 3-inch PVC piping to the vacuum blower trailer. Shop-thread one end of a 3-5 foot long piece of 3-inch PVC pipe and place the male camlock fitting (Attachment 2) on the threaded end. Once the new vertical connection to the buried 3-inch horizontal PVC is completed, place the new connection hose on the two male camlock fittings and trial fit the hose to the well head. Cut the 3-inch horizontal nipple to fit so that the hose has no moisture traps (drains properly) between the well head and the vertical pipe. Refer to Figure 2 (attached) for details.

4.4 New Buried Piping Vertical Terminations

At each well head, locate a new 3-inch PVC vertical termination of the horizontal piping at a 6-foot distance from the vertical well head, towards the vacuum trailer and on the downhill slope. Shop fabricate a 2'-3" length of PVC pipe, thread one end, and attach a

male camlock fitting on the threaded end for use as the vertical termination. Cement a 3-inch 90-degree elbow to the other end. The top surface of the camlock should be at 1-foot above finished surface grade. Refer to Figure 2 for details.

4.5 New Buried Horizontal Piping

New 3-inch diameter schedule 40 PVC pipe and slip couplings for PVC-cemented joints will be purchased in 10, 20, or 40-foot lengths. The estimated total length of 3-inch PVC pipe required is 2,300 feet. See Figure 1 for horizontal piping routing and Figure 2 attached for vertical location. Route new piping in a similar manner to existing above ground piping, adjusting routing to maintain downhill pitch. Place a 12-gage steel wire at mid-depth of trench above piping to along future location with a metal detector.

4.6 Installation of the 100-Gallon Drip Tank

Plumb the existing PVC manifold into each new buried 3-inch horizontal piping header. Locate manifold at 2 feet below surface grade. Plumb manifold discharge to the center of the existing 100-gallon drip tank. See Figure 3 (attached) for a plan view for relocation of the existing manifold, the location of the drip tank, and reuse of the equipment trailer suction hose.

Place concrete support blocks on each side of the relocated manifold around the valves and test fittings to support 2.5-foot lengths of 24-inch diameter concrete pipe. Place 24-inch diameter concrete (or plastic or corrugated galvanized culvert) pipe vertically to allow surface access to the valves and test fittings. Place a suitable weather protective cover over the 24-inch diameter pipe and ballast the cover to keep it in place.

Plumb the existing 100-gallon drip tank to the relocated manifold discharge and to the vacuum trailer blower suction pipe. Install 4-inch diameter drop tube to allow surface access to the drip tank for fluid level check with a water level probe and hose access for pumping out accumulated liquid. See the attached Figure 3 for details.

4.7 Piping and Tank Installation

Bids will be obtained from City of Ripon area contractors for the piping and tank installation work. A schedule for construction will also be obtained. As-built drawings will be prepared by the contractor and furnished to the WDNR upon completion of the work.

ATTACHMENT 1
BILL OF MATERIALS

EXHIBIT 1

29-Nov-06
1011.004

Bill of Material for Active Landfill Gas Extraction System Winterization
All PVC items schedule 40

Items - Well Head	Number
3-inch PVC horizontal slip coupling	9
3-inch PVC horizontal 3-5 foot thread one end make up nipple	9
3-inch black plastic/aluminum male camlock X female NPPT threaded	9
5-foot long X 3-inch diameter hose with female camlock fittings each end	9
Items - Vertical Stick Ups for Buried 3-inch diameter horizontal piping	
2'-3" vertical 3-inch diameter PVC pipe threaded one end	9
3-inch black plastic/aluminum male camlock X female NPPT threaded	9
3-inch diameter PVC 90 degree elbows - slip joint	9
Items - Horizontal Buried Piping	
Linear Feet 3-inch diameter pipe w/slip couplings	2300
NOTE: Lay piping downhill from wells to vacuum blower trailer	
45-degree 3-inch PVC wyes for junctions - slip joint	9
Steel wire, 12 gage roll, linear feet	2300
Items - Relocated Manifold at Vacuum Blower Trailer	
3-inch diameter PVC 90 degree elbows - slip joint	3
3-inch diameter PVC 45 degree elbows - slip joint	3
3-inch PVC horizontal slip coupling	3
8-inch concrete blocks	12
2.5-foot long by 24-inch diameter concrete/galvanized corrugated/plastic vertical pipes	3
24-inch diameter covers with ballast	3
Items - 100 Gallon Drip Tank	
100-gallon drip tank	1
Linear Feet 2-inch diameter PVC pipe	40
2-inch diameter PVC 90 degree elbows - slip joint	3
4" X 2" reducers - slip joint	2
Linear Feet 4-inch diameter PVC pipe	7
4-inch diameter PVC cross	1
4-inch PVC slip cap	1

ATTACHMENT 2
HOSE AND CAMLOCK FITTING REFERENCE

Pneumatic System Components
Hose & Fittings

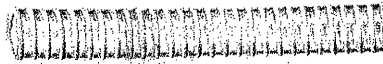
Call Click Stop By®

GOOD YEAR

Nutriflex Lightweight Food Hose

This hose is up to 30% lighter than comparable hoses. Handles pressure, vacuum, and gravity flow applications, and virtually all types of liquid food and dry bulk materials. Conforms to FDA, USDA, and 3-A Sanitary Standards. Smooth inner bore surface provides high flow rates and

easy cleaning, while corrugated wall construction provides maximum flexibility and strength. Clear PVC construction allows visual monitoring of flow. Non-contaminating. Will not impart or retain odors or affect taste. NSF-61 compliant.



