

G.1 APPX. - MODIFIED CONSENT DECREEThe ALCOSAN
Modified Consent Decree is accessible online at the following
website path: [https://www.alcosan.org/docs/default-source/
clean-water-plan-documents/2020-consent-decree.pdf](https://www.alcosan.org/docs/default-source/clean-water-plan-documents/2020-consent-decree.pdf)

**G.2 APPX. - GEOTECH REPORTS FOR A-65, A-80, & M-34
(37 pages)**



GeoMechanics, inc

Millennium III Professional Park, 600 Munir Drive
P.O. Box 386, Elizabeth, PA 15037-0386
Phone: (724) 379-6300 • Fax: (724) 379-4242

September 11, 2025
(E.Wolff@gaiconsultants.com)

GAI Consultants, Inc.
384 East Waterfront Drive
Homestead, PA 15120-5005

Attention: Emma N. Wolff, P.E.
Senior Engineering Manager

Re: Allegheny County Sanitary Authority
Professional Services for Gate Replacements
Project S-494
GMI Project No. 25036

Temporary Shoring Parameters at Structure A-80

Ladies and Gentlemen,

GeoMechanics, Inc. (GMI) is pleased to present the findings for installation of temporary shoring at Allegheny County Sanitation Authority (ALCOSAN) Structure A-80 at 1290 Old Freeport Road, Pittsburgh, Pennsylvania. This letter summarizes the information obtained during our investigation and presents recommendations for the design of temporary shoring by others for installation of the new structure.

1.0 LOCATION

The new structure site is located on the property of the Squaw Run Pump Station at 1290 Old Freeport Road in the City of Pittsburgh, Pennsylvania (see Figures 1 and 2). It is bounded by Old Freeport Road at the north and by Sycamore Run to the east. The site lies in the Allegheny River flood plain (see Figure 3).

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2.0 DATA OBTAINED

The data collection phase of the investigation included drilling of a test boring and laboratory testing on samples obtained from the boring. As agreed, the test boring was scheduled to be terminated at a depth of 20± feet or at refusal on bedrock, whichever was shallower.

GMI obtained the test boring, A80-1, at the general location shown on Figure 4 on July 14, 2025 using in-house personnel and equipment. The boring was advanced in soils to the termination depth of 20 feet by hollow-stem augering with standard penetration test taken at 3-foot center-to-center intervals. The split-spoon samples were delivered to our laboratory where they were logged by a Geotechnical Specialist. His description of the materials sampled in the boring and the spoon blows from the standard penetration tests are recorded on the attached Test Boring Record.

Laboratory moisture content and classification tests were conducted on two (2) sets of jar samples from the test boring. The results of these tests, when used in conjunction with the standard penetration resistance test results from the test boring, can be related empirically with the shear strength of the soils for use in lateral capacity analyses. The results of the moisture content and classification tests are presented on the attached Figures LT-1 and LT-2.

3.0 DISCUSSION OF SUBSURFACE CONDITIONS

The in-place soils sampled in the boring were from two (2) distinct geologic origins: man-made fill and alluvial deposits. Man-made fill was sampled from ground surface down to a depth of 10.5± feet and consisted of silty to clayey gravel with some sand. The in-place relative density of the fill, as measured by the standard penetration tests in the test boring, was loose. The moisture content was damp near ground surface and moist below. A strong organic odor was noted in the sampled from 9.0 to 10.5 feet, possibly due to the original topsoil layer that may not have been completely removed.

Alluvial deposits were present from the bottom of the man-made fill down to the lowest depth sampled of 20 feet. Alluvial soils are those that are transported by the stream action of

September 11, 2025

Sycamore Run and the nearby Allegheny River and deposited at the site during periods of overbank flow. The alluvium at the proposed construction site consisted of an upper 4.5±-foot thick layer of silty sand and gravel underlain by 5± feet of silty clay with little sand and gravel. The in-place relative density of the alluvial sand and gravel was medium dense, and the in-place consistency of the alluvial clay was stiff. The moisture content of the alluvium was wet throughout.

4.0 ANALYSIS AND CONCLUSIONS

The purpose of the drilling and testing performed at the proposed construction site was to identify the geotechnical engineering parameters that will be included in the specifications for design of the proposed temporary shoring during construction. The results of our analysis and conclusions drawn therefrom are summarized as follows:

- For non-gravity cantilever walls with continuous vertical wall elements, design the temporary shoring using Figure 3.11.5.6-3 from the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.
- For anchored walls constructed from the top down in cohesionless soils, use the appropriate earth pressure distribution presented on Figure 3.11.5.7.1.1 from the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 to design the temporary shoring.
- Use the following engineering parameters for the in-place materials:
 - Existing Fill
USCS Classifications: GC, gm
 $N_{av} = 8$
 $\phi' = 28^\circ$
 $c' = 0$ PSF
 $\gamma_m = 115$ PCF, $\gamma_{SAT} = 120$ PCF, $\gamma_{SUB} = 57.8$ PCF

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- Alluvial Soils – Granular
USCS Classifications: sm/sc
 $N_{av} = 25$
 $\phi' = 32^\circ$
 $c' = 0$ PSF
 $\gamma_m = 120$ PCF, $\gamma_{SAT} = 125$ PCF, $\gamma_{SUB} = 62.6$ PCF
- Alluvial Soils – Cohesive
USCS Classifications: CL
 $N_{av} = 12$
 $\phi' = 28^\circ$
 $c' = 0$ PSF
 $\gamma_m = 120$ PCF, $\gamma_{SAT} = 125$ PCF, $\gamma_{SUB} = 62.6$ PCF
- Assume the water table to be at or above the 100-year flood elevation along Sycamore Run

We wish to extend our appreciation for this opportunity to be of service to you on this interesting and challenging project. Should you have any questions regarding this letter or require additional information, please contact us.



Very truly yours,

GEO-MECHANICS, INC.

A handwritten signature in blue ink that reads "Walter M. Lorence".

Walter M. Lorence, P.E.
Executive Vice President

WML:lg

Attachments:

Figures 1, 2, 3 and 4

Test Boring Record

Figures LT-1 and LT-2

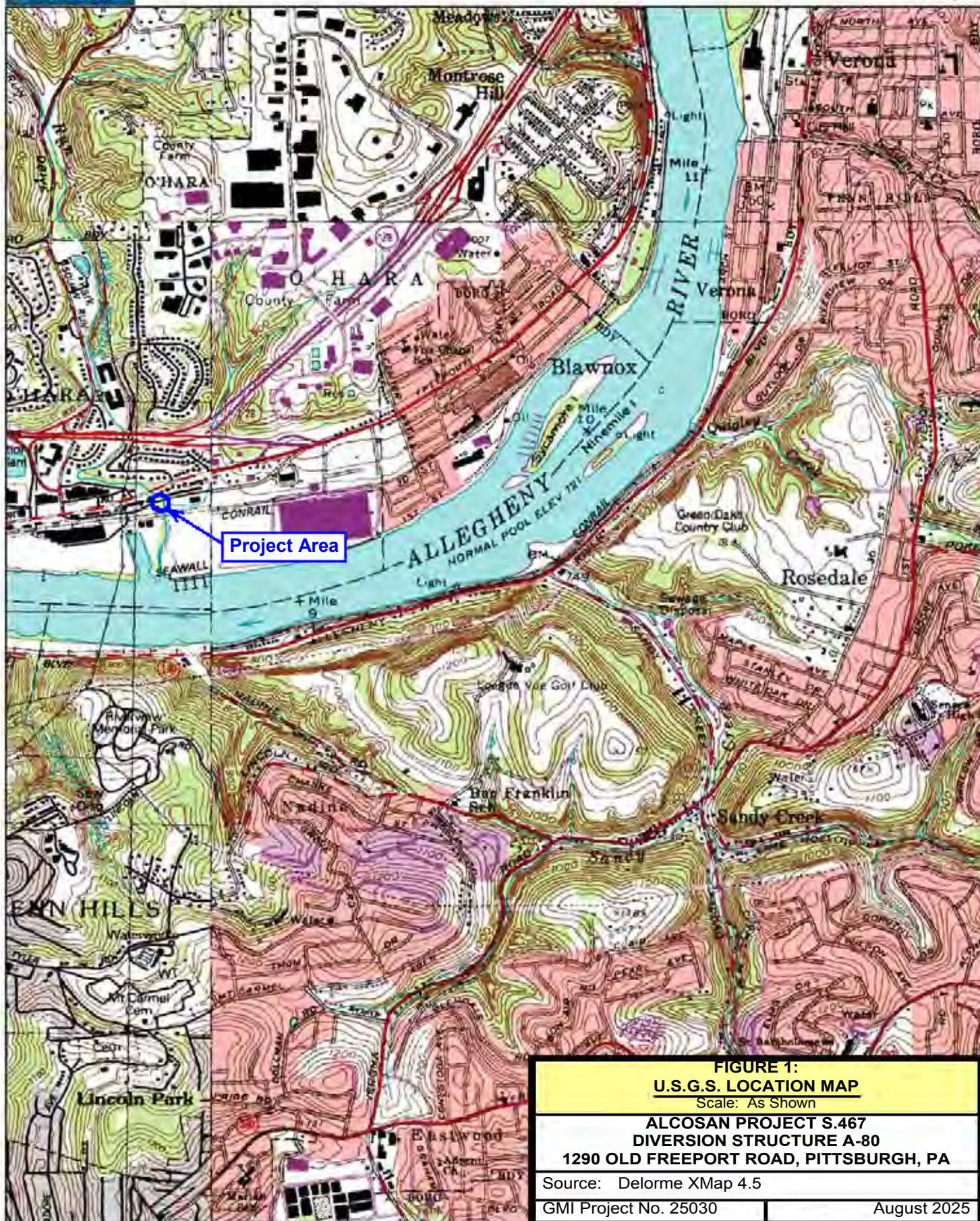


FIGURE 1:
U.S.G.S. LOCATION MAP
Scale: As Shown

ALCOSAN PROJECT S.467
DIVERSION STRUCTURE A-80
1290 OLD FREEPORT ROAD, PITTSBURGH, PA

Source: Delorme XMap 4.5

GMI Project No. 25030

August 2025

Data use subject to license.

© DeLorme, XMap® 7.

www.delorme.com

Scale 1 : 24,000

1" = 2,000.0 ft

Data Zoom 13-0



**FIGURE 2:
AERIAL PHOTOGRAPH OF SITE**

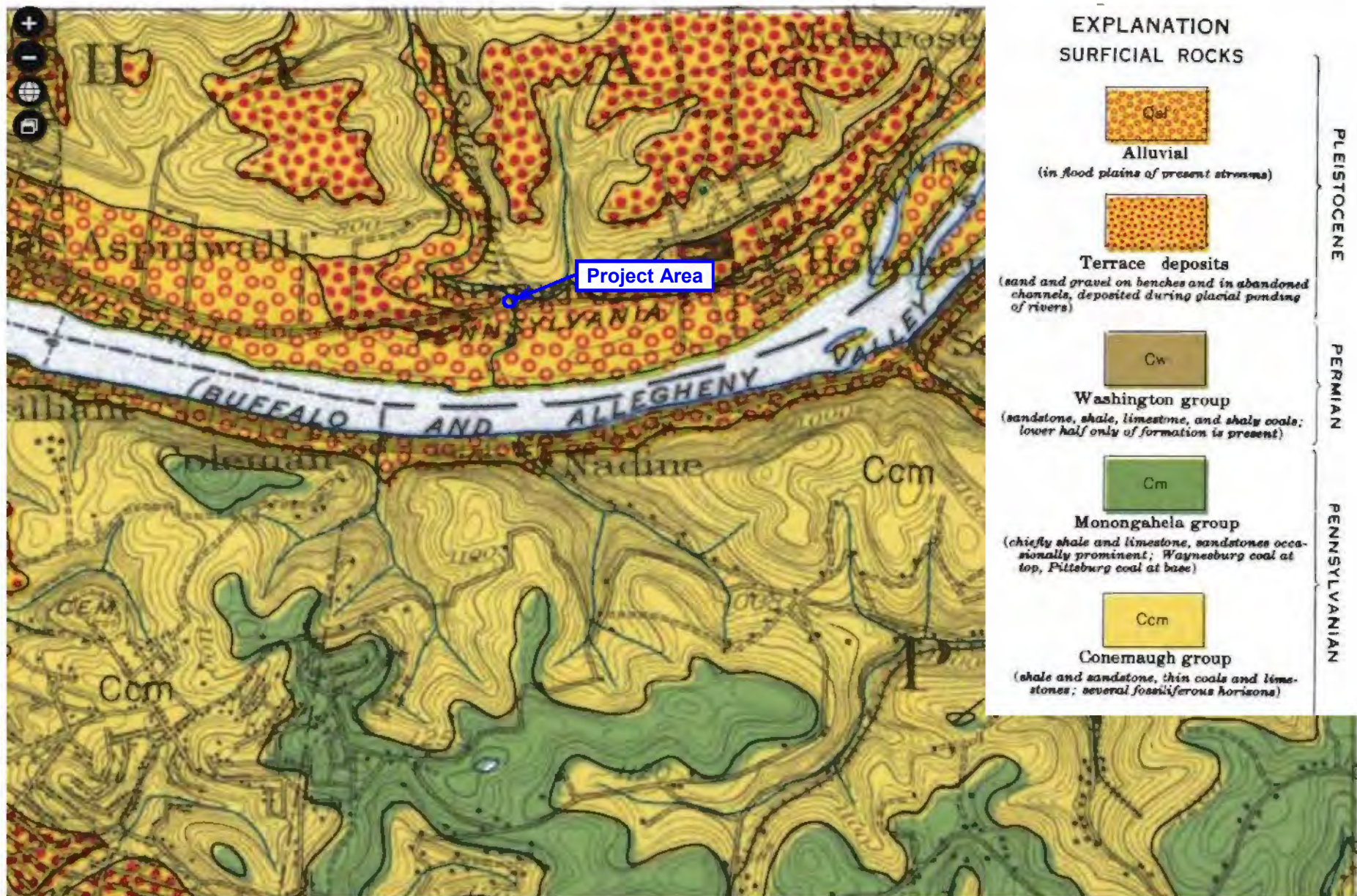
Scale: As Shown

**ALCOSAN PROJECT S.467
DIVERSION STRUCTURE A-80
1290 OLD FREEPORT ROAD, PITTSBURGH, PA**

Source: Google Earth. Imagery Date: 8/18/23

GMI Project No. 25030

August 2025



**FIGURE 3:
AREAL GEOLOGY**

Scale: As Shown

ALCOSAN PROJECT S.467

DIVERSION STRUCTURE A-80

1290 OLD FREEPORT ROAD, PITTSBURGH, PA

Source: https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=46534

GMI Project No. 25036

September 2025



**FIGURE 4:
BORING LOCATION**

Scale: None

**ALCOSAN PROJECT S.467
DIVERSION STRUCTURE A-80
1290 OLD FREEPORT ROAD, PITTSBURGH, PA**

Source: https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=46534

GMI Project No. 25036

September 2025

TEST BORING RECORD

Driller Carlos TrevinoDrill Rig CME-55 Trailer-Mount

Water Level: O-Hr. 16.7 24 Hrs. FilledIn

Casing Hammer: Wt. _____ lbs. Drop _____ in.

Sampler Hammer: Wt. 140 lbs. Drop 30 in.

Sampler Size 2 in. O.D. **Casing Size** 3.25 in. I.D.

Core Bit Size N/A

Driller's Log

Orientation Vertical

Geologist's Log

Boring No. A80-1 Surface Elevation 732.9 Sheet No. 1 of 1 sheets

For **GAI Consultants, Inc.**

Squaw Run Pump Station

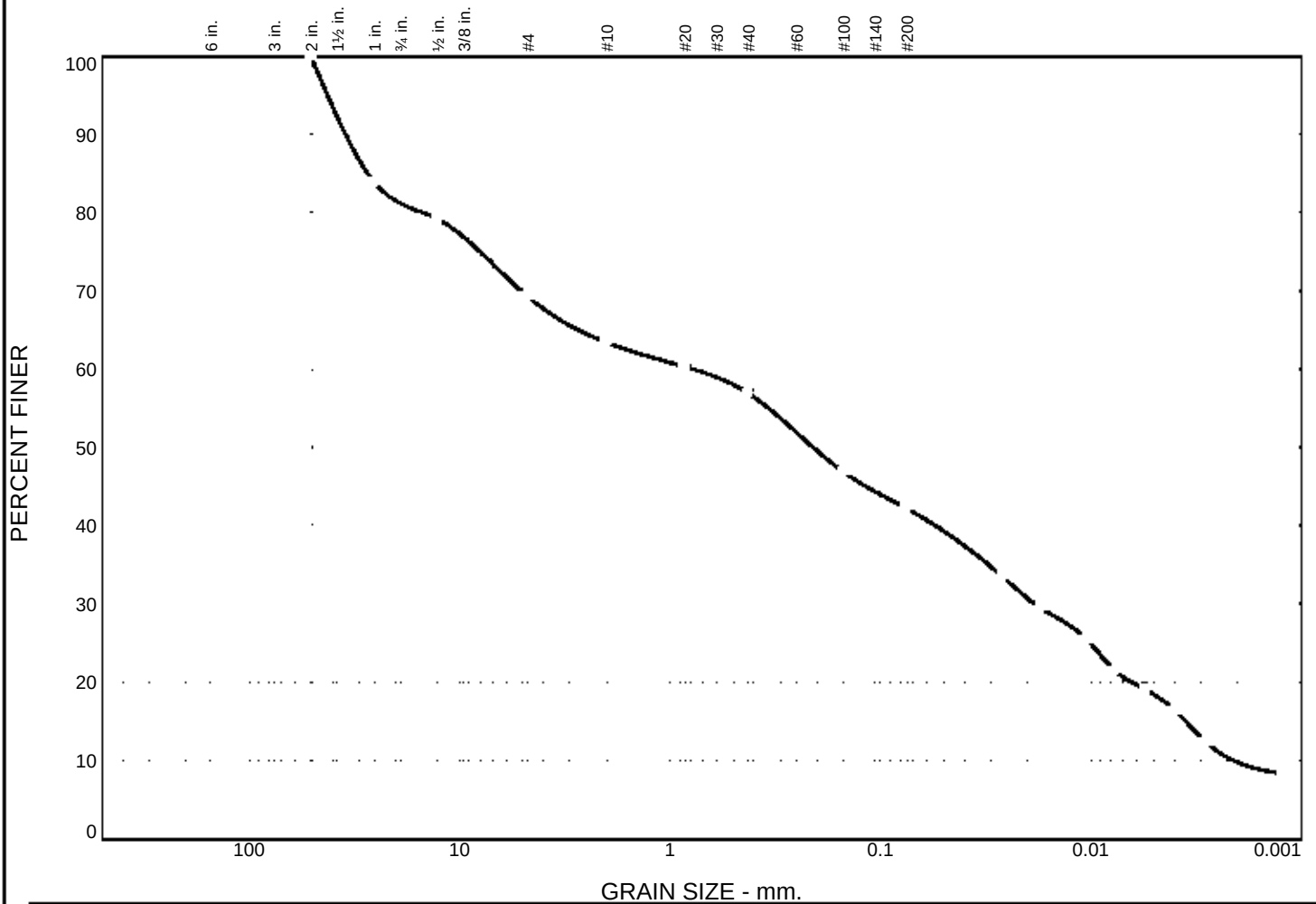
Allegheny County Sanitary Authority

Location 1306 Old Freeport Road, O'Hara Twp., PA

Started 7/14/25 Completed 7/14/25 Project No. 25036-A

Drilling Fluid N/A[illegible]

Particle Size Distribution Report



% +3"		% Gravel		% Sand			% Fines		
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0		18.8	11.9	5.9	6.5	14.7	23.8	18.4	
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
25	16	27.3003	0.7756	0.2083	0.0185	0.0035	0.0021	0.21	365.73
Material Description							USCS	AASHTO	
CLAYEY GRAVEL WITH SAND							GC	A-4(1)	

Project No. 25036-A **Client:** GAI CONSULTANTS, INC.

Project: ALCOSAN GATE REPLACEMENT - SITE A-80

Remarks:

N.W.C.= 17.1%

JAR SAMPLES

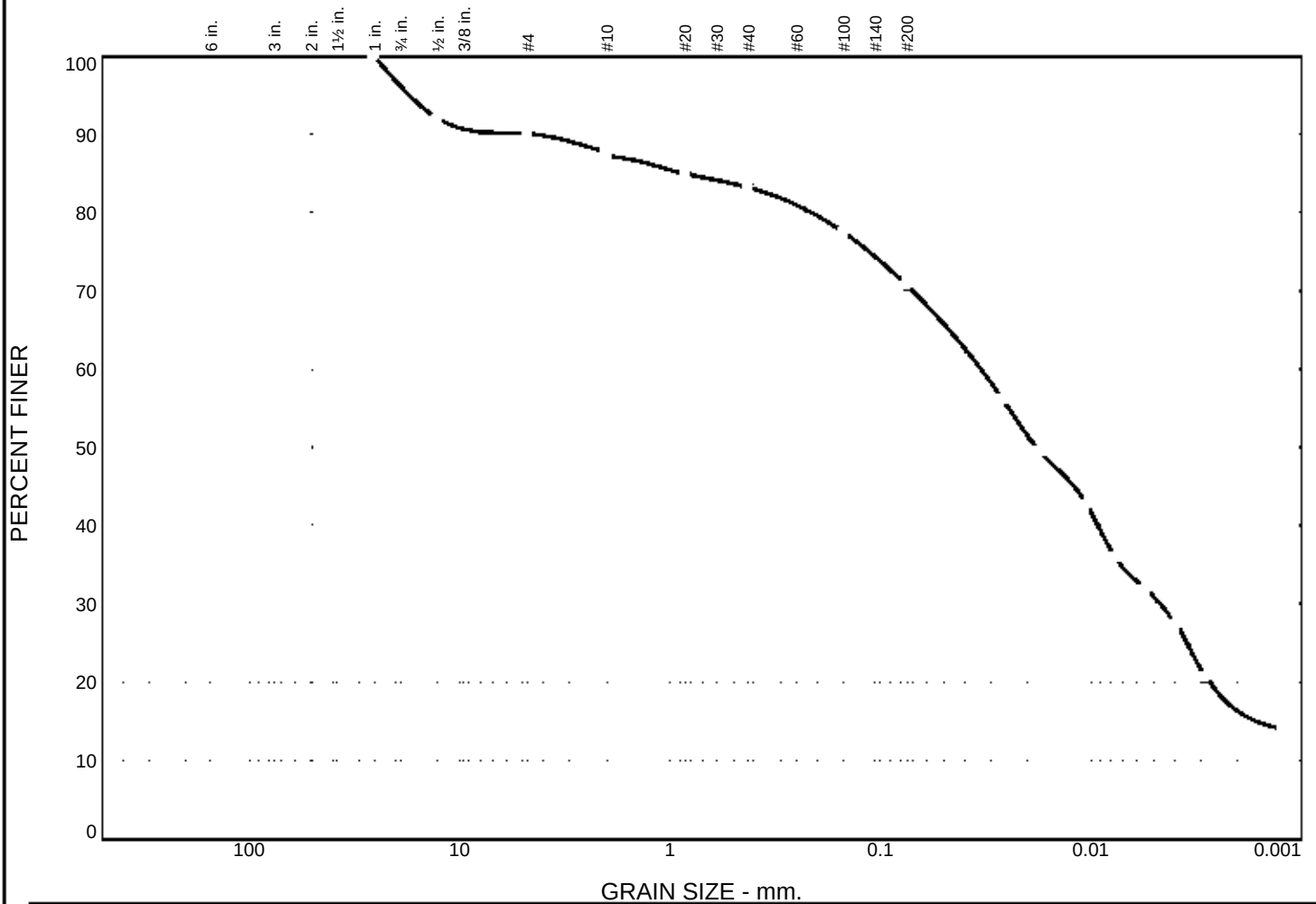
Source of Sample: A80-1

Depth: 3.0'-10.5'

GEO-MECHANICS, INC.

