



Technical Memorandum

To: Mohamad M. Mazid, PhD, PE
Chief Technical Services
Department of Environmental Protection
Southeast Regional Office
Waste Management Program
2 East Main Street
Norristown, PA 19401

From: Kevin L. Long
Nicholas J. Scala, PG, LSRP
Terraphase Engineering Inc.

cc: Joseph Jeray, PE, PESRM

Date: August 19, 2022 Project No.: P044.001.011

Subject: **Soil Sampling Plan – RCRA Permit PAD 049 791 098
Girard Point Hazardous Waste Storage Pad and Spent Caustic Tanks 1086 and 1087 Removal
Philadelphia Energy Solutions Refining and Marketing LLC
3144 West Passyunk Avenue, Philadelphia, PA 19145**

Terraphase Engineering Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), has prepared this *Soil Sampling Plan* to assess potential historical releases from the Girard Point Hazardous Waste Storage Pad (GP Waste Storage Pad) and tanks GP 1086 and 1087 (spent caustic) at the former Philadelphia Refinery located at 3144 West Passyunk Avenue in Philadelphia, Pennsylvania (the “Facility”). The *Soil Sampling Plan* has been designed to evaluate the potential presence of impacted soil beneath the GP Waste Storage Pad and the GP 1086 and 1087 secondary containment structure, and ultimately, obtain closure subject to the requirements of 40 CFR Part 264, as incorporated by reference in 25 Pa. Code Chapter 264a. PESRM provided Notification of Intent to close the GP Waste Storage Pad and GP 1086 and 1087 to the Pennsylvania Department of Environmental Protection (PADEP) on June 24, 2022. NorthStar Contracting Group, Inc. (NorthStar) will perform the closure of the GP Waste Storage Pad and GP 1086 and 1087 in accordance with the closure timeline submitted to PADEP on August 5, 2022, and the approved Closure Plan embedded in the Permit No. PAD 049 791 098. Soil sampling will be conducted in each area following removal of the tanks and the concrete containment pads. Closure of GP 1086 and 1087 is anticipated to start during the 3rd quarter of 2022, and closure of the GP Waste Storage Pad is anticipated to start in the 1st quarter of 2023.

The following sections summarize relevant background information, detail the proposed soil sampling scope of work, and provide a proposed project schedule.

Background

The GP Waste Storage Pad (the “Storage Pad”) and GP 1086 and 1087 (the “Tank Area”) are located in the Girard Point portion of the Facility. The GP Waste Storage Pad is located south of the Platt Bridge, near Old Penrose Ferry Road, while tanks GP 1086 and 1087 are located north of the Platt Bridge. The locations of the Storage Pad and Tank Area are depicted on Figures 1 and 2, respectively.

The permitted waste codes for these two storage areas include the following:

Hazardous Waste Code	Permitted Storage Area	Description
D001	GP Waste Storage Pad	Ignitable Waste
D002	GP 1086 and 1087 and GP Waste Storage Pad	Corrosive Waste
D004	GP Waste Storage Pad	Arsenic
D007	GP Waste Storage Pad	Chromium
D008	GP Waste Storage Pad	Lead
D018	GP Waste Storage Pad	Benzene
F037	GP Waste Storage Pad	Primary oil water solids/separation sludge
F038	GP Waste Storage Pad	Secondary oil water solids/separation sludge
K048	GP Waste Storage Pad	Dissolved Air Flotation (DAF) Float
K049	GP Waste Storage Pad	Slop oil emulsion from the petroleum refinery industry
K050	GP Waste Storage Pad	Heat exchanger bundle cleaning sludge from petroleum refinery industry
K051	GP Waste Storage Pad	American Petroleum Institute (API) oil-water separator sludge from petroleum refinery industry
K169	GP Waste Storage Pad	Crude oil storage tank sediment
K170	GP Waste Storage Pad	Clarified slurry oil storage tank sediment
K171	GP Waste Storage Pad	Spent hydro-treating catalyst
K172	GP Waste Storage Pad	Spent hydro-refining catalyst

Scope of Work

1. Soil Characterization

NorthStar has been using the GP Waste Storage Pad for storage of certain materials related to demolition activities at the Site. Prior to use of the GP Waste Storage Pad by NorthStar, the area was inspected, and the conditions of the pad were photo documented. Once the condition of the pad was inspected, NorthStar paved over the area with asphalt to reduce the risk of any “new” release from storage of their materials. Tanks GP 1086 and 1087 are located within a concrete containment area. Recent photos of the area show evidence of rainwater collection indicating that there are no breaches in the containment structure. Terraphase reviewed engineering drawings for the Storage Pad and Tank



Area (included as Attachment A) to better understand their construction and potential routes of spill migration. A photolog of the Storage Pad and Tank Area is included as Attachment B.

1.1 Selection of Sample Locations

Since there are no documented releases of hazardous waste to the environment from these areas, proposed soil sampling locations were identified using information about the construction of the concrete pads and containment areas and historical photos.

GP Waste Storage Pad – As discussed above, the GP Waste Storage Pad was paved over for use by NorthStar to support their demolition services. As such, Terraphase reviewed historical aerial photographs and the photos collected during the inspection prior to paving to understand the historical condition of the pad. This information was used to select sample locations near features that were designed to collect and contain fluids and/or stormwater in the event of a release (e.g., trenches) and areas with visual evidence of deterioration in the photos (e.g., spalling concrete and surface cracking). In addition to these biased sample locations, a 30-ft x 30-ft grid was placed across the storage pad and one sampling location was placed in each grid cell where biased sampling locations had not already been identified. These additional grid cell locations were added to provide spatial coverage across the Pad.

Considering design features and deteriorated areas of the Pad, 23 soil borings have been proposed as follows (see Figure 1):

1. *Trenches* – There is one trench drain located at the GP Waste Storage Pad that collects and removes rainwater. The trench drain is constructed of a pre-engineered steel trench forming/liner system. The trench drain is connected to coated carbon steel piping (discussed below). One soil boring will be installed in the footprint of the trench where the discharge connects to the steel piping (i.e., GPSP-07).
2. *Coated Carbon Steel Piping System* – The trench drain is connected to coated carbon steel piping that is directed to the manhole beyond the footprint of the storage areas¹. Two soil borings will be installed along the coated carbon steel piping at the GP Waste Storage Pad (i.e., GPSP-21 and GPSP-22).
3. *Manholes* – The trench drain piping system at the GP Waste Storage Pad discharges to a manhole connected to the property sewer main. One soil boring will be installed adjacent to the discharge manhole at the GP Waste Storage Pad (i.e., GPSP-23).
4. *Cracks on Pad* – The site inspection and historical aerial photographs indicate that there are cracks in the concrete at the GP Waste Storage Pad. Though none of the cracks appear to be penetrative, four additional soil borings will be installed along the cracks in the GP Waste Storage Pad (i.e., GPSP-09, GPSP-10, GPSP-14, and GPSP-20).
5. *Discolored Area* – Based on the historical aerial photographs, there are five discolored areas on the GP Waste Storage Pad. Eleven additional soil borings will be installed within the bounds of the

¹ The discharge piping from the GP Waste Storage Pad is directed to the stormwater sewer piping that is directed to the on-site Girard Point wastewater treatment plant.



discoloration (i.e., GPSP-03, GPSP-05, GPSP-06, GPSP-07, GPSP-08, GPSP-11, GPSP-12, GPSP-13, GPSP-17, GPSP-18, and GPSP-19).

An additional five boring locations at the GP Waste Storage Pad (i.e., GPSP-01, GPSP-02, GPSP-04, GPSP-15, and GPSP-16) were identified by overlaying a 30-ft x 30-ft grid across the area.

GP 1086 and 1087 – Terraphase used historical aerial photographs and the photos collected during the inspection to select sample locations near features which were designed to collect and contain fluids and/or stormwater (e.g., trenches) and areas with visual evidence of deterioration (e.g., spalling concrete and surface cracking). In addition to these biased sample locations, a 30-ft x 30-ft grid was placed across the area and one sampling location was placed in each grid cell where sampling locations had not already been identified. These additional grid cell locations were added to ensure that the proposed sample locations provide comprehensive spatial coverage across the Tank Area.

