RMR INVESTIGATION

CUY-14-6.93
PID # 104132
Garfield Heights, Cuyahoga County, Ohio

By:

John Korth – Project Manager
Susan Daniels – Director of NEPA Planning

Submitted by:

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614) 481-8600

Lead Agency: Ohio Department of Transportation

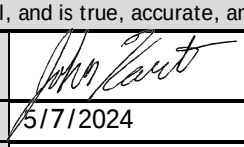
May 7, 2024

SIGNATURE PAGE

GENERAL INFORMATION

Project C-R-S / Name:	CUY-14-6.93	PID:	104132	District:	12
Report Author(s):	John Korth				
Report Author(s):	Susan Daniels				
Affiliation:	Consultant – Lawhon & Associates, Inc.				

CERTIFICATION *(Must be acknowledged by Prequalified Individual)*

☒	I certify that I have personally examined and am familiar with the information in this document and all attachments, and that the data collection was supervised by an individual(s) prequalified to conduct the RMR for ODOT or by trained ODOT Environmental staff. Based on my inquiry of those persons immediately responsible for obtaining the information contained herein, I believe that the information has been collected in accordance with the ODOT RMR Manual current at the time of this submittal, and is true, accurate, and complete.		
Name:	John Korth	Signature:	
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1. EXECUTIVE SUMMARY

Lawhon & Associates, Inc. (L&A) completed an RMR Investigation in conformance with the Ohio Department of Transportation's (ODOT) Regulated Materials Review (RMR) Manual (2023) for the CUY-14-6.93 (PID 104132) project ("Project").

The Project proposes to replace the Whitehouse Crossing Bridge (SR-14) over the Norfolk and Southern railroad on a new alignment. Work will include new pavement, storm drainage, 22'x7' and 8'x4' culverts, MSE walls, waterline and sanitary relocations.

The following Properties were recommended for an RMR Investigation following the completion of the RMR Screening on March 14, 2022:

Table 1: RMR Investigation Properties

Project C-R-S/Name: CUY-14-6.93		PID:	104132
Property ID#	Tenant/Address	Current Land Use	
RM-001	Cleveland Metroparks Maintenance Center, Garfield Park Reservation/ 11410 Broadway Avenue	Recreational area and maintenance facility	
RM-007	Garfield Alloys, Sun Chemicals/ Cherry Street, Broadway Ave	Raw material filling and storage facility	

This RMR Investigation was conducted on April 1 & 2, 2024, involving nine (9) soil borings advanced to fifteen (15) feet below ground surface. Information revealed during the RMR Investigation was used to reach the following recommendations:

Table 2: Summary of Investigation Findings & Recommendations

Project C-R-S / Name:	CUY-14-6.93	PID:	104132	Project City	Garfield Heights
Property ID#, Tenant Name & Address	Findings			Next Step Recommendations	
RM-001, Cleveland Metroparks Maintenance Center, Garfield Park Reservation/ 11410 Broadway Avenue	Magnesium and Manganese were reported below applicable regulatory standards.			No Further Action	
RM-007, Garfield Alloys, Sun Chemicals/ Cherry Street, Broadway Ave	Magnesium and Manganese were reported below applicable regulatory standards.			No Further Action	

2. INTRODUCTION

The Project (CUY-14-6.93) is located in Garfield Heights, Cuyahoga County, Ohio. General description of the project is to replace the Whitehouse Crossing Bridge (SR-14) over the Norfolk and Southern railroad on a new alignment. Work will include new pavement, storm drainage, 22'x7' and 8'x4' culverts, MSE walls, waterline and sanitary relocations. A RMR Screening report was completed by L&A on March 14, 2022. ODOT-OES issued an IOC stating that an RMR Investigation is warranted to determine the possibility of encountering magnesium slag/ dross during construction.

The Properties in the following table were investigated as part of the RMR Investigation effort. The RMR includes: RM-001 currently and historically used as a recreational park for Garfield Hights; RM-007 historically operated as a quarry, the former Garfield Alloys operations used the site to dispose of magnesium dross. The Properties are proposed for Partial Take with deep excavation. The RMR Investigation was conducted to determine the presence of Regulated Materials (RM).

Table 3: RMR Investigation Properties Rationale for Investigation

Project C-R-S / Name:	CUY-14-6.93	PID:	104132	Project City	Garfield Heights
Property ID#	Tenant Name & Address	Proposed Take Acquisition		Rationale for Investigation	
RM-001	Cleveland Metroparks Maintenance Center, Garfield Park Reservation/ 11410 Broadway Avenue	Partial Take		• Proposed Partial Take and deep excavation.	
RM-007	Garfield Alloys, Sun Chemicals/ Cherry Street, Broadway Ave	Partial Take		• Proposed Partial Take and deep excavation. • Former quarry and impoundment site for the disposal of magnesium dross.	

The Properties are generally located in Garfield Heights, Ohio. Figure 1 – USGS Topographic Map – RM-001 & RM-007 (Appendix A) illustrates the location of the Properties. Figure 2 – Property Diagram – RM-001 & RM-007 (Appendix A) illustrates the Property boundaries used for this RMR Investigation.

3. PROPERTY HISTORY – PROPERTY RM-001 & RM-007

As described in the RMR Screening report dated March 14, 2022, the project location is in a historically industrial area. RM-001 is occupied by a recreational park with maintenance facility which had an underground storage tank system removed. RM-007 is a former quarry which was used by the former Garfield Alloys magnesium smelter operation to dispose of 5,000-10,000 lbs. of magnesium slag/dross per day. The dross dumped into the impoundment contained magnesium, aluminum, and various chlorides. A major fire burned down the facility buildings which were located east of the project along Chaincraft Road.

4. FIELD ACTIVITIES AND ANALYTICAL PROCEDURES – PROPERTY RM-001 & 007

4.1 Investigation Overview and Data Gaps

The intent of this investigation is to determine if the area of construction limits is impacted by the former Garfield Alloys operations. No additional data gaps were identified as part of this RMR Investigation effort.

4.2 Published Geologic and Hydrogeologic Information

Soil borings BH-01, BH-02, and BH-03 were advanced along Chaincraft Road east of the Henry Street bridge. The soil borings were primarily comprised of sandy silt clay with various amounts of gravel. Slag was encountered in the 0-4' intervals in soil borings BH-06 and BH-07. Saturate soils were encountered in soil boring BH-01 in the 6-8' interval, BH-04, BH-05 in the 8-10' interval, and BH-06, BH-07, BH-08, BH-09 in the 12-14' interval.

4.3 Field Condition Documentation and Overview

The temperature during field activities was 47°F with cloudy skies. Soil borings BH-01, BH-02, and BH-03 were advanced along Chaincraft Road east of the Henry Street bridge. Soil boring BH-02 and BH-03 did not advanced past the 0-2' interval, borings were off-set and redrilled to avoid the 7'x22' box culvert which contains Mill Creek. The second attempt also did not advance past the 0-2' interval.

4.4 Sampling Effort

4.4.1 Soil Sampling

The soil borings were advanced by EnviroCore Inc. utilizing a track mounted rig with a hydraulic drive head used to drive and withdraw threaded steel outer rods and 1-inch diameter inner rods, fitted with disposable acetate liners. The outer rods are used to prevent soil from shallower depths from falling into the hole. Public utilities were also considered when determining the final boring location placements. A map with the boring locations indicated is located Appendix A.

Soil borings were advanced to fifteen (15) feet below ground surface (bgs), the uppermost-saturated zone, bedrock, or probe refusal. The soil was observed and logged by the L&A Environmental Scientist with particular note to grain size, color, moisture content, and odor. The soil samples were collected continuously, at two-foot intervals from the ground surface to the rumination depth. A soil sample was collected from each interval and immediately placed in an airtight sample container to warm for field screening using a RKI Eagle 2 to hydrogen gas detector. A RKI Eagle 2 is an electronic instrument which detects VOC gases and provides results in parts per million (ppm). The instrument was calibrated according to the manufacturer's specifications immediately before field operations by IE Monitoring Instruments. Sample interval with the highest reading and/or field observations from each boring was selected for submittal for laboratory analysis and was transferred to a new laboratory glass jar with sealed lids. The sample jars were immediately returned to the cooler with ice for transportation to the laboratory. Field screening did not record any amount of hydrogen gas in soil samples.

4.4.2 Investigation-Derived Waste (IDW) Management

EnviroCore Inc. used direct-push methods for soil sampling producing minimal investigation-derived wastes, which were containerized and taken off-site by EnviroCore Inc.

4.5 Analytical Methods, Results, and Comparison to Regulatory Levels

4.5.1 Soil

Samples were submitted under Chain of Custody via courier to ALS Environmental (ALS), a certified analytical laboratory located in Cincinnati, Ohio. The soil samples were analyzed for Magnesium and Manganese by Method 6010B.

L&A used Ohio Environmental Protection Agency (OEPA) Volunteer Action Program (VAP) Generic Direct-Contact Soil Standards (GDCSS) for comparison of the analytical results. The pertinent VAP regulatory standards for soil is the Commercial/Industrial (C/I) Land Use GDCSS. To determine if any excavated material may be regulated waste, OEPA VAP GDCSS for Residential Land Use was used. If no VAP standard exists for a given chemical of concern (COC), L&A utilized OEPA Chemical Inventory Database and Applicable Regulatory Standards (CIDARS) for Residential Land Use. A map with analytic results by RM Property is located in Appendix A as well as presented in Table 4.

Table 4: Soil Sampling Analytical Results Summary

RM-001							
Parameter (mg/Kg-dry)	**BH-01 2-4'**	**BH-02 0-2'**	**BH-03 0-2'**	**BH-04 4-6'**	**BH-05 2-4'**	**OEPA VAP GDCSS Residential**	**OEPA VAP GDCSS C/I**
Magnesium	7,700	17,00	13,000	3,300	3,100	---	---
Manganese	470	900	290	280	270	3,600	88,000

RM-007						
Parameter (mg/Kg-dry)	**BH-06 4-6'**	**BH-07 2-4'**	**BH-08 8-10'**	**BH-09 10-12'**	**OEPA VAP GDCSS Residential**	**OEPA VAP GDCSS C/I**
Magnesium	20,000	13,000	8,200	6,600	---	---
Manganese	1,800	470	370	470	3,600	88,000

Note: Only parameters with detections above laboratory detection limits are included
--- Indicates that no standard is available

4.5.2 Laboratory QA/QC

ALS Environmental (ALS) conducted all analytical quality assurance/ quality control (QA/QC) and utilized sample and result qualifiers as set forth by the EPA Contract Laboratory Program. All detected parameters were above the practical quantitative limit (PQL or Detection Limit) and no detected parameters had QC qualifiers. Any QC qualifiers are listed in the laboratory reports with an explanation of their meaning.

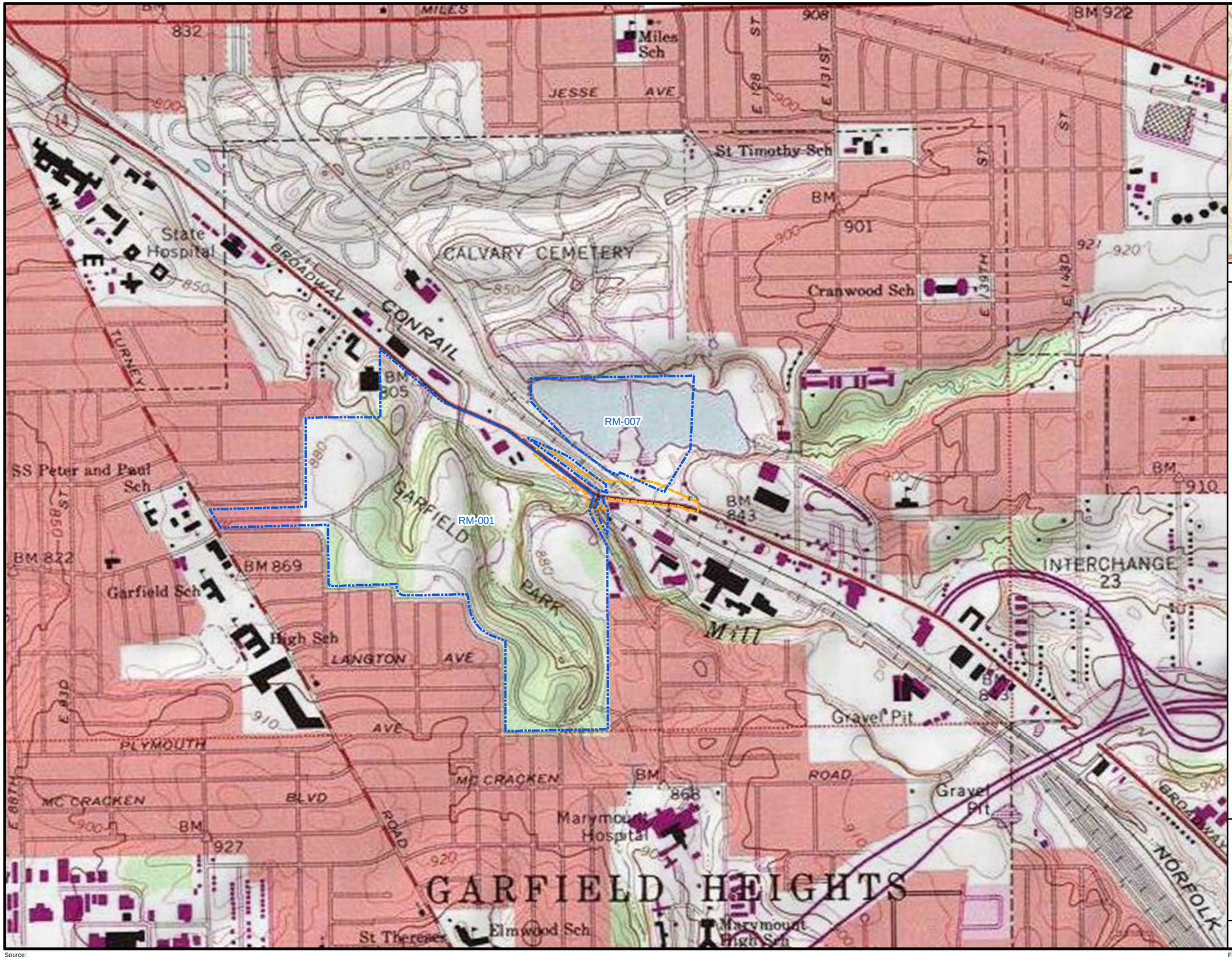
5. CONCLUSIONS & RECOMMENDATIONS

Present information revealed during the RMR Investigation used to reach the following recommendations:

Table 5: RMR Investigation Findings & Recommendations

Project C-R-S / Name:	CUY-14-6.93	PID:	104132	Project City	Garfield Heights
Property ID#, Tenant Name & Address	Findings			Next Step Recommendations	
RM-001, Cleveland Metroparks Maintenance Center, Garfield Park Reservation/ 11410 Broadway Avenue	Magnesium and Manganese were reported below applicable regulatory standards.			No Further Action	
RM-007, Garfield Alloys, Sun Chemicals/ Cherry Street, Broadway Ave	Magnesium and Manganese were reported below applicable regulatory standards.			No Further Action	

Appendix A – Project Figures



Site Location Map

Legend

- Construction Limits
- Sites

N

0 500 1,000 2,000 Feet

CUY-14-6.93
PID: 104132

Topographic Map

Lawhon & Associates, Inc.

Date:	Approved by:	L&A No.	Figure
May 2024	JK	18-0449	1

Source:

File Name: 01-Topo.mxd Edited: 5/3/2024 By: afraley

Site Location Map

Legend

N

- Construction Limits
- Sites
- Boring Location

0 50 100 200 300 Feet

CUY-14-6.93
PID: 104132

Properties Diagram

Lawhon & Associates, Inc.

Date:	Approved by:	L&A No.	Figure
May 2024	JK	18-0449	2

Source:

File Name: 02-Property Diagram.mxd Edited: 5/3/2024 By: afraley

Parameter (mg/Kg-dry)	RM-007 BH-07 04/01/24
Metals	
Magnesium	13,000
Manganese	470

Parameter (mg/Kg-dry)	RM-007 BH-06 04/01/24
Metals	
Magnesium	20,000
Manganese	1,800

Parameter (mg/Kg-dry)	RM-007 BH-08 04/01/24
Metals	
Magnesium	8,200
Manganese	370

Parameter (mg/Kg-dry)	RM-007 BH-09 04/01/24
Metals	
Magnesium	6,600
Manganese	470

Parameter (mg/Kg-dry)	RM-001 BH-05 04/01/24
Metals	
Magnesium	3,100
Manganese	270

Parameter (mg/Kg-dry)	RM-001 BH-04 04/01/24
Metals	
Magnesium	3,300
Manganese	280

Parameter (mg/Kg-dry)	RM-001 BH-03 04/02/24
Metals	
Magnesium	13,000
Manganese	290

Parameter (mg/Kg-dry)	RM-001 BH-02 04/01/24
Metals	
Magnesium	17,000
Manganese	900

Parameter (mg/Kg-dry)	RM-001 BH-01 04/01/24
Metals	
Magnesium	7,700
Manganese	470

Site Location Map

Legend

- Construction Limits
- Sites
- Boring Location

N

0 50 100 200 300 Feet

CUY-14-6.93
PID: 104132

Analytical Results

Lawhon & Associates, Inc.

Date:	Approved by:	L&A No.	Figure
May 2024	JK	18-0449	3

Source:

File Name: 03-Analytical results.mxd

Edited: 5/3/2024 By: afraley

Appendix B – Geologic Information

Log of Borehole: BH-01

Project No.: 18-0449

Project: CUY-14-6.93

Client: AECOM

Location: Chaincraft Road

Sheet: 1 of 1

Logged By: John Korth

Project Manager: John Korth

Lawhon & Associates, Inc.

SUBSURFACE PROFILE

SAMPLE

Description	Depth	Lithologic Symbols / Construction Details	Interval (ft.)	Submitted For Analysis	Recovery	H2 Reading ppm
Ground Surface	0					
Asphalt Gravel						
Sandy Silt Clay Brown, small gravel, medium gravel, trace large gravel, soft, moist	1		0-2			0.0
	2					
Large gravel	3		2-4			0.0
Sandy Silt Clay Light brown, small gravel, medium gravel, soft, dry						
Sandy Silt Clay Brown, small gravel, trace medium gravel, soft, moist	4					
Brick	5		4-6	* 4 - 6		0.0
Sandy Silt Clay Brown, small gravel, trace medium gravel, soft, moist	6					
Sandy Silt Clay Brown, small gravel, trace medium gravel, soft, saturated	7		6-8			0.0
	8					
Sand and Gravel Brown, small gravel, medium gravel, trace large gravel, saturated	9		8-10			0.0
	10					
	11		10-12			0.0
	12					

Drilled By: EnviroCore Inc.

Drill Method: Direct Push

Drill Date: 4/2/2024

Hole Size: 2.25"

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614)481.8600

Notes:

* - indicates sample submitted for laboratory analysis

NR - indicates no recovery

Log of Borehole: BH-02

Project No.: 18-0449

Project: CUY-14-6.93

Client: AECOM

Location: Chaincraft Raod

Sheet: 1 of 1

Logged By: John Korth

Project Manager: John Korth

Lawhon & Associates, Inc.

SUBSURFACE PROFILE			SAMPLE			
Description	Depth	Lithologic Symbols / Construction Details	Interval (ft.)	Submitted For Analysis	Recovery	H2 Reading ppm (0 2 4 6 8 10)
Ground Surface	0					
Silt Clay and Gravel Dark brown, large gravel, trace medium gravel, soft, moist						
Sand and Gravel Grey, small gravel, medium gravel, soft, moist						
Silty Clay Brown, small gravel, trace medium gravel, hard, moist	1		0-2	* 0 - 2		0.0
Silty Clay Dark brown, trace small gravel, trace medium gravel, hard, moist						
Probe Refusal	2					
	3					0.0
	4					
	5					0.0

Drilled By: EnviroCore Inc.

Drill Method: Direct Push

Drill Date: 4/2/2024

Hole Size: 2.25"

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614)481.8600

Notes:
* - indicates sample submitted for laboratory analysis
NR - indicates no recovery

Log of Borehole: BH-03

Project No.: 18-0449

Project: CUY-14-6.93

Client: AECOM

Location: Chaincraft Raod

Sheet: 1 of 1

Logged By: John Korth

Project Manager: John Korth

Lawhon & Associates, Inc.

SUBSURFACE PROFILE			SAMPLE			
Description	Depth	Lithologic Symbols / Construction Details	Interval (ft.)	Submitted For Analysis	Recovery	H2 Reading ppm (0 2 4 6 8 10)
Ground Surface	0					
Silt Clay and Gravel Dark brown, large gravel, trace medium gravel, soft, moist	1		0-2	* 0 - 2		0.0
Probe Refusal	2					
	3					0.0
	4					
	5					0.0

Drilled By: EnviroCore Inc.

Drill Method: Direct Push

Drill Date: 4/2/2024

Hole Size: 2.25"

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614)481.8600

Notes:
* - indicates sample submitted for laboratory analysis
NR - indicates no recovery

Log of Borehole: BH-04

Project No.: 18-0449

Project: CUY-14-6.93

Client: AECOM

Location: Chaincraft Road

Sheet: 1 of 1

Logged By: John Korth

Project Manager: John Korth

Lawhon & Associates, Inc.

SUBSURFACE PROFILE

SAMPLE

Description	Depth	Lithologic Symbols / Construction Details	Interval (ft.)	Submitted For Analysis	Recovery	H2 Reading ppm (0 2 4 6 8 10)
Ground Surface	0					
Top Soil Brown, soft, moist						
Sandy Silt Clay Dark brown, small gravel, medium gravel, trace large gravel, hard, moist	1		0-2			0.0
Silty Clay Brown, trace sand, trace small gravel, trace medium gravel, soft, moist	2					
Silty Clay Dark brown, trace small gravel, trace medium gravel, soft, moist	3		2-4			0.0
Sand Brown, trace silt clay, trace small gravel, soft, moist	4					
Sand Brown, trace small gravel, soft, moist	5		4-6	* 4 - 6		0.0
Sand and Gravel Brown, small gravel, medium gravel, trace large gravel, soft, moist	6					
	7		6-8			0.0
Sand and Gravel Brown, small gravel, medium gravel, trace large gravel, soft, saturated	8					
	9		8-10			0.0
	10					
	11		10-12			0.0
	12					

Drilled By: EnviroCore Inc.

Drill Method: Direct Push

Drill Date: 4/1/2024

Hole Size: 2.25"

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614)481.8600

Notes:

* - indicates sample submitted for laboratory analysis

NR - indicates no recovery

Log of Borehole: BH-05

Project No.: 18-0449

Project: CUY-14-6.93

Client: AECOM

Location: Chaincraft Road

Sheet: 1 of 1

Logged By: John Korth

Project Manager: John Korth

Lawhon & Associates, Inc.

SUBSURFACE PROFILE

SAMPLE

Description	Depth	Lithologic Symbols / Construction Details	Interval (ft.)	Submitted For Analysis	Recovery	H2 Reading ppm
Ground Surface	0					0 2 4 6 8 10
Top Soil Brown, soft, moist			0-2			0.0
Gravel Large	1					
Silty Clay Dark brown, trace small gravel, trace medium gravel, soft, moist	2		2-4			0.0
Silty Clay Brown, trace small gravel, trace moist gravel, soft, moist	3					
Silty Clay Dark brown, trace small gravel, trace moist gravel, soft, moist	4		4-6			0.0
Silty Clay Brown, trace sand, trace small gravel, trace medium gravel, soft, moist	5					
Sand Brown, trace silt clay, trace small gravel, soft, moist	6		6-8	* 6 - 8		0.0
Sand and Gravel Brown, small gravel, trace medium gravel, trace large gravel, soft, moist	7					
Sand and Gravel Dark brown, small gravel, medium gravel, trace large gravel, soft, saturated	8		8-10			0.0
	9					
	10		10-12			0.0
	11					
	12					

Drilled By: EnviroCore Inc.

Drill Method: Direct Push

Drill Date: 4/1/2024

Hole Size: 2.25"

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614)481.8600

Notes:

* - indicates sample submitted for laboratory analysis

NR - indicates no recovery

Log of Borehole: BH-06

Project No.: 18-0449

Project: CUY-14-6.93

Client: AECOM

Location: 12205 Broadway Ave

Sheet: 1 of 1

Logged By: John Korth

Project Manager: John Korth

Lawhon & Associates, Inc.

SUBSURFACE PROFILE			SAMPLE			
Description	Depth	Lithologic Symbols / Construction Details	Interval (ft.)	Submitted For Analysis	Recovery	H2 Reading ppm (0 2 4 6 8 10)
Ground Surface	0					
Silty Clay and Gravel Grey, small gravel, soft, moist	1		0-2			0.0
Slag	2					
Silty Clay Grey, small gravel, soft, moist	3		2-4	* 2 - 4		0.0
Sand White, soft, dry	4					
Silty Clay Brown, trace small gravel, soft, dry	5		4-6			0.0
Silty Clay Brown, small gravel, medium gravel, soft, dry	6					
	7		6-8			0.0
Sandy Silt Clay Dark grey, small gravel, trace medium gravel, soft, moist	8					
	9		8-10			0.0
Sand Dark grey, small gravel, trace medium gravel, soft, moist	10					
	11		10-12			0.0
Sand Dark grey, small gravel, trace medium gravel, soft, saturated	12					
	13		12-14			
Sand and Gravel Brown, small gravel, soft, saturated	14					
	15		14-16			
	16					

Drilled By: EnviroCore Inc.

Drill Method: Direct Push

Drill Date: 4/1/2024

Hole Size: 2.25"

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614)481.8600

Notes:

* - indicates sample submitted for laboratory analysis

NR - indicates no recovery

Log of Borehole: BH-07

Project No.: 18-0449

Project: CUY-14-6.93

Client: AECOM

Location: 12205 Broadway Ave

Sheet: 1 of 1

Logged By: John Korth

Project Manager: John Korth

Lawhon & Associates, Inc.

SUBSURFACE PROFILE

SAMPLE

Description	Depth	Lithologic Symbols / Construction Details	Interval (ft.)	Submitted For Analysis	Recovery	H2 Reading ppm (0 2 4 6 8 10)
Ground Surface	0					
Silty Clay Dark brown, trace slag, small gravel, medium gravel, trace large gravel, soft, dry	1		0-2			0.0
Silty Clay Dark brown, small gravel, trace medium gravel, soft, dry	2					
Gravel Large	3		2-4	* 2 - 4		0.0
Silty Clay Dark brown, small gravel, trace medium gravel, soft, dry	4					
Brick	5		4-6			0.0
Slag						
Silty Clay Brown, trace small gravel, soft, moist	6					
Silty Clay Dark brown, trace small gravel, soft, moist	7		6-8			0.0
	8					
Sandy Silt Clay Dark brown, trace small gravel, soft, moist	9		8-10			0.0
	10					
Silty Clay Black, trace small gravel, soft, moist	11		10-12			0.0
Sand and Gravel Dark brown, small gravel, soft, moist	12					
Sand and Gravel Dark brown, small gravel, medium gravel, soft, saturated	13		12-14			
	14					
	15		14-16			
	16					

Drilled By: EnviroCore Inc.

Drill Method: Direct Push

Drill Date: 4/1/2024

Hole Size: 2.25"

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614)481.8600

Notes:

* - indicates sample submitted for laboratory analysis

NR - indicates no recovery

Log of Borehole: BH-08

Lawhon & Associates, Inc.

Project No.: 18-0449

Project: CUY-14-6.93

Client: AECOM

Location: 12205 Broadway Ave

Sheet: 1 of 1

Logged By: John Korth

Project Manager: John Korth

SUBSURFACE PROFILE

SAMPLE

Description	Depth	Lithologic Symbols / Construction Details	Interval (ft.)	Submitted For Analysis	Recovery	H2 Reading ppm (0 2 4 6 8 10)
Ground Surface	0					
Sand and Gravel Brown, trace silt clay, small gravel, medium gravel, trace large gravel, trace slag, hard, moist	1		0-2			0.0
Sand Brown, trace small gravel, hard, moist	2		2-4			0.0
Sand Brown, trace small gravel, soft, moist	3					
Sand Brown, small gravel, trace large gravel, soft, moist	4		4-6			0.0
	5					
	6		6-8			0.0
	7					
Sand Brown, small gravel, trace medium gravel, soft, moist	8		8-10	* 8 - 10		0.0
Silty Clay Brown, trace sand, trace small gravel, soft, moist	9					
Silty Clay Dark brown, soft, moist	10		10-12			0.0
Sandy Silt Clay Brown, trace small gravel, soft, moist	11					
Sand Grey, trace small gravel, soft, moist	12		12-14			
Sand and Gravel Grey, small gravel, soft, saturated	13					
	14					
	15					
	16					

Drilled By: EnviroCore Inc.

Drill Method: Direct Push

Drill Date: 4/1/2024

Hole Size: 2.25"

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614)481.8600

Notes:

* - indicates sample submitted for laboratory analysis

NR - indicates no recovery

Log of Borehole: BH-09

Project No.: 18-0449

Project: CUY-14-6.93

Client: AECOM

Location: 12205 Broadway Ave

Sheet: 1 of 1

Logged By: John Korth

Project Manager: John Korth

Lawhon & Associates, Inc.

SUBSURFACE PROFILE

SAMPLE

Description	Depth	Lithologic Symbols / Construction Details	Interval (ft.)	Submitted For Analysis	Recovery	H2 Reading ppm (0 2 4 6 8 10)
Ground Surface	0					
Silty Clay and Gravel Black, small gravel, trace medium gravel, soft, moist	1		0-2			0.0
Sand and Gravel Brown, trace silt clay, small gravel, medium gravel, soft, moist	2					
	3		2-4			0.0
Sandy Silt Clay Brown, small gravel, medium gravel, trssce large gravel, soft, moist	4					
	5		4-6			0.0
	6					
Sand Brown, small gravel, medium gravel, soft, moist	7		6-8			0.0
	8					
Silty Clay Black, trace sand, trace small gravel, soft, moist	9		8-10			0.0
	10					
	11		10-12	* 10 - 12		0.0
Sand Dark brown, trace small gravel, soft, moist	12					
Sand and Gravel Dark brown, samll gravel, medium gravel, soft, saturated	13		12-14			
Probe Refusal	14					
	15					
	16					

Drilled By: EnviroCore Inc.

Drill Method: Direct Push

Drill Date: 4/1/2024

Hole Size: 2.25"

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
(614)481.8600

Notes:

* - indicates sample submitted for laboratory analysis

NR - indicates no recovery

Appendix C – Investigation Documentation

MONITORING INSTRUMENTS

7410 Worthington-Galena Rd
Worthington, Ohio 43085
Phone: (614) 436-4933

Industrial Environmental Monitoring Instruments, Inc.

Website: www.ierents.com

Certificate of Calibration & Operational Check

Instrument: RKI Eagle 2
Serial #: E21856

Date: 3/29/2024
Technician: Sam Shults

	Zero Gas	Zero Reading	Span Gas	Span Reading
O2	Ambient Air	20.9%	12%	12%
LEL	Ambient Air	0% LEL	50% LEL	50% LEL
H2	Ambient Air	0 PPM	50% LEL	50%LEL
H2S	Ambient Air	0 PPM	25 PPM	25 PPM
CH4	Ambient Air	0%	15%	15%
CO2	Ambient Air	0%	15%	15%

Calibration Gas:	50% LEL CH4, 50 CO, 25 H2S, 12% O2	15% CO2, 15% CH4, N2	50%LEL H2
Cal Gas Cylinder#	23-1106	304-402574990-1	21-8209
Exp. Date:	9/1/2025	11/1/2026	1/3/2026
Tolerance:	+\- 2%	+/- 2%	+/- 2%
Manufacturer:	ISG	ISG	ISG

The calibration standards used are NIST traceable.
Instrument must be calibrated and operated according to manufacturers specifications

10-Apr-2024

John Korth
Lawhon & Associates
1441 King Avenue
Grandview Heights, OH 43212

Re: **CUY-24; 18-0449** Work Order: **24040137**

Dear John,

ALS Environmental received 9 samples on 03-Apr-2024 01:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 17.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Shawn Smythe

Electronically approved by: Shawn Smythe

Shawn Smythe
Project Manager

Report of Laboratory Analysis

ALS Environmental

Date: 10-Apr-24

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: **24040137**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
24040137-01	BH-01	Soil		4/2/2024 09:55	4/3/2024 13:00	☐
24040137-02	BH-02	Soil		4/1/2024 11:27	4/3/2024 13:00	☐
24040137-03	BH-03	Soil		4/2/2024 10:30	4/3/2024 13:00	☐
24040137-04	BH-04	Soil		4/1/2024 11:58	4/3/2024 13:00	☐
24040137-05	BH-05	Soil		4/1/2024 12:22	4/3/2024 13:00	☐
24040137-06	BH-06	Soil		4/1/2024 12:58	4/3/2024 13:00	☐
24040137-07	BH-07	Soil		4/1/2024 13:37	4/3/2024 13:00	☐
24040137-08	BH-08	Soil		4/1/2024 14:10	4/3/2024 13:00	☐
24040137-09	BH-09	Soil		4/1/2024 14:55	4/3/2024 13:00	☐

ALS Environmental

Date: 10-Apr-24

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137

Case Narrative

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Results relate only to the items tested and are not blank corrected unless indicated.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

ALS is an EPA recognized NLLAP laboratory for lead paint, soil, and dust wipe analyses under its AIHA-LAP accreditation.

ALS Environmental

Date: *10-Apr-24*

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137
Sample ID: BH-01
Lab ID: 24040137-01
Collection Date: 4/2/2024 09:55 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**11**			**% of sample**	1	4/4/2024
METALS BY ICP			**SW6010B**	Prep: SW3050B 4/8/24 14:12		Analyst: **SLT**
Magnesium	**7,700**		**22**	**mg/Kg-dry**	1	4/9/2024 10:01 AM
Manganese	**470**		**45**	**mg/Kg-dry**	10	4/9/2024 11:45 AM

Note:

ALS Environmental

Date: *10-Apr-24*

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137
Sample ID: BH-02
Lab ID: 24040137-02
Collection Date: 4/1/2024 11:27 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**8.4**			**% of sample**	1	4/4/2024
METALS BY ICP			**SW6010B**	Prep: SW3050B 4/8/24 14:12		Analyst: **SLT**
Magnesium	**17,000**		**21**	**mg/Kg-dry**	1	4/9/2024 10:02 AM
Manganese	**900**		**43**	**mg/Kg-dry**	10	4/9/2024 11:49 AM

Note:

ALS Environmental

Date: *10-Apr-24*

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137
Sample ID: BH-03
Lab ID: 24040137-03
Collection Date: 4/2/2024 10:30 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**13**			**% of sample**	1	4/4/2024
METALS BY ICP			**SW6010B**	Prep: SW3050B 4/8/24 14:12		Analyst: **SLT**
Magnesium	**13,000**		**23**	**mg/Kg-dry**	1	4/9/2024 10:04 AM
Manganese	**290**		**46**	**mg/Kg-dry**	10	4/9/2024 11:54 AM

Note:

ALS Environmental

Date: *10-Apr-24*

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137
Sample ID: BH-04
Lab ID: 24040137-04
Collection Date: 4/1/2024 11:58 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**15**			**% of sample**	1	4/4/2024
METALS BY ICP			**SW6010B**	Prep: SW3050B 4/8/24 14:12		Analyst: **SLT**
Magnesium	**3,300**		**23**	**mg/Kg-dry**	1	4/9/2024 10:06 AM
Manganese	**280**		**46**	**mg/Kg-dry**	10	4/9/2024 11:58 AM

Note:

ALS Environmental

Date: *10-Apr-24*

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137
Sample ID: BH-05
Lab ID: 24040137-05
Collection Date: 4/1/2024 12:22 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**12**			**% of sample**	1	4/4/2024
METALS BY ICP			**SW6010B**	Prep: SW3050B 4/8/24 14:12		Analyst: **SLT**
Magnesium	**3,100**		**22**	**mg/Kg-dry**	1	4/9/2024 10:10 AM
Manganese	**270**		**45**	**mg/Kg-dry**	10	4/9/2024 12:02 PM

Note:

ALS Environmental

Date: *10-Apr-24*

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137
Sample ID: BH-06
Lab ID: 24040137-06
Collection Date: 4/1/2024 12:58 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**10**			**% of sample**	1	4/4/2024
METALS BY ICP			**SW6010B**	Prep: SW3050B 4/8/24 14:12		Analyst: **SLT**
Magnesium	**20,000**		**22**	**mg/Kg-dry**	1	4/9/2024 10:12 AM
Manganese	**1,800**		**44**	**mg/Kg-dry**	10	4/9/2024 12:06 PM

Note:

ALS Environmental

Date: *10-Apr-24*

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137
Sample ID: BH-07
Lab ID: 24040137-07
Collection Date: 4/1/2024 01:37 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**9.7**			**% of sample**	1	4/4/2024
METALS BY ICP			**SW6010B**	Prep: SW3050B 4/8/24 14:12		Analyst: **SLT**
Magnesium	**13,000**		**22**	**mg/Kg-dry**	1	4/9/2024 10:13 AM
Manganese	**470**		**44**	**mg/Kg-dry**	10	4/9/2024 12:11 PM

Note:

ALS Environmental

Date: *10-Apr-24*

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137
Sample ID: BH-08
Lab ID: 24040137-08
Collection Date: 4/1/2024 02:10 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**12**			**% of sample**	1	4/4/2024
METALS BY ICP			**SW6010B**	Prep: SW3050B 4/8/24 14:12		Analyst: **SLT**
Magnesium	**8,200**		**22**	**mg/Kg-dry**	1	4/9/2024 10:15 AM
Manganese	**370**		**44**	**mg/Kg-dry**	10	4/9/2024 12:15 PM

Note:

ALS Environmental

Date: *10-Apr-24*

Client: Lawhon & Associates
Project: CUY-24; 18-0449
Work Order: 24040137
Sample ID: BH-09
Lab ID: 24040137-09
Collection Date: 4/1/2024 02:55 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**13**			**% of sample**	1	4/4/2024
METALS BY ICP			**SW6010B**	Prep: SW3050B 4/8/24 14:12		Analyst: **SLT**
Magnesium	**6,600**		**23**	**mg/Kg-dry**	1	4/9/2024 10:17 AM
Manganese	**470**		**46**	**mg/Kg-dry**	10	4/9/2024 12:20 PM

Note:

ALS Environmental

Date: 10-Apr-24

Client: Lawhon & Associates

Work Order: 24040137

Project: CUY-24; 18-0449

QC BATCH REPORT

Batch ID: **97952** Instrument ID **ICP4** Method: **SW6010B**

MBLK Sample ID: **MBLK-97952-97952** Units: **mg/Kg** Analysis Date: **4/9/2024 09:52 AM**

Client ID: Run ID: **ICP4_240409B** SeqNo: **3351201** Prep Date: **4/8/2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Magnesium	ND	100								
Manganese	ND	20								

LCS Sample ID: **LCS-97952-97952** Units: **mg/Kg** Analysis Date: **4/9/2024 09:53 AM**

Client ID: Run ID: **ICP4_240409B** SeqNo: **3351202** Prep Date: **4/8/2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Magnesium	95.57	100	100	0	95.6	82.6-115	0			J
Manganese	101.8	20	100	0	102	86.5-116	0			

LCSD Sample ID: **LCSD-97952-97952** Units: **mg/Kg** Analysis Date: **4/9/2024 09:55 AM**

Client ID: Run ID: **ICP4_240409B** SeqNo: **3351203** Prep Date: **4/8/2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Magnesium	109.5	100	100	0	110	82.6-115	95.57	13.6	20	
Manganese	118.9	20	100	0	119	80-120	101.8	15.5	20	

MS Sample ID: **24040137-09A MS** Units: **mg/Kg** Analysis Date: **4/9/2024 10:18 AM**

Client ID: **BH-09** Run ID: **ICP4_240409B** SeqNo: **3351216** Prep Date: **4/8/2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Magnesium	4806	19	19.45	5738	-4790	75-125	0			SO

MS Sample ID: **24040137-09A MS** Units: **mg/Kg** Analysis Date: **4/9/2024 12:32 PM**

Client ID: **BH-09** Run ID: **ICP1_240409B** SeqNo: **3351535** Prep Date: **4/8/2024** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	362.2	39	19.45	405.8	-224	75-125	0			SO

MSD Sample ID: **24040137-09A MSD** Units: **mg/Kg** Analysis Date: **4/9/2024 10:20 AM**

Client ID: **BH-09** Run ID: **ICP4_240409B** SeqNo: **3351217** Prep Date: **4/8/2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Magnesium	4506	19	19.41	5738	-6350	75-125	4806	6.45	20	SO

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Lawhon & Associates
Work Order: 24040137
Project: CUY-24; 18-0449

QC BATCH REPORT

Batch ID: **97952** Instrument ID **ICP4** Method: **SW6010B**

MSD Sample ID: **24040137-09A MSD** Units: **mg/Kg** Analysis Date: **4/9/2024 12:36 PM**
Client ID: **BH-09** Run ID: **ICP1_240409B** SeqNo: **3351536** Prep Date: **4/8/2024** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	372.4	39	19.41	405.8	-172	75-125	362.2	2.77	20	SO

The following samples were analyzed in this batch:

24040137-01A	24040137-02A	24040137-03A
24040137-04A	24040137-05A	24040137-06A
24040137-07A	24040137-08A	24040137-09A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 10-Apr-24

Client: Lawhon & Associates
Project: CUY-24; 18-0449
WorkOrder: **24040137**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
% of sample	
mg/Kg-dry	

ALS Environmental

Sample Receipt Checklist

Client Name: **LAWHON-COLUMBUS** Date/Time Received: **03-Apr-24 13:00**

Work Order: **24040137** Received by: **DS**

Checklist completed by Alec Bolender 03-Apr-24 Reviewed by: Shawn Smythe 04-Apr-24

eSignature / Date / eSignature / Date

Matrices: soil

Carrier name: Courier

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.7	120489	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Field Chain-of-Custody Record

Page 1 of 1

83786

REV 10/2017

ALS

Ship To: **ALS | Environmental**
4388 Glendale Milford Rd.
Cincinnati, Ohio 45242
Phone: (513) 733-5336
Fax: (513) 733-5347

2404137

☑ REGULAR Status ☐ RUSH Status — RESULTS REQUIRED BY: (Date) _____
CONTACT ALS ENVIRONMENTAL PRIOR TO SENDING SAMPLES

OH VAP: ☐ YES ☑ NO BUSTR: ☐ YES ☒ NO NELAC: ☐ YES ☒ NO

Date: 4/2/24
Company Name: Lawhon & Assoc.
Address: 1441 King Ave
Columbus (City) Ohio (State) 43212 (Zip)
Person to Contact: John Korth
Email Address: jkorth@lawhon-assoc.com
Telephone (614): 481-8600
Alternate Contact: _____

Purchase Order No.: Lawhon MSA
Project No.: 18-0449
Sampling Site: CAY-74
Billing Address (if different): _____

ALS Lab ID	Sample ID / Description	Date	Time	Preservation Key #	Sample Type / Matrix Key Abbr.	# of Sample Containers	ANALYSIS REQUESTED: Magnesium	ANALYSIS REQUESTED: Manganese
	BH-01	4/2/24	0955	9	S	2	X	X
	BH-02	4/1/24	1127					
	BH-03	4/2/24	1030					
	BH-04	4/1/24	1158					
	BH-05		1222					
	BH-06		1258					
	BH-07		1337					
	BH-08		1410					
	BH-09		1455					

Notes:

Preservation Key: 1 - HCl 2 - HNO_3 3 - H_2SO_4 4 - NaOH 5 - $Na_2S_2O_3$ 6 - $NaHSO_4$ 7 - NaOH/ZnAcetate 8 - Other 9 - 4°C

Matrix Key: A - Air B - Bulk S - Soil W - Water

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

Relinquished By: (Signature) John Korth	Time / Date 4/2/24 13:31	Received By: (Signature)	Time / Date 4-2-24 13:31
Relinquished By: (Signature)	Time / Date 1300 4-3-24	Received By: (Signature)	Time / Date 4-3-24 1300
Relinquished By: (Signature)	Time / Date	Received By: (Signature)	Time / Date

ALS LAB USE ONLY 120439

COOLER TEMP: 4.7 °C TAKEN WITH IR#: 119063 119059

COOLING METHOD: NONE COOLER WET ICE DRY ICE ICE PACK

DELIVERY METHOD: CLIENT DROP BOX FEDEX UPS
STD MAIL PRTY MAIL ALS COURIER OTHER: _____

CUSTODY SEALS: NOT REQUIRED COOLER PACKAGE SAMPLES

pH ADJUSTMENTS:

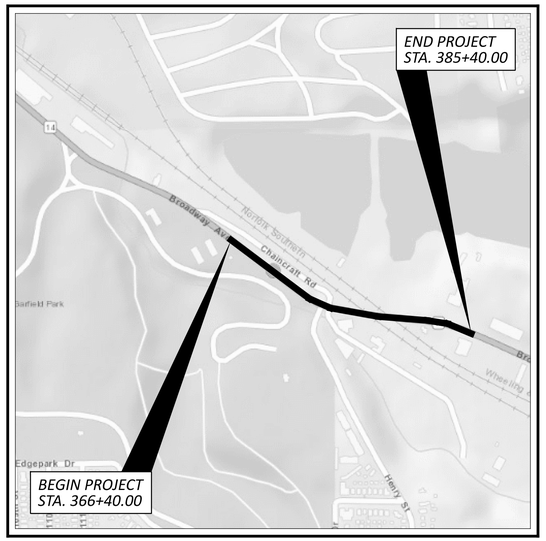
Appendix D – Project Plan Sheets

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-14-6.93

RECONSTRUCTION OF THE EXISTING GRADE-SEPARATED CROSSING WITH THE NORFOLK SOUTHERN RAILROAD AND WHEELING AND LAKE ERIE RAILROAD

CITY OF GARFIELD HEIGHTS
CUYAHOGA COUNTY



LOCATION MAP

LATITUDE: N 41°25'50" LONGITUDE: W 81°36'10"

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

ROUTE	ADT (2026)	ADTT (2026)	ADT (2046)	ADTT (2046)	D	DESIGN SPEED	LEGAL SPEED	DESIGN FUNC. CLASS	NHS ROUTE?
S.R. 14 (BROADWAY AVE.)	18500	1295	19000	1330	0.51	35	35	03 - PRINCIPAL ARTERIAL (URBAN)	Y
C.R. 240 (HENRY ST.)	7000	630	7500	675	0.54	25	25	07 - LOCAL (URBAN)	N
CHAINCRAFT RD.						25		07 - LOCAL (URBAN)	N

DESIGN EXCEPTIONS

NONE REQUIRED

ADA DESIGN WAIVERS

NONE REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
AECOM
564 WHITE POND DRIVE AKRON, OHIO 44320-1100
(330) 836-9111

ENGINEER'S SEAL:
SIGNED:
DATE:

ENGINEER'S SEAL:
SIGNED:
DATE:

INDEX OF SHEETS:

TITLE SHEET	P.1
SCHEMATIC PLAN	P.2 - P.3
TYPICAL SECTIONS	P.4 - P.9
GENERAL NOTES	P.10 - P.11
MAINTENANCE OF TRAFFIC	P.12 - P.36
PLAN AND PROFILE - S.R. 14	P.37 - P.46
PLAN AND PROFILE - HENRY ST.	P.47 - P.48
PLAN AND PROFILE - CHAINCRAFT RD.	P.49 - P.50
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CROSS SECTIONS - CHAINCRAFT RD.	P.77 - P.90
CROSS SECTIONS - OLD BROADWAY AVE.	P.91 - P.100
DRIVE PROFILES	P.101 - P.103
INTERSECTION DETAILS	P.104 - P.105
DRIVE DETAILS	P.106
STORM SEWER PROFILES	P.107 - P.111
SANITARY SEWER	P.112 - P.113
WATER WORK	P.114 - P.131
TRAFFIC CONTROL	P.132 - P.145
SIGNAL PLAN	P.146 - P.148
LIGHTING	P.149 - P.153
STRUCTURES OVER 20'	
BRIDGE NO. CUY-00014-06.930	P.154 - P.247
BRIDGE NO. CUY-CR00240-00.610	P.248 - P.256
MSE WALLS	P.257 - P.278
SOIL PROFILES	P.279 - P.329

FEDERAL PROJECT NUMBER

E190 (250)

RAILROAD INVOLVEMENT

NORFOLK SOUTHERN AND WHEELING AND LAKE ERIE

PROJECT DESCRIPTION

REPLACE THE WHITEHOUSE CROSSING BRIDGE (SR-14) OVER THE NORFOLK AND SOUTHERN RAILROAD ON A NEW ALIGNMENT. WORK INCLUDES NEW PAVEMENT, STORM DRAINAGE, 22'X7' AND 8'X4' CULVERTS, MSE WALLS, WATERLINE AND SANITARY RELOCATIONS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	7.72 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	8.72 ACRES

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKINGOF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEET P.17 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS

STAGE 2 REVIEW SUBMISSION
FEBRUARY 15, 2023

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

CUY-14-06.93 (PID 104132)

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.1 TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:23:47 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_GT001.dgn

A ℄ EX. S.R. 14
CURVE DATA
P.I. = STA. 362+00.57
Δ = 12°48'25" RT
Dc = 05°09'34"
R = 1,110.51'
T = 124.63'
L = 248.22'
E = 6.97'
e = NC

B ℄ EX. S.R. 14
CURVE DATA
P.I. = STA. 374+55.89
Δ = 29°57'45" LT
Dc = 12°16'54"
R = 466.51'
T = 124.84'
L = 243.96'
E = 16.41'
e = NC

C ℄ EX. S.R. 14
CURVE DATA
P.I. = STA. 383+94.32
Δ = 17°09'20" RT
Dc = 06°54'50"
R = 828.70'
T = 125.00'
L = 248.13'
E = 9.37'
e = NC

D ℄ EX. HENRY ST.
CURVE DATA
P.I. = STA. 7+92.45
Δ = 49°35'24" RT
Dc = 75°41'17"
R = 75.70'
T = 34.97'
L = 65.52'
E = 7.69'
e = NC

1 ℄ CONST. S.R. 14
CURVE DATA
P.I. = STA. 362+00.57
Δ = 12°48'25" RT
Dc = 05°09'34"
R = 1,110.51'
T = 124.63'
L = 248.22'
E = 6.97'
e = NC

2 ℄ CONST. S.R. 14
CURVE DATA
P.I. = STA. 374+55.89
Δ = 29°57'45" LT
Dc = 12°16'54"
R = 466.51'
T = 124.84'
L = 243.96'
E = 16.41'
e = NC

3 ℄ CONST. S.R. 14
CURVE DATA
P.I. = STA. 383+94.32
Δ = 17°09'20" RT
Dc = 06°54'50"
R = 828.70'
T = 125'
L = 248.13'
E = 9.37'
e = NC

4 ℄ CONST. HENRY ST.
CURVE DATA
P.I. = STA. 16+98.99
Δ = 43°56'16" RT
Dc = 29°22'57"
R = 195.00'
T = 78.66'
L = 149.54'
E = 15.27'
e = NC

5 ℄ CONST. CHAINCRAFT RD.
CURVE DATA
P.I. = STA. 104+12.02
Δ = 12°53'23" RT
Dc = 06°26'18"
R = 889.92'
T = 100.53'
L = 200.20'
E = 5.66'
e = NC

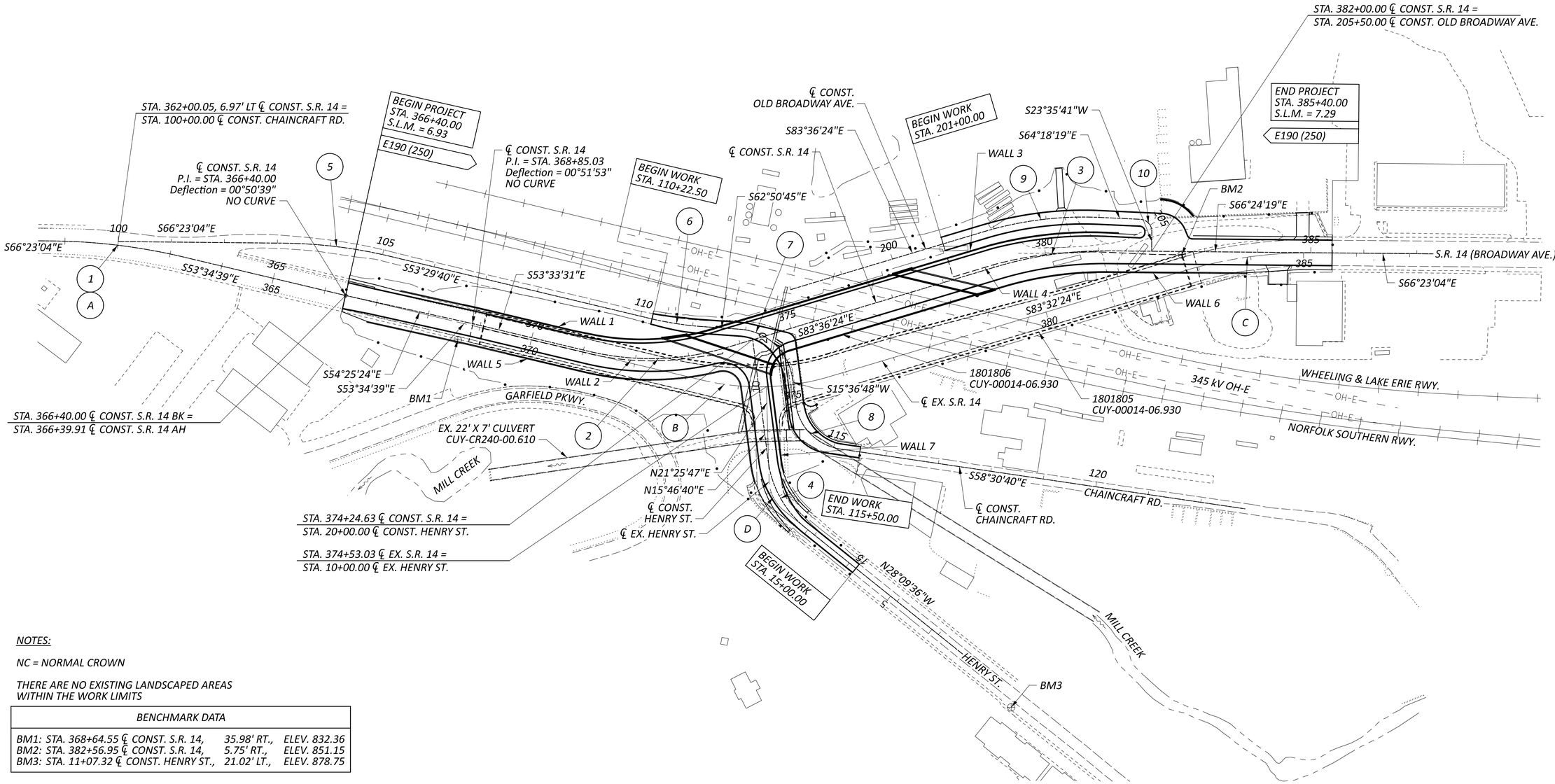
6 ℄ CONST. CHAINCRAFT RD.
CURVE DATA
P.I. = STA. 110+69.52
Δ = 09°21'05" LT
Dc = 09°22'20"
R = 611.34'
T = 50.00'
L = 99.78'
E = 2.04'
e = NC

7 ℄ CONST. CHAINCRAFT RD.
CURVE DATA
P.I. = STA. 112+77.19
Δ = 78°27'33" RT
Dc = 53°47'56"
R = 106.50'
T = 86.95'
L = 145.84'
E = 30.99'
e = NC

8 ℄ CONST. CHAINCRAFT RD.
CURVE DATA
P.I. = STA. 114+59.45
Δ = 74°07'28" LT
Dc = 57°41'51"
R = 99.30'
T = 75.00'
L = 128.47'
E = 25.14'
e = NC

9 ℄ CONST. OLD BROADWAY AVE.
CURVE DATA
P.I. = STA. 202+91.54
Δ = 19°18'05" RT
Dc = 08°48'53"
R = 650.00'
T = 110.53'
L = 218.97'
E = 9.33'
e = NC

10 ℄ CONST. OLD BROADWAY AVE.
CURVE DATA
P.I. = STA. 204+99.82
Δ = 87°54'00" RT
Dc = 249°06'44"
R = 23.00'
T = 22.17'
L = 35.29'
E = 8.95'
e = NC



NOTES:

NC = NORMAL CROWN

THERE ARE NO EXISTING LANDSCAPED AREAS
WITHIN THE WORK LIMITS

BENCHMARK DATA		
BM1: STA. 368+64.55 ℄ CONST. S.R. 14,	35.98' RT.,	ELEV. 832.36
BM2: STA. 382+56.95 ℄ CONST. S.R. 14,	5.75' RT.,	ELEV. 851.15
BM3: STA. 11+07.32 ℄ CONST. HENRY ST.,	21.02' LT.,	ELEV. 878.75

HORIZONTAL
SCALE IN FEET
0 50 100 200

SCHEMATIC PLAN

CUY-14-6.93

MODEL: 104132_GB001 PAPERSIZE: 34x22 (in.) DATE: 2/16/2023 TIME: 6:24:18 PM USER: todd.roxberry
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DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.2 TOTAL 329

PT#	PROJECT GROUND U.S. SURVEY FEET			FEATURE-DESCRIPTION	OHIO STATE PLANE, NORTH ZONE (3401) NAD83 (2011) NAVD88(12B)		
	NORTH	EAST	ELEV.		NORTH(M)	EAST(M)	ELEV.(M)
GP1	644902.190	2214259.415	812.82	IPINS-3/4-FOK	196551.958	674857.413	247.748
GP2	644408.386	2214209.663	815.14	IPINS-3/4-FOK	196401.457	674842.250	248.455
GP3	643059.342	2215632.691	887.57	IPIN-5/8-FOK	195990.299	675275.957	270.532
AZ3	642719.534	2215901.019	888.76	IPINS-5/8-FOK	195886.733	675357.738	270.894
GP4	643988.086	2216375.417	844.07	IPINS-3/4-FOK	196273.359	675502.324	257.273
AZ4	643785.254	2216837.695	839.93	IPINS-3/4-FOK	196211.541	675643.216	256.011
AE1	644281.390	2214948.567	815.86	IPIN-5/8-URS	196362.752	675067.451	248.675
MN1	644518.376	2214692.464	829.95	MAGS	196434.980	674989.397	252.969
MN4	643451.524	2215473.495	874.02	IPINS-5/8-FOK	196109.827	675227.438	266.400
MN5	643956.729	2215163.212	850.50	IPINS-5/8-FOK	196263.802	675132.871	259.233
MN6	644069.376	2216094.580	848.71	MAGS	196298.135	675416.731	258.687
TRV1	644128.454	2215214.942	849.84	MAGS	196316.141	675148.637	259.032
MB10	644042.56	2216083.044	847.91	MONBOX-CNO	196289.962	675413.215	258.444
MB11	644466.335	2214812.182	833.12	MONBOX-CNO	196419.119	675025.884	253.937
MB12	642672.736	2215920.804	888.49	IPIN MONBOX-1	195872.470	675363.768	270.811
MB13	642701.498	2215899.984	887.56	IPIN MONBOX-1	195881.236	675357.422	270.529
MB14	642770.993	2215849.165	886.99	IPIN MONBOX-1	195902.416	675341.934	270.354
MB15	642914.898	2215744.010	887.77	IPIN MONBOX-1	195946.275	675309.885	270.594
MB16	643953.789	2215187.892	849.23	IPIN MONBOX-1	196262.906	675140.392	258.846
BM1	644460.300	2214764.600	832.36	BM-SQUARE_CUT-NW_CORNER-CONC_BASE_LIGHT_POLE	196417.284	675011.380	253.704
BM2	644073.300	2216083.600	851.15	BM-SQUARE_CUT-SW_CORNER_WING_WALL	196299.326	675413.387	259.431
BM3	643414.000	2215453.000	878.75	BM-AFH	196098.395	675221.206	267.844

COMBINED SCALE FACTOR OF 0.99992561 DETERMINED BY OPUS-RS SOLUTION AT POINT AE1.

CONTROL POINTS

CUY-14-6.93

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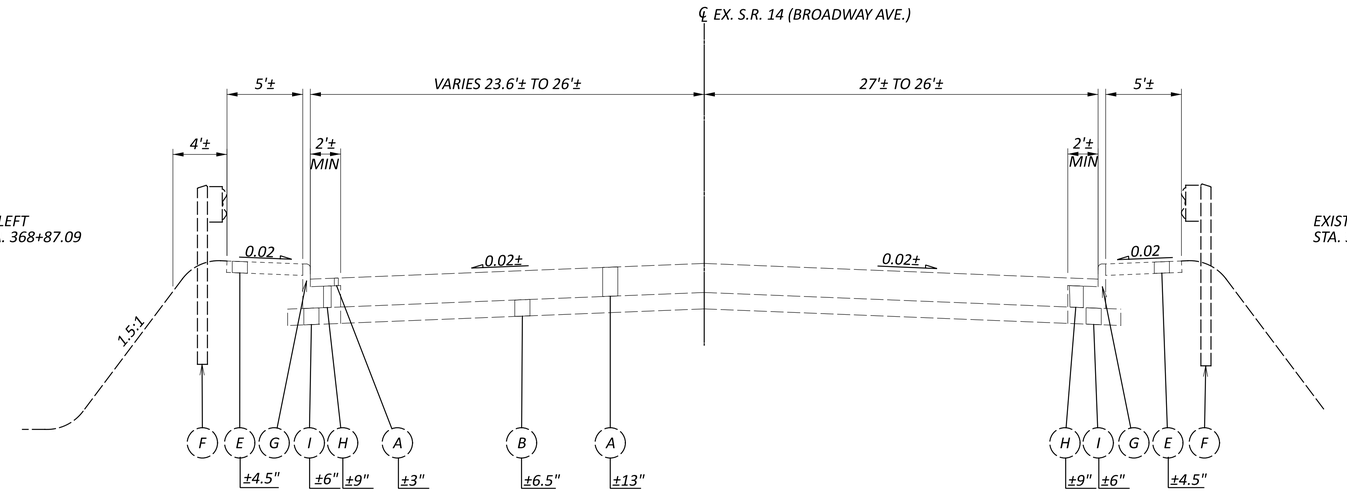
DESIGNER BNC
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.3 TOTAL 329

EXISTING LEGEND:

- (A) ASPHALT
- (B) CONCRETE
- (C) SLAG
- (D) SAND AND SLAG
- (E) CONCRETE WALK
- (F) GUARDRAIL
- (G) CONCRETE CURB
- (H) REINFORCED CONCRETE
- (I) SUBBASE
- (J) STABIILIZED CRUSHED AGGREGATE

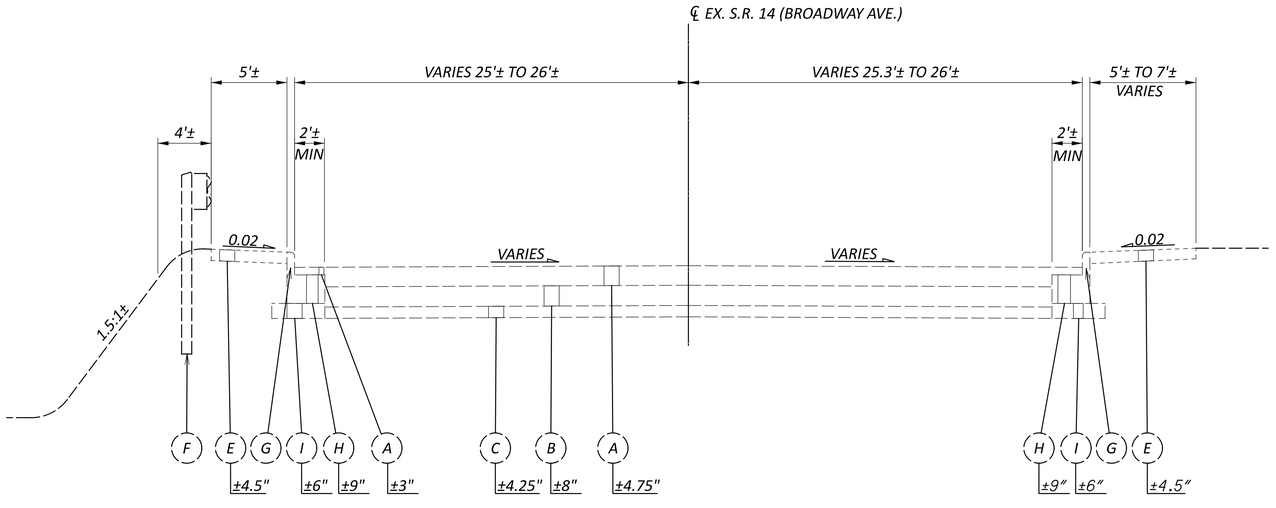
EXISTING GUARDRAIL LEFT
STA. 366+40.00 TO STA. 368+87.09



EXISTING GUARDRAIL RIGHT
STA. 366+40.00 TO STA. 368+87.09

EXISTING SECTION - S.R. 14
STA. 366+40.00 TO STA. 368+85.91 = 245.91'
(EX. BRIDGE BEGINS STA. 368+85.91)
TOTAL LENGTH = 245.91'

EXISTING GUARDRAIL LEFT
STA. 382+76.27 TO STA. 385+20.30



EXISTING SECTION - S.R. 14

STA. 382+97.36 TO STA. 385+40.00 = 242.64'
(EX. BRIDGE ENDS STA. 382+97.36)
TOTAL LENGTH = 257.64'

TYPICAL SECTIONS

CUY-14-6.93

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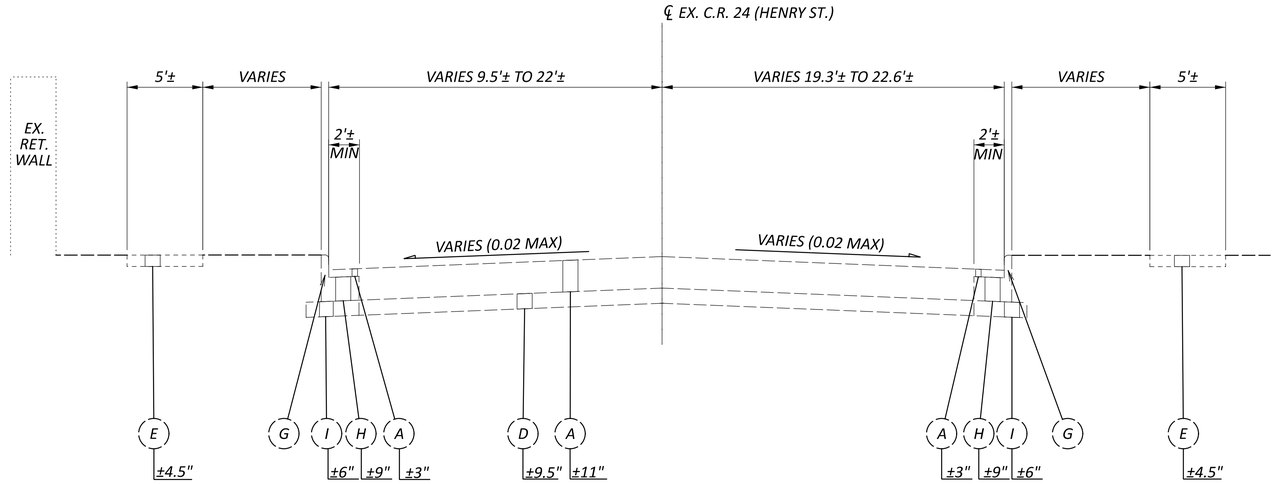
DESIGNER BNC
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.4 TOTAL 329

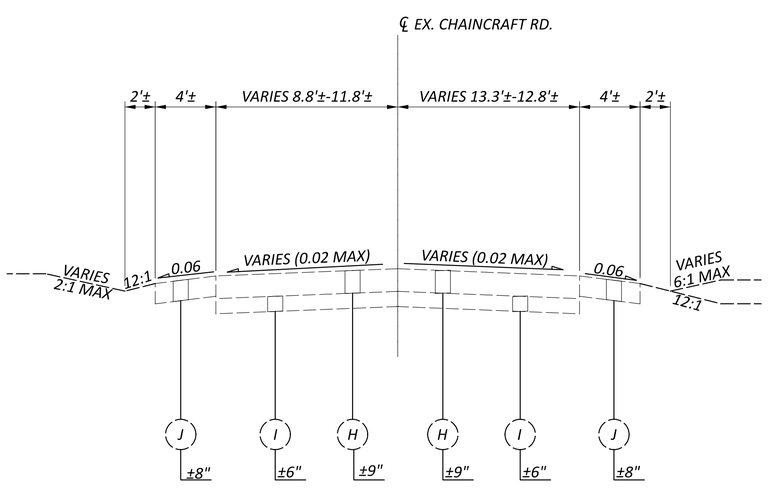
NOTES:

1. FOR EXISTING LEGEND, SEE SHEET P.4



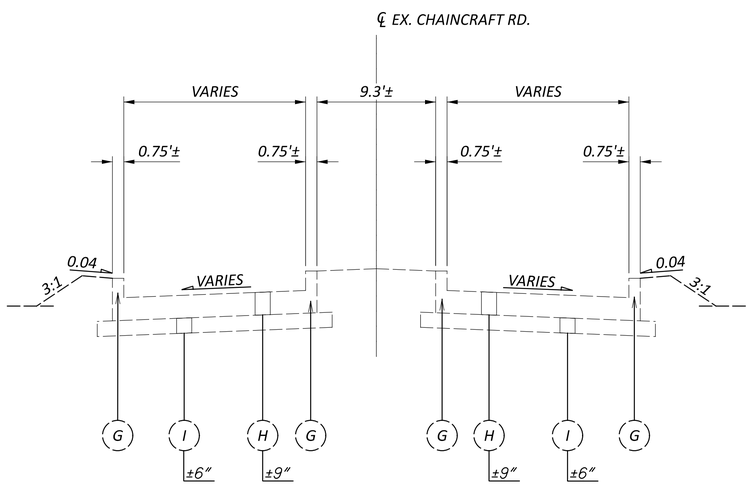
EXISTING SECTION - HENRY ST.

STA. 5+83.00 TO STA. 8+03.44 = 220.44'
TOTAL LENGTH = 220.44'



EXISTING SECTION - CHAINCRAFT RD.

STA. 110+21.50 TO STA. 111+17.46 = 95.96'
TOTAL LENGTH = 95.96'



EXISTING SECTION - CHAINCRAFT RD.

STA. 111+17.46 TO STA. 115+50.50 = 433.04'
TOTAL LENGTH = 433.04'

TYPICAL SECTIONS

CUY-14-6.93

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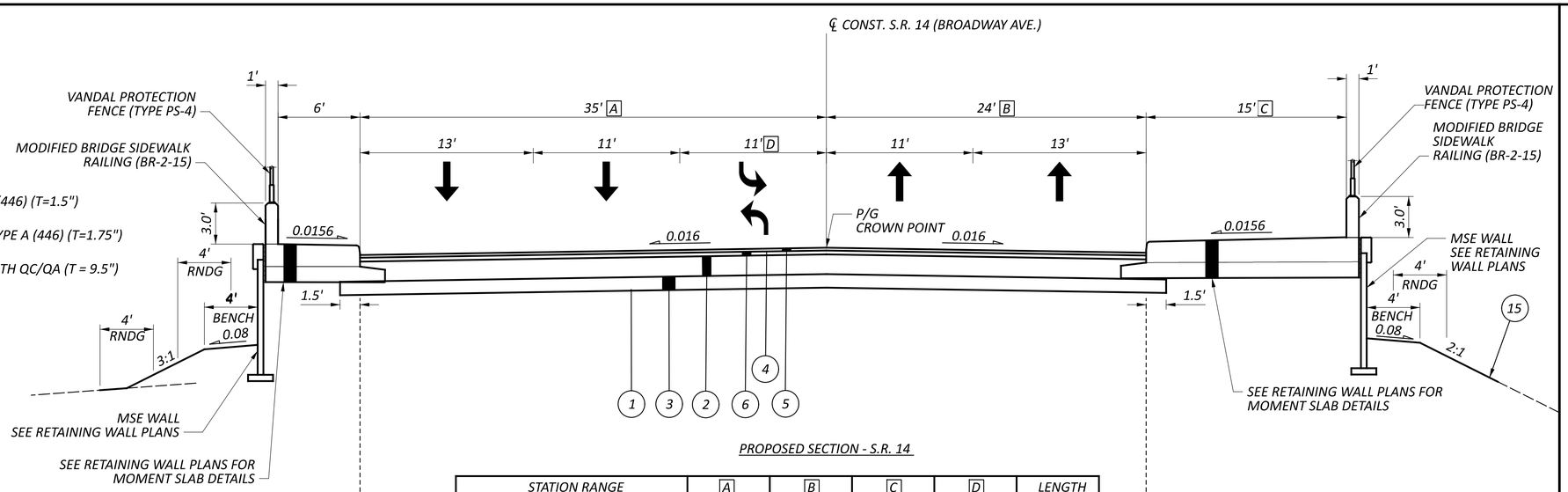
DESIGNER	BNC
REVIEWER	MAW 01/16/23
PROJECT ID	104132
SHEET	P.5
TOTAL	329

PROPOSED LEGEND

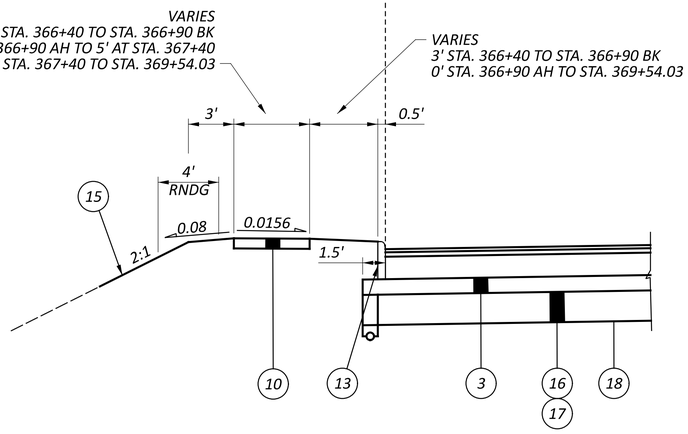
1. ITEM 204 - SUBGRADE COMPACTION
2. ITEM 302 - ASPHALT CONCRETE BASE (T=7.5")
3. ITEM 304 - AGGREGATE BASE (T=6")
4. ITEM 407 - NON-TRACKING TACK COAT (RATE=0.05 GAL/SY)
5. ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446) (T=1.5")
6. ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5MM, TYPE A (446) (T=1.75")
7. ITEM 452 - NON-REINFORCED CONCRETE PAVEMENT, CLASS QCIP WITH QC/QA (T = 9.5")
8. ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17")
9. ITEM 605 - 6" BASE PIPE UNDERDRAIN
10. ITEM 608 - CONCRETE WALK, 4"
11. ITEM 609 - CURB, TYPE 2A
12. ITEM 606 - CURB, TYPE 6
13. ITEM 609 - CURB, TYPE 6, AS PER PLAN
14. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
15. ITEM 659 - SEEDING AND MULCHING
16. ITEM 204 - EXCAVATION OF SUBGRADE
17. ITEM 204 - EMBANKMENT
18. ITEM 204 - GEOTEXTILE FABRIC



PROPOSED SECTION - S.R. 14

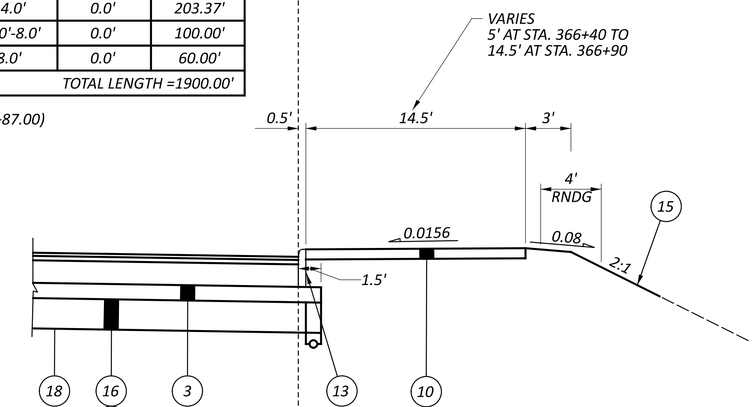
STATION RANGE	A	B	C	D	LENGTH
366+40.00 TO 367+40.00	25.0'-24.0'	25.0'-24.0'	15.0'	0.0'	100.00'
367+40.00 TO 370+73.88	24.0'	24.0'	15.0'	0.0'	333.88'
370+73.88 TO 373+73.88	24.0'-35.0'	24.0'	15.0'	0.0'-11.0'	300.00'
373+73.88 TO 379+05.92	35.0'	24.0'	15.0'	11.0'	532.04'
379+05.92 TO 381+76.63	35.0'-24.0'	24.0'	15.0'	11.0'-0.0'	270.71'
381+76.63 TO 383+80.00	24.0'	24.0'	14.0'	0.0'	203.37'
383+80.00 TO 384+80.00	24.0'	24.0'	15.0'-8.0'	0.0'	100.00'
384+80.00 TO 385+40.00	24.0'	24.0'	8.0'	0.0'	60.00'
				TOTAL LENGTH =	1900.00'

(PROP. BRIDGE STA. 373+67.53 TO STA. 377+87.00)



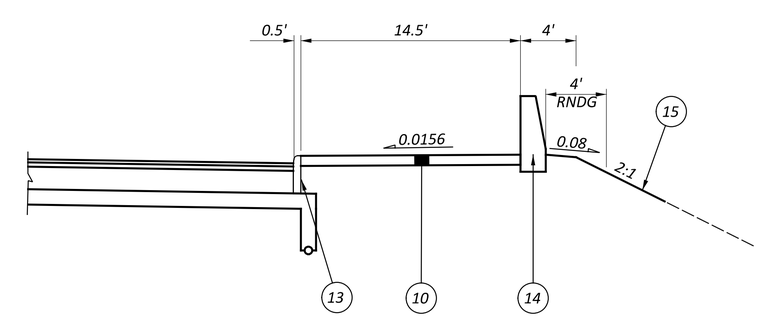
PROPOSED EMBANKMENT SECTION - S.R. 14
STA. 366+40.00 TO STA. 369+54.03
STA. 381+37.00 TO STA. 385+40.00

EXCAVATE AND REPLACE SUBGRADE
FROM STA. 383+00 TO STA. 385+40



EXCAVATE AND REPLACE SUBGRADE
FROM STA. 383+00 TO STA. 385+40

PROPOSED EMBANKMENT SECTION - S.R. 14
STA. 366+40.00 TO STA. 369+61.61
STA. 382+68.00 TO 385+40.00



PROPOSED EMBANKMENT SECTION - S.R. 14
STA. 372+33.95 TO STA. 374+24.63

TYPICAL SECTIONS

CUY-14-6.93

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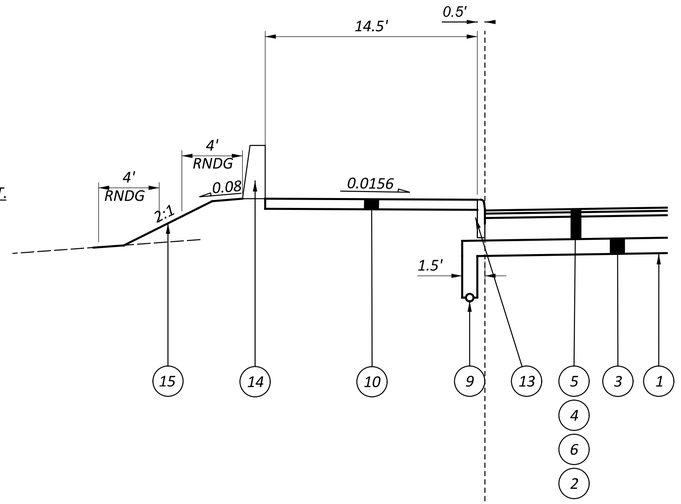
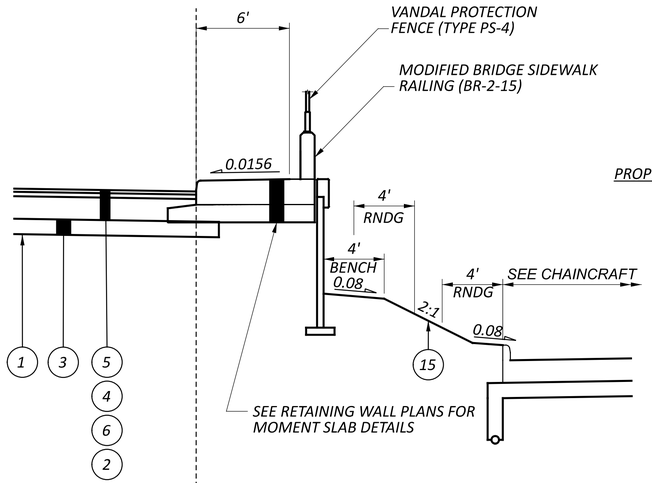
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.6 TOTAL 329

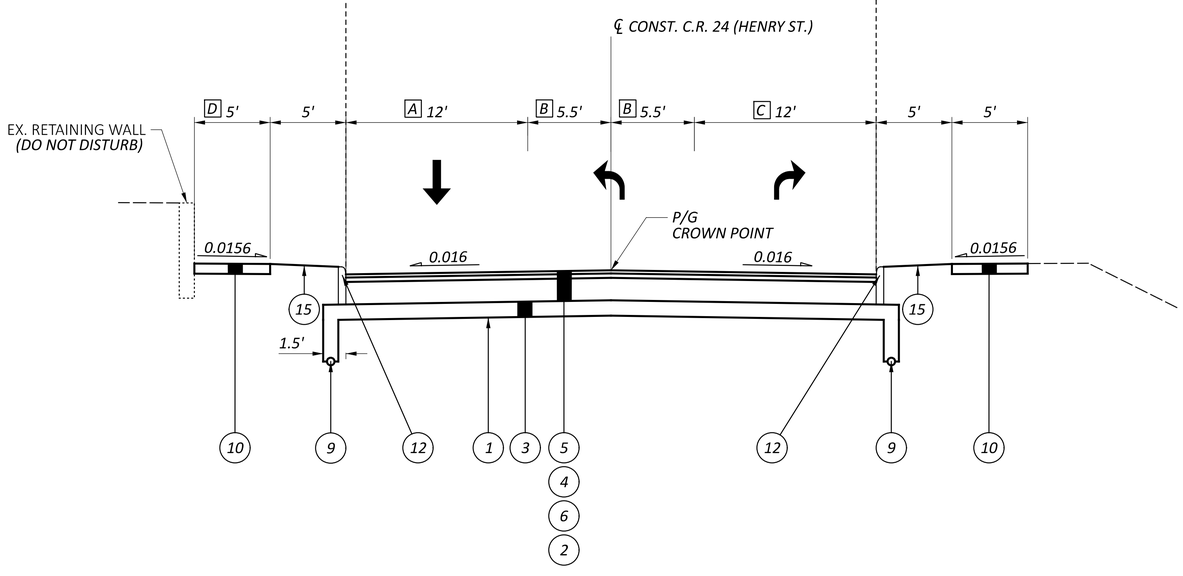
NOTES:
1. FOR PROPOSED LEGEND, SEE SHEET P.6

PROPOSED RAILING SECTION - HENRY ST.
STA. 17+40.00 TO STA. 20+00.00



PROPOSED WALL/RAILING SECTION - HENRY ST.
STA. 17+40.00 TO STA. 20+00.00





PROPOSED SECTION - HENRY ST.

STATION RANGE	A	B	C	D	LENGTH
15+00.00 TO 16+40.00	9.5'	0.0'	10.5'	0.0'	140.00'
16+40.00 TO 17+40.00	9.5' TO 12.0'	0.0' TO 5.5'	10.5' TO 12.0'	5.0' TO 13.5'	100.00'
17+40.00 TO 19+14.62	12.0'	5.5'	12.0'	13.5'	174.62'
				TOTAL LENGTH = 414.62'	

TYPICAL SECTIONS

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:25:48 PM USER: todd.roxberry
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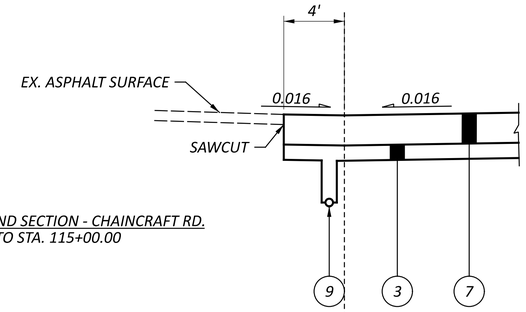
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

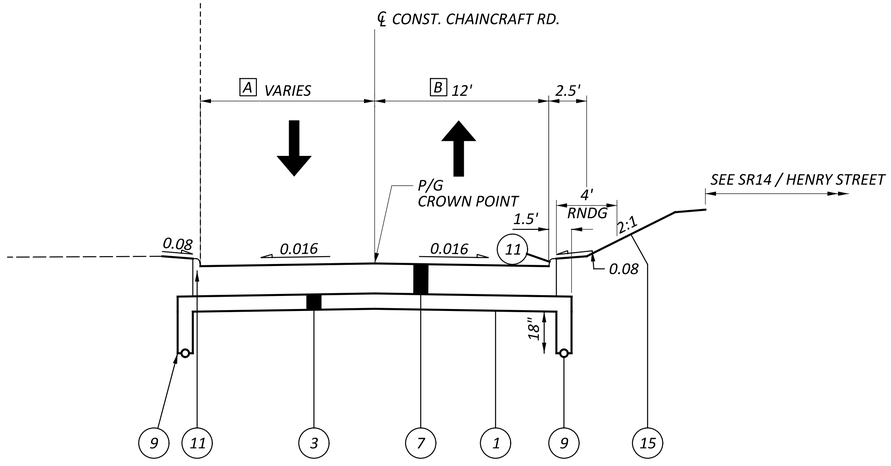
DESIGNER
BNC
REVIEWER
MAW 01/16/23
PROJECT ID
104132
SHEET P.7 TOTAL 329

NOTES:
1. FOR PROPOSED LEGEND, SEE SHEET P.6

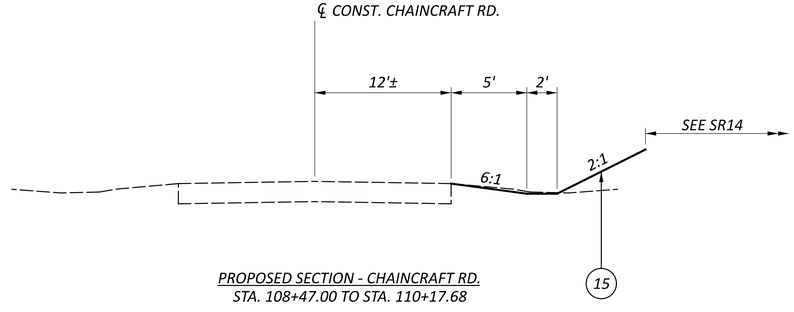


PROPOSED UNCURBED END SECTION - CHAINCRAFT RD.
STA. 113+82.61 TO STA. 115+00.00

STATION RANGE		A	B	LENGTH
110+22.00	TO 110+82.00	10.0'-13.0'	10.0'-13.0'	60.00'
110+82.00	TO 112+03.34	13.0'	13.0'	121.34'
112+03.34	TO 112+40.00	13.0'-19.5'	13.0'	36.66'
112+40.00	TO 112+80.00	19.5'-35.6'	13.0'-15.0'	40.00'
112+80.00	TO 113+34.24	35.6'-15.0'	15.0'	54.24'
113+34.24	TO 113+82.61	15.0'	15.0'	48.37'
113+82.61	TO 114+00.00	15.0'	15.0'-16.8'	17.39'
114+00.00	TO 115+05.00	15.0'-9.75'	11.4'-21.4'	105.00'
115+05.00	TO 115+11.08	9.75'	11.4'-11.25'	6.08'
115+11.08	TO 115+50.00	9.75'	11.25'	38.92'
			TOTAL LENGTH	=528.00'



PROPOSED SECTION - CHAINCRAFT RD.
STA. 110+17.68 TO STA. 115+00.00



PROPOSED SECTION - CHAINCRAFT RD.
STA. 108+47.00 TO STA. 110+17.68

TYPICAL SECTIONS

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
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www.aecom.com

DESIGNER JEL
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.8 | TOTAL 329

CUY-14-6.93

MODEL: 104132_GY005 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:26:01 PM USER: todd.roxberry
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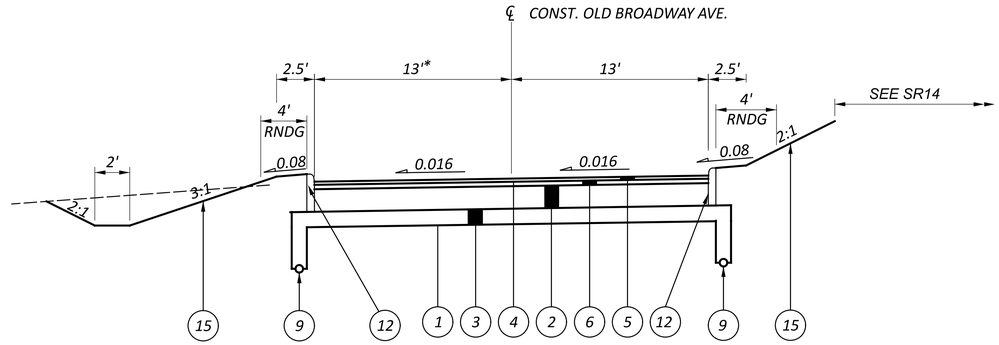
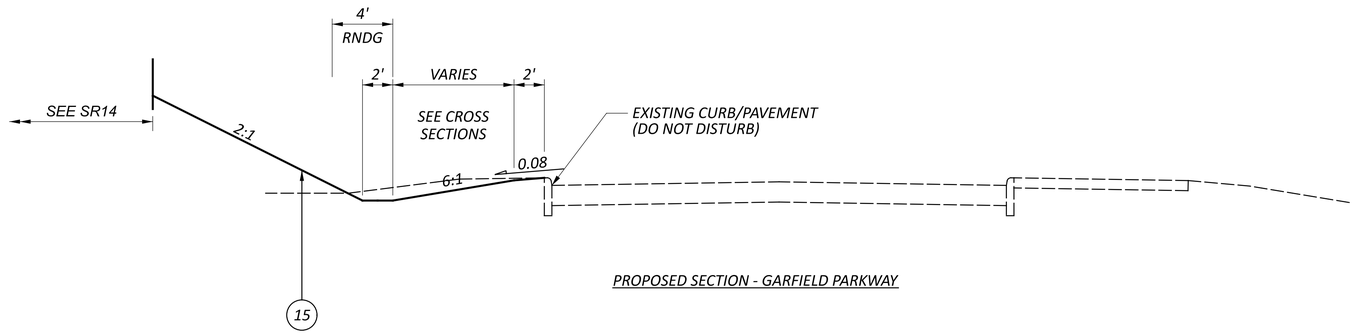
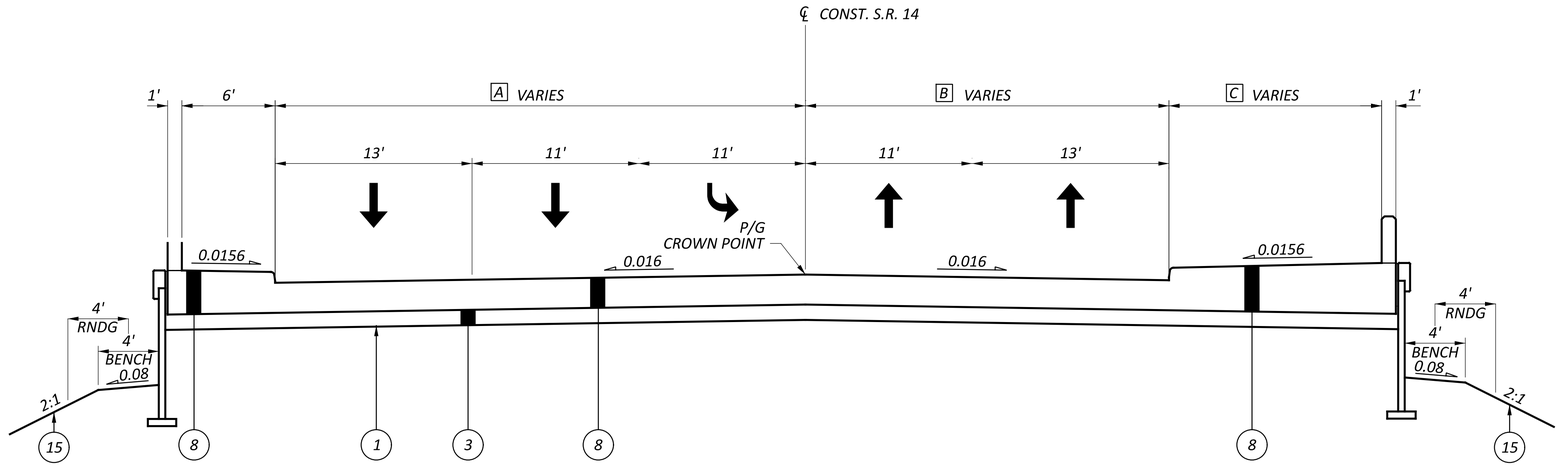
NOTES:
1. FOR PROPOSED LEGEND, SEE SHEET P.6



PROPOSED SECTION - OLD BROADWAY
STA. 201+00.00 TO STA. 205+50.00
*LANE TAPERS FROM 13' TO 76.58'



PROPOSED SECTION - GARFIELD PARKWAY



PROPOSED APPROACH SLAB SECTION - S.R. 14

STATION RANGES	A	B	C	LENGTH
373+35.44 TO 373+67.53	31.3'-32.7'	66.1'-50.4'	7.1'-8.7'	*32.09'
377+87.00 TO 378+17.00	35.0'	24.0'	14.0'	30.00'
			TOTAL LENGTH = 62.09'	

*30.00' MEASURED ALONG EXTENDED TANGENT

FOR APPROACH SLAB DETAILS, SEE SHEETS P.231-P.239

TYPICAL SECTIONS

CUY-14-6.93

MODEL: 104132_GY006 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:26:16 PM USER: todd.roxberry
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DESIGN AGENCY
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Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER JEL
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.9 TOTAL 329

GENERAL

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

GAS
DOMINION ENERGY OHIO
ATTN: RELOCATION
GENERAL EMAIL
320 SPRINGSIDE DR.
SUITE 20
AKRON, OH 44333
(330) 664-2409
RELOCATION@DOMINIONENERGY.COM

ENERGY TRANSFER
(SUNOCO PIPELINE, L.P.)
ATTN: DEBRA SCHNECK
ATTN: MATHEW DEBROCK
525 FRITZTOWN RD.
SINKING SPRING, PA 19608
(610) 670-3258
(216) 712-2945

ELECTRIC
CEI FIRST ENERGY
ATTN: JOHN M. ZASSICK
6896 MILLER RD.
SUITE 101
BRECKSVILLE, OH 44141
(440) 546-8706
JMZASSICK@FIRSTENERGYCORP.COM

CITY OF CLEVELAND
(DIVISION OF CLEVELAND
PUBLIC POWER - MELP)
ATTN: CHRISTOPHER M. HIRZEL,
P.E., P.S.
1300 LAKESIDE AVE.
CLEVELAND, OH 44114
(216) 664-3922, EXT. 76115
CHIRZEL@CPP.ORG

CABLE/COMMUNICATIONS
CENTURYLINK
ATTN: KENDALL ZETINA
100 S. CINCINNATI AVE.
TULSA, OK 74103
(918) 547-0547

CHARTER COMM.
ATTN: EMIL SYMISTER
7820 DIVISION DR.
MENTOR, OH 44060
(440) 343-1530
EMIL.SYMISTER@CHARTER.COM

WINDSTREAM
ATTN: GEOFFREY HAMM
560 TERNES AVE.
ELYRIA, OH 44035
(937) 725-5358
GEOFFREY.P.HAMM@WINDSTREAM.COM

FIBER
ZAYO FIBER SOLUTIONS
ATTN: DAVE GALUSKA
4199 KINROSS LAKES PKWY.
SUITE 10
RICHFIELD, OH 44286
(234) 281-0025

WATER
CITY OF CLEVELAND
(DIVISION OF WATER)
ATTN: FRED ROBERTS
1201 LAKESIDE AVE.
CLEVELAND, OH 44114
(216) 664-2444, EXT. 75590
FRED_ROBERTS@CLEVELANDWATER.COM

CITY OF CLEVELAND
(DIVISION OF WATER AND
POLLUTION CONTROL)
ATTN: ALAN SCHIELY
12302 KIRBY RD.
CLEVELAND, OH 44108
(216) 664-3638
ASCHIELY@CLEVELANDWPC.COM

SANITARY AND STORM SEWER
NORTHEAST OHIO REGIONAL
SEWER DISTRICT
ATTN: ROBERT STOERKEL
3900 EUCLID AVE.
CLEVELAND, OH 44115
(216) 881-6600, EXT. 6802
STOERKLER@NEORSD.ORG

TELEPHONE
AT&T - OHIO
ATTN: JAMES JANIS
13630 LORAIN AVE., 2ND FLOOR
CLEVELAND, OH 44111
(216) 476-6142

VERIZON
ATTN: AL GUEST
120 RAVINE ST.
AKRON, OH 44303
(330) 622-5967
(330) 329-5495
ALLAN.GUEST@VERIZON.COM

TRAFFIC INTERCONNECT
CITY OF CLEVELAND
(DIVISION OF TRAFFIC ENGINEERING)
ATTN: ANDREW R. CROSS
601 LAKESIDE AVE.
ROOM 25
CLEVELAND, OH 44114
(216) 664-3197
ACROSS@CITY.CLEVELAND.OH.US

OTHER
CITY OF GARFIELD HEIGHTS
ATTN: ALLISON HULL
5407 TURNEY RD.
GARFIELD HEIGHTS, OH 44125
(216) 475-3835
AHULL@GARFIELDHTS.ORG

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET P.3 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: *ODOT VRS GNSS*
MONUMENT TYPE: *TYPE B*

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: *NAVD88*
GEOID: *GEOID12B*

HORIZONTAL POSITIONING

REFERENCE FRAME: *NAD83 (2011)*
ELLIPSOID: *GRS80*
MAP PROJECTION: *LAMBERT CONFORMAL CONIC*
COORDINATE SYSTEM: *OHIO STATE PLANE, NORTH ZONE (3401)*
COMBINED SCALE FACTOR: *0.99992561*
ORIGIN OF COORDINATE SYSTEM: *0,0,0*

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

SEE SHEET P.3 FOR SURVEY CONTROL

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 100 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND THE ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO FILE A NEW FAA FORM 7460-1, ADVISING THE FAA THAT AERONAUTICAL STUDY NUMBER 2021-AGL-31096-OE IS BEING RESUBMITTED AND THAT AN ALTERATION TO THE ORIGINAL SUBMISSION IS REQUESTED.

NOTIFY THE ODOT OFFICE OF AVIATION WHEN RESUBMITTING FAA FORM 7460-1. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

FAA APPROVAL MAY TAKE UP TO 45 DAYS. ALL SUBMISSIONS SHALL BE DIRECTED TO THESE OFFICES:

FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
OBSTRUCTION EVALUATION GROUP
10101 HILLWOOD PARKWAY
FORT WORTH, TX 76177
FAX: (817) 222-5920
HTTP://CEAAA.FAA.GOV

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235

GENERAL CONT.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. *SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.*

2. *EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).*

   IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

3. *COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.*

4. *APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.*

   PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.

5. *EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.*

6. *PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.*

7. *FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.*

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.

DRAINAGE

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

DRAINAGE CONT.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES CONT.

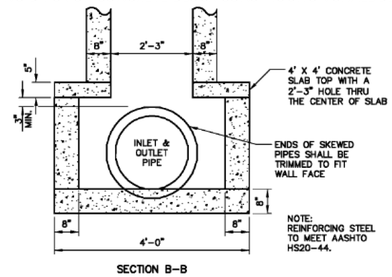
IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

ITEM 611 - CATCH BASIN, NO. 3, AS PER PLAN AND CATCH BASIN, NO. 3A, AS PER PLAN

CATCH BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH ITEM 611 AND ACCORDING TO THE STANDARD CONSTRUCTION DRAWINGS CB-2.1 OR CB-2.2, EXCEPT THAT SECTION B-B OF THE AFOREMENTIONED STANDARD DRAWING SHALL BE MODIFIED AS SHOWN BELOW AND THAT NO BRICK OR CONCRETE BLOCK CONSTRUCTION SHALL BE PERMITTED



SECTION B–B

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTOIN OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS

GENERAL NOTES

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.10 | TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:26:32 PM USER: todd.roxberry
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EROSION CONTROL

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	*____ EACH*
659, TOPSOIL	*____ CU. YD.*
659, SEEDING AND MULCHING	*____ SQ. YD.*
659, REPAIR SEEDING AND MULCHING	*____ SQ. YD.*
659, INTER-SEEDING	*____ SQ. YD.*
659, COMMERCIAL FERTILIZER	*____ TON*
659, LIME	*____ ACRES*
659, WATER	*____ M. GAL.*
659, MOWING	*____ M. SQ. FT.*

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

WATER QUALITY

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT

MANUFACTURED WATER QUALITY STRUCTURE

THIS PLAN UTILIZES MANUFACTURED WATER QUALITY STRUCTURES FOR WATER QUALITY TREATMENT. AREAS HAVE BEEN SHOWN IN THE PLANS FOR PLACEMENT OF AN OFF-LINE SYSTEM, PAYMENT FOR THESE DEVICES SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 895, MANUFACTURED WATER QUALITY STRUCTURE, TYPE 3.

GENERAL NOTES

DESIGN AGENCY
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564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER RJJ

REVIEWER MAW 01/16/23

PROJECT ID 104132

SHEET P.11 *TOTAL* 329

CUY-14-6.93

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:55:34 PM USER: todd.roxberry
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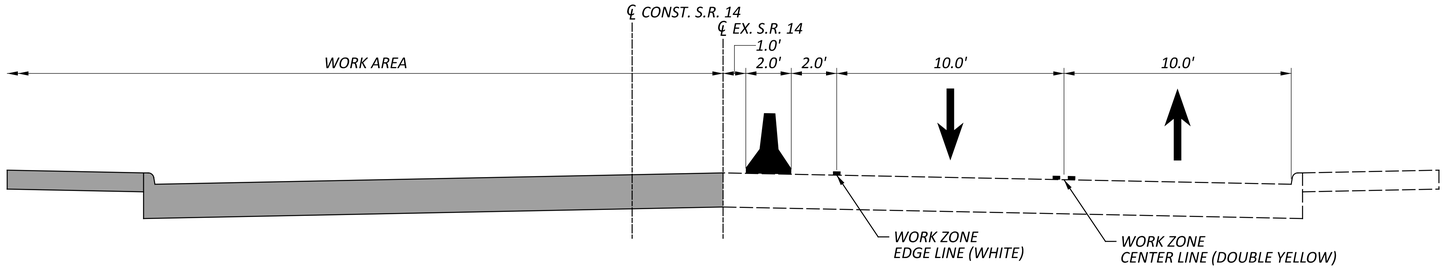
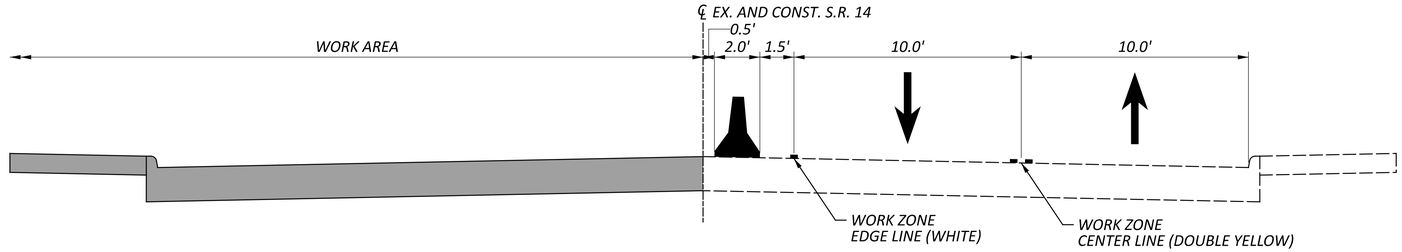
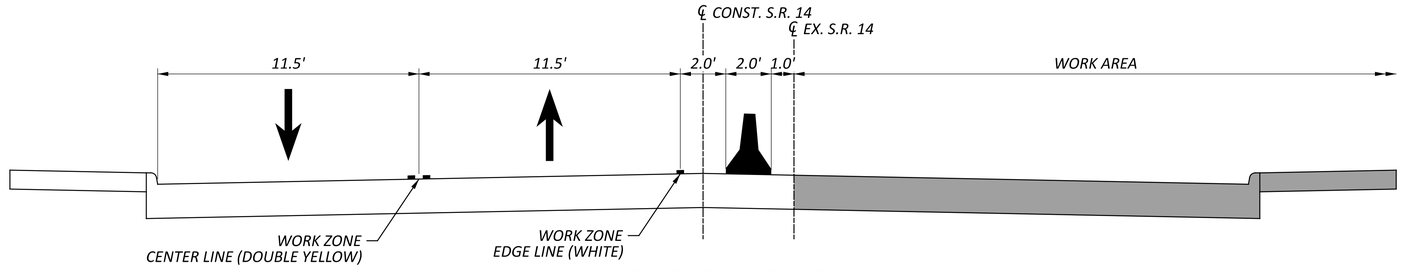


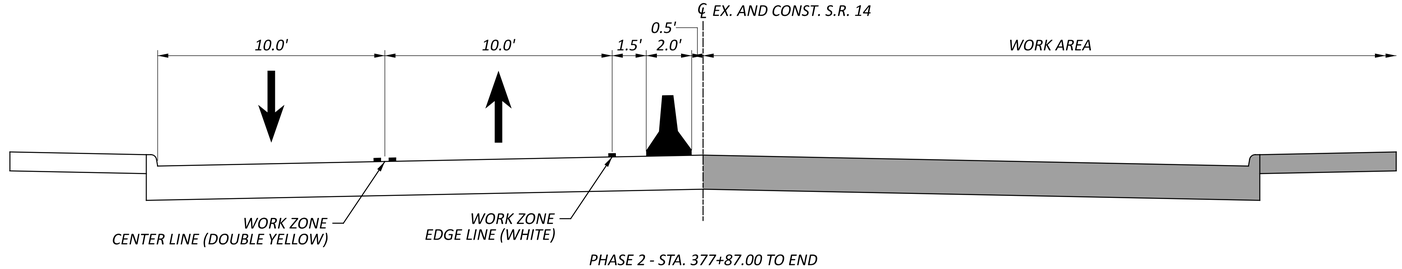
PHASE 1 - BEGIN TO STA. 373+67.53



PHASE 1 - STA. 377+87.00 TO END



PHASE 2 - BEGIN TO STA. 373+67.53



PHASE 2 - STA. 377+87.00 TO END

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER: RJJ

REVIEWER: MAW 01/16/23

PROJECT ID: 104132

SHEET: P.12 | TOTAL: 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:26:50 PM USER: toddroxberry
pw:\\aecom-nd-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\0432\400-Engineering\MOT\Sheets\104132_MY001.dgn

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON BROADWAY AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, AND TEMPORARY SURFACES USING ITEMS 410 AND 614. A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON HENRY STREET EXCEPT DURING PHASE 2 WHEN HENRY STREET WILL BE COMPLETELY CLOSED AND TRAFFIC DETOURED.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. [AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.]

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

NOTICE OF CLOSURE SIGN TIME TABLE

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP &	>=2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
ROAD	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURES	<= 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B _____ CU. YD.
ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE C _____ CU. YD.
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC _____ CU. YD.
ITEM 616, WATER _____ M. GAL.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

(LIST LOCATIONS, EXAMPLE - LOYAL ROAD JUST WEST OF SR 1000 INTERSECTION.)

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

SEQUENCE OF CONSTRUCTION

PHASE 1

BROADWAY AVENUE

MAINTAIN TWO-WAY TRAFFIC ON THE TWO EASTBOUND LANES OF EXISTING BROADWAY PAVEMENT. SHIFT TRAFFIC TO THE SOUTH CURB LINE OF ROADWAY AND INSTALL PCB.

STEP 1

DEMOLISH THE TWO WESTBOUND LANES PORTION OF THE EXISTING STRUCTURE FROM STA 369+00 TO STA 375+50 SOUTH OF THE RAIL LINES.

DEMOLISH THE FACIA BEAM AND SIDEWALK ON THE LEFT NORTH SIDE OF THE EXISTING STRUCTURE FROM STA 381+80 TO 382+58 NORTH OF THE RAIL LINES.

STEP 2

SOUTH OF RAIL LINES:

BUILD MSE WALL ON THE LEFT NORTH SIDE FROM STA 368+60 TO STA 372+57.

BUILD WIRE WALL AT PHASED CONSTRUCTION JOINT LINE FROM STA 369+00 TO STA 373+68.

BUILD WESTBOUND LANES OF PROPOSED BROADWAY FROM STA 366+40 TO STA 373+67.

NORTH OF RAIL LINES:

BUILD WESTBOUND LANES OF PROPOSED BROADWAY FROM STA 381+50 TO STA 385+40.

STEP 3

NORTH OF RAIL LINES:

BUILD MSE WALL ON THE LEFT NORTH SIDE FROM STA 377+46 TO STA 381+37.

BUILD WIRE WALL AT PHASED CONSTRUCTION JOINT LINE FROM STA 378+20 TO STA 381+50.

BUILD WESTBOUND LANES OF PROPOSED BROADWAY FROM STA 377+87 TO STA 381+50.

STEP 4

BUILD THE NEW STRUCTURE OVER THE RAIL LINES.

HENRY STREET

MAINTAIN EXISTING TWO-WAY TRAFFIC PATTERN ON EXISTING HENRY STREET PAVEMENT.

NO WORK.

CHAINCRAFT ROAD

STEP 2

MAINTAIN TWO-WAY TRAFFIC ON ONE LANE OF THE NORTH SIDE OF EXISTING AND TEMPORARY PAVEMENT OF CHAINCRAFT ROAD USING A SIGNALIZED CLOSURE PER MT-96.11.

BUILD 8' X 4' CULVERT FROM 22' X 7' (POSSIBLE TEMPORARY CONNECT TO EXISTING 22' X 7') TO PHASED CONSTRUCTION JOINT.

BUILD STORM SEWERS ON SOUTH SIDE.

STEP 3

MAINTAIN TWO-WAY TRAFFIC ON ONE LANE OF THE SOUTH SIDE OF EXISTING CHAINCRAFT ROAD PAVEMENT USING A SIGNALIZED CLOSURE PER MT-96.11.

BUILD THE REMAINING PORTION OF THE 8' X 4' CULVERT FROM THE PHASED CONSTRUCTION JOINT TO THE EXISTING 4' X 4' CULVERT.

BUILD REMAINING STORM SEWERS.

OLD BROADWAY AVENUE

STEP 2

CLOSE OLD BROADWAY AVENUE AT BROADWAY AVENUE. MAINTAIN ACCESS TO GARFIELD ALLOYS PROPERTY ON THE EXISTING DRIVE THROUGH THE FANTON REALTY PROPERTY. MAINTAIN ACCESS TO 12307 BROADWAY AVENUE PROPERTY.

BUILD TEMPORARY WIRE WALL ALONG RELOCATED OLD BROADWAY AVENUE FROM STA 380+86 TO STA 382+40.

BUILD RELOCATED OLD BROADWAY AVENUE.

STEP 3

MAINTAIN ACCESS TO GARFIELD ALLOYS PROPERTY USING THE OLD BROADWAY AVENUE AND BROADWAY AVENUE PAVEMENT CONSTRUCTED IN STEP 2.

NO WORK.

PHASE 2

BROADWAY AVENUE

MAINTAIN TWO-WAY TRAFFIC ON THE TWO WESTBOUND LANES OF BROADWAY AVENUE PAVEMENT CONSTRUCTED IN PHASE 1.

SHIFT TRAFFIC TO THE NORTH CURB LINE OF BROADWAY AVENUE AND INSTALL PCB.

STEP 1

DEMOLISH REMAINING PORTION OF THE EXISTING BRIDGE.

STEP 2

BUILD MSE WALLS ON SOUTH SIDE OF BROADWAY AVENUE.

BUILD REMAINING BROADWAY AVENUE PAVEMENT FROM STA 366+40 TO STA 373+67 AND STA 377+87 TO STA 385+40

HENRY STREET

CLOSE HENRY STREET AND DETOUR TRAFFIC.

STEP 2

BUILD 22' X 7' CULVERT.

STEP 3

BUILD PROPOSED HENRY STREET - COMPLETE.

CHAINCRAFT ROAD

STEP 3

MAINTAIN TWO-WAY TRAFFIC ON ONE LANE OF THE NORTH SIDE OF EXISITNG AND TEMPORARY PAVEMENT OF CHAINCRAFT ROAD USING A SIGNALIZED CLOSURE PER MT-96.11.

BUILD SOUTH SIDE CURB AND PAVEMENT OF CHAINCRAFT ROAD.

STEP 4

MAINTAIN TWO-WAY TRAFFIC ON ONE LANE OF THE SOUTH SIDE OF EXISTING CHAINCRAFT ROAD PAVEMENT USING A SIGNALIZED CLOSURE PER MT-96.11.

BUILD NORTH SIDE CURB AND PAVEMENT OF CHAINCRAFT ROAD.

PHASE 3

BROADWAY AVENUE/HENRY STREET/CHAINCRAFT ROAD

MAINTAIN TWO-WAY TRAFFIC ON ALL ROADWAYS ON A MINIMUM OF 2'-10' WIDE LANES.

BUILD THE FINAL INTERMEDIATE AND SURFACE COURSES FULL-WIDTH.

MAINTENANCE OF TRAFFIC
GENERAL NOTES

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SHEET P.13 | TOTAL 329

CUY-14-6.93

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PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER _____ M. GAL.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. *EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.*

2. *NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.*

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION. IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION (CONT.)

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF _____ FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

MAINTENANCE OF TRAFFIC
GENERAL NOTES

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SHEET P.14 TOTAL 329

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MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION (CONT.)

ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONST-RUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED ___ HOURS AND SHALL NOT INCLUDE THE HOURS OF _____ TO _____. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF _____ POLICE, HIRED BY THE CONTRACTOR:

1.

2.

3.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;

2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;

3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;

4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;

5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS: ALONG TAPERS AND TRANSITION AREAS; OR ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY OR BI-DIRECTIONAL) _____ EACH

ITEM 614, OBJECT MARKER, _____-WAY _____ EACH

ITEM 614, INCREASED BARRIER BELINEATION _____FEET

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

ITEM 614, BUSINESS ENTRANCE (M4-H15) SIGN, AS PER PLAN

THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY FOR WHICH THE RELOCATION IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY RELOCATION IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE 36 INCH X 48 INCH IN SIZE WITH TYPE G OR TYPE H ORANGE RETROREFLECTIVE SHEETING. THE SIGN LEGEND SHALL BE PLACED ON BOTH SIDES OF THE SIGN (BACK TO BACK). THE SIGN SHALL HAVE THE STANDARD M4-H15 LEGEND WITH THE WORD "BUSINESS" ON THE TOP LINE, EXCEPT UNDER UNUSUAL CIRCUMSTANCES WHERE IT MAY NOT BE INTUITIVE THAT A DRIVEWAY SERVES A SPECIFIC BUSINESS. IN SUCH UNUSUAL CASES, THE ACTUAL BUSINESS NAME MAY BE SUBSTITUTED FOR THE WORD "BUSINESS".

THE SIGN SHALL BE MOUNTED ON TWO #3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH SCD MT-105.10 AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 90 DEGREES TO THE DIRECTION(S) OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE CONTRACT PRICE PER EACH FOR ITEM 614-BUSINESS ENTRANCE SIGN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS ITEM.

ITEM 614, BUSINESS ENTRANCE SIGN _____ EACH

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONT.)

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS

REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE _____ HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

MAINTENANCE OF TRAFFIC
GENERAL NOTES

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SHEET P.15 TOTAL 329

CUY-14-6.93

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:27:18 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_D520_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MN002.dgn

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

ITEM	*DURATION OF CLOSURE*	*NOTICE DUE TO PERMITS & PIO*
RAMP & ROAD CLOSURES	*>= 2 WEEKS*	*21 CALENDAR DAYS PRIOR TO CLOSURE*
	> 12 HOURS & < 2 WEEKS	*14 CALENDAR DAYS PRIOR TO CLOSURE*
	<= 12 HOURS	*4 CALENDAR DAYS PRIOR TO CLOSURE*
LANE CLOSURES & RESTRICTIONS	*>= 2 WEEKS*	*14 CALENDAR DAYS PRIOR TO CLOSURE*
	< 2 WEEKS	*5 BUSINESS DAYS PRIOR TO CLOSURE*
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	*N/A*	*14 CALENDAR DAYS PRIOR TO IMPLEMENTATION*

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (GCRTA)

THE APPROPRIATE GCRTA REPRESENTATIVE SHOULD BE INVITED TO THE PROJECT'S PRE-CONSTRUCTION CONFERENCE.

THE CONTRACTOR SHALL NOTIFY IN WRITING THE GCRTA AT LEAST FOURTEEN (14) CALENDAR DAYS PRIOR TO THE START OF CONSTRUCTION, AND AT LEAST SEVEN (7) CALENDAR DAYS BEFORE IMPLEMENTING ANY SUBSTANTIAL CHANGE IN TRAFFIC PATTERN OR CLOSING ANY STREET OR PORTION THEREOF TO TRAFFIC.

CONTRACTOR IS TO MAINTAIN ACCESS TO BUS STOP LOCATIONS. IF NECESSARY, THE CONTRACTOR SHALL WORK WITH GCRTA TO ESTABLISH AN APPROVED TEMPORARY BUS STOP LOCATION. GCRTA WILL PROVIDE AND POST THE APPROPRIATE TEMPORARY BUS SIGN SIGNAGE.

THE CONTRACTOR SHALL NOTIFY GCRTA AT LEAST FIVE (5) BUSINESS DAYS IN ADVANCE OF CONSTRUCTION COMPLETION SO THAT PERMANENT BUS STOP SIGNS CAN BE RE-INSTALLED BY GCRTA.

CONTRACTOR MAY NOT REMOVE ANY BUS STOP SIGNS WITHOUT PRIOR AUTHORIZATION FROM GCRTA.

THE FOLLOWING IS A LIST OF CONTACT INFORMATION FOR GCRTA NOTIFICATIONS:

CENTRAL COMMUNICATIONS: 216-566-5135, MONITORED 24/7
TONY RICHARDSON, SERVICE QUALITY, ARICHARDSON@GCRTA.ORG
HOWARD WESLEY, SERVICE QUALITY, HWESLEY@GCRTA.ORG
WANDA WARE, SERVICE QUALITY, WWARE@GCRTA.ORG
ROBERT FLEIG, SERVICE QUALITY COMMUNICATION SPECIALIST, ROBERT.FLEIG@GCRTA.ORG
MARK RODRIGUEZ, SERVICE QUALITY OFFICE MANAGER, MARK.RODRIGUEZ@GCRTA.ORG
JOEL FREILICH, SERVICE MANAGEMENT, JFREILICH@GCRTA.ORG
JEFFREY MACKO, SERVICE MANAGEMENT, JMACKO@GCRTA.ORG

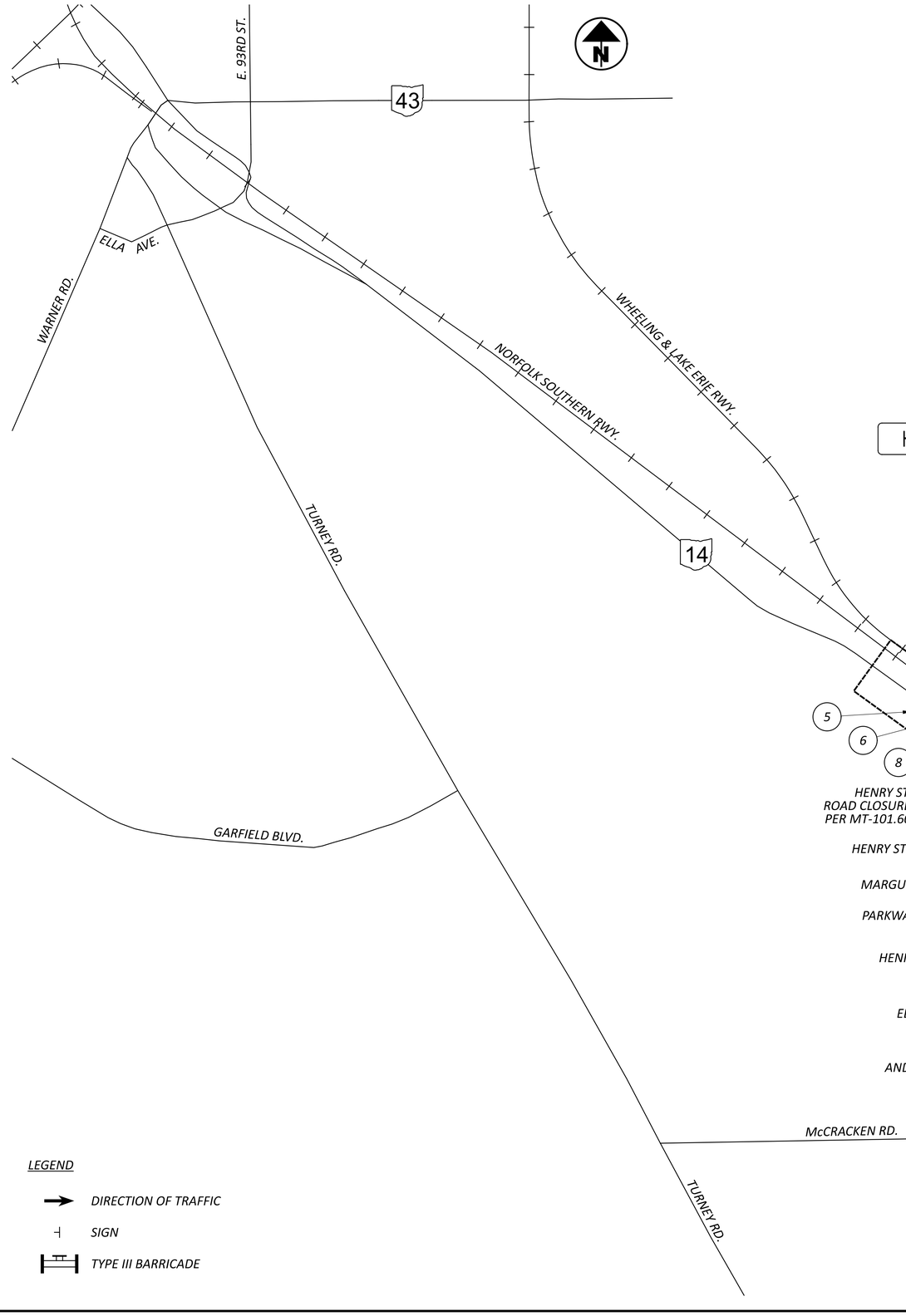
MAINTENANCE OF TRAFFIC
GENERAL NOTES

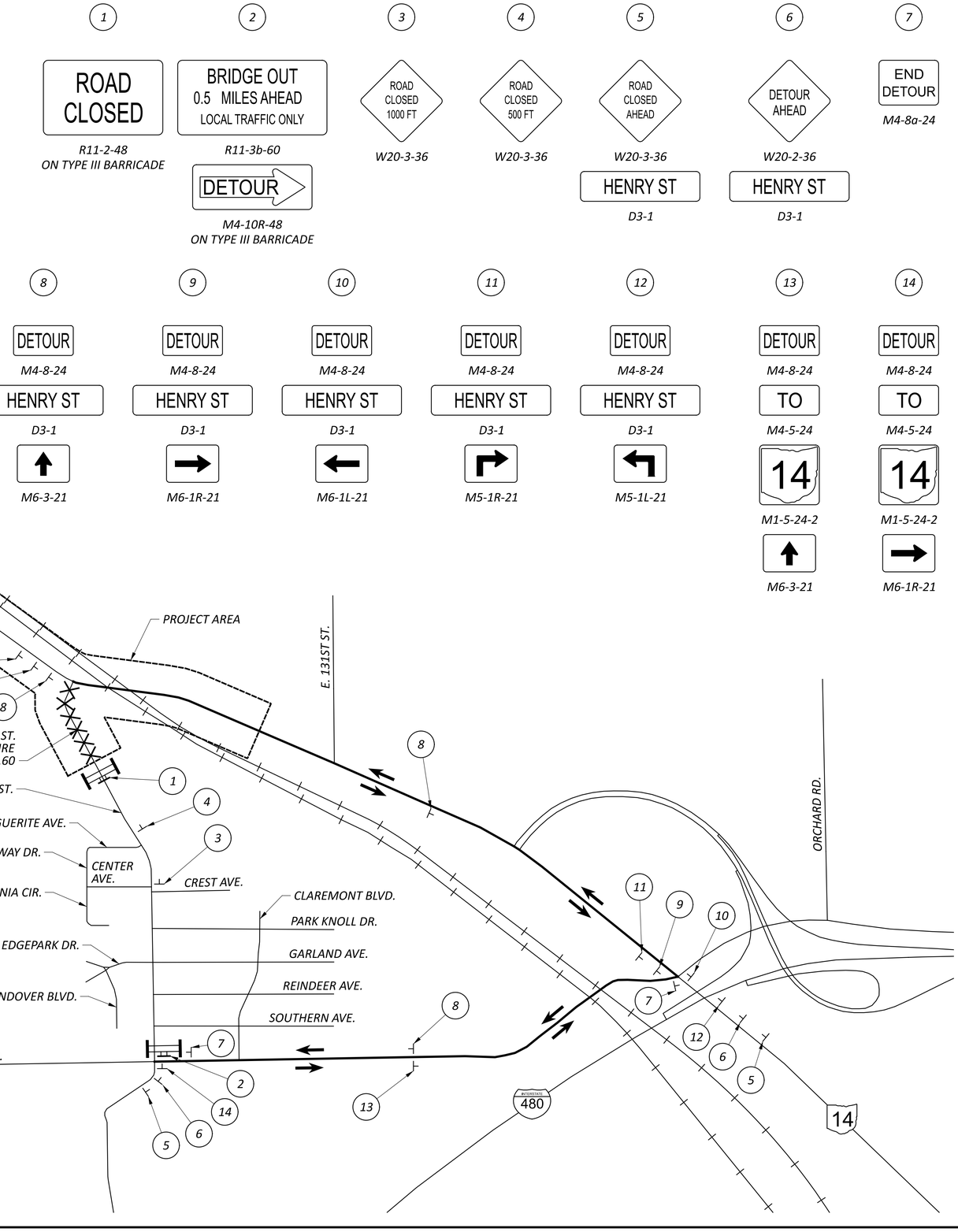
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER
STO
REVIEWER
MAW 01/16/23
PROJECT ID
104132
SHEET P.16 TOTAL 329

CUY-14-6.93

MODEL: Sheet 3 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:27:20 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_D520_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MN002.dgn





1 — ROAD CLOSED
R11-2-48 ON TYPE III BARRICADE

2 — BRIDGE OUT 0.5 MILES AHEAD LOCAL TRAFFIC ONLY
R11-3b-60
DETOUR
M4-10R-48 ON TYPE III BARRICADE

3 — ROAD CLOSED 1000 FT
W20-3-36

4 — ROAD CLOSED 500 FT
W20-3-36

5 — ROAD CLOSED AHEAD
W20-3-36
HENRY ST
D3-1

6 — DETOUR AHEAD
W20-2-36
HENRY ST
D3-1

7 — END DETOUR
M4-8a-24

8 — DETOUR
M4-8-24
HENRY ST
D3-1
M6-3-21

9 — DETOUR
M4-8-24
HENRY ST
D3-1
M6-1R-21

10 — DETOUR
M4-8-24
HENRY ST
D3-1
M6-1L-21

11 — DETOUR
M4-8-24
HENRY ST
D3-1
M5-1R-21

12 — DETOUR
M4-8-24
HENRY ST
D3-1
M5-1L-21

13 — DETOUR
M4-8-24
TO
M4-5-24
14
M1-5-24-2
M6-3-21

14 — DETOUR
M4-8-24
TO
M4-5-24
14
M1-5-24-2
M6-1R-21

LEGEND
- DIRECTION OF TRAFFIC
- SIGN
- TYPE III BARRICADE

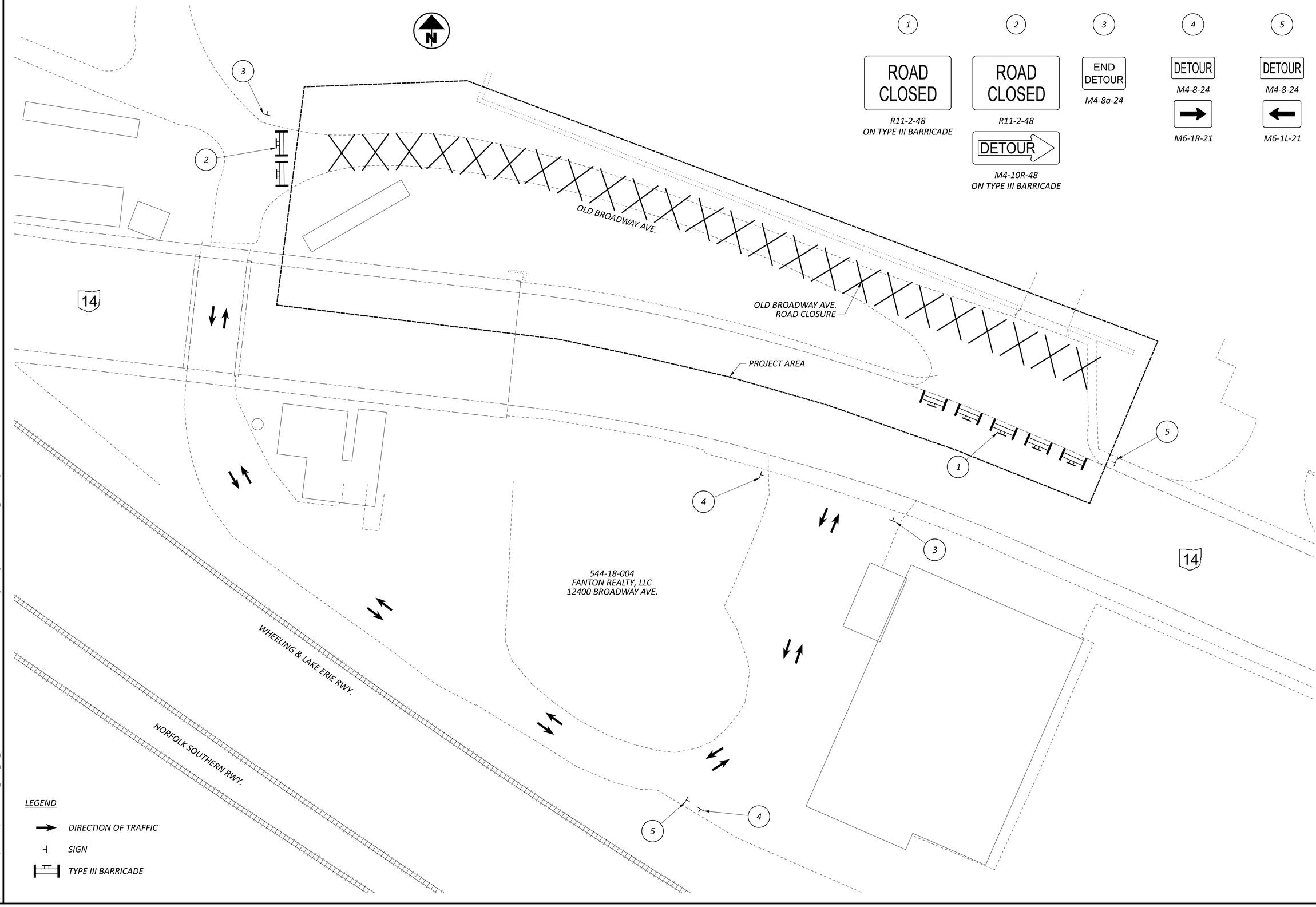
MAINTENANCE OF TRAFFIC
HENRY STREET DETOUR PLAN

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:27:37 PM USER: toddroxberry
pw:\\aecom-nd-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\10432\400-Engineering\MOT\Sheets\104132_MD001.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER: RJJ
REVIEWER: MAW 01/16/23
PROJECT ID: 104132
SHEET: P.17 TOTAL: 329



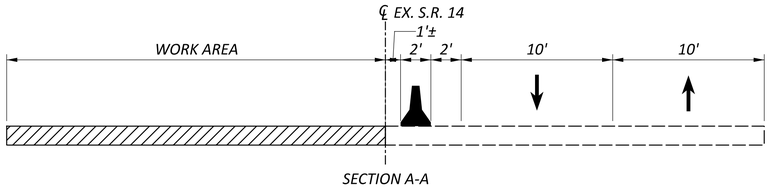
MAINTENANCE OF TRAFFIC
OLD BROADWAY AVENUE DETOUR PLAN

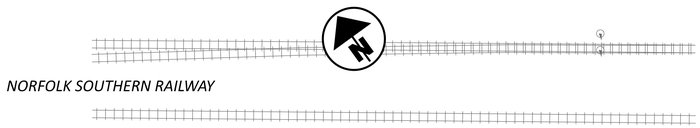
CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:27:53 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS2O_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MD002.dgn

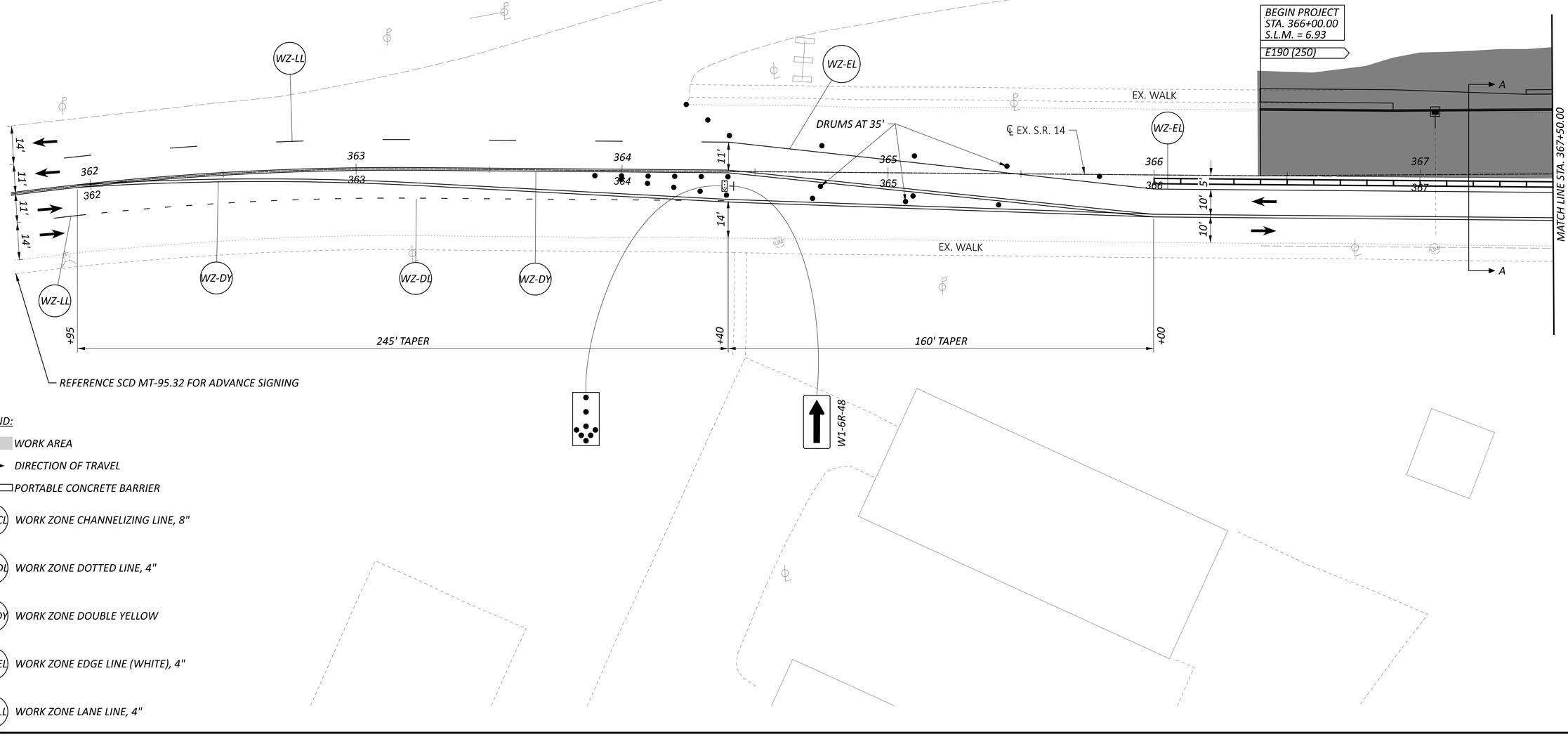
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	RJJ
REVIEWER	MAW 01/16/23
PROJECT ID	104132
SHEET	P.18
TOTAL	329





HORIZONTAL SCALE IN FEET
0 10 20 40



LEGEND:

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- (WZ-CL) WORK ZONE CHANNELIZING LINE, 8"
- (WZ-DL) WORK ZONE DOTTED LINE, 4"
- (WZ-DY) WORK ZONE DOUBLE YELLOW
- (WZ-EL) WORK ZONE EDGE LINE (WHITE), 4"
- (WZ-LL) WORK ZONE LANE LINE, 4"

MAINTENANCE OF TRAFFIC - PHASE 1 - S.R. 14
BEGIN PROJECT TO 367+50.00

CUY-14-6.93

MODEL: CLP_S014 - Plan 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:28:10 PM USER: todd.roxberry
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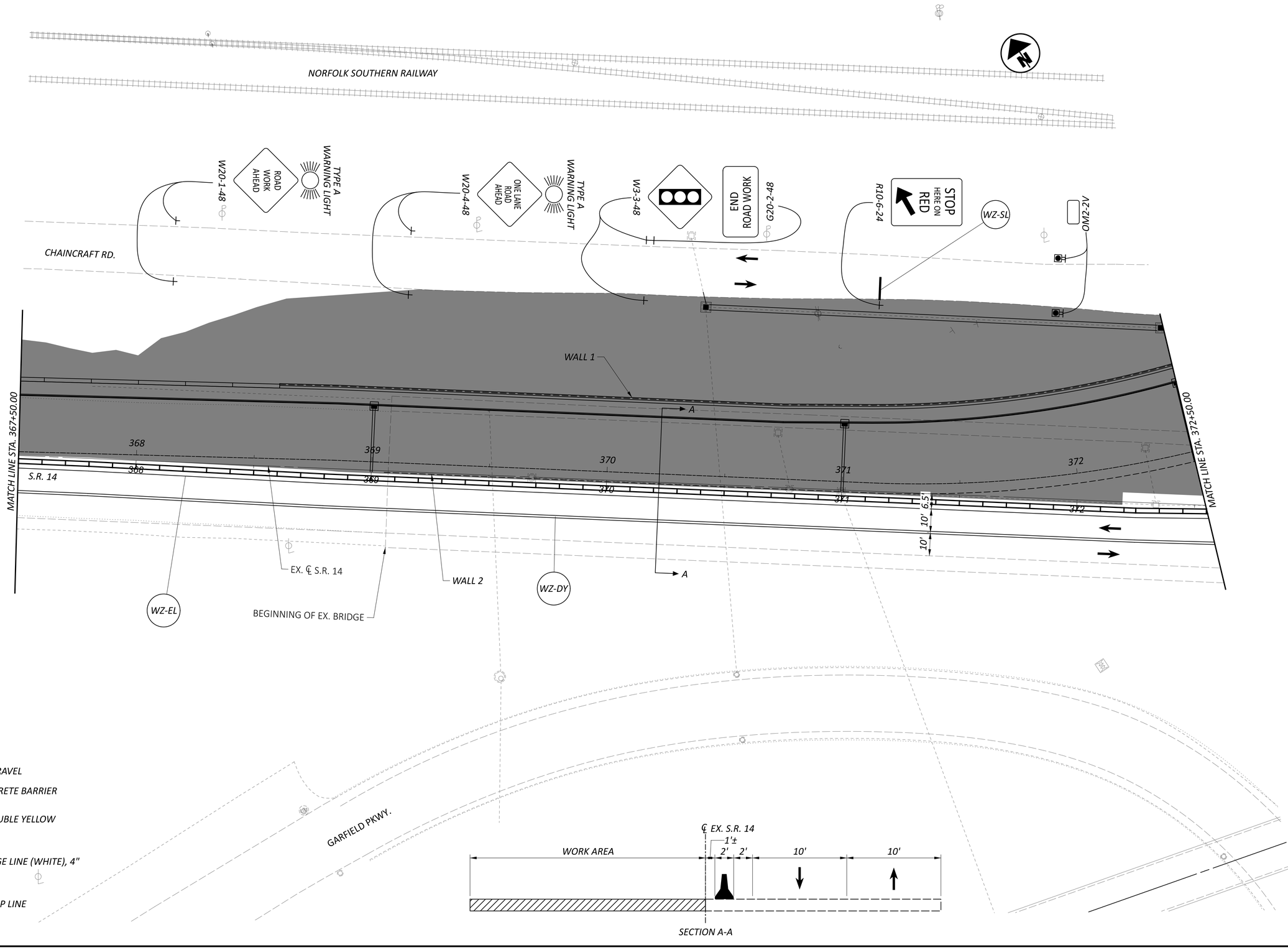
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER SAW
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.19 TOTAL 329



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 1 - S.R. 14
367+50.00 TO 372+50.00

CUY-14-6.93

MODEL: CLP_5014 - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:28:28 PM USER: todd.roxberry
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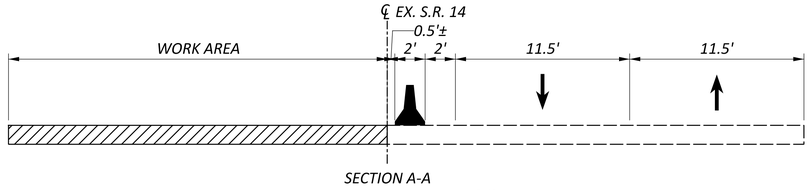
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

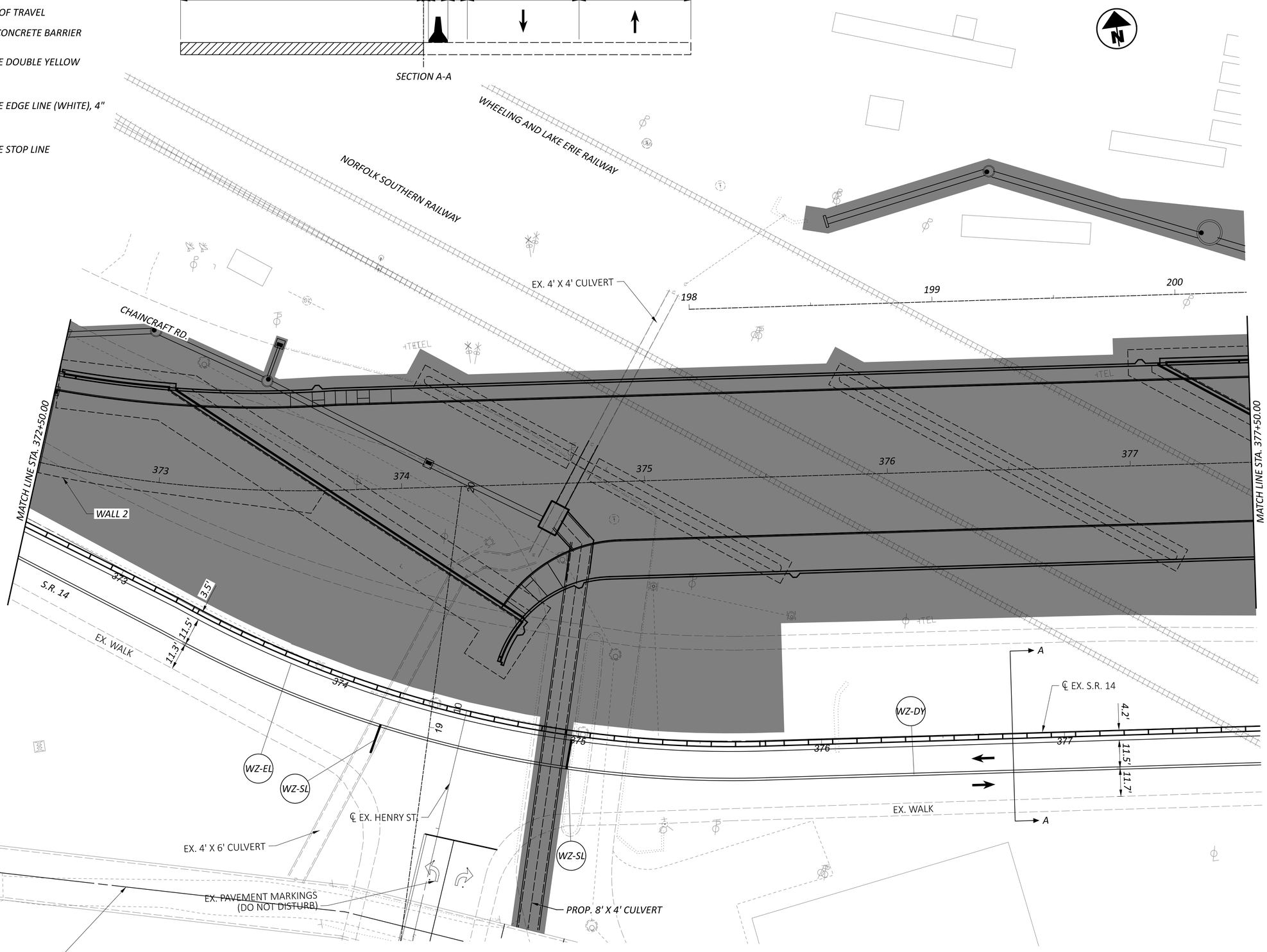
DESIGNER SAW
REVIEWER MAW 1/16/2023
PROJECT ID 104132
SHEET P.20 TOTAL 329

LEGEND:

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- WZ-DY WORK ZONE DOUBLE YELLOW
- WZ-EL WORK ZONE EDGE LINE (WHITE), 4"
- WZ-SL WORK ZONE STOP LINE



SECTION A-A



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 1 - S.R. 14
372+50.00 TO 377+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	SAW
REVIEWER	MAW 01/16/23
PROJECT ID	104132
SHEET	P.21
TOTAL	329

CUY-14-6.93

MODEL: CLP_5014 - Plan 3 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:28:49 PM USER: todd.roxberry
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MAINTENANCE OF TRAFFIC - PHASE 1 - S.R. 14
377+50.00 TO 382+50.00

54605010
FILLING DEVELOPMENT LLC
COMMERICIAL
CHERRY ST.

54603004
GARFIELD ALLOYS INC
COMMERICIAL
BROADWAY AVE.

OLD BROADWAY AVE.

WALL 3

WALL 4

MATCH LINE STA. 377+50.00

MATCH LINE STA. 382+50.00

℄ EX. S.R. 14

EX. WALK

WZ-EL

WZ-DY

4.1'

11.5'

11.5'

WHEELING AND LAKE ERIE RAILWAY

NORFOLK SOUTHERN RAILWAY

54418004
FANTON REALTY LLC
INDUSTRIAL
12400 BROADWAY AVE.

LEGEND:

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- WZ-DY — WORK ZONE DOUBLE YELLOW
- WZ-EL — WORK ZONE EDGE LINE (WHITE), 4"

HORIZONTAL SCALE IN FEET
0 10 20 40

CUY-14-6.93

MODEL: CLP_S014 - Plan 4 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:29:08 PM USER: todd.roxberry
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DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER SAW
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.22 TOTAL 329

54605004
12307 BROADWAY LLC
INDUSTRIAL
12307 BROADWAY AVE.

54605005
QUALITY MANAGEMENT TEAM LLC
INDUSTIRAL
12321 BROADWAY AVE.

MAINTAIN DRIVE ACCESS
AT ALL TIMES

150' TAPER (10:1)

245' TAPER (22:1)

RIGHT LANE CLOSURE
PER MT-95.31

WZ-EL

+54

+04

389+49

A

EX. WALK

DRUMS AT 35'

3.7'

11'

3'

13'

MATCH LINE STA. 382+50.00

℄ EX. S.R. 14

385

384

386

10'

6.9'

10.0'

WORK ZONE
IMPACT ATTENUATOR

WZ-DY

WZ-DL

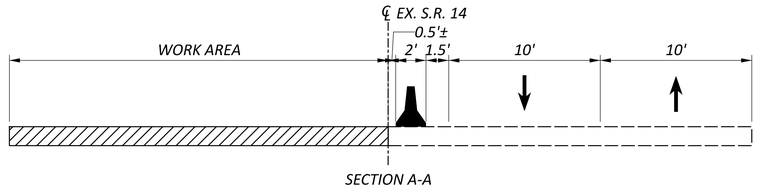
WZ-LL

50' TAPER

54418004
FANTON REALTY LLC
INDUSTRIAL
12400 BROADWAY AVE.

LEGEND:

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- WZ-DL WORK ZONE DOTTED LINE, 4"
- WZ-DY WORK ZONE DOUBLE YELLOW
- WZ-EL WORK ZONE EDGE LINE (WHITE), 4"
- WZ-LL WORK ZONE LANE LINE, 4"



SECTION A-A

HORIZONTAL
SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 1 - S.R. 14
382+50.00 TO END PROJECT

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER
SAW

REVIEWER
MAW 01/16/23

PROJECT ID
104132

SHEET P.23 | TOTAL 329

CUY-14-6.93

MODEL: CLP_S014 - Plan 5 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:29:26 PM USER: todd.roxberry
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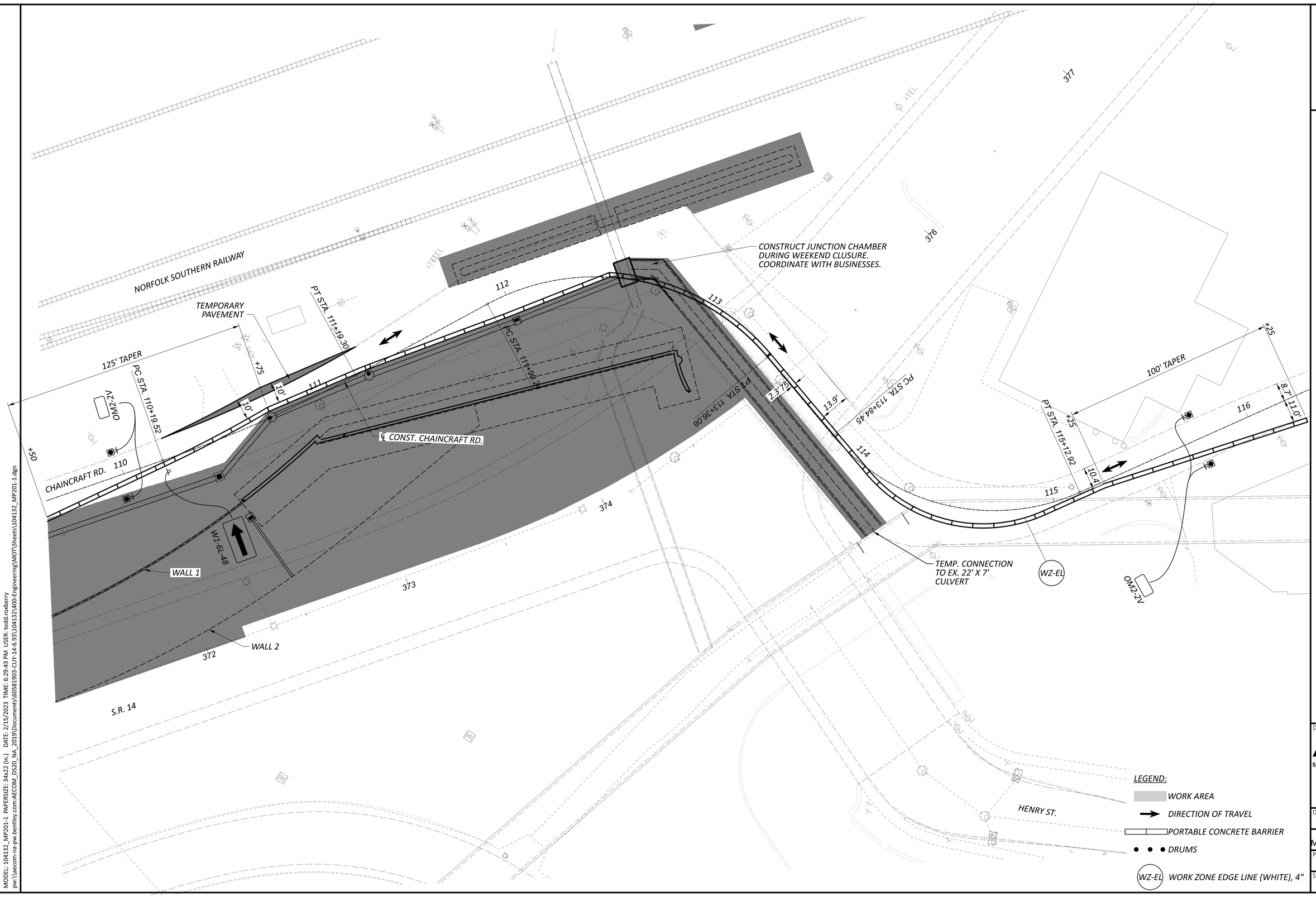

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 1, STEP 2 - CHAINCRAFT RD.
110+20.50 TO 115+50.00

CUY-14-6.93

MODEL: 104132_MP201-1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:29:43 PM USER: todd.roxberry
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DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER SAW
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.24 TOTAL 329

NORFOLK SOUTHERN RAILWAY

DRUMS SPACED EVERY 25'

122' TAPER

CHAINCRAFT RD.

℄ CONST. CHAINCRAFT RD.

POT STA. 10+00.00

WIRE WALL

S.R. 14

HENRY ST.

100' TAPER

WZ-EL

OM2-2V

PT STA. 8+23.00

PC STA. 7+57.48

CURVE DATA
P.I. = STA. 7+92.45
Δ = 49°35'24" RT
Dc = 75°41'17"
R = 75.70'
T = 34.97'
L = 65.52'
E = 7.69'

LEGEND:
- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- DRUMS
- WZ-EL — WORK ZONE EDGE LINE (WHITE), 4"

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 1, STEP 3 - CHAINCRAFT RD.
110+20.50 TO 115+50.00

CUY-14-6.93

MODEL: 104132_MP201-1A PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:30:02 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MP201-1A.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER SAW
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.25 TOTAL 329

LEGEND:

WORK AREA

PORTABLE CONCRETE BARRIER

℄ CONST. OLD BROADWAY AVE.