Figure LT-1

Particle Size Distribution Report



GRAIN SIZE - mm.									
% +3"		% Gravel		% Sand			% Fines		
		Coarse	Fine	Coarse	Medium	Fine	Silt		Clay
0.0		3.8	6.1	2.4	4.4	12.6	39.8		30.9
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
26	16	0.8491	0.0332	0.0181	0.0047	0.0016			
Material Description							USCS	AASHTO	
SILTY CLAY							CL	A-4(5)	

Project No. 25036-A **Client:** GAI CONSULTANTS, INC.

Project: ALCOSAN GATE REPLACEMENT - SITE A-80

Remarks:

N.W.C.= 19.6%

JAR SAMPLES

Source of Sample: A80-1

Depth: 15.0'-20.0'

GEO-MECHANICS, INC.

Figure LT-2



GeoMechanics, inc

Millennium III Professional Park, 600 Munir Drive
P.O. Box 386, Elizabeth, PA 15037-0386
Phone: (724) 379-6300 • Fax: (724) 379-4242

E-Mailed October 22, 2025
(E.Wolff@gaiconsultants.com)

GAI Consultants, Inc.
384 East Waterfront Drive
Homestead, PA 15120-5005

Attention: Emma N. Wolff, P.E.
Senior Engineering Manager

Re: Allegheny County Sanitary Authority
Professional Services for Gate Replacements
Project S-494
GMI Project No. 25036

Temporary Shoring Parameters at Regulator Structure A-65

Ladies and Gentlemen,

GeoMechanics, Inc. (GMI) is pleased to present the findings for installation of temporary shoring at Allegheny County Sanitation Authority (ALCOSAN) Regulator Structure A-65. This letter summarizes the information obtained during our investigation and presents recommendations for the design of temporary shoring by others for installation of the new structure.

1.0 LOCATION

The structure site is located on the shoreline of the Allegheny River backchannel at Herrs Island, approximately midway between the 31st Street Bridge and the north end of the island, in the City of Pittsburgh, Allegheny County, Pennsylvania (see Figures 1 and 2). It is bounded by the Three Rivers Heritage Trail to the west and the Allegheny River backchannel to the east.

2.0 DATA OBTAINED

The data collection phase of the investigation included drilling of a test boring and laboratory testing of selected samples obtained from the boring. The test boring was originally

E-Mailed October 22, 2025

scheduled to be terminated at a depth of $20\pm$ feet or at refusal on bedrock, whichever was shallower. However, due to the presence of softer/looser soils above a depth of 20 feet, it was agreed to extend the boring to a terminal depth of about $40\pm$ feet or to refusal on bedrock, whichever was shallower.

GMI obtained the test boring, A-65, at the general location shown on Figure 4 on October 1, 2025. The boring was originally to be drilled from the deck of a barge on the back channel. However, due to low water level at the time of access, the barge grounded out and was not able to set up close to the proposed boring location. Therefore, the boring was drilled on land at the location shown on Figure 4.

The boring was advanced in soils to a termination depth of 33.1 feet by hollow-steam augering with standard penetration tests taken at 3-foot center-to-center intervals. The split-spoon samples were delivered to our laboratory where they were logged by an Engineering Geologist. His description of the materials sampled in the boring and the spoon blows from the standard penetration tests are recorded on the attached Test Boring Record.

Laboratory moisture content and classification tests were conducted on two (2) sets of jar samples from the test boring. The results of these tests, when used in conjunction with the standard penetration resistance test results from the test boring, can be related empirically with the shear strength of the soils for use in lateral capacity analyses. The results of the moisture content and classification tests are presented on the attached Figures A65-1 and A65-2.

3.0 DISCUSSION OF SUBSURFACE CONDITIONS

The in-place soils sampled in the boring were from two (2) distinct geologic origins – man-made fill and residual soils. Although located on the Allegheny River flood plain, alluvial soils were not sampled in the test boring.

Man-made fill was present from ground surface down to a depth of $27\pm$ feet and consisted of well-graded silty gravel and sand (USCS classification **GW-GM**) to a depth of $12\pm$ feet underlain by layers of silty gravel, clayey sand and clayey gravel (USCS classifications gm, SC and

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gc). Note that the bold capital letters for the soils indicate those portions evaluated by laboratory testing. The man-made fill materials were probably placed during construction of the nearby railroad and the Three Rivers Heritage Trail. The in-place relative density of the upper 12± feet was medium dense ($N_{av} = 14$), and that of the lower fill materials was loose ($N_{av} = 7$). The moisture content of upper 12± feet of fill was dry to damp; whereas, that of the lower fill materials was typically wet, being located below the adjacent river level.

Residual soils were present from the base of the man-made fill to the lowest depth sampled. Residual soils are formed through the in-place weathering and decomposition of bedrock. As such, they tend to retain some of the fabric and texture of the parent bedrock from which they have been derived. The thickness of the residual soils was 6.1 feet, and the soils sampled consisted of a layer of clayey sand over a layer of clayey gravel. These appeared to have been derived from an original claystone and/or shale lithology. The in-place relative density of the residuum was very dense, and the moisture content was damp.

4.0 ANALYSIS AND RECOMMENDATIONS

The purpose of the drilling and testing performed at the proposed construction site has been to identify the geotechnical engineering parameters that will be included in the specifications for design of the proposed cofferdam during construction. The results of our analysis and conclusions drawn therefrom are summarized as follows. Note that the values have been adjusted to anticipate construction within the waterway of the Allegheny River backchannel.

- For non-gravity cantilever walls with continuous vertical wall elements, design the cofferdam using Figure 3.11.5.6-3 from the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.
- For anchored walls constructed from the top down in cohesionless soils, use the appropriate earth pressure distribution presented on Figure 3.11.5.7.1.1 from the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 to design the cofferdam.

E-Mailed October 22, 2025

- Use the following engineering parameters for the in-place soil materials:
 - Lower Man-Made Fill (12.0' – 27.0')
USCS Classifications: gm, SC, gc
 $N_{av} = 7$
 $\phi' = 31^\circ$
 $c' = 0$ PSF
 $\gamma_m = 120$ PCF, $\gamma_{SAT} = 125$ PCF, $\gamma_{SUB} = 62.6$ PCF
 - Residual Soils
USCS Classifications: sc, gc
 $N_{av} = 50+$
 $\phi' = 34^\circ$
 $c' = 0$ PSF
 $\gamma_m = 125$ PCF, $\gamma_{SAT} = 130$ PCF, $\gamma_{SUB} = 67.6$ PCF
- Assume the water table to be at or above the 100-year flood elevation along the Allegheny River

We wish to extend our appreciation for this opportunity to be of service to you on this interesting and challenging project. Should you have any questions regarding this letter or require additional information, please contact us.



Very truly yours,

GEO-MECHANICS, INC.

A handwritten signature of Walter M. Lorence in black ink.

Walter M. Lorence, P.E.
Executive Vice President

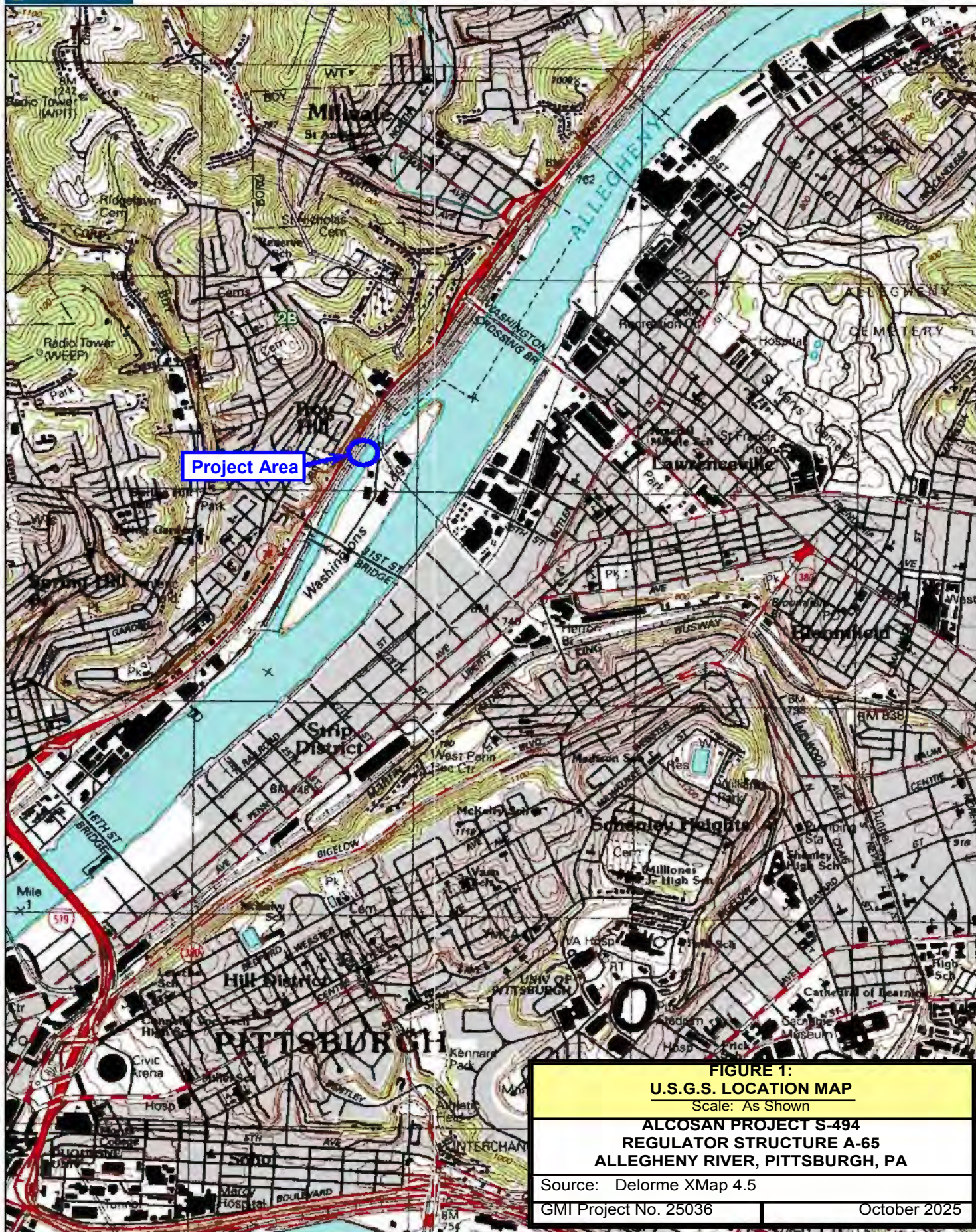
WML:lg

Attachments:

Figures 1, 2, 3 and 4

Test Boring Record for A-65

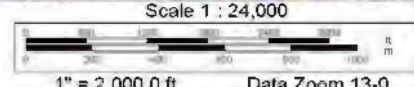
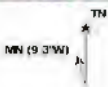
Figures A65-1 and A-65-2



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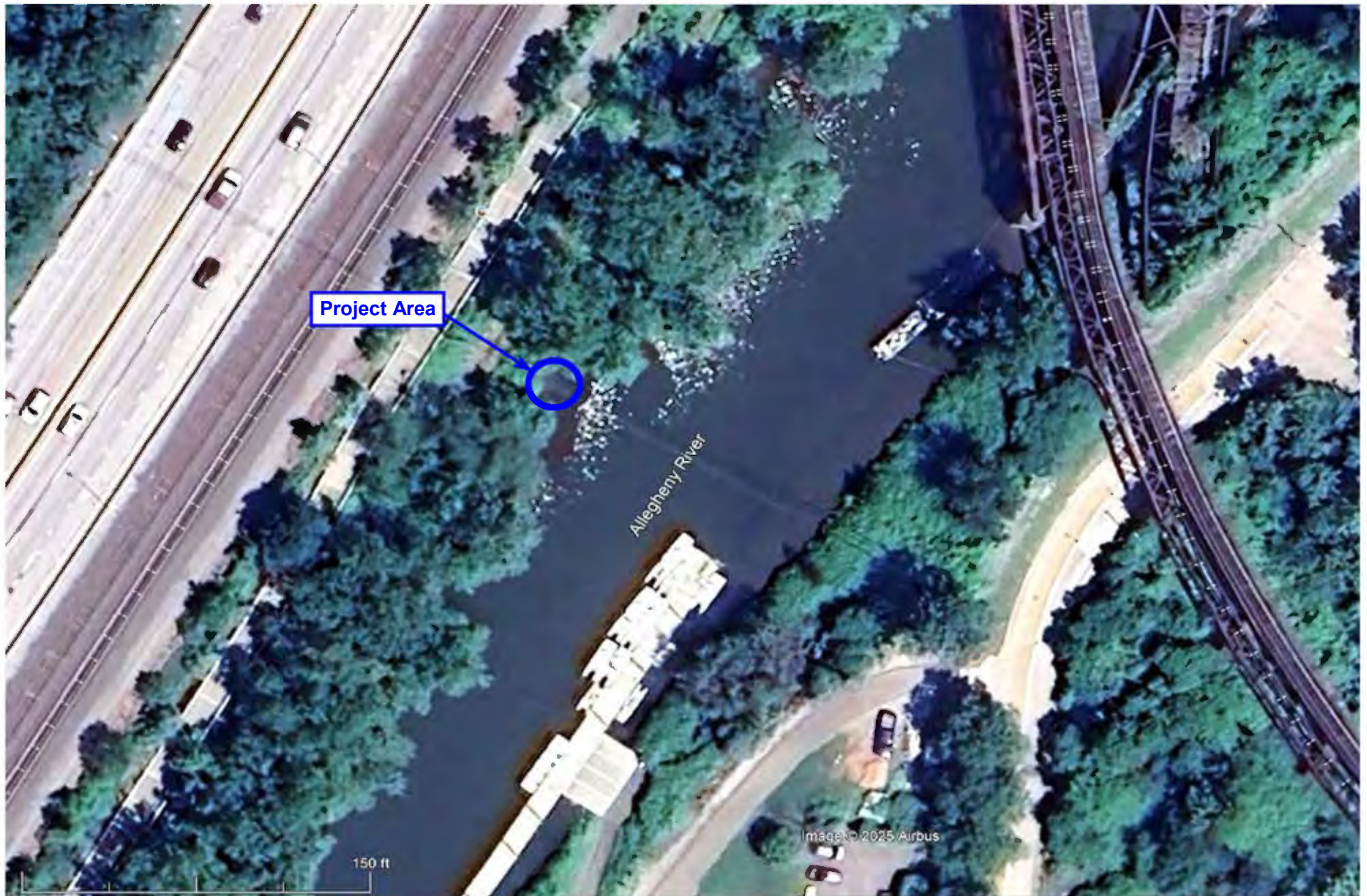


FIGURE 2:
AERIAL PHOTOGRAPH OF SITE

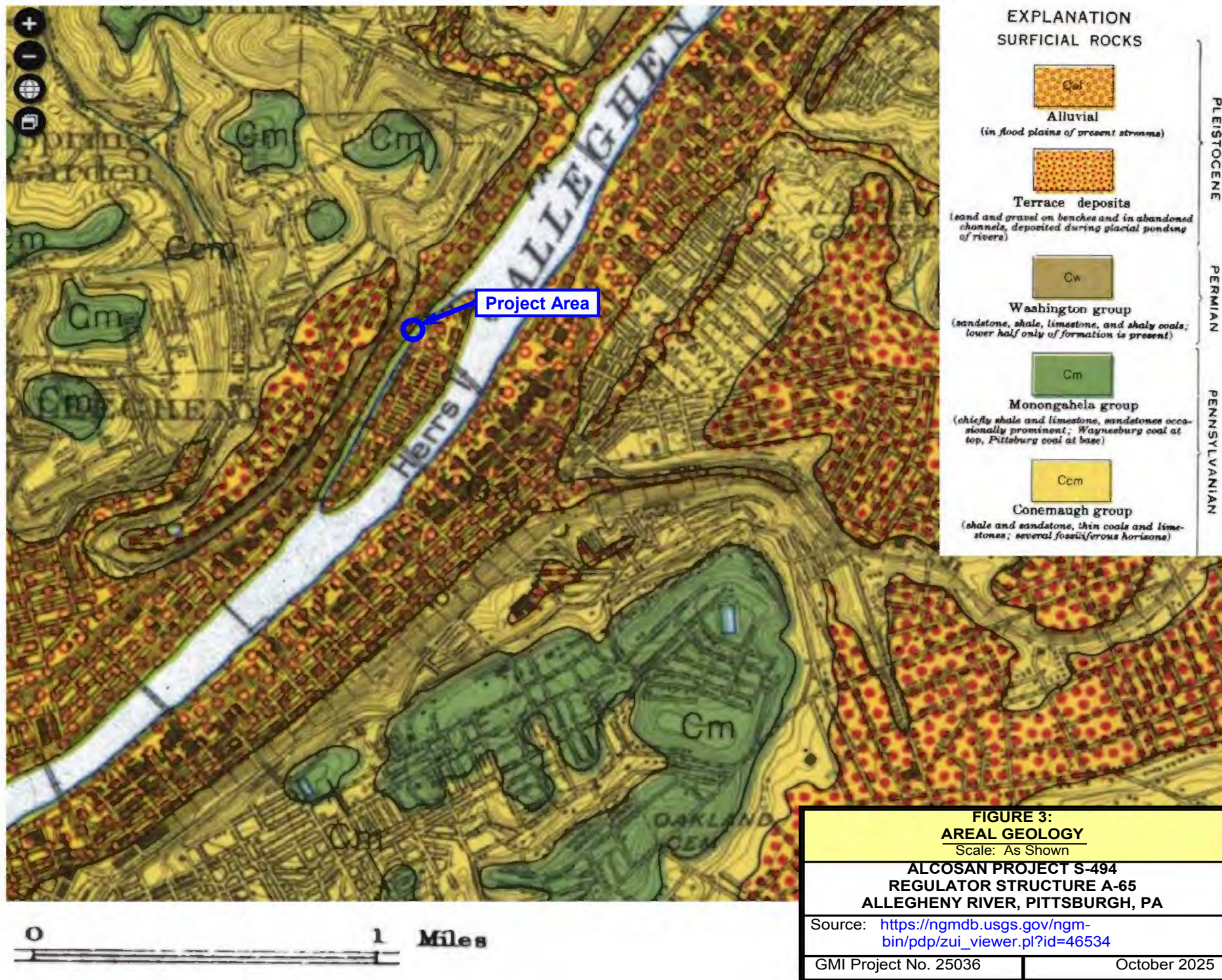
Scale: As Shown

ALCOSAN PROJECT S-494
REGULATOR STRUCTURE A-65
ALLEGHENY RIVER, PITTSBURGH, PA

Source: Google Earth. Imagery Date: 7/5/25

GMI Project No. 25036

October 2025





**FIGURE 4:
BORING LOCATION**

Scale: None

**ALCOSAN PROJECT S-494
REGULATOR STRUCTURE A-65
ALLEGHENY RIVER, PITTSBURGH, PA**

Source: Photograph Provided by GAI Consultants, Inc.

GMI Project No. 25036

October 2025



GEO-MECHANICS, INC.

TEST BORING RECORD

Driller Carlos Trevino
 Drill Rig CME-55 Trailer
 Water Level: O-Hr. 8.4 24 Hrs. 7.5
 Casing Hammer: Wt. _____ lbs. Drop _____ in.
 Sampler Hammer: Wt. 140 lbs. Drop 30 in.
 Sampler Size 2 in. O.D. Casing Size 3.25 in. I.D.
 Core Bit Size N/A
 Orientation Vertical

Boring No. A-65 Surface Elevation 717.6 Sheet No. 1 of 2 sheets
 For GAI Consultants, Inc.
Proposed Flap Gate Replacement
Allegheny County Sanitary Authority
 Location A-65 Regulator Structure
 Started 10/1/25 Completed 10/1/25 Project No. 25036
 Driller's Log _____ Drilling Fluid N/A
 Geologist's Log TDW

ELEVATION	In-Situ Tests and Instrumentation	RQD %	RUN-REC.	SPOON BLOWS		BOTTOM DEPTH OF SAMPLE	DEPTH (Ft.)	DESCRIPTION	REMARKS
				INTERV.					
717.6				8			0.0	Brown SILTY GRAVEL and SAND, Trace Clay, Loose to Medium Dense, Damp to Dry	No Recovery From 0.0-1.5' Sample
				12					
				12		1.5			
				10					
				11					
				6		4.5		(Fill)	Petroleum Like Odor From 6.0-7.5'
				4					
				4					
				4		7.5			GW-GM NWC=8.6% LL-NP PI-NP
				4					Hit Water @ 9.0'
				3					No Recovery From 9.0-10.5' Sample
				5		10.5			
							12.0		
705.6				5				Dark Brownish Gray SILTY GRAVEL, Some Sand, Trace Clay, Very Loose to Loose, Wet	
				3					
				2		13.5		.Includes Slag	
				2				(Fill)	No Recovery From 15.0-16.5' Sample
				1					
				2		16.5			
							18.0		
699.6				5				Dark Brownish Gray CLAYEY SAND, Some Gravel, Little Silt, Medium Dense, Wet	Petroleum Like Odor From 18.0-19.5'
				6					
				10		19.5			
								(Fill)	SC NWC=10.4% LL=28 PI=13
							21.0		
696.6				9				Brown to Reddish Brown CLAYEY GRAVEL, Some Sand, Little Silt, Loose to Very Dense, Damp	
				3					
				3		22.5		.Gravel Component is Angular in Shape	
				50/.3		24.3		(Fill/Regraded Soil)	

TEST BORING RECORD

Driller Carlos TrevinoDrill Rig CME-55 Trailer

Water Level: O-Hr. 8.4 24 Hrs. 7.5

Casing Hammer: Wt. _____ lbs. Drop _____ in.

Sampler Hammer: Wt. 140 lbs. Drop 30 in.

Sampler Size 2 in. O.D. **Casing Size** 3.25 in. I.D.

Core Bit Size	N/A
---------------	-----

Orientation Vertical

Boring No. A-65 Surface Elevation 717.6 Sheet No. 2 of 2 sheets

For GAI Consultants, Inc.