Considering design features and deteriorated areas of the Tank Area, 16 soil borings have been proposed as follows (see Figure 2):

1. *Trenches* – There is one trench drain located at the Tank Area that collects and removes rainwater. The trench drain is constructed of a pre-engineered steel trench forming/liner system and is connected to coated carbon steel piping (discussed below). One soil boring will be installed in the footprint of the trench where their discharge connects to the steel piping (i.e., CTSP-07).
2. *Coated Carbon Steel Piping System* – The trench drain and manholes are connected to coated carbon steel piping². Three soil borings will be installed along the carbon steel piping at GP 1086 and 1087 (i.e., CTSP-01, CTSP-02, and CTSP-11).
3. *Sumps and Manholes* – There are three sumps and one set of abandoned manholes located within the Tank Area. In addition, the trench drain piping system also discharges to a manhole connected to the property sewer main. Although no cracks were observed, these features can convey contamination to the subsurface. Five soil borings will be installed adjacent to these features (i.e., CTSP-01, CTSP-03, CTSP-05, CTSP-09, and CTSP-13) at GP 1086 and 1087.
4. *Cracks on Pad* – Based on the site inspection, there are cracks in the concrete in the Tank Area. Though none of the cracks appear to be penetrative, four additional soil borings will be installed along these cracks (i.e., CTSP-06, CTSP-08, CTSP-12, and CTSP-14).

An additional four boring locations at the GP 1086 and 1087 (i.e., CTSP-04, CTSP-10, CTSP-15, and CTSP-16) were identified by overlaying a 30-ft x 30-ft grid across the area.

1.2 Sample Collection Procedure

Following the removal of the GP Waste Storage Pad and Tank Area components, a subsurface soil investigation will be performed. Prior to the initiation of the sampling activities, the Pennsylvania One Call System (811 Dig Safe) will be contacted to identify underground utilities at the Site. In addition, a

² The discharge piping from tanks GP 1086 and 1087 is directed to the stormwater sewer piping that is directed to the on-site Girard Point wastewater treatment plant.



review of available information, provided by a site representative, will be used to help identify potential utilities or subsurface structures at the proposed boring locations. Finally, a private locate will be performed using geophysical and electromagnetic techniques to identify potential utilities or subsurface structures at proposed drilling locations.

Soil borings will be completed using direct-push (i.e., Geoprobe) drilling methods and advanced to the water table, or to 8 feet below ground surface (bgs), whichever is shallower. Continuous soil cores will be collected, and field screened using a photoionization detector (PID) to identify potentially impacted zones³.

Soil samples will be collected from depth intervals exhibiting evidence of contamination (e.g., staining, odors, elevated PID readings) or, in the absence of contamination, at the invert of the site features described above. For grid sample locations, if evidence of contamination is not identified, samples will be collected at the soil surface (i.e., from immediately below the concrete containment pad after it is removed). Each soil sample will be analyzed by a PADEP accredited laboratory for the constituents listed in Table 1. As part of its work under Act 2, Evergreen Resources Management Operations, a series of Evergreen Resources Group, LLC (Evergreen) has worked with PADEP to develop a list of regulated substances that are the focal point of characterization and future remediation activities at the Site. The analyte list in Table 1 includes the Evergreen and PADEP agreed upon site-specific list of regulated substances being investigated and remediated pursuant to Act 2. In addition, Table 1 also includes additional constituents typically present in the permitted waste codes and the types of hazardous waste stored at the GP Waste Storage Pad and Tank Area.

1.3 Applicable Action Levels

Screening levels based upon the applicable PADEP Media Specific Concentrations (MSCs) will be used as Action Levels to evaluate the results of soil sampling conducted during the GP Waste Storage Pad and Tank Area closure. Specifically, concentrations in soil at levels above the following MSCs will be further evaluated as potential evidence of a release to the environment:

- Non-Residential Direct Contact Numeric Values for Surface Soil (0-2 ft bgs)
- Non-Residential Direct Contact Numeric Values for Subsurface Soil (2-15 ft bgs)
- Non-Residential Soil-to-Groundwater Numeric Values for Used Aquifers [TDS<2,500]

These screening levels are consistent with those being used in other soil sampling activities at the Facility, including aboveground storage tank (AST) site assessment sampling.

1.4 Investigation Derived Waste

All soil cuttings from drilling or hand-augering will be containerized in Department of Transportation (DOT)-approved containers with tight-fitting lids, labeled, and left on-site until arrangements can be made for characterization and disposal. Should the characterization identify that the investigation

3



derived waste (IDW) may remain on-site in accordance with the PADEP-approved-site-specific *Soil Management Plan*, the material will be managed on-site rather than sent for off-site disposal.

1.5 Sample Handling, Packaging and Chain of Custody Procedures

Sample Handling

One member of the field sampling crew will be designated as sample manager. It will be the responsibility of this person to perform sample labeling, packaging, and shipping. The sample manager will also be responsible for ensuring that samples are handled and preserved in the proper manner.

Sample containers will be separated from any potential outside source of contamination between the time they are received from the laboratory, and the time the samples are delivered to the PADEP-accredited laboratory for analysis. Sample handling will be performed to guard against outside contamination being introduced to the sample containers before and after sample collection. If the containers are not used immediately, they will be stored in a suitable area and kept cool. Following sample collection, the outer surfaces of the containers will undergo any necessary non-submersive decontamination. The samples will then be preserved on ice until they are shipped to the laboratory.

Sample Packaging

Samples that will be collected as part of this project will be managed in a manner that presumes the soil could be potentially hazardous. The necessary special packaging requirements will be conducted to ensure safety during transportation. Additionally, the samples will be packaged in coolers and appropriately cushioned during transport. The samples will be cooled to approximately 4 degrees Centigrade, using bagged ice.

Chain of Custody Procedures

The custody record for each sample will be documented using a chain of custody form ("COC"). This form accompanies the sample containers to the Site and will remain with the samples, including during sample collection, transport, and analysis. The COC bears the name of the person(s) assuming responsibility for the samples and the person who collected the sample. The COC will also specify the following information: project name, project client, laboratory conducting analyses, sample matrix, sample identification number, sample time and date, number of containers, analyses to be performed, sampler's name, dates, name, and signatures, printed names and times of personnel relinquishing samples, signature, printed name, date, and time of personnel receiving samples.

When collecting a sample, if applicable, personnel will record the seal number associated with each sample cooler and record whether the seal was intact upon arrival in the field. This assures that the sample containers were not tampered with in the time between their preparation and their arrival on-site. After sample collection, the bottles will again be placed in the cooler. The cooler will be sealed on-site (if such seal is provided by the laboratory) and the number will be recorded in the field book.



2. Site Investigation Report

With the *Soil Sampling Plan*, PESRM's objective is to obtain closure of the pad subject to the requirements of 40 CFR Part 264, as incorporated by reference in 25 Pa. Code Chapter 264a. The soil sampling results will be reviewed relative to historical results for the area and the applicable PADEP MSCs (as noted in Section 1.3).

If the sampling results do not indicate a previously unidentified release to the environment from the Storage Pads, a *Site Investigation Report* will be prepared describing the results of the sampling activities and submitted to PADEP. Upon PADEP's review and approval of the *Site Investigation Report*, closure of the Storage Pads will be complete.

If the sampling results indicate a previously unidentified release to the environment from the Storage Pads, the release will be addressed under in accordance with 40 C.F.R. 264.111 and relevant regulations (as set forth in Part II, Section I.1 of the Permit) by either PESRM or Evergreen in accordance with the 2012 Buyer-Seller Agreement and the 2020 First Amendment to that Agreement. PESRM will prepare a *Site Investigation Report* describing the results of the sampling activities and the planned next steps. Upon PADEP's review and approval of the *Site Investigation Report*, closure of the Storage Pads will be complete.