No. 3JT83

Hose I.D. (In.)	Length (Ft.)	Hose O.D. (In.)	Working Pressure (psi)	Max Temp. (°F)	Bend Radius (In.)	Stock No.	Each	Shpg. Wt.
1	100	1.24	60	158	1.5	3JT83	\$127.75	23.5
1 1/4	100	1.52	50	158	2.5	3JT84	152.50	31.0
1 1/2	100	1.79	50	158	3.2	3JT85	183.25	35.0
2	100	2.36	40	158	3.2	3JT86	245.75	54.0
3	100	3.50	35	158	6.5	3JT87	459.25	110.0
4	100	4.50	35	158	10.4	3JT88	791.00	190.0

GOOD YEAR

Hose @ well HEAD

Nutriflo Heavy-Duty Food Hose

PVC construction handles higher pressures and provides long life in demanding applications. Handles pressure, vacuum, and gravity flow applications, and is ideal for almost every type of dry bulk or liquid food handling. Conforms to FDA, USDA, and 3-A Sanitary Standards.

Lightweight for ease of handling, and the clear PVC construction allows visual monitoring of flow. Smooth inner bore surface provides high flow rates and easy cleaning. Non-contaminating. Will not impart or retain odors or affect taste. NSF-61 compliant.



No. 3JT89

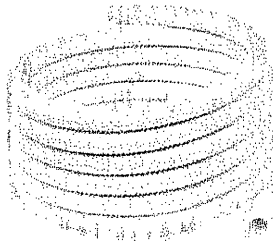
Hose I.D. (In.)	Length (Ft.)	Hose O.D. (In.)	Working Pressure (psi)	Max Temp. (°F)	Bend Radius (In.)	Stock No.	Each	Shpg. Wt.
1	100	1.24	106	158	4.5	3JT89	\$157.25	27.4
1 1/4	100	1.53	99	158	5.0	3JT90	200.25	35.2
1 1/2	100	1.78	89	158	6.0	3JT91	219.75	46.0
2	100	2.31	79	158	8.0	3JT92	333.00	68.0
2 1/2	100	2.85	65	158	10.0	3JT93	488.00	104.0
3	100	3.38	65	158	12.0	3JT94	613.50	136.0
4	100	4.43	55	158	18.0	3JT95	1062.00	179.0

GOOD YEAR

Vacuum Hose

Hose handles exhaust transmission where airborne pollutants, fumes, and odors are a problem. Ideal for dust and light debris collection.

Lightweight PVC construction insures ease of handling. White cover is corrugated, providing excellent flexibility.



No. 4XR62

Hose I.D. (In.)	Length (Ft.)	Hose O.D. (In.)	Working Pressure (psi)	Temp. Range (°F)	Bend Radius (In.)	Stock No.	Each	Shpg. Wt.
1	100	1.22	37	15-158	2.5	4XR62	\$86.30	13.0
1 1/2	100	1.76	34	15-158	3.8	4XR63	149.35	25.0
2	100	2.35	30	15-158	5.5	4XR64	244.50	42.0

FOR REFERENCE

Pneumatics

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Pneumatic System Components Hose & Fittings

Cam and Groove Couplings

Precision machined to rigid tolerances, these fittings feature durable stainless steel cam arm pins that will not rust or bind, for greater strength and safety. Cam and groove couplers and adapters are produced to interchange

with all product produced to Milc-27487F. Threaded end has male NPT thread.
Example: 2" nipple has 2" NPT thread and fits 2" I.D. hose.
Working pressures: 260 psi up to 2", 125 psi for 3", and 100 psi for 4".

Uses: Suitable for most water, dry bulk, petroleum, and chemical applications.
Note: Not recommended for air service or compressed gas.



No. 3LX09



No. 3LX23



No. 3LX06



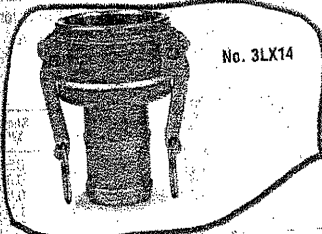
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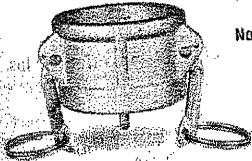
No. 3LX16