Proposed Flap Gate Replacement

Allegheny County Sanitary Authority

Location **A-65 Regulator Structure**

Started 10/1/25 Completed 10/1/25 Project No. 25036

Drilling Fluid N/A

Driller's Log

Geologist's Log TDW[illegible]

Particle Size Distribution Report

GRAIN SIZE - mm.									
% +3"		% Gravel		% Sand			% Fines		
		Coarse	Fine	Coarse	Medium	Fine	Silt		Clay
	0.0	12.7	37.2	11.7	11.7	14.7	8.0		4.0

LL	PL	D₈₅	D₆₀	D₅₀	D₃₀	D₁₅	D₁₀	C_c	C_u
NP	NP	18.0582	8.2692	4.7256	0.6246	0.1234	0.0346	1.36	238.76

Material Description	USCS	AASHTO
WELL-GRADED SILTY GRAVEL WITH SAND	GW-GM	A-1-a

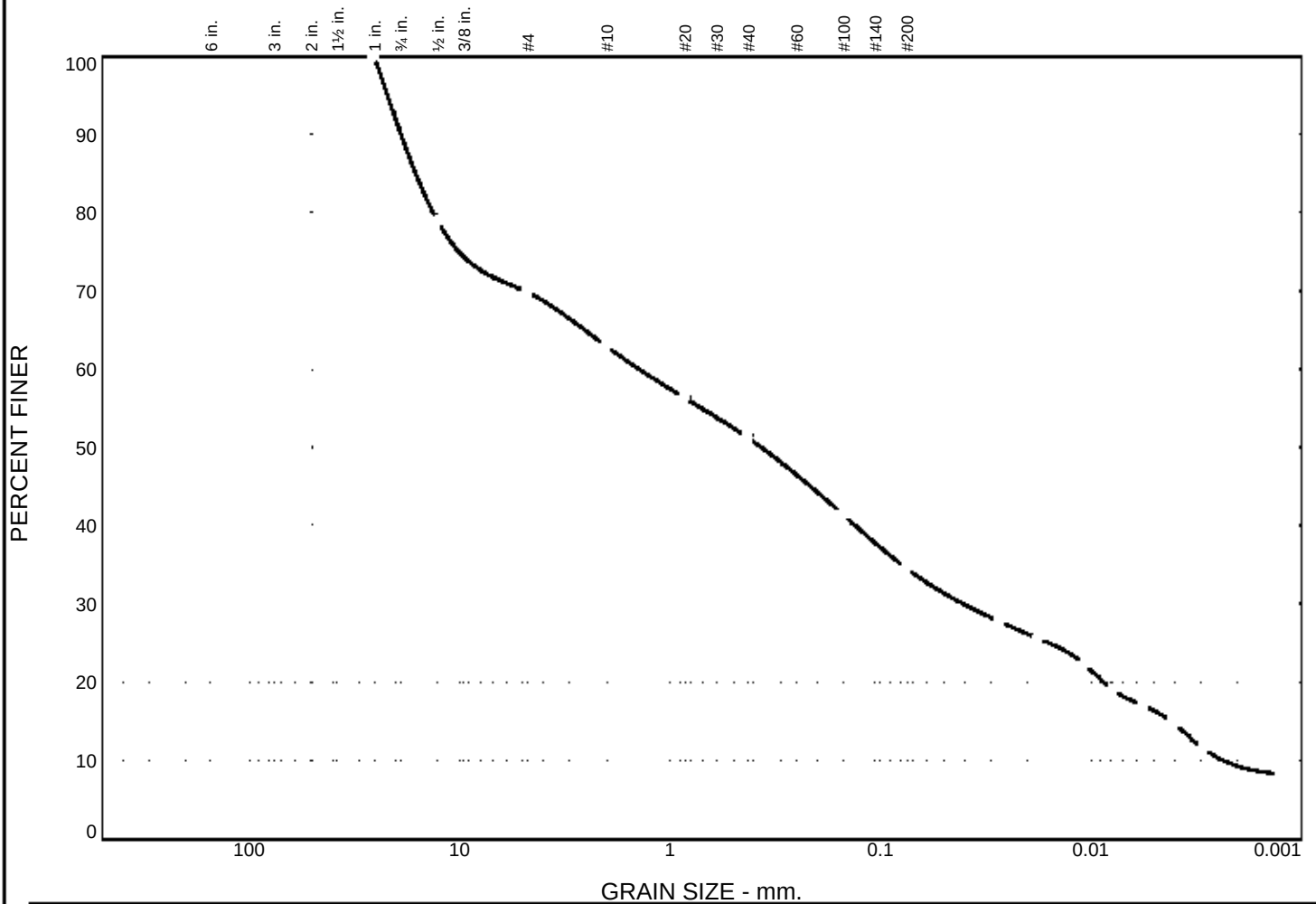
Project No. 25036-E Project: ALCOSAN GATE REPLACEMENTS - SITE A-65 Source of Sample: A-65	Client: GAI CONSULTANTS, INC. Depth: 3.0'-10.5'	Remarks: N.W.C.= 8.6% JAR SAMPLES
--	--	--

GEO-MECHANICS, INC.

Figure A65-1

Figure A65-1

Particle Size Distribution Report



% +3"		% Gravel		% Sand			% Fines		
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0		9.9	20.3	6.9	11.7	16.7	18.2	16.3	

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
28	15	16.1597	1.4000	0.3673	0.0404	0.0042	0.0024	0.49	594.20

Material Description							USCS	AASHTO
CLAYEY SAND WITH GRAVEL							SC	A-2-6(1)

Project No. 25036-E **Client:** GAI CONSULTANTS, INC.

Project: ALCOSAN GATE REPLACEMENTS - SITE A-65

Remarks:

N.W.C.= 10.4%

JAR SAMPLES

Source of Sample: A-65

Depth: 18.0'-24.3'

GEO-MECHANICS, INC.

Figure A65-2



GeoMechanics, inc

Millennium III Professional Park, 600 Munir Drive
P.O. Box 386, Elizabeth, PA 15037-0386
Phone: (724) 379-6300 • Fax: (724) 379-4242

E-Mailed October 22, 2025
(E.Wolff@gaiconsultants.com)

GAI Consultants, Inc.
384 East Waterfront Drive
Homestead, PA 15120-5005

Attention: Emma N. Wolff, P.E.
Senior Engineering Manager

Re: Allegheny County Sanitary Authority
Professional Services for Gate Replacements
Project S-494
GMI Project No. 25036

Temporary Shoring Parameters at Diversion Structure M-34

Ladies and Gentlemen,

GeoMechanics, Inc. (GMI) is pleased to present the findings for installation of temporary shoring at Allegheny County Sanitation Authority (ALCOSAN) Diversion Structure M-34. This letter summarizes the information obtained during our investigation and presents recommendations for the design of temporary shoring by others for installation of the new structure.

1.0 LOCATION

The structure site is located on the shoreline of the Monongahela River approximately 275± feet downstream from the mouth of Becks Run at the Monongahela River in the City of Pittsburgh, Pennsylvania (see Figures 1 and 2). It is bounded by the Three Rivers Heritage Trail to the west and the Monongahela River to the east.

2.0 DATA OBTAINED

The data collection phase of the investigation included drilling of a test boring and laboratory testing of selected samples obtained from the boring. The test boring was originally

E-Mailed October 22, 2025

scheduled to be terminated at a depth of $20\pm$ feet or at refusal on bedrock, whichever was shallower. However, due to the presence of softer/looser soils above a depth of 20 feet, it was agreed to extend the boring to a terminal depth of about $40\pm$ feet.

GMI obtained the test boring, M-34, at the general location shown on Figure 4 on September 23, 2025. The boring was drilled from the deck of a barge on the Monongahela River using in-house personnel and equipment. Water depth at the time and date of drilling was 2.8 feet. The boring was advanced in soils to the termination depth of 40.5 feet by hollow-stem augering with standard penetration test taken at 3-foot center-to-center intervals. The split-spoon samples were delivered to our laboratory where they were logged by an Engineering Geologist. His description of the materials sampled in the boring and the spoon blows from the standard penetration tests are recorded on the attached Test Boring Record.

Laboratory moisture content and classification tests were conducted on three (3) sets of jar samples from the test boring. The results of these tests, when used in conjunction with the standard penetration resistance test results from the test boring, can be related empirically with the shear strength of the soils for use in lateral capacity analyses. The results of the moisture content and classification tests are presented on the attached Figures M34-1 through M34-3.

3.0 DISCUSSION OF SUBSURFACE CONDITIONS

All in-place soils sampled in the boring were from the same distinct geologic origin - alluvial deposits that were present from streambed down to the lowest depth sampled of 40.5 feet (see Figure 3). Alluvial soils are those that are transported by the stream action of Becks Run and the Monongahela River and deposited at the site during periods of overbank flow. The alluvium at the proposed construction site consisted of an upper $9\pm$ -foot thick layer of silt (USCS classification ML) and underlain by $3\pm$ feet of silty clay. Below a depth of $12\pm$ feet the alluvium consisted primarily of silty to clayey gravel and sand (USCS classifications GC and SC). The consistency of the upper fine alluvium was very soft ($N_{av} = 1$). The relative density of the granular alluvium varied from loose to

E-Mailed October 22, 2025

very dense and averaged medium dense ($N_{av} = 16$). The moisture content of the alluvium was typically wet throughout.

4.0 ANALYSIS AND CONCLUSIONS

The purpose of the drilling and testing performed at the proposed construction site has been to identify the geotechnical engineering parameters that will be included in the specifications for design of the proposed cofferdam during construction. The results of our analysis and conclusions drawn therefrom are summarized as follows:

- For non-gravity cantilever walls with continuous vertical wall elements, design the cofferdam using Figure 3.11.5.6-3 from the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.
- For anchored walls constructed from the top down in cohesionless soils, use the appropriate earth pressure distribution presented on Figure 3.11.5.7.1.1 from the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 to design the cofferdam.
- Use the following engineering parameters for the in-place soil materials:
 - Alluvial Soils – Cohesive
USCS Classification: ML, cl
 $N_{av} = 1$
 $\phi' = 20^\circ$
 $c' = 0$ PSF
 $\gamma_m = 90$ PCF, $\gamma_{SAT} = 100$ PCF, $\gamma_{SUB} = 37.6$ PCF
 - Alluvial Soils – Granular
USCS Classifications: GC, SC
 $N_{av} = 16$
 $\phi' = 31^\circ$
 $c' = 0$ PSF
 $\gamma_m = 120$ PCF, $\gamma_{SAT} = 125$ PCF, $\gamma_{SUB} = 62.6$ PCF

E-Mailed October 22, 2025

- Assume the water table to be at or above the 100-year flood elevation along the Monongahela River

We wish to extend our appreciation for this opportunity to be of service to you on this interesting and challenging project. Should you have any questions regarding this letter or require additional information, please contact us.



Very truly yours,

GEO-MECHANICS, INC.

A handwritten signature in black ink, appearing to read "Walter M. Lorence". The signature is written in a cursive, flowing style.

Walter M. Lorence, P.E.
Executive Vice President

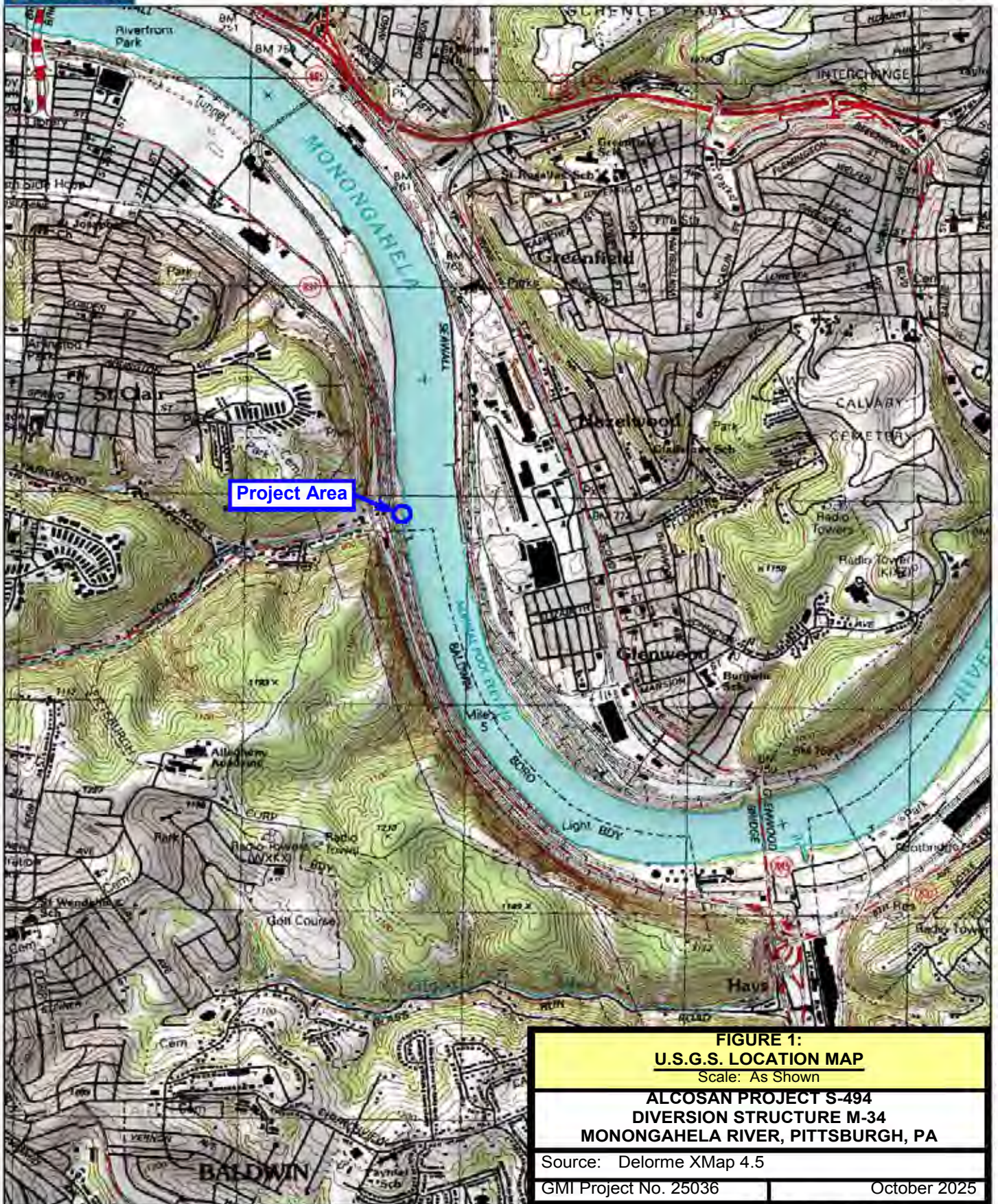
WML:lg

Attachments:

Figures 1, 2, 3 and 4

Test Boring Record for M-34

Figures M34-1, M34-2 and M34-3



Data use subject to license.

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www.delorme.com

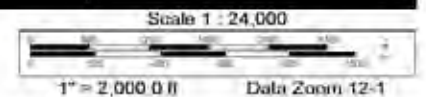
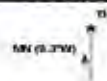




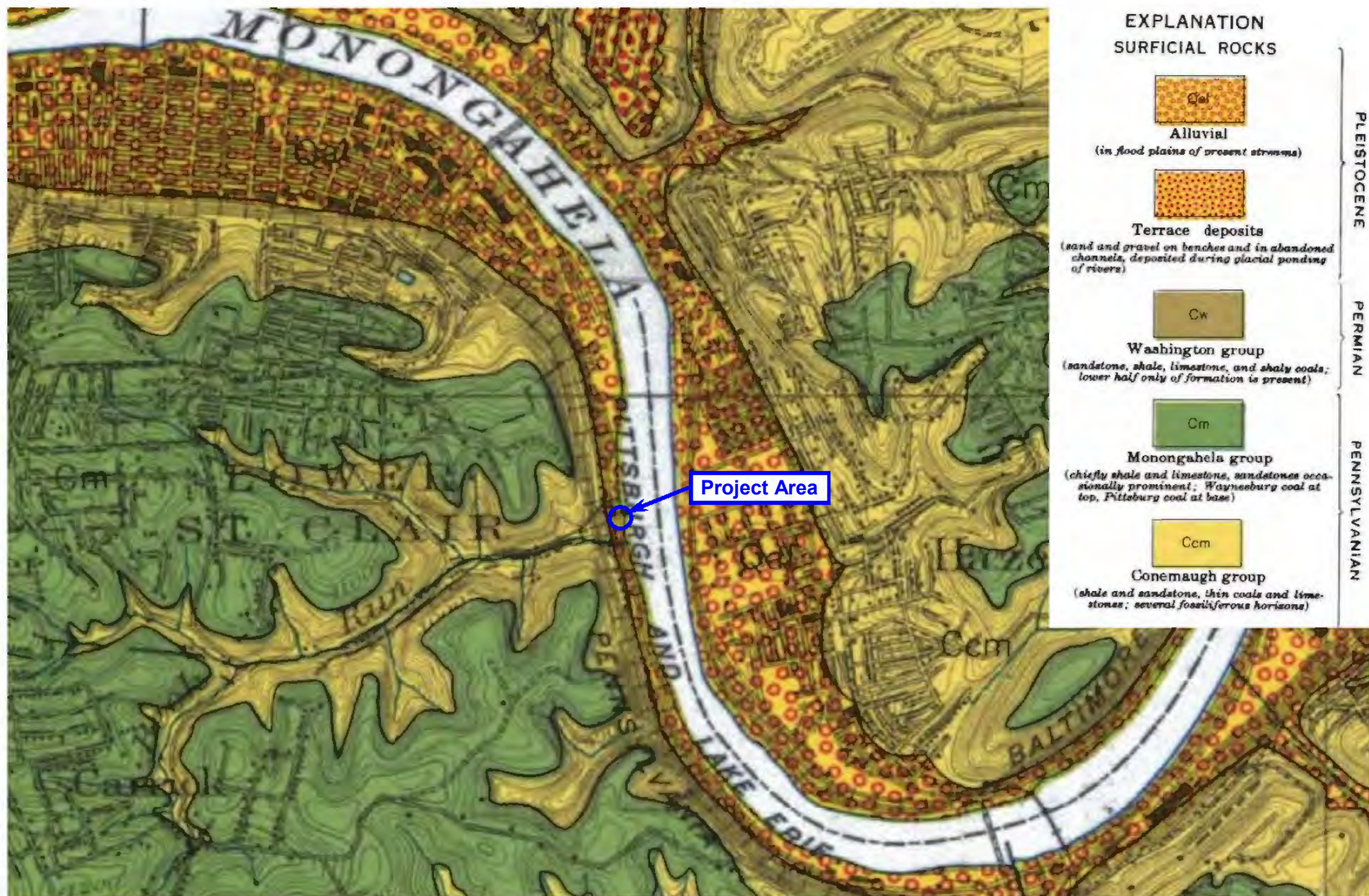
FIGURE 2:
AERIAL PHOTOGRAPH OF SITE
 Scale: As Shown

ALCOSAN PROJECT S-494
DIVERSION STRUCTURE M-34
MONONGAHELA RIVER, PITTSBURGH, PA

Source: Google Earth. Imagery Date: 3/17/25

GMI Project No. 25036

October 2025



0 1 2 Miles

FIGURE 3:
AREAL GEOLOGY

Scale: As Shown

ALCOSAN PROJECT S-494
DIVERSION STRUCTURE M-34
MONONGAHELA RIVER, PITTSBURGH, PA

Source: https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=46534

GMI Project No. 25036

October 2025



FIGURE 2:
TEST BORING LOCATION PLAN

Scale: As Shown

ALCOSAN PROJECT S-494
DIVERSION STRUCTURE M-34
MONONGAHELA RIVER, PITTSBURGH, PA

Source: Google Earth. Imagery Date: 3/17/25

GMI Project No. 25036

October 2025



GEO-MECHANICS, INC.

TEST BORING RECORDDriller Carlos TrevinoDrill Rig CME-55 Trailer

Water Level: O-Hr. _____ 24 Hrs. _____

Casing Hammer: Wt. _____ lbs. Drop _____ in.

Sampler Hammer: Wt. 140 lbs. Drop 30 in.Sampler Size 2 in. O.D. Casing Size 4 in. I.D.Core Bit Size N/AOrientation Vertical

Driller's Log _____

Geologist's Log RPB/TDW

Surface

Boring No. M-34 Elevation _____ Sheet No. 1 of 2 sheetsFor GAI Consultants, Inc.Proposed Flap Gate ReplacementAllegheny County Sanitary AuthorityLocation M-34 Regulator StructureStarted 9/23/25 Completed 9/23/25 Project No. 25036Drilling Fluid N/A

ELEVATION	In-situ Tests and Instrumentation	RQD %	RUN-REC.	SPOON BLOWS INTERV.	BOTTOM DEPTH OF SAMPLE	DEPTH (Ft.)	DESCRIPTION	REMARKS
0				1 1 WOH	1.5	0.0	Dark Gray to Black SILT, Some Fine Sand, Little Clay, Trace Gravel, Very Soft, Wet	Boring Drilled on Water. Water Depth = 2.8'
							.Sandy Laminations and Lenses	
				2 1 0	4.5		(Alluvial)	
				1 1 1	7.5			
-9						9.0	Dark Gray SILTY CLAY, Little Sand, Very Soft, Wet	
				2 1 1	10.5		(Alluvial)	
-12				4 3 4	13.5	12.0	Dark Brownish Gray SILTY TO CLAYEY GRAVEL AND SAND, Loose to Very Dense, Wet	
				5 5 5	16.5		(Alluvial)	
				4 8 7	19.5			
				6 17 21	22.5			
				6 8				GC NWC=12.4% LL=29 PI=9



GEO-MECHANICS, INC.

Surface
Boring No. M-34 Elevation _____ Sheet No. 2 of 2 sheets
For GAI Consultants, Inc.