3. Schedule

The tentative schedule for the work is as follows and is contingent on PADEP's approval of this plan:

Description	Tentative Schedule
Complete Demolition/Removal of Storage Pads	Within 30 days following plan approval
Soil Characterization	Within 30 days following demolition
Site Investigation Report (submittal to PADEP)	Within 45 days following sample collection

Attachments (5):

- Table 1 Proposed Target Analyte List and Analytical Methods
- Figure 1 Girard Point Hazardous Waste Storage Pad
- Figure 2 Spent Caustic Tanks 1086 and 1087
- Attachment A Engineering Drawings
- Attachment B Photolog



Tables

- 1 Proposed Target Analyte List and Analytical Methods



Table 1

Proposed Target Analyte List and Analytical Methods

Tanks 1086 and 1087 Storage Pad and the Girard Point Waste Storage Pad

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Constituents for Analysis	Analytical Method
<i>Volatile Organic Compounds</i>	<i>SW-846 Method 8260</i>
Benzene	
1,2-Dibromoethane (EBD)	
1,2-Dichloroethane (EDC)	
<i>Carbon Disulfide</i>	
Ethyl Benzene	
Isopropylbenzene (Cumene)	
Methyl Tertiary Butyl Ether (MTBE)	
Toluene	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Xylenes (total)	
<i>Semi-Volatile Compounds</i>	<i>SW-846 Method 8270</i>
<i>Acenaphthene</i>	
Anthracene	
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
<i>Benzo(k)fluoranthene</i>	
Benzo(g,h,i)perylene	
<i>bis(2-Ethylhexyl)phthalate</i>	
Chrysene	
<i>Dibenz(a,h)anthracene</i>	
<i>Di-n-butylphthalate</i>	
<i>7,12-Dimethylbenz(a)anthracene</i>	
<i>2,4-Dimethylphenol</i>	
Fluorene	
<i>Indeno(1,2,3-cd)pyrene</i>	
<i>3-Methylcholanthrene</i>	
<i>2-Methylphenol</i>	
<i>3-Methylphenol</i>	
<i>4-Methylphenol</i>	
Naphthalene	
<i>o-cresol</i>	
<i>m-cresol</i>	
<i>p-cresol</i>	
Phenanthrene	
<i>Phenol</i>	
Pyrene	
<i>Metals</i>	
Antimony	<i>SW-846 Method 6010</i>
Arsenic	
<i>Cyanide (total)</i>	<i>SW-846 Method 9012</i>
Lead	
<i>Nickel</i>	<i>SW-846 Method 6010</i>
<i>Vanadium</i>	
<i>Chromium (total)</i>	
<i>Chromium (hexavalent)</i>	<i>SW-846 Method 7196</i>

Notes:

- 1) The Evergreen and PADEP agreed upon Philadelphia Refinery Target Compound List is provided in regular font.
- 2) Additional analytes based on the waste codes for the waste stored at the GP Waste Storage Pad are italicized.
- 3) The Tanks 1086 and 1087 Storage Pad samples will also be analyzed for pH.

Figures

- 1 Girard Point Hazardous Waste Storage Pad
- 2 Spent Caustic Tanks 1086 and 1087



File: N:\GIS\PI\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\Figure 1 - GP Waste Storage Pad.mxd Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



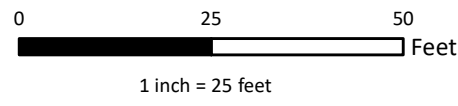
Legend

- 30-ft x 30-ft Grid Updated
- Hazardous Waste Storage Pad
- Discolored Area
- Manhole
- Trench
- Drainage Piping
- Cracking on Storage Pad

Proposed Sample Location

- Biased
- Grid Based

Notes:
Aerial imagery source NearMap (June 2021)



SAFETY FIRST	CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC	Girard Point Hazardous Waste Storage Pad
	PROJECT: Girard Point Hazardous Waste Pads	
	PROJECT NUMBER: P044.001.011	

Figure 1

File: N:\GIS\PI\P044.001_PESRM_PES\MXDs\Girard Point Haz Waste Pads\Tanks GP 1086 and 1087\Figure 2 - GP 1086 and GP 1087 Waste Storage Pad.mxd 7/27/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



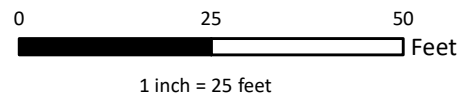
Legend

- Hazardous Waste Storage Pad
- 30-ft x 30-ft Grid
- Manhole
- Trench
- Sump
- Drainage Piping
- Cracking on Storage Pad

Proposed Soil Location

- Biased
- Grid Based

Notes:
Aerial imagery source NearMap (March 2022)



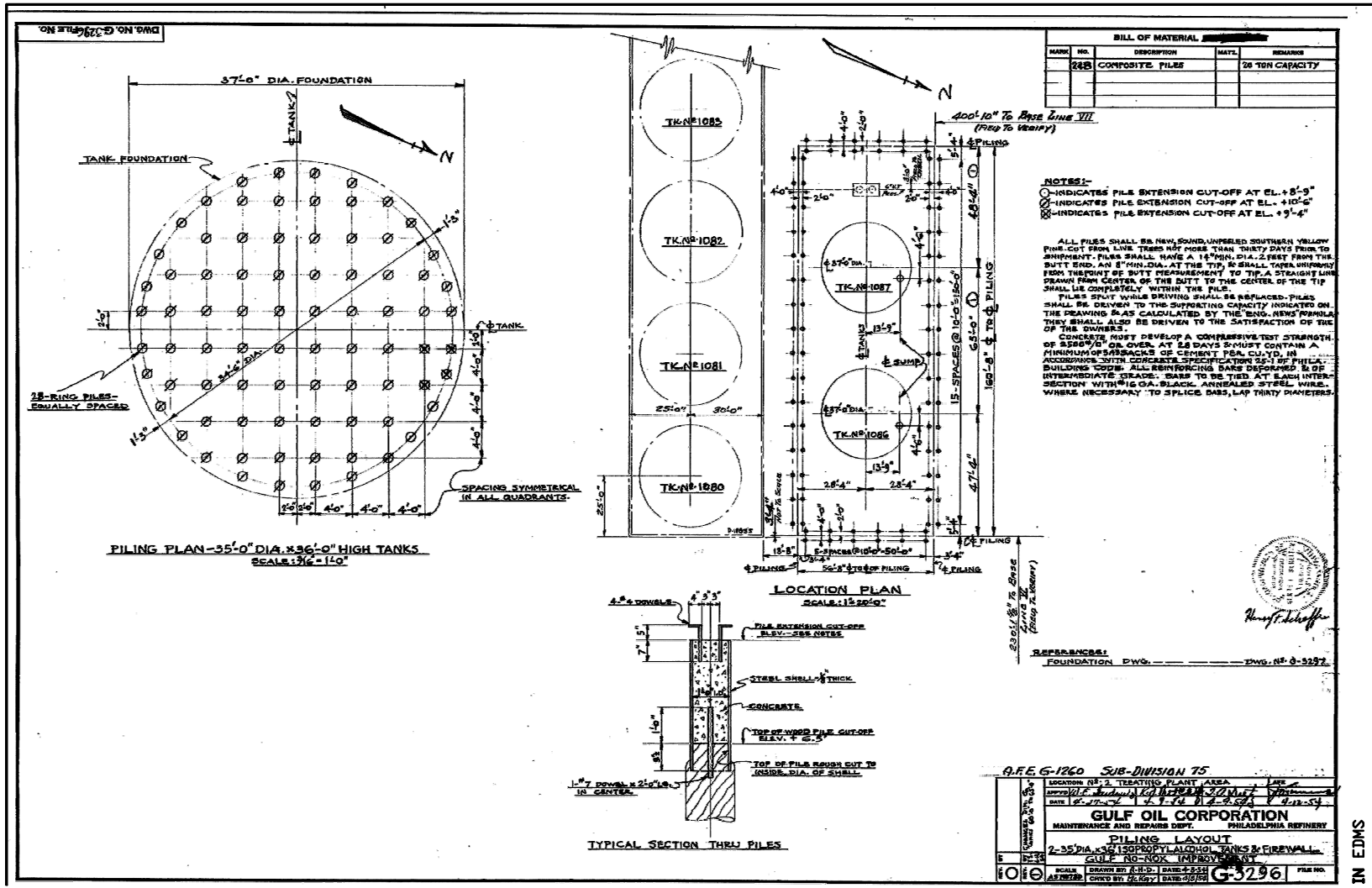
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	PROJECT: Girard Point Hazardous Waste Pads	
	PROJECT NUMBER: P044.001.011	