OLD BROADWAY AVE.

MATCH LINE STA. 202+50.00

MAINTAIN ACCESS TO PROPERTY

℄ CONST. S.R. 14

S.R. 14

388 198 199 200 201 202

389 375 376 377 378 379

6032 6031 6030

390 391 394

113

HORIZONTAL SCALE IN FEET

0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 1, STEP 2 - OLD BROADWAY AVE. STA 197+50.00 TO STA 202+50.00

CUY-14-6.93

MODEL: CLP_OLDBW - Plan 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:30:21 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS2O_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MP301-1.dgn

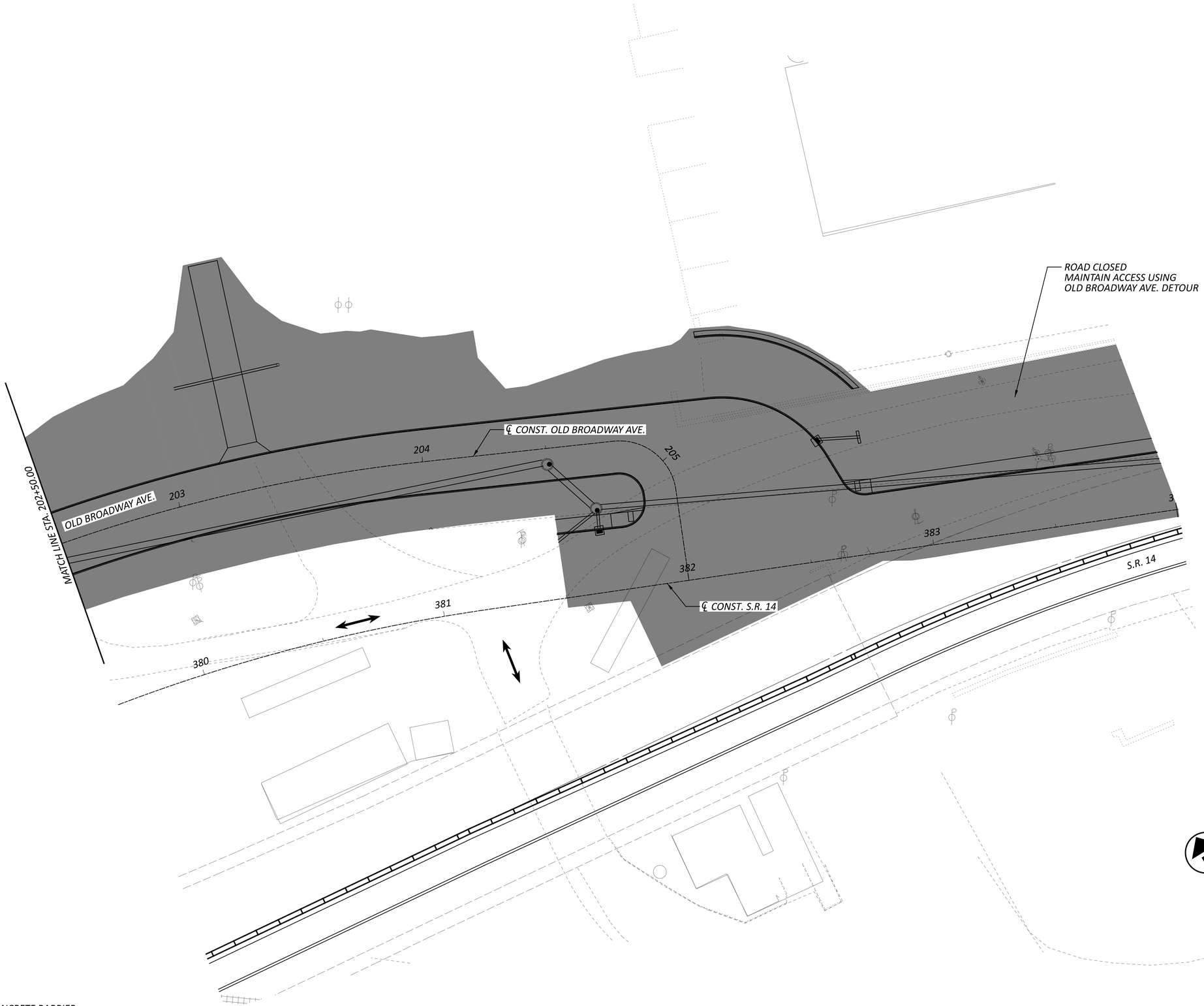
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER BNC

REVIEWER MAW 01/16/23

PROJECT ID 104132

SHEET P.26 TOTAL 329



LEGEND:

WORK AREA

PORTABLE CONCRETE BARRIER

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 1, STEP 2 - OLD BROADWAY AVE.
STA 202+50.00 TO STA 205+50.00

CUY-14-6.93

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

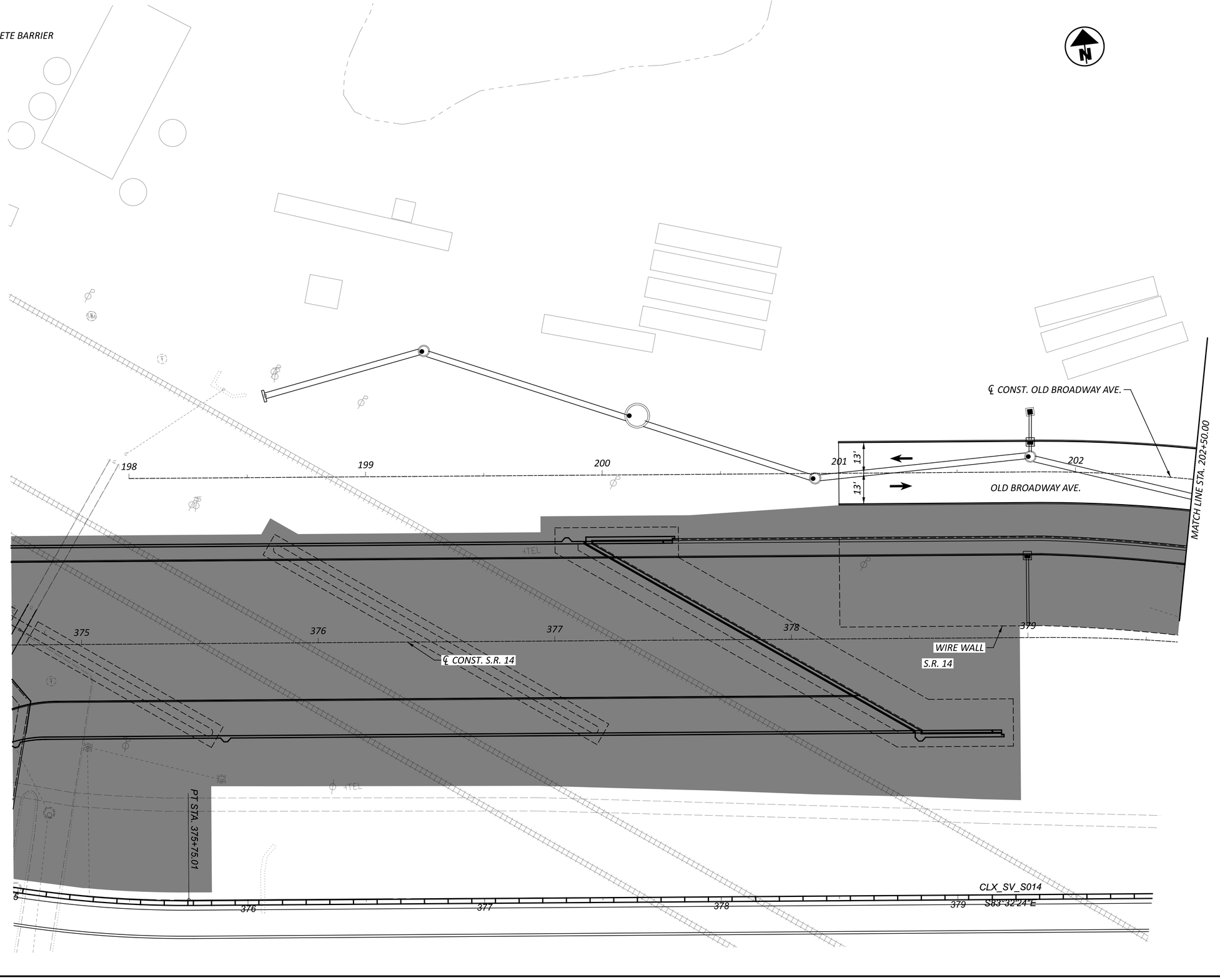
DESIGNER: BNC
REVIEWER: MAW 01/16/23
PROJECT ID: 104132
SHEET: P.27 TOTAL: 329

MODEL: CLP_OLDBW - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:30:38 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS2O_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MP302-1.dgn

LEGEND:

WORK AREA

PORTABLE CONCRETE BARRIER



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 1, STEP 3 - OLD BROADWAY AVE. STA 197+50.00 TO STA 202+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER: BNC

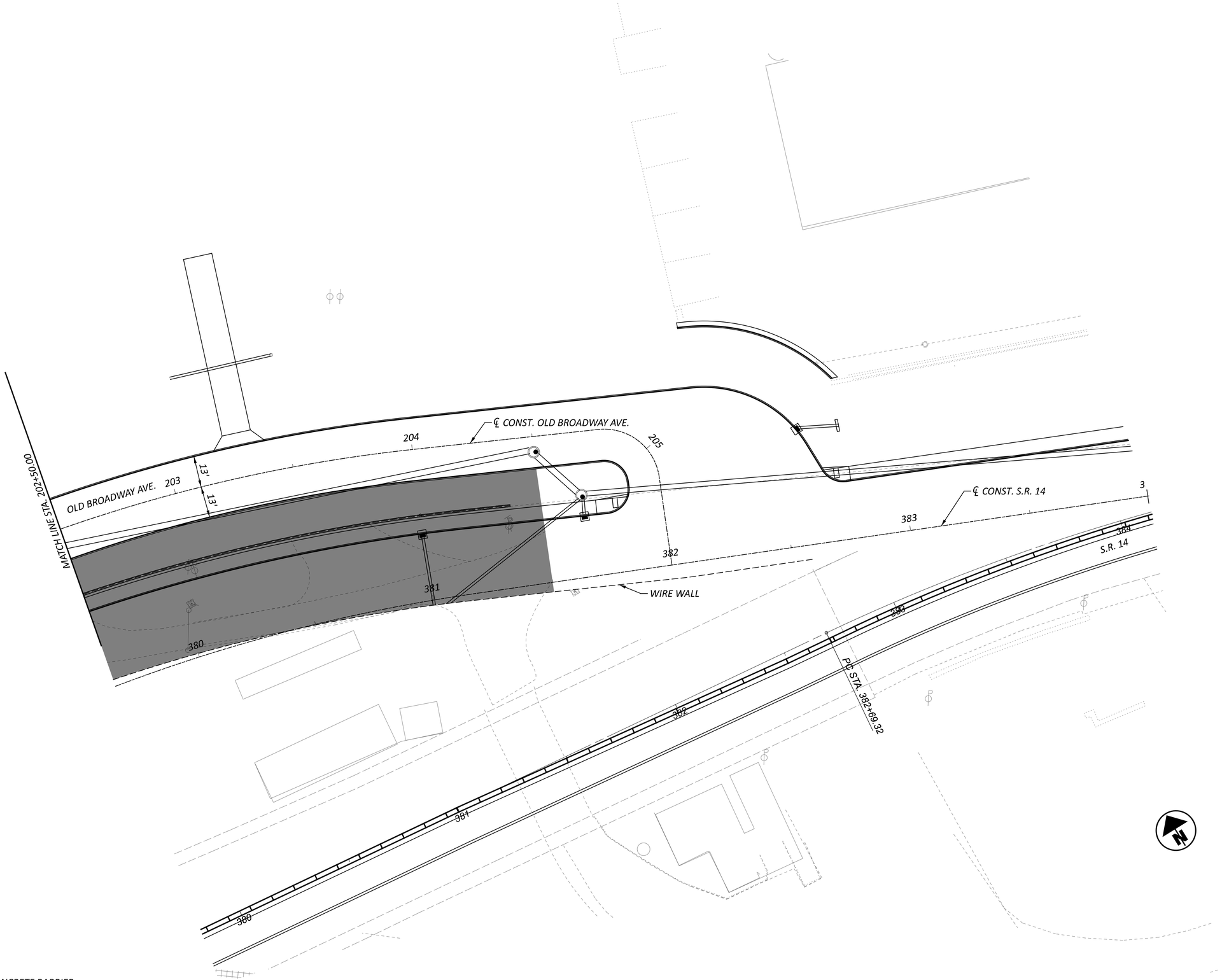
REVIEWER: MAW 01/16/23

PROJECT ID: 104132

SHEET: P.28 TOTAL: 329

CUY-14-6.93

MODEL: CLP_OLDBW - Plan 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:30:56 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MP301-2.dgn



LEGEND:

WORK AREA

PORTABLE CONCRETE BARRIER

MAINTENANCE OF TRAFFIC - PHASE 1, STEP 3 - OLD BROADWAY AVE. STA 202+50.00 TO STA 205+50.00

CUY-14-6.93

MODEL: CLP_OLDBW - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:31:14 PM USER: todd.roxberry
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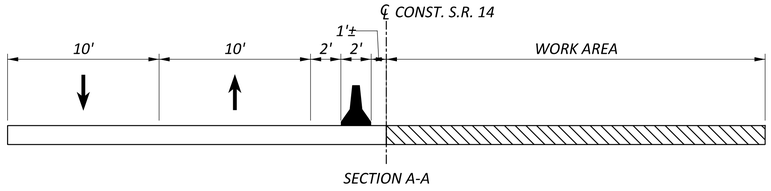
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

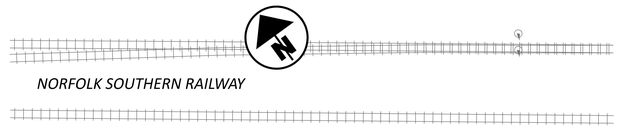
DESIGNER BNC

REVIEWER MAW 01/16/23

PROJECT ID 104132

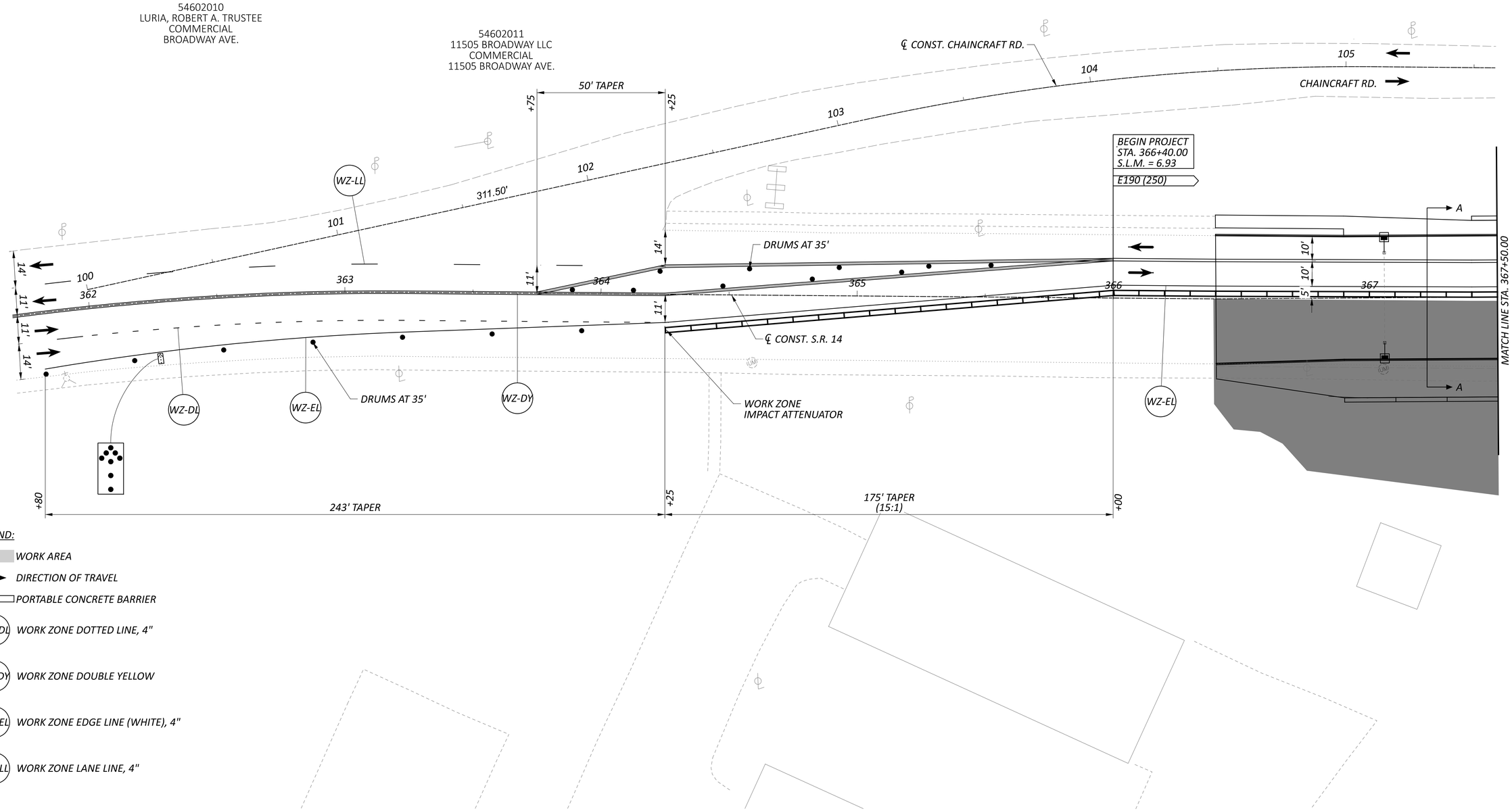
SHEET P.29 TOTAL 329





54602010
LURIA, ROBERT A. TRUSTEE
COMMERCIAL
BROADWAY AVE.

54602011
11505 BROADWAY LLC
COMMERCIAL
11505 BROADWAY AVE.



LEGEND:

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- (WZ-DL) WORK ZONE DOTTED LINE, 4"
- (WZ-DY) WORK ZONE DOUBLE YELLOW
- (WZ-EL) WORK ZONE EDGE LINE (WHITE), 4"
- (WZ-LL) WORK ZONE LANE LINE, 4"

HORIZONTAL SCALE IN FEET
0 10 20 40

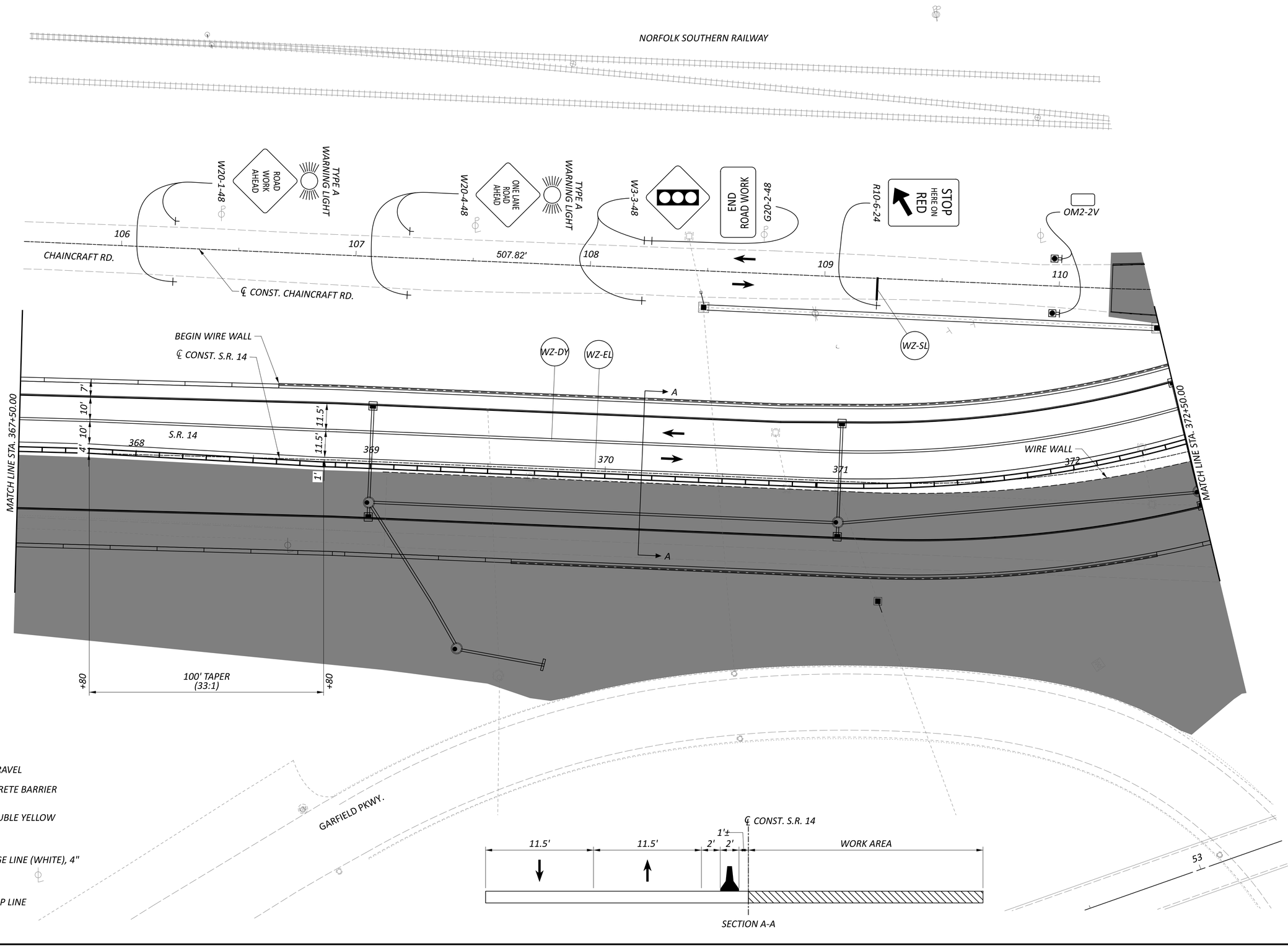
MAINTENANCE OF TRAFFIC - PHASE 2 - S.R. 14
BEGIN PROJECT TO 367+50.00

CUY-14-6.93

MODEL: CLP_S014 - Plan 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:31:33 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_D520_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MP001-2.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER: SAW
REVIEWER: MAW 01/16/23
PROJECT ID: 104132
SHEET: P.30 TOTAL: 329



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 2 - S.R. 14
367+50.00 R2 TO 372+50.00

CUY-14-6.93

MODEL: CLP_5014 - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:31:54 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MP002-2.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER SAW
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.31 TOTAL 329

LEGEND:

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- WZ-DY — WORK ZONE DOUBLE YELLOW
- WZ-SL — WORK ZONE EDGE LINE (WHITE), 4"
- WZ-SL — WORK ZONE STOP LINE

54603004
GARFIELD ALLOYS INC.
COMMERCIAL
BROADWAY AVE.

WHEELING AND LAKE ERIE RAILWAY

NORFOLK SOUTHERN RAILWAY

EX. 4' X 4' CULVERT

℄ CONST. OLD BROADWAY AVE.

198 199 200

CHAINCRAFT RD.

WZ-EL

WZ-DY

111 112

70.94'
S82°50'45"E

MATCH LINE STA. 372+50.00

372+50.00

S.R. 14

11.5' 11.5' 12.0'

375 374 375 376 377

377+50.00

MATCH LINE STA. 377+50.00

WIRE WALL

℄ CONST. S.R. 14

113

48.38'

114

ROAD CLOSED
MAINTAIN TRAFFIC USING
HENRY ST. DETOUR

EX. 4' X 6' CULVERT

54 55

℄ CONST. HENRY ST.

PROP. 8' X 4' CULVERT

℄ CONST. CHAINCRAFT RD.

EX. 22' X 7' CULVERT

54418001
BAUMANN PROPERTIES LTD
INDUSTRIAL
4775 CHAINCRAFT RD.

54418006
BAUMANN PROPERTIES LTD
INDUSTRIAL
CHAINCRAFT RD.

HORIZONTAL
SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 2 - S.R. 14
372+50.00 TO 377+50.00

CUY-14-6.93

MODEL: CLP_5014 - Plan 3 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:32:12 PM USER: todd.roxberry
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DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER SAW
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.32 TOTAL 329

54603004
GARFIELD ALLOYS INC
COMMERICIAL
BROADWAY AVE.

54605010
FILLING DEVELOPMENT LLC
COMMERICIAL
CHERRY ST.

54605004
12307 BROADWAY LLC
INDUSTRIAL
12307 BROADWAY AVE.

℄ CONST. OLD BROADWAY AVE.

OLD BROADWAY AVE.

201 202 203 204 205

WZ-EL

WZ-DY

11.5' 11.5' 12.0'

378 379 380 381 382

℄ CONST. S.R. 14

WIRE WALL

MATCH LINE STA. 377+50.00

MATCH LINE STA. 382+50.00

NORFOLK SOUTHERN RAILWAY

WHEELING AND LAKE ERIE RWY

54418004
FANTON REALTY LLC
INDUSTRIAL
12400 BROADWAY AVE.

LEGEND:

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- WZ-DY WORK ZONE DOUBLE YELLOW
- WZ-EL WORK ZONE EDGE LINE (WHITE), 4"

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 2 - S.R. 14
377+50.00 TO 382+50.00

CUY-14-6.93

MODEL: CLP_5014 - Plan 4 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:32:35 PM USER: todd.roxberry
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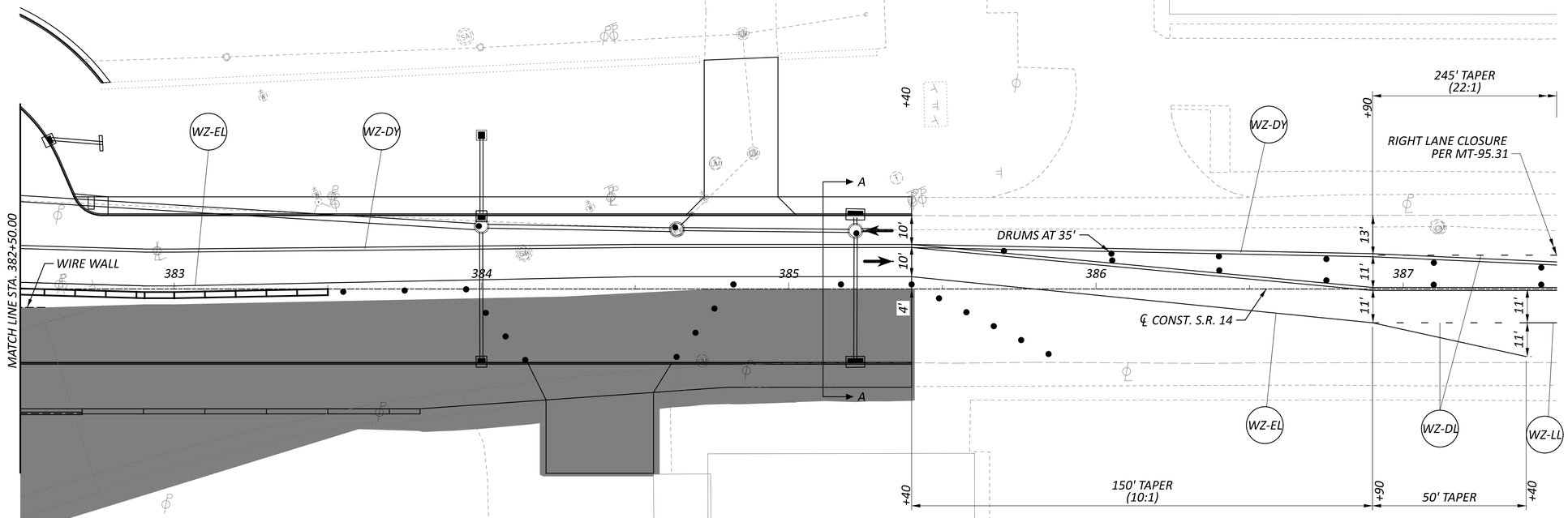
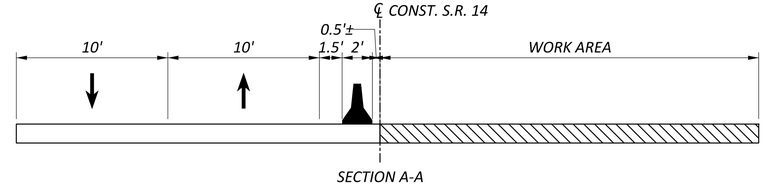
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER SAW
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.33 TOTAL 329

54605004
12307 BROADWAY LLC
INDUSTRIAL
12307 BROADWAY AVE.

54605005
QUALITY MANAGEMENT TEAM LLC
INDUSTRIAL
12321 BROADWAY AVE.





SECTION A-A

54418004
FANTON REALTY LLC
INDUSTRIAL
12400 BROADWAY AVE.

LEGEND:

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- (WZ-DL) WORK ZONE DOTTED LINE, 4"
- (WZ-DY) WORK ZONE DOUBLE YELLOW
- (WZ-EL) WORK ZONE EDGE LINE (WHITE), 4"
- (WZ-LL) WORK ZONE LANE LINE, 4"

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 2 - S.R. 14
382+50.00 TO END PROJECT

CUY-14-6.93

MODEL: CLP_5014 - Plan 5 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:32:56 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\MOT\Sheets\104132_MP005-2.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER SAW
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.34 TOTAL 329

MAINTENANCE OF TRAFFIC - PHASE 2, STEP 3 - CHAINCRAFT RD.
110+20.50 TO 115+50.00

HORIZONTAL SCALE IN FEET
0 10 20 40

NORFOLK SOUTHERN RAILWAY

DRUMS PLACED EVERY 25'

W1-19-48

OM2-2V

CHAINCRAFT RD.

℄ CONST. CHAINCRAFT RD.

110

111

112

113

114

115

116

70.94'

S62°50'45"E

14.2'

2.0'

49.28'

+21.50

100' TAPER

+51.00

100' TAPER

7.5'

WZ-EL

OM2-2V

22' x 7' CULVERT CONSTRUCTED IN PHASE 2 STEP 2

HENRY ST.

LEGEND:
- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- DRUMS
- WZ-EL — WORK ZONE EDGE LINE (WHITE), 4"

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	SAW
REVIEWER	MAW 01/16/23
PROJECT ID	104132
SHEET	P.35
TOTAL	329

CUY-14-6.93

MODEL: 104132_MP201-2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:33:16 PM USER: todd.roxberry
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NORFOLK SOUTHERN RAILWAY

DRUMS SPACED EVERY 25'

OM2-2V

CHAINCRAFT RD.

111

70.94'

S62°50'45"E

112

113

2.0'

13.0'

8.38'

℄ CONST. CHAINCRAFT RD.

110

8.7'

+71.50

100' TAPER

S.R. 14

100' TAPER

+51.00

WZ-EL

WZ-6L-48

116

114

115

9.2'

OM2-2V

HENRY ST.

LEGEND:

- WORK AREA
- DIRECTION OF TRAVEL
- PORTABLE CONCRETE BARRIER
- DRUMS
- WZ-EL — WORK ZONE EDGE LINE (WHITE), 4"

HORIZONTAL SCALE IN FEET

0 10 20 40

MAINTENANCE OF TRAFFIC - PHASE 2, STEP 4 - CHAINCRAFT RD.
110+20.50 TO 115+50.00

CUY-14-6.93

MODEL: 104132_MP201-2A PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:33:38 PM USER: todd.roxberry
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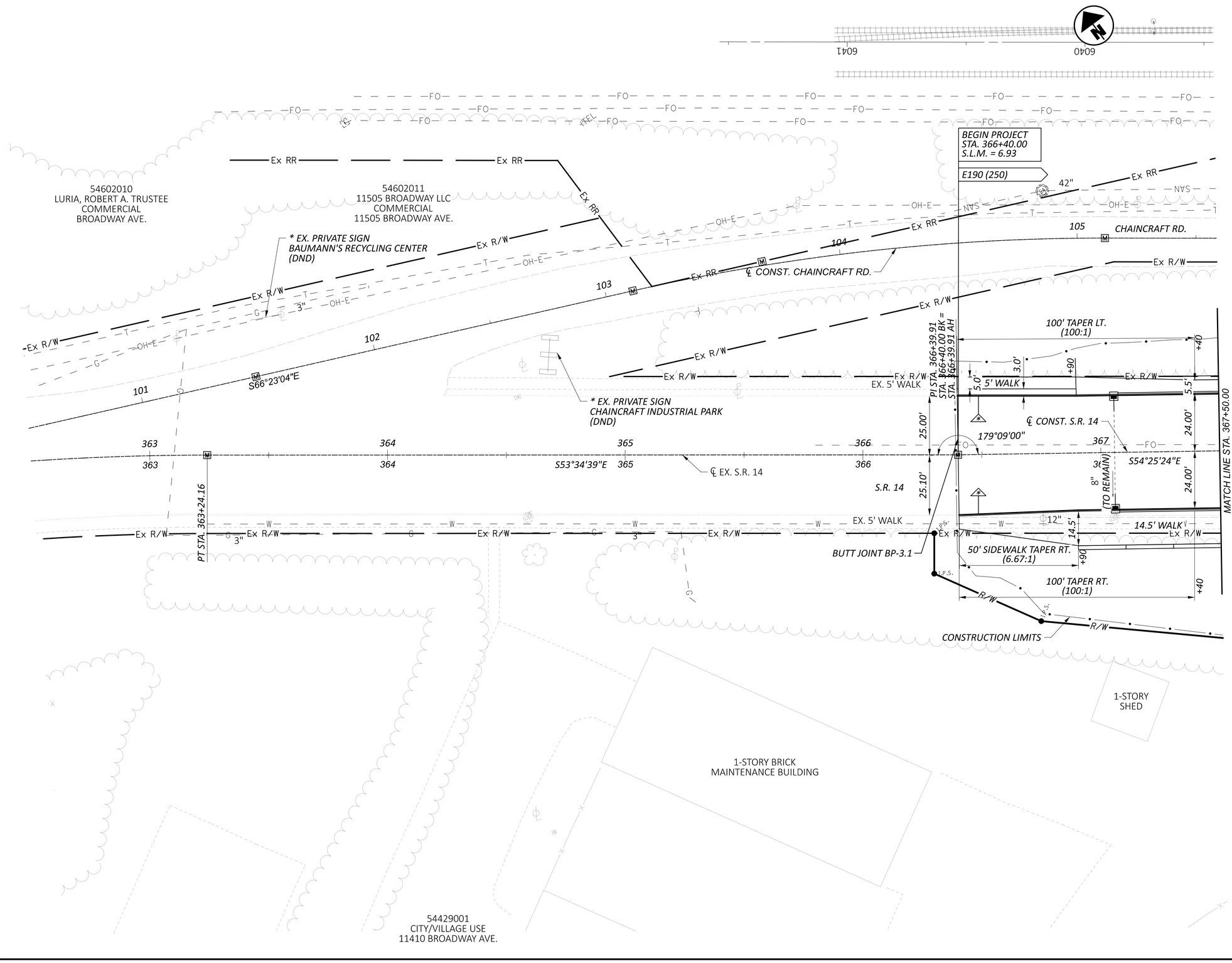
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	SAW
REVIEWER	MAW 01/16/23
PROJECT ID	104132
SHEET	P.36
TOTAL	329



LEGEND:

* 12" TYPE B

** 12" TYPE C

*Δ 15" TYPE B

Δ TRANSITION CURB HEIGHT FROM 6" TO MEET EXISTING OVER 10' LENGTH

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - S.R. 14
BEGIN PROJECT TO 367+50.00

CUY-14-6.93

MODEL: 104132_GP001 PAPERSIZE: 34x22 (in) DATE: 2/15/2023 TIME: 6:34:04 PM USER: toddroxberry
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DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER: RJJ
REVIEWER: MAW 01/16/23
PROJECT ID: 104132
SHEET: P.37 TOTAL: 329

MODEL: I04I32_GF00I PAPERSIZE: 34x22 (In.) DATE: 2/15/2023 TIME: 6:34:24 PM USER: todd.roxberry
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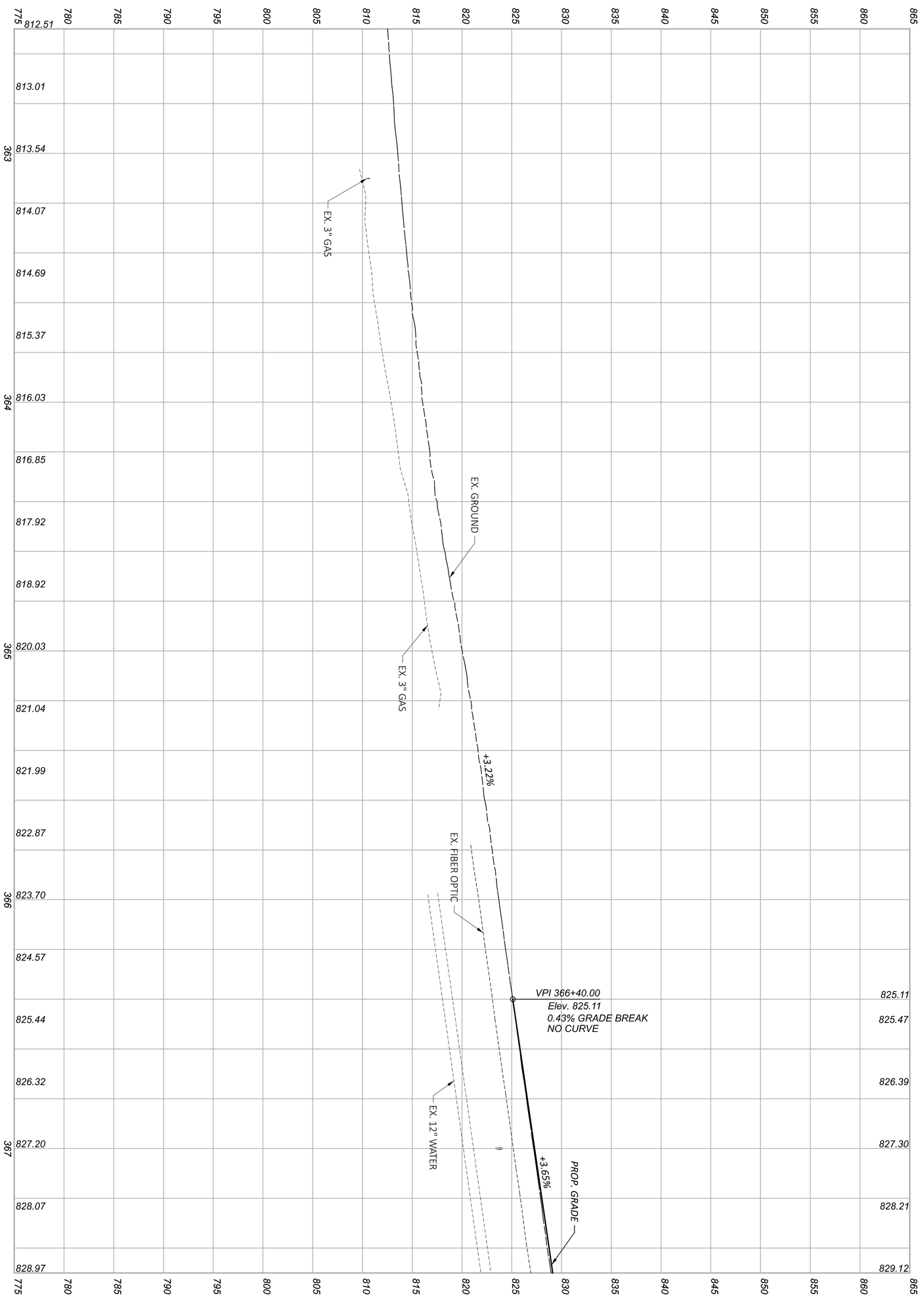
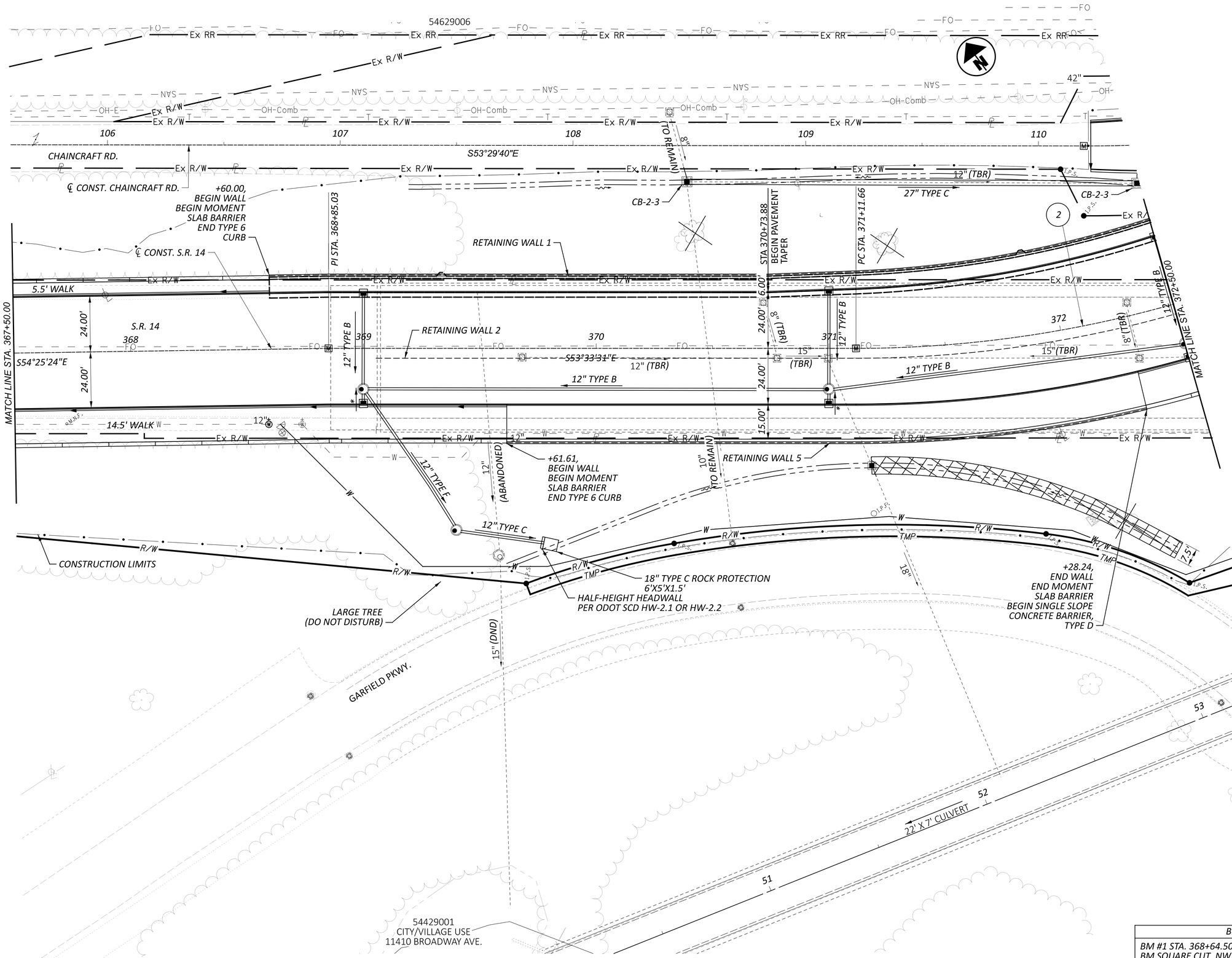


PROFILE - S.R. 14
BEGIN PROJECT TO 367+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P 38 TOTAL 329



(2) ℄ CONST. S.R. 14
CURVE DATA
P.I. = STA. 372+45.86
Δ = 30°02'53" LT
Dc = 11°27'33"
R = 500.00'
T = 134.20'
L = 262.22'
E = 17.70'
e = nc

NOTE:
WHERE STORM SEWER IS PLACED WITHIN MSE WALL BACKFILL LIMITS, USE REINFORCED CONCRETE PIPE PER C&MS 706.02 WITH PREMIUM JOINTS PER 706.11 AND WRAP THE JOINTS WITH GEOTEXTILE FABRIC TYPE A PER 712.09

LEGEND:

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURN REINFORCING MAT, TYPE 1

* 12" TYPE B

** 12" TYPE C

*Δ 15" TYPE B

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - S.R. 14
367+50.00 TO 372+50.00

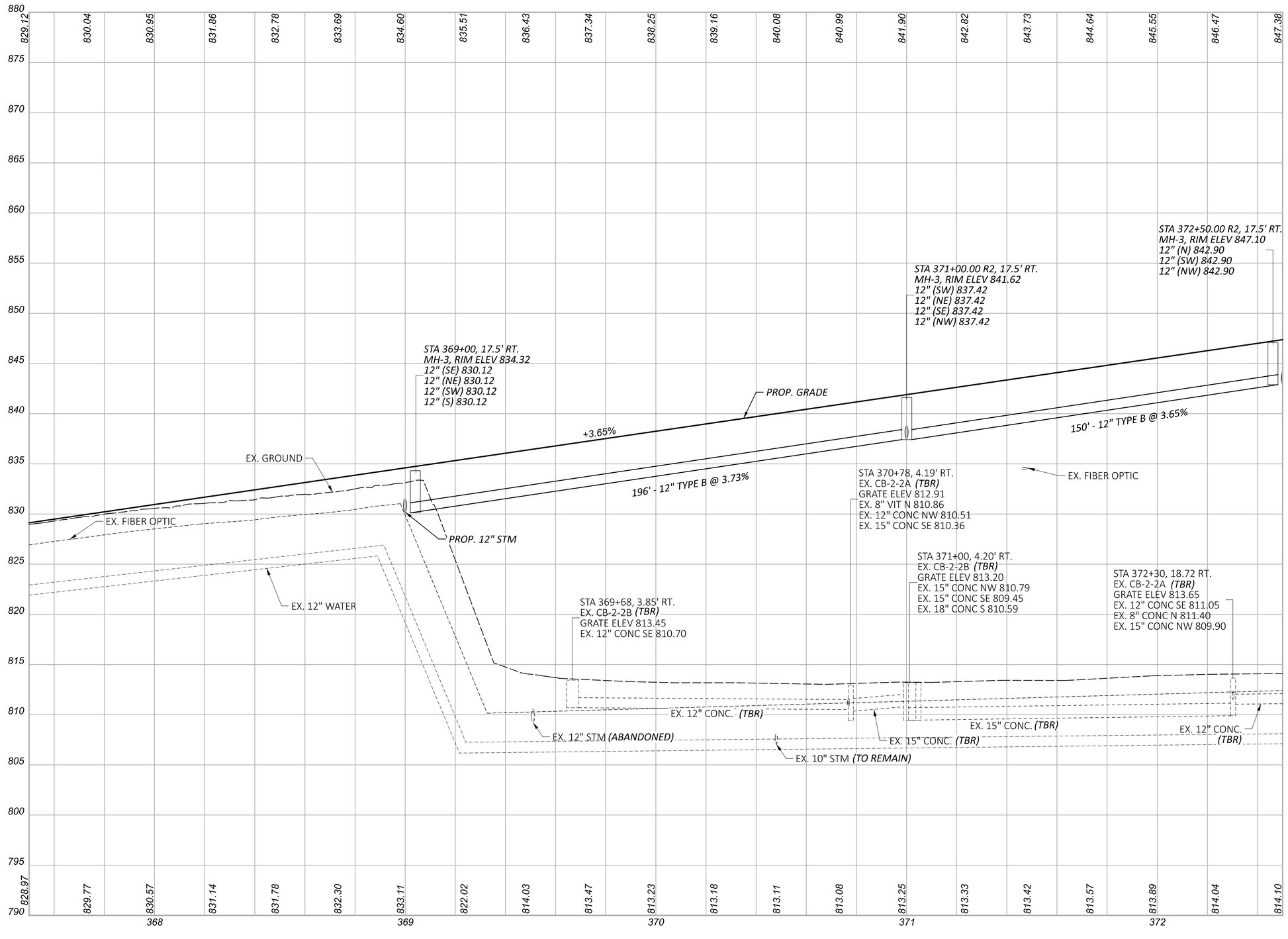
BENCHMARK DATA
BM #1 STA. 368+64.50, OFFSET 35.95', RIGHT, ELEV. 832.36
BM SQUARE CUT, NW CORNER - CONC BASE LIGHT POLE

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.39 TOTAL 329

CUY-14-6.93

MODEL: 104132_GP002 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:34:48 PM USER: toddroxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_209\Documents\60581903-CUY-I4-6.93\104132\400-Engineering\Roadway\Sheets\104132_GP002.dgn



PROFILE - S.R. 14
367+50.00 TO 372+50.00

CUY-14-6.93

MODEL: I0432_GF002 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:35:11 PM USER: toddroxberry
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DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER
RJJ

REVIEWER
MAW 01/16/23

PROJECT ID
104132

SHEET P.40 | TOTAL 329

NOTE:
WHERE STORM SEWER IS PLACED WITHIN MSE WALL BACKFILL LIMITS, USE REINFORCED CONCRETE PIPE PER C&MS 706.02 WITH PREMIUM JOINTS PER 706.11 AND WRAP THE JOINTS WITH GEOTEXTILE FABRIC TYPE A PER 712.09

LEGEND:

* 12" TYPE B

** 12" TYPE C

*Δ 15" TYPE B

1-STORY
INDUSTRIAL BUILDING

54603004
GARFIELD ALLOYS INC.
COMMERCIAL
BROADWAY AVE.

HALF-HEIGHT HEADWALL
PER ODOT SCD HW-2.1 OR HW-2.2
30" RCP INV 814.00'

EX. CULVERT
HEADWALL
(DND)

AREA RESERVED FOR BMP = 25' X 37'

30" TYPE B

66" (TO REMAIN)

℄ CONST. OLD BROADWAY AVE.

STA 376+42.42, 21.55' LT, ELEV 894.966
35.96' CLEARANCE TO BRIDGE DECK

SFN 1801806

54629006

54629005

WHEELING AND LAKE ERIE RWY

NORFOLK SOUTHERN RWY

CHAINCRAFT RD.

+52.25,
END WALL

STA 373+74.98
END PAVEMENT TAPER

EX. 4' X 4' CULVERT

MATCH LINE STA. 372+50.00

S.R. 14

℄ CONST. S.R. 14

S83°36'24"E

MATCH LINE STA. 377+60.00

RETAINING WALL 2

SINGLE SLOPE CONCRETE
BARRIER, TYPE D

STA 373+67
END APPROACH SLAB

RETAINING WALL 7

HENRY ST.

STA. 374+24.63, ℄ CONST. S.R. 14=
STA. 20+00.00, ℄ CONST. HENRY ST.

EX. 4' X 6' CULVERT

EX. 22' X 7' CULVERT

℄ CONST. HENRY ST.

EX. 22' X 7' CULVERT

PROP. 8' X 4' CULVERT

CONSTRUCTION LIMITS

SFN 1801805
(TO BE REMOVED)

℄ CONST. CHAINCRAFT RD.

STA 376+29.12, 11.83' RT, ELEV 894.614
35.70' CLEARANCE TO PROP. BRIDGE DECK

54418001
BAUMANN PROPERTIES LTD
INDUSTRIAL
4775 CHAINCRAFT RD.

1-STORY
INDUSTRIAL BUILDING

54418006
BAUMANN PROPERTIES LTD
INDUSTRIAL
CHAINCRAFT RD.

HORIZONTAL
SCALE IN FEET
0 10 20 40

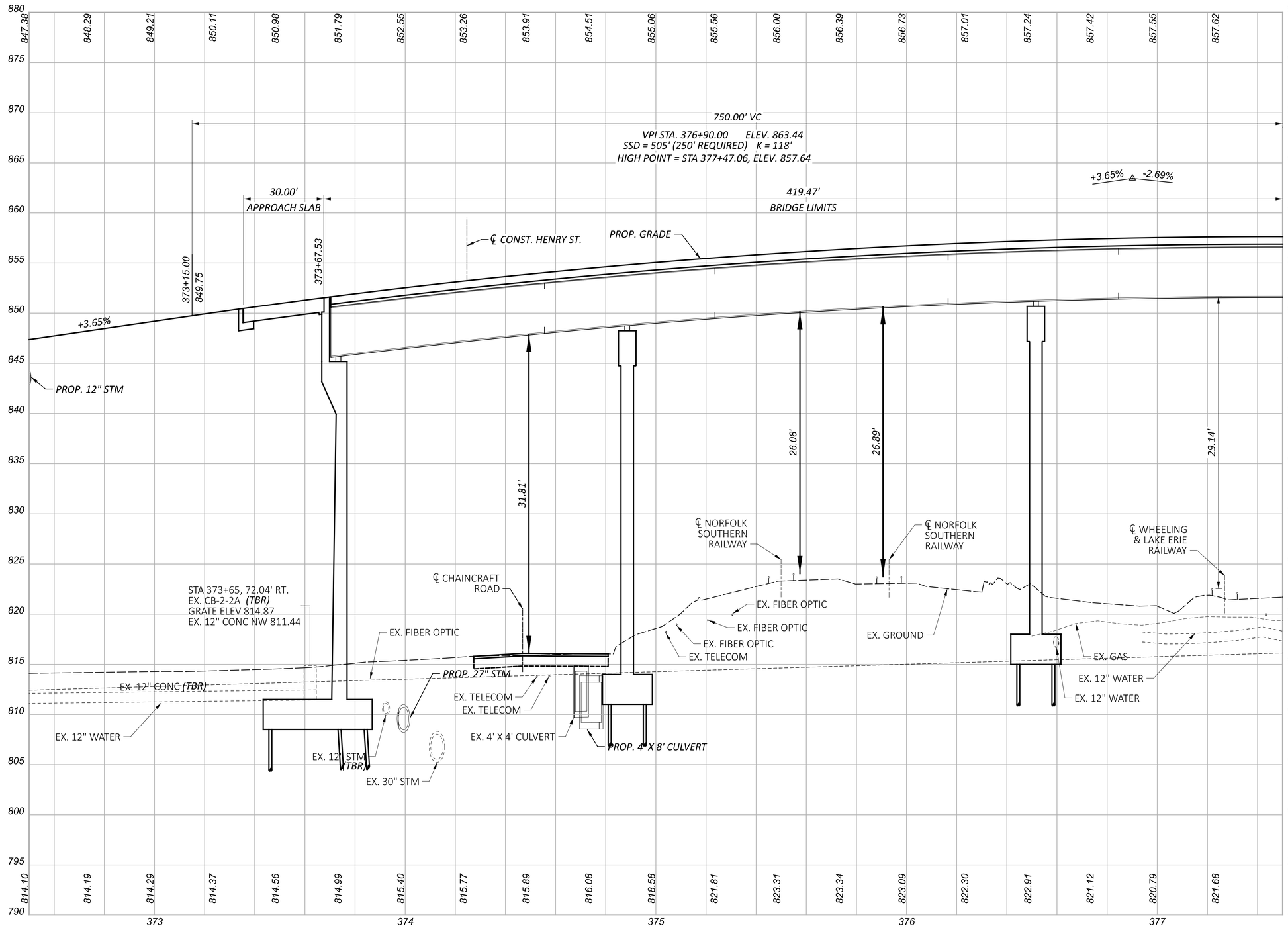
PLAN - S.R. 14
372+50.00 TO 377+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.41 TOTAL 329

CUY-14-6.93

MODEL: I04132_GP003 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:35:34 PM USER: toddroxberry
pw:\\aecom-nd-pw.bentley.com:AECOM_DS20_NA_2019_Documents\60581903-CUY-14-6.93\I04132\400-Engineering\Roadway\Sheets\I04132_GP003.dgn



PROFILE - S.R. 14
372+50.00 TO 377+50.00

CUY-14-6.93

MODEL: I0432_GF003 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:35:57 PM USER: todd.roxberry
pw:\\aecom-nd-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\I0432\400-Engineering\Roadway\Sheets\I0432_GF003.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER
RJJ

REVIEWER
MAW 01/16/23

PROJECT ID
104132

SHEET P.42 TOTAL 329

54603004
GARFIELD ALLOYS INC
COMMERICIAL
BROADWAY AVE.

54605010
FILLING DEVELOPMENT LLC
COMMERICIAL
CHERRY ST.

54605004
12307 BROADWAY LLC
INDUSTRIAL
12307 BROADWAY AVE.

54629006

54629005

MATCH LINE STA. 377+50.00

MATCH LINE STA. 382+50.00

PC STA. 201+81.00

STA. 379+05.92
BEGIN PAVEMENT TAPER

PT STA. 203+99.97

STA. 381+76.63
END PAVEMENT TAPER

PC STA. 204+77.65

PT STA. 205+12.93

POT STA. 205+50.00

PC STA. 379+05.92

PT STA. 381+16.08

12" TYPE D

48" SAN

30" TYPE B

13.00'

42"

RETAINING WALL

+50,
BEGIN WALL

+37,
END WALL

S64°18'19"E
IMPACT
ATTENUATOR

OLD BROADWAY AVE

℄ CONST. OLD BROADWAY AVE.

℄ CONST. S.R. 14
RETAINING WALL 4

RETAINING WALL 6

EX. GATE & CL FENCE
(TBR) 620 LF

END MOMENT SLAB
BARRIER, BEGIN CURB

EX. CONC WALL
12 LF (TBR)

24" TYPE B

12" TYPE B

35.00'

24.00'

14.50'

13.5' WALK

STA 377+84.00
BEGIN APPROACH SLAB

+83,
BEGIN WALL

CONSTRUCTION LIMITS

NORFOLK SOUTHERN RWY

WHEELING AND LAKE ERIE RWY

S.R. 14

1- STORY
INDUSTRIAL BUILDING
(DND)

EX. WATER
CONTAINER
(DND)

EX. CONC. WALL
(DND)

STA. 382+00.00, ℄ CONST. S.R. 14 =
STA. 205+50.00, ℄ CONST. OLD BROADWAY AVE.

3 ℄ CONST. S.R. 14
CURVE DATA
P.I. = STA. 380+11.80
Δ = 17°12'05" LT
Dc = 08°11'06"
R = 700.00'
T = 105.87'
L = 210.16'
E = 7.96'
e = nc

9 ℄ CONST. OLD BROADWAY AVE.
CURVE DATA
P.I. = STA. 202+91.54
Δ = 19°18'05" LT
Dc = 08°48'53"
R = 650.00'
T = 110.53'
L = 218.97'
E = 9.33'
e = nc

10 ℄ CONST. OLD BROADWAY AVE.
CURVE DATA
P.I. = STA. 204+99.82
Δ = 87°54'00" LT
Dc = 249°06'44"
R = 23.00'
T = 22.17'
L = 35.29'
E = 8.95'
e = nc

NOTE:
WHERE STORM SEWER IS PLACED WITHIN MSE WALL BACKFILL LIMITS, USE REINFORCED CONCRETE PIPE PER C&MS 706.02 WITH PREMIUM JOINTS PER 706.11 AND WRAP THE JOINTS WITH GEOTEXTILE FABRIC TYPE A PER 712.09

LEGEND:

* 12" TYPE B

** 12" TYPE C

*Δ 15" TYPE B

HORIZONTAL
SCALE IN FEET
0 10 20 40

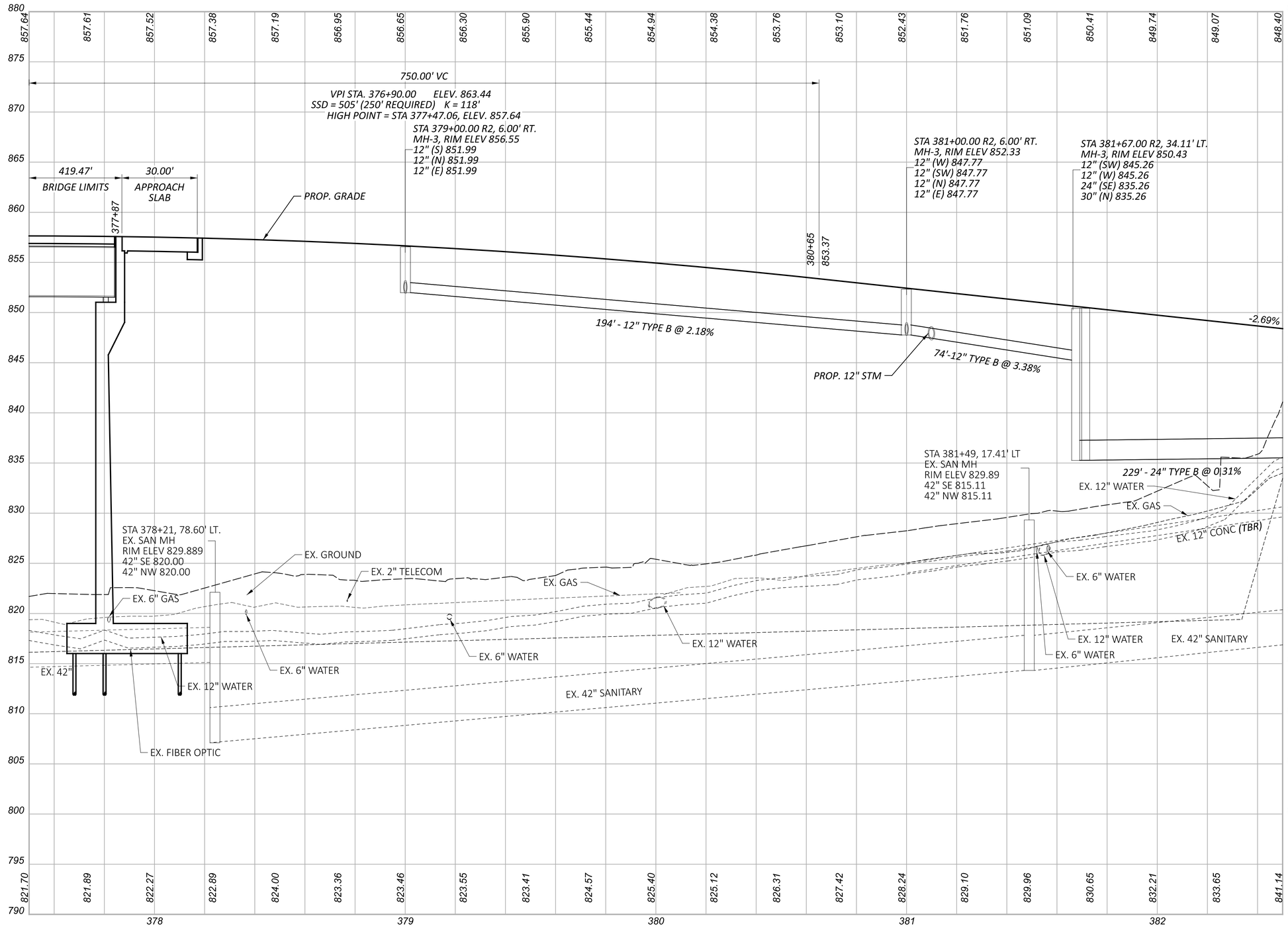
PLAN - S.R. 14
377+50.00 TO 382+50.00

CUY-14-6.93

MODEL: CLP_5014 - Plan Sheet 4 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:50:20 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_GP004.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER RJJ
REVIEWER XXX MM-DD-YY
PROJECT ID 104132
SHEET P.43 TOTAL 329



PROFILE - S.R. 14
377+50.00 TO 382+50.00

CUY-14-6.93

MODEL: 104132_GF004 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:36:15 PM USER: toddroxberry
pw:\\aecom-nd-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_GF004.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER
RJJ

REVIEWER
MAW 01/16/23

PROJECT ID
104132

SHEET P.44 | TOTAL 329

54605004
12307 BROADWAY LLC
INDUSTRIAL
12307 BROADWAY AVE.

54605009

54605005
QUALITY MANAGEMENT TEAM LLC
INDUSTRIAL
12321 BROADWAY AVE.

1-STORY BRICK
OFFICE BUILDING

1-STORY
OFFICE BUILDING &
STORAGE WAREHOUSE

LEGEND:

** 12" TYPE B*

*** 12" TYPE C*

**Δ 15" TYPE B*

TRANSITION CURB HEIGHT FROM 6" TO MEET EXISTING OVER 10' LENGTH

HORIZONTAL SCALE IN FEET
0 10 20 40

EX. WALL TO BE REMOVED OR BURIED WEST OF THE PROPOSED CURB

EX. CONC WALL (DND)

EX. CONC WALL (DND)

EX. CONC. WALK (TBR)

EX. PRIVATE SIGN W/ CONC CURB POMPILI PRECAST CONCRETE (DND)

8" (TO REMAIN)

6" (TO REMAIN)

(TO REMAIN)

8" (TO REMAIN)

(DND)

(DND)

10"

TMP

TMP

+84.50

12.00' 12.00'

Ex R/W

12" (TO REMAIN)

12" (TBR)

24" TYPE B

15" TYPE B

12" TYPE B

42"

48"

12" (TO REMAIN)

12" (TO REMAIN)

EX. 5.5' WALK

℄ CONST. S.R. 14

MATCH LINE STA. 382+50.00

383

384

385

386

387

12" TYPE B

24.00'

90°

14.50'

7.50'

S.R. 14

EX. 7.5' WALK

17.50'

17.50'

+38.50

+68, END WALL

END MOMENT SLAB BARRIER

BEGIN CONCRETE BARRIER, TYPE D

EX. CONC. BLOCK WALL (TBR) 70 LF

END CONCRETE BARRIER, TYPE D

CONSTRUCTION LIMITS

+80

100.00' SIDEWALK TAPER RT. (16,67:1)

EX. BLDG. (DND)

END PROJECT STA. 385+40.00 S.L.M. = 7.29

E190 (250)

2-STORY
OFFICE BUILDING &
STORAGE WAREHOUSE

54418004
FANTON REALTY LLC
INDUSTRIAL
12400 BROADWAY AVE.

EX. CONC WALL (DND)

(DND)

(DND)

EX. CONC. WALL (DND)

Ex RR

54421019
FANTON REALTY LLC
INDUSTRIAL
12400 BROADWAY AVE.

1-STORY
SHED

BENCHMARK DATA

BM #2 STA. 382+56.95, OFFSET 5.75', RIGHT, ELEV. 851.152
BM SQUARE CUT, SW CORNER WING WALL

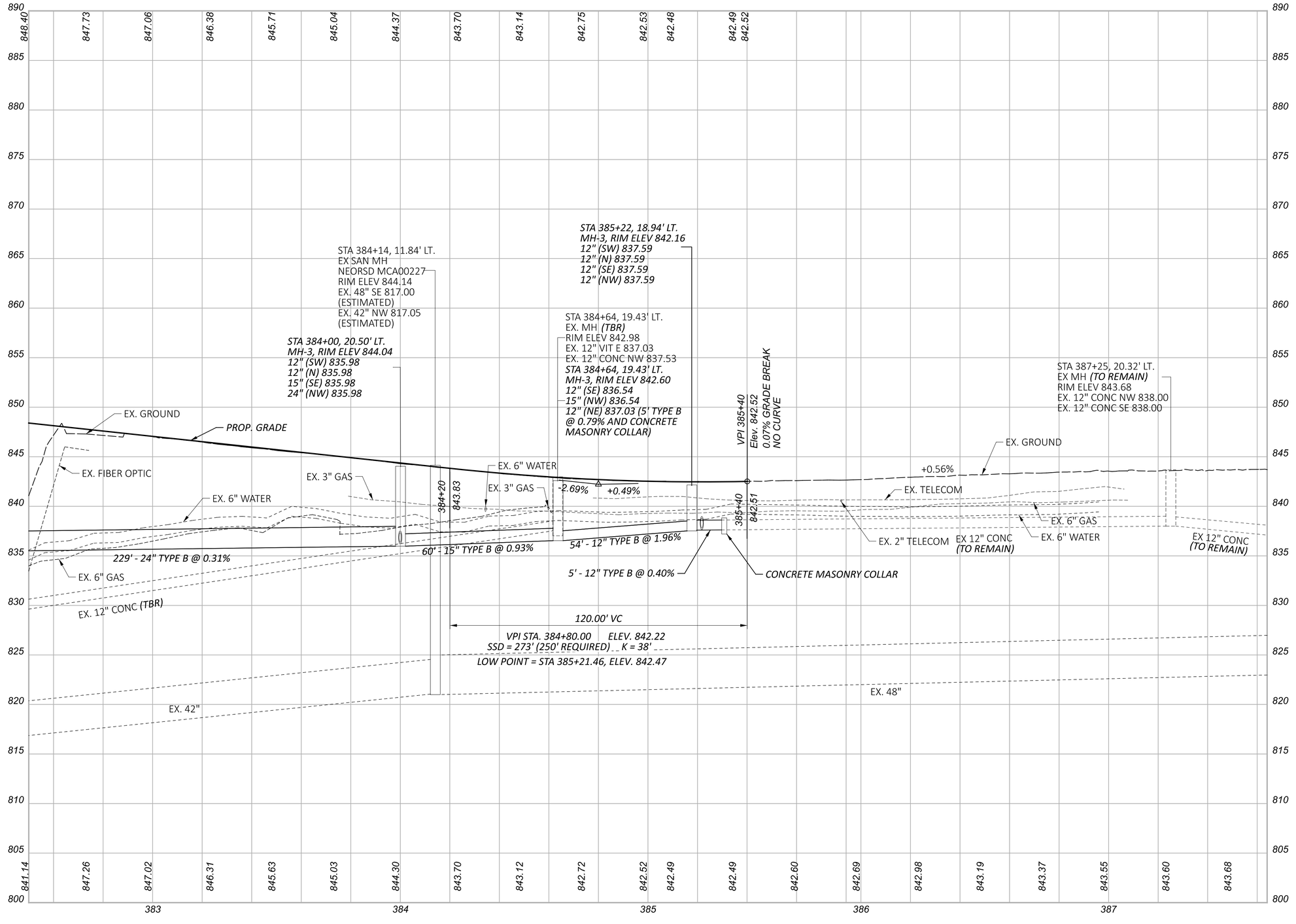
PLAN - S.R. 14
382+50.00 TO END

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.45 TOTAL 329

CUY-14-6.93

MODEL: I04132_GP005 PAPERSIZE: 34x22 (In.) DATE: 2/15/2023 TIME: 6:36:33 PM USER: toddroxberry
pw:\\aecom-nd-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\I04132\400-Engineering\Roadway\Sheets\I04132_GP005.dgn



PROFILE - S.R. 14
382+50.00 TO 385+55.00

CUY-14-6.93

MODEL: I0432_GF005 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:36:52 PM USER: todd.roxberry
pw:\\aecom-nd-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\I0432\400-Engineering\Roadway\Sheets\I0432_GF005.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER
RJJ

REVIEWER
MAW 01/16/23

PROJECT ID
104132

SHEET P.46 | TOTAL 329

℄ CONST. HENRY ST.
CURVE DATA
P.I. = STA. 16+98.99
Δ = 43°56'16" LT
Dc = 29°22'57"
R = 195.00'
T = 78.66'
L = 149.54'
E = 15.27'

NOTE:
WHERE STORM SEWER IS PLACED WITHIN MSE WALL BACKFILL LIMITS, USE REINFORCED CONCRETE PIPE PER C&MS 706.02 WITH PREMIUM JOINTS PER 706.11 AND WRAP THE JOINTS WITH GEOTEXTILE FABRIC TYPE A PER 712.09

LEGEND:

* 12" TYPE B

** 12" TYPE C

*Δ 15" TYPE B

54429001
CITY/VILLAGE USE
11410 BROADWAY AVE.

EX. RETAINING WALL TO BE PARTIALLY REMOVED OR BURIED WITHIN THE NEW RW LIMITS

EX. 22' X 7' CULVERT

EX. RETAINING WALL (DO NOT DISTURB)

STA. 16+40.00 LT. & RT. BEGIN PAVEMENT TAPER

STA. 17+40.00 LT. & RT. END PAVEMENT TAPER

END SINGLE SLOPE CONCRETE BARRIER

21" TYPE C

21" TYPE F

EX. WALL (DND)

STA. 20+00.00, ℄ CONST. HENRY ST. = STA. 374+24.63, ℄ CONST. S.R. 14

SINGLE SLOPE CONCRETE BARRIER TYPE D

℄ CONST. S.R. 14

CONSTRUCTION LIMITS

EX. STORM MANHOLE (ADJUST TO GRADE)

12" (TO REMAIN)

BUTT JOINT PER BP-3.1

HENRY ST.

BEGIN WORK STA. 15+00.00

℄ CONST. HENRY ST.

+40, BEGIN WALL BEGIN MOMENT SLAB BARRIER END TYPE 6 CURB

RETAINING WALL 7

EX. WALL (TBR)

18" TYPE B

12" TYPE B

+32, END WALL

PT STA. 373+72.88

80°36'56"

54429001
CITY/VILLAGE USE
11410 BROADWAY AVE.

54417026
BAUMANN PROPERTIES LTD
INDUSTRIAL
4876 CHAINCRAFT RD.

1-STORY COMMERICIAL SERVICE GARAGE

1-STORY INDUSTRIAL BUILDING

℄ CONST. CHAINCRAFT RD.

CHAINCRAFT RD.

54418001
BAUMANN PROPERTIES LTD
INDUSTRIAL
4775 CHAINCRAFT RD.

NORFOLK SOUTHERN RWY

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - HENRY STREET
15+00.00 TO 20+00.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.47 TOTAL 329

CUY-14-6.93

MODEL: 104132_GP101 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:37:16 PM USER: todd.roxberry
pw:\\aecom-nd-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60588903-CUY-14-6.93\104132 400-Engineering\Roadway\Sheets\104132_GP101.dgn

PROFILE - HENRY STREET
15+00.00 TO 20+00.00

EX. GROUND

-3.27%

-4.17%

VPI 15+00.00
Elev. 855.59
0.90% GRADE BREAK
NO CURVE

855.59 854.55 853.50 852.52 851.68 850.95 850.36 849.90 849.56 849.35 849.28 849.33 849.50 849.81 850.25 850.75 851.25 851.75 852.25 852.75 853.25

STA 15+89, 0.53' LT.
MH-3, RIM ELEV 851.85'
(ADJUST TO GRADE)

STA 16+50, 2.18' LT
MH-3, RIM ELEV 850.92
12" (W) 844.19
12" (E) 844.19
18" (N) 843.94
12" (S) 844.90

STA 16+89, 12.74' LT.
EX. MH (TBR)
RIM ELEV 849.81
EX. 12" VIT SW 845.11
EX. 12" VIT E 845.11
EX. 12" VIT SE 844.81
EX. 12" VIT N 840.76

STA 17+50, 4.00' LT.
MH-3, RIM ELEV 849.22
18" (S) 843.21
12" (W) 843.21
12" (E) 843.21
18" (N) 843.21

STA 18+00, 8.75' LT.
MH-3, RIM ELEV 849.36
18" (S) 842.92
12" (N) 844.92
21" (W) 842.92

STA 19+00.00, 8.75' LT.
MH-3, RIM ELEV 851.11
12" (W) 847.27
12" (E) 847.27
12" (S) 847.27

VPI 19+42.41
Elev. 852.10
EDGE OF
PAVEMENT S.R. 14

VPI 20+00.00
Elev. 853.25

PROP. GRADE

+2.00%

EX. 8" WATER

EX. 6" WATER

15+50.00
853.50

CONCRETE COLLAR

-4.17% +2.00%

EX. 12"
(TO REMAIN)

EX. 12" VIT
(TO REMAIN)
4' - 12" TYPE B @ 0.22%

EX. 12" VIT
(TBR)

97' - 18" TYPE B @ 0.76%

47' - 18" TYPE B @ 0.61%

96' - 12" TYPE B @ 2.45%

EX. 12" VIT
(TBR)

18+50.00
850.25

300.00' VC

VPI STA. 17+00.00 ELEV. 847.25
SSD = 248' (155' REQUIRED) K = 49"
LOW POINT = STA 17+52.76, ELEV. 849.28

EX. 12" STM (TBR)

EX. 12" VIT (TBR)

EX. GROUND

STA 17+23, 9.63' LT.
EX. MH (TBR)
RIM ELEV 849.50
EX. 12" VIT S 837.75
EX. 12" VIT N 826.85

EX. 12" WATER

EX. 12" WATER

EX. 22' X 7' CULVERT

880 875 870 865 860 855 850 845 840 835 830 825 820 815 810 805 800 795 790

858.09 856.83 855.59 854.39 853.21 852.28 851.56 850.94 850.41 849.96 849.48 849.32 846.24 833.10 818.92 817.64 816.45 815.90 815.45 815.76 815.84 815.46 815.76

15 16 17 18 19 20

CUY-14-6.93

MODEL: 104132_GF101 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:37:36 PM USER: toddroxberry
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DESIGN AGENCY

AECOM

564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	RJJ
REVIEWER	MAW 01/16/23
PROJECT ID	104132
SHEET	P.48
TOTAL	329

LEGEND:

* 12" TYPE B

** 12" TYPE C

*Δ 15" TYPE B

(6) CURVE DATA
P.I. = STA. 110+69.52
Δ = 09°21'05" LT
Dc = 09°22'20"
R = 611.34'
T = 50.00'
L = 99.78'
E = 2.04'
e = nc

(7) CURVE DATA
P.I. = STA. 112+77.19
Δ = 78°27'33" LT
Dc = 53°47'56"
R = 106.50'
T = 86.95'
L = 145.84'
E = 30.99'
e = hc

(8) CURVE DATA
P.I. = STA. 114+59.45
Δ = 74°07'28" LT
Dc = 57°41'51"
R = 99.30'
T = 75.00'
L = 128.47'
E = 25.14'
e = nc

WHEELING AND LAKE ERIE RWY

NORFOLK SOUTHERN RWY

54629005

54629006

BEGIN PAVEMENT TAPER STA. 112+63.34 LT.

MEET EXISTING PAVEMENT
BEGIN PAVEMENT TAPER
10' LT. & RT.

BEGIN WORK
STA. 110+20.00

CHAINCRAFT RD.

27" TYPE B

22" TYPE B

12" (TBR)

30" COMBINED (DND)

40' TAPER RT. (20:1)

END PAVEMENT TAPER STA. 113+34.22 LT.

BEGIN PAVEMENT TAPER STA. 14+00.00 LT.

END PAVEMENT TAPER STA. 115+05.00 LT.

END WORK
STA. 115+50.00

STA. 113+82.61 RT.
BEGIN PAVEMENT TAPER

STA. 115+11.08 RT.
END PAVEMENT TAPER

S15°36'48"W

54418006
BAUMANN PROPERTIES LTD
INDUSTRIAL
CHAINCRAFT RD.

54418001
BAUMANN PROPERTIES LTD
INDUSTRIAL
4775 CHAINCRAFT RD.

1-STORY
INDUSTRIAL BUILDING

EX. STONE PLANTER
W/SHRUBS
(DND)

(2) EX. BOLLARDS
(DND)

℄ CONST. CHAINCRAFT RD

54417026
BAUMANN PROPERTIES LTD
INDUSTRIAL
4876 CHAINCRAFT RD.

1-STORY COMMERCIAL
SERVICE GARAGE

54429001
CITY/VILLAGE USE
11410 BROADWAY AVE.

℄ CONST. S.R. 14

GARFIELD PKWY.

EX. 22' X 7' CULVERT

CONSTRUCTION LIMITS

HENRY ST.

℄ CONST. HENRY ST.

HORIZONTAL
SCALE IN FEET
0 10 20 40

PLAN - CHAINCRAFT ROAD
110+20.00 TO 115+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
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www.aecom.com

DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.49 TOTAL 329

CUY-14-6.93

MODEL: 104132_GP20I PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:38:00 PM USER: toddroxberry
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PROFILE - CHAINCRAFT ROAD
110+20.00 TO 115+50.00

STA 110+42, 16.39' RT.
CB-2-3, GRATE ELEV 812.76
27" TYPE B NW 808.70
27" TYPE B E 808.70
6" UD N 810.37

STA 110+42, 16.39' RT.
EX. CB-2-2B (TBR)
GRATE ELEV 812.64
EX. 12" CONC NW 810.34
EX. 12" CONC E 808.62

STA 110+98, 4.59' RT.
EX. SAN MH (ADJUST TO GRADE)
RIM ELEV 814.74
EX. 30" CONC E 805.74

STA 112+73, 2.23' RT.
EX. MH (ADJUST TO GRADE)
RIM ELEV 815.59
EX. 30" CONC S 805.74
EX. 30" CONC NW 805.74

STA 112+48, 24.02' RT.
EX. CB-2-2B (TBR)
GRATE ELEV 814.81
EX. 12" CONC NW 810.01
EX. 12" CONC W 810.01

STA 113+00.00, 22.32' LT
CB-3A, GRATE ELEV 816.10
12" (E) 812.62
12" (S) 812.62
6" UD (S) 813.35

STA 113+16, 8.94' LT.
EX. MH (ADJUST TO GRADE)
RIM ELEV 815.78
EX. 30" CONC S 805.38
EX. 30" CONC N 805.38

STA 113+50.00, 15.00' LT
CB-3A, GRATE ELEV 816.59
12" (N) 811.33
12" (E) 811.33
15" (W) 811.08
6" UD (S) 813.85

STA 114+29, 2.19' LT.
EX. MH (ADJUST TO GRADE)
RIM ELEV 816.97
EX. 30" CONC SE 806.36
EX. 30" CONC N 806.36

STA 115+10, 3.89' LT.
EX. CB (ADJUST TO GRADE)
GRATE ELEV 817.84
EX. 30" CONC NW 806.68

50.00' VC
VPI STA. 111+62.00
ELEV. 815.61
SSD = 1024'
(155' REQUIRED)
K = 46'

50.00' VC
VPI STA. 115+05.00
ELEV. 817.86
SSD = 1325'
(155' REQUIRED)
K = 61'

VPI 110+20
Elev. 813.15
0.51% GRADE BREAK
NO CURVE

VPI 115+50.00
Elev. 817.79
0.13% GRADE BREAK
NO CURVE

111+37 815.18
111+87 815.77
114+80 817.70
115+30 817.82

EX. GROUND
PROP. 12" STORM
PROP. 27" OUTLET TO JUNCTION CHAMBER
FLOWLINE AT JUNCTION CHAMBER = 808.58
PROP. GRADE
+1.23%
+1.74%
+0.66%
+0.66%
-0.17%
-0.17%
-0.04%

EX. TELECOM
EX. 12" WATER
EX. 12" STORM (TBR)
55'-12" TYPE B @ 2.34%

EX. 12" CONC (TBR)
EX. 42"
34' - 27" TYPE B @ 0.06%
191' - 27" TYPE C @ 0.06%
SEE PROFILE ON SHEET P.109
46' - 27" TYPE B @ 0.07%
71' - 27" TYPE B @ 0.06%
55' - 27" TYPE B @ 0.05%
EX. 4' X 4' CULVERT (TO BE REMOVED)
PROP. JUNCTION CHAMBER
EX. 30" COMBINED SEWER (DO NOT DISTURB)
PROP. 15" STORM FLOWLINE AT CULVERT = 810.88
PROP. 8' X 4' CULVERT
EX. 22' X 7' CULVERT

STA 110+75, 0.00' RT.
MH-3, RIM ELEV 814.06
27" (SW) 808.68
27" (E) 808.68

STA 110+67, 25.72' LT.
EX SAN MH
RIM ELEV 812.77
EX 42" NE 805.00
EX 42" NW 805.00
EX 30" SE 805.00

STA 111+25, 3.00' RT.
MH-3, RIM ELEV 814.88
27" (W) 808.65
27" (E) 808.65
12" (N) 811.06

STA 112+00, 13.50' RT. (APP)
CB-3A, AS PER PLAN, GRATE ELEV 815.64
27" (W) 808.61
27" (E) 808.61
6" UD (E) 812.89

860 855 850 845 840 835 830 825 820 815 810 805 800 795 790 785 780 775 770

813.15 813.23 813.66 814.10 814.53 814.97 815.38 815.68 815.86 816.02 816.19 816.35 816.52 816.68 816.84 817.01 817.17 817.34 817.50 817.66 817.79 817.82 817.79

813.22 813.64 814.07 814.53 814.99 815.35 815.68 815.85 815.89 815.84 815.69 815.91 817.07 817.24 817.49 816.74 816.89 817.40 817.60 817.78 817.82 817.79 817.78

111 112 113 114 115

CUY-14-6.93

MODEL: 104132_GF201 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:38:22 PM USER: todd.roxberry
pw:\\aecom-nd-pw.bentley.com:AECOM_DS20_NA_2019_Documents\60588903-CUY-I4-6.93\104132\400-Engineering\Roadway\Sheets\104132_GF201.dgn

DESIGN AGENCY
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564 White Pond Drive
Akron, OH 44320
(330) 836-9111
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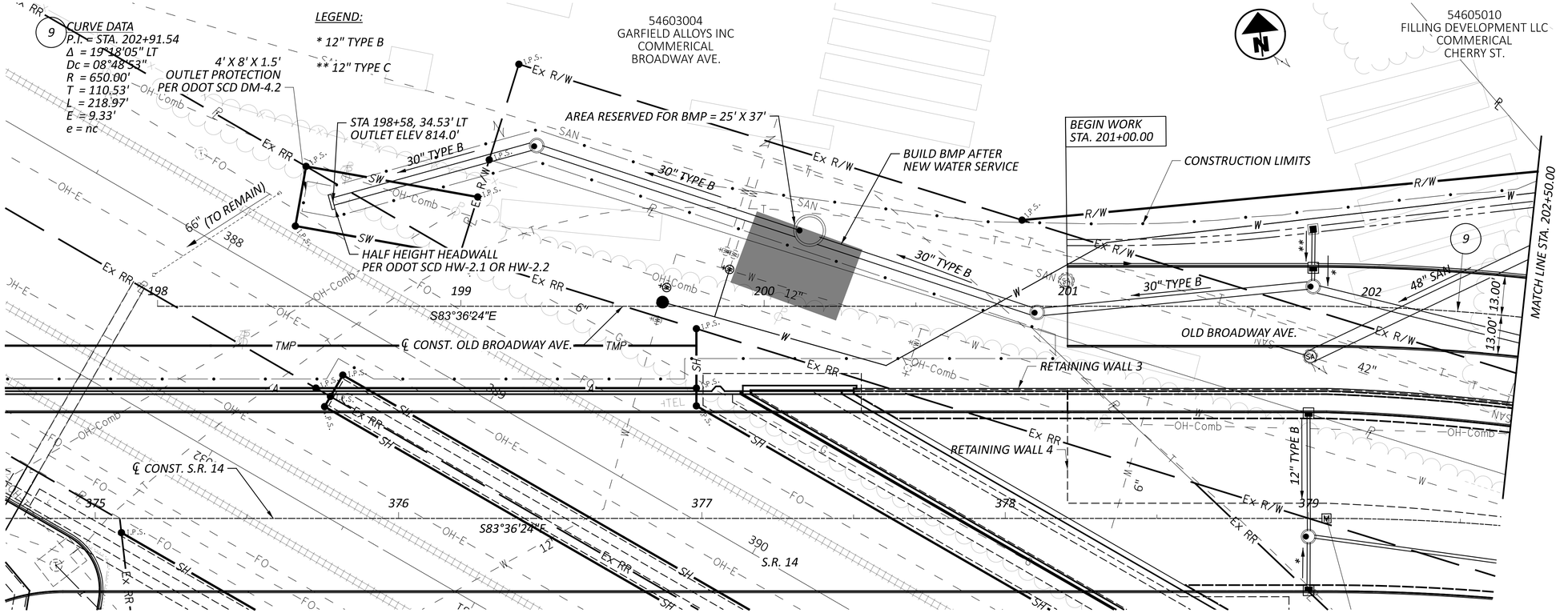
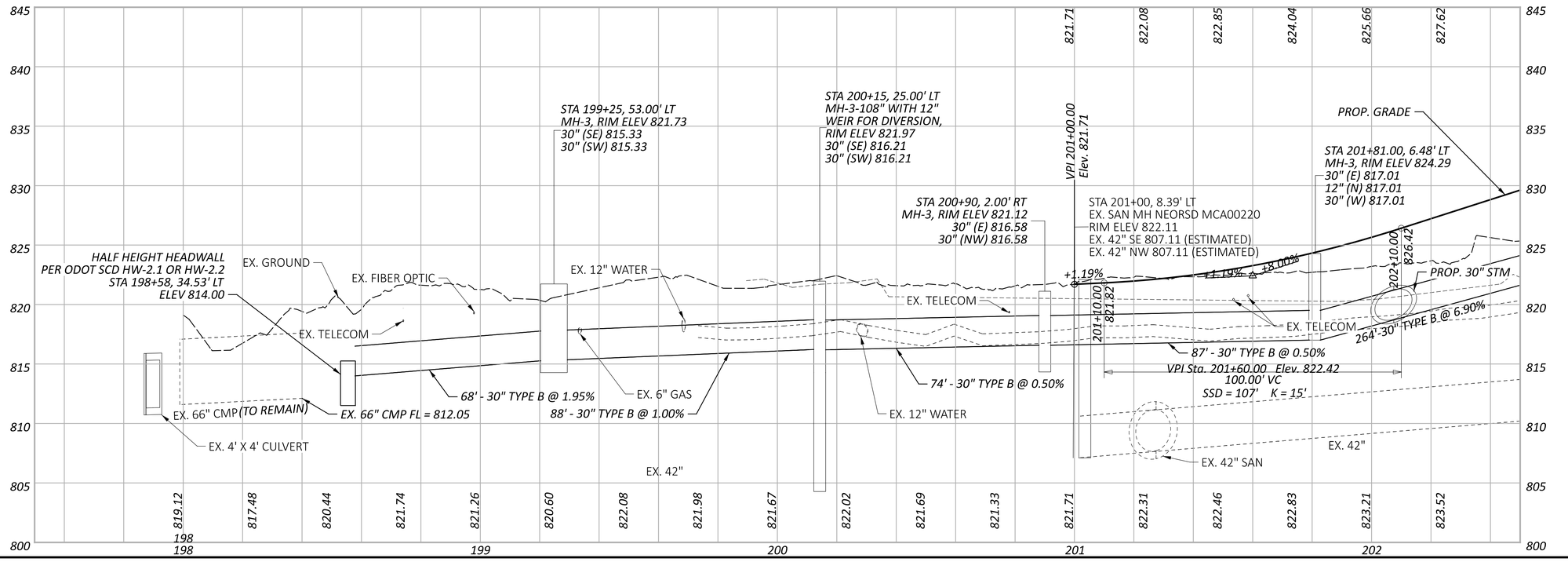
DESIGNER RJJ
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.50 TOTAL 329



FOR WATERLINE RELOCATION PLANS SEE P.128
FOR SANITARY RELOCATION PLANS SEE P.112



PLAN AND PROFILE - OLD BROADWAY AVENUE
197+50.00 TO 202+50.00

DESIGN AGENCY
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PROJECT ID 104132
SHEET P.51 TOTAL 329

CUY-14-6.93

MODEL: CLP_OLDBW - Plan 8 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:38:51 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_GP301.dgn

54605010
FILLING DEVELOPMENT LLC
COMMERCIAL
CHERRY ST.

1-STORY OFFICE
& STORAGE WAREHOUSE

54605004
12307 BROADWAY LLC
INDUSTRIAL
12307 BROADWAY AVE.

LEGEND:

* 12" TYPE B

** 12" TYPE C

*Δ 15" TYPE B

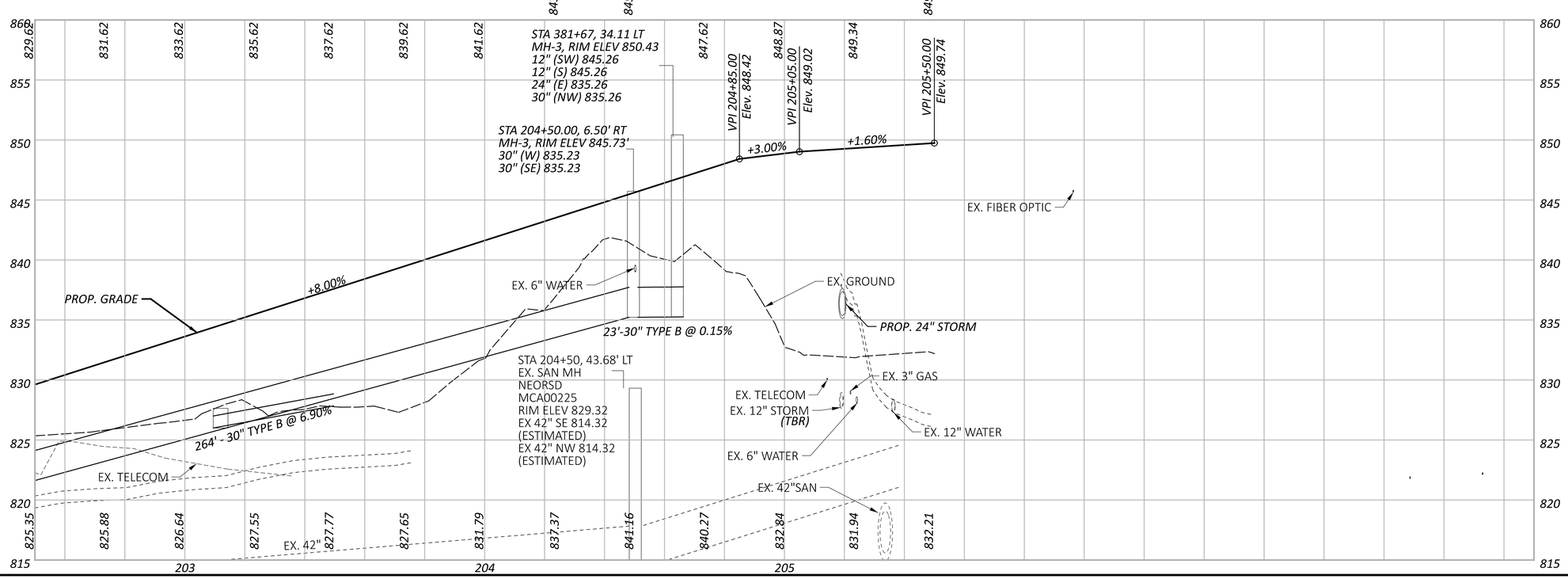
HORIZONTAL SCALE IN FEET
0 10 20 40

℄ CONST. OLD BROADWAY AVE.
CURVE DATA
P.I. = STA. 204+99.82
Δ = 87°54'00" LT
Dc = 249°06'44"
R = 23.00'
T = 22.17'
L = 35.29'
E = 8.95'
e = nc

CURVE DATA
P.I. = STA. 205+03.41
Δ = 50°44'52" LT
Dc = 75°53'18"
R = 75.50'
T = 35.81'
L = 66.87'
E = 8.06'

STA. 204+90.24, 48.44' LT.
STA. 205+06.15, 80.63' LT.
MATCH LINE STA 202+50.00
OLD BROADWAY AVE.
204
S64°18'19"E
℄ CONST. OLD BROADWAY AVE.
HALF-HEIGHT HEADWALL
PER ODOT SCD HW-2.1 OR HW-2.2
IMPACT ATTENUATOR
℄ CONST. S.R. 14
S.R. 14
STA. 205+50.00, ℄ CONST. OLD BROADWAY AVE. =
STA. 382+00.00, ℄ CONST. S.R. 14

8" (TO REMAIN)
6" (TO REMAIN)
10" (TO REMAIN)
12" TYPE D
48" SAN
30" TYPE B
12" TYPE B
24" TYPE B
15" TYPE B
42" SAN
12" (TBR)
12" TYPE C
90°
380
381
382
383
384
203
204
205



FOR WATERLINE RELOCATION PLANS SEE P.128
FOR SANITARY RELOCATION PLANS SEE P.112

PLAN AND PROFILE - OLD BROADWAY AVENUE
202+50.00 TO 205+50.00

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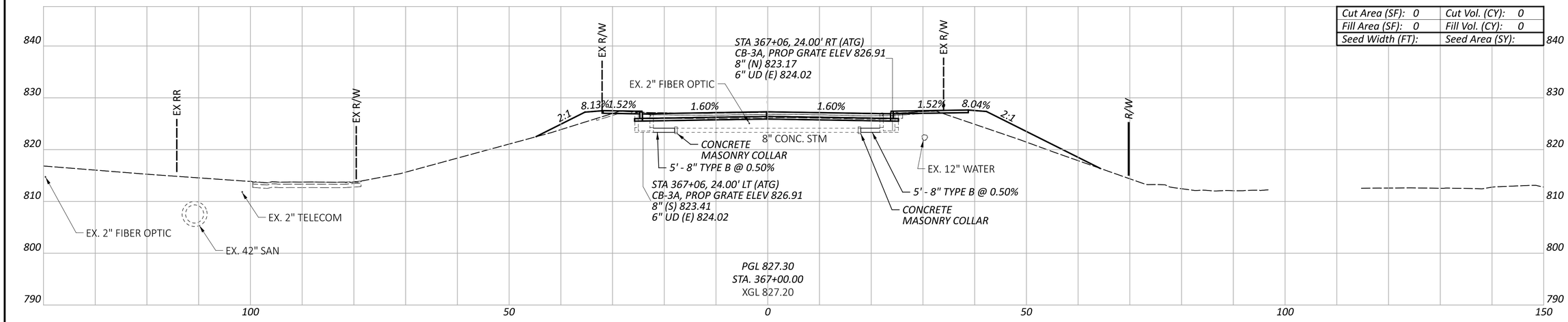
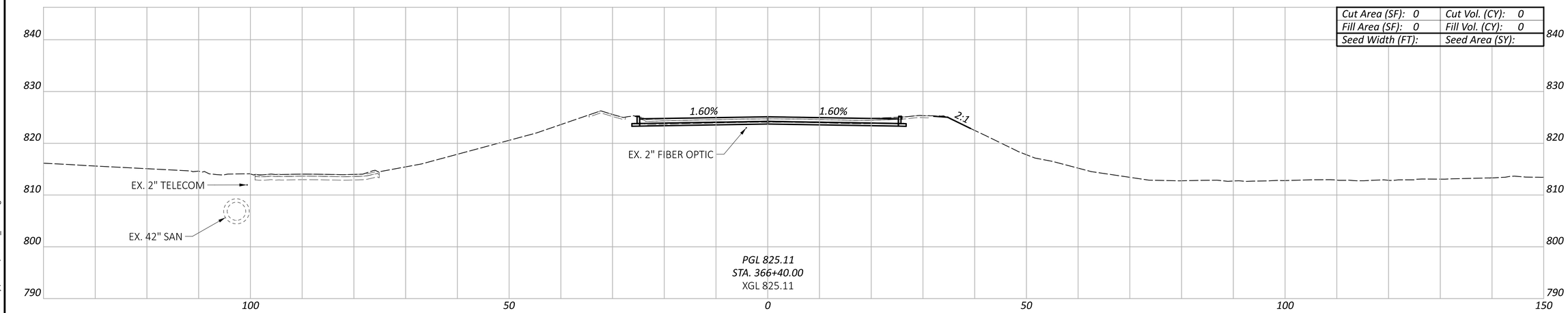
PROJECT ID
104132

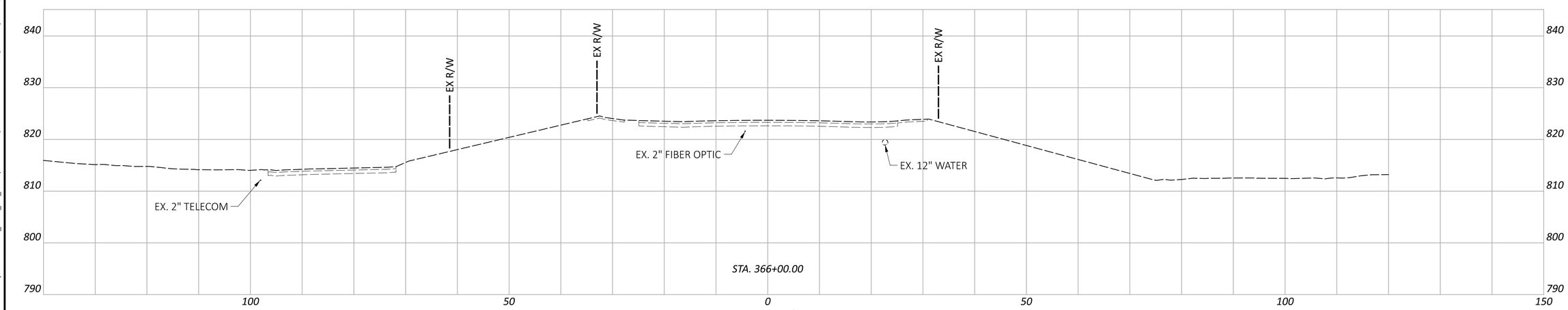
SHEET P.52 TOTAL 329

CUY-14-6.93

MODEL: CLP_OLDBW - Plan 9 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:39:16 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_GP302.dgn







CUY-14-6.93

MODEL: CLP_5014 - 366+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:39:45 PM USER: todd.roxberry
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CROSS SECTIONS - S.R. 14
366+00.00 TO 367+00.00

Sheet Totals		
Seeding	Cut	Fill
-	-	-

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REVIEWER MAW 01/16/23

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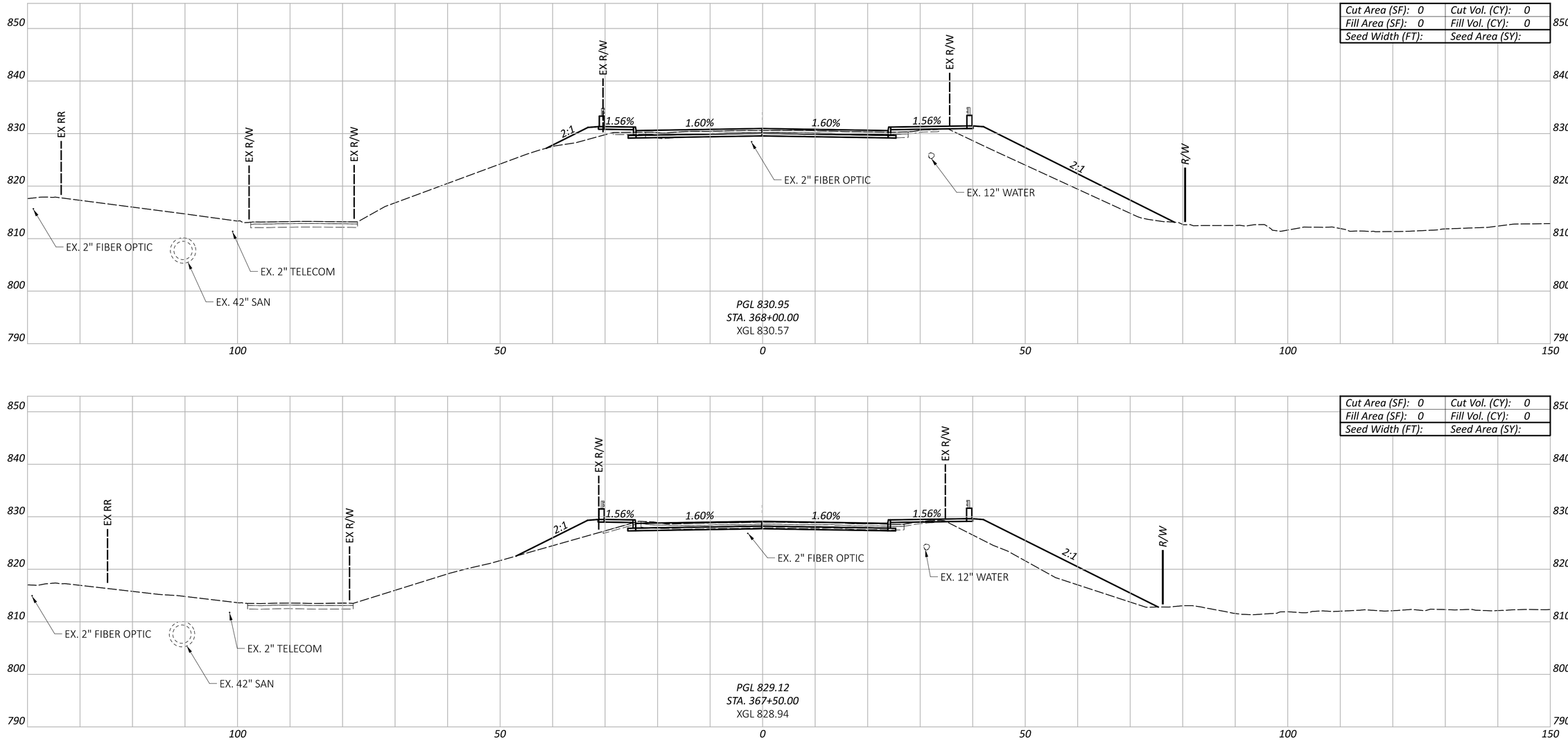
SHEET P.53 TOTAL 329



CUY-14-6.93

MODEL: CLP_S014 - 367+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:39:51 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS001.dgn

CROSS SECTIONS - S.R. 14
367+50.00 TO 368+00.00

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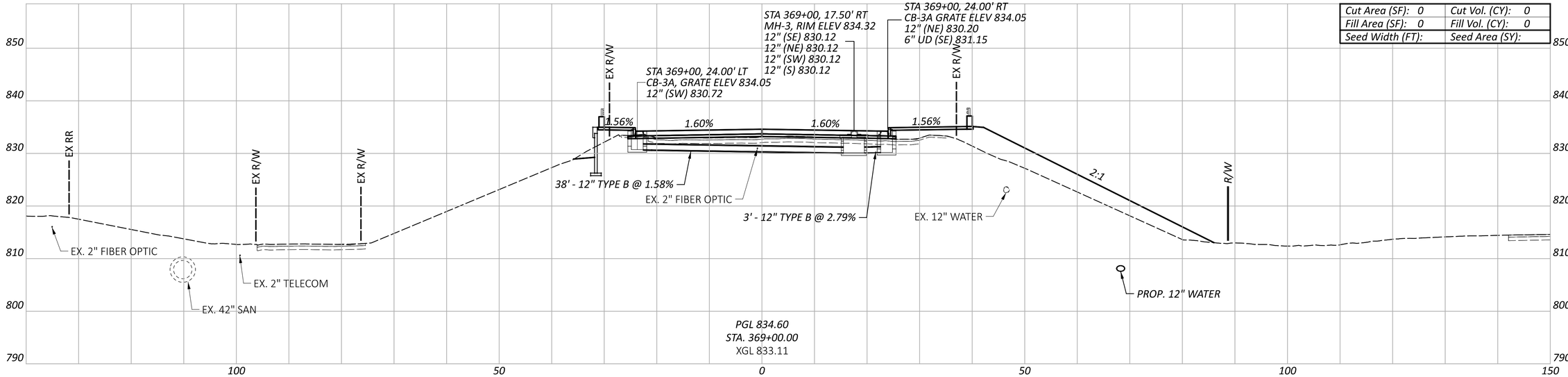
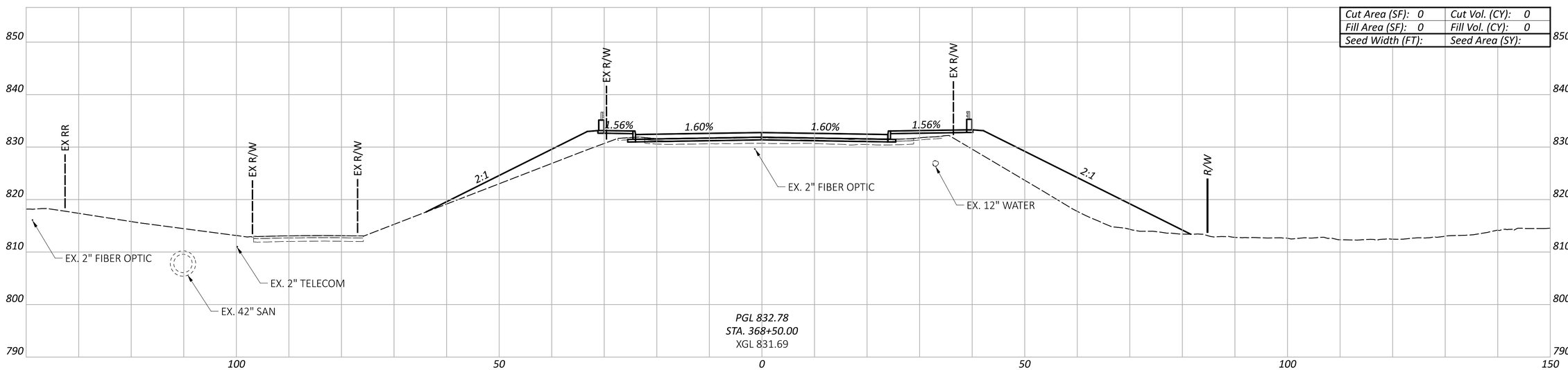
104132

Sheet Totals		
Seeding	Cut	Fill
-	-	-

SHEET P.54 TOTAL 329





CROSS SECTIONS - S.R. 14
368+50.00 TO 369+00.00

CUY-14-6.93

MODEL: CLP_S014 - 368+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:39:55 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS001.dgn

Sheet Totals		
Seeding	Cut	Fill
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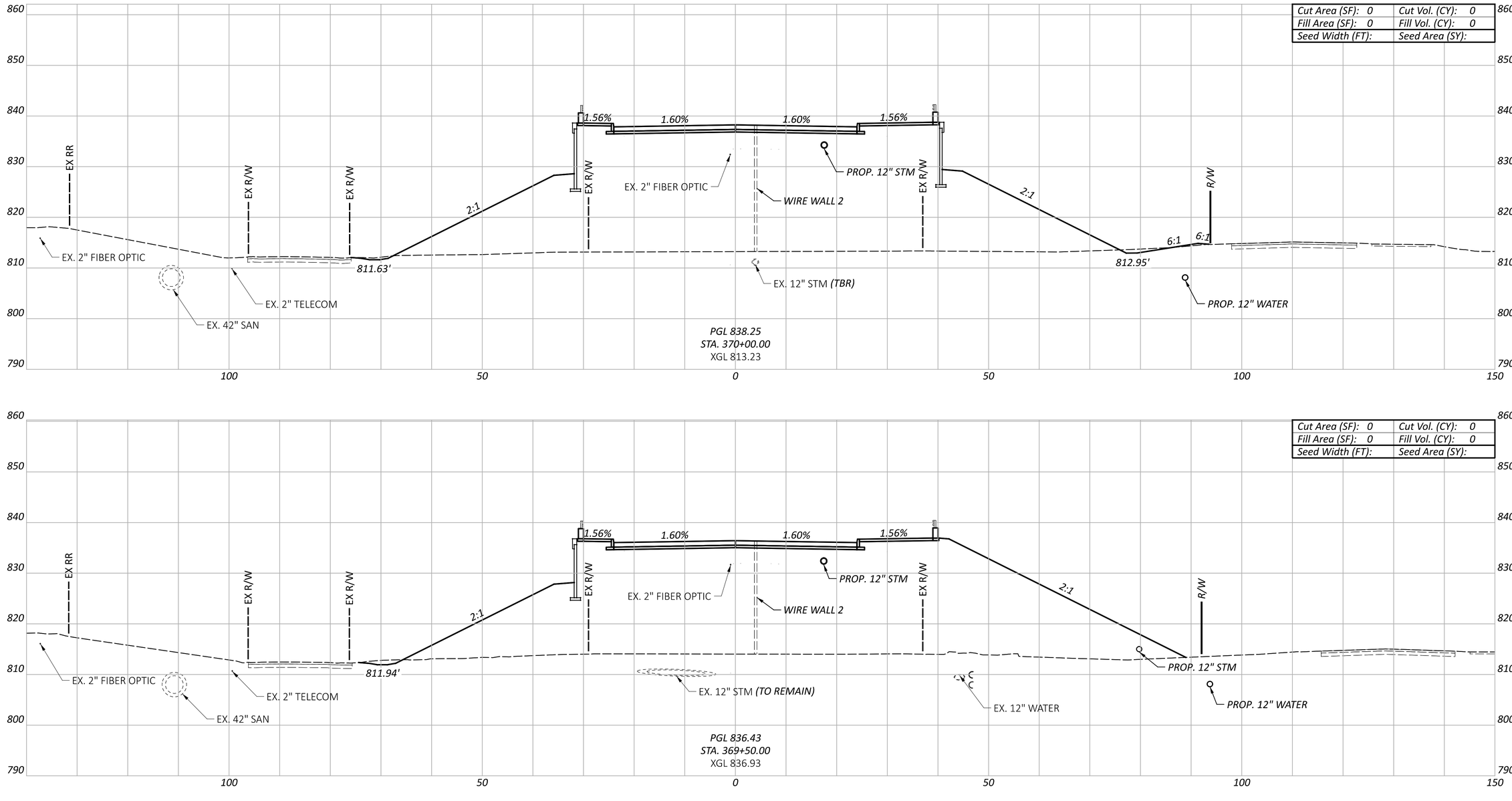
SHEET P.55 TOTAL 329



CUY-14-6.93

MODEL: CLP_5014 - 369+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:40:00 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS001.dgn

CROSS SECTIONS - S.R. 14
369+50.00 TO 370+00.00

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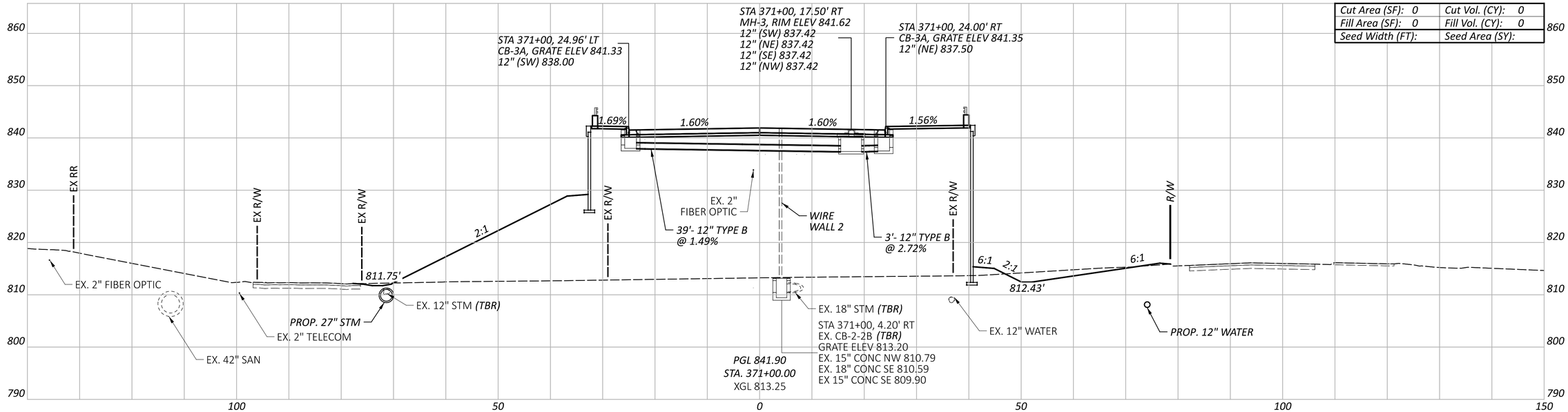
104132

Sheet Totals		
Seeding	Cut	Fill
.	.	.

SHEET P.56 | TOTAL 329

CROSS SECTIONS - S.R. 14
370+50.00 TO 371+00.00



CUY-14-6.93

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pw:\\aecom-na-pw.bentley.com:AECOM_DS2O_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS001.dgn

Sheet Totals		
Seeding	Cut	Fill
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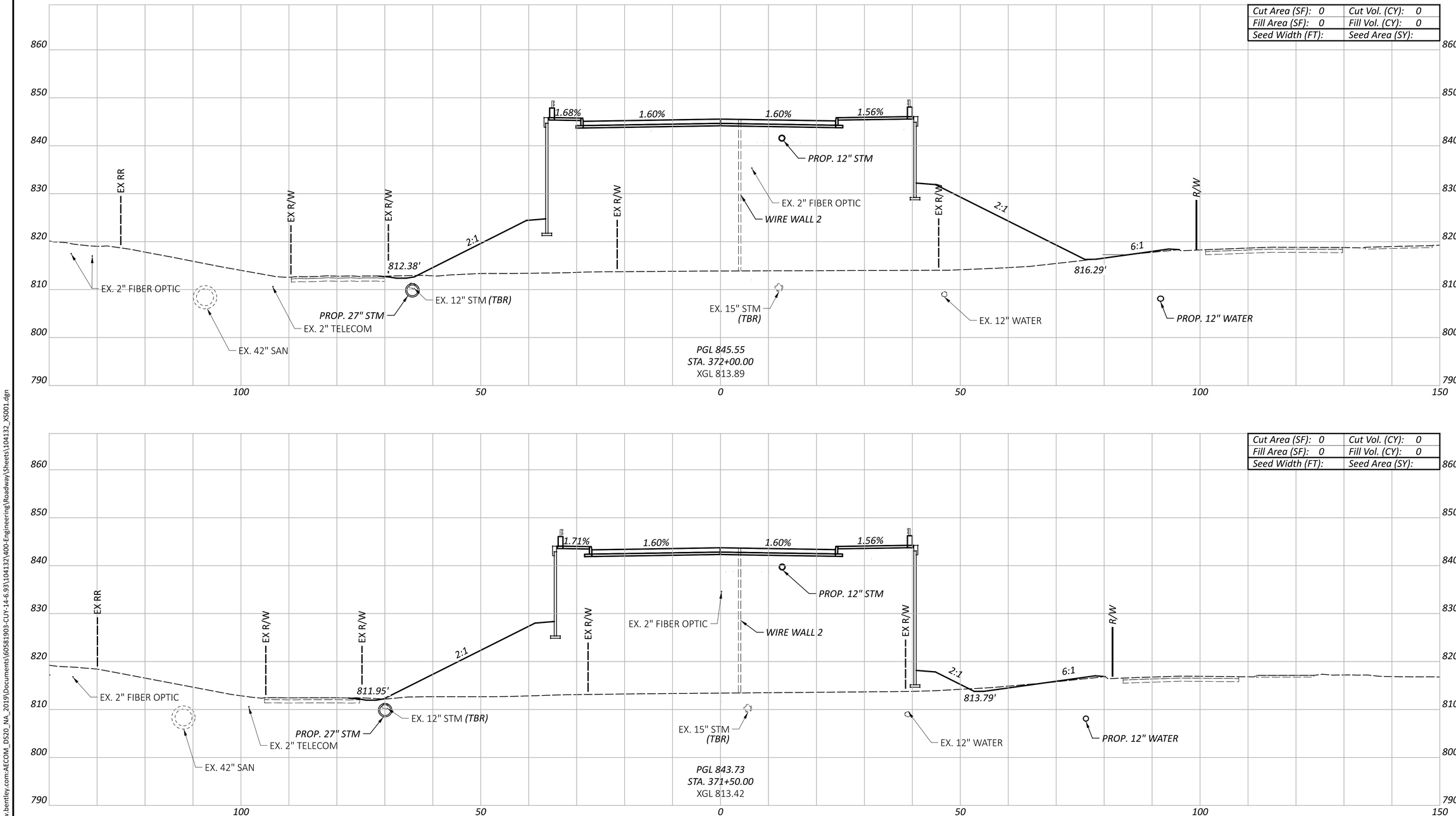
PROJECT ID	104132
SHEET	P.57
TOTAL	329



CROSS SECTIONS - S.R. 14
371+50.00 TO 372+00.00

CUY-14-6.93

MODEL: CLP_SO14 - 371+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:40:10 PM USER: todd.roxberry
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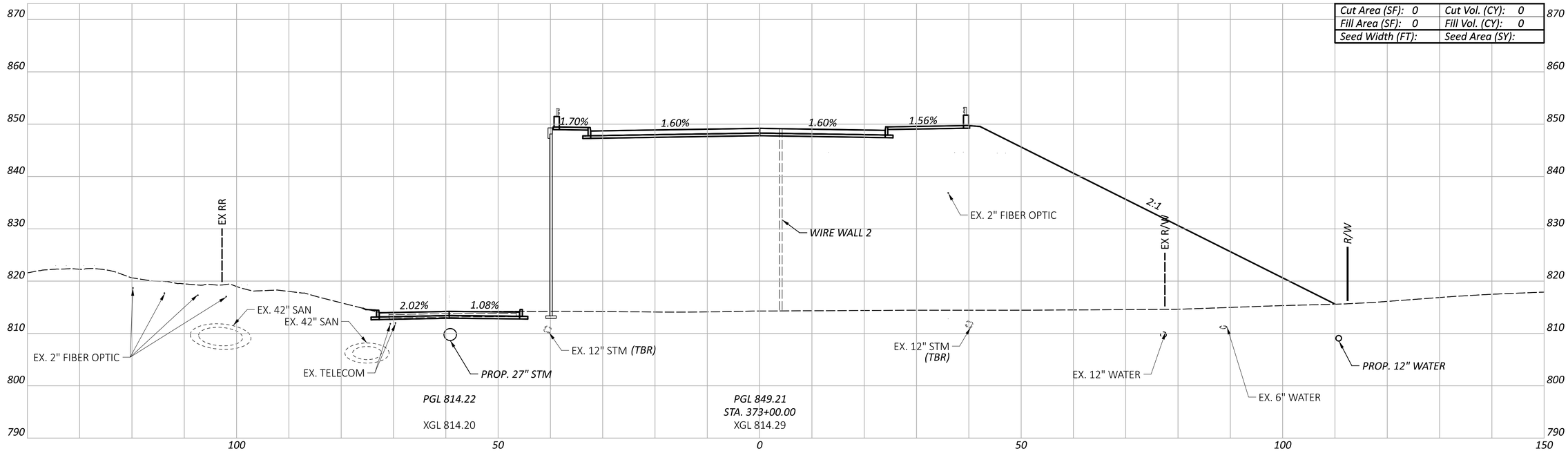
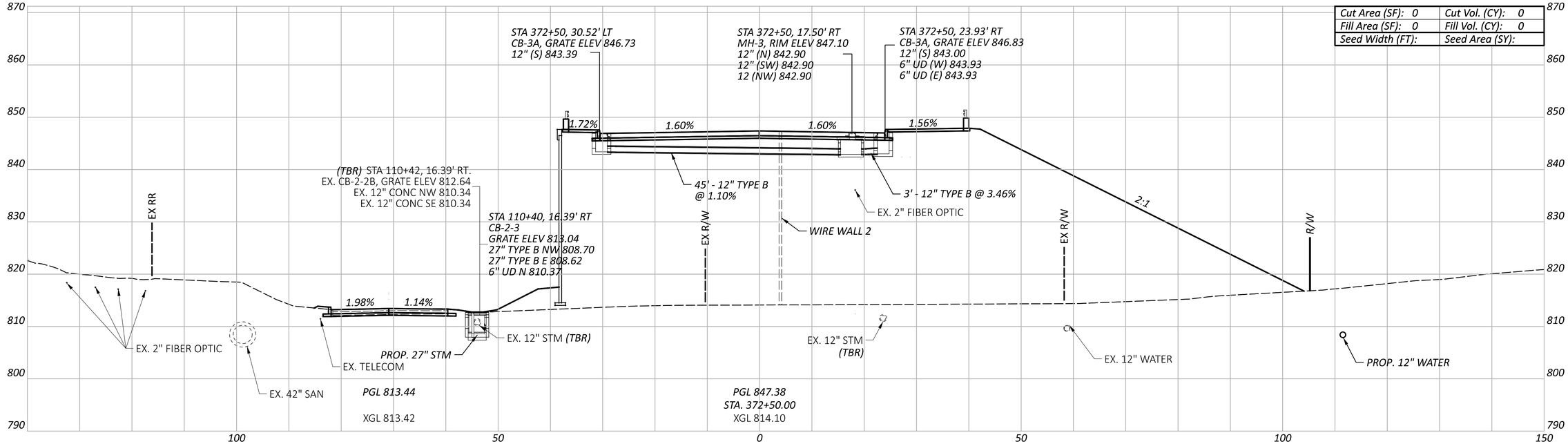
Sheet Totals		
Seeding	Cut	Fill
.	.	.

SHEET P.58 TOTAL 329

Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):



CROSS SECTIONS - S.R. 14
372+50.00 373+00.00

CUY-14-6.93

MODEL: CLP_S014 - 372+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:40:14 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_D520_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS001.dgn

Sheet Totals		
Seeding	Cut	Fill
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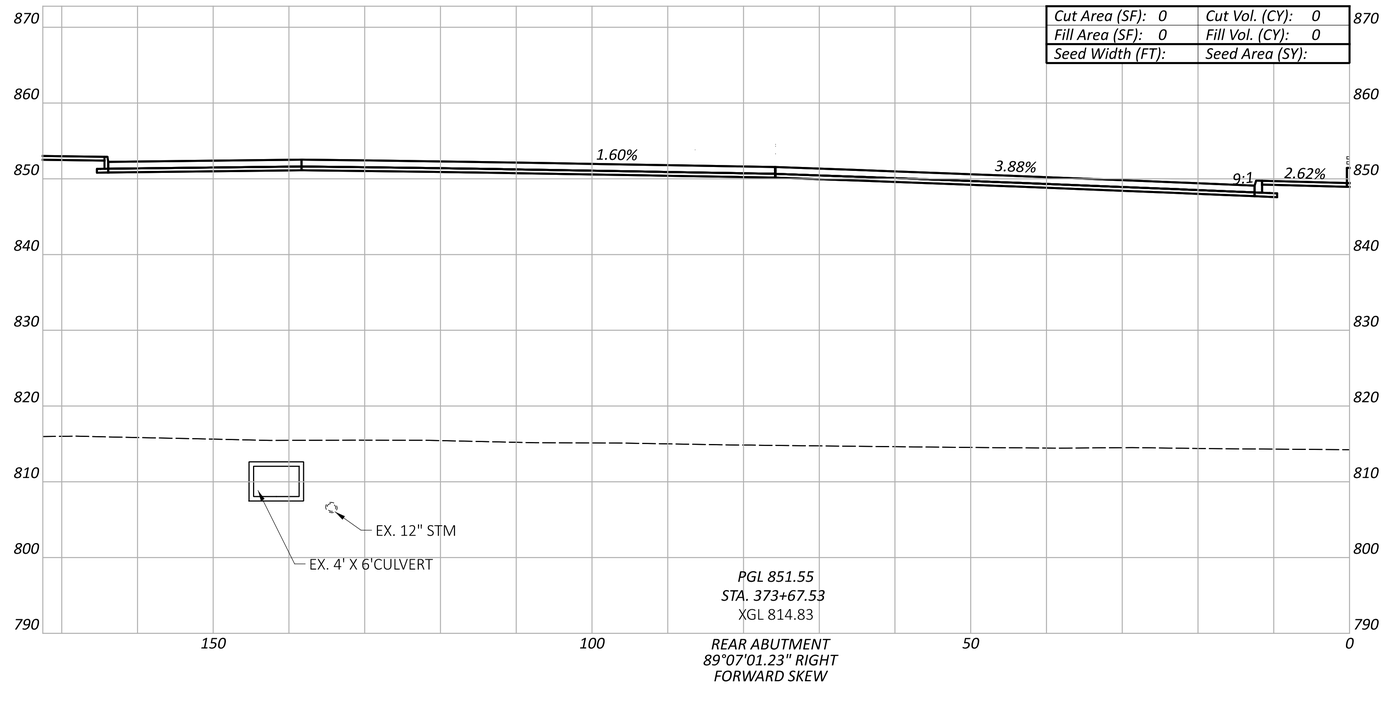
SHEET P.59 TOTAL 329

CUY-14-6.93

MODEL: CLP_S014 - 373+67.53 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:40:19 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60583903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS001.dgn

CROSS SECTIONS - S.R. 14
373+67.53



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Sheet Totals		
Seeding	Cut	Fill
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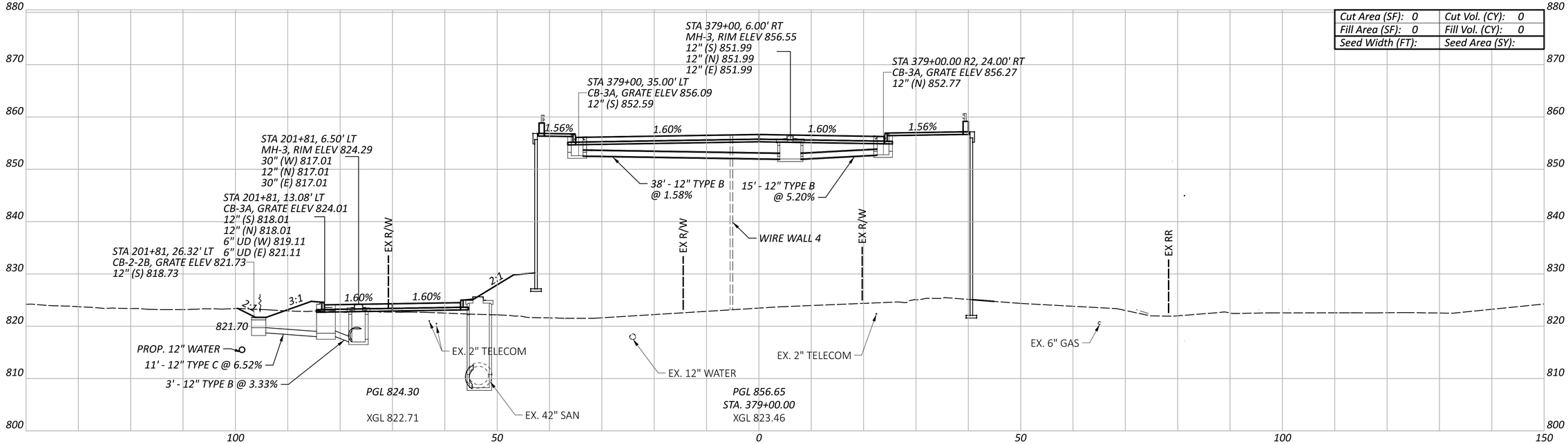
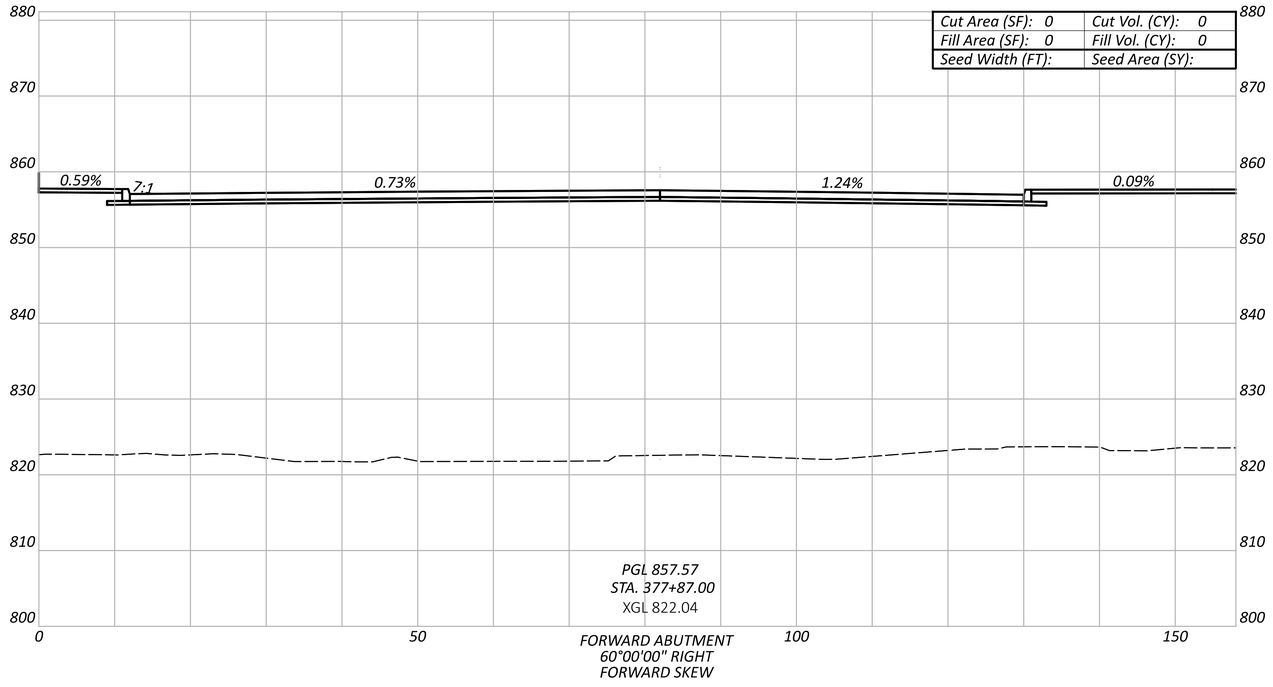
SHEET P.60 TOTAL 329





FORWARD ABUTMENT
60°00'00" RIGHT
FORWARD SKEW

CROSS SECTIONS - S.R. 14
377+87.00 TO 379+00.00

CUY-14-6.93

MODEL: CLP_S014 - 377+87.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:40:40 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS002.dgn

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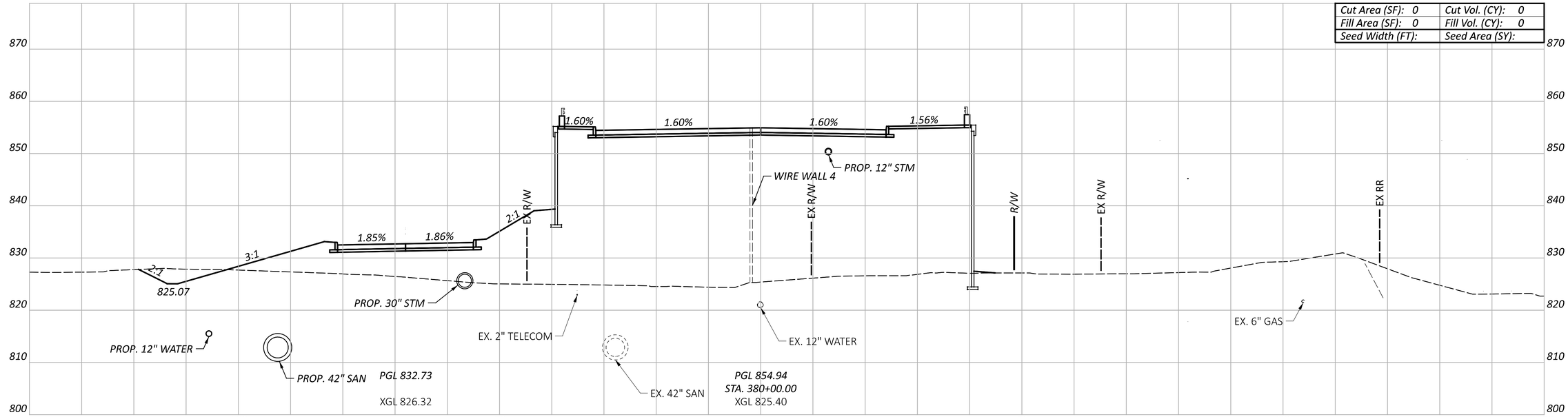
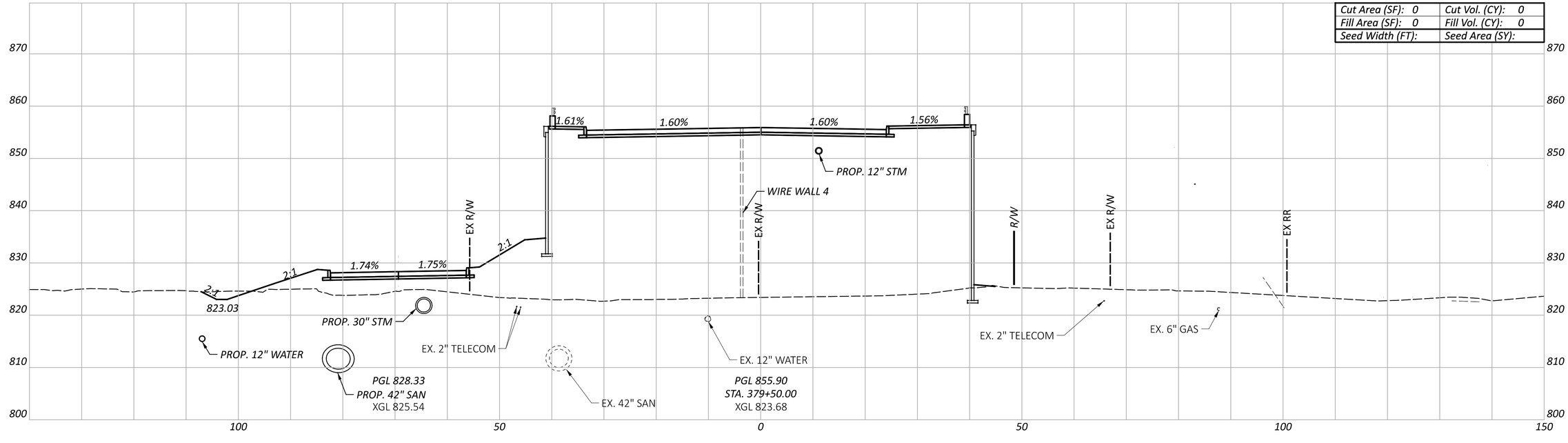
PROJECT ID 104132

Sheet Totals		
Seeding	Cut	Fill
-	-	-

SHEET P.61 TOTAL 329





CUY-14-6.93

MODEL: CLP_5014 - 379+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:40:45 PM USER: todd.roxberry
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CROSS SECTIONS - S.R. 14
379+50.00 TO 380+00.00

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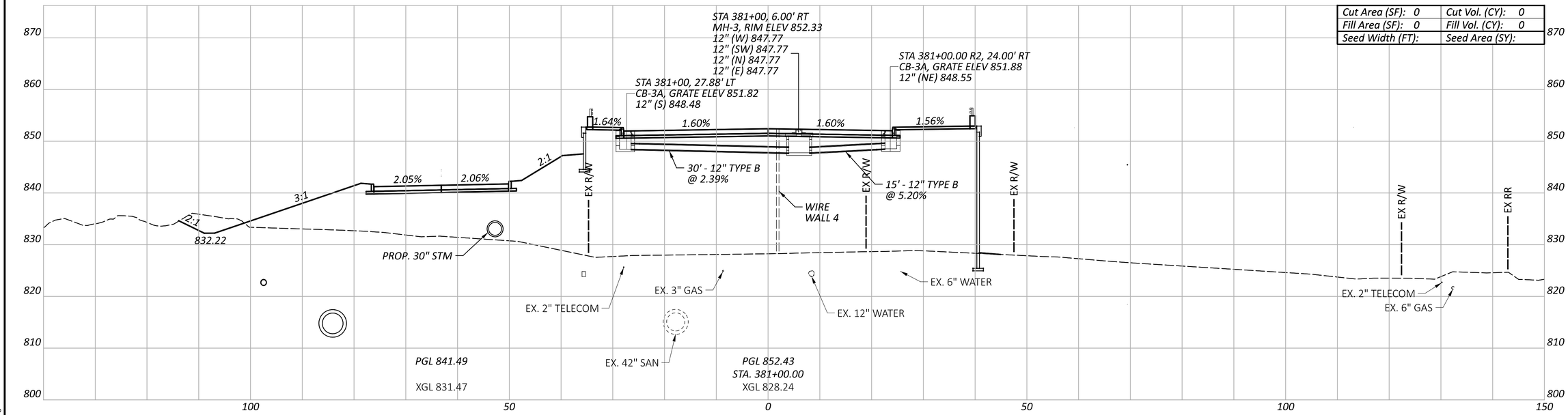
104132

Sheet Totals		
Seeding	Cut	Fill
.	.	.