CME-55 Trailer

Drill Rig

CME-55 Trailer

Proposed Flap Gate Replacement

Allegheny County Sanitary Authority

Location M-34 Regulator Structure

Started	9/23/25	Completed	9/23/25	Project No.	25036
---------	---------	-----------	---------	-------------	-------

Drilling Fluid	N/A
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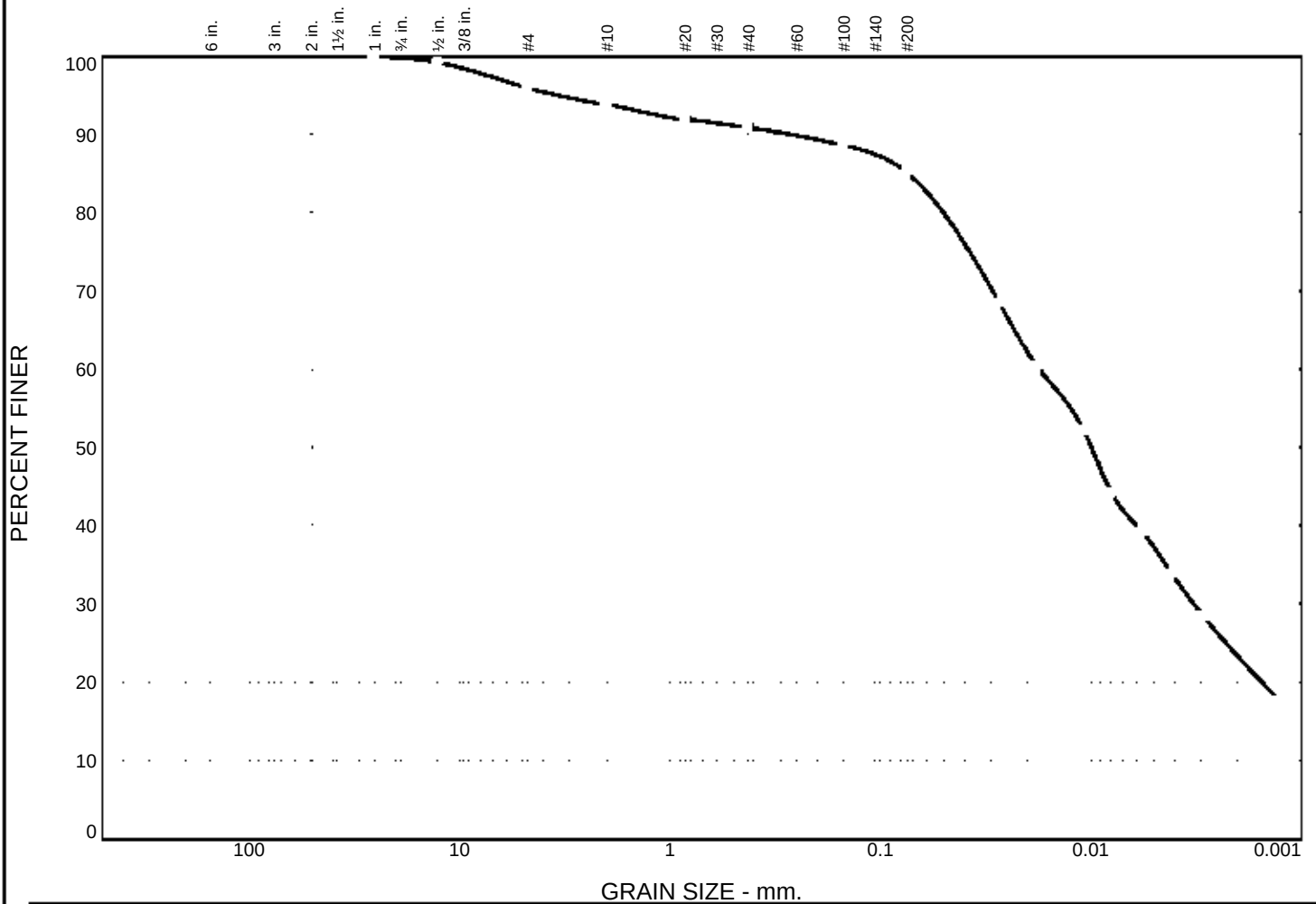
Geologist's Log

RPB/TDW

RPB/TDW

ELEVATION	In-situ Tests and Instrumentation	ROD %	RUN-REC.	SPoon BLOWS INTERV.	BOTTOM DEPTH OF SAMPLE	DEPTH (ft.)	DESCRIPTION	REMARKS
				8	25.5		Continued From Previous Page	
				6				
				7	28.5			
				7				
				9				
				16	31.2			
				50/.2				
-33				4		33.0		
				5				
				6	34.5			
-36				6		36.0		
				8				
				7	37.5			
-39				7		39.0		
				8				
				7	40.5	40.5		
-40.5								

Particle Size Distribution Report



% +3"		% Gravel		% Sand			% Fines		
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
	0.0	0.2	3.8	2.2	2.9	5.7	48.0	37.2	
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
46	29	0.0737	0.0176	0.0099	0.0032				
Material Description							USCS	AASHTO	
SILTY SAND							ML	A-7-6(16)	

Project No. 25036-D Client: GAI CONSULTANTS, INC.

Project: ALCOSAN GATE REPLACEMENTS - SITE M-34

Remarks:

N.W.C.= 53.6%

JAR SAMPLES

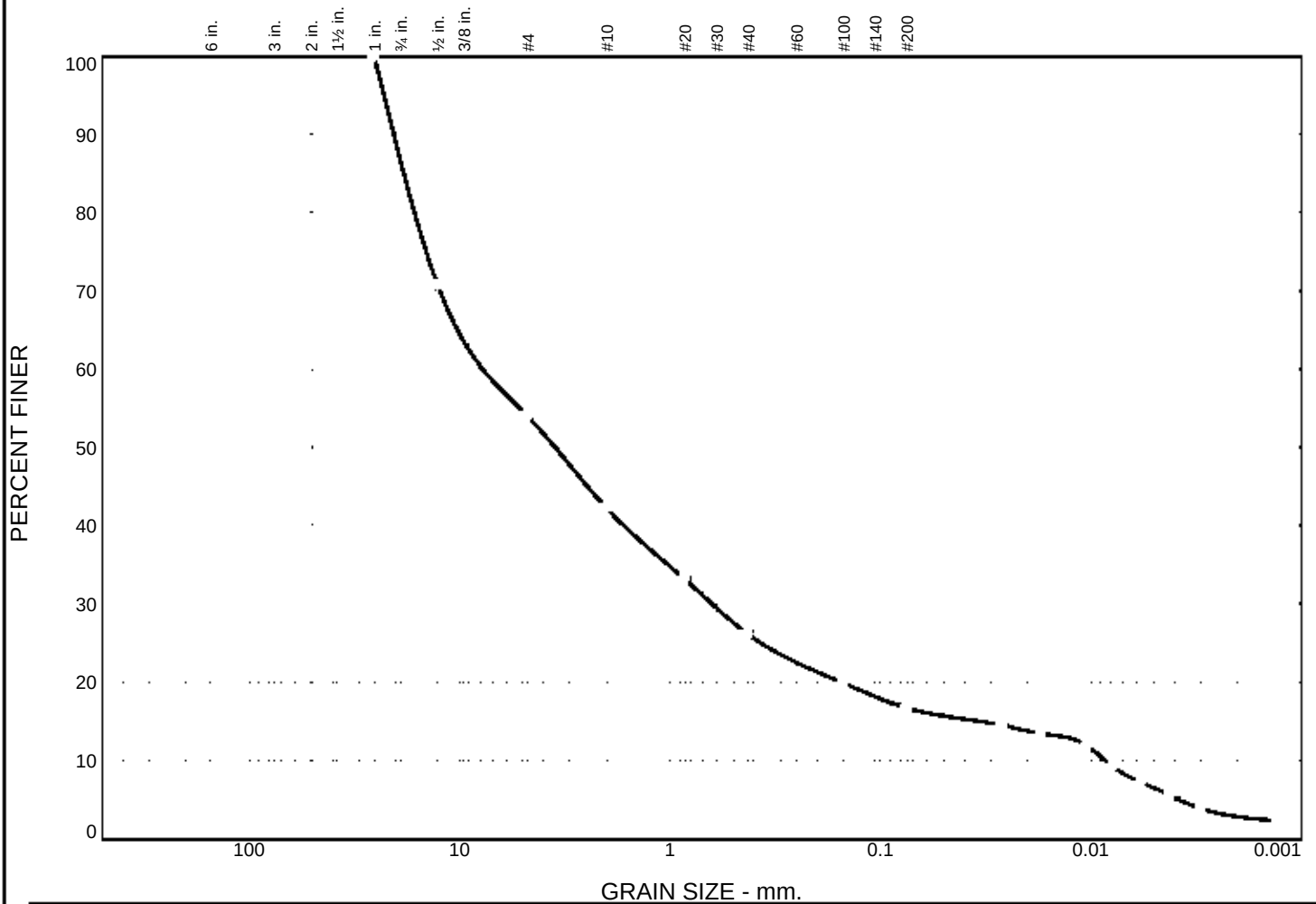
Source of Sample: M34-1

Depth: 3.0'-10.5'

GEO-MECHANICS, INC.

Figure M34-1

Particle Size Distribution Report



% +3"		% Gravel		% Sand			% Fines		
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0		13.5	32.5	11.8	16.1	9.4	10.3	6.4	

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
29	20	18.4044	7.7504	3.5095	0.6312	0.0337	0.0085	6.01	906.63

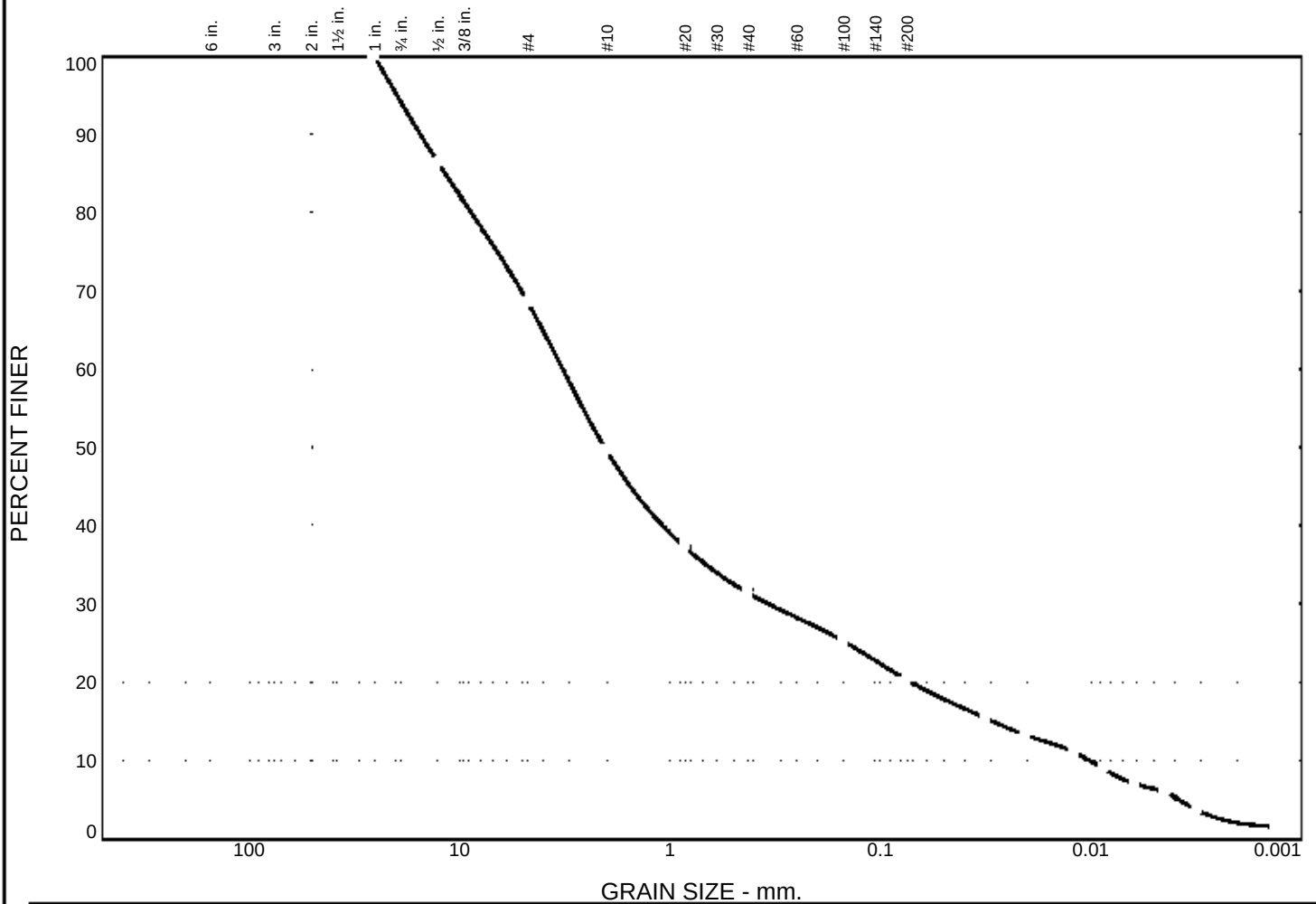
Material Description	USCS	AASHTO
CLAYEY GRAVEL WITH SAND	GC	A-2-4(0)

Project No. 25036-D	Client: GAI CONSULTANTS, INC.	Remarks:
Project: ALCOSAN GATE REPLACEMENTS - SITE M-34		N.W.C.= 12.4%
		JAR SAMPLES
Source of Sample: M34-1	Depth: 18.0'-25.5'	

GEO-MECHANICS, INC.

Figure M34-2

Particle Size Distribution Report



% +3"		% Gravel		% Sand			% Fines		
		Coarse	Fine	Coarse	Medium	Fine	Silt		Clay
0.0		5.8	25.6	19.0	18.2	11.1	14.0		6.3

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
27	19	11.7166	3.2294	2.0456	0.3408	0.0295	0.0102	3.54	317.78

Material Description							USCS	AASHTO
CLAYEY SAND WITH GRAVEL							SC	A-2-4(0)

Project No. 25036-D **Client:** GAI CONSULTANTS, INC.

Project: ALCOSAN GATE REPLACEMENTS - SITE M-34

Remarks:

N.W.C.= 16.7%

JAR SAMPLES

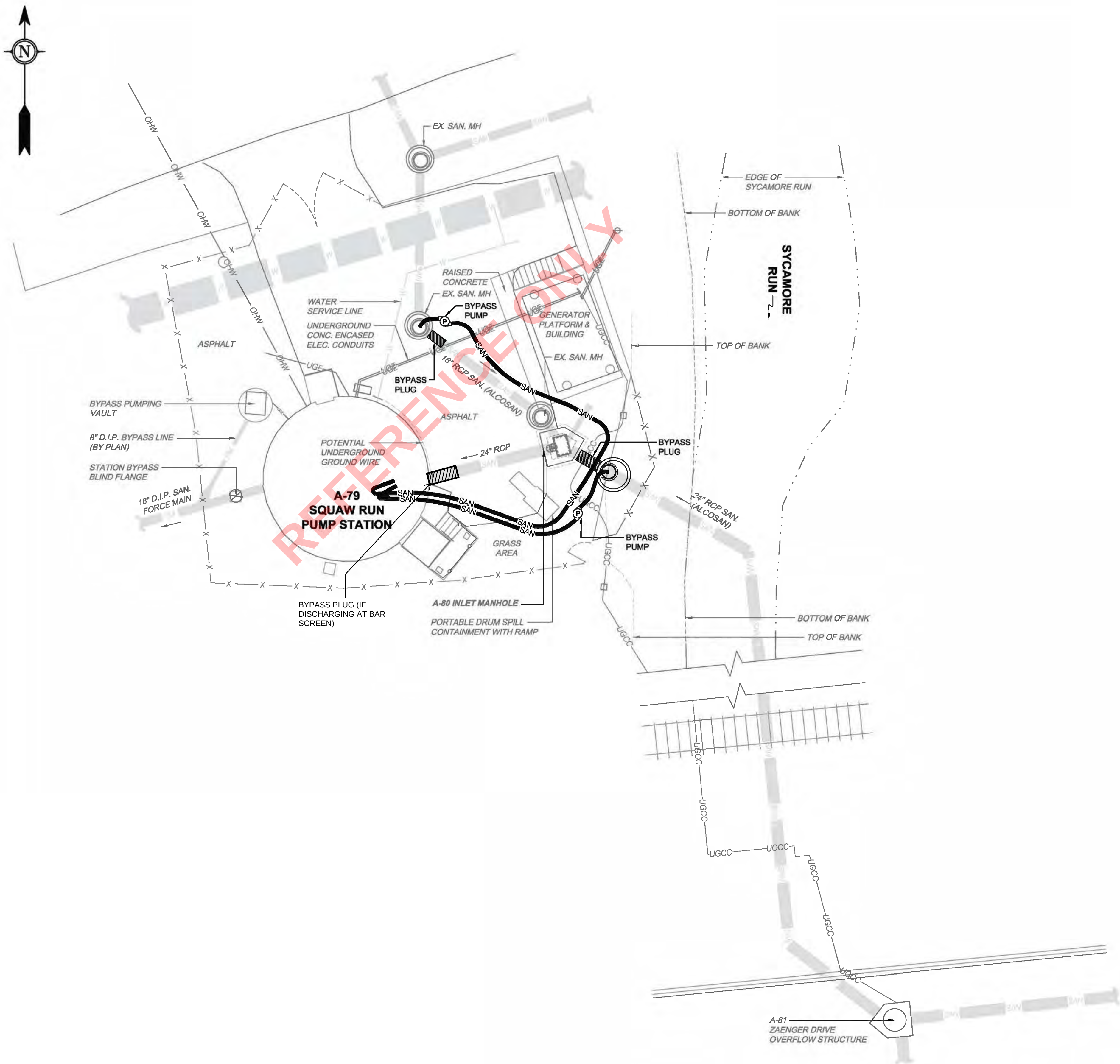
Source of Sample: M34-1

Depth: 33.0'-37.5'

GEO-MECHANICS, INC.

Figure M34-3

**G.3 APPX. - BYPASS PUMPING REF INFORMATION FOR
A-80 & S-01A
(21 pages)**



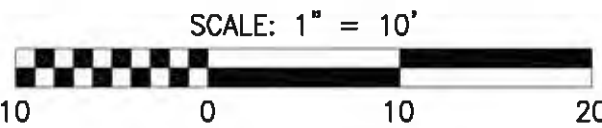
A-80 - CONCEPTUAL BYPASS PUMPING SKETCH PLAN
1"=10'

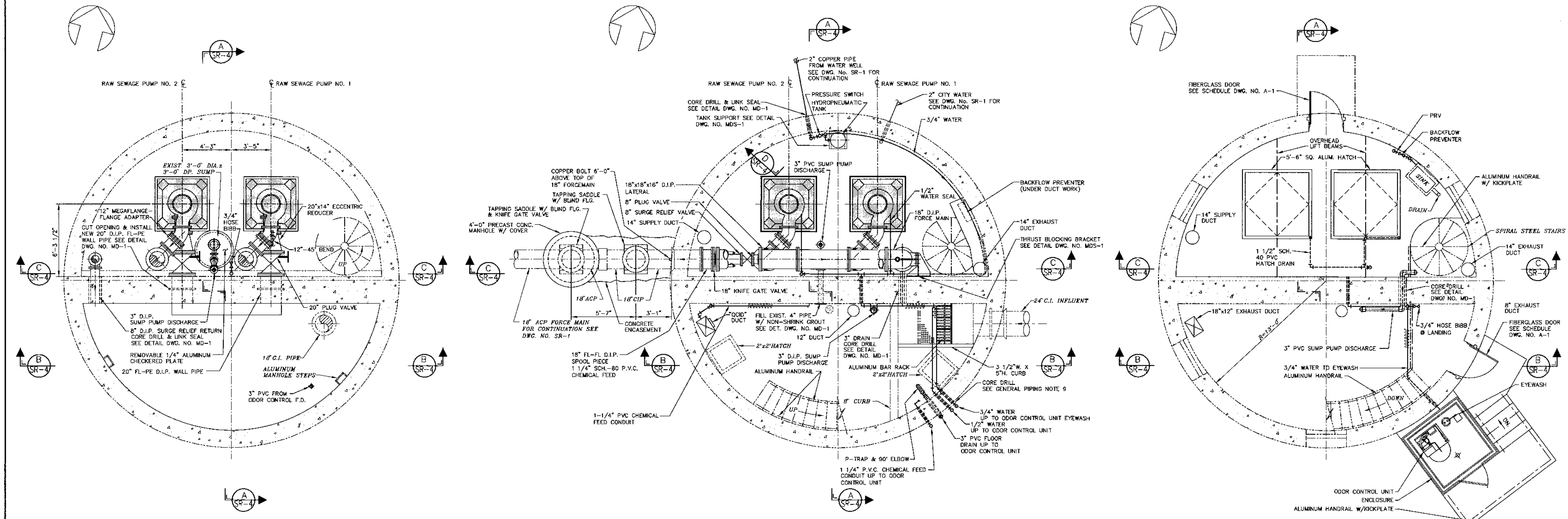


**BYPASS PUMP DISCHARGE TO
EXISTING PUMP STATION INFLUENT BAR RACK**

SPECIAL REQUIREMENTS:

1. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, PROVIDING, AND MAINTAINING TEMPORARY FACILITIES TO DEWATER THE AREA OF WORK AND PROVIDE PUMPS, BACKUP PUMPS, BULKHEADS, COFFERDAMS, MATERIALS AND EQUIPMENT AS NECESSARY TO PROVIDE FOR A DRY INSTALLATION.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING FORWARD FLOW THROUGH THE CONTRACT WORK ZONE AT ALL TIMES. MAINTENANCE OF FLOW AND/OR PA PE STAMPED BYPASS PLANS SHALL BE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE OWNER FOR ALL STRUCTURES PRIOR TO BEGINNING ANY CONTRACT CONSTRUCTION.
3. FLOW DATA PROVIDED IS FOR THE TOTAL COMBINED FLOW AT THE A-79 SQUAW RUN PUMP STATION AND IS INTENDED FOR INFORMATIONAL USE BY BIDDERS IN ESTIMATING BYPASS PUMPING NEEDS. IMPORTANT: THE CONTRACTOR IS REQUIRED TO BYPASS PUMP FROM TWO SEPARATE MANHOLES, EACH OF WHICH CONVEYS ONLY A PORTION OF THE TOTAL COMBINED FLOW. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOUNT FOR THIS DISTRIBUTION WHEN DESIGNING AND IMPLEMENTING THE BYPASS PUMPING SYSTEM. IT IS THE RESPONSIBILITY OF BIDDERS TO EVALUATE THIS INFORMATION AGAINST ACTUAL FIELD CONDITIONS AND PERFORM ANY INVESTIGATIVE WORK NECESSARY TO SATISFY THE ITEMS SUBMITTED IN THEIR BIDS.
4. THE CONTRACTOR MAY ROUTE BYPASS PUMPING HOSES THROUGH THE OPEN PUMP STATION WET WELL DOOR IF THE PUMP STATION GATE IS KEPT LOCKED SECURE AND THE SITE REMAINS STAFFED. IF THE SITE IS **NOT STAFFED 24 HOURS PER DAY**, THEN THE CONTRACTOR SHALL ROUTE BYPASS PUMPING HOSES THROUGH ONE OF THE SEALED WINDOWS IF **DISCHARGING INTO THE PUMP STATION WET WELL**. CONTRACTOR SHALL INSPECT THE BYPASS PUMPING SYSTEM EVERY 30 MINUTES TO ENSURE THAT THE SYSTEM IS OPERATING CORRECTLY.