Figure 2

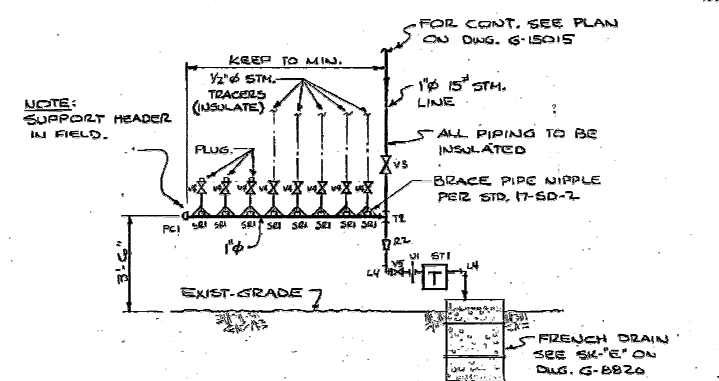
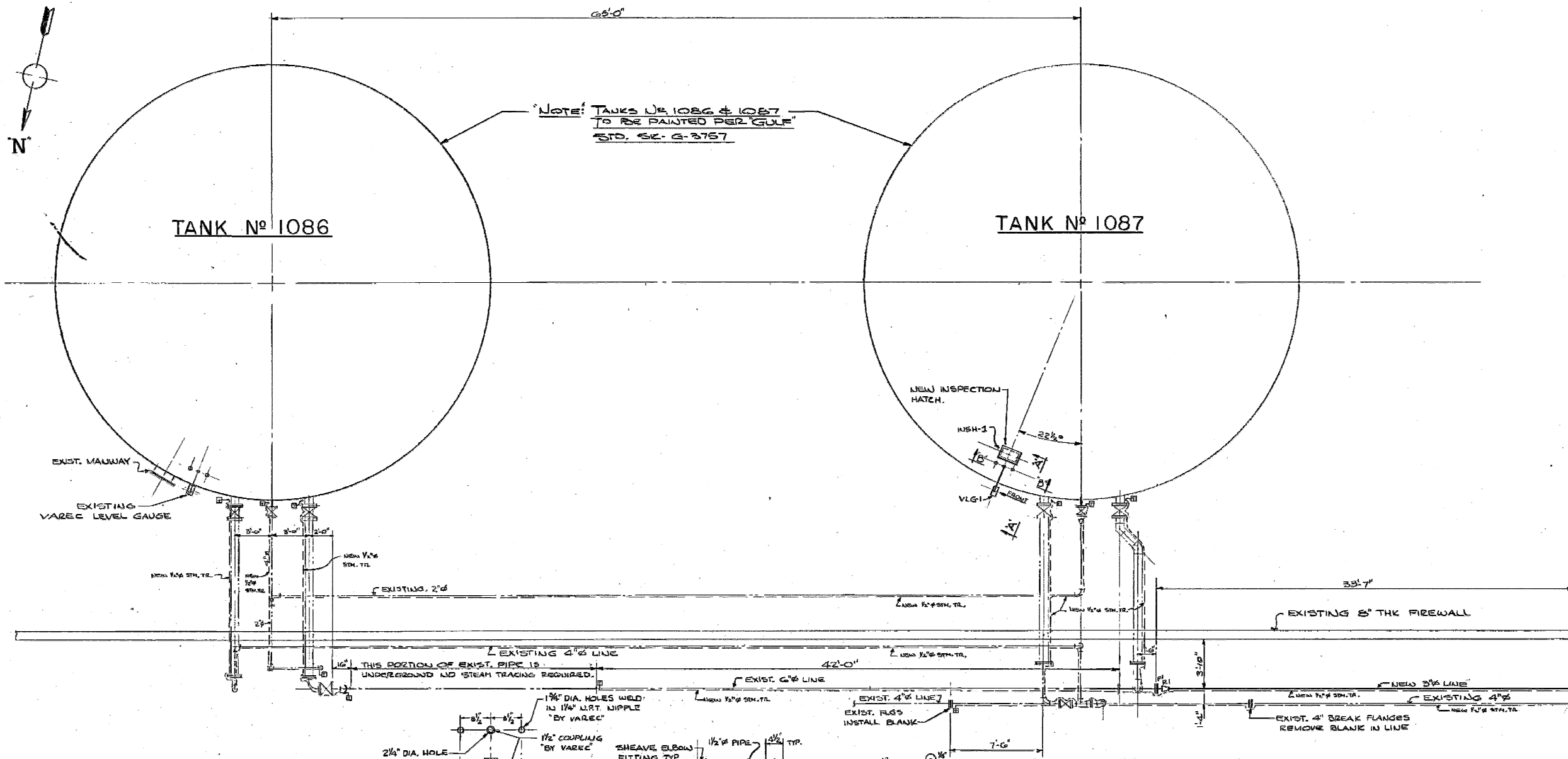
Attachment A

Engineering Drawings

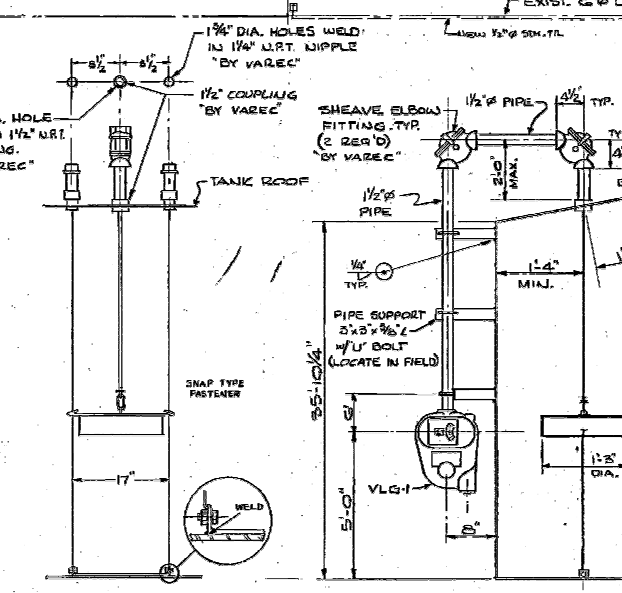




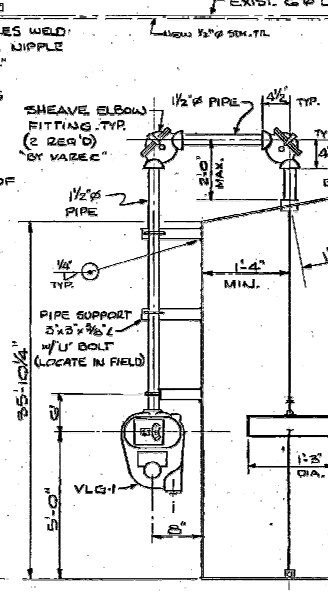
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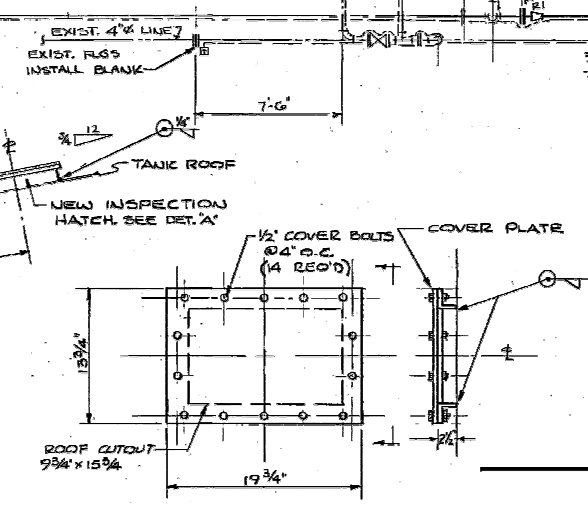
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SECTION B-B NO SCALE