SHEET P.62 TOTAL 329



CROSS SECTIONS - S.R. 14
380+50.00 TO 381+00.00

CUY-14-6.93

MODEL: CLP_5014 - 380+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:40:49 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS2O_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS002.dgn

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Sheet Totals		
Seeding	Cut	Fill
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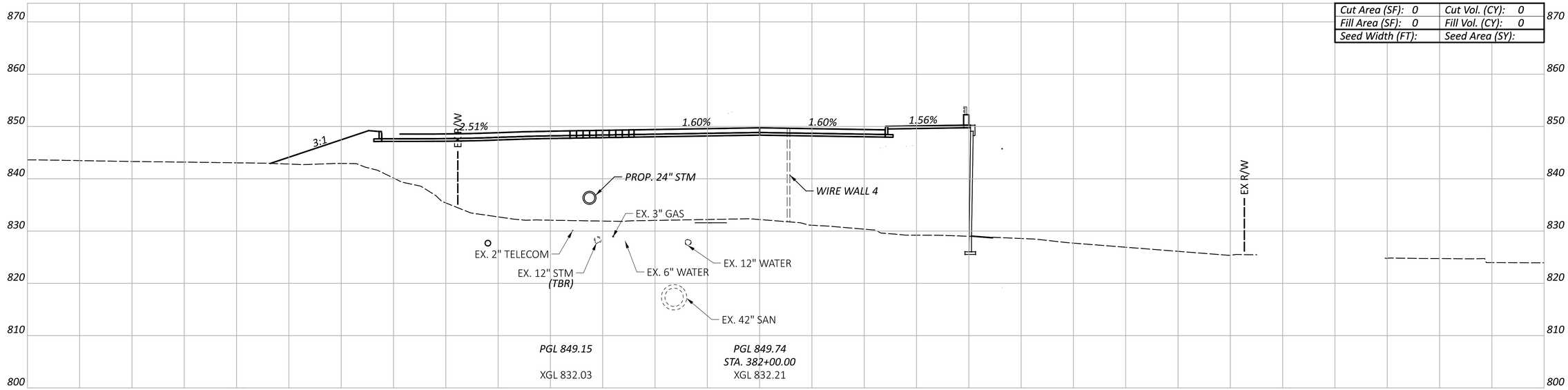
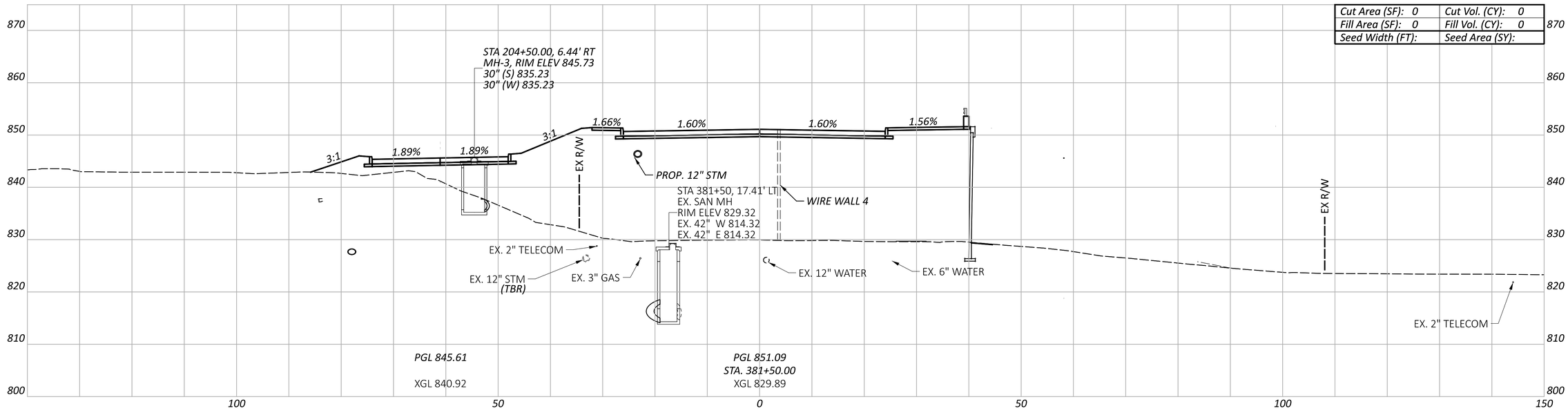
SHEET P.63 TOTAL 329





CROSS SECTIONS - S.R. 14
381+50.00 TO 382+00.00

CUY-14-6.93

MODEL: CLP_S014 - 381+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:40:54 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS002.dgn

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PROJECT ID
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Sheet Totals		
Seeding	Cut	Fill
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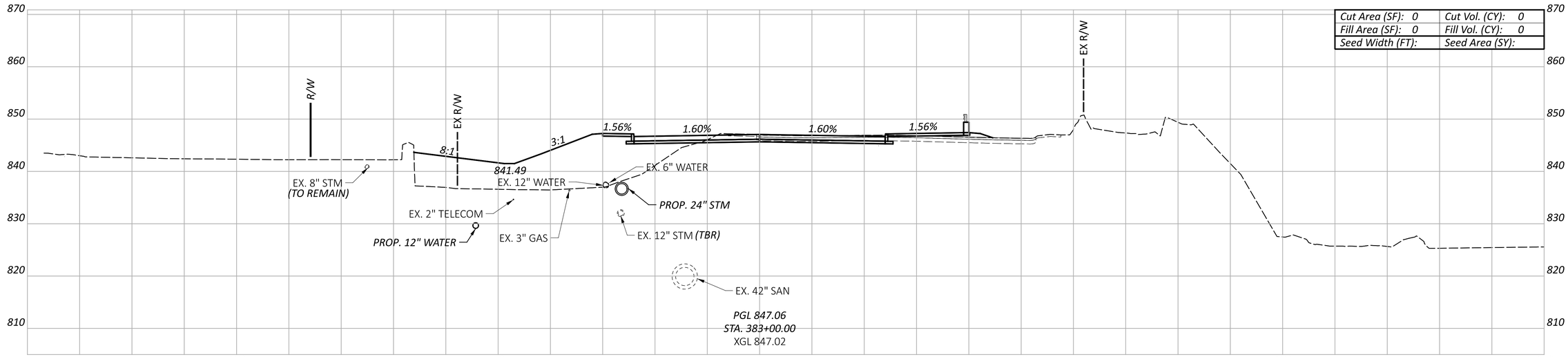
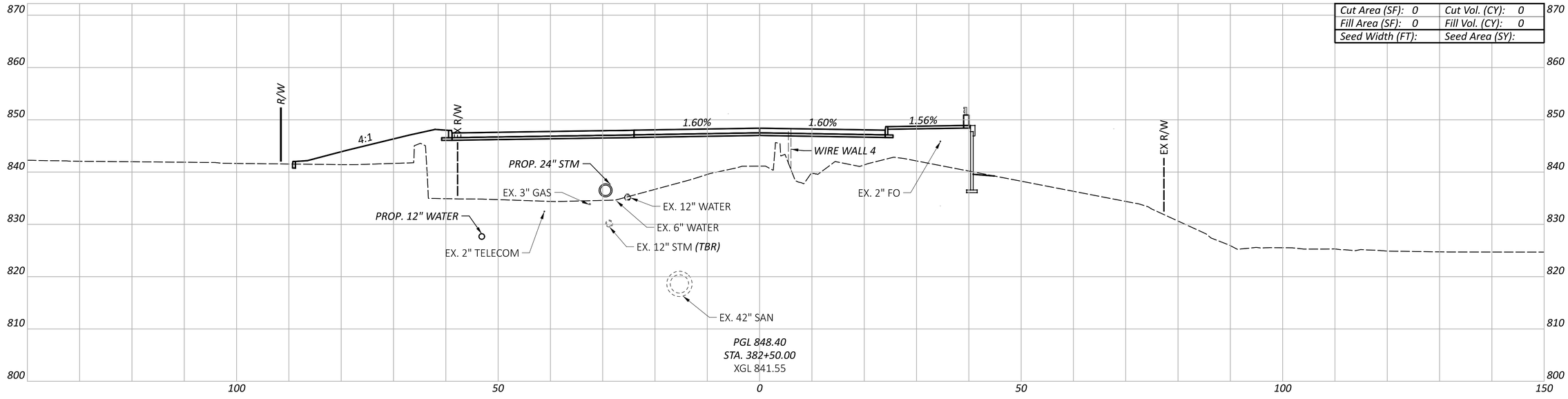
SHEET	TOTAL
P.64	329





CROSS SECTIONS - S.R. 14
382+50.00 TO 383+00.00

CUY-14-6.93

MODEL: CLP_5014 - 382+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:40:58 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS2O_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS002.dgn

Sheet Totals		
Seeding	Cut	Fill
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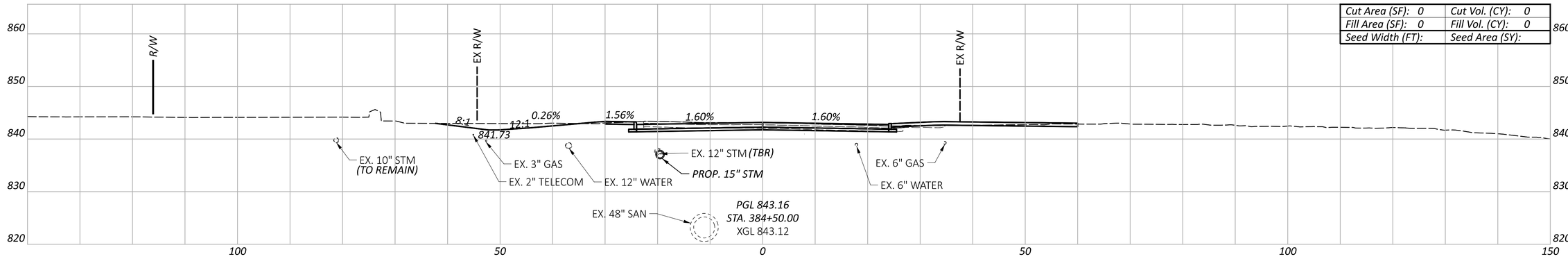
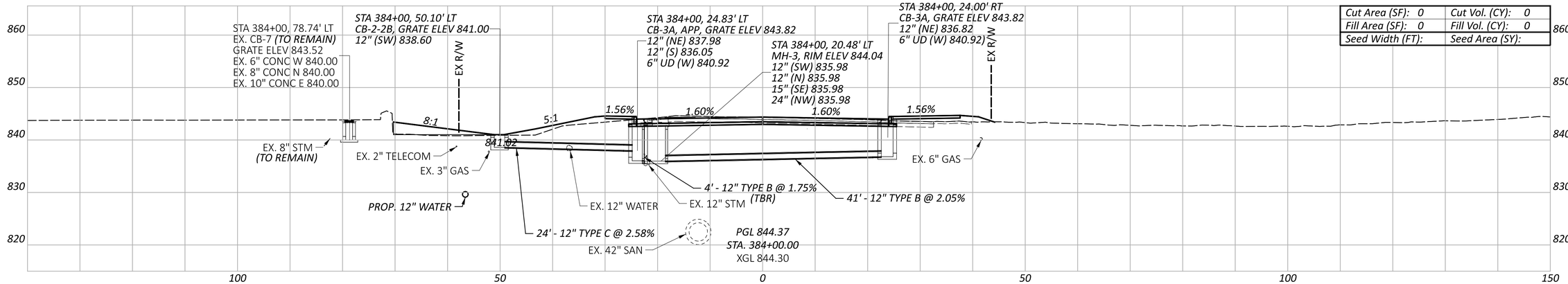
DESIGNER
RJJ

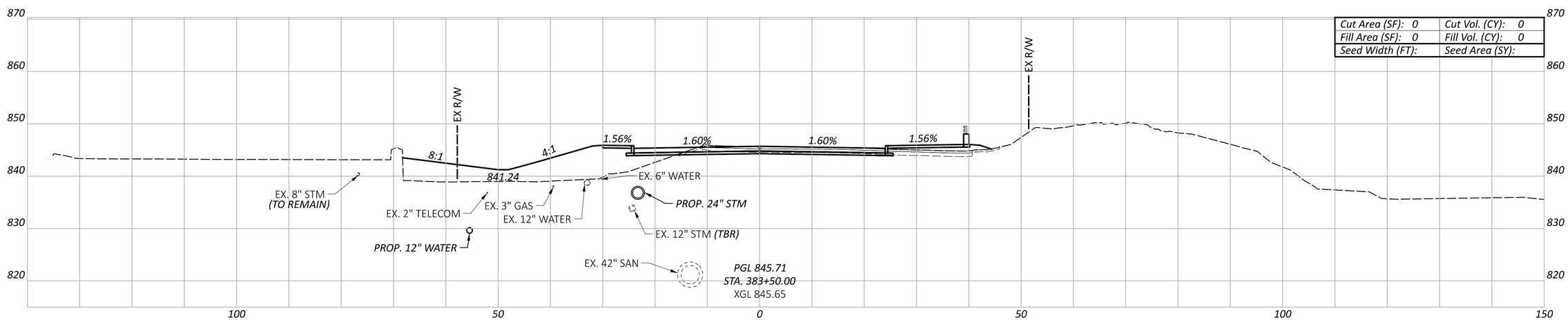
REVIEWER
MAW 01/16/23

PROJECT ID
104132

SHEET P.65 TOTAL 329







CROSS SECTIONS - S.R. 14
383+50.00 TO 384+50.00

CUY-14-6.93

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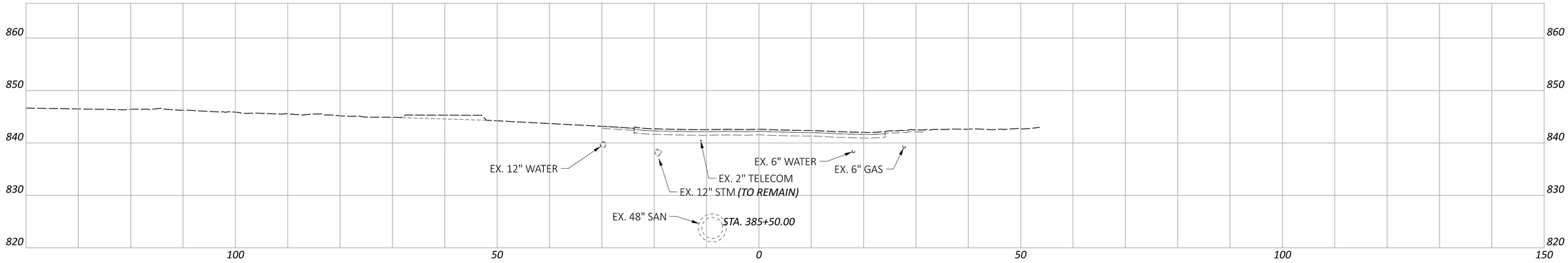
Sheet Totals		
Seeding	Cut	Fill
-	-	-

SHEET	TOTAL
P.66	329



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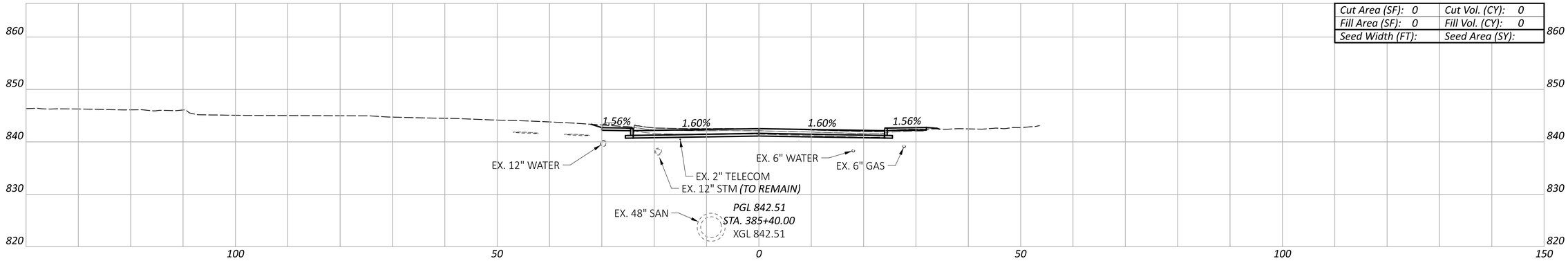

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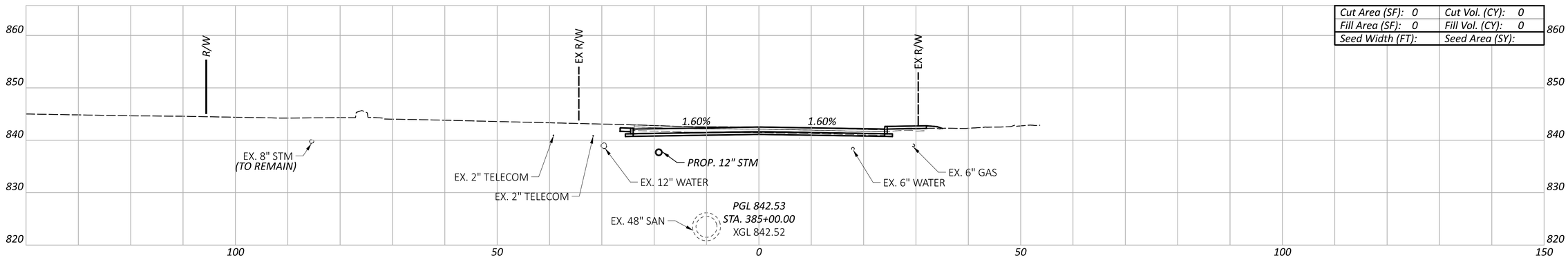

CUY-14-6.93

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CROSS SECTIONS - S.R. 14
385+00.00 TO 385+50.00

Sheet Totals		
Seeding	Cut	Fill
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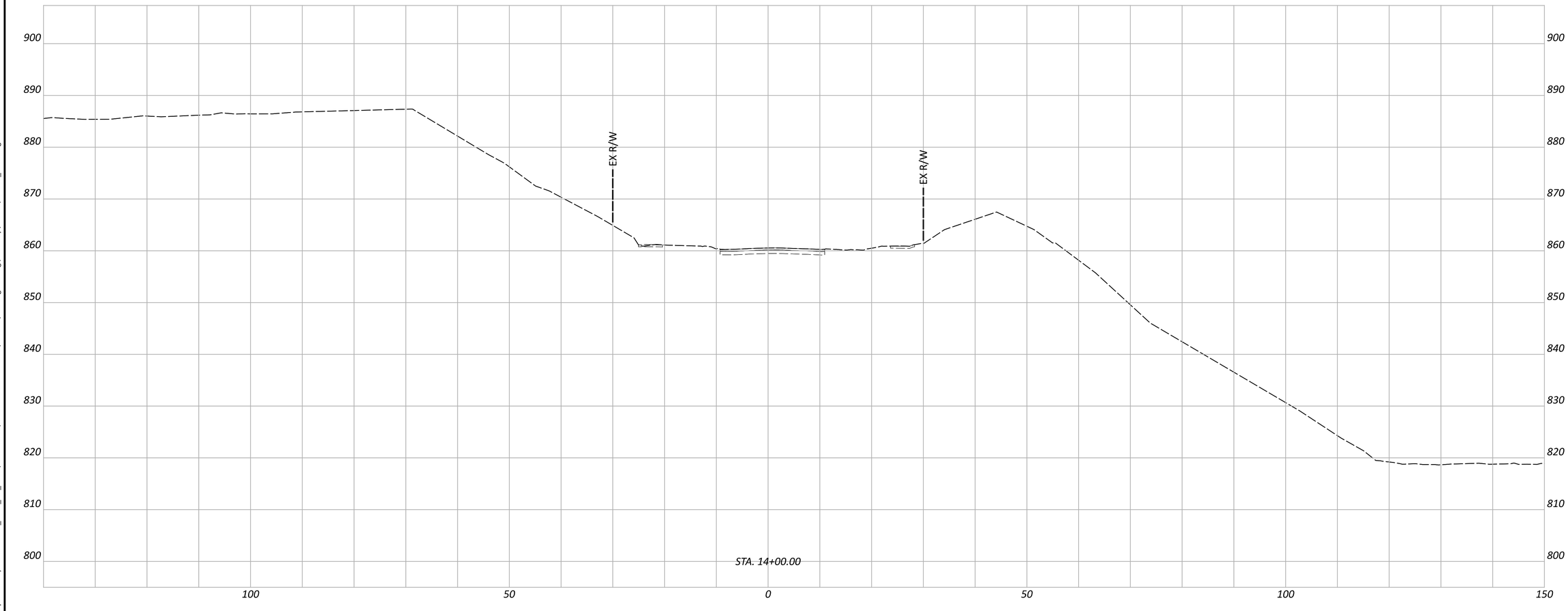
SHEET P.67 TOTAL 329



CUY-14-6.93

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CROSS SECTIONS - HENRY STREET
STA 14+00.00

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Seeding	Cut	Fill
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SHEET	TOTAL
P.68	329

CUY-14-6.93

MODEL: CLP_HENRY - 14+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:41:57 PM USER: todd.roxberry
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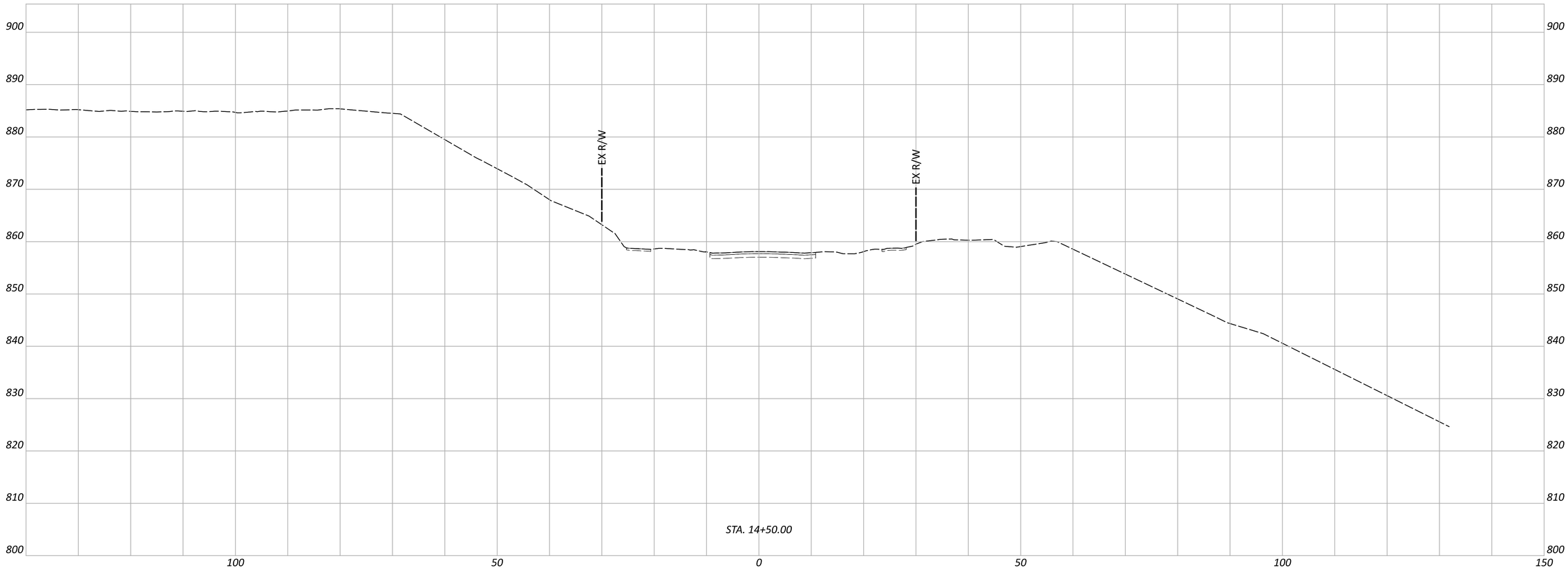

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STA 14+50.00

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Seeding	Cut	Fill
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SHEET	TOTAL
P.69	329

CUY-14-6.93

MODEL: CLP_HENRY - 15+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:41:58 PM USER: todd.roxberry
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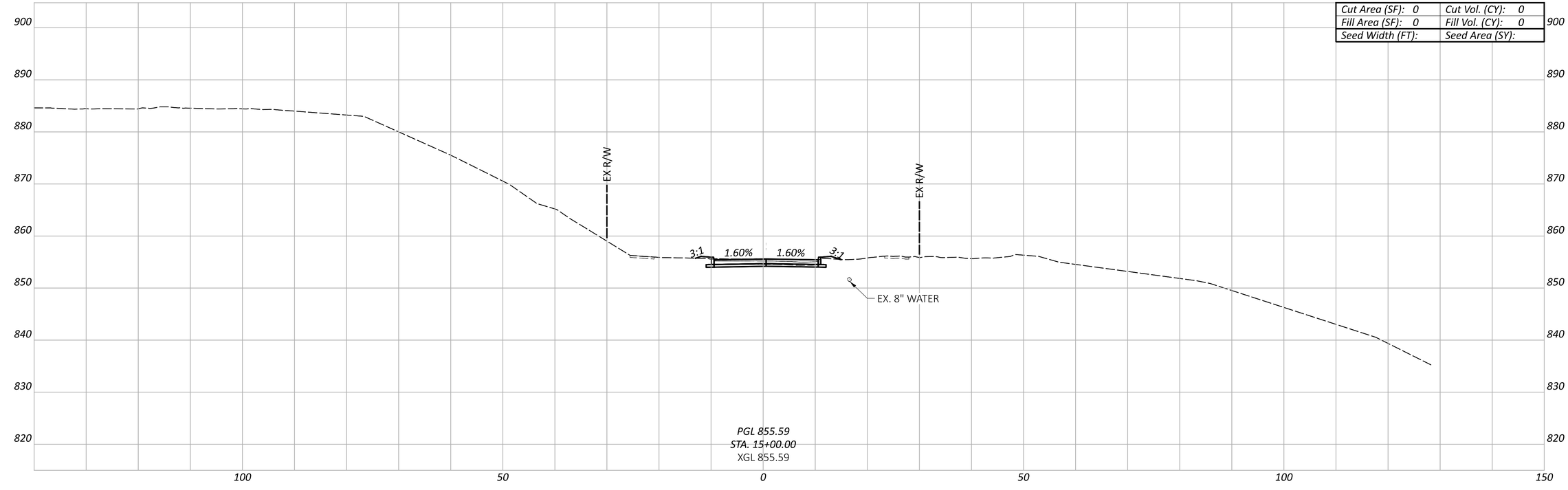

CROSS SECTIONS - HENRY STREET
STA 15+00.00

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Sheet Totals		
Seeding	Cut	Fill
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SHEET: P.70 TOTAL: 329

Cut Area (SF): 0	Cut Vol. (CY): 0
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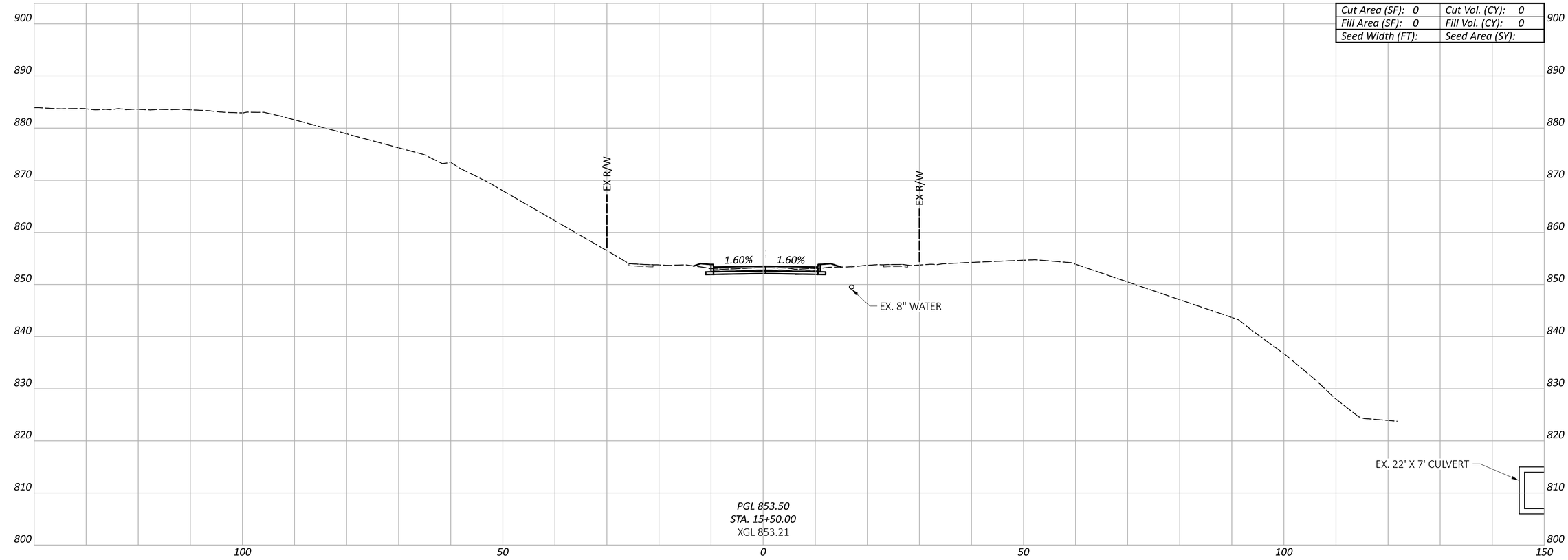

CROSS SECTIONS - HENRY STREET
STA 15+50.00

CUY-14-6.93

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Sheet Totals		
Seeding	Cut	Fill
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SHEET P.71 TOTAL 329

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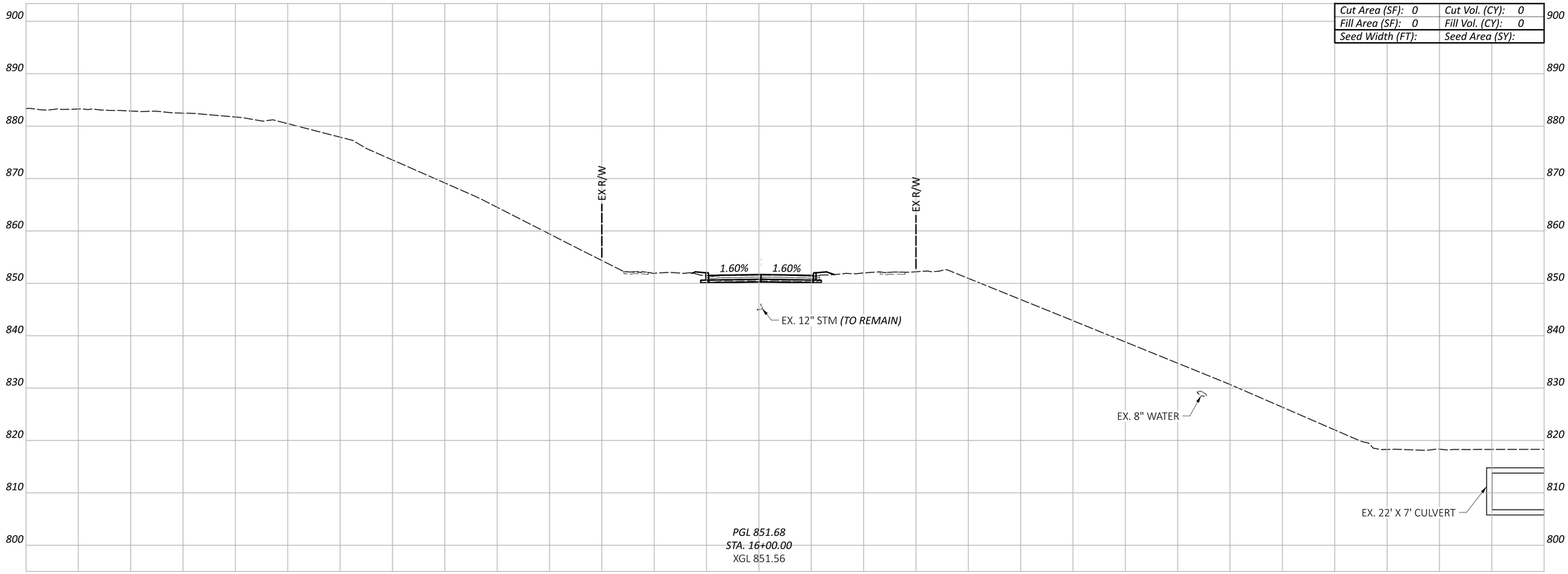

CROSS SECTIONS - HENRY STREET
STA 16+00.00

Sheet Totals		
Seeding	Cut	Fill
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SHEET: P.72 TOTAL: 329

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MODEL: CLP_HENRY - 16+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:42:02 PM USER: todd.roxberry
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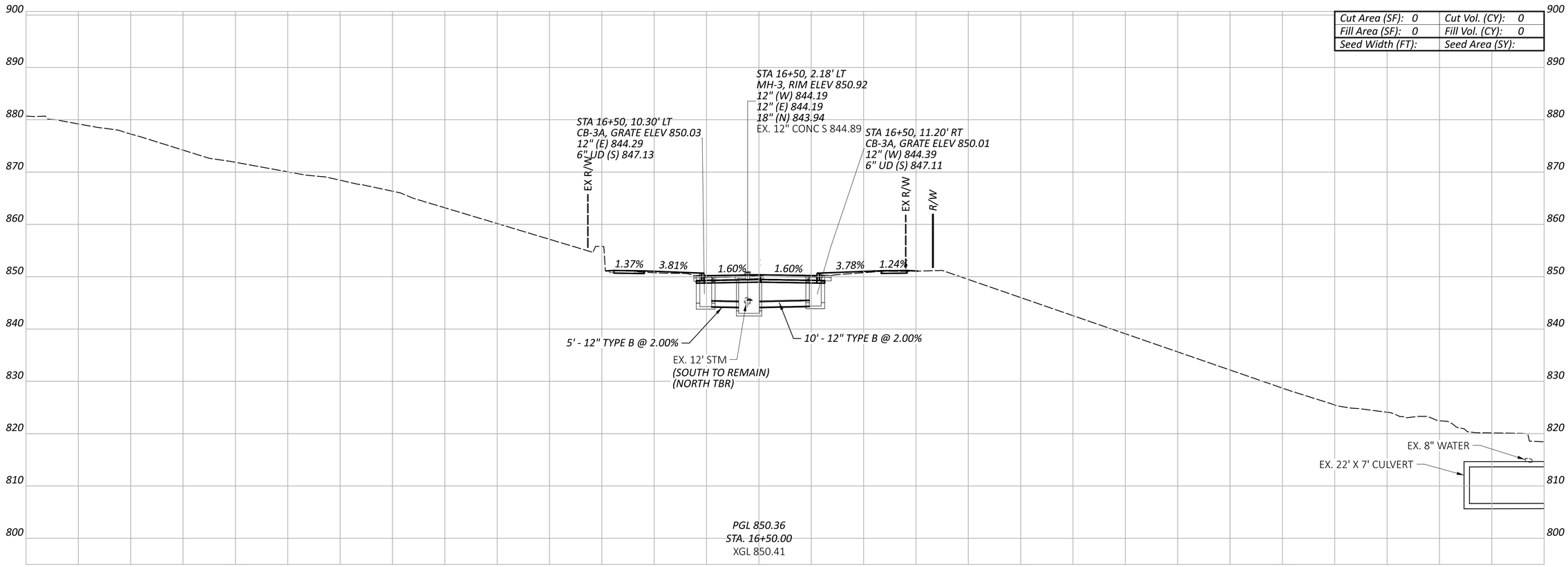

CROSS SECTIONS - HENRY STREET
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CUY-14-6.93

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Sheet Totals		
Seeding	Cut	Fill
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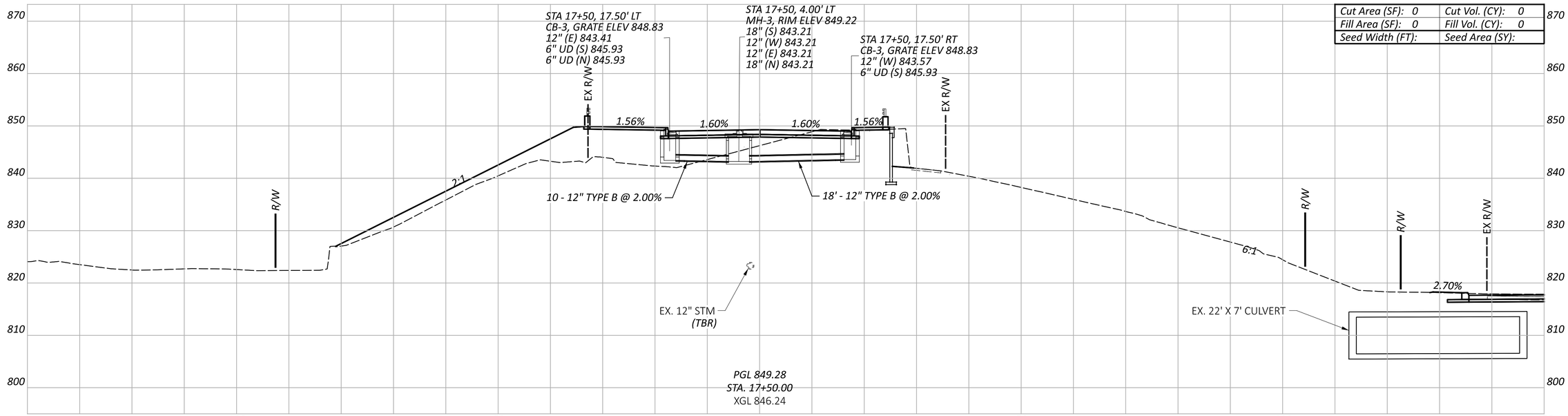

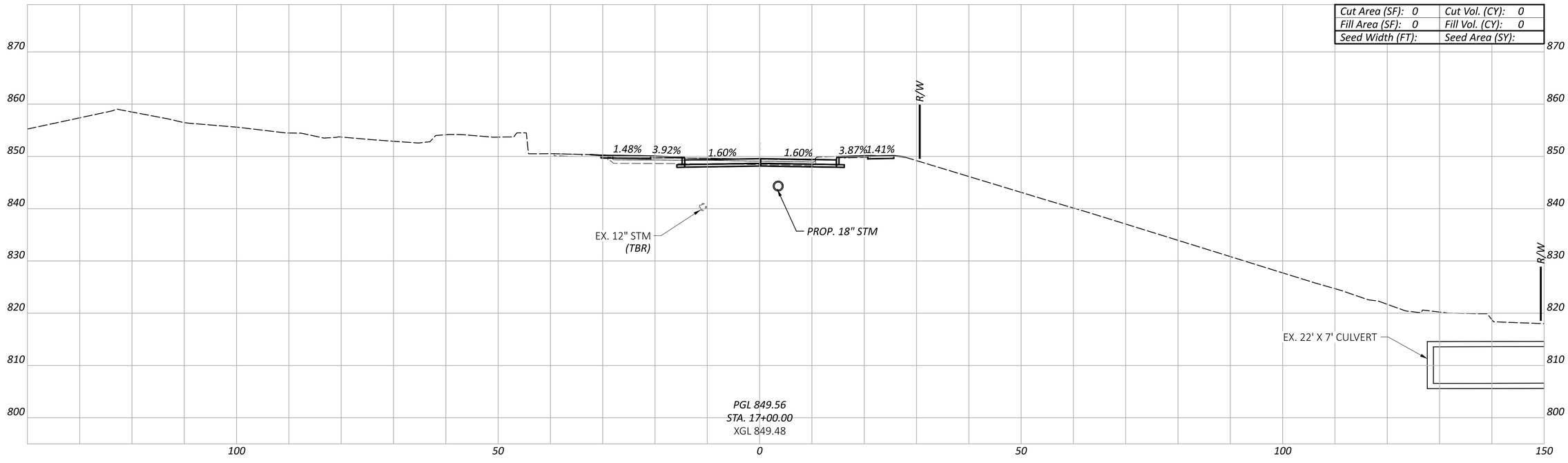

CROSS SECTIONS - HENRY STREET
STA 17+00.00 TO STA 17+50.00

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Seeding	Cut	Fill
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SHEET P.74 | TOTAL 329

CUY-14-6.93

MODEL: CLP_HENRY - 17+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:42:06 PM USER: todd.roxberry
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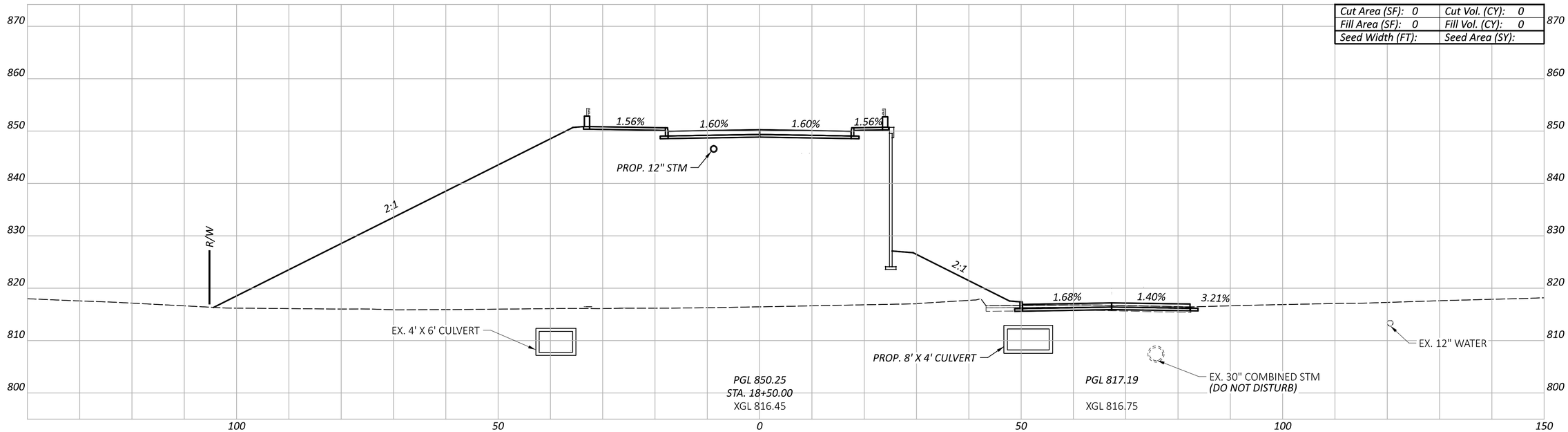

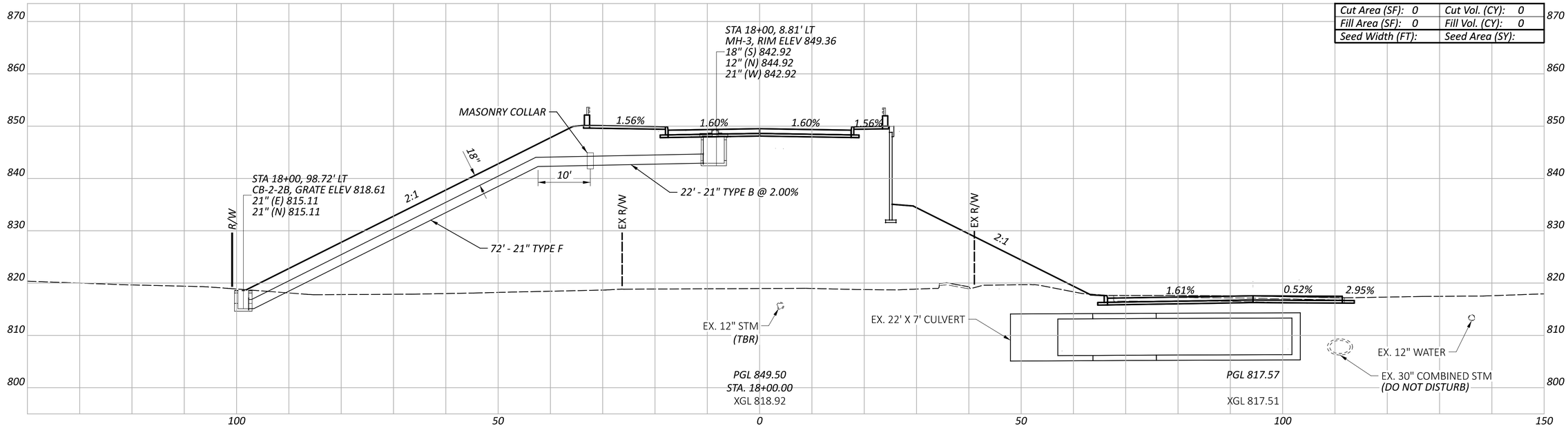

CROSS SECTIONS - HENRY STREET
STA 18+00.00 TO STA 18+50.00

CUY-14-6.93

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SHEET P.75 | TOTAL 329

CUY-14-6.93

MODEL: CLP_HENRY - 19+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:42:15 PM USER: todd.roxberry
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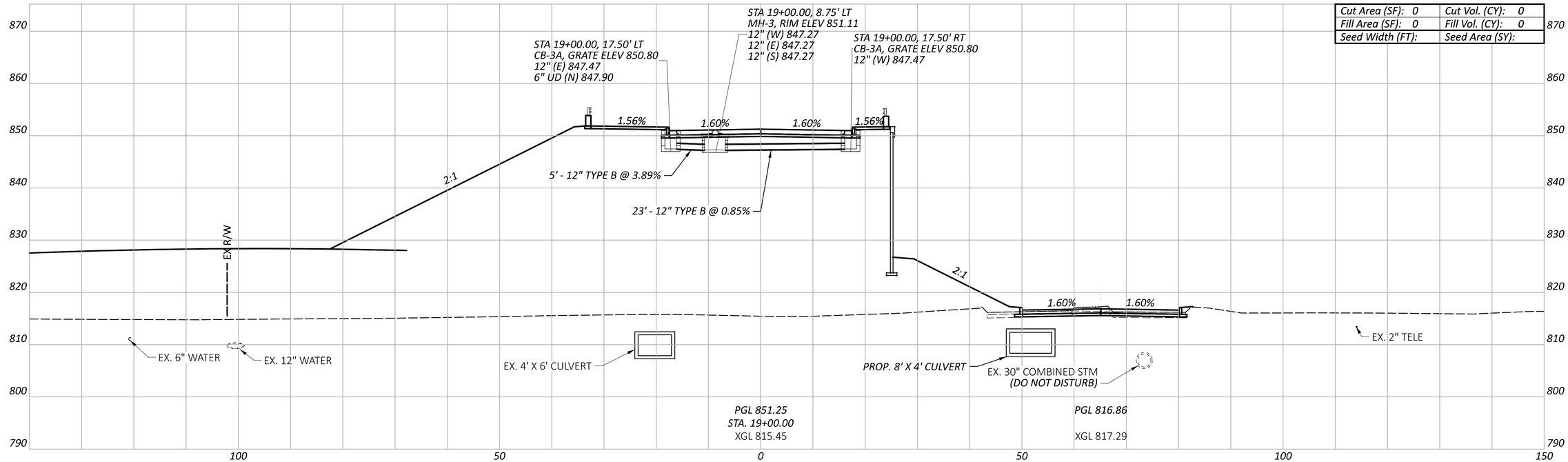
CROSS SECTIONS - HENRY STREET
STA 19+00.00 TO STA 19+50.00



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Sheet Totals		
Seeding	Cut	Fill
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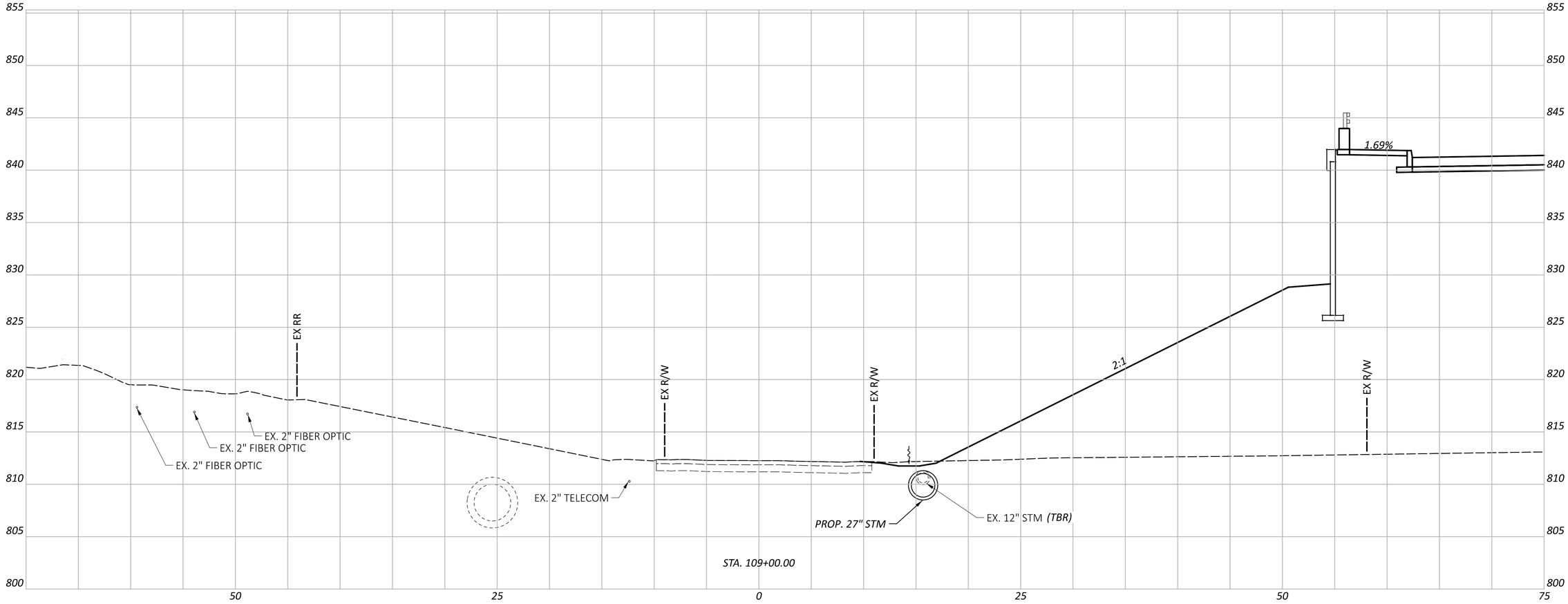
SHEET P.76 TOTAL 329



CUY-14-6.93

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CROSS SECTIONS - CHAINCRAFT ROAD
STA 109+00.00

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Sheet Totals		
Seeding	Cut	Fill
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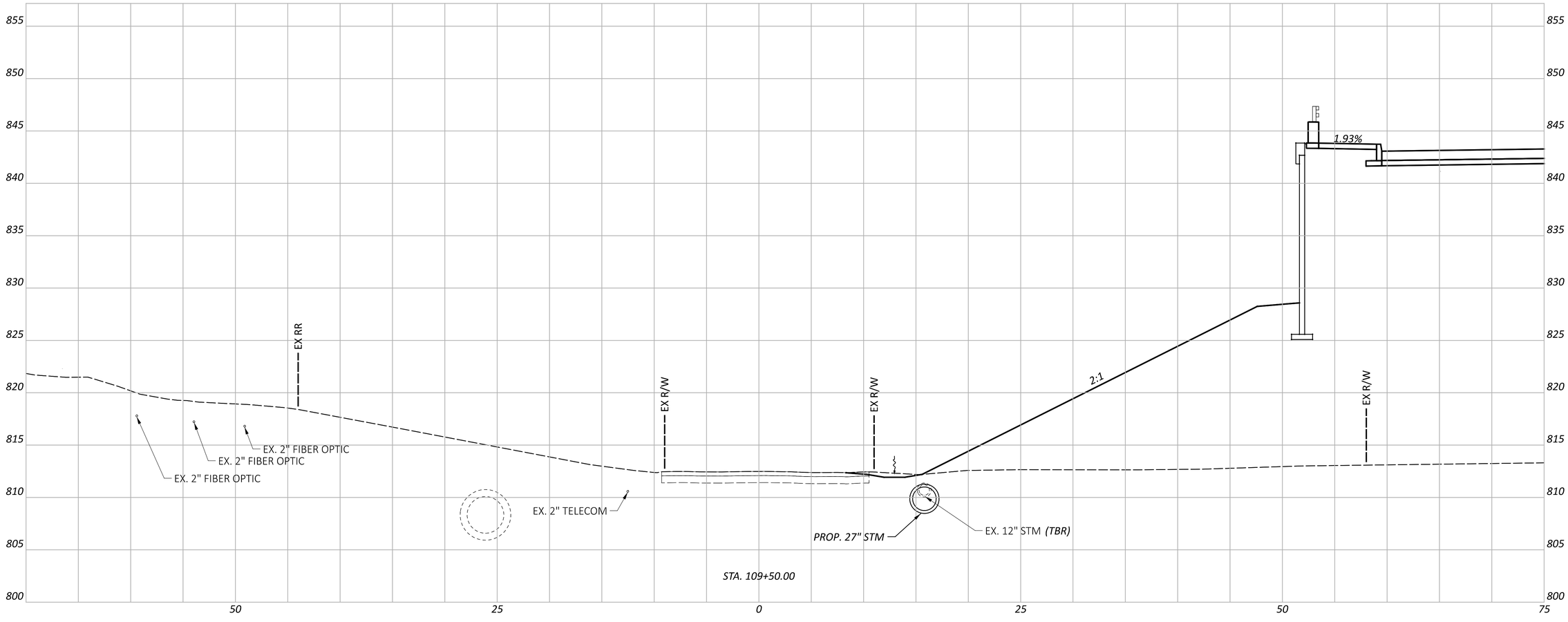
SHEET: P.77 TOTAL: 329



CROSS SECTIONS - CHAINCRAFT ROAD
STA 109+50.00

CUY-14-6.93

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Sheet Totals		
Seeding	Cut	Fill
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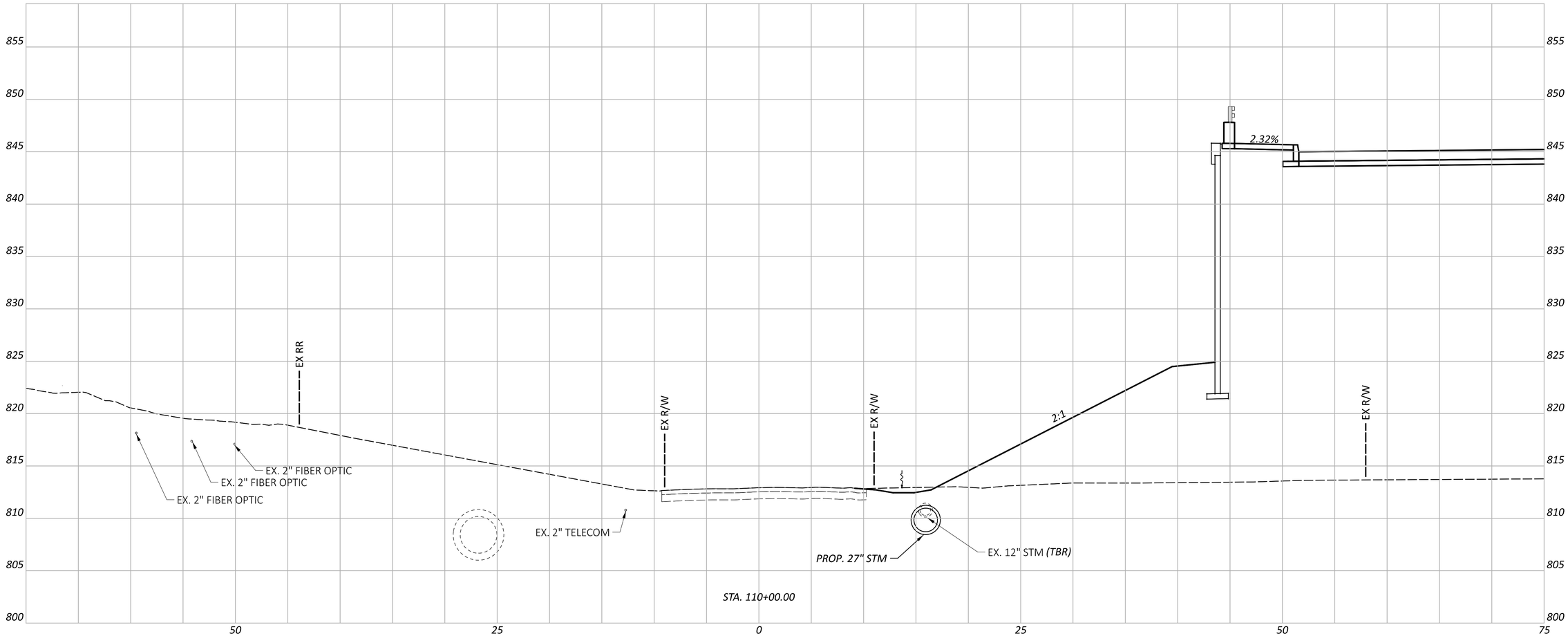
SHEET P.78 TOTAL 329



CROSS SECTIONS - CHAINCRAFT ROAD
STA 110+00.00

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Seeding	Cut	Fill
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SHEET: P.79 | TOTAL: 329

CUY-14-6.93

MODEL: CLX_RW_CHAIN - 110+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:42:39 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Roadway\Sheets\104132_XS201.dgn

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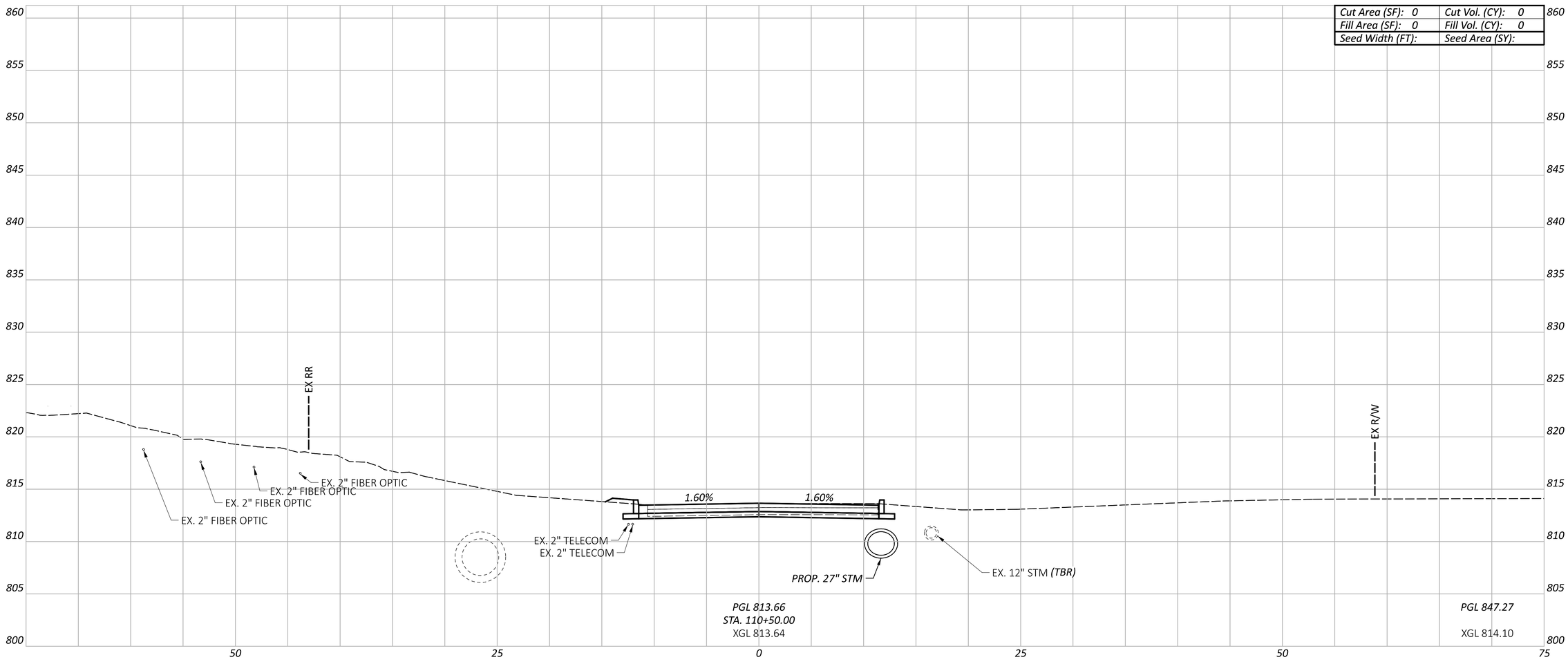

CROSS SECTIONS - CHAINCRAFT ROAD
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Sheet Totals		
Seeding	Cut	Fill
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SHEET P.80 TOTAL 329

CUY-14-6.93

MODEL: CLX_RW_CHAIN - 110+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:42:42 PM USER: todd.roxberry
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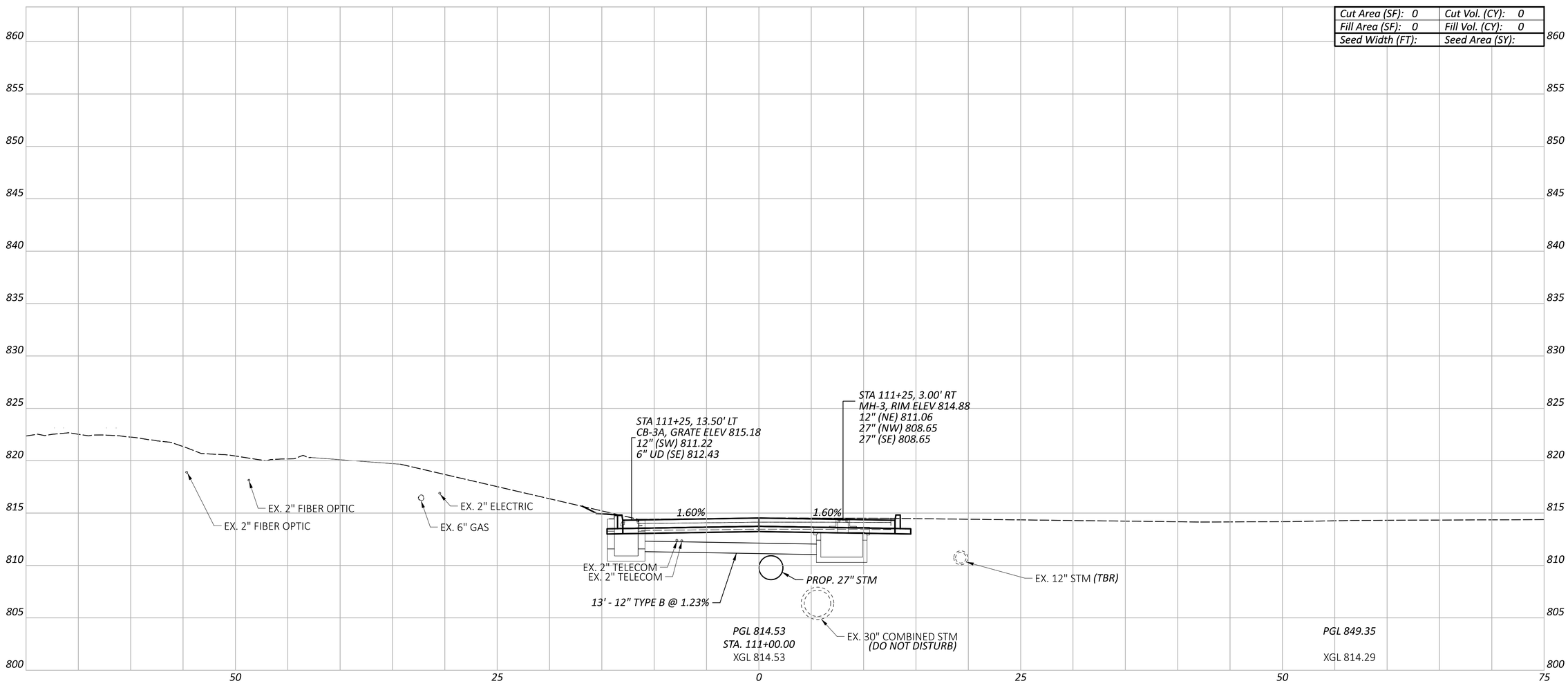

CUY-14-6.93

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CROSS SECTIONS - CHAINCRAFT ROAD
STA 111+00.00

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Sheet Totals		
Seeding	Cut	Fill
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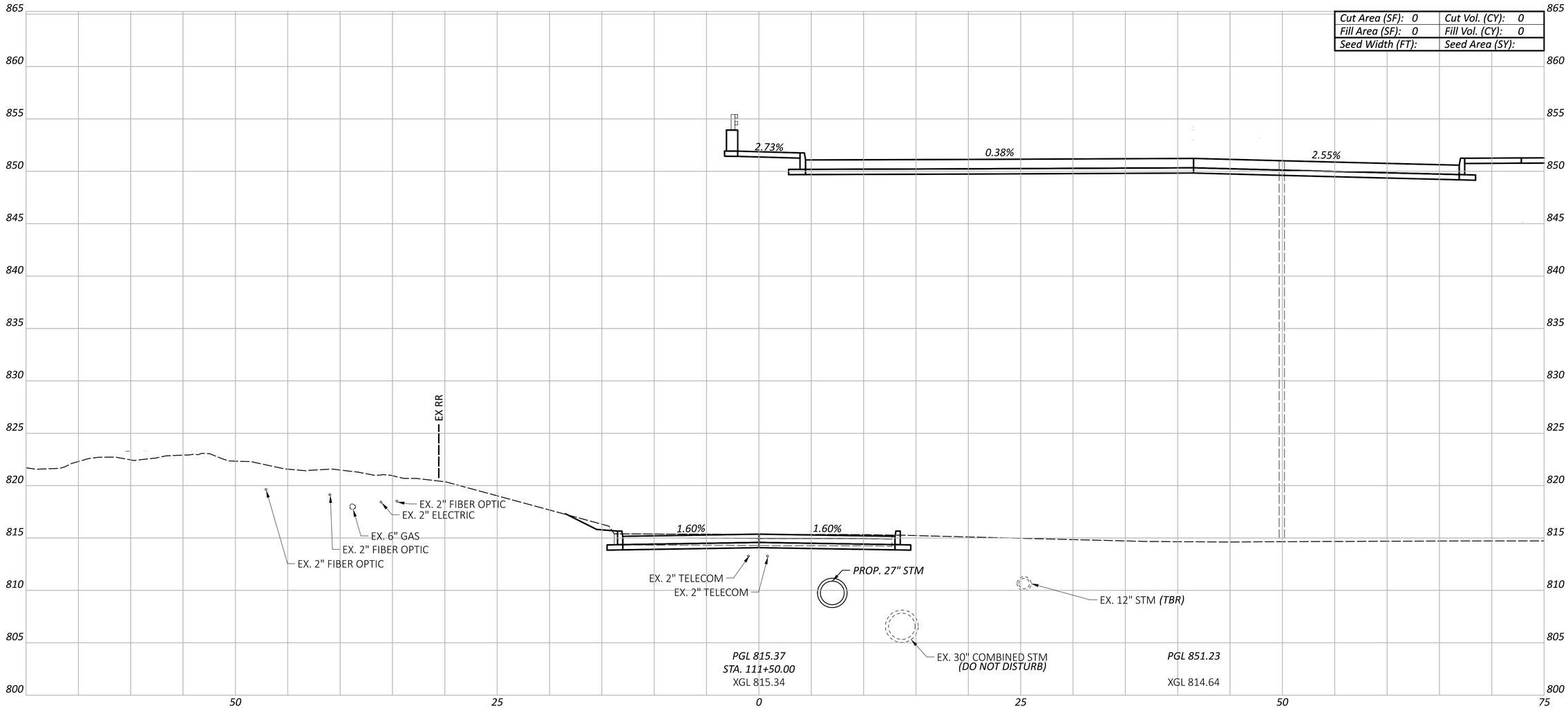
SHEET: P.81 TOTAL: 329



CUY-14-6.93

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CROSS SECTIONS - CHAINCRAFT ROAD
STA 111+50.00

Sheet Totals		
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SHEET P.82 TOTAL 329

Cut Area (SF): 0	Cut Vol. (CY): 0
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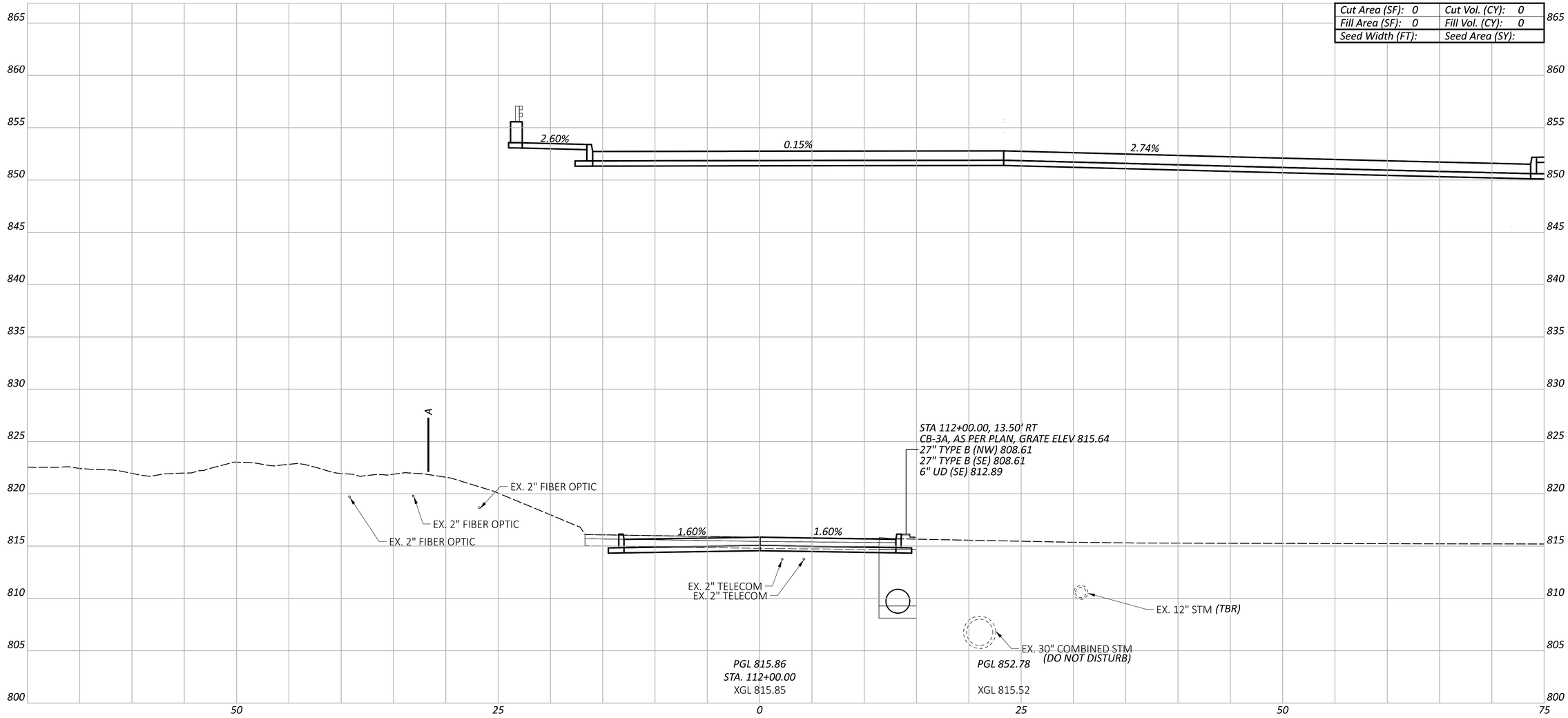
Seed Width (FT):	Seed Area (SY):



CROSS SECTIONS - CHAINCRAFT ROAD
STA 112+00.00

CUY-14-6.93

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Sheet Totals		
Seeding	Cut	Fill
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SHEET P.83 TOTAL 329

Cut Area (SF): 0	Cut Vol. (CY): 0
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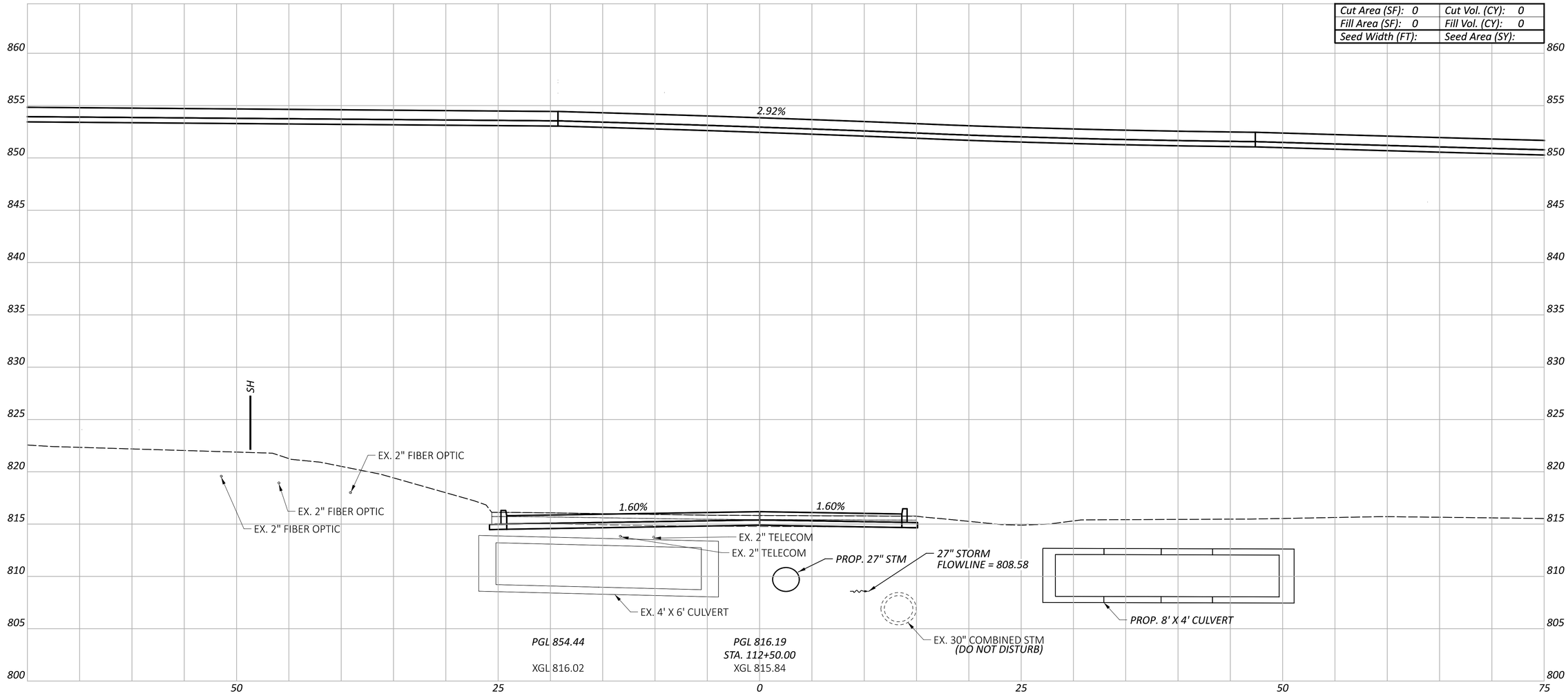

CUY-14-6.93

MODEL: CLX_RW_CHAIN - 112+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:42:52 PM USER: todd.roxberry
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CROSS SECTIONS - CHAINCRAFT ROAD
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Sheet Totals		
Seeding	Cut	Fill
.	.	.

SHEET P.84 TOTAL 329

Cut Area (SF): 0	Cut Vol. (CY): 0
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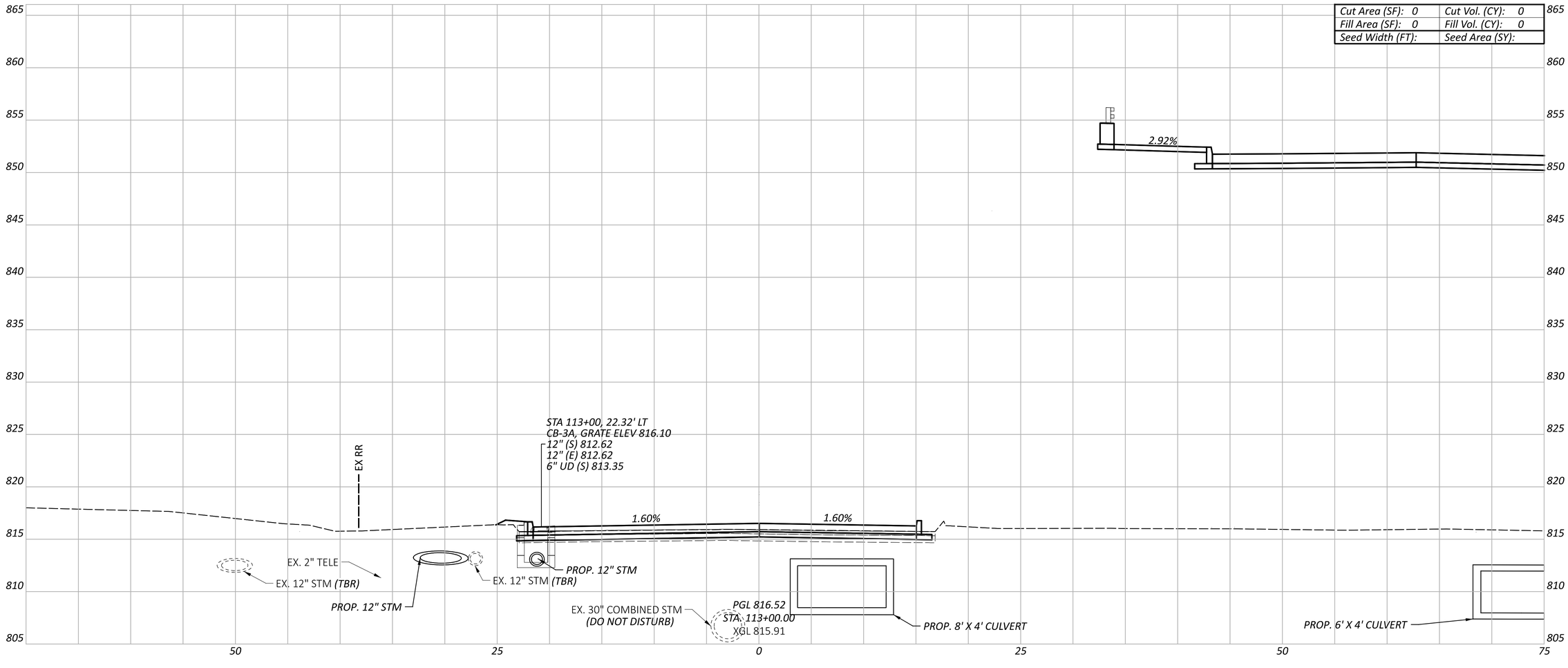

CUY-14-6.93

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CROSS SECTIONS - CHAINCRAFT ROAD
STA 113+00.00

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Sheet Totals		
Seeding	Cut	Fill
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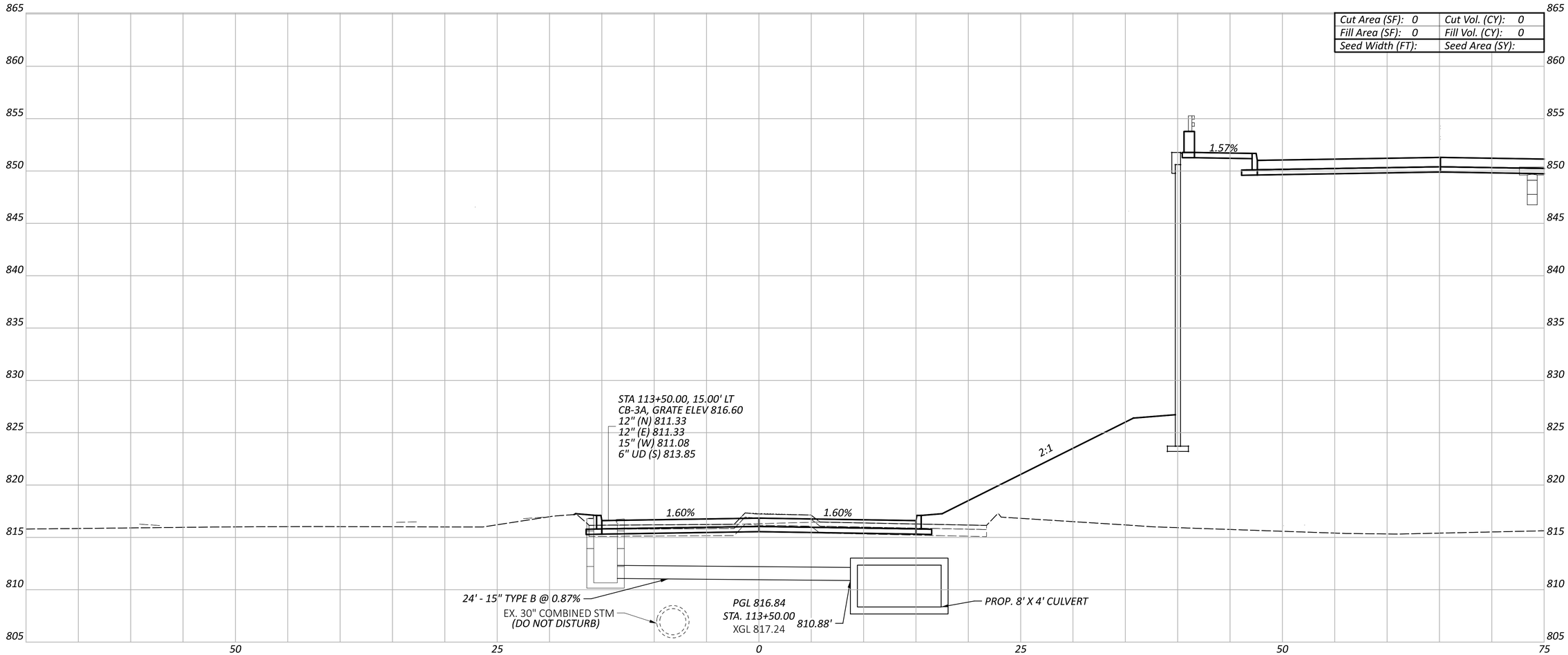
SHEET: P.85 TOTAL: 329



CROSS SECTIONS - CHAINCRAFT ROAD
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CUY-14-6.93

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Sheet Totals		
Seeding	Cut	Fill
-	-	-

SHEET P.86 TOTAL 329

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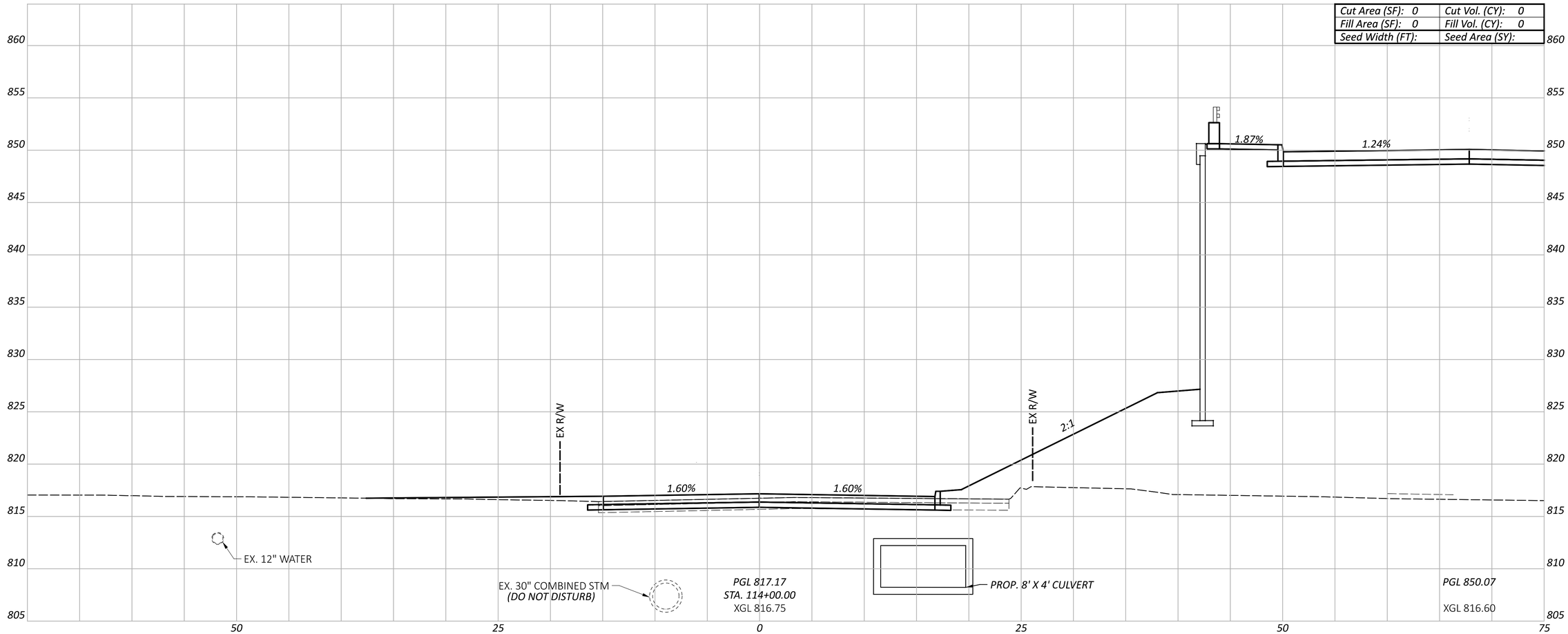

CROSS SECTIONS - CHAINCRAFT ROAD
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CUY-14-6.93

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Sheet Totals		
Seeding	Cut	Fill
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SHEET P.87 TOTAL 329

CROSS SECTIONS - CHAINCRAFT ROAD
STA 114+50.00

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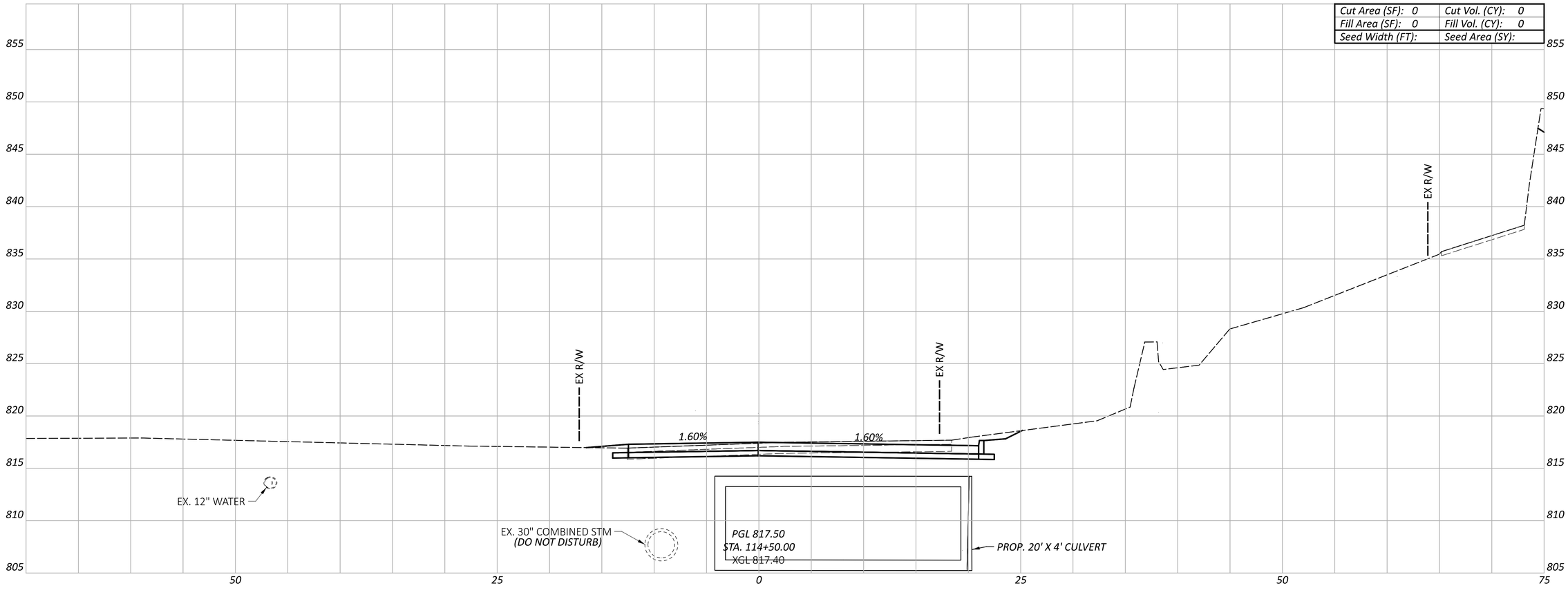

Sheet Totals		
Seeding	Cut	Fill
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SHEET: P.88 | TOTAL: 329

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MODEL: CLX_RW_CHAIN - 114+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:43:05 PM USER: todd.roxberry
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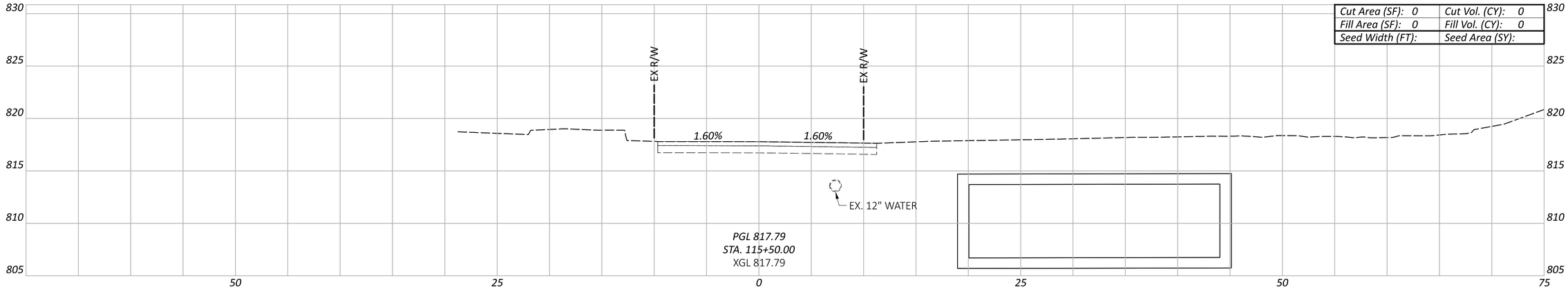

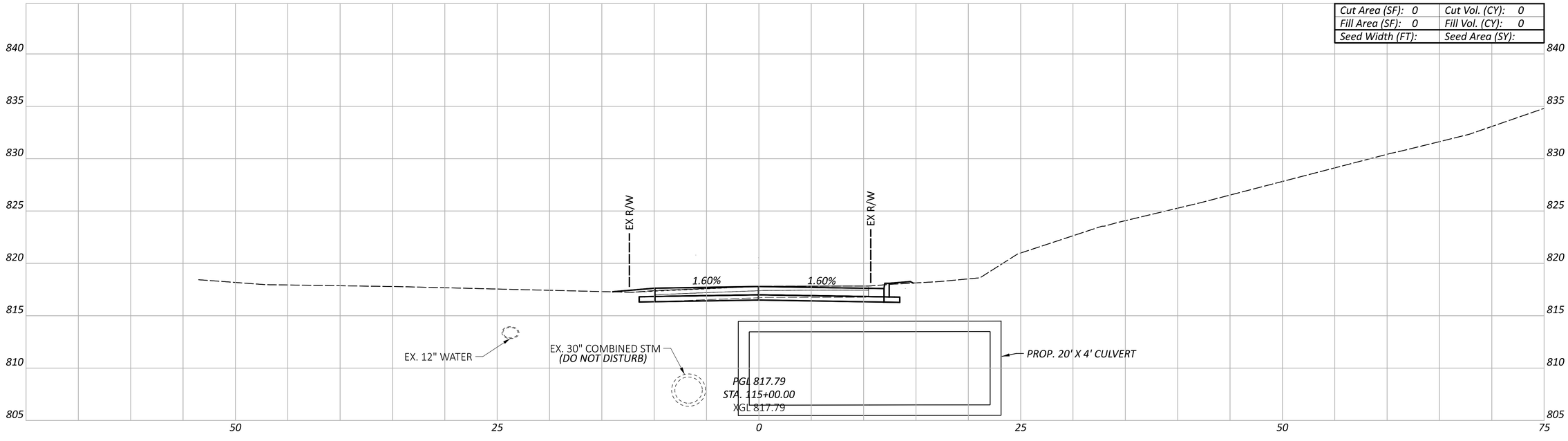

CUY-14-6.93

MODEL: CLX_RW_CHAIN - 115+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:43:09 PM USER: todd.roxberry
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CROSS SECTIONS - CHAINCRAFT ROAD
STA 115+00.00 TO STA 115+50.00

Sheet Totals		
Seeding	Cut	Fill
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SHEET P.89 TOTAL 329

CUY-14-6.93

MODEL: CLX_RW_CHAIN - 116+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:43:15 PM USER: todd.roxberry
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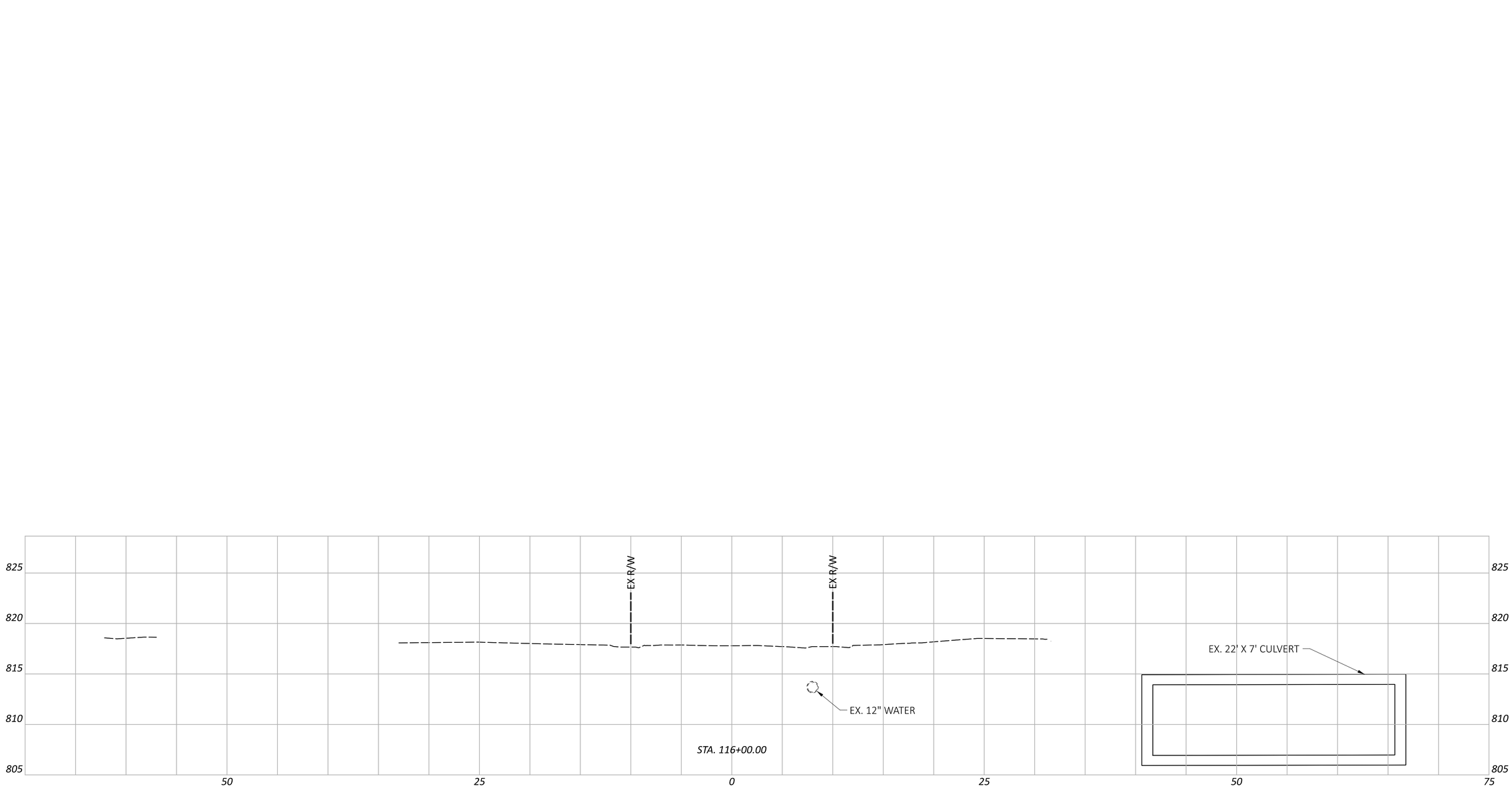

CROSS SECTIONS - CHAINCRAFT RD.
STA 116+00.00

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PROJECT ID
104132

Sheet Totals		
Seeding	Cut	Fill
-	-	-

SHEET	TOTAL
P.90	329

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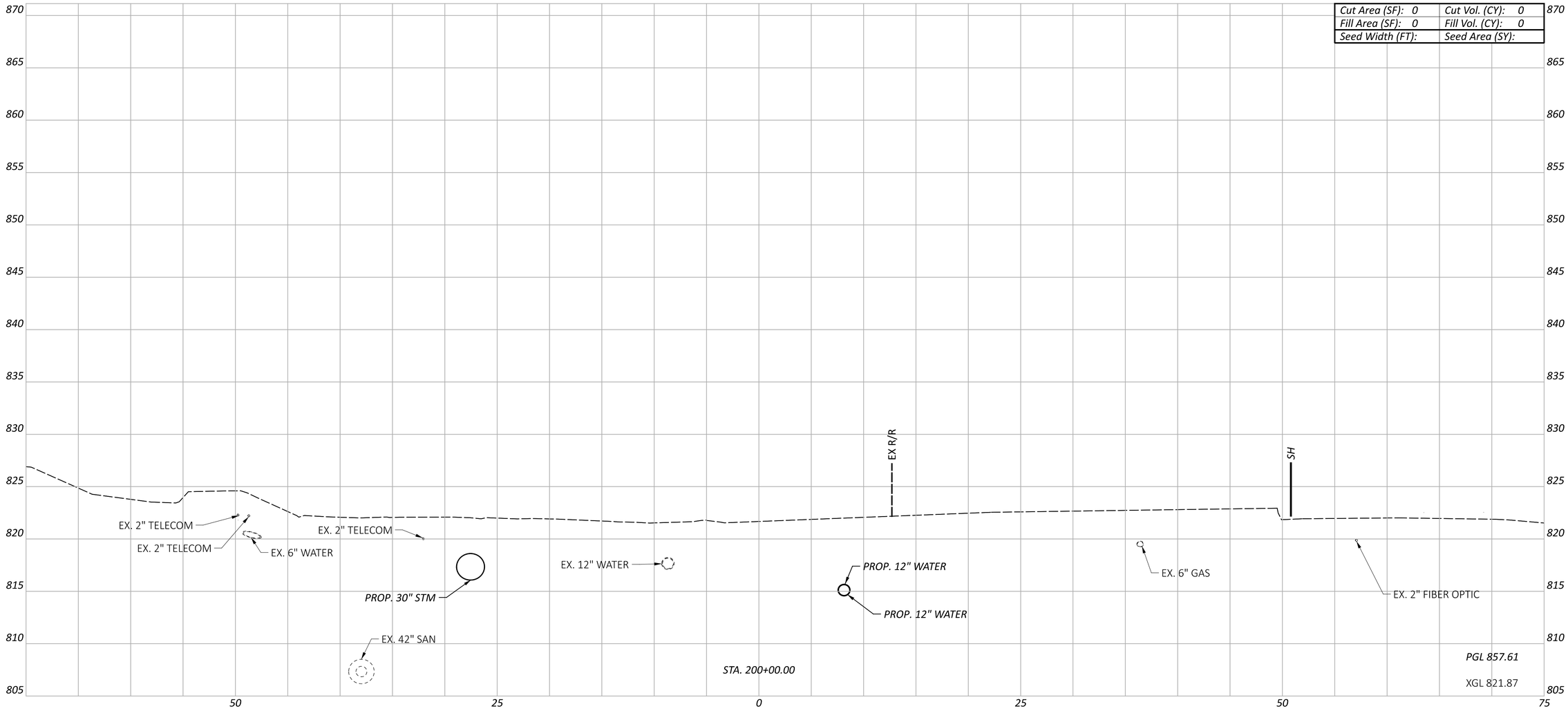

CUY-14-6.93

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CROSS SECTIONS - OLD BROADWAY AVENUE
STA 200+00.00

Sheet Totals		
Seeding	Cut	Fill
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SHEET P.91 | TOTAL 329

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Fill Area (SF): 0	Fill Vol. (CY): 0
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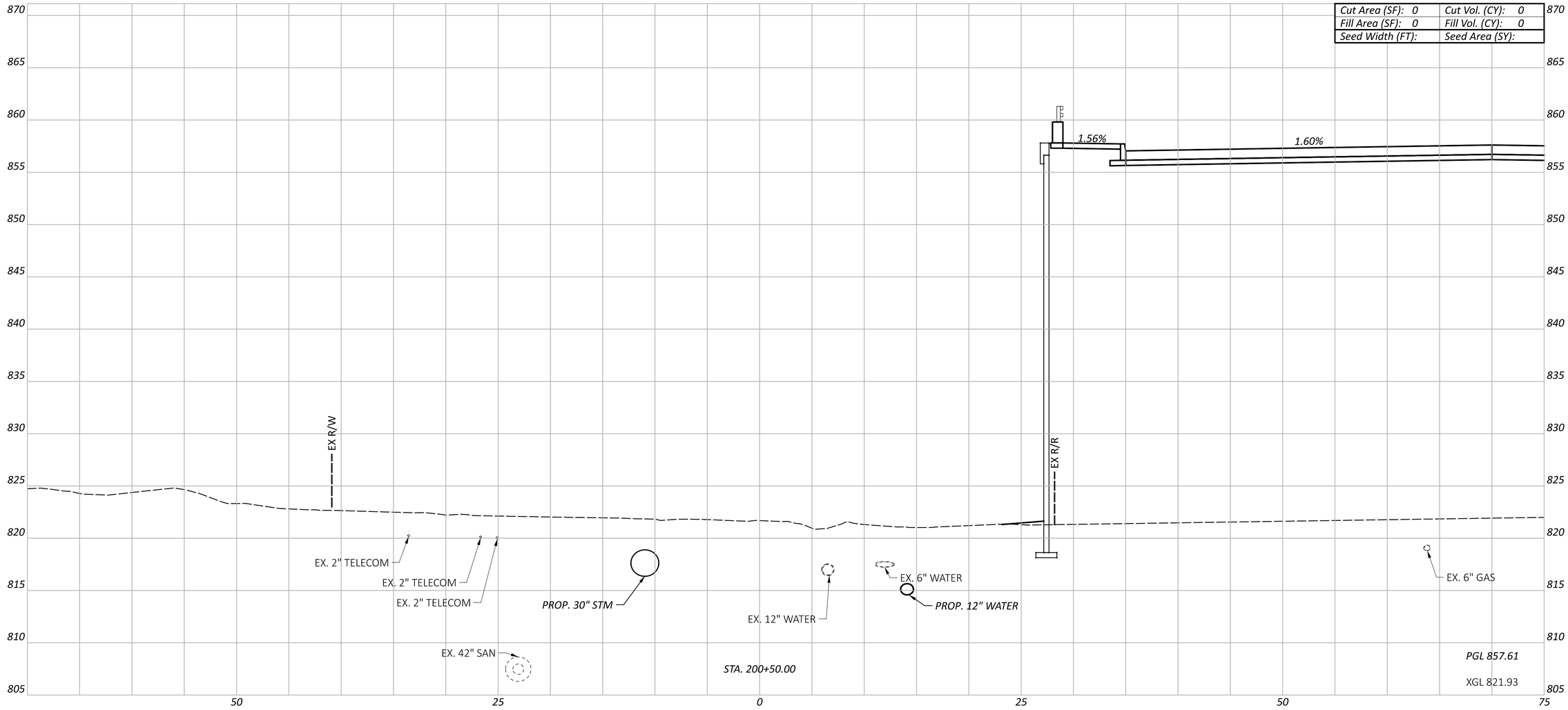

CROSS SECTIONS - OLD BROADWAY AVENUE
STA 200+50.00

CUY-14-6.93

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Sheet Totals		
Seeding	Cut	Fill
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SHEET P.92 TOTAL 329

Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
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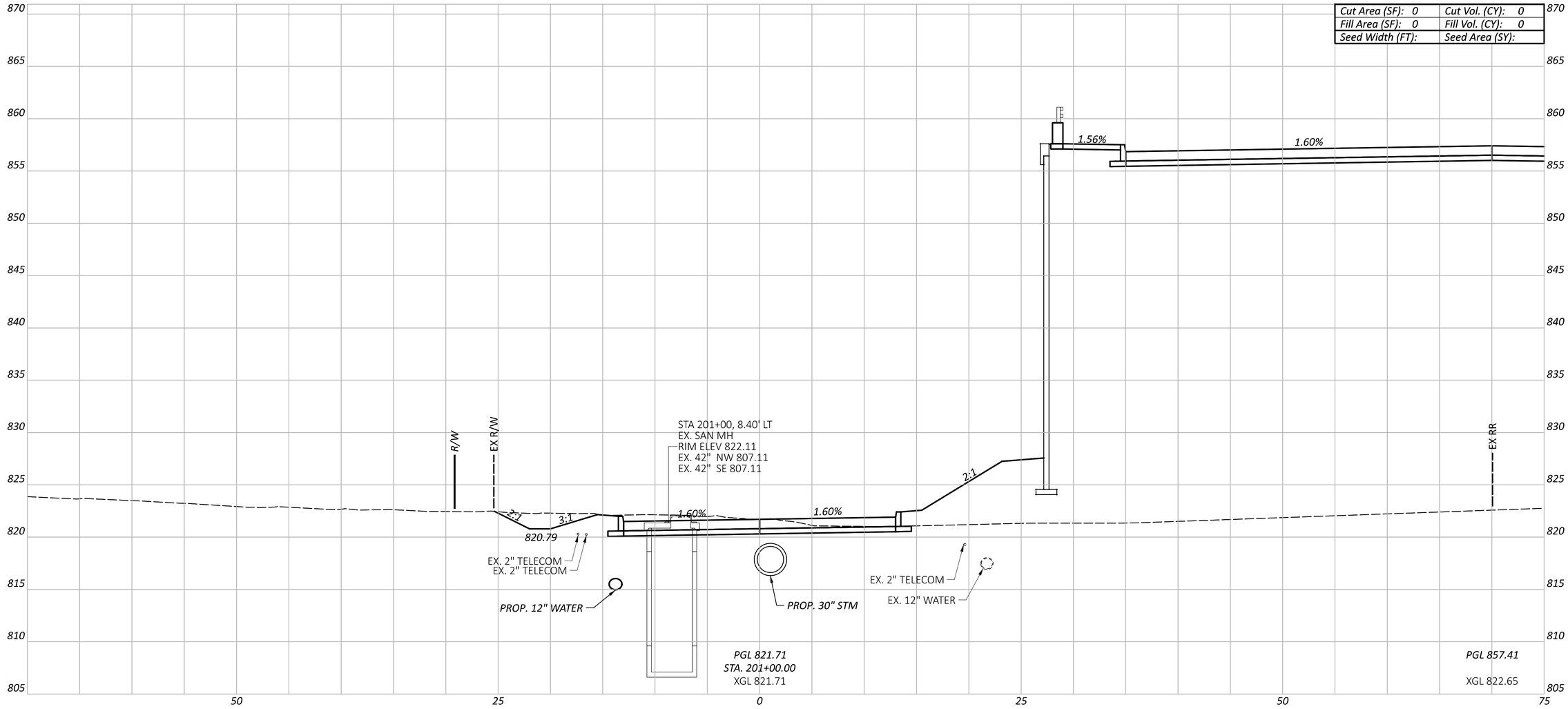

CROSS SECTIONS - OLD BROADWAY AVENUE
STA 201+00.00

Sheet Totals		
Seeding	Cut	Fill
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CUY-14-6.93

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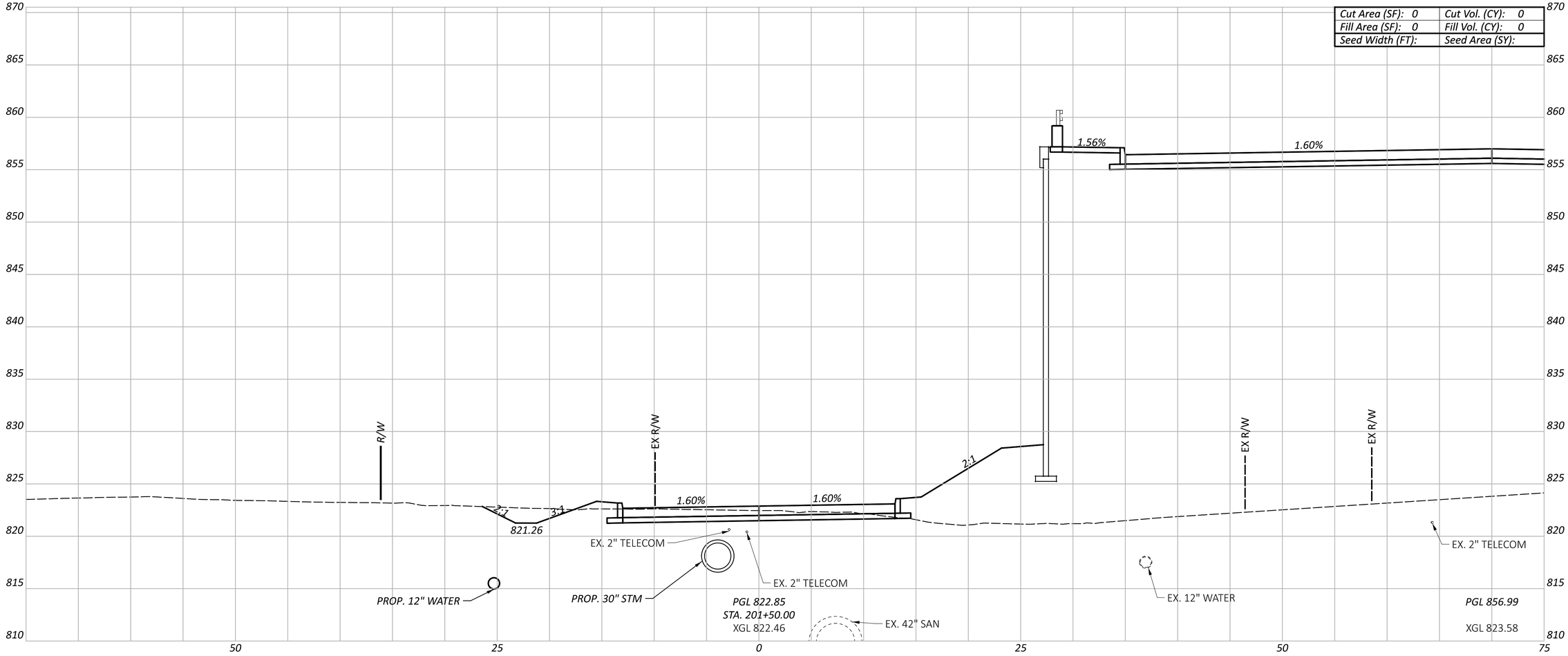
SHEET P.93 TOTAL 329



CUY-14-6.93

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CROSS SECTIONS - OLD BROADWAY AVENUE
STA 201+50.00

Sheet Totals		
Seeding	Cut	Fill
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SHEET P.94 | TOTAL 329

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Fill Area (SF): 0	Fill Vol. (CY): 0
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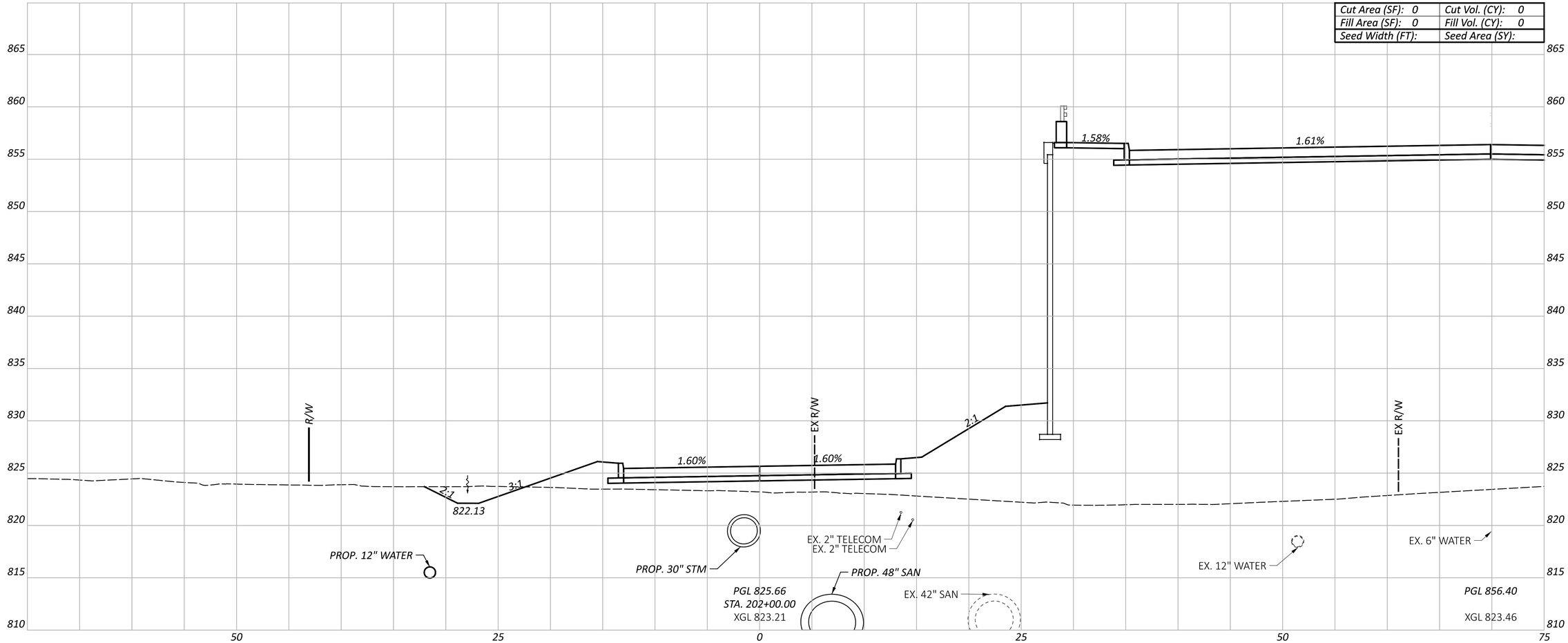

CUY-14-6.93

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CROSS SECTIONS - OLD BROADWAY AVENUE
STA 202+00.00

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PROJECT ID: 104132

Sheet Totals		
Seeding	Cut	Fill
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SHEET: P.95 TOTAL: 329

Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
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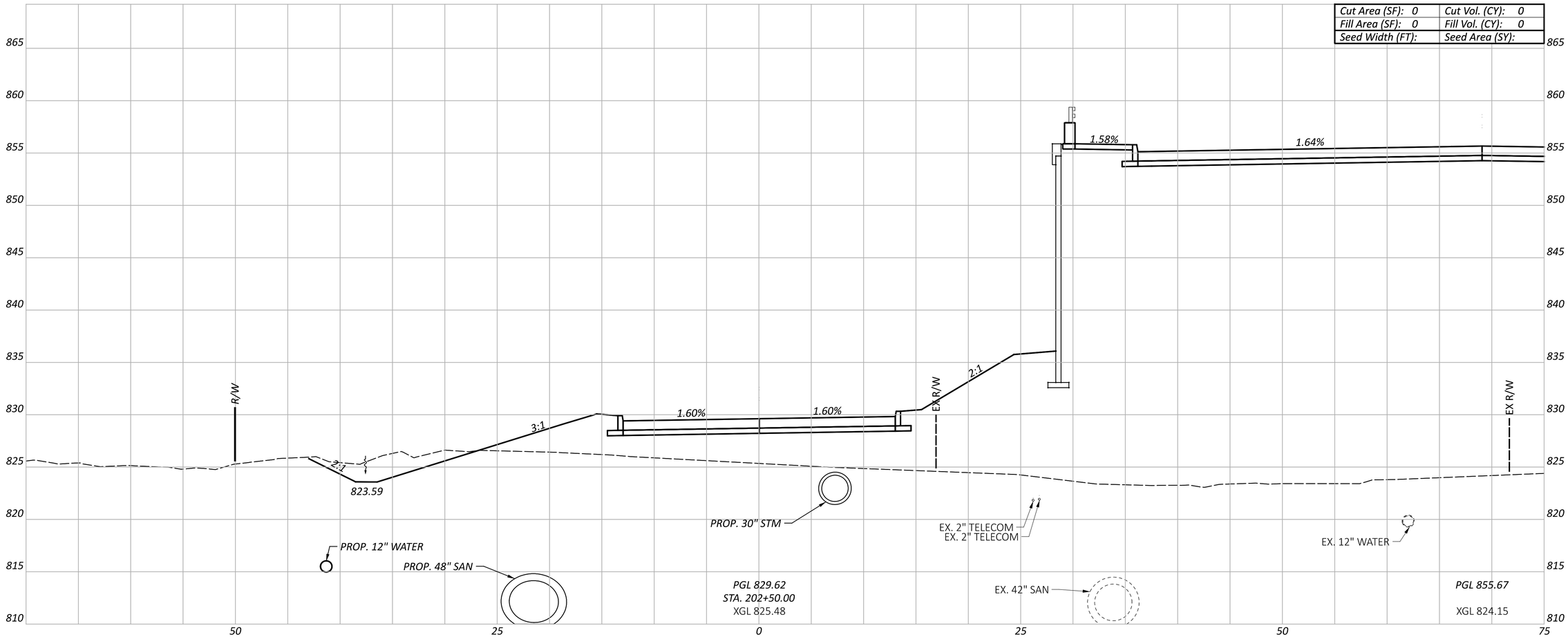

CUY-14-6.93

MODEL: CLP_OLDBW - 202+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:43:52 PM USER: todd.roxberry
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STA 202+50.00

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Sheet Totals		
Seeding	Cut	Fill
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SHEET P.96 | TOTAL 329

Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
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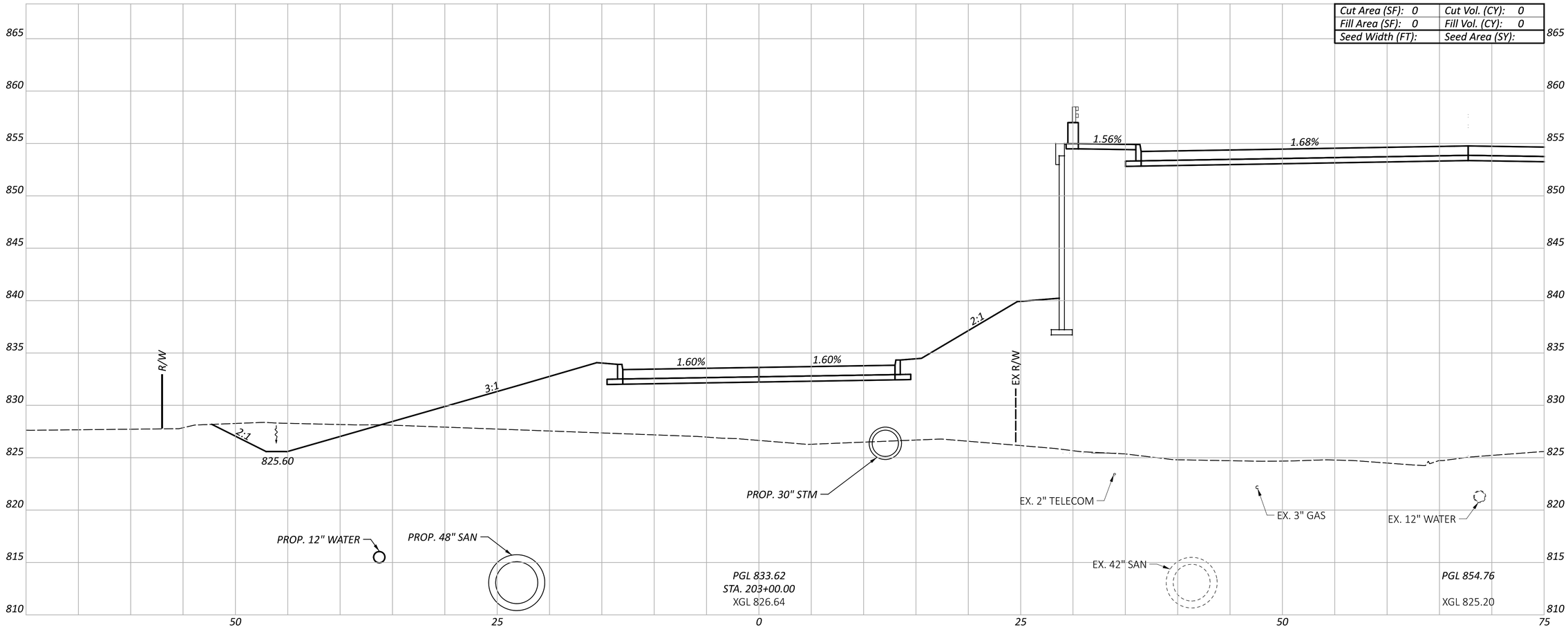

CROSS SECTIONS - OLD BROADWAY AVENUE
STA 203+00.00

CUY-14-6.93

MODEL: CLP_OLDBW - 203+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:43:55 PM USER: todd.roxberry
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Sheet Totals		
Seeding	Cut	Fill
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SHEET P.97 | TOTAL 329

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Fill Area (SF): 0	Fill Vol. (CY): 0
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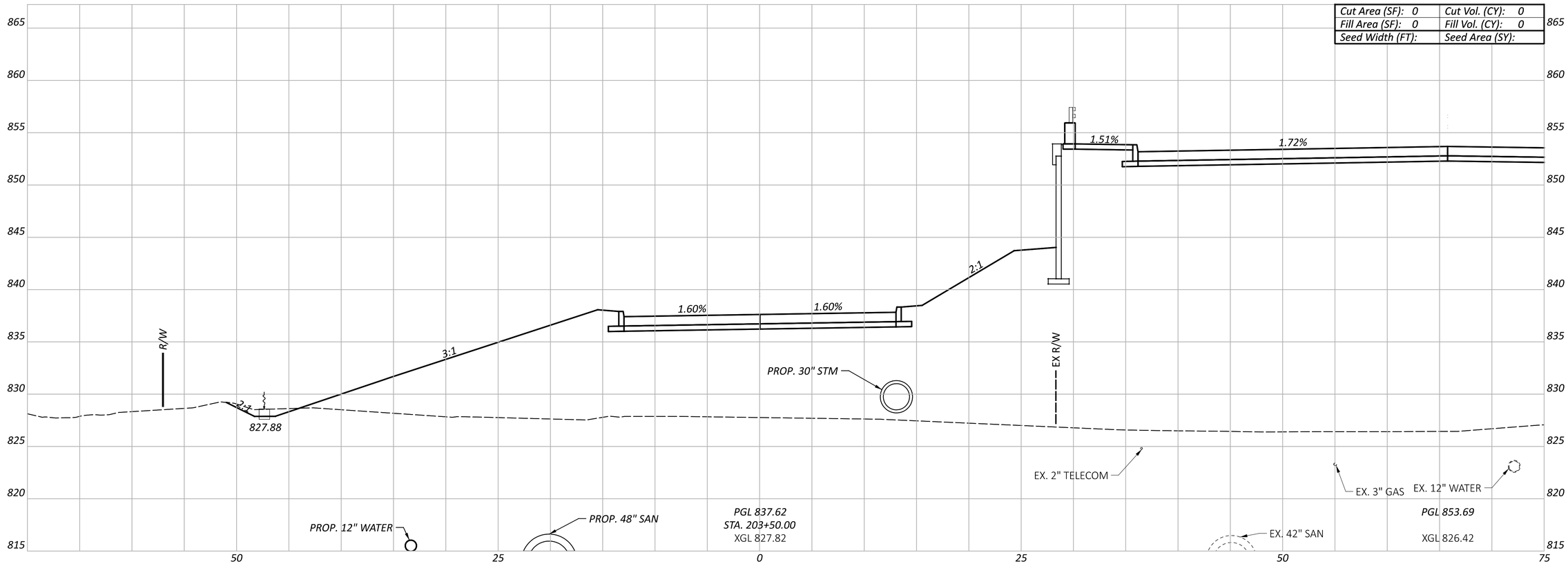

CUY-14-6.93

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Sheet Totals		
Seeding	Cut	Fill
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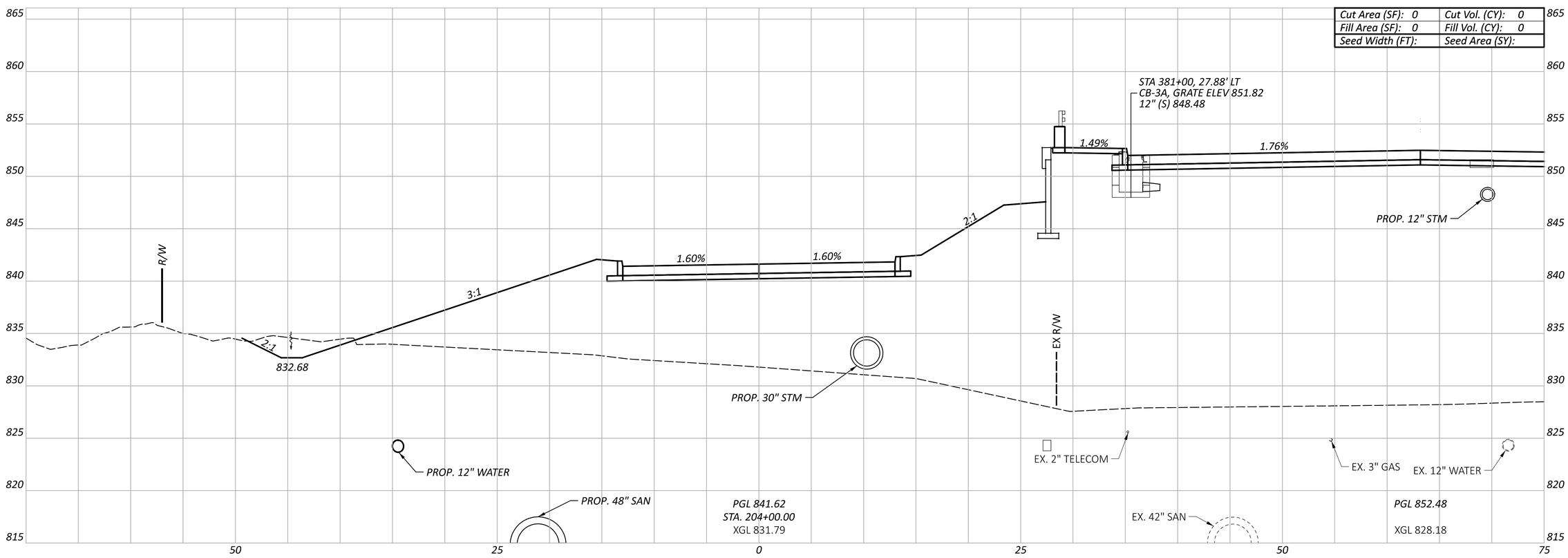
SHEET P.98 TOTAL 329

Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):



CUY-14-6.93

MODEL: CLP_OLDBW - 204+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:44:02 PM USER: todd.roxberry
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CROSS SECTIONS - OLD BROADWAY AVENUE
STA 204+00.00

Sheet Totals		
Seeding	Cut	Fill
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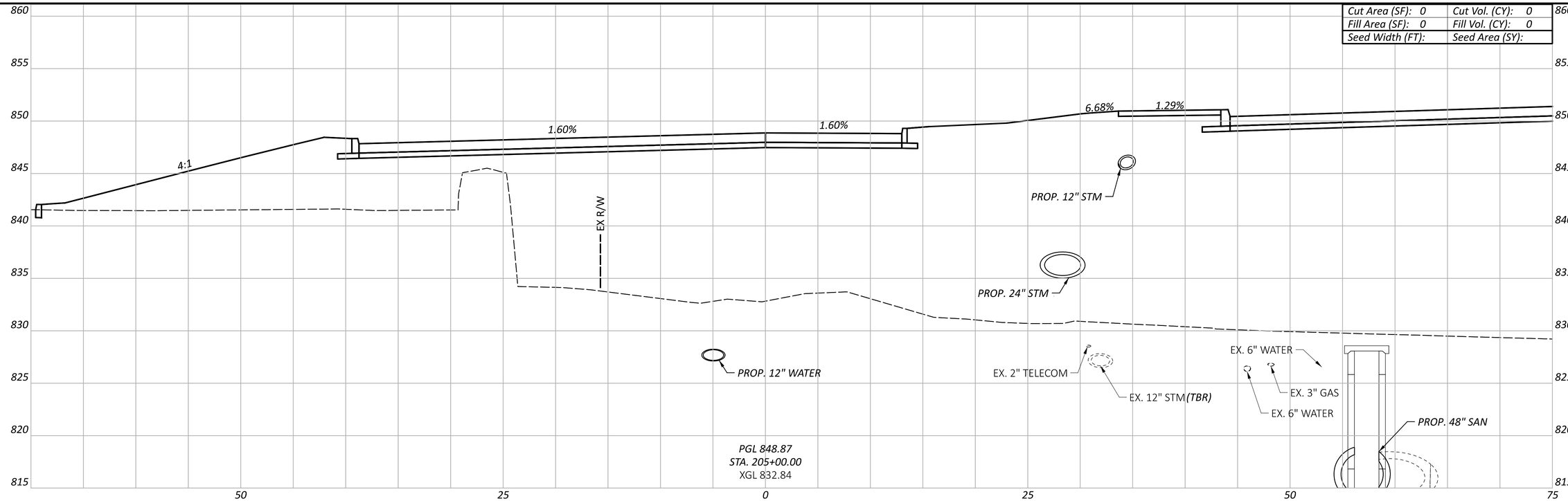
SHEET P.99 | TOTAL 329



CROSS SECTIONS - OLD BROADWAY AVENUE
STA 204+50.00 TO STA 205+00.00

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SHEET P.100 | TOTAL 329

Sheet Totals

Seeding	Cut	Fill
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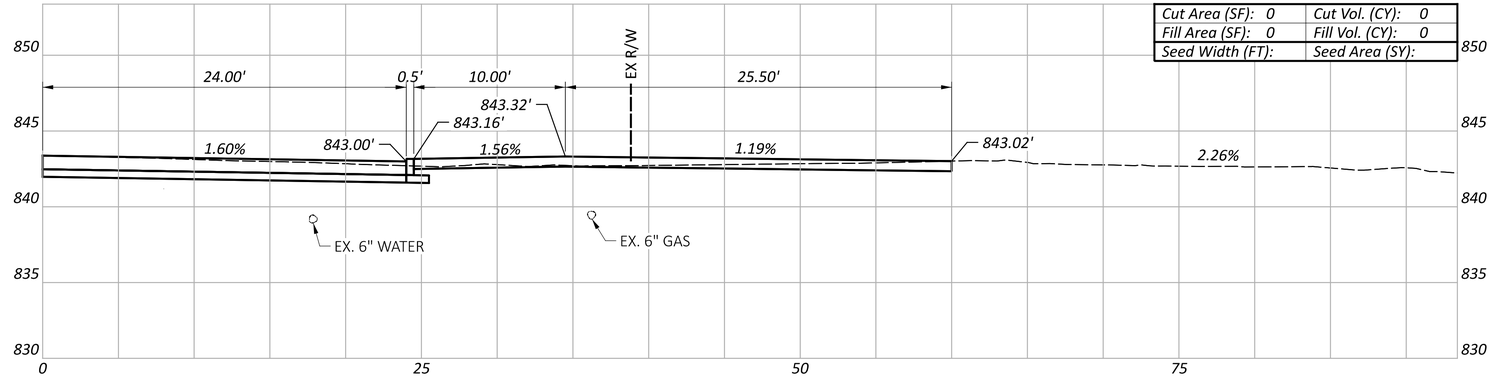
DRIVE PROFILES
STA 384+38.50



PGL 843.38
STA. 384+38.50
XGL 843.37

CUY-14-6.93

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DESIGNER
RJJ

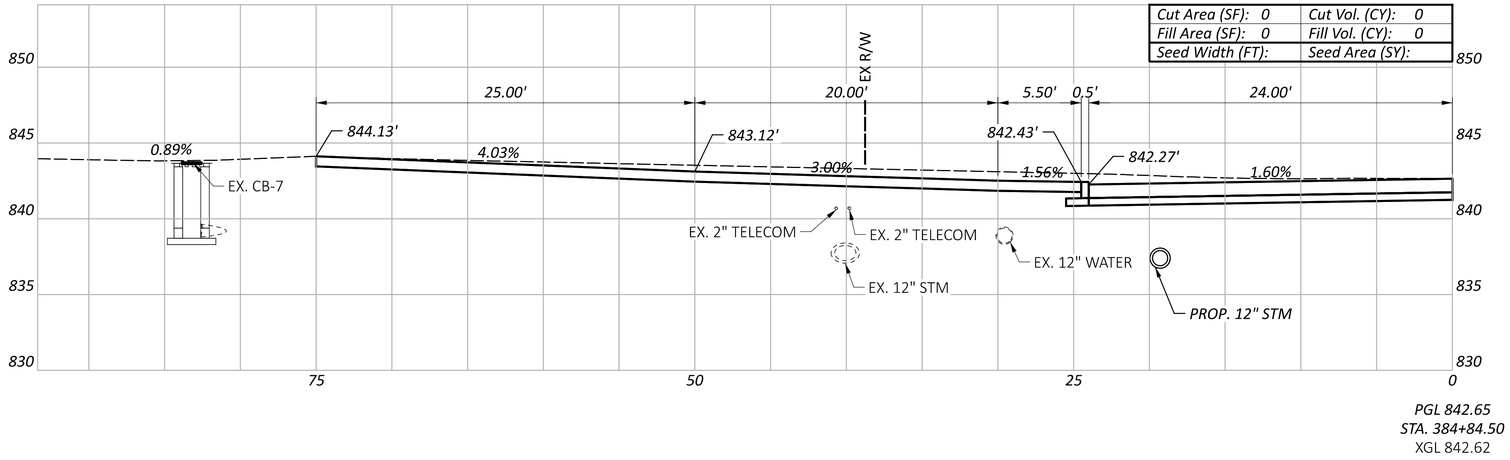
REVIEWER
MAW 01/16/23

PROJECT ID
104132

Sheet Totals		
Seeding	Cut	Fill
.	.	.

SHEET	TOTAL
P.101	329

DRIVE PROFILES
STA 384+84.50



PGL 842.65
STA. 384+84.50
XGL 842.62

Sheet Totals		
Seeding	Cut	Fill
.	.	.

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REVIEWER
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SHEET P.102 TOTAL 329

CUY-14-6.93

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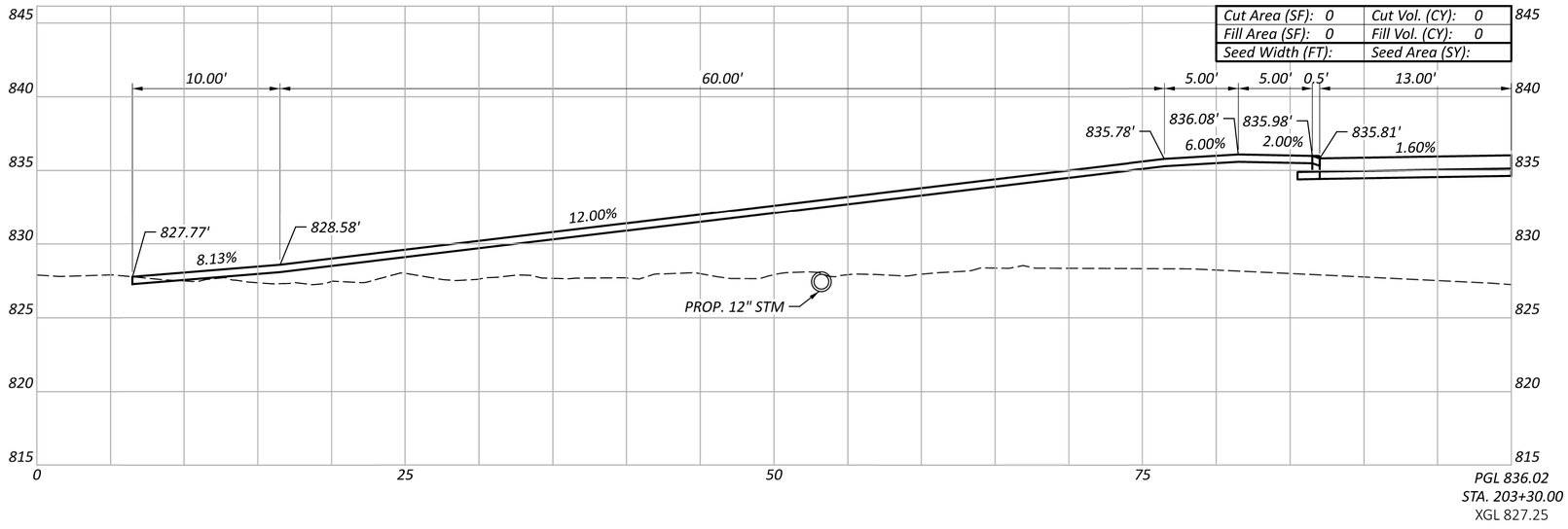
DRIVE PROFILES
STA 203+30.00



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Sheet Totals		
Seeding	Cut	Fill

SHEET: P.103 TOTAL: 329

CUY-14-6.93

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NOTES:
ALL DIMENSIONS ARE MEASURED TO THE FACE OF CURB

ALL ELEVATIONS ALONG THE CURB ARE FL ELEVATIONS. ADD 8-INCHES IN AREAS OF FULL HEIGHT CURB TO OBTAIN TOP OF CURB ELEVATIONS AT FACE OF CURB

CENTERLINE AND FACE OF CURB ELEVATIONS ARE AT 25' INTERVALS, UNLESS OTHERWISE NOTED

HORIZONTAL SCALE IN FEET
0 10 20 40

℄ CONST. S.R. 14
3 CURVE DATA
P.I. = STA. 372+45.86
Δ = 30°02'53" LT
Dc = 11°27'33"
R = 500.00'
T = 134.20'
L = 262.22'
E = 17.70'
e = nc

CURB RAMP TYPE B2
STA. 373+85.38
35.00' LT.

STA. 374+24.63, ℄ CONST. S.R. 14 =
STA. 20+00.00, ℄ CONST. HENRY ST.

GRATE EL. = 846.73

844.20 845.10 845.99 846.89 847.79 848.69 849.58 850.43 851.23 851.99 852.70 853.35 853.95 854.50 854.99 855.44 855.83 856.17 856.45

110 111

1.60%

S.R. 14 24.00' 844.64 372 845.55 846.47 847.38 848.29 373 849.21 850.11 850.98 851.79 852.55 853.25 374 853.26 20 853.91 854.51 375 855.06 855.56 856.00 ℄ CONST. S.R. 14 856.39 376 856.73 857.01

844.26 845.17 846.08 847.00 847.91 848.82 849.73 850.53 850.82 851.07 851.30 851.45 851.54 851.54 851.48 851.34 851.26

GRATE EL. = 847.10
GRATE EL. = 846.83

A CURVE DATA
Δ = 96°24'42" LT
Dc = 114°35'30"
R = 50.00'
T = 55.93'
L = 84.14'
E = 25.02'

CURB RAMP TYPE A1
STA. 373+80.59
39.04' RT.

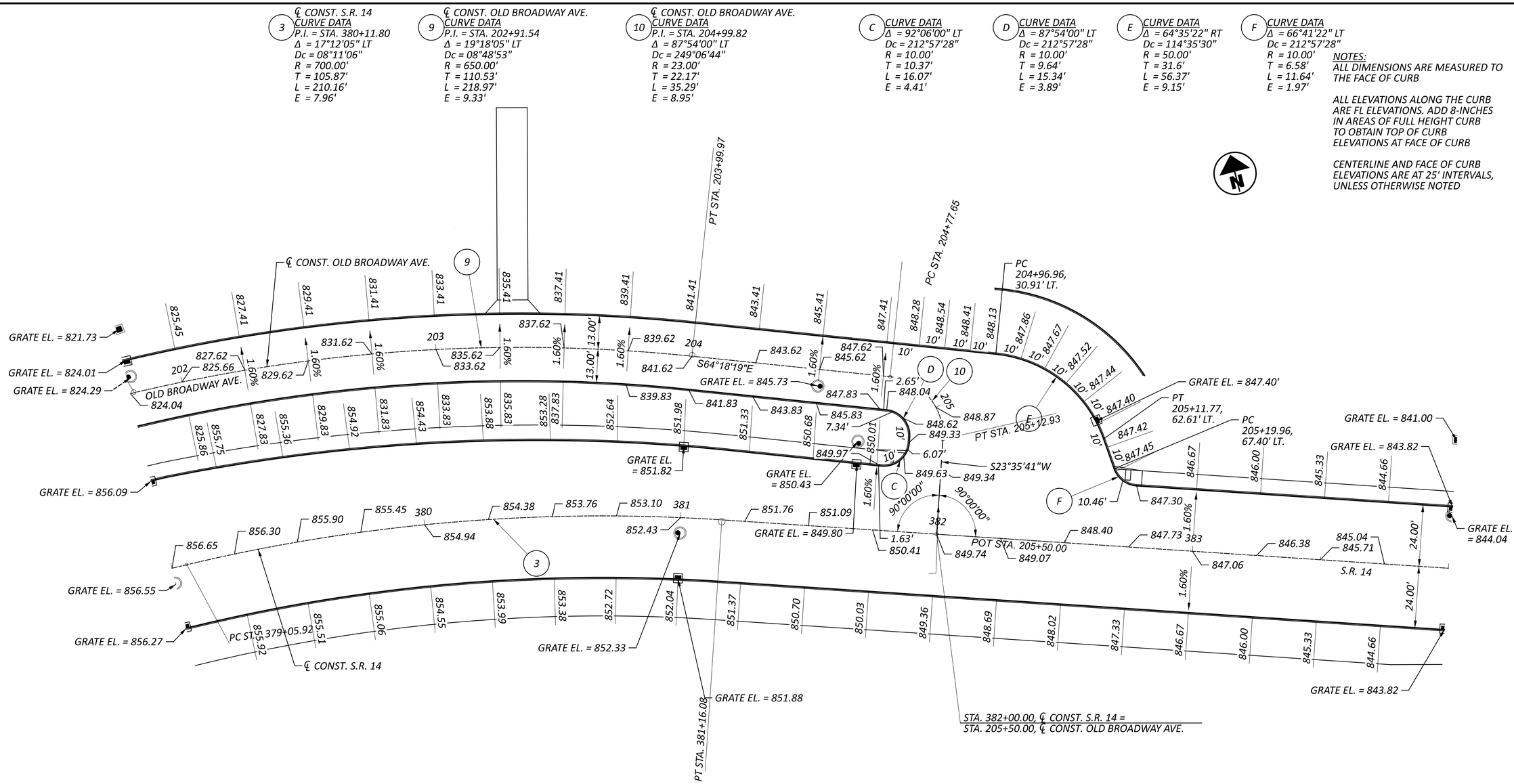
STA. 373+47.94, 74' RT. ℄ CONST. SR 14
STA. 19+14.62, 67.5' LT. ℄ CONST. HENRY ST.

GRATE EL. = 850.80
GRATE EL. = 851.11

A 852.75
B 852.25
373+82.86, 42.26' RT.
PC 19+27.67, 17.50' RT.
80°36'56.28"
99°23'03.72"
4.14' 17.50' 17.50'
14.62'
N15°46'40"E 19
HENRY ST.
℄ CONST. HENRY ST.
GRATE EL. = 849.36

850.97 851.25 850.75 850.47 849.97 850.25 849.54 849.81 849.22 849.51

24.04' 10' 10' 10



INTERSECTION DETAIL S.R. 14 AND OLD BROADWAY AVE.

CUY-14-6.93

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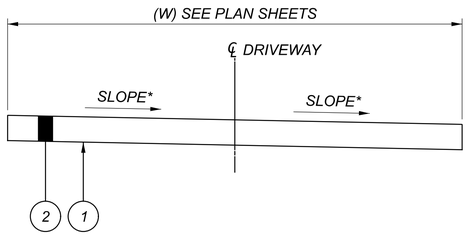
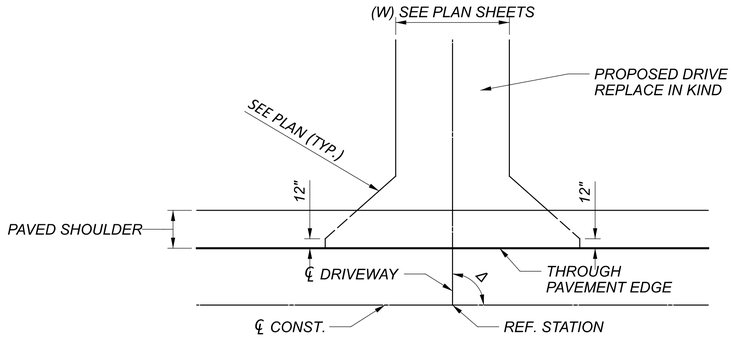
PROJECT ID 104132
SHEET P.105 TOTAL 329

LEGEND

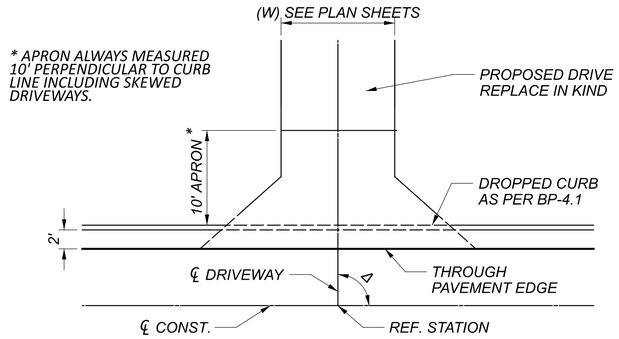
1. ITEM 204 - SUBGRADE COMPACTION
2. ITEM 304 - AGGREGATE BASE [T=8"]
3. ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS), AS PER PLAN, PG64-22 [T=2"]
4. ITEM 452 - NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1P [T=8"]



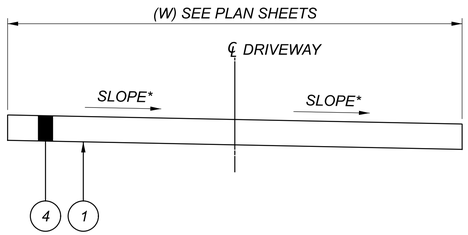
RESIDENTIAL AGGRREGATE DRIVE



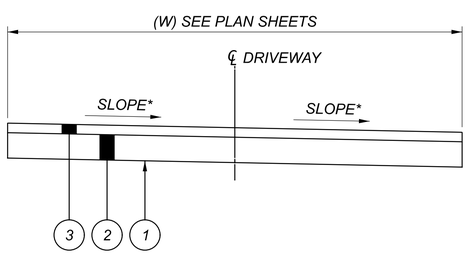
UNCURBED DRIVEWAY ALONG UNCURBED HIGHWAY



UNCURBED DRIVEWAY ALONG CURBED HIGHWAY

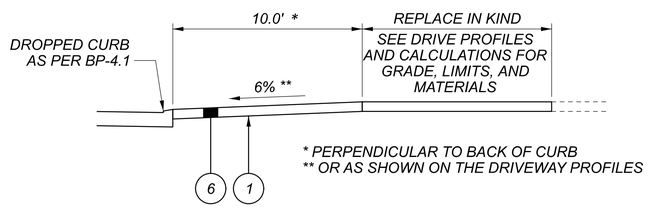


RESIDENTIAL CONCRETE DRIVE



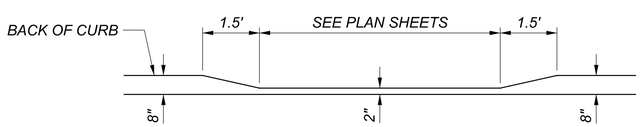
RESIDENTIAL ASPHALT DRIVE

* SLOPE TO MATCH EXISTING OR SLOPED TO THE LOW SIDE AT 0.5% MIN. (PAVED), OR 2% MIN. (AGGREGATE)



* PERPENDICULAR TO BACK OF CURB
** OR AS SHOWN ON THE DRIVEWAY PROFILES

DRIVE APRON



DROPPED CURB ELEVATION

DRIVE DETAILS

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PROJECT ID 104132
SHEET P.106 TOTAL 329

CUY-14-6.93

MODEL: 104132_GD001 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:45:56 PM USER: todd.roxberry
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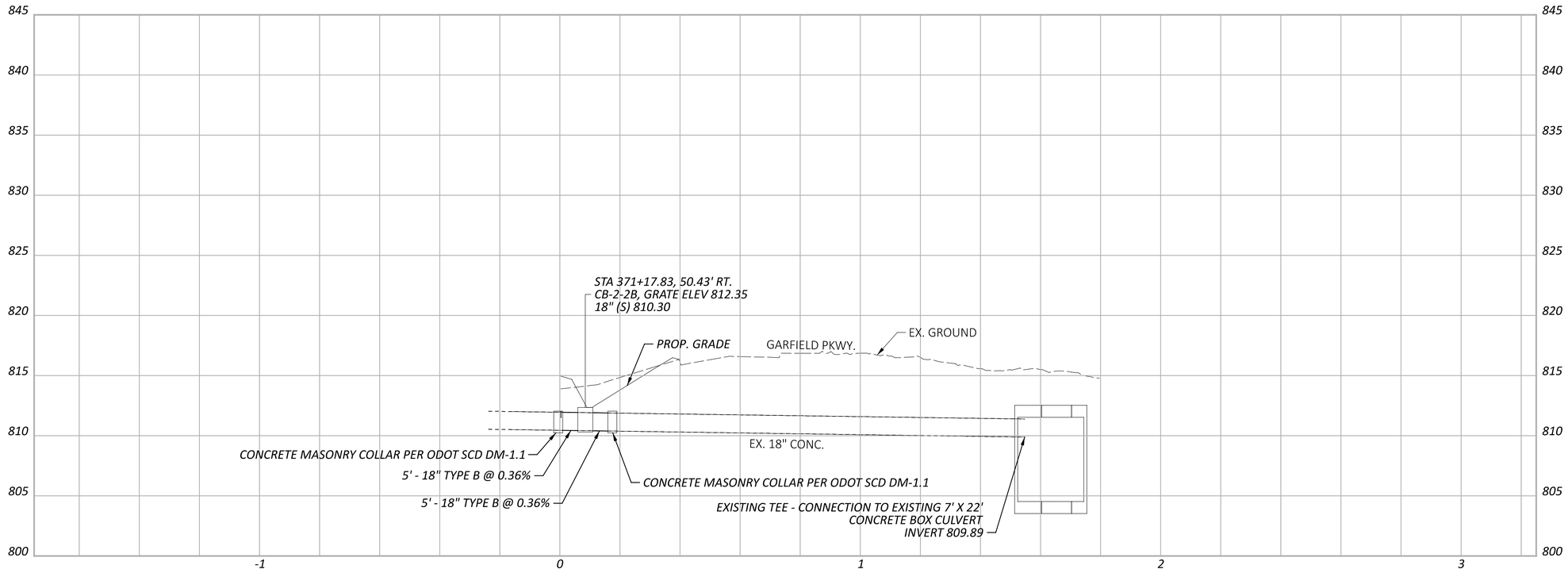

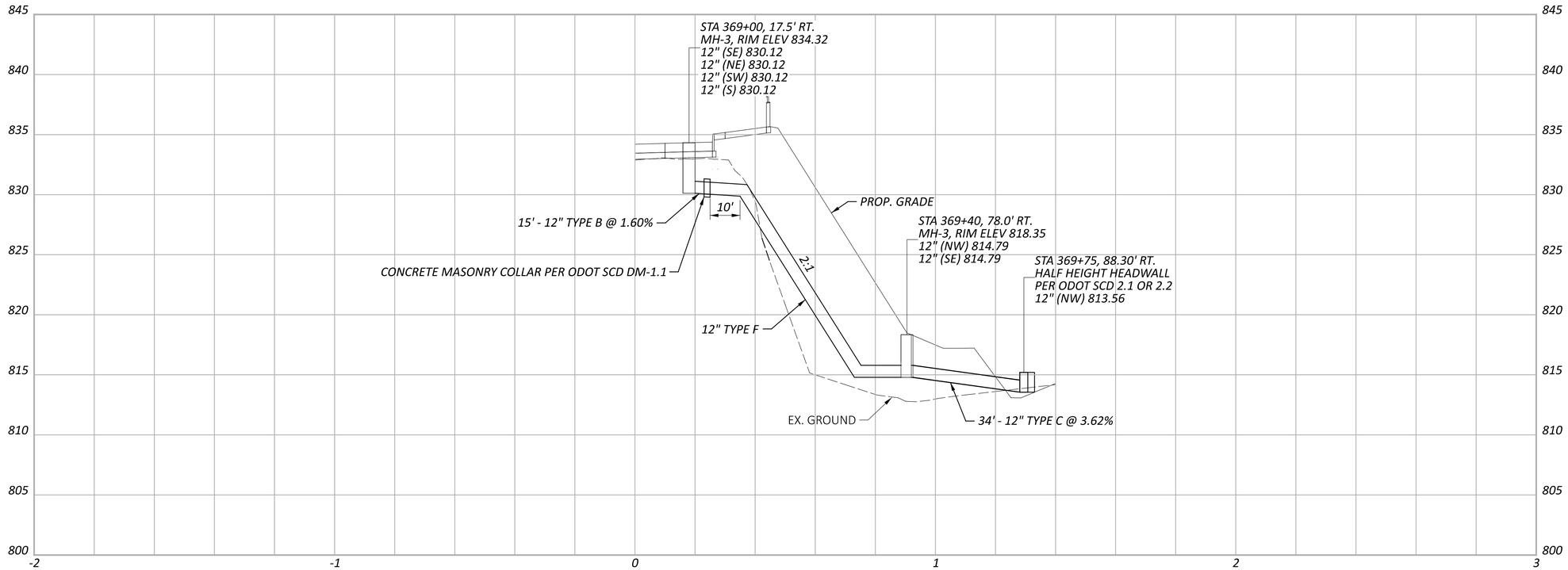

STORM SEWER PROFILES

CUY-14-6.93

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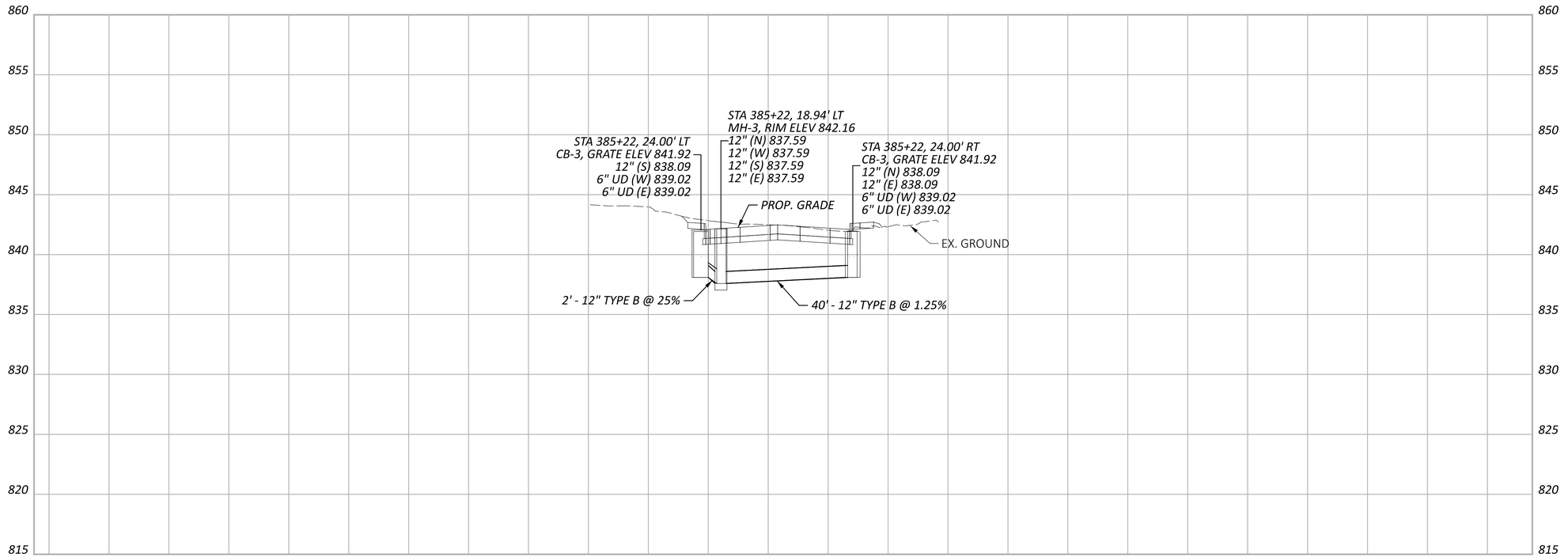
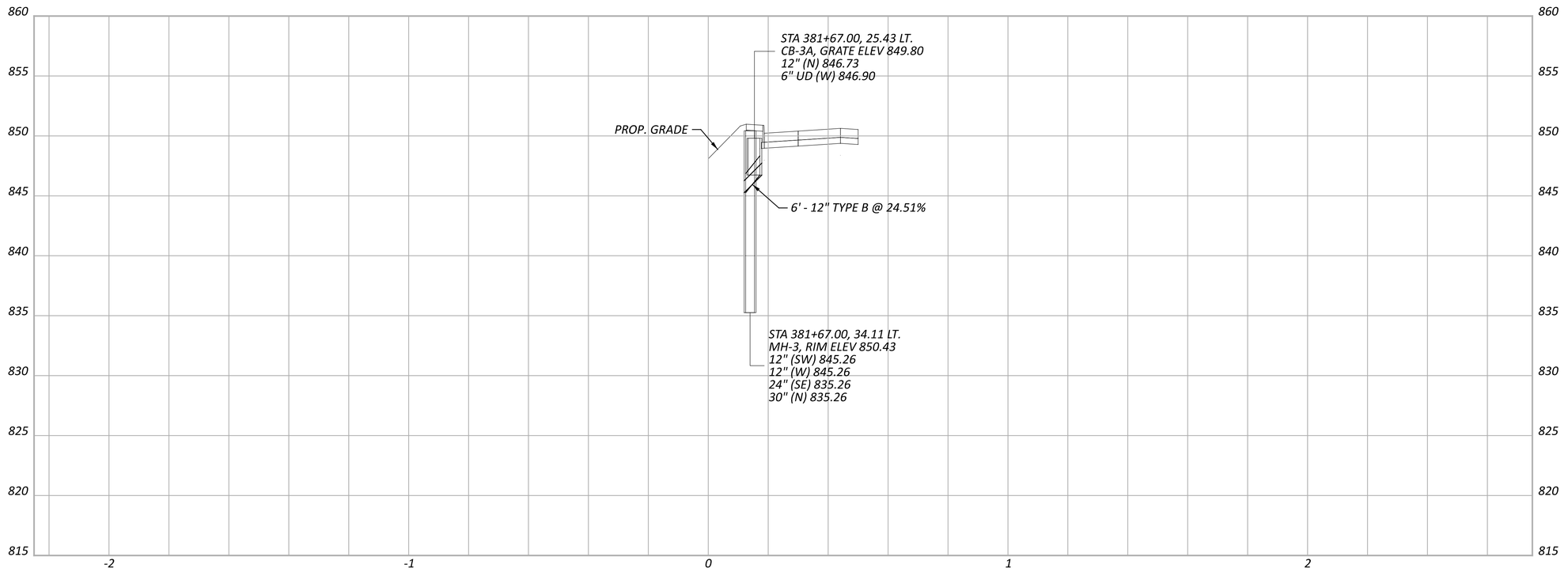
BNC

REVIEWER
MAW 01/16/23

PROJECT ID
104132

SHEET P.107 | TOTAL 329





STORM SEWER PROFILES

DESIGN AGENCY

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SHEET P.108 | TOTAL 329

CUY-14-6.93

MODEL: Profile Run30 - CLP_14_4 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:46:32 PM USER: todd.roxberry
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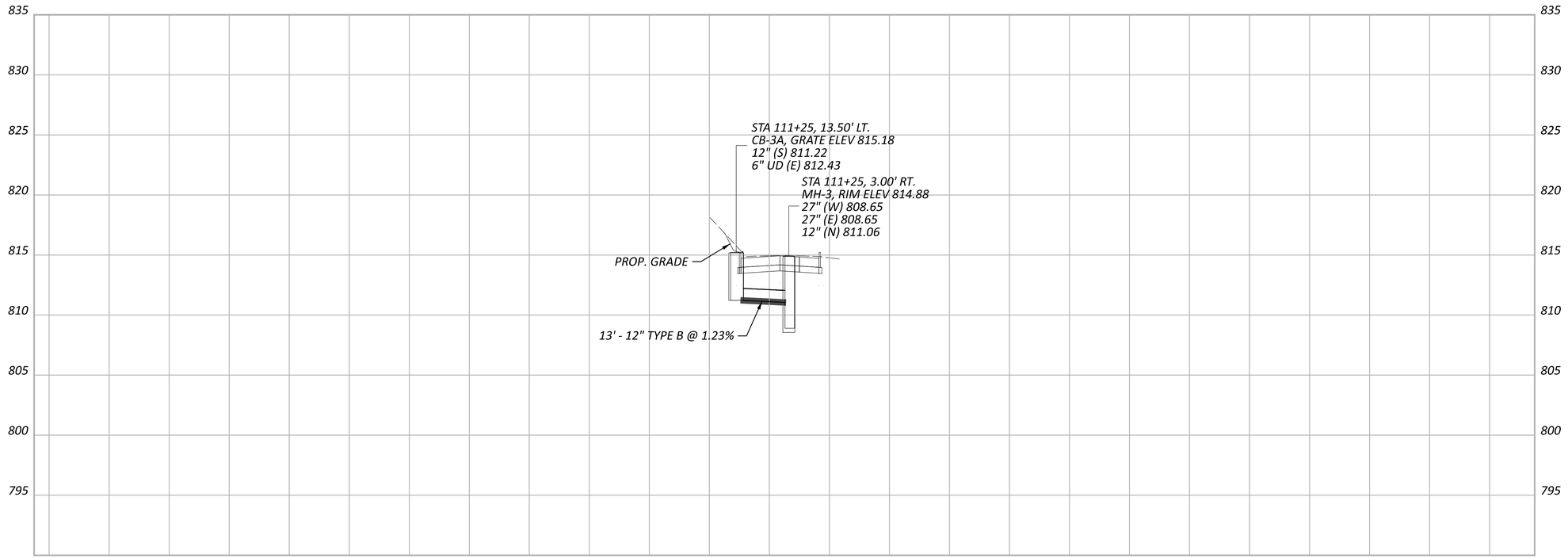

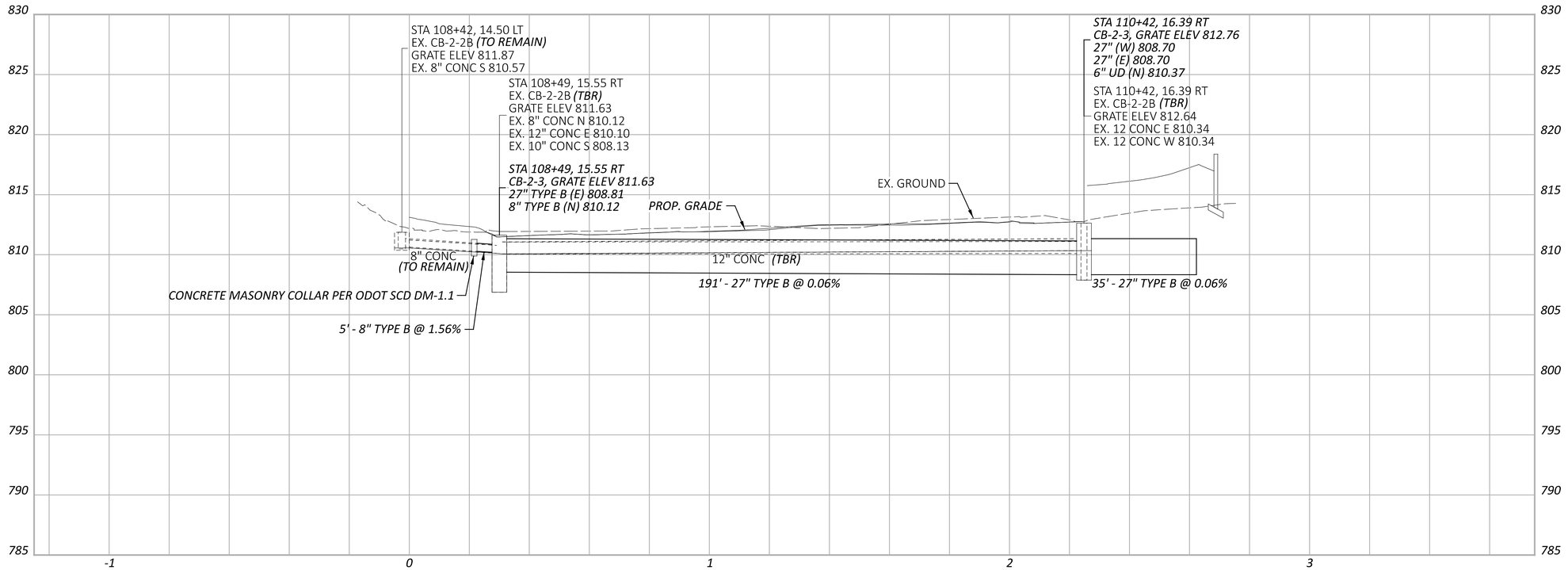

STORM SEWER PROFILES

CUY-14-6.93

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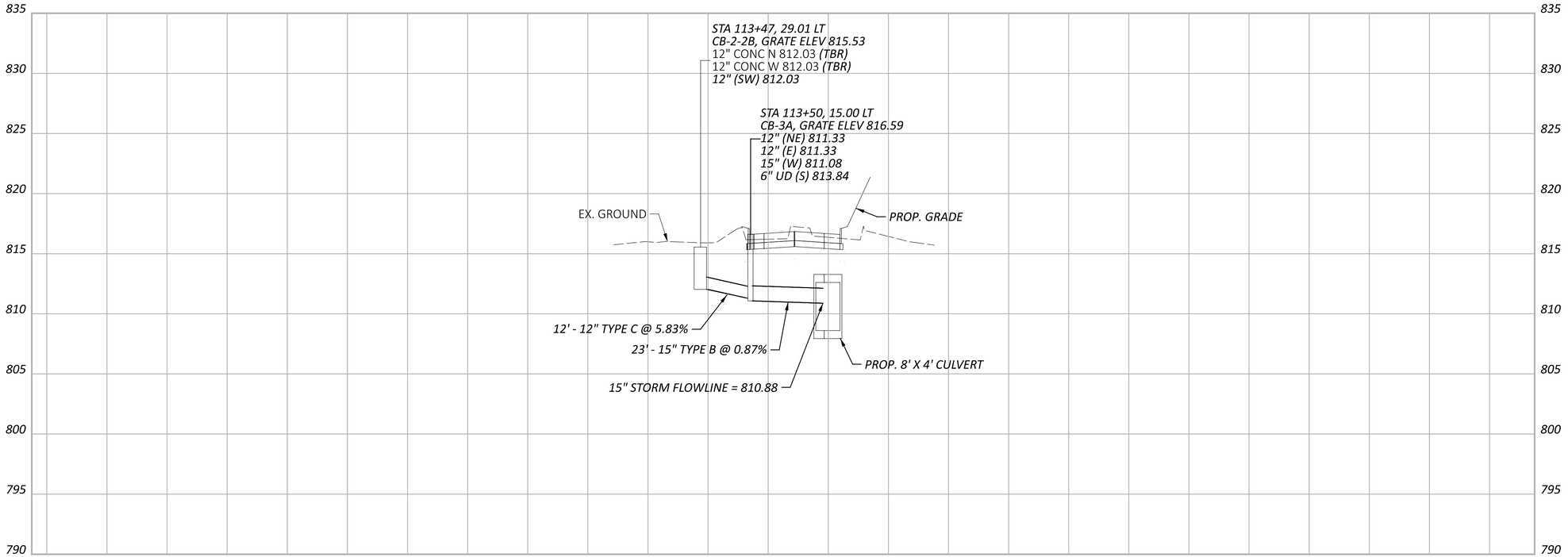
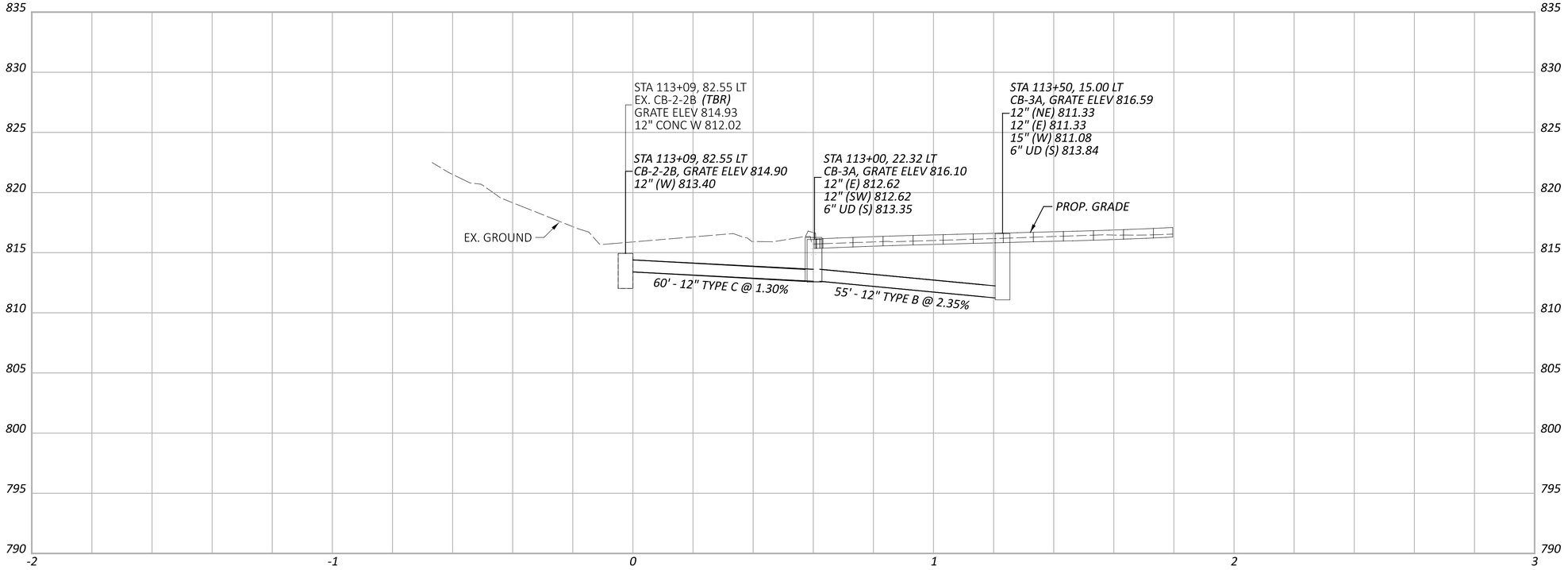
SHEET P.109 | TOTAL 329





CUY-14-6.93

MODEL: Profile Run33 - CLP_Chaincraft_4 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:47:04 PM USER: todd.roxberry
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STORM SEWER PROFILES

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REVIEWER
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PROJECT ID
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SHEET P.110 | TOTAL 329

CUY-14-6.93

MODEL: Unnamed Profile - Profile 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:47:22 PM USER: todd.roxberry
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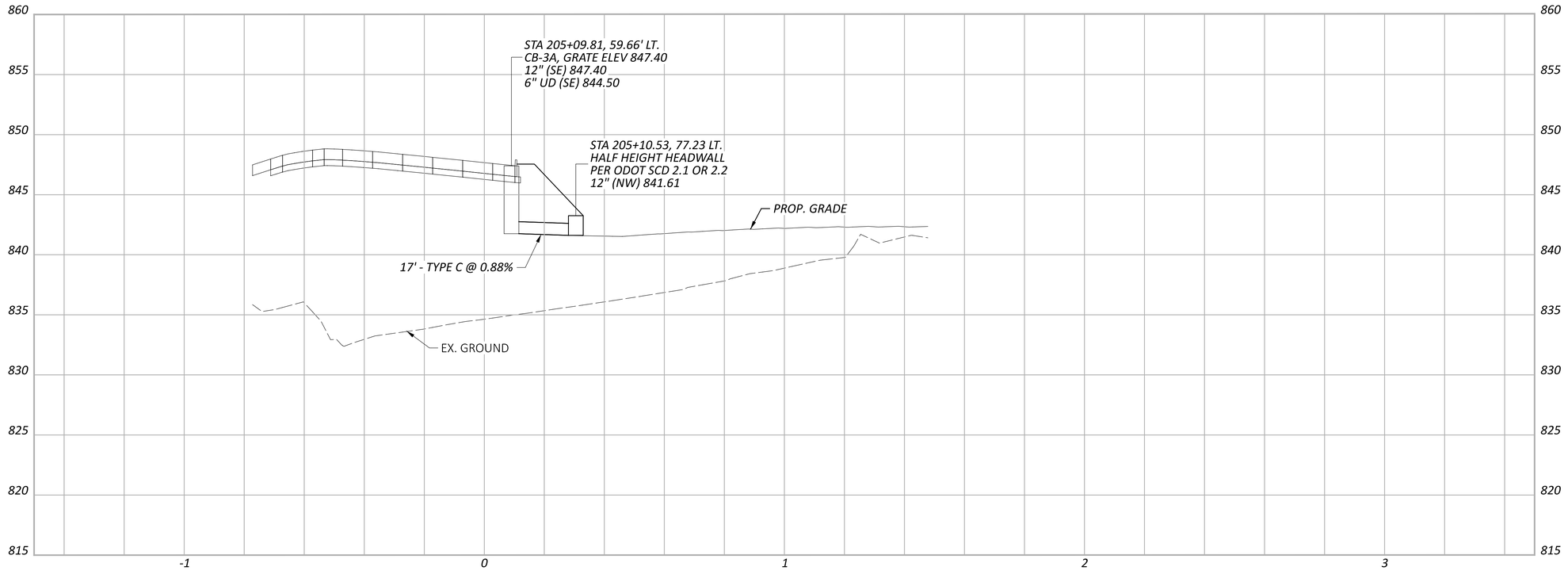

STORM SEWER PROFILES

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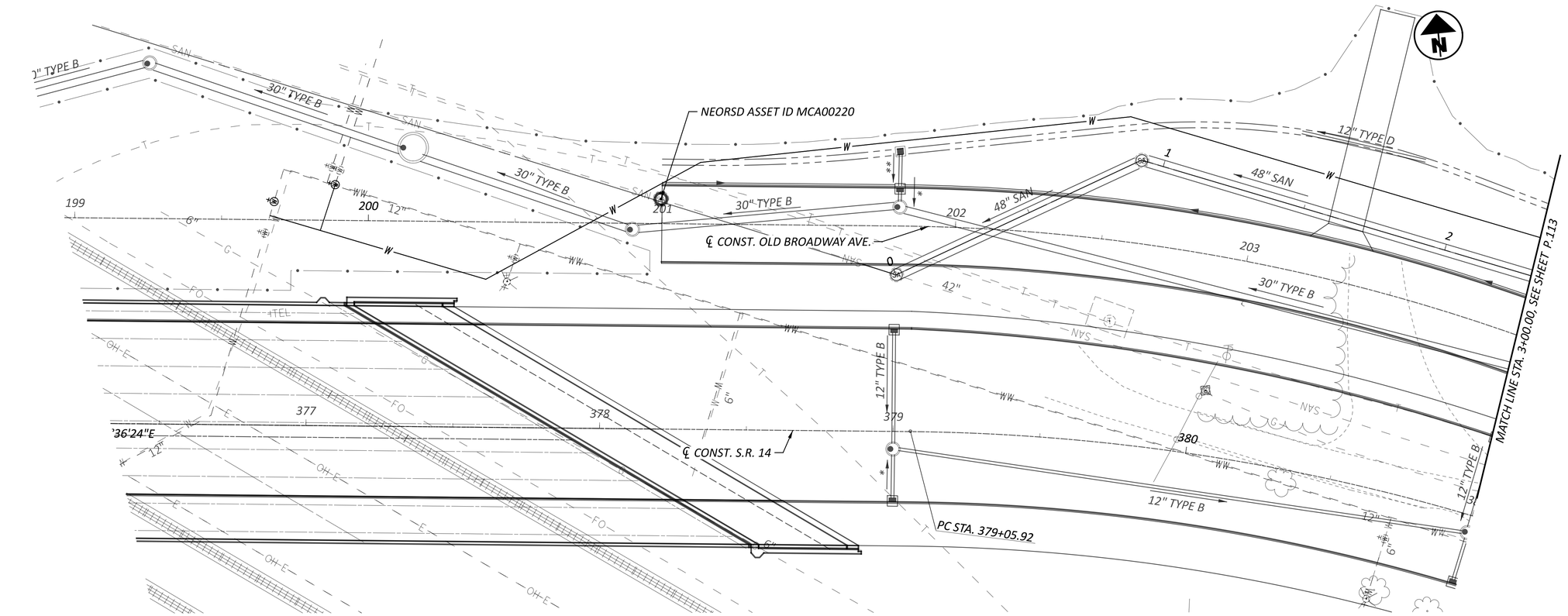
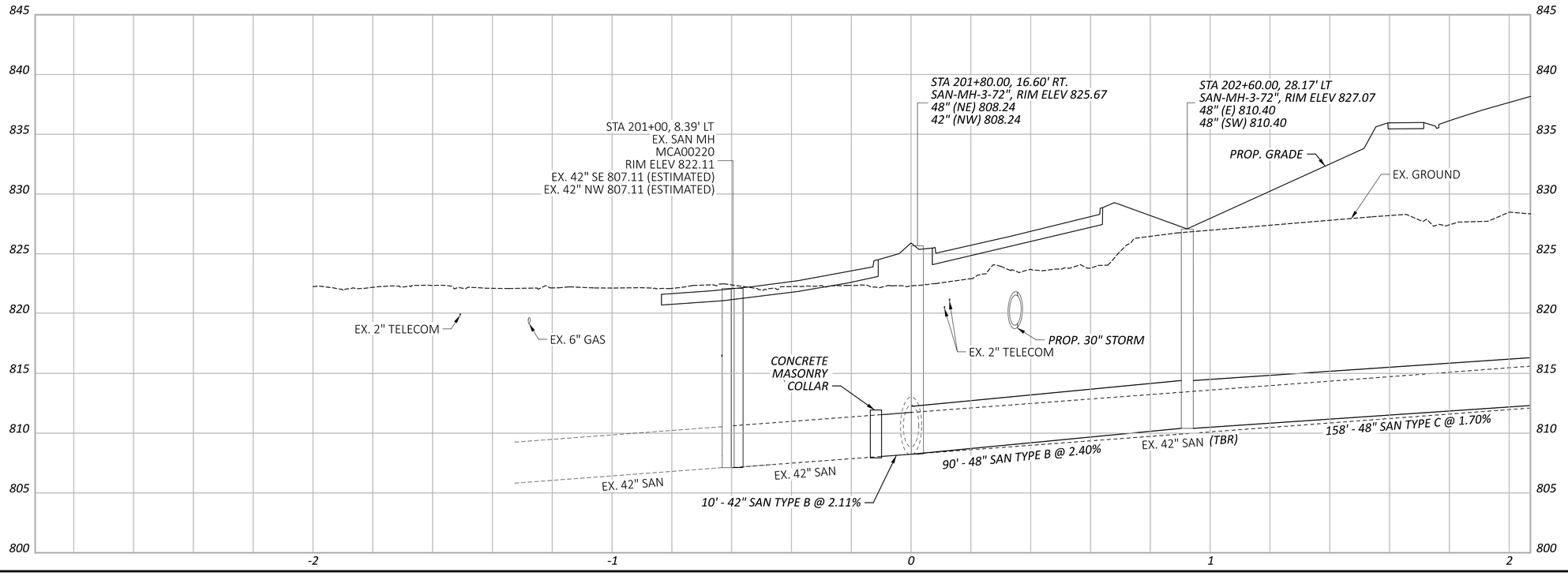
PROJECT ID
104132

SHEET P.111 TOTAL 329





HORIZONTAL SCALE IN FEET
0 10 20 40

SANITARY WORK PLAN AND PROFILE
BEGIN TO 2+30.00

CUY-14-6.93

MODEL: CLP_16 - Sanitary Plan 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:47:53 PM USER: todd.roxberry
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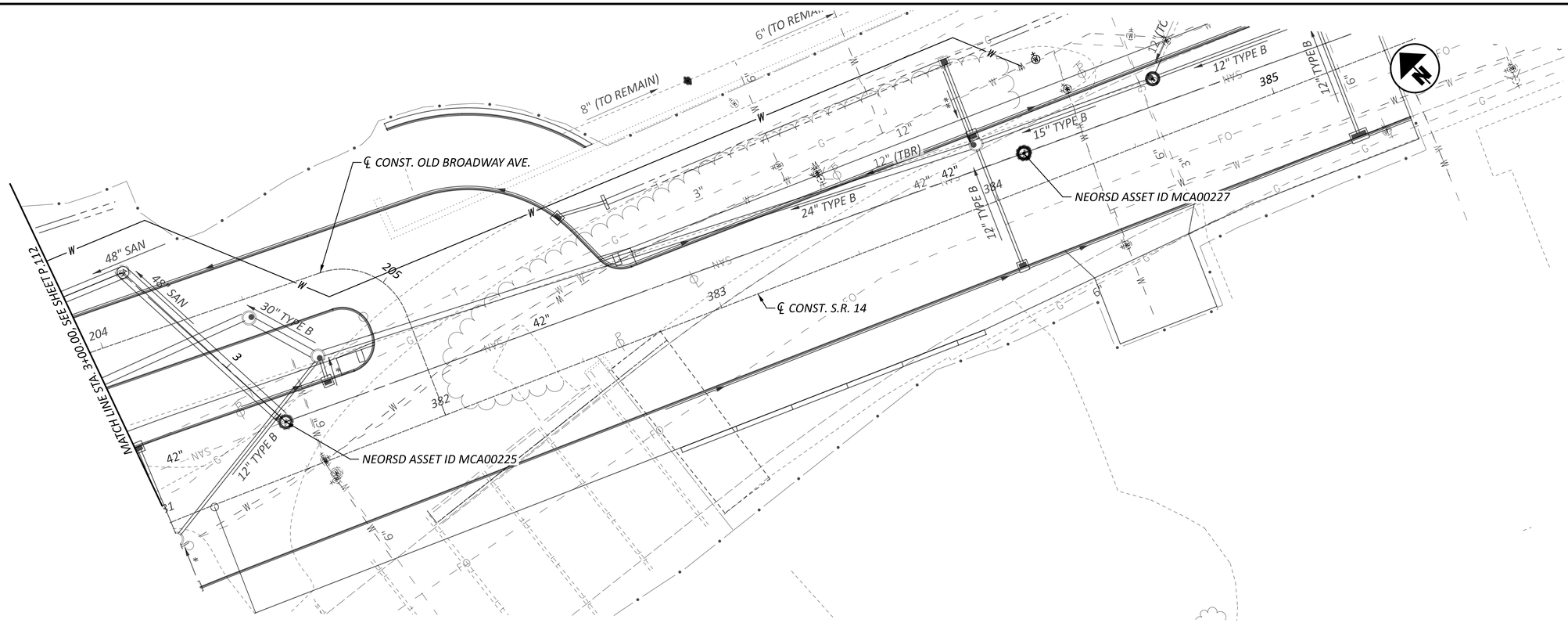
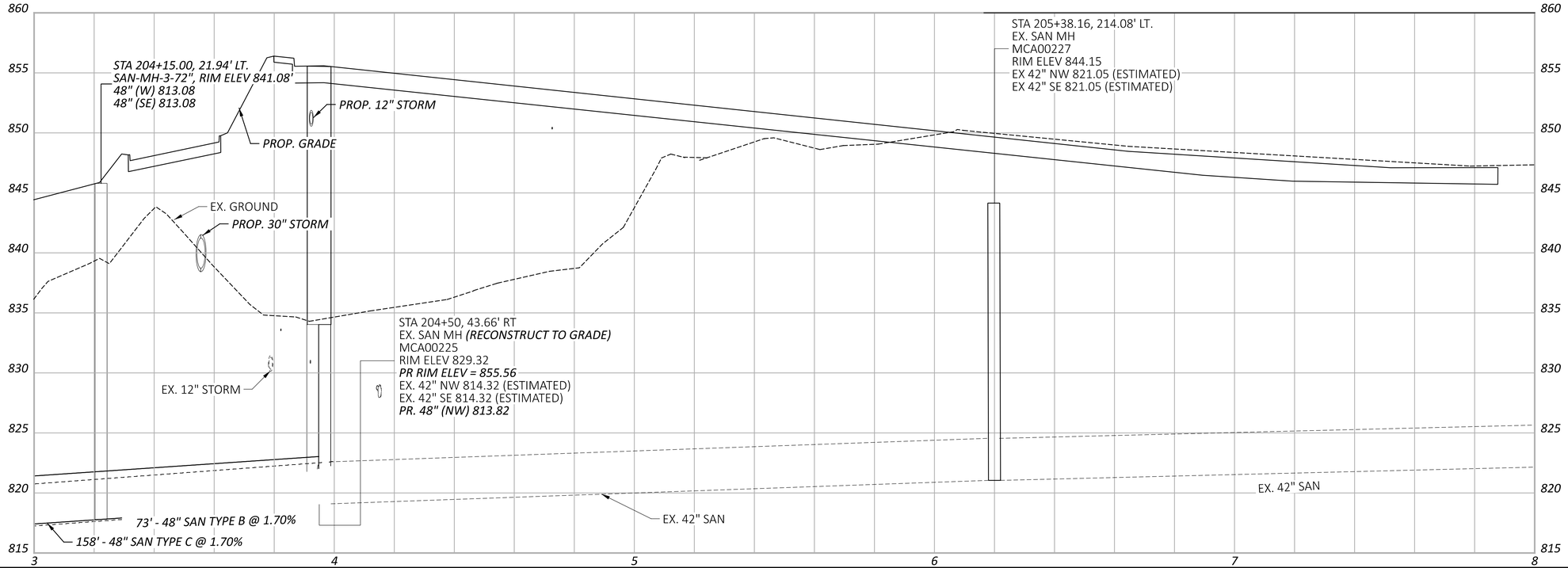
REVIEWER: MAW 01/16/23
PROJECT ID: 104132
SHEET: P.112 | TOTAL: 329





HORIZONTAL SCALE IN FEET
0 10 20 40

SANITARY WORK PLAN AND PROFILE
2+30.00 TO END

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SHEET	P.113
TOTAL	329

CUY-14-6.93

MODEL: CLP_16 - Santary Plan 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 6:48:16 PM USER: todd.roxberry
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WATER WORK GENERAL NOTES

SPECIFICATIONS

CONTRACTOR TO CONFORM TO THE CURRENT VERSION OF THE CITY OF CLEVELAND, DIVISION OF WATER (CWD) DESIGN AND CONSTRUCTION SPECIFICATIONS AND STANDARD DETAILS. THE CURRENT VERSION IS LOCATED ON THE CWD WEBSITE. IF THERE IS A DISCREPANCY BETWEEN THE SPECIFICATIONS AND THE DRAWINGS, THE OWNER SHALL MAKE THE FINAL DETERMINATION REGARDING ACTION TO BE TAKEN.