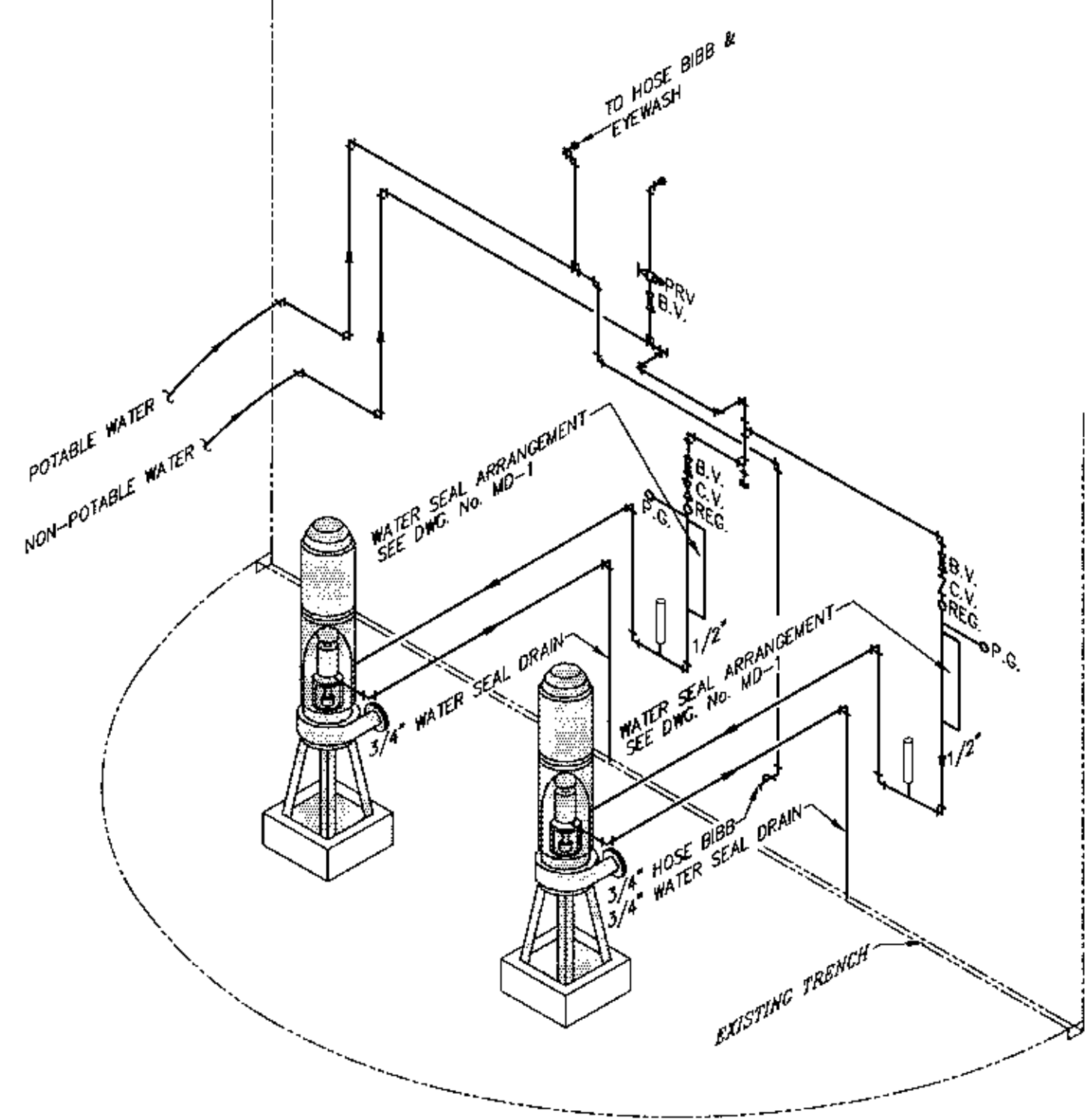




WET WELL / DRY WELL PLAN
ELEV. 709.50
SCALE: 1/4"=1'-0"

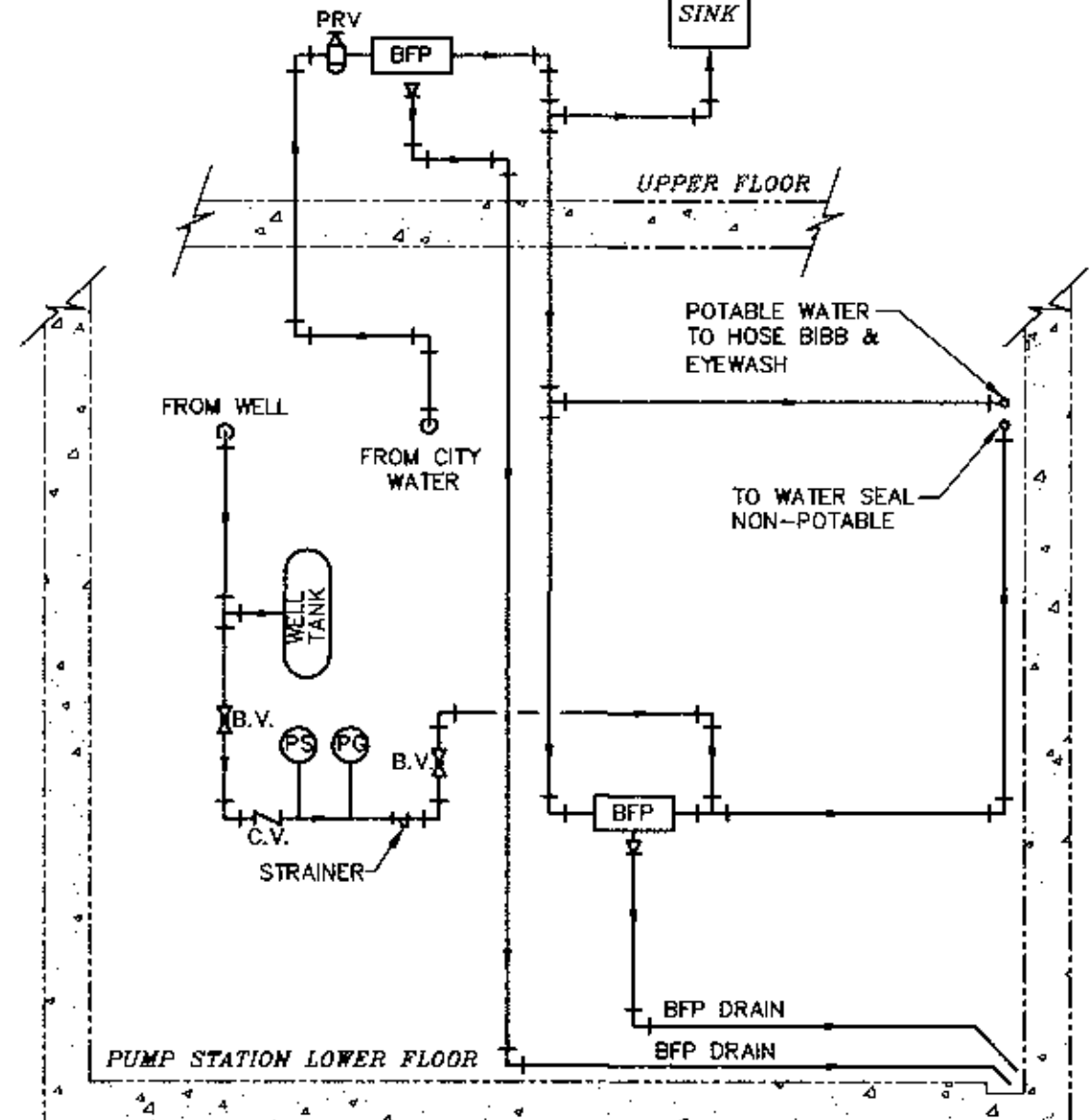
WET WELL DRY WELL PLAN
ELEV. 722.0
SCALE: 1/4"=1'-0"

CONTROL ROOM / DRY WELL PLAN
ELEV. 735.0
SCALE: 1/4"=1'-0"

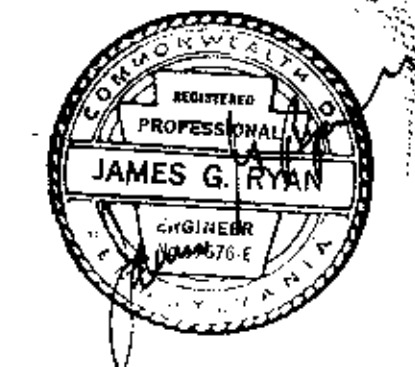


POTABLE WATER SYSTEM SCHEMATIC
NO SCALE

- LEGEND
- EXISTING WATERLINE
 - PROPOSED WATERLINE
 - PRESSURE REDUCING VALVE
 - PRESSURE GAUGE
 - BACKFLOW PREVENTER
 - Y-STRAINER



SECTION D
NO SCALE



- LEGEND
- EXISTING FACILITIES
 - PROPOSED FACILITIES
 - INSULATION
 - EQUIPMENT FURNISHED BY OWNER

STRUCTURE
A-79

ALLEGHENY COUNTY SANITARY AUTHORITY
PITTSBURGH, PENNSYLVANIA

RENOVATIONS AND UPGRADING OF THE CORLISS, SQUAW RUN, MONTROSE AND VERONA PUMP STATIONS

CONTRACT 1037A -
GENERAL AND MECHANICAL CONSTRUCTION

SQUAW RUN PUMP STATION
PLANS

DLA DIVISION PITTSBURGH, PA.

Associates & Consulting Engineers

DRAWN: D.B.M. CHECKED: W.J.M. DATE: DEC, 1993 SCALE: AS SHOWN BINDING ORDER: 26 DRAWING NO.: SR - 3

REV.	DESCRIPTION	DATE	APP.	APPROVED
1	AS-BUILT	8-9-95	RSD	
				EXECUTIVE DIRECTOR DATE
				DIRECTOR OF ENGINEERING AND CONSTRUCTION DATE
				REG. PROF. ENGR. PA. NO.

DATE: 04/12/96 FILENAME: G:\PROJ\10108\DWG\SR-3

DRAWN BY: _____

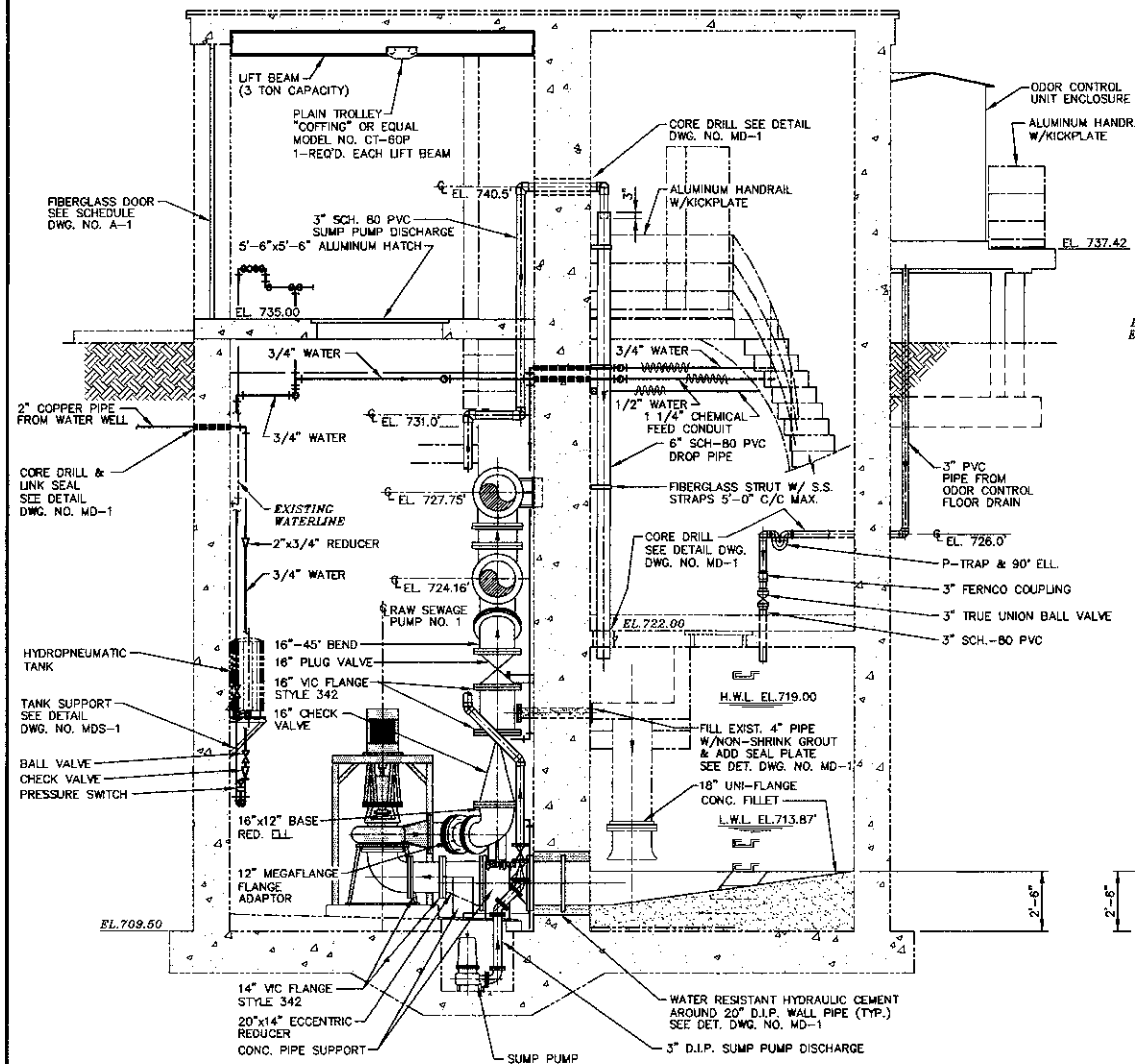
TRACED BY: _____

CHECKED BY: _____

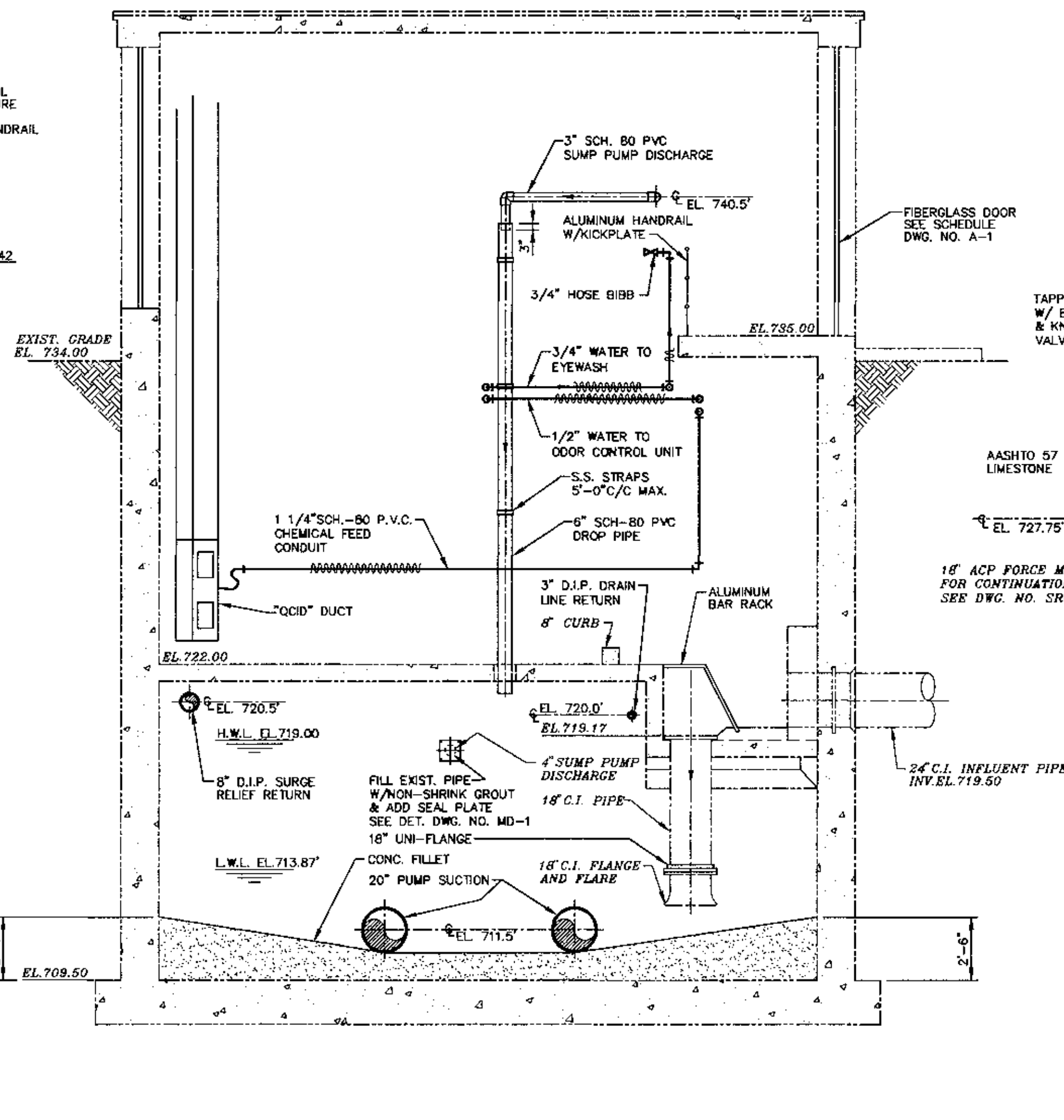
EXAMINED BY: _____

DATE: 04/12/95 FILENAME: G:\PROJ\10087\DWG\AS-BUILT\SR-4

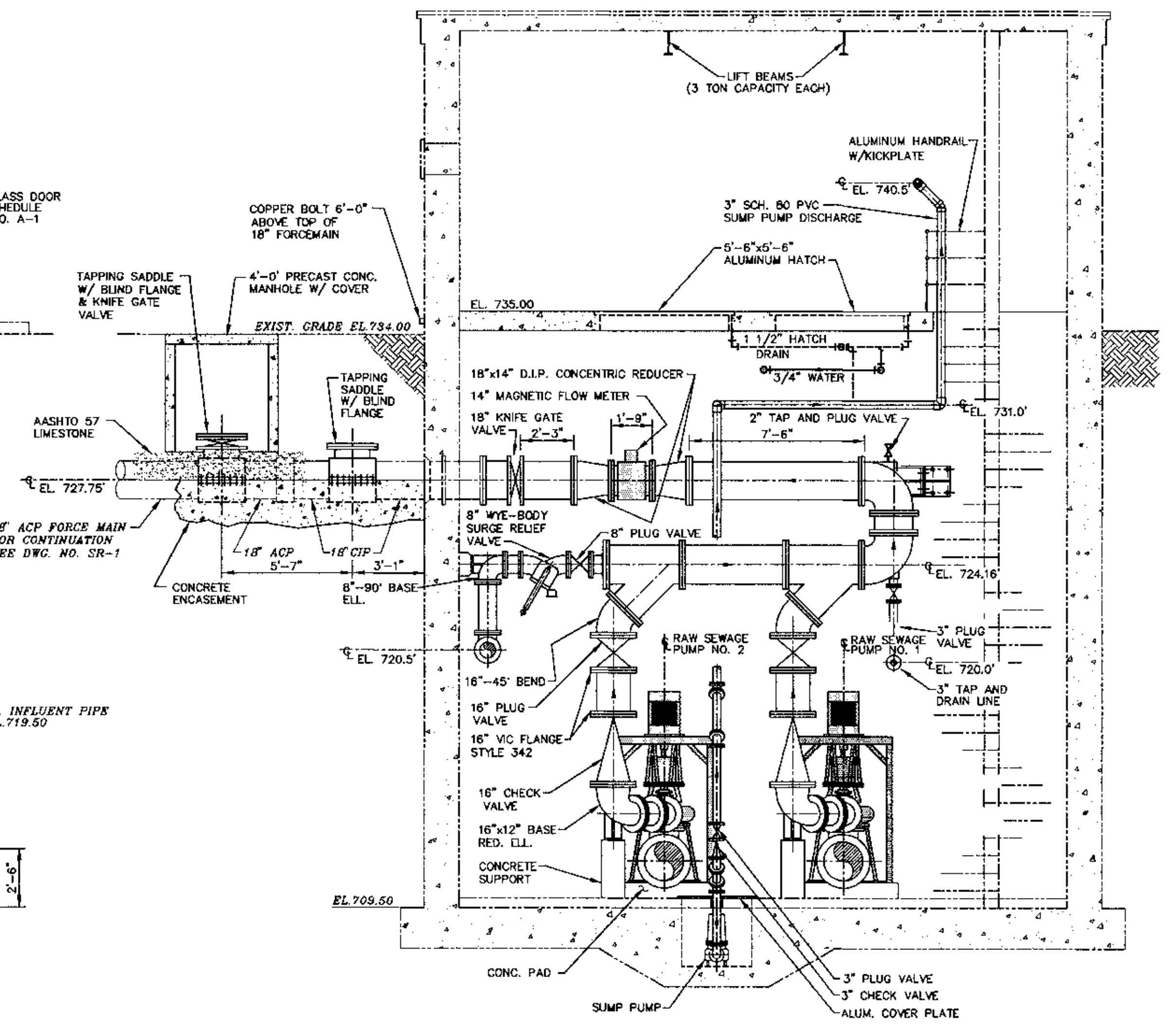
DRAWN BY
TRACED BY
CHECKED BY
EXAMINED BY



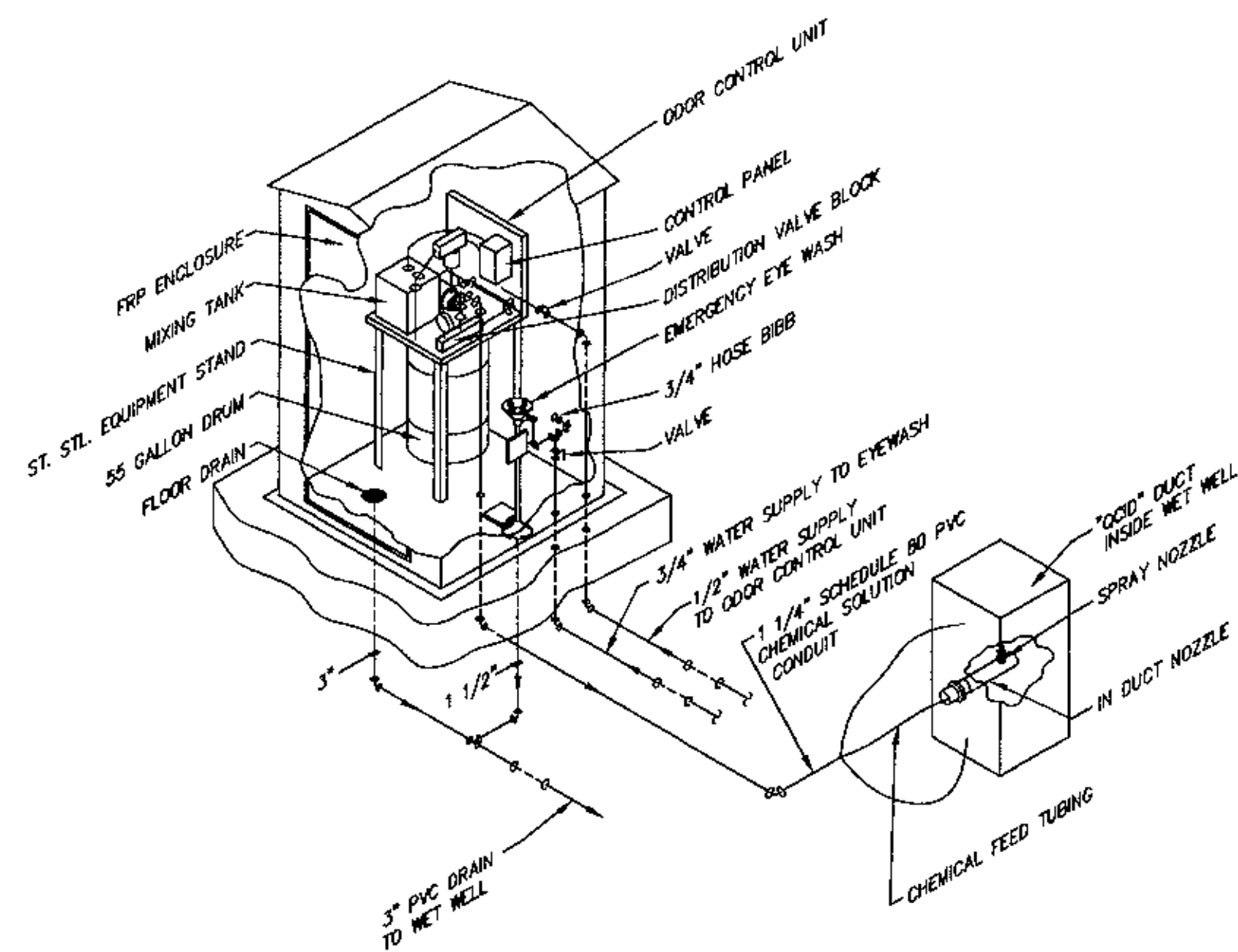
SECTION A
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SECTION B
SCALE: 1/4"=1'-0"



SECTION C
SCALE: 1/4"=1'-0"

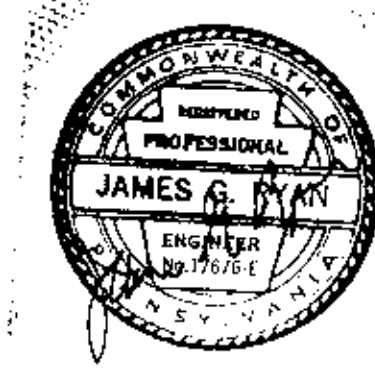


ODOR CONTROL UNIT SCHEMATIC
NO SCALE

LEGEND

- EXISTING FACILITIES
- PROPOSED FACILITIES
- INSULATION
- EQUIPMENT FURNISHED BY OWNER

STRUCTURE
A-79



ALLEGHENY COUNTY SANITARY AUTHORITY
PITTSBURGH, PENNSYLVANIA

RENOVATIONS AND UPGRADING OF THE CORUSS,
SQUAW RUN, MONTROSE AND VERONA PUMP STATIONS

CONTRACT 1037A -
GENERAL AND MECHANICAL CONSTRUCTION

SQUAW RUN PUMP STATION
SECTIONS

DR. Killam
Associates a Consulting Engineers
DLA DIVISION PITTSBURGH, PA.