SECTION A-A NO SCALE



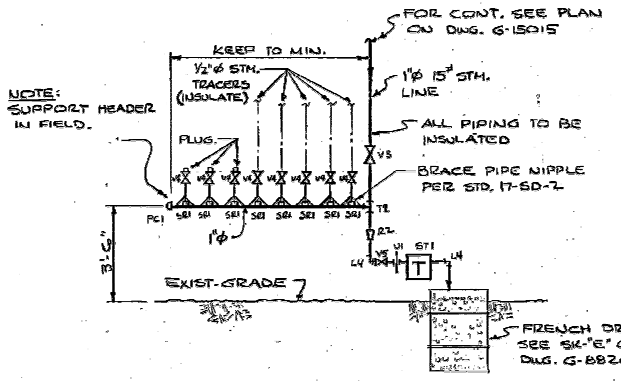
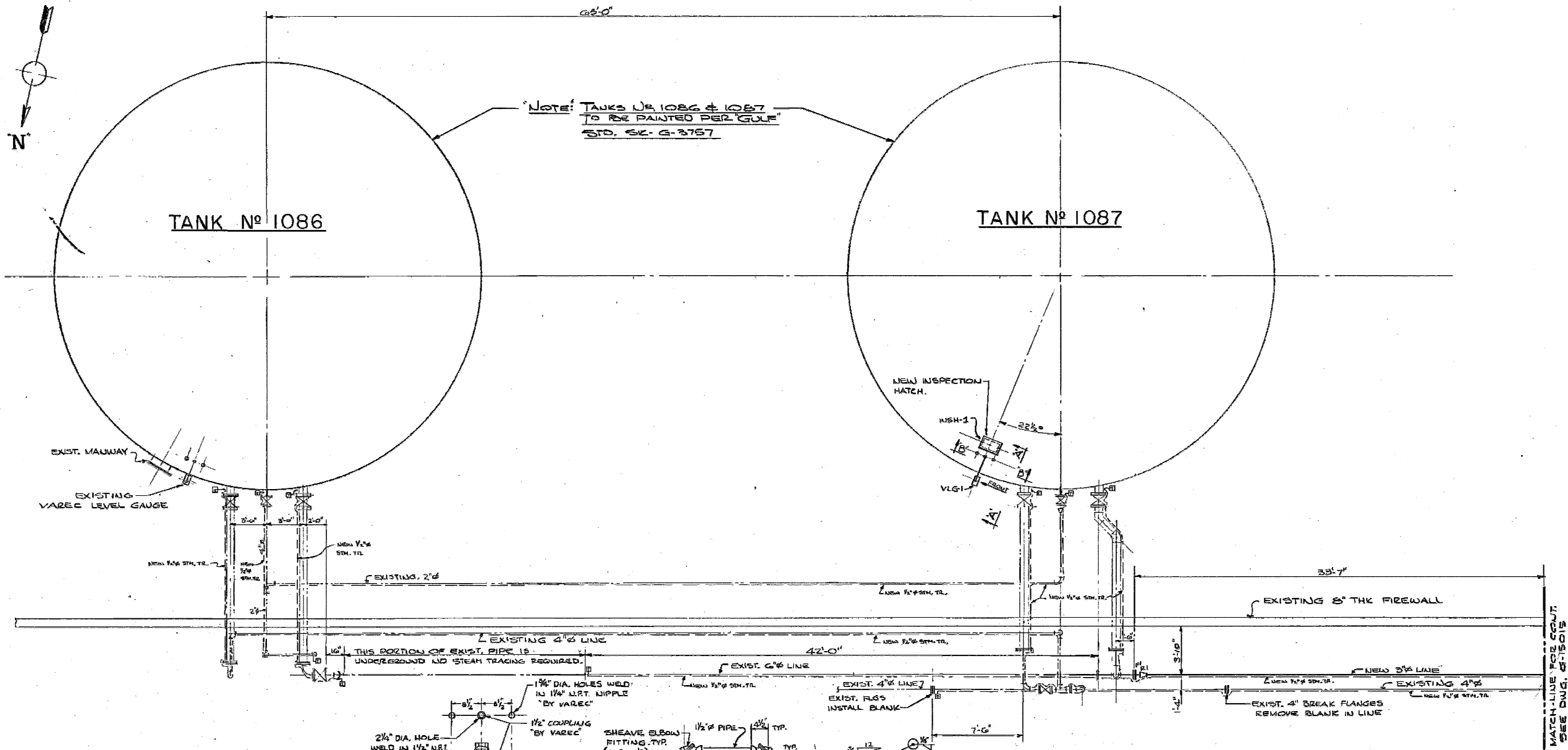
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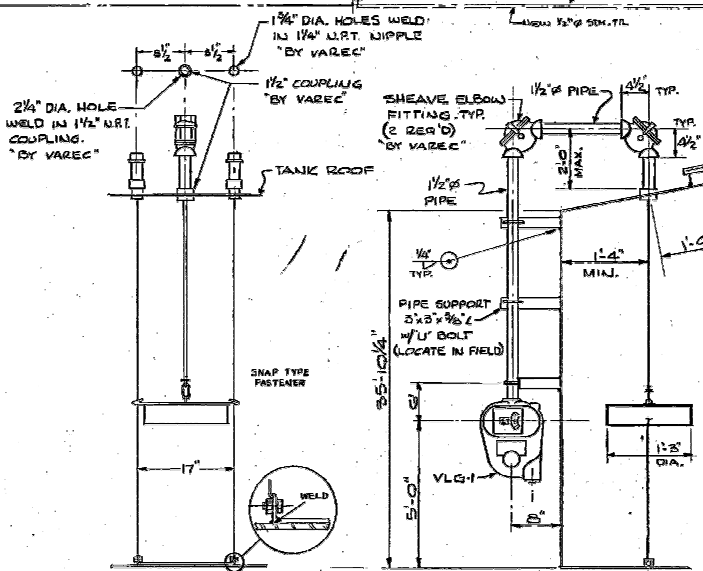
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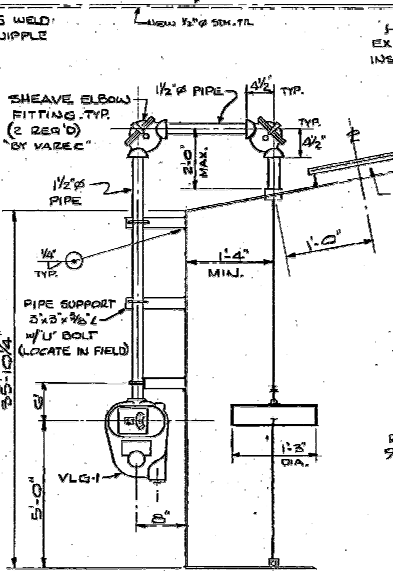
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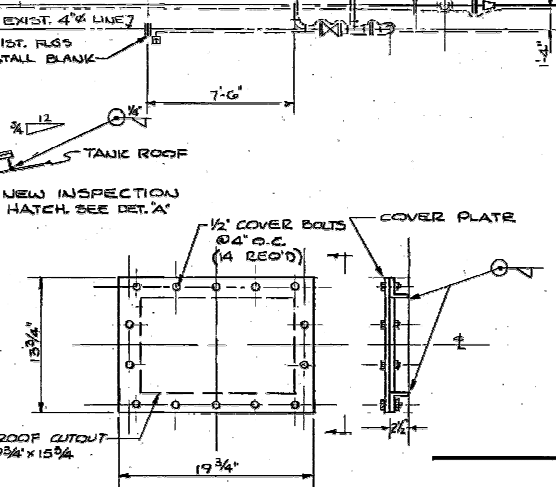
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SECTION A-A
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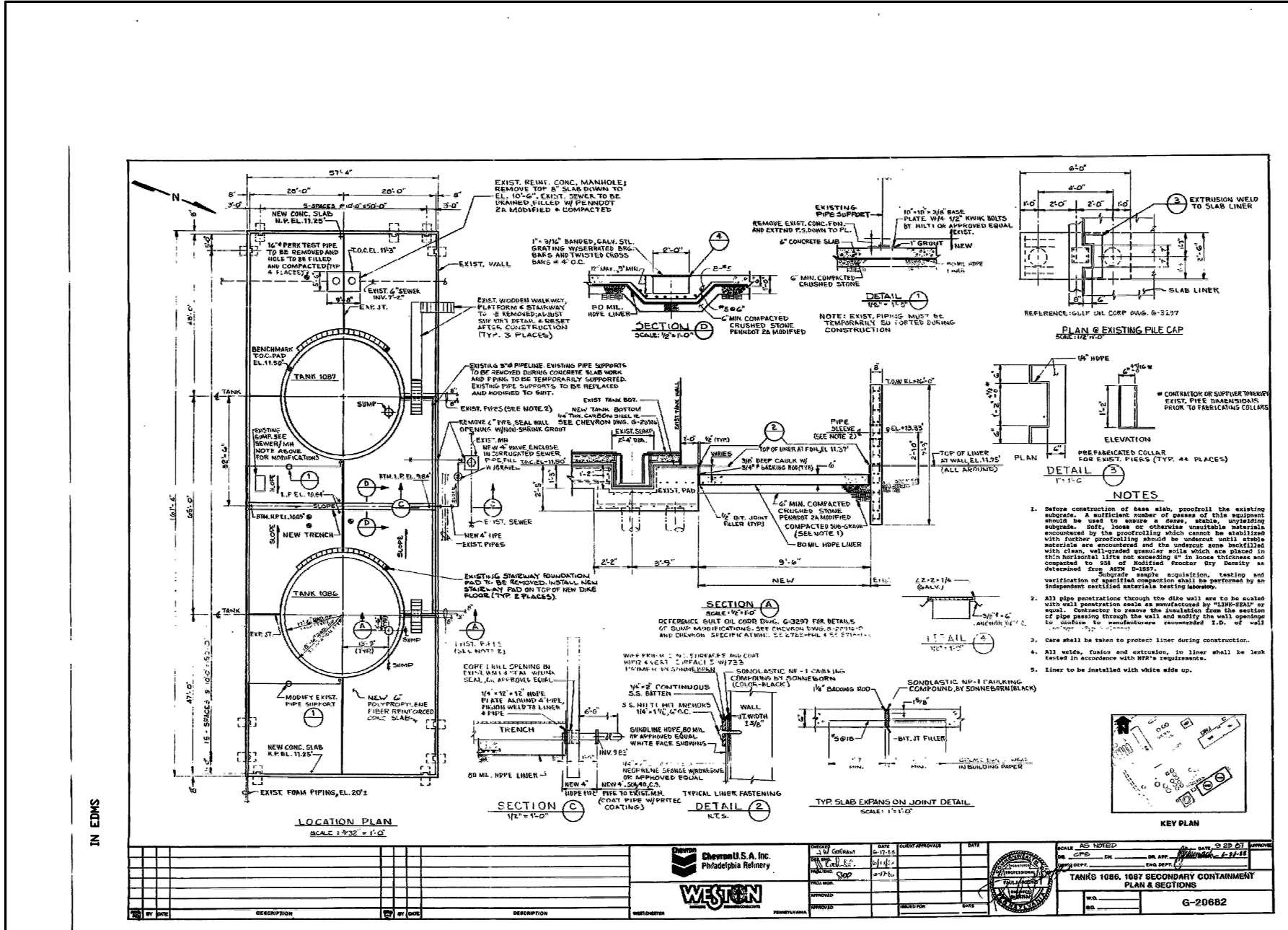
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NOTE: FOR GENERAL NOTES, LOCATION PLAN & REFERENCES SEE DWG. G-15015.