No. 3LW95



No. 3LX14



No. 3LX34

NPT or I.D. Size (In.)	Material	Stock No.	Each	Shpg. Wt.	Material	Stock No.	Each	Shpg. Wt.
MALE ADAPTER X FEMALE NPT								
1	Aluminum	3LW92	\$6.28	0.1	Stainless steel	3LW93	\$37.80	0.4
1 1/2	Aluminum	3LX09	8.34	0.3	Stainless steel	3LX10	44.35	0.6
2	Aluminum	3LX26	10.26	0.4	Stainless steel	3LX27	48.00	1.0
3	Aluminum	3LX42	19.61	0.7	Stainless steel	3LX43	93.60	1.8
4	Aluminum	3LX59	45.95	1.3				
MALE ADAPTER X MALE NPT								
1	Aluminum	3LX07	7.82	0.2	Stainless steel	3LX08	49.90	0.6
1 1/2	Aluminum	3LX23	10.52	0.4	Stainless steel	3LX24	63.00	1.1
2	Aluminum	3LX40	13.22	0.6	Stainless steel	3LX41	69.85	1.6
3	Aluminum	3LX56	26.95	1.3	Stainless steel	3LX57	138.65	3.2
4	Aluminum	3LX73	50.40	2.2				
MALE ADAPTER X HOSE SHANK								
1	Aluminum	3LX05	8.21	0.2	Stainless steel	3LX06	41.40	0.6
1 1/2	Aluminum	3LX21	10.05	0.4	Stainless steel	3LX22	50.15	1.2
2	Aluminum	3LX38	12.57	0.7	Stainless steel	3LX39	51.75	1.8
3	Aluminum	3LX54	23.64	1.2	Stainless steel	3LX55	98.75	3.7
4	Aluminum	3LX71	49.80	2.4				
MALE ADAPTER DUST PLUG								
1	Aluminum	3LX03	8.11	0.1	Stainless steel	3LX04	35.00	0.4
1 1/2	Aluminum	3LX19	10.36	0.3	Stainless steel	3LX20	43.20	0.7
2	Aluminum	3LX36	11.13	0.3	Stainless steel	3LX37	51.25	1.0
3	Aluminum	3LX52	16.94	0.7	Stainless steel	3LX53	82.35	2.2
4	Aluminum	3LX69	25.85	1.2				
FEMALE COUPLER X FEMALE NPT								
1	Aluminum	3LW98	14.22	0.3	Stainless steel	3LW99	63.95	0.7
1 1/2	Aluminum	3LX15	19.44	0.6	Stainless steel	3LX16	81.75	1.3
2	Aluminum	3LX32	20.93	0.9	Stainless steel	3LX33	93.60	1.5
3	Aluminum	3LX48	36.10	2.0	Stainless steel	3LX49	183.50	3.2
4	Aluminum	3LX65	55.50	2.4				
FEMALE COUPLER X MALE NPT								
1	Aluminum	3LW94	14.55	0.2	Stainless steel	3LW95	65.55	0.6
1 1/2	Aluminum	3LX11	18.40	0.7	Stainless steel	3LX12	79.35	1.2
2	Aluminum	3LX28	20.37	0.8	Stainless steel	3LX29	95.10	1.5
3	Aluminum	3LX44	37.15	1.5	Stainless steel	3LX45	181.00	2.9
4	Aluminum	3LX61	57.20	2.3				
FEMALE COUPLER X HOSE SHANK								
1	Aluminum	3LW96	13.72	0.4	Stainless steel	3LW97	61.50	0.7
1 1/2	Aluminum	3LX13	18.57	0.6	Stainless steel	3LX14	69.25	1.3
2	Aluminum	3LX30	20.66	1.1	Stainless steel	3LX31	86.85	1.9
3	Aluminum	3LX46	34.60	1.9	Stainless steel	3LX47	164.50	3.7
4	Aluminum	3LX63	52.50	2.9				
FEMALE COUPLER DUST CAP								
1	Aluminum	3LX01	15.05	0.3	Stainless steel	3LX02	54.85	0.6
1 1/2	Aluminum	3LX17	17.72	0.7	Stainless steel	3LX18	66.60	1.1
2	Aluminum	3LX34	18.07	0.8	Stainless steel	3LX35	83.55	1.3
3	Aluminum	3LX50	25.60	1.5	Stainless steel	3LX51	106.35	2.8
4	Aluminum	3LX67	37.50	2.1				

FOR REFERENCE

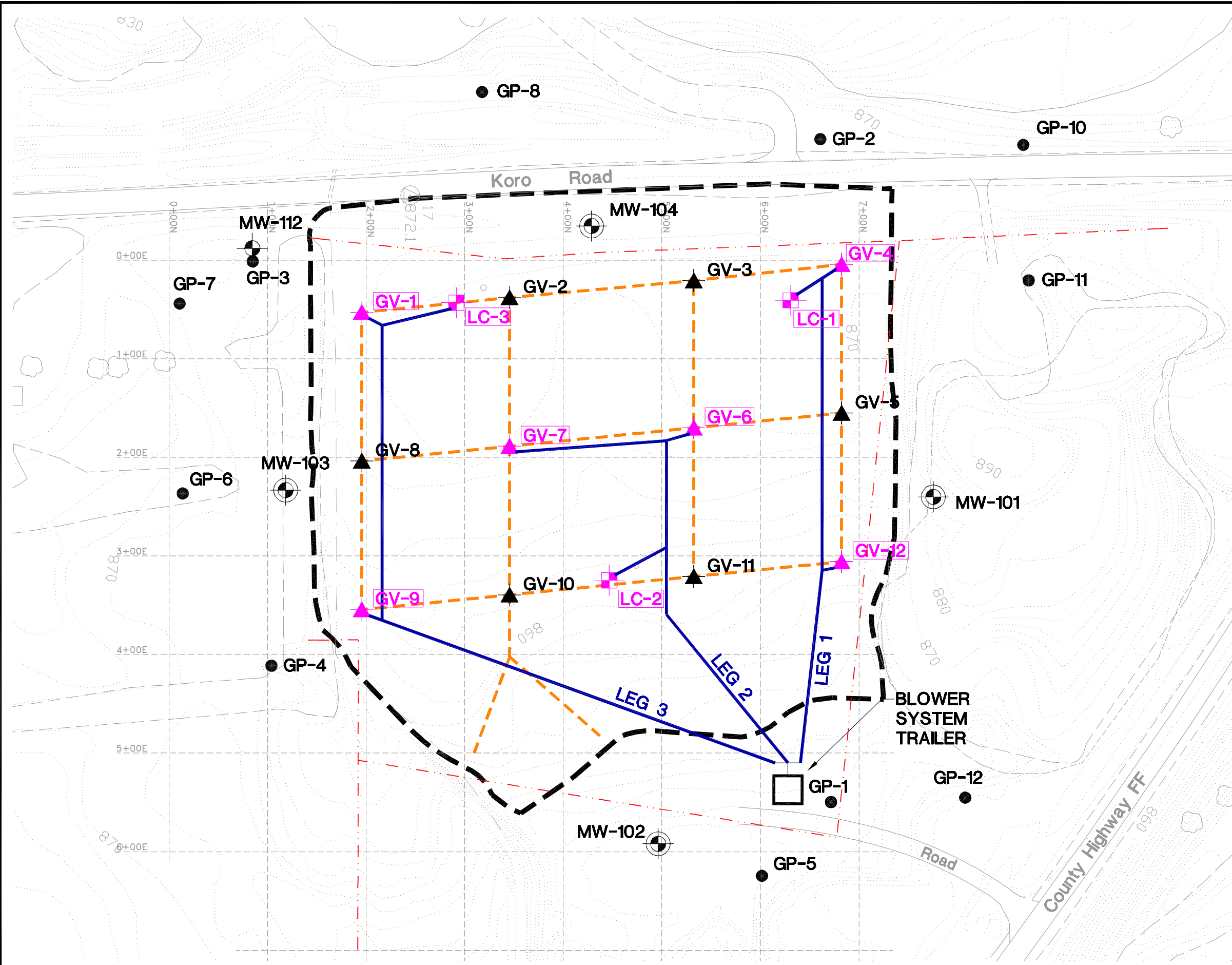
☐ = Shipped Directly from Manufacturer ✓ = Extended Warranty Available ★ = New Item