REV.	DESCRIPTION	DATE	APP.	APPROVED
1	AS-BUILT	8-10-95	R.S.D.	
				EXECUTIVE DIRECTOR DATE
				DIRECTOR OF ENGINEERING AND CONSTRUCTION DATE

DRAWN D.B.M. CHECKED W.J.M. DATE DEC., 1993 SCALE AS SHOWN BINDING ORDER 27 DRAWING NO. SR-4



July 3, 2025 at 8:53 AM
+40.487790,-79.877908
1306 Old Freeport Rd
Pittsburgh PA 15238
United States
Squaw Run pump station



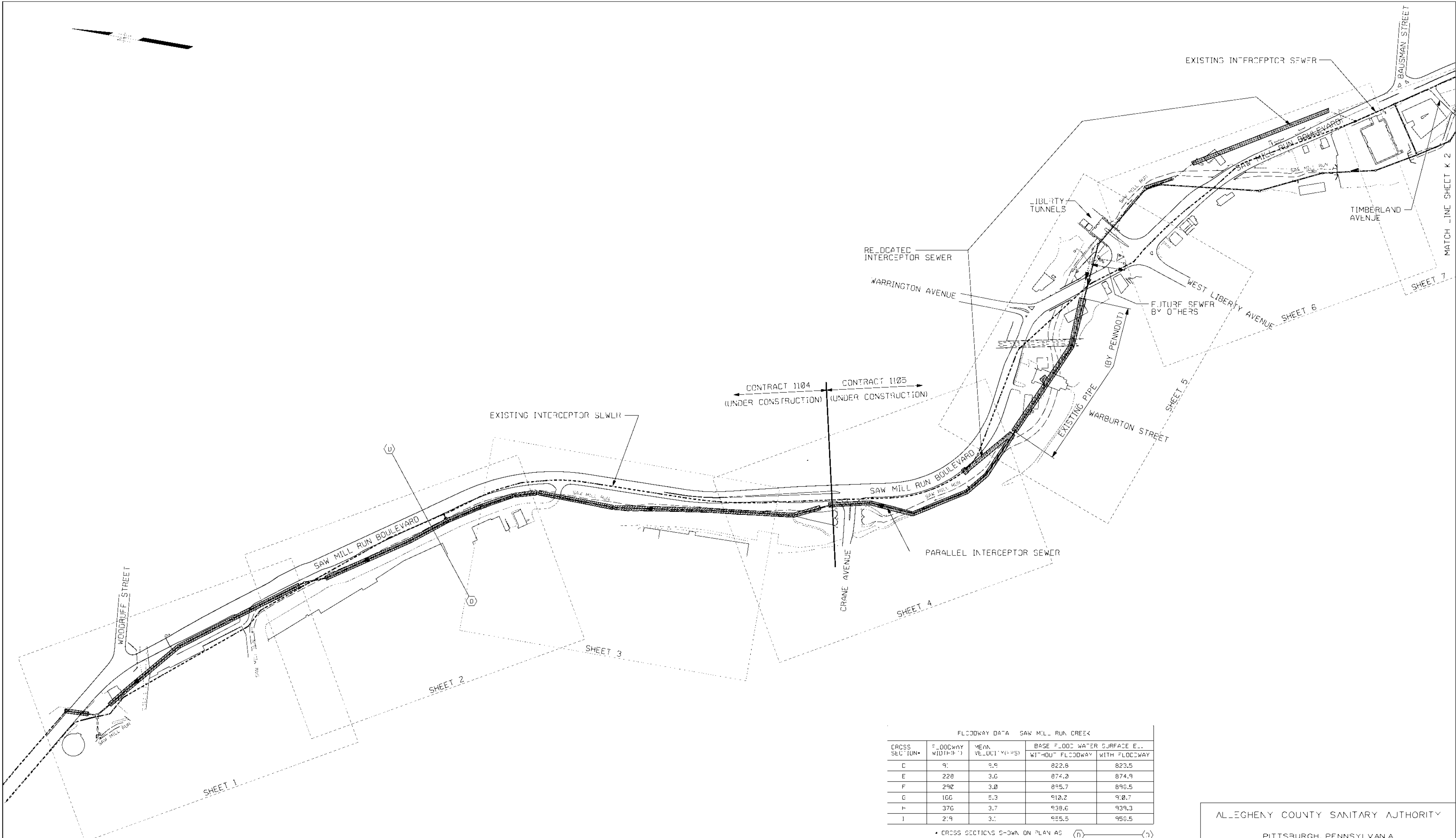
July 3, 2025 at 8:54 AM
+40.487682,-79.877813
1306 Old Freeport Rd
Pittsburgh PA 15238
United States
Squaw Run pump station



This aerial view shows a sewer system layout with the following components and labels:

- S-01A WEST** and **S-01A EAST**: Manholes located near the top left of the image.
- BY-PASS PUMP** and **BY-PASS PLUG**: Located in the center of the image, connected by a red line.
- ACSAs**: Various pipe segments labeled with size, material, and slope, such as:
 - ACSAs 72" RCP 6.9% 73 ft.
 - ACSAs 48" RCP 4.3% 77 ft.
 - ACSAs 48" RCP 2.6% 133 ft.
 - ACSAs 48" CP 2.7% 139 ft.
 - ACSAs 42" CP 1% 140 ft.
 - ACSAs 54" RCP 0.6% 104 ft.
 - ACSAs 15" VCP 11.8% 66 ft.
 - ACSAs 12" VCP 6% 201 ft.
- SMRs**: Structures labeled SMR01 through SMR03.
- MHs**: Manholes labeled MH-26A, MH-27, MH5502, and MH0005S02.
- S-37**: A structure located near the bottom right of the image.
- Other Labels**: "Saw Mill Run Blvd" is visible along the top and right edges of the image.

1. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, PROVIDING, AND MAINTAINING TEMPORARY FACILITIES TO DEWATER THE AREA OF WORK AND PROVIDE PUMPS, BACKUP PUMPS, BULKHEADS, COFFERDAMS, MATERIALS AND EQUIPMENT AS NECESSARY TO PROVIDE FOR A DRY INSTALLATION.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING FORWARD FLOW THROUGH THE CONTRACT WORK ZONE AT ALL TIMES. MAINTENANCE OF FLOW AND/OR PA PE STAMPED BYPASS PLANS SHALL BE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE OWNER FOR ALL STRUCTURES PRIOR TO BEGINNING ANY CONTRACT CONSTRUCTION.
3. THE PARALLEL INTERCEPTOR HAS FLOW DIVERSION STRUCTURES AT SELECT LOCATIONS THAT CAN BE USED TO REDUCE THE AMOUNT OF FLOW THAT HAS TO BE BYPASS-PUMPED. HOWEVER, THESE FLOW DIVERSIONS MAY NOT PROVIDE TOTAL BYPASS OF FLOWS AND USE MAY BE RESTRICTED DUE TO WEATHER, FLOWS OR MAINTENANCE.
4. WHEN BYPASSING THE EAST CHAMBER, INTERCEPTOR FLOWS CAN MOSTLY BE DIVERTED TO THE PARALLEL INTERCEPTOR BY OPERATING SMR20-SOUTH SLUICE GATE TO THE CLOSED POSITION.
5. A BYPASS PLUG AND PUMP CAN BE SET AT MANHOLE SMR02, IMMEDIATELY UPSTREAM OF S-01A EAST CHAMBER, TO CATCH AND DIVERT ANY FLOWS LEAKING THROUGH THE SMR20-SOUTH SLUICE GATE OR INFLOW/INFILTRATION INTO THE INTERCEPTOR.
6. BYPASS PUMPING CAN ONLY OCCUR DURING DRY WEATHER CONDITIONS.
7. ANY REPRESENTATIVE FLOW DATA IS PROVIDED FOR INFORMATIONAL USE BY BIDDERS IN ESTIMATING BYPASS PUMPING NEEDS. IT IS THE RESPONSIBILITY OF BIDDERS TO EVALUATE THIS INFORMATION AGAINST ACTUAL FIELD CONDITIONS AND PERFORM ANY INVESTIGATIVE WORK NECESSARY TO SATISFY THE ITEMS SUBMITTED IN THEIR BIDS.



FLOODWAY DATA - SAW MILL RUN CREEK				
CROSS SECTION	FLOODWAY WIDTH (FT)	MEAN VELOCITY (FPS)	BASE FLOOD WATER SURFACE ELEVATION WITHOUT FLOODWAY	WITH FLOODWAY
D	91	9.9	822.8	823.5
E	228	3.6	874.0	874.9
F	290	3.0	895.7	896.5
G	166	5.3	912.2	912.7
H	376	3.7	938.6	939.3
I	219	3.1	955.5	956.5

* CROSS SECTIONS SHOWN ON PLAN AS (D) (I)

FLOODWAY INFORMATION TAKEN FROM "FLOOD INSURANCE STUDY" CITY OF PITTSBURGH, ALLEGHENY COUNTY, DATED JUNE 15, 1981, BY FEDERAL EMERGENCY MANAGEMENT AGENCY.

DRAWN BY: JWP
CHECKED BY: WCK
EXAMINED BY: BFI
ALLEGHENY COUNTY SANITARY AUTHORITY

HORIZONTAL SCALE (FEET)
0 100 200 300 400
SCALE: 1"=200'-0"



2W3, VC, 223267\22321120.S
DATE: Jan. 21, 2000 / 07:44

REV.	DESCRIPTION	DATE	APP.	APPROVED
A	ISSUED FOR BID CONTRACT 1104/1105	11-97	REL	
B	RECORD DRAWING - CONTRACT 1104	11-98	REL	EXECUTIVE DIRECTOR _____ DATE _____
C	RECORD DRAWING - CONTRACT 1105	11-98	RFI	DIRECTOR OF ENGR. & CONST. _____ DATE _____
D	RECORD DRAWING - CONTRACT 1105/1107	01-2000	REL	PROJECT MANAGER _____ DATE _____

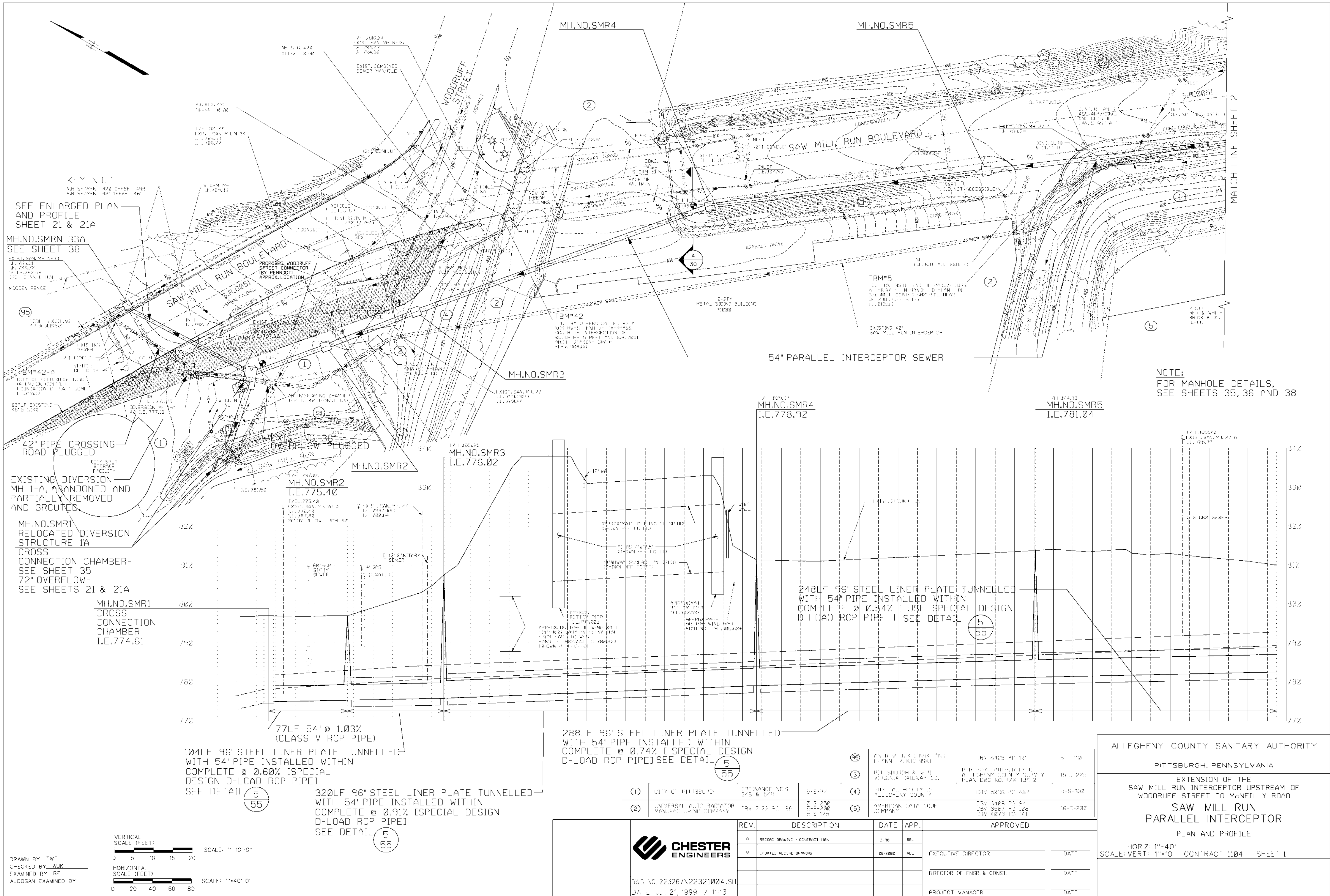
ALLEGHENY COUNTY SANITARY AUTHORITY

PITTSBURGH, PENNSYLVANIA

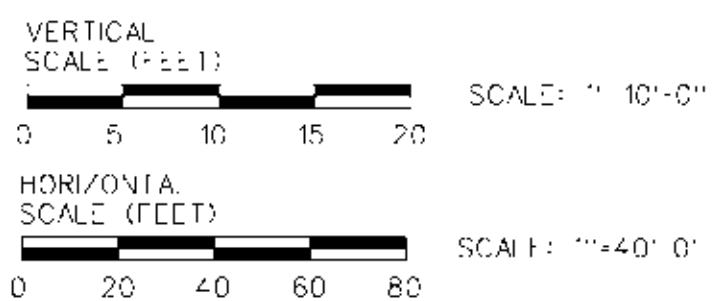
EXTENSION OF THE
SAW MILL RUN INTERCEPTOR UPSTREAM OF
WOODRUFF STREET TO McNEILLY ROAD
SAW MILL RUN
PARALLEL INTERCEPTOR

KEY MAP

SCALE: 1"=200' CONTRACT 1105 SHEET K 2



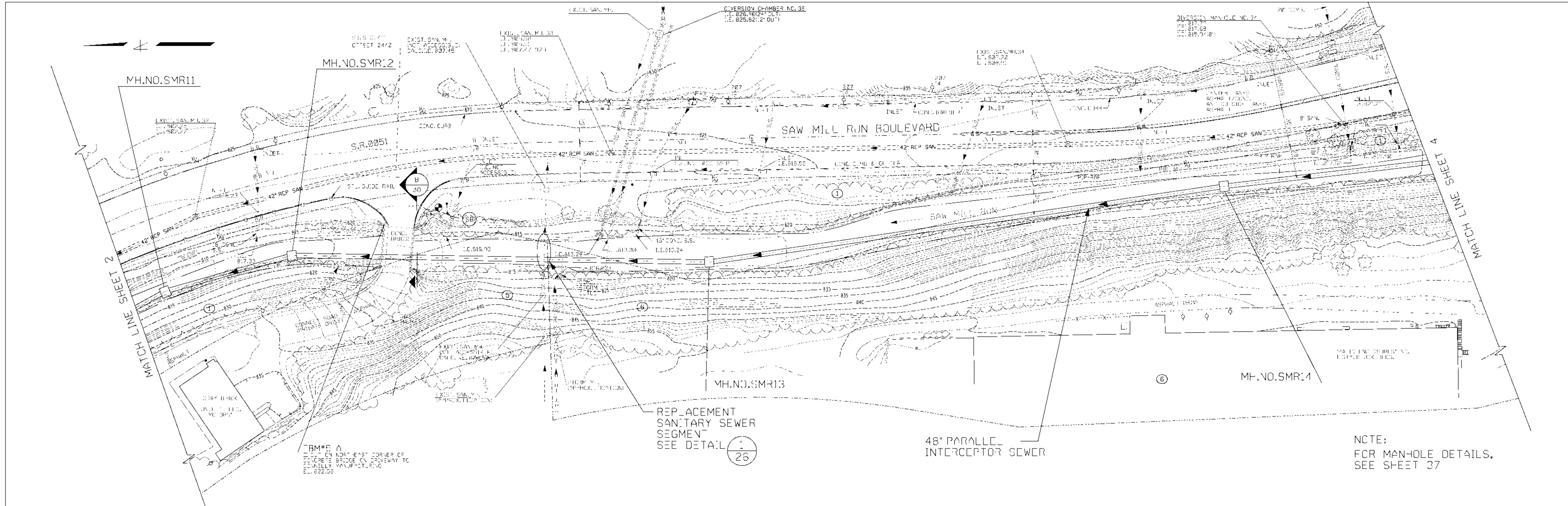
DRAWN BY: WJK
CHECKED BY: WJK
EXAMINED BY: REL
ALCONA EXAMINED BY:



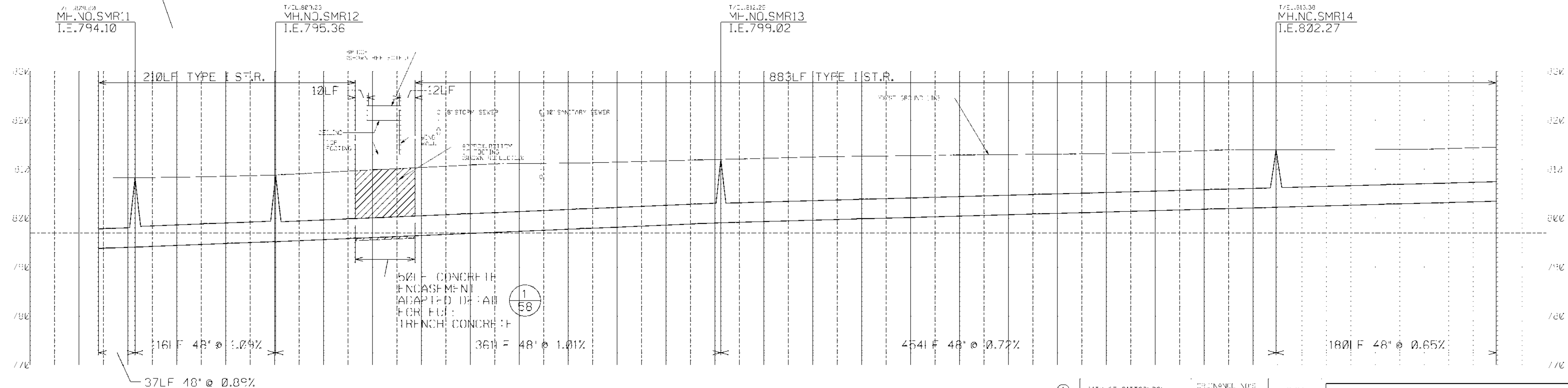
CHESTER
ENGINEERS

REV.	DESCRIPTION	DATE	APP.	APPROVED
A	RECORD DRAWING - CONTRACT 1184	12-1-99	REL	EXECUTIVE DIRECTOR
B	UPDATED RECORD DRAWING	28-2002	REL	DIRECTOR OF ENGR. & CONST.
				PROJECT MANAGER

ALLEGHENY COUNTY SANITARY AUTHORITY PITTSBURGH, PENNSYLVANIA
EXTENSION OF THE SAW MILL RUN INTERCEPTOR UPSTREAM OF WOODRUFF STREET TO MONTELLY ROAD
SAW MILL RUN PARALLEL INTERCEPTOR PLAN AND PROFILE
HORIZ: 1"=40' SCALE: VERT: 1"=10' CONTRACT: 1184 SHEET 1



NOTE:
FOR MAN-HOLE DETAILS,
SEE SHEET 37



①	CITY OF PITTSBURGH	ORDINANCE NOS. 343 & 349	6/8/97
⑤	ALLEGHENY COUNTY SANITARY AUTHORITY	RES. 3405 PG. 54 RES. 3407 PG. 163 RES. 4078 PG. 141	10/2/2004
⑥	JOHN J. A. JACOBSON SANDRA J. VLISKY ROBERT M. ROSECRANS	RES. 3423 PG. 543	10/2/2004

ALLEGHENY COUNTY SANITARY AUTHORITY
PITTSBURGH, PENNSYLVANIA

EXTENSION OF THE
SAW MILL RUN INTERCEPTOR UPSTREAM OF
WOODRUFF STREET TO McNEILLY ROAD
SAW MILL RUN
PARALLEL INTERCEPTOR
PLAN AND PROFILE