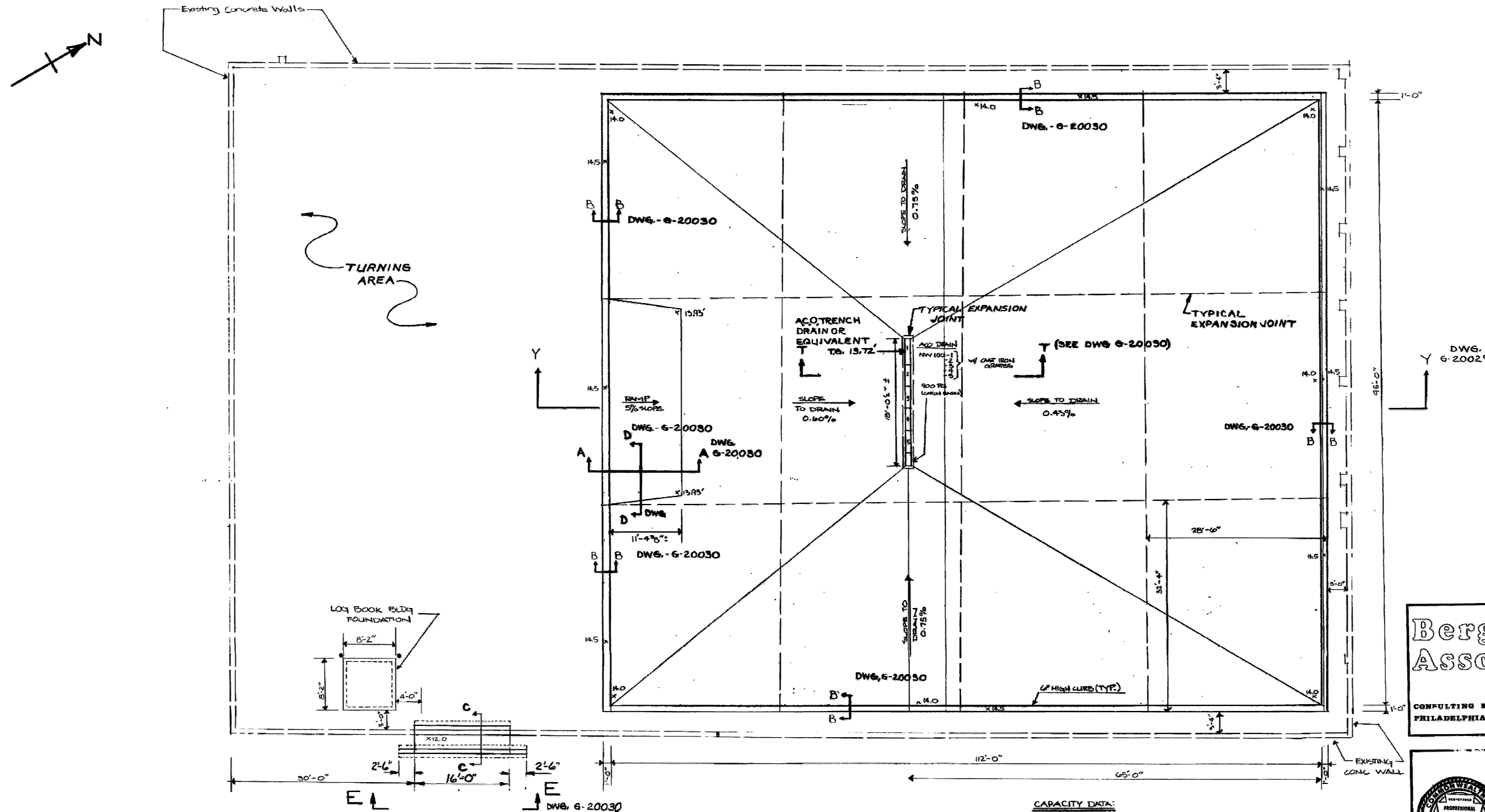
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G-15031

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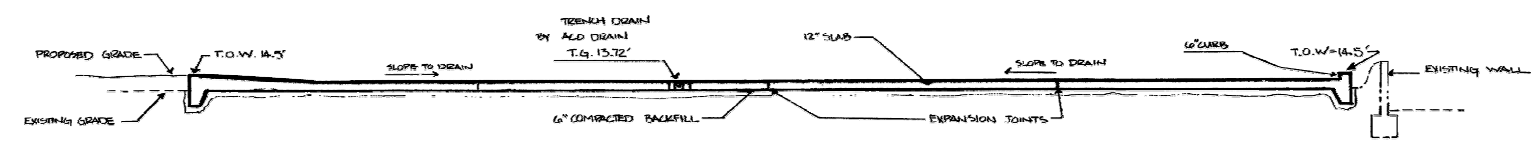
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WESTON		TANKS 1086, 1087 SECONDARY CONTAINMENT PLAN & SECTIONS NO. G-20682	