UTILITIES SHOWN ON PLANS

THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM THE UTILITY OWNERS AS REQUIRED BY SECTION 153.64 O.R.C. NO GUARANTEE IS MADE RELATIVE TO THE COMPLETENESS OR ACCURACY AND THE CONTRACTOR IS REQUIRED TO CONTACT THE REGISTERED UTILITY PROTECTION SERVICE AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN ON THE PLANS AT LEAST TWO WORKING DAY PRIOR TO COMMENCING CONSTRUCTION IN ANY AREA.

STORM SEWER LATERAL AND SANITARY SEWER LATERAL LOCATION AND DEPTHS ARE UNKNOWN. CONTRACTOR SHALL ADJUST WATER LINE VERTICALLY TO PROVIDE SANITARY/STORM MINIMUM 18" CLEARANCE BETWEEN WATER MAIN AND SANITARY SEWERS, REFER TO CWD STANDARD DETAILS.

ABANDONMENTS

ABANDONMENT DETAILS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE PERMITTED TO USE CONCRETE OR LSM FOR PLUGGING AS SWOON IN THE DRAWINGS. PAYMENT FOR ABANDONING WARDER MAINS AND SERVICE CONNECTIONS SHALL BE INCIDENTAL TO THE PRICE PER LINEAR FOOT OF WATER MAIN INSTALLED.

FLOWABLE FILL - BACKFILL

ALL BACKFILLING SHALL BE FLOWABLE FILL BACKFILL. FLOWABLE FILL, ALSO KNOWN AS "LOW STRENGTH MORTAR BACKFILL", SHALL BE OF A MIX DESIGNATED BY THE CITY, AND MAY VARY FROM SUBURB TO SUBURB AND EVEN FROM EXCAVATION TO EXCAVATION. IT IS ANTICIPATED THAT THE O.D.O.T 613 TYPE 2 MODIFIED MIX WITHOUT FLY ASH WILL BE THE MIX TO BE USED IN THE CITY OF CLEVELAND. FLOWABLE FILL USED SHALL ACHIEVE AND ELECTRICAL RESISTIVITY OF AT LEAST 2500 OHM - CM WHEN TESTED AT LEAST 13% MOISTURE CONTENT BOTH PRIOR TO AND FOLLOWING A 24-HOUR SATURATION. ALL FLOWABLE FILL USED SHALL ALSO PASS THE TEN POINT SOIL EVALUATION TEST.

THE FOLLOWING PROCEDURES SHALL BE USED WHEN PLACING FLOWABLE FILL:

A. ADEQUATELY SUPPORT, SHORE UP, OR OTHERWISE PROTECT UNDERGROUND UTILITIES WHENEVER EXPOSED IN THE TRENCH. EXTEND SUPPORTS A MINIMUM OF 12 INCHES ON EACH SIDE OF THE TRENCH.BAND OR TIE EACH UTILITY TO BRIDE FOR ITS FULL LENGTH. WHERE BRIDGING CANNOT BE SUPPORTED BY A FIRM FOUNDATION, PROVIDE VERTICAL SUPPORT, INCLUDING ANY LATERAL BRACING NECESSARY TO PROVIDE FIRM SUPPORT. USE NATIVE HARDWOOD FOR TIMBER SUPPORTS AND BRACING, UTILIZING TIMBER THAT IS A MINIMUM 6 INCHES SQUARE. IF THE UTILITY ENCOUNTERED IS A FERROUS METAL PRODUCT, THE EXPOSED SECTIONS OF THE UTILITY SHALL BE POLYETHYLENE WRAPPED USING AWWA C105, METHOD C.

B. MAINTAIN ADEQUATE CLEARANCE BETWEEN THE CUTTING EDGE OF THE EXCAVATING EQUIPMENT AND EACH UNDERGROUND UTILITY TO AVOID DAMAGE TO UTILITY.

C. PLACE POLYETHYLENE WRAP AROUND ANY EXPOSED WATER MAIN PIPE IN ACCORDANCE WITH AWWA C105 METHOD C. AWWA C105, METHOD A MAY BE FOLLOWED IF A NEW SECTION OF WATER MAIN PIPE IS REQUIRED AND INSTALLED IN THE COURSE OF THE WORK.

D. MAKE ANY REPAIRS TO DAMAGED SECTIONS OF THE POLYETHYLENE WRAP PER AWWA C105 PRIOR TO THE INITIATION OF THE BACKFILLING OPERATION.

E. PLACE THE PIPE BEDDING MATERIAL FROM THE BOTTOM OF THE TRENCH TO 12 INCHES ABOVE THE TOP OF THE PIPE. ALSO BRING THE BEDDING MATERIAL 6 INCHES ABOVE THE BOTTOM OF THE BOTTOM HALF VALVE BOX. REFER TO THE STANDARD DETAILS PROVIDED IN THE DRAWINGS.

F. PLACE BEDDING MATERIAL IN 6-INCH LAYERS, LOOSE MEASUREMENTS, AND COMPACT BY HAND OR MECHANICAL TAMPING TO NOT LESS THAN 95 PERCENT OF MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D698 (STANDARD PROCTOR).

G. CAREFULLY PLACE AND TAMP SO AS NOT TO DAMAGE OR DISPLACE JOINTS OR PIPE. DO NOT DROP MATERIAL DIRECTLY ON PIPE.

H. BLOCK CRACKS OR OTHER OPENINGS IN ADJACENT EXPOSED UTILITIES TO PREVENT ENTERANCE OF FLOWABLE FILL. SEAL OR TAPE JOINTS OF WATER BOX EXTENSIONS TO PREVENT ENTRANCE OF FLOWABLE FILL.

I. DISCHARGE THE FLOWABLE FILL MATERIAL FROM THE MIXER AND BRING IT UP UNIFORMLY TO THE TOP OF THE EXISTING GRADE.

J. PLACE STEEL PLATES OVER THE REPAIR AREA FOR A MINIMUM OF 12 HOURS.

TESTING MAINS AND DISINFECTION FOR MAIN REPLACEMENT

ALL PIPES, VALVES, FITTINGS, ECT., SHALL BE LAID IN SUCH A MANNER AS TO LEAVE ALL JOINTS WATERTIGHT. AFTER THE PIPE IS LAID, SUCH LENGTHS OF THE WATER MAIN AS THE ENGINEER/DESIGN ENGINEER, OR HIS DESIGNATE MAY DETERMINE, SHALL BE TESTED UNDER HYDROSTATIC PRESSURE AS SPECIFIED HEREIN.

THE HYDROSTATIC TEST SHALL BE UNDER THE DIRECTION OF THE DIRECTOR OF PUBLIC UTILITIES OR HIS DESIGNATE. THE CONTRACTOR SHALL OBTAIN WATER FOR TESTING BY OBTAINING A PERMIT FROM CLEVELAND WATER. THE CITY WILL FURNISH A PRESSURE GAUGE FOR MEASURING THE PRESSURE ON THE WATER MAIN, BUT THE CONTRACTOR SHALL FURNISH ALL SUITABLE PUMP, PIPES, TEST HEADS, AND ALL APPLIANCES, LABOR, FUEL AND OTHER APPURTENANCES NECESSARY TO MAKE THESE TESTS.

BEFORE THE HYDROSTATIC PRESSURE TEST, DURING THE PRELIMINARY FLUSHING OF THE WATER MAIN, THE CONTRACTOR SHALL OPERATE ALL VALVES (GATE, AIR RELIEF, DRAIN, ETC.) TO ENSURE THAT EACH VALVE IS OPERATING CORRECTLY. ANY VALVE(S) FOUND LEAKING, NOT WATERTIGHT, OR NOT OPERATING PROPERLY SHALL BE SATISFACTORILY REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.

DURING THE TEST PRESSURE PROCEDURE THE CONTRACTOR SHALL PROVIDE PROPER RESTRAINT OF ALL BLIND FLANGES, PLUGS OR CAPS TO PREVENT BLOWOFF, AND IN THE CASE OF DEAD END MAINS CONCRETE PIERS WILL BE REQUIRED.

IN PRESSURE TESTING NEW MAINS, THE CONTRACTOR SHALL NOT BE PERMITTED TO USE ANY PART OF THE EXISTING MAINS IN HIS TEST UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS OR AS ORDERED BY THE ENGINEER/DESIGN ENGINEER. THE CONTRACTOR SHALL PROVIDE ALL BLIND FLANGES, PLUGS OR CAPS, AT THE TEST POINTS OF THE PROPOSED MAIN SO THAT THE TESTED SECTION WILL BE COMPLETELY INDEPENDENT OF EXISTING MAINS.

THE HYDROSTATIC TEST SHALL BE UNDER THE DIRECTION OF THE DIRECTOR OF PUBLIC UTILITIES OR HIS DESIGNATE. THE CONTRACTOR SHALL OBTAIN WATER FOR TESTING BY OBTAINING A PERMIT FROM CLEVELAND WATER. THE CITY WILL FURNISH A PRESSURE GAUGE FOR MEASURING THE PRESSURE ON THE WATER MAIN, BUT THE THE HYDROSTATIC TEST PRESSURE PROCEDURE SHALL BE FOR A DURATION OF A MINIMUM OF TWO (2) HOURS WILL ALL VALVES CLOSED DURING WHICH TIME THE INTERNAL PRESSURE SHALL REMAIN WITHIN FIVE (5) PSI OF THE SPECIFIED TEST PRESSURE. SHOULD THE TEST PRESSURE DROP MORE THAN FIVE (5) PSI, THE CONTRACTOR SHALL RECHARGE THE WATER MAIN TO THE SPECIFIED TEST PRESSURE AND LOCATE AND REPAIR THE LEAK, AT HIS EXPENSE, TO THE SATISFACTION OF THE ENGINEER/DESIGN ENGINEER. ANY DAMAGED OR DEFECTIVE PIPE, PIPE JOINTS, FITTINGS, VALVES, HYDRANTS OR APPURTENANCES SHALL BE REPAIRED OR REPLACED WITH SOUND MATERIAL AND THE HYDROSTATIC TEST PRESSURE PROCEDURE REPEATED.

AFTER A SECTION OF THE WATER MAIN HAS BEEN TESTED, THE CONTRACTOR SHALL FLUSH THE SAME. WHERE DRAIN VAULTS ARE CONNECTED TO DRAIN VALVES OR VALVES, THE CONTRACTOR SHALL, WITHIN A REASONABLE TIME AFTER THE TEST HAS BEEN COMPLETED, PUMP ALL WATER OUT OF THE DRAIN VAULTS AND VALVE VAULTS. FLUSHING SHALL BE DONE IN ACCORDANCE WITH THESE SPECIFICATIONS.

IN COLD WEATHER IMMEDIATELY AFTER TESTING A SECTION OF THE WATER MAIN, THE CONTRACTOR SHALL OPEN ALL VALVES AND ALL AIR RELIEF VALVES IN THE SECTION(S) OF THE WATER MAIN, AND TAKE ALL OTHER PRECAUTIONS NECESSARY TO PREVENT INJURY TO WATER MAIN, VALVES, AND APPURTENANCES DUE TO FREEZING.

NO EXTRA PAYMENT WILL BE MADE TO THE CONTRACTOR FOR TESTING, FLUSHING, DRAINING, PROTECTING, LOCATING AND REPAIRING LEAKS, REPLACING DAMAGED OR DEFECTIVE PIPE, VALVES OR OTHER APPURTENANCES, RETESTING, OR TO PROVIDE APPURTENANCES AT TEST POINTS PROPER RESTRAINTS, BUT THE ENTIRE COST THEREOF SHALL BE DEEMED TO BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF WATER MAIN FURNISHED AND INSTALLED UNDER THIS CONTRACT.

WATER MAIN DISINFECTION

WATER MAIN DISINFECTION SHALL CONSIST OF: (A) PRELIMINARY FLUSHING OF WATER MAINS AFTER THE HYDROSTATIC TEST AND PRIOR TO THE CHLORINATION PROCEDURE; (B) THE CHLORINATION PROCEDURE; (C) THE FINAL FLUSHING; AND (D) SAMPLING. ALL CONTRACTOR LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS REQUIRED TO ASSIST THE CITY IN THE DISINFECTION OF WATER MAINS SHALL BE DEEMED TO BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF WATER MAIN FURNISHED AND INSTALLED UNDER THIS CONTRACT.

A. PRELIMINARY FLUSHING:

BEFORE DISINFECTION ALL DIRT AND FOREIGN MATTER SHALL BE REMOVED FROM THE NEW WATER MAIN, OR EXTENSIONS TO EXISTING MAINS, BY A THOROUGH FLUSHING THROUGH BLOWOFFS, OR BY OTHER APPROVED MEANS, BY THE CONTRACTOR. EACH VALVE SECTION OF THE NEWLY LAID PIPE SHALL BE FLUSHED INDEPENDENTLY. THIS SHALL BE DONE AFTER THE PRESSURE TEST. FLUSHING SHALL BE IN ACCORDANCE WITH ANSI/AWWA C-651 STANDARD FOR DISINFECTING WATER MAINS. WHERE THE FLUSHING VELOCITY SPECIFIED THEREIN CANNOT BE ATTAINED, FLUSHING RATES AS DETERMINED BY THE CITY TO BE SUFFICIENT SHALL BE PERMITTED. IF IN THE OPINION OF THE CITY THE FLUSHING PRIOR TO THE CHLORINATION PROCEDURE DOES NOT REMOVE DIRT OR OTHER ACCUMULATIONS IN THE PIPE, THE PIPE SHALL BE CLEANED BY MECHANICAL MEANS BY THE CONTRACTOR AND THE FLUSHING SHALL BE REPEATED.

B. CHLORINATION PROCEDURE

SUCH LENGTHS OF THE WATER MAIN AS THE CITY MAY DETERMINE, SHALL BE CHLORINATED; HOWEVER, IN NO CASE SHALL THE LENGTH EXCEED THAT WHICH CAN BE CHLORINATED SATISFACTORILY IN ONE (1) WORK DAY. SUCH MAXIMUM LENGTH IS GENERALLY UP TO THREE (3) MILE TOTAL, INCLUDING BRANCHES AND CONNECTING WATER MAIN(S), FOR SIXTEEN INCH (16") AND SMALLER; AND THREE (3) VALVE SECTIONS, OR TWO (2) MILES, FOR TWENTY INCH (20") OR LARGER WATER MAINS.

THE CONTRACTOR SHALL COOPERATE WITH THE CITY BY OPERATING, ONLY WHEN DIRECTED, ANY REQUIRED WATER MAIN APPURTENANCES TO ASSIST IN THE DISINFECTION OF SUCH APPURTENANCES AND OF ANY PIPE BRANCHES AND TO ASSURE THAT THE CHLORINATION SOLUTION IS CONFINED TO WATER MAIN BEING DISINFECTED. THE CITY WILL DETERMINE THE LENGTH OF TIME THE CHLORINE SOLUTION IS TO BE HELD IN THE WATER MAIN BEING DISINFECTED.

C. FINAL FLUSHING

THE FLUSHING OF THE CHLORINATION SOLUTION SHALL BE DONE BY THE CONTRACTOR UNTIL THE CHLORINE SOLUTION IS TOTALLY FLUSHED OUT OF THE SYSTEM BEING DISINFECTED. ALL FLUSHING SHALL BE UNDER THE CONTROL OF THE DIRECTOR OF PUBLIC UTILITIES, OR HIS DESIGNATE. THE CONTRACTOR SHALL OBTAIN WATER FOR FLUSHING IN THE SAME MANNER AS FOR PRESSURE TEST PROCEDURE.

IN FLUSHING, THE CONTRACTOR SHALL PROPERLY DISPOSE OF THE CHLORINATION SOLUTION. ONLY POINTS OF DISCHARGE APPROVED BY THE CITY SHALL BE UTILIZED WITHOUT ANY TREATMENT TO CHEMICALLY NEUTRALIZE THE SOLUTION. IN CASES WHERE DIRECT DISPOSAL IS NOT APPROVED, THE CONTRACTOR SHALL NEUTRALIZE THE CHLORINE SOLUTION AS PROVIDED IN APPENDIX B OF AWWA C_651. THE CONTRACTOR SHALL OBTAIN APPROVAL, IN WRITING, OF THE LOCAL MUNICIPALITY, OR OF THOSE HAVING JURISDICTION OVER THE LOCAL SEWERS, BEFORE DISPOSING TO A SANITARY SEWER. A COPY OF SUCH WRITTEN APPROVAL SHALL BE PROVIDED TO THE CITY BEFORE ANY FLUSHING IS BEGUN.

THE CITY WILL DETERMINE WHEN THE DISINFECTION SOLUTION HAS BEEN SATISFACTORILY FLUSHED FROM THE MAIN AND BRANCHES.

D. SAMPLING

A TIME PERIOD AS DETERMINED BY THE CITY SHALL ELAPSE BEFORE WATER SAMPLES ARE TAKEN FROM THE WATER MAIN(S) AND BRANCH(ES) TO DETERMINE THE BACTERIOLOGICAL QUALITY OF THE WATER THEREIN. IN NO CASE, SHALL THE TIME PERIOD BE LESS THAN TWENTY-FOUR (24) HOURS.

NO SAMPLES SHALL BE TAKEN FROM FIRE HYDRANTS. THE CONTRACTOR SHALL ASSIST THE CITY IN OBTAINING SAMPLES. THE CITY WILL FURNISH ALL CONTAINERS AND CONTROL PROCEDURES FOR OBTAINING SAMPLES. THE CITY WILL DETERMINE THE NUMBER AND LOCATIONS OF SAMPLES TO BE TAKEN FROM THE DISINFECTED SECTIONS.

THE CITY WILL DETERMINE THE BACTERIOLOGICALLY QUALITY OF THE WATER SAMPLES. IF SAMPLING RESULTS IN TWO (2) CONSECUTIVE POSITIVE SAMPLES, THE PROCEDURE OF CHLORINATION, FLUSHING AND SAMPLING SHALL BE REPEATED. SEE SUGGESTED COMBINATION AND SAMPLING TAP IN AWWA C_651 FOR DETAILS.

IN CASES WHERE THE LENGTH OF WATER MAIN IS LESS THAN 350 FEET, AFTER HYDROSTATIC TESTING, ONLY PRELIMINARY FLUSHING AND SAMPLING WILL BE DONE. HOWEVER, IF THERE ARE TWO (2) POSITIVE SAMPLES, AFTER THE PRELIMINARY FLUSHING AND SAMPLING, THE ENTIRE PROCEDURE OF PRELIMINARY FLUSHING, CHLORINATION, FINAL FLUSHING AND SAMPLING SHALL BE REQUIRED. THE CITY WILL COMPLETE AND DISTRIBUTE THE CHLORINATION APPROVAL FORM.

WATER WORK NOTES

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SHEET P.114 TOTAL 329

CUY-14-6.930

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WATER WORK GENERAL NOTES CONT.:

CONTRACTOR'S LABOR

DURING THE ENTIRE DISINFECTION PROCEDURE, THE CONTRACTOR SHALL FURNISH AT LEAST TOW (2) TRAINED WORKMEN TO PERFORM ALL LABOR UNDER THE SUPERVISION AND DIRECTION OF THE CITY. THE CONTRACTOR'S LABORERS SHALL ASSIST THE CITY IN THE DUTIES DESCRIBED ABOVE. THE CONTRACTOR SHALL PROVIDE PROPER EQUIPMENT AND PROTECTIVE CLOTHING AS MAY BE REQUIRED BY THE LABORERS IN PERFORMING THE WORK REQUIRED FOR THE DISINFECTION OF WATER MAINS.

NO EXTRA PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROVIDING LABOR TO ASSIST THE CITY DURING THE DISINFECTION PROCEDURE, OR FOR PROVIDING PROPER EQUIPMENT AND PROTECTIVE CLOTHING REQUIRED THEREFOR, BUT THE COST THEREOF SHALL BE DEEMED TO BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF WATER MAIN FURNISHED AND INSTALLED UNDER THIS CONTRACT.

ACCESS PITS FOR CHLORINATION

AT LOCATIONS DETERMINED BY THE CITY, THE CONTRACTOR SHALL PROVIDE TIGHTLY WOOD SHEETED ACCESS PITS FOR ACCESS TO ALL WATER MAIN APPURTENANCES TO BE UTILITIES DISINFECTING WATER MAINS. THESE ACCESS PITS SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE SPECIFIC SAFETY REQUIREMENTS SET FORTH IN 29 CODE OF FEDERAL REGULATIONS PART 1926 (CFR 1926), AND WITH ALL APPLICABLE RULE SAND REGULATIONS OF OSHA.

THE CONTRACTOR SHALL AVE ON HAND, READY TO USE, PUMPING EQUIPMENT TO DEWATER ANY AND ALL ACCESS PITS USED FOR DISINFECTION WATER MAINS AND SHALL DEWATER THE ACCESS PITS WHEN ORDERED BY THE ENGINEER/DESIGN ENGINEER.

UPON COMPLETION OF THE CHLORINATION PROCEDURE, WHEN ACCESS PITS ARE NO LONGER REQUIRED FOR USE, THE CONTRACTOR SHALL REMOVE ALL SHEETED ACCESS PITS AND BACKFILL THE EXCAVATIONS IN ACCORDANCE WITH THESE SPECIFICATIONS.

NO EXTRA PAYMENT WILL BE MADE TO THE CONTRACTOR PROVIDING ACCESS PITS, PUMPING EQUIPMENT AND THE DEWATERING OF ACCESS PITS, OR FOR THE REMOVAL OF THE SHEETED ACCESS PITS AND BACKFILLING OF THE EXCAVATIONS, BUT THE OCST THEREOF SHALL BE DEEMED TO BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF WATER MAIN FURNISHED AND INSTALLED UNDER THIS CONTRACT.

WATER WORK PAY ITEMS:

ITEM 202 - VALVE BOX REMOVED

ON THE PLANS WHERE VALVE BOXES ARE INDICATED TO BE REMOVED, SHALL BE REMOVED IN ACCORDANCE WITH ITEM 202.

ITEM 638 - VALVE BOX ADJUSTED TO GRADE

ON THE PLANS WHERE VALVE BOXES ARE INDICATED TO BE ADJUSTED TO GRADES, SHALL BE ADJUSTED TO GRADE IN ACCORDANCE WIT ITEM 638.

ITEM SPECIAL - WATER METER VAULT ADJUSTED TO GRADE AND WATER MANHOLE ADJUSTED TO GRADE

ON THE PLANS WERE WATER METER VAULTS AND WATER MANHOLES ARE INDICATED TO BE ADJUSTED TO GRADE, SHALL BE ADJUSTED TO GRADE IN ACCORDANCE WIT ITEM 638.

CAREFULLY REMOVED AND CLEAN THE EXISTING FRAME, ADJUST THE HEIGHT OF THE SUPPORTING WALLS, AND RESET THE EXISTING FRAME IN MORTAR OF CONCRETE TO THE NEW GRADE.

CAREFULLY REMOVE THE EXISTING COVER OR GRATE AND INSTALL A CASTING OR AN ACCEPTABLE ADJUSTING DEVICE APPROVED BY THE ENGINEER TO THE NEW GRADE INSTALLED ACCORDING TO THE DEVICE MANUFATURER'S RECOMMENDATIONS.

ITEM SPECIAL - WATER METER VAULT REMOVED

ON THE PLANS WHERE WATER METER VAULTS ARE INDICATED TO BE REMOVED OR DISCOVERED DURING CONSTRUCTION AND AGREED TO BE REMOVED BY THE ENGINEER, SHALL BE REMOVED IN ACCORDANCE WITH ITEM 638.

THIS ITEM SHALL INCLUDE EXCAVATING, REMOVING AND DISPOSING OF THE WATER METER VAULT STRUCTURE, INCLUDING CASTING, FOR A DEPTH OF AT LEAST 3 FEET BELOW THE FINISHED GRADE. THE EXCAVATION SHALL BE FILLED WITH CONTROLLED LOW-STRENGTH MATERIAL.

ITEM 638 - FIRE HYDRANT REMOVED AND DISPOSED OF

ON THE PLANS WHERE FIRE HYDRANTS ARE INDICATED TO BE REMOVED AND DISPOSED OF, SHALL BE REMOVED OF AND DISPOSED OF IN ACCORDANCE WITH ITEM 638.

ITEM SPECIAL - WATER METER VAULT RECONSTRUCSTED TO GRADE

WHEN CONDITIONS REQUIRE RECONSTRUCTION OF EXISTING WATER METER VAULTS AND AGREED TO BE RECONTRUCTED BY THE ENGIENER, CAREFULLY REMOVE AND CLEAN THE EIXSTING CASTINGS. REMOVE THE EXISTING WALLS OF VAULTS DOWN TO THE SPRING LINE OF THE CONDUIT OR BELOW AS NECESSARY. USING THE SALVAGED CASTING, RECONTRUCT THE STRUCTURE TO THE NEW GRADE, CONFORMING AS NEARLY AS PRACTICABLE TO THE EXISTING DIMENSION AND TYPE OF CONTRUCTION.

ITEM SPECIAL - 10"X8", 12"X8", 16"X8", & 16"X12" CUT-IN TEE PER DETAIL STD-T03

AT LOCATIONS INDICATED ON THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL INSTALL A CUT-IN TEE AND SHALL BE PAID AT THE BID PRICE PER EACH CUT-IN TEE. THE COST OF WORK SHALL INCLUDE BUT NOT LIMITED TO: SLEEVES, COUPLINGS, PIPING, THRUST BLOCK, FITTINGS, EXCAVATION AND BACKFILL, TESTING, DISINFECTION, V-BIO ENHANCED POLYETHYLENE ENCASEMENT, AND PAVEMENT REPLACEMENT, EXCEPT FOR ASPHALT INTERMEDIATE AND SURFACE COURSES AND ANY OTHER MATERIALS OR WORK REQUIRED TO INSTALL THE CUT-IN TEE COMPLETE IN ACCORDANCE WITH STD-T03.

ITEM SPECIAL - 16"X8" CROSS

AT LOCATIONS INDICATED ON THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL INSTALL A CROSS AND SHALL BE PAID AT THE BID PRICE PER EACH CROSS. THE COST OF WORK SHALL INCLUDE BUT NOT LIMITED TO: SLEEVES, COUPLINGS, PIPING, FITTINGS, EXCAVATION AND BACKFILL, REMOVAL AND DISPOSAL OF EXISTING CROSS AND PIPING, TESTING, DISINFECTION, V-BIO ENHANCED POLYETHYLENE ENCASEMENT, AND PAVEMENT REPLACEMENT, EXCEPT FOR ASPHALT INTERMEDIATE AND SURFACE COURSES AND ANY OTHER MATERIALS OR WORK REQUIRED TO INSTALL THE CROSS COMPLETE IN ACCORDANCE WITH THE STANDARD DETAILS.

ITEM SPECIAL - FURNISHING AND SETTING 6" HYDRANT, COMPLETE, STRAIGHT OR OFFSET

ON THE PLANS WHERE HYDRANT ASSEMBLIES ARE INDICATED, SHALL BE FURNISHED AND SET, COMPLETE, IN ACCORDANCE WITH STD-H08, STD-H09, AND STD-H13. HYDRANTS SHALL BE INSTALLED OFFSET OR STRAIGHT AS INDICATED ON THE CONTRACT DRAWINGS AND SHALL BE PAID PER EACH AS SEPARATE BID ITEMS.

THE 6-INCH HYDRANTS SHALL BE CITY OF CLEVELAND STANDARD AND SHALL CONFORM TO THE DIVISION OF WATER'S SPECIFICATIONS AND APPROVED HYDRANT DRAWINGS INCLUDED. WHEN PLACED BEHIND THE CURB, THE HYDRANT BARREL SHALL BE SET SO THAT THE CENTER OF THE BARREL SHALL BE NO LESS THAN THREE FEET FROM THE GUTTER FACE OF THE CURB. WHEN SET IN THE LAWN SPACE BETWEEN THE CURB AND THE SIDEWALK, OR BETWEEN THE SIDEWALK AND THE PROPERTY LINE, NO PORTION OF THE NOZZLE OR HYDRANT CAP SHALL BE WITHIN 6 INCHES OF THE SIDEWALK.

THE HYDRANT SHALL STAND PLUMB, WITH THE 4-INCH STEAMER NOZZLE POINTING TOWARD THE CURB, WHERE HYDRANT BRANCH PIPING IS PARALLEL WITH, OR NOT AT RIGHT ANGLES TO THE CURB, THE CONTRACTOR SHALL RELEASE THE SWIVEL HEAD BOLTS AND ADJUST HYDRANT 4-INCH STEAMER NOZZLE TO FACE THE CURB AT THE PROPER ANGLE. HYDRANTS WITHOUT SWIVEL HEADS SHALL BE ADJUSTED TO CORRECT THE POSITION OF THE 4-INCH STEAMER NOZZLE TO FACE THE CURB. THE HEIGHT OF THE HYDRANT SHALL CONFORM TO THE ESTABLISHED GRADE WITH THE TOP OF THE FROST CASING TO BE LOCATED AT LEAST FOUR INCHES ABOVE GRADE.

DRAINAGE SHALL BE PROVIDED AT THE BASE OF THE HYDRANT BY FILLING AROUND THE ELBOW WITH COARSE GRAVEL OR CRUSHED STONE TO AT LEAST SIX INCHES ABOVE THE WASTE OPENING. WHEREVER THE HYDRANT IS SET IN ROCK, CLAY, OR OTHER IMPERVIOUS SOIL, THE TRENCH SHALL BE WIDENED AND DEEPENED ON EACH SIDE OF THE HYDRANT BASE, WHICH SPACE SHALL BE FILLED COMPACTLY WITH COARSE GRAVEL, CRUSHED STONE, OR BROKEN STONE AND MIXED WITH COARSE AND OF SUFFICIENT QUANTITY TO ABSORB ALL WATER TO BE DRAINED FROM THE HYDRANT WHEN BRANCH VALVE IS CLOSED.

THE HYDRANT SHALL BE SET ON A STONE SLAB OR SIMILAR FOUNDATION AND THE BASE OF THE HYDRANT SHALL BE WELL BRACED AGAINST UNEXCAVATED EARTH TO THE END OF THE TRENCH WITH CONCRETE BACKING, AND IT SHALL BE RESTRAINED TO THE BRANCH PIPING WITH SWIVEL JOINTS OR RETAINED MECHANICAL JOINTS, OR BE TIED TO THE BRANCH PIPE WITH SUITABLE RODS, CLAMPS, OR OTHER APPROVED RESTRAINT AS APPROVED OR DIRECTED BY THE CITY. THE INTERIOR OF THE HYDRANT SHALL BE THOROUGHLY CLEANED OF ALL DIRT AND FOREIGN MATTER BEFORE SETTING.

PAYMENT FOR THIS ITEM SHALL INCLUDE BUT NOT INITIATED TO: INSTALLATION OF THE NEW HYDRANT, EXCAVATION, BACKFILL, REMOVAL AND DISPOSAL OF EXISTING HYDRANT/PIPING, BRANCH PIPING, TEE, GATE VALVE, VALVE BOX, THRUST BLOCKING, APPURTENANCES AND OTHER MATERIALS OR WORK REQUIRED TO INSTALL ACCORDANCE WITH STD-H08, STD-H09, AND STD-H13.

ITEM SPECIAL - MISCELLANEOUS METAL

ANY VALVE BOX, CURB SHUT-OFF VALVE BOX, OR VAULT/MANHOLE FRAME AND COVER THAT IS FOUND TO BE DAMAGED OR UNSUITABLE FOR REUSE SHALL BE REPLACED AS DIRECTED BY THE CITY THRU ODOT. THE WORK SHALL INCLUDE REMOVING AND DISPOSING OF THE UNSUITABLE VALVE BOX OR FRAME AND COVER, AND FURNISHING AND INSTALLING A REPLACEMENT VALVE BOX OR FRAME AND COVER IN KIND.

PAYMENT FOR THIS ITEM SHALL BE PER POUND OF MISCELLANEOUS METAL REPLACED AND INCLUDE ALL LABOR AND MATERIALS TO PERFORM THE REPLACEMENT TO THE SATISFACTORY OF THE ENGINEER.

ITEM SPECIAL - 6", 8", AND 12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS

THE CONTRACTOR, UNDER THIS ITEM, SHALL FURNISH ALL THE MATERIALS, LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS FOR AND SHALL PROPERLY CONSTRUCT AND CONNECT IN PLACE, AS SHOWN ON THE CONTRACT DRAWINGS AND AS SPECIFIED HEREIN, ALL DUCTILE IRON PIPE AND FITTINGS; V-BIO ENHANCED POLYETHYLENE WRAP; CUTTING INTO AND REMOVAL OF EXISTING PIPE, VALVES, AND FITTINGS, EXISTING CONCRETE THRUST BLOCKS, EXISTING PLUGS/CAPS; ABANDONMENT/PLGGING OF EXISTING WATER MAINS AND SERVICE CONNECTIONS; CONNECTING, FURNISHING AND INSTALLING RESTRAINED JOINTS, VICTAULIC JOINTS AND COMPRESSION COUPLINGS; COATINGS; WATER TRENCH EXCAVATION; SEWER AND/OR UTILITY TRENCHES; SHEETING AND SHORING INCLUDING USE OF TRENCH BOX; THE FURNISHING AND INSTALLING OF ALL APPROVED MATERIALS AS HEREIN SPECIFIED AND AS REQUIRED TO COMPLETE THE WORK; SAND BEDDING BACKFILL; BACKFILL AND/OR PREMIUM BACKFILL; HYDROSTATIC PRESSURE TESTING OF THE WATER MAIN AND ALL APPURTENANCES AND THE REPAIR AND/OR REPLACEMENT OF MATERIALS DUE TO LEAKAGE OR DEFECTS; ASSISTING IN THE CHLORINATION AND FLUSHING PROCEDURES; PAVEMENT REPLACEMENT, EXCEPT FOR SUCH WORK THAT IS COVERED UNDER THE VARIOUS PAVEMENT WORK BID ITEMS; REMOVAL AND RESTORATION OF MISCELLANEOUS ITEMS.

THIS ITEM SHALL ALSO INCLUDE INSTALLATION OF ALL HORIZONTAL BENDS OR DEFLECTIONS; REDUCERS; ANY VERTICAL BENDS THAT MAKE THE PIPE LESS THAN 6-FEET IN BURY DEPTH AND ALL WORK ASSOCIATED WITH FROST PROOFING SUCH PIPING AND APPURTENANCES; AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS REQUIRED TO COMPLETE THE WORK SHOWN ON THE CONTRACT DRAWINGS AND AS SPECIFIED, OR AS ORDERED, ALL FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT.

ALL WORK HEREIN CONTEMPLATED, UNDER THIS ITEM CLASSIFIED AS TO SIZE AND TYPE, SHALL BE DEEMED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF WATER MAIN FURNISHED AND INSTALLED UNDER THIS CONTRACT MEASURE FROM INSTALLED PIPE END TO PIPE END INCLUDING ANY FITTINGS, BENDS, ETC.

ITEM SPECIAL - REPLACE 1 ½-INCH AND SMALLER AND 2-INCH WATER SERVICE CONNECTIONS, LONG AND SHORT SIDE, COMPLETE

WATER SERVICE CONNECTION REPLACEMENTS SHALL CONFORM TO STANDARD DRAWINGS NOS. STD-C01, STD-C02, STD-C03, STD-C04 AND STD-C023. WORK SHALL INCLUDE REMOVAL OF EXISTING SERVICE CONNECTION PIPING, CURB VALVES, TAPPING VALVES, SERVICE VALVES, VALVE BOXES AND APPURTENANCES. WORK SHALL ALSO INCLUDE NEW CORPORATION STOPS (OR TAPPING SADDLES & VALVES IF LARGER THANK 1-INCH), CURB VALVES, CURB BOXES, COPPER PIPING, EXCAVATION, BACKFILL, TRENCH SUPPORTS, AND PIPE CONNECTIONS.

EXISTING WATER SERVICE CONNECTIONS 1-INCH AND SMALLER SIZE SHALL BE REPLACED WITH 1-INCH WATER SERVICE CONNECTIONS.

EXISTING 1½-INCH AND 2-INCH SIZE WATER SERVICE CONNECTIONS SHALL BE REPLACED WITH THE SAME SIZE CONNECTION AS EXISTING.

WATER WORK NOTES

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WATER WORK GENERAL NOTES CONT.:

ITEM SPECIAL - REPLACE 1 ½-INCH AND SMALLER AND 2-INCH WATER SERVICE CONNECTIONS, LONG AND SHORT SIDE, COMPLETE CONT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL FOR THE WORK TO BE PERFORMED HEREIN. ALL WORK, MATERIAL, AND ARRANGEMENTS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE DIVISION OF WATER. THE DIVISION OF WATER RESERVES THE RIGHT TO DETERMINE THE CONFIGURATION OF ALL WATER SERVICE CONNECTION INSTALLATION. THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, EQUIPMENT AND PERFORM ALL WORK INCLUDING PROVIDING ALL TRAFFIC MAINTENANCE; PROVIDING AND MAINTAINING TRAFFIC CONTROL AND WARNING DEVICES, INCLUDING TEMPORARY AND PERMANENT PAVEMENT MARKINGS; PAVEMENT CUTTING (BOTH FOR TRENCH AND FOR PAVEMENT REMOVAL AND RESTORATION); ALL EXCAVATIONS, INCLUDING PAVEMENTS, WATER MAIN TRENCH, AND SEWER AND/OR UTILITY TRENCHES; FUNNELING AND BORING AND/OR JACKING; SHEETING AND SHORING, INCLUDING USE OF THE TRENCH BOX; ALL SHIP DRAWING SUBMITTALS; THE FURNISHING AND INSTALLING OF ALL APPROVED MATERIALS AS HEREIN SPECIFIED AND AS REQUIRED TO COMPLETE THE WORK; SAND BEDDING BACKFILL; BACKFILL AND/OR PREMIUM BACKFILL; TESTING AND THE REPAIR AND/OR REPLACEMENT OF MATERIALS DUE TO LEAKAGE OR DEFECTS; PAVEMENT REPLACEMENT EXCEPT FOR ASPHALT INTERMEDIATE AND ASPHALT SURFACE COURSES, INCLUDING BASE PAVEMENT REPLACEMENT, BERM REPLACEMENT/REPAIR AND SHOULDER REPLACEMENT/REPAIR; PROTECTION AND MAINTAINING UTILITIES AND UTILITY SERVICES; REPAIR OF SITE DAMAGE DUE TO CONSTRUCTION, INCLUDING TRAFFIC MAINTENANCE, AND FINAL SITE RESTORATION, ALL AS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT. THE DIVISION OF WATER WILL INSTALL THE PRESSURE TAP. THE WORK OF BORING AND/OR JACKING AND EXCAVATION FOR SERVICE CONNECTIONS SHALL BE AS HEREIN SPECIFIED TO COMPLETE THE WORK. THIS ITEM SHALL INCLUDE ALL LABOR IN PROVIDING A TABLE SHOWING ALL CONNECTION INFORMATION AS REQUIRED BY NOTE 12 OF THE CLEVELAND WATER NOTES FORM WATER MAIN INSTALLATION AND/OR REPLACEMENT.

THE CONTRACTOR SHALL BE PAID AT THE UNIT BID PRICE FOR EACH WATER SERVICE CONNECTION REPLACED AND PER SIZE AND SIDE OF THE ROAD AS INDICATED IN THE DRAWINGS.

ITEM SPECIAL - TEMPORARY WATER SERVICE CONNECTION & ITEM SPECIAL - TEMPORARY WATERLINE

THE CONTRACTOR SHALL BE REQUIRED TO INSTALL TEMPORARY WATER MAINS AS SPECIFIED AND OF SUCH SIZE AS TO PROVIDE A SUFFICIENT WATER SUPPLY FOR FIRE PROTECTION. THE FAILURE OF THE CONTRACTOR TO INSTALL TEMPORARY MAINS OF SUFFICIENT SIZE MAY MAKE THE CONTRACTOR LIABLE WHERE CONFLAGRATION DUE TO LACK OF WATER FOR FIRE PROTECTION MAY GIVE RISE TO ACTIONABLE CLAIMS FOR DAMAGES CHARGEABLE TO THE CONTRACTOR BY REASON OF SAID FAILURE.

THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, TOOLS, MATERIAL AND EQUIPMENT FOR TEMPORARY WATER MAINS AND SERVICE CONNECTIONS WHERE SERVICE CONNECTIONS ARE ENCOUNTERED ON THE MAINS TO BE REPLACED. THE CONTRACTOR SHALL PROVIDE, INSTALL AND REMOVE TEMPORARY WATER MAINS AND TEMPORARY CONNECTIONS TO ALL PREMISES AND SERVICES IN A MANNER SUCH THAT WATER SERVICE CONTINUES UNINTERRUPTED. TEMPORARY WATER MAINS SHALL BE PLACED ON ONE OR BOTH SIDES OF THE STREET SO AS TO PROVIDE SERVICE ONLY TO THOSE CONNECTIONS ON THE SIDE OF THE STREET ON WHICH THE PARTICULAR TEMPORARY MAIN IS LOCATED. THE TEMPORARY MAINS SHALL NOT OBSTRUCT ANY STREETS, SIDEWALKS, OR DRIVEWAYS. TEMPORARY WATER MAINS THAT CROSS DRIVEWAYS AND SIDEWALKS SHALL BE RAMPED WITH RUBBERIZED/NEOPRENE TYPE RAMPING; NO ASPHALT OR STONE RAMPING SHALL BE ALLOWED FOR THIS PURPOSE. ALL TEMPORARY WATER SERVICE CONNECTION AND TEMPORARY WATERLINE MATERIALS SHALL MEET REQUIREMENTS OF AWWA AND NSF STANDARDS FOR DRINKING WATER.

THE TEMPORARY WATER MAIN FOR ORDINARY SIZE SERVICE CONNECTIONS (1" OR LESS) SHALL BE A MINIMUM OF 2" INSIDE DIAMETER PIPE AND FITTINGS WITH SUPPLEMENTAL 2" CONNECTIONS FROM EXISTING FIRE HYDRANTS OR TAPS ON ADJACENT EXISTING WATER MAINS. THE TEMPORARY WATER MAIN FOR SERVICE CONNECTIONS LARGER THAN 1" SHALL BE A MINIMUM OF 4" INSIDE DIAMETER. MINIMUM SIZE REQUIREMENTS FOR TEMPORARY BYPASS WATER LINES SHALL IN ADDITION INCLUDE A 4-INCH MINIMUM INSIDE DIAMETER PIPE ON AT LEAST ONE SIDE OF ANY STREET WHERE A WATER MAIN IS BEING REPLACED OR IS TAKEN OUT OF SERVICE BECAUSE OF ANY WORK BEING PERFORMED UNDER THIS CONTRACT. IF THE CITY IS OF THE OPINION THAT THE SIZE OF THE TEMPORARY WATER MAIN TO BE FURNISHED AT ANY POINT IS NOT SUFFICIENT, THE CITY MAY ORDER 6" INSIDE DIAMETER OR 8" INSIDE DIAMETER SIZE BE USED. WHERE TRAFFIC OR OTHER CONDITIONS WARRANT, THE CITY MAY ALSO ORDER THAT ONLY GALVANIZED STEEL BYPASS PIPE AND FITTINGS BE USED. THIS MATERIAL REQUIREMENT, WHEN ORDERED, IS NOT COUPLED TO THE SIZING REQUIREMENTS; THE CITY MAY REQUIRE SUCH MATERIAL ON ANY SIZE BYPASS PIPE. THE CONTRACTOR IS HEREWITH NOTIFIED THAT NO EXTRA ALLOWANCE OR PAYMENT WILL BE MADE BASED ON LENGTH, SIZE OR MATERIAL OF TEMPORARY BYPASS PIPE WHERE ADDITIONAL LENGTHS, INCREASED SIZES OR ALTERNATE MATERIALS ARE REQUIRED OR ORDERED TO PROVIDE ACCEPTABLE AND RELIABLE SERVICE AS DETERMINED BY THE CITY. THE COMPLIANCE WITH SUCH ORDERS BY THE CONTRACTOR SHALL NOT RELIEVE OR RELEASE THE CONTRACTOR FROM THE RESPONSIBILITY TO PROVIDE ADEQUATE TEMPORARY WATER SERVICE.

ITEM SPECIAL - TEMPORARY WATER SERVICE CONNECTION & ITEM SPECIAL - TEMPORARY WATERLINE CONT.:

THE CONTRACTOR SHALL PROVIDE ENOUGH ISOLATION VALVES IN THE TEMPORARY WATER MAIN SYSTEM SUCH THAT PIPE SEGMENTS ON EACH SIDE OF THE STREET OF EACH STREET BLOCK CAN BE ISOLATED. IN NO CASE SHALL SEGMENTS OF PIPE BETWEEN VALVES BE LONGER THAN 1000 FEET.

MINIMUM FLOWS THAT SHALL BE AVAILABLE FROM TEMPORARY BYPASS WATER LINES, 4-INCHES IN DIAMETER OR LARGER, SHALL BE:

ON A STREET IN COMMERCIAL, INDUSTRIAL OR MULTI-FAMILY COMPLEX AREAS, WHICH MUST BE OR ARE SUPPLIED FROM THE EXISTING WATER LINE BEING REPLACED, A MINIMUM OF 1,300 GPM AT 20 PSI RESIDUAL PRESSURE AT ANY POINT ALONG SAID TEMPORARY BYPASS WATERLINE.

THE CONTRACTOR SHALL GUARANTEE THE AVAILABILITY OF WATER AT A SUFFICIENT PRESSURE AND QUANTITY TO SUPPLY THE TEMPORARY BYPASS LINES. UPON REQUEST OF THE CONTRACTOR, TESTS FOR WATER AVAILABILITY WILL BE MADE BY THE CITY, BOTH AS TO SYSTEM SUPPLY AND ADEQUACY OF TEMPORARY BYPASS WATER LINES AND SERVICE CONNECTION SUPPLY, INCLUDING DOMESTIC AND FIRE LINE CONNECTIONS. THE CONTRACTOR WILL BE NOTIFIED OF THE TIME OF EACH TEST AND SHALL WITNESS THE TEST WHEN POSSIBLE. FAILURE OF THE CONTRACTOR TO WITNESS SAID TEST SHALL BE CONSIDERED AS ACCEPTANCE OF THE FINDINGS. ANY RE-TESTING SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

THE TEMPORARY WATER IAN PIPE AND ALL APPURTENANCES SHALL BE FURNISHED AND RETAINED BY THE CONTRACTOR. THE TEMPORARY WATER MAIN PIPE AND APPURTENANCES FURNISHED SHALL BE CLEAN AND IN SUCH CONDITION THAT IT MAY BE TESTED, FLUSHED AND SUBJECTED TO AND PRODUCE SATISFACTORY WATER SAMPLES AS REQUIRED BY THE CITY. ALL CONNECTING AND RECONNECTING OF SERVICE CONNECTIONS SHALL BE MADE BY THE CONTRACTOR UNDER THE SUPERVISION OF THE CITY. THE CONTRACTOR SHALL SUBMIT FOR THE CITY'S APPROVAL A PLAN OF THE PROPOSED BYPASS SYSTEM AT LEAST TWO (2) WEEKS BEFORE PLANNED WORK. THE DIAGRAM SHALL SHOW WHERE THE TEMPORARY VALVES WILL BE PLACED. NO WORK IN ANY SPECIFIC AREA SHALL COMMENCE UNTIL A BYPASS PLAN HAS BEEN APPROVED BY THE CITY.

THE CONTRACTOR SHALL FURNISH ALL TEMPORARY WATER MAINS AND APPURTENANCES, INCLUDING THE FURNISHING, INSTALLING, REMOVING AND RELOCATING OF TEES, PLUGS, CAPS, OUTLETS, VALVES, RISERS, CLAMPS AND BLOCKING. THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER MAIN PROTECTION WHERE TEMPORARY MAINS OR SERVICES CROSS SIDEWALKS, DRIVEWAYS, OR ROADWAYS. TEMPORARY WATER MAINS THAT CROSS DRIVEWAYS AND SIDEWALKS SHALL BE RAMPED WITH RUBBERIZED/NEOPRENE TYPE RAMPING; NO ASPHALT OR STONE RAMPING SHALL BE ALLOWED FOR THIS PURPOSE. ALL LINES CROSSING STREETS SHALL BE TRENCHED ACROSS TO ALLOW BYPASS PIPE TO LIE FLUSH WITH THE PAVEMENT SURFACE. NO RAMPING WILL BE ALLOWED ON STREET CROSSINGS EXCEPT FOR SIDE STREETS APPROVED BY THE CITY. THE CONTRACTOR SHALL PROVIDE SUPPLEMENTARY CONNECTIONS WHERE VALVES WITH NIPPLES HAVE BEEN REMOVED, WHERE ADJACENT WATER MAINS CONNECT, OR WHERE ORDERED BY THE CITY.

THE CONTRACTOR SHALL FURNISH NECESSARY HOSES, VALVES, PIPE AND FITTINGS FOR WATER SERVICE CONNECTIONS. THE CONTRACTOR SHALL ONLY CONNECT TO AN OUTSIDE HOSE BIB OR SILL COCK, UNLESS OTHERWISE APPROVED BY THE CITY. SEE THE SECTION HEREIN TITLED "ADDITIONAL WORK". ALL CONNECTIONS TO OUTSIDE HOSE BIBS OR SILL COCKS SHALL BE SUPPLIED WITH Y CONNECTORS.

THE CONTRACTOR SHALL MAKE A REASONABLE EFFORT TO SHUT OFF CONNECTIONS AT THE SERVICE STOP BOX WHERE POSSIBLE. IF A SERVICE STOP BOX IS NOT AVAILABLE, THE CONTRACTOR SHALL SHUT OFF THE CONNECTIONS INSIDE THE RESIDENCE OR BUILDING, AND SHALL CLEAR SERVICE CONNECTIONS USING INTERNAL PLUMBING. THE CONTRACTOR SHALL NOT BE PAID ANY EXTRA ALLOWANCE IF REQUIRED TO SHUT A CONNECTION WITHIN A BUILDING OR CLEAR SERVICE CONNECTIONS USING INTERNAL PLUMBING. ALL SUCH COSTS SHALL BE INCLUDED IN THE BID.

THE SIZE OF THE TEMPORARY CONNECTION SHALL BE OF AT LEAST THE SAME SIZE AS THE PERMANENT CONNECTION THAT HAS GONE TO THE BUILDING UNLESS THE CONNECTION IS LARGER THAN THE BYPASS PIPING. IF THE PERMANENT CONNECTION IS LARGER THAN THE BYPASS PIPING, THEN THE TEMPORARY CONNECTION WILL BE OF THE SAME SIZE AS THE BYPASS PIPING.

THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, TOOLS, MATERIAL AND EQUIPMENT TO PROVIDE, INSTALL AND REMOVE 4" TEMPORARY FIRE HYDRANT OUTLET ASSEMBLIES ON THE TEMPORARY WATER MAINS. THE 4" TEMPORARY FIRE HYDRANT OUTLET ASSEMBLY SHALL BE COMPLETE AND COMPLY WITH DRAWING NO.103298. THE CONTRACTOR SHALL PROVIDE PROTECTION IN STREETS, SIDEWALKS AND DRIVEWAYS. THE TEMPORARY HYDRANTS SHALL HAVE OPERATING NUTS OF THE LOTTED TYPE; NO PENTAGON NUTS SHALL BE USED.

THE CONTRACTOR SHALL BE REQUIRED TO INSTALL 4" TEMPORARY FIRE HYDRANT OUTLET ASSEMBLES AT EACH LOCATION WHERE A PERMANENT FIRE HYDRANT IS TAKEN OUT OF SERVICE OR USED FOR A TEMPORARY WATER MAIN CONNECTION UNLESS SPECIFICALLY WAIVED BY THE DIRECTOR WITH THE CONCURRENCE OF CHIEF OF THE DIVISION OF FIRE. THE CONTRACTOR SHALL ALSO PROVIDE ADDITIONAL HYDRANTS WHERE SO ORDERED BY THE CITY.

THE TEMPORARY WATER MAINS SHALL BE FLUSHED AND SUCCESSFULLY SAMPLED BEFORE BEING PLACED IN TO SERVICE. REFER TO THE SECTION IN THESE SPECIFICATIONS ON FLUSHING AND SAMPLING.

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGES AND MAINTAIN TEMPORARY WATER SERVICE WHEN FREEZING WATER IS POSSIBLE. THE CONTRACTOR SHALL ENSURE THAT NO TEMPORARY CONNECTIONS FREEZE UP, AND THAT NO ICE FORMS ON ROADWAYS, SIDEWALKS OR OTHER ACCESS AREAS.

WHERE IN THE COURSE OF INSTALLING OR REMOVING TEMPORARY WATER LINES AND SERVICE CONNECTIONS, ANY PORTION OF THE PERMANENT SERVICE CONNECTION IS DISTURBED OR DAMAGED; IT SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE CITY IN AMPLE TIME TO ASSESS THE EXTENT OF WORK REQUIRED AND INSPECT THE REPAIR OR REPLACEMENT SO AS TO AVOID UNNECESSARY DELAY IN RESTORING THE SERVICE CONNECTION. THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, MATERIALS, TOOLS AND EQUIPMENT AND SHALL DO ALL EXCAVATING, BACKFILLING AND REPAVING AS MAY BE REQUIRED. NO SPECIFIC OR SEPARATE PAYMENT WILL BE MADE FOR SUCH WORK.

THE CONTRACTOR IS RESPONSIBLE FOR TAKING NECESSARY SAFETY PRECAUTIONS WHEN HE OR SHE REMOVES METERS DURING MAIN REPLACEMENT.

ABANDONING WATER SERVICE CONNECTION. WHERE CALLED ON DRAWINGS OR BY THE CITY, CONTRACTOR SHALL REMOVE THE LID AND UPPER HALF OF THE CURB STOP BOX AND FILL WITH SOIL. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO THE PRICE PER LINEAR FOOT OF WATER MAIN INSTALLED.

ALL TEMPORARY WATERLINE WORK, INCLUDING TEMPORARY HYDRANTS, HEREIN CONTEMPLATED SHALL BE DEEMED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT FOR ITEM SPECIAL, TEMPORARY WATERLINE. ALL TEMPORARY WATER SERVICES WORK HEREIN CONTEMPLATED SHALL BE DEEMED TO BE INCLUDED IN THE PRICE BID EACH FOR ITEM SPECIAL, TEMPORARY WATER SERVICE CONNECTION.

ITEM SPECIAL - CLEVELAND WATER DEPARTMENT CHARGES

THIS ITEM SHALL INCLUDE FEES PAID BY THE CONTRACTOR TO THE CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF WATER FOR THEIR SERVICES RELATING TO THE DISINFECTION OF THE WATER MAIN AND THE TAPPING OR RETAPPING OF SERVICE CONNECTIONS.

THE CITY, DIVISION OF WATER, WILL CHARGE TO THE CONTRACTOR CERTAIN CHARGES PURSUANT TO SECTION 521.03(A) OF THE CODIFIED ORDINANCES OF THE DIVISION OF WATER, AS AMENDED BY ORDINANCE 1043-75 AND ADOPTED BY THE CITY OF CLEVELAND BOARD OF CONTROL RESOLUTION NO: 003-82, AND PER ORDINANCE NO:266-81, FOR DIVISION OF WATER LABOR REQUIRED IN THE WORK, PAYABLE TO THE PERMITS AND SALES SECTIONS OF THE DIVISION OF WATER BEFORE ANY WORK IS PERFORMED. THE CURRENT DIVISION OF WATER PERMITS AND SALES FEES MAY BE OBTAINED FROM THE CLEVELAND WATER DEPARMENT'S WEBSITE.

THE PAY ITEM FOR THIS YORK SHALL BE LUMP SUM AND SHALL INCLUDE ALL CITY OF CLEVELAND, DIVISION OF WATER, LABOR CHARGED FOR WORK REQUIRED TO BE PERFORMED BY THE DIVISION OF WATER.

ITEM SPECIAL - 8" AND 12" WATER MAIN LOWERING PER DETAIL STD-L04 & ITEM SPECIAL - 8" AND 12" WATER MAIN LOWERING PER DETAIL STD-L05

THIS ITEM INCLUDES ALL WATER MAIN LOWERINGS SHOWN ON THE DRAWINGS PER CWD STANDARD DRAWINGS STD-L04 AND STD-L05 AND ANY ADDITIONAL ORDERED BY THE ENGINEER. THE WORK SHALL INCLUDE DUCTILE IRON PIPE AND FITTINGS, V-BIO ENHANCED POLYETHYLENE ENCASEMENT, TEMPORARY PIPE SUPPORTS, COUPLINGS AND SLEEVES, STEEL CASING PIPE, PIPE CONNECTION, TRAFFIC MAINTENANCE, PAVEMENT CUTTING AND REMOVAL, WATER MAIN TRENCHING, SHEETING AND SHORING, EXCAVATION AND BACKFILL, HYDROSTATIC PRESSURE TESTING, DISINFECTION, AND PAVEMENT REPLACEMENT, EXCEPT FOR ASPHALT INTERMEDIATE AND SURFACE COURSES. THE PAY LIMITS FOR THIS WORK SHALL BE THE LIMITS OF WATER MAIN LOWERING SHOWN ON DRAWINGS STD-L04 AND L05.

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SHEET P.116 TOTAL 329

WATER WORK GENERAL NOTES CONT.:

ITEM SPECIAL - 6", 8", 12" AND 16" GATE VALVE WITH VAVLE BOX

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NEW VALVES AND VALVE BOXES COMPLETE; NO RECONDITIONED VALVES SHALL BE ALLOWED. THE VALVES SHALL BE THE SAME SIZE AS THE MAIN IT WILL FUNCTION ON, REGARDLESS OF THE SIZE OF THE OLD VALVE THAT WAS REMOVED. THE VALVES SHALL BE APPROVED GATE VALVES WITH MECHANICAL-JOINT BELL ENDS, CONFORMING TO ANSI/AWWA C11/A21.11-80, LEAD JOINTS WILL NO LONGER BE PERMITTED. THE CITY'S VALVE REQUIREMENTS ARE ON FILE AT THE DIVISION OF WATER, PUBLIC UTILITIES BUILDING, 1201 LAKESIDE AVENUE, CLEVELAND, OHIO 44114.

THE NIPPLES SHALL BE OF NEW CLASS 52 DUCTILE IRON CEMENT LINED PIPE. THE NIPPLE SHALL BE ATTACHED TO THE VALVE WITH APPROVED RESTRAINED MECHANICAL JOINTS AS SPECIFIED IN THE PRECEDING PARAGRAPH. THE NIPPLES SHALL BE ATTACHED TO THE EXISTING WATER MAIN WITH EITHER SOLID DUCTILE IRON MECHANICAL JOINT SLEEVES OR COMPRESSION COUPLINGS PER THE STANDARD DETAILS, AS ORDERED BY THE CITY, AND IN ACCORDANCE WITH THE PERVIOUS SECTION COVERING DRESSER COUPLINGS.

THE VALVES SHALL BE SET ACCURATELY AND CAREFULLY AT THE REQUIRED LOCATIONS, IN A MANNER APPROVED BY THE CITY.

AFTER THE VALVES HAVE BEEN SET IN PLACE AND READY TO OPERATE, THE CONTRACTOR SHALL TEST THEM UNDER WORKING PRESSURE AND CONDITIONS. ANY VALVE OR JOINT FOUND TO LEAK SHALL BE MADE WATER-TIGHT BY THE CONTRACTOR. IF THE VALVE IS FOUND TO BE OF FAULTY CONTRACTION, THE CONTRACTOR SHALL REPAIR OR REPLACE IT.

AT LOCATIONS NOT INDICATED ON THE CONTRACT DRAWINGS, BUT WHERE ORDERED BY THE CITY OR WHERE REQUIRED TO REPLACE A LEAKING EXISTING SIDE LINE VALVE, THE CONTRACTOR SHALL REMOVE AND REPLACE EXISTING VALVES WITH NEW VALVES, OR CUT IN NEW VALVES IF NON NOW EXIST. THE CONTRACTOR SHALL BE PAID AT THE BID PRICE THE CONTRACTOR SUBMITS FOR NEW VALVES. THE QUANTITY OF NEW VALVES SHOWN ON THE BID - SCHEDULE OF ITEMS INCLUDES BOTH THE VALVES INDICATED IN THE CONTRACT DRAWINGS AND AN ESTIMATED ALLOWANCE FOR ADDITIONAL VALVES NOT CALLED FOR IN THE CONTRACT DRAWINGS.

THE COST OF WORK SHALL INCLUDE ALL VALVES AND FITTINGS, EXCAVATION AND BACKFILL, TESTING, DISINFECTION, POLYETHYLENE ENCASEMENT, AND PAVEMENT REPLACEMENT, EXCEPT FOR ASPHALT INTERMEDIATE AND SURFACE COURSES.

WATER WORK CONTINGENCY

EVERY EFFORT HAS BEEN MADE TO PROVIDE ADEQUATE WATER VALVE, WATER METER AND HYDRANT ADJUSTMENTS TO PROPERLY ACCOUNT FOR THE REQUIRED WATER WORK. IN THE EVENT THAT DISLOCATED AREAS OF ADDITIONAL WORK DEVELOP DURING CONSTRUCTION. THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE CONTRACT FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 202 - VALVE BOX REMOVED	*5 EACH*
ITEM 638 - VALVE BOX ADJUSTED TO GRADE	*5 EACH*
ITEM SPECIAL - WATER METER VAULT ADJUSTED TO GRADE	*2 EACH*
ITEM SPECIAL - WATER METER VAULT RECONSTRUCTED TO GRADE	*1 EACH*
ITEM SPECIAL - WATER METER VAULT REMOVED	*1 EACH*
ITEM SPECIAL - WATER MANHOLE ADJUSTED TO GRADE	*1 EACH*
ITEM SPECIAL - MISCELLANEOUS METAL	*2,000 POUNDS*
ITEM SPECIAL - REPLACE 1 1/2-INCH AND SMALLER WATER SERVICE CONNECTION, LONG SIDE COMPLETE	*2 EACH*
ITEM SPECIAL - REPLACE 1 1/2-INCH AND SMALLER WATER SERVICE CONNECTION, SHORT SIDE COMPLETE	*2 EACH*
ITEM SPECIAL - 6" GATE VALVE WITH VALVE BOX	*2 EACH*
ITEM SPECIAL - 6" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS	*100 LINEAR FEET*
ITEM SPECIAL - 12" WATER MAIN LOWERING PER DETAIL STD-L04	*2 EACH*
ITEM SPECIAL - 12" WATER MAIN LOWERING PER DETAIL STD-L05	*2 EACH*

WATER WORK NOTES

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SHEET P.117 TOTAL 329

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CLEVELAND WATER NOTES FOR WATER MAIN INSTALLATION AND/OR REPLACEMENT

CLEVELAND WATER NOTES FOR WATER MAIN INSTALLATION AND/OR REPLACEMENT

DEVELOPERS, ENGINEERS, AND CONTRACTORS ARE TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND WATER NOTES AND DETAILS. THE MOST UP-TO-DATE VERSION CAN BE FOUND AT WWW.CLEVELANDWATER.COM/CONSTRUCTION/ OR AS PROVIDED BY CWD STAFF.

GENERAL:

1. ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY CLEVELAND WATER, SHALL BE AT THE EXPENSE OF THE PROJECT UNLESS OTHERWISE AGREED TO IN WRITING BY THE COMMISSIONER OF THE CLEVELAND DIVISION OF WATER.

2. THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF WORK/CHARGE LETTER, STRIP MAPS, AS BUILT DRAWINGS, AND GIS ARE TAKEN FROM EXISTING AVAILABLE RECORDS, AND THEIR ACCURACY IS NOT GUARANTEED.

3. CALL THE INSPECTION AND ENFORCEMENT UNIT AT 216-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING AT LEAST 1 WEEK PRIOR TO STARTING CONSTRUCTION. THE OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE WATER SYSTEM BY CONTRACTORS OR THEIR EMPLOYEES IS PROHIBITED WITHOUT THE SUPERVISION OF THE CLEVELAND DIVISION OF WATER INSPECTOR.

4. PRIOR TO REQUESTING CHLORINATION, THE CONTRACTOR SHALL SUPPLY THE CLEVELAND WATER INSPECTOR WITH "REDLINE" DRAWINGS SHOWING CHANGES MADE FROM THE APPROVED DESIGN DRAWINGS AND ACTUAL MEASUREMENTS. CHLORINATION SHALL NOT OCCUR BEFORE THESE DRAWINGS ARE SUBMITTED. IF THERE WERE NO CHANGES FROM THE APPROVED PLANS, YOU MUST STILL SUBMIT A HARDCOPY OF PLANS INDICATING NO DEVIATIONS WERE MADE ON EACH PLAN AND PROFILE PAGE CONTAINING WATER WORK. PLEASE NOTE THIS DOES NOT COUNT AS AN AS BUILT SUBMISSION (SEE NOTE 12).

5. FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MAINS THE CONTRACTOR SHALL PROVIDE AND INSTALL, AT THE LOCATIONS DETERMINED BY CLEVELAND WATER. FLUSHING / SAMPLING TAP SIZES ARE TO BE DETERMINED CLEVELAND WATER. CHLORINATION PITS SHALL BE SIX (6) FOOT SQUARE AND ARE TO MEET OSHA STANDARDS. NO CUSTOMER TAPS SHALL BE INSTALLED PRIOR TO CHLORINATION.

6. A TWO-YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL CHLORINATION OF THE WATER MAIN INSTALLATION SHALL BE PROVIDED BY THE BUILDER/DEVELOPER AND/OR CONTRACTOR FOR ALL WATER MAINS AND SERVICE CONNECTION WORK PERFORMED BY THE CONTRACTOR, INCLUDING TAPS IF PERFORMED. SHOULD ANY LEAKS OCCUR AND REPAIRS BE REQUIRED DUE TO DEFECTIVE MATERIAL OR POOR WORKMANSHIP, REPAIRS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE. A LETTER INDICATING THE COMMENCEMENT DATE AND END DATE OF THE WARRANTY SHALL BE INCLUDE WITH THE AS-BUILT SUBMISSION IN NOTE 12.

7. USE BACKFILL MATERIAL AS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING MAINS AND WATER SERVICE CONNECTIONS ARE EXPOSED. (SEE CLEVELAND WATER STANDARD DETAIL STD-001 AND PVC-001)

8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT CLEVELAND WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH CLEVELAND WATER'S STANDARDS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS AND APPURTENANCES THEREOF WHEN CONSTRUCTING OR CONNECTING THE NEW WATER MAIN. THIS SHALL INCLUDE LEADED JOINTS IN EXISTING FITTINGS WHICH MAY REQUIRE REPLACEMENT FITTINGS AT THE DISCRETION OF THE INSPECTOR IF IT IS DETERMINED THEY WERE DISTURBED. ALL REPAIRS TO DAMAGED EXISTING FACILITIES SHALL BE MADE BY THE CONTRACTOR, AT THE PROJECT EXPENSE, TO THE SATISFACTION OF CLEVELAND WATER.

10. ALL HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE CLEVELAND WATER INSPECTOR. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI. THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO (2) HOURS WITH THE PRESSURE BEING MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE. SHOULD THE PRESSURE TEST FAIL THE CONTRACTOR SHALL FIND AND CORRECT THE DEFICIENCY(IES) TO THE SATISFACTION OF CLEVELAND WATER AND REPEAT THE TWO (2) HOUR PRESSURE TEST. MAKE UP WATER SHALL NOT BE PERMITTED.

11. ALL DUCTILE IRON BURIED WATER MAINS, FITTINGS, VALVES, FIRE HYDRANT BRANCH PIPING AND APPURTENANCES SHALL BE ENCASED WITH V-BIO ENHANCED POLYETHYLENE ENCASEMENT INSTALLED IN ACCORDANCE WITH THE MOST CURRENT REVISION OF ANSI/AWWA C-105/A21.5 MODIFIED METHOD "A" AND ASTM A674.

12. THE PROJECT'S PROFESSIONAL ENGINEER OR A DESIGNATED PROFESSIONAL SURVEYOR SHALL OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CLEVELAND WATER INSPECTOR WITH AS-BUILT DRAWINGS MEETING CLEVELAND WATER STANDARDS WITHIN 60 DAYS OF THE WATER MAIN GOING INTO SERVICE AND ALL TAPS/RETAPS BEING MADE. ONE HARD COPY AND ONE PDF COPY SHALL BE PROVIDED. DRAWINGS SHALL BE SIGNED, DATED, AND STAMPED WITH THE ENGINEER OR SURVEYOR'S . REDLINE DRAWINGS ARE NOT SUFFICIENT. CLEVELAND WATER RESERVES THE RIGHT TO WITHHOLD PAYMENT AND/OR APPROVAL OF FUTURE WORK IF AS-BUILTS ARE NOT SUBMITTED.

THE CONTRACTOR SHALL PROVIDE A TABLE SHOWING ALL CONNECTIONS, IDENTIFIED BY CLEVELAND WATER CONNECTION NUMBER, SHOWING THE FOUND CONNECTION MATERIAL (IF A REPLACEMENT) FOR BOTH THE CITYSIDE AND OWNERSIDE CONNECTION, AS WELL AS THE NEW CONNECTION MATERIAL FOR ALL CONNECTIONS. THE TABLE SHALL ALSO NOTE ANY NEW OR REVISED CONNECTION MEASUREMENTS AND SIZES. A SAMPLE TABLE WILL BE PROVIDED. THE SUBMISSION SHALL BE IN MICROSOFT EXCEL FORMAT.

FAILURE TO PROVIDE AS BUILT DRAWINGS AND CONNECTION DATA MAY INCUR PENALTIES AND DELAYS ON FUTURE PROJECTS.

WATER MAINS:

13. ALL PIPE SHALL BE AWWA C151 DUCTILE IRON, MINIMUM CLASS 52, WITH A CEMENT MORTAR LINING, HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET. MAINS 36" AND LARGER SHALL BE MINIMUM PRESSURE CLASS 350.

14. ALL DUCTILE IRON PIPE SHALL BE INSTALLED PER THE MOST CURRENT REVISION OF AWWA C600, AWWA MANUAL M41, DIPRA'S "INSTALLATION GUIDE FOR DUCTILE IRON PIPE" (ISBN 0-9642194-0-9) AND "DIRECT TAPPING OF DUCTILE IRON PIPING ENCASED IN POLYETHYLENE", AS WELL AS THE MANUFACTURER'S INSTRUCTIONS.

15. ALL PVC PIPE SHALL BE INSTALLED PER UNI-PUB-09, UNI-PUB--08, ASTM D2774, ASTM F1668, AND MANUFACTURER'S INSTRUCTIONS.

16. ONCE DELIVERED, ALL PVC PIPE MUST BE PROTECTED FROM DIRECT SUN EXPOSURE UNTIL THE PIPE IS INSTALLED AND BACKFILLED.

17. ALL PVC PIPE SHALL BE INSTALLED WITH A CONTINUOUS RUN OF 10 GAUGE COPPER CLAD STEEL TRACER WIRE WITH BREAKING LOAD OF AT LEAST 600 POUNDS AND AT LEAST 30 MILS OF BLUE HDPE INSULATION CERTIFIED FOR DIRECT BURIAL. CONNECTORS SHALL BE WATERPROOF, CONTAINING DIELECTRIC SILICONE, AND RATED FOR DIRECT BURIAL. CONNECTIONS MUST BE MADE SO AS TO PREVENT UNINSULATED WIRE FROM BEING EXPOSED. LATERAL TRACER LINES ON HYDRANTS, TEES, AND CROSSES SHALL NOT CUT THE MAIN TRACER WIRE. NON-LOCKING FRICTION FIT, TWIST-ON, AND TAPED CONNECTIONS ARE NOT PERMITTED. MAGNESIUM GROUND ANODE RODS SHALL BE INSTALLED AT EACH DEAD END PER THE MANUFACTURER'S INSTRUCTIONS. TRACER LINES SHALL TERMINATE AT A DEDICATED AT-GRADE ACCESS POINT/TEST STATION IDENTIFIED WITH "WATER" ON THE CAP. AT LEAST 2 FEET OF SLACK WIRE SHALL BE PROVIDED AT EACH TERMINATION POINT.

18. ALL NEW TRACE WIRE INSTALLATIONS SHALL HAVE THEIR FUNCTION VERIFIED BY BEING LOCATED USING TYPICAL LOW FREQUENCY (512HZ) LINE TRACING EQUIPMENT BY AN INDEPENDENT UTILITY LOCATING FIRM, WITH SUCH FIRM PROVIDING WRITTEN CERTIFICATION. CWD INSPECTORS SHALL BE INVITED TO WITNESS THIS VERIFICATION. THIS VERIFICATION SHALL BE PERFORMED UPON COMPLETION OF ROUGH GRADING AND AGAIN PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. CONTINUITY TESTING IN LIEU OF ACTUAL LINE TRACING SHALL NOT BE ACCEPTED. CWD WILL REQUIRE COMPLETION OF THE FIRST VERIFICATION PRIOR TO CHLORINATION, WITH CERTIFICATION SUBMITTED ALONG WITH RED LINE DRAWINGS. CERTIFICATION OF THE SECOND VERIFICATION SHALL BE PROVIDED WITH AS-BUILT DRAWINGS.

19. TWO FEET ABOVE THE MAIN, DETECTABLE TRACER TAPE NOTING THE PRESENCE OF A WATER MAIN SHALL BE INSTALLED FOR THE ENTIRE LENGTH OF THE MAIN, INCLUDING HYDRANT LATERALS AND OPEN CUT INSTALLED SERVICE CONNECTIONS.

20. PVC PIPE JOINTS SHALL BE ASSEMBLED VIA THE BAR AND BLOCK METHOD. ANY PIPE JOINT THAT HAS BEEN OVER INSERTED SHALL HAVE BOTH THE BELL PIPE AND THE SPIGOT PIPE REMOVED AND DISCARDED.

21. ALL FITTINGS, UNLESS OTHERWISE CALLED FOR, SHALL BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED OR FUSION BONDED EPOXY COATED. ALL FITTINGS AND PIPE CONNECTED TO FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C-110/A21.10 AND ANSI/AWWA C-111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C-153/A21.53. EXCEPT FOR ANCHOR TEES, REDUCERS OR OTHER SPECIAL CIRCUMSTANCES WHEN BY CLEVELAND WATER, ALL FITTINGS ARE TO HAVE BELL ENDS.

22. ALL BOLTS AND NUTS ON ALL "RETAINED" MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING.

23. WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, PIPE AND FITTINGS SHALL HAVE AN APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.

24. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATER TIGHT PLUGS AS PER THE "PREVENTATIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION" SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED BY USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE END. PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE CLEVELAND WATER INSPECTOR OR ENGINEER. ALL PHOTOS TAKEN OVER THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUBMITTAL. PHOTOS ARE TO INCLUDE STATIONING MARKERS. AS-BUILTS SHALL BE DEEMED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.

HYDRANTS:

25. IN ALL HYDRANT INSTALLATIONS THE CONTRACTOR SHALL FACE ALL HYDRANT'S 4" OR 4-1/2" (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. ONLY CLEVELAND WATER APPROVED HYDRANT MODELS SHALL BE INSTALLED. CONTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE DEPARTMENT TO OBTAIN HYDRANT NOZZLE THREAD REQUIREMENTS AND STEAMER NOZZLE SIZE IF NOT INDICATED ON THE APPROVED PLANS. ALL HYDRANTS SHALL BE FACTORY EQUIPPED WITH THE APPROPRIATE HYDRANT NOZZLE, INCLUDING STORZ IF REQUESTED BY THE MUNICIPALITY.

HYDRANT BRANCHES SHALL BE FULLY RESTRAINED AND INSTALLED PER THE APPROPRIATE HYDRANT CLEVELAND WATER HYDRANT DETAIL. HYDRANT BRANCH VALVES SHALL BE PLACED DIRECTLY AFTER THE HYDRANT TEE UNLESS OTHERWISE APPROVED BY THE INSPECTOR IN WRITING.

VALVES:

26. ALL VALVES SHALL BE AN APPROVED MODEL RESILIENT SEATED GATE VALVES AS PER THE MOST CURRENT VERSION OF AWWA C509 OR C515. VALVE OPERATING NUTS SHALL BE TAPERED (1 7/8" TO 2" FROM TOP TO BOTTOM) AND 2" DEEP. ALL VALVES AT TIE IN POINTS TO EXISTING MAINS SHALL BE REPLACED AT THE PROJECT'S EXPENSE UNLESS OTHERWISE DIRECTED.

LEAD SERVICE CONNECTIONS:

27. IF A WATER MAIN IS SUSPECTED TO HAVE LEAD SERVICES OR WAS INSTALLED PRIOR TO 1954, THE OHIO EPA REQUIRES CWD TO PROVIDE A NOTICE TO ALL AFFECTED CUSTOMERS THAT THEIR WATER SERVICE LINE WILL BE DISTURBED A MINIMUM OF 45 DAYS IN ADVANCE OF CONSTRUCTION. TO AVOID PROJECT DELAYS, 60 DAYS PRIOR TO CONSTRUCTION,PLEASE CONTACT VIA EMAIL NYA_DREYFUSS@CLEVELANDWATER.COM AND FRED_ROBERTS@CLEVELANDWATER.COM TO VERIFY LETTERS WERE SENT OUT.

WATER WORK NOTES

DESIGN AGENCY
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Akron, OH 44320
(330) 836-9111
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DESIGNER STO
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.118 TOTAL 329

CUY-14-6.930
MODEL: Sheet 5 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:02:35 PM USER: todd.roxberry
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CLEVELAND WATER NOTES FOR WATER MAIN INSTALLATION AND/OR REPLACEMENT CONT.

28. IF A CUSTOMER-OWNED LEAD SERVICE LINE IS ENCOUNTERED, IMMEDIATELY NOTIFY THE CWD INSPECTOR SO THAT APPROPRIATE NOTIFICATION CAN BE MADE AND ACTION CAN BE TAKEN. IF THE CWD INSPECTOR IS NOT AVAILABLE, CALL PAYTON HALL AT (216) 664-2444, EXT. 73000 OR (216) 971-2721.

ANY CITY-OWNED LEAD SERVICE LINE ENCOUNTERED AND DISTURBED SHALL BE REPLACED WITH TYPE K COPPER FROM THE CORPORATION STOP TO THE CURB STOP. THE REPLACEMENT SERVICE LINE SHALL BE 1-INCH MINIMUM DIAMETER, BUT MATCH ANY EXISTING CONNECTION SIZE IF LARGER (5/8" AND 3/4" CONNECTIONS SHALL NOT BE PERMITTED). CUSTOMERS WITH A CUSTOMER-OWNED LEAD SERVICE LINE SHALL NOT BE RECONNECTED TO THE NEW WATER MAIN WITHOUT EXPRESS WRITTEN APPROVAL FROM PAYTON HALL, OR HIS APPROVED REPRESENTATIVE AT CWD.

AS PART OF THIS CONTRACT, THE CONTRACTOR SHALL OFFER EACH CUSTOMER TO REPLACE LEAD SERVICES FROM THE CURB STOP TO THE INLET STOP & WASTE VALVE INSIDE THE CUSTOMER'S HOME. IF THE REPLACEMENT IS NOT COVERED UNDER THE BID ITEMS, THE CONTRACTOR SHALL PROVIDE CWD (AND THE LOCAL MUNICIPALITY IF OUTSIDE THE CITY OF CLEVELAND) WITH A CHANGE ORDER AND COST ESTIMATES FOR THE CUSTOMER-OWNED LEAD SERVICE LINE REPLACEMENT. UPON APPROVAL FROM CWD (AND THE LOCAL MUNICIPALITY IF OUTSIDE THE CITY OF CLEVELAND), THE CONTRACTOR SHALL PERFORM THE REPLACEMENT OF THE CUSTOMER-OWNED LEAD SERVICE LINE. AS STATED ABOVE, CUSTOMERS WITH CUSTOMER-OWNED LEAD SERVICE LINES SHALL NOT BE RECONNECTED TO THE NEW WATER MAIN WITHOUT EXPRESS WRITTEN APPROVAL FROM PAYTON HALL, OR HIS APPROVED REPRESENTATIVE AT CWD.

IN THE EVENT THAT A CWD WAIVER IS GRANTED SUCH THAT A CUSTOMER-OWNED LEAD SERVICE LINE IS NOT REPLACED, CWD SHALL SUPPLY THE CONTRACTOR WITH LEAD FILTERS AND PITCHERS THAT THE CONTRACTOR SHALL DISTRIBUTE TO EACH RESIDENCE WITHIN THE PROJECT AREA, INCLUDING TO ALL UNITS OF MULTI-UNIT HOUSING BUILDINGS. THE FILTERS SHALL BE POUR-THROUGH PITCHER TYPE LEAD FILTERS THAT ARE NSF/ANSI-53 CERTIFIED TO REMOVE LEAD. THE PITCHER, A 6-MONTH SUPPLY OF FILTERS, AND CWD-SUPPLIED USE INSTRUCTIONS AND OTHER APPLICABLE MATERIALS SHALL BE DISTRIBUTED. RECORDS OF RESIDENTS WHO RECEIVED AND WHO REFUSED THE FILTERS SHALL BE PROVIDED BY THE CONTRACTOR TO CWD (AND THE LOCAL MUNICIPALITY IF OUTSIDE THE CITY OF CLEVELAND).

AT THE END OF THE DAY BEFORE A CUSTOMER IS SCHEDULED TO BE CONNECTED TO THE NEW WATER MAIN, THE CONTRACTOR SHALL NOTIFY THE INSPECTOR SO NOTIFICATIONS AND OTHER APPLICABLE MATERIALS MAY BE PROVIDED AT THE TIME OF CONNECTION.
GENERAL SERVICE CONNECTIONS:

29. ALL SERVICE CONNECTIONS SHALL BE A MINIMUM OF 1". 1/2", 5/8" AND 3/4" CONNECTIONS SHALL NOT BE INSTALLED, EVEN IF REPLACING AN EXISTING CONNECTION SMALLER THAN 1". ALL REPLACEMENT SERVICE CONNECTIONS SHALL ALSO INCLUDE A NEW CURB STOP.

30. TYPE K COPPER SHALL BE USED ON ALL CONNECTIONS 2" AND SMALLER. CLASS 52 DUCTILE IRON WRAPPED IN V-BIO ENHANCED POLYETHYLENE ENCASEMENT SHALL BE USED ON ALL CONNECTIONS 3" AND LARGER. ALL CONNECTIONS SHALL COMPLY WITH CWD'S SERVICE CONNECTION REQUIREMENTS, AS POSTED ON OUR WEBSITE.

31. NEW WATER SERVICE CONNECTIONS LOCATIONS SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND ARE NOT PART OF THE WATER MAIN APPROVAL. THE SPECIFIC LOCATION FOR EACH CONNECTION WILL BE DETERMINED BY CLEVELAND WATER PRIOR TO THE TAPS BEING INSTALLED. ALL PERMITS FOR TAPS AND METERS FOR PARCELS ASSOCIATED WITH THE WATER MAINS INSTALLED ON THIS PROJECT ARE TO BE OBTAINED BY THE LAND OWNER OF SAID IMPROVEMENT PLANS. IT IS THE LAND OWNERS RESPONSIBILITY TO ARRANGE FOR OBTAINING PERMITS FOR ALL WATER SERVICE CONNECTIONS BEFORE ANY SERVICE CONNECTION WORK MAY PROCEED. ALL FEES CAN BE OBTAINED FROM THE CLEVELAND WATER PERMITS AND SALES SECTION AT 216-664-3130 PROMPT #2, THEN #6 OR 216-664-2444 X75209.

ACCOUNTS SHALL BE INITIATED IN THE LAND OWNER'S NAME AS PART OF THE PERMITTING PROCESS. ALL RESPONSIBILITIES ASSOCIATED WITH EACH WATER SERVICE, INCLUDING, THE OWNER SIDE INSPECTIONS, METER SET/METER PIPING INSPECTION AND THE METER INSTALLATION SHALL BE THE RESPONSIBILITY OF SAID OWNER.

METERS INSTALLATIONS WILL NOT BE AUTHORIZED TO BE INSTALLED UNTIL ALL INSPECTIONS HAVE BEEN COMPLETED. ESTIMATED BILLS MAY ENSUE IF A HOME IS IDENTIFIED AS HAVING WATER SERVICE BUT NO METER HAS BEEN INSTALLED. IF NEW OWNERS, ONCE PARCELS ARE SOLD OFF AND TRANSFER TITLE, DO NOT CONTACT CLEVELAND WATER TO ESTABLISH ACCOUNTS IN THEIR NAME, ACCOUNTS AND THEIR ASSOCIATED BILLS WILL REMAIN IN THE NAME OF OUR LAST OWNER OF RECORD WHICH MAY BE THE DEVELOPER OR BUILDER. IT IS THE RESPONSIBILITY OF THE NEW OWNER TO TRANSFER ACCOUNTS INTO THEIR NAME WHEN THE PROPERTIES LEGALLY TRANSFER. UPON TRANSFER OF PROPERTY, SELLER OF PROPERTY MUST COMMUNICATE ALL UNCOMPLETED PORTIONS OF THE REFERENCED RESPONSIBILITIES TO THE NEW OWNER.

32. ONE INCH SERVICE CONNECTIONS SHALL BE PERMITTED TO SERVICE NEW HOMES (AS SHOWN ON APPROVED WATER MAIN EXTENSION PLANS) BASED ON THE FOLLOWING CRITERIA:
· PEAK FLOW DEMANDS DO NOT EXCEED 25 GPM FOR AN INDIVIDUAL HOME/UNIT. INCLUSIVE OF ALL USAGE (DOMESTIC AND/OR IRRIGATION),

· LENGTH OF ONE INCH CONNECTION DOES NOT EXCEED 75 FEET AS MEASURED FROM THE MAIN TO THE POINT OF ENTRY INTO THE PROPOSED HOME/UNIT.

· THE CONNECTIONS DO NOT INCLUDE LIMITED AREA OR NFPA 13D SPRINKLER SYSTEMS.

ANY SERVICE REQUESTS DIFFERING FROM THE STATED CRITERIA SHALL REQUIRE THE SUBMITTAL OF A COMPLETE WATER SERVICE APPLICATION FOR EACH WATER SERVICE REQUESTED.

34. ALL CURB VALVE BOXES & METER VAULTS WILL BE INSTALLED IN GRASS AREAS WHEN POSSIBLE. CURB VALVES SHALL BE PLACED APPROXIMATELY 2 FEET OFF THE CURB. CURB VALVES IN EASEMENTS SHALL BE PLACED APPROXIMATELY 3 FEET OFF THE WATER MAIN. IF VALVE BOXES OR METER VAULTS ARE INSTALLED OUTSIDE OF A DEDICATED RIGHT OF WAY OR EASEMENT FOR THE PURPOSES OF WATER SUPPLY, A STANDARD CLEVELAND EASEMENT FOR A VAULT SHALL BE PROVIDED.

EMERGENCIES:

35. IF A WATER MAIN OR SERVICE CONNECTION BREAK OCCURS DURING CONSTRUCTION AND EMERGENCY ASSISTANCE IS REQUIRED, CONTRACTOR SHALL NOTIFY CLEVELAND WATER AT 216-664-3060. THIS LINE IS AVAILABLE AT ALL TIMES.

WATER WORK NOTES

DESIGN AGENCY
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www.aecom.com

DESIGNER STO
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.119 TOTAL 329

CUY-14-6.930
MODEL: Sheet 6 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:02:36 PM USER: todd.roxberry
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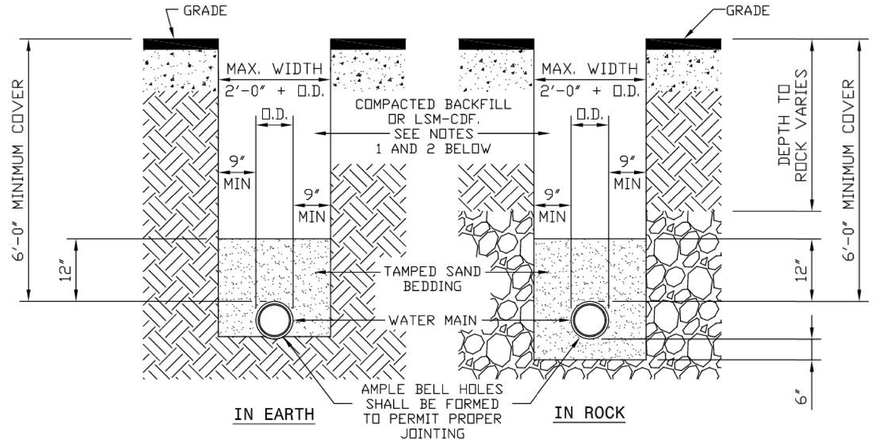
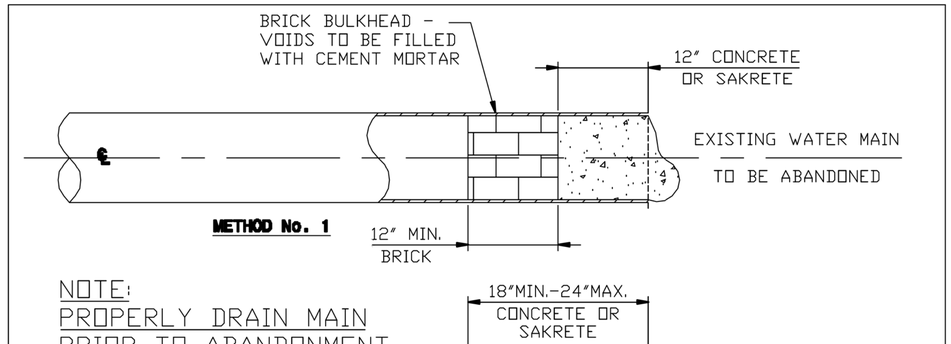


WATER MAIN TRENCH DETAILS

- NOT TO SCALE -

NOTES:
1) PREMIUM BACKFILL CONSISTING OF LOW STRENGTH MORTAR - CONTROLLED DENSITY FILL (LSM-CDF) "FLOWABLE FILL" IS REQUIRED:
   A) UNDER ALL EXISTING OR FUTURE PAVEMENTS, SIDEWALKS AND DRIVES WITHIN THE CITY OF CLEVELAND CORPORATION LIMITS.
   B) AS SPECIFIED IN LOCAL MUNICIPALITIES SERVED BY CWD (SEE LOCAL REQUIREMENTS)
2) WHEN PREMIUM BACKFILL IS REQUIRED BY THE LOCAL MUNICIPALITY FOR CASES OTHER THAN THOSE LISTED IN NOTE 1 ABOVE, IT SHALL BE LIMESTONE GRADED PER ODOT 304.02 OR ODOT 411. NO SLAG IS PERMITTED.
3) CONTRACTOR SHALL USE SPECIAL CARE IN PLACING THE SAND BEDDING, SO AS TO AVOID SCRAPING OF THE EXTERIOR COATING, INJURING THE PIPE, DISTORTING OR MOVING THE PIPE WHEN COMPACTING THE SAME. THE SAND BEDDING SHALL BE TAMPED IN SIX (6) INCH LAYERS, SIMULTANEOUSLY ON EACH SIDE OF THE PIPE, AND THOROUGHLY COMPACTED SO AS TO PROVIDE A SOLID BACKING AGAINST THE EXTERNAL SURFACE OF THE PIPE.
4) MINIMUM COMPACTION FOR ALL SAND BEDDING, BACKFILL AND PREMIUM BACKFILL SHALL BE 95% STANDARD PROCTOR.
5) PAVEMENT, SIDEWALK OR DRIVES TO BE INSTALLED IN ACCORDANCE WITH LOCAL MUNICIPALITY'S SPECIFICATIONS.

STD-001 | DATE: 6-21-2012



PLUGGING ABANDONED WATER MAIN ENDS

- NOT TO SCALE -

STD-004 | DATE: 10-1-97 | BY: RSK

*CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS.

COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

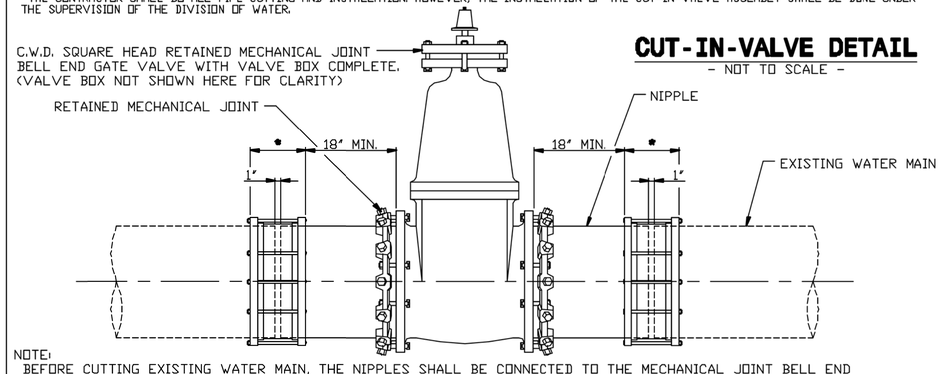
MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).

THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.

ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE "RETAINED" TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS "C", METHOD "B".

THE DIVISION OF WATER WILL DETERMINE THE FIELD LOCATION OF THE CUT-IN-VALVE ASSEMBLY. THE DIVISION OF WATER WILL ALSO SET THE TIME OF INSTALLATION OF THE CUT-IN-VALVE ASSEMBLY.

THE CONTRACTOR SHALL DO ALL PIPE CUTTING AND INSTALLATION. HOWEVER, THE INSTALLATION OF THE CUT-IN-VALVE ASSEMBLY SHALL BE DONE UNDER THE SUPERVISION OF THE DIVISION OF WATER.

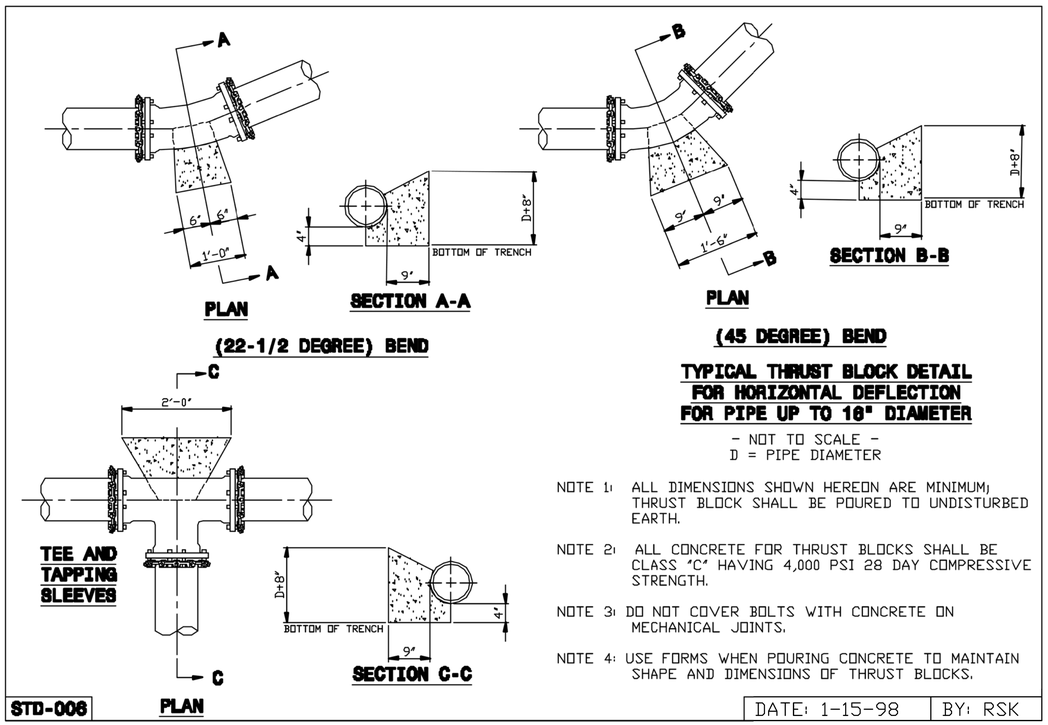


CUT-IN-VALVE DETAIL

- NOT TO SCALE -

NOTE:
BEFORE CUTTING EXISTING WATER MAIN, THE NIPPLES SHALL BE CONNECTED TO THE MECHANICAL JOINT BELL END GATE VALVE. AFTER CUTTING PIPE, FINAL CONNECTIONS SHALL BE MADE WITH COUPLINGS/SOLID SLEEVES AS SPECIFIED.

STD-005 | DATE: 10-1-97 | BY: RSK



TYPICAL THRUST BLOCK DETAIL FOR HORIZONTAL DEFLECTION FOR PIPE UP TO 18" DIAMETER

- NOT TO SCALE -
D = PIPE DIAMETER

NOTE 1: ALL DIMENSIONS SHOWN HEREON ARE MINIMUM; THRUST BLOCK SHALL BE POURED TO UNDISTURBED EARTH.

NOTE 2: ALL CONCRETE FOR THRUST BLOCKS SHALL BE CLASS "C" HAVING 4,000 PSI 28 DAY COMPRESSIVE STRENGTH.

NOTE 3: DO NOT COVER BOLTS WITH CONCRETE ON MECHANICAL JOINTS.

NOTE 4: USE FORMS WHEN POURING CONCRETE TO MAINTAIN SHAPE AND DIMENSIONS OF THRUST BLOCKS.

STD-006 | DATE: 1-15-98 | BY: RSK

WATER WORK DETAILS

DESIGN AGENCY
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DESIGNER STO
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.120 TOTAL 329

CUY-14-6.93

MODEL: Sheet 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:02:53 PM USER: todd.roxberry
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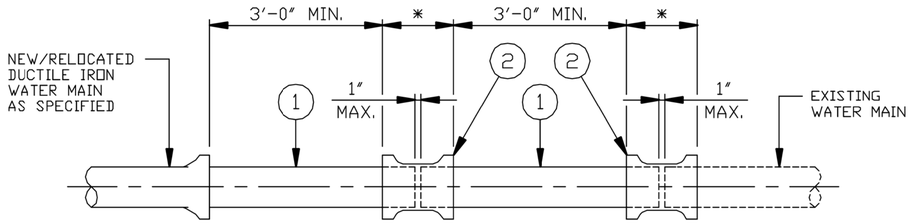


SLEEVE-IN INSTALLATION DETAIL

- NOT TO SCALE -

1) PLAIN END x PLAIN END DUCTILE IRON PIPE AS SPECIFIED (CUT TO SUIT).

2) *CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS.

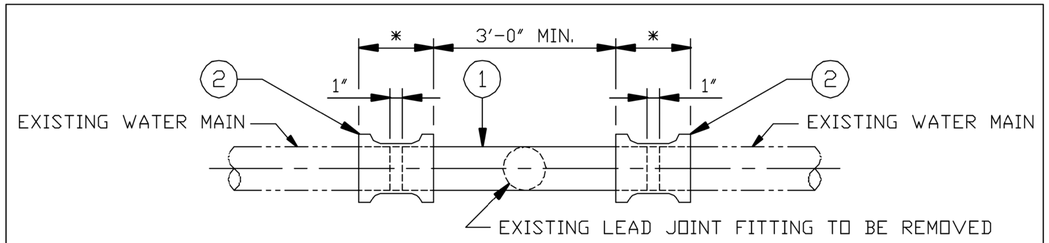
COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).

THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.

3) ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE "RETAINED" TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS 'C', METHOD 'B'.

STD-007	DATE: 10-1-97	BY: RSK



SPOOL PIECE INSTALLATION DETAIL

NOT TO SCALE

1) PLAIN END x PLAIN END DUCTILE IRON PIPE AS SPECIFIED (CUT TO SUIT).

2) *CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS.

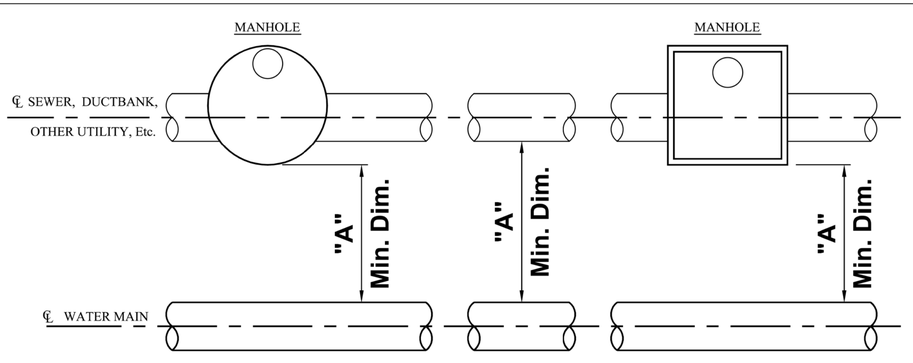
COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).

THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.

3) ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE "RETAINED" TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS 'C', METHOD 'B'.

STD-008	DATE: 10-1-97	BY: RSK



PLAN VIEW

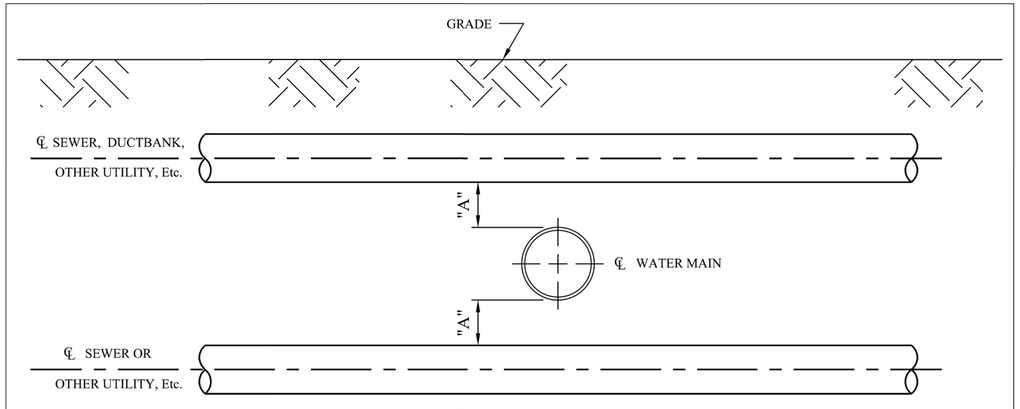
- SEE STD-018 FOR PROFILE VIEW -

HORIZONTAL CLEARANCE	STORM SEWER	SANITARY SEWER	GAS, DUCTBANK, OTHER UTILITY, Etc.
"A"	10'-0" MIN.	10-0" MIN.	5'-0" MIN.

HORIZONTAL CLEARANCE FOR UTILITIES

NOT TO SCALE

STD-017	DATE: 7-02-2014	BY: MTA



PROFILE VIEW

- SEE STD-017 FOR PLAN VIEW -

VERTICAL CLEARANCE	SANITARY SEWER LESS THAN 24"	SANITARY SEWER 24" & LARGER	STORM SEWER, DUCTBANK, GAS, OTHER UTILITY LESS THAN 24"	STORM SEWER, DUCTBANK, GAS, OTHER UTILITY 24" & LARGER	REMARKS
"A"	18" Min.	18" Min.	18" Min.	18" Min.	IF CANNOT ACHIEVE MIN. CLEARANCE WATER MAIN TO BE LOWERED

VERTICAL CLEARANCE FOR UTILITIES

NOT TO SCALE

STD-018	DATE: 7-02-2014	BY: MTA

WATER WORK DETAILS

CUY-14-6.93

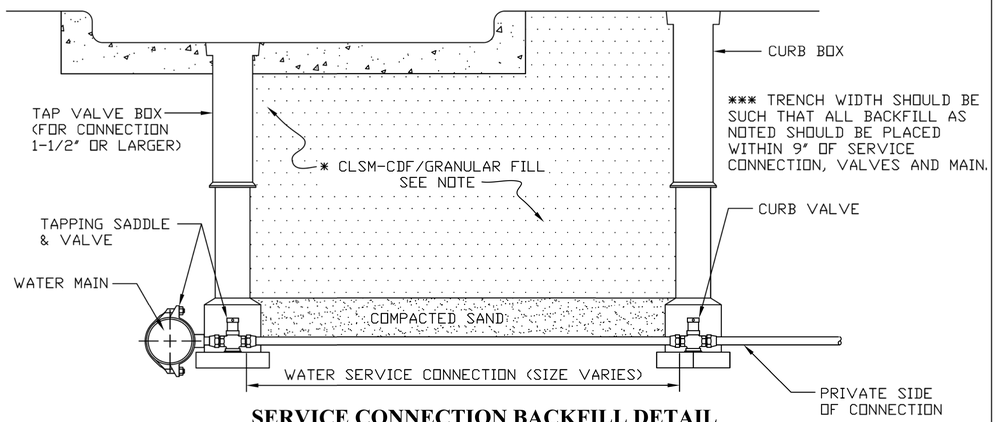
MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:03:57 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Utilities\Sheets\104132_UD001.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	REVIEWER	PROJECT ID	SHEET	TOTAL
STO	MAW 01/16/23	104132	P.121	329

** CLEVELAND REQUIRED MIX DESIGN -
CEMENT - 50 LBS. PER CUBIC YARD
SAND - 2850 LBS. PER CUBIC YARD
WATER - 50 GALLONS PER CUBIC YARD
RHEOCELL 30MB - 3 OZ. PER CUBIC YARD

* CONTROLLED LOW STRENGTH MATERIAL-
CONTROLLED DENSITY FILL (CLSM-CDF)
"FLOWABLE FILL" IS REQUIRED WITHIN THE
CITY OF CLEVELAND CORPORATION LIMITS
AND PERMITTED IN ALL COMMUNITIES
SERVICED BY CWD. CHECK LOCAL REQUIREMENTS.

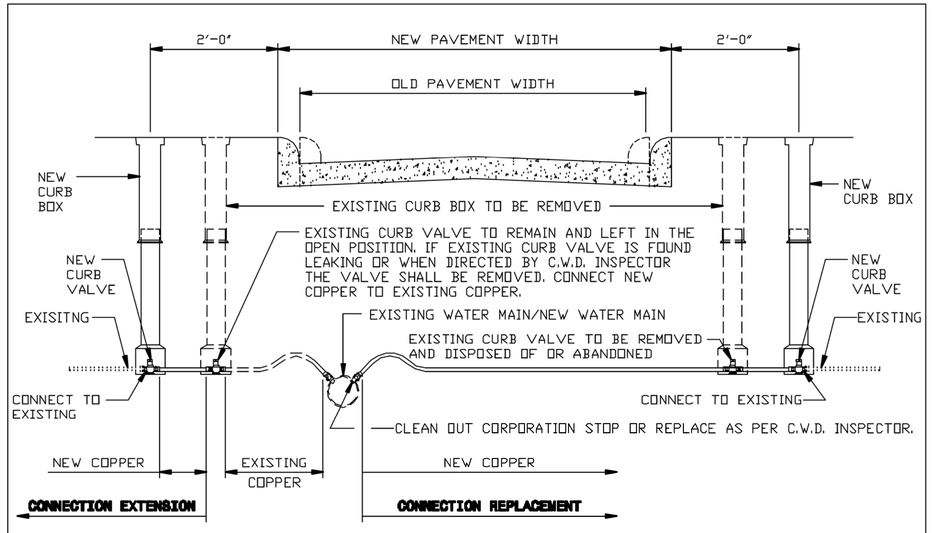


SERVICE CONNECTION BACKFILL DETAIL

- NOT TO SCALE -

NOTES:
1) CONTRACTOR SHALL USE SPECIAL CARE IN PLACING THE SAND BEDDING BACKFILL, SO AS TO AVOID SCRAPING OF THE EXTERIOR COATING, INJURING THE PIPE, DISTORTING OR MOVING THE PIPE WHEN COMPACTING THE SAME. THE SAND BEDDING BACKFILL SHALL BE TAMPED IN SIX (6) INCH LAYERS, SIMULTANEOUSLY ON EACH SIDE OF THE PIPE, AND THOROUGHLY COMPACTED SO AS TO PROVIDE A SOLID BACKING AGAINST THE EXTERNAL SURFACE OF THE PIPE.
2) MINIMUM COMPACTION FOR ALL SAND BEDDING BACKFILL, BACKFILL AND PREMIUM BACKFILL SHALL BE 95% STANDARD PROCTOR.

STD-023 | DATE: 10-7-2008 | BY: RSK

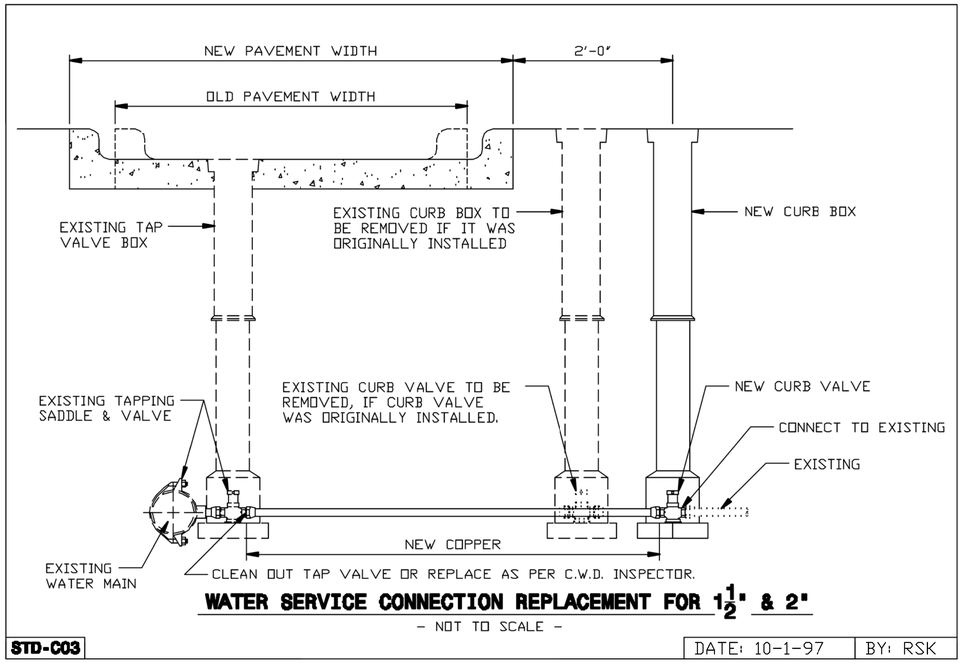


NOTE: IF EXISTING SERVICE CONNECTION IS FOUND TO BE GALVANIZED OR LEAD REPLACE FROM CORPORATION STOP TO CURB VALVE.

WATER SERVICE CONNECTION EXTENSION OR REPLACEMENT FOR 1" & SMALLER

- NOT TO SCALE -

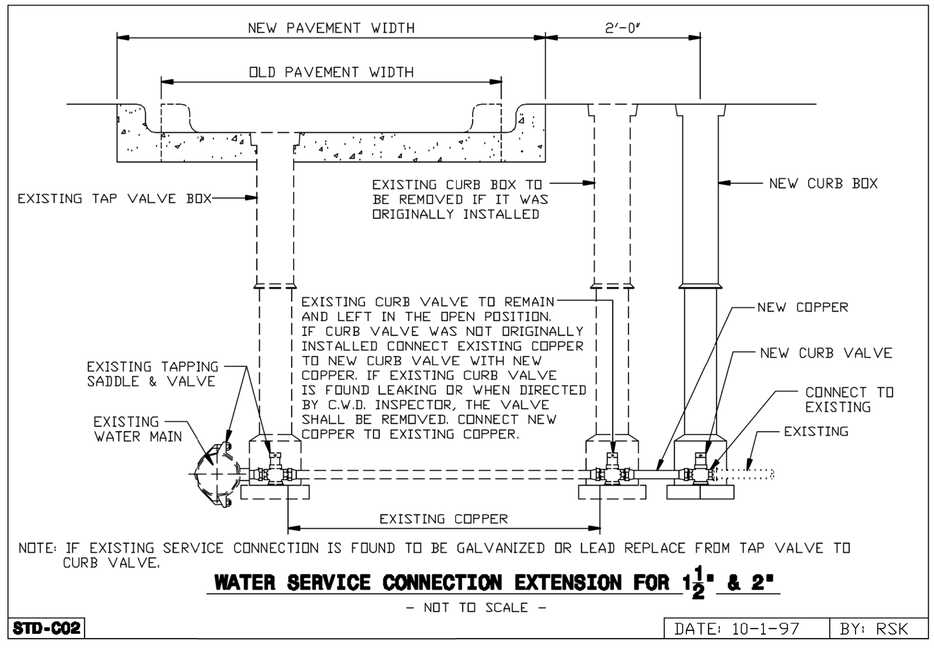
STD-C01 | DATE: 5-11-98 | BY: RSK



WATER SERVICE CONNECTION REPLACEMENT FOR 1½" & 2"

- NOT TO SCALE -

STD-C03 | DATE: 10-1-97 | BY: RSK



NOTE: IF EXISTING SERVICE CONNECTION IS FOUND TO BE GALVANIZED OR LEAD REPLACE FROM TAP VALVE TO CURB VALVE.

WATER SERVICE CONNECTION EXTENSION FOR 1½" & 2"

- NOT TO SCALE -

STD-C02 | DATE: 10-1-97 | BY: RSK

WATER WORK DETAILS

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
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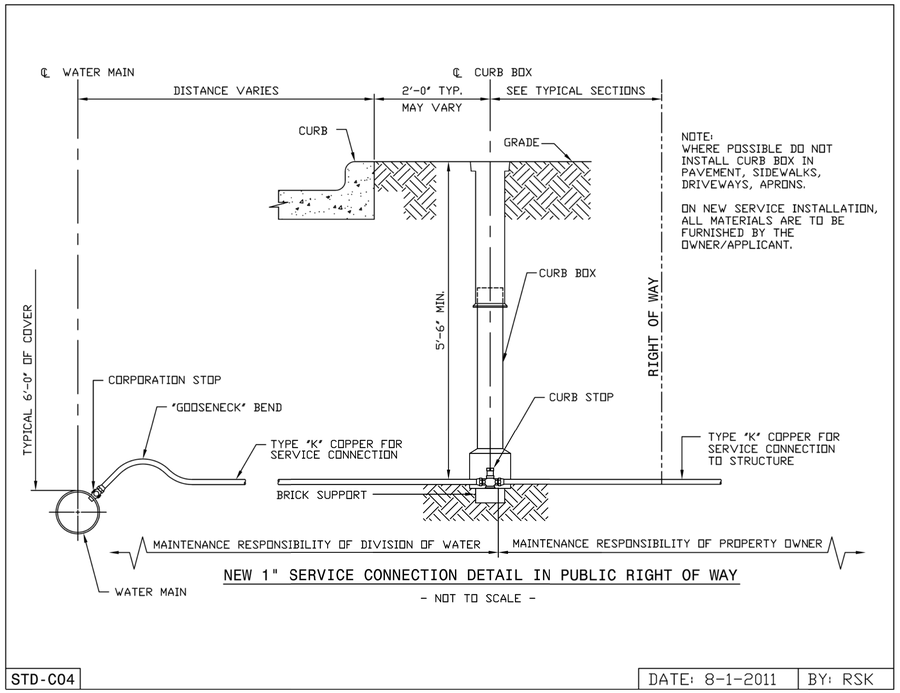
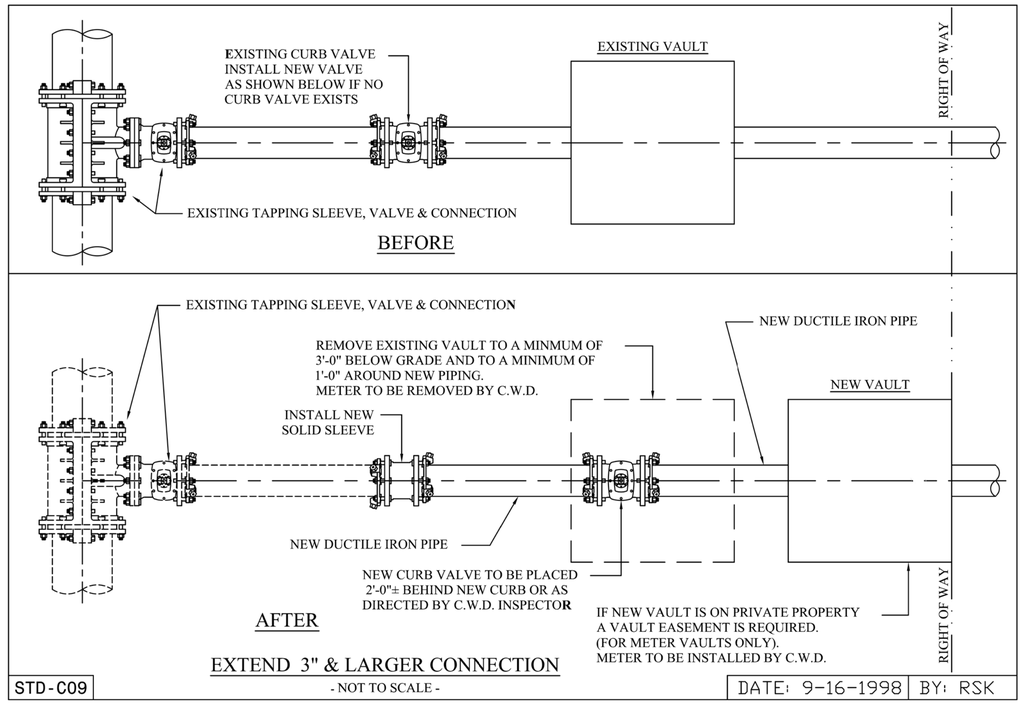
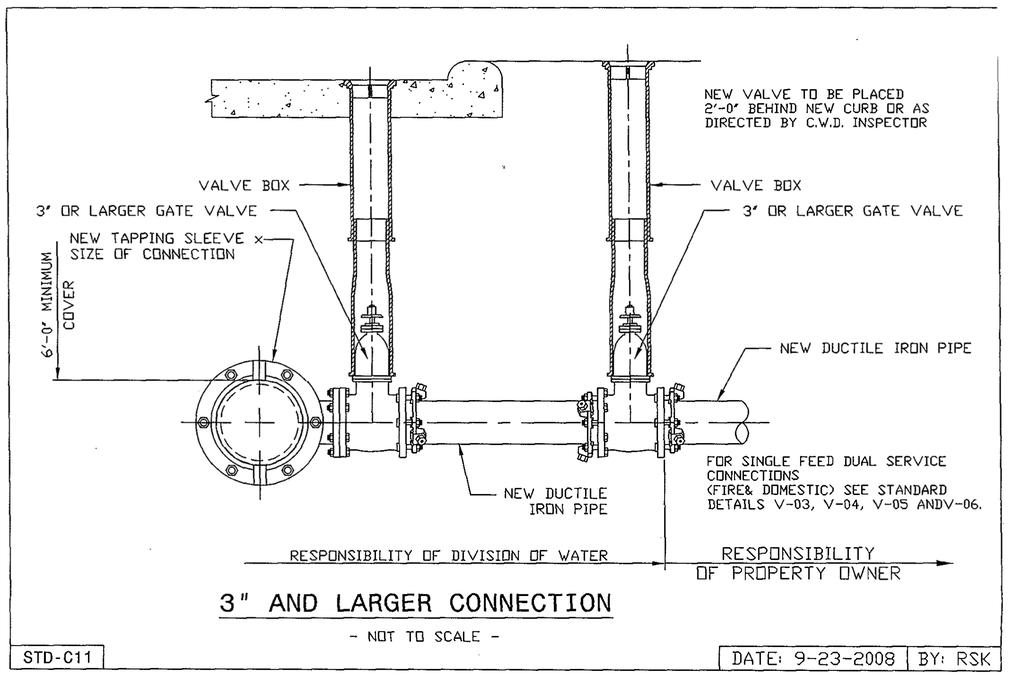
DESIGNER: STO
REVIEWER: MAW 01/16/23
PROJECT ID: 104132
SHEET: P.122 | TOTAL: 329

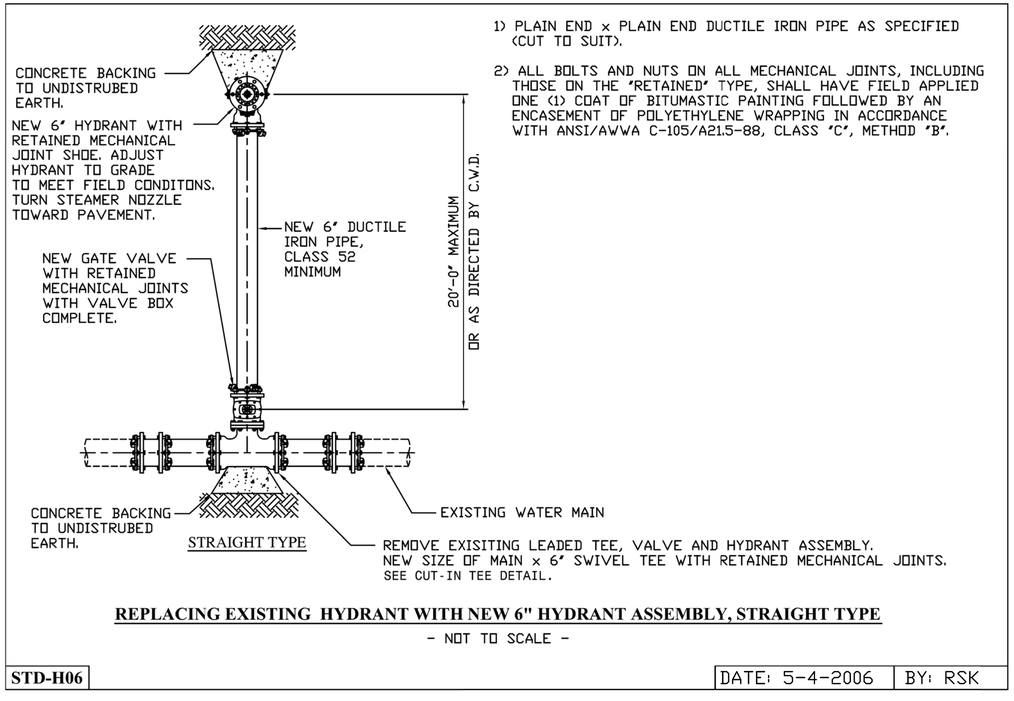
CUY-14-6.93

MODEL: Sheet 3 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:05:00 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132400-Engineering\Utilities\Sheets\104132_UD001.dgn









WATER WORK DETAILS

DESIGN AGENCY
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www.aecom.com

DESIGNER STO
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.123 TOTAL 329

CUY-14-6.93

MODEL: Sheet 4 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:05:57 PM USER: todd.roxberry
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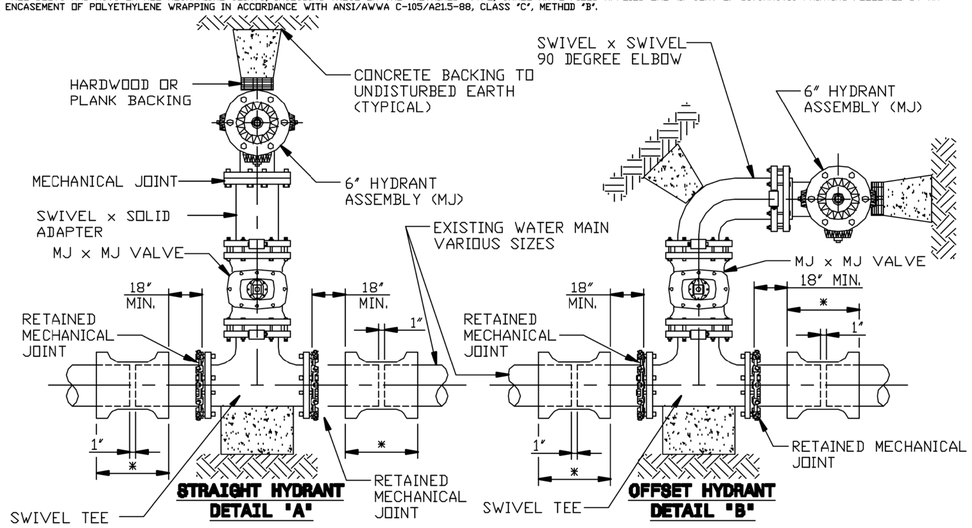
*CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS. COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.
MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).
THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS. ROD AND CLAMP COMPRESSION COUPLING AS DIRECTED BY C.W.D. INSPECTOR.
ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE "RETAINED" TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS "C", METHOD "B".

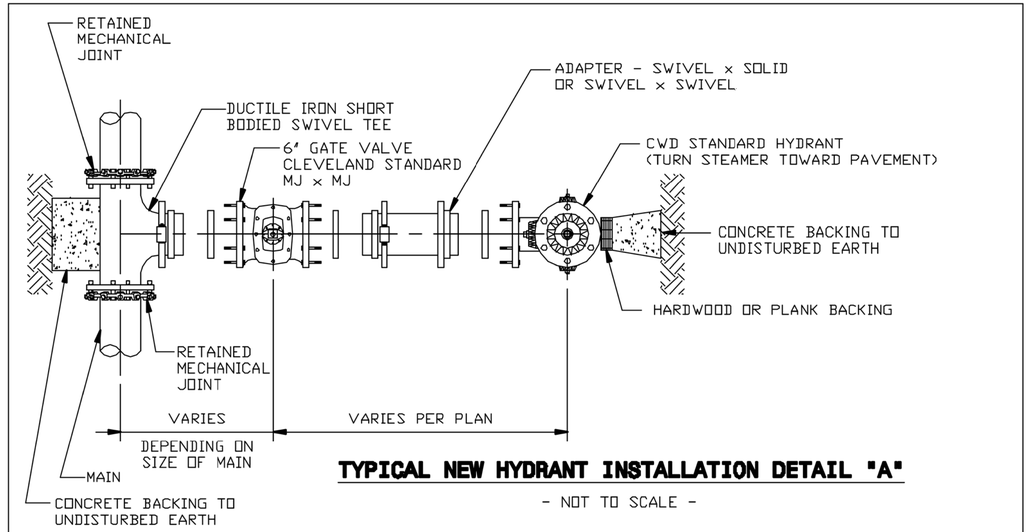


CUT-IN TEE FOR NEW HYDRANT INSTALLATION ON EXISTING WATER MAIN

FOR EXPLODED VIEW OF HYDRANT BRANCH SEE (STD-H09 OR STD-H10).

- NOT TO SCALE -

STD-H08 | DATE: 10-1-97 | BY: RSK



TYPICAL NEW HYDRANT INSTALLATION DETAIL "A"

- NOT TO SCALE -

NOTE: IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-1-5/A21.5-88 CLASS "C" METHOD "B".

ALL BOLTS AND NUTS FURNISHED WITH RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOY CORROSION RESISTANT STEEL.

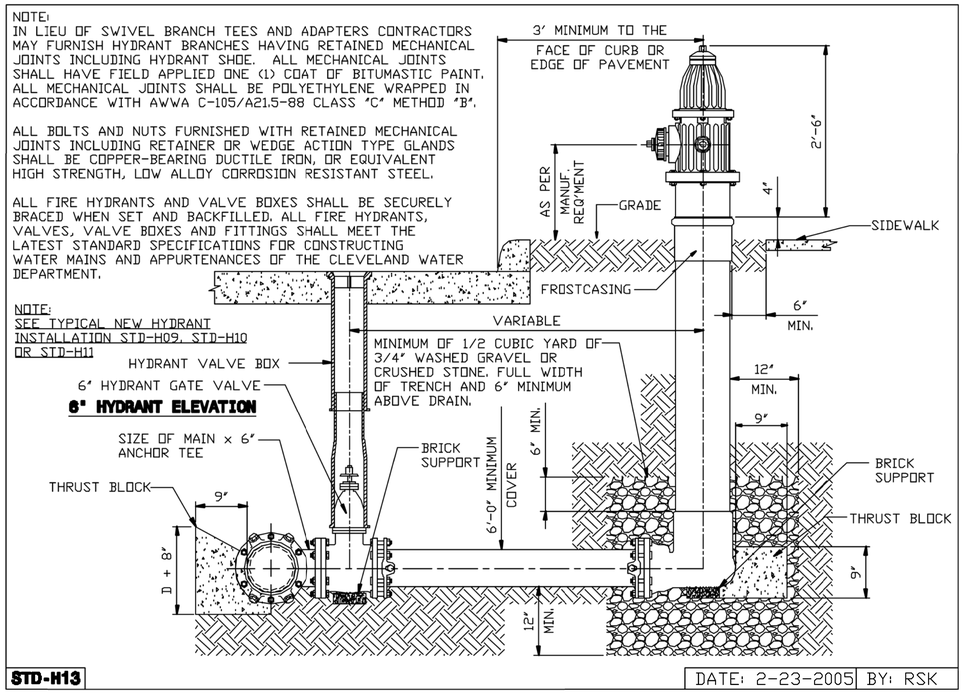
STD-H09 | DATE: 3-4-2002 | BY: RSK

NOTE:
IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-105/A21.5-88 CLASS "C" METHOD "B".

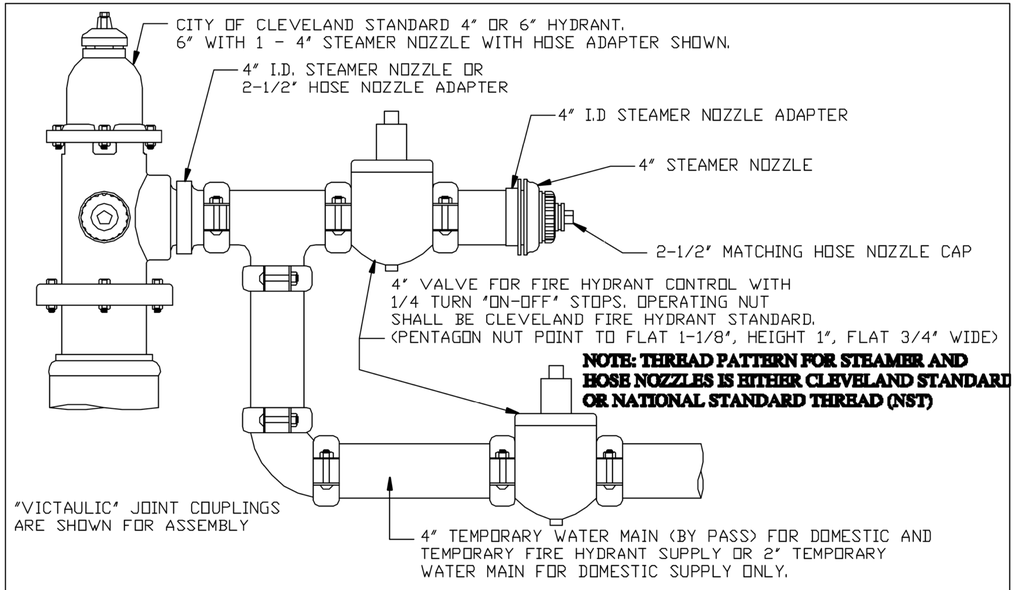
ALL BOLTS AND NUTS FURNISHED WITH RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOY CORROSION RESISTANT STEEL.

ALL FIRE HYDRANTS AND VALVE BOXES SHALL BE SECURELY BRACED WHEN SET AND BACKFILLED. ALL FIRE HYDRANTS, VALVES, VALVE BOXES AND FITTINGS SHALL MEET THE LATEST STANDARD SPECIFICATIONS FOR CONSTRUCTING WATER MAINS AND APPURTENANCES OF THE CLEVELAND WATER DEPARTMENT.

NOTE:
SEE TYPICAL NEW HYDRANT INSTALLATION STD-H09, STD-H10 OR STD-H11



STD-H13 | DATE: 2-23-2005 | BY: RSK



TEMPORARY WATER MAIN & HYDRANT CONNECTION ASSEMBLY-A

TO PROVIDE SIMULTANEOUS SERVICE IN EXISTING HYDRANT AND TEMPORARY BYPASS MAIN

- NOT TO SCALE -

STD-H14 | DATE: 10-1-97 | BY: RSK

WATER WORK DETAILS

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
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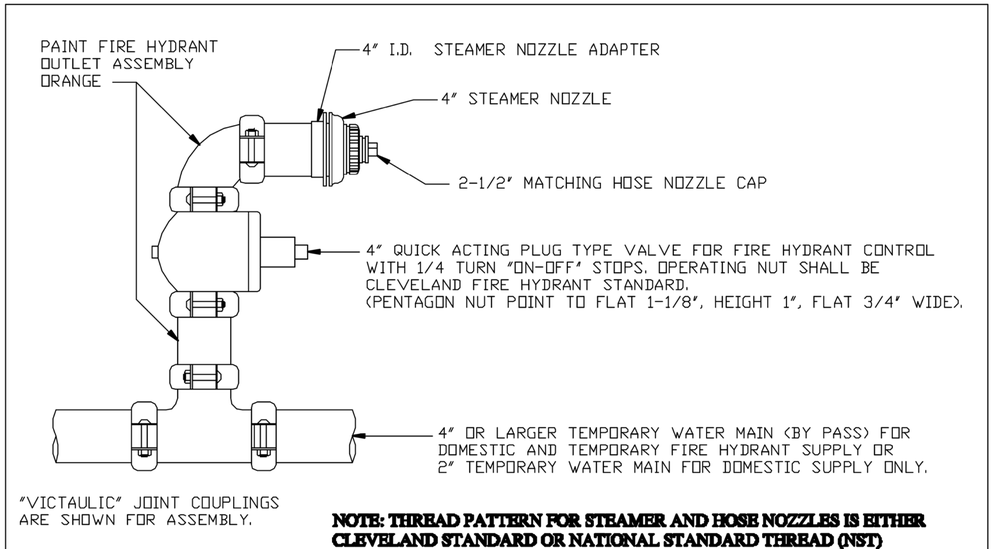
DESIGNER STO
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.124 TOTAL 329

CUY-14-6.93

MODEL: Sheet 5 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:07:00 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132400-Engineering\Utilities\Sheets\104132_UD001.dgn

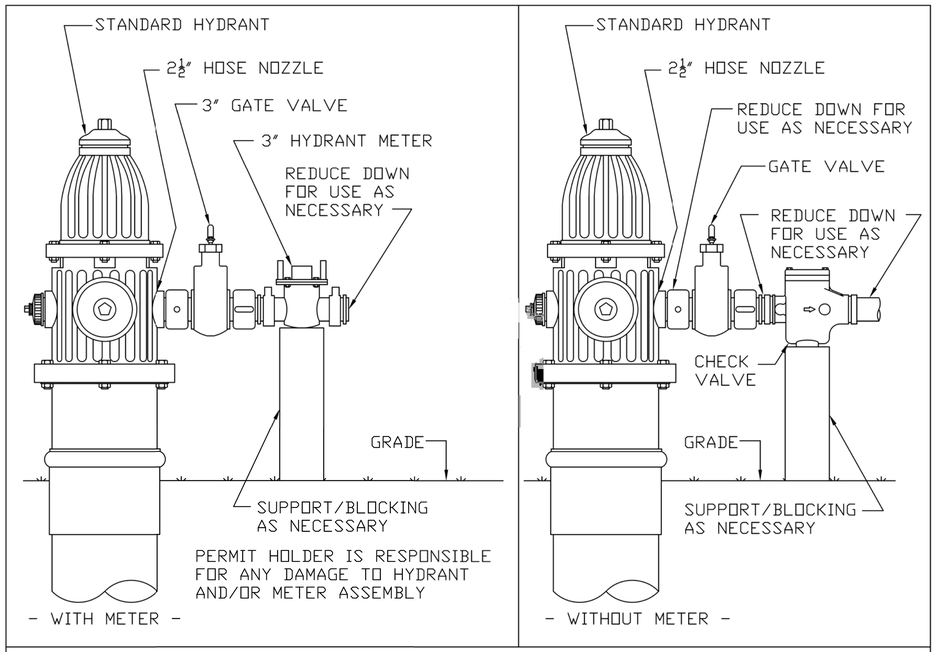


NOTE: THREAD PATTERN FOR STEAMER AND HOSE NOZZLES IS EITHER CLEVELAND STANDARD OR NATIONAL STANDARD THREAD (NST)

TEMPORARY WATER MAIN & HYDRANT CONNECTION ASSEMBLY-C OUTLET END

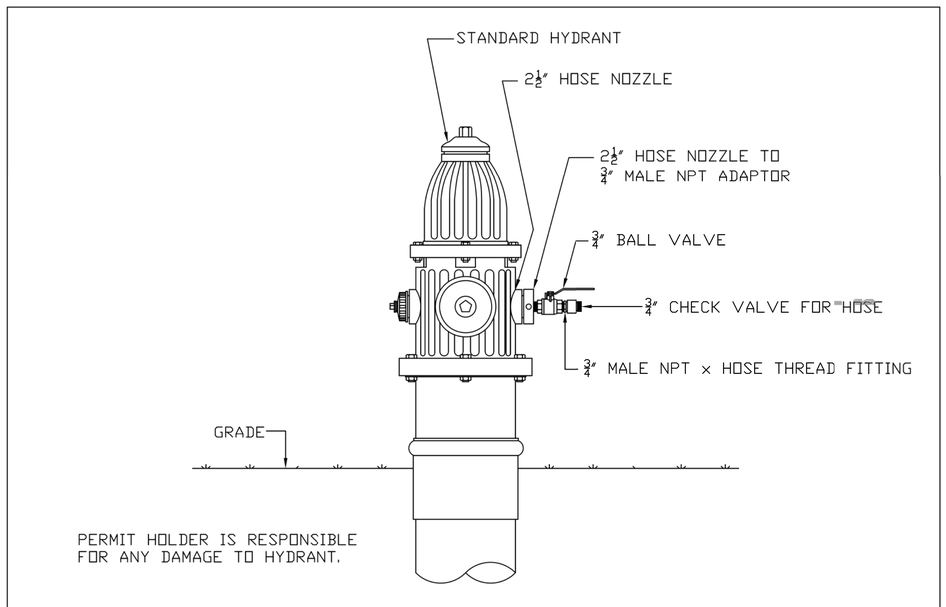
- NOT TO SCALE -

STD-H16 | DATE: 10-1-97 | BY: RSK



TEMPORARY WATER SERVICE FROM PUBLIC FIRE HYDRANT

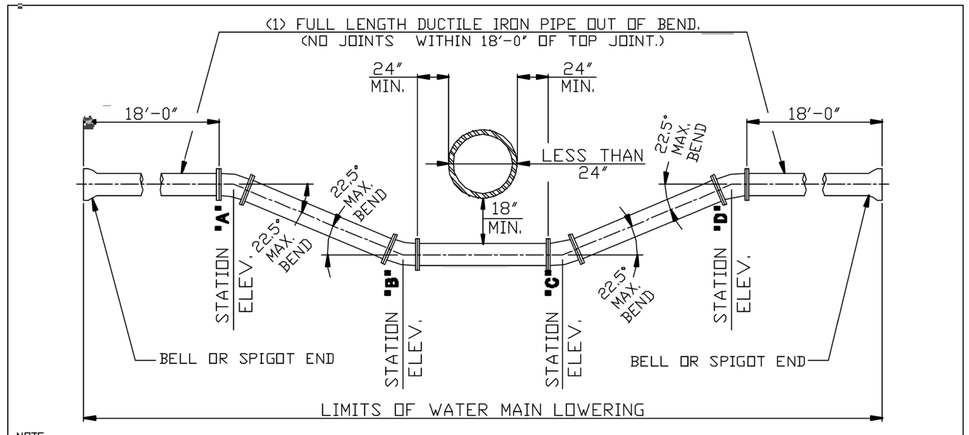
STD-H17 | - NOT TO SCALE - | DATE: 3-16-2012



TEMPORARY WATER SERVICE FOR HOSE CONNECTION FROM PUBLIC FIRE HYDRANT

- NOT TO SCALE -

STD-H18 | DATE: 5-7-2013



NOTE:
1) WATER MAIN SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PUSH-ON JOINT PIPE WITH RETAINED MECHANICAL JOINT DUCTILE IRON CLASS 350, CEMENT LINED RETAINED MECHANICAL JOINT FITTINGS.

2) WHERE DEPTH OF LOWERING REQUIRES AN INTERMEDIATE JOINT BETWEEN STATIONS "A" & "B" AND/OR "C" & "D" THE ENTIRE LOWERING SHALL BE MADE WITH DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PIPE AND DUCTILE IRON CLASS 350, CEMENT LINED FITTINGS **ALL** HAVING BOLTLESS RESTRAINED PUSH-ON JOINTS, TYPE I.

3) WHERE LENGTH OF LOWERING UNDER OBSTRUCTIONKS) REQUIRES AN INTERMEDIATE JOINT **ONLY** BETWEEN STATIONS "B" & "C", AND PIPE JOINTS ARE AS INDICATED IN NOTE "1" ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE II.

4) WHERE LENGTH OF LOWERING UNDER OBSTRUCTIONKS) REQUIRES AN INTERMEDIATE JOINT **ONLY** BETWEEN "B" AND "C" AND PIPE JOINTS ARE AS INDICATED IN NOTE "2" ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE I.

DETAIL FOR WATER MAIN LOWERING UNDER OBSTRUCTIONS LESS THAN 24" IN DIAMETER OR WIDTH FOR "NEW CONSTRUCTION"

STD-L04 | - NOT TO SCALE - | DATE: 10-1-97 | BY: RSK

WATER WORK DETAILS

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
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DESIGNER STO

REVIEWER MAW 01/16/23

PROJECT ID 104132

SHEET P.125 TOTAL 329

CUY-14-6.93

MODEL: Sheet 6 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:08:06 PM USER: todd.roxberry
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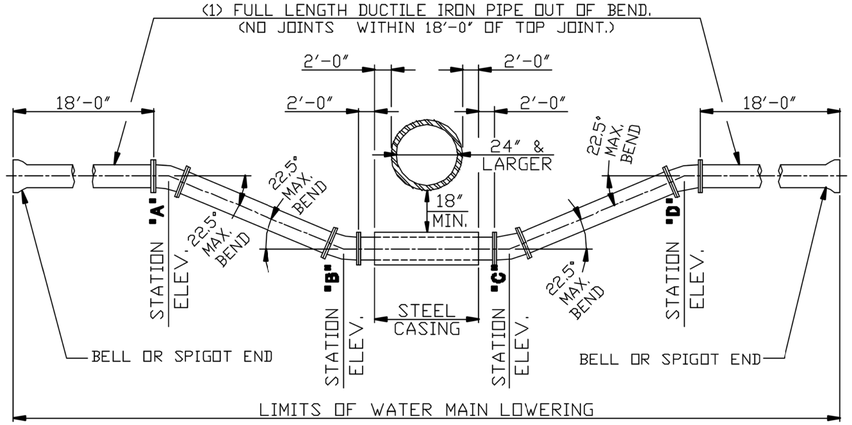


NOTE:

1) WATER MAIN SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PUSH-ON JOINT PIPE WITH RETAINED MECHANICAL JOINT DUCTILE IRON CLASS 350, CEMENT LINED RETAINED MECHANICAL JOINT FITTINGS.

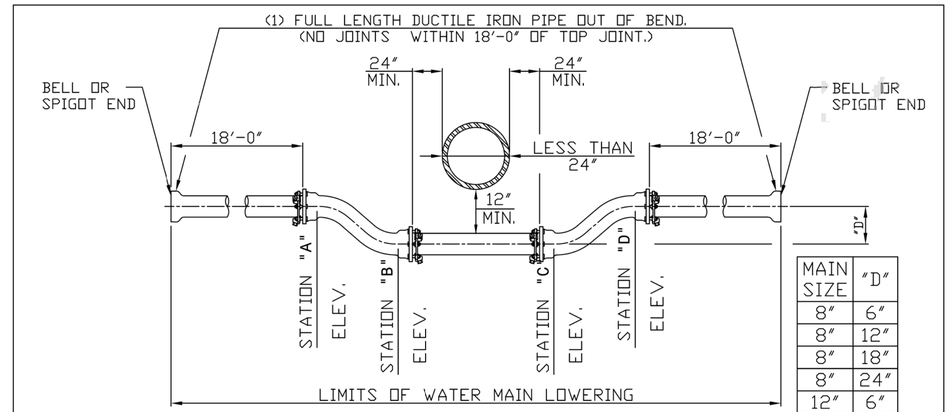
2) WHERE DEPTH OF LOWERING REQUIRES AN INTERMEDIATE JOINT BETWEEN STATIONS **"A"** & **"B"** AND/OR **"C"** & **"D"** THE ENTIRE LOWERING SHALL BE MADE WITH DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PIPE AND DUCTILE IRON CLASS 350, CEMENT LINED FITTINGS **ALL** HAVING BOLTLESS RESTRAINED PUSH-ON JOINTS, TYPE I.

3) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT **ONLY** BETWEEN STATIONS **"B"** & **"C"**, AND PIPE JOINTS ARE AS INDICATED IN NOTE **"1"** ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE II.

4) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT **ONLY** BETWEEN **"B"** AND **"C"** AND PIPE JOINTS ARE AS INDICATED IN NOTE **"2"** ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE I.

DETAIL FOR WATER MAIN LOWERING UNDER OBSTRUCTIONS 24" & LARGER IN DIAMETER OR WIDTH FOR "NEW CONSTRUCTION"

STD-L05	- NOT TO SCALE -	DATE: 10-1-97	BY: RSK



MAIN SIZE	"D"
8"	6"
8"	12"
8"	18"
8"	24"
12"	6"
12"	12"
12"	18"
12"	24"

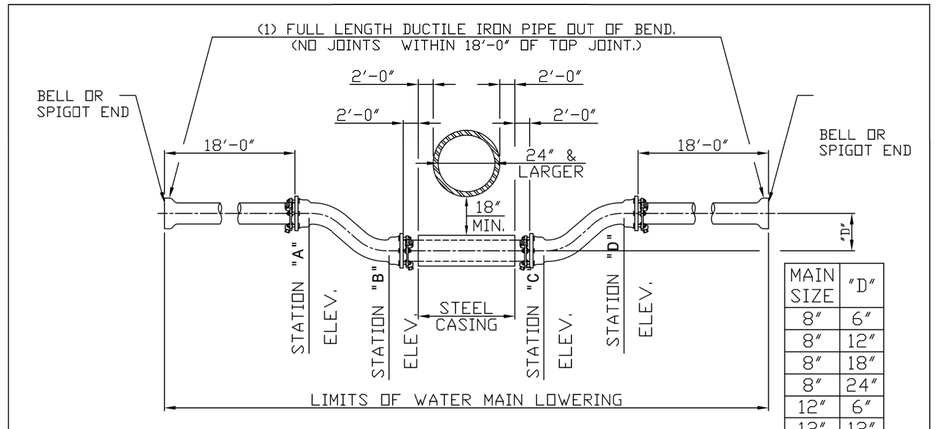
NOTE:

1) WATER MAIN SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PUSH-ON JOINT PIPE WITH RETAINED MECHANICAL JOINT DUCTILE IRON CLASS 350, CEMENT LINE RETAINED MECHANICAL JOINT FITTINGS.
   * ALL FITTINGS MUST FOLLOW ANSI/AWWA C110/A21.10 FOR FULL BODY FITTINGS AND ANSI/AWWA C153/A221.5 FOR COMPACT FITTINGS.
   ALL FITTINGS ARE NOT AVAILABLE FROM ALL APPROVED MANUFACTURES.

2) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN STATIONS 'B' & 'C', AND PIPE JOINTS ARE AS INDICATED IN NOTE '1' ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE II.

DETAIL FOR WATER MAIN LOWERING USING MECHANICAL JOINT OFFSETS UNDER OBSTRUCTIONS LESS THAN 24" IN DIAMETER OR WIDTH FOR "NEW CONSTRUCTION"

STD-L06	- NOT TO SCALE -	DATE: 12-3-2009	BY: RSK



MAIN SIZE	"D"
8"	6"
8"	12"
8"	18"
8"	24"
12"	6"
12"	12"
12"	18"
12"	24"

NOTE:

1) WATER MAIN SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PUSH-ON JOINT PIPE WITH RETAINED MECHANICAL JOINT DUCTILE IRON CLASS 350, CEMENT LINE RETAINED MECHANICAL JOINT FITTINGS.
   * ALL FITTINGS MUST FOLLOW ANSI/AWWA C110/A21.10 FOR FULL BODY FITTINGS AND ANSI/AWWA C153/A221.5 FOR COMPACT FITTINGS.
   ALL FITTINGS ARE NOT AVAILABLE FROM ALL APPROVED MANUFACTURES.

2) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN STATIONS 'B' & 'C', AND PIPE JOINTS ARE AS INDICATED IN NOTE '1' ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE II.

DETAIL FOR WATER MAIN LOWERING USING MECHANICAL JOINT OFFSETS UNDER OBSTRUCTIONS 24" & LARGER IN DIAMETER OR WIDTH FOR "NEW CONSTRUCTION"

STD-L07	- NOT TO SCALE -	DATE: 12-3-2009	BY: RSK

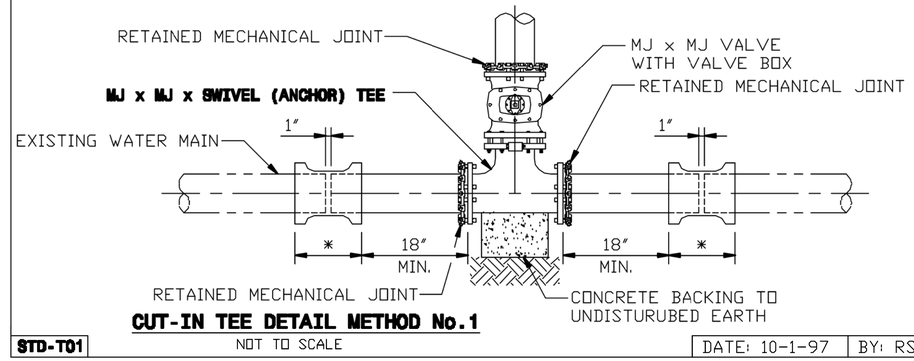
* CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS.

COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/A194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).

THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.

ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE 'RETAINED' TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS 'C', METHOD 'B'.



CUT-IN TEE DETAIL METHOD No.1

STD-T01	NOT TO SCALE	DATE: 10-1-97	BY: RSK

WATER WORK DETAILS

CUY-14-6.93

MODEL: Sheet 7 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:09:03 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132400-Engineering\Utilities\Sheets\104132_UD001.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER STO
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.126 TOTAL 329

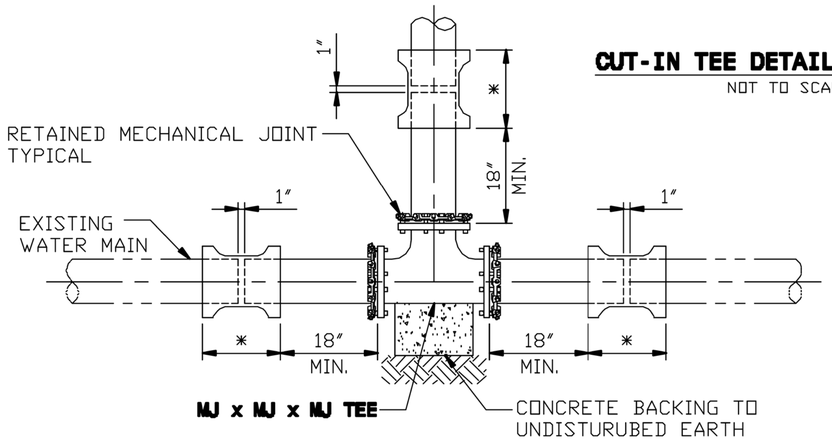
* CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS.

COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; WO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).

THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.

ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE "RETAINED" TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS "C", METHOD "B".



CUT-IN TEE DETAIL METHOD No. 3

NOT TO SCALE

STD-T03 | DATE: 10-1-97 | BY: RSK

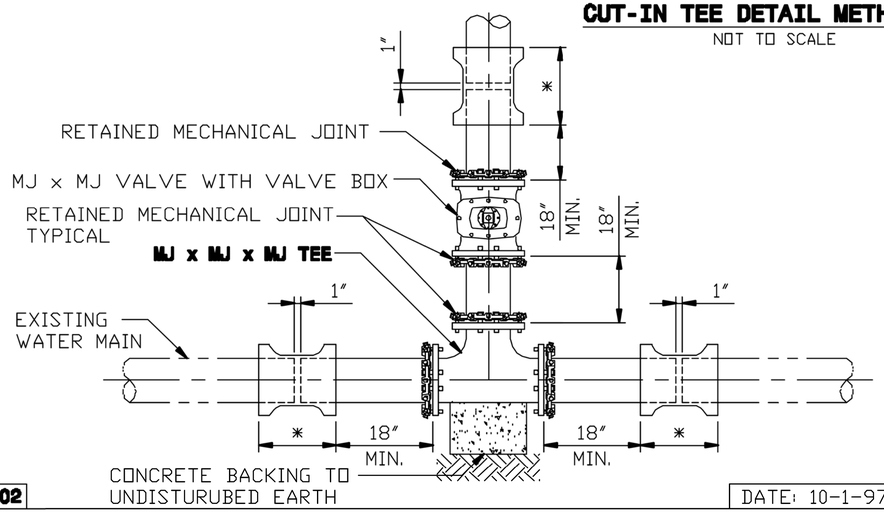
* CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS.

COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; WO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).

THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.

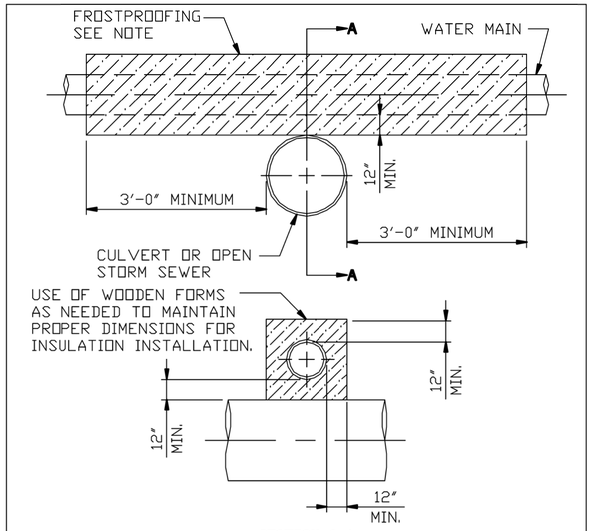
ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE "RETAINED" TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS "C", METHOD "B".



CUT-IN TEE DETAIL METHOD No. 2

NOT TO SCALE

STD-T02 | DATE: 10-1-97 | BY: RSK



SECTION A-A

MINIMUM ONE (1) FOOT FROSTPROOFING INSULATION ENVELOPE REQUIRED WITH WATER MAIN LAID WITH LESS THAN FIVE (5) FT. COVER; CROSSING OVER STORM SEWERS 24" AND LARGER; OR CROSSING UNDER OPEN END CULVERTS, OR OTHERWISE DIRECTED BY C.W.D.

IN NO CASE SHALL THE MAINS BE LAID WITH LESS THAN 3'-6" OF COVER IN UNPAVED AREAS & 3'-0" TO BOTTOM OF SLAB IN PAVED AREAS.

NOTE:
COMPACTED "WITCOLITE" INSULATION AS MANUFACTURED BY PIONEER PRODUCTS, DIVISION OF WITCO CHEMICAL COMPANY, INC. OR "GILSULATE 500 XR" AS MANUFACTURED BY AMERICAN THERMAL PRODUCTS, INC.

TYPICAL FROSTPROOFING DETAIL

- NOT TO SCALE -

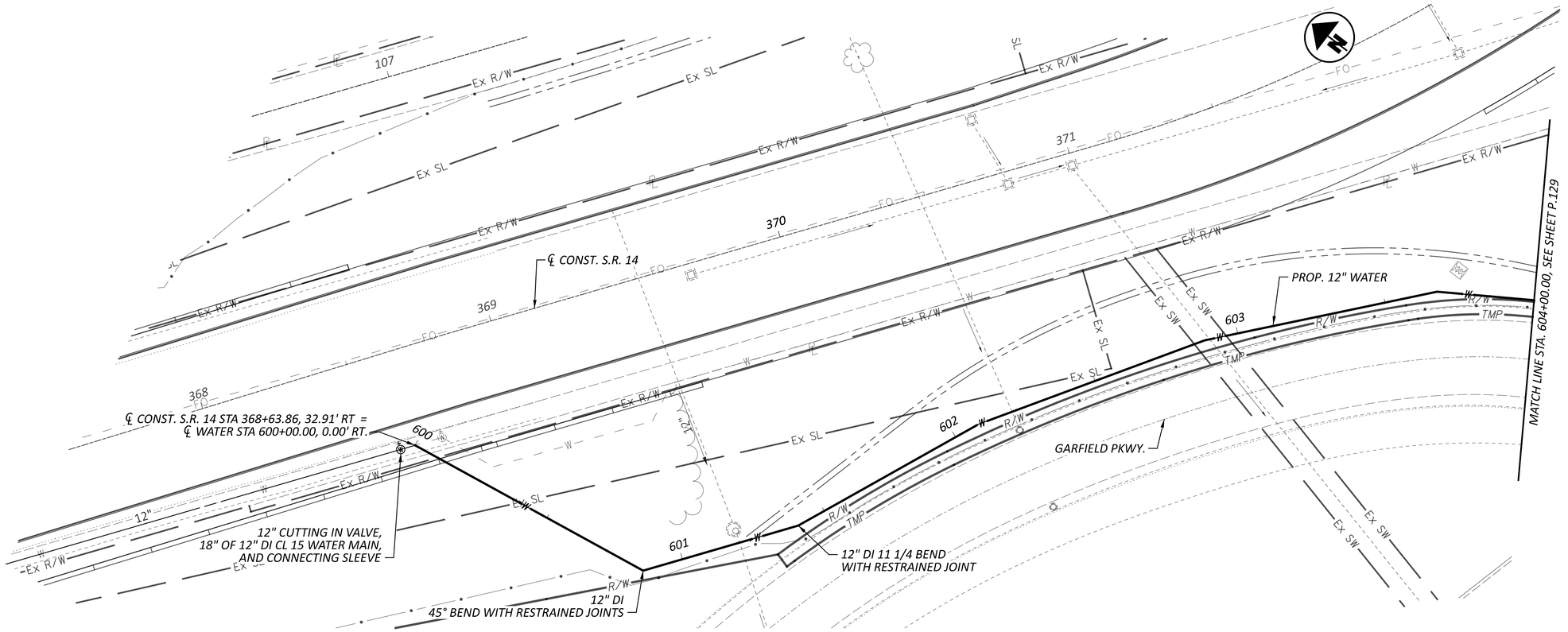
STD-009 | DATE: 10-1-97 | BY: RSK

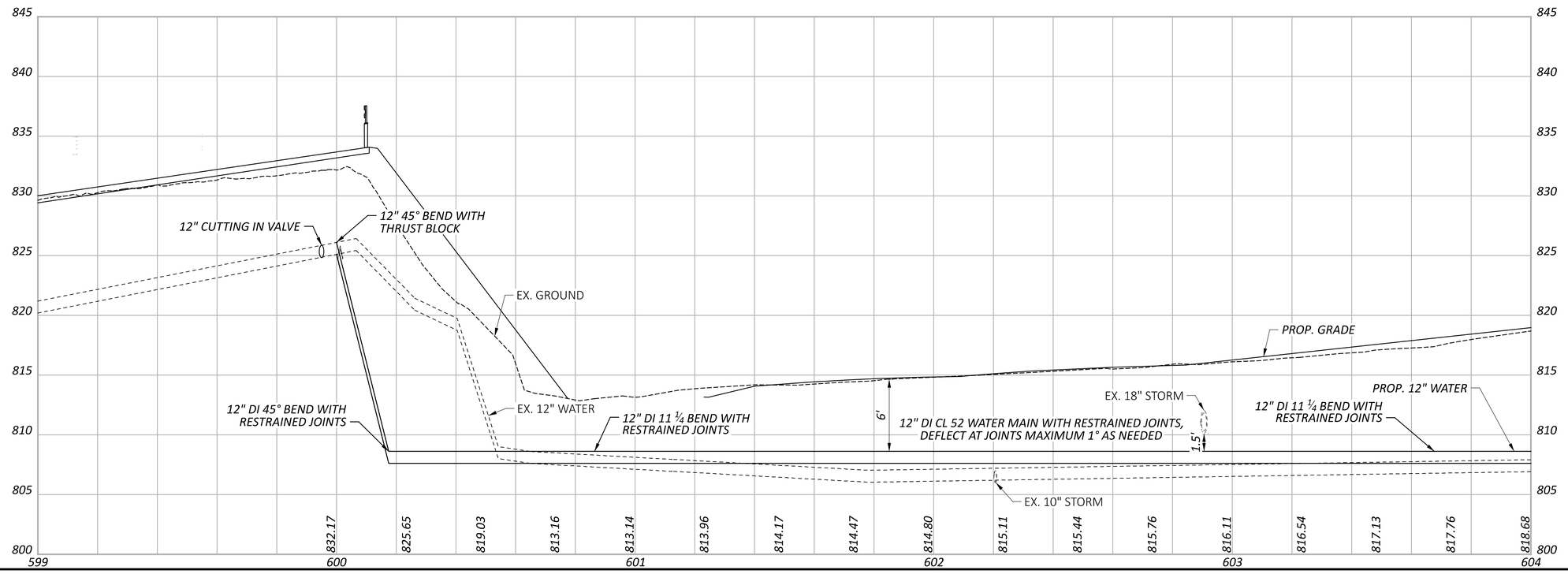
WATER WORK DETAILS

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER: STO
REVIEWER: MAW 01/16/23
PROJECT ID: 104132
SHEET: P.127 | TOTAL: 329

CUY-14-6.93
MODEL: Sheet 8 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:10:03 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_20191Documents\60581903-CUY-14-6.93\104132\400-Engineering\Utilities\Sheets\104132_UD001.dgn





HORIZONTAL SCALE IN FEET
0 10 20 40

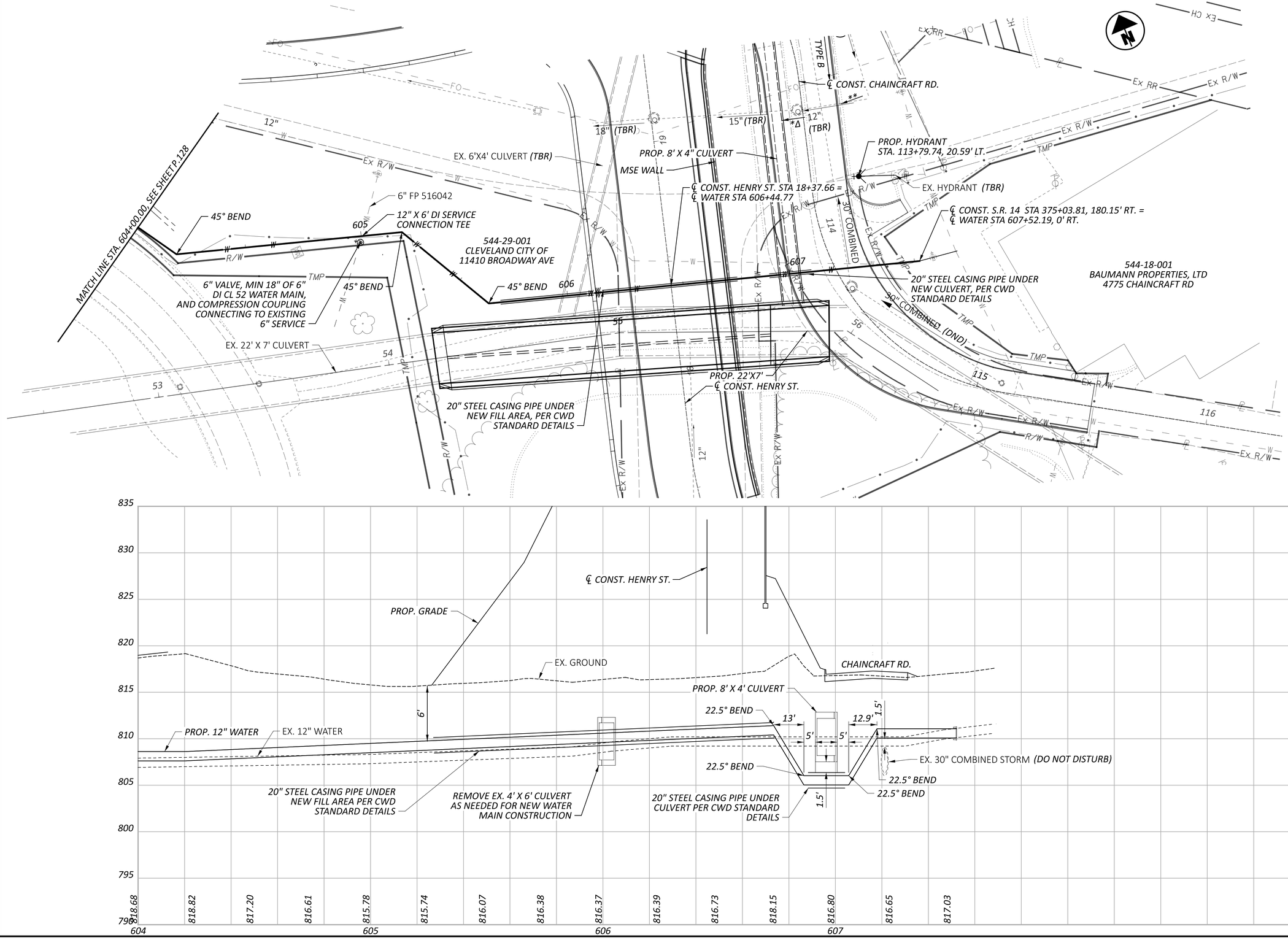
WATER WORK PLAN AND PROFILE
BEGIN TO STA 604+00.00

CUY-14-6.93

MODEL: CLP_1 - Plan 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:11:28 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_D520_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Utilities\Sheets\104132_UP501.dgn

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER BNC
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.128 TOTAL 329



HORIZONTAL SCALE IN FEET
0 10 20 40

WATER WORK PLAN AND PROFILE
STA 604+00.00 TO END

CUY-14-6.93

MODEL: CLP_1 - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:11:58 PM USER: todd.roxberry
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DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER
BNC

REVIEWER
MAW 01/16/23

PROJECT ID
104132

SHEET P.129 | TOTAL 329

WATER WORK PLAN AND PROFILE
BEGIN TO STA 504+20.00

HORIZONTAL SCALE IN FEET
0 10 20 40

564-05-010
FILLING DEVELOPMENT, LLC
CHERRY ST

564-03-004
GARFIELD ALLOYS INC
BROADWAY AVE

544-18-003
FANTON REALTY, LLC
BROADWAY AVE

2" VALVE, MIN 18" OF 2" DI CL 52 WATER MAIN AND COMPRESSION COUPLING CONNECTING TO EXISTING 2" SERVICE

ABANDONED 2" - 519928

AREA RESERVED FOR BMP = 25' X 37'

12" CUTTING IN VALVE, 18" OF 12" DI CL 15 WATER MAIN, AND CONNECTING SLEEVE

℄ CONST. OLD BROADWAY AVE. STA 199+66.48, 1.39' LT.
℄ WATER STA 500+00.00, 0.00' LT.

12" X 2" DI SERVICE CONNECTION TEE

45° BEND

EX. HYDRANT (TBR)

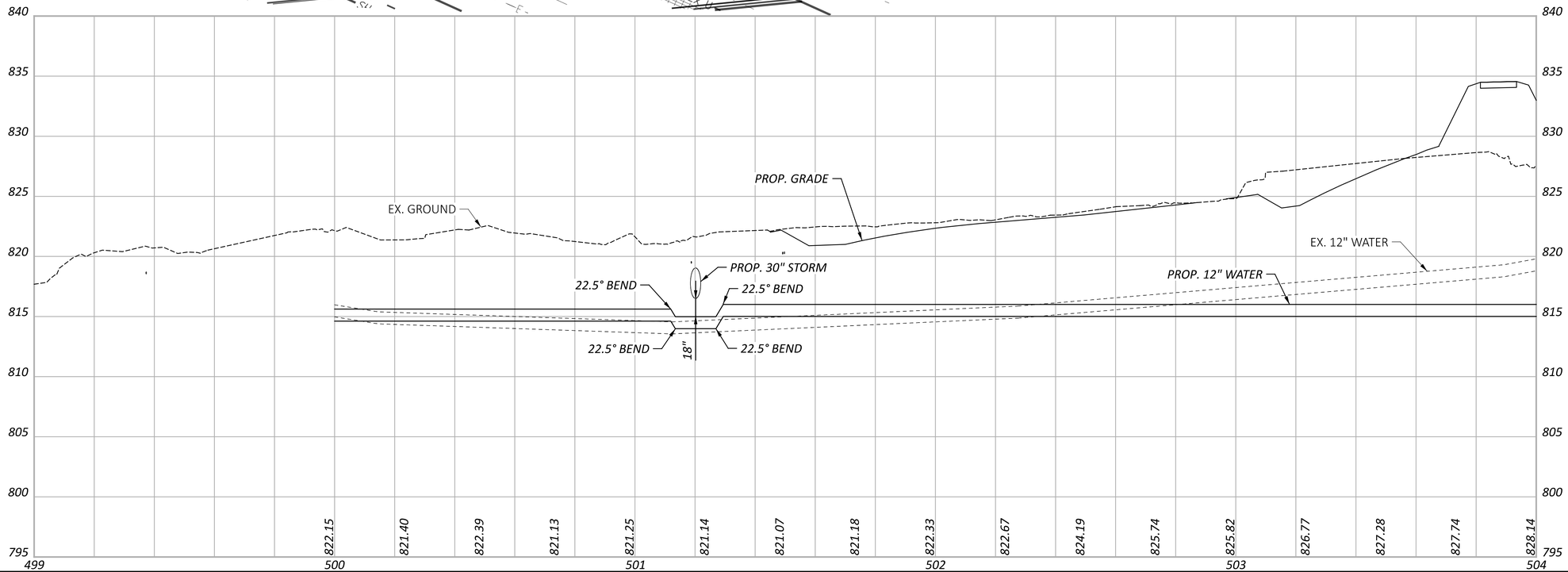
22.5° BEND

PROP. 12" WATER

℄ CONST. OLD BROADWAY AVE.

℄ CONST. S.R. 14

MATCH LINE STA. 504+00.00, SEE SHEET P.131



DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER BNC
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.130 TOTAL 329

CUY-14-6.93

MODEL: CLP_3 - Plan 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:12:18 PM USER: todd.roxberry
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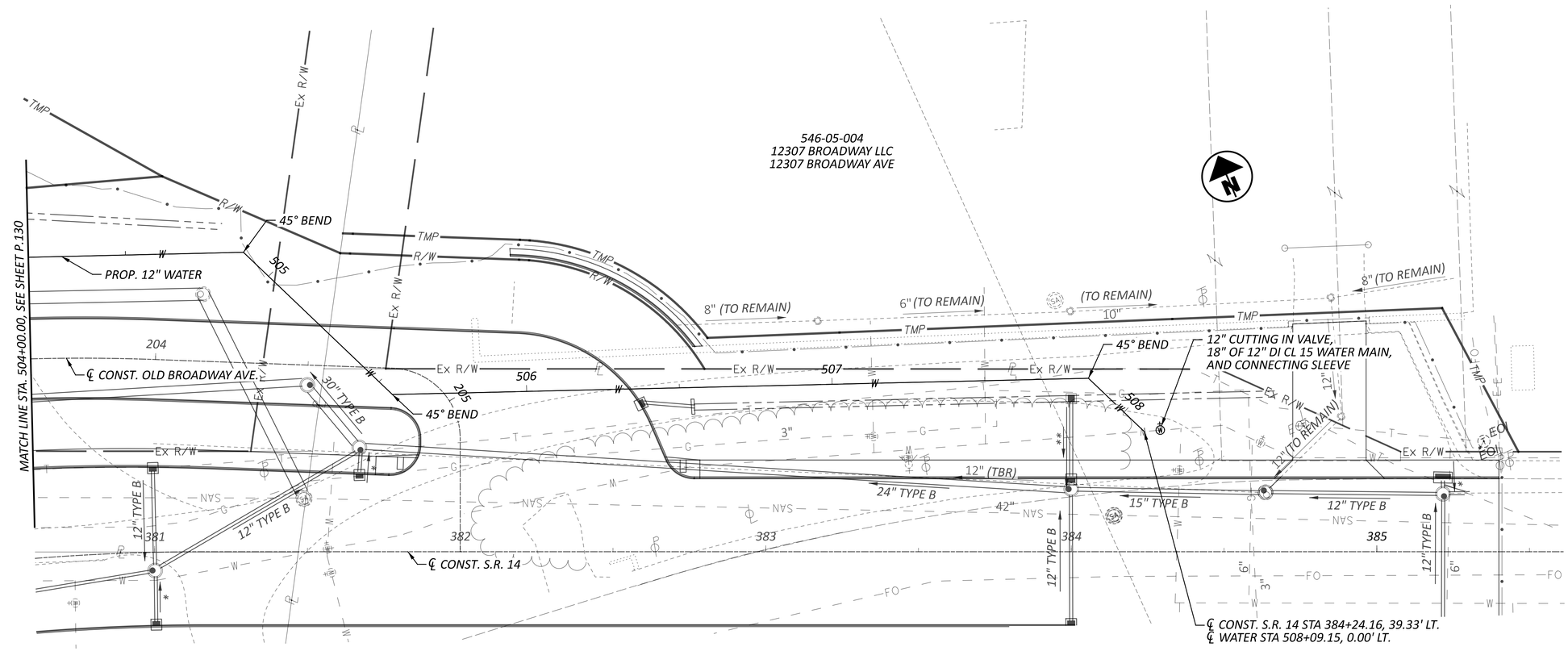

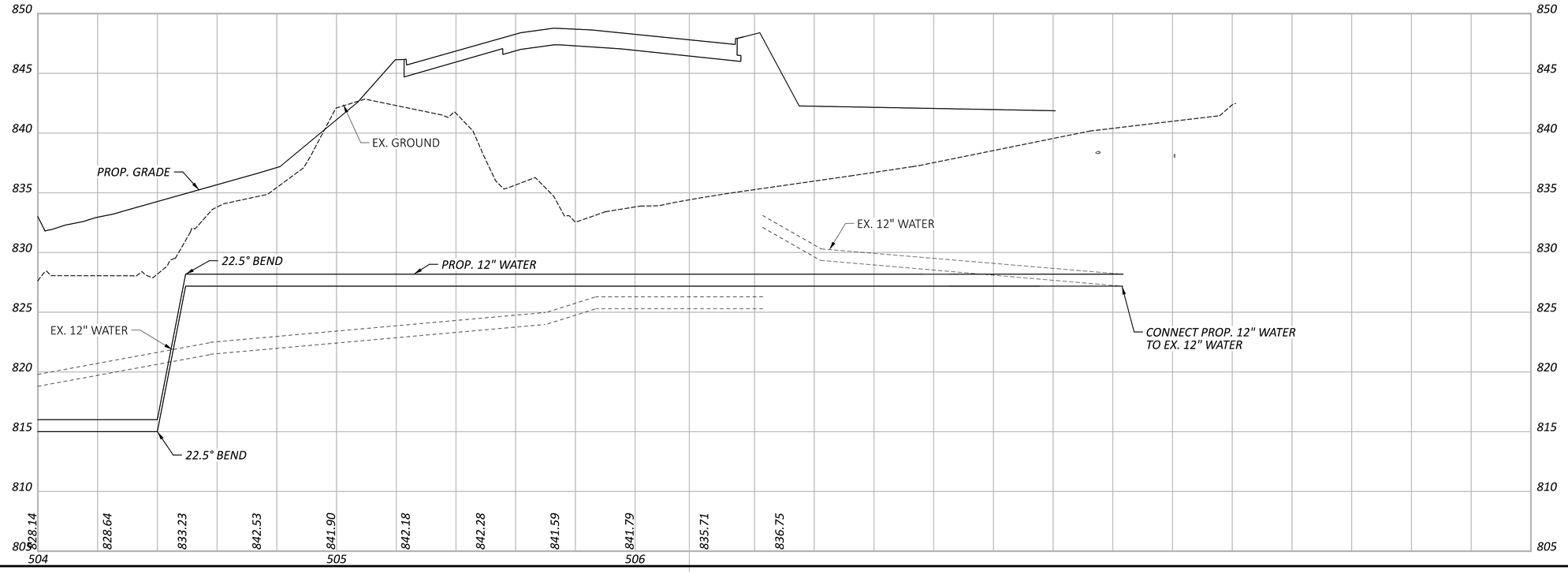

HORIZONTAL
SCALE IN FEET
0 10 20 40

WATER WORK PLAN AND PROFILE
STA 504+20.00 TO END

CUY-14-6.93

MODEL: CLP_3 - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:12:41 PM USER: todd.roxberry
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DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER
BNC

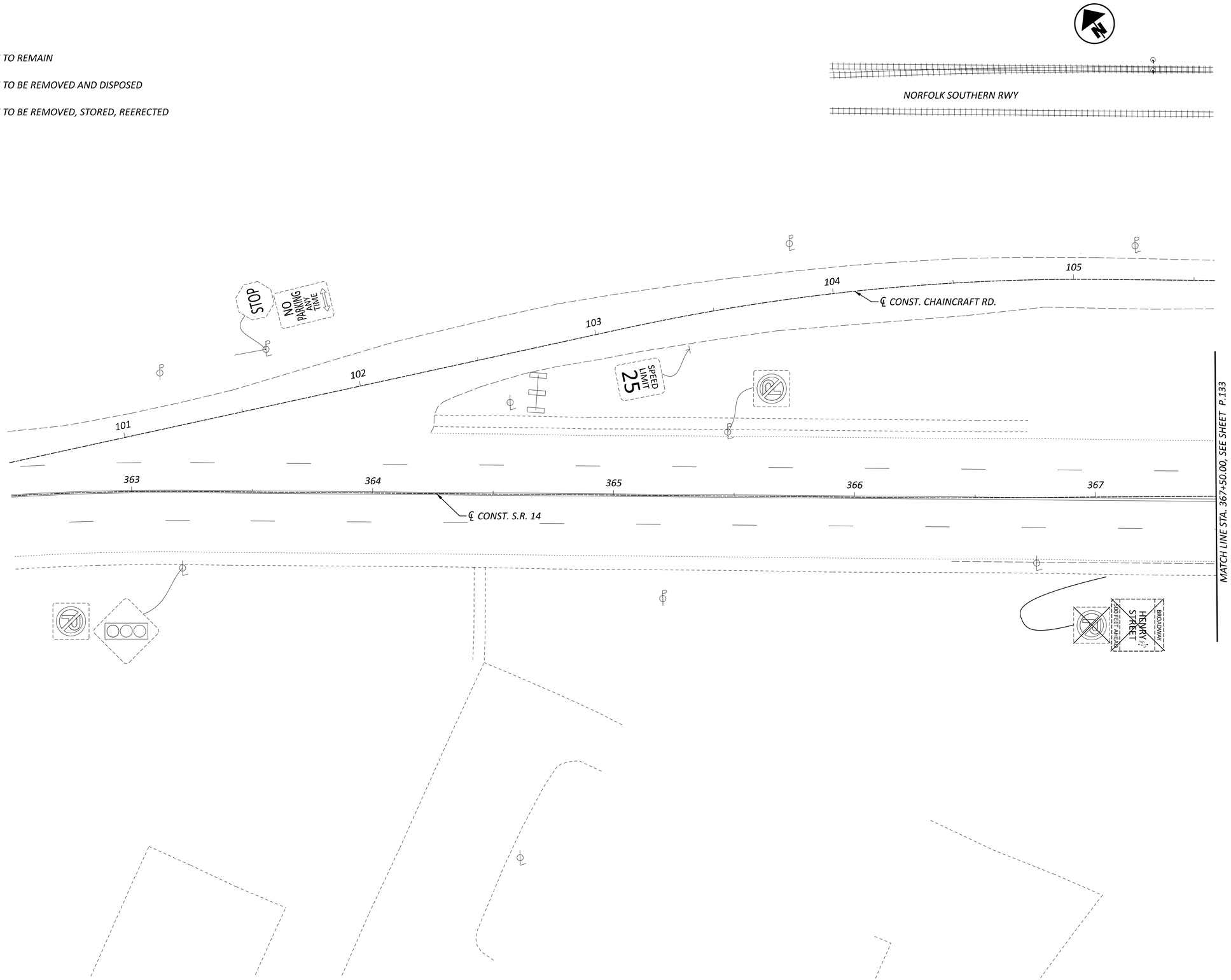
REVIEWER
MAW 01/16/23

PROJECT ID
104132

SHEET P.131 | TOTAL 329

LEGEND:

- *EXISTING SIGN TO REMAIN*
- *EXISTING SIGN TO BE REMOVED AND DISPOSED*
- *EXISTING SIGN TO BE REMOVED, STORED, REERECTED*



HORIZONTAL SCALE IN FEET
0 10 20 40

EXISTING SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
BEGIN PROJECT TO STA. 367+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER MJR
REVIEWER GM 11-29-22
PROJECT ID 104132
SHEET P.132 TOTAL 329

CUY-14-6.93

MODEL: 104132_TP101 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:26:58 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Traffic\Sheets\104132_TP101.dgn

LEGEND:

- *EXISTING SIGN TO REMAIN*
- *EXISTING SIGN TO BE REMOVED AND DISPOSED*
- *EXISTING SIGN TO BE REMOVED, STORED, REERECTED*

HORIZONTAL SCALE IN FEET
0 10 20 40

NORFOLK SOUTHERN RWY

NO DUMPING ALLOWED

NO DUMPING ALLOWED

℄ *CONST. CHAINCRAFT RD.*

106 *107* *108* *109* *110*

15 MPH

MATCH LINE STA. 367+50.00, SEE SHEET P.132

368 *369* *370* *371* *372*

℄ *CONST. S.R. 14*

MATCH LINE STA. 372+50.00, SEE SHEET P.134

GARFIELD PKWY.

EXISTING SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
STA. 367+50.00 TO STA. 372+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	
MJR	
REVIEWER	
GM	11/29/22
PROJECT ID	
104132	
SHEET	TOTAL
P.133	329

CUY-14-6.93

MODEL: 104132_TP102 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:27:14 PM USER: todd.roxberry
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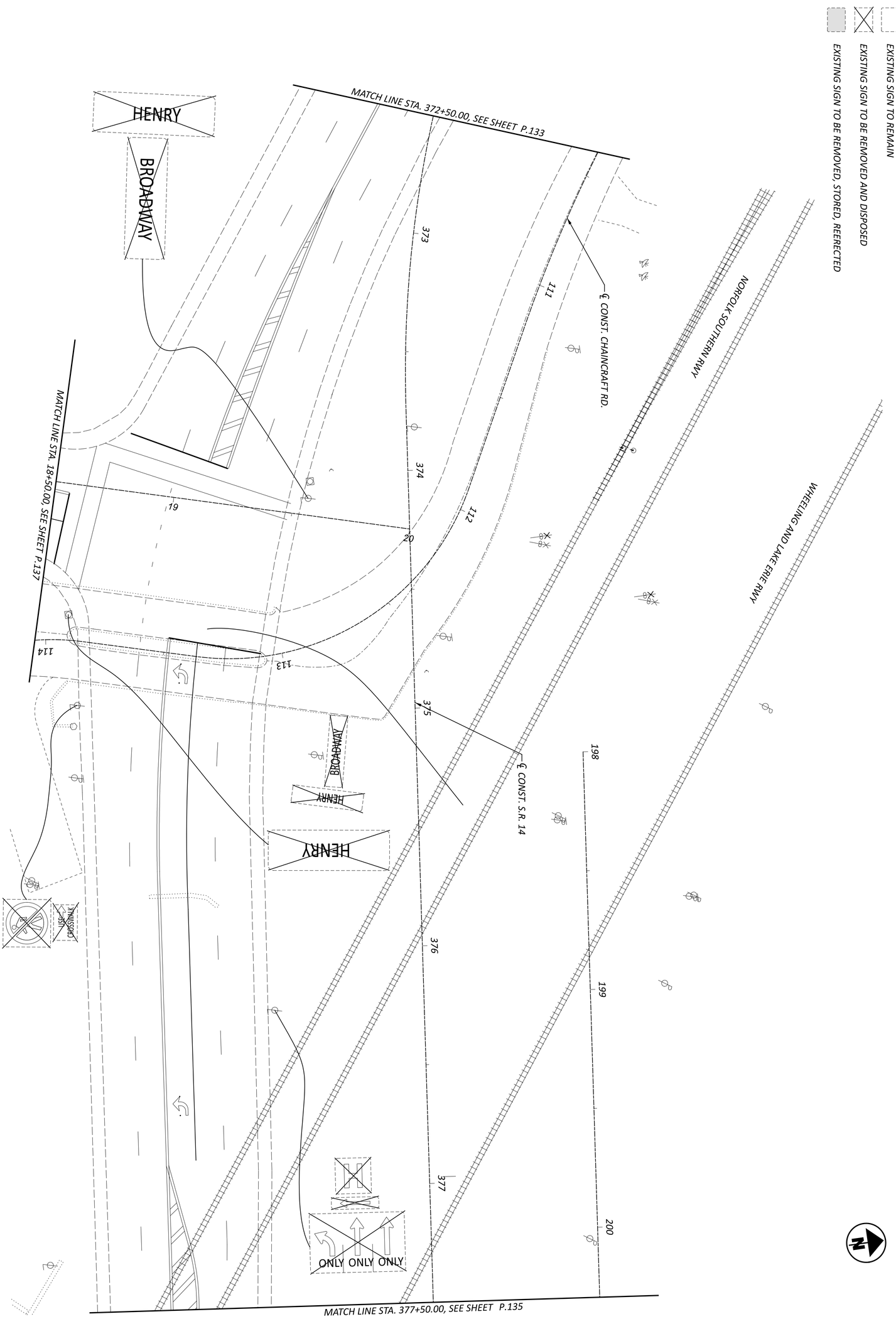
MODEL: 104132_TP103 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:27:30 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Traffic\Sheets\104132_TP103.dgn



EXISTING SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
STA. 372+50.00 TO STA. 377+50.00

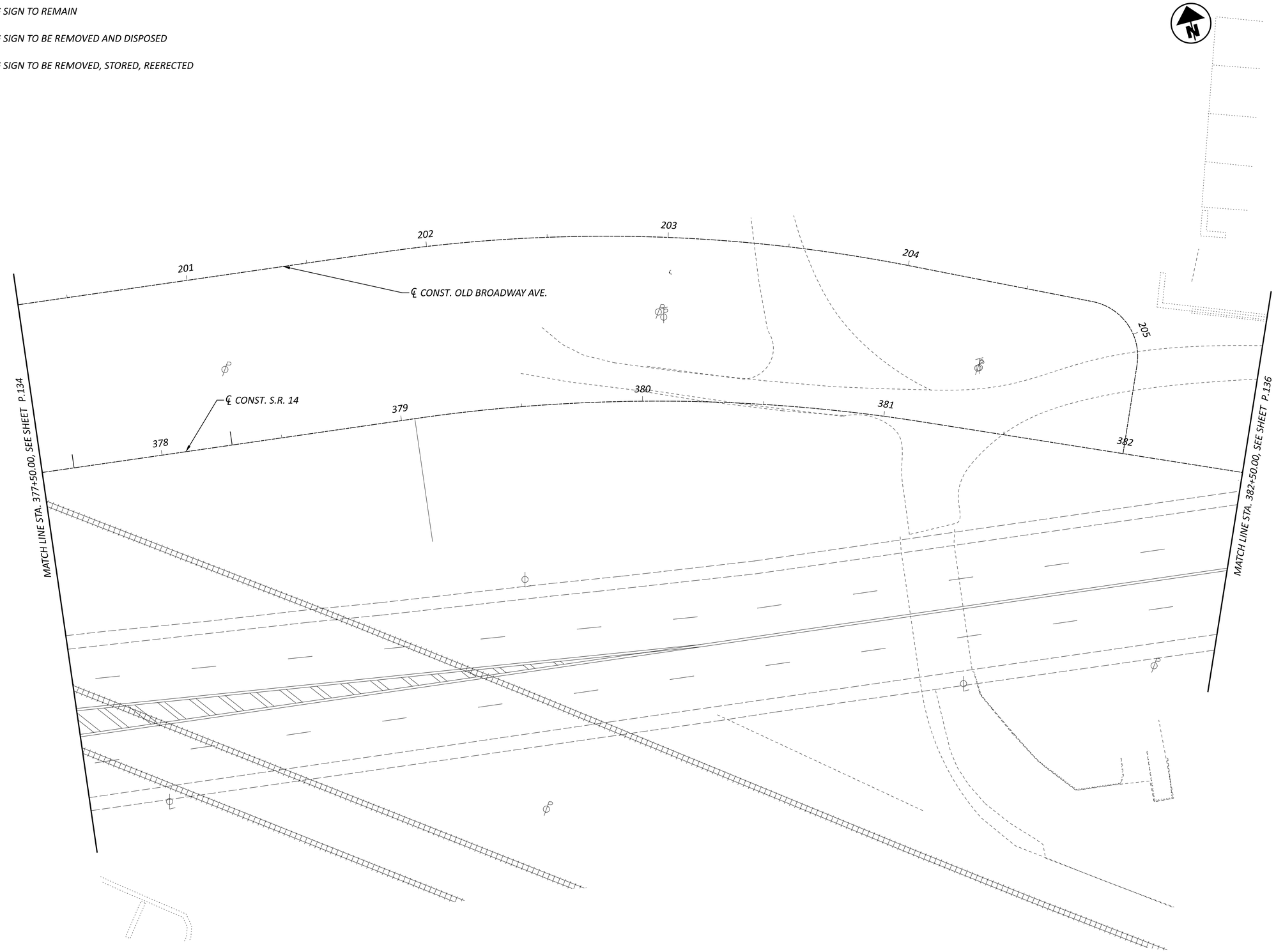
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER MJR
REVIEWER GM 11/29/22
PROJECT ID 104132
SHEET P.134 TOTAL 329

HORIZONTAL SCALE IN FEET
0 20
10 40

LEGEND:

- *EXISTING SIGN TO REMAIN*
- *EXISTING SIGN TO BE REMOVED AND DISPOSED*
- *EXISTING SIGN TO BE REMOVED, STORED, REERECTED*



HORIZONTAL SCALE IN FEET
0 10 20 40

EXISTING SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
STA. 377+50.00 TO STA. 382+50.00

CUY-14-6.93

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	MJR
REVIEWER	GM 11/29/22
PROJECT ID	104132
SHEET	P.135
TOTAL	329

MODEL: 104132_TP104 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:27:48 PM USER: todd.roxberry
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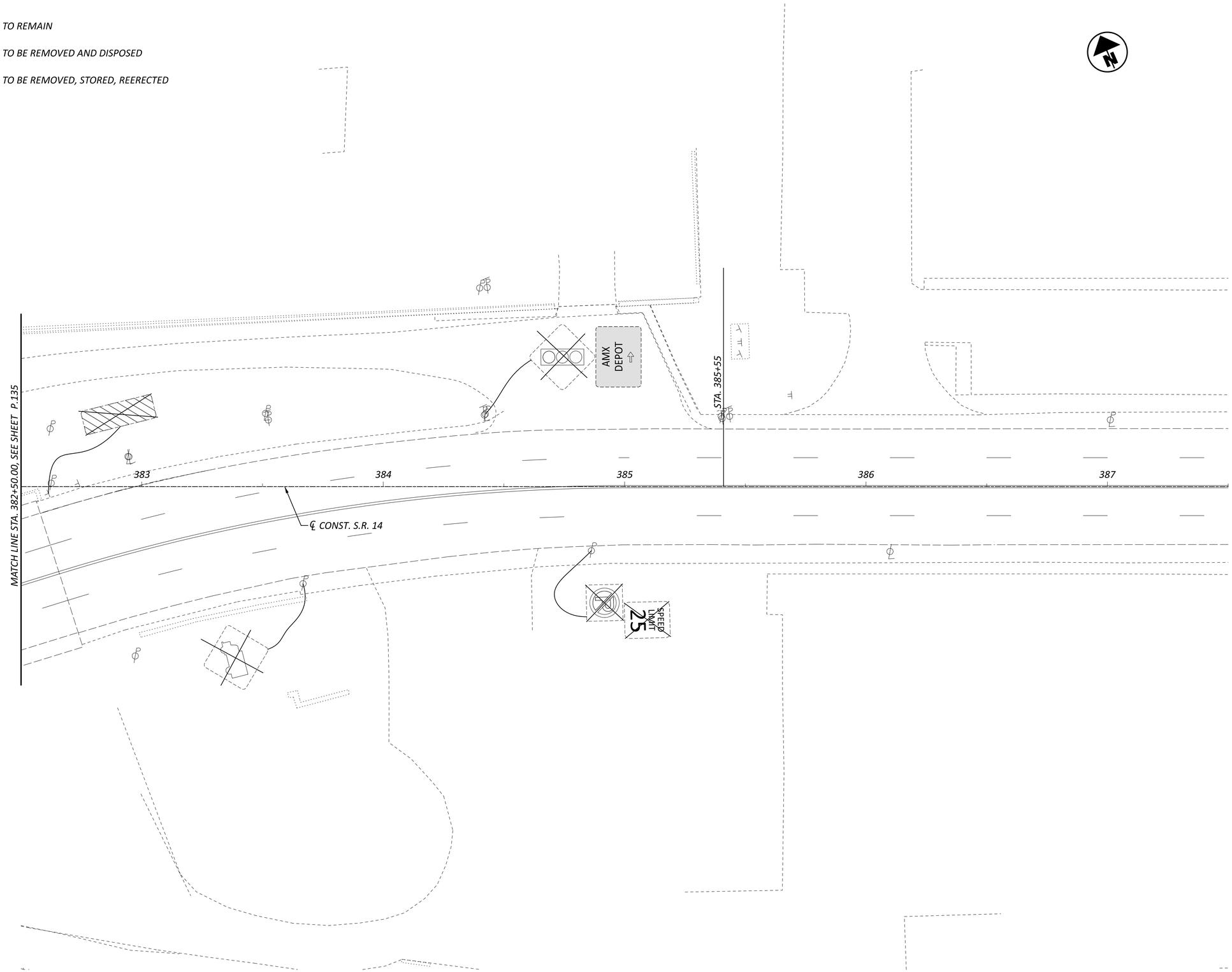
LEGEND:

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED AND DISPOSED

EXISTING SIGN TO BE REMOVED, STORED, REERECTED



HORIZONTAL SCALE IN FEET
0 10 20 40

EXISTING SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
STA. 382+50.00 TO END

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER MJR

REVIEWER GM 11/29/22

PROJECT ID 104132

SHEET P.136 TOTAL 329

CUY-14-6.93

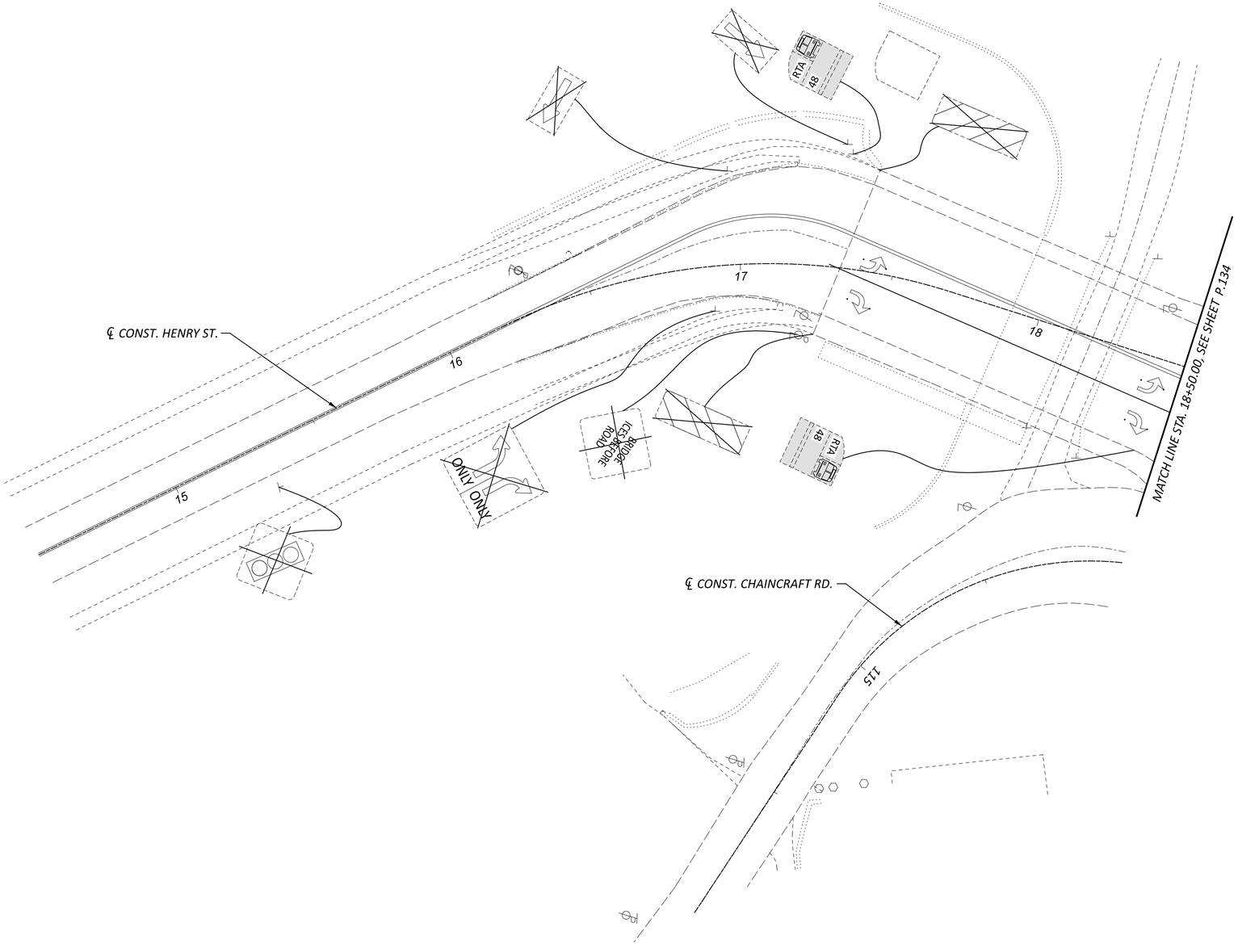
MODEL: 104132_TP105 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:28:10 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Traffic\Sheets\104132_TP105.dgn

LEGEND:

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED AND DISPOSED

EXISTING SIGN TO BE REMOVED, STORED, REERECTED



HORIZONTAL SCALE IN FEET
0 10 20 40

EXISTING SIGNING AND PAVEMENT MARKING PLAN - HENRY STREET STA. 15+00.00 TO STA. 18+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER MJR

REVIEWER GM 11/29/22

PROJECT ID 104132

SHEET P.137 TOTAL 329

CUY-14-6.93

MODEL: 104132_TP111 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:28:27 PM USER: todd.roxberry
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LEGEND:

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED AND DISPOSED

EXISTING SIGN TO BE REMOVED, STORED, REERECTED

WHEELING LAKE ERIE RWY

NORFOLK SOUTHERN RWY

℄ CONST. CHAINCRAFT RD.

℄ CONST. S.R. 14

℄ CONST. HENRY ST.

SLOW

198 376 375 112 113 374 111 373 372 19 114 116 115 18 17 16

HORIZONTAL SCALE IN FEET
0 10 20 40

EXISTING SIGNING AND PAVEMENT MARKING PLAN - CHAINCRAFT ROAD STA. 110+20.50 TO STA. 115+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER MJR

REVIEWER GM 11/29/22

PROJECT ID 104132

SHEET P.138 TOTAL 329

CUY-14-6.93

MODEL: 104132_TP121 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:28:43 PM USER: todd.roxberry
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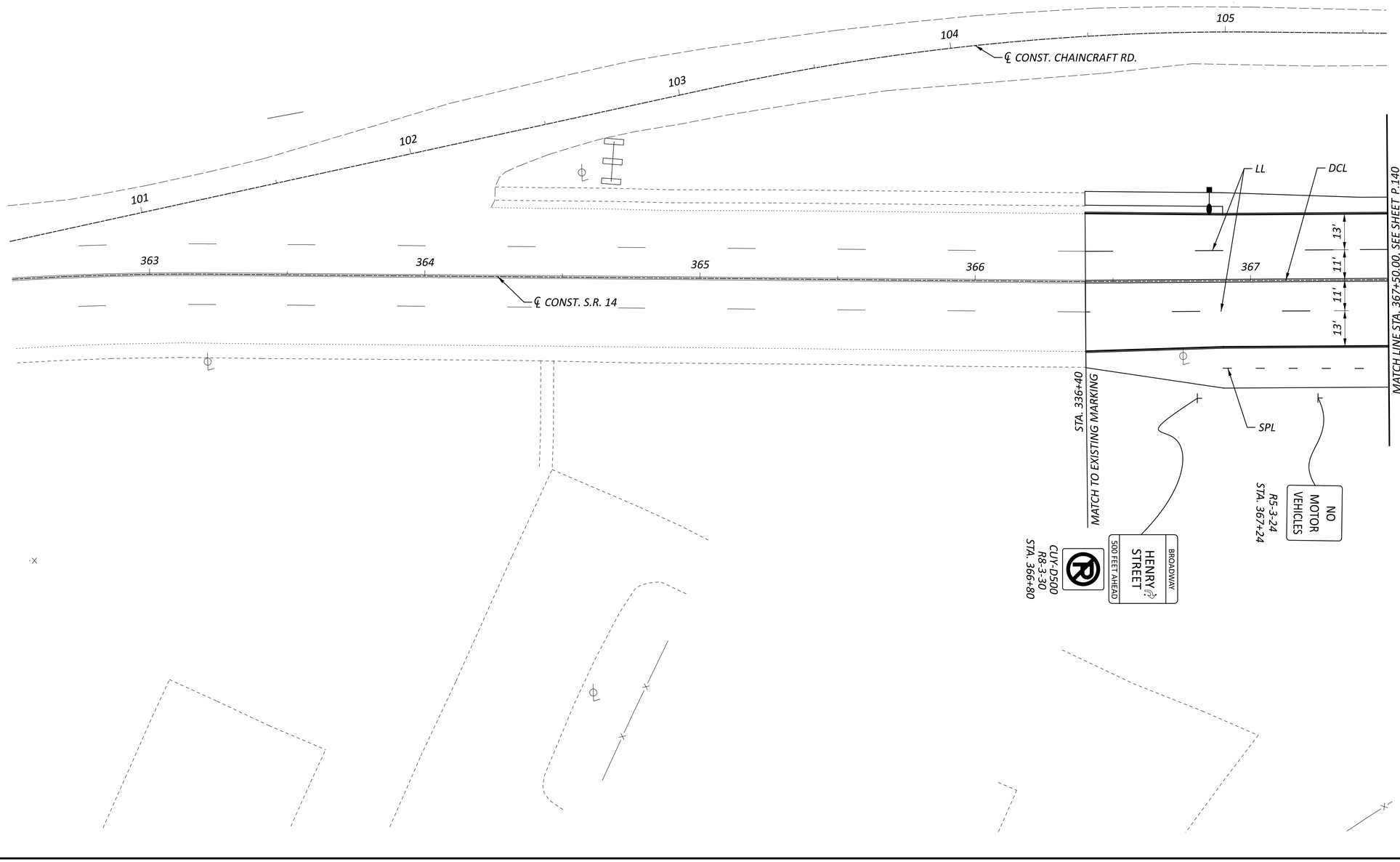
PAVEMENT MARKING LEGEND:

DCL: ITEM 646 - CENTER LINE (DOUBLE SOLID)
LL: ITEM 646 - LANE LINE, 4"
TDL: ITEM 646 - TRANSVERSE/DIAGONAL LINE
IM: ITEM 646 - ISLAND MARKING, YELLOW
SL: ITEM 646 - STOP LINE
CH: ITEM 646 - CHANNELIZING LINE, 8"
CW: ITEM 646 - CROSSWALK
SPL: ITEM 646 - SHARED PATH LINE, 3' DASH, 9' SPACING
ITEM 646 - LANE ARROW



HORIZONTAL SCALE IN FEET
0 10 20 40

PROPOSED SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
BEGIN PROJECT TO STA. 367+50.00

CUY-14-6.93

MODEL: 104132_TP001 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:29:00 PM USER: todd.roxberry
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DESIGN AGENCY
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564 White Pond Drive
Akron, OH 44320
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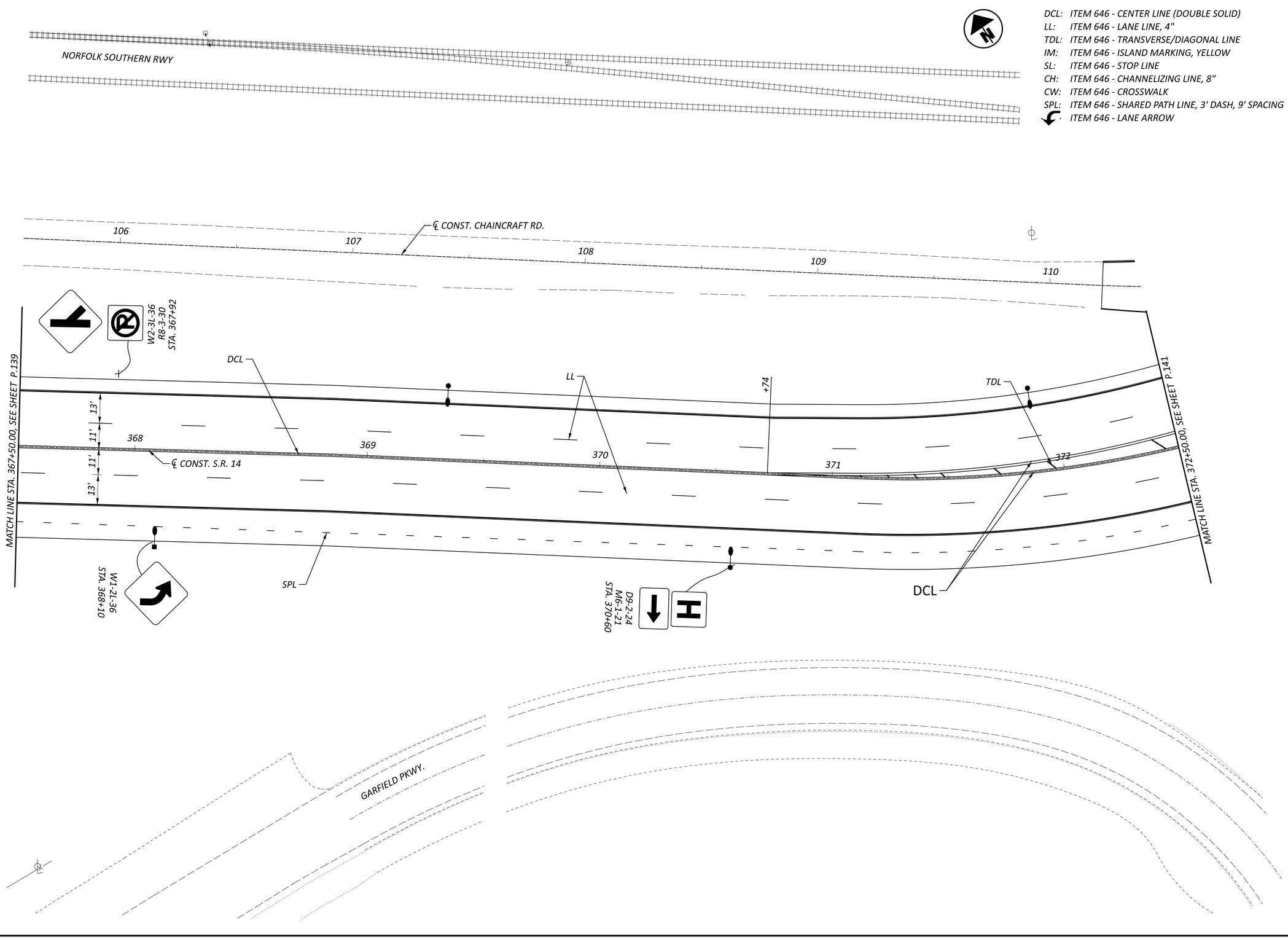
www.aecom.com

DESIGNER MJR
REVIEWER GM 11/29/22
PROJECT ID 104132
SHEET P.139 TOTAL 329



PROPOSED SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
STA. 367+50.00 TO STA. 372+50.00

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER: MJR
REVIEWER: GM 11/29/22
PROJECT ID: 104132
SHEET: P.140
TOTAL: 329

CUY-14-6.93

MODEL: 104132_TP002 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:29:21 PM USER: todd.roxberry
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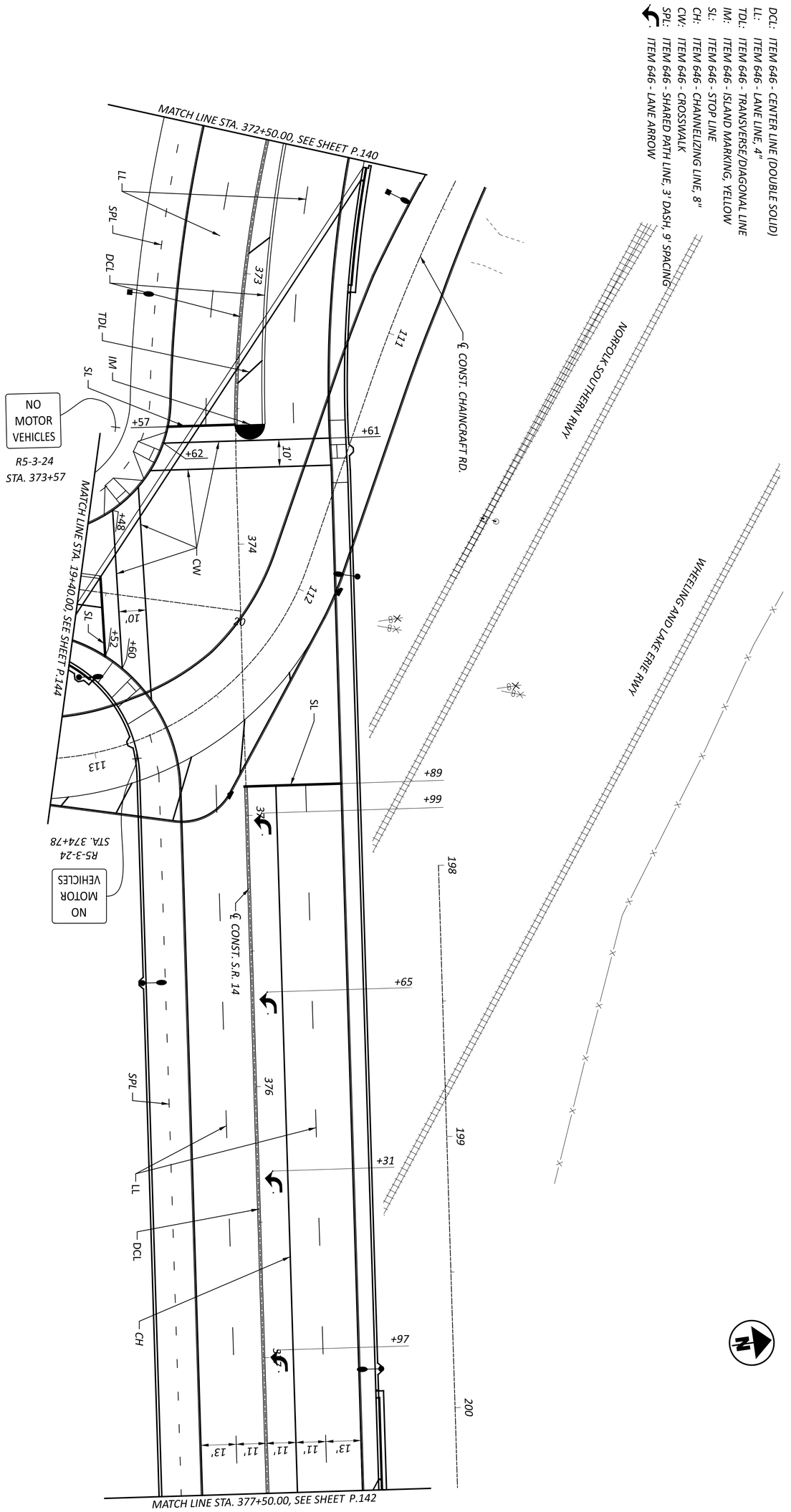

PROPOSED SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
STA. 372+50.00 TO STA. 377+50.00

HORIZONTAL SCALE IN FEET
0 20
10 40

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
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DESIGNER MJR
REVIEWER GM 11/29/22
PROJECT ID 104132
SHEET P.141 TOTAL 329

MODEL: 104132_TP004 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:29:57 PM USER: todd.roxberry
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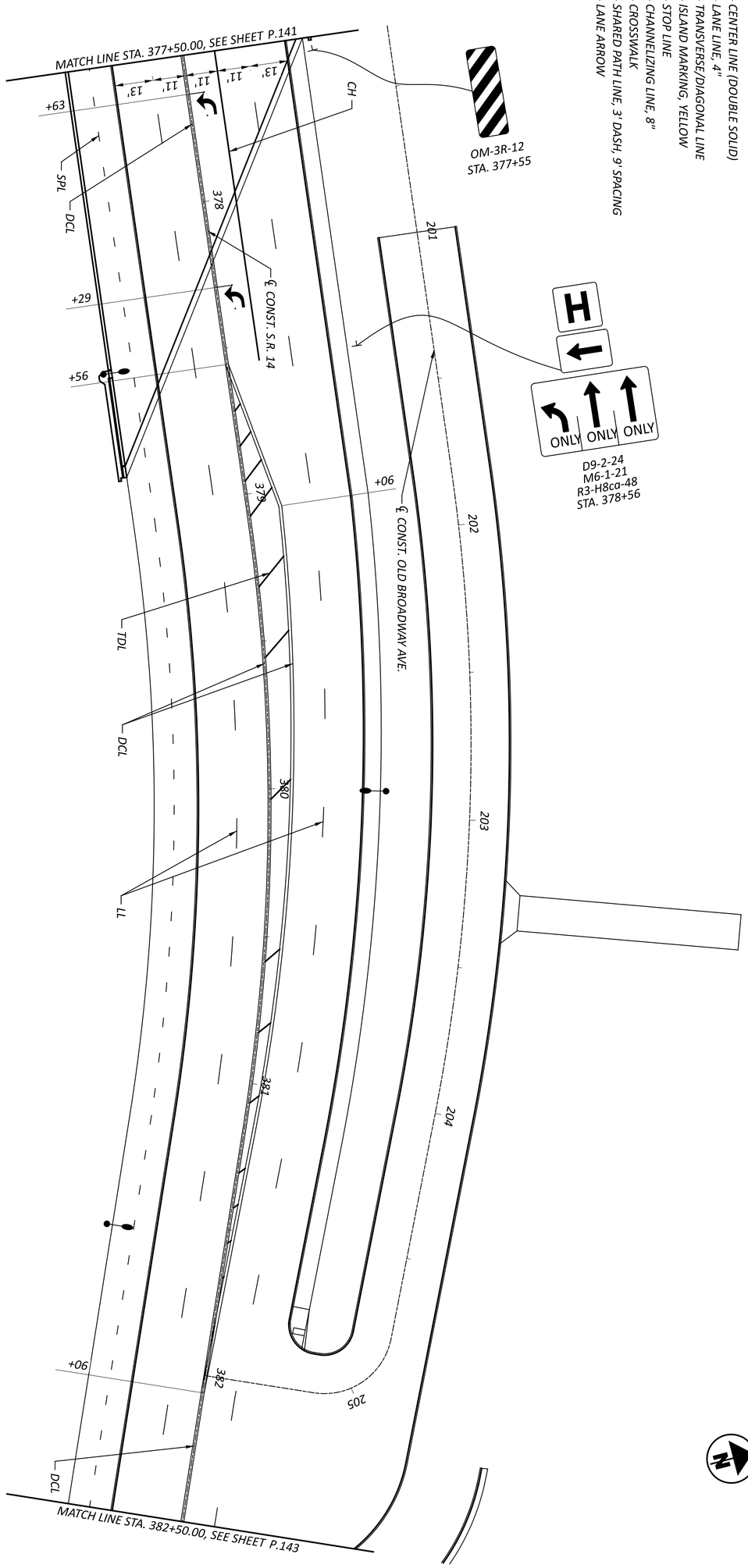
PAVEMENT MARKING LEGEND:

DCL: ITEM 646 - CENTER LINE (DOUBLE SOLID)
LL: ITEM 646 - LANE LINE, 4"
TDL: ITEM 646 - TRANSVERSE/DIAGONAL LINE
IM: ITEM 646 - ISLAND MARKING, YELLOW
SL: ITEM 646 - STOP LINE
CH: ITEM 646 - CHANNELIZING LINE, 8"
CW: ITEM 646 - CROSSWALK
SPL: ITEM 646 - SHARED PATH LINE, 3' DASH, 9' SPACING
ITEM 646 - LANE ARROW



PROPOSED SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
STA. 377+50.00 TO STA. 382+50.00

HORIZONTAL SCALE IN FEET
0 20
10 40

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER MJR
REVIEWER GM 11/29/22
PROJECT ID 104132
SHEET P.142 TOTAL 329

MODEL: 104132_TP005 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:30:15 PM USER: todd.roxberry
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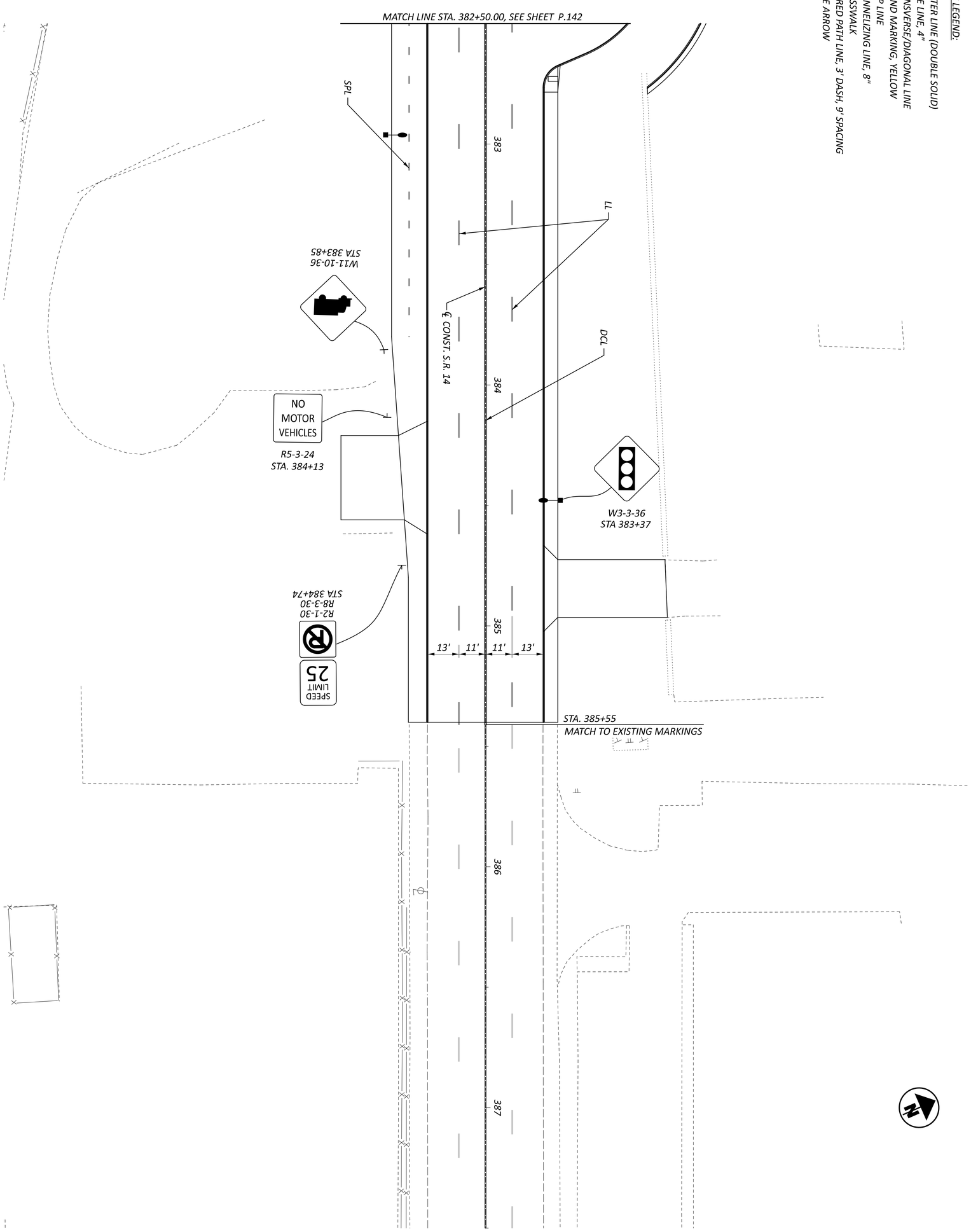

DESIGNER MJR
REVIEWER GM 11/29/22
PROJECT ID 104132
SHEET P.143 TOTAL 329

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
1.800.368.7511
www.aecom.com

PROPOSED SIGNING AND PAVEMENT MARKING PLAN - S.R. 14
STA. 382+50.00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40

MODEL: 104132_TP011 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:30:36 PM USER: todd.roxberry
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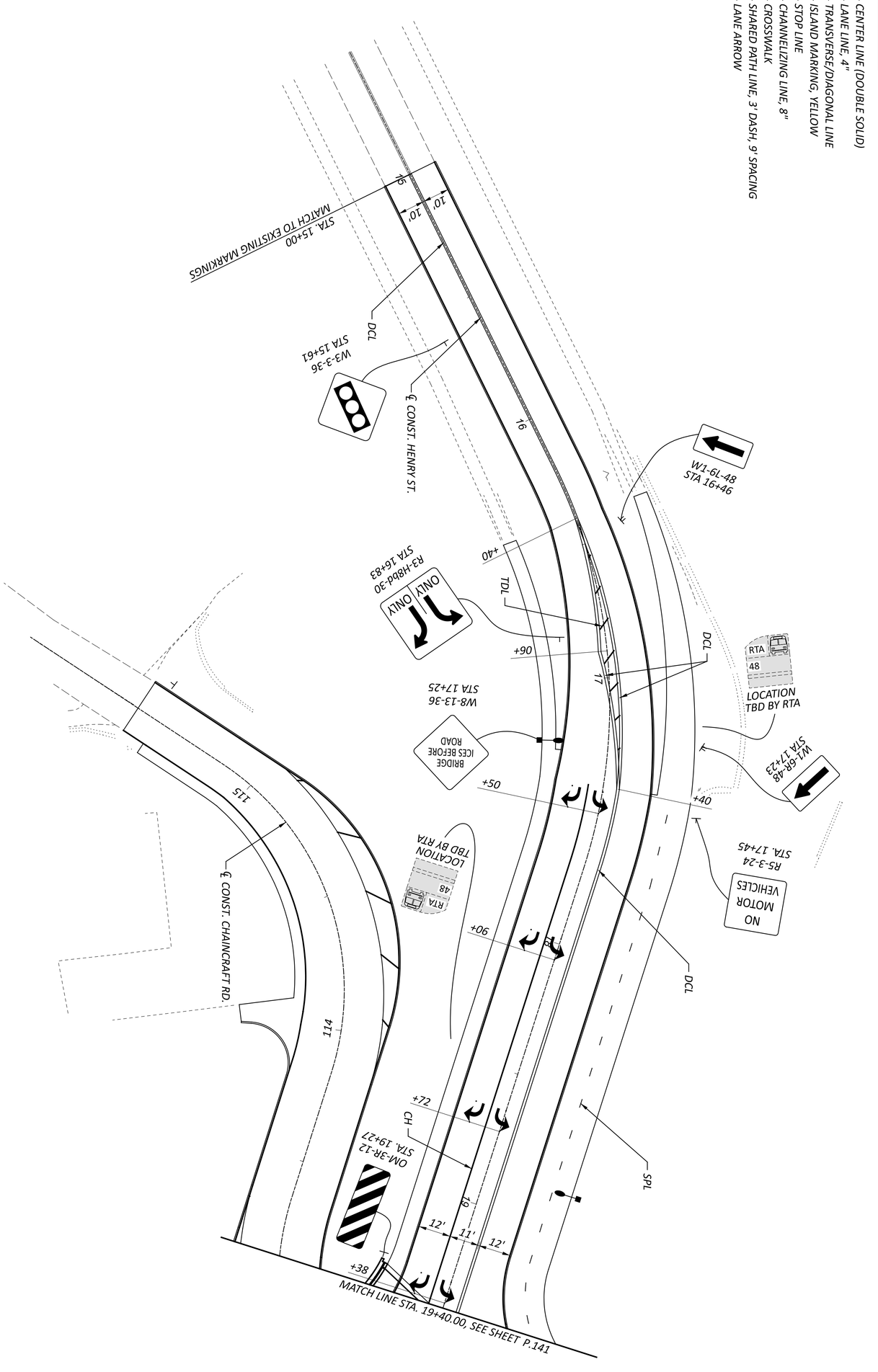

DESIGNER: MJR
REVIEWER: GM 11/29/22
PROJECT ID: 104132
SHEET: P.144 | TOTAL: 329

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
1.800.838.8111
www.aecom.com

PROPOSED SIGNING AND PAVEMENT MARKING PLAN - HENRY STREET
STA. 15+00.00 TO STA. 19+40.00

HORIZONTAL SCALE IN FEET
0 20
10 40

CUY-14-6.93

MODEL: 104132_TP021 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:30:55 PM USER: todd.roxberry
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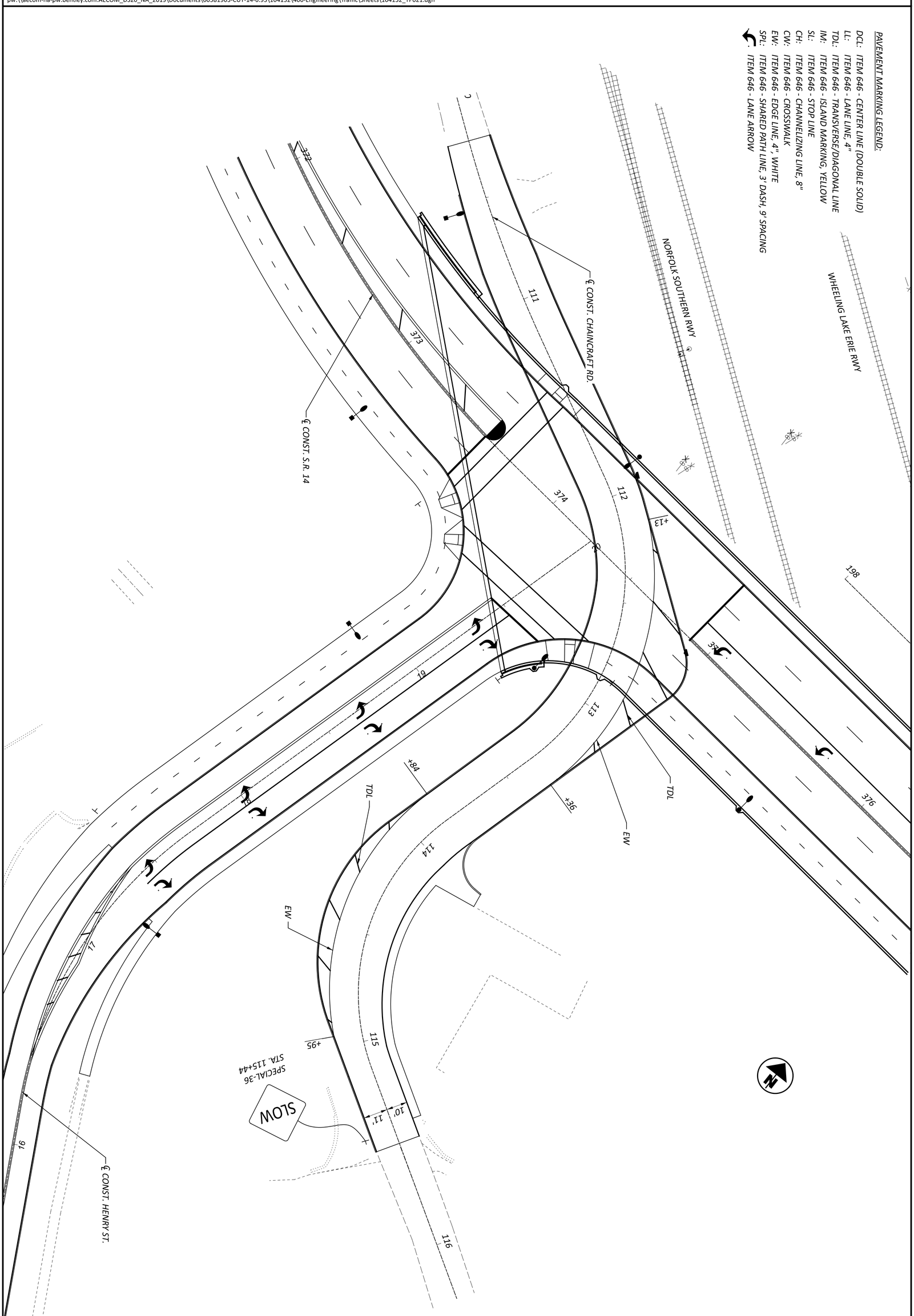


PROPOSED SIGNING AND PAVEMENT MARKING PLAN - CHAINCRAFT ROAD
STA. 110+20.50 TO STA. 115+50.00

HORIZONTAL SCALE IN FEET
0 20
10 40

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER MJR
REVIEWER GM 11/29/22
PROJECT ID 104132
SHEET P. 145 TOTAL 329

SIGNS

(4) - R10-3e-9

S5

R9-3-18

S6

R9-3-18

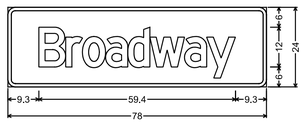
R9-3bP-18

R9-3bP-18

S3

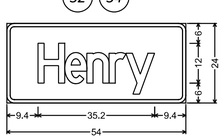
R3-5L-30

S1

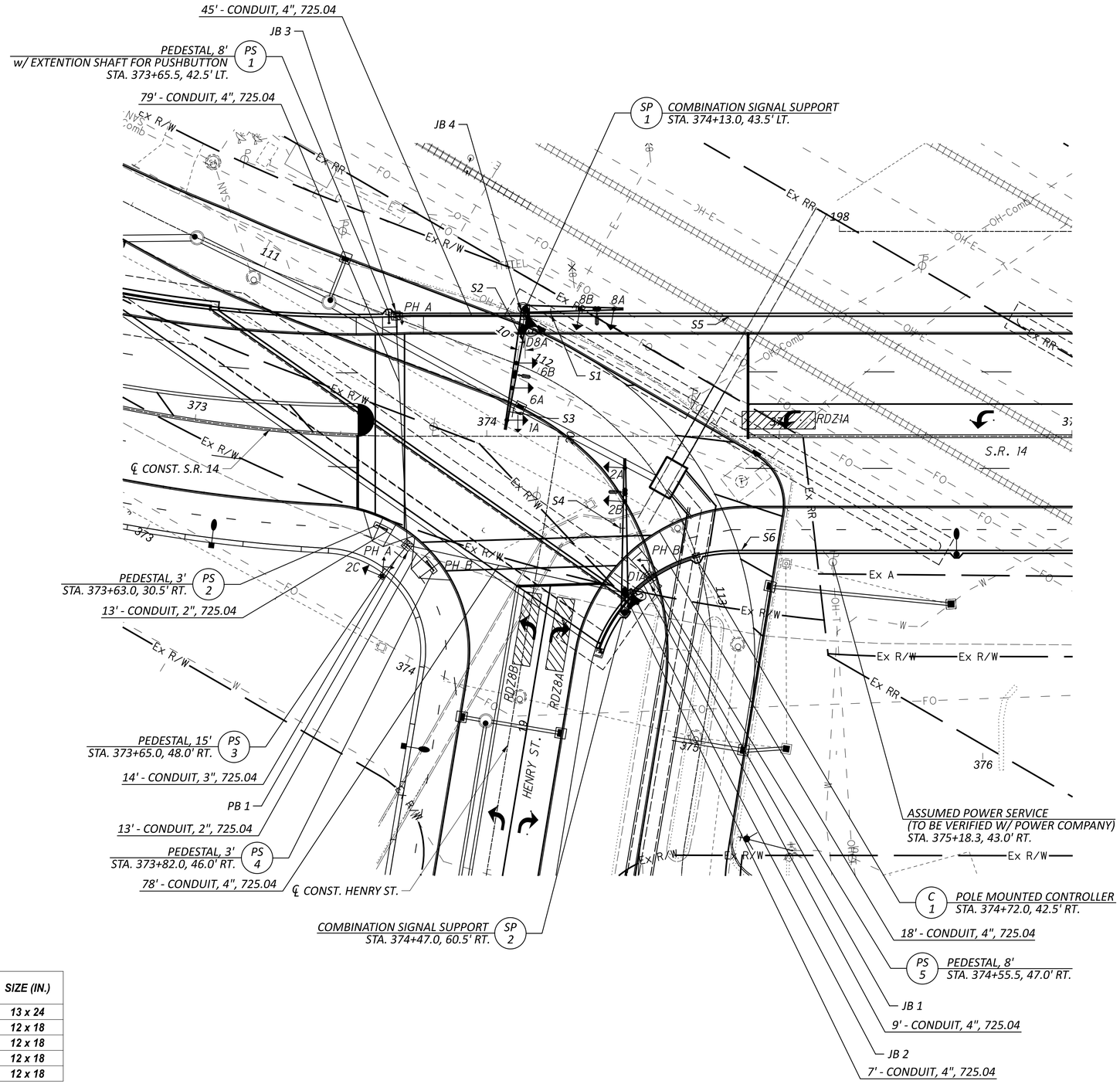


2.3" Radius, 1.0" Border, White on, Green;
"Broadway", Highway D;

S2 S4



2.3" Radius, 1.0" Border, White on, Green;
"Henry", Highway D;


45' - CONDUIT, 4", 725.04
JB 3
PEDESTAL, 8'
w/ EXTENTION SHAFT FOR PUSHBUTTON
STA. 373+65.5, 42.5' LT.
PS 1
79' - CONDUIT, 4", 725.04
JB 4
SP 1
COMBINATION SIGNAL SUPPORT
STA. 374+13.0, 43.5' LT.
Ex R/W
Ex RR
Ex R/W
Ex R/W
Ex R/W

SIGNAL TIMING CHART (TEM FORM 496-3)

INTERSECTION: S.R. 14 & HENRY STREET
MAINTAINING AGENCY: CITY OF GARFIELD HEIGHTS

START UP

START IN: YELLOW/RED FLASH
TIME FOR: FLASH , ALL RED (SEC.): 9, 6
FIRST PHASE(S): 2 & 6
COLOR DISPLAYED: GREEN

DUAL ENTRY: YES | PHASES: 2 & 6 AND 8
REST IN RED: RING 1 - | RING 2 -

	A	B	C	D
OVERLAP				
PHASES	-	-	-	-

INTERVAL OR FEATURE			CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)			1	2	3	4	5	6	7	8
DIRECTION			WB L	EB	-	-	-	WB	-	NB
MINIMUM GREEN (INITIAL)		(SEC.)	7	20	-	-	-	20	-	10
ADDED INITIAL		*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL		*(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)		(SEC.)	-	-	-	-	-	-	-	-
TIME BEFORE REDUCTION		*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP		*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE		*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I		(SEC.)	15	60	-	-	-	60	-	40
MAXIMUM GREEN II		(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE		(SEC.)	3.5	4.5	-	-	-	4.5	-	3.5
ALL RED CLEARANCE		(SEC.)	2.0	1.0	-	-	-	1.0	-	1.0
DELAYED GREEN (LPI) '		(SEC.)	-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY^		(SEC.)	-	-	-	-	-	-	-	-
WALK		(SEC.)	-	7	-	-	-	-	-	7
PEDESTRIAN CLEARANCE		(SEC.)	-	17	-	-	-	-	-	19
RECALL	MAXIMUM	(ON/OFF)	NO	NO	-	-	-	NO	-	NO
	MINIMUM	(ON/OFF)	NO	YES	-	-	-	YES	-	NO
	PEDESTRIAN	(ON/OFF)	NO	NO	-	-	-	NO	-	NO
MEMORY		(ON/OFF)	NO	NO	-	-	-	NO	-	NO

*VOLUME DENSITY CONTROLS

FOR CROSSINGS WITH PEDESTRIAN PUSHBUTTONS, LPI'S (LEADING PEDESTRIAN INTERVALS) MAY BE IMPLEMENTED (3-6 SEC.) IN ACCORDANCE WITH LPI DURATION TIME PER THE ODOT SIGNAL CALCULATIONS - CLEARANCE INTERVALS SPREADSHEET

^ WHEN IMPLEMENTING FYA, A MINIMUM 3 SEC. DELAY SHALL BE PROGRAMMED PER FYA PHASE.

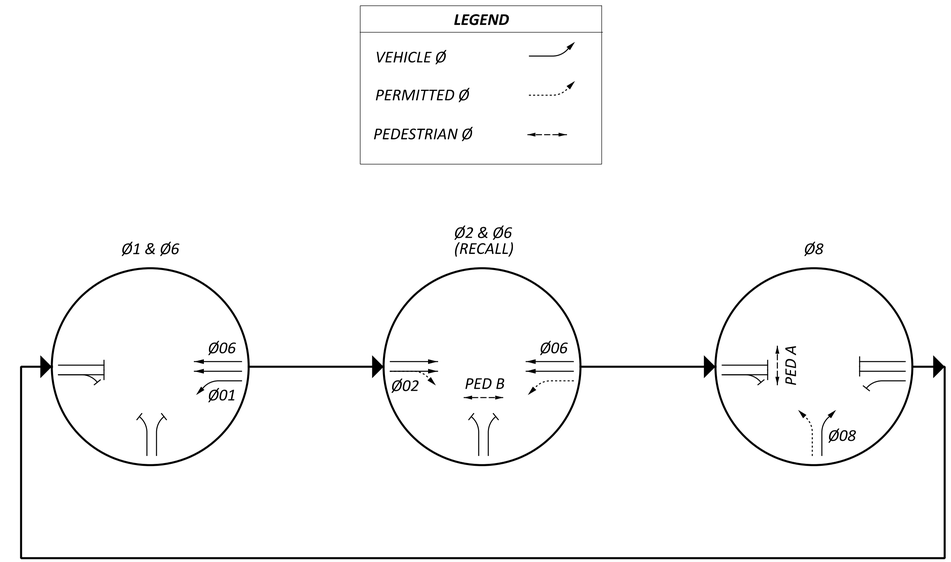
NOTES:
- FOR PROTECTED/PREMISSIVE PHASES, IMPLEMENT CALL OMITS TO AVOID YELLOW BALL TRAP.
- COUNTDOWN PEDESTRIAN SIGNAL HEADS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.
- ALL DETECTOR DELAYS SHALL BE PLACED ON THE CONTROLLER.
- FOR ANY ENTRY TO FLASHING OPERATION PROGRAMMING SHALL RUN MINOR STREET GREEN (ϕ8), ALL-RED CLEARANCE AND THEN FLASHING OPERATION.

RADAR DETECTION CHART (TEM FORM 496-4)

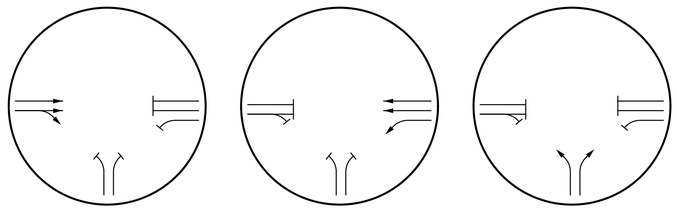
DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY PROGRAMMED IN CONTROLLER (SEC.)	EXTENSION PROGRAMMED IN CONTROLLER (SEC.)	DETECTOR NO.	PURPOSE	DETECTION ZONE LENGTH (FT)
RDZ1A	WB LT	PRESENCE	1	3	-	D1A	CALL PHASE 1	25
RDZ8A	NB RT	PRESENCE	8	10	-	D8A	CALL PHASE 8	25
RDZ8B	NB LT	PRESENCE	8	3	-	D8A	CALL PHASE 8	25

ADVANCED DILEMMA ZONE SPEED THRESHOLD
PURPOSE = STOP LINE OR ADVANCED ≥ 35 MPH

PHASING DIAGRAM



PREEMPT CHANNELS



CHANNEL 1 = Ø2 (EASTBOUND ONLY)
CHANNEL 2 = Ø6 (WESTBOUND ONLY)
CHANNEL 3 = Ø8 (NORTHBOUND ONLY)

PREEMP NOTES:

1. IF THE ACTIVE PHASE CONFLICTS WITH PREEMPT PHASE CALLED, IT SHALL IMMEDIATELY TIME ITS YELLOW AND ALL RED CLEARANCES.
2. IF THE ACTIVE PHASE = THE PREEMPT PHASE THEN THE PHASE SHALL HOLD FOR THE DURATION OF THE PREEMPT SIGNAL.
3. AFTER THE RELEASE FROM PREEMPT, YELLOW AND ALL RED CLEARANCES SHALL BE DISPLAYED AND RETURN PHASE SHALL BE Ø2+6.
4. IF PREEMPT PHASES = RETURN PHASES Ø2+6 THEN YELLOW AND ALL RED CLEARANCE AFTER PREEMPT SHALL NOT BE DISPLAYED.

TRAFFIC SIGNAL PLAN DETAILS
S.R. 14 & HENRY STREET

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER GM
REVIEWER CX 01/16/23
PROJECT ID 104132
SHEET P.147 TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:31:38 PM USER: todd.roxberry
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FIELD WIRING HOOK-UP CHART (TEM FORM 496-16)

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
1A (EB LT)	R	Φ6 R	R
	Y	Φ6 Y	
	G	Φ6 R	
	<--Y---	Φ1 Y	
	<--G---	Φ1 G	
2A, 2B, 2C (EB)	R	Φ2 R	R
	Y	Φ2 Y	
	G	Φ6 G	
6A, 6B (WB)	R	Φ6 R	R
	Y	Φ6 Y	
	G	Φ6 G	
8A, 8B (NB)	R	Φ8 G	R
	Y	Φ8 Y	
	G	Φ8 G	
-	-	-	-
-	-	-	
	-	-	
-	-	-	-
	-	-	
-	-	-	
LS = LOAD SWITCH			

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
-	-	-	-
-	-	-	
	-	-	
-	-	-	-
	-	-	
-	-	-	
-	-	-	-
	-	-	
	-	-	
PEDESTRIAN MOVEMENTS			
PED A	W	Φ8 PED/LS 8P G	OUT
	DW	Φ8 PED/LS 8P R	
PED B	W	Φ2 PED/LS 2P G	OUT
	DW	Φ2 PED/LS 2P R	
-	-	-	-
-	-	-	
OVERLAPS			
-	-	-	-
	-	-	
-	-	-	-
	-	-	

TRAFFIC SIGNAL PLAN DETAILS
S.R 14 & HENRY STREET

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER GM

REVIEWER CX 06/16/23

PROJECT ID 104132

SHEET P.148 TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:31:51 PM USER: todd.roxberry
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LIGHTING

625, POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

CEI FIRST ENERGY
ATTN: TED RADER
6896 MILLER RD.
BRECKSVILLE, OH 44141
(440) 546-8738
1-800-589-3101

POWER SERVICE FOR OHIO FACILITY LIGHTING: 120/240 VOLT 3-WIRE, SINGLE PHASE.

ALL POWER SERVICES SHALL BE METERED. THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN FIVE (5) FEET HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND. A NON-FUSED DISCONNECT SHALL BE INSTALLED ON THE POWER SIDE OF THE METER BASE. THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES AND DISCONNECTS.

THE PROPOSED PHOTOCELL SHOULD BE PLACED 1'-2' ABOVE THE LIGHTING CONTROL CENTER (LCC) ENCLOSURE.

THE CONCRETE WORK PAD IS INCLUDED IN THIS PAY ITEM.

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THE ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH C&MS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

DISCONNECT CIRCUIT

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF AN EXISTING LIGHT CIRCUIT AT A PULL BOX OR TRANSFORMER BASE.

DISCONNECTION AT A PULL BOX SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL SPLICE KITS. ANY CABLE THAT IS TO BE ABANDONED SHALL BE TERMINATED FROM THE PULL BOX SO THAT NO CABLE IS LEFT IN THE BOX.

DISCONNECTION AT A LIGHT POLE SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL CONNECTOR KITS. ALL DUCT-CABLE NOT TO BE REUSED SHALL BE REMOVED FROM THE TRANSFORMER BASE AND THE EXISTING CONDUIT IN THE FOUNDATION SHALL BE CLEANED OF ALL CABLE AND DEBRIS SO THAT THE NEW DUCT-CABLE CAN BE INSTALLED. ALL EXISTING CABLE TO REMAIN ACTIVE SHALL BE CUT IN A MANNER SO THAT THERE IS SUFFICIENT CABLE LEFT FOR RE-CONNECTION. THOSE WIRES THAT ARE TO REMAIN ON ACTIVE CIRCUITS SHALL HAVE A WATER-RESISTANT SEAL AT THE CUT END. THE WATER-RESISTANT SEAL SHALL BE ACCOMPLISHED BY PLUGGING THE DEACTIVATED PORT OF AN EXISTING CONNECTOR KIT OR BY INSTALLING A CABLE SPLICE KIT ON THE CUT END OF THE CABLE.

OUPS NOTE

WHEN THE PROJECT BEGINS AND THE CONTRACTOR HAS TAKEN OVER THE MAINTENANCE OF THE EXISTING SYSTEM, THEY SHALL PROVIDE ALL REQUIRED LAYOUTS AND LOCATIONS OF THE EXISTING AND PROPOSED ELECTRICAL CIRCUITS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL LOCATE AND MARK THE UNDERGROUND ELECTRICAL CIRCUITS DURING THE DURATION OF THE PROJECT.

625, ARC FLASH CALCULATIONS AND LABEL (SR 14/HENRY)

THE CONTRACTOR SHALL SATISFY THE REQUIREMENTS OF ODOT SUPPLEMENTAL SPECIFICATION 825 FOR THE CONTROL CENTERS. THE CONTRACTOR MAY BE ABLE TO OBTAIN LABELS FOR THE ODOT MAINTAINED INSTALLATIONS FROM THE ODOT SIGN SHOP, 1606 WEST BROAD STREET, COLUMBUS, OH 43223. FOR NON-ODOT MAINTAINED INSTALLATIONS, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE LABEL MADE FROM "ENGINEER GRADE" SIGN SHEETING OR AN EQUIVALENT COMMERCIAL LABEL MATERIAL.

THE ODOT OFFICE OF ROADWAY ENGINEERING HAS AN EXCEL SPREADSHEET, AVAILABLE UPON REQUEST, TO ASSIST WITH MAKING AND DOCUMENTING THE REQUIRED CALCULATIONS.

METHOD OF MEASUREMENT SHALL BE PER 825.06. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE SUMMARY.

ITEM 625 ARC FLASH CALCULATION AND LABEL
(SR 14/HENRY) - 1 EACH

CONDUIT EXPANSION AND DEFLECTION

THE CONTRACTOR SHALL SATISFY THE REQUIREMENTS OF ODOT SUPPLEMENTAL SPECIFICATION 825 FOR THE CONTROL CENTERS. THE CONTRACTOR MAY BE ABLE TO OBTAIN LABELS FOR THE ODOT MAINTAINED INSTALLATIONS FROM THE ODOT SIGN SHOP, 1606 WEST BROAD STREET, COLUMBUS, OH 43223. FOR NON-ODOT MAINTAINED INSTALLATIONS, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE LABEL MADE FROM "ENGINEER GRADE" SIGN SHEETING OR AN EQUIVALENT COMMERCIAL LABEL MATERIAL.

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS. MINIMUM DEFLECTION CAPABILITY: 25 DEGREES.

EXPANSION AND DEFLECTION FITTINGS FULLY OR PARTIALLY EMBEDDED IN CONCRETE, SOIL, OR SIMILAR MATERIAL SHALL BE COMPLETELY WRAPPED IN A NEOPRENE SLEEVE OR SHEET OF 1/2-INCH MINIMUM THICKNESS.

SECURE NEOPRENE WRAP WITH TIE-WRAPS PRIOR TO EMBEDMENT OF THE FITTING.

LIGHT POLE ANCHOR BOLTS ON STRUCTURES

WHEN A LIGHT POLE IS MOUNTED ON A PILASTER ON A BRIDGE PARAPET OR ON A RETAINING WALL, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF THE ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE PILASTER IS ALSO PART OF THIS WORK.

PAYMENT WILL BE MADE AT EACH SUCH POLE LOCATION AT THE UNIT PRICE BID FOR EACH C&MS ITEM 625, LIGHT POLE ANCHOR BOLTS ON STRUCTURE AND SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE SET OF ANCHOR BOLTS REQUIRED.

625, REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE INCLUDING THE LUMINAIRE AND DISCONNECT CIRCUITRY, REERECT THE LIGHT POLE REMOVED AND CONNECT TO ITS ORIGINAL CIRCUITRY.

THE LIGHT POLE SHALL BE CLEANED AND REPAIRS NEEDED FOR THE POLE TO BE IN GOOD SERVICEABLE CONDITION MADE. INCLUDED IN THIS ITEM ARE NEW CONNECTOR KITS, ALL REQUIRED CONDUIT, CONDUCTOR WIRES, AND ALL INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625 - REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN, FOR EACH POLE REMOVED AND REERECTED AND SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A WORKMANLIKE MANNER.

625, LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS WITH AN IES TYPE III DISTRIBUTION (240 VOLT) SHALL BE:

COOPER LIGHTING SOLUTIONS - STREETWORKS (FORMERLY EATON) WITH PHOTOMETRIC DISTRIBUTION VERD-G-C02H-D-U-T3-7030, TWO LAMPS, 18,560 LUMENS OUTPUT.

AMERICAN ELECTRIC LIGHTING WITH PHOTOMETRIC DISTRIBUTION ATBM P50 XXXXX R3 3K, 17,677 LUMENS OUTPUT.

SIGNIFY LUMEC WITH PHOTOMETRIC DISTRIBUTION RFM-160W48LED3K-G2-R3S, 18,526 LUMENS OUTPUT.

OR EQUAL AS APPROVED BY THE ENGINEER.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE HOLOPHANE WITH PHOTOMETRIC DISTRIBUTION W4GLED 20C1000 30K T3S, 6,507 LUMENS OUTPUT.

GE LIGHTING SOLUTIONS WITH PHOTOMETRIC DISTRIBUTION EWAS01_C3AW730, 7,400 LUMENS OUTPUT.

COOPER LIGHTING SOLUTIONS - McGRAW-EDISON (FORMERLY EATON) WITH PHOTOMETRIC DISTRIBUTION GWC-AF-01-LED-E1-T3-7030, 16 LAMPS, 6,160 LUMENS OUTPUT.

LUMINAIRES FOR UNDERPASS LIGHTING UNIT WHICH ARE WALL MOUNTED SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER AND 10-AMPERE FUSES.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, SERVICE TO UNDERPASS LIGHTING, AS PER PLAN

SERVICE TO UNDERPASS LIGHTING SHALL PROVIDE A COMPLETE ELECTRICAL SYSTEM FOR THE UNDERPASS LIGHTING SYSTEM, EXCEPT FOR LUMINAIRES AND STRUCTURE GROUNDING.

INCLUDED IN THIS INSTALLATION ARE ALL CONDUIT, CONDUIT GROUNDING, MOUNTINGS, FITTINGS, SPLICE KITS, JUNCTION BOXES, CONDUCTORS, DISCONNECT SWITCHES, GROUND RODS, CABLES AND ALL INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625,"SERVICE, UNDERPASS LIGHTING, AS PER PLAN" FOR EACH UNDERPASS SERVICE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, UNDERDRAINS FOR PULLBOXES

REFERENCE TRAFFIC SCD HL-30.11 FOR DETAILS ABOUT DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED 20 FEET. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 611 4" CONDUIT, TYPE E.....100 FT.

SPECIAL, MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWNED UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "B" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING. ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

DESIGN AGENCY
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Akron, OH 44320
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DESIGNER CX
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.149 TOTAL 329

CUY-14-6.93
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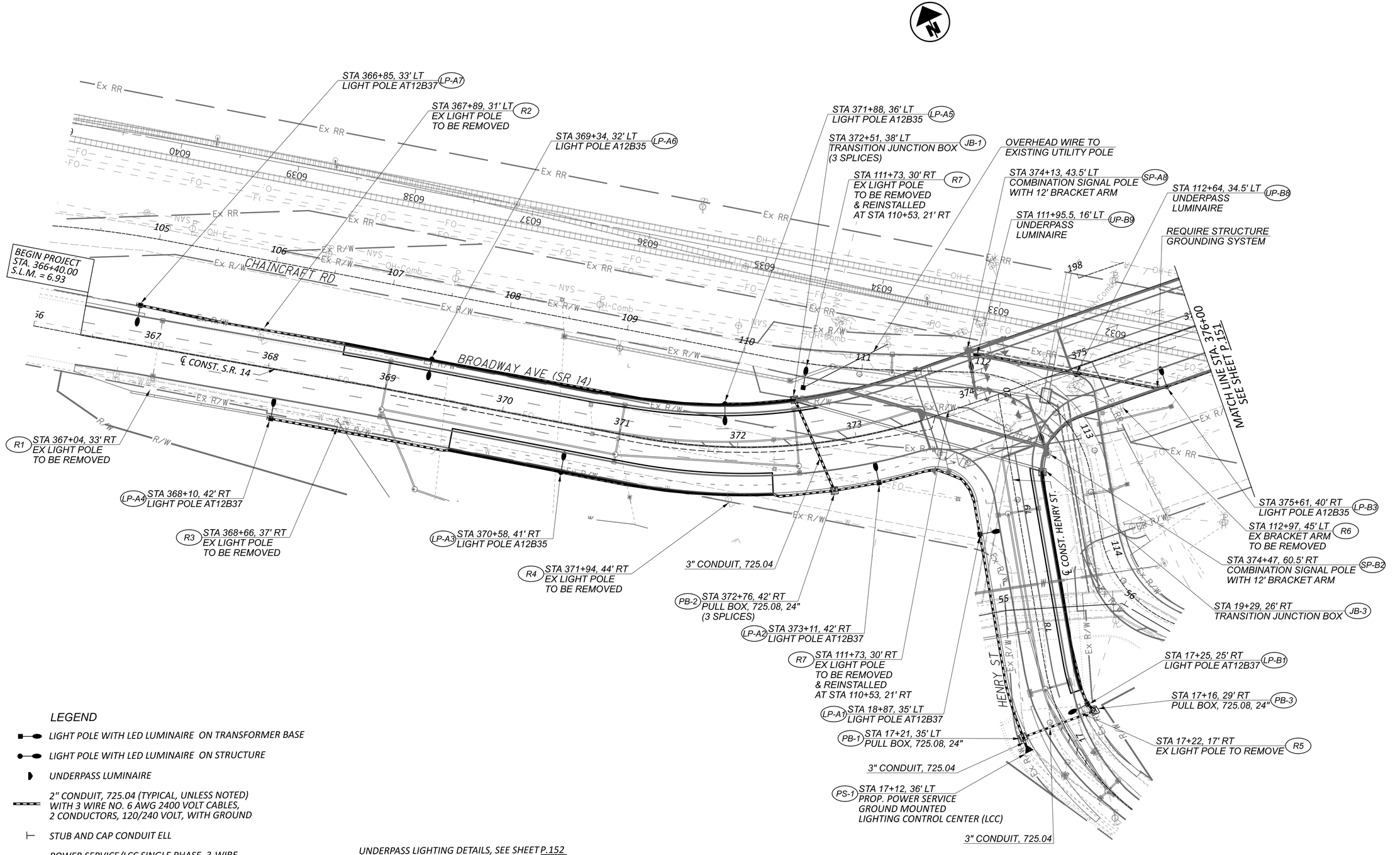

HORIZONTAL SCALE IN FEET
0 20 40 80

LIGHTING PLAN
BEGIN PROJECT TO STA. 376+00

CUY-14-6.93

MODEL: 104132_LP001 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:22:40 PM USER: todd.roxberry
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DESIGN AGENCY
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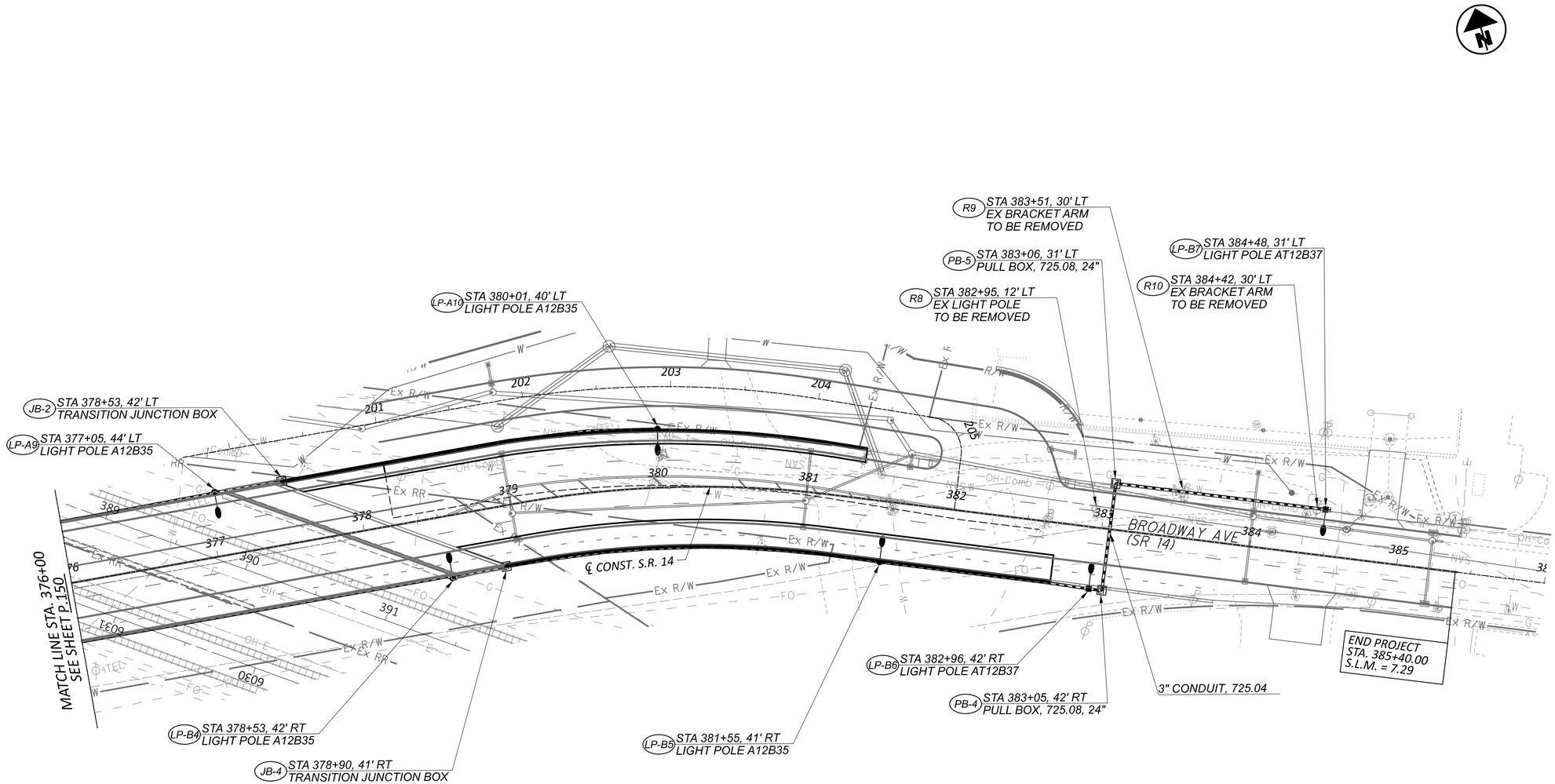
DESIGNER	CX
REVIEWER	MAW 01/16/23
PROJECT ID	104132
SHEET	P.150
TOTAL	329



LEGEND

- LIGHT POLE WITH LED LUMINAIRE ON TRANSFORMER BASE
- LIGHT POLE WITH LED LUMINAIRE ON STRUCTURE
- UNDERPASS LUMINAIRE
- 2" CONDUIT, 725.04 (TYPICAL, UNLESS NOTED) WITH 3 WIRE NO. 6 AWG 2400 VOLT CABLES, 2 CONDUCTORS, 120/240 VOLT, WITH GROUND
- STUB AND CAP CONDUIT ELL
- POWER SERVICE/LCC SINGLE PHASE, 3-WIRE (2 CONDUCTORS, 120/240V, WITH GROUND)
- PULL BOX / JUNCTION BOX

HORIZONTAL SCALE IN FEET
0 20 40 80

LIGHTING PLAN
STA. 376+00 TO END PROJECT

CUY-14-6.93

MODEL: 104132_LP002 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:23:04 PM USER: todd.roxberry
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DESIGN AGENCY
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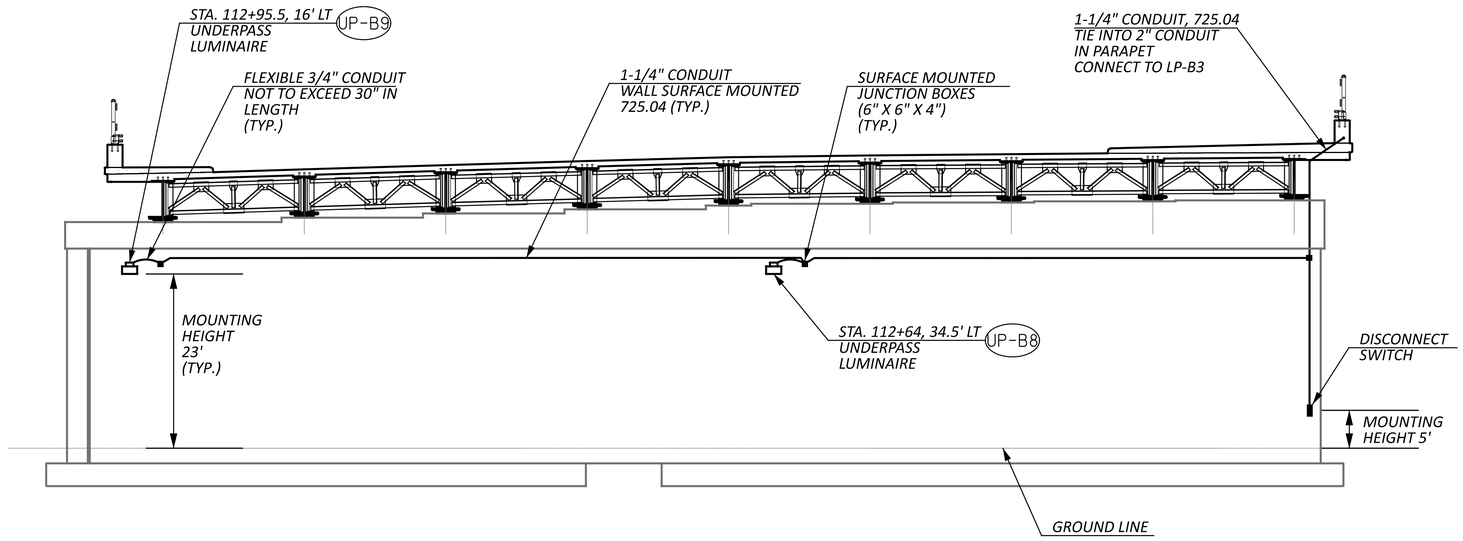
DESIGNER	CX
REVIEWER	MAW 01/16/23
PROJECT ID	104132
SHEET	P.151
TOTAL	329



BROADWAY AVE (SR 14) OVER CHAINCRAFT RD
UNDERPASS ELEVATION VIEW
CHAINCRAFT RD LOOKING EAST
(NOT TO SCALE)

NOTES:
1) SEE SHEET P.153 FOR WIRING DIAGRAM.

2) PROVIDE JUNCTION BOX (6"X6"X4") WITH EACH UNDERPASS LIGHTING FIXTURE.

4) RUN THREE #8 AWG CABLES FROM JUNCTION BOX TO JUNCTION BOX IN 1-1/4" CONDUIT, 725.04.

5) RUN THREE #8 AWG CABLES FROM JUNCTION BOX TO UNDERPASS FIXTURE IN 3/4" FLEXIBLE STEEL CONDUIT, 725.04.

6) BOND LUMINAIRES, JUNCTION BOXES, AND DISCONNECT SWITCH TO STRUCTURE GROUNDING SYSTEM.

UNDERPASS LIGHTING DETAILS

DESIGN AGENCY
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DESIGNER CX
REVIEWER MAW 01/16/23
PROJECT ID 104132
SHEET P.152 TOTAL 329

CUY-14-6.93

MODEL: 104132_LD001 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:23:25 PM USER: todd.roxberry
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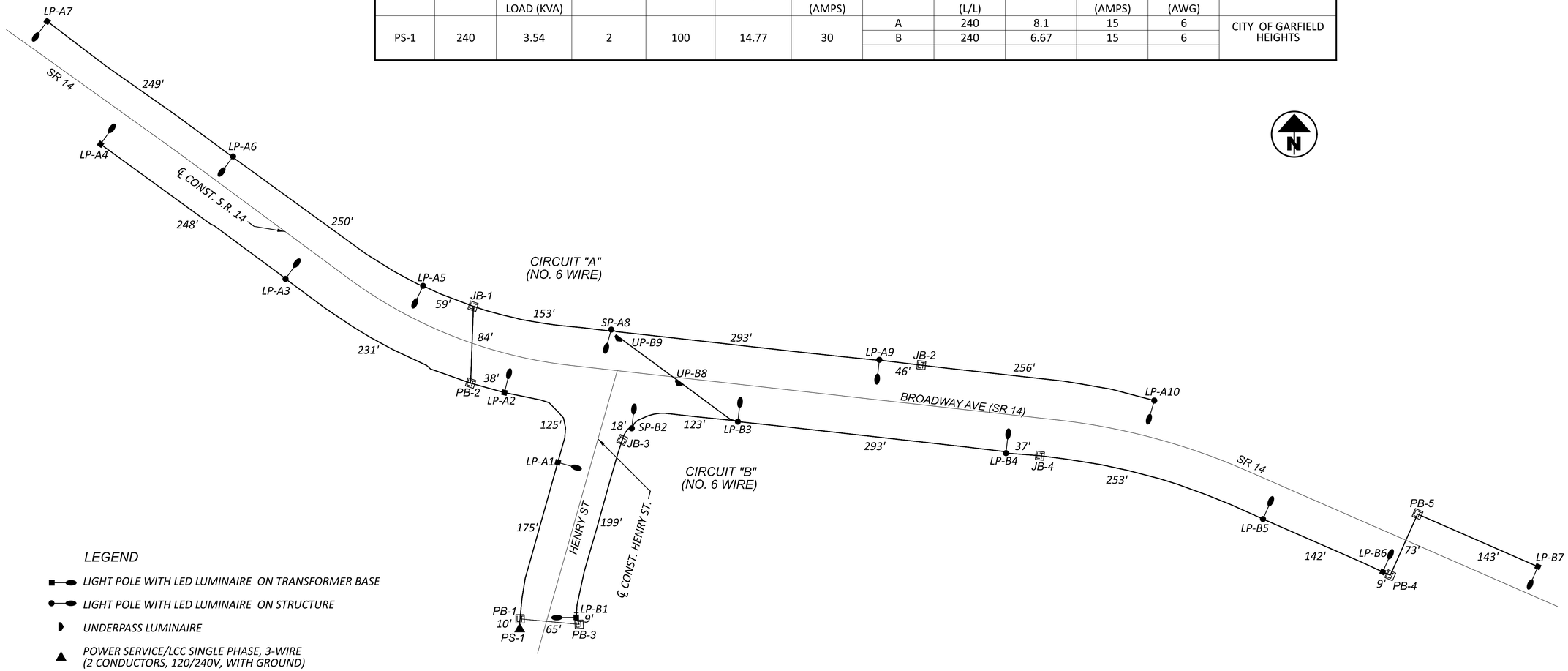
POWER SERVICE DATA												
CONTROL CENTER	POWER SERVICE VOLTAGE (VOLTS)	CONTROL CENTER TOTAL CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE (AWG)	ENCLOSURE RATING (AMPS)	FEEDER CIRCUIT CONNECTED LOAD (AMPS)	FEEDER CIRCUIT FUSE SIZE (AMPS)	BRANCH CIRCUIT NO.	BRANCH CIRCUIT VOLTAGE (VOLTS) (L/L)	BRANCH CIRCUIT LOAD (AMPS)	BRANCH CIRCUIT BREAKER SIZE (AMPS)	BRANCH CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
PS-1	240	3.54	2	100	14.77	30	A	240	8.1	15	6	CITY OF GARFIELD HEIGHTS
							B	240	6.67	15	6	



LEGEND

- LIGHT POLE WITH LED LUMINAIRE ON TRANSFORMER BASE
- LIGHT POLE WITH LED LUMINAIRE ON STRUCTURE
- UNDERPASS LUMINAIRE
- POWER SERVICE/LCC SINGLE PHASE, 3-WIRE (2 CONDUCTORS, 120/240V, WITH GROUND)
- PULL BOX / JUNCTION BOX

LIGHTING CIRCUIT DIAGRAM

CUY-14-6.93

MODEL: 104132_LC001 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:23:43 PM USER: todd.roxberry
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DESIGN AGENCY
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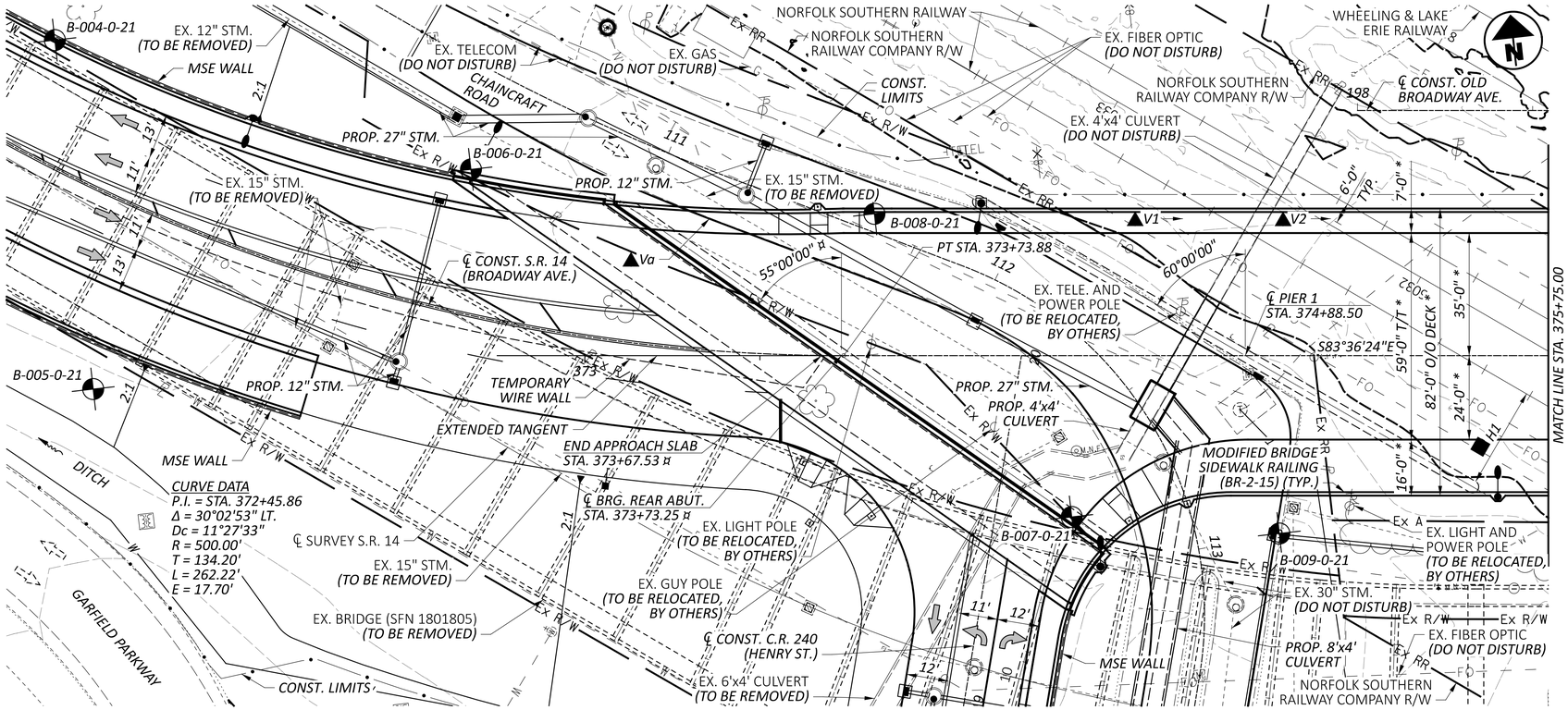
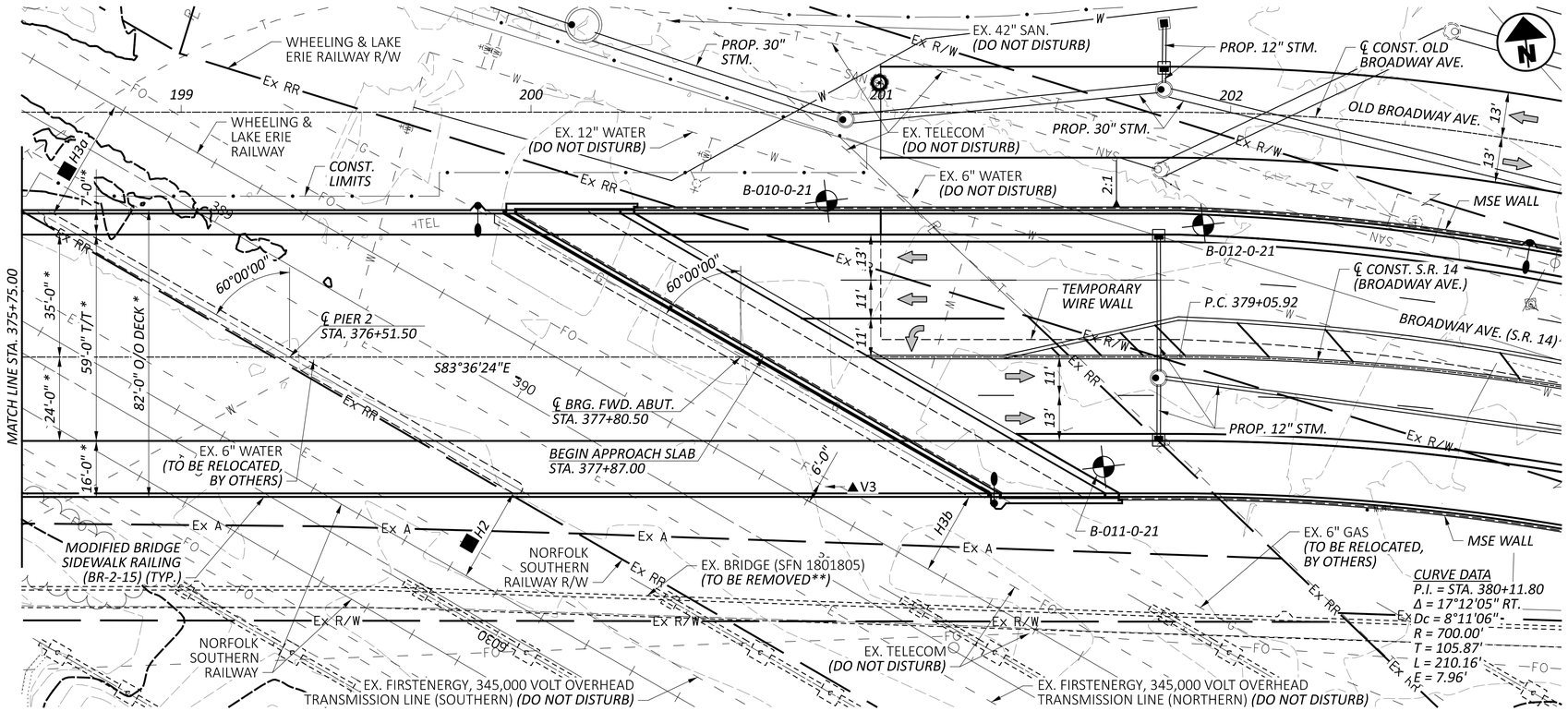
DESIGNER CX

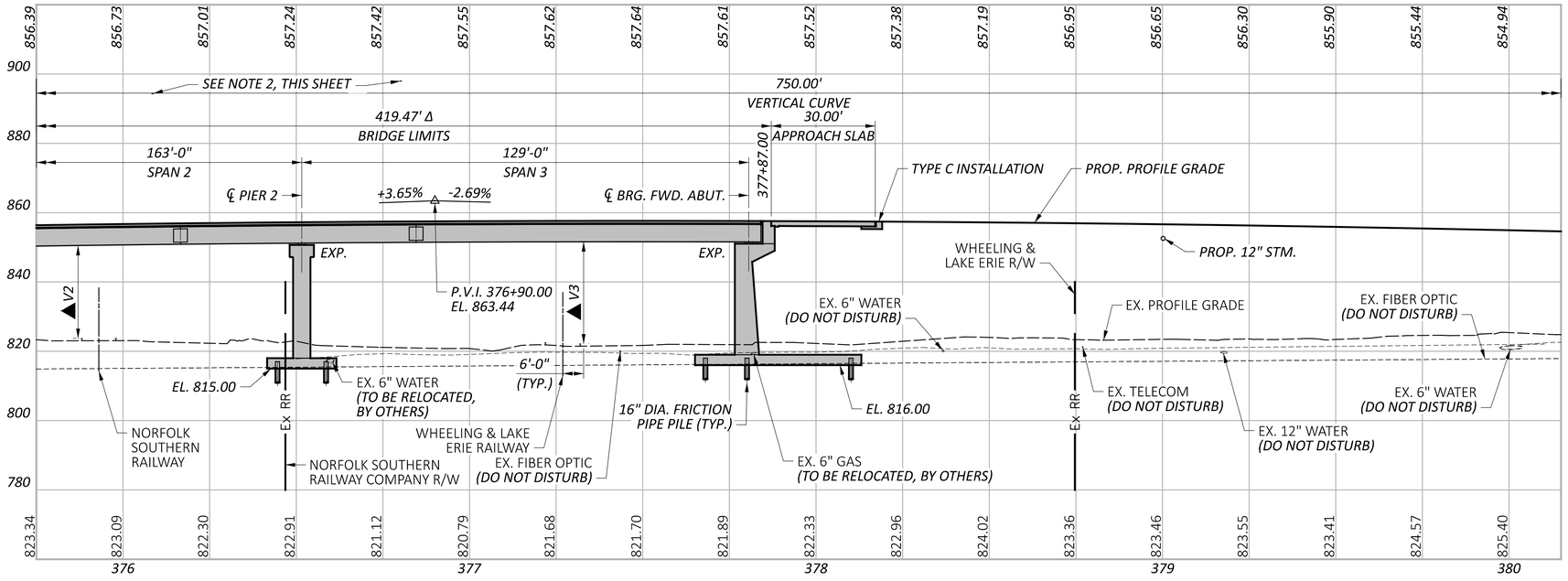
REVIEWER MAW 01/16/23

PROJECT ID 104132

SHEET P.153 | TOTAL 329


B-004-0-21
EX. 12" STM. (TO BE REMOVED)
MSE WALL
2:1
EX. TELECOM (DO NOT DISTURB)
CHAINCRAFT ROAD
EX. GAS (DO NOT DISTURB)
NORFOLK SOUTHERN RAILWAY
NORFOLK SOUTHERN RAILWAY COMPANY R/W
CONST. LIMITS
EX. FIBER OPTIC (DO NOT DISTURB)
WHEELING & LAKE ERIE RAILWAY
NORFOLK SOUTHERN RAILWAY COMPANY R/W
℄ CONST. OLD BROADWAY AVE.
EX. 4'x4' CULVERT (DO NOT DISTURB)
PROP. 27" STM.
B-006-0-21
EX. 15" STM. (TO BE REMOVED)
PROP. 12" STM.
EX. 15" STM. (TO BE REMOVED)
B-008-0-21
V1
V2
PT STA. 373+73.88
℄ CONST. S.R. 14 (BROADWAY AVE.)
Va
55°00'00" ¤
60°00'00"
EX. TELE. AND POWER POLE (TO BE RELOCATED, BY OTHERS)
℄ PIER 1 STA. 374+88.50
S83°36'24"E
B-005-0-21
PROP. 12" STM.
TEMPORARY WIRE WALL
EXTENDED TANGENT
END APPROACH SLAB STA. 373+67.53 ¤
PROP. 27" STM.
PROP. 4'x4' CULVERT
MODIFIED BRIDGE SIDEWALK RAILING (BR-2-15) (TYP.)
MSE WALL
DITCH
CURVE DATA
P.I. = STA. 372+45.86
Δ = 30°02'53" LT.
Dc = 11°27'33"
R = 500.00'
T = 134.20'
L = 262.22'
E = 17.70'
℄ BRG. REAR ABUT. STA. 373+73.25 ¤
B-007-0-21
B-009-0-21
EX. LIGHT AND POWER POLE (TO BE RELOCATED, BY OTHERS)
℄ SURVEY S.R. 14
EX. LIGHT POLE (TO BE RELOCATED, BY OTHERS)
EX. 15" STM. (TO BE REMOVED)
EX. GUY POLE (TO BE RELOCATED, BY OTHERS)
EX. 30" STM. (DO NOT DISTURB)
EX. BRIDGE (SFN 1801805) (TO BE REMOVED)
GARFIELD PARKWAY
℄ CONST. C.R. 240 (HENRY ST.)
PROP. 8'x4' CULVERT
EX. FIBER OPTIC (DO NOT DISTURB)
CONST. LIMITS
EX. 6'x4' CULVERT (TO BE REMOVED)
MSE WALL
NORFOLK SOUTHERN RAILWAY COMPANY R/W
MATCH LINE STA. 375+75.00
℄ CONST. C.R. 240 (HENRY ST.)
℄ CONST. CHAINCRAFT RD.
℄ CONST. OLD BROADWAY AVE.
℄ CONST. S.R. 14 (BROADWAY AVE.)
℄ PIER 1
℄ SURVEY S.R. 14
℄ BRG. REAR ABUT.





NOTES:

1. FOR NOTES AND LEGEND, SEE SHEET 1 , 94 .
2. EX. FIRSTENERGY, 345,000 VOLT OVERHEAD TRANSMISSION LINE.

TRANSMISSION LINE LOCATION	BRIDGE DECK CLEARANCES	
	EXISTING	PROPOSED
SOUTHERN	56'-0"±	37'-6¾"
NORTHERN	62'-0"±	37'-8¾"

HORIZONTAL SCALE IN FEET
0 10 20 40

SITE PLAN 2 OF 2

BRIDGE NO. CUY-00014-06.930

BROADWAY AVE. (S.R. 14) OVER CHAINCRAFT RD., W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
2	94

SHEET	TOTAL
P.155	329

CUY-14-6.93

MODEL: 10413_SFN_1801806_SP202 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:39:24 PM USER: todd.roxberry
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EX. FIRSTENERGY, 345,000 VOLT OVERHEAD TRANSMISSION LINE (SOUTHERN) *(DO NOT DISTURB)*

EX. FIRSTENERGY, 345,000 VOLT OVERHEAD TRANSMISSION LINE (NORTHERN) *(DO NOT DISTURB)*

WHEELING & LAKE ERIE RAILWAY

NORFOLK SOUTHERN RAILWAY

MSE WALL

CHAINCRAFT ROAD

PHASE 1 REMOVAL

PHASE 2 REMOVAL

PHASE 1B CONSTRUCTION

PHASE 2 CONSTRUCTION

PHASE REMOVAL LINE

℄ CONST. S.R. 14 (BROADWAY AVE.)

℄ CONST. OLD BROADWAY AVE.

EX. 4'x4' CULVERT *(DO NOT DISTURB)*

℄ PIER 1 STA. 374+88.50

PT STA. 373+73.88

S83°36'24"E

373

END APPROACH SLAB STA. 373+67.53 ¤

℄ BRG. REAR ABUT. STA. 373+73.25 ¤

TEMPORARY WIRE WALL

EXTENDED TANGENT

EX. LIGHT POLE *(TO BE RELOCATED, BY OTHERS)*

MODIFIED BRIDGE SIDEWALK RAILING (BR-2-15) (TYP.)

PHASE 1B - CONSTRUCTION

MATCH LINE STA. 375+75.00

DITCH

GARFIELD PARKWAY

MILL CREEK

℄ CONST. MILL CREEK

EX. 22'x7' CULVERT (SFN 1834037) *(TO BE MODIFIED)*

EX. 6'x4' CULVERT *(TO BE REMOVED)*

℄ SURVEY S.R. 14 (BROADWAY AVE.)

℄ CONST. C.R. 240 (HENRY ST.)

EX. BRIDGE (SFN 1801805) *(TO BE REMOVED)*

PROP. 8'x4' CULVERT

Ex A

Va V1 V2 H1

55°00'00" ¤

60°00'00"

2:1

11'-0" 12'-0"

CURVE DATA
P.I. = STA. 372+45.86
Δ = 30°02'53" LT.
Dc = 11°27'33"
R = 500.00'
T = 134.20'
L = 262.22'
E = 17.70'

GENERAL PLAN

NOTE:

1. *FOR NOTES, LEGEND AND STRUCTURE BOXES, SEE SHEET* 1 , 94 .

HORIZONTAL SCALE IN FEET
0 10 20 40

GENERAL PLAN 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVE. (S.R. 14) OVER CHAINCRAFT RD., W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM 564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	JDM
CHECKER	GAD
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	3
TOTAL	94
SHEET	P.156
TOTAL	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:39:43 PM USER: todd.roxberry
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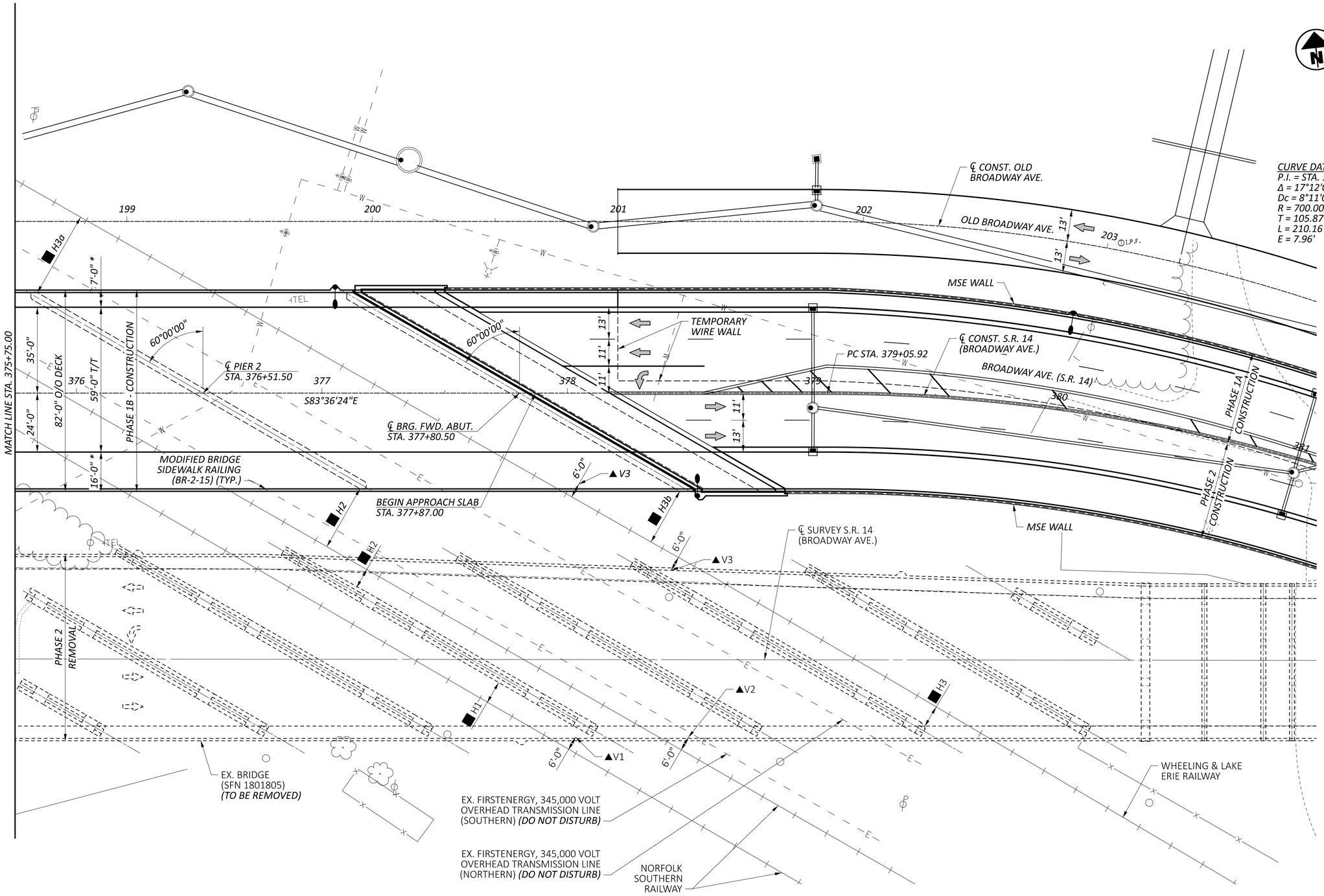

GENERAL PLAN

NOTE:

1. FOR NOTES, LEGEND AND STRUCTURE BOXES, SEE SHEET 1 , 94 .

HORIZONTAL SCALE IN FEET
0 10 20 40

GENERAL PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVE. (S.R. 14) OVER CHAINCRAFT RD., W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	JDM
CHECKER	GAD
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	4
TOTAL	94
SHEET	P.157
TOTAL	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:40:06 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS2O_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SG202.dgn
pw:\\aecom-na-pw.bentley.com:AECOM_DS2O_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SG206\Sheets\104132_SFN_1801806_SG202.dgn

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	DATED (REVISED)	07-17-15
AS-2-15	DATED (REVISED)	01-18-19
BR-2-15	DATED (REVISED)	01-21-22
EXJ-4-87	DATED (REVISED)	07-15-22
GSD-1-19	DATED (REVISED)	01-15-21
PCB-91	DATED (REVISED)	07-17-20
VPF-1-90	DATED (REVISED)	01-20-23

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

SS800	DATED	7-15-22
SS840	DATED	4-15-22
SS867	DATED	4-15-22

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

VEHICULAR LIVE LOAD: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.06 KIPS/FT^2

PEDESTRIAN LOAD: 0.075 KSF

SPECIAL DESIGN SPECIFICATIONS:

THIS BRIDGE REQUIRED THE USE OF AN IMPROVED 2-DIMENSIONAL GRID MODEL USING FINITE ELEMENT DESIGN METHOD TO ANALYZE THE STRUCTURE PER THE AASHTO G13.1-2019 GUIDELINES FOR STEEL GIRDER BRIDGE ANALYSIS, 2ND EDITION. THIS METHOD REQUIRES THE USAGE OF EQUIVALENT TORSION CONSTANT, WHICH ESTIMATES THE INFLUENCE OF GIRDER WARPING IN RESPONSE ON TORSIONAL STIFFNESS, AS WELL AS ACCOUNTING FOR BOTH THE SHEAR AND BENDING FLEXIBILITY OF THE CROSS-FRAMES. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MIDAS CIVIL 2021 V1.2. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD AND THE LIVE LOAD DISTRIBUTION FACTORS USED WERE:

DEAD LOAD DISTRIBUTION: SLAB DEAD LOADS ARE DISTRIBUTED IN RELATION TO GIRDER SPACING AND TRIBUTARY WIDTH. COMPOSITE LOADS ARE DISTRIBUTED EQUALLY TO ALL GIRDERS. WHERE APPLICABLE, PEDESTRIAN LOADS ARE DISTRIBUTED BY INVERSE LEVER RULE TO TRIBUTARY GIRDERS.

LIVE LOAD DISTRIBUTION: TRAFFIC LINE LAYOUT IS INPUT INTO THE MODEL AND THE ANALYSIS SOFTWARE LONGITUDINALLY AND TRANSVERSELY LOCATES THE DESIGN VEHICLE FOR MOVING LOAD OPTIMIZATION. THE DESIGN PROGRAM DISTRIBUTED THE LIVE LOADS BASED ON BOTH THE LONGITUDINAL AND LATERAL STIFFNESS, LIVE LOAD DISTRIBUTION FACTORS VARY ALONG THE LENGTH AND WIDTH OF THE STRUCTURE.

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI
(SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(SUBSTRUCTURE)

CONCRETE REINFORCEMENT:
EPOXY COATED STEEL REINFORCEMENT - MIN. YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI

STEEL CIP PILES - ASTM A252 GRADE 3 - YIELD STRENGTH 45 KSI

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PROPOSED WORK:

THE WORK TO BE COMPLETED INCLUDES THE COMPLETE REPLACEMENT OF THE EXISTING BRIDGE.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 414.4 KIPS PER PILE FOR THE REAR AND FORWARD ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 414.4 KIPS PER PILE FOR THE PIER 01 AND 02 PILES.

REAR ABUTMENT PILES:
125 16" DIAMETER PIPE PILES 30 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER 01 PILES:
46 16" DIAMETER PIPE PILES 35 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER 02 PILES:
42 16" DIAMETER PIPE PILES 40 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

FORWARD ABUTMENT PILES:
115 16" DIAMETER PIPE PILES 30 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PROVIDE PLAIN CYLINDRICAL CASINGS WITH A MINIMUM PILE WALL THICKNESS OF 0.46 INCH FOR THE CAST-IN-PLACE REINFORCED CONCRETE PIPE PILES. USE CONICAL STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL CIP REINFORCED CONCRETE PIPE PILES AT ALL LOCATIONS.

PILE DRIVING CONSTRAINTS:

PRIOR TO DRIVING PILES AT THE ABUTMENTS, CONSTRUCT THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP AT A 1:1 SLOPE FROM THE TOP OF THE HEEL OF THE FOOTING TO THE SUBGRADE ELEVATION AND FOR A MINIMUM DISTANCE OF 250-FT BEHIND THE ABUTMENTS. DO NOT BEGIN THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A (1) CALENDAR DAY WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO THE UBV. AFTER THE FOOTING AND THE ABUTMENT WALL HAVE BEEN CONSTRUCTED, CONSTRUCT THE EMBANKMENT IMMEDIATELY BEHIND THE ABUTMENTS UP TO THE BEAM SEAT ELEVATION AND ON A 1:1 SLOPE UP TO THE SUBGRADE ELEVATION PRIOR TO SETTING THE BEAMS ON THE ABUTMENTS.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.
AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.68 KIPS.
A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".
A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

COLORS AND SURFACE TREATMENT:

ABUTMENTS, PIERS, PARAPETS AND DECK OVERHANGS: SEAL SURFACES, AS NOTED IN THE BRIDGE PLANS, WITH EPOXY-URETHANE USING FEDERAL STANDARD COLOR NUMBER 13522 (BUFF).

PARTIAL PAINTING OF A709 GRADE 50W STEEL: PAINT THE EXPOSED SIDE OF THE FASCIA GIRDERS WEB AND BOTTOM FLANGE FOR THE FULL LENGTH OF THE BRIDGE. IN ADDITION TO THE FASCIA'S, PAINT THE LAST 10 FT OF EACH GIRDER END ADJACENT TO THE ABUTMENTS INCLUDING ALL CROSS-FRAMES AND OTHER STEEL WITHIN THESE LIMITS. THE PRIME COAT SHALL BE PER 708.01. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B - 20045 OR 20059 (THE COLOR OF WEATHERING STEEL).

ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

FOR DETAILS AND NOTES, INCLUDING PAYMENT FOR PHASED REMOVAL OF THE EXISTING BRIDGE, SEE PHASED CONSTRUCTION DETAILS, SHEETS 8 ¦ 94 THRU 15 ¦ 94 .

THE CONTRACTOR SHALL INCLUDE THE TEMPORARY SUPPORT CONSTRUCTION COSTS NECESSARY FOR THE SAFE REMOVAL OF THE BROADWAY AVE. BRIDGE AS AN INCIDENTAL COST EMBEDDED IN THE ITEM 202 LUMP SUM. FOR DETAILS, SEE SHEET 8 ¦ 94 .

MAINTENANCE OF TRAFFIC:

FOR MAINTENANCE OF TRAFFIC NOTES AND DETAILS, INCLUDING TEMPORARY BARRIER DETAILS AND PAY ITEMS, SEE SHEETS P.12 ¦ 329 THRU P.36 ¦ 329 .

ITEM 203 EMBANKMENT, AS PER PLAN:

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN. THE COST OF TEMPORARY ANCHORS AS SHOWN ON THE PLANS WILL BE INCLUDED WITH THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND APPROVAL OF THE DESIGN AND CONSTRUCTION OF THE TEMPORARY SUPPORT OF THE EXCAVATION ADJACENT TO THE RAILROAD. THE REQUIREMENTS OF CMS 501.05A SHALL BE MET IN THIS REGARD. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AS IT SHALL BE CONSIDERED INCIDENTAL TO ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS SECTION 503 AND SHALL INCLUDE THE EXCAVATION REQUIRED TO CONSTRUCT THE NEW ABUTMENTS, WING WALLS AND PIER FOOTINGS. EXCAVATION AND BACKFILLING REQUIRED FOR SUBSTRUCTURE REMOVAL AND STRUCTURE DRAINAGE SHALL BE INCLUDED WITH RESPECTIVE ITEMS 202 AND 518.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN:

THE VANDAL PROTECTION FENCE POST ANCHORAGE SHALL BE CAST IN WITH THE CASTING OF THE CONCRETE RAILINGS. ALL LABOR AND MATERIAL REQUIRED FOR THIS REQUIREMENT SHALL BE INCLUDED IN THE PAYMENT OF THIS ITEM.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS, SECTIONS 102.05 AND 105.02. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND OPEN A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSION THAT HAVE BEEN VERIFIED IN THE FIELD.

UTILITY LINES:

SEE GENERAL NOTES, SHEET P.10 ¦ 329 FOR THE LIST OF UTILITIES IN THE PROJECT AREA.

ALL EXPENSES INVOLVED IN RELOCATIONS (INSTALLING) THE AFFECTED UTILITY LINE(S) SHALL BE BORNE BY THE UTILIY(IES). THE CONTRACTOR AND THE UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE THE EITHER WILL BE HELD TO A MINIMUM.

STRUCTURE GROUNDING:

PROVIDE STRUCTURE GROUNDING PER ODOT STD. DWG. HL-50.21. SEE LIGHTING PLANS FOR ADDITIONAL DETAILS AND PAYMENT.

GENERAL NOTES 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
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Akron, OH 44320
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www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
5	94

SHEET	TOTAL
P.158	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:40:23 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SN001.dgn

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:40:38 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SN002.dgn

CUY-14-6.93

NORFOLK SOUTHERN RAILWAY COMPANY:

ALL WORK TO BE PERFORMED ON, OVER, UNDER, OR ADJACENT TO THE RAILROAD RIGHT-OF-WAY SHALL COMPLY WITH THE NORFOLK SOUTHERN RAILWAY COMPANY ("RAILROAD", "NSR" OR "NS") PUBLIC PROJECTS MANUAL (APPENDIX E, SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS, AND APPENDIX H1, OVERHEAD GRADE SEPARATION DESIGN CRITERIA). WHEN IN CONFLICT WITH OTHER PROJECT SPECIFICATIONS, THE MOST STRINGENT ONE SHALL APPLY.

"ONE CALL" SERVICES DO NOT LOCATE BURIED RAILROAD SIGNAL AND COMMUNICATIONS LINES. THE CONTRACTOR SHALL CONTACT THE RAILROAD'S REPRESENTATIVE 2 DAYS IN ADVANCE OF WORK AT THOSE PLACES WHERE EXCAVATION, PILE DRIVING, OR HEAVY LOADS MAY DAMAGE THE RAILROAD'S UNDERGROUND FACILITIES. UPON REQUEST FROM THE CONTRACTOR OR SPONSOR, RAILROAD FORCES WILL LOCATE AND PAINT MARK OR FLAG THE RAILROAD'S UNDERGROUND FACILITIES. THE CONTRACTOR SHALL AVOID EXCAVATION OR OTHER DISTURBANCE OF THESE FACILITIES. IF DISTURBANCE OR EXCAVATION IS REQUIRED NEAR A BURIED RAILROAD FACILITY, THE CONTRACTOR SHALL COORDINATE WITH THE RAILROAD TO HAVE THE FACILITY POTHOLED MANUALLY WITH CAREFUL HAND EXCAVATION. THE FACILITY SHALL BE PROTECTED BY THE CONTRACTOR DURING THE COURSE OF THE DISTURBANCE UNDER THE SUPERVISION AND DIRECTION OF THE RAILROAD'S REPRESENTATIVE. (SEE NS PUBLIC PROJECTS MANUAL, APPENDIX E, SECTION 3.D).

ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE INSTALLATION OR RELOCATION TO RAILPROS FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO: WWW.NSCORP.COM > REAL ESTATE > NS SERVICES > WIRE, PIPELINE, & FIBER OPTIC PROJECTS > RAILPROS. NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.

THE CONTRACTOR SHALL NOT COMMENCE ANY WORK ON RAILROAD RIGHTS-OF-WAY UNTIL HE HAS COMPLIED WITH THE CONDITIONS PRESENTED ON NS PUBLIC PROJECTS MANUAL (SEE APPENDIX E, NORFOLK SOUTHERN - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS).

THE CONTRACTOR SHALL SO ARRANGE AND CONDUCT HIS WORK THAT THERE WILL BE NO INTERFERENCE WITH RAILROAD'S OPERATIONS. WHENEVER WORK IS LIABLE TO AFFECT THE OPERATIONS OR SAFETY OF TRAINS, THE METHODS OF DOING SUCH WORK SHALL FIRST BE SUBMITTED TO THE RAILROAD ENGINEER FOR APPROVAL, BUT SUCH APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM ANY LIABILITY.

NORFOLK SOUTHERN RAILWAY CONTACT:

MR. ELDRIDGE W. CHAMBERS
SENIOR ENGINEER PUBLIC IMPROVEMENTS
NORFOLK SOUTHERN CORPORATION
650 WEST PEACHTREE STREET, NW, BOX 45
ATLANTA, GA 30308
TELEPHONE: (470) 463-6307
EMAIL: eldridge.chambers@nscorp.com

RAILROAD COORDINATION REQUIREMENTS:

IN ADDITION TO THE SUBMITTAL REQUIREMENTS OF ODOT CMS SECTION 501.05, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE APPROPRIATE RAILROAD AGENCY OR THEIR REPRESENTATIVE FOR APPROVAL. THE FOLLOWING SUBMITTAL'S SHALL BE IN ACCORDANCE WITH NORFOLK SOUTHERN'S REQUIREMENTS AS LISTED IN NORFOLK SOUTHERN'S PUBLICATION "PUBLIC PROJECTS MANUAL".

- *STRUCTURE EXCAVATION AND SHORING PLAN*
- *DEMOLITION PLAN FOR THE EXISTING STRUCTURE*
- *ERECTION PROCEDURE FOR THE NEW STRUCTURE*
- *TRACK MONITORING PLAN*

ALL COSTS ASSOCIATED WITH THESE SUBMITTAL'S SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT WILL BE MADE FOR THESE SUBMITTAL'S. FOR ADDITIONAL INFORMATION SEE THE RAILROAD AGREEMENT.

CONSTRUCTION CLEARANCE:

MAINTAIN A CONSTRUCTION CLEARANCE OF 14 FEET HORIZONTALLY FROM THE CENTER OF TRACKS AND 23 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL, AND 6 FEET FROM THE CENTER OF TRACKS, AT ALL TIMES.

ASBESTOS NOTIFICATION:

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT 5 SQUARE FEET ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE. ODOT SHALL PROVIDE A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO ONE OF THE ADDRESSES BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

ASBESTOS PROGRAM	*OR*	*ASBESTOS PROGRAM*
OHIO EPA, DAPC		*OHIO EPA, DAPC*
P.O. BOX 1049		*50 W. TOWN ST., SUITE 700*
COLUMBUS, OH 43216-1049		*COLUMBUS, OH 43215*

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE FORM SHALL INCLUDE:

1) THE CONTRACTORS NAME AND ADDRESS,
2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND
3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED.

COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO 44125.

BASIS FOR PAYMENT – THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN:

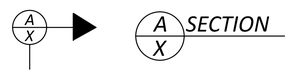
ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ABBREVIATIONS AND SYMBOLS

THE FOLLOWING STANDARD ABBREVIATIONS ARE USED THROUGHOUT THE PLANS:

APPR. - APPROACH
B OR BOT. OR BTM. - BOTTOM
BRG. - BEARING
BTWN - BETWEEN
C/C - CENTER TO CENTER
C.I.P. - CAST IN PLACE
C.J. - CONSTRUCTION JOINT
℄ OR CL - CENTERLINE
CLR. - CLEARANCE
CONST. - CONSTRUCTION
DIA. - DIAMETER
DWG. - DRAWING
EA. - EACH
E.F. - EACH FACE
EL. OR ELEV. - ELEVATION
EQ. - EQUAL
EST. - ESTIMATED
EX. OR EXIST. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
F/F - FACE TO FACE
F.S. - FIELD SPLICE
FIX. - FIXED
FTG. - FOOTING
FWD. - FORWARD
GIR. - GIRDER
GIR'S. - GIRDERS
HORIZ. - HORIZONTAL
HW - HIGH WATER MARK
JT. - JOINT
LF - LEFT FORWARD
LT. - LEFT
MAX. - MAXIMUM
MID - MIDDLE
MIN. - MINIMUM
N.B. - NORTHBOUND
N.F. - NEAR FACE
NO. - NUMBER
O.C.J. - OPTIONAL CONSTRUCTION JOINT
O/O - OUT TO OUT
ORD. - ORDINARY
PCB - PORTABLE CONCRETE BARRIER
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
P/G OR P.G.- PROFILE GRADE
P1 - PIER 1
P2 - PIER 2
℗ OR PL. - PLATE
PR. OR PROP. - PROPOSED
R.A. - REAR ABUTMENT
R.C.P. - ROCK CHANNEL PROTECTION
REF. - REFERENCE
REIN. - REINFORCING OR REINFORCEMENT
REQ. OR REQ'D. - REQUIRED
RT. - RIGHT
S.B. - SOUTHBOUND
SER. - SERIES
SHT. - SHEET
SHLD. - SHOULDER
SPA. - SPACE(D) OR SPACING
STA. - STATION
STD. DWG. OR SCD - STANDARD CONSTRUCTION DRAWING
T&B - TOP AND BOTTOM
T/ - TOP
THK. - THICK
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
VAR. - VARIES
VERT. - VERTICAL
W/ - WITH

THE SYMBOLS BELOW DESIGNATE THE NAMES AND LOCATIONS OF THE SECTION DETAILS THROUGHOUT THE STRUCTURE PLANS. THE TOP LETTER DESIGNATES THE SECTION NAME. THE BOTTOM NUMBER(S) SHOW WHICH STRUCTURE SHEET IS BEING CROSS REFERENCED.



GENERAL NOTES 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
6	94

SHEET	TOTAL
P.159	329

ESTIMATED QUANTITIES

CALCULATED BY:
CHECKED BY:

ITEM ODOT	EXT.	PARTICIPATION	TOTAL	UNIT	DESCRIPTION	CUY-00014-06.930					REF. SHEET
						ABUTMENTS		PIERS	SUPER-STRUCTURE	GENERAL	
						REAR	FORWARD				
202	11003	LS	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN						
202	22900			SY	APPROACH SLAB REMOVED						
503	11101	LS	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN						
503	21101			CY	UNCLASSIFIED EXCAVATION, AS PER PLAN						
505	11100	LS	LS		PILE DRIVING EQUIPMENT MOBILIZATION						
507	00700			FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN						
507	00750			FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED						
507	93300			EACH	STEEL POINTS OR SHOES						
509	10000			LB	EPOXY COATED REINFORCING STEEL						
511	34446			CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK						
511	34450			CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)						
511	41012			CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS						
511	44112			CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING						
511	46512			CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING						
511	51512			CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK						
512	10050			SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)						
512	10100			SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)						
512	33000			SY	TYPE 2 WATERPROOFING						
513	10280			LB	STRUCTURAL STEEL MEMBERS, LEVEL 4						
513	20000			EACH	WELDED STUD SHEAR CONNECTORS						
514	00060			SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT						
514	00066			SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT						
514	10000			EACH	FINAL INSPECTION REPAIR						
516	10010			FT	ARMORLESS PREFORMED JOINT SEAL						
516	11210			FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL						
516	13600			SF	1" PREFORMED EXPANSION JOINT FILLER						
516	13900			SF	2" PREFORMED EXPANSION JOINT FILLER						
516	44200			EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 18" x 18" x 2.31" WITH 19" x 19" x 1.5" LOAD PLATE						
516	44200			EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 18" x 18" x 5.94" WITH 19" x 19" x 1.5" LOAD PLATE						
516	44200			EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 19" x 26" x 3.94" WITH 20" x 17" x 1.5" LOAD PLATE						
516	44200			EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 19" x 26" x 3.94" WITH 20" x 38" x 1.5" LOAD PLATE						
518	21200			CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC						
518	40000			FT	6" PERFORATED CORRUGATED PLASTIC PIPE						
518	40010			FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS						
523	20000			EACH	DYNAMIC LOAD TESTING						
526	30001			SY	REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN						
526	90030			FT	TYPE C INSTALLATION						
607	39901			FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN						

ESTIMATED QUANTITIES
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER
MRW 02/06/23

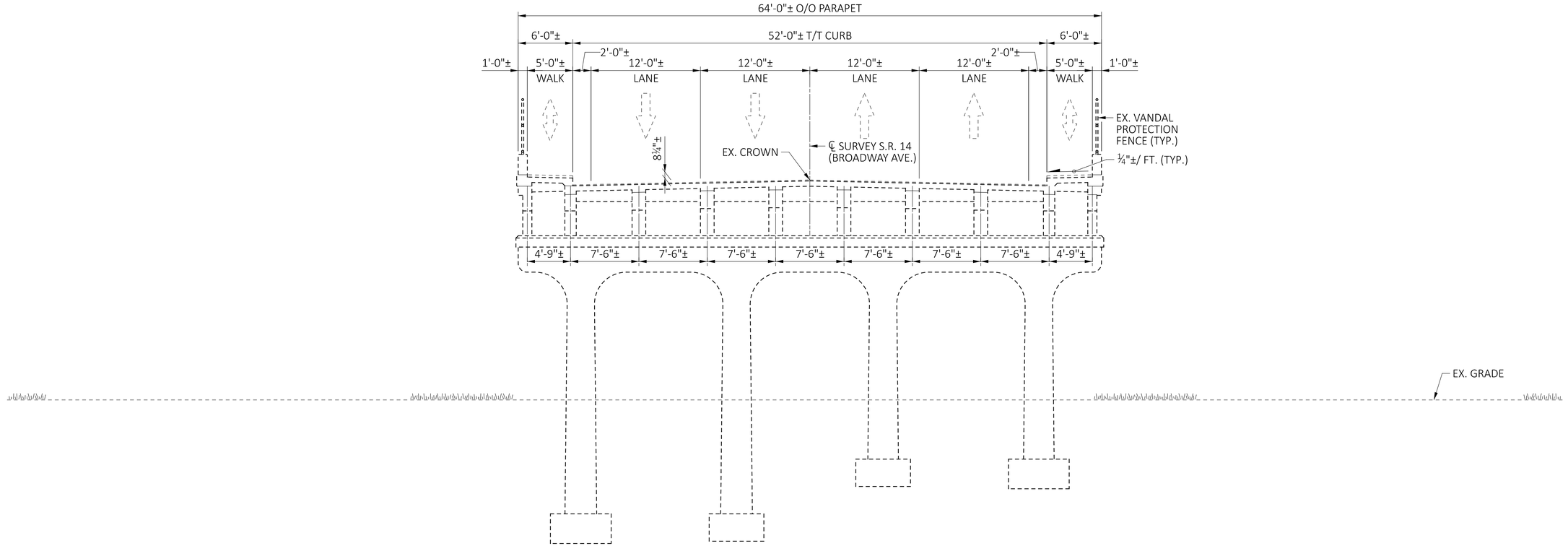
PROJECT ID
104132

SUBSET	TOTAL
7	94

SHEET	TOTAL
P.160	329

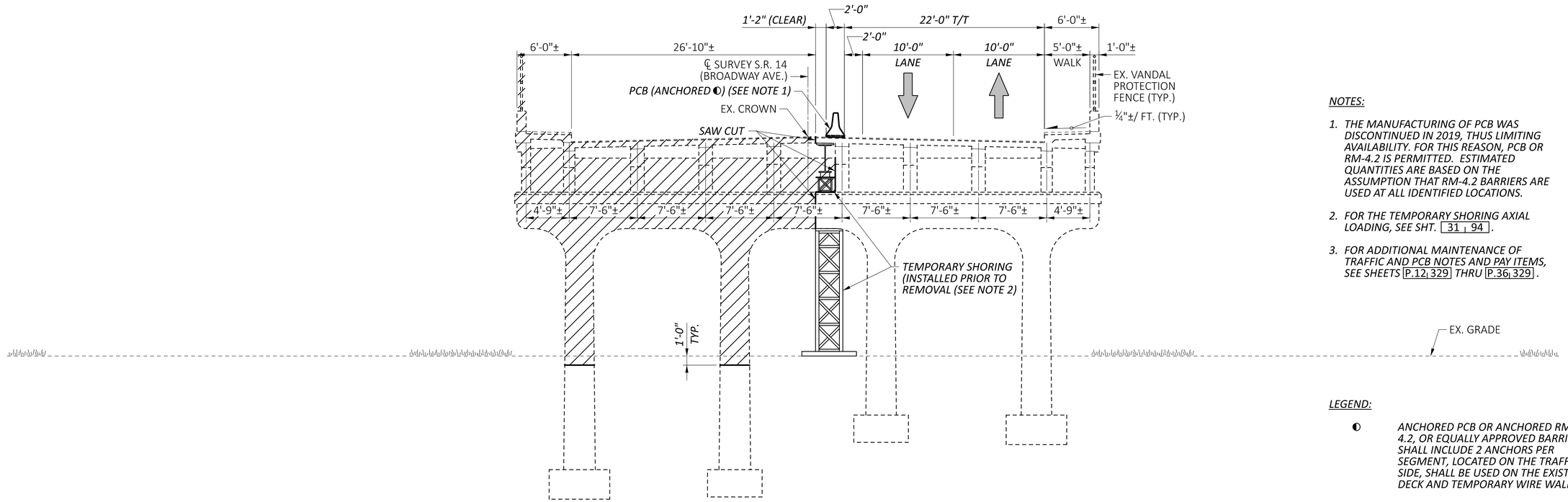
CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:40:51 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_D520_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SQ001.dgn



EXISTING CONDITION

BENT 6 SHOWN, OTHERS SIMILAR



PHASE 1 REMOVAL

PHASE 1 M.O.T.

NOTES:

1. *THE MANUFACTURING OF PCB WAS DISCONTINUED IN 2019, THUS LIMITING AVAILABILITY. FOR THIS REASON, PCB OR RM-4.2 IS PERMITTED. ESTIMATED QUANTITIES ARE BASED ON THE ASSUMPTION THAT RM-4.2 BARRIERS ARE USED AT ALL IDENTIFIED LOCATIONS.*
2. *FOR THE TEMPORARY SHORING AXIAL LOADING, SEE SHT.* 31 | 94 .
3. *FOR ADDITIONAL MAINTENANCE OF TRAFFIC AND PCB NOTES AND PAY ITEMS, SEE SHEETS* P.12| 329 *THRU* P.36| 329 .

LEGEND:

◐ *ANCHORED PCB OR ANCHORED RM-4.2, OR EQUALLY APPROVED BARRIERS, SHALL INCLUDE 2 ANCHORS PER SEGMENT, LOCATED ON THE TRAFFIC SIDE, SHALL BE USED ON THE EXISTING DECK AND TEMPORARY WIRE WALL.*

ITEM 202 - PORTIONS OF STRUCTURE REMOVED

PHASE CONSTRUCTION DETAILS - WEST APPROACH

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM

564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

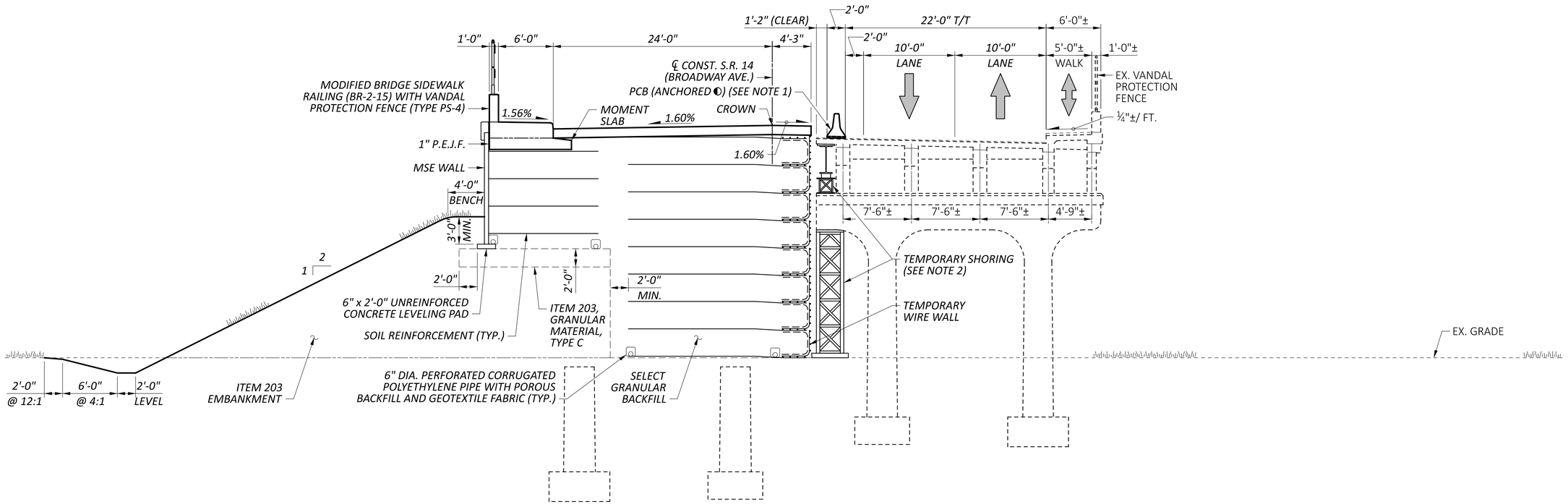
PROJECT ID: 104132

SUBSET	TOTAL
8	94

SHEET	TOTAL
P.161	329

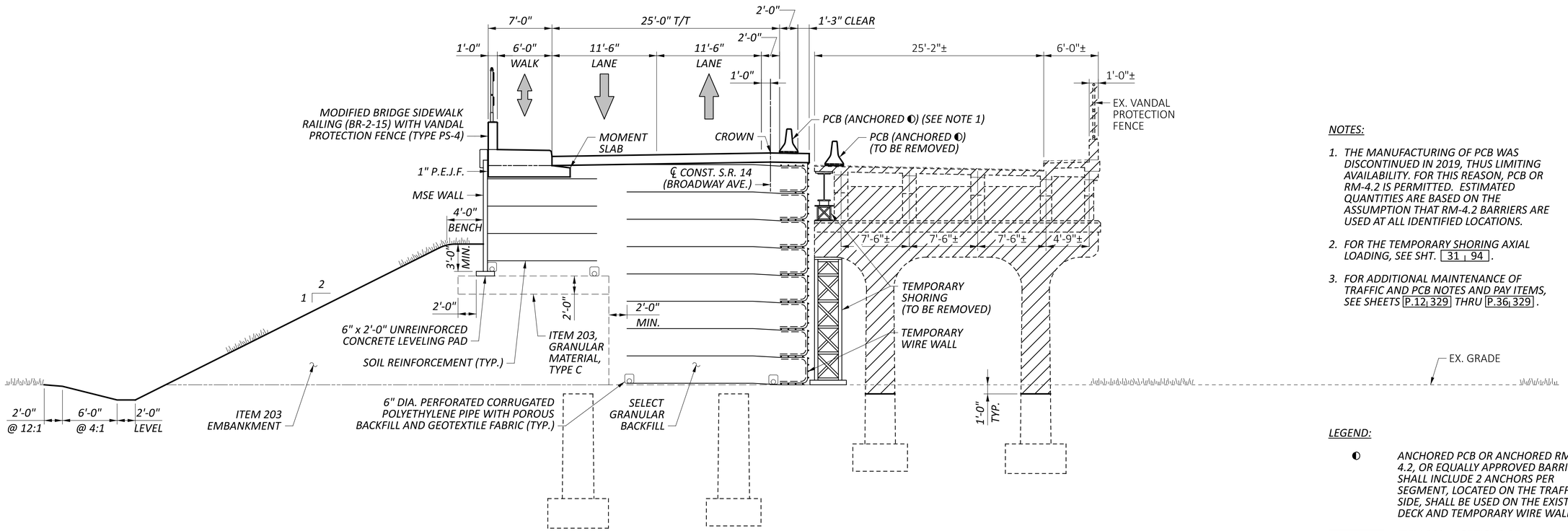
CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:41:09 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SC101.dgn



PHASE 1B CONSTRUCTION

PHASE 1 M.O.T.



PHASE 2 M.O.T.

PHASE 2 REMOVAL

NOTES:

1. *THE MANUFACTURING OF PCB WAS DISCONTINUED IN 2019, THUS LIMITING AVAILABILITY. FOR THIS REASON, PCB OR RM-4.2 IS PERMITTED. ESTIMATED QUANTITIES ARE BASED ON THE ASSUMPTION THAT RM-4.2 BARRIERS ARE USED AT ALL IDENTIFIED LOCATIONS.*
2. *FOR THE TEMPORARY SHORING AXIAL LOADING, SEE SHT.* 31 | 94 .
3. *FOR ADDITIONAL MAINTENANCE OF TRAFFIC AND PCB NOTES AND PAY ITEMS, SEE SHEETS* P.12, 329 *THRU* P.36, 329 .

LEGEND:

◐ *ANCHORED PCB OR ANCHORED RM-4.2, OR EQUALLY APPROVED BARRIERS, SHALL INCLUDE 2 ANCHORS PER SEGMENT, LOCATED ON THE TRAFFIC SIDE, SHALL BE USED ON THE EXISTING DECK AND TEMPORARY WIRE WALL.*

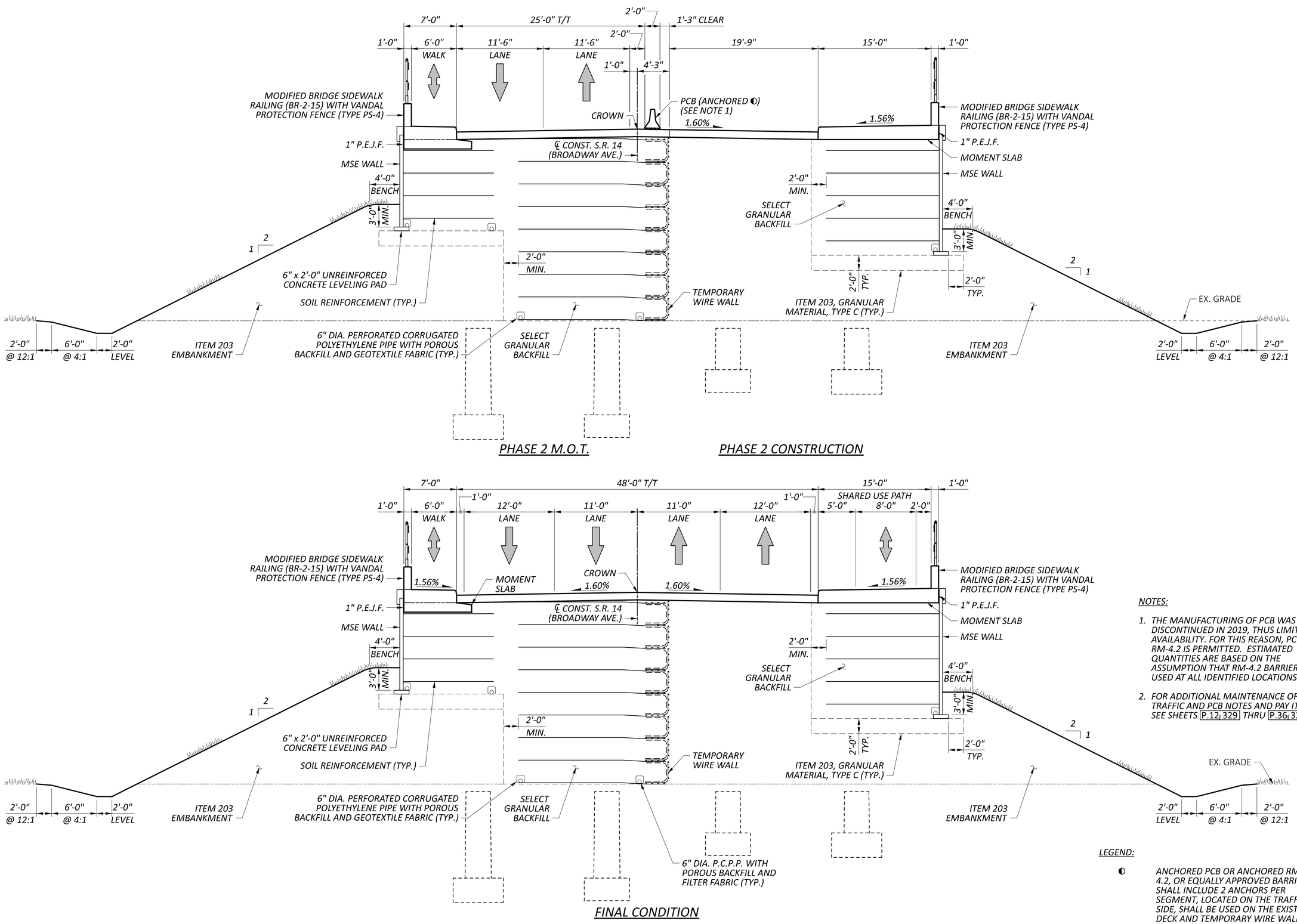
ITEM 202 - PORTIONS OF STRUCTURE REMOVED

PHASE CONSTRUCTION DETAILS - WEST APPROACH
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	JDM
CHECKER	GAD
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	9
TOTAL	94
SHEET	P.162
TOTAL	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:41:27 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60583903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SC102.dgn



NOTES:

1. THE MANUFACTURING OF PCB WAS DISCONTINUED IN 2019, THUS LIMITING AVAILABILITY. FOR THIS REASON, PCB OR RM-4.2 IS PERMITTED. ESTIMATED QUANTITIES ARE BASED ON THE ASSUMPTION THAT RM-4.2 BARRIERS ARE USED AT ALL IDENTIFIED LOCATIONS.
2. FOR ADDITIONAL MAINTENANCE OF TRAFFIC AND PCB NOTES AND PAY ITEMS, SEE SHEETS P.12, 329 THRU P.36, 329 .

LEGEND:

◐ ANCHORED PCB OR ANCHORED RM-4.2, OR EQUALLY APPROVED BARRIERS, SHALL INCLUDE 2 ANCHORS PER SEGMENT, LOCATED ON THE TRAFFIC SIDE, SHALL BE USED ON THE EXISTING DECK AND TEMPORARY WIRE WALL.

PHASE CONSTRUCTION DETAILS - WEST APPROACH
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

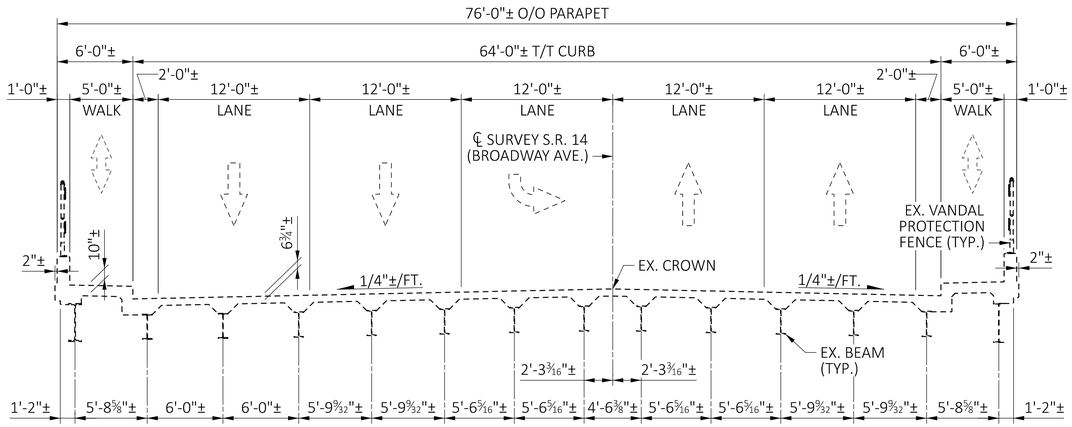
REVIEWER: MRW 02/06/23

PROJECT ID: 104132

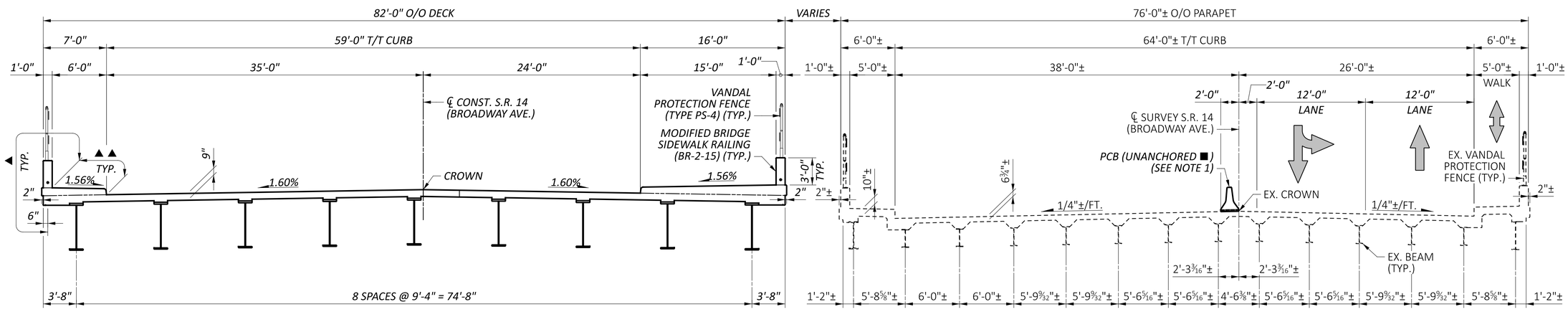
SUBSET	TOTAL
10	94

SHEET	TOTAL
P.163	329

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:41:44 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60583903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SC103.dgn



EXISTING CONDITION



PHASE 1B CONSTRUCTION

PHASE 1 M.O.T.

LEGEND:

▲ *ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)*

▲▲ *ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)*

■ *UNANCHORED PCB OR UNANCHORED RM-4.2, OR EQUALLY APPROVED BARRIERS, SHALL BE USED ON NEW DECK SURFACES TO PRECLUDE SUBSEQUENT PATCHING. THE BARRIERS ON THE NEW DECK ARE ONLY USED TO DELINEATE TRAFFIC.*

NOTES:

1. *THE MANUFACTURING OF PCB WAS DISCONTINUED IN 2019, THUS LIMITING AVAILABILITY. FOR THIS REASON, PCB OR RM-4.2 IS PERMITTED. ESTIMATED QUANTITIES ARE BASED ON THE ASSUMPTION THAT RM-4.2 BARRIERS ARE USED AT ALL IDENTIFIED LOCATIONS.*
2. *FOR ADDITIONAL MAINTENANCE OF TRAFFIC AND PCB NOTES AND PAY ITEMS, SEE SHEETS P.12, 329 THRU P.36, 329 .*

PHASE CONSTRUCTION DETAILS - OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

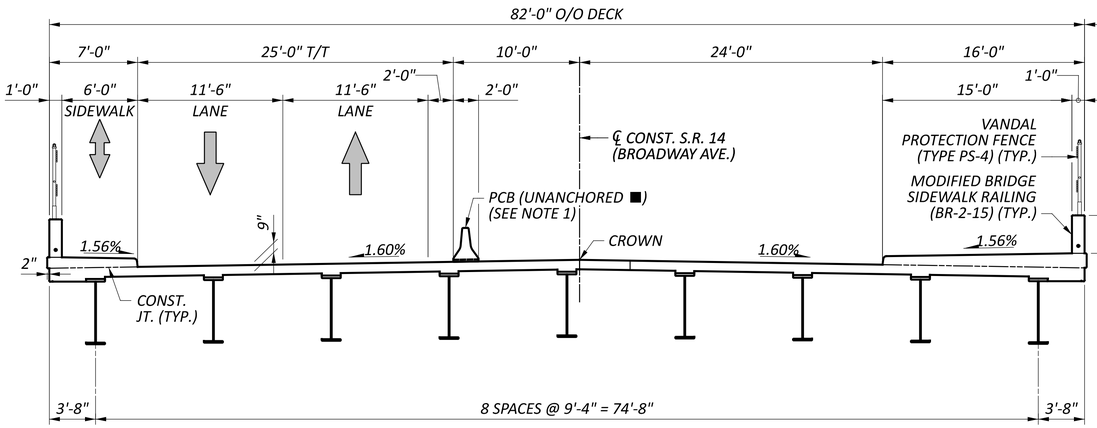
PROJECT ID: 104132

SUBSET	TOTAL
11	94

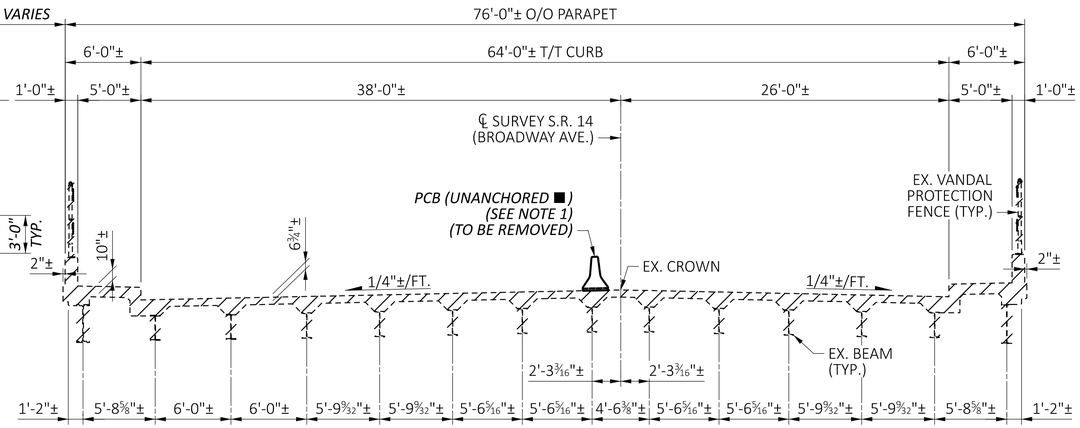
SHEET	TOTAL
P.164	329

CUY-14-6.93

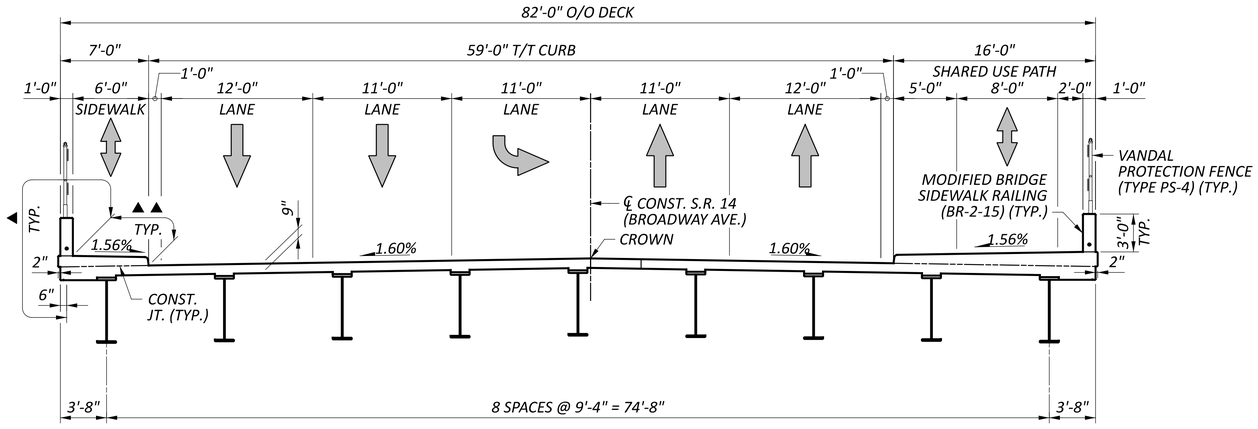
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:42:01 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SC201.dgn



PHASE 2 M.O.T.



PHASE 2 REMOVAL



FINAL CONDITION

LEGEND:

▲ ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

▲▲ ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)

■ UNANCHORED PCB OR UNANCHORED RM-4.2, OR EQUALLY APPROVED BARRIERS, SHALL BE USED ON NEW DECK SURFACES TO PRECLUDE SUBSEQUENT PATCHING. THE BARRIERS ON THE NEW DECK ARE ONLY USED TO DELINEATE TRAFFIC.

▨ ITEM 202 - PORTIONS OF STRUCTURE REMOVED

NOTES:

1. THE MANUFACTURING OF PCB WAS DISCONTINUED IN 2019, THUS LIMITING AVAILABILITY. FOR THIS REASON, PCB OR RM-4.2 IS PERMITTED. ESTIMATED QUANTITIES ARE BASED ON THE ASSUMPTION THAT RM-4.2 BARRIERS ARE USED AT ALL IDENTIFIED LOCATIONS.
2. FOR ADDITIONAL MAINTENANCE OF TRAFFIC AND PCB NOTES AND PAY ITEMS, SEE SHEETS P.12, 329 THRU P.36, 329 .

PHASE CONSTRUCTION DETAILS - OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS
BRIDGE NO. CUY-00014-06.930

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER MRW 02/06/23

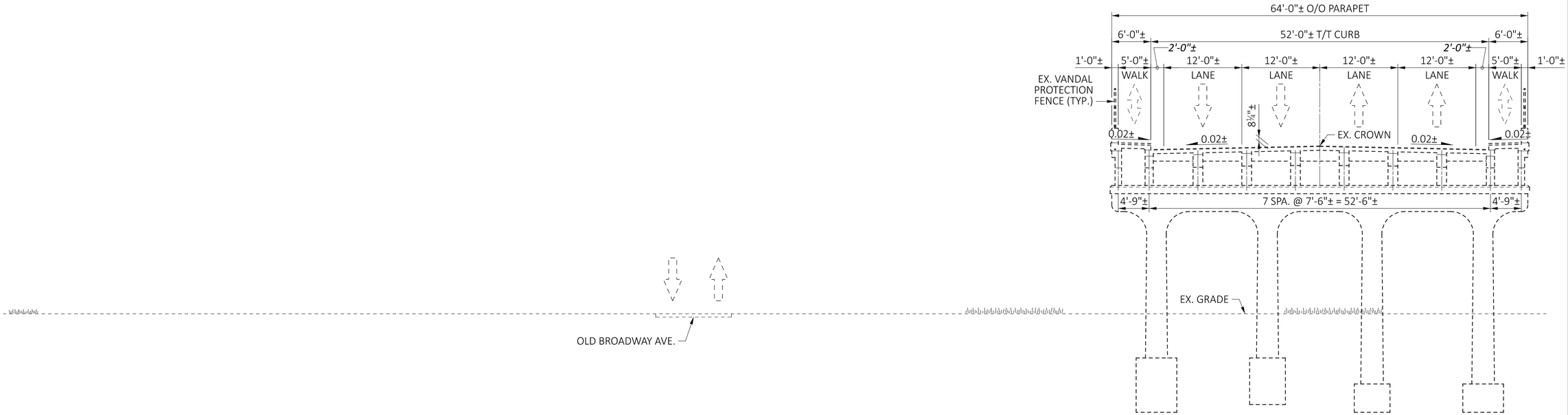
PROJECT ID 104132

SUBSET	TOTAL
12	94

SHEET	TOTAL
P.165	329

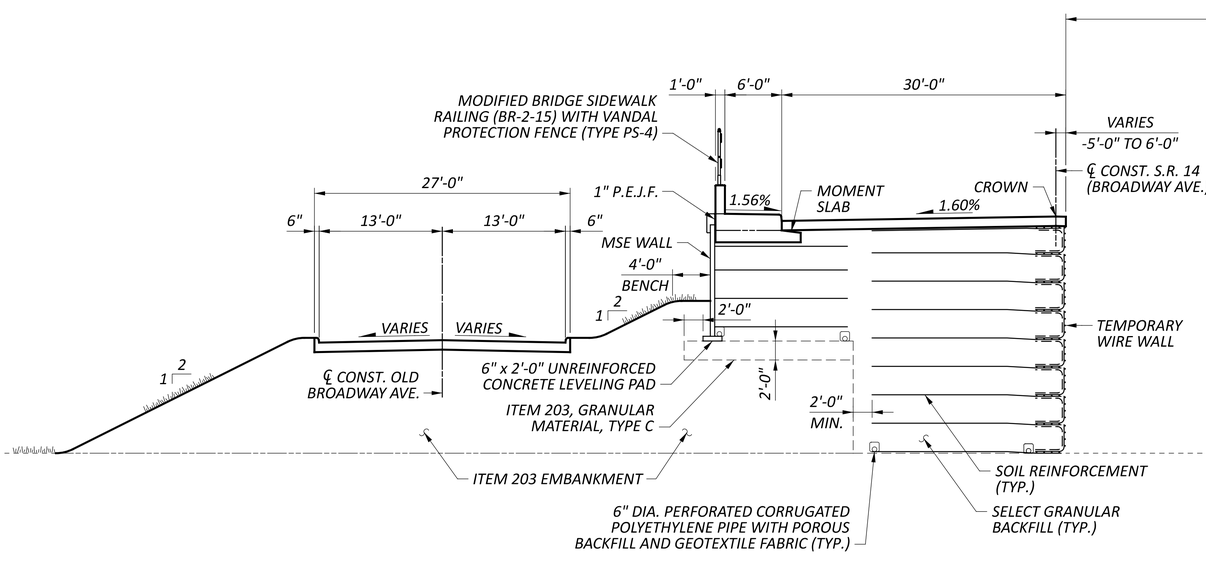
CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:42:19 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SC202.dgn

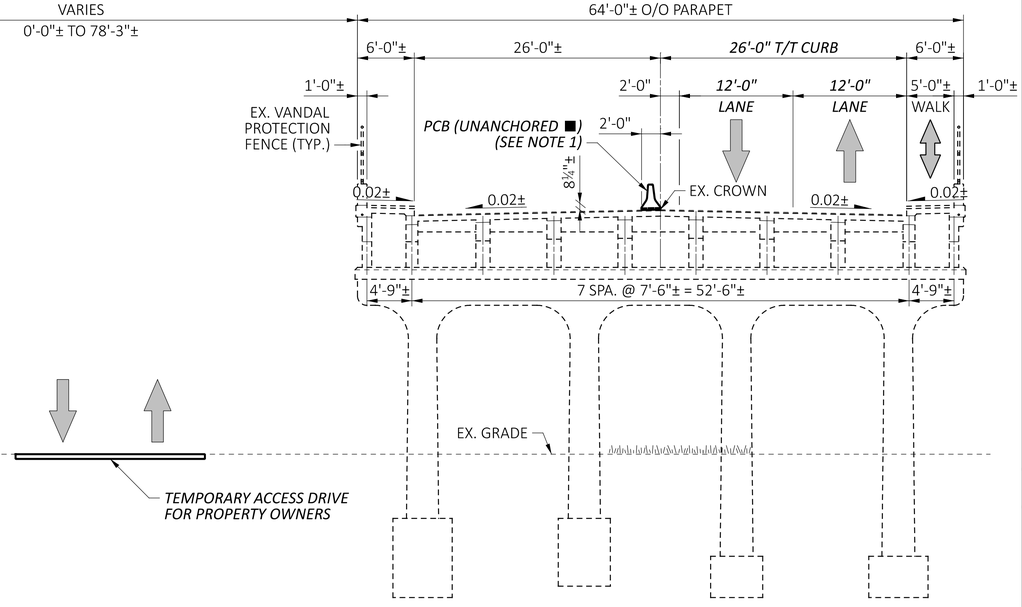


EXISTING CONDITION

BENT 41 SHOWN, OTHERS SIMILAR



PHASE 1A CONSTRUCTION



PHASE 1 M.O.T.

LEGEND:

▲ *ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)*

▲▲ *ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)*

■ *UNANCHORED PCB OR UNANCHORED RM-4.2, OR EQUALLY APPROVED BARRIERS, SHALL BE USED ON NEW DECK SURFACES TO PRECLUDE SUBSEQUENT PATCHING. THE BARRIERS ON THE NEW DECK ARE ONLY USED TO DELINEATE TRAFFIC.*

NOTES:

1. *THE MANUFACTURING OF PCB WAS DISCONTINUED IN 2019, THUS LIMITING AVAILABILITY. FOR THIS REASON, PCB OR RM-4.2 IS PERMITTED. ESTIMATED QUANTITIES ARE BASED ON THE ASSUMPTION THAT RM-4.2 BARRIERS ARE USED AT ALL IDENTIFIED LOCATIONS.*

2. *FOR ADDITIONAL MAINTENANCE OF TRAFFIC AND PCB NOTES AND PAY ITEMS, SEE SHEETS P.12\329 THRU P.36\329.*

PHASE CONSTRUCTION DETAILS - EAST APPROACH
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:42:34 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS2O_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SC301.dgn

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

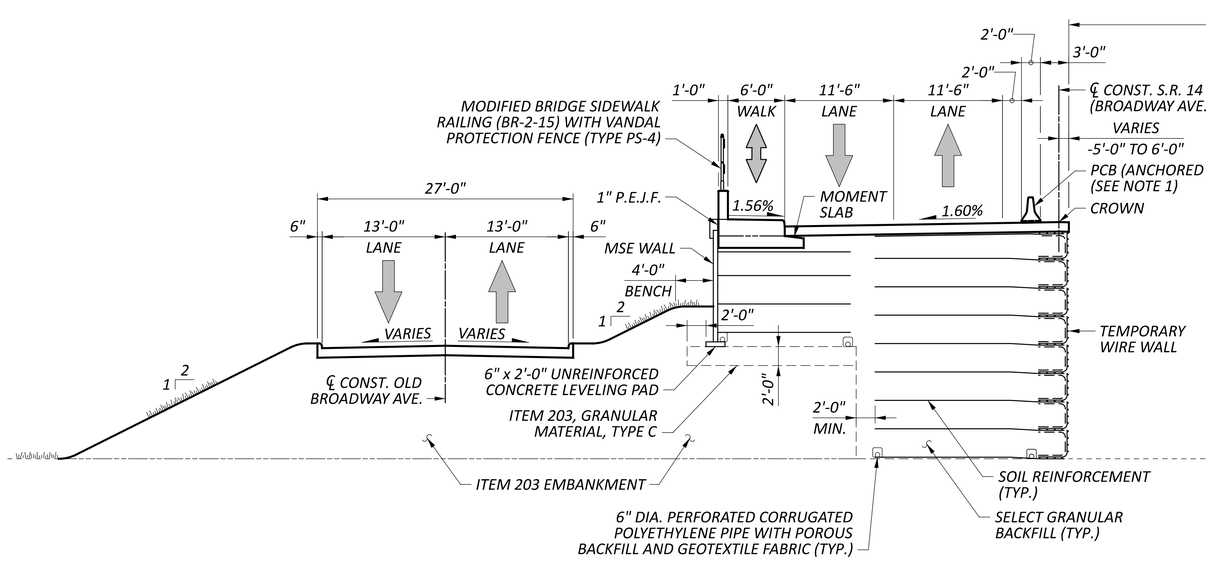
DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

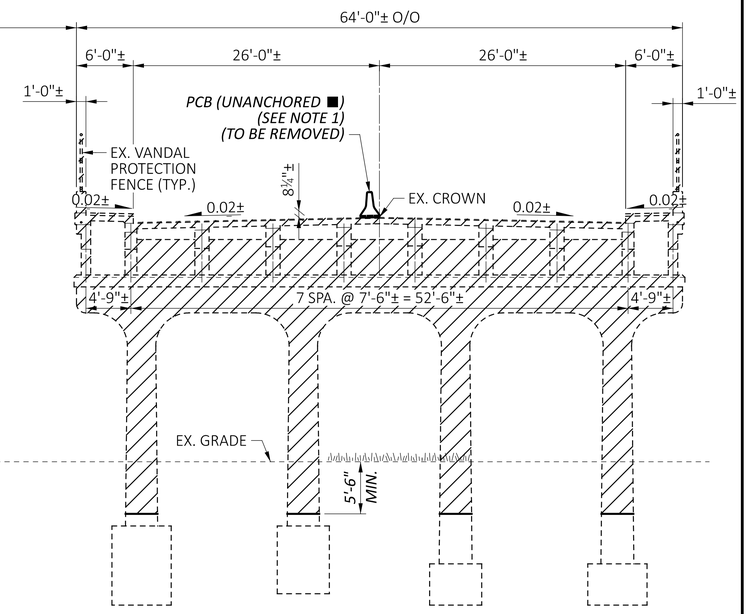
PROJECT ID: 104132

SUBSET	TOTAL
13	94

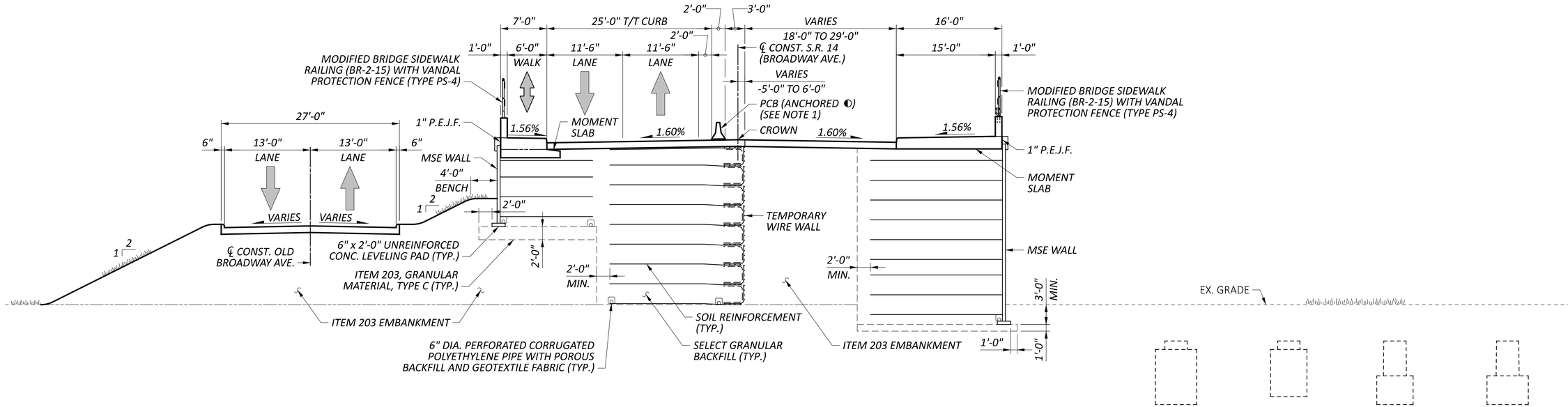
SHEET	TOTAL
P.166	329



PHASE 2 M.O.T.



PHASE 2 REMOVAL



PHASE 2 M.O.T.

PHASE 2 CONSTRUCTION

LEGEND:

▲ ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

▲▲ ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)

ITEM 202 - PORTIONS OF STRUCTURE REMOVED

LEGEND:

■ UNANCHORED PCB OR UNANCHORED RM-4.2, OR EQUALLY APPROVED BARRIERS, SHALL BE USED ON NEW DECK SURFACES TO PRECLUDE SUBSEQUENT PATCHING. THE BARRIERS ON THE NEW DECK ARE ONLY USED TO DELINEATE TRAFFIC.

◐ ANCHORED PCB OR ANCHORED RM-4.2, OR EQUALLY APPROVED BARRIERS, SHALL INCLUDE 2 ANCHORS PER SEGMENT, LOCATED ON THE TRAFFIC SIDE, SHALL BE USED ON THE EXISTING DECK AND TEMPORARY WIRE WALL.

NOTES:

1. THE MANUFACTURING OF PCB WAS DISCONTINUED IN 2019, THUS LIMITING AVAILABILITY. FOR THIS REASON, PCB OR RM-4.2 IS PERMITTED. ESTIMATED QUANTITIES ARE BASED ON THE ASSUMPTION THAT RM-4.2 BARRIERS ARE USED AT ALL IDENTIFIED LOCATIONS.
2. FOR ADDITIONAL MAINTENANCE OF TRAFFIC AND PCB NOTES AND PAY ITEMS, SEE SHEETS P.12, 329 THRU P.36, 329.

PHASE CONSTRUCTION DETAILS - EAST APPROACH
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

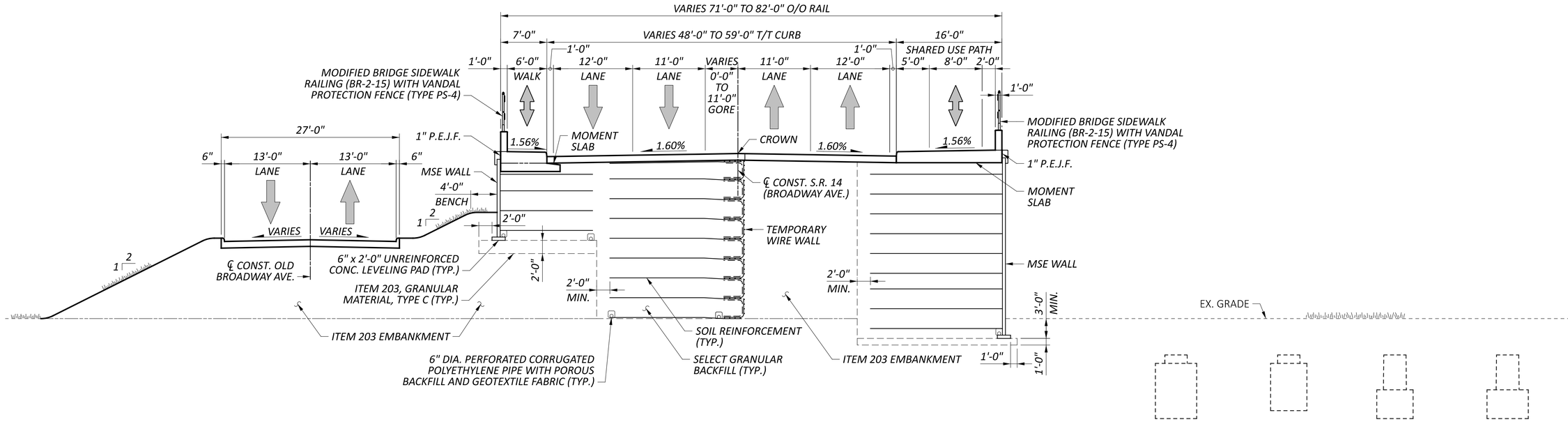
PROJECT ID: 104132

SUBSET	TOTAL
14	94

SHEET	TOTAL
P.167	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:42:50 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SC302.dgn



FINAL CONDITION

NOTE:

1. *FOR ADDITIONAL MAINTENANCE OF TRAFFIC AND PCB NOTES AND PAY ITEMS, SEE SHEETS* P.12, 329 *THRU* P.36, 329.

PHASE CONSTRUCTION DETAILS - EAST APPROACH
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

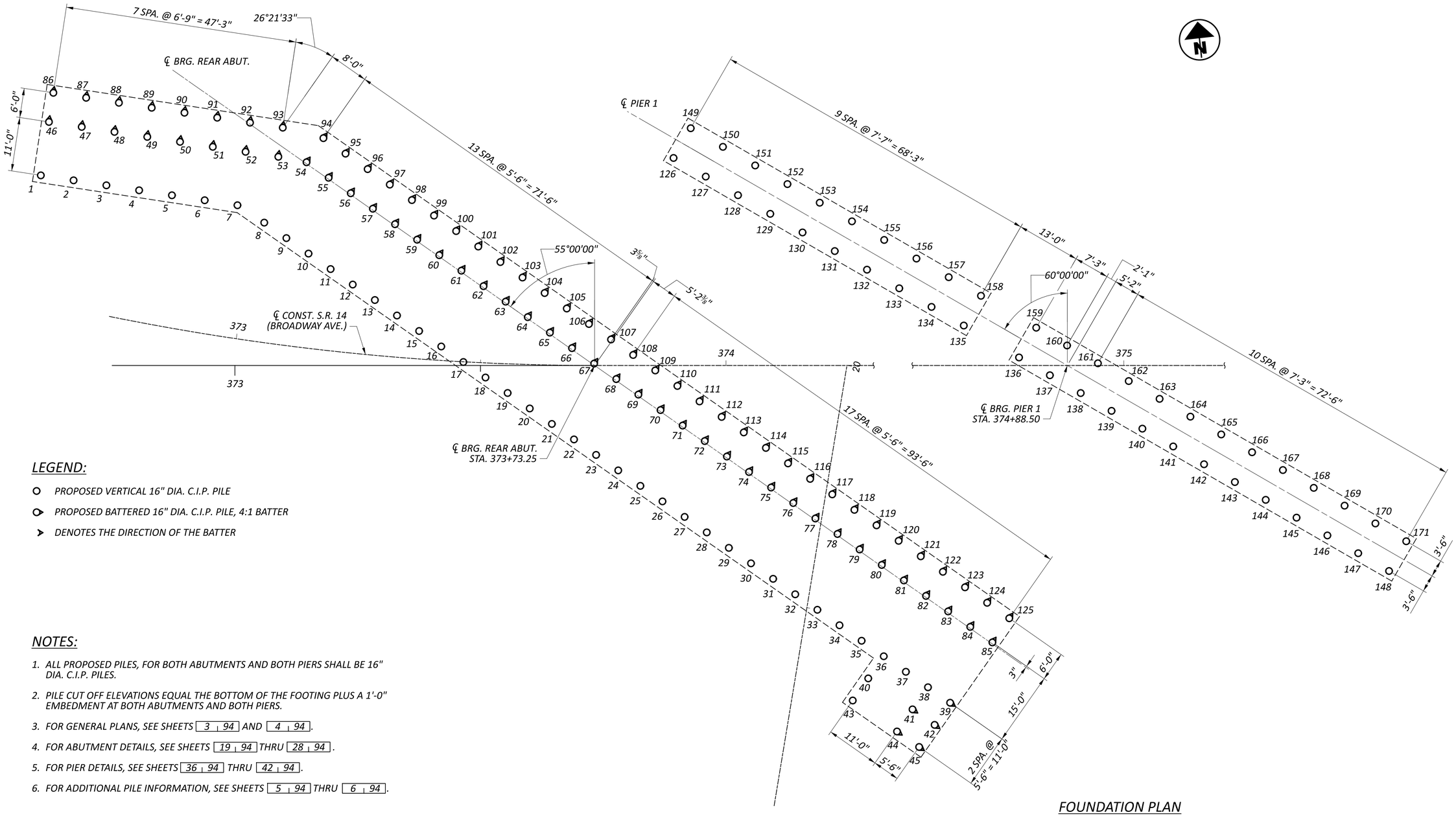
SUBSET	TOTAL
15	94

SHEET	TOTAL
P.168	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:43:04 PM USER: todd.roxberry
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Structures\SFN_1801806\Sheets\104132_SFN_1801806_SC303.dgn

PILING TABLE						
PILE NO.	LOCATION	PILE SIZE	PILE CUTOFF ELEVATION	EST. PILE TIP ELEVATION	ESTIMATED LENGTH	ORDER LENGTH
1 - 125	REAR ABUT.	16" C.I.P.	809.50	787.30	25'	30'
126 - 171	PIER 1	16" C.I.P.	812.00	787.30	30'	35'



LEGEND:

- PROPOSED VERTICAL 16" DIA. C.I.P. PILE
- PROPOSED BATTERED 16" DIA. C.I.P. PILE, 4:1 BATTER
- DENOTES THE DIRECTION OF THE BATTER

NOTES:

1. ALL PROPOSED PILES, FOR BOTH ABUTMENTS AND BOTH PIERS SHALL BE 16" DIA. C.I.P. PILES.
2. PILE CUT OFF ELEVATIONS EQUAL THE BOTTOM OF THE FOOTING PLUS A 1'-0" EMBEDMENT AT BOTH ABUTMENTS AND BOTH PIERS.
3. FOR GENERAL PLANS, SEE SHEETS 3 | 94 AND 4 | 94.
4. FOR ABUTMENT DETAILS, SEE SHEETS 19 | 94 THRU 28 | 94.
5. FOR PIER DETAILS, SEE SHEETS 36 | 94 THRU 42 | 94.
6. FOR ADDITIONAL PILE INFORMATION, SEE SHEETS 5 | 94 THRU 6 | 94.

FOUNDATION PLAN

FOUNDATION PLAN 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:43:25 PM USER: todd.roxberry
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SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

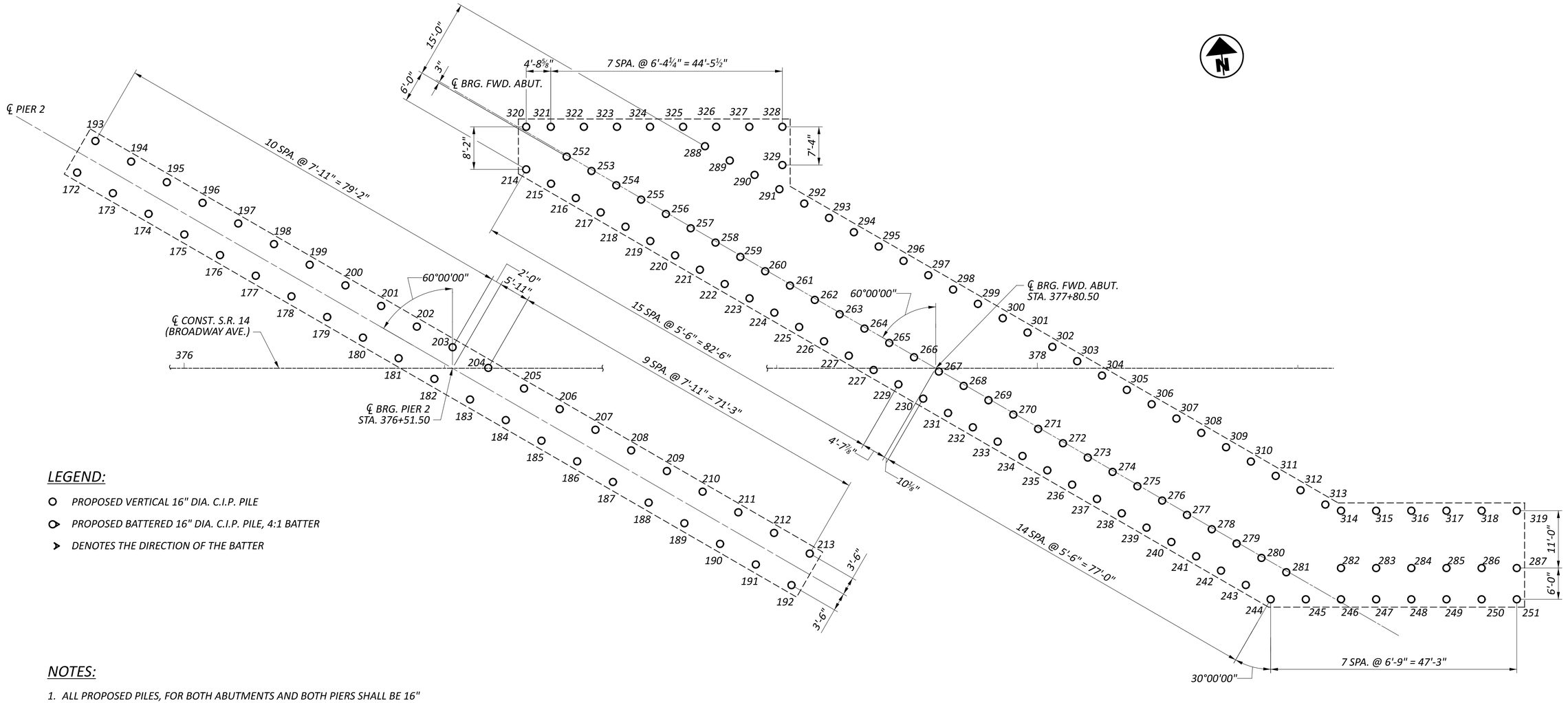
REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
16	94

SHEET	TOTAL
P.169	329

PILING TABLE						
PILE NO.	LOCATION	PILE SIZE	PILE CUTOFF ELEVATION	EST. PILE TIP ELEVATION	ESTIMATED LENGTH	ORDER LENGTH
172 - 213	PIER 2	16" C.I.P.	816.00	785.60	35'	40'
214 - 329	FWD. ABUT.	16" C.I.P.	817.00	794.20	25'	30'



LEGEND:

- PROPOSED VERTICAL 16" DIA. C.I.P. PILE
- PROPOSED BATTERED 16" DIA. C.I.P. PILE, 4:1 BATTER
- DENOTES THE DIRECTION OF THE BATTER

NOTES:

1. ALL PROPOSED PILES, FOR BOTH ABUTMENTS AND BOTH PIERS SHALL BE 16" DIA. C.I.P. PILES.
2. PILE CUT OFF ELEVATIONS EQUAL THE BOTTOM OF THE FOOTING PLUS A 1'-0" EMBEDMENT AT BOTH ABUTMENTS AND BOTH PIERS.
3. FOR GENERAL PLANS, SEE SHEETS 3 | 94 AND 4 | 94.
4. FOR ABUTMENT DETAILS, SEE SHEETS 19 | 94 THRU 28 | 94.
5. FOR PIER DETAILS, SEE SHEETS 36 | 94 THRU 42 | 94.
6. FOR ADDITIONAL PILE INFORMATION, SEE SHEETS 5 | 94 THRU 6 | 94.

FOUNDATION PLAN

FOUNDATION PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

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SFN 1801806

DESIGN AGENCY
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564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

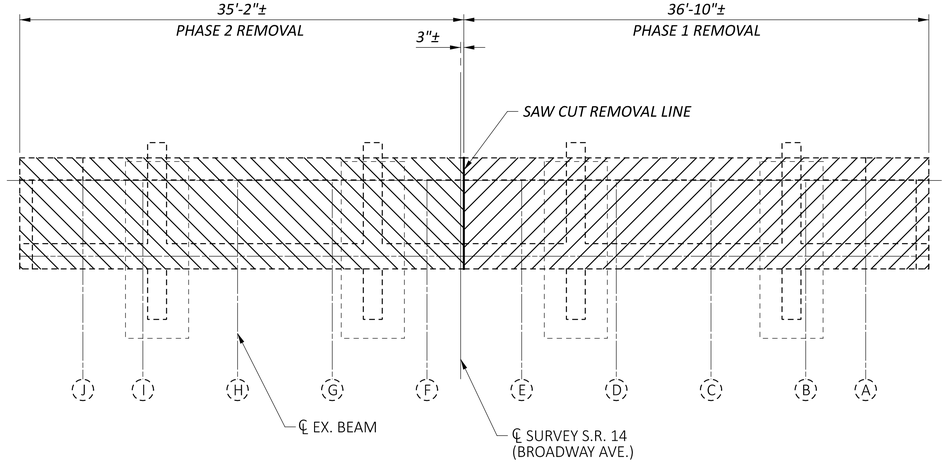
DESIGNER	CHECKER
ERM	JDM

REVIEWER MRW 02/06/23

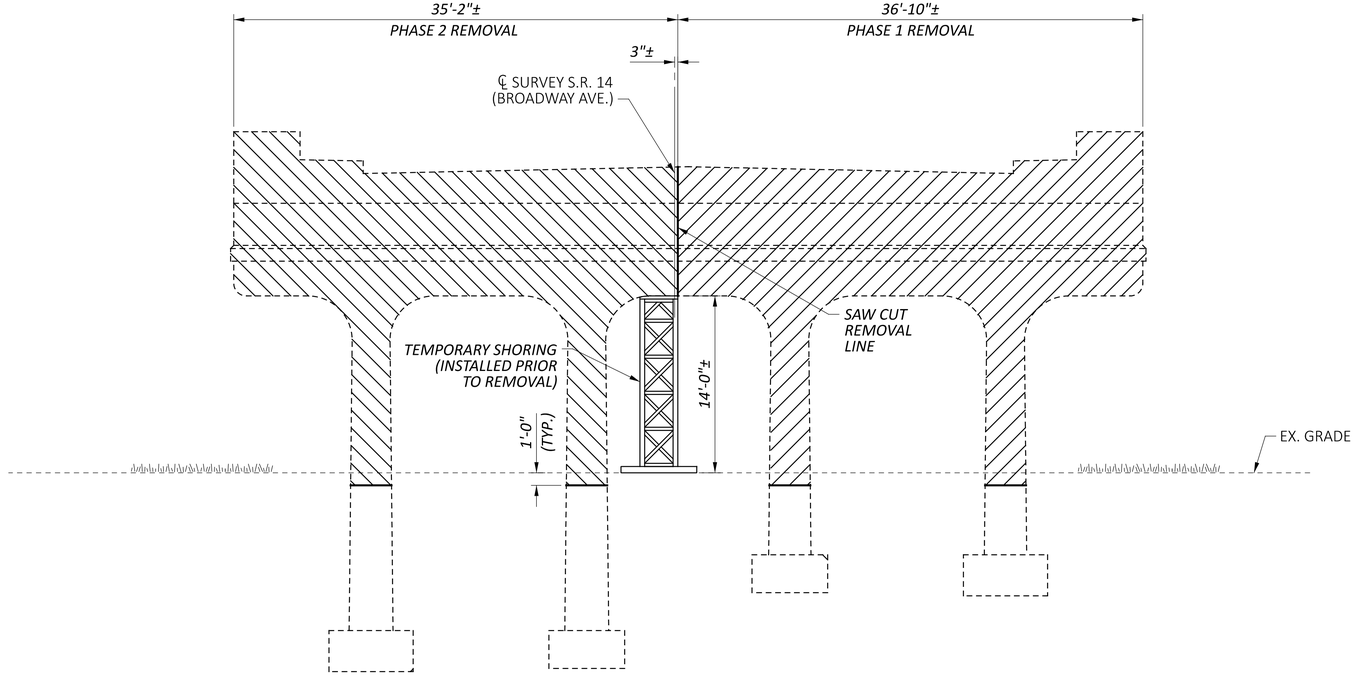
PROJECT ID 104132

SUBSET	TOTAL
17	94

SHEET	TOTAL
P.170	329



PLAN



ELEVATION

LEGEND:

- AREA TO BE REMOVED IN PHASE 1
- AREA TO BE REMOVED IN PHASE 2
- (X) BEAM DESIGNATION

NOTES:

1. THE STRUCTURE REMOVAL SHALL BE PER 'ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN'. SEE GENERAL NOTES, SHEET 5 , 94 .
2. ALL DIMENSIONS SHOWN ARE PER THE EXISTING STRUCTURE PLANS OR AS OBSERVED IN THE FIELD AND SHALL BE CONSIDERED APPROXIMATE.
3. EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.
4. TEMPORARY SHORING TYPE, SIZE AND LOCATION TO BE DESIGNED AND VERIFIED BY CONTRACTOR. TEMPORARY DECK OVERHANG BEAM IS ASSUMED TO SPAN FROM EXISTING PIER CUTLINE TO EXISTING PIER CUTLINE LONGITUDINALLY ALONG THE DECK. ESTIMATED SERVICE LEVEL LOADINGS ARE AS FOLLOWS:

   OVERHANG BEAM (EXIST. B1-B14), W = 1.25 KLF
   OVERHANG BEAM (EXIST. B15-B28), W = 1.63 KLF
   SHORING TOWER, AXIAL LOAD = 75.8 K

REAR ABUTMENT REMOVAL DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	TLN
CHECKER	ERM
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	18
TOTAL	94
SHEET	P.171
TOTAL	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:44:05 PM USER: todd.roxberry
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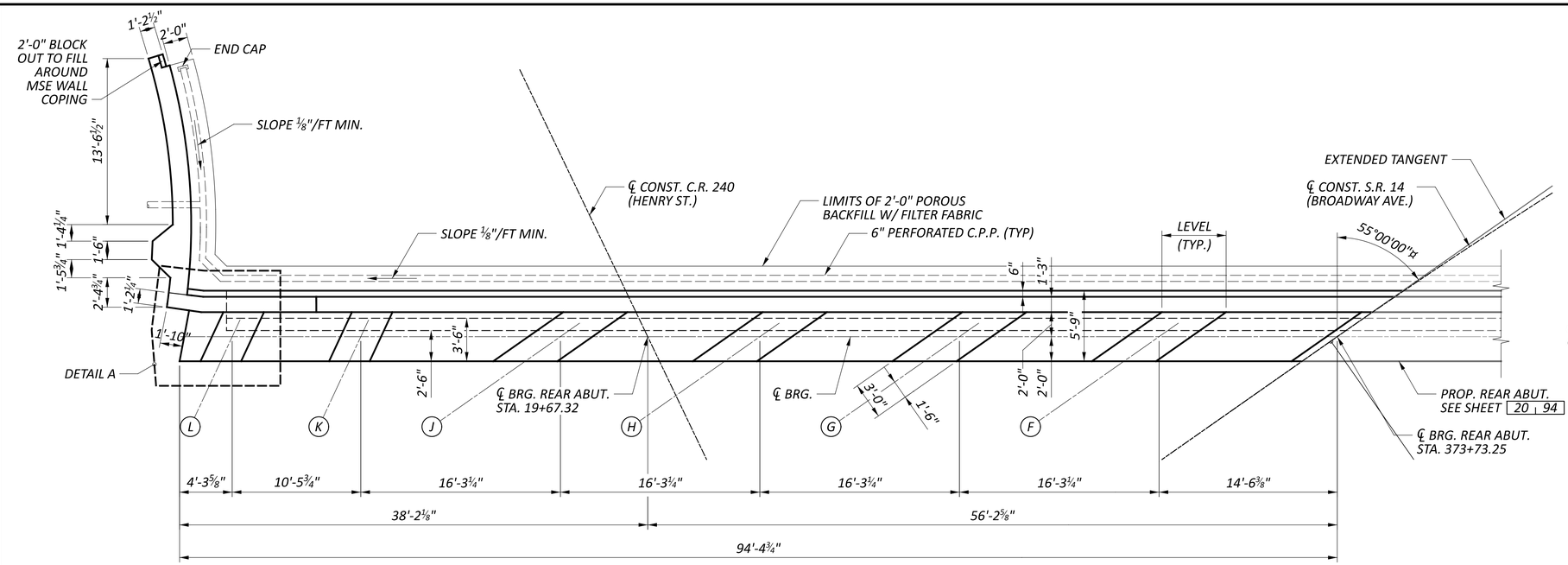
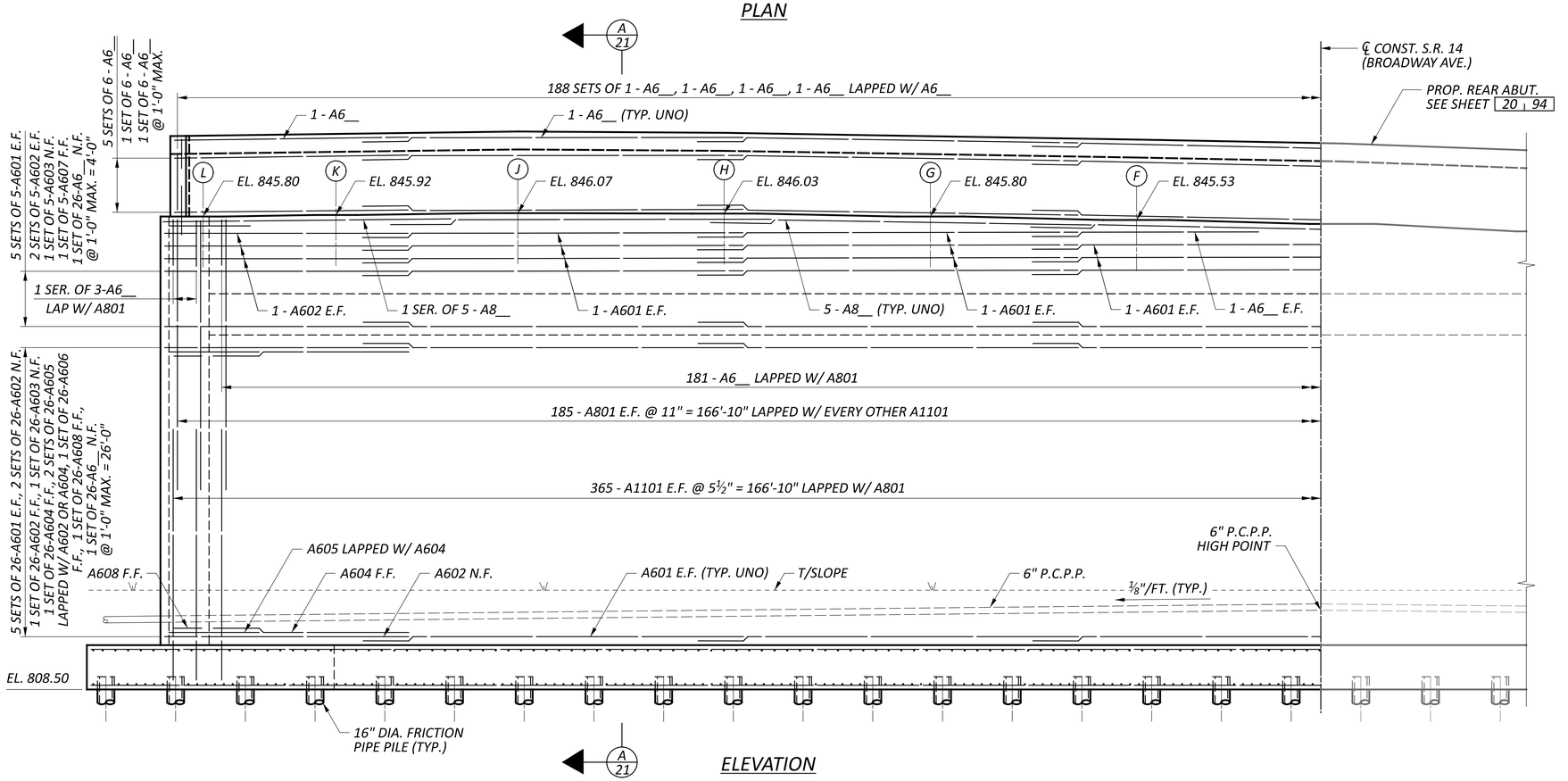
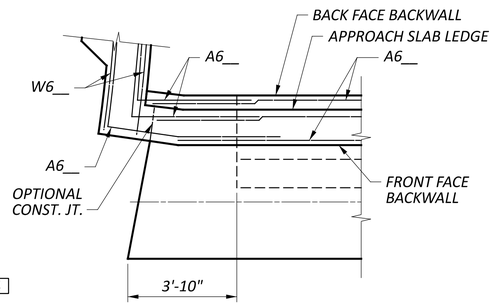


PLAN

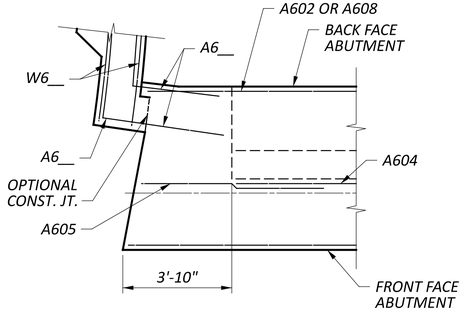


ELEVATION



DETAIL A

CORNER DETAIL IN BACKWALL



DETAIL A

CORNER DETAIL BELOW BACKWALL

REQUIRED MIN. LAP LENGTHS	
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"
NO. 11 BARS	8'-8"

LEGEND:

¤ MEASURED IN REFERENCE TO THE EXTENDED TANGENT

(-) GIRDER DESIGNATION

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 16 ¦ 94 .
3. FOR BEARING DETAILS, SEE SHEET 43 ¦ 94 .
4. FOR REINFORCING STEEL LIST, SEE SHEET 88 ¦ 94 .
5. ELEVATIONS PROVIDED AT FACE OF BACKWALL.

REAR ABUTMENT PLAN AND ELEVATION 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
19	94

SHEET	TOTAL
P.172	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:44:32 PM USER: todd.roxberry
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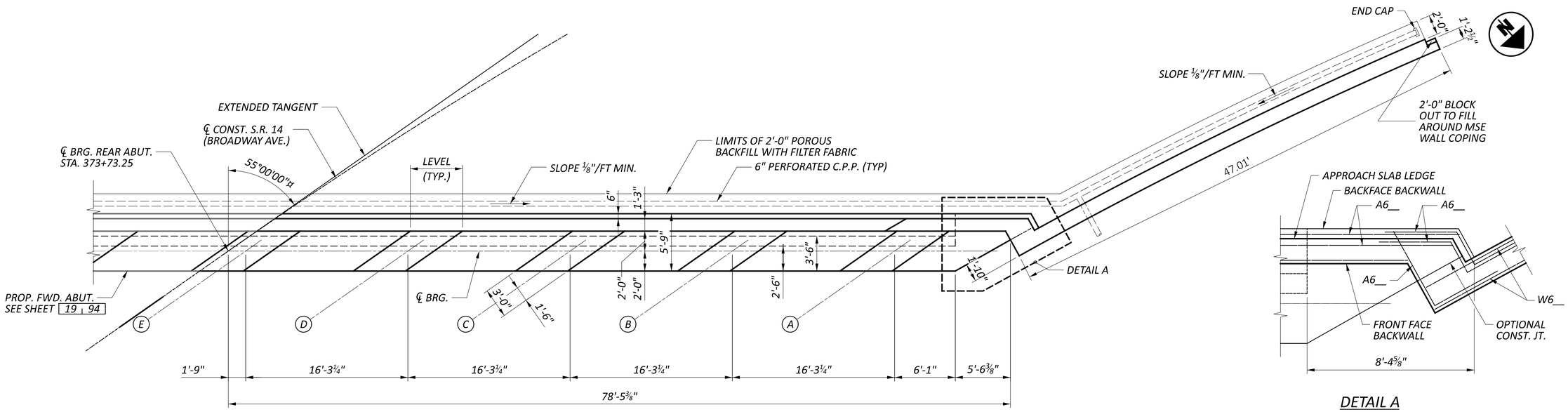
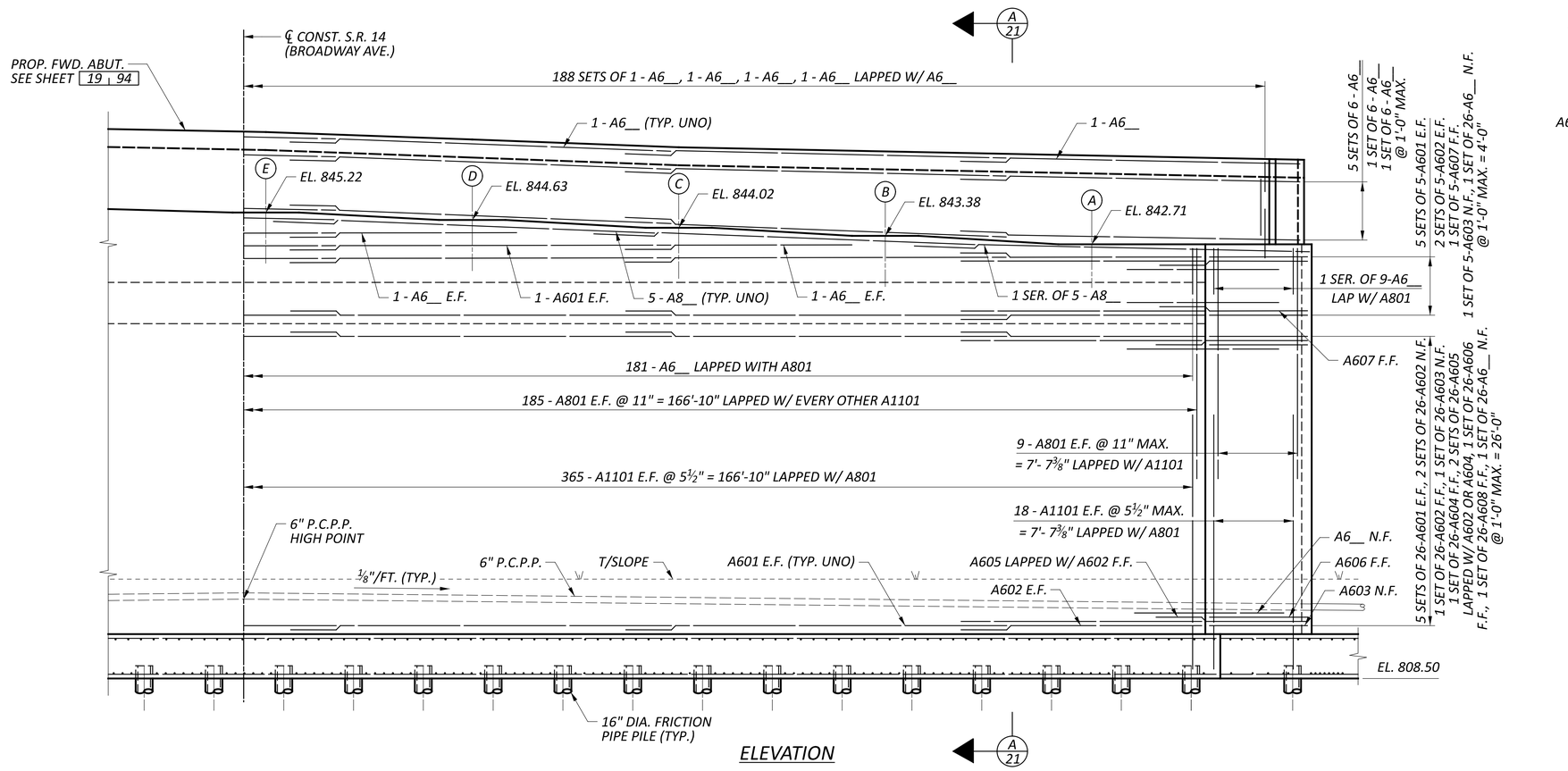


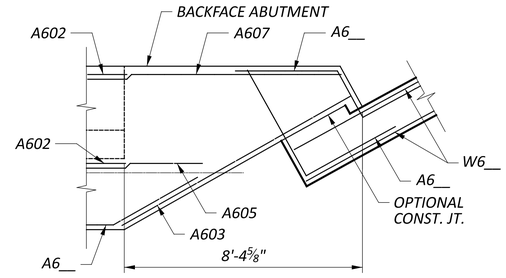
PLAN

DETAIL A

CORNER DETAIL IN BACKWALL



ELEVATION



DETAIL A

CORNER DETAIL BELOW BACKWALL

REQUIRED MIN. LAP LENGTHS	
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"
NO. 11 BARS	8'-8"

LEGEND:

¤ MEASURED IN REFERENCE TO THE EXTENDED TANGENT

(-) GIRDER DESIGNATION

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 16 ¦ 94.
3. FOR BEARING DETAILS, SEE SHEET 43 ¦ 94.
4. FOR REINFORCING STEEL LIST SEE SHEET 88 ¦ 94.
5. ELEVATIONS PROVIDED AT FACE OF BACKWALL.

REAR ABUTMENT PLAN AND ELEVATION 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:44:55 PM USER: todd.roxberry
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SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

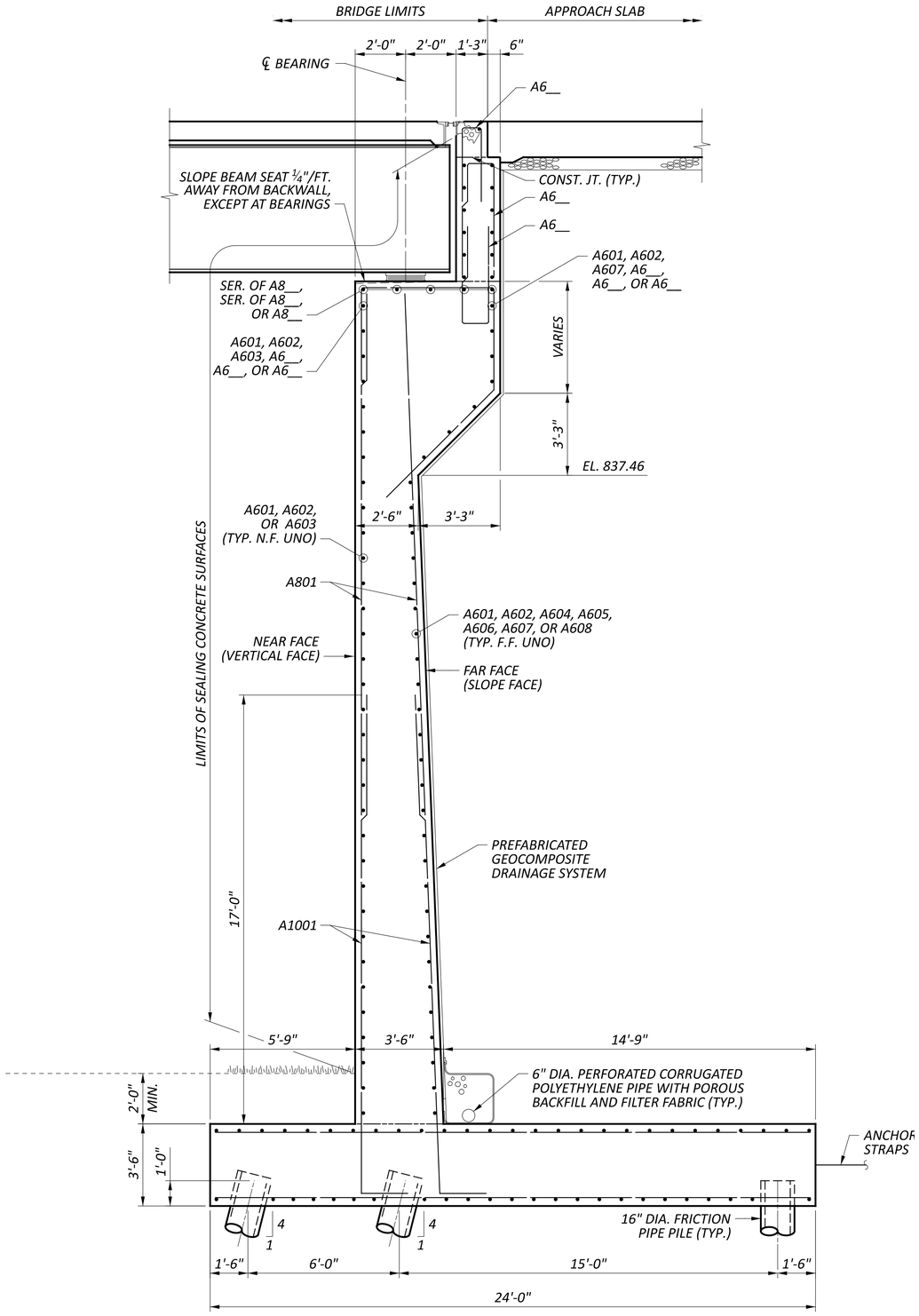
DESIGNER	CHECKER
ERM	JDM

REVIEWER MRW 02/06/23

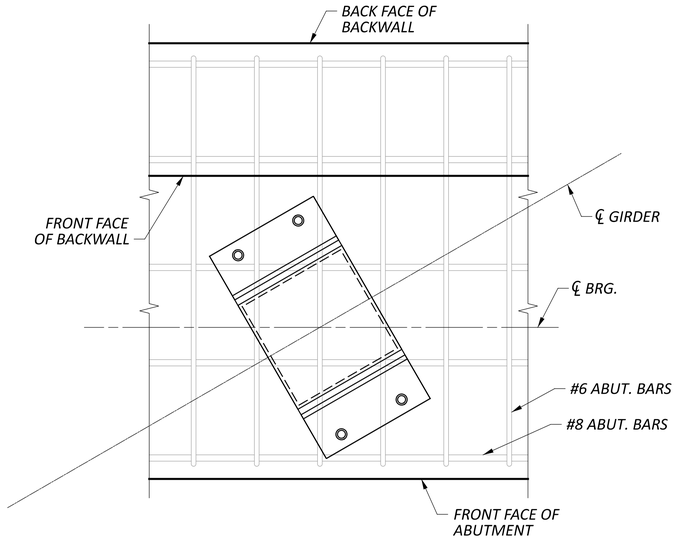
PROJECT ID 104132

SUBSET	TOTAL
20	94

SHEET	TOTAL
P.173	329



A SECTION
19, 20



BEARING ANCHOR PLAN

REQUIRED MIN. LAP LENGTHS	
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"
NO. 11 BARS	8'-8"

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 16 ¦ 94 .
3. FOR BEARING DETAILS, SEE SHEET 43 ¦ 94 .
4. FOR REINFORCING STEEL LIST, SEE SHEET 88 ¦ 94 .
5. CONTRACTOR SHALL NOT PLACE BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.

REAR ABUTMENT DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
21	94

SHEET	TOTAL
P.174	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:45:11 PM USER: todd.roxberry
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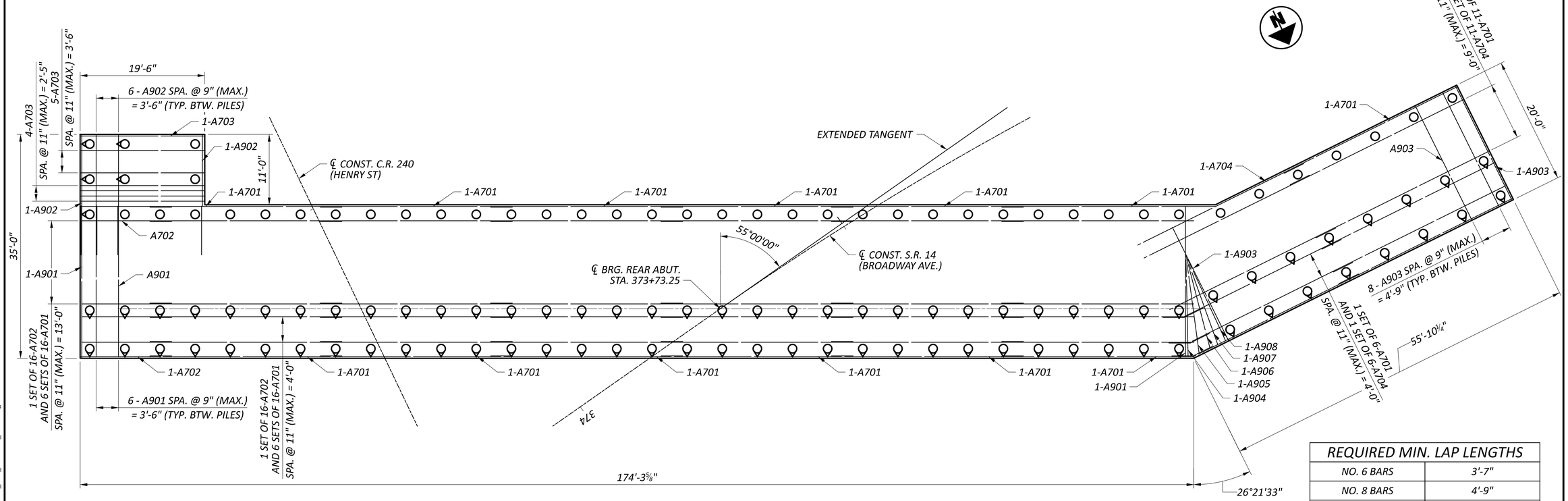
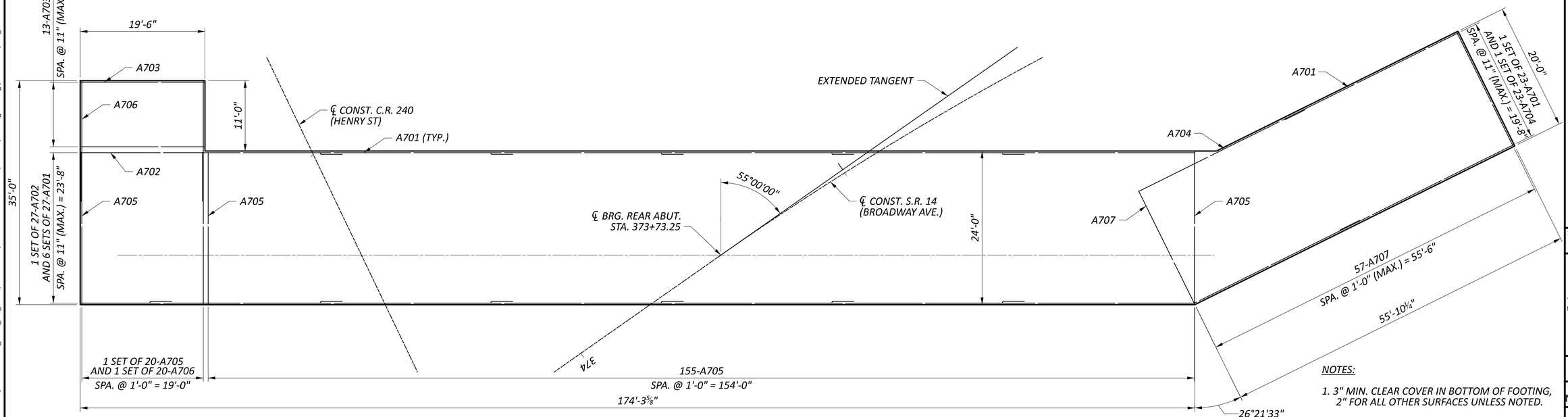


REAR ABUTMENT FOOTING PLAN - BOTTOM REINFORCING

REQUIRED MIN. LAP LENGTHS	
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"
NO. 11 BARS	8'-8"



REAR ABUTMENT FOOTING PLAN - TOP REINFORCING

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 16 ¦ 94 .
3. FOR REINFORCING STEEL LIST, SEE SHEET 88 ¦ 94 .

REAR ABUTMENT DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
22	94

SHEET	TOTAL
P.175	329

CUY-14-6.93

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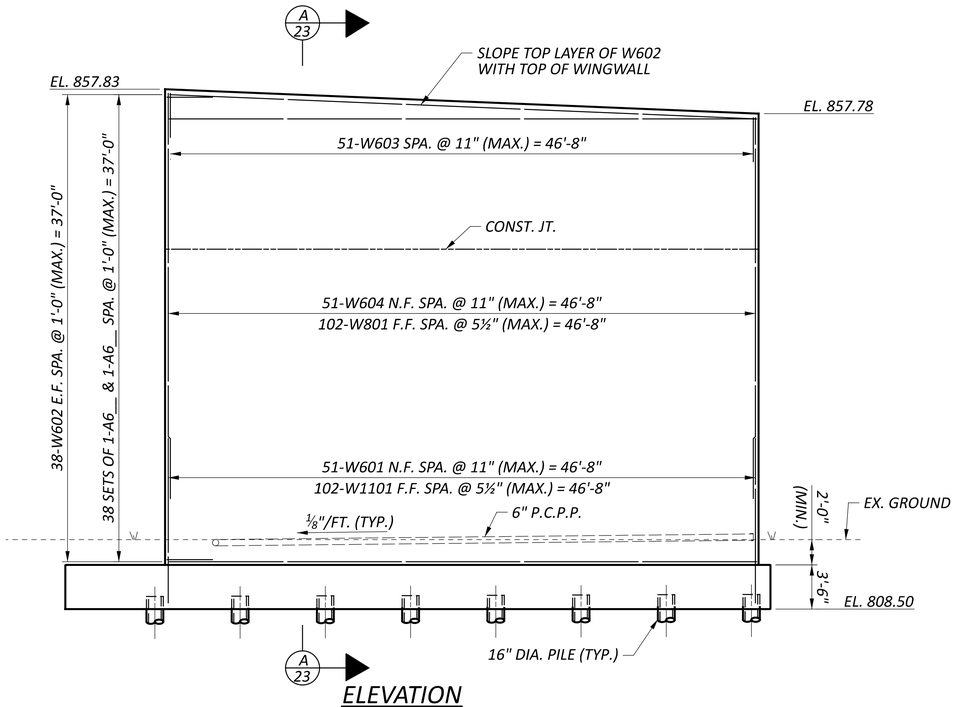
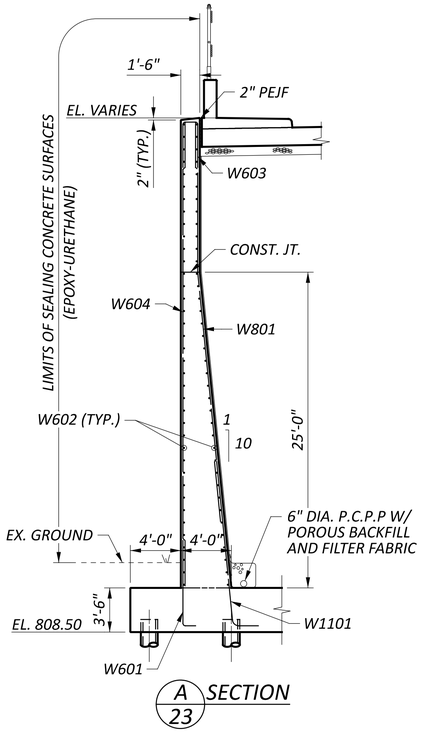


ELEVATION
REAR ABUTMENT, LEFT WINGWALL



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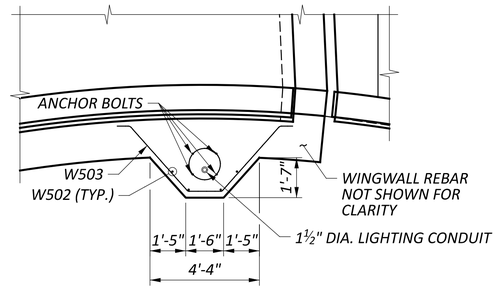
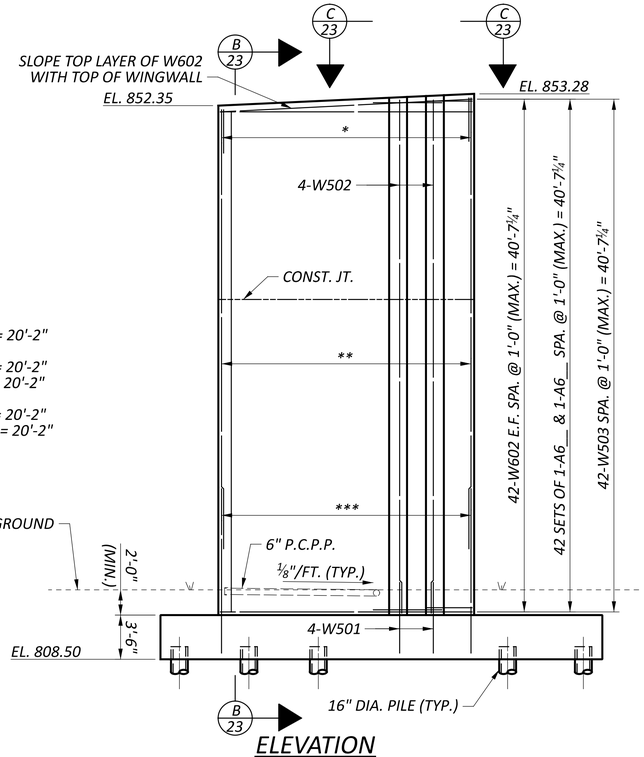


C 23 SECTION
SIGNAL POLE PILASTER



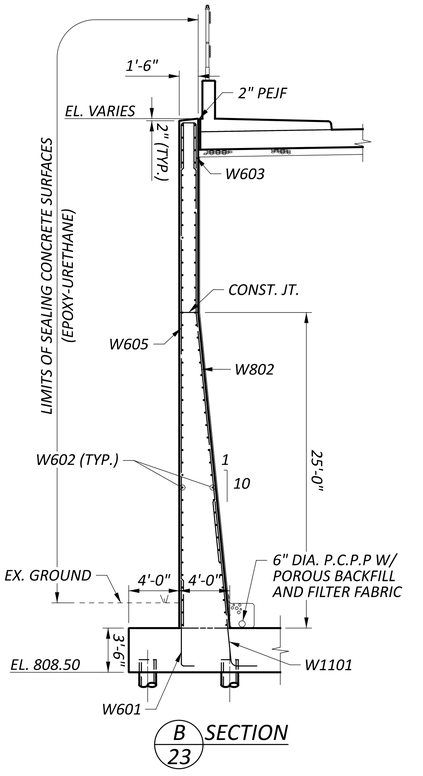
ELEVATION
REAR ABUTMENT, RIGHT WINGWALL

LEGEND:

*** - 23-W603 N.F. SPA. @ 11" ALONG CURVE = 20'-2"

** - 23-W605 N.F. SPA. @ 11" ALONG CURVE = 20'-2"
46-W802 F.F. SPA. @ 5½" ALONG CURVE = 20'-2"

* - 23-W601 N.F. SPA. @ 11" ALONG CURVE = 20'-2"
46-W1101 F.F. SPA. @ 5½" ALONG CURVE = 20'-2"



B 23 SECTION

REQUIRED MIN. LAP LENGTHS	
NO. 5 BARS	2'-5"
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" MIN. FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR GENERAL NOTES, SEE SHEET 5 | 94 .
3. FOR FOUNDATION PLAN, SEE SHEET 16 | 94 .
4. FOR FOOTING REINFORCING PLAN, SEE SHEET 22 | 94 .
5. FOR REINFORCING STEEL LIST, SEE SHEET 88 | 94 .
6. FOR ADDITIONAL SIGNAL POLE PILASTER DETAILS, SEE ODOT STD. DWG. TC-81.22.

REAR ABUTMENT DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
23	94

SHEET	TOTAL
P.176	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:45:49 PM USER: todd.roxberry
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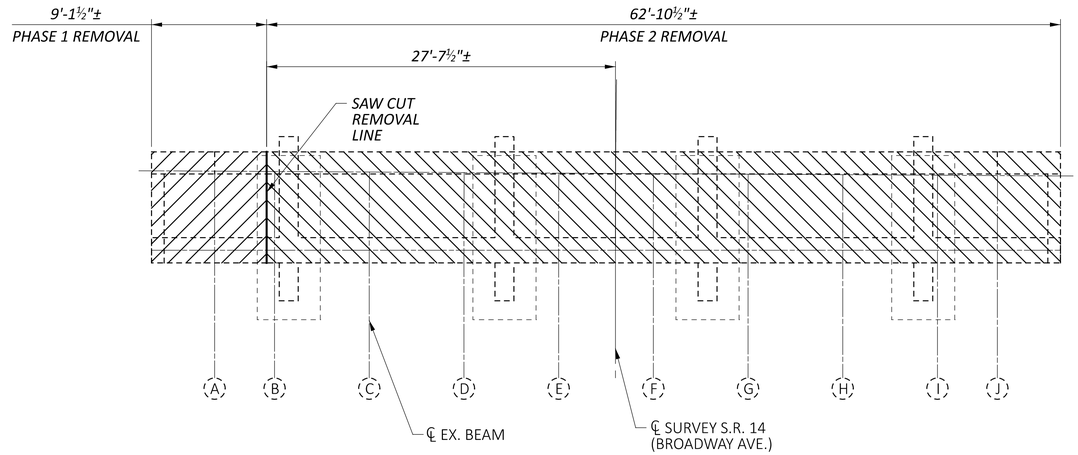
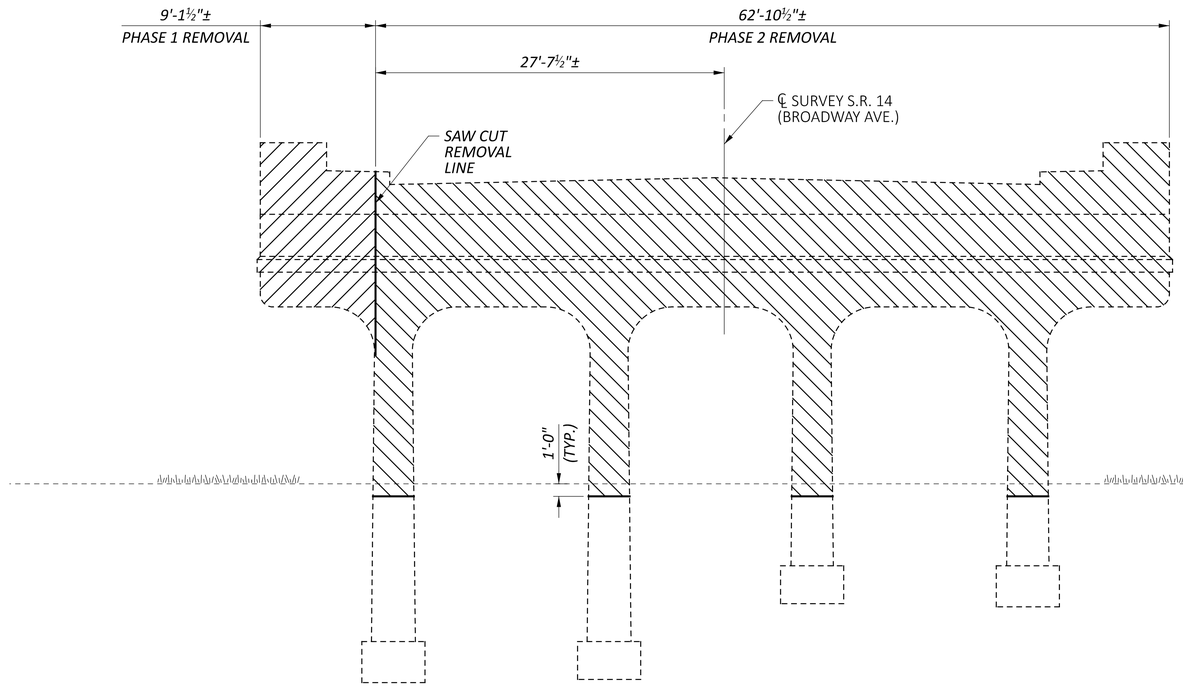


PLAN



ELEVATION

LEGEND:

- AREA TO BE REMOVED IN PHASE 1
- AREA TO BE REMOVED IN PHASE 2
- (X) BEAM DESIGNATION

NOTES:

1. THE STRUCTURE REMOVAL SHALL BE PER 'ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN'. SEE GENERAL NOTES, SHEET 5 | 94 .
2. ALL DIMENSIONS SHOWN ARE PER THE EXISTING STRUCTURE PLANS OR AS OBSERVED IN THE FIELD AND SHALL BE CONSIDERED APPROXIMATE.
3. EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.

FORWARD ABUTMENT REMOVAL DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
24	94

SHEET	TOTAL
P.177	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:46:08 PM USER: todd.roxberry
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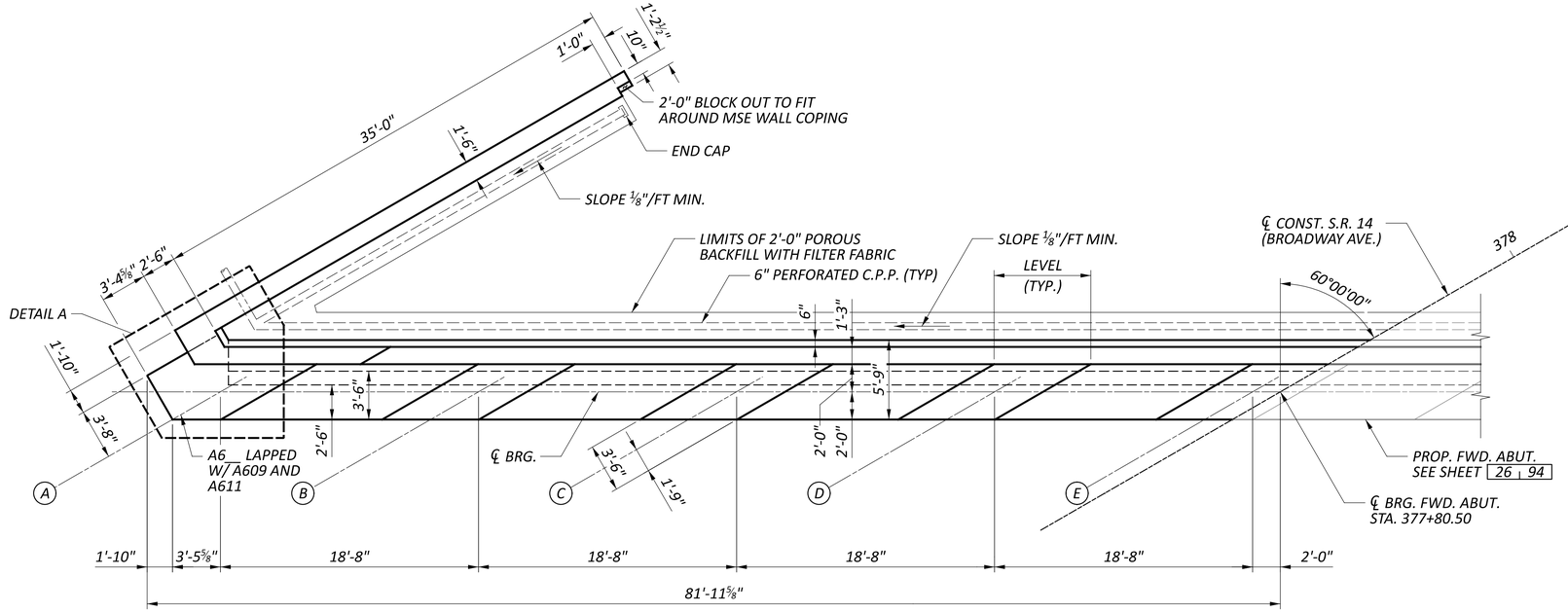
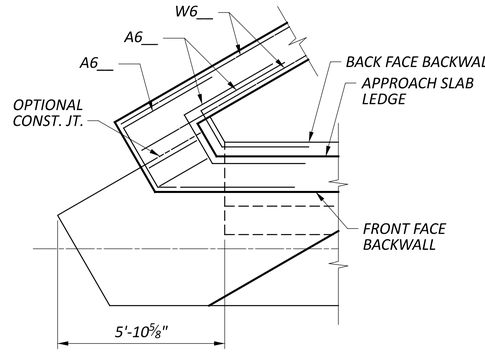
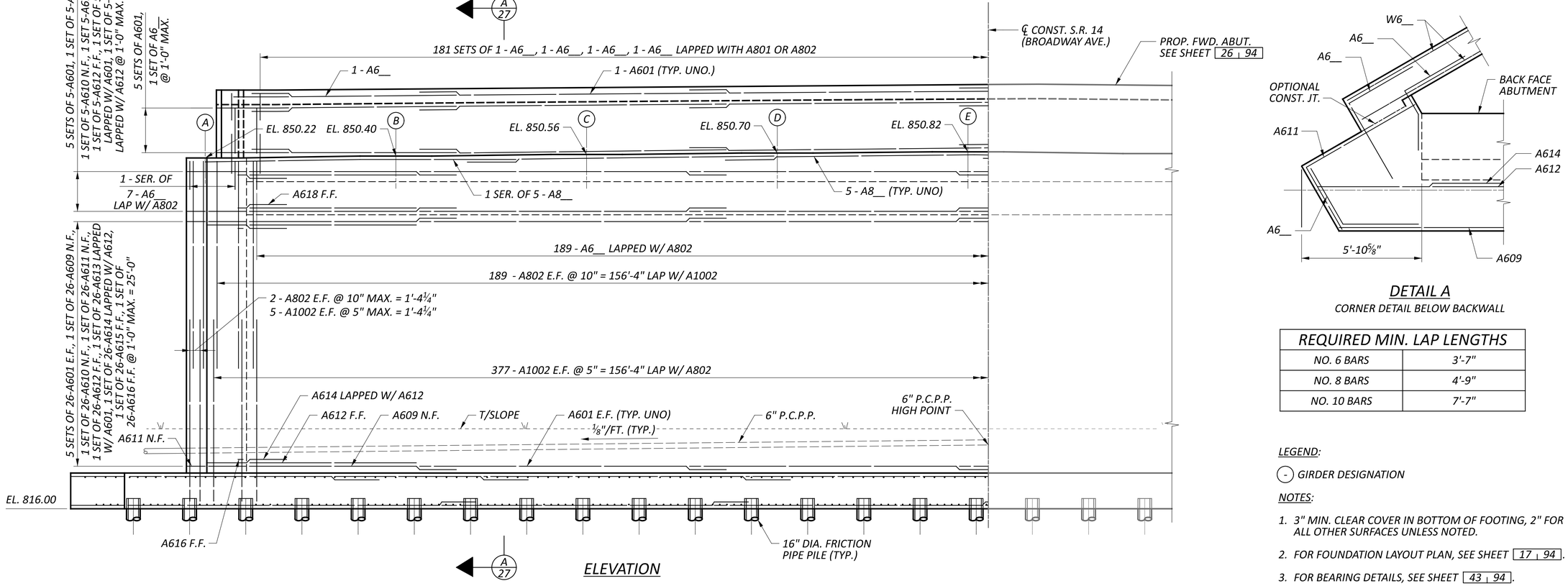


PLAN



DETAIL A

CORNER DETAIL IN BACKWALL



ELEVATION

DETAIL A

CORNER DETAIL BELOW BACKWALL

REQUIRED MIN. LAP LENGTHS	
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"
NO. 10 BARS	7'-7"

LEGEND:

(-) GIRDER DESIGNATION

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 17 ¡ 94.
3. FOR BEARING DETAILS, SEE SHEET 43 ¡ 94.
4. FOR REINFORCING STEEL LIST, SEE SHEET 89 ¡ 94.
5. ELEVATIONS PROVIDED AT FACE OF BACKWALL.

FORWARD ABUTMENT PLAN AND ELEVATION 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
25	94

SHEET	TOTAL
P.178	329

CUY-14-6.93

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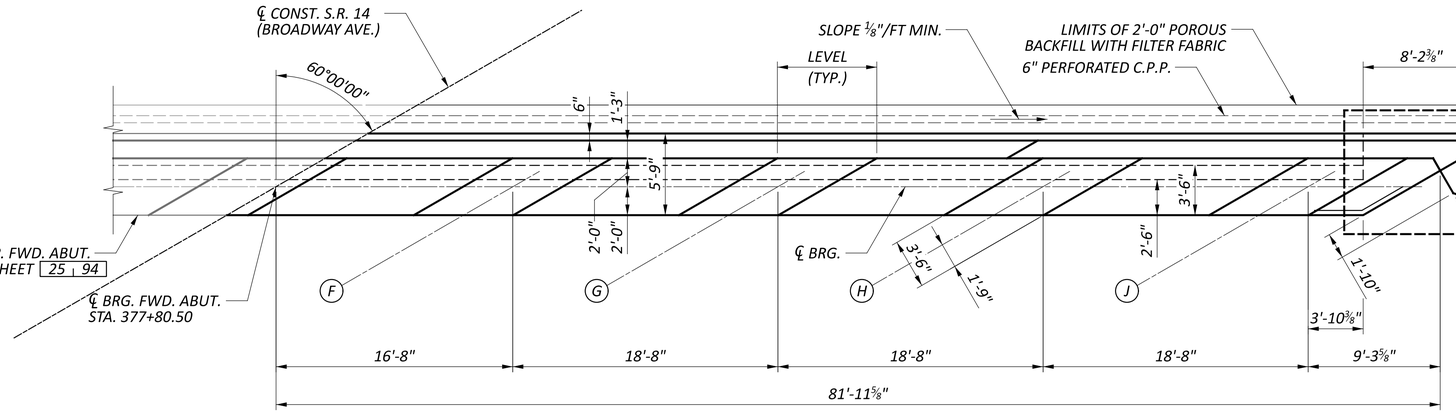
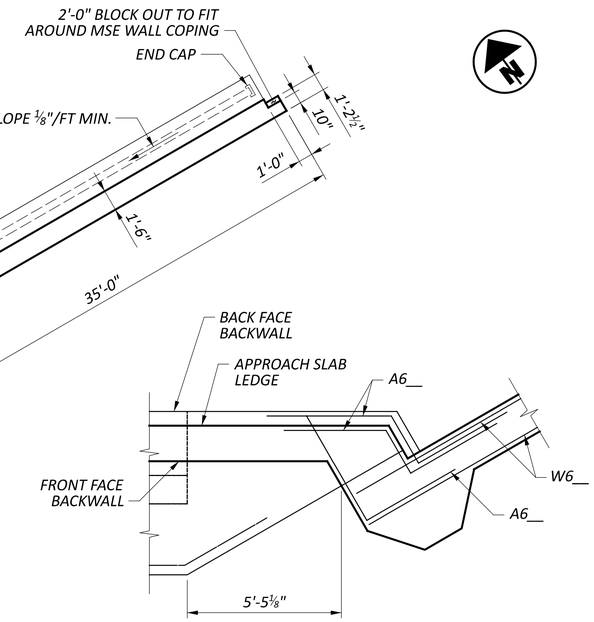
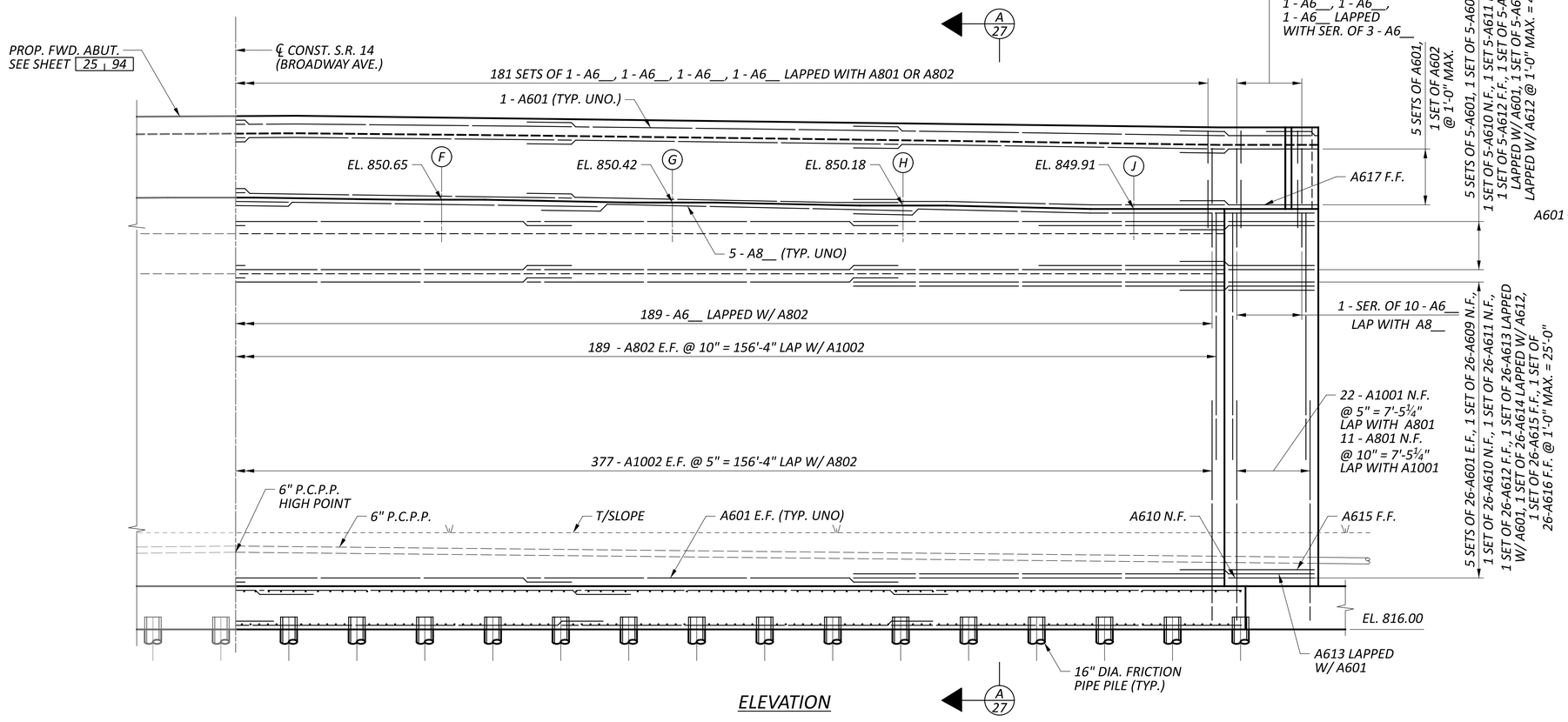


PLAN

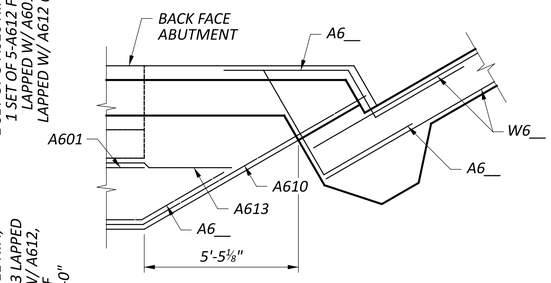


DETAIL B

CORNER DETAIL IN BACKWALL



ELEVATION



DETAIL B

CORNER DETAIL BELOW BACKWALL

REQUIRED MIN. LAP LENGTHS	
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"
NO. 10 BARS	7'-7"

LEGEND:

(-) GIRDER DESIGNATION

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2 FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 17 ¡ 94 .
3. FOR BEARING DETAILS, SEE SHEET 43 ¡ 94 .
4. FOR REINFORCING STEEL LIST, SEE SHEET 89 ¡ 94 .
5. ELEVATIONS PROVIDED AT FACE OF BACKWALL.

FORWARD ABUTMENT PLAN AND ELEVATION 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
26	94

SHEET	TOTAL
P.179	329

CUY-14-6.93

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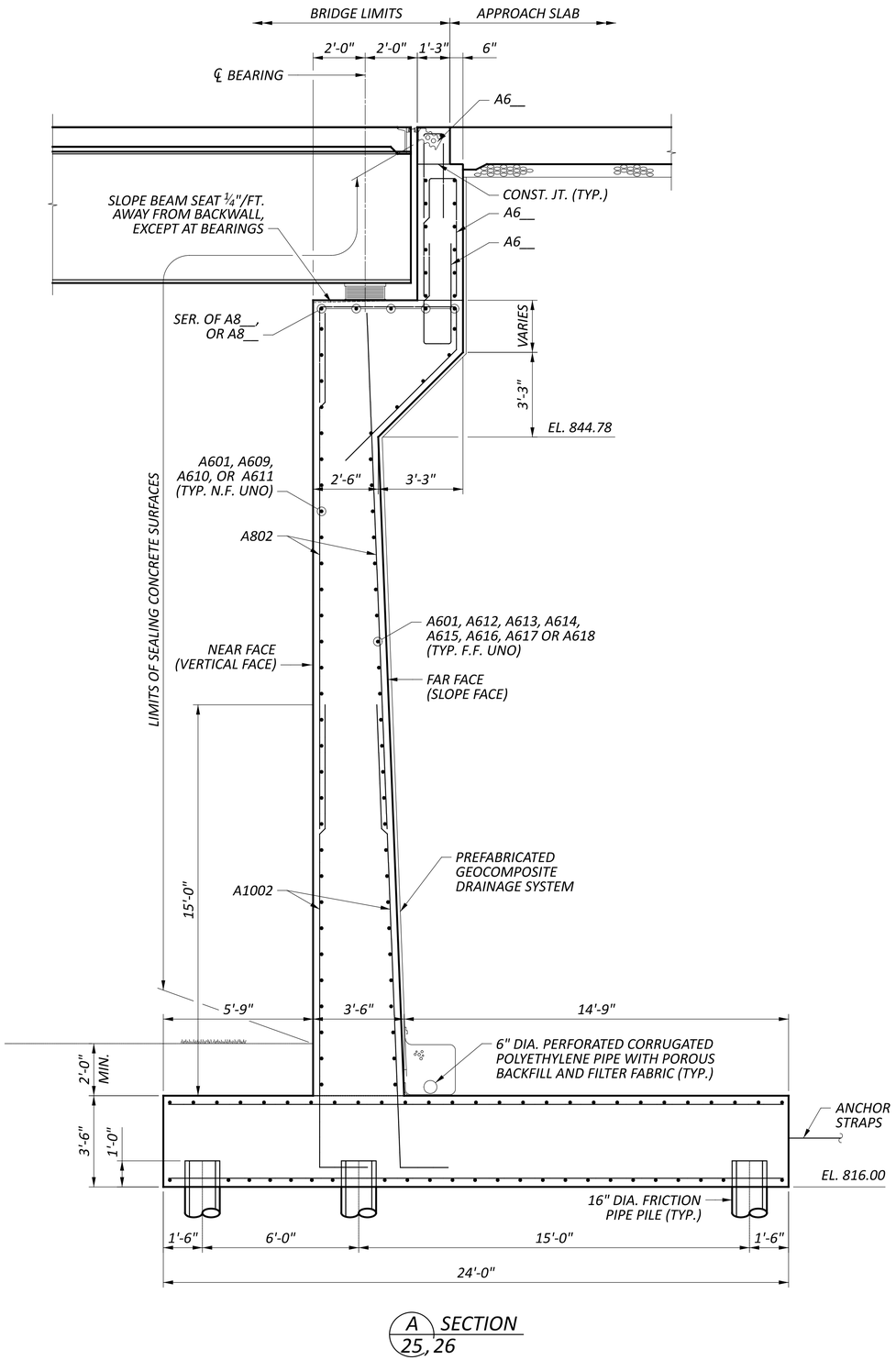
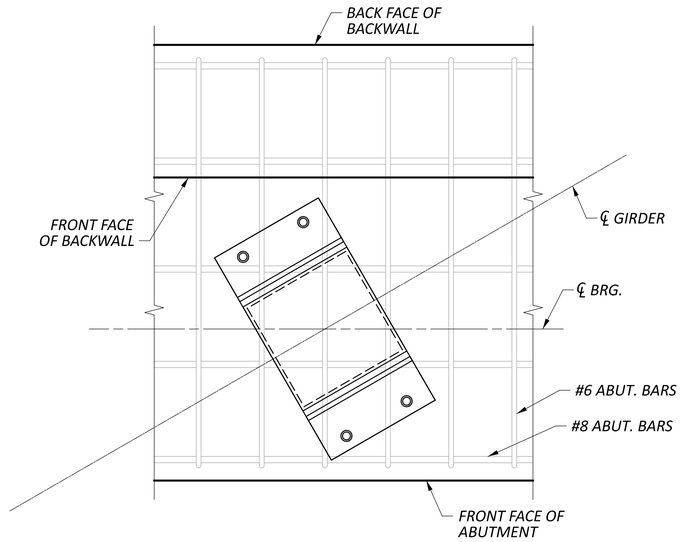


A 25, 26 SECTION



BEARING ANCHOR PLAN

REQUIRED MIN. LAP LENGTHS	
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"
NO. 10 BARS	7'-7"

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 17 ¡ 94 .
3. FOR BEARING DETAILS, SEE SHEET 43 ¡ 94 .
4. FOR REINFORCING STEEL LIST, SEE SHEET 89 ¡ 94 .
5. CONTRACTOR SHALL NOT PLACE BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.

FORWARD ABUTMENT DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
27	94

SHEET	TOTAL
P.180	329

CUY-14-6.93

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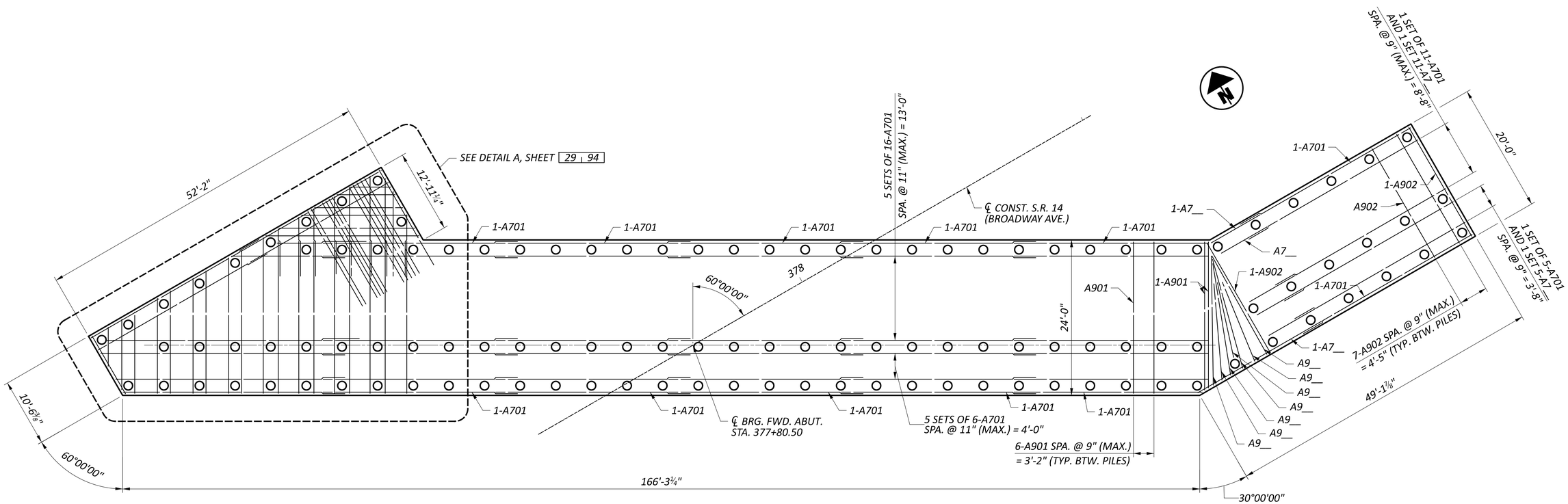
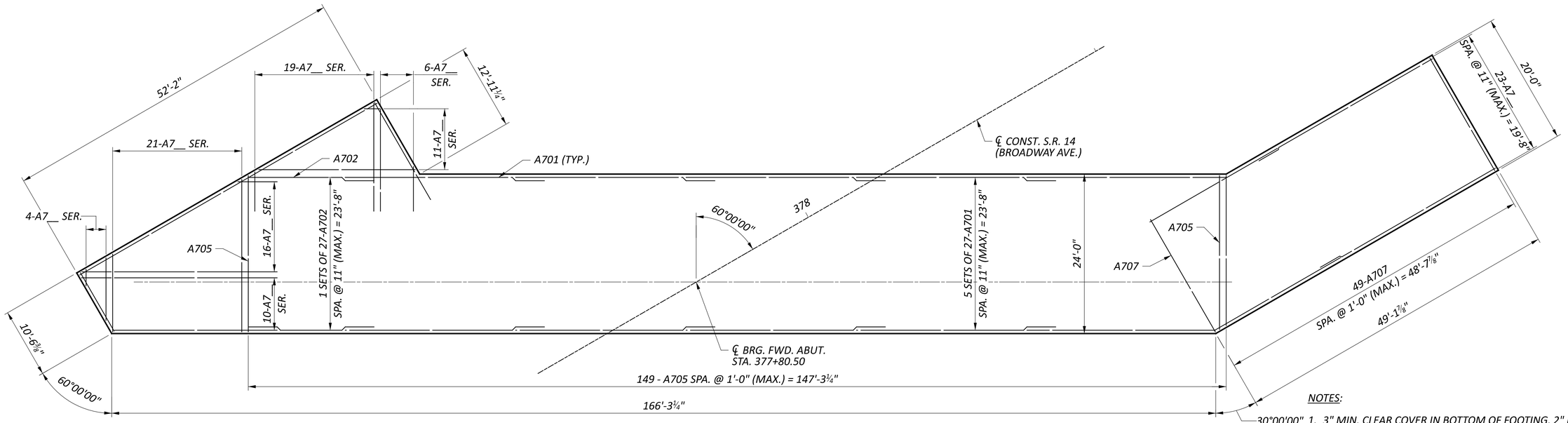


FORWARD ABUTMENT FOOTING PLAN - BOTTOM REINFORCING



FORWARD ABUTMENT FOOTING PLAN - TOP REINFORCING

REQUIRED MIN. LAP LENGTHS	
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"
NO. 10 BARS	7'-7"

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 17 ↓ 94.
3. FOR REINFORCING STEEL LIST, SEE SHEET 89 ↓ 94.

FORWARD ABUTMENT DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
28	94

SHEET	TOTAL
P.181	329

CUY-14-6.93

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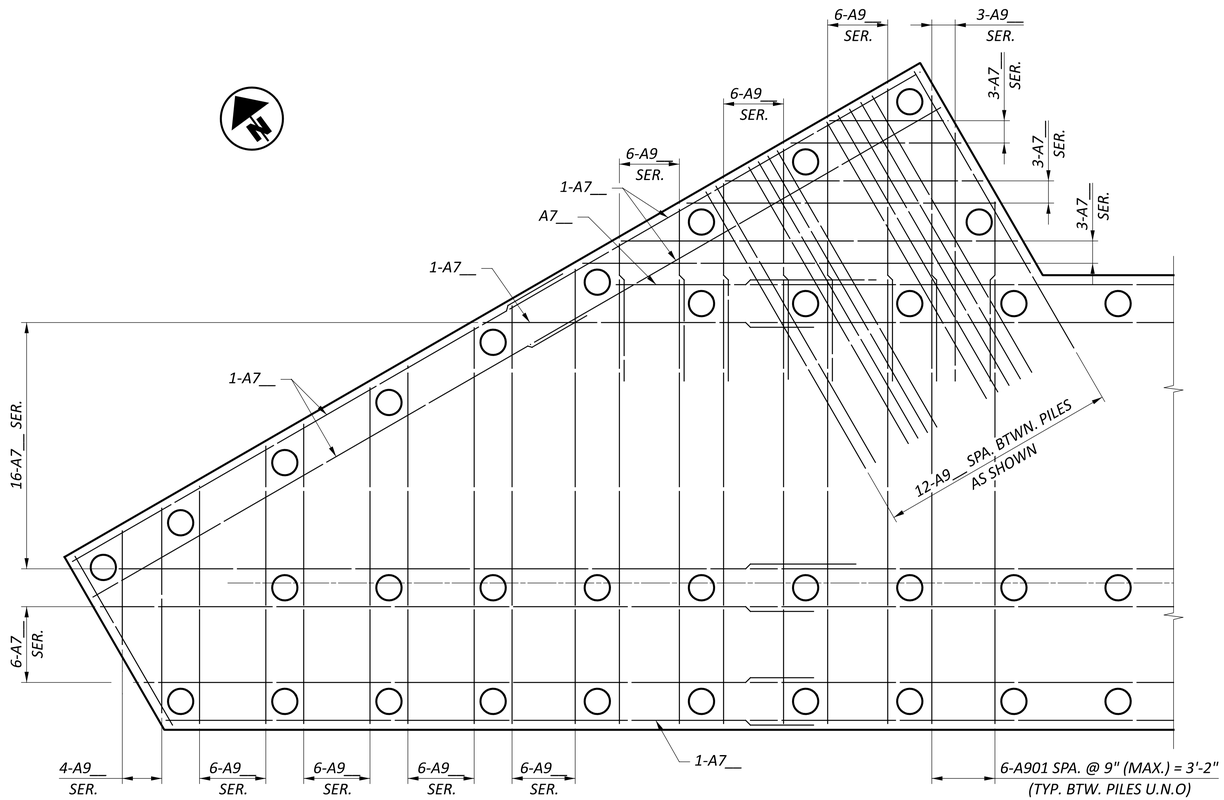

DETAIL A
BOTTOM REINFORCING

REQUIRED MIN. LAP LENGTHS	
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"
NO. 10 BARS	7'-7"

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 17 | 94 .
3. FOR REINFORCING STEEL LIST, SEE SHEET 89 | 94 .

FORWARD ABUTMENT DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER: MRW 02/06/23
PROJECT ID: 104132

SUBSET	TOTAL
29	94

SHEET	TOTAL
P.182	329

CUY-14-6.93

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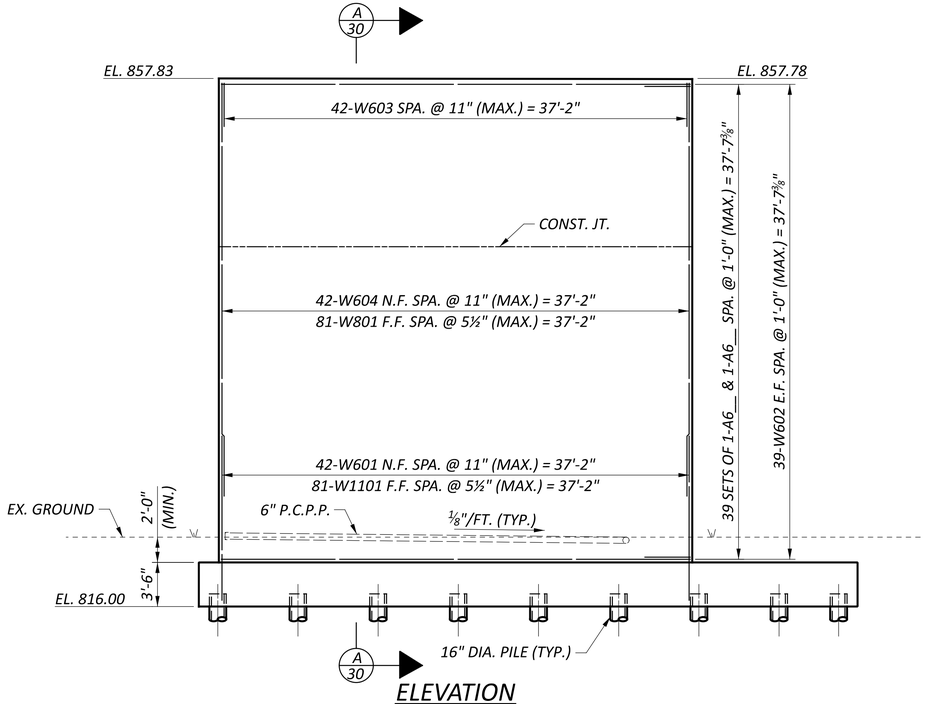
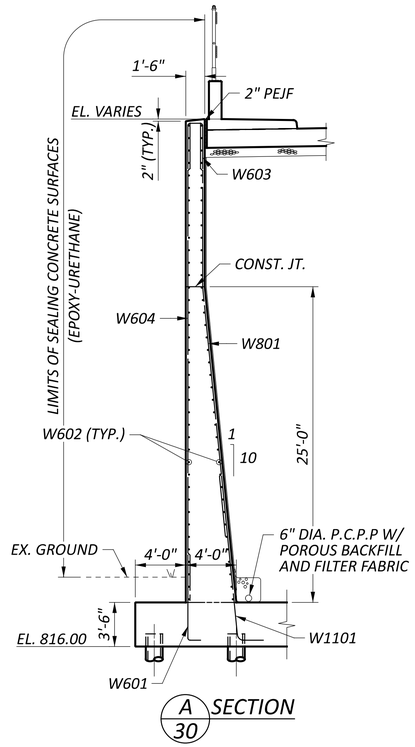
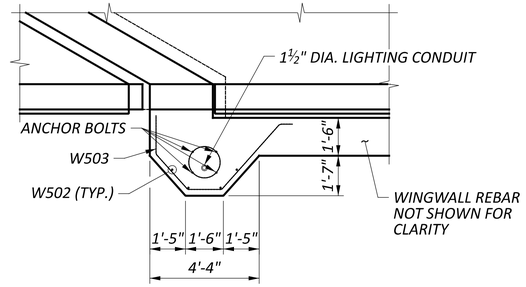


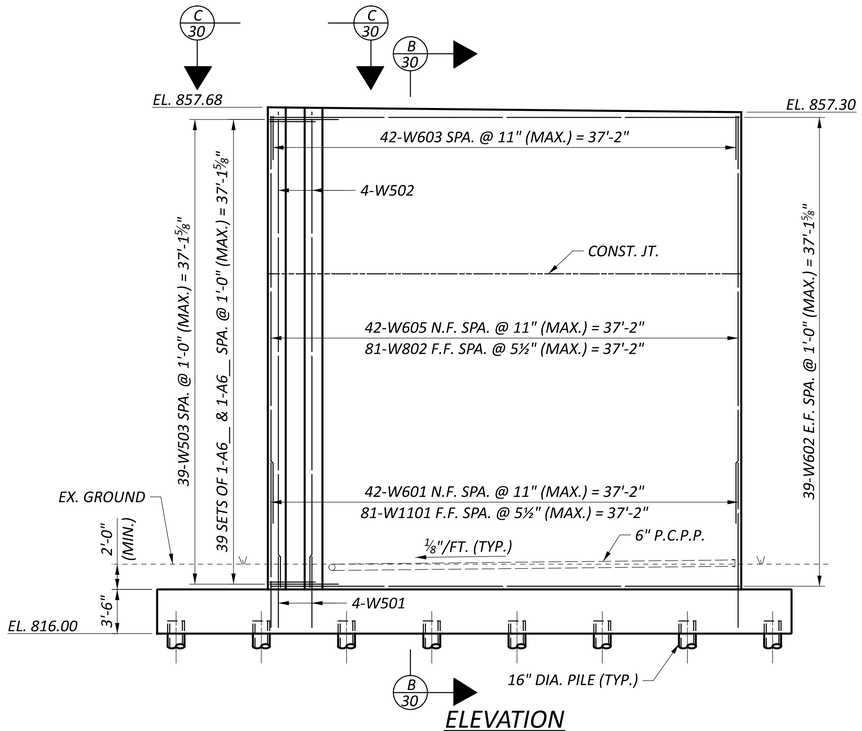
ELEVATION
FORWARD ABUTMENT, LEFT WINGWALL



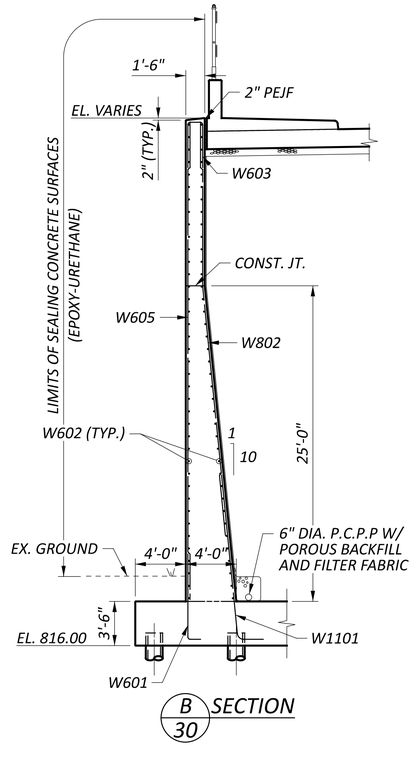
A 30 SECTION



C 30 SECTION
LIGHTING POLE PILASTER



ELEVATION
FORWARD ABUTMENT, RIGHT WINGWALL



B 30 SECTION

REQUIRED MIN. LAP LENGTHS	
NO. 5 BARS	2'-5"
NO. 6 BARS	3'-7"
NO. 8 BARS	4'-9"

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" MIN. FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR GENERAL NOTES, SEE SHEET 5 | 94 .
3. FOR FOUNDATION PLAN, SEE SHEET 17 | 94 .
4. FOR FOOTING REINFORCING PLAN, SEE SHEET 28 | 94 .
5. FOR REINFORCING STEEL LIST, SEE SHEET 88 | 94 .
6. FOR ADDITIONAL LIGHTING POLE PILASTER DETAILS, SEE ODOT STD. DWG. HL-20.14.

FORWARD ABUTMENT DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com
DESIGNER ERM | CHECKER JDM
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 30 | TOTAL 94
SHEET P.183 | TOTAL 329

CUY-14-6.93

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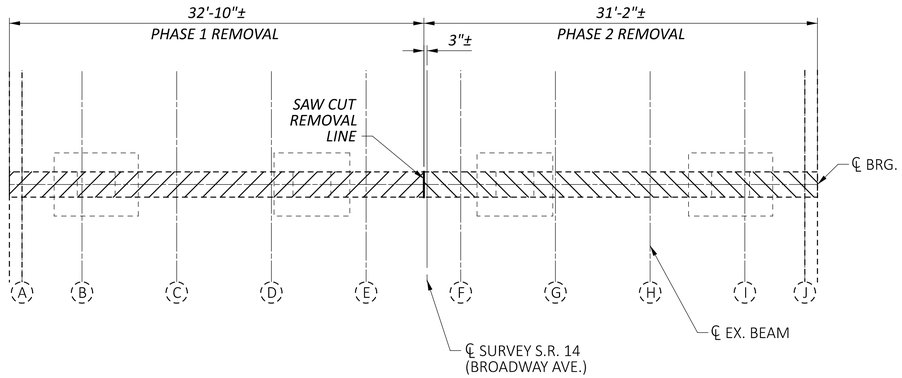
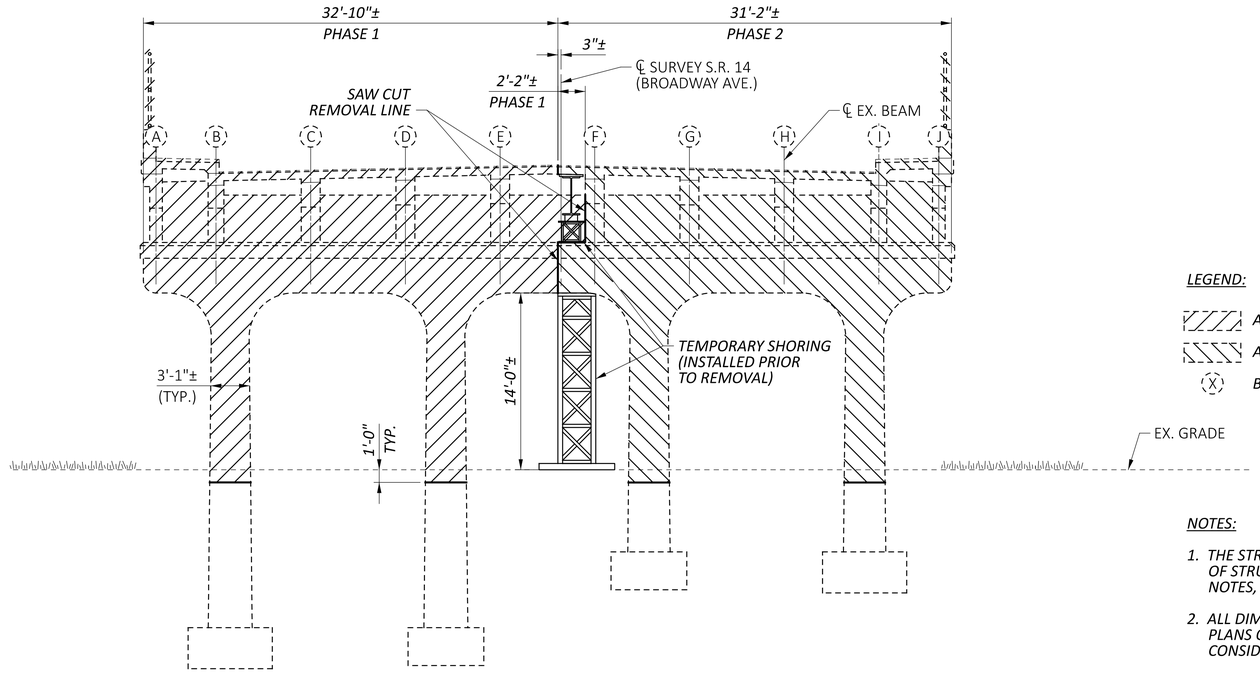


PLAN

BENT 2 SHOWN, BENTS 3- 14 SIMILAR



ELEVATION

BENT 2 SHOWN, BENTS 3- 14 SIMILAR

LEGEND:

- *AREA TO BE REMOVED IN PHASE 1*
- *AREA TO BE REMOVED IN PHASE 2*
- (X) *BEAM DESIGNATION*

NOTES:

1. *THE STRUCTURE REMOVAL SHALL BE PER 'ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN'. SEE GENERAL NOTES, SHEET 5 | 94 .*
2. *ALL DIMENSIONS SHOWN ARE PER THE EXISTING STRUCTURE PLANS OR AS OBSERVED IN THE FIELD AND SHALL BE CONSIDERED APPROXIMATE.*
3. *EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.*
4. *TEMPORARY SHORING TYPE, SIZE AND LOCATION TO BE DESIGNED AND VERIFIED BY CONTRACTOR. TEMPORARY DECK OVERHANG BEAM IS ASSUMED TO SPAN FROM EXISTING PIER CUTLINE TO EXISTING PIER CUTLINE LONGITUDINALLY ALONG THE DECK. ESTIMATED SERVICE LEVEL LOADINGS ARE AS FOLLOWS:*

   OVERHANG BEAM (EXIST. B1-B14), W = 1.25 KLF
   OVERHANG BEAM (EXIST. B15-B28), W = 1.63 KLF
   SHORING TOWER, AXIAL LOAD = 75.8 K

PIER REMOVAL DETAILS

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
31	94

SHEET	TOTAL
P.184	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:48:22 PM USER: todd.roxberry
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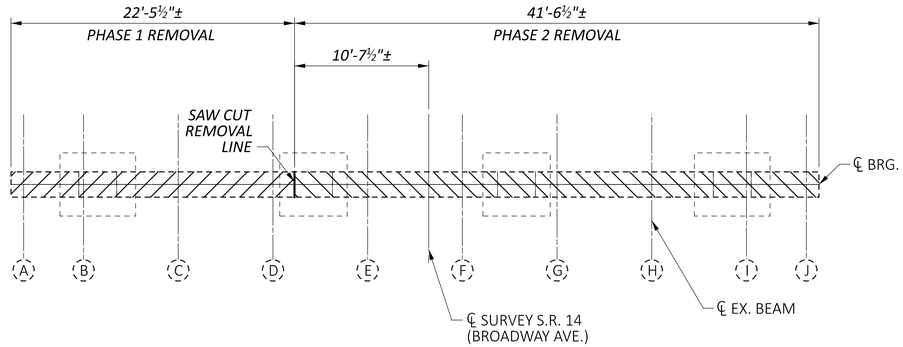
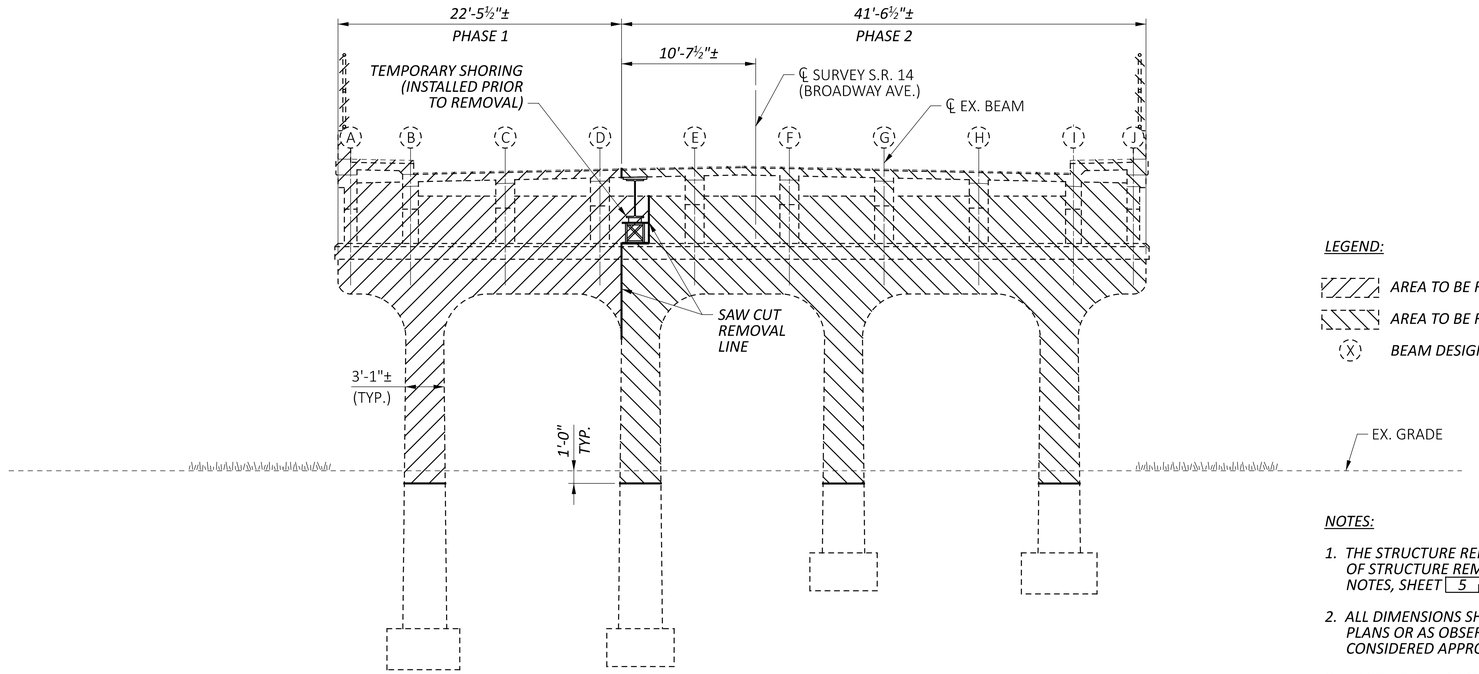


PLAN

BENT 15 SHOWN, BENTS 16- 21 SIMILAR



ELEVATION

BENT 15 SHOWN, BENTS 16- 21 SIMILAR

LEGEND:

- *AREA TO BE REMOVED IN PHASE 1*
- *AREA TO BE REMOVED IN PHASE 2*
- (X) *BEAM DESIGNATION*

NOTES:

1. *THE STRUCTURE REMOVAL SHALL BE PER 'ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN'. SEE GENERAL NOTES, SHEET 5 , 94 .*
2. *ALL DIMENSIONS SHOWN ARE PER THE EXISTING STRUCTURE PLANS OR AS OBSERVED IN THE FIELD AND SHALL BE CONSIDERED APPROXIMATE.*
3. *EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.*
4. *TEMPORARY SHORING TYPE, SIZE AND LOCATION TO BE DESIGNED AND VERIFIED BY CONTRACTOR. TEMPORARY DECK OVERHANG BEAM IS ASSUMED TO SPAN FROM EXISTING PIER CUTLINE TO EXISTING PIER CUTLINE LONGITUDINALLY ALONG THE DECK. ESTIMATED SERVICE LEVEL LOADINGS ARE AS FOLLOWS:*

   OVERHANG BEAM (EXIST. B1-B14), W = 1.25 KLF
   OVERHANG BEAM (EXIST. B15-B28), W = 1.63 KLF
   SHORING TOWER, AXIAL LOAD = 75.8 K

PIER REMOVAL DETAILS

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS
BRIDGE NO. CUY-00014-06.930

SFN	1801806
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER / CHECKER	TLN / ERM
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET / TOTAL	32 / 94
SHEET / TOTAL	P.185 / 329

CUY-14-6.93

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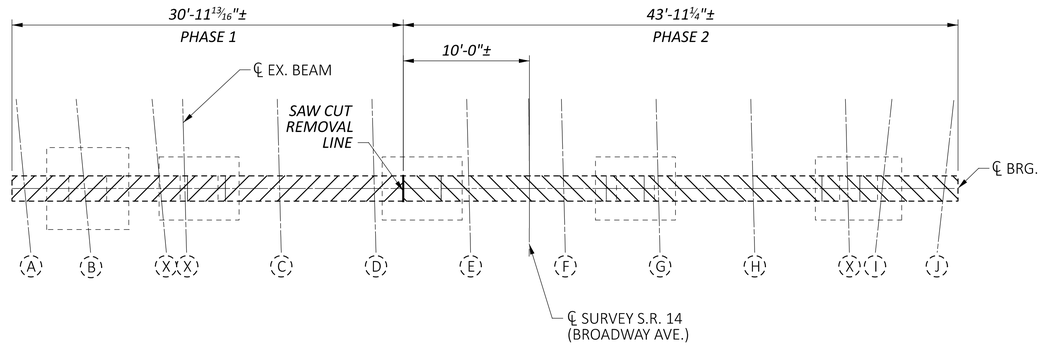
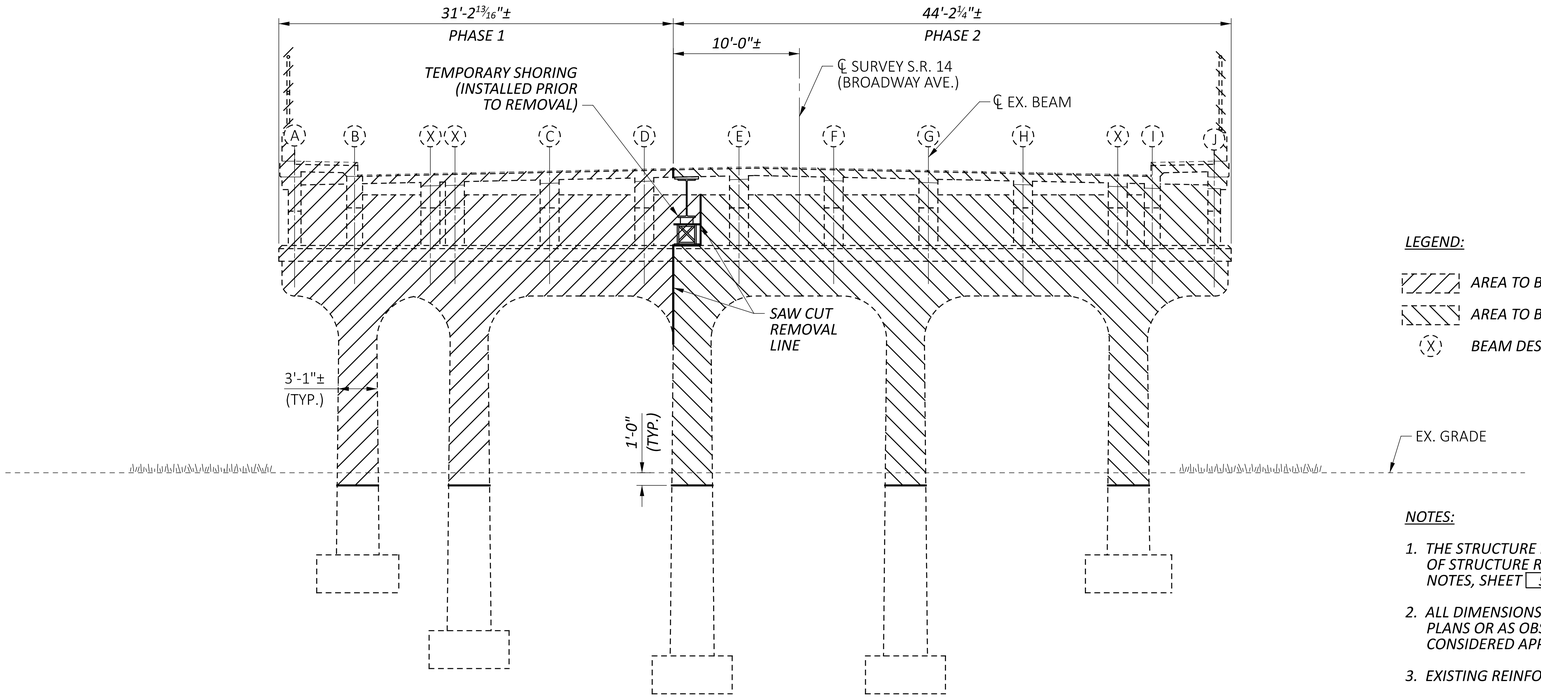


PLAN

BENT 22 SHOWN, BENT 23 SIMILAR



ELEVATION

BENT 22 SHOWN, BENT 23 SIMILAR

LEGEND:

- *AREA TO BE REMOVED IN PHASE 1*
- *AREA TO BE REMOVED IN PHASE 2*
- *(X) BEAM DESIGNATION*

NOTES:

1. *THE STRUCTURE REMOVAL SHALL BE PER 'ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN'. SEE GENERAL NOTES, SHEET 5 , 94 .*
2. *ALL DIMENSIONS SHOWN ARE PER THE EXISTING STRUCTURE PLANS OR AS OBSERVED IN THE FIELD AND SHALL BE CONSIDERED APPROXIMATE.*
3. *EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.*
4. *TEMPORARY SHORING TYPE, SIZE AND LOCATION TO BE DESIGNED AND VERIFIED BY CONTRACTOR. TEMPORARY DECK OVERHANG BEAM IS ASSUMED TO SPAN FROM EXISTING PIER CUTLINE TO EXISTING PIER CUTLINE LONGITUDINALLY ALONG THE DECK. ESTIMATED SERVICE LEVEL LOADINGS ARE AS FOLLOWS:*

   OVERHANG BEAM (EXIST. B1-B14), W = 1.25 KLF
   OVERHANG BEAM (EXIST. B15-B28), W = 1.63 KLF
   SHORING TOWER, AXIAL LOAD = 75.8 K

PIER REMOVAL DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
33	94

SHEET	TOTAL
P.186	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:48:59 PM USER: todd.roxberry
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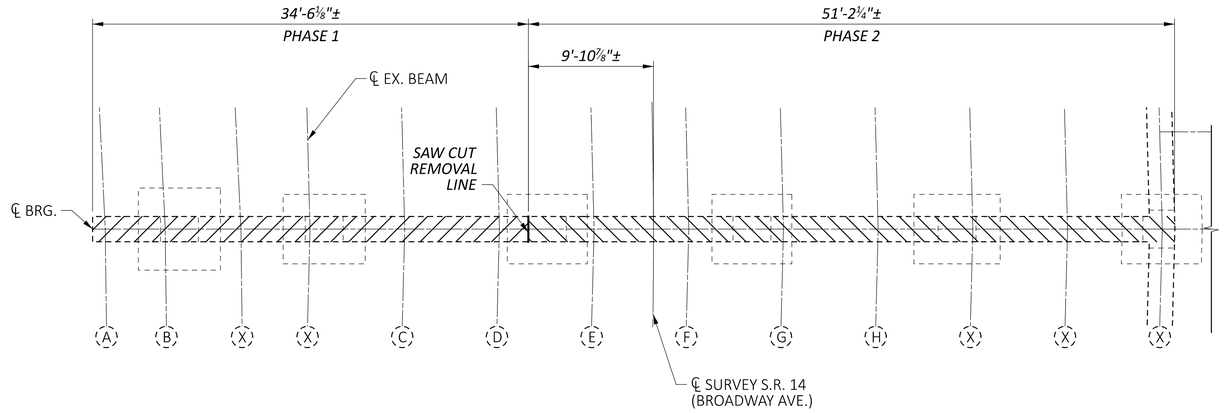
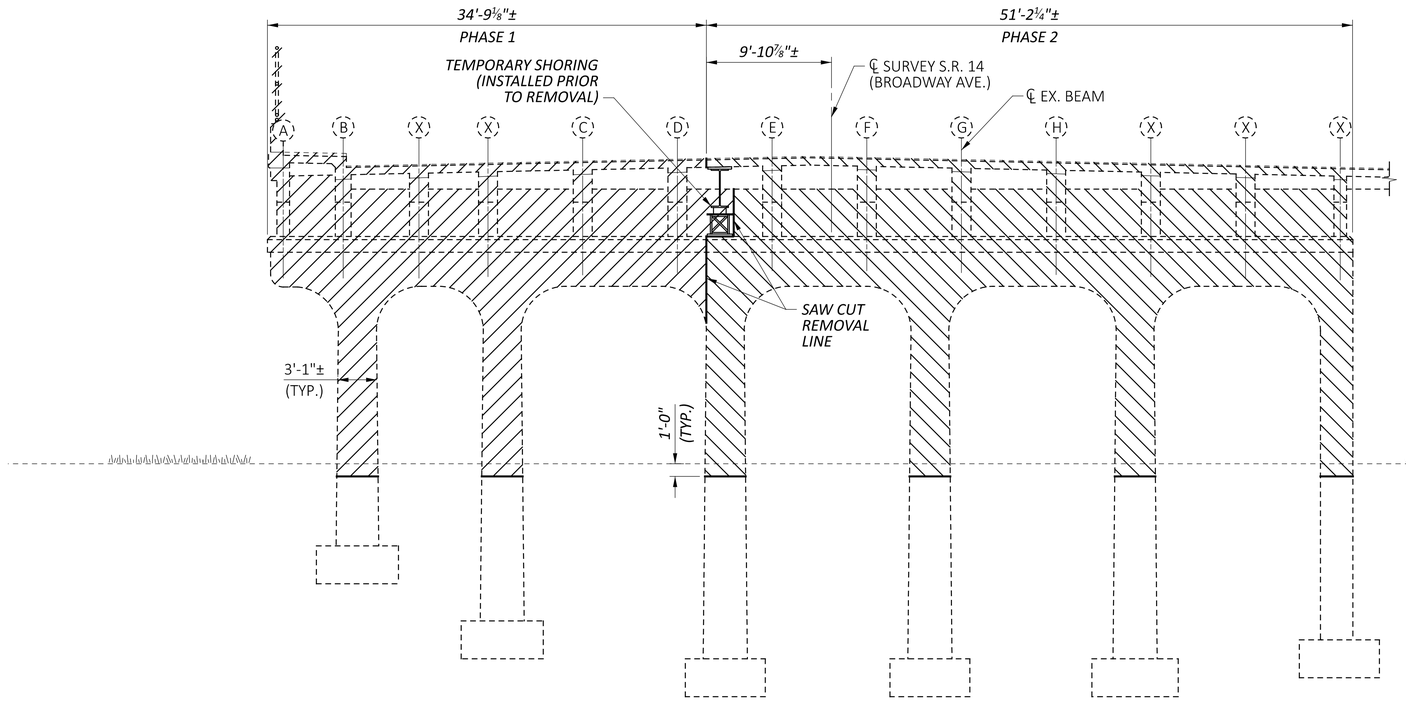


PLAN

BENT 24 SHOWN, BENTS 25- 26 SIMILAR



ELEVATION

BENT 24 SHOWN, BENTS 25- 26 SIMILAR

LEGEND:

- *AREA TO BE REMOVED IN PHASE 1*
- *AREA TO BE REMOVED IN PHASE 2*
- *(X) BEAM DESIGNATION*

NOTES:

1. *THE STRUCTURE REMOVAL SHALL BE PER 'ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN'. SEE GENERAL NOTES, SHEET 5 ¦ 94 .*
2. *ALL DIMENSIONS SHOWN ARE PER THE EXISTING STRUCTURE PLANS OR AS OBSERVED IN THE FIELD AND SHALL BE CONSIDERED APPROXIMATE.*
3. *EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.*
4. *TEMPORARY SHORING TYPE, SIZE AND LOCATION TO BE DESIGNED AND VERIFIED BY CONTRACTOR. TEMPORARY DECK OVERHANG BEAM IS ASSUMED TO SPAN FROM EXISTING PIER CUTLINE TO EXISTING PIER CUTLINE LONGITUDINALLY ALONG THE DECK. ESTIMATED SERVICE LEVEL LOADINGS ARE AS FOLLOWS:*

   OVERHANG BEAM (EXIST. B1-B14), W = 1.25 KLF
   OVERHANG BEAM (EXIST. B15-B28), W = 1.63 KLF
   SHORING TOWER, AXIAL LOAD = 75.8 K

PIER REMOVAL DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
34	94

SHEET	TOTAL
P.187	329

CUY-14-6.93

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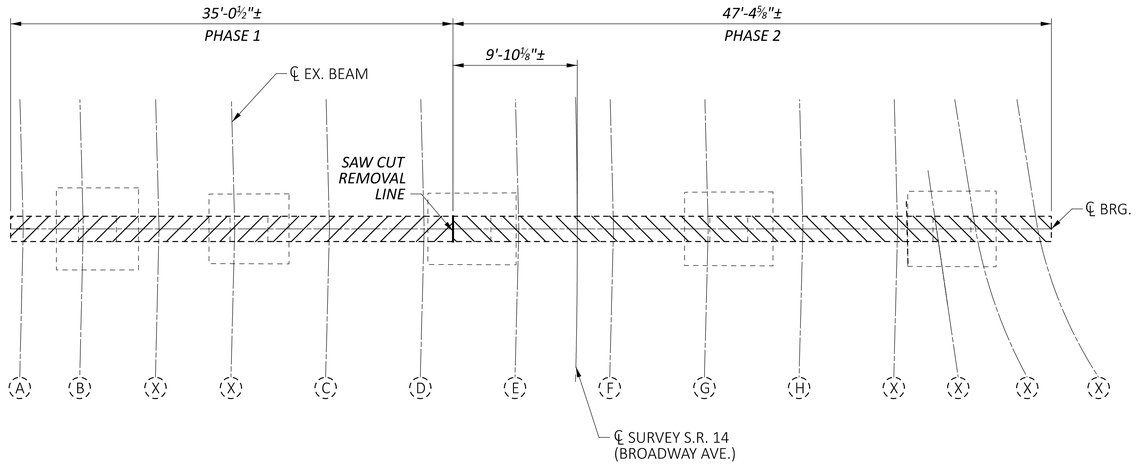
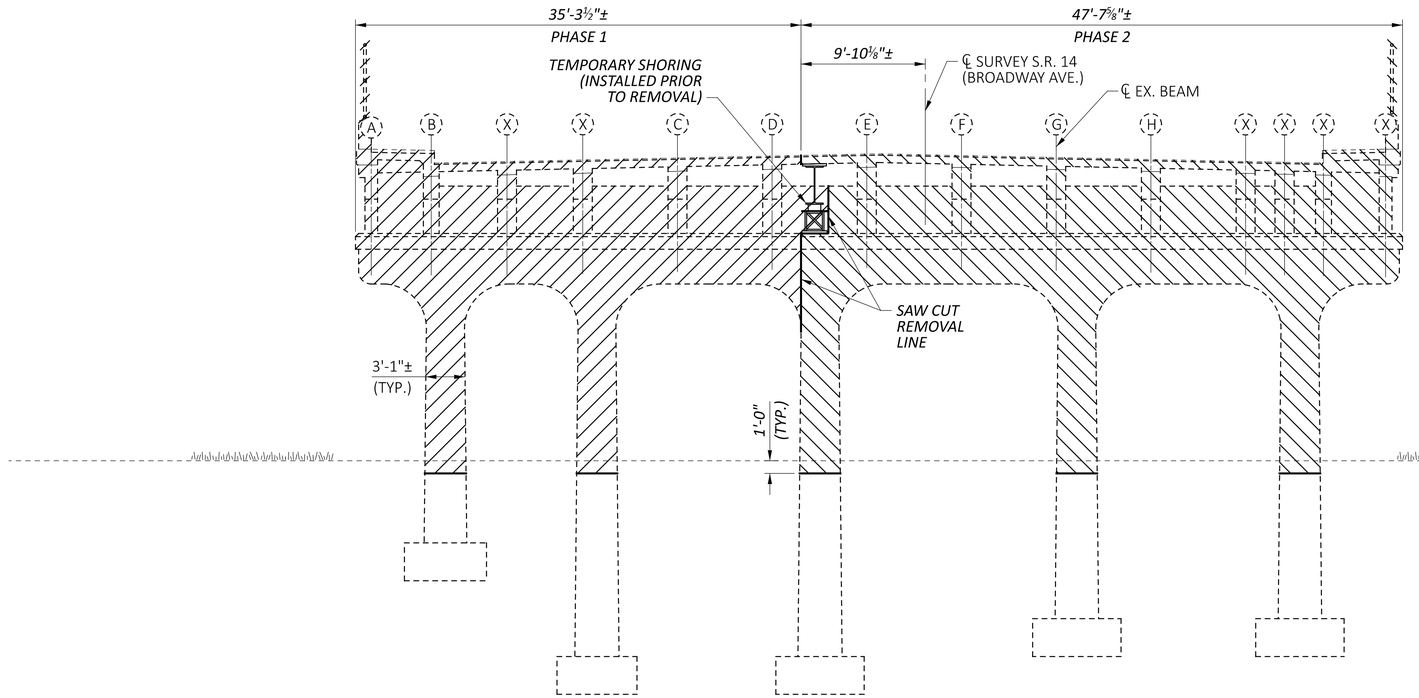


PLAN

BENT 27 SHOWN, BENT 28 SIMILAR



ELEVATION

BENT 27 SHOWN, BENT 28 SIMILAR

LEGEND:

- AREA TO BE REMOVED IN PHASE 1
- AREA TO BE REMOVED IN PHASE 2
- (X) BEAM DESIGNATION

NOTES:

1. *THE STRUCTURE REMOVAL SHALL BE PER 'ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN'. SEE GENERAL NOTES, SHEET 5 , 94 .*
2. *ALL DIMENSIONS SHOWN ARE PER THE EXISTING STRUCTURE PLANS OR AS OBSERVED IN THE FIELD AND SHALL BE CONSIDERED APPROXIMATE.*
3. *EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.*
4. *TEMPORARY SHORING TYPE, SIZE AND LOCATION TO BE DESIGNED AND VERIFIED BY CONTRACTOR. TEMPORARY DECK OVERHANG BEAM IS ASSUMED TO SPAN FROM EXISTING PIER CUTLINE TO EXISTING PIER CUTLINE LONGITUDINALLY ALONG THE DECK. ESTIMATED SERVICE LEVEL LOADINGS ARE AS FOLLOWS:*

PIER REMOVAL DETAILS

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
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(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
35	94

SHEET	TOTAL
P.188	329

CUY-14-6.93

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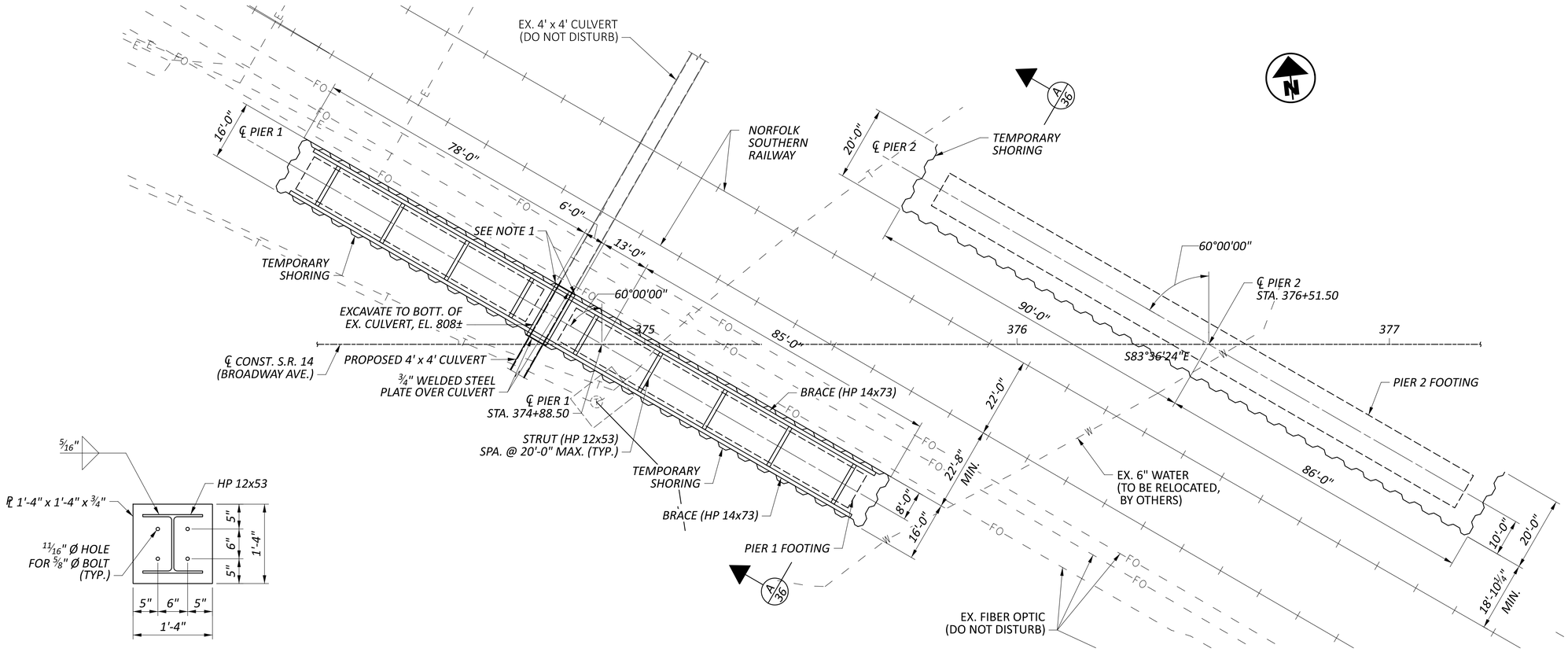
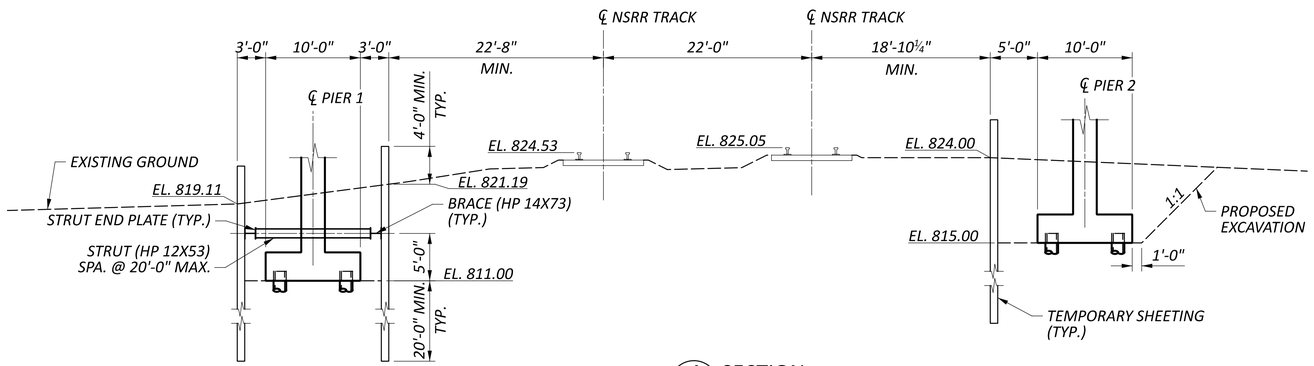


TEMPORARY SHORING PLAN

END PLATE DETAIL



A
36
SECTION

NOTES:

1. *LOCATION OF EXISTING 4' x 4' CULVERT SHALL BE CONFIRMED IN THE FIELD PRIOR TO DRIVING TEMPORARY SHORING.*
2. *SHEET PILING FOR TEMPORARY SUPPORT OF THE NS RR TRACKS SHALL BE ASTM A572 GR. 50 STEEL WITH A MINIMUM SECTION MODULUS OF 18.1 IN ⁄FT FOR PIER 1 AND 48.5 IN/FT FOR PIER 2. THIS SECTION IS SELECTED TO MEET THE NS RR ½" DEFLECTION LIMIT AT THE TOP OF SHORING UNDER A COOPER E-80 TRAIN SURCHARGE.*
3. *THE TOP OF TEMPORARY SUPPORT SHALL BE 4'-0" MINIMUM ABOVE THE TOP OF EXISTING GRADE. A MINIMUM EMBEDMENT OF 20' IS REQUIRED BASED ON EXISTING SOIL CONDITIONS.*
4. *THE INSTALLATION OF AN OSHA APPROVED HANDRAIL AND ORANGE CONSTRUCTION SAFETY FENCING SHALL BE REQUIRED FOR ALL EXCAVATIONS OF RAILROAD RIGHT-OF-WAY.*
5. *THE SHEET PILING MAY BE REMOVED UPON COMPLETION OF WORK AND ALL VOIDS MUST BE BACKFILLED WITH FLOWABLE FILL.*
6. *THE CONTRACTOR SHALL MAINTAIN A MINIMUM HORIZONTAL CLEARANCE OF 14'-0" FROM THE CENTERLINE OF THE TRACKS AT ALL TIMES.*
7. *THE CONTRACTOR SHALL SUBMIT A DETAILED TRACK MONITORING PROGRAM FOR APPROVAL BY THE RAILROAD ENGINEER.*
8. *FOR ADDITIONAL TEMPORARY SHORING NOTES, SEE SHEET* 5 ⁄ 94.
9. *FOR GENERAL PLANS, SEE SHEETS* 3 ⁄ 94 *AND* 4 ⁄ 94.
10. *FOR PIER DETAILS, SEE SHEETS* 37 ⁄ 94 *THRU* 42 ⁄ 94.

PIER SHORING DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
36	94

SHEET	TOTAL
P.189	329

CUY-14-6.93

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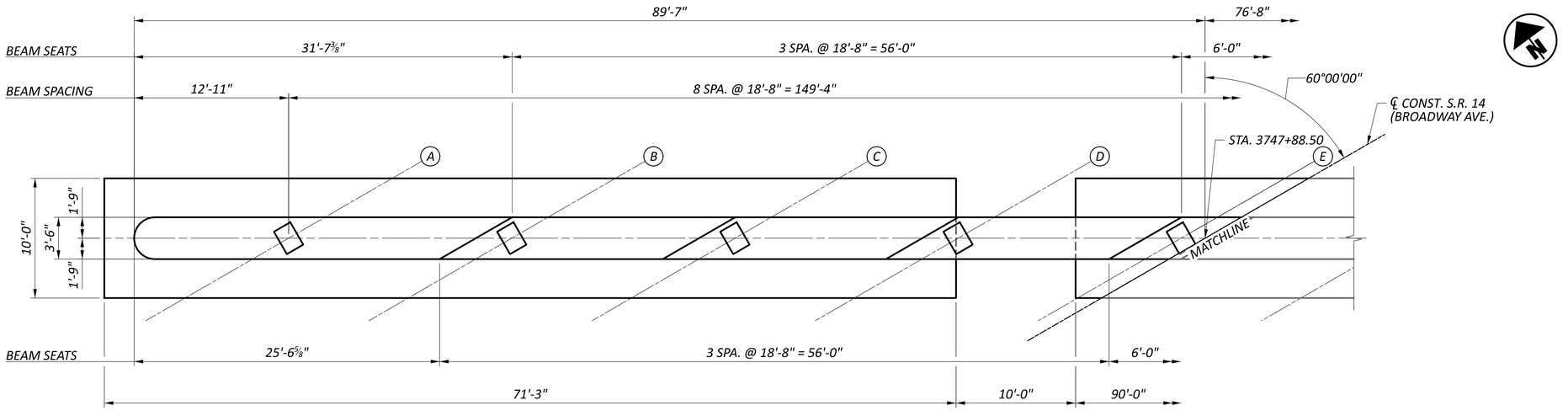
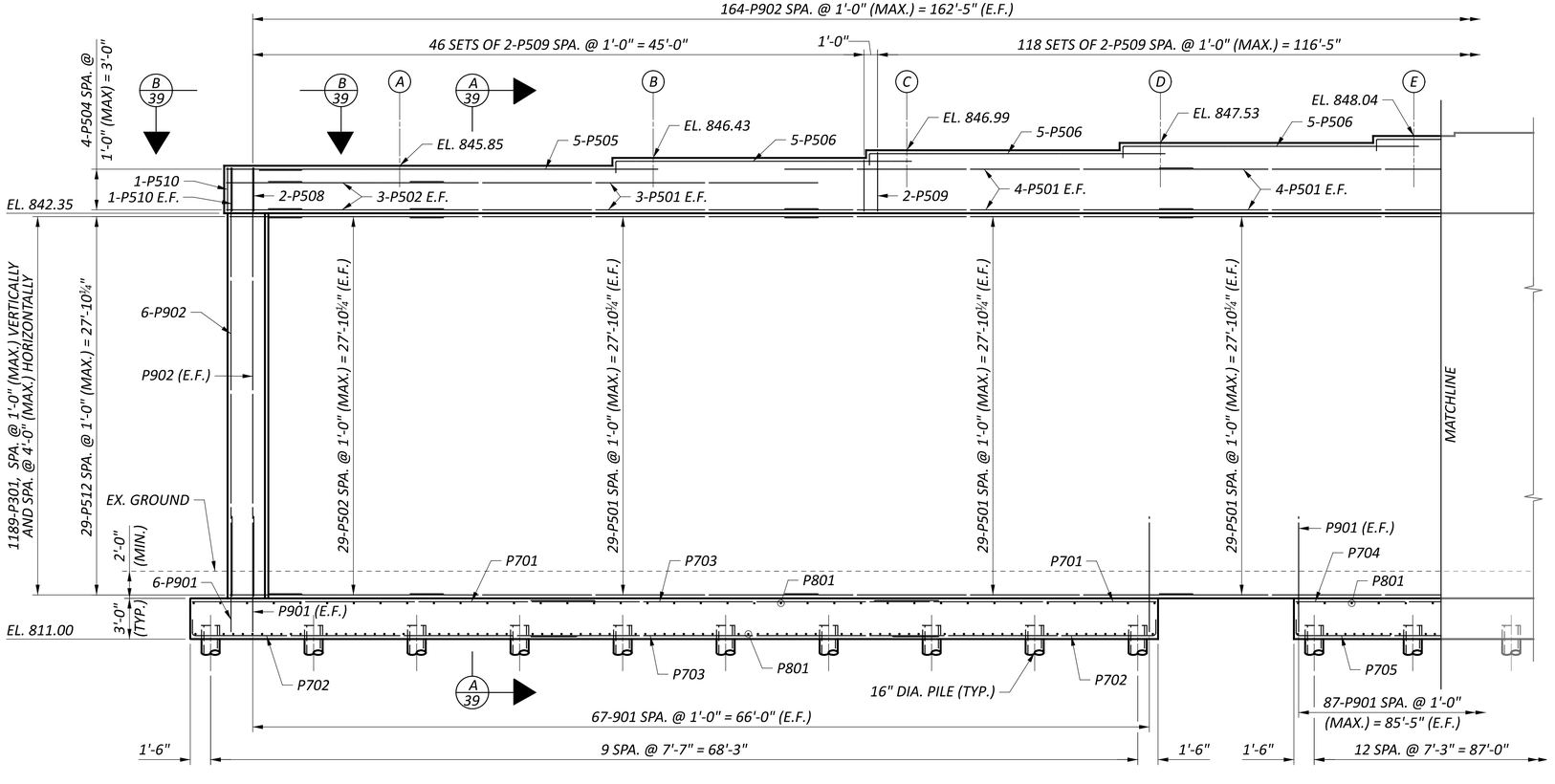


PLAN



ELEVATION

REQUIRED MIN. LAP LENGTHS	
NO. 5 BARS	2'-5"
NO. 5 BARS (TOP)	3'-1"
NO. 7 BARS	3'-4"
NO. 7 BARS (TOP)	4'-8"
NO. 9 BARS	5'-10"

LEGEND:

(-) GIRDER DESIGNATION

NOTE:

1. FOR PIER 1 DETAILS AND NOTES, SEE SHEET 39 ↓ 94.

PIER 1 PLAN AND ELEVATION 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
37	94

SHEET	TOTAL
P.190	329

CUY-14-6.93

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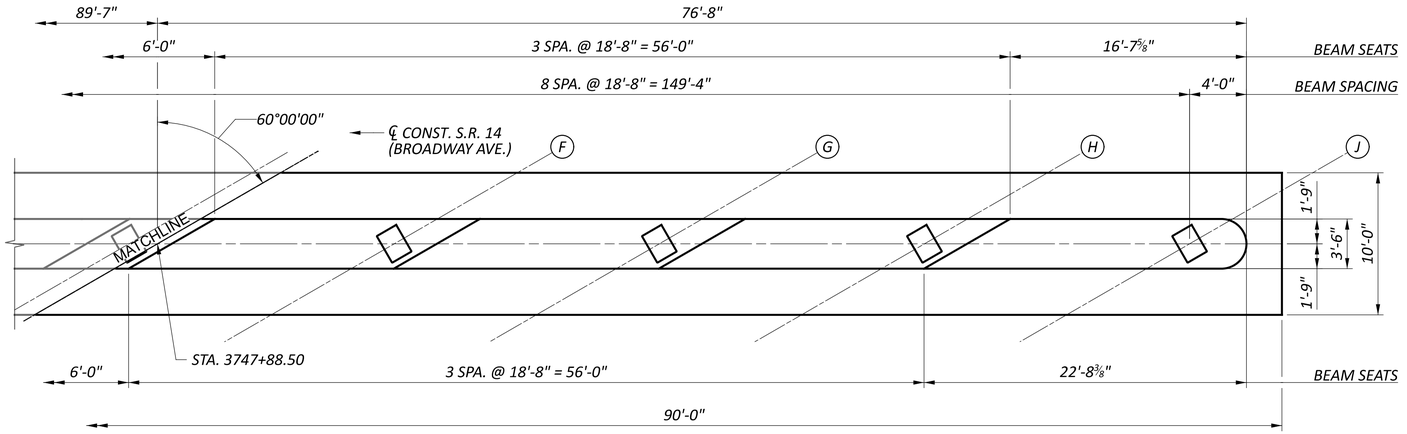
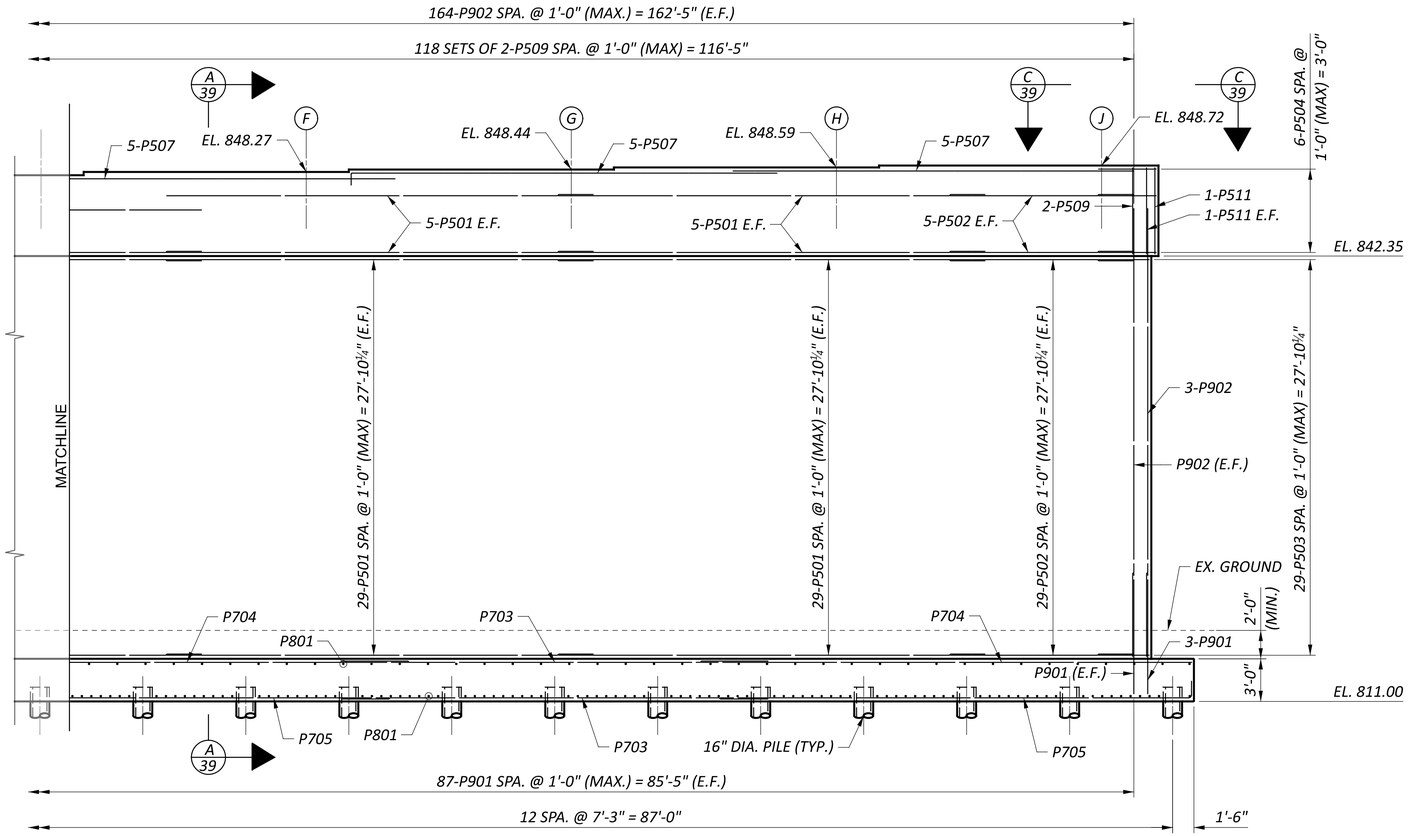


PLAN



ELEVATION

REQUIRED MIN. LAP LENGTHS	
NO. 5 BARS	2'-5"
NO. 5 BARS (TOP)	3'-1"
NO. 7 BARS	3'-4"
NO. 7 BARS (TOP)	4'-8"
NO. 9 BARS	5'-10"

LEGEND:

(-) GIRDER DESIGNATION

NOTE:

1. FOR PIER 1 DETAILS AND NOTES, SEE SHEET 39 , 94 .

PIER 1 PLAN AND ELEVATION 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
38	94

SHEET	TOTAL
P.191	329

CUY-14-6.93

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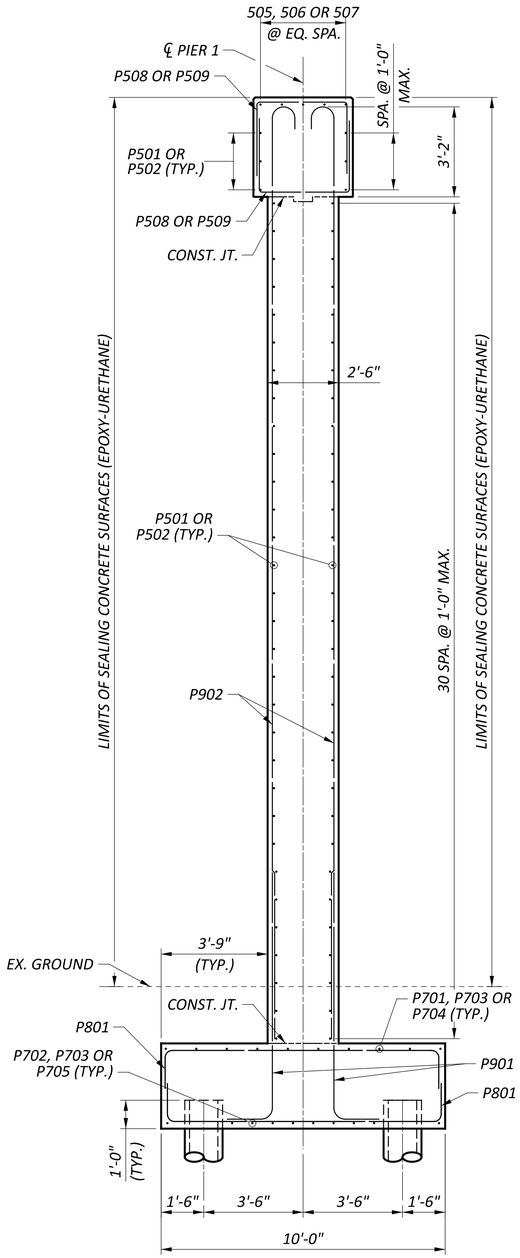
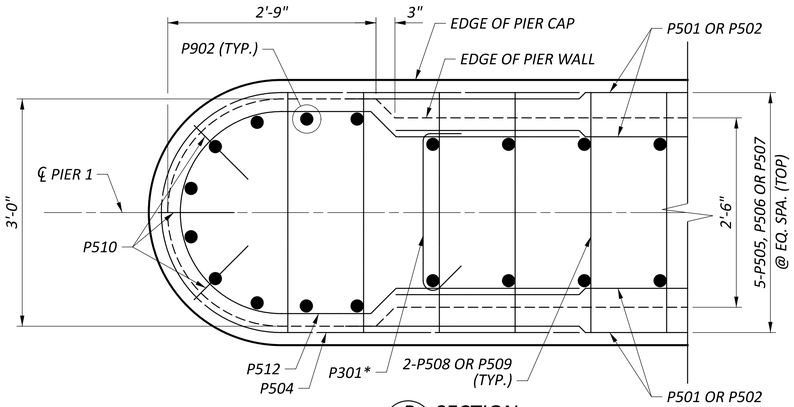


A SECTION
37, 38



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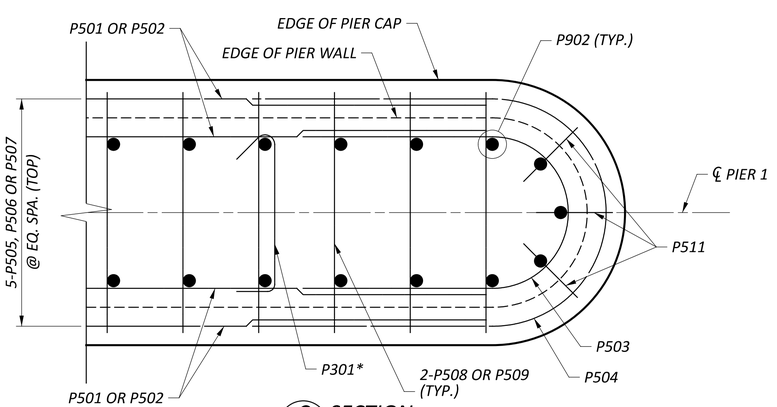

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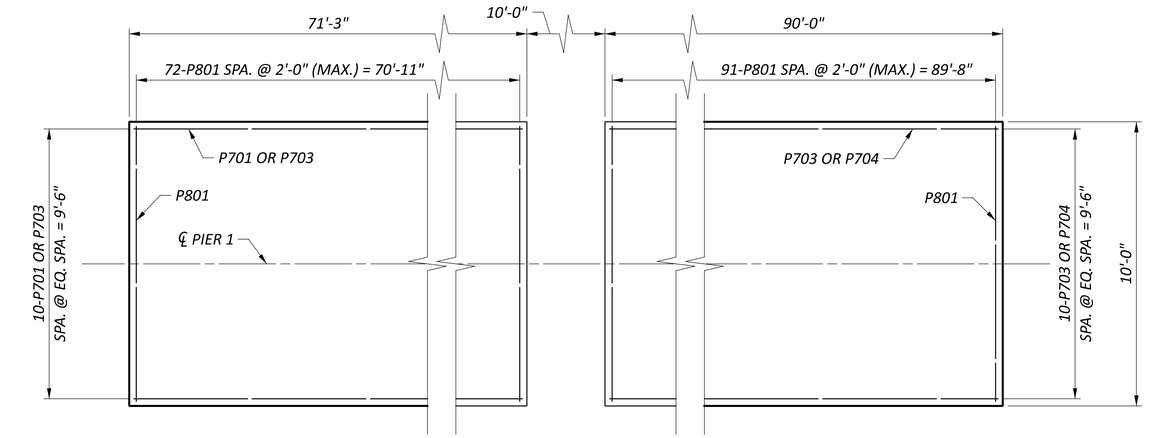
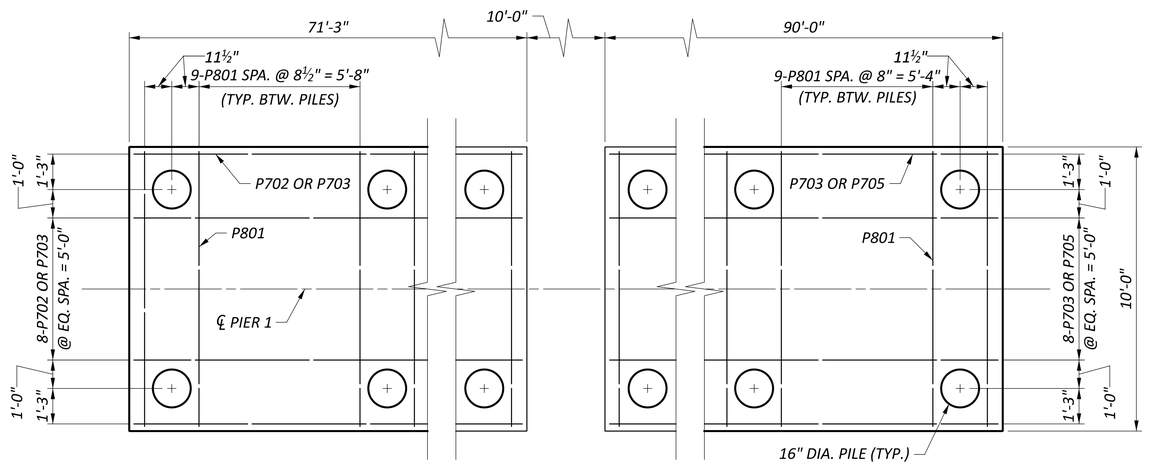
38

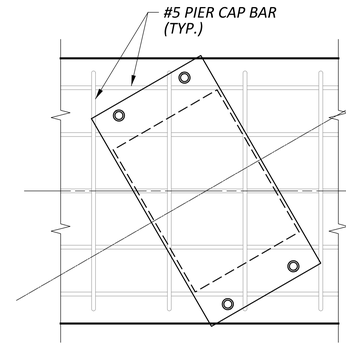
* TIES IN STEM:
ALTERNATE ENDS AT EACH LEVEL



FOOTING PLAN - TOP



FOOTING PLAN - BOTTOM



BEARING ANCHOR PLAN

REQUIRED MIN. LAP LENGTHS	
NO. 5 BARS	2'-5"
NO. 5 BARS (TOP)	3'-1"
NO. 7 BARS	3'-4"
NO. 7 BARS (TOP)	4'-8"
NO. 9 BARS	5'-10"

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 16 ¡ 94 .
3. FOR BEARING DETAILS, SEE SHEET 44 ¡ 94 .
4. FOR REINFORCING STEEL LIST, SEE SHEET 91 ¡ 94 .

PIER 1 DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com
DESIGNER ERM | CHECKER JDM
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 39 | TOTAL 94
SHEET P.192 | TOTAL 329

CUY-14-6.93

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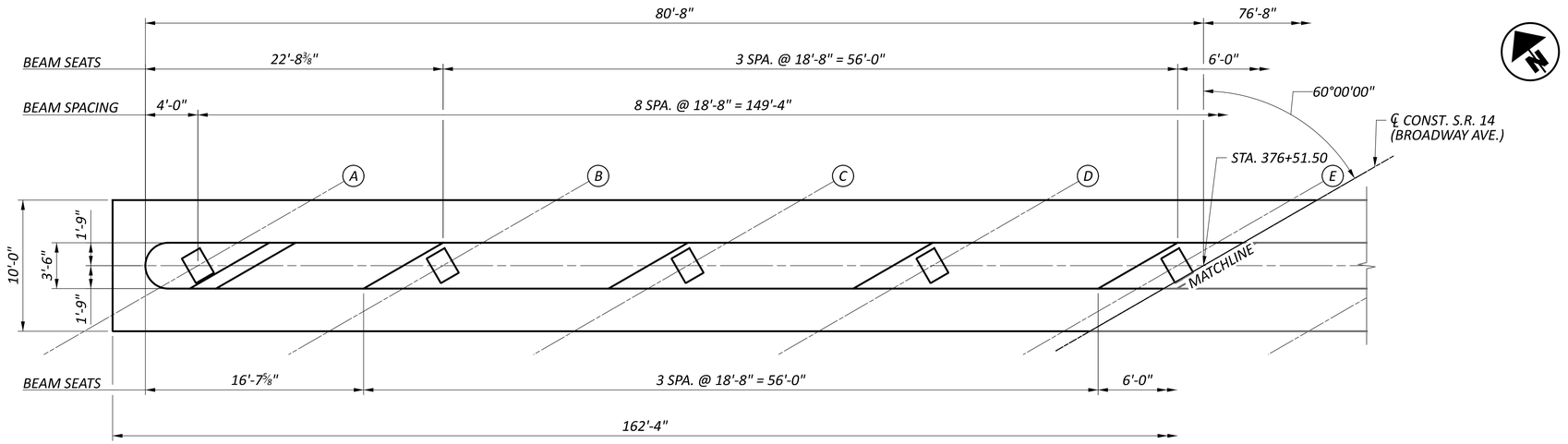

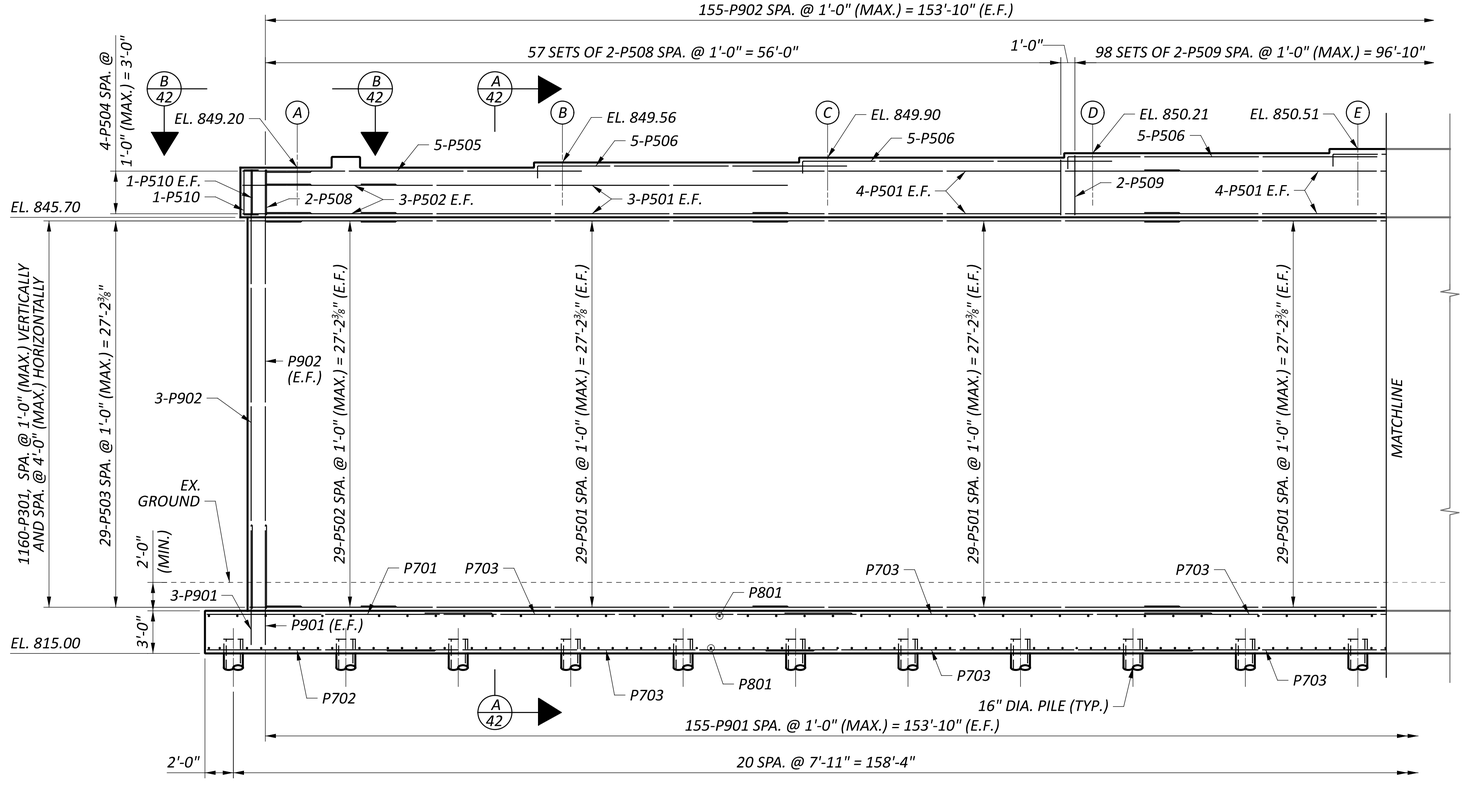

ELEVATION

REQUIRED MIN. LAP LENGTHS	
NO. 5 BARS	2'-5"
NO. 5 BARS (TOP)	3'-1"
NO. 7 BARS	3'-4"
NO. 7 BARS (TOP)	4'-8"
NO. 9 BARS	5'-10"

LEGEND:

(-) GIRDER DESIGNATION

NOTE:

1. FOR PIER 2 DETAILS AND NOTES, SEE SHEET 42 | 94 .

PIER 2 PLAN AND ELEVATION 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
40	94

SHEET	TOTAL
P.193	329

CUY-14-6.93

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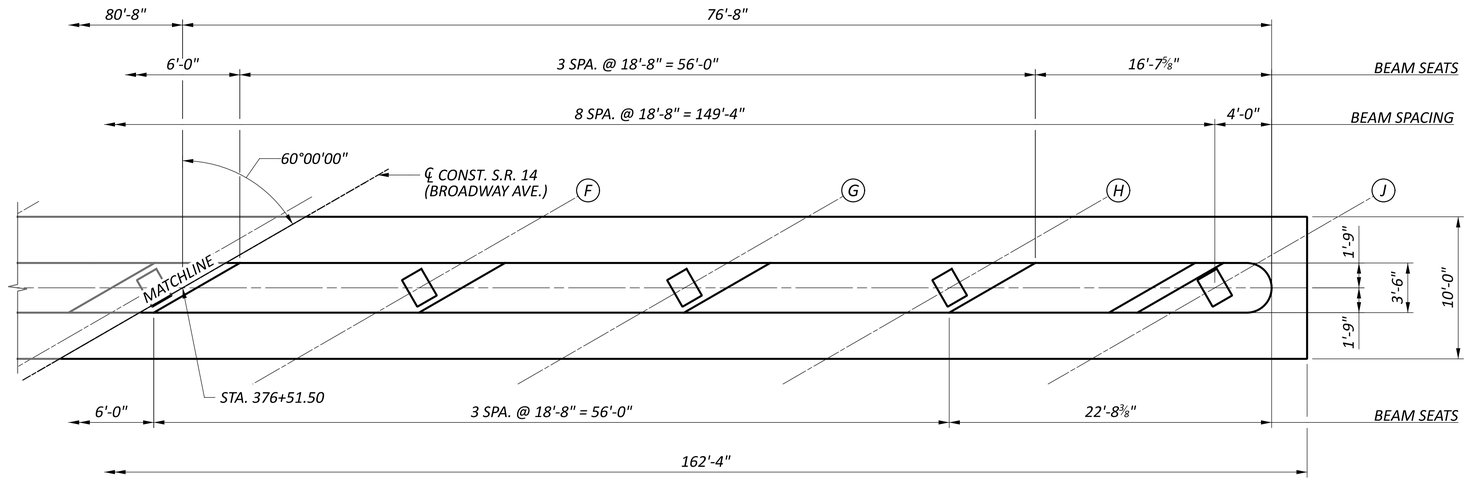
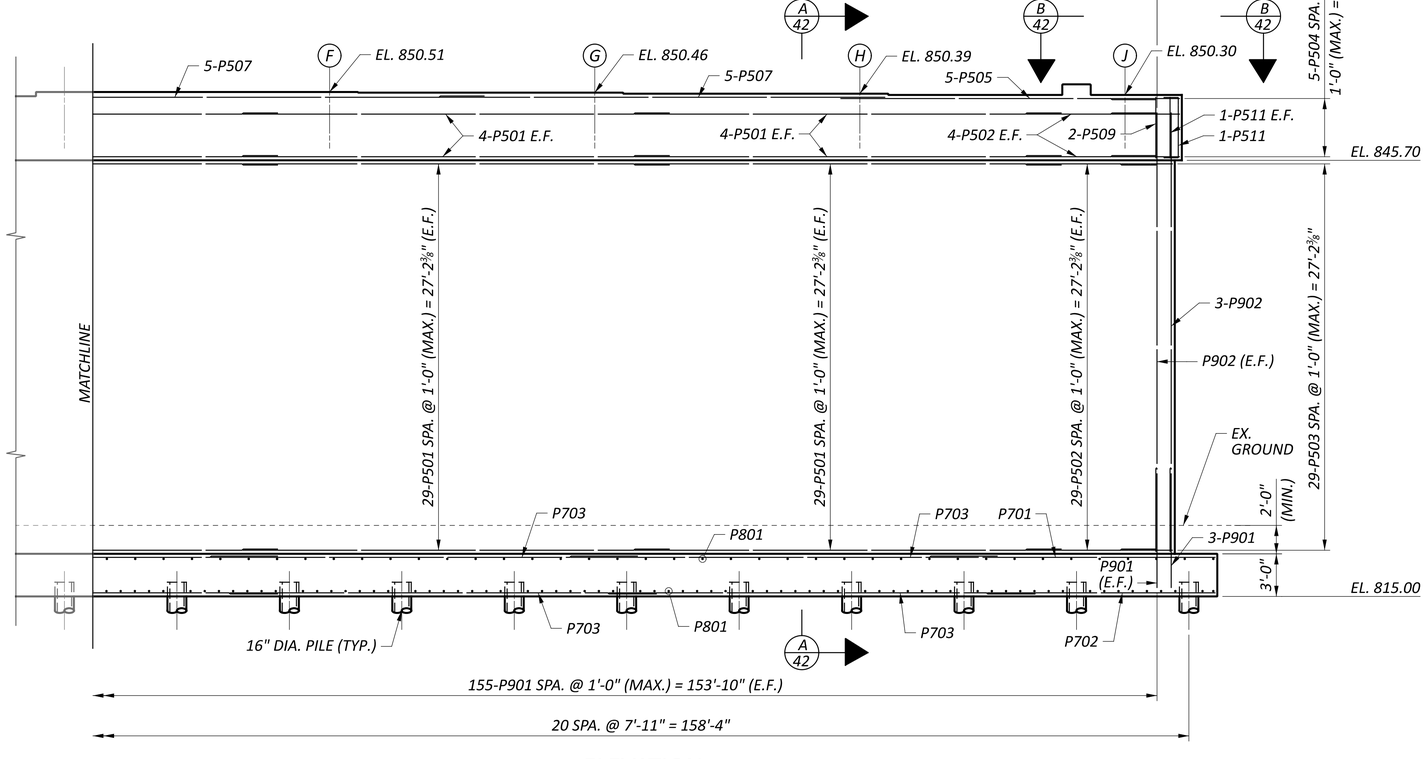


PLAN



ELEVATION

REQUIRED MIN. LAP LENGTHS	
NO. 5 BARS	2'-5"
NO. 5 BARS (TOP)	3'-1"
NO. 7 BARS	3'-4"
NO. 7 BARS (TOP)	4'-8"
NO. 9 BARS	5'-10"

LEGEND:

(-) GIRDER DESIGNATION

NOTE:

1. FOR PIER 2 DETAILS AND NOTES, SEE SHEET 42 | 94.

PIER 2 PLAN AND ELEVATION 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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564 White Pond Drive
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www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
41	94

SHEET	TOTAL
P.194	329

CUY-14-6.93

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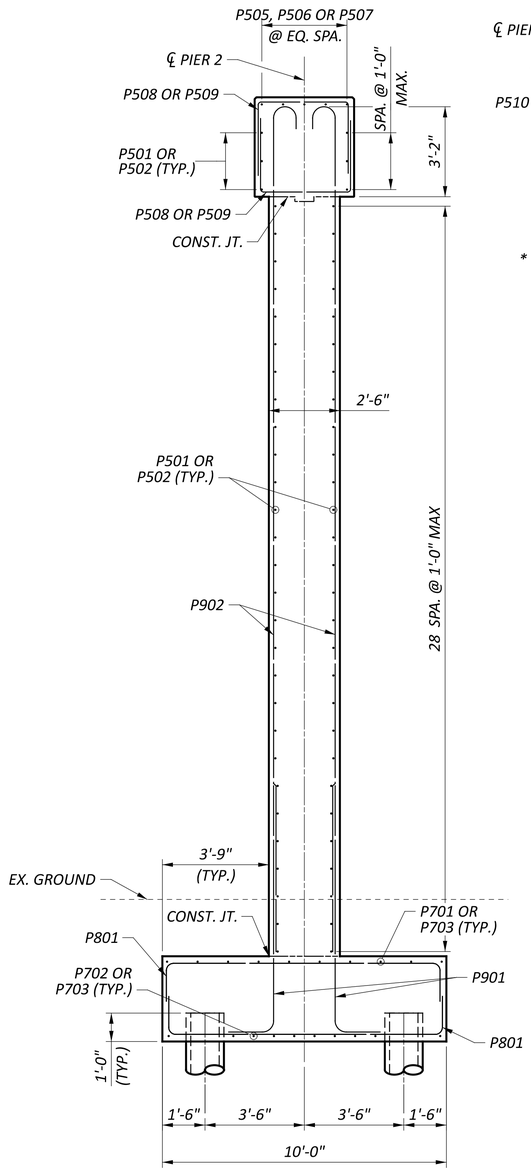
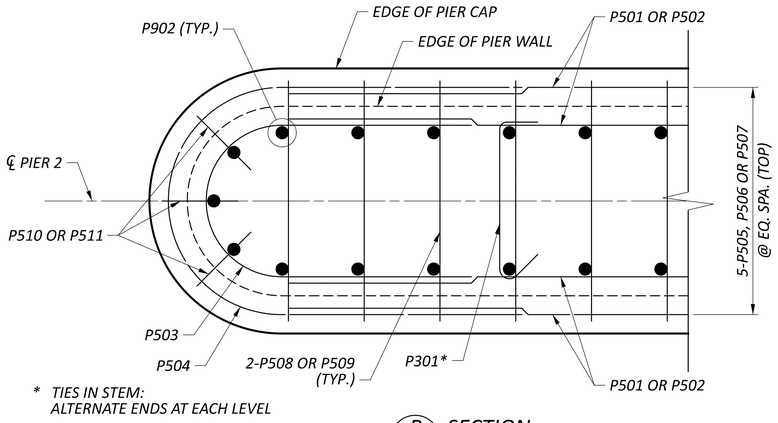
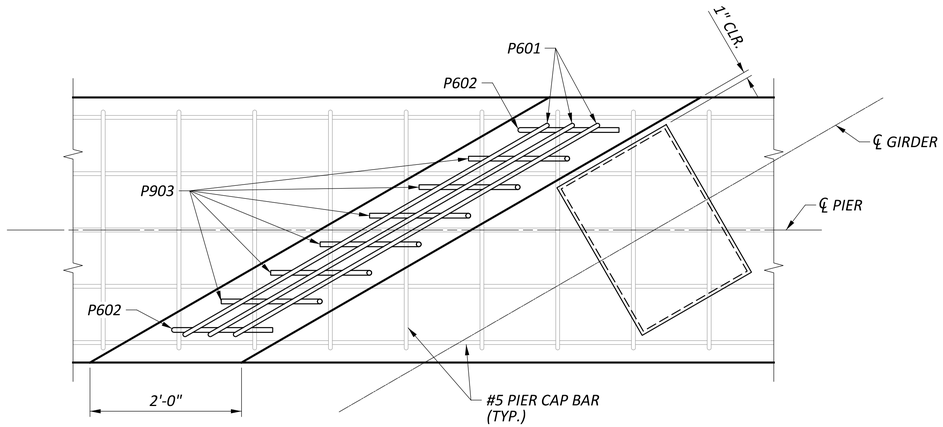


A 40, 41 SECTION

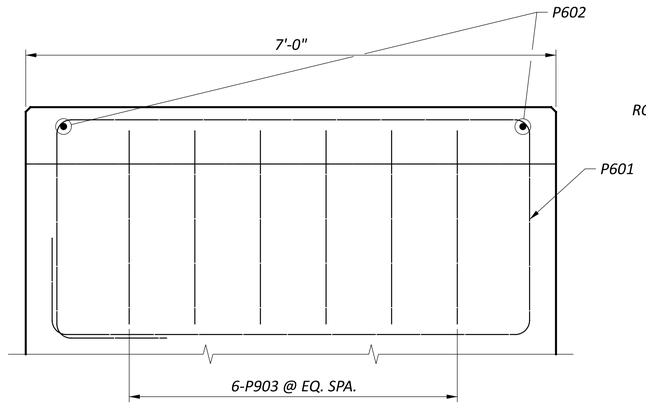


* TIES IN STEM:
ALTERNATE ENDS AT EACH LEVEL

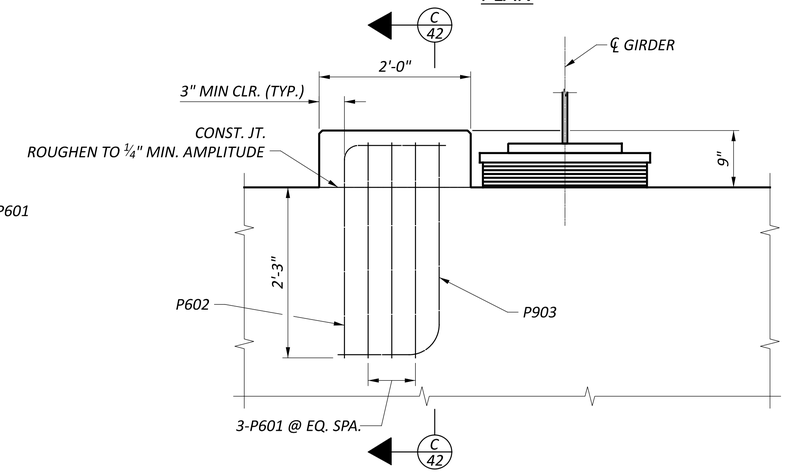
B 40, 41 SECTION



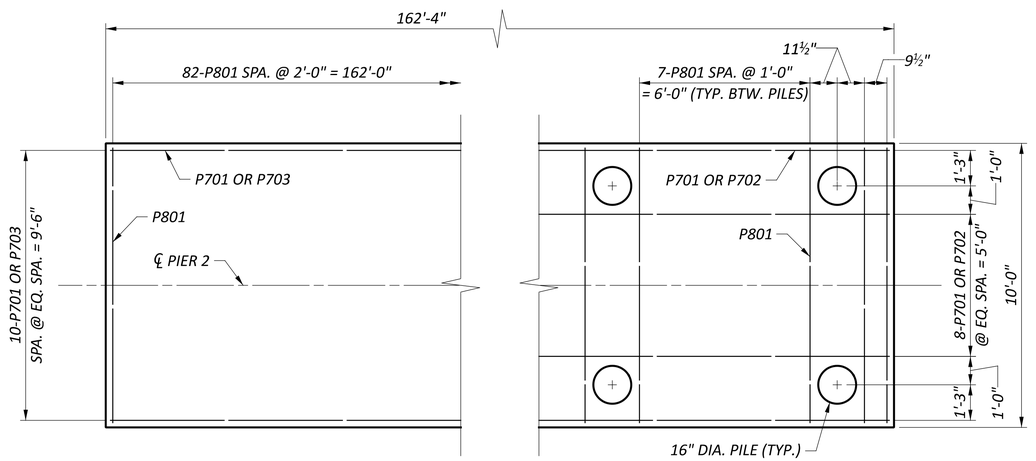
PLAN



C 42 SECTION



ELEVATION



FOOTING PLAN - TOP

FOOTING PLAN - BOTTOM

REQUIRED MIN. LAP LENGTHS	
NO. 5 BARS	2'-5"
NO. 5 BARS (TOP)	3'-1"
NO. 7 BARS	3'-4"
NO. 7 BARS (TOP)	4'-8"
NO. 9 BARS	5'-10"

NOTES:

1. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" FOR ALL OTHER SURFACES UNLESS NOTED.
2. FOR FOUNDATION LAYOUT PLAN, SEE SHEET 17 ¡ 94 .
3. FOR BEARING DETAILS, SEE SHEET 44 ¡ 94 .
4. FOR REINFORCING STEEL LIST, SEE SHEET 91 ¡ 94 .

PIER 2 DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
ERM	JDM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
42	94

SHEET	TOTAL
P.195	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:51:27 PM USER: todd.roxberry
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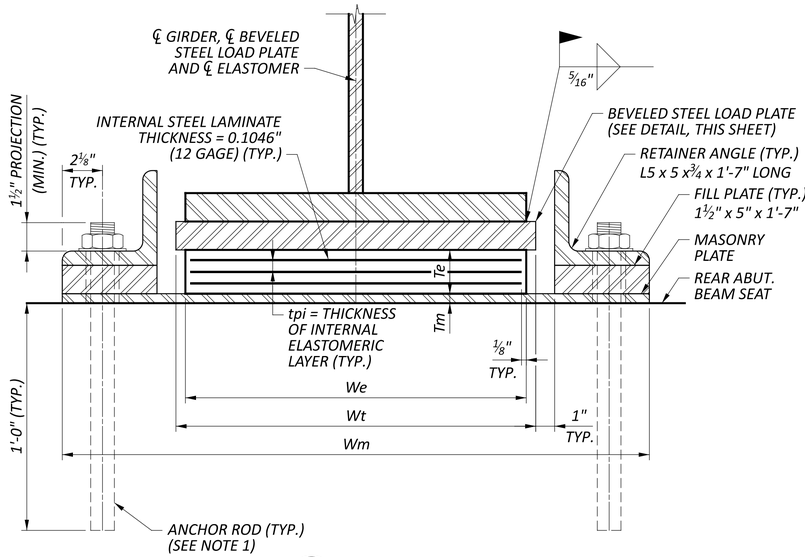
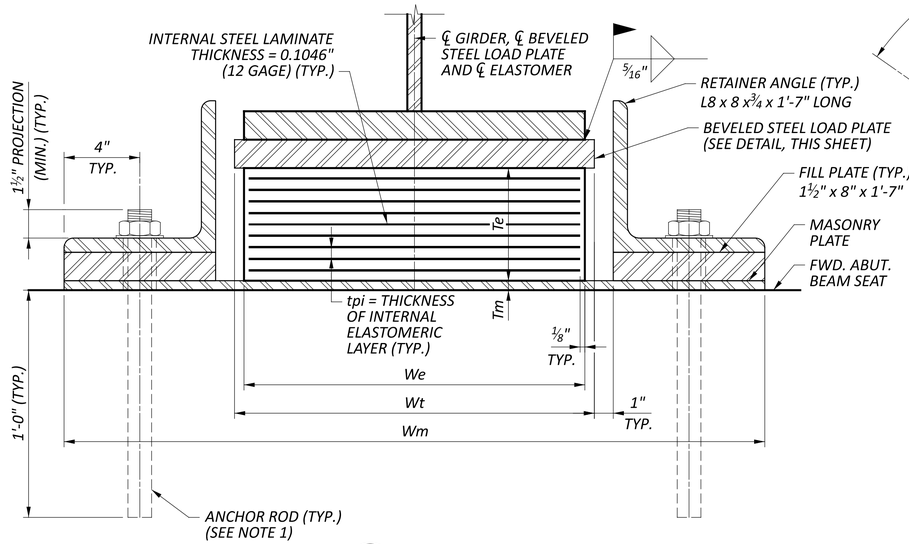
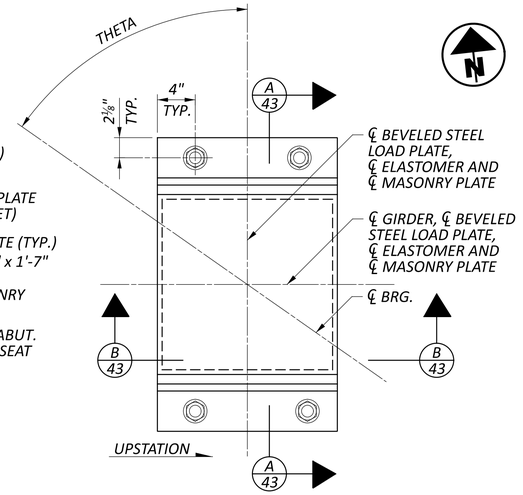


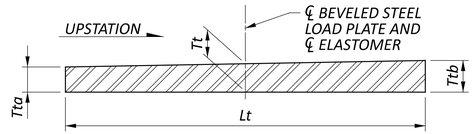
A 43 SECTION
REAR ABUT. - EXPANSION



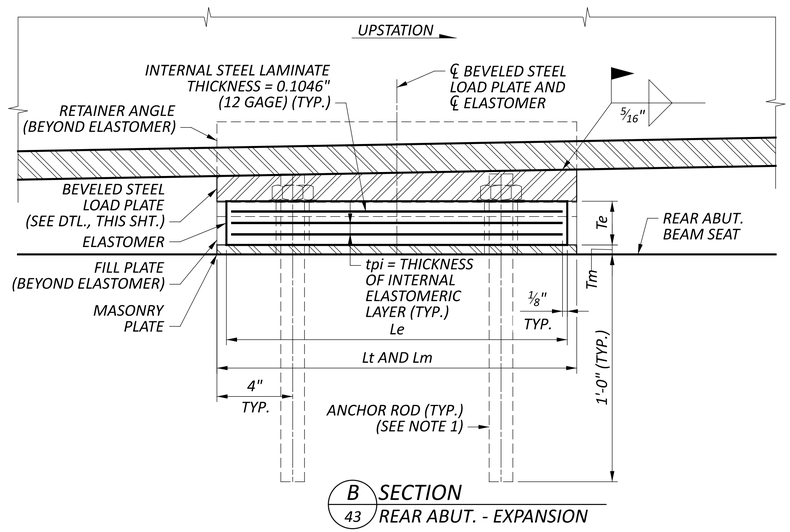
A 43 SECTION
FWD. ABUT. - EXPANSION



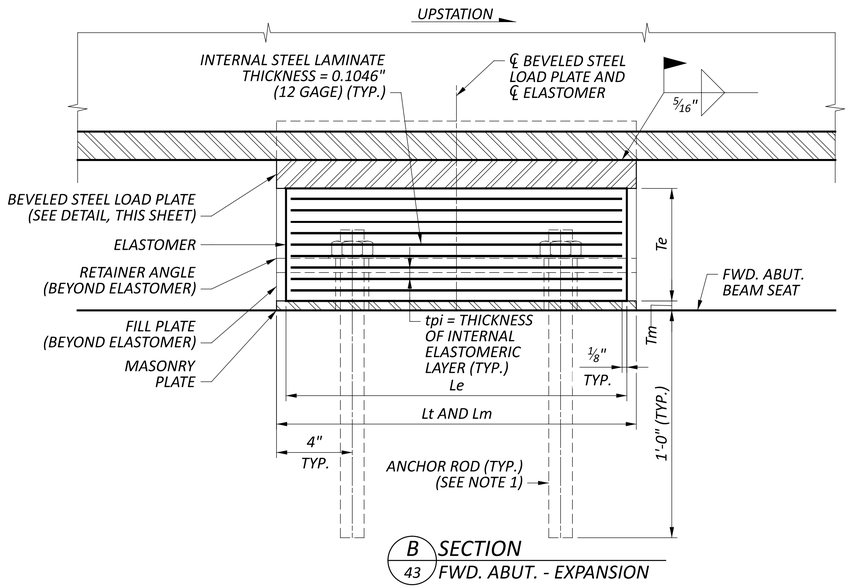
PLAN
REAR ABUTMENT GIRDERS A THRU J SHOWN, GIRDERS K, L AND FORWARD ABUTMENT SIMILAR



BEVELED STEEL LOAD PLATE DETAIL



B 43 SECTION
REAR ABUT. - EXPANSION



B 43 SECTION
FWD. ABUT. - EXPANSION

ELASTOMERIC BEARING DATA

ABUTMENT	GIRDER	THETA	TYPE	NO. REQUIRED	DEAD LOAD (KIPS)	LIVE LOAD (W/ OUT IMPACT) (KIPS)	TOTAL (KIPS)	ELASTOMERIC BEARING						BEVELED STEEL LOAD PLATE					MASONRY PLATE		
								Le (INCHES)	We (INCHES)	Tpi (INCHES)	NO. OF Tpi's	NO. OF STEEL LAMINATES	Te (INCHES)	Lt (INCHES)	Wt (INCHES)	Tta (INCHES)	Tt (INCHES)	Ttb (INCHES)	Lm (INCHES)	Wm (INCHES)	Tm (INCHES)
REAR	A THRU J	55°00'00"	EXP.	9	110.3	54.1	164.4	18	18	0.5	4	3	2.31	19	19	1.328	1.5	1.672	19	31	0.5
	K, L	25°00'00"	EXP.	2	110.3	54.1	164.4	18	18	0.5	4	3	2.31	19	19	1.328	1.5	1.672	19	31	0.5
FORWARD	A THRU J	60°00'00"	EXP.	9	126.5	67.6	194.0	18	18	0.5	10	9	5.94	19	19	1.500	1.5	1.500	19	37	0.5

NOTES:

1. 1¾" DIA. HOLE IN STEEL MASONRY PLATE FOR 1¼" DIA. x 1'-8", F1554, GRADE 55 ANCHOR ROD, GALVANIZED ACCORDING TO 711.02. ANCHOR ROD THREADS PER 1¼-7 UNC 2A, NUTS PER ASTM A563A HEAVY HEX AND WASHERS PER ASTM F436. ANCHOR RODS SHALL BE SET PRIOR TO POURING ABUTMENT BEAM SEATS. FIELD DRILL HOLES IN MASONRY PLATE TO ENSURE CORRECT PLACEMENT. INCLUDE ALL LABOR AND MATERIALS TO INSTALL ANCHOR RODS, NUTS, WASHERS, MASONRY PLATE, LOAD PLATE, SHIM PLATES, AND ANGLES WITH ITEM 516 FOR PAYMENT.
2. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
3. THE STEEL LOAD PLATE AND MASONRY PLATE SHALL BE A709 GRADE 50W STEEL, AND SHALL BE PAINTED TO MATCH THE GIRDERS AT THE ABUTMENTS AND AT THE PIERS FOR FASCIA GIRDERS.
4. THE STEEL LOAD PLATE AND MASONRY PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
5. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
6. TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE.
7. THE UNIT PRICE FOR BEARINGS SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, STEEL LOAD AND MASONRY PLATES, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT SHALL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE, AS PER PLAN.
8. LOADS SHOWN ARE SERVICE LOADS WITH NO LOAD FACTOR OR IMPACT FACTOR INCLUDED.
9. ADJUST ABUTMENT CONCRETE REINFORCEMENT AS NEEDED TO ALLOW FOR ANCHOR ROD INSTALLATION.

ELASTOMERIC BEARING DETAILS - ABUTMENTS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
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Akron, OH 44320
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DESIGNER ERM | CHECKER JDM
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 43 | TOTAL 94
SHEET P.196 | TOTAL 329

CUY-14-6.93

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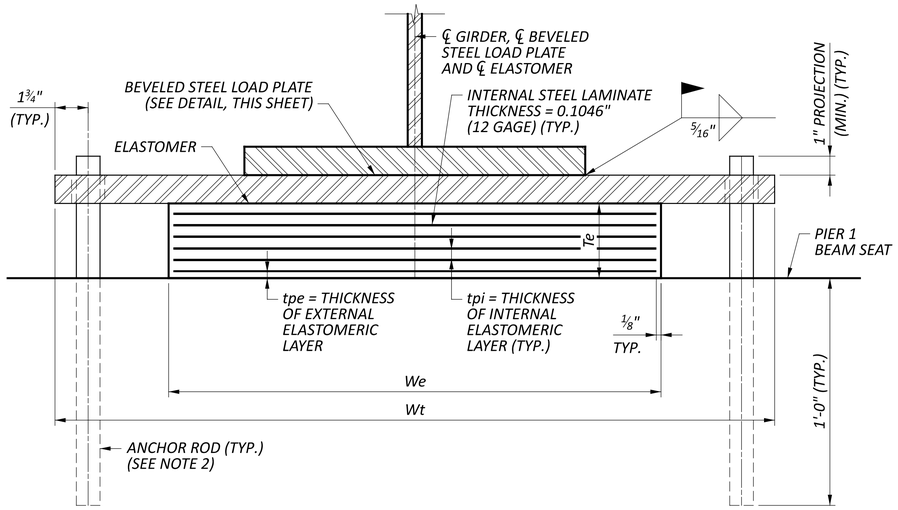
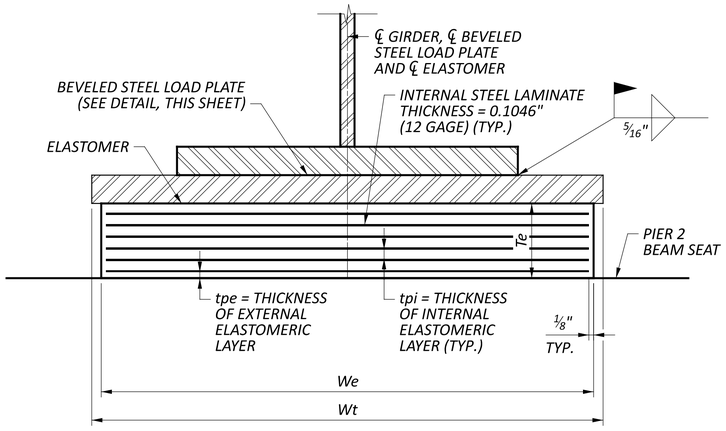
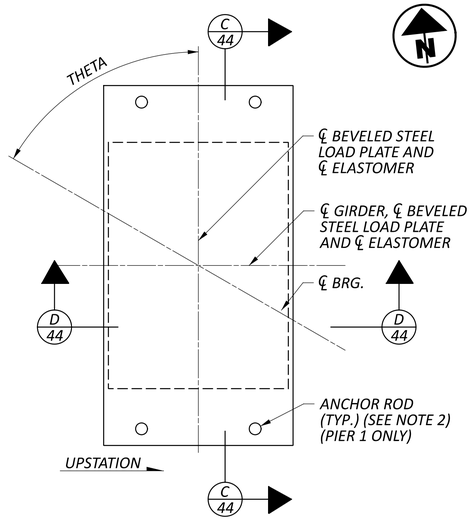


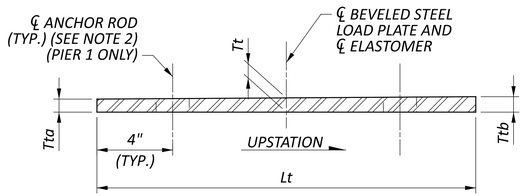
C 44 SECTION
PIER 1 - FIXED



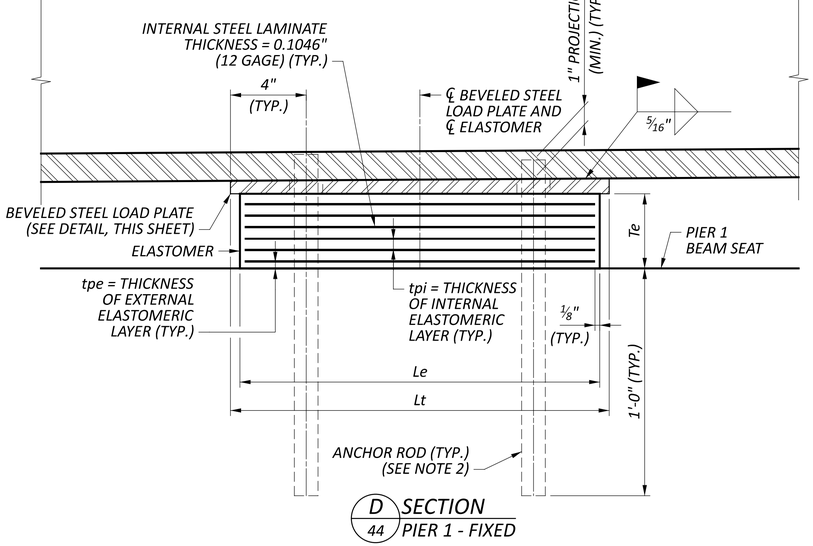
C 44 SECTION
PIER 2 - EXPANSION



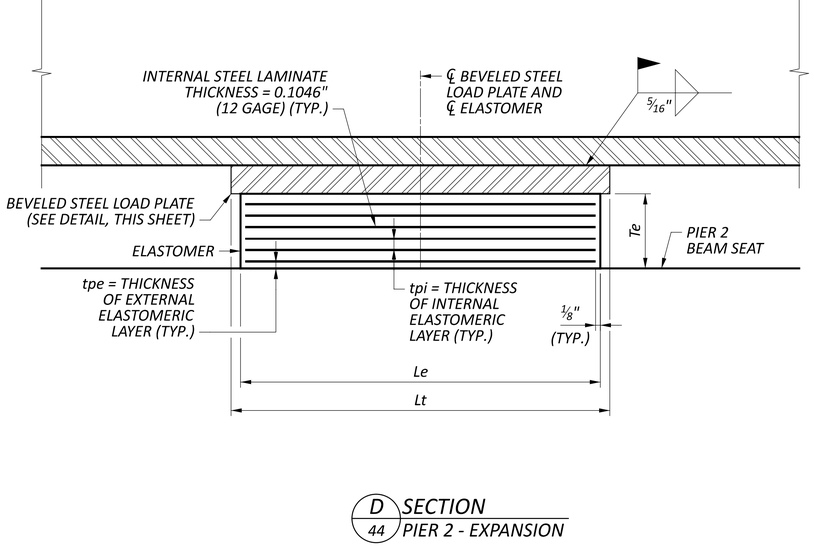
PLAN
PIER 1 SHOWN, PIER 2 SIMILAR



BEVELED STEEL LOAD PLATE DETAIL
PIER 1 SHOWN, PIER 2 SIMILAR



D 44 SECTION
PIER 1 - FIXED



D 44 SECTION
PIER 2 - EXPANSION

ELASTOMERIC BEARING DATA

LOCATION	GIRDER	THETA	TYPE	NO. REQUIRED	DEAD LOAD (KIPS)	LIVE LOAD (W/ OUT IMPACT) (KIPS)	TOTAL (KIPS)	ELASTOMERIC BEARING								BEVELED STEEL LOAD PLATE				
								Le (INCHES)	We (INCHES)	Tpi (INCHES)	Tpe (INCHES)	NO. OF Tpi's	NO. OF Tpe's	NO. OF STEEL LAMINATES	Te (INCHES)	Lt (INCHES)	Wt (INCHES)	Tta (INCHES)	Tt (INCHES)	Ttb (INCHES)
PIER 1	A THRU J	60°00'00"	FIXED	9	437.7	149.1	586.8	19	26	0.5	0.3125	6	1	6	3.94	20	38	1.375	1.5	1.625
PIER 2	A THRU J	60°00'00"	EXP.	9	449.3	155.7	604.9	19	26	0.5	0.3125	6	1	6	3.94	20	27	1.500	1.5	1.500

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS, SEE SHEET 43 ; 94.
2. 1¾" DIA. HOLE IN STEEL LOAD PLATE FOR 1¼" DIA., F1554, GRADE 55, ANCHOR ROD, GALVANIZED ACCORDING TO 711.02. ANCHOR RODS SHALL BE SET PRIOR TO POURING PIER CAP. INCLUDE ALL LABOR AND MATERIALS TO INSTALL ANCHOR RODS AND LOAD PLATE WITH ITEM 516 FOR PAYMENT.
3. ADJUST PEIR CONCRETE REINFORCEMENT AS NEEDED TO ALLOW FOR ANCHOR ROD INSTALLATION.

ELASTOMERIC BEARING DETAILS - PIERS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com
DESIGNER ERM | CHECKER JDM
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 44 | TOTAL 94
SHEET P.197 | TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:51:58 PM USER: todd.roxberry
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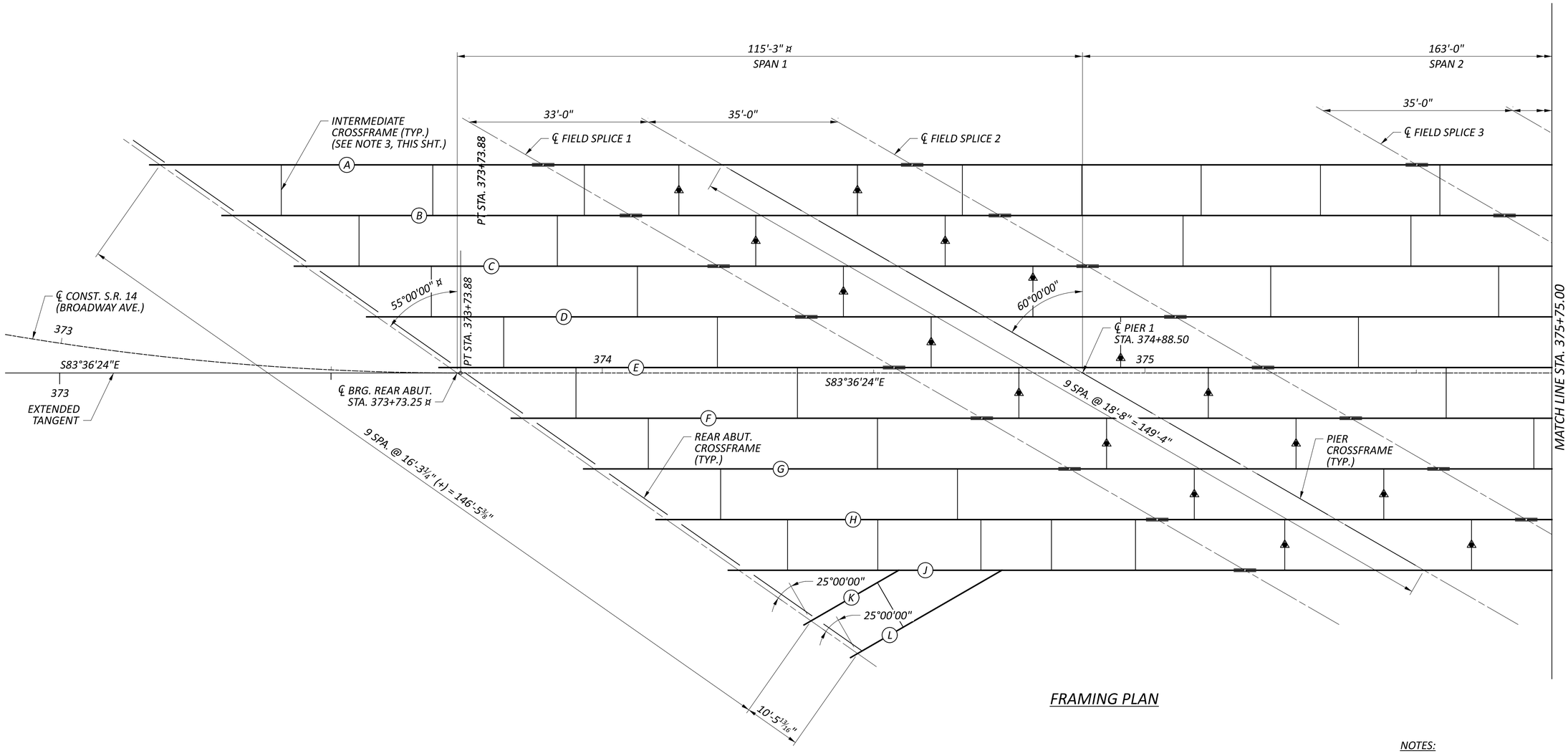

FRAMING PLAN

LEGEND:

- ¤ MEASURED IN REFERENCE TO THE EXTENDED TANGENT
- ▲ TYPE 2 CROSSFRAME
- (#) PROPOSED GIRDER MARK

NOTES:

1. FOR ABUTMENT AND PIER CROSSFRAME DETAILS, SEE SHEETS 54 | 94 THRU 56 | 94 .
2. FOR INTERMEDIATE CROSSFRAME SPACING, SEE CROSSFRAME SPACING TABLE ON SHEET 47 | 94 .
3. ALL INTERMEDIATE CROSSFRAMES ARE TYPE 1 UNLESS NOTED OTHERWISE.
4. FOR INTERMEDIATE CROSSFRAME TYPE 1 AND 2 DETAILS, SEE SHEET 57 | 94 .

FRAMING PLAN 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM 564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	JDM
CHECKER	GAD
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	45
TOTAL	94
SHEET	P.198
TOTAL	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:52:13 PM USER: todd.roxberry
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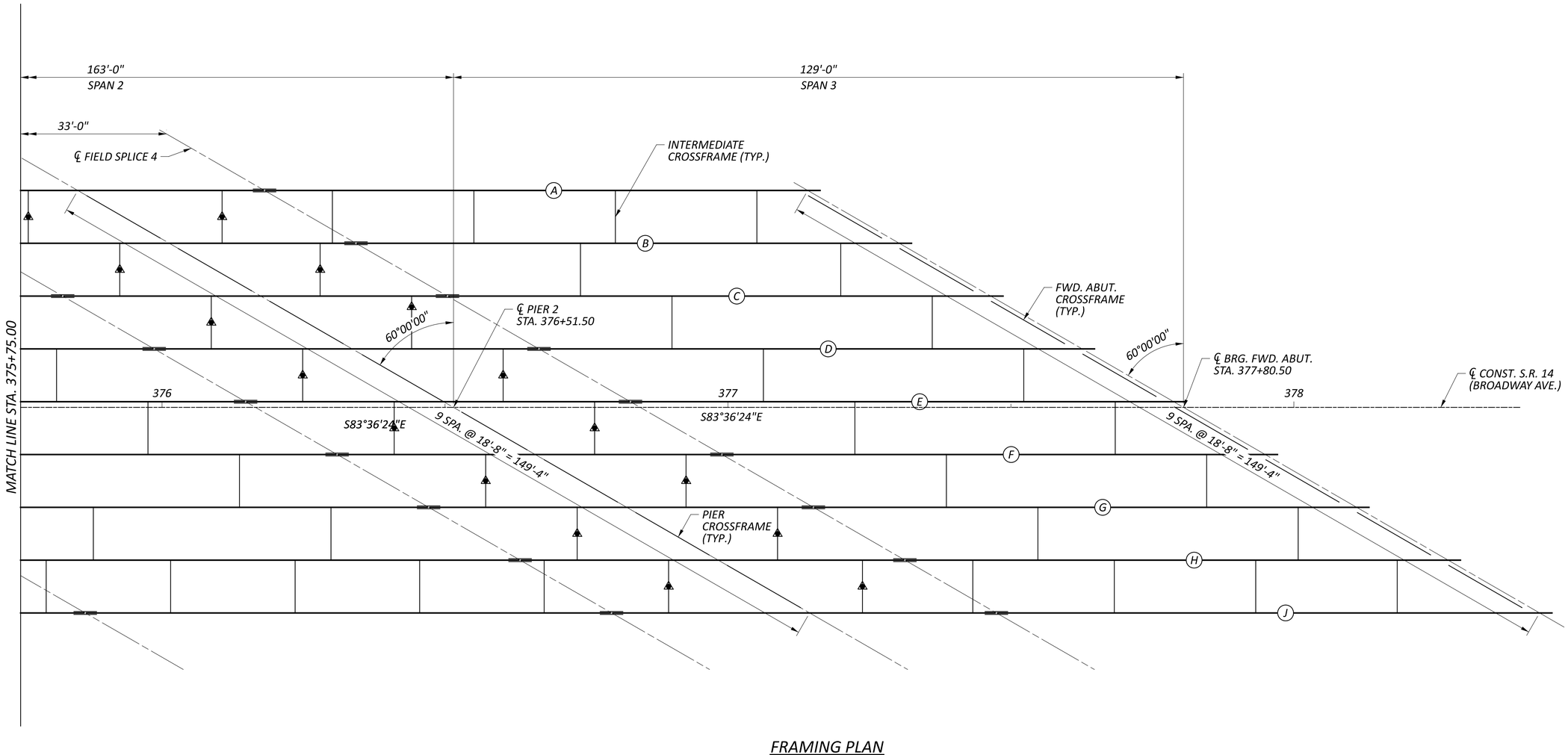

FRAMING PLAN

NOTE:

1. FOR LEGEND AND NOTES, SEE SHEET 45 | 94.

FRAMING PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
46	94

SHEET	TOTAL
P.199	329

CUY-14-6.93

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CROSSFRAME SPACING TABLE

GIRDER	SIDE OF GIRDER	SPACING BETWEEN CL ABUTMENT BEARINGS																																			SIDE OF GIRDER	GIRDER
Ⓐ	LT.	N/A							(F.S. 1)		N/A					(F.S. 2)		N/A				(F.S. 3)		N/A					(F.S. 4)		N/A					LT.	Ⓐ
	RT.	23'-4"	27'-11 1/8"			20'-4 1/8"				7'-7"		17'-5"		32'-11"	10'-1"		9'-3"		17'-9"		4'-3"	22'-0"		34'-3"	7'-6"			12'-0"	3 SPA. @ 25'-0"		9'-0"	RT.					
						27'-11 1/8"									19'-4"			3 SPA. @ 22'-0"	22'-0"							19'-6"										
Ⓑ	LT.	9'-0"	2 SPA. @ 27'-11 1/8"			17'-5"						32'-11"		19'-4"	22'-0"									34'-3"	19'-6"		25'-0"			2 SPA. @ 25'-0"		25'-2"	LT.	Ⓑ
	RT.	23'-4"				8'-7"		8'-10"	(F.S. 1)						6'-11"	(F.S. 2)	15'-1"		11'-11"	(F.S. 3)	10'-1"					4'-2"	(F.S. 4)	20'-10"					10'-4"	RT.		
Ⓒ	LT.	10'-0"	36'-6 5/8"			13'-6 5/8"		23'-0"				34'-11"			10'-1"		33'-9"	42'-0"	17'-3"		26'-3"	35'-5"			6'-4"		39'-8"		46'-0"			26'-6"	LT.	Ⓒ
	RT.	23'-4"				36'-6 5/8"									43'-10"				43'-6"							46'-0"							RT.		
Ⓓ	LT.	10'-0"				29'-8 5/8"		6'-10"	(F.S. 1)						26'-3"	(F.S. 2)	17'-7"		33'-5"	(F.S. 3)	10'-1"					22'-6"	(F.S. 4)	23'-6"					26'-6"	LT.	Ⓓ
	RT.	23'-4"	37'-11 11/16"			14'-11 11/16"		23'-0"				34'-11"			10'-1"		33'-9"	42'-0"	17'-3"		26'-3"	35'-5"			6'-4"		39'-8"		46'-0"			10'-4"	RT.		
						37'-11 11/16"									43'-10"				43'-6"							46'-0"									
Ⓔ	LT.	10'-0"				31'-1 11/16"		6'-10"	(F.S. 1)						26'-3"	(F.S. 2)	17'-7"		33'-5"	(F.S. 3)	10'-1"					22'-6"	(F.S. 4)	23'-6"					26'-6"	LT.	Ⓔ
	RT.	23'-4"	39'-4 11/16"			17'-0 5/8"		22'-4 1/16"				34'-11"			10'-1"		33'-9"	42'-0"	17'-3"		26'-3"	35'-5"			6'-4"		39'-8"		46'-0"			10'-4"	RT.		
						39'-4 11/16"									43'-10"				43'-6"							46'-0"									
Ⓕ	LT.	10'-0"				32'-6 11/16"		6'-10"	(F.S. 1)						26'-3"	(F.S. 2)	17'-7"		33'-5"	(F.S. 3)	10'-1"					22'-6"	(F.S. 4)	23'-6"					26'-6"	LT.	Ⓕ
	RT.	23'-4"	40'-9 11/16"			17'-9 11/16"		23'-0"				34'-11"			10'-1"		33'-9"	42'-0"	17'-3"		26'-3"	35'-5"			6'-4"		39'-8"		46'-0"			10'-4"	RT.		
						40'-9 11/16"									43'-10"				43'-6"							46'-0"									
Ⓖ	LT.	10'-0"				33'-11 11/16"		6'-10"	(F.S. 1)						26'-3"	(F.S. 2)	17'-7"		33'-5"	(F.S. 3)	10'-1"					22'-6"	(F.S. 4)	23'-6"					26'-6"	LT.	Ⓖ
	RT.	23'-4"	42'-2 11/16"			19'-2 11/16"		23'-0"				34'-11"			10'-1"		33'-9"	42'-0"	17'-3"		26'-3"	35'-5"			6'-4"		39'-8"		46'-0"			10'-4"	RT.		
						42'-2 11/16"									43'-10"				43'-6"							46'-0"									
Ⓗ	LT.	10'-0"				35'-4 11/16"		6'-10"	(F.S. 1)						26'-3"	(F.S. 2)	17'-7"		33'-5"	(F.S. 3)	10'-1"					22'-6"	(F.S. 4)	23'-6"					26'-6"	LT.	Ⓗ
	RT.	23'-4"	43'-7 3/4"			20'-7 3/4"		23'-0"				34'-11"			10'-1"		33'-9"	42'-0"	17'-3"		26'-3"	35'-5"			6'-4"		39'-8"		46'-0"			10'-4"	RT.		
						43'-7 3/4"									43'-10"				43'-6"							46'-0"									
Ⓙ	LT.	10'-0"				36'-9 3/4"		6'-10"	(F.S. 1)						26'-3"	(F.S. 2)	17'-7"		33'-5"	(F.S. 3)	10'-1"					22'-6"	(F.S. 4)	23'-6"					26'-6"	LT.	Ⓙ
	RT.	22'-4"	16'-7 9/16"	19'-0"	13'-0"	15'-6"	4'-0"	23'-6"		34'-5"					10'-1"		9'-3"	3 SPA. @ 22'-0"	17'-9"		4'-3"	22'-0"		34'-3"	7'-6"			12'-0"	3 SPA. @ 25'-0"		9'-0"	RT.		
							27'-6"								19'-4"				22'-0"							19'-6"									
	LT.	9'-0"					20'-2"		(F.S. 1)	7'-4"		34'-5"		19'-4"	6'-11"	(F.S. 2)	15'-1"		11'-11"	(F.S. 3)	10'-1"					4'-2"	(F.S. 4)	20'-10"		25'-0"		2 SPA. @ 25'-0"	25'-2"	LT.	
	RT.	N/A								N/A								N/A				N/A							N/A					RT.	
Ⓚ	LT.	N/A																																				
	RT.	14'-1 7/16"						4'-6 9/16"																														
Ⓛ	LT.	9'-8 5/16"						21'-0"																														
	RT.	N/A																																				

℄ BRG. REAR ABUT.

℄ BRG. FWD. ABUT.

NOTES:

1. *SPACINGS ARE MEASURED ALONG THE ℄ GIRDER.*
2. *ALL SPACINGS SHOWN ARE DISTANCES BETWEEN CROSSFRAMES EXCEPT WHERE (F.S. #) IS SHOWN. THOSE DISTANCES ARE MEASURED FROM THE CROSSFRAME TO THE CENTER OF THE FIELD SPLICE.*

CROSSFRAME SPACING TABLE
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
47	94

SHEET	TOTAL
P.200	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:52:42 PM USER: todd.roxberry
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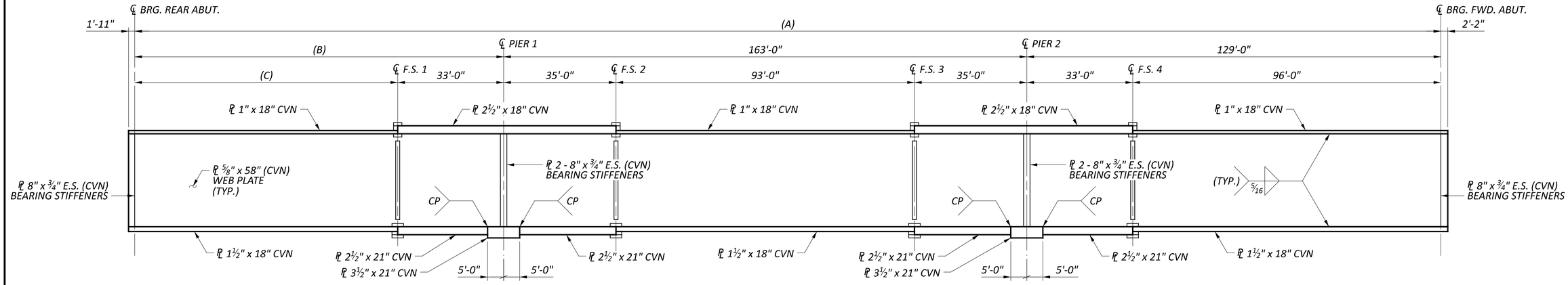
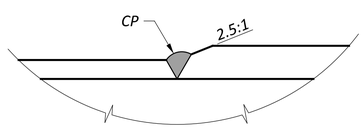


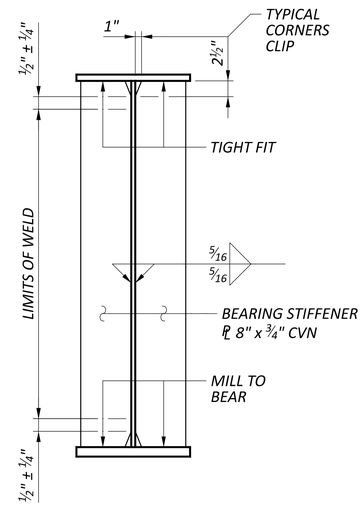
GIRDER ELEVATION

GIRDER DIMENSION TABLE			
GIRDER	(A)	(B)	(C)
Ⓐ	395'-7 3/16"	103'-7 3/16"	70'-7 3/16"
Ⓑ	398'-5 1/4"	106'-5 1/4"	73'-5 1/4"
Ⓒ	401'-3 1/4"	109'-3 1/4"	76'-3 1/4"
Ⓓ	404'-1 5/16"	112'-1 5/16"	79'-1 5/16"
Ⓔ	406'-11 3/8"	114'-11 3/8"	81'-11 3/8"
Ⓕ	409'-9 3/8"	117'-9 3/8"	84'-9 3/8"
Ⓖ	412'-7 1/16"	120'-7 1/16"	87'-7 1/16"
Ⓗ	415'-5 1/16"	123'-5 1/16"	90'-5 1/16"
Ⓙ	418'-3½"	126'-3½"	93'-3½"



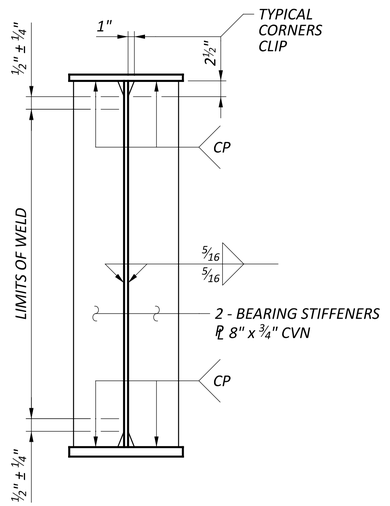
DETAIL 'CP'

CP DENOTES COMPLETE JOINT PENETRATION WELD



BEARING STIFFENER DETAIL

(AT ABUTMENTS)



BEARING STIFFENER DETAIL

(AT PIERS)

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS, SEE SHEET 49 | 94 .

GIRDER ELEVATIONS 1 OF 3
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:52:58 PM USER: todd.roxberry
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SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
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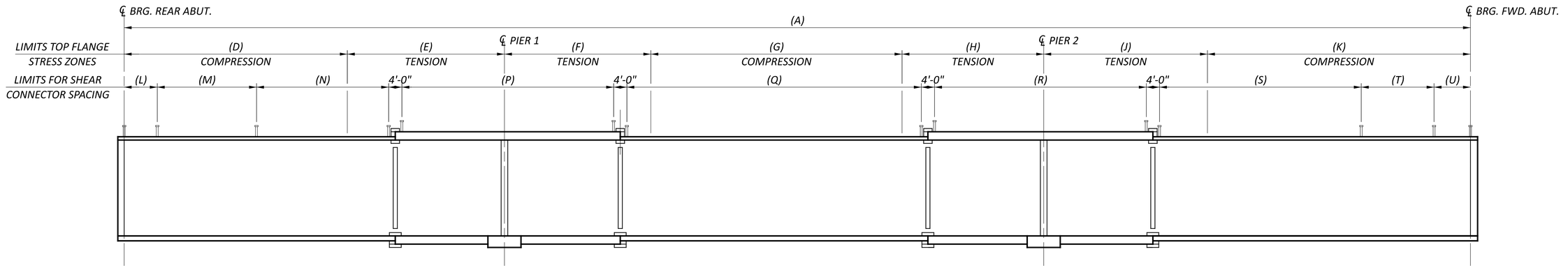
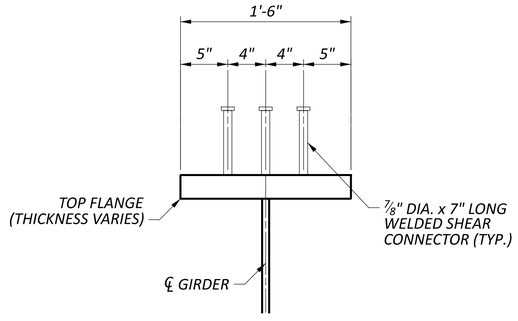
DESIGNER JDM | CHECKER GAD
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 48 | TOTAL 94
SHEET P.201 | TOTAL 329



GIRDER ELEVATION

GIRDER DIMENSION TABLE																	
GIRDER	(A)	TOP FLANGE TENSION/COMPRESSION ZONES							SHEAR CONNECTOR SPACING								
		(D)	(E)	(F)	(G)	(H)	(J)	(K)	(L)	(M)	(N)	(P)	(Q)	(R)	(S)	(T)	(U)
Ⓐ	395'-7 3/16"	56'-11 3/16"	46'-8"	44'-0"	72'-1"	46'-11"	50'-4"	78'-8"	35 SPA. @ 7 7/8"	44 SPA. @ 8 7/8" (-)	20 SPA. @ 7 7/8" (+)	85 SPA. @ 9" (+)	134 SPA. @ 8" (-)	85 SPA. @ 9" (+)	56 SPA. @ 8" (-)	64 SPA. @ 9"	17 SPA. @ 7 3/4"
Ⓑ	398'-5 1/4"	58'-11 1/4"	47'-6"	44'-3"	75'-11"	42'-10"	49'-6"	79'-6"	15 SPA. @ 8"	66 SPA. @ 9" (-)	19 SPA. @ 7 7/8" (-)	85 SPA. @ 9" (+)	134 SPA. @ 8" (-)	85 SPA. @ 9" (+)	105 SPA. @ 8" (-)	20 SPA. @ 9"	17 SPA. @ 7 3/4"
Ⓒ	401'-3 1/4"	61'-9 1/4"	47'-6"	44'-3"	75'-11"	42'-10"	49'-6"	79'-6"	15 SPA. @ 8"	50 SPA. @ 8 7/8" (+)	41 SPA. @ 8" (-)	85 SPA. @ 9" (+)	134 SPA. @ 8" (-)	85 SPA. @ 9" (+)	105 SPA. @ 8" (-)	20 SPA. @ 9"	17 SPA. @ 7 3/4"
Ⓓ	404'-1 5/16"	64'-7 5/16"	47'-6"	44'-3"	75'-11"	42'-10"	49'-6"	79'-6"	15 SPA. @ 8"	51 SPA. @ 9" (-)	44 SPA. @ 8" (-)	85 SPA. @ 9" (+)	134 SPA. @ 8" (-)	85 SPA. @ 9" (+)	105 SPA. @ 8" (-)	20 SPA. @ 9"	17 SPA. @ 7 3/4"
Ⓔ	406'-11 3/8"	67'-5 3/8"	47'-6"	44'-3"	75'-11"	42'-10"	49'-6"	79'-6"	15 SPA. @ 8"	54 SPA. @ 8 7/8" (+)	45 SPA. @ 8" (-)	85 SPA. @ 9" (+)	134 SPA. @ 8" (-)	85 SPA. @ 9" (+)	105 SPA. @ 8" (-)	20 SPA. @ 9"	17 SPA. @ 7 3/4"
Ⓕ	409'-9 3/8"	70'-3 3/8"	47'-6"	44'-3"	75'-11"	42'-10"	49'-6"	79'-6"	15 SPA. @ 8"	55 SPA. @ 9" (-)	48 SPA. @ 8" (-)	85 SPA. @ 9" (+)	134 SPA. @ 8" (-)	85 SPA. @ 9" (+)	105 SPA. @ 8" (-)	20 SPA. @ 9"	17 SPA. @ 7 3/4"
Ⓖ	412'-7 7/16"	73'-1 7/16"	47'-6"	44'-3"	75'-11"	42'-10"	49'-6"	79'-6"	15 SPA. @ 8"	56 SPA. @ 9"	51 SPA. @ 7 7/8" (+)	85 SPA. @ 9" (+)	134 SPA. @ 8" (-)	85 SPA. @ 9" (+)	105 SPA. @ 8" (-)	20 SPA. @ 9"	17 SPA. @ 7 3/4"
Ⓗ	415'-5 7/16"	75'-11 7/16"	47'-6"	44'-3"	75'-11"	42'-10"	49'-6"	79'-6"	15 SPA. @ 8"	40 SPA. @ 9"	73 SPA. @ 8" (-)	85 SPA. @ 9" (+)	134 SPA. @ 8" (-)	85 SPA. @ 9" (+)	105 SPA. @ 8" (-)	20 SPA. @ 9"	17 SPA. @ 7 3/4"
Ⓙ	418'-3 1/2"	79'-7 1/2"	46'-8"	44'-0"	72'-1"	46'-11"	50'-4"	78'-8"	15 SPA. @ 8"	85 SPA. @ 9" (-)	28 SPA. @ 7 3/4" (+)	85 SPA. @ 9" (+)	134 SPA. @ 8" (-)	85 SPA. @ 9" (+)	69 SPA. @ 8" (-)	34 SPA. @ 8 7/8" (-)	38 SPA. @ 7 7/8" (-)



TYPICAL SHEAR CONNECTOR DETAIL

NOTES:

1. CVN:
   WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESS UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
3. FOR GENERAL NOTES, SEE SHEETS 5 | 94 THRU 6 | 94 .
4. FOR DEFLECTION AND CAMBER, SEE SHEETS 51 | 94 AND 52 | 94 .
5. FOR FIELD SPLICE DETAIL, SEE SHEET 53 | 94 .

GIRDER ELEVATIONS 2 OF 3
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com
DESIGNER JDM | CHECKER GAD
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 49 | TOTAL 94
SHEET P.202 | TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:53:15 PM USER: todd.roxberry
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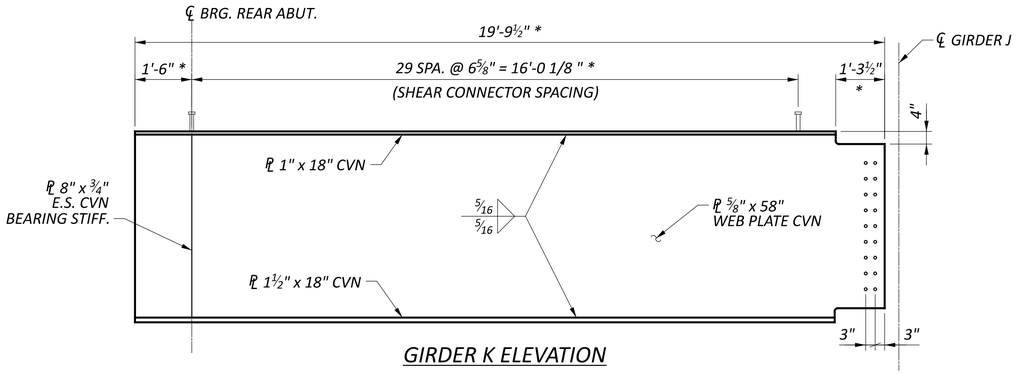
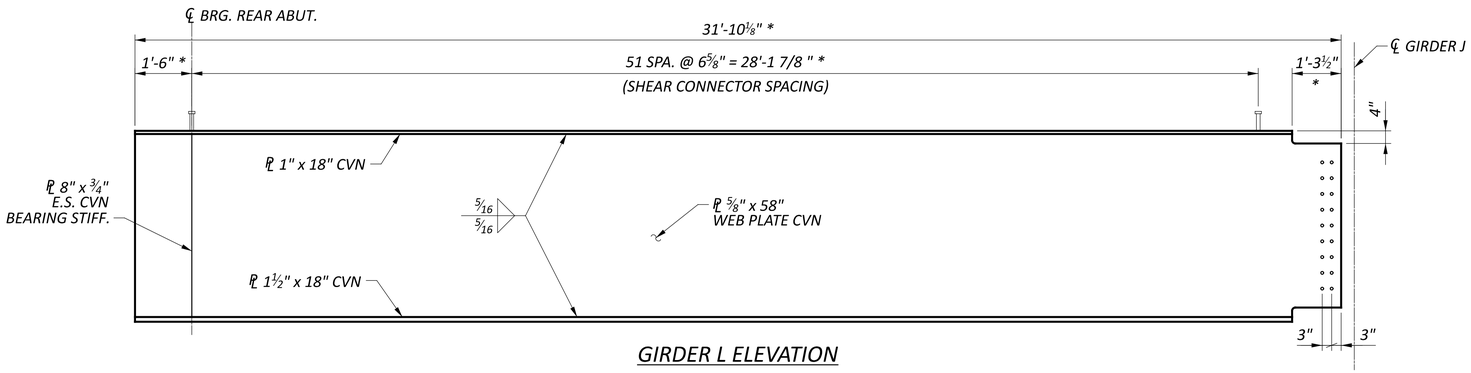
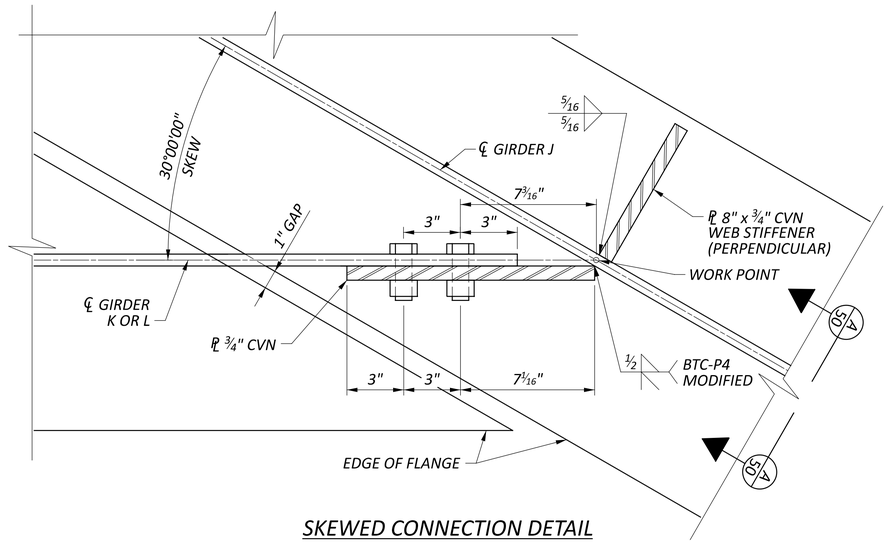


GIRDER K ELEVATION

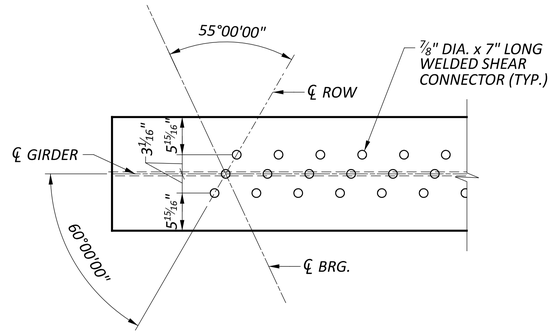


GIRDER L ELEVATION



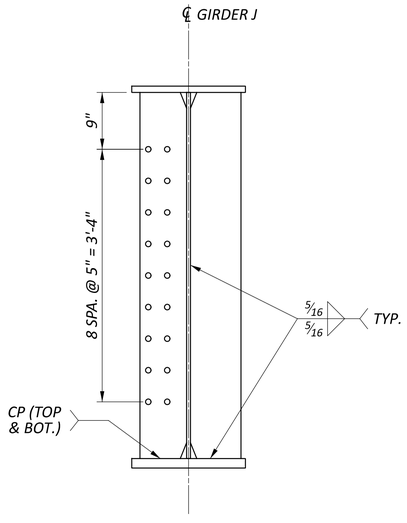
SKEWED CONNECTION DETAIL

FOR GIRDERS K OR L, FRAMED INTO GIRDER J
(GIRDER TOP FLANGES NOT SHOWN FOR CLARITY)



SHEAR STUD PARTIAL PLAN

SKEW SHEAR STUDS TO ALIGN WITH TRANSVERSE DECK REINFORCING
(GIRDERS K & L ONLY)



A SECTION

LEGEND:

** - DIMENSIONS GIVEN ALONG ℄ OF GIRDER*

NOTES:

1. *CVN:*
   WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. *ALL STRUCTURAL STEEL MATERIAL SHALL BE A709 GRADE 50W.*
3. *ALL BOLTS IN CONNECTION DETAIL SHALL BE ⅞" DIAMETER HIGH STRENGTH BOLTS PER ASTM A325 TYPE III WITH THREADS EXCLUDED FROM THE SHEAR PLANE. EACH FASTENER SHALL INCLUDE A BOLT, NUT AND TWO (2) WASHERS TIGHTENED ACCORDING TO CMS 513.*

   PROVIDE 15/16" DIAMETER BOLT HOLES PLATE GIRDER WEB AND 1 1/16" DIAMETER HOLES IN THE CONNECTION PLATE.
4. *FOR GIRDERS K AND L REAR ABUTMENT BEARING STIFFENER DETAILS, SEE BEARING STIFFENER DETAIL, SHEET* 48 | 94 .
5. *ENTIRE LENGTH OF GIRDERS K AND L TOP FLANGE IS CONSIDERED "COMPRESSION" STRESS ZONE LIMITS. FOR WELDING ATTACHMENTS FOR CONCRETE DECK FINISHING NOTES, SEE SHEET* 48 | 94 .

GIRDER ELEVATIONS 3 OF 3
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	JDM
CHECKER	GAD
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	50
TOTAL	94
SHEET	P.203
TOTAL	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:53:28 PM USER: todd.roxberry
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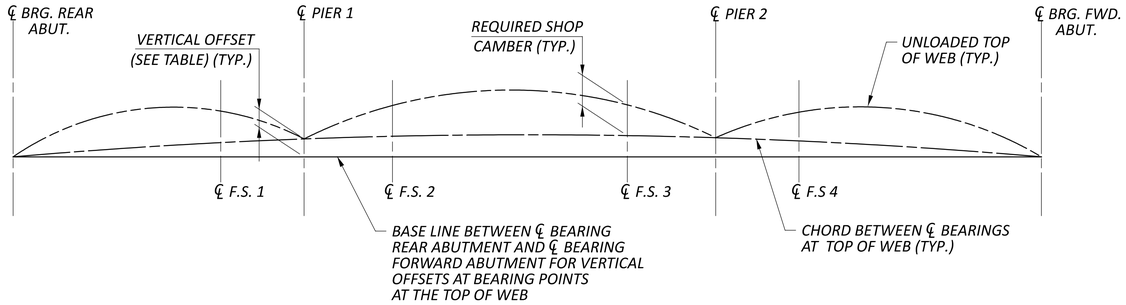
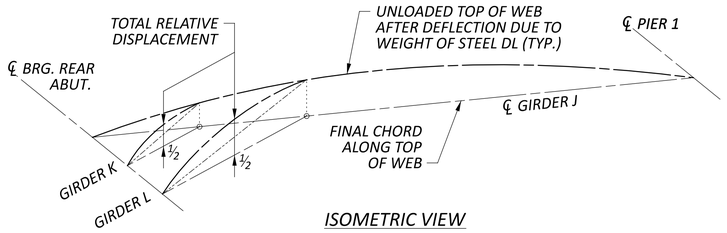
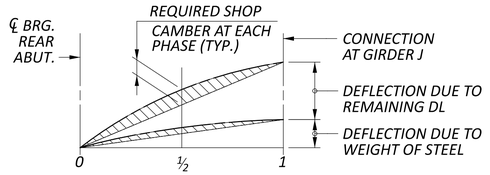


CAMBER DIAGRAM

BLOCKING DIMENSIONS (INCHES)		
GIRDER	PIER 1	PIER 2
(A)	16.26	17.84
(B)	16.26	17.83
(C)	16.41	17.90
(D)	16.66	18.01
(E)	17.00	18.17
(F)	17.40	18.33
(G)	17.62	18.44
(H)	18.08	18.65
(J)	20.02	19.50



ISOMETRIC VIEW



ELEVATION VIEW

CAMBER DIAGRAM - FRAMED IN GIRDERS

NOTES:

1. NEGATIVE VALUES FOR DEFLECTIONS INDICATE DEFLECTIONS UPWARD. NEGATIVE VALUES FOR VERTICAL CURVE ADJUSTMENT AND TOTAL REQUIRED SHOP CAMBER INDICATE VALUES BELOW THE CHORD LINE.
2. DEFLECTIONS AND ADJUSTMENTS FOR VERTICAL CURVES ARE GIVEN TO THE NEAREST $\frac{1}{16}$ INCH.
3. FOR GENERAL NOTES, SEE SHEETS 5 ¦ 94 THRU 6 ¦ 94.
4. FOR FRAMING PLAN AND GIRDER DETAILS, SEE SHEETS 45 ¦ 94 THRU 50 ¦ 94.
5. FOR ADDITIONAL DEFLECTION AND CAMBER TABLES, SEE SHEET 52 ¦ 94.

DEFLECTION AND CAMBER (INCHES) - GIRDER A

LOCATION	CL BRG. REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1	3/4 POINT	7/8 POINT	CL BRG. PIER 1	1/8 POINT	FS2	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	CL BRG. PIER 2	1/8 POINT	1/4 POINT	FS4	1/2 POINT	3/4 POINT	7/8 POINT	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16"	1/8"	1/8"	1/16"	1/16"	1/16"	0 "	0 "	0"	3/16"	5/16"	3/8"	9/16"	5/8"	9/16"	5/16"	1/4"	1/8"	0"	1/16"	1/8"	1/8"	3/8"	5/16"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	1/4"	7/16"	1/2"	7/16"	1/4"	3/16"	1/16"	1/16"	0"	9/16"	1 3/16"	1 7/16"	2 1/8"	2 7/16"	2 1/16"	1 5/16"	1 1/16"	1/2"	0"	1/8"	9/16"	9/16"	1 1/2"	1 7/16"	13/16"	0"
ADJUSTMENT FOR VERTICAL CURVE	0"	5/8"	1 1/8"	1 3/4"	1 7/8"	1 3/4"	1 9/16"	1 5/16"	3/4"	0"	1 1/2"	2 1/4"	2 1/2"	3 3/16"	3 3/8"	3 3/16"	2 1/2"	2 1/4"	1 1/2"	0"	15/16"	1 9/16"	1 5/8"	2 1/8"	1 9/16"	15/16"	0"
REQUIRED SHOP CAMBER	0"	15/16"	1 11/16"	2 3/8"	2 3/8"	2 1/16"	1 13/16"	1 3/8"	13/16"	0"	2 1/4"	3 3/4"	4 5/16"	5 7/8"	6 7/16"	5 13/16"	4 1/8"	3 9/16"	2 1/8"	0"	1 1/8"	2 1/4"	2 5/16"	4 "	3 5/16"	1 15/16"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER B

LOCATION	CL BRG. REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1	3/4 POINT	7/8 POINT	CL BRG. PIER 1	1/8 POINT	FS2	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	CL BRG. PIER 2	1/8 POINT	1/4 POINT	FS4	1/2 POINT	3/4 POINT	7/8 POINT	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16"	1/8"	1/8"	1/8"	1/16"	1/16"	0 "	0 "	0"	3/16"	5/16"	3/8"	9/16"	5/8"	1/2"	5/16"	1/4"	1/8"	0"	1/16"	3/16"	3/16"	3/8"	3/8"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	5/16"	1/2"	9/16"	1/2"	5/16"	3/16"	1/16"	1/16"	0"	9/16"	1 3/16"	1 3/8"	2 1/16"	2 5/16"	2 "	1 1/4"	1 "	7/16"	0"	3/16"	5/8"	5/8"	1 9/16"	1 7/16"	13/16"	0"
ADJUSTMENT FOR VERTICAL CURVE	0"	11/16"	1 1/4"	1 11/16"	1 3/4"	1 5/8"	1 7/16"	1 1/4"	11/16"	0"	1 1/2"	2 1/4"	2 1/2"	3 3/16"	3 3/8"	3 1/8"	2 1/2"	2 1/4"	1 1/2"	0"	15/16"	1 9/16"	1 5/8"	2 1/8"	1 9/16"	15/16"	0"
REQUIRED SHOP CAMBER	0"	1 1/16"	1 7/8"	2 3/8"	2 3/8"	2 "	1 11/16"	1 5/16"	3/4"	0"	2 1/4"	3 3/4"	4 1/4"	5 13/16"	6 5/16"	5 5/8"	4 1/16"	3 1/2"	2 1/16"	0"	1 3/16"	2 3/8"	2 7/16"	4 1/16"	3 3/8"	1 15/16"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER C

LOCATION	CL BRG. REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1	3/4 POINT	7/8 POINT	CL BRG. PIER 1	1/8 POINT	FS2	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	CL BRG. PIER 2	1/8 POINT	1/4 POINT	FS4	1/2 POINT	3/4 POINT	7/8 POINT	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16"	1/8"	3/16"	1/8"	1/16"	1/16"	1/16"	0 "	0"	1/8"	5/16"	3/8"	9/16"	5/8"	1/2"	5/16"	1/4"	1/8"	0"	1/16"	3/16"	3/16"	3/8"	3/8"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	3/8"	9/16"	11/16"	9/16"	3/8"	1/4"	1/8"	0 "	0"	9/16"	1 1/8"	1 3/8"	2 1/16"	2 1/4"	1 15/16"	1 3/16"	15/16"	7/16"	0"	3/16"	5/8"	5/8"	1 9/16"	1 7/16"	13/16"	0"
ADJUSTMENT FOR VERTICAL CURVE	0"	3/4"	1 5/16"	1 5/8"	1 11/16"	1 1/2"	1 3/8"	1 3/16"	11/16"	0"	1 1/2"	2 1/4"	2 1/2"	3 3/16"	3 3/8"	3 3/16"	2 1/2"	2 1/4"	1 1/2"	0"	15/16"	1 9/16"	1 5/8"	2 1/8"	1 9/16"	15/16"	0"
REQUIRED SHOP CAMBER	0"	1 3/16"	2 "	2 1/2"	2 3/8"	1 15/16"	1 11/16"	1 3/8"	11/16"	0"	2 3/16"	3 11/16"	4 1/4"	5 13/16"	6 1/4"	5 5/8"	4 "	3 7/16"	2 1/16"	0"	1 3/16"	2 3/8"	2 7/16"	4 1/16"	3 3/8"	1 15/16"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER D

LOCATION	CL BRG. REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1	3/4 POINT	7/8 POINT	CL BRG. PIER 1	1/8 POINT	FS2	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	CL BRG. PIER 2	1/8 POINT	1/4 POINT	FS4	1/2 POINT	3/4 POINT	7/8 POINT	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/8"	3/16"	3/16"	3/16"	1/8"	1/16"	1/16"	0 "	0"	1/8"	5/16"	3/8"	1/2"	9/16"	1/2"	5/16"	1/4"	1/8"	0"	1/16"	3/16"	3/16"	3/8"	3/8"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	7/16"	11/16"	13/16"	11/16"	7/16"	5/16"	3/16"	0 "	0"	1/2"	1 1/16"	1 5/16"	2 "	2 3/16"	1 7/8"	1 1/8"	15/16"	3/8"	0"	3/16"	5/8"	11/16"	1 5/8"	1 7/16"	13/16"	0"
ADJUSTMENT FOR VERTICAL CURVE	0"	3/4"	1 1/4"	1 9/16"	1 5/8"	1 1/2"	1 3/8"	1 1/4"	11/16"	0"	1 1/2"	2 1/4"	2 1/2"	3 1/8"	3 3/8"	3 1/8"	2 1/2"	2 1/4"	1 1/2"	0"	15/16"	1 9/16"	1 5/8"	2 1/8"	1 9/16"	15/16"	0"
REQUIRED SHOP CAMBER	0"	1 5/16"	2 1/8"	2 9/16"	2 1/2"	2 1/16"	1 3/4"	1 1/2"	11/16"	0"	2 1/8"	3 5/8"	4 3/16"	5 5/8"	6 1/8"	5 1/2"	3 15/16"	3 7/16"	2 "	0"	1 3/16"	2 3/8"	2 1/2"	4 1/8"	3 3/8"	1 15/16"	0"

DEFLECTION AND CAMBER TABLES 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
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DESIGNER	CHECKER
JDM	GAD

REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 51 TOTAL 94
SHEET P.204 TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:53:42 PM USER: todd.roxberry
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DEFLECTION AND CAMBER (INCHES) - GIRDER E

LOCATION	CL BRG. REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1	3/4 POINT	7/8 POINT	CL BRG. PIER 1	1/8 POINT	FS2	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	CL BRG. PIER 2	1/8 POINT	1/4 POINT	FS4	1/2 POINT	3/4 POINT	7/8 POINT	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/8"	3/16"	1/4"	3/16"	1/8"	1/16"	1/16"	0 "	0"	1/8"	1/4"	5/16"	1/2"	9/16"	1/2"	5/16"	1/4"	1/8"	0"	1/16"	3/16"	3/16"	3/8"	3/8"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	1/2"	13/16"	15/16"	13/16"	9/16"	3/8"	1/4"	1/16"	0"	1/2"	1 1/16"	1 1/4"	1 15/16"	2 1/8"	1 13/16"	1 1/8"	7/8"	3/8"	0"	3/16"	11/16"	11/16"	1 5/8"	1 1/2"	7/8"	0"
ADJUSTMENT FOR VERTICAL CURVE	0"	3/4"	1 1/4"	1 9/16"	1 11/16"	1 9/16"	1 3/8"	1 1/4"	3/4"	0"	1 1/2"	2 1/4"	2 1/2"	3 1/8"	3 3/8"	3 3/16"	2 1/2"	2 1/4"	1 1/2"	0"	15/16"	1 9/16"	1 5/8"	2 1/8"	1 9/16"	15/16"	0"
REQUIRED SHOP CAMBER	0"	1 3/8"	2 1/4"	2 3/4"	2 11/16"	2 1/4"	1 13/16"	1 9/16"	13/16"	0"	2 1/8"	3 9/16"	4 1/16"	5 9/16"	6 1/16"	5 1/2"	3 15/16"	3 3/8"	2 "	0"	1 3/16"	2 7/16"	2 1/2"	4 1/8"	3 7/16"	2 "	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER F

LOCATION	CL BRG. REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1	3/4 POINT	7/8 POINT	CL BRG. PIER 1	1/8 POINT	FS2	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	CL BRG. PIER 2	1/8 POINT	1/4 POINT	FS4	1/2 POINT	3/4 POINT	7/8 POINT	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/8"	1/4"	1/4"	1/4"	3/16"	1/8"	1/16"	0 "	0"	1/8"	1/4"	5/16"	1/2"	9/16"	1/2"	5/16"	1/4"	1/8"	0"	1/16"	3/16"	3/16"	7/16"	3/8"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	9/16"	15/16"	1 1/16"	1 "	11/16"	7/16"	3/8"	1/16"	0"	7/16"	1 "	1 3/16"	1 7/8"	2 1/16"	1 3/4"	1 1/16"	7/8"	3/8"	0"	1/4"	11/16"	3/4"	1 11/16"	1 1/2"	7/8"	0"
ADJUSTMENT FOR VERTICAL CURVE	0"	3/4"	1 5/16"	3/4"	1 "	1 5/16"	1 1/4"	1 1/4"	13/16"	0"	1 1/2"	2 1/4"	2 1/2"	3 1/8"	3 3/8"	3 3/16"	2 1/2"	2 1/4"	1 1/2"	0"	15/16"	1 9/16"	1 5/8"	2 1/8"	1 9/16"	15/16"	0"
REQUIRED SHOP CAMBER	0"	1 7/16"	2 1/2"	2 1/16"	2 1/4"	2 3/16"	1 13/16"	1 11/16"	7/8"	0"	2 1/16"	3 1/2"	4 "	5 1/2"	6 "	5 7/16"	3 7/8"	3 3/8"	2 "	0"	1 1/4"	2 7/16"	2 9/16"	4 1/4"	3 7/16"	2 "	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER G

LOCATION	CL BRG. REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1	3/4 POINT	7/8 POINT	CL BRG. PIER 1	1/8 POINT	FS2	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	CL BRG. PIER 2	1/8 POINT	1/4 POINT	FS4	1/2 POINT	3/4 POINT	7/8 POINT	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0"	3/16"	1/4"	5/16"	5/16"	1/4"	1/8"	1/8"	1/16"	0"	1/8"	1/4"	5/16"	7/16"	1/2"	7/16"	1/4"	1/4"	1/8"	0"	1/16"	3/16"	3/16"	7/16"	3/8"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	5/8"	1 1/16"	1 5/16"	1 3/16"	7/8"	9/16"	7/16"	1/8"	0"	7/16"	15/16"	1 1/8"	1 3/4"	2 "	1 11/16"	1 1/16"	13/16"	3/8"	0"	1/4"	11/16"	3/4"	1 11/16"	1 1/2"	7/8"	0"
ADJUSTMENT FOR VERTICAL CURVE	0"	11/16"	- 1/16"	- 1/8"	3/4"	1 7/16"	1 3/8"	1 5/16"	3/4"	0"	1 1/2"	2 1/4"	2 1/2"	3 1/8"	3 3/8"	3 3/16"	2 1/2"	2 1/4"	1 1/2"	0"	15/16"	1 9/16"	1 5/8"	2 1/8"	1 9/16"	15/16"	0"
REQUIRED SHOP CAMBER	0"	1 1/2"	1 1/4"	1 1/2"	2 1/4"	2 9/16"	2 1/16"	1 7/8"	15/16"	0"	2 1/16"	3 7/16"	3 15/16"	5 5/16"	5 7/8"	5 5/16"	3 13/16"	3 5/16"	2 "	0"	1 1/4"	2 7/16"	2 9/16"	4 1/4"	3 7/16"	2 "	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER H

LOCATION	CL BRG. REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1	3/4 POINT	7/8 POINT	CL BRG. PIER 1	1/8 POINT	FS2	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	CL BRG. PIER 2	1/8 POINT	1/4 POINT	FS4	1/2 POINT	3/4 POINT	7/8 POINT	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0"	3/16"	3/8"	7/16"	7/16"	5/16"	3/16"	3/16"	1/16"	0"	1/16"	3/16"	1/4"	7/16"	1/2"	7/16"	1/4"	3/16"	1/16"	0"	1/16"	3/16"	3/16"	7/16"	3/8"	1/4"	0"
DEFLECTION DUE TO REMAINING DL	0"	3/4"	1 5/16"	1 5/8"	1 1/2"	1 1/8"	11/16"	5/8"	3/16"	0"	3/8"	13/16"	1 1/16"	1 11/16"	1 7/8"	1 5/8"	1 "	13/16"	5/16"	0"	1/4"	3/4"	3/4"	1 3/4"	1 9/16"	7/8"	0"
ADJUSTMENT FOR VERTICAL CURVE	0"	-1 "	-1 3/4"	- 1/8"	1 13/16"	1 11/16"	1 7/16"	1 3/8"	13/16"	0"	1 1/2"	2 1/4"	2 1/2"	3 1/8"	3 3/8"	3 1/8"	2 1/2"	2 1/4"	1 1/2"	0"	15/16"	1 9/16"	1 5/8"	2 1/8"	1 9/16"	15/16"	0"
REQUIRED SHOP CAMBER	0"	- 1/16"	- 1/16"	1 15/16"	3 3/4"	3 1/8"	2 5/16"	2 3/16"	1 1/16"	0"	1 15/16"	3 1/4"	3 13/16"	5 1/4"	5 3/4"	5 3/16"	3 3/4"	3 1/4"	1 7/8"	0"	1 1/4"	2 1/2"	2 9/16"	4 5/16"	3 1/2"	2 1/16"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER J

LOCATION	CL BRG. REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1	3/4 POINT	7/8 POINT	CL BRG. PIER 1	1/8 POINT	FS2	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	CL BRG. PIER 2	1/8 POINT	1/4 POINT	FS4	1/2 POINT	3/4 POINT	7/8 POINT	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/4"	7/16"	1/2"	1/2"	3/8"	1/4"	3/16"	1/16"	0"	1/16"	3/16"	1/4"	7/16"	7/16"	3/8"	1/4"	3/16"	1/16"	0"	1/16"	3/16"	3/16"	7/16"	3/8"	1/4"	0"
DEFLECTION DUE TO REMAINING DL	0"	7/8"	1 9/16"	1 13/16"	1 3/4"	1 5/16"	3/4"	3/4"	1/4"	0"	3/8"	13/16"	1 "	1 5/8"	1 7/8"	1 9/16"	15/16"	3/4"	5/16"	0"	5/16"	7/8"	7/8"	1 7/8"	1 5/8"	15/16"	0"
ADJUSTMENT FOR VERTICAL CURVE	0"	-2 "	13/16"	3 1/16"	3 "	2 5/8"	2 1/16"	2 "	1 1/8"	0"	1 1/2"	2 1/4"	2 1/2"	3 3/16"	3 3/8"	3 3/16"	2 1/2"	2 1/4"	1 1/2"	0"	15/16"	1 9/16"	1 5/8"	2 1/8"	1 9/16"	15/16"	0"
REQUIRED SHOP CAMBER	0"	- 7/8"	2 13/16"	5 3/8"	5 1/4"	4 5/16"	3 1/16"	2 15/16"	1 7/16"	0"	1 15/16"	3 1/4"	3 3/4"	5 1/4"	5 11/16"	5 1/8"	3 11/16"	3 3/16"	1 7/8"	0"	1 5/16"	2 5/8"	2 11/16"	4 7/16"	3 9/16"	2 1/8"	0"

* DEFLECTION AND CAMBER (INCHES) - GIRDER K

LOCATION	CL BRG. REAR ABUT.	1/2 POINT	CONNECTION TO GIRDER J WORK POINT
DEFLECTION DUE TO WEIGHT OF STEEL	0	0.16	0.42
DEFLECTION DUE TO REMAINING DL	0	0.75	1.94
REQUIRED SHOP CAMBER	0	0.26	

* DEFLECTION AND CAMBER (INCHES) - GIRDER L

LOCATION	CL BRG. REAR ABUT.	1/2 POINT	CONNECTION TO GIRDER J WORK POINT
DEFLECTION DUE TO WEIGHT OF STEEL	0	0.22	0.51
DEFLECTION DUE TO REMAINING DL	0	1.05	2.36
REQUIRED SHOP CAMBER	0	0.16	

LEGEND:

* *THESE VALUES REPRESENT TOTAL ACCUMULATED DEFLECTION AT EACH PHASE, AS IT RELATES TO THE CONNECTION WITH GIRDER J DEFLECTING WITH RESPECT TO THE REST OF THE SUPERSTRUCTURE.*

NOTE:

1. *FOR CAMBER DIAGRAMS, BLOCKING TABLES AND ADDITIONAL DEFLECTION AND CAMBER TABLES, SEE SHEET* 52 | 94.

DEFLECTION AND CAMBER TABLES 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
52	94

SHEET	TOTAL
P.205	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:53:57 PM USER: todd.roxberry
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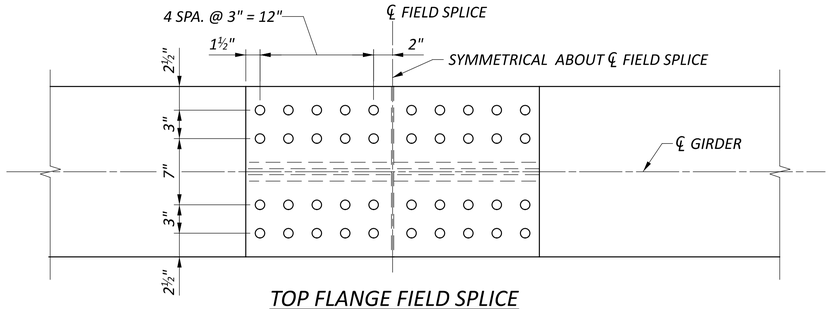
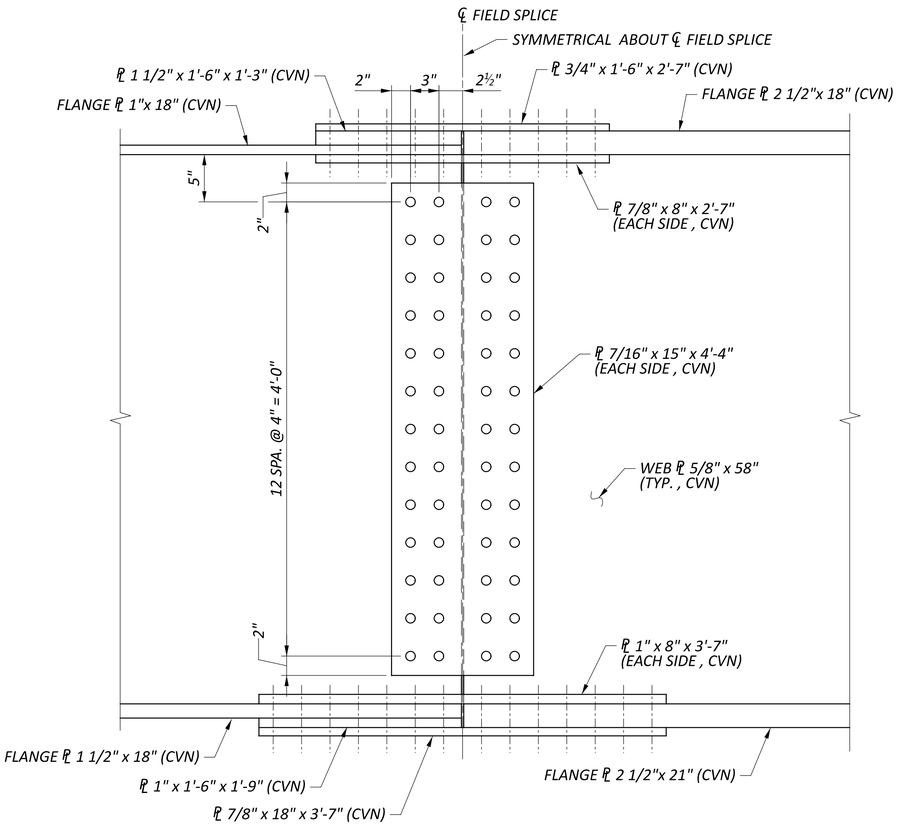
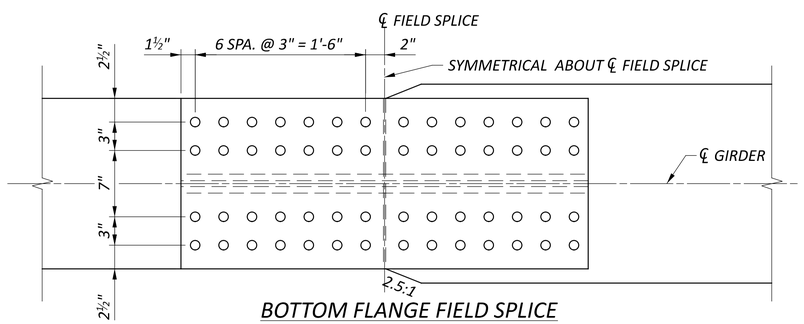


TOP FLANGE FIELD SPLICE

1 - OUTSIDE PLATE AND
2 - INSIDE PLATES REQUIRED

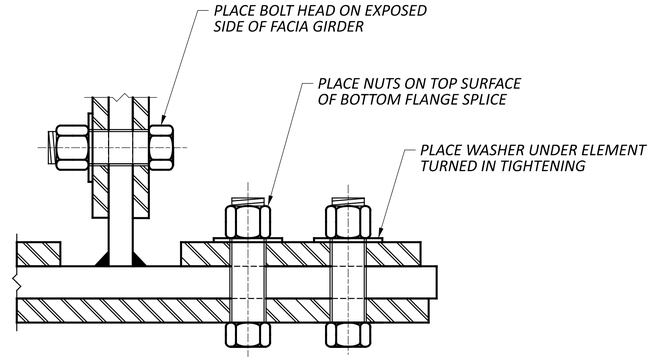


WEB FIELD SPLICE



BOTTOM FLANGE FIELD SPLICE

1 - OUTSIDE PLATE AND
2 - INSIDE PLATES REQUIRED



BOLT ORIENTATION DETAIL

NOTES:

1. ALL BOLTS IN FIELD SPLICES SHALL BE 1" DIAMETER HIGH STRENGTH BOLTS PER ASTM A325 TYPE III. ALL BOLT HOLES SHALL BE $1\frac{1}{16}$" DIAMETER.
2. ALL SPLICE PLATES SHALL BE ASTM A709 GRADE 50W.
3. ALL SPLICE PLATES, EXCLUDING FILL PLATES, SHALL BE DESIGNATED (CVN). THE MATERIAL SHALL MEET THE SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.
4. THE OPENING BETWEEN GIRDER ENDS AFTER ASSEMBLY SHALL NOT EXCEED $\frac{3}{8}$".
5. FOR LOCATIONS OF FIELD SPLICES, SEE FRAMING PLAN SHEETS 45 ¡ 94 AND 46 ¡ 94 .
6. THIS SHEET PROVIDES A TYPICAL FIELD SPLICE DETAIL APPLICABLE FOR GIRDERS A-J, FIELD SPLICES 1-4. THE CONTRACTOR SHALL TAKE CARE TO ORIENT THE FLANGE FILL PLATES IN ACCURATE LOCATION, EITHER LEFT OR RIGHT OF THE ℄ OF FIELD SPLICE TO MEET DESIRED FLANGE THICKNESS FOR EACH CONNECTION.

FIELD SPLICE DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
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DESIGNER JDM | CHECKER GAD
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 53 | TOTAL 94
SHEET P.206 | TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:54:13 PM USER: todd.roxberry
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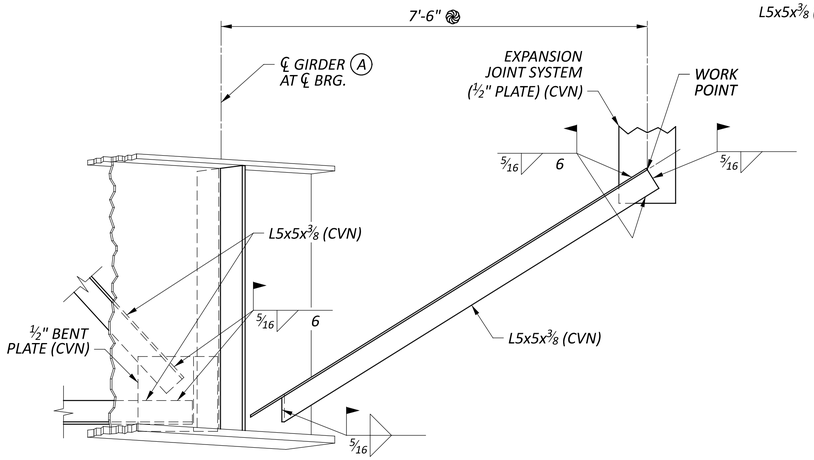
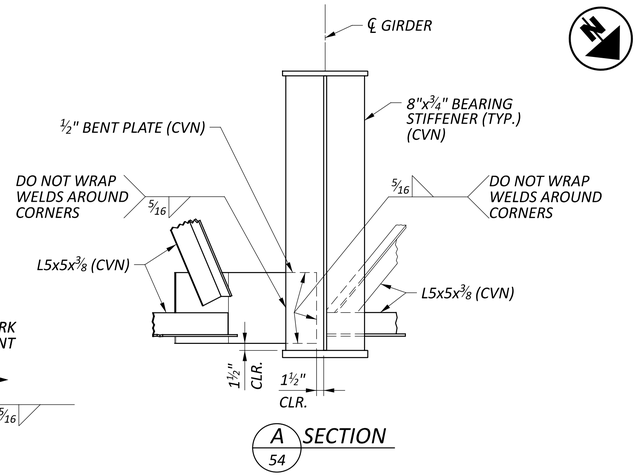
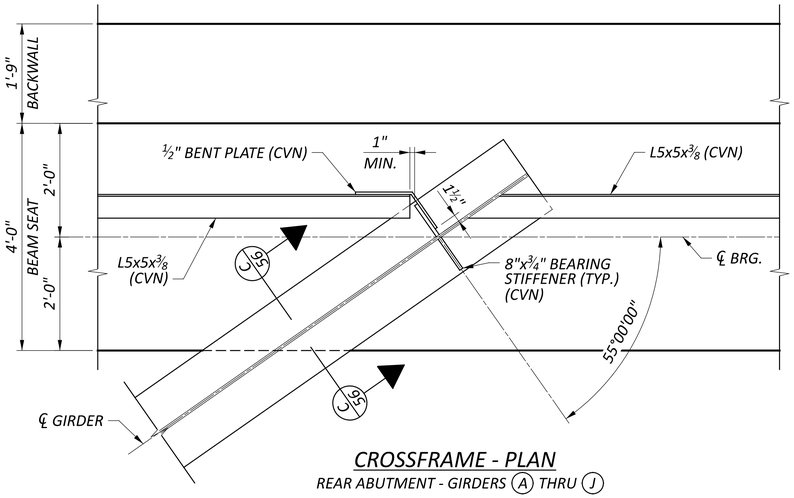


FASCIA BRACE - GIRDER (A) ELEVATION

REAR ABUTMENT

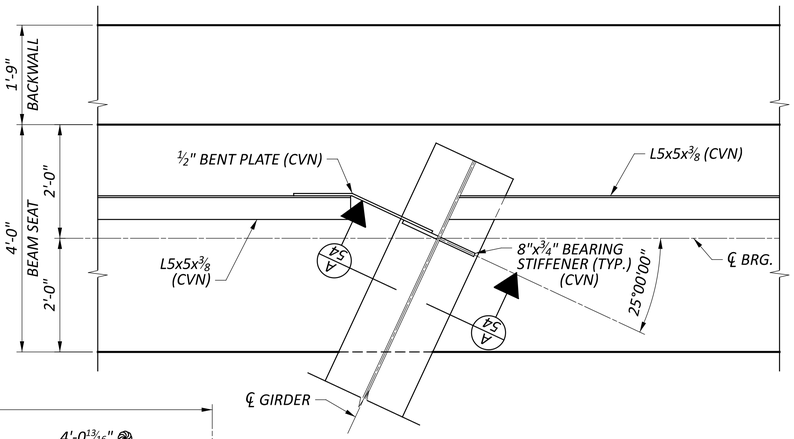


A SECTION 54



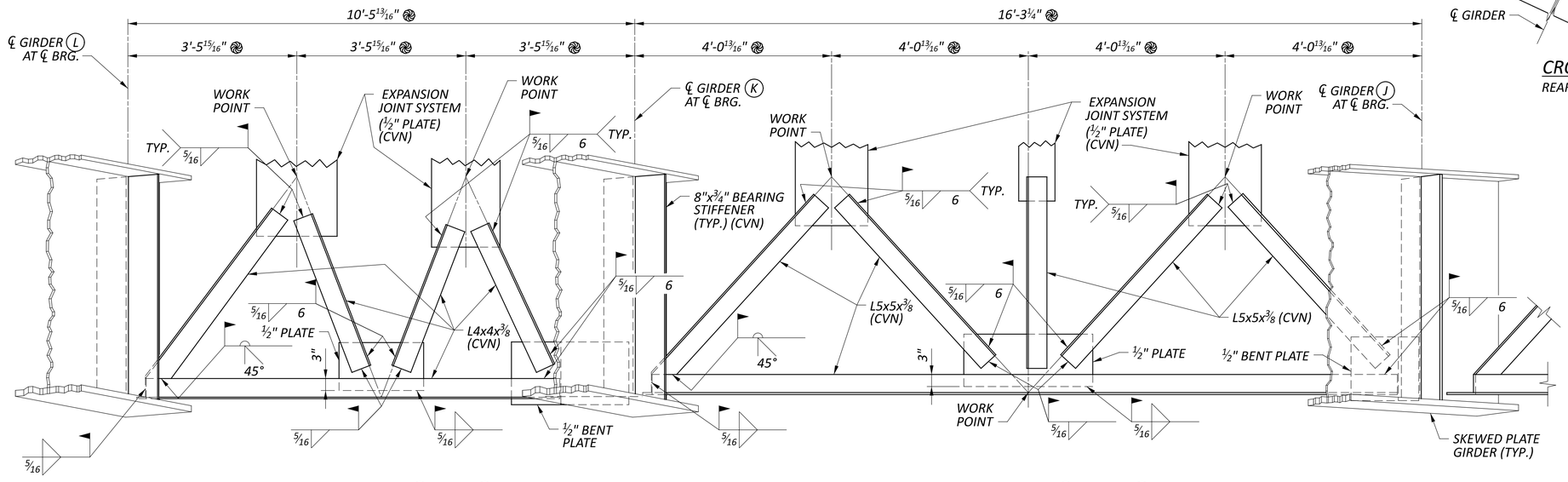
CROSSFRAME - PLAN

REAR ABUTMENT - GIRDERS (A) THRU (J)



CROSSFRAME - PLAN

REAR ABUTMENT - GIRDER (K)



END CROSSFRAME - GIRDER (L) AND (K) ELEVATION

REAR ABUTMENT

END CROSSFRAME - GIRDERS (A) THRU (L) ELEVATION

REAR ABUTMENT

LEGEND:

℄ *MEASURED ALONG REAR ABUTMENT ℄ BEARING*

NOTES:

1. *THE WORK LINE SHALL BE THE INSIDE FACE OF THE PROTRUDING ANGLE LEG EXTENDED AS SHOWN. THE WORK POINT SHALL BE AT THE INTERSECTION OF THESE LINES.*
2. *FOR ADDITIONAL NOTES AND DETAILS, SEE ODOT STD. DWG. GSD-1-19.*
3. *WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.*

CROSSFRAME DETAILS - REAR ABUTMENT
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
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Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
54	94

SHEET	TOTAL
P.207	329

CUY-14-6.93

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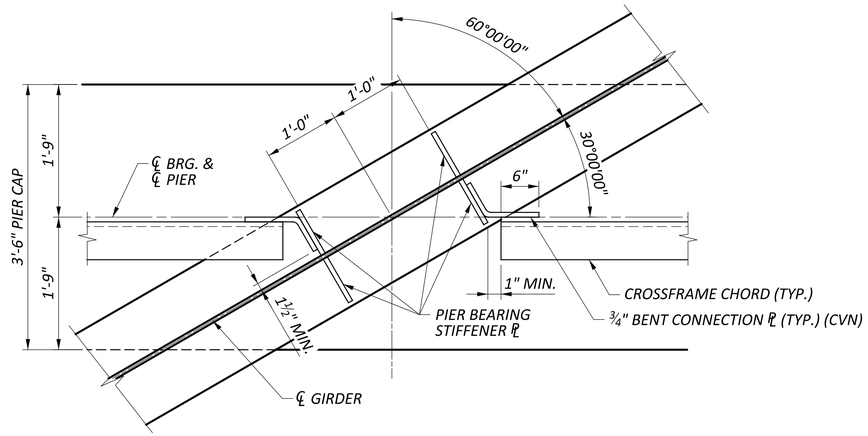
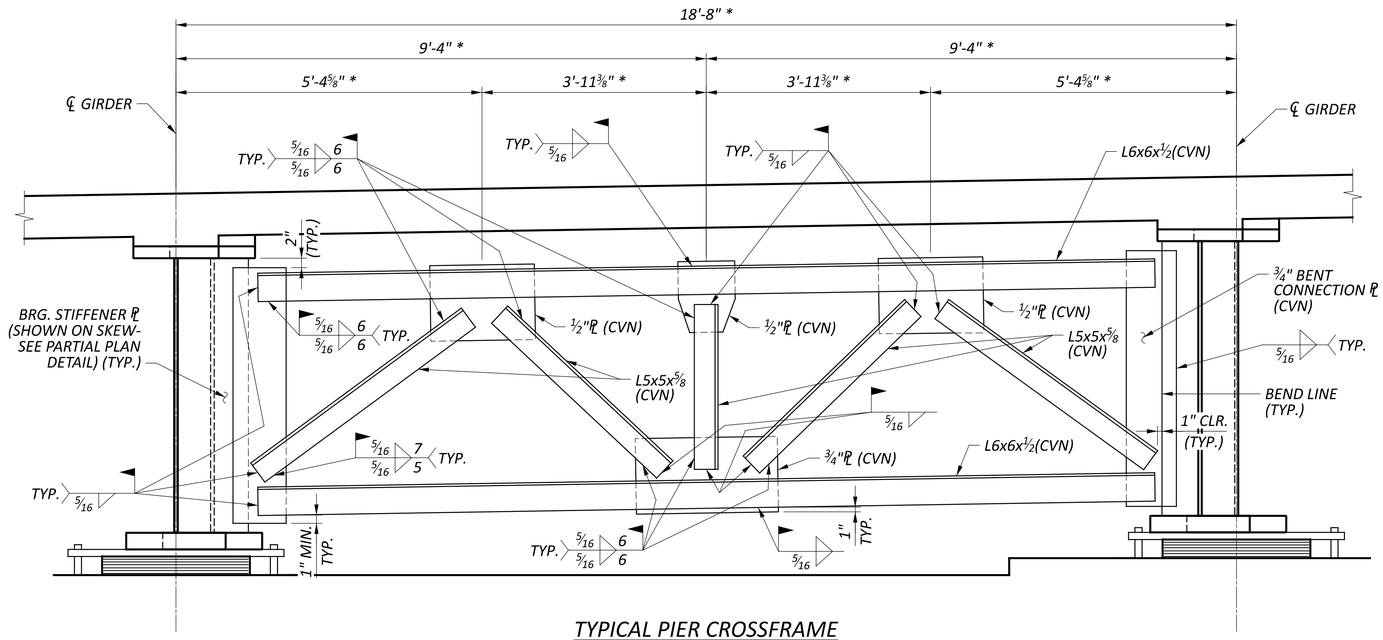


PARTIAL PLAN DETAIL

(GIRDER TOP FLANGE NOT SHOWN FOR CLARITY)
(ELASTOMERIC BEARING NOT SHOWN FOR CLARITY)



TYPICAL PIER CROSSFRAME

LEGEND:

** - DIMENSION GIVEN ALONG ℄ PIER AND ℄ OF BEARING.*

NOTES:

1. *CVN:*
   WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. *ALL CROSSFRAME MATERIAL SHALL BE A709 GRADE 50W.*
3. *CONNECT PIER CROSSFRAME BENT PLATE TO BEARING STIFFENER PLATE AS SHOWN AT PIERS 1 AND 2. FOR BEARING STIFFENER DETAIL, SEE SHEET* 48 ı 94 .
4. *FOR LOCATION DETAILS AND LAYOUT SEE FRAMING PLAN, SHEETS* 45 ı 94 *THRU* 46 ı 94 .

CROSSFRAME DETAILS - PIERS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	JDM
CHECKER	GAD
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	55
TOTAL	94
SHEET	P.208
TOTAL	329

CUY-14-6.93

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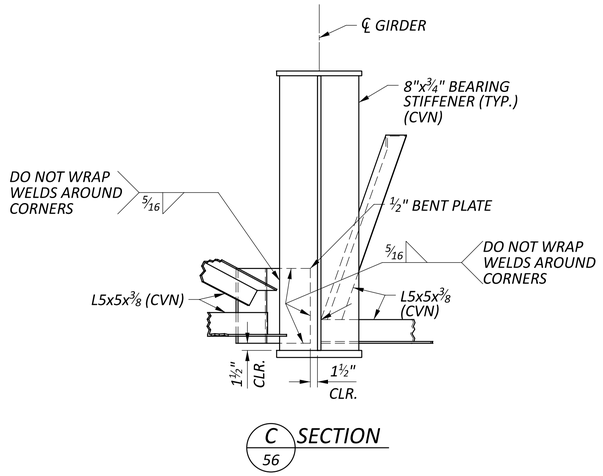
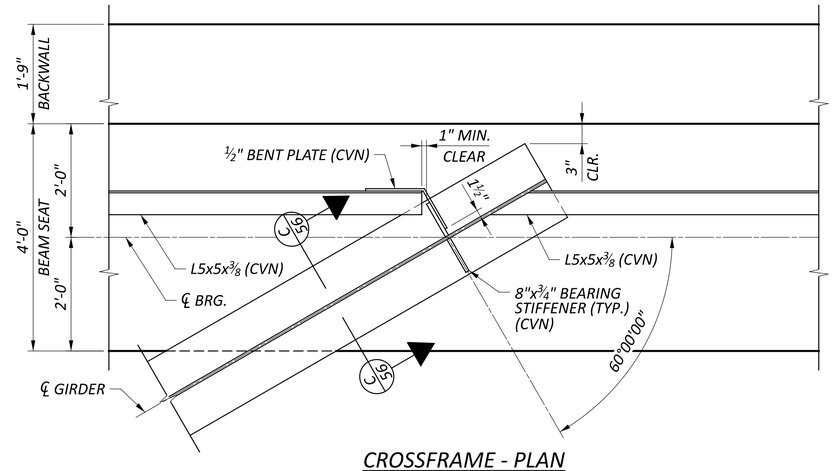
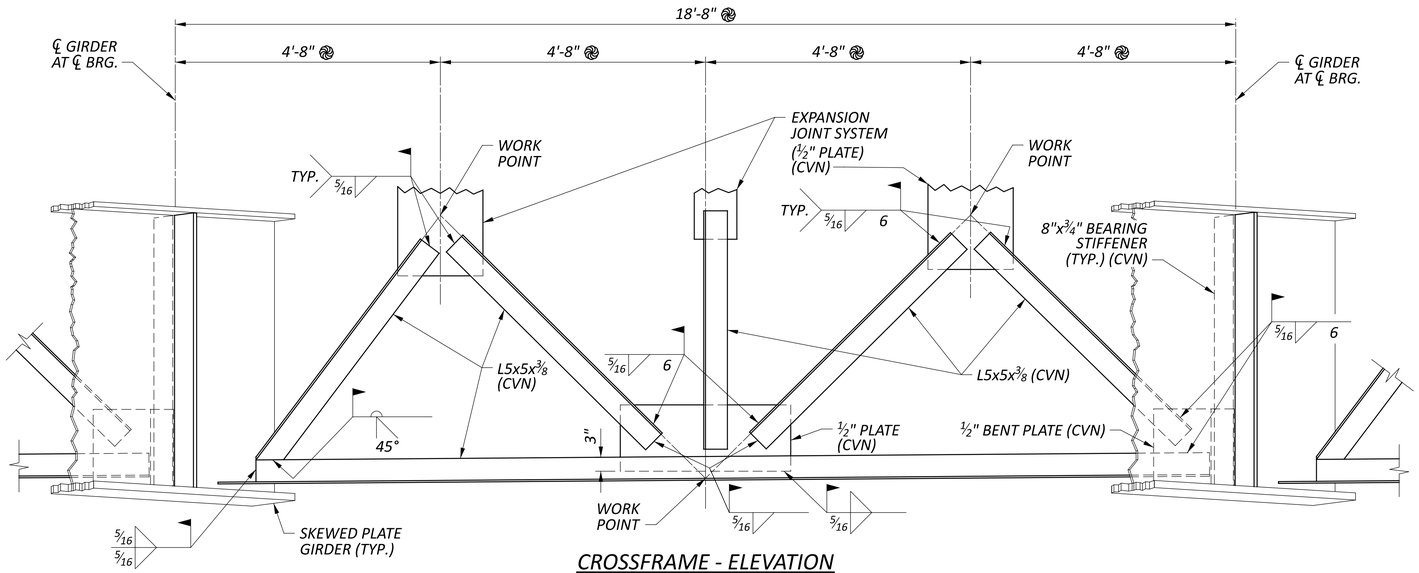


C/56 SECTION



CROSSFRAME - PLAN

FORWARD ABUTMENT - TYPICAL



CROSSFRAME - ELEVATION

TYPICAL AT FORWARD ABUTMENT

LEGEND:

⊛ MEASURED ALONG FORWARD ABUTMENT ℄ BEARING

NOTES:

1. THE WORK LINE SHALL BE THE INSIDE FACE OF THE PROTRUDING ANGLE LEG EXTENDED AS SHOWN. THE WORK POINT SHALL BE AT THE INTERSECTION OF THESE LINES.
2. FOR ADDITIONAL NOTES AND DETAILS, SEE ODOT STD. DWG. GSD-1-19.
3. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

CROSSFRAME DETAILS - FORWARD ABUTMENT
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	JDM
CHECKER	GAD
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	56
TOTAL	94
SHEET	P.209
TOTAL	329

CUY-14-6.93

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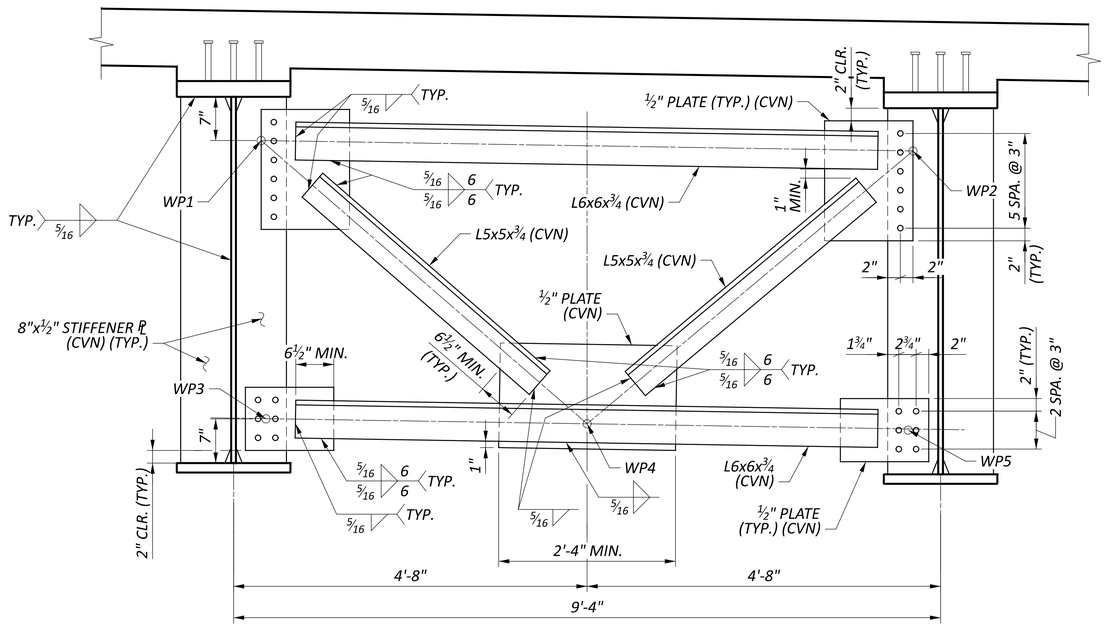
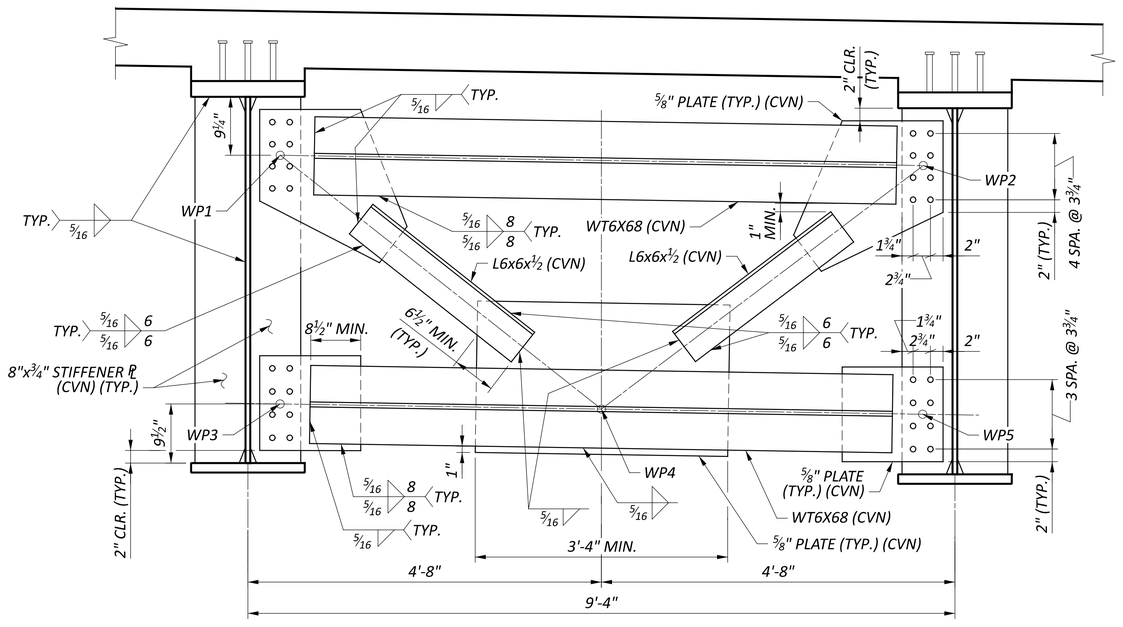


INTERMEDIATE CROSSFRAME DETAIL - TYPE 1



INTERMEDIATE CROSSFRAME DETAIL - TYPE 2

NOTES:

1. *CVN:*
   WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. *ALL CROSSFRAME MATERIAL SHALL BE A709 GRADE 50W.*
3. *ALL BOLTS IN CROSSFRAME CONNECTIONS SHALL BE ⅞" DIAMETER HIGH STRENGTH BOLTS PER ASTM A325 TYPE III WITH THREADS EXCLUDED FROM THE SHEAR PLANE. EACH FASTENER SHALL INCLUDE A BOLT, NUT AND TWO (2) WASHERS TIGHTENED ACCORDING THE CMS 513.*

   PROVIDE $^{15}/_{16}$" DIAMETER BOLT HOLES IN ANGLE CONNECTION PLATE AND $1^{1}/_{16}$" DIAMETER HOLES IN STIFFENER PLATE.
4. *FOR ADDITIONAL DETAILS AND TYPE LOCATION PLACEMENT, SEE FRAMING PLAN SHEETS* 45 | 94 *AND* 46 | 94 .

INTERMEDIATE CROSSFRAME DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM 564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER / CHECKER	JDM / GAD
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET / TOTAL	57 / 94
SHEET / TOTAL	P.210 / 329

CUY-14-6.93

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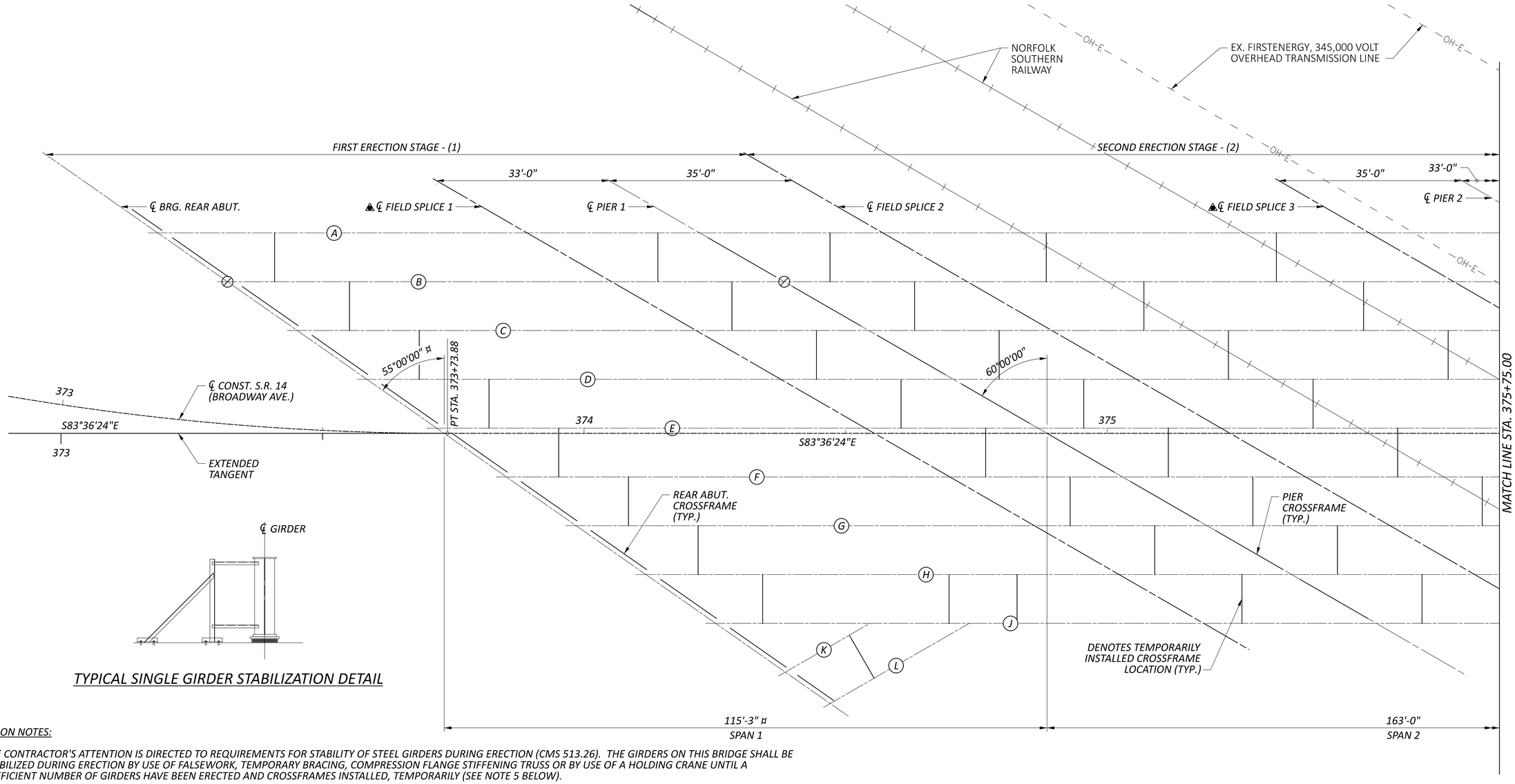

TYPICAL SINGLE GIRDER STABILIZATION DETAIL

ERECTION PLAN

ERECTION NOTES:

1. *THE CONTRACTOR'S ATTENTION IS DIRECTED TO REQUIREMENTS FOR STABILITY OF STEEL GIRDERS DURING ERECTION (CMS 513.26). THE GIRDERS ON THIS BRIDGE SHALL BE STABILIZED DURING ERECTION BY USE OF FALSEWORK, TEMPORARY BRACING, COMPRESSION FLANGE STIFFENING TRUSS OR BY USE OF A HOLDING CRANE UNTIL A SUFFICIENT NUMBER OF GIRDERS HAVE BEEN ERECTED AND CROSSFRAMES INSTALLED, TEMPORARILY (SEE NOTE 5 BELOW).*
2. *THE METHODS USED BY THE CONTRACTOR SHALL BE DOCUMENTED ON THE ERECTION DRAWINGS WITH ALL SUPPORTING STABILITY CALCULATIONS SUBMITTED IN ACCORDANCE WITH CMS ITEMS 501 AND 513. THE CONTRACTOR MAY SUBMIT AN ALTERNATE MEANS OF ERECTION FROM THE ONE SHOWN IN THE PLANS. THE SEQUENCE AS DETAILED HEREIN ASSUMES THAT THE ERECTION WILL BEGIN AT THE REAR ABUTMENT AND PROCEED TOWARD THE FORWARD ABUTMENT AND THAT FIELD SPLICES 1 & 3 WILL BE INSTALLED ON THE GROUND PRIOR TO BEING HOISTED INTO PLACE, FIELD SPLICES 2 & 4 WILL BE INSTALLED IN THE AIR.*
3. *THE GIRDER NUMBER SYSTEM USED HEREIN IS IDENTIFIED WITH NUMBERIC PREFIX IDENTIFYING THE LIFT SEQUENCE FOLLOWED BY LETTER (A THRU L) WITH IDENTIFIES ADDITIONAL LIFTS OF SIMILAR MEMBERS. THE NUMBERING SYSTEM IS INTENDED TO SHOW THE SEQUENTIAL INSTALLATION AND DOES NOT CORRESPOND TO ANY OTHER LABELING SYSTEM IN THE PLANS.*
4. *FIELD SPLICES INSTALLED IN THE AIR SHALL BE FASTENED WITH AT LEAST THREE-FOUTHS OF THE HOLES WITH COMPLETELY TIGHTENED BOLTS TO RESIST CONSTRUCTION LOADS DURING ERECTION.*
5. *CROSS FRAMES SHALL BE CONSIDERED TEMPORARILY INSTALLED WHEN EVERY OTHER CROSSFRAME HAS BEEN ERECTED (UNLESS NOTED OTHERWISE), CONNECTED USING TOP AND BOTTOM HORIZONTAL MEMBERS PLUS ONE DIAGONAL MEMBER. AFTER GIRDERS ARE ALIGNED TRANSVERSELY, SNUG ERECTION BOLTS AND THEN REMOVE LIFTING APPARATUS. PERMANENT FASTENING OF CROSSFRAMES SHALL COMMENCE AFTER COMPLETING TEMPORARY CONNECTIONS IN ADJACENT SPANS.*
6. *TEMPORARY SUPPORTS FOR THE GIRDERS IF REQUIRED SHALL BE LOCATED NO CLOSER THAN 18 FEET FROM THE CENTERLINE OF THE NEAREST RAILROAD TRACK.*

LEGEND:

- ▲ *FIELD SPLICE CAN BE FULLY ASSEMBLED TO THE ADJACENT GIRDERS AT GROUND LEVEL, THEN PICKED AND SET IN ITS ERECTION STAGE SHOWN.*
- ¤ *MEASURED IN REFERENCE TO THE EXTENDED TANGENT*
- (-) *GIRDER DESIGNATION*
- ⊘ *SINGLE GIRDER STABILIZATION LOCATION*

NOTES:

1. *FOR MATCHLINE CONTINUATION AND DESCRIPTION OF ERECTION SEQUENCE, SEE SHEET* 59 , 94 .
2. *IN ACCORDANCE WITH CMS 513.26, THE SUPERSTRUCTURE SHALL BE FABRICATED FOR WEB PLUMB AT THE COMPLETION OF SUPERSTRUCTURE ERECTION, THIS CONDITION IS REFERRED TO AS STEEL DEAD LOAD FIT. ADDITIONALLY, THIS CONDITION APPLIES TO ALL CROSS FRAME CONNECTIONS. END, PIER AND INTERMEDIATE CROSS FRAMES SHALL BE INSTALLED PRIOR TO SLAB PLACEMENT.*

ERECTION PLAN 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
58	94

SHEET	TOTAL
P.211	329

CUY-14-6.93

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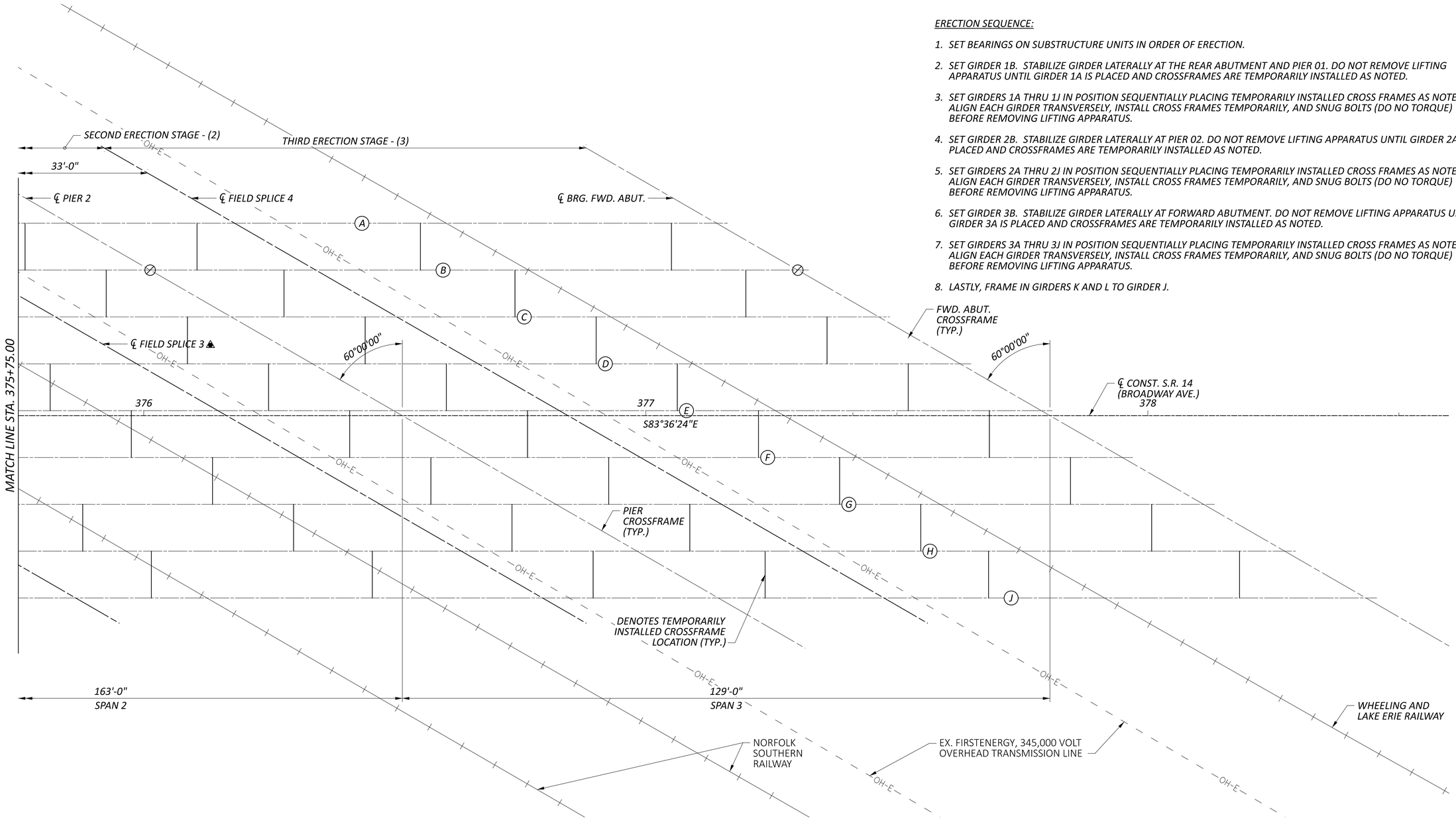

ERECTION PLAN

ERECTION SEQUENCE:

1. *SET BEARINGS ON SUBSTRUCTURE UNITS IN ORDER OF ERECTION.*
2. *SET GIRDER 1B. STABILIZE GIRDER LATERALLY AT THE REAR ABUTMENT AND PIER 01. DO NOT REMOVE LIFTING APPARATUS UNTIL GIRDER 1A IS PLACED AND CROSSFRAMES ARE TEMPORARILY INSTALLED AS NOTED.*
3. *SET GIRDERS 1A THRU 1J IN POSITION SEQUENTIALLY PLACING TEMPORARILY INSTALLED CROSS FRAMES AS NOTED. ALIGN EACH GIRDER TRANSVERSELY, INSTALL CROSS FRAMES TEMPORARILY, AND SNUG BOLTS (DO NO TORQUE) BEFORE REMOVING LIFTING APPARATUS.*
4. *SET GIRDER 2B. STABILIZE GIRDER LATERALLY AT PIER 02. DO NOT REMOVE LIFTING APPARATUS UNTIL GIRDER 2A IS PLACED AND CROSSFRAMES ARE TEMPORARILY INSTALLED AS NOTED.*
5. *SET GIRDERS 2A THRU 2J IN POSITION SEQUENTIALLY PLACING TEMPORARILY INSTALLED CROSS FRAMES AS NOTED. ALIGN EACH GIRDER TRANSVERSELY, INSTALL CROSS FRAMES TEMPORARILY, AND SNUG BOLTS (DO NO TORQUE) BEFORE REMOVING LIFTING APPARATUS.*
6. *SET GIRDER 3B. STABILIZE GIRDER LATERALLY AT FORWARD ABUTMENT. DO NOT REMOVE LIFTING APPARATUS UNTIL GIRDER 3A IS PLACED AND CROSSFRAMES ARE TEMPORARILY INSTALLED AS NOTED.*
7. *SET GIRDERS 3A THRU 3J IN POSITION SEQUENTIALLY PLACING TEMPORARILY INSTALLED CROSS FRAMES AS NOTED. ALIGN EACH GIRDER TRANSVERSELY, INSTALL CROSS FRAMES TEMPORARILY, AND SNUG BOLTS (DO NO TORQUE) BEFORE REMOVING LIFTING APPARATUS.*
8. *LASTLY, FRAME IN GIRDERS K AND L TO GIRDER J.*

NOTES:

1. *FOR ADDITIONAL NOTES AND LEGEND, SEE SHEET* 58 | 94.

ERECTION PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

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SFN	1801806
DESIGN AGENCY	AECOM

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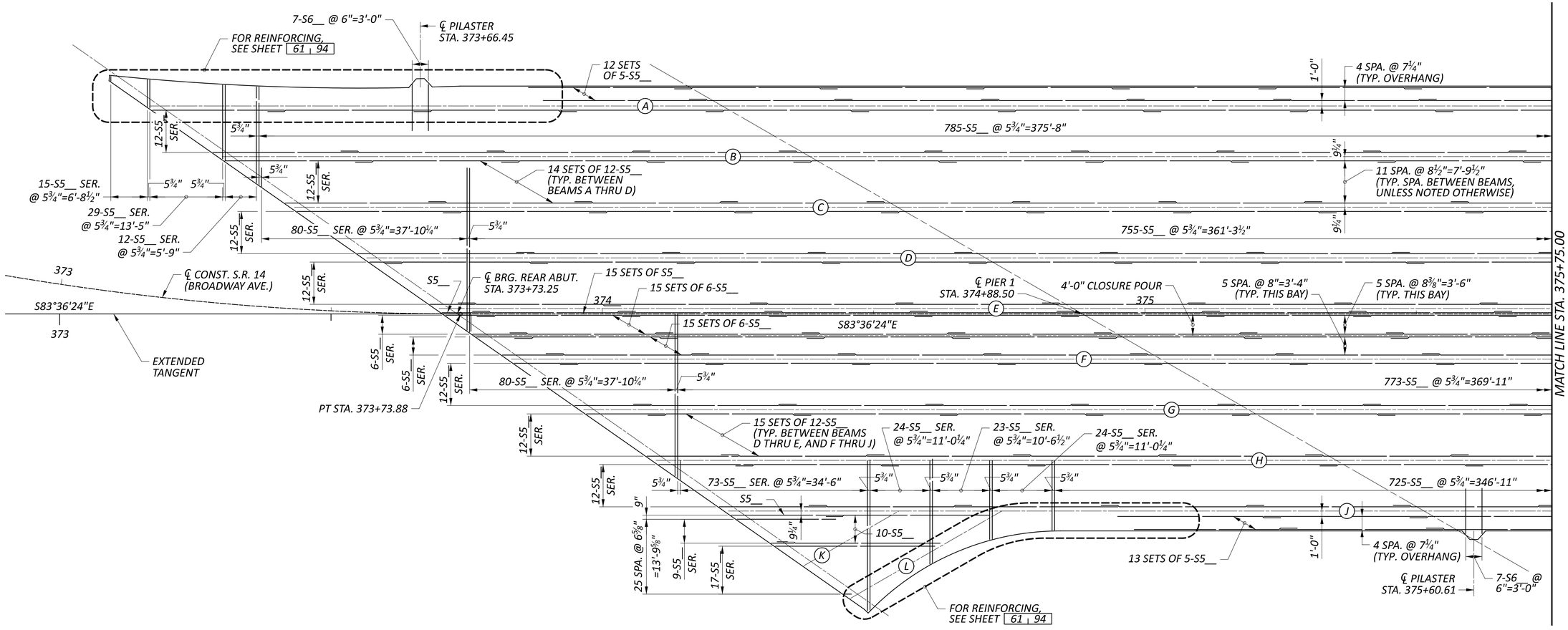
DESIGNER	CHECKER
JDM	GAD

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
59	94

SHEET	TOTAL
P.212	329



DECK PLAN
BOTTOM REINFORCING

LEGEND:

(#) = PROPOSED GIRDER MARK

NOTES:

1. FOR ADDITIONAL BOTTOM REINFORCING, SEE SHEET 62 | 94.
2. FOR TRANSVERSE SECTIONS, SEE SHEET 66 | 94.
3. FOR SIDEWALK, RAILING AND PILASTER REINFORCING, SEE SHEET 72 | 94 THRU 76 | 94.
4. FOR SCREED ELEVATIONS, SEE SHEET 69 | 94.
5. FOR EXPANSION JOINT DETAILS, SEE SHEET 77 | 94.
6. FOR CONCRETE REINFORCING BAR LIST, SEE SHEET 92 | 94.
7. MINIMUM CONCRETE REINFORCMENT LAP SPLICE LENGTHS ARE AS FOLLOWS:

NO. 5	3'-0"

DECK PLAN - BOTTOM REINFORCING
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

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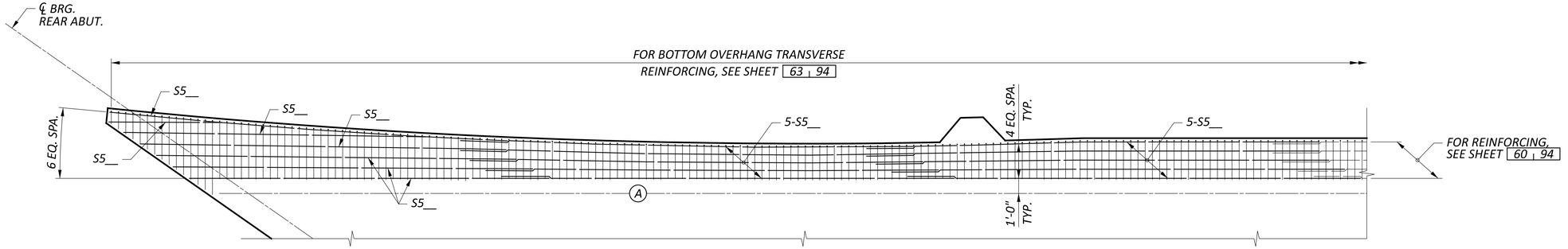
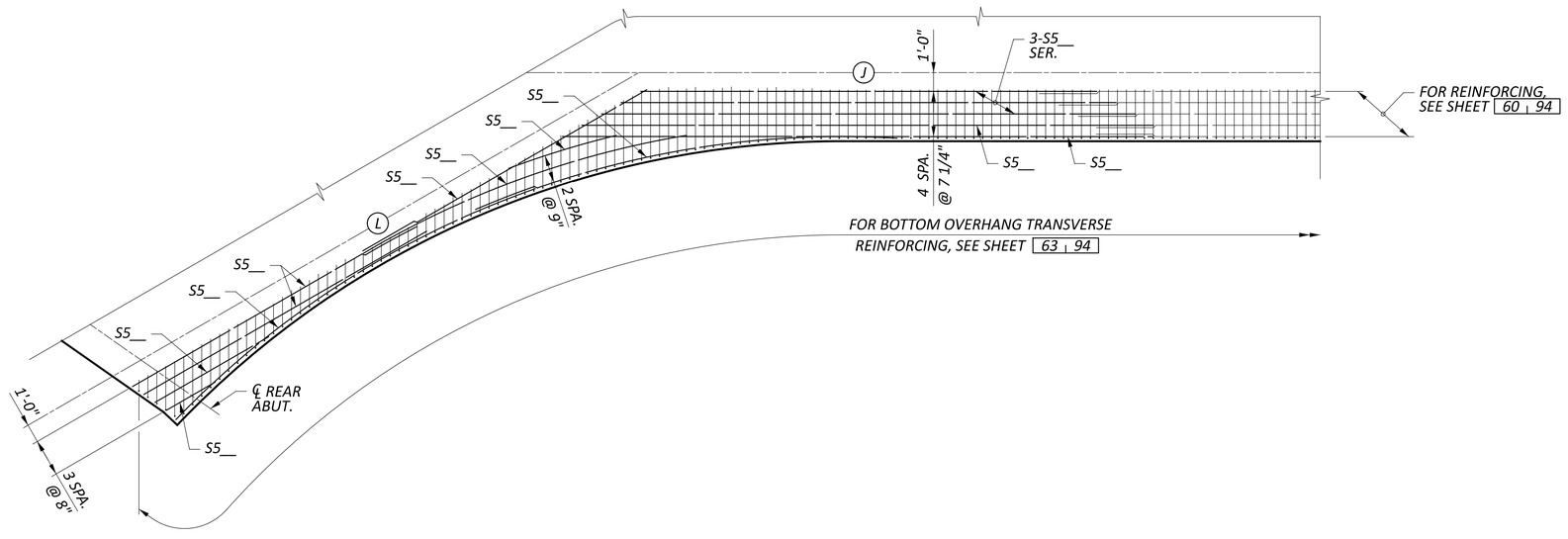
SFN	1801806
DESIGN AGENCY	AECOM 564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	RHB
CHECKER	JDM
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	60
TOTAL	94
SHEET	P.213
TOTAL	329



PARTIAL DECK PLAN

REAR LEFT - BOTTOM REINFORCING



PARTIAL DECK PLAN

REAR RIGHT - BOTTOM REINFORCING

NOTE:

1. FOR NOTES AND LEGEND, SEE SHEET 60 , 94 .

DECK PLAN - BOTTOM REINFORCING
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
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DESIGNER	CHECKER
RHB	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
61	94

SHEET	TOTAL
P.214	329

CUY-14-6.93

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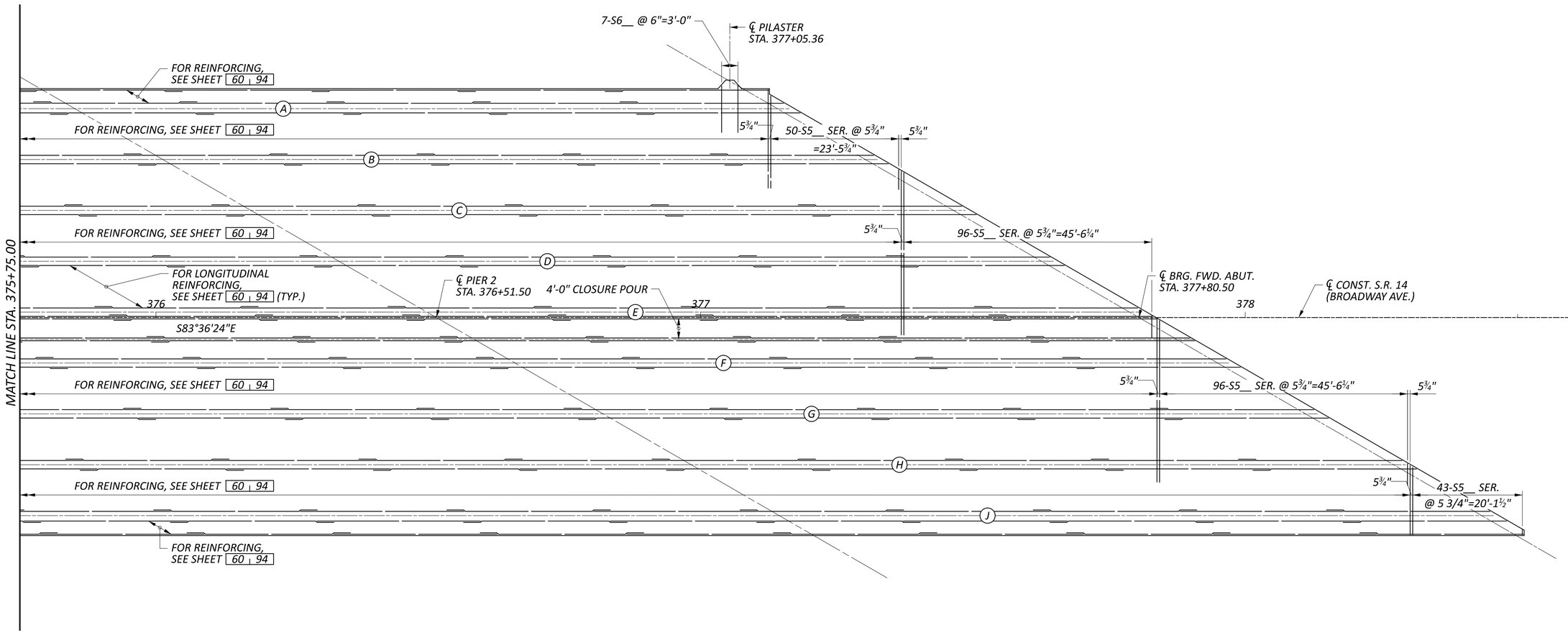

DECK PLAN
BOTTOM REINFORCING

NOTE:

1. FOR NOTES AND LEGEND, SEE SHEET 60 | 94 .

DECK PLAN - BOTTOM REINFORCING
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

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DESIGNER	CHECKER
RHB	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
62	94

SHEET	TOTAL
P.215	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:56:48 PM USER: todd.roxberry
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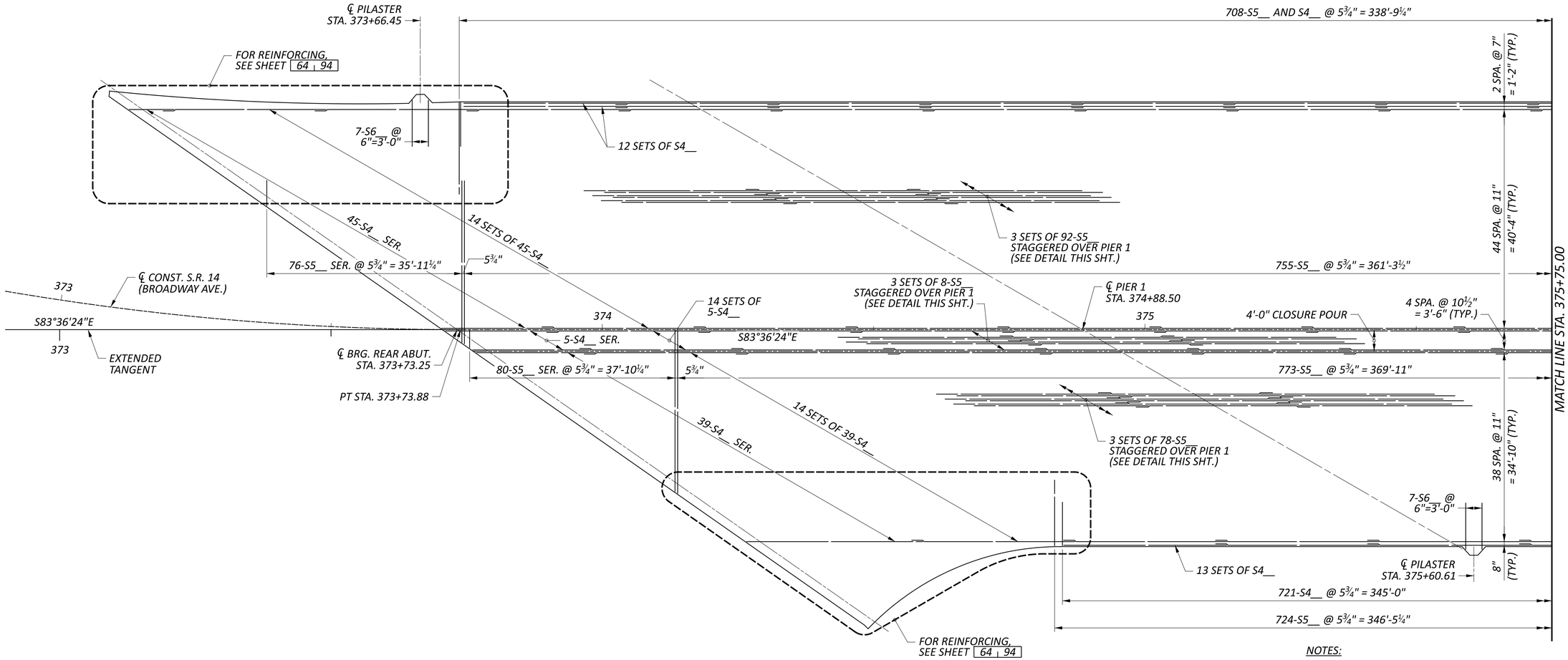
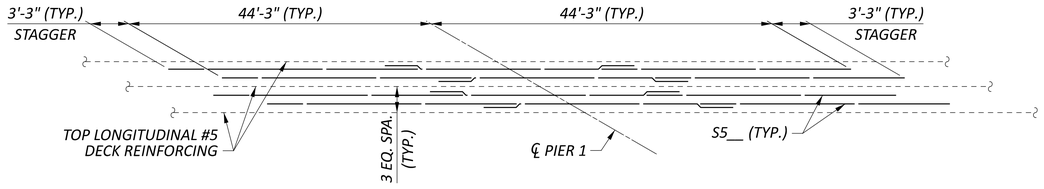


DECK PLAN
TOP REINFORCING



STAGGER DETAIL OVER PIER 1
NOT TO SCALE

NOTES:

1. FOR ADDITIONAL TOP REINFORCING, SEE SHEET 65 ı 94.
2. FOR TRANSVERSE SECTIONS, SEE SHEET 66 ı 94.
3. FOR SIDEWALK, RAILING AND PILASTER REINFORCING, SEE SHEET 72 ı 94 THRU 76 ı 94.
4. FOR SCREED ELEVATIONS, SEE SHEET 69 ı 94.
5. FOR EXPANSION JOINT DETAILS, SEE SHEET 77 ı 94.
6. FOR CONCRETE REINFORCING BAR LIST, SEE SHEET 92 ı 94.
7. MINIMUM CONCRETE REINFORCMENT LAP SPLICE LENGTHS ARE AS FOLLOWS:

NO. 4	1'-11"
NO. 5	2'-5"

DECK PLAN - TOP REINFORCING
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:57:02 PM USER: todd.roxberry
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SFN 1801806

DESIGN AGENCY
AECOM
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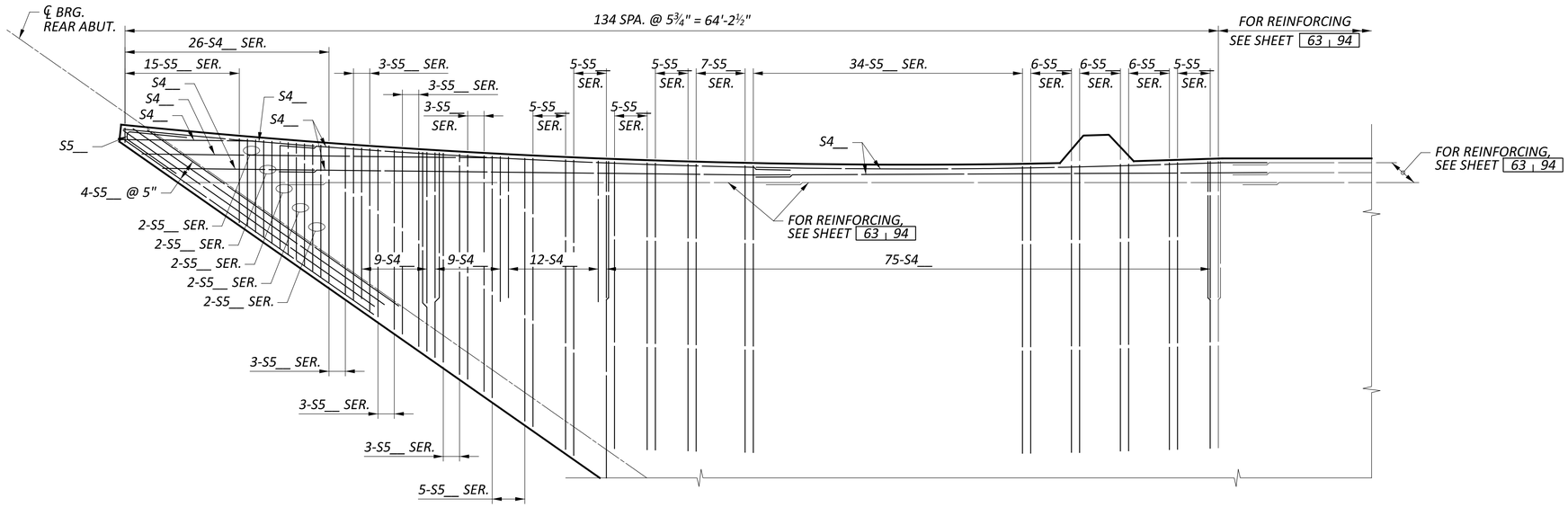
DESIGNER	CHECKER
RHB	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

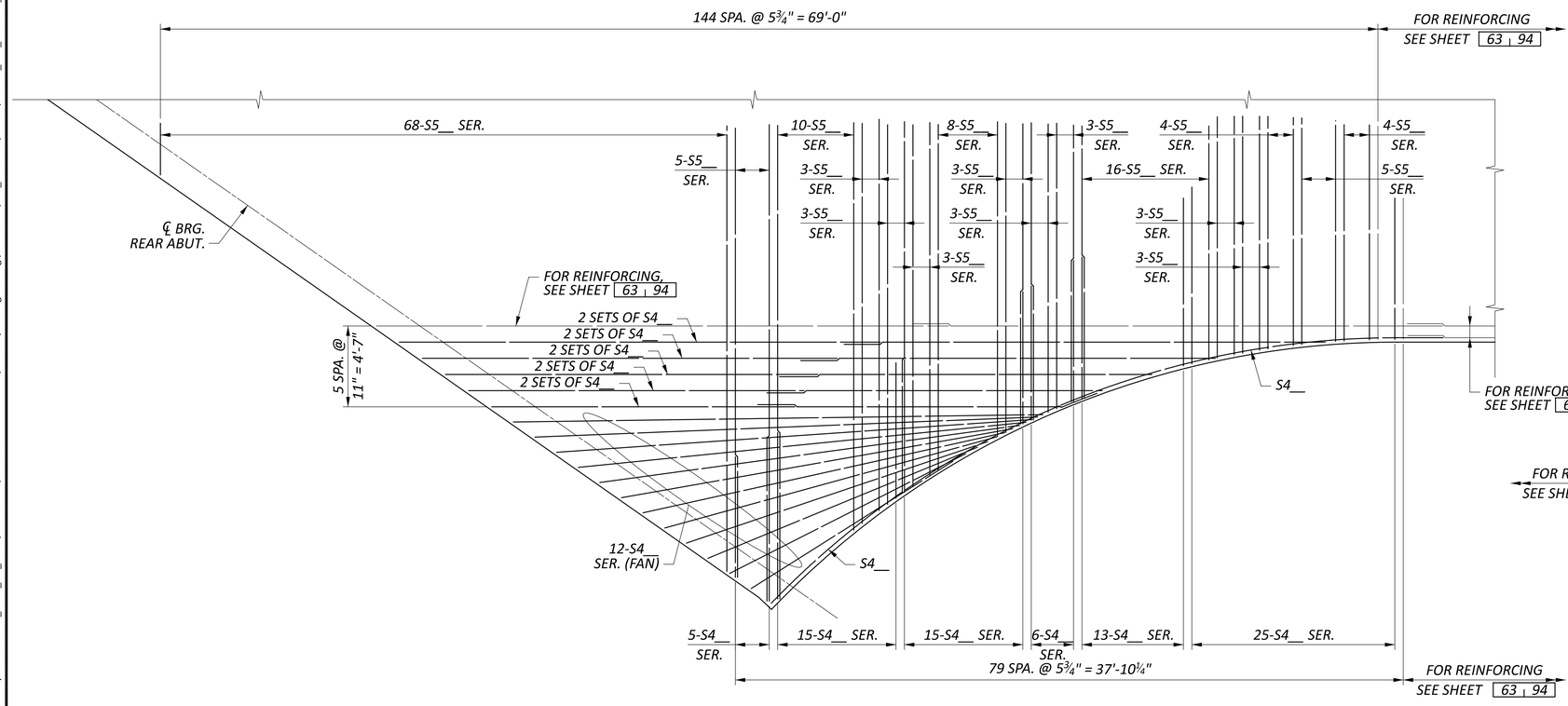
SUBSET	TOTAL
63	94

SHEET	TOTAL
P.216	329



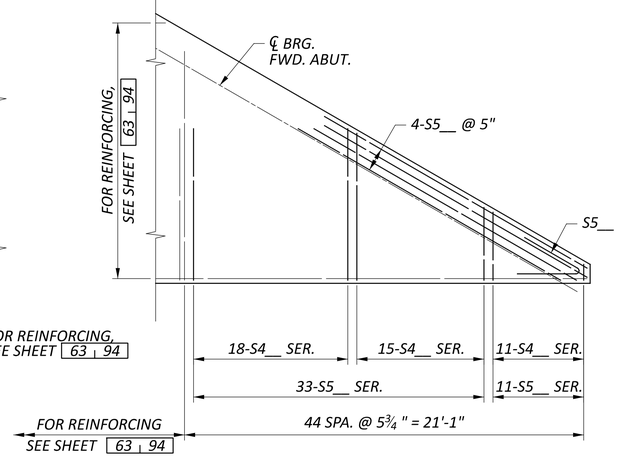
PARTIAL DECK PLAN

REAR LEFT - TOP REINFORCING



PARTIAL DECK PLAN

REAR RIGHT - TOP REINFORCING



PARTIAL DECK PLAN

FORWARD RIGHT - TOP REINFORCING

NOTE:

1. FOR NOTES, SEE SHEET 63 ¡ 94.

DECK PLAN - TOP REINFORCING
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
RHB	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
64	94

SHEET	TOTAL
P.217	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:57:17 PM USER: todd.roxberry
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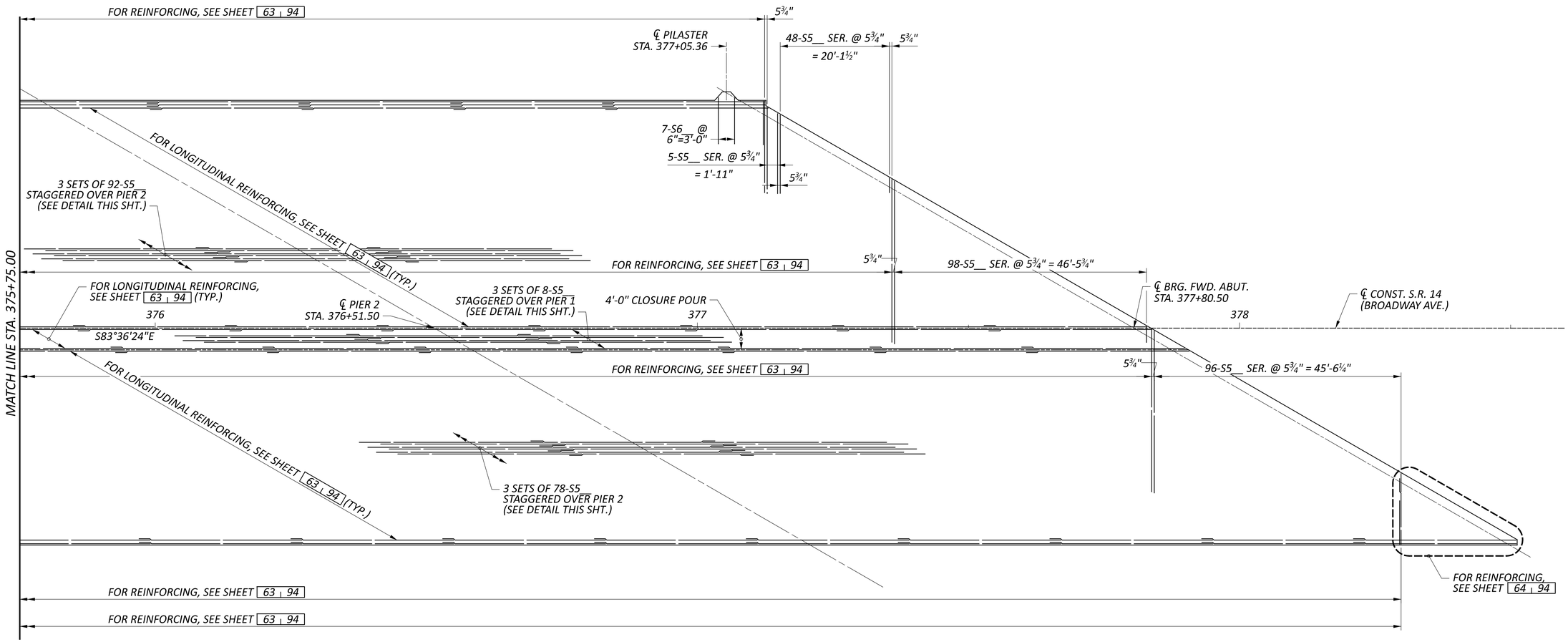
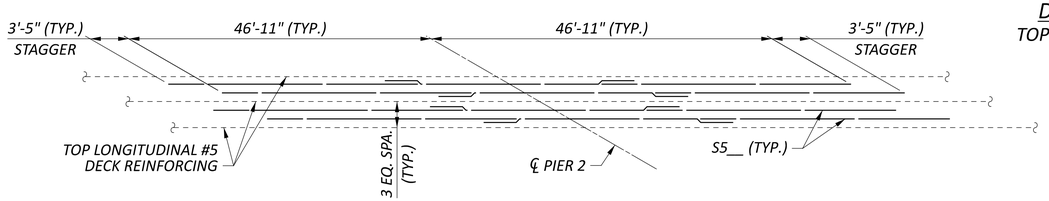


DECK PLAN
TOP REINFORCING



STAGGER DETAIL OVER PIER 2
NOT TO SCALE

NOTE:

1. FOR NOTES, SEE SHEET 63 | 94.

DECK PLAN - TOP REINFORCING
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	RHB
CHECKER	JDM
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	65
TOTAL	94
SHEET	P.218
TOTAL	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:57:32 PM USER: todd.roxberry
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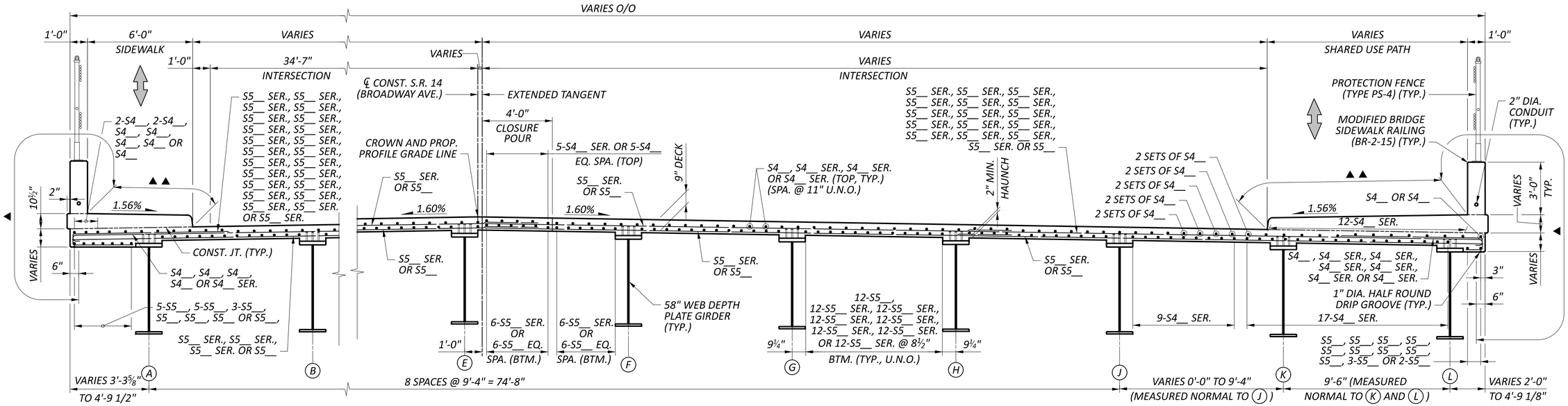
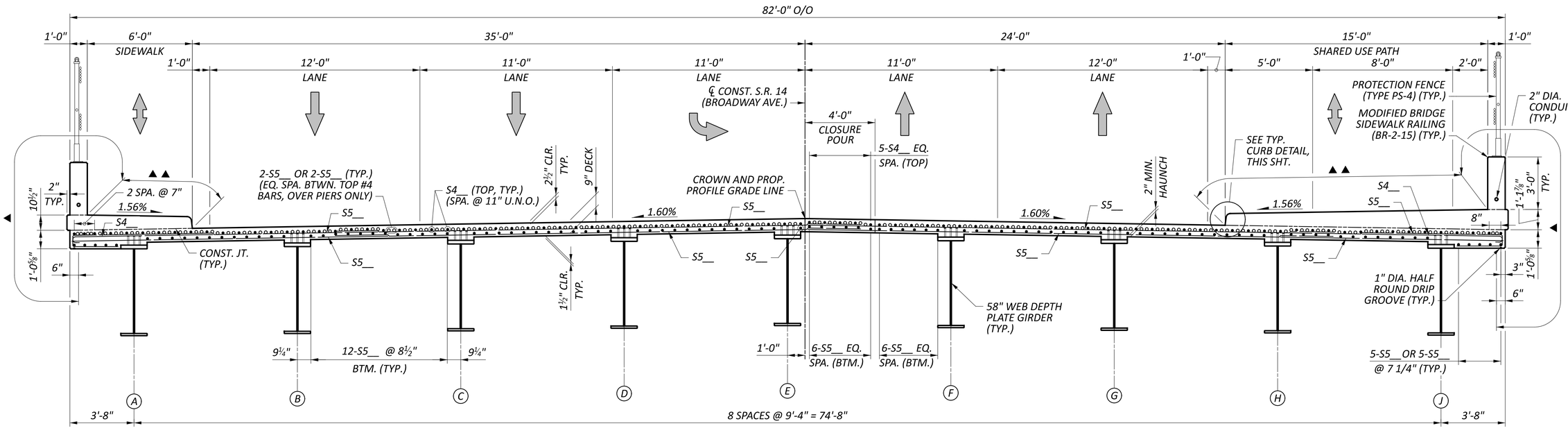


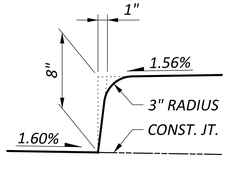
TRANSVERSE SECTION

STA. 373+69.76 TO STA. 373+89.30



TRANSVERSE SECTION

STA. 373+89.30 TO STA. 377+78.00



TYPICAL CURB DETAIL

LEGEND:

- ▲ ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
- ▲▲ ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
- (X) PROPOSED BEAM MARK

NOTES:

1. INTERMEDIATE CROSSFRAMES AND STIFFENERS NOT SHOWN FOR CLARITY. FOR DETAILS, SEE SHEET 57 ¡ 94 .
2. FOR SIDEWALK AND RAILING REINFORCING AND DETAILS, SEE SHEETS 72 ¡ 94 THRU 76 ¡ 94 .
3. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF INCHES AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

TRANSVERSE SECTIONS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
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REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
66	94

SHEET	TOTAL
P.219	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:57:47 PM USER: todd.roxberry
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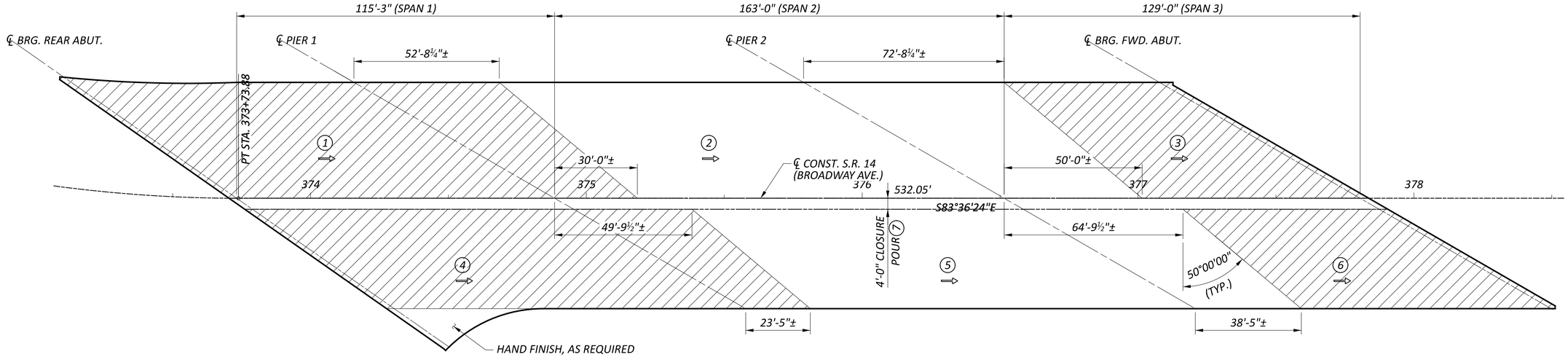

DECK POUR SEQUENCE

NOTES:

1. *FOR SLAB PLAN, SEE SHEETS* 60 ¡ 94 *THRU* 65 ¡ 94 .
2. *FOR TRANSVERSE SECTION, SEE SHEET* 66 ¡ 94 .
3. *THIS IS A SUGGESTED SEQUENCE FOR POURING THE DECK CONCRETE. SHOULD THE CONTRACTOR PROPOSE TO USE A DIFFERENT SEQUENCE, THE SUBMITTAL SHALL BE MADE IN ACCORDANCE WITH CMS ITEMS 501 AND 511.*
4. *CONTRACTOR SHALL POUR ALL SPANS WITH THE FINSIHING MACHINE SET TO A SKEW OF 50 DEGREES, AS PER CMS 511.10 AND 511.19. LOAD THE CONCRETE AT THE SKEW ANGLE OF THE BRIDGE, THE FURTHEST THE CONCRETE SHALL PRECEDE THE FINISHING MACHINE IS 20 FEET.*
5. *THE LONGITUDINAL CONSTRUCTION JOINTS OF THE CLOSURE POUR SHALL BE SEALED WITH A 2-FOOT WIDE STRIP OF HMWM PER CMS 705.15. PAYMENT FOR THE HMWM SHALL BE INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK.*

LEGEND:

(#) *POUR SEQUENCE NUMBER*

DIRECTION OF POUR

DENOTES AREA OF NOTED DECK POUR

DECK POUR SEQUENCE
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

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DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
67	94

SHEET	TOTAL
P.220	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:58:06 PM USER: todd.roxberry
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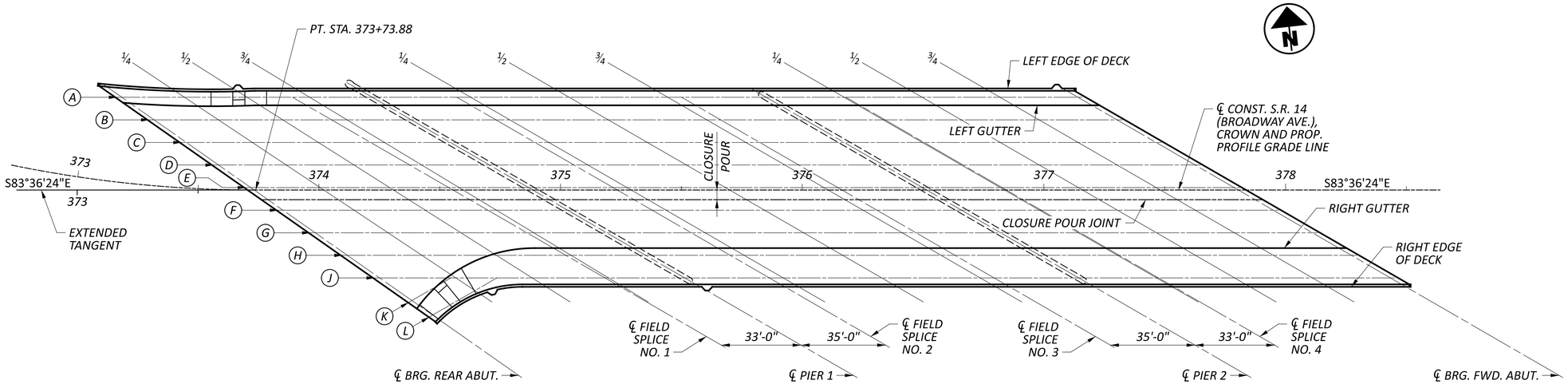
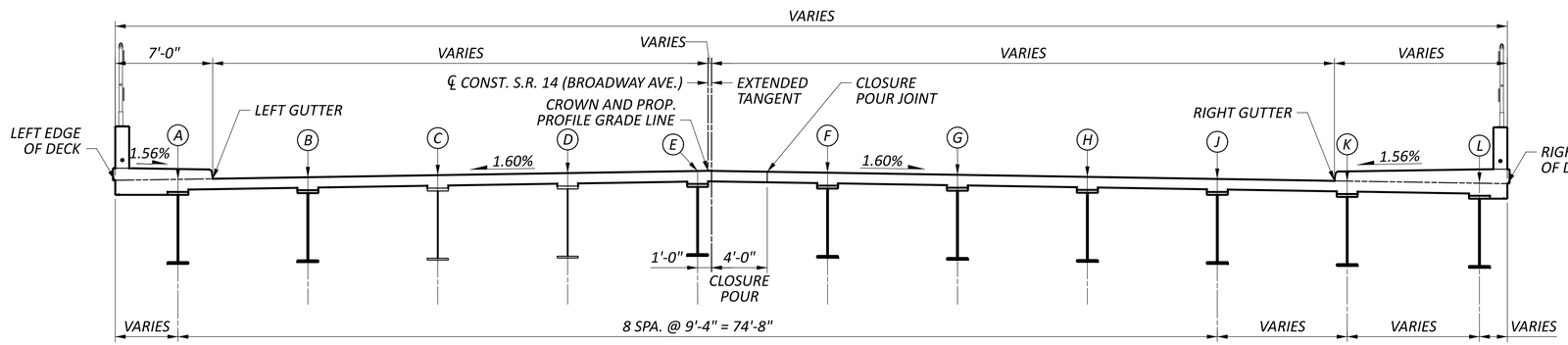
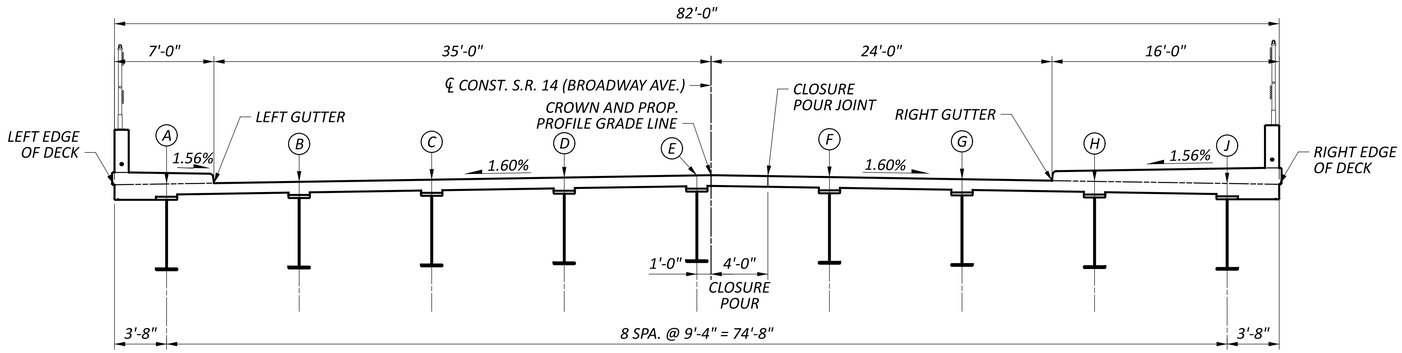


PLAN



TRANSVERSE SECTION

STA. 373+69.76 TO STA. 373+89.30



TRANSVERSE SECTION

373+89.30 TO STA. 377+78.00

NOTES:

1. FOR ELEVATION TABLES, SEE SHEETS 69 , 94 THRU 71 , 94 .

LEGEND:

(X) PROPOSED BEAM MARK AND ELEVATION LOCATION

ELEVATION DIAGRAMS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
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REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
68	94

SHEET	TOTAL
P.221	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:58:22 PM USER: todd.roxberry
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SCREED ELEVATIONS											
LOCATION		REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1 POINT	3/4 POINT	7/8 POINT	PIER 1
LEFT EDGE OF DECK	STATION	373+05.00	373+20.78	373+35.86	373+50.29	373+64.10	373+77.32	373+82.75	373+90.13	374+02.94	374+15.75
	SCREED EL.	848.76	849.37	849.93	850.42	850.85	851.24	851.37	851.60	851.97	852.33
LEFT GUTTER	STATION	373+18.28	373+33.54	373+48.15	373+62.14	373+75.57	373+88.65	373+94.88	374+01.72	374+14.80	374+27.88
	SCREED EL.	849.34	849.89	850.41	850.88	851.31	851.68	851.85	852.04	852.42	852.77
PROFILE GRADE LINE/CROWN	STATION	373+73.25	373+87.65	374+02.06	374+16.47	374+30.87	374+45.28	374+55.50	374+59.69	374+74.09	374+88.50
	SCREED EL.	851.74	852.27	852.76	853.20	853.57	853.90	854.04	854.20	854.50	854.81
CLOSURE POUR JOINT	STATION	373+78.96	373+93.52	374+08.08	374+22.64	374+37.20	374+51.75	374+62.43	374+66.31	374+80.87	374+95.43
	SCREED EL.	851.85	852.40	852.89	853.33	853.67	854.00	854.19	854.31	854.59	854.90
RIGHT GUTTER	STATION	374+41.47	374+47.58	374+54.69	374+62.91	374+72.56	374+84.43	374+97.07	374+99.43	375+14.75	375+30.07
	SCREED EL.	852.35	852.89	853.44	853.91	854.28	854.56	854.67	854.78	855.01	855.27
RIGHT EDGE OF DECK	STATION	374+50.23	374+57.81	374+67.02	374+78.67	374+94.08	375+10.00	375+24.78	375+25.93	375+41.86	375+57.78
	SCREED EL.	852.18	852.87	853.61	854.26	854.62	854.87	854.97	855.07	855.26	855.48

SCREED ELEVATIONS (CONTINUED)											
LOCATION		PIER 1	1/8 POINT	FS2 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3 POINT	7/8 POINT	PIER 2
LEFT EDGE OF DECK	STATION	374+15.75	374+36.13	374+50.75	374+56.50	374+76.88	374+97.25	375+17.63	375+38.00	375+43.75	375+58.38	375+78.75
	SCREED EL.	852.33	852.99	853.35	853.67	854.29	854.78	855.13	855.37	855.31	855.55	855.77
LEFT GUTTER	STATION	374+27.88	374+48.25	374+62.88	374+68.63	374+89.00	375+09.38	375+29.75	375+50.13	375+55.88	375+70.50	375+90.88
	SCREED EL.	852.77	853.42	853.76	854.07	854.67	855.14	855.47	855.69	855.62	855.85	856.05
PROFILE GRADE LINE/CROWN	STATION	374+88.50	375+08.88	375+23.50	375+29.25	375+49.63	375+70.00	375+90.38	376+10.75	376+16.50	376+31.13	376+51.50
	SCREED EL.	854.81	855.34	855.61	855.87	856.35	856.72	856.95	857.06	856.99	857.14	857.25
CLOSURE POUR JOINT	STATION	374+95.43	375+15.80	375+30.43	375+36.18	375+56.55	375+76.93	375+97.30	376+17.68	376+23.43	376+38.05	376+58.43
	SCREED EL.	854.90	855.40	855.67	855.92	856.39	856.74	856.96	857.07	857.00	857.14	857.24
RIGHT GUTTER	STATION	375+30.07	375+50.44	375+65.07	375+70.82	375+91.19	376+11.57	376+31.94	376+52.32	376+58.07	376+72.69	376+93.07
	SCREED EL.	855.27	855.69	855.92	856.14	856.54	856.83	857.00	857.06	856.98	857.08	857.13
RIGHT EDGE OF DECK	STATION	375+57.78	375+78.16	375+92.78	375+98.53	376+18.91	376+39.28	376+59.66	376+80.03	376+85.78	377+00.41	377+20.78
	SCREED EL.	855.48	855.86	856.06	856.26	856.61	856.85	856.97	856.98	856.90	856.96	856.97

SCREED ELEVATIONS (CONTINUED)											
LOCATION		PIER 2	1/8 POINT	1/4 POINT	FS4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	FWD. ABUT.
LEFT EDGE OF DECK	STATION	375+78.75	375+94.88	376+11.00	376+11.75	376+27.13	376+43.25	376+59.38	376+75.50	376+91.63	377+07.75
	SCREED EL.	855.77	856.01	856.29	856.24	856.56	856.79	856.95	857.01	856.99	856.90
LEFT GUTTER	STATION	375+90.88	376+07.00	376+23.13	376+23.88	376+39.25	376+55.38	376+71.50	376+87.63	377+03.75	377+19.88
	SCREED EL.	856.05	856.28	856.53	856.49	856.79	857.01	857.15	857.19	857.15	857.05
PROFILE GRADE LINE/CROWN	STATION	376+51.50	376+67.63	376+83.75	376+84.50	376+99.88	377+16.00	377+32.13	377+48.25	377+64.38	377+80.50
	SCREED EL.	857.25	857.41	857.59	857.53	857.77	857.90	857.95	857.91	857.78	857.59
CLOSURE POUR JOINT	STATION	376+58.43	376+74.55	376+90.68	376+91.43	377+06.80	377+22.93	377+39.05	377+55.18	377+71.30	377+87.43
	SCREED EL.	857.24	857.39	857.57	857.50	857.74	857.86	857.90	857.85	857.71	857.50
RIGHT GUTTER	STATION	376+93.07	377+09.19	377+25.32	377+26.07	377+41.44	377+57.57	377+73.69	377+89.82	378+05.94	378+22.07
	SCREED EL.	857.13	857.24	857.37	857.30	857.50	857.57	857.57	857.47	857.27	857.01
RIGHT EDGE OF DECK	STATION	377+20.78	377+36.91	377+53.03	377+53.78	377+69.16	377+85.28	378+01.41	378+17.53	378+33.66	378+49.78
	SCREED EL.	856.97	857.05	857.15	857.07	857.25	857.29	857.24	857.09	856.86	856.55

NOTES:

1. *FOR ELEVATION DIAGRAMS, SEE SHEET* 68 | 94 .
2. *SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.*

SCREED ELEVATIONS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
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www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
69	94

SHEET	TOTAL
P.222	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:58:37 PM USER: todd.roxberry
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TOP OF HAUNCH ELEVATIONS

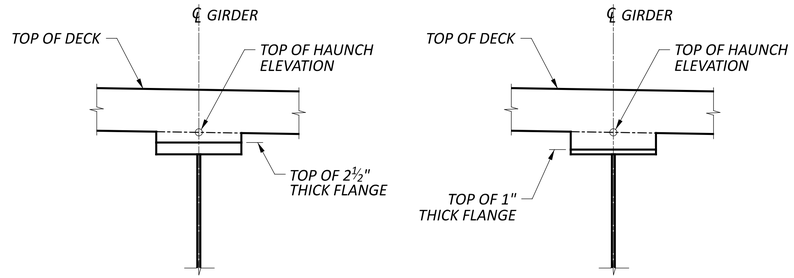
LOCATION		REAR ABUT.	1/8 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	FS1 POINT	3/4 POINT	7/8 POINT	PIER 1	1/8 POINT	FS2 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3 POINT	7/8 POINT	PIER 2
(A)	STATION	373+14.19	373+28.06	373+42.00	373+55.99	373+70.01	373+83.25	373+89.10	373+96.20	374+09.15	374+22.10	374+42.48	374+57.10	374+62.85	374+83.23	375+03.60	375+23.98	375+44.35	375+50.10	375+64.73	375+85.10
	HAUNCH EL.	848.41	848.91	849.40	849.88	850.30	850.70	850.88	851.08	851.46	851.81	852.40	852.82	852.98	853.51	853.97	854.35	854.65	854.72	854.91	855.17
(B)	STATION	373+29.36	373+43.41	373+57.50	373+71.62	373+85.05	373+98.36	374+05.27	374+11.66	374+24.97	374+38.27	374+58.65	374+73.27	374+79.02	374+99.40	375+19.77	375+40.15	375+60.52	375+66.27	375+80.90	376+01.27
	HAUNCH EL.	849.09	849.58	850.06	850.52	850.93	851.31	851.50	851.68	852.05	852.40	852.96	853.35	853.50	854.01	854.43	854.78	855.06	855.13	855.29	855.53
(C)	STATION	373+44.02	373+58.21	373+72.42	373+86.14	373+99.80	374+13.46	374+21.44	374+27.12	374+40.78	374+54.44	374+74.81	374+89.44	374+95.19	375+15.56	375+35.94	375+56.31	375+76.69	375+82.44	375+97.06	376+17.44
	HAUNCH EL.	849.73	850.22	850.69	851.13	851.53	851.90	852.11	852.26	852.61	852.96	853.49	853.86	854.01	854.48	854.88	855.20	855.44	855.51	855.66	855.86
(D)	STATION	373+58.17	373+72.48	373+86.52	374+00.53	374+14.55	374+28.56	374+37.60	374+42.57	374+56.59	374+70.60	374+90.98	375+05.60	375+11.35	375+31.73	375+52.10	375+72.48	375+92.85	375+98.60	376+13.23	376+33.60
	HAUNCH EL.	850.34	850.83	851.29	851.72	852.11	852.48	852.70	852.82	853.16	853.49	854.00	854.35	854.48	854.93	855.30	855.59	855.81	855.87	856.00	856.18
(E)	STATION	373+71.82	373+86.19	374+00.56	374+14.93	374+29.29	374+43.66	374+53.77	374+58.03	374+72.40	374+86.77	375+07.14	375+21.77	375+27.52	375+47.89	375+68.27	375+88.64	376+09.02	376+14.77	376+29.39	376+49.77
	HAUNCH EL.	850.92	851.41	851.87	852.29	852.68	853.03	853.27	853.37	853.69	854.01	854.48	854.81	854.94	855.36	855.70	855.96	856.16	856.21	856.32	856.47
(F)	STATION	373+85.15	373+99.87	374+14.60	374+29.32	374+44.04	374+58.76	374+69.93	374+73.49	374+88.21	375+02.93	375+23.31	375+37.93	375+43.68	375+64.06	375+84.43	376+04.81	376+25.18	376+30.93	376+45.56	376+65.93
	HAUNCH EL.	851.23	851.72	852.17	852.51	852.90	853.28	853.54	853.62	853.94	854.24	854.68	854.99	855.11	855.49	855.81	856.05	856.22	856.26	856.35	856.48
(G)	STATION	373+98.48	374+13.56	374+28.63	374+43.71	374+58.79	374+73.86	374+86.10	374+88.94	375+04.01	375+19.10	375+39.48	375+54.10	375+59.85	375+80.23	376+00.60	376+20.98	376+41.35	376+47.10	376+61.73	376+82.10
	HAUNCH EL.	851.50	851.97	852.31	852.69	853.12	853.51	853.78	853.83	854.12	854.41	854.82	855.11	855.22	855.58	855.86	856.08	856.22	856.25	856.33	856.43
(H)	STATION	374+11.81	374+27.24	374+42.67	374+58.11	374+73.54	374+88.97	375+02.26	375+04.40	375+19.83	375+35.26	375+55.64	375+70.26	375+76.01	375+96.39	376+16.76	376+37.14	376+57.51	376+63.26	376+77.89	376+98.26
	HAUNCH EL.	851.73	852.06	852.40	852.91	853.42	853.74	853.98	854.02	854.29	854.56	854.94	855.20	855.31	855.63	855.90	856.08	856.20	856.22	856.28	856.35
(J)	STATION	374+25.14	374+40.93	374+56.71	374+72.50	374+88.28	375+04.07	375+18.43	375+19.86	375+35.64	375+51.43	375+71.81	375+86.43	375+92.18	376+12.56	376+32.93	376+53.31	376+73.68	376+79.43	376+94.06	377+14.43
	HAUNCH EL.	851.77	852.04	852.69	853.27	853.62	853.92	000.00	854.19	854.44	854.69	855.04	855.28	855.38	855.68	855.91	856.07	856.15	856.17	856.21	856.26

TOP OF HAUNCH ELEVATIONS (CONTINUED)

LOCATION		PIER 2	1/8 POINT	1/4 POINT	FS4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	FWD. ABUT.
(A)	STATION	375+85.10	376+01.23	376+17.35	376+18.10	376+33.48	376+49.60	376+65.73	376+81.85	376+97.98	377+14.10
	HAUNCH EL.	855.17	855.39	855.61	855.62	855.82	856.00	856.13	856.21	856.24	856.23
(B)	STATION	376+01.27	376+17.40	376+33.52	376+34.27	376+49.65	376+65.77	376+81.90	376+98.02	377+14.15	377+30.27
	HAUNCH EL.	855.53	855.73	855.93	855.94	856.12	856.27	856.38	856.44	856.44	856.41
(C)	STATION	376+17.44	376+33.56	376+49.69	376+50.44	376+65.81	376+81.94	376+98.06	377+14.19	377+30.31	377+46.44
	HAUNCH EL.	855.86	856.04	856.22	856.23	856.39	856.52	856.61	856.65	856.63	856.57
(D)	STATION	376+33.60	376+49.73	376+65.85	376+66.60	376+81.98	376+98.10	377+14.23	377+30.35	377+46.48	377+62.60
	HAUNCH EL.	856.18	856.34	856.50	856.50	856.64	856.75	856.82	856.83	856.79	856.71
(E)	STATION	376+49.77	376+65.89	376+82.02	376+82.77	376+98.14	377+14.27	377+30.39	377+46.52	377+62.64	377+78.77
	HAUNCH EL.	856.47	856.61	856.75	856.75	856.87	856.96	857.00	856.99	856.93	856.83
(F)	STATION	376+65.93	376+82.06	376+98.18	376+98.93	377+14.31	377+30.43	377+46.56	377+62.68	377+78.81	377+94.93
	HAUNCH EL.	856.48	856.59	856.71	856.72	856.81	856.88	856.90	856.87	856.78	856.66
(G)	STATION	376+82.10	376+98.23	377+14.35	377+15.10	377+30.48	377+46.60	377+62.73	377+78.85	377+94.98	378+11.10
	HAUNCH EL.	856.43	856.52	856.62	856.62	856.70	856.75	856.74	856.69	856.58	856.43
(H)	STATION	376+98.26	377+14.39	377+30.51	377+31.26	377+46.64	377+62.76	377+78.89	377+95.01	378+11.14	378+27.26
	HAUNCH EL.	856.35	856.43	856.51	856.51	856.56	856.59	856.57	856.49	856.36	856.18
(J)	STATION	377+14.43	377+30.56	377+46.68	377+47.43	377+62.81	377+78.93	377+95.06	378+11.18	378+27.31	378+43.43
	HAUNCH EL.	856.26	856.32	856.38	856.38	856.42	856.42	856.37	856.27	856.11	855.91

TOP OF HAUNCH ELEVATIONS

LOCATION		REAR ABUTMENT	1/2 POINT	CONNECTION TO GIRDER J WORK POINT
(K)	STATION	374+38.47	374+45.90	374+54.63
	HAUNCH EL.	851.63	852.10	852.75
(L)	STATION	374+47.05	374+59.69	374+73.63
	HAUNCH EL.	851.60	852.59	853.60



TOP OF HAUNCH DETAIL

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. FOR DECK PLAN, SEE SHEETS 60 ¡ 94 THRU 65 ¡ 94 .
3. FOR SCREED ELEVATIONS, SEE SHEET 69 ¡ 94 .
4. FOR FINAL DECK ELEVATIONS, SEE SHEET 71 ¡ 94 .
5. FOR ELEVATION DIAGRAM DEPICTING DECK SURFACE LOCATIONS IN TRANSVERSE SECTION AND PLAN VIEW, SEE SHEET 68 ¡ 94 .
6. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF INCHES AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

TOP OF HAUNCH ELEVATIONS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com
DESIGNER AMA | CHECKER JDM
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 70 | TOTAL 94
SHEET P.223 | TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:58:50 PM USER: todd.roxberry
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FINAL DECK SURFACE ELEVATIONS

LOCATION		REAR ABUT.	1/8 POINT	1/4 POINT	F.S. 1	1/2 POINT	5/8 POINT	FS1 POINT	3/4 POINT	7/8 POINT	PIER 1	1/8 POINT	FS2 POINT	1/4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3 POINT	7/8 POINT	PIER 2
LEFT EDGE OF DECK	STATION	373+05.00	373+20.78	373+35.86	373+50.29	373+64.10	373+77.32	373+82.75	373+90.13	374+02.94	374+15.75	374+36.13	374+50.75	374+56.50	374+76.88	374+97.25	375+17.63	375+38.00	375+43.75	375+58.38	375+78.75
	FINAL DECK EL.	848.76	849.32	849.85	850.33	850.78	851.19	851.36	851.58	851.96	852.33	852.88	853.26	853.40	853.88	854.33	854.74	855.12	855.22	855.46	855.77
(A)	STATION	373+14.19	373+28.06	373+42.00	373+55.99	373+70.01	373+83.25	373+89.10	373+96.20	374+09.15	374+22.10	374+42.48	374+57.10	374+62.85	374+83.23	375+03.60	375+23.98	375+44.35	375+50.10	375+64.73	375+85.10
	FINAL DECK EL.	849.16	849.64	850.11	850.59	851.02	851.43	851.61	851.83	852.20	852.56	853.11	853.47	853.61	854.08	854.52	854.92	855.29	855.39	855.62	855.92
LEFT GUTTER	STATION	373+18.28	373+33.54	373+48.15	373+62.14	373+75.57	373+88.65	373+94.88	374+01.72	374+14.80	374+27.88	374+48.25	374+62.88	374+68.63	374+89.00	375+09.38	375+29.75	375+50.13	375+55.88	375+70.50	375+90.88
	FINAL DECK EL.	849.34	849.84	850.32	850.78	851.23	851.64	851.84	852.03	852.41	852.77	853.31	853.67	853.80	854.26	854.69	855.08	855.44	855.53	855.76	856.05
(B)	STATION	373+29.36	373+43.41	373+57.50	373+71.62	373+85.05	373+98.36	374+05.27	374+11.66	374+24.97	374+38.27	374+58.65	374+73.27	374+79.02	374+99.40	375+19.77	375+40.15	375+60.52	375+66.27	375+80.90	376+01.27
	FINAL DECK EL.	849.84	850.31	850.77	851.22	851.64	852.04	852.24	852.42	852.79	853.15	853.66	854.01	854.14	854.58	854.99	855.36	855.70	855.79	856.01	856.28
(C)	STATION	373+44.02	373+58.21	373+72.42	373+86.14	373+99.80	374+13.46	374+21.44	374+27.12	374+40.78	374+54.44	374+74.81	374+89.44	374+95.19	375+15.56	375+35.94	375+56.31	375+76.69	375+82.44	375+97.06	376+17.44
	FINAL DECK EL.	850.48	850.94	851.40	851.82	852.23	852.62	852.85	853.00	853.36	853.71	854.19	854.52	854.64	855.06	855.44	855.79	856.10	856.18	856.37	856.61
(D)	STATION	373+58.17	373+72.48	373+86.52	374+00.53	374+14.55	374+28.56	374+37.60	374+42.57	374+56.59	374+70.60	374+90.98	375+05.60	375+11.35	375+31.73	375+52.10	375+72.48	375+92.85	375+98.60	376+13.23	376+33.60
	FINAL DECK EL.	851.09	851.55	851.98	852.40	852.80	853.19	853.43	853.56	853.91	854.24	854.70	855.01	855.13	855.51	855.87	856.18	856.47	856.54	856.72	856.93
(E)	STATION	373+71.82	373+86.19	374+00.56	374+14.93	374+29.29	374+43.66	374+53.77	374+58.03	374+72.40	374+86.77	375+07.14	375+21.77	375+27.52	375+47.89	375+68.27	375+88.64	376+09.02	376+14.77	376+29.39	376+49.77
	FINAL DECK EL.	851.67	852.12	852.55	852.96	853.36	853.73	853.99	854.09	854.43	854.76	855.19	855.48	855.59	855.95	856.27	856.56	856.82	856.88	857.04	857.22
PROFILE GRADE	STATION	373+73.25	373+87.65	374+02.06	374+16.47	374+30.87	374+45.28	374+55.50	374+59.69	374+74.09	374+88.50	375+08.88	375+23.50	375+29.25	375+49.63	375+70.00	375+90.38	376+10.75	376+16.50	376+31.13	376+51.50
	FINAL DECK EL.	851.74	852.18	852.61	853.02	853.42	853.79	854.01	854.15	854.49	854.81	855.24	855.53	855.63	855.99	856.31	856.60	856.85	856.92	857.07	857.25
CLOSURE POUR JOINT	STATION	373+78.96	373+93.52	374+08.08	374+22.64	374+37.20	374+51.75	374+62.43	374+66.31	374+80.87	374+95.43	375+15.80	375+30.43	375+36.18	375+56.55	375+76.93	375+97.30	376+17.68	376+23.43	376+38.05	376+58.43
	FINAL DECK EL.	851.85	852.30	852.72	853.13	853.49	853.87	854.15	854.24	854.58	854.90	855.31	855.59	855.69	856.04	856.35	856.63	856.87	856.93	857.07	857.24
(F)	STATION	373+85.15	373+99.87	374+14.60	374+29.32	374+44.04	374+58.76	374+69.93	374+73.49	374+88.21	375+02.93	375+23.31	375+37.93	375+43.68	375+64.06	375+84.43	376+04.81	376+25.18	376+30.93	376+45.56	376+65.93
	FINAL DECK EL.	851.98	852.42	852.84	853.17	853.57	853.97	854.25	854.34	854.68	854.99	855.39	855.66	855.76	856.09	856.39	856.65	856.88	856.93	857.07	857.23
(G)	STATION	373+98.48	374+13.56	374+28.63	374+43.71	374+58.79	374+73.86	374+86.10	374+88.94	375+04.01	375+19.10	375+39.48	375+54.10	375+59.85	375+80.23	376+00.60	376+20.98	376+41.35	376+47.10	376+61.73	376+82.10
	FINAL DECK EL.	852.25	852.67	852.97	853.33	853.77	854.19	854.48	854.54	854.86	855.16	855.53	855.78	855.87	856.18	856.45	856.68	856.88	856.93	857.05	857.18
RIGHT GUTTER	STATION	374+41.47	374+47.58	374+54.69	374+62.91	374+72.56	374+84.43	374+97.07	374+99.43	375+14.75	375+30.07	375+50.44	375+65.07	375+70.82	375+91.19	376+11.57	376+31.94	376+52.32	376+58.07	376+72.69	376+93.07
	FINAL DECK EL.	852.35	852.74	853.19	853.61	853.99	854.34	854.61	854.66	854.97	855.27	855.62	855.85	855.94	856.23	856.48	856.69	856.87	856.92	857.02	857.13
(H)	STATION	374+11.81	374+27.24	374+42.67	374+58.11	374+73.54	374+88.97	375+02.26	375+04.40	375+19.83	375+35.26	375+55.64	375+70.26	375+76.01	375+96.39	376+16.76	376+37.14	376+57.51	376+63.26	376+77.89	376+98.26
	FINAL DECK EL.	852.48	852.75	853.04	853.53	854.05	854.39	854.67	854.72	855.02	855.31	855.66	855.88	855.97	856.25	856.49	856.69	856.87	856.91	857.00	857.10
(J)	STATION	374+25.14	374+40.93	374+56.71	374+72.50	374+88.28	375+04.07	375+18.43	375+19.86	375+35.64	375+51.43	375+71.81	375+86.43	375+92.18	376+12.56	376+32.93	376+53.31	376+73.68	376+79.43	376+94.06	377+14.43
	FINAL DECK EL.	852.52	852.72	853.32	853.87	854.23	854.56	854.85	854.88	855.17	855.44	855.76	855.97	856.04	856.29	856.51	856.68	856.83	856.86	856.94	857.01
RIGHT EDGE OF DECK	STATION	374+50.23	374+57.81	374+67.02	374+78.67	374+94.08	375+10.00	375+24.78	375+25.93	375+41.86	375+57.78	375+78.16	375+92.78	375+98.53	376+18.91	376+39.28	376+59.66	376+80.03	376+85.78	377+00.41	377+20.78
	FINAL DECK EL.	852.18	852.70	853.32	853.91	854.29	854.62	854.91	854.93	855.22	855.48	855.79	855.99	856.07	856.30	856.51	856.67	856.81	856.84	856.90	856.97

FINAL DECK SURFACE ELEVATIONS (CONTINUED)

LOCATION		PIER 2	1/8 POINT	1/4 POINT	FS4 POINT	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	FWD. ABUT.
LEFT EDGE OF DECK	STATION	375+78.75	375+94.88	376+11.00	376+11.75	376+27.13	376+43.25	376+59.38	376+75.50	376+91.63	377+07.75
	FINAL DECK EL.	855.77	855.99	856.18	856.19	856.36	856.51	856.64	856.75	856.84	856.90
(A)	STATION	375+85.10	376+01.23	376+17.35	376+18.10	376+33.48	376+49.60	376+65.73	376+81.85	376+97.98	377+14.10
	FINAL DECK EL.	855.92	856.13	856.31	856.32	856.48	856.62	856.74	856.84	856.92	856.98
LEFT GUTTER	STATION	375+90.88	376+07.00	376+23.13	376+23.88	376+39.25	376+55.38	376+71.50	376+87.63	377+03.75	377+19.88
	FINAL DECK EL.	856.05	856.25	856.43	856.44	856.59	856.72	856.84	856.93	857.00	857.05
(B)	STATION	376+01.27	376+17.40	376+33.52	376+34.27	376+49.65	376+65.77	376+81.90	376+98.02	377+14.15	377+30.27
	FINAL DECK EL.	856.28	856.46	856.63	856.64	856.77	856.89	856.99	857.07	857.13	857.16
(C)	STATION	376+17.44	376+33.56	376+49.69	376+50.44	376+65.81	376+81.94	376+98.06	377+14.19	377+30.31	377+46.44
	FINAL DECK EL.	856.61	856.78	856.92	856.93	857.04	857.14	857.22	857.28	857.31	857.32
(D)	STATION	376+33.60	376+49.73	376+65.85	376+66.60	376+81.98	376+98.10	377+14.23	377+30.35	377+46.48	377+62.60
	FINAL DECK EL.	856.93	857.07	857.19	857.20	857.29	857.37	857.43	857.46	857.47	857.46
(E)	STATION	376+49.77	376+65.89	376+82.02	376+82.77	376+98.14	377+14.27	377+30.39	377+46.52	377+62.64	377+78.77
	FINAL DECK EL.	857.22	857.34	857.44	857.45	857.52	857.58	857.61	857.62	857.61	857.58
PROFILE GRADE	STATION	376+51.50	376+67.63	376+83.75	376+84.50	376+99.88	377+16.00	377+32.13	377+48.25	377+64.38	377+80.50
	FINAL DECK EL.	857.25	857.37	857.47	857.47	857.54	857.60	857.63	857.64	857.62	857.59
CLOSURE POUR JOINT	STATION	376+58.43	376+74.55	376+90.68	376+91.43	377+06.80	377+22.93	377+39.05	377+55.18	377+71.30	377+87.43
	FINAL DECK EL.	857.24	857.35	857.44	857.44	857.50	857.55	857.57	857.57	857.55	857.50
(F)	STATION	376+65.93	376+82.06	376+98.18	376+98.93	377+14.31	377+30.43	377+46.56	377+62.68	377+78.81	377+94.93
	FINAL DECK EL.	857.23	857.33	857.40	857.41	857.46	857.49	857.50	857.49	857.46	857.41
(G)	STATION	376+82.10	376+98.23	377+14.35	377+15.10	377+30.48	377+46.60	377+62.73	377+78.85	377+94.98	378+11.10
	FINAL DECK EL.	857.18	857.25	857.31	857.31	857.34	857.35	857.34	857.31	857.26	857.18
RIGHT GUTTER	STATION	376+93.07	377+09.19	377+25.32	377+26.07	377+41.44	377+57.57	377+73.69	377+89.82	378+05.94	378+22.07
	FINAL DECK EL.	857.13	857.19	857.23	857.23	857.25	857.25	857.22	857.18	857.11	857.01
(H)	STATION	376+98.26	377+14.39	377+30.51	377+31.26	377+46.64	377+62.76	377+78.89	377+95.01	378+11.14	378+27.26
	FINAL DECK EL.	857.10	857.16	857.19	857.19	857.20	857.19	857.16	857.11	857.03	856.93
(J)	STATION	377+14.43	377+30.56	377+46.68	377+47.43	377+62.81	377+78.93	377+95.06	378+11.18	378+27.31	378+43.43
	FINAL DECK EL.	857.01	857.04	857.06	857.06	857.04	857.01	856.96	856.88	856.78	856.66
RIGHT EDGE OF DECK	STATION	377+20.78	377+36.91	377+53.03	377+53.78	377+69.16	377+85.28	378+01.41	378+17.53	378+33.66	378+49.78
	FINAL DECK EL.	856.97	856.99	857.00	856.99	856.98	856.93	856.87	856.79	856.68	856.55

FINAL DECK SURFACE ELEVATIONS

LOCATION		REAR ABUTMENT	1/2 POINT	CONNECTION TO GIRDER J WORK POINT
(K)	STATION	374+38.47	374+45.90	374+54.63
	FINAL DECK EL.	852.38	852.71	853.14
(L)	STATION	374+47.05	374+59.69	374+73.63
	FINAL DECK EL.	852.35	853.15	853.91

NOTES:

1. *FOR ELEVATION DIAGRAMS, SEE SHEET* 68 | 94 .
2. *FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.*

FINAL DECK ELEVATIONS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 71 | TOTAL 94
SHEET P.224 | TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:59:07 PM USER: todd.roxberry
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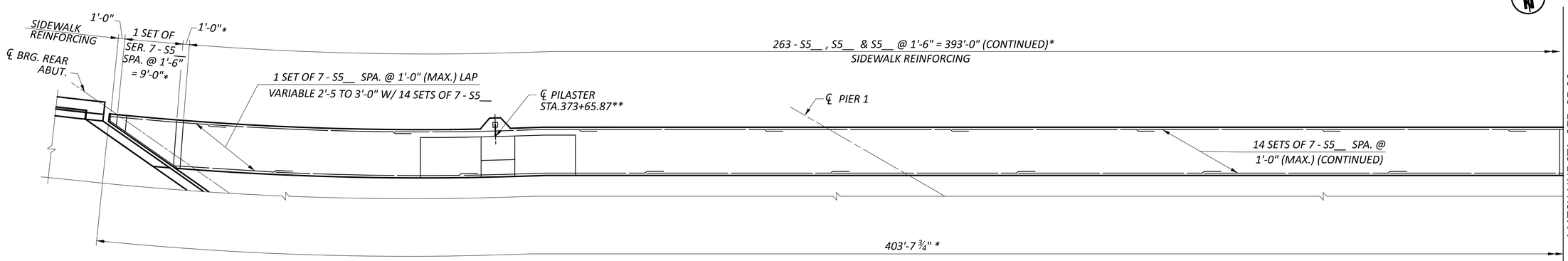
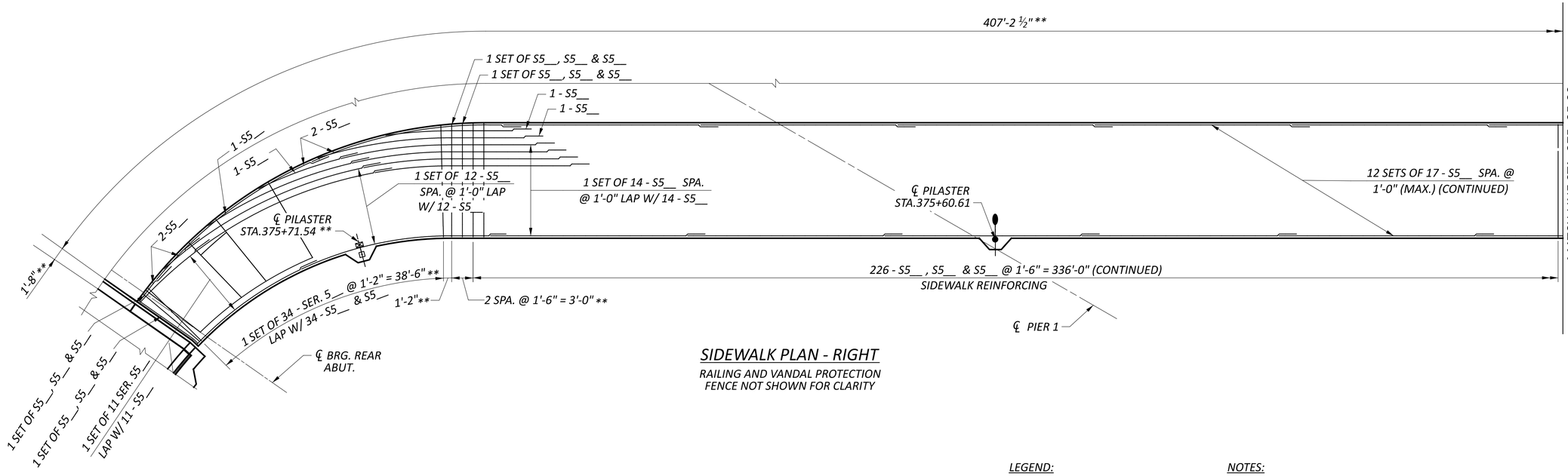


SIDEWALK PLAN - LEFT

RAILING AND VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY



SIDEWALK PLAN - RIGHT

RAILING AND VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY

LEGEND:

* MEASURED RADIALLY ALONG TOE OF LEFT PARAPET

** MEASURED RADIALLY ALONG TOE OF RIGHT PARAPET

NOTES:

1. FOR RAILING, DEFLECTION JOINT AND VANDAL PROTECTION FENCE LAYOUT, SEE SHEETS 74 | 94 THRU 75 | 94 .
2. FOR ADDITIONAL SIDEWALK, RAILING AND PILASTER DETAILS, SEE SHEET 76 | 94 .
3. FOR DECK DETAILS, SEE SHEETS 60 | 94 THRU 65 | 94 .
4. FOR TRANSVERSE SECTION, SEE SHEET 66 | 94 .
5. FOR REINFORCING STEEL LIST, SHEET 92 | 94 .
6. MINIMUM CONCRETE REINFORCEMENT LAP SPLICE LENGTHS ARE AS FOLLOWS:

   NO. 5 3'-5"

7. ADJUST SIDEWALK REINFORCEMENT BY LOWERING, BENDING AND CUTTING BARS AS REQUIRED TO FOLLOW THE SLOPES OF THE CROSSWALK ENTRANCE LOCATED WITHIN THE SIDEWALKS.

SIDEWALK PLAN 1 OF 2

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
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(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
GAD	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
72	94

SHEET	TOTAL
P.225	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 7:59:23 PM USER: todd.roxberry
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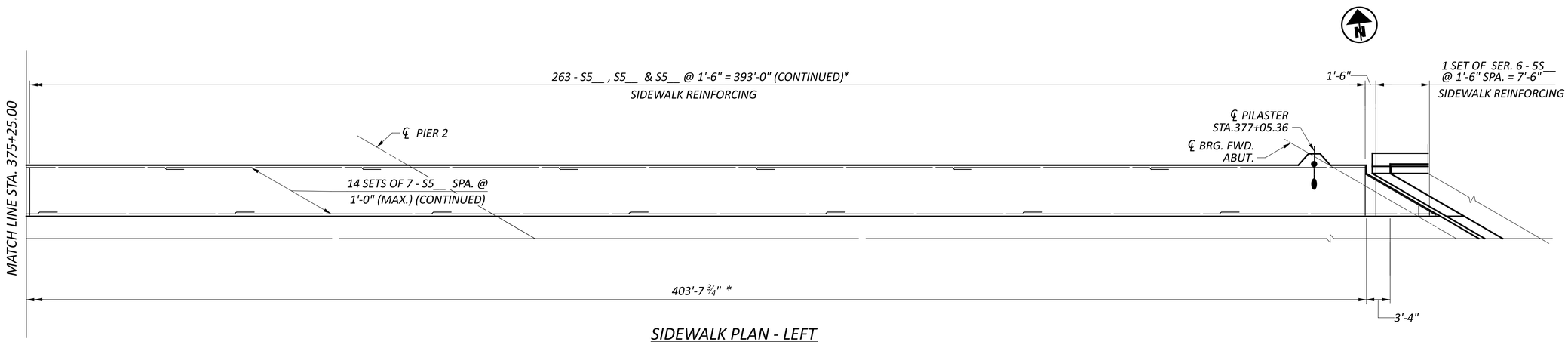
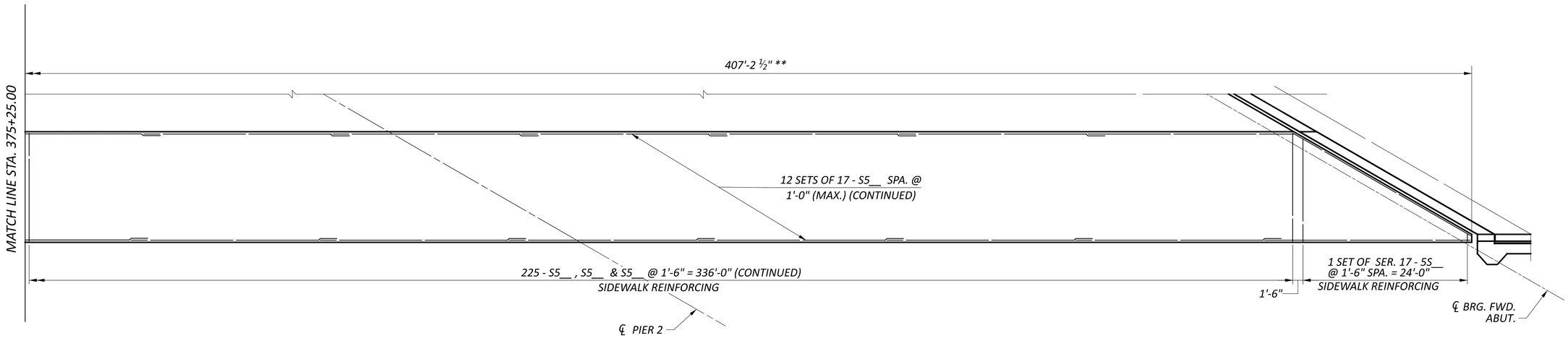


SIDEWALK PLAN - LEFT

RAILING AND VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY



SIDEWALK PLAN - RIGHT

RAILING AND VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY

NOTES:

1. *FOR NOTES AND LEGEND, SEE SHEET 72 | 94 .*

SIDEWALK PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
GAD	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
73	94

SHEET	TOTAL
P.226	329

CUY-14-6.93

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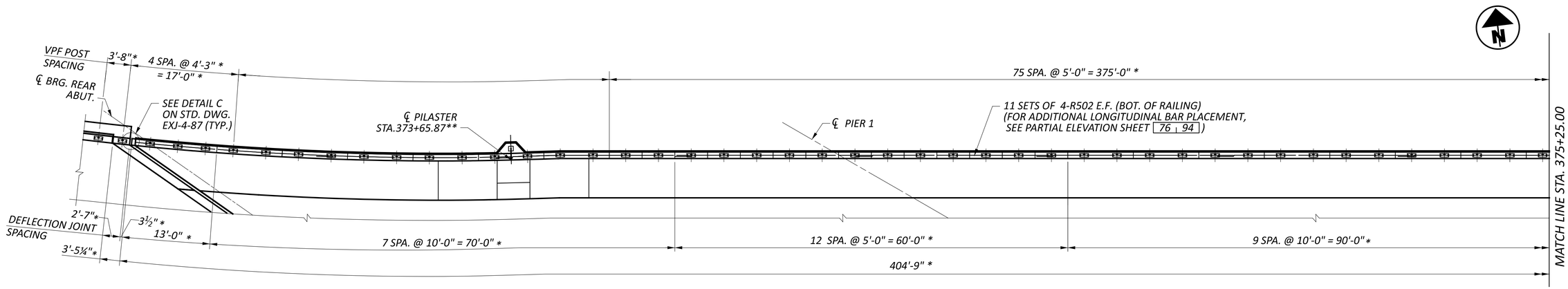
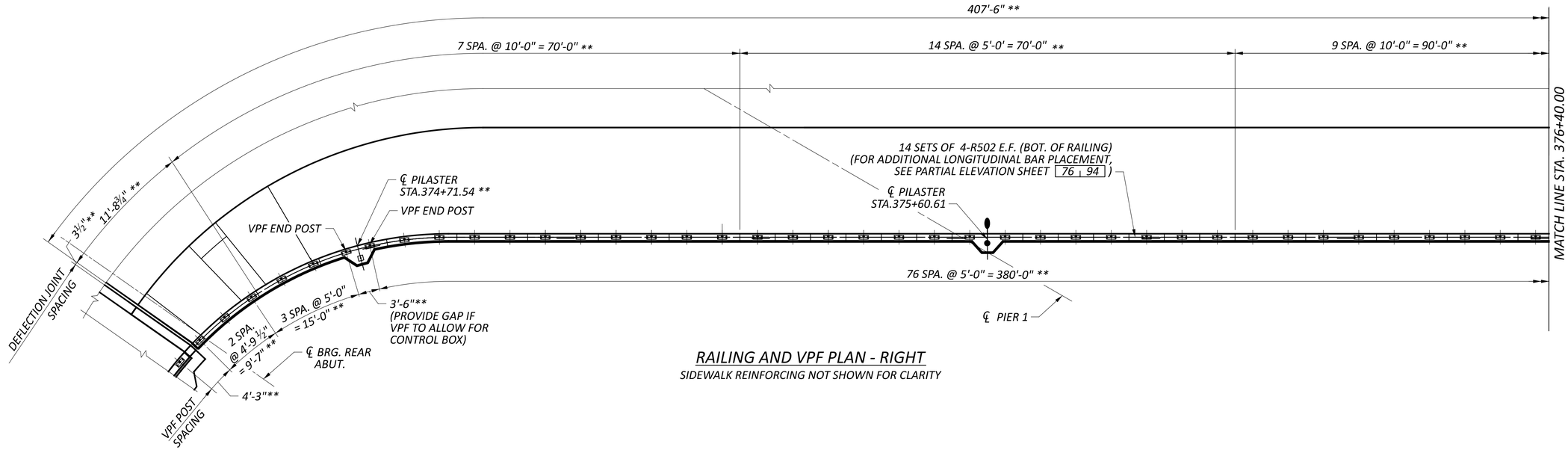


RAILING AND VPF PLAN - LEFT

SIDEWALK REINFORCING NOT SHOWN FOR CLARITY



RAILING AND VPF PLAN - RIGHT

SIDEWALK REINFORCING NOT SHOWN FOR CLARITY

LEGEND:

* *MEASURED RADIALLY ALONG TOE OF LEFT PARAPET*

** *MEASURED RADIALLY ALONG TOE OF RIGHT PARAPET*

NOTES:

1. *FOR SIDEWALK REINFORCING DETAILS, SEE SHEETS 72 ¡ 94 THRU 73 ¡ 94 AND 76 ¡ 94 .*
2. *FOR ADDITIONAL SIDEWALK, RAILING AND PILASTER DETAILS, SEE SHEET 76 ¡ 94 .*
3. *FOR DECK DETAILS, SEE SHEETS 60 ¡ 94 THRU 65 ¡ 94 .*
4. *FOR TRANSVERSE SECTION, SEE SHEET 66 ¡ 94 .*
5. *FOR REINFORCING STEEL LIST, SHEET 93 ¡ 94 .*
6. *MINIMUM CONCRETE REINFORCEMENT LAP SPLICE LENGTHS ARE AS FOLLOW:*

   NO. 5 3'-1"
7. *FOR ADDITIONAL DETAILS CONCERING THE VANDAL PROTECTION FENCE, SEE ODOT STD. DWG. VPF-1-90.*
8. *THE RAILING AND/OR FENCE POST ANCHORS SHALL BE CAST-IN-PLACE WITH BARRIERS AND WILL BE INCLUDED FOR PAYMENT UNDER ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.*

RAILING PLAN 1 OF 2

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
GAD	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
74	94

SHEET	TOTAL
P.227	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:00:00 PM USER: todd.roxberry
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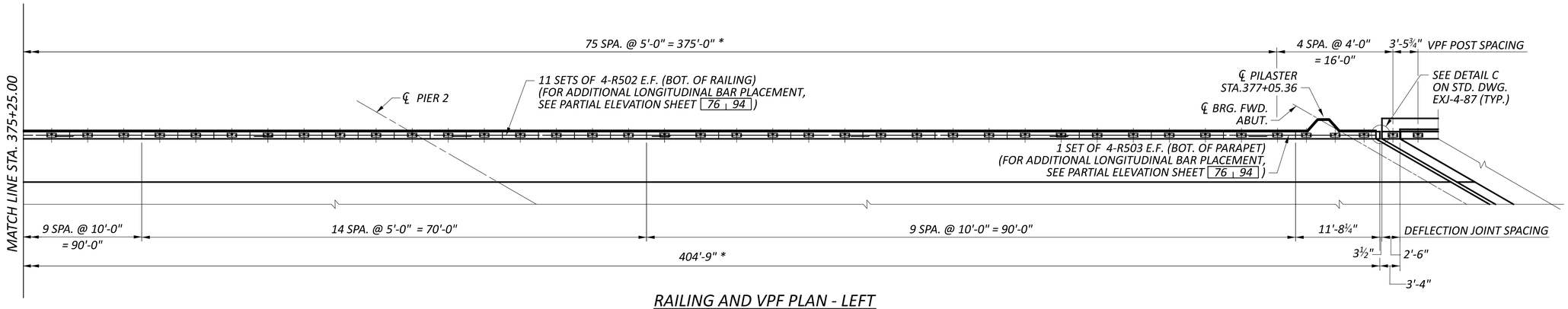
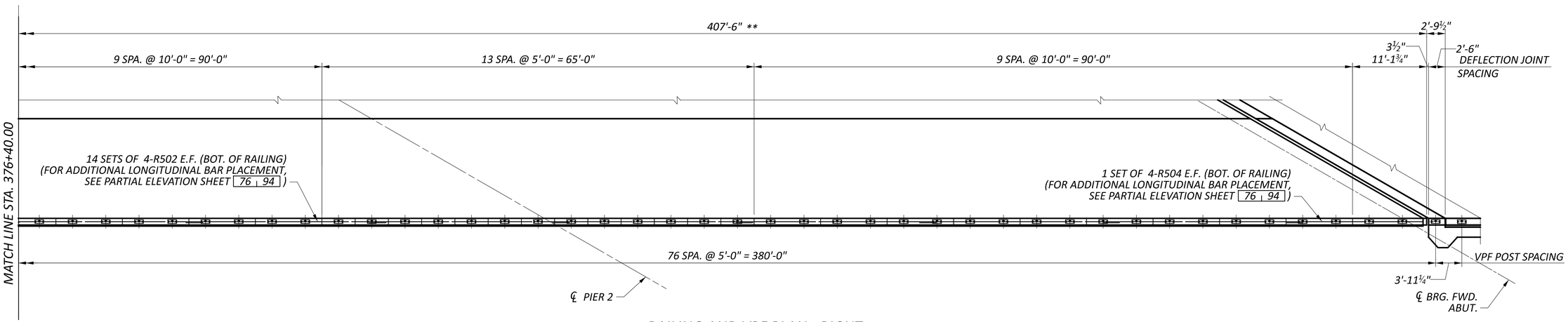


RAILING AND VPF PLAN - LEFT

SIDEWALK REINFORCING NOT SHOWN FOR CLARITY



RAILING AND VPF PLAN - RIGHT

SIDEWALK REINFORCING NOT SHOWN FOR CLARITY

NOTES:

1. *FOR NOTES AND LEGEND, SEE SHEET 74 ¡ 94 .*

RAILING PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN	1801806
DESIGN AGENCY	AECOM 564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	GAD
CHECKER	JDM
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	75
TOTAL	94
SHEET	P.228
TOTAL	329

CUY-14-6.93

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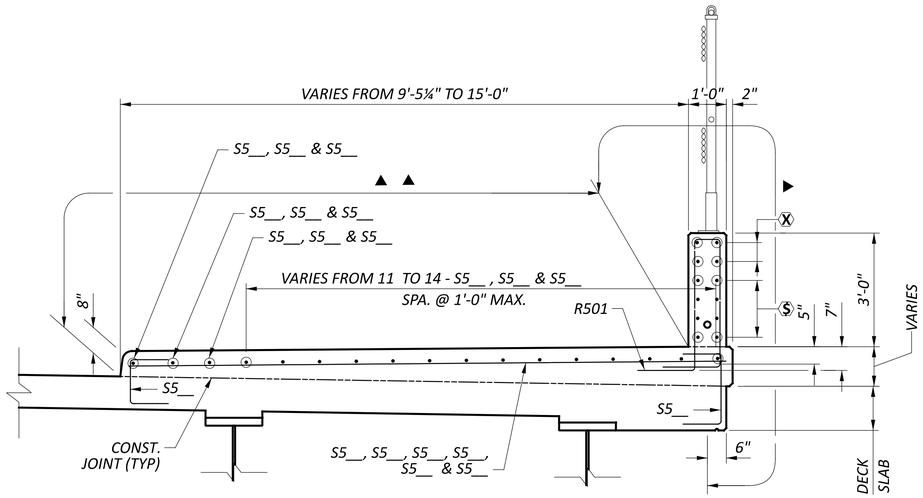
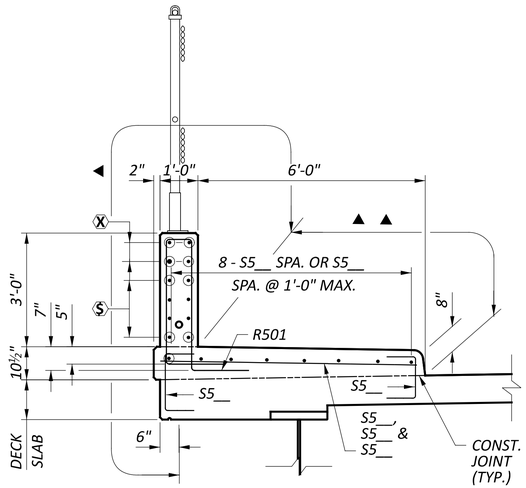


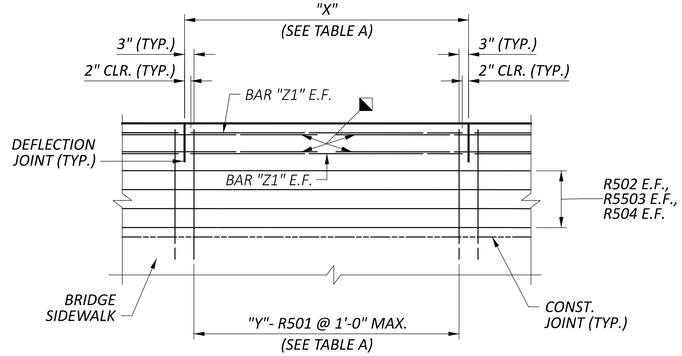
TYPICAL SECTION THROUGH RIGHT RAILING AND SIDEWALK

SECTION TAKEN PERPENDICULAR TO SIDEWALK
(STA. 374+40.55 TO 374+89.30 AT TOE OF SIDEWALK)



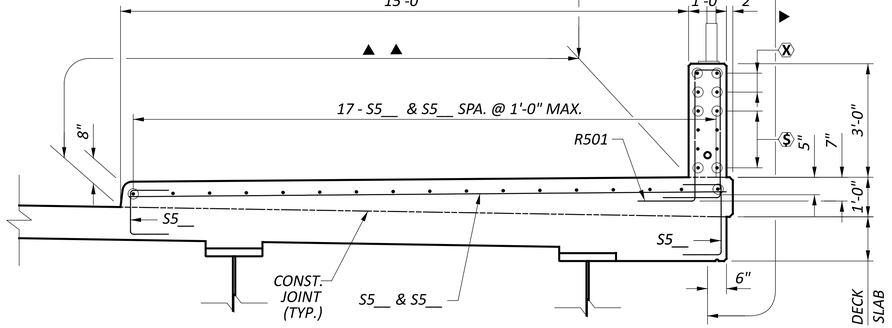
TYPICAL SECTION THROUGH LEFT RAILING AND SIDEWALK

SECTION TAKEN PERPENDICULAR TO SIDEWALK



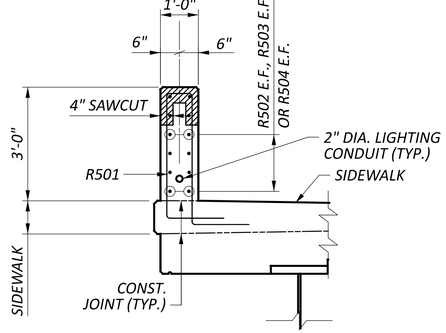
PARTIAL RAILING ELEVATION

BAR "Y" SHALL BE ADJUSTED AS NEEDED TO
NOT CONFLICT WITH FENCE POST ANCHORS



TYPICAL SECTION THROUGH RIGHT RAILING AND SIDEWALK

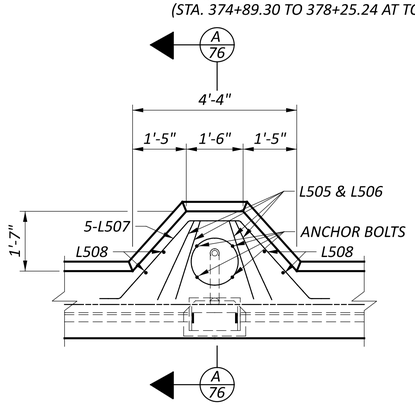
SECTION TAKEN PERPENDICULAR TO SIDEWALK
(STA. 374+89.30 TO 378+25.24 AT TOE OF SIDEWALK)



TYPICAL RAILING SECTION

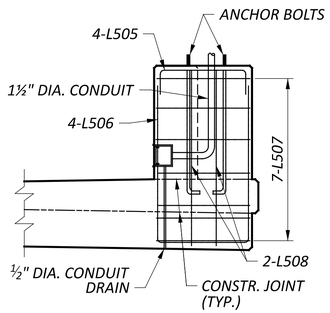
FENCE POST NOT SHOWN

TABLE A			
No. OF PANELS	LENGTH "X"	No. OF BARS IN EA. PANEL "Y"	BAR "Z1"
55	5'-0"	6	R505
49	10'-0"	11	R506
1	11'-1¾"	11	R507
1	11'-8¼"	12	R508
1	11'-8¾"	12	R509
1	13'-0"	13	R510

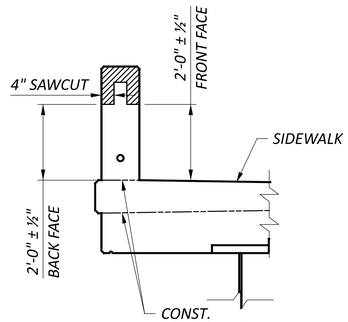


TYPICAL PILASTER PLAN VIEW

REINFORCING FOR LIGHT POLE SHOWN
(ADJUST BARS L505 & L506 TO ACCOMODATE
SIGNAL PUSH BUTTON AND CONTROLLER BOX POLES)



A/76 SECTION



SAWCUT DETAIL

SAWCUT PERIMETER = 2'-10"

LEGEND:

- ▲ ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
- ▲▲ ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
- ◪ ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT
- Ⓧ SEE THESE BARS IN PARTIAL RAILING ELEVATION VIEW AND TABLE A
- Ⓢ LEFT PARAPET E.F. BARS: R502 & R503 RIGHT PARAPET E.F. BARS: R502 & R504

NOTES:

1. FOR RAILING, DEFLECTION JOINT, VANDAL PROTECTION FENCE AND SIDEWALK LAYOUT DETAILS, SEE SHEETS 74 | 94 THRU 73 | 94 .
2. FOR DECK PLAN, SEE SHEETS 60 | 94 THRU 65 | 94 .
3. FOR TRANSVERSE SECTION, SEE SHEET 66 | 94 .
4. FOR REINFORCING STEEL LIST, SEE SHEET 92 | 94 .
5. FOR ADDITIONAL DEFLECTION JOINT DETAILS, SEE ODOT STD. DWG. BR-2-15.
6. FOR ADDITIONAL DETAILS CONCERNING THE VANDAL PROTECTION FENCE, SEE ODOT STD. DWG. VPF-1-90.
7. FOR ADDITIONAL LIGHTING POLE PILASTER DETAILS, SEE ODOT STD. DWG. HL-20.14.
8. FOR ADDITIONAL CONTROLLER POLE MOUNTED AND FIXTURE DETAILS DETAILS, SEE ODOT STD. DWG. TC-83.10 AND TC-83.20.

RAILING AND SIDEWALK DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:00:32 PM USER: todd.roxberry
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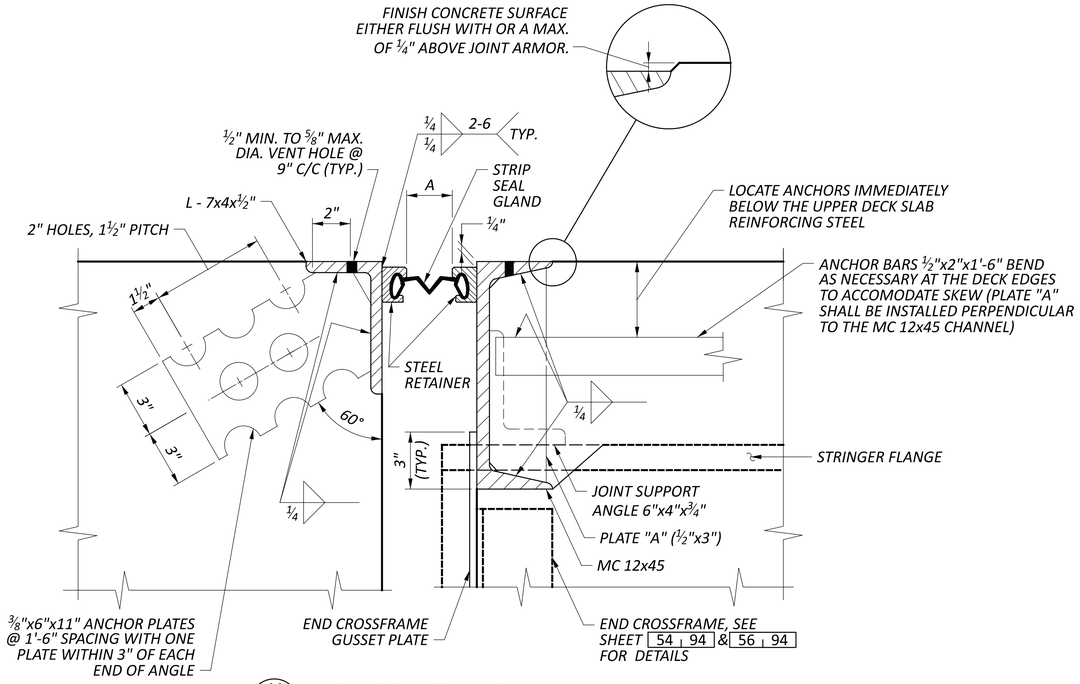
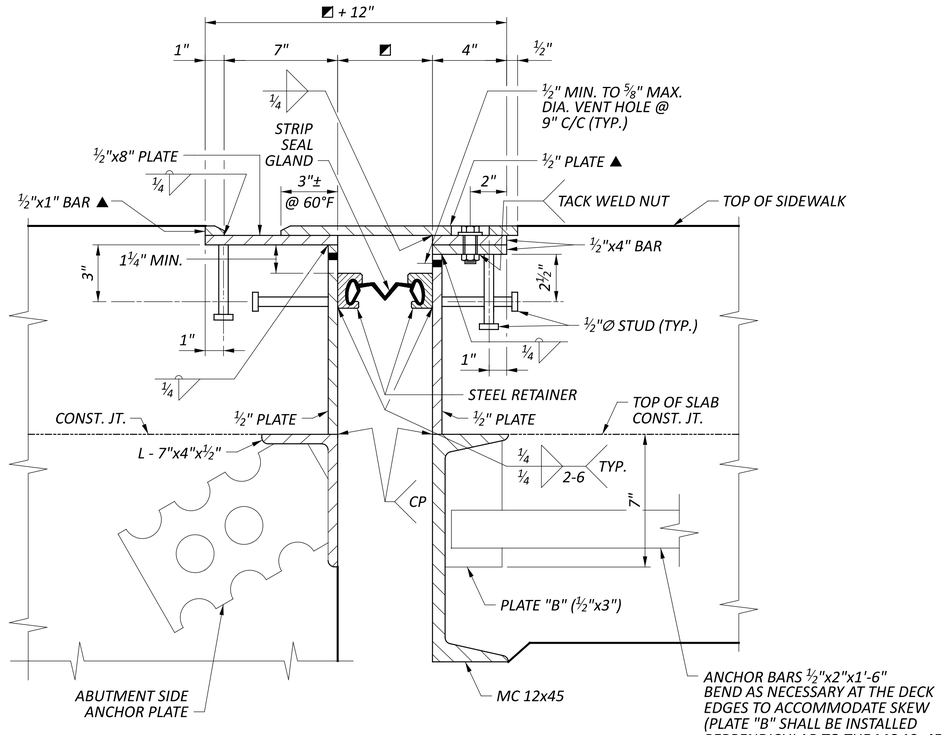
SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com
DESIGNER GAD | CHECKER JDM
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 76 | TOTAL 94
SHEET P.229 | TOTAL 329



X / 77 *EXPANSION JOINT DETAIL*

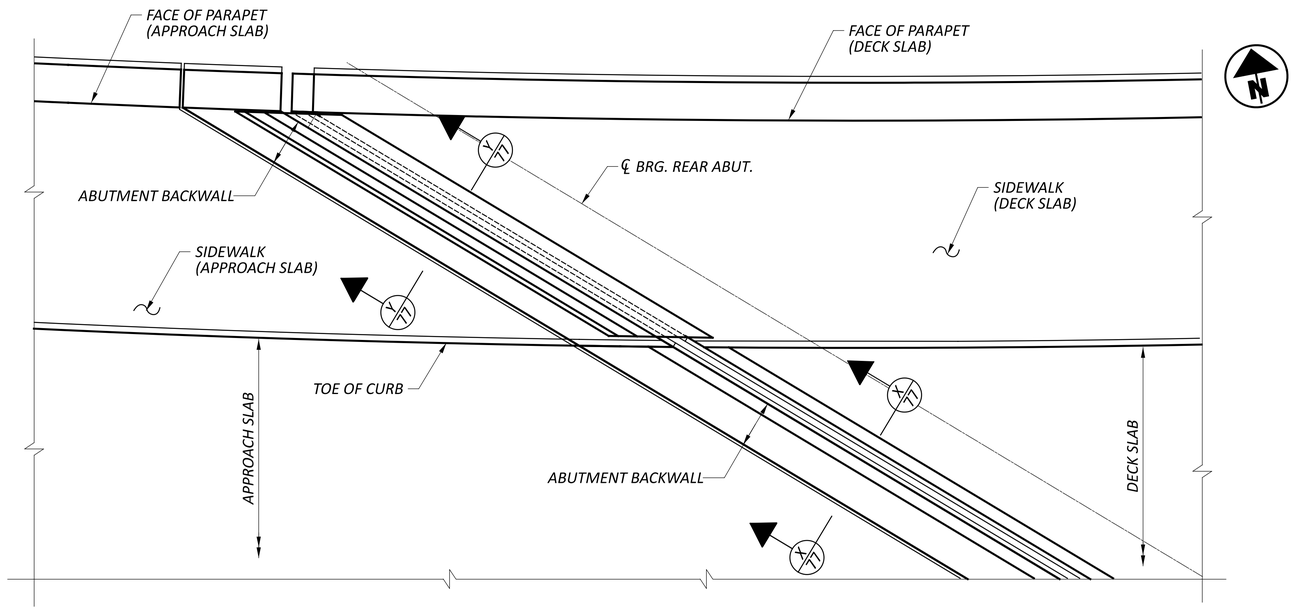
SEE STD. DWG. EXJ-4-87 FOR ADDITIONAL EXPANSION JOINT DETAILS AND DIMENSIONS NOT SHOWN.



Y / 77 *SIDEWALK EXPANSION JOINT DETAIL*

▲ - *PROVIDE A ½" HORIZONTAL x ¼" VERTICAL BEVEL AT THE EXPOSED EDGE OF THE ½" COVER PLATE AND ½" x 1" BAR*

◩ - *THIS DIMENSION IS THE SUM OF (2 x STEEL RETAINER WIDTH + DIM. "A")*



PART PLAN AT REAR ABUTMENT

JOINT SETTING TABLE		
TEMPERATURE	*REAR ABUT. DIM. "A"*	*FWD. ABUT. DIM. "A"*
30°F	*1.52 in.*	*1.96 in.*
40°F	*1.52 in.*	*1.84 in.*
50°F	*1.51 in.*	*1.73 in.*
60°F	*1.51 in.*	*1.61 in.*
70°F	*1.50 in.*	*1.50 in.*
80°F	*1.49 in.*	*1.39 in.*
90°F	*1.49 in.*	*1.27 in.*

DECK EXPANSION AND CONTRACTION MOVEMENTS ARE CALCULATED FROM A REFERENCE OF 60°F, THE TEMPERATURE RANGE USED IS -30°F TO 120°F.

USE A 4" STRIP SEAL FOR THE EXPANSION JOINT AT THE REAR ABUTMENT.
USE A 5" STRIP SEAL FOR THE EXPANSION JOINT AT THE FORWARD ABUTMENT.

1⅜" WIDE STRIP SEAL RETAINER WIDTHS AT THE ABUTMENTS AND 60°F SETTING TEMPERATURE ARE ASSUMED IN THE PLANS FOR SLAB DIMENSIONING. IF A DIFFERENT RETAINER