HORIZ: 1" = 40'
SCALE: VERT: 1" = 10' CONTRACT: 104 SHEET: 3

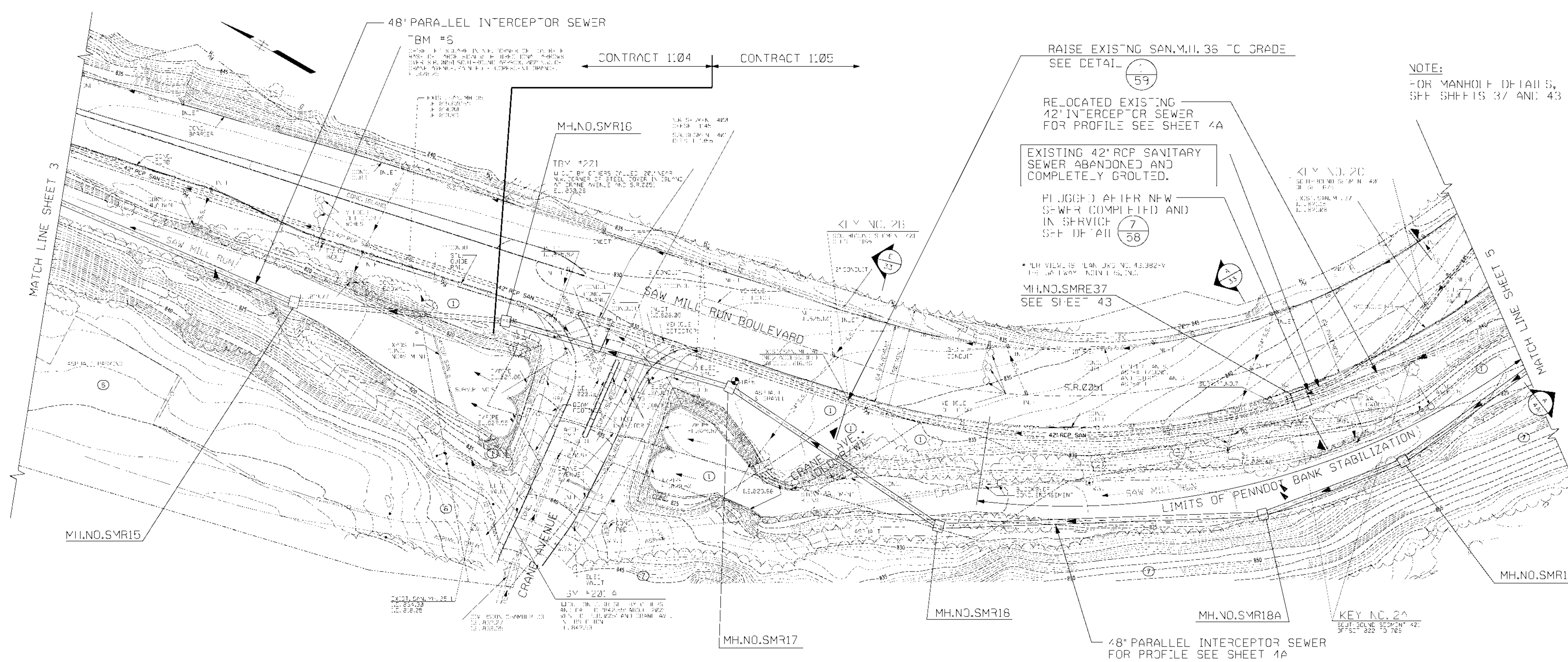
DRAWN BY: TWF
CHECKED BY: WJK
EXAMINED BY: REL
ALCOSAN EXAMINED BY:

VERTICAL SCALE (FEET): 0 5 10 15 20
HORIZONTAL SCALE (FEET): 0 20 40 60 80
SCALE: 1" = 40'-0"

CHESTER ENGINEERS

PROJECT NO. 22326/22321006.SII
DATE: Nov. 12, 1998 / 10:40

REV.	DESCRIPTION	DATE	APP.	APPROVED
1	RECORD DRAWING - CONTRACT 104	11-98	REL	
				EXECUTIVE DIRECTOR
				DIRECTOR OF ENGR. & CONST.
				PROJECT MANAGER



NOTE:
FOR MANHOLE DETAILS,
SEE SHEETS 3/ AND 4/

PENNDOT SURFACE RESTORATION AT EXIST. SAN. M.H. 36			
QUANTITY	TYPE OF RESTORATION	DETAIL NO.	SHEET NO.
10 L.F.	CONCRETE CURB	2	67
6 S.Y.	ASPHALT PAVEMENT	4	66
87 S.Y.	FULL LANE M.L. & OVERLAY (12' x 50')	1	68

PENNDOT SURFACE RESTORATION AT SAN. V.H. SMR-37			
QUANTITY	TYPE OF RESTORATION	DETAIL NO.	SHEET NO.
20 L.F.	CONCRETE CURB	2	67
13 S.Y.	ASPHALT PAVEMENT REPLACEMENT	4	66
80 S.Y.	FULL LANE M.L. & OVERLAY (12' x 60')	1	68

X PARCEL TAKEN BY PENNDOT FOR LIBERTY TUNNEL SOUTH PORTAL IMPROVEMENT PROJECT.

1	*	5-5-97
6	JUDITH A. GORDON SANITARY ENGINEER ROBERT V. ROSECRANS PITTSBURGH AND WEST VIRGINIA RAILROAD COMPANY	DOB 8/23 PG 543 15-J-300 PER WEST SIDE 3RD & 4TH STS V.L./S.L. 2A
7		15-N-150

DRAWN BY: WJF
CHECKED BY: WJK
EXAMINED BY: REL
ALCOSAN EXAMINED BY:
HORIZONTAL SCALE (FEET)
0 20 40 60 80
SCALE: 1"=40'-0"



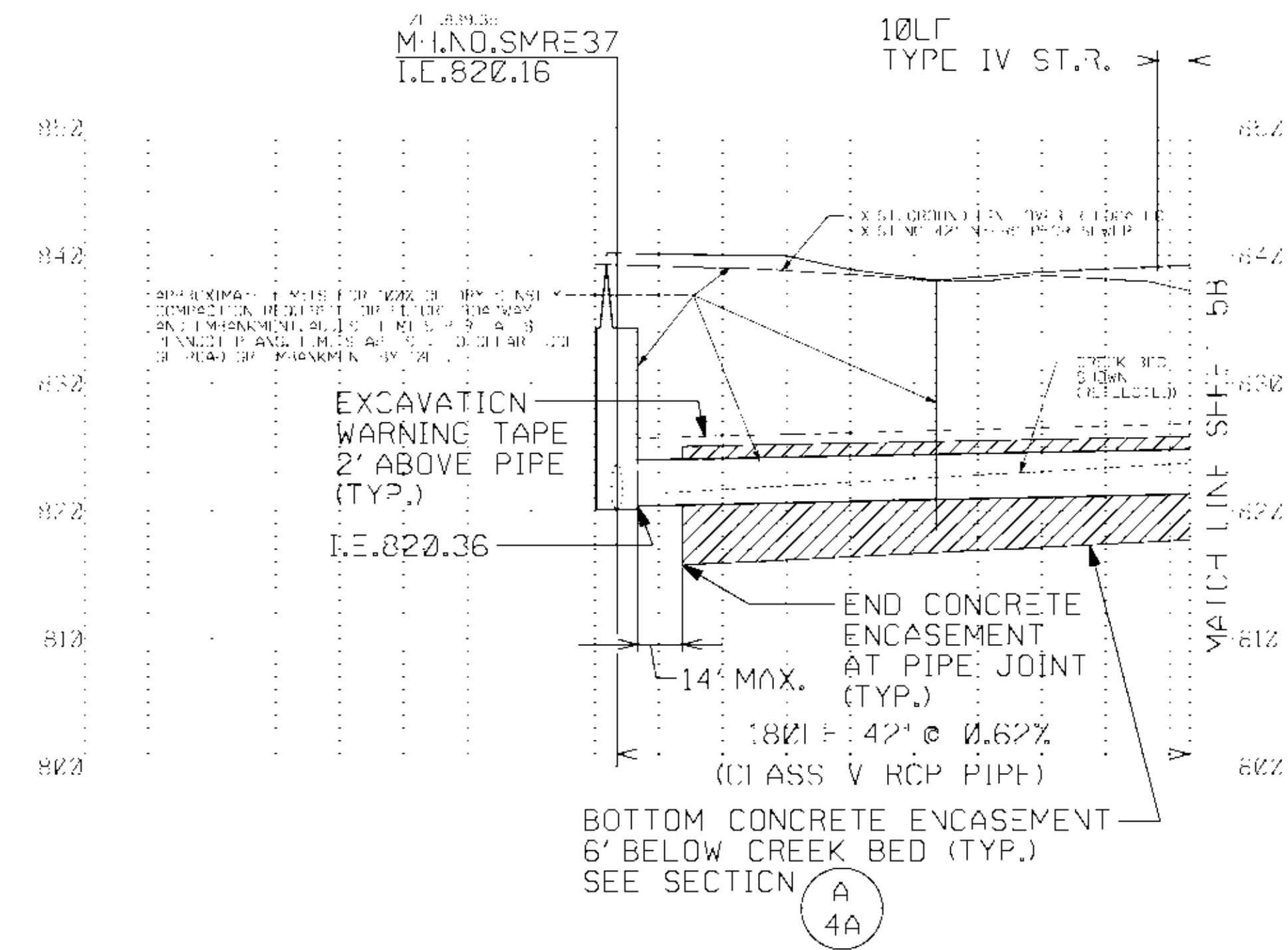
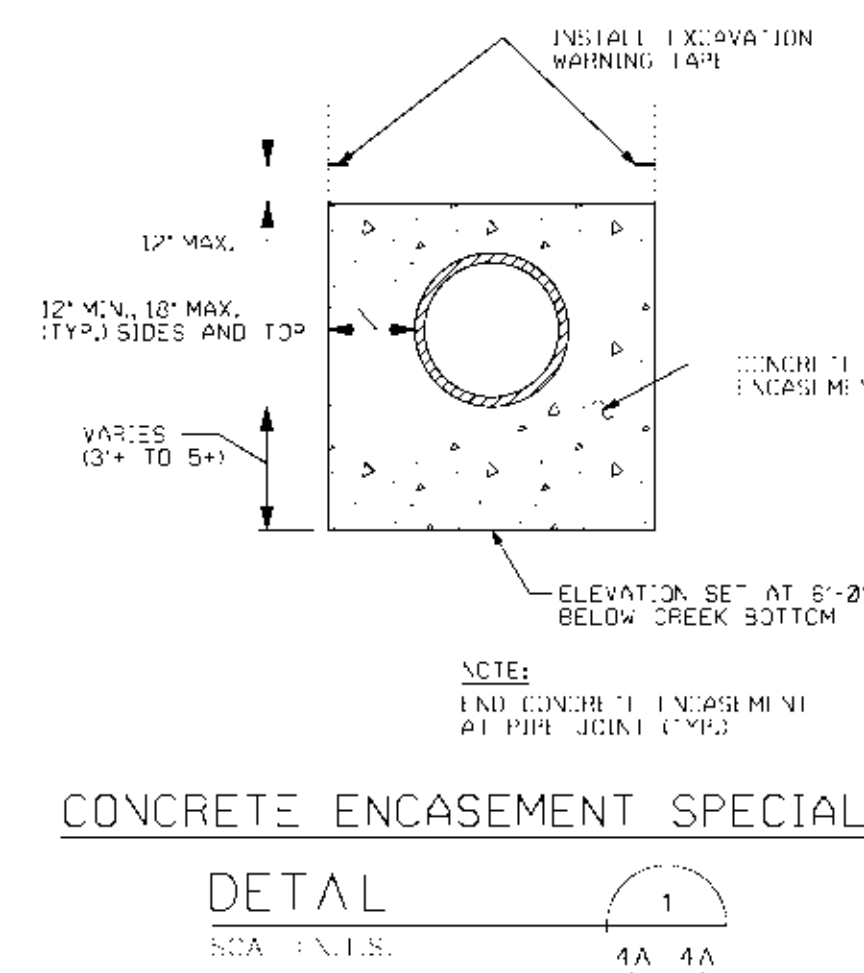
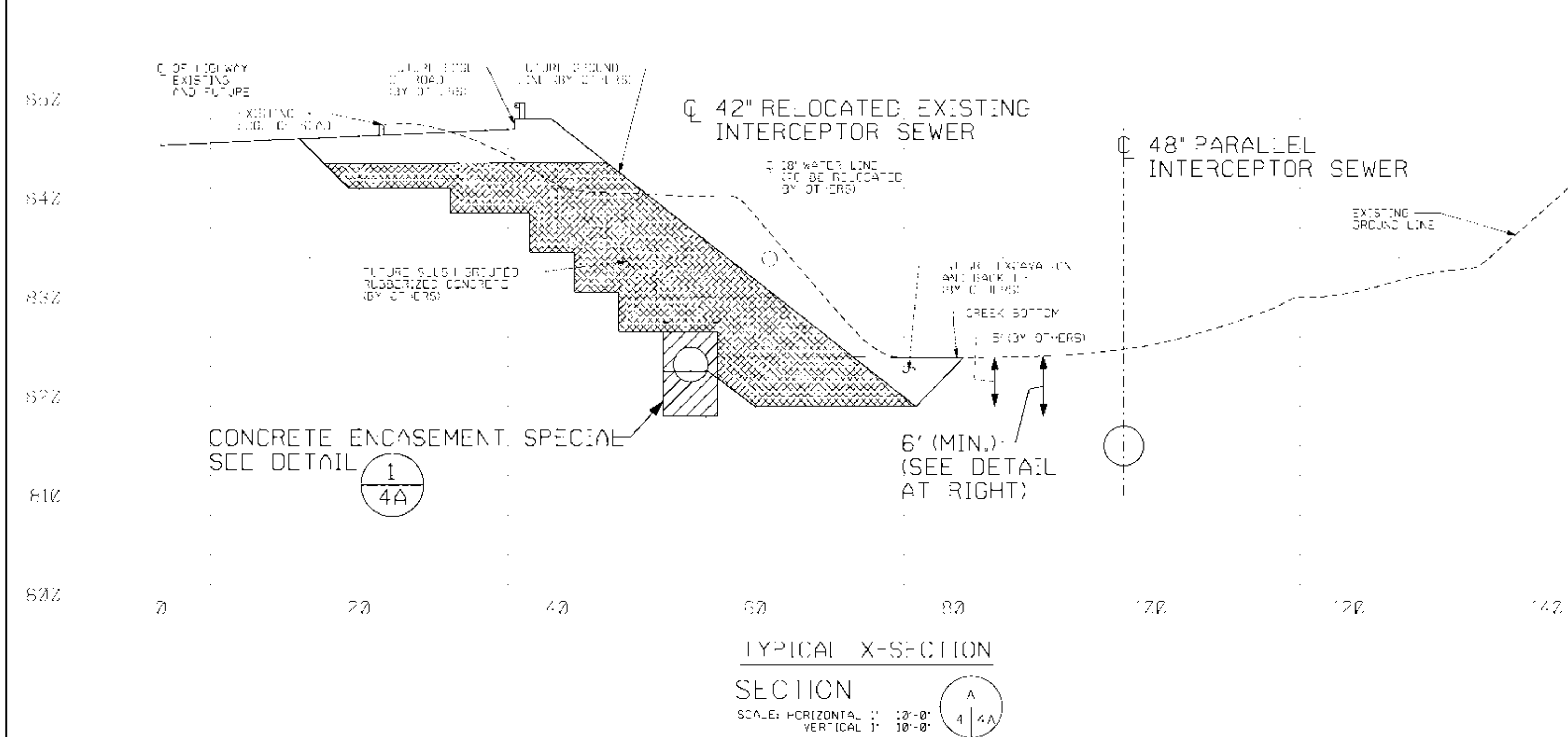
PROJECT NO. 22326 / 2232100 / S11
DATE: Nov. 12, 1998 / 10-43

REV.	DESCRIPTION	DATE	APP.	APPROVED
A	ISSUED FOR CONSTRUCTION	11/98	REL	
B	RECORD DRAWING - CONTRACT 1104	11/98	REL	EXECUTIVE DIRECTOR
C	RECORD DRAWING - CONTRACT 1105	11/98	REL	DIRECTOR OF ENGR. & CONST.
				PROJECT MANAGER

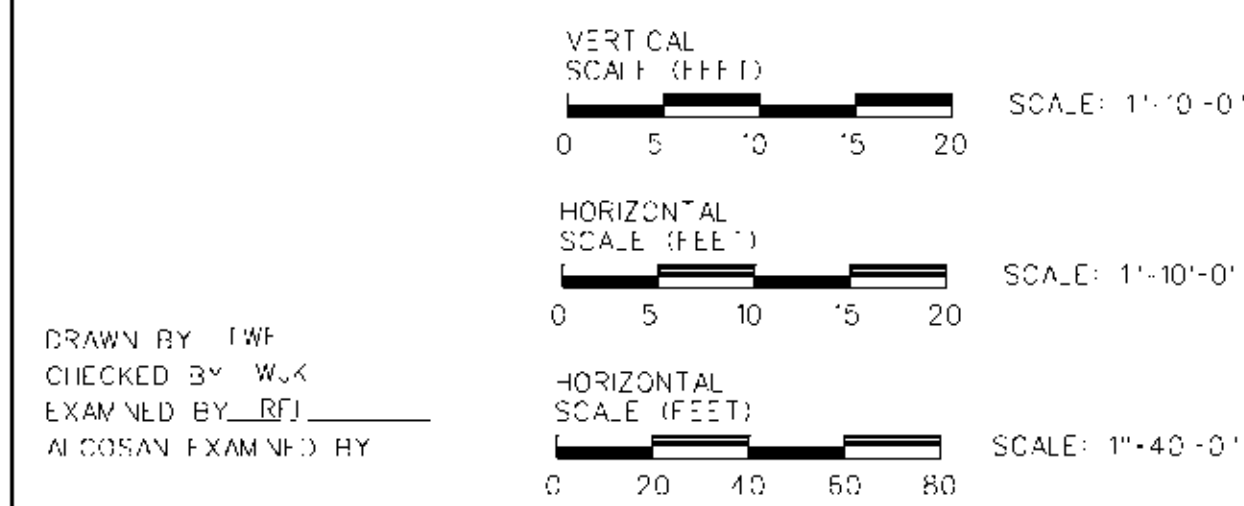
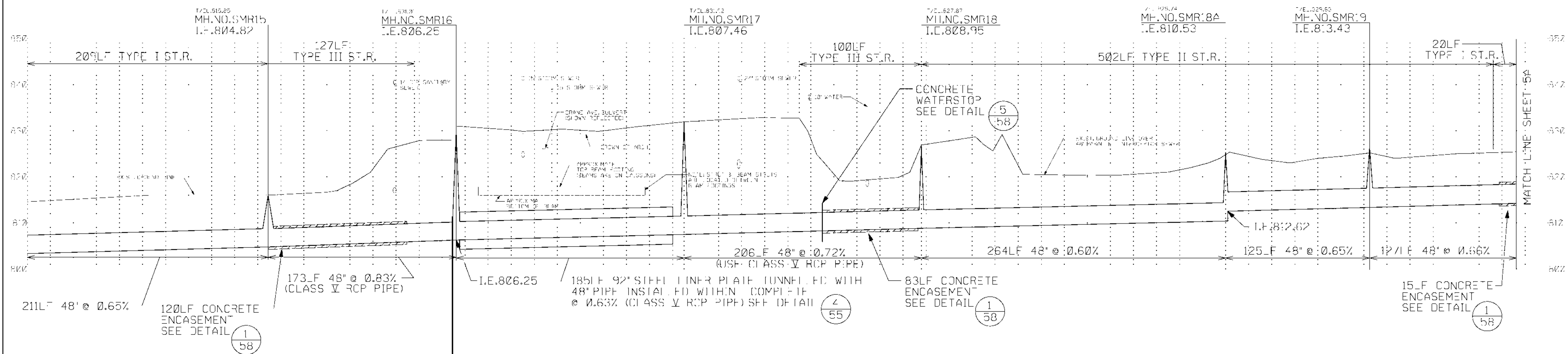
ALLEGHENY COUNTY SANITARY AUTHORITY
PITTSBURGH, PENNSYLVANIA

EXTENSION OF THE
SAW MILL RUN INTERCEPTOR UPSTREAM OF
WOODRUFF STREET TO McNEILLY ROAD
SAW MILL RUN
PARALLEL INTERCEPTOR
PLAN

SCALE: 1"=40' CONTRACT: 1104 SHEET: 4



- NOTES:**
- FOR PLAN, SEE SHEET 4
 - INSTALL EXCAVATION WARNING TAPE BETWEEN MH.NO.SMR37 AND MH.NO.SMR19A.



DRAWN BY: TWP
 CHECKED BY: W.K.
 EXAMINED BY: [Signature]
 ALLEGANY EXAMINED BY:

48" PARALLEL INTERCEPTOR SEWER

- NOTES:**
- FOR PLAN, SEE SHEET 4

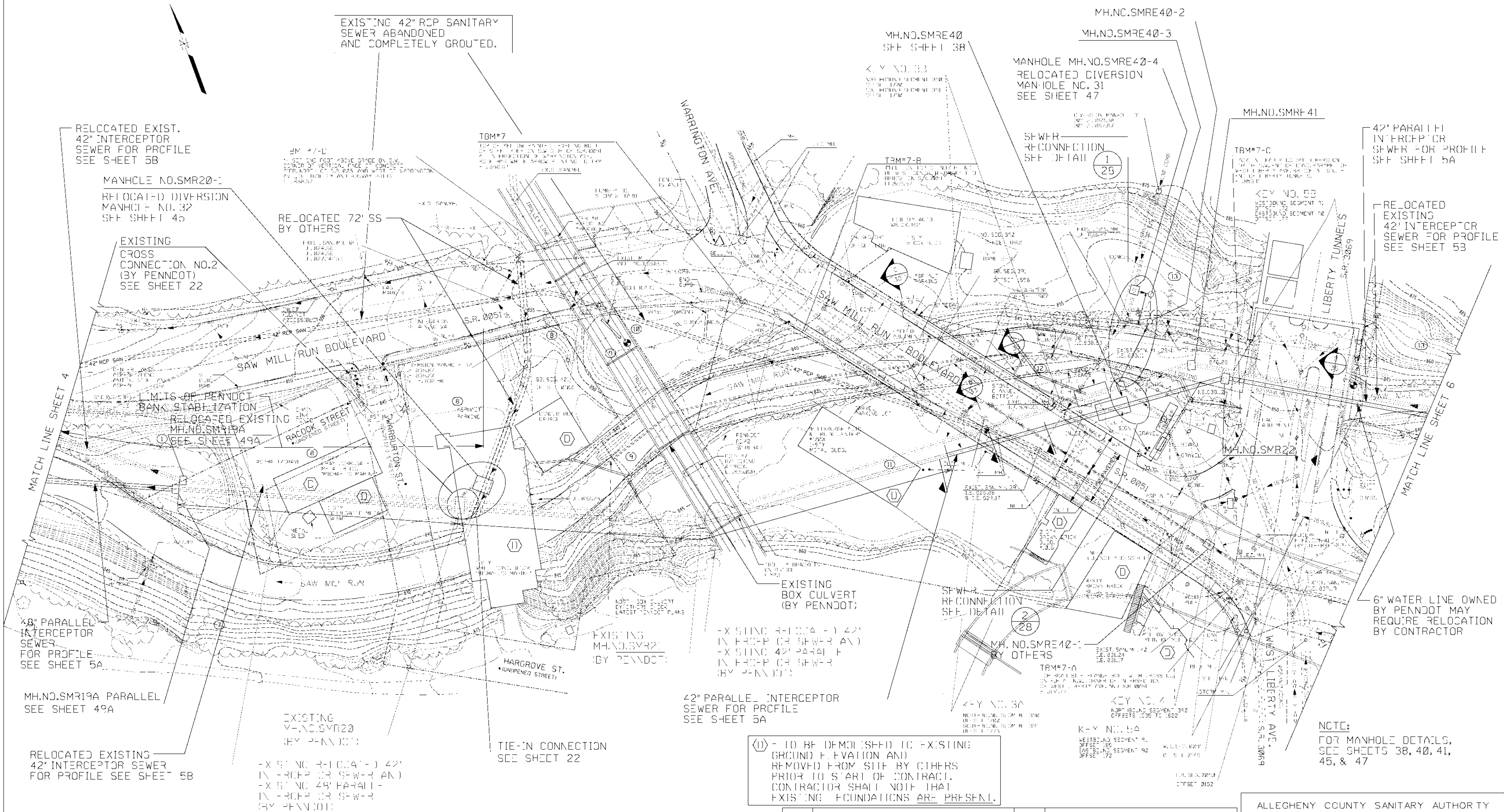


200, NO. 22326 / 22321357.51
 DATE: Nov. '2, 1998 / 10:45

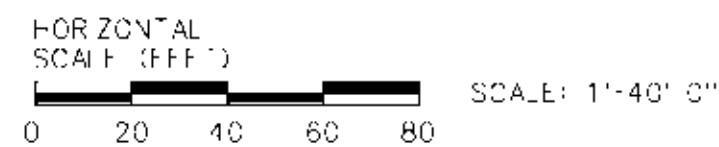
REV.	DESCRIPTION	DATE	APP.	APPROVED
A	ISSUED FOR CONSTRUCTION	4/16/97	REL	
B	RECORD DRAWING - CONTRACT 1104	11/98	REL	EXECUTIVE DIRECTOR
C	RECORD DRAWING - CONTRACT 1105	11/98	REL	DIRECTOR OF ENGR. & CONST.
D	UPDATED RECORD DRAWING	06/22/99	REL	PROJECT MANAGER