Bergmann Associates
 CONSULTING ENGINEERS & PLANNERS
 PHILADELPHIA PENNSYLVANIA

CAPACITY DATA:
 TOTAL WASTE VOLUME (AS SHOWN) 9854.7 FT³
 TOTAL STORAGE VOLUME 6746.6 FT³
 STORAGE CAPACITY 67.7%

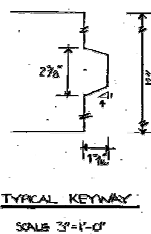
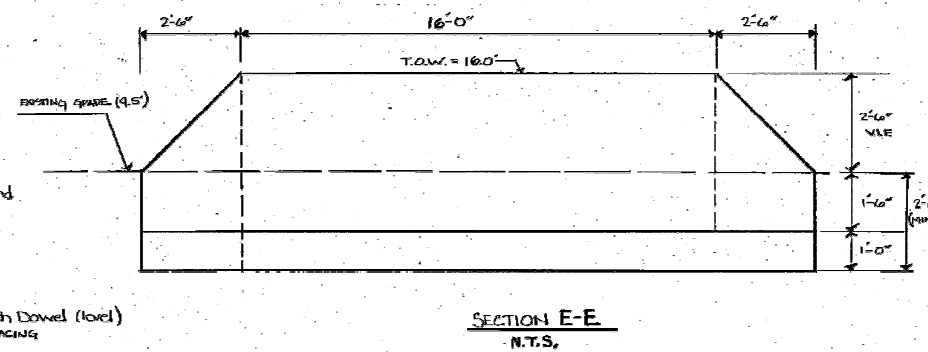
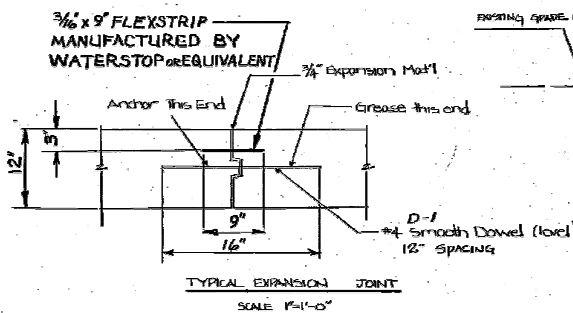
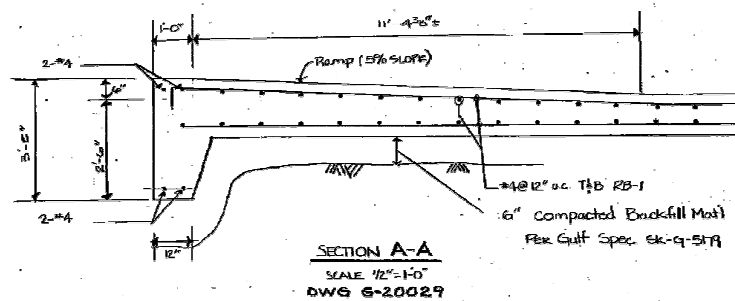
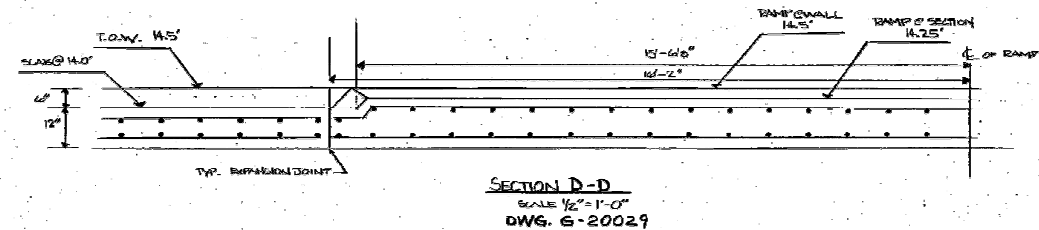
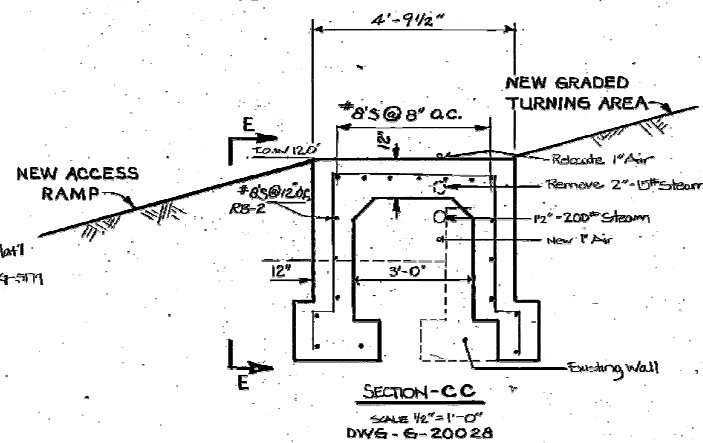
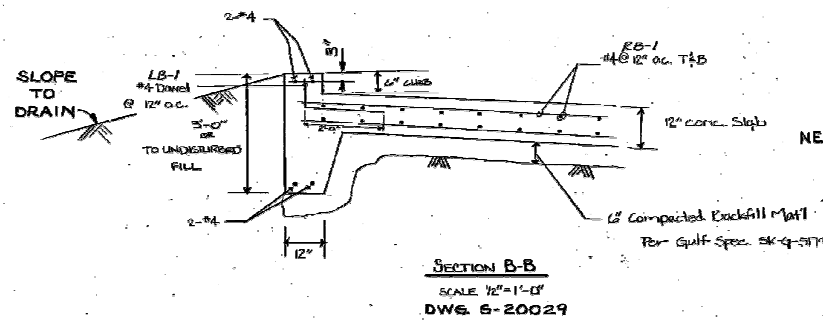
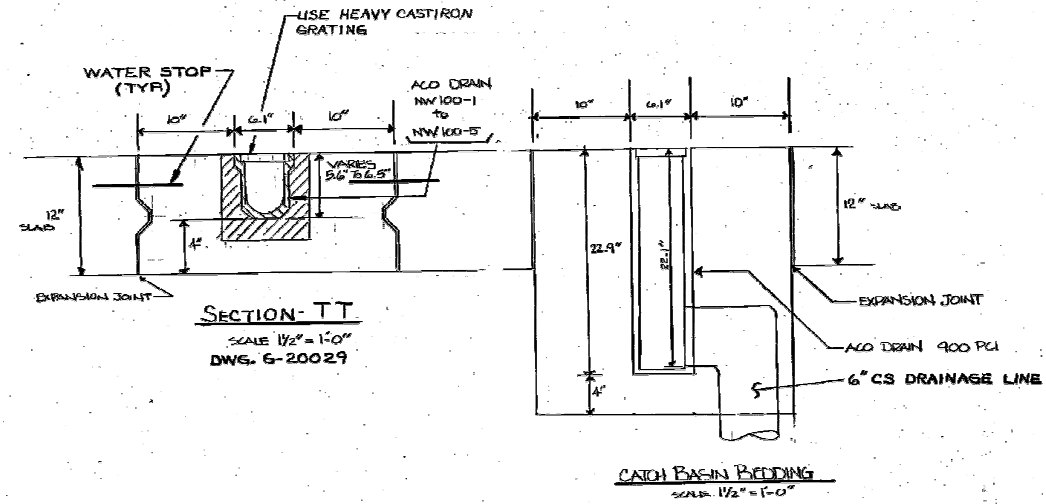
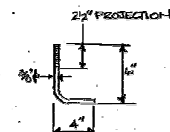
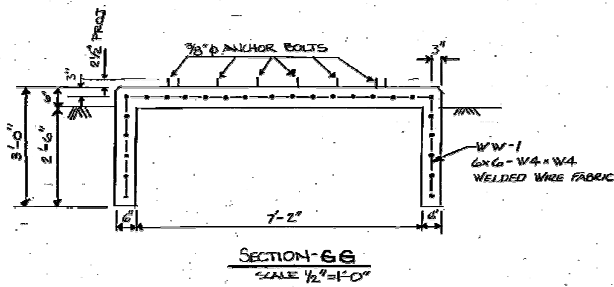
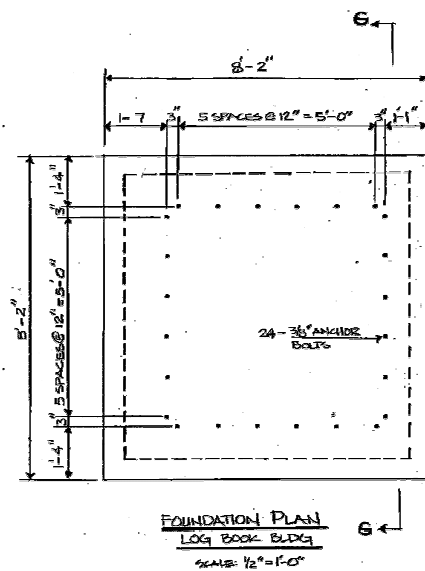
Professional Engineer
 Designed by J.R.M.
 Drawn by G.A.B.
 Checked by S.M.M.
 Date Issued 1-22-84
 Scale: 1/8" = 1'
 Drawing No. Sheet No.
 Date



SECTION Y-Y
 SCALE 1/8" = 1'-0"

DESCRIPTION	JOB: AFE 7716			
	SUB-DIV. NO.:			
DATE	LOCATION: FIRST ST. & AVE. 'E'		PROJ. MECH.	INST. ELEC.
	GULF OIL COMPANY - U.S. A DIVISION OF GULF OIL CORPORATION PHILADELPHIA REFINERY			
REFINERY CONTAINER STORAGE FACILITIES				
SLAB PLAN				
HAZARDOUS WASTE MANAGEMENT PROJECT				
DATE BY	SCALE	DRAWN BY	DATE	
REV. NO.	8'-1'-0"	CHK'D BY	DATE	G-20029

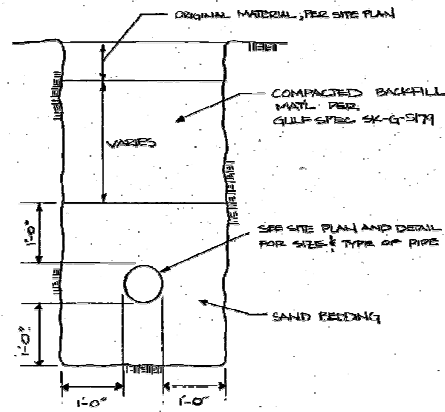
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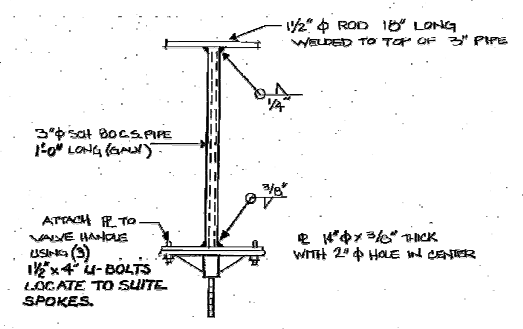
Bergmann Associates
CONSULTING ENGINEERS & PLANNERS
PHILADELPHIA PENNSYLVANIA

Professional Engineer
J. R. M.
Designed by G. A. B.
Drawn by G. A. B.
Checked by S. M. H.
Date Issued 1-22-84
Scale:
Drawing No. Sheet No.
of

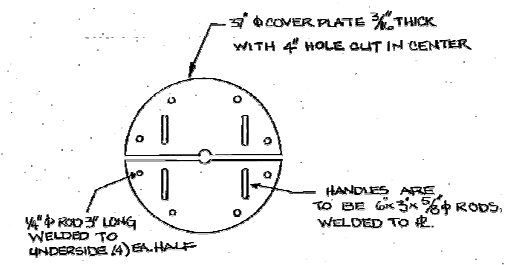
JOB	APC 7716		SUB-DIV. NO. -			
	LOCATION: FIRST ST. & AVE. "E"					
DATE	APPROVED	DATE	PRD.	MECH.	INST.	ELPC.
GULF OIL COMPANY - U.S. A DIVISION OF GULF OIL CORPORATION PHILADELPHIA REFINERY						
REFINERY CONTAINER STORAGE FACILITIES						
CONCRETE DETAILS						
HAZARDOUS WASTE MANAGEMENT PROJECT						
SCALE	DRAWN BY:	DATE:	G-20030			
REV. NO.	CHECKED BY:	DATE:				



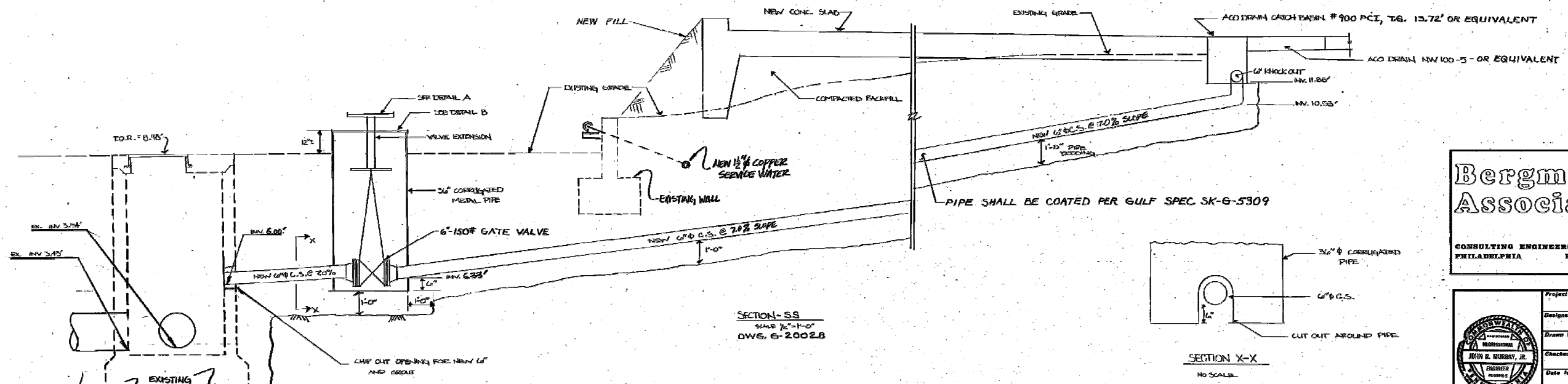
BEDDING DETAIL



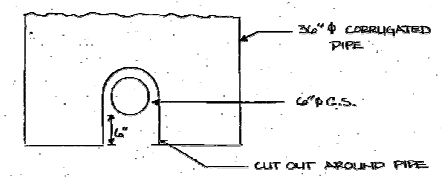
DETAIL A
NO SCALE



DETAIL B
NO SCALE
ALL GALVANIZED



SECTION-SS
SCALE 1/2"=1'-0"
DWS, G-20028



SECTION X-X
NO SCALE

Bergmann Associates
 CONSULTING ENGINEERS & PLANNERS
 PHILADELPHIA PENNSYLVANIA

Project Engineer: J.R.M.
 Designed by: G.A.E.
 Drawn by: G.A.E.
 Checked by: S.M.H.
 Date Issued: 1-22-84
 Scale:
 Drawing No. 1-22-84
 Sheet No. of

JOB NO. AFE 7716	SUB-DIV. NO. -
LOCATION: FIRST ST & AVE, "E"	PROJ. MECH. INST. ELEC.
DATE	
GULF OIL COMPANY - U.S. A DIVISION OF GULF OIL CORPORATION PHILADELPHIA REFINERY REFINERY CONTAINER STORAGE FACILITIES DRAINAGE DETAILS HAZARDOUS WASTE MANAGEMENT PROJECT	
SCALE	DATE: G-20031
DRAWN BY:	DATE:
CHK'D BY:	DATE:

Attachment B

Photolog





Photograph 1:
View of Girard Point Hazardous Waste Storage Pad with notable staining prior to paving.



Photograph 2:
View of Girard Point Hazardous Waste Storage Pad with notable staining prior to paving.



Client: Philadelphia Energy Solutions Refining and Marketing LLC

Project: Girard Point Hazardous Waste Storage Pad and Spent Caustic Tanks 1086 and 1087 Removal

Project Number: P044.001.011

Photo Log



Photograph 3:
View of Girard Point Hazardous Waste Storage Pad with notable staining prior to paving.



Photograph 4:
View of Girard Point Hazardous Waste Storage Pad trench drain.



Client: Philadelphia Energy Solutions Refining and Marketing LLC

Project: Girard Point Hazardous Waste Storage Pad and Spent Caustic Tanks 1086 and 1087 Removal

Project Number: P044.001.011

Photo Log



Photograph 5:
View of Tanks 1086 and 1087 pad with notable cracking and standing water.



Photograph 6:
View of Tanks 1086 and 1087 pad with notable cracking and standing water.



Photograph 7:
View of Tanks 1086 and 1087 pad with notable cracking and standing water.



Photograph 8:
View of demolished tank outside of pad.



Client: Philadelphia Energy Solutions Refining and Marketing LLC

Project: Girard Point Hazardous Waste Storage Pad and Spent Caustic Tanks 1086 and 1087 Removal

Project Number: P044.001.011

Photo Log