INDEX

Great Handling

Cleaning & Painting

ATTACHMENT 3
FIGURE 1
EXISTING ACTIVE LANDFILL GAS EXTRACTION SYSTEM LAYOUT

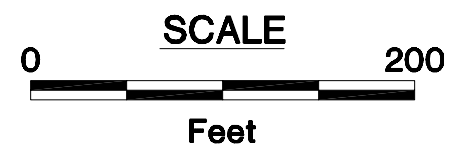
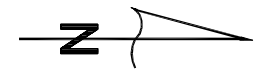


EXPLANATION

- MW-104 MONITOR WELL LOCATION, DESIGNATION
- LC-2 LEACHATE HEAD WELL LOCATION, DESIGNATION
- PROPERTY LINE
- OUTLINE OF CLOSED LANDFILL
- GP-1 GAS PROBE LOCATION AND DESIGNATION
- GV-9 GAS VENT LOCATION AND DESIGNATION
- BURIED PASSIVE GAS COLLECTION SYSTEM PIPING
- 3-INCH CORRUGATED HDPE ABOVE-GROUND PIPING
- ACTIVE LANDFILL GAS EXTRACTION POINT

NOTES:

1. CONTOURS ON LANDFILL DO NOT REFLECT CURRENT TOPOGRAPHY.
2. NEW 3" BURIED PVC PIPING ROUTE TO MATCH EXISTING CORRUGATED ABOVE-GROUND PIPING AND FOLLOW NATURAL SLOPE DOWNWARDS TO EQUIPMENT TRAILER TO DRAIN PROPERLY.

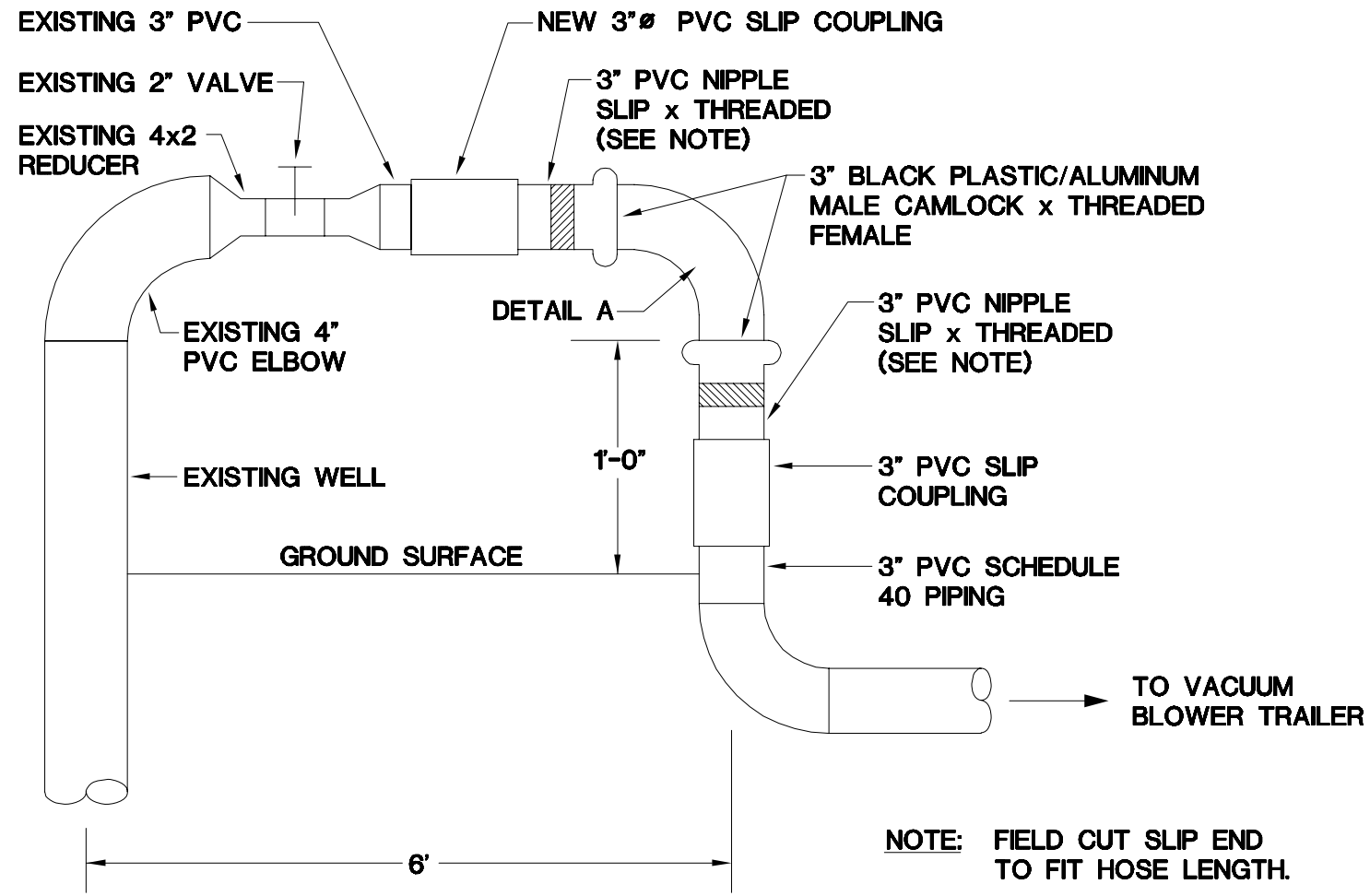


FF/NN LANDFILL RIPON, WISCONSIN	DATE: 11/7/06
EXISTING ACTIVE LANDFILL GAS EXTRACTION SYSTEM LAYOUT	DESIGNED: KFL
	CHECKED: MRN
	APPROVED: MRN
	DRAWN: HJW
	PROJ.: 1011.004



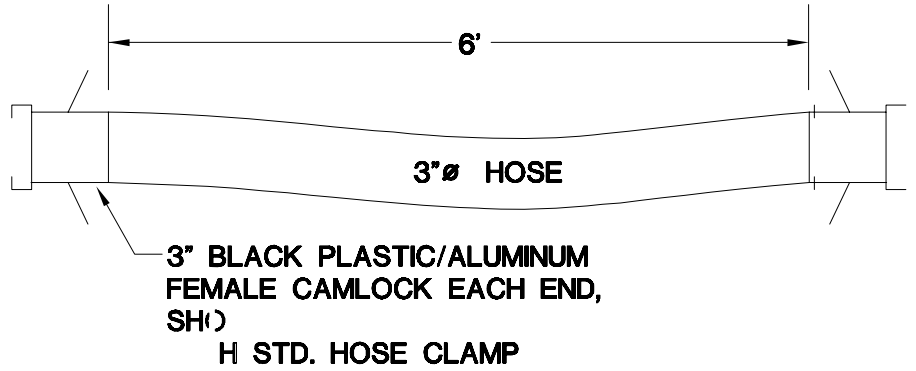
Figure 1

ATTACHMENT 4
FIGURE 2. PERMANENT WELL HEAD DETAILS

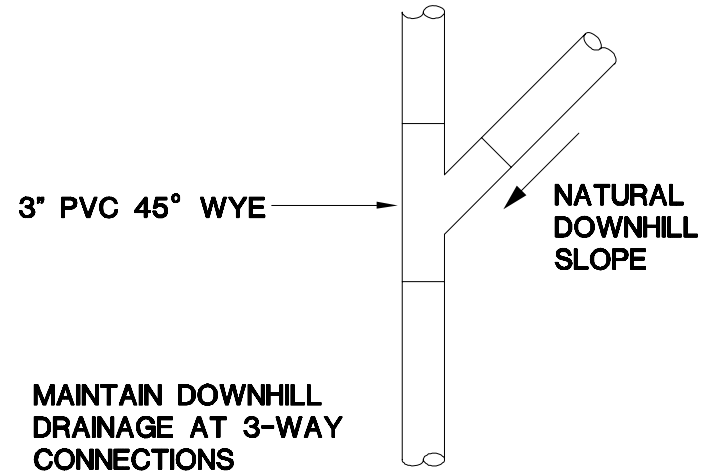


TYPICAL CONNECTION AT EXISTING WELL HEAD

NOTE: FIELD CUT SLIP END TO FIT HOSE LENGTH.

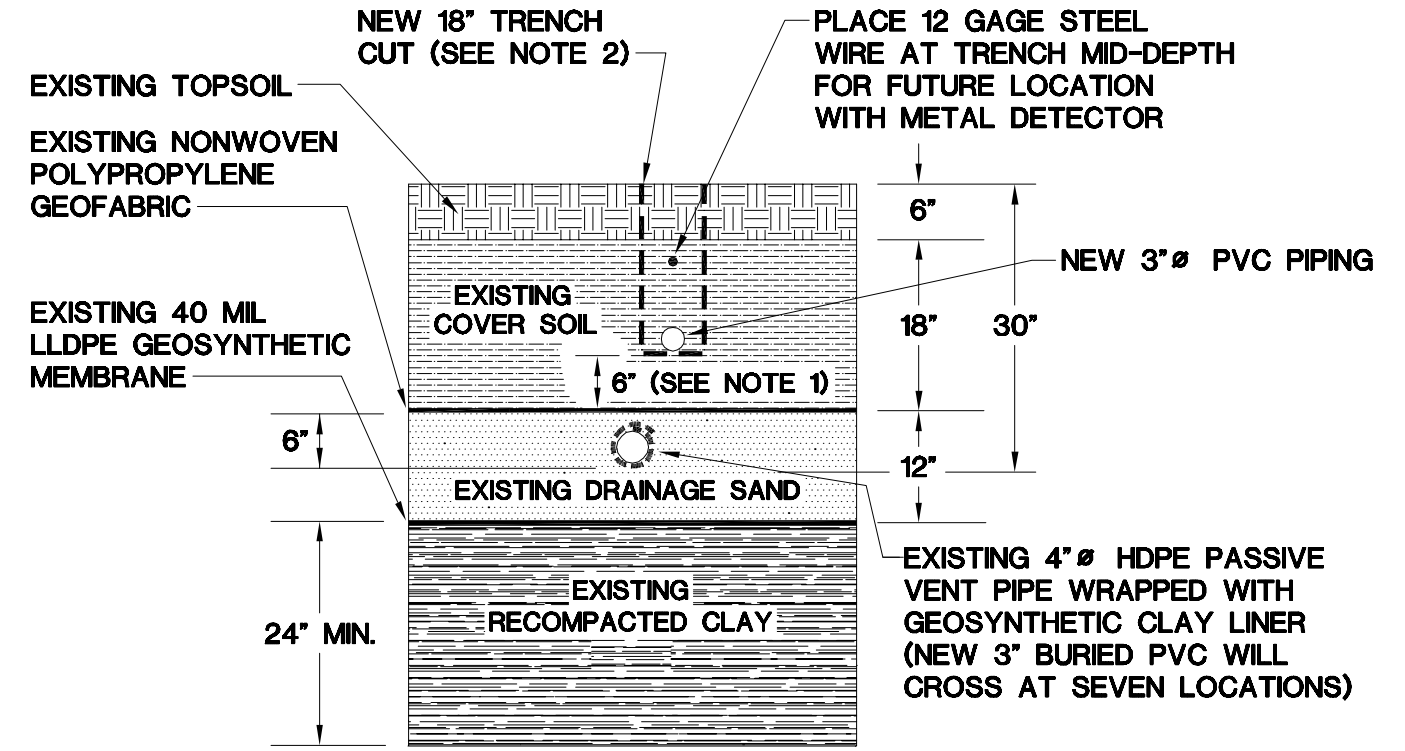


DETAIL A



NOTE: MAINTAIN DOWNHILL DRAINAGE AT 3-WAY CONNECTIONS

PLAN TYPICAL 3-PIPE JOINT



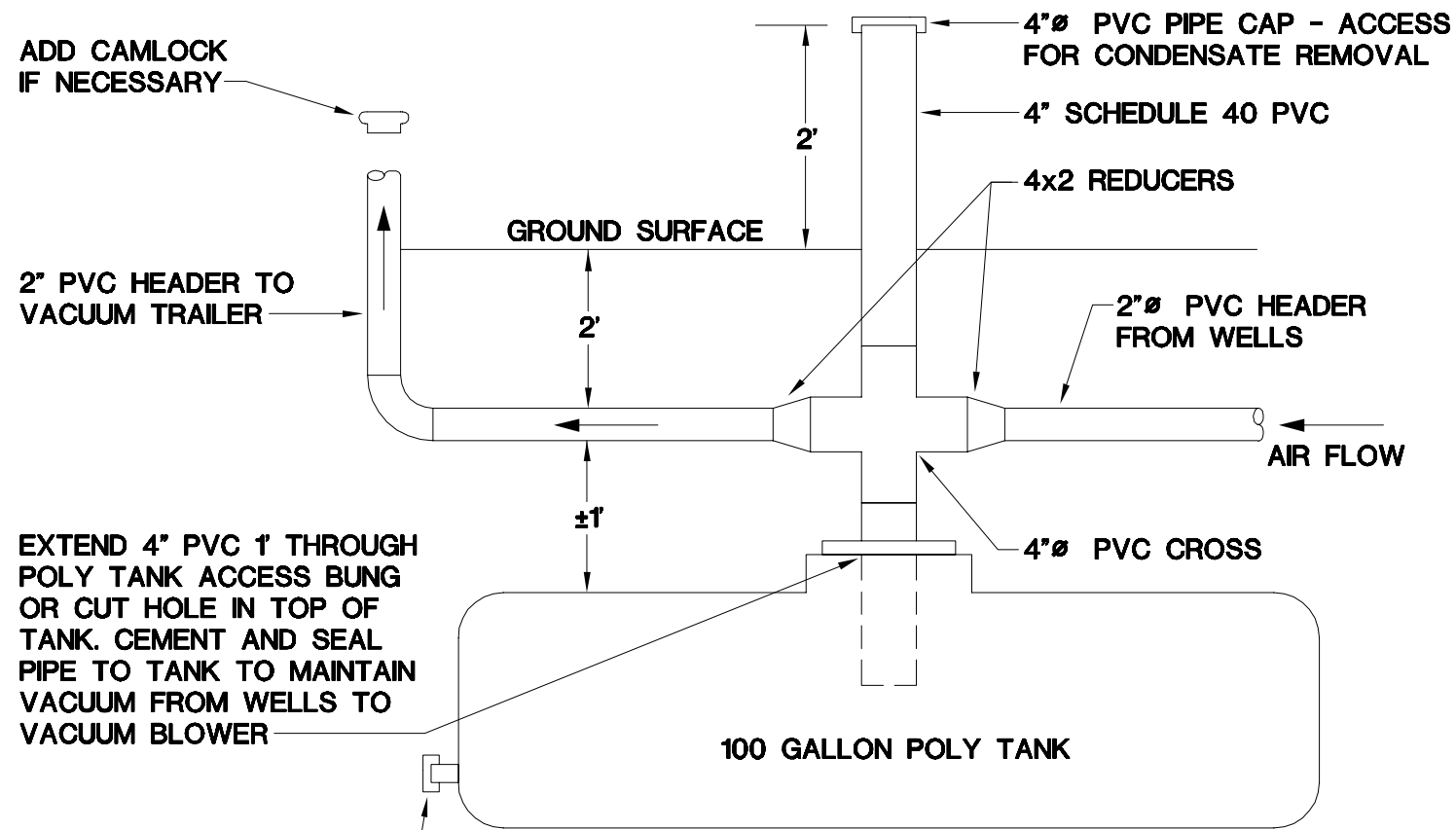
NOTES:

1. MAINTAIN 6" THICK UNDISTURBED COVER SOIL LAYER OVER EXISTING NONWOVEN POLYPROPYLENE FABRIC. SET TRENCHING MACHINE AT 18" DEEP CUT. HAND DIG AT ANY DIPS IN TOPSOIL SURFACE TO AVOID FABRIC DAMAGE.
2. AFTER PLACING NEW 3"Ø PVC, FILL TRENCH WITH DISTURBED SOILS AND COMPACT EACH 9" LIFT WITH HAND TAMPER. SEED SURFACE WITH GRASS SEED AND COVER WITH MULCH.

VERTICAL CROSS-SECTION FOR NEW 3" DIAMETER GAS EXTRACTION PIPING

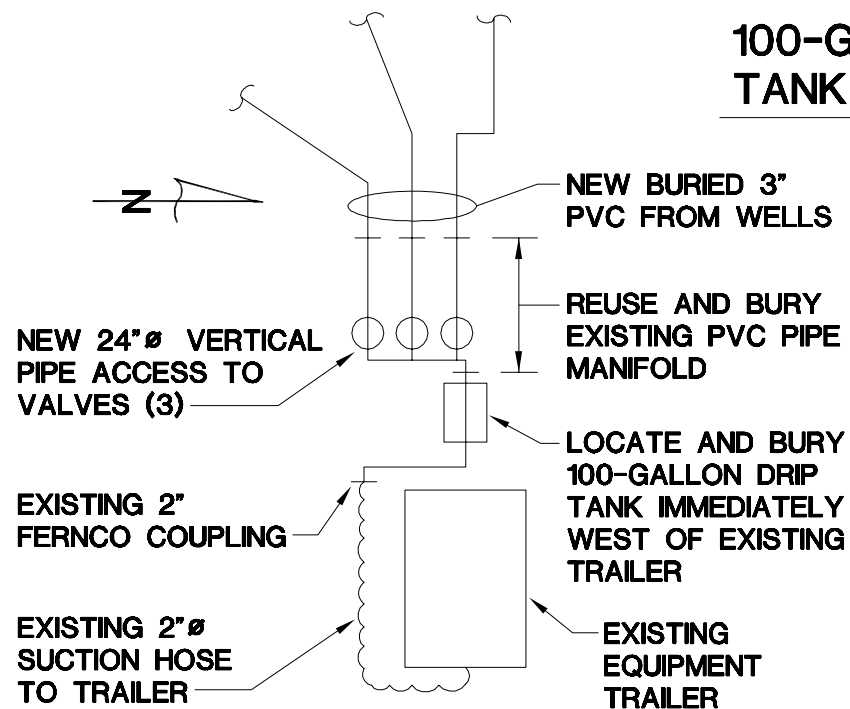
FF/NN LANDFILL RIPON, WISCONSIN	DATE: 11/7/06
2006 ACTIVE LANDFILL GAS EXTRACTION SYSTEM WINTERIZATION - WELL HEAD DETAILS	DESIGNED: DLM
	CHECKED: DLM
	APPROVED: DLM
	DRAWN: HJW
	PROJ.: 1011.004
Figure 2	

ATTACHMENT 5
FIGURE 3. PERMANENT MANIFOLD/DRIP TANK DETAILS

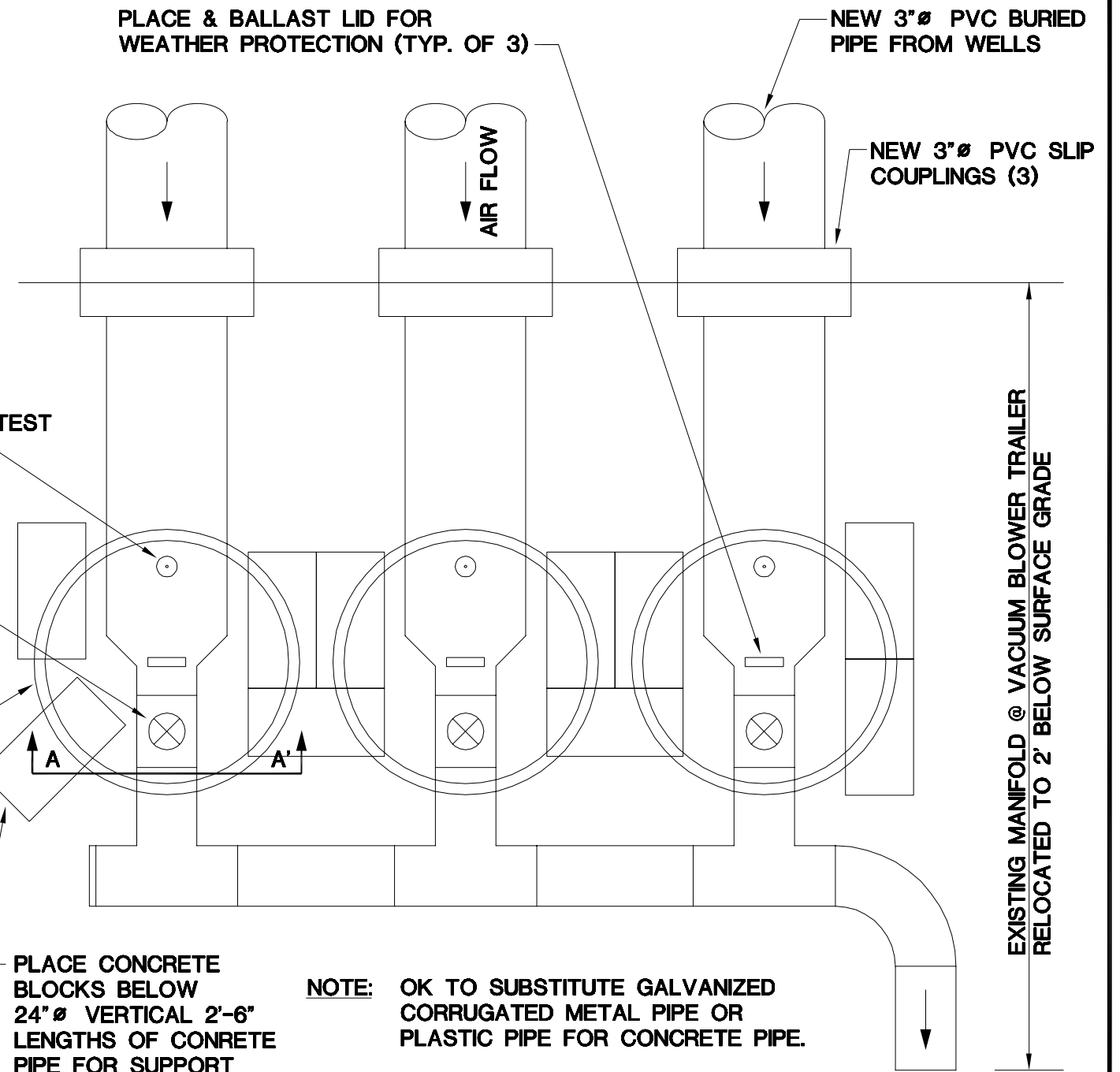
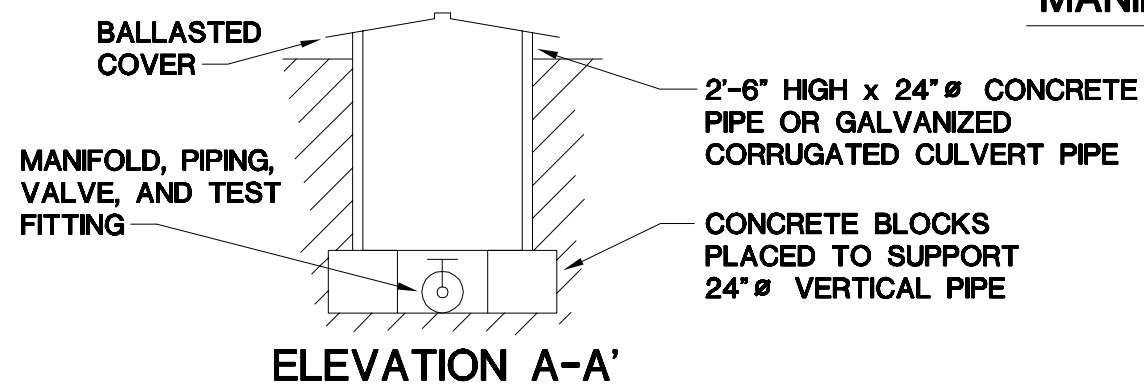


NOTE: LOCATE 100-GALLON POLY TANK AT LOW POINT OF GROUND SURFACE NEAR VACUUM BLOWER TRAILER.

100-GALLON DRIP TANK ELEVATION



DRIP TANK LOCATION PLAN



MANIFOLD RELOCATION PLAN

FF/NN LANDFILL RIPON, WISCONSIN	DATE: 11/7/06
2006 ACTIVE LANDFILL GAS EXTRACTION SYSTEM WINTERIZATION - MANIFOLD/ DRIP TANK DETAILS	DESIGNED: DLM
	CHECKED: DLM
	APPROVED: DLM
	DRAWN: HJW
	PROJ.: 1011.004



Figure 3

ATTACHMENT 6
COMPLETE SET "FINAL COVER/ SYSTEM CONSTRUCTION" PLANS
(DATED MARCH 15, 1996