ALLEGHENY COUNTY SANITARY AUTHORITY
 PITTSBURGH, PENNSYLVANIA

EXTENSION OF THE
 SAW MILL RUN INTERCEPTOR UPSTREAM OF
 WOODRUFF STREET TO McNEILLY ROAD
**SAW MILL RUN
 PARALLEL INTERCEPTOR**
 PARALLEL AND RELOCATED
 INTERCEPTOR PROFILE
 1104
 SCALE: AS SHOWN CONTRACT 1105 SHEET 4A



DRAWN BY: TWF
CHECKED BY: WJK
EXAMINED BY: BCL
ALCOSAN EXAMINED BY:



REV.	DESCRIPTION	DATE	APP.	APPROVED
A	ISSUED FOR CONSTRUCTION	4/16/97	REL.	
B	RECORD DRAWING - CONTRACT 1105	11/98	REL.	EXECUTIVE DIRECTOR DATE
C	UPDATED RECORD DRAWING	06/2003	REL.	DIRECTOR OF ENGR. & CONST. DATE
				PROJECT MANAGER DATE

DWG. NO. 223267\22321008.SIT
DATE: May, 20, 2000 10:43

ALLEGHENY COUNTY SANITARY AUTHORITY PITTSBURGH, PENNSYLVANIA
EXTENSION OF THE SAW MILL RUN INTERCEPTOR UPSTREAM OF WOODRUFF STREET TO McNEILLY ROAD
SAW MILL RUN PARALLEL INTERCEPTOR PLAN
SCALE: 1"=40'-0" CONTRACT 1105 SHEET 5

EXISTING SEWERS WITH BULKHEADS INSTALLED UNDER
PENNDOT LIBERTY TUNNEL INTERCHANGE PROJECT

1/2" = 100'-0"
M.I.NO.SMR19A PARALLEL
I.E.815.10

1/2" = 100'-0"
EXIST. M.I.NO.SMR20

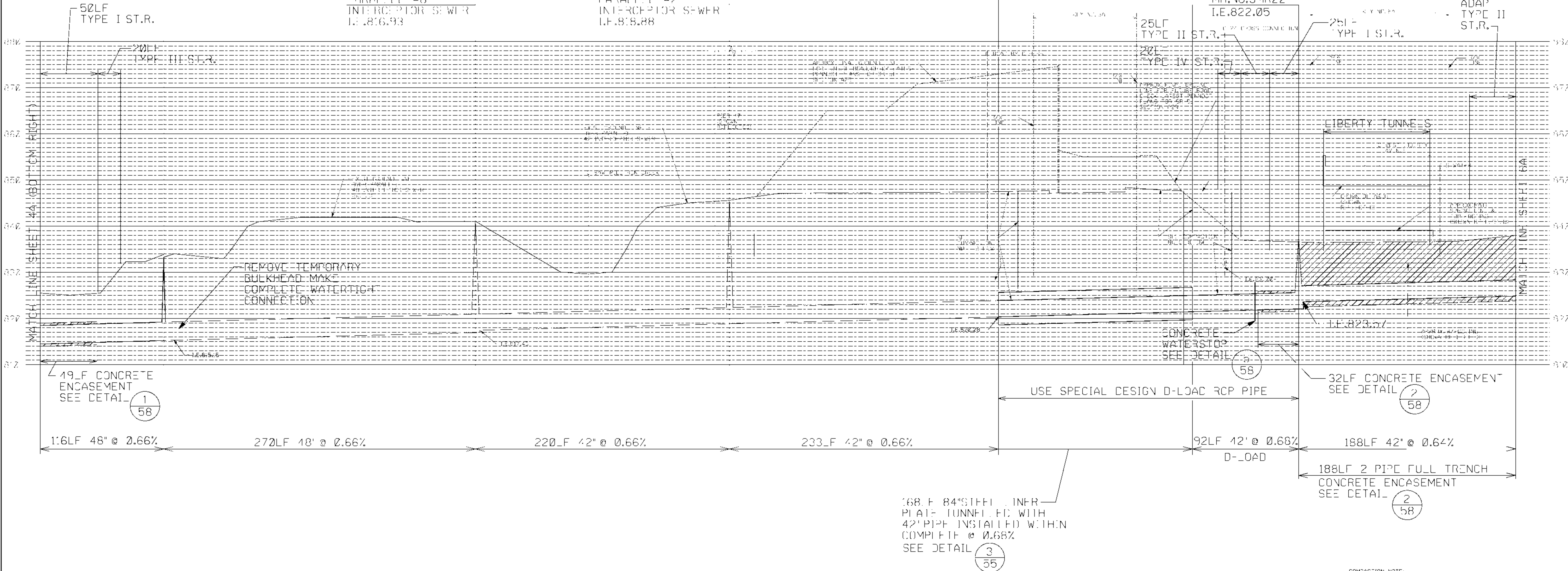
1/2" = 100'-0"
EXIST. M.I.NO.SMR21

PARALLEL 48"
INTERCEPTOR SEWER
I.E.816.93

PARALLEL 42"
INTERCEPTOR SEWER
I.E.818.88

1/2" = 100'-0"
M.I.NO.SMR22
I.E.822.05

40LF
ADAP-
TYPE II
ST.R.



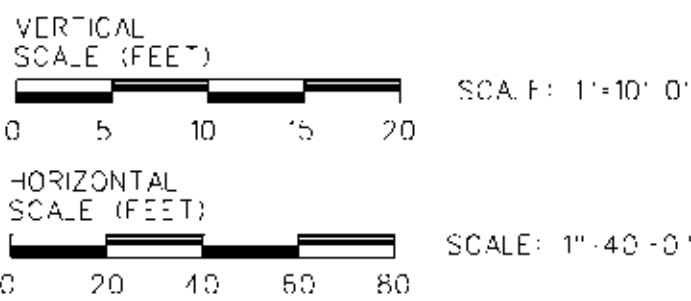
42' TO 48' PARALLEL INTERCEPTOR SEWER

- NOTES:
- FOR PLAN, SEE SHEET 5
 - FOR PROFILE VIEW OF ADJOINING
RELOCATED EXISTING 42' INTERCEPTOR
SEWER, SEE SHEET 5B

REV.	DESCRIPTION	DATE	APP.	APPROVED
A	ISSUED FOR CONSTRUCTION	4/16/97	REL	
B	RECORD DRAWING - CONTRACT 1105	11/7/00	REL	EXECUTIVE DIRECTOR _____ DATE _____
C	UPDATED RECORD DRAWING	06-2000	RFI	DIRECTOR OF ENGR. & CONST. _____ DATE _____
				PROJECT MANAGER _____ DATE _____

ALLEGHENY COUNTY SANITARY AUTHORITY	
PITTSBURGH, PENNSYLVANIA	
EXTENSION OF THE SAW MILL RUN INTERCEPTOR UPSTREAM OF WOODRUFF STREET TO McNEILLY ROAD	
SAW MILL RUN PARALLEL INTERCEPTOR	
PARALLEL INTERCEPTOR PROFILE	
HORIZ: 1"=40' SCALE: VERT: 1"=10' CONTRACT 1105 SHEET 5A	

DRAWN BY: TWP
CHECKED BY: WJK
EXAMINED BY: BFI
ALLEGHENY COUNTY SANITARY AUTHORITY



DWG. NO. 223267\22321314 ST
DATE Nov. 11, 1998 / 14:41

ALCOSAN Environmental Monitoring Program
Summary of Monitored Dry Weather Flows
S-03A and SMR-MH-N22

S-03A (flow monitoring location along 48" Saw Mill Run interceptor)

Quarter	Average Daily Dry Weather Flow (mgd)	Average Daily Peak Dry Weather Flow (mgd)	Precipitation Volume (inches) *	Exended Periods of Missing/Errant Data
Q4-2023	6.73	7.18	6.80	None
Q1-2024	10.9	12.0	9.27	1/23/24-1/25/24
Q2-2024	-	-	13.3	Unreliable data the majority of the quarter
Q3-2024	10.8	11.6	9.47	None

SMR-MH-N22 (flow monitoring location along 42" Saw Mill Run interceptor)

Quarter	Average Daily Dry Weather Flow (mgd)	Average Daily Peak Dry Weather Flow (mgd)	Precipitation Volume (inches) *	Exended Periods of Missing/Errant Data
Q4-2023	3.84	4.49	6.80	10/16/23-10/19/23
Q1-2024	4.78	5.51	9.27	3/22/24-3/31/24
Q2-2024	-	-	13.3	Missing/unreliable data the majority of the quarter
Q3-2024	4.33	4.89	9.47	7/1/24-7/3/24, 9/1/24-9/30/24

* Green Tree Rain Gauge

INFORMATION ONLY

ALCOSAN Environmental Monitoring Program
Summary of Monitored Dry Weather Flows
SMRE-44

Year	Average Daily Dry Weather Flow (mgd)				Average Daily Peak Dry Weather Flow (mgd)				Precipitation Volume (in)
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	
2019	NA	5.64	4.41	5.60	NA	6.35	5.49	6.52	48.35
2018	5.94	6.68 *	NA	NA	6.77	7.76 *	NA	NA	56.91
2017	NA	7.29	5.02	5.01	NA	8.29	5.94	5.89	47.10

* Includes April and May only

INFORMATION ONLY

ALCOSAN Environmental Monitoring Program
Summary of Monitored Dry Weather Flows
SMR-48 (MH-06A) *

Year	Average Daily Dry Weather Flow (mgd)				Average Daily Peak Dry Weather Flow (mgd)				Precipitation Volume (in)
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	
2019	22.1	19.2	18.2	18.2	23.5	20.5	20.3	20.6	48.35
2018	14.6	8.91 *	6.19 *	20.3	16.8	9.82 *	7.07 *	21.2	56.91
2017	20.8	19.5	16.4	16.0	23.6	21.8	18.9	18.7	47.10
2016	14.4	17.2	15.5	15.5	16.5	19.8	17.8	18.3	36.70
2015	15.1	14.2	10.0	11.6	17.4	16.3	12.1	13.5	47.47

* Flows at this monitoring location partly depend on upstream gate operations. This influence is evident in Q2-18 and Q3-18 but may have had an impact on other periods as well.

INFORMATION ONLY

ALCOSAN Environmental Monitoring Program
Summary of Monitored Dry Weather Flows
SMR-42 (MH N.22) *

Year	Average Daily Dry Weather Flow (mgd)				Average Daily Peak Dry Weather Flow (mgd)				Precipitation Volume (in)
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	
2019	7.01	5.56	6.93	7.48	9.36	6.98	8.44	9.05	48.35
2018	10.1	14.4 *	13.1 *	8.55	11.4	16.5 *	15.1 *	11.1	56.91
2017	7.35	6.57	3.40	6.06	8.57	7.79	4.25	7.43	47.10
2016	8.25	7.11	5.83	5.43	9.73	8.40	7.02	6.65	36.70
2015	6.01	6.68	4.97	6.59	7.52	8.21	6.05	8.10	47.47

* Flows at this monitoring location partly depend on upstream gate operations. This influence is evident in Q2-18 and Q3-18 but may have had an impact on other periods as well.

INFORMATION ONLY

ALCOSAN Environmental Monitoring Program
Summary of Monitored Dry Weather Flows
Saw Mill Run POCs from MH-44A to O-14W

Point of Connection	Monitoring Site Name	Site Location Description	Start Date	End Date	Average Daily Dry Weather Flow (mgd)	Average Daily Peak Dry Weather Flow (mgd)
S-46	S-46-00-M1	3275 South Main Street	7/1/2007	8/28/2008	0.352	0.451
MH-11	MH-11-M4	1019 McCartney Street	7/1/2007	8/27/2008	0.635	0.750
S-42A	S-42A-00-M1	420 Wabash Street	7/1/2007	7/31/2008	0.172	0.313
S-41	S-41-00-M1	1760 Wabash Street	7/1/2007	3/26/2009	0.335	0.369
MH-18	MH1800_-POC-L-01_	Penn DOT from I-279S	2/14/2008	2/1/2009	2.11	2.65
S-40	S-40-00	Intersection of Saw Mill Run Blvd. and Route 279	8/1/2007	1/29/2009	0.256	0.346
S-39	S-39-00	921 Saw Mill Run Blvd	11/1/2007	1/29/2009	0.245	0.354
S-36	S-36-00-M4	31 Penelope Street	7/1/2007	10/30/2008	0.139	0.187
S-35	S-35-00	1200 Saw Mill Run Blvd.	7/1/2007	7/31/2008	0.142	0.195
S-34	S-34-00	1200 Saw Mill Run Blvd.	7/1/2007	9/4/2008	0.052	0.074
S-32	S-32-00	632 West Warrington Avenue	9/1/2007	10/28/2008	1.15	1.33
S-31	S-31-00	632 West Warrington (at access road)	7/1/2007	7/30/2008	0.078	0.098
SMRE-40	SMRE40_-POC-L-01_	West Liberty Avenue	2/1/2008	2/1/2009	1.35	1.54

INFORMATION ONLY

G.4 APPX. - ASSET ACCESS CN-1818 REF INFORMATION
(5 pages)

CN 1818 Structure Access

Note the Contractor is responsible for verifying all access conditions, and this information is being provided for reference only.

#	Type	Access Instructions
A-12	Bypass Valve	Structure A-12 is located at the intersection of the 10 th Street Bypass and Fort Duquesne Blvd. Coordination with PennDOT and the city of Pittsburgh will be required for all work at this location. Note that the townside chamber is on the 10 th Street Bypass road shoulder while the plantside chamber is behind the guard rail.
A-20	Bypass Valve	Structure A-20 is located along the Southeastern side of the Allegheny River, in between 29 ½ Street and the 31st Street Bridge. To reach the site, it is necessary utilize a vehicle road crossing over the B & O Railroad line (anticipated that there should be no specialty access coordination with the railroad required) and enter through gates by the Pittsburgh Public Works building at 29 Eazor Square. The structure manholes are located in a parking lot that contains multiple ambulances, public works trucks, and other vehicles. During field inspections, there were no issues with accessing and parking nearby the site, but coordination with Pittsburgh Public Works will be necessary for construction efforts to ensure ample space for trucks and equipment. The A-20 manholes are closer to the barbed wire fence at the back of the parking lot.
A-37	Flap Gate	Structure A-37 is located along the Southern side of the Allegheny River and just East of the 62nd Street Bridge, on Railroad Street. A vehicle crossing of the B & O railroad is required to reach the site (anticipated that there should be no specialty access coordination with the railroad required). There is a small pull off area that can fit two vehicles off the side of Railroad Street. A set of wooden stairs leads down the hill off the side of the road, with a wooden platform, followed by approximately 20 feet of an earthen path that leads to the structure itself. It may be necessary to access this site by boat for construction efforts, if equipment is too heavy or large to be transported down the stairs and placed next to the structure.
A-65	Flap Gate	Structure A-65 is located along the Northeastern side of the Allegheny River and across the river from the Northwestern side of Herrs Island. To access, vehicles should drive past the Three Rivers Rowing Club located at 90 River Front Drive, cross the Three Rivers Heritage Trail, and drive a short distance on a dirt pathway down to the structure. This does require going through locked gates. There is enough space for a few vehicles nearby the structure and on the dirt pathway leading to it.
M-01	Bypass Valve	Structure M-01 is located along the Northeastern side of the Monongahela River, accessible from within the Mon Wharf parking lot area and it is close to diversion structure M-02. Coordination with the Pittsburgh Parking Authority will be necessary for any construction efforts. There are tight spaces for vehicles to navigate through bridge/overpass columns and parking bollards located throughout the area. The structure itself is located at the edge of the parking area and adjacent to a ramp that leads down to the Three

		Rivers Heritage Trail (anticipated that there will need to be some coordination/notification with trail stakeholders both pre- and during construction). There is space nearby the structure for parking and equipment but there are columns and bollards which may prevent heavy machinery from accessing the structure by land.
M-02	Bypass Valve	Structure M-02 is located along the Northeastern side of the Monongahela River, accessible from within the Mon Wharf parking lot area and it is close to diversion structure M-01. Coordination with the Pittsburgh Parking Authority/lot attendant will be necessary for any construction efforts. There are tight spaces for vehicles to navigate through bridge/overpass columns and parking bollards located throughout the area. The structure itself is located in an area blocked off by metal chains in between the parking spaces and the sidewalk. There is space nearby the structure for parking and equipment but there are columns and bollards which may prevent heavy machinery from accessing the structure by land.
M-10	Bypass Valve	Structure M-10 is located on the Southern side of the Monongahela River and West of the 10th Street Bridge. It is accessible via the Three Rivers Heritage Trail. A vehicle crossing of an active CSX railroad is required to reach the site (anticipated that there should be no specialty access coordination with the railroad required). There is a locked gate at the Color Park (1 S 6th Street) that allows vehicle access to the trail when unlocked. Driving on the Three Rivers Heritage trail requires care and attention to the pedestrians and bikers utilizing the trail. There is also a locked gate at the entrance to the structure itself. Note that ALCOSAN has a key for the two locks required. Past the gate to the structure, there is a set of wooden stairs leading down to the manholes of the structure. M-10 is accessible by river if necessary for heavy construction equipment.
M-11	Bypass Valve	Structure M-11 is located on the Southern side of the Monongahela River and under the 10th Street Bridge. It is accessible via the Three Rivers Heritage Trail. A vehicle crossing of an active CSX railroad is required to reach the site (anticipated that there should be no specialty access coordination with the railroad required). There is a locked gate at the Color Park (1 S 6th Street) that allows vehicle access to the trail when unlocked. Driving on the Three Rivers Heritage trail requires care and attention to the pedestrians and bikers utilizing the trail. Structure M-11 is located off of the trail in a gravel area, immediately after crossing under the 10th Street Bridge. There is space in the gravel off of the trail for a few vehicles and some construction equipment. Unhoused persons encampment(s) are prevalent nearby.
M-12	Bypass Valve	Structure M-12 is located on the Southern side of the Monongahela River and is accessible via the Three Rivers Heritage Trail. A vehicle crossing of an active CSX railroad is required to reach the site (anticipated that there should be no specialty access coordination with the railroad required). There is a locked gate at the Color Park (1 S 6th Street) that allows vehicle access to the trail when unlocked. Driving on the Three Rivers Heritage trail requires care and attention to the pedestrians and bikers utilizing the trail. The manholes at M-12 are located within the trail itself and so will require pedestrian

		control/protection when work is being done. Vehicles can park off to the side of the trail but cannot fully pull off the trail at this location. This structure initially did not have acceptable oxygen percentage levels and needed to be aired out prior to confined space entry requirements were met.
M-13	Bypass Valve	Structure M-13 is located on the Southern side of the Monongahela River and is accessible via the Three Rivers Heritage Trail. A vehicle crossing of an active CSX railroad is required to reach the site (anticipated that there should be no specialty access coordination with the railroad required). There is a locked gate at the Color Park (1 S 6th Street) that allows vehicle access to the trail when unlocked. Driving on the Three Rivers Heritage trail requires care and attention to the pedestrians and bikers utilizing the trail. M-13 is located off of the trail, down an approximately 100-foot long earthen path with a 5-10% graded slope. After rain events this slope path becomes slick and muddy making travel to the structure with equipment difficult. This site is also accessible by boat to bring construction equipment if necessary.
M-14	Bypass Valve	Structure M-14 is located on the Southern side of the Monongahela River and is accessible via the Three Rivers Heritage Trail. A vehicle crossing of an active CSX railroad is required to reach the site (anticipated that there should be no specialty access coordination with the railroad required). There is a locked gate at the Color Park (1 S 6th Street) that allows vehicle access to the trail when unlocked. Driving on the Three Rivers Heritage trail requires care and attention to the pedestrians and bikers utilizing the trail. M-14 is located off of the trail, along an approximately 20 foot long earthen path with a 5-10% graded slope. At one point in this earthen path there is a 3 foot sheer drop which will make equipment transport difficult. This site is also accessible by boat.
M-17	Bypass Valve	Structure M-17 is located on the Southern side of the Monongahela River and adjacent to South 18th Street. The site is accessible via the Southside River Front Park parking lot nearby which has ample space for vehicle parking. It does require crossing the Three Rivers Heritage Trail to access the wooden stairs leading down to the structure. M-17 is accessible by boat if necessary for heavy equipment.
M-20	Bypass Valve	Structure M-20 is located on the Southern side of the Monongahela River and adjacent to the Southside River Front Park, directly East of the Birmingham Bridge. The site is easily accessed via the parking lot for the Southside Riverfront Park. M-20 involved a double confined space entry configuration which complicates work in this structure. There is an upper structure with one manhole entrance built on top of the original structure that includes three manhole entries into lower plantside, riverside, and townside chambers. The manholes leading into the lower chambers were left open. Although the manhole entry into the top chamber is not directly over any of the three in the lower chamber manholes, it is important to be aware of this potential fall hazard.
M-23	Bypass Valve	Structure M-23 is located on the Southwestern side of the Monongahela River, just West of the South Side Marina (2611 S Water Street). The site is accessible by driving on the Three Rivers Heritage Trail approximately 1,000

		feet from the Eastern side of the South Side Riverfront Park parking lot. There is a gravel pull off adjacent to the structure for vehicle parking and ample space for any necessary equipment.
M-34	Flap Gate	Structure M-34 is located on the Eastern side of the Monongahela River, nearby Becks Run Pumping Station (at the intersection of Becks Run Road and E Carson Street). The site is accessible via driving along the Three Rivers Heritage Trail. There is a 50 foot long wooden staircase that leads down to structure M-34. Driving on the Three Rivers Heritage trail requires care and attention to the pedestrians and bikers utilizing the trail. There is a vehicle pull-off near this structure from the trail. Construction equipment may be able to access the M-34 structure from this area but this was not field verified due to dense vegetation between the pull-off and structure. This site is accessible by boat to bring construction equipment if necessary.
O-36	Bypass Valve	Structure O-36 is located at the corner of Oxline Street and Liverpool Street, along the Eastern side of the Ohio River. Due to the manholes being set in the roadway, this site is accessible by vehicle and there is space for parking and equipment off to the side of the road. When work is being done, traffic controls will be needed as the manholes are in the center of the street.
O-43	Bypass Valve	Structure O-43 is located on the North side of the Ohio River and is set in the Carnegie Science Center parking lot (1 Allegheny Avenue). This site is accessible by vehicle via the parking lot, but a chain is present that blocks access for larger vehicles. Standard sized work trucks and other vehicles are able to enter through the parking lot gate. The manholes for the structure are set in the pavement of the lot.

**A-80 and S-01A Sluice Gates are on CN 1818 but not included in this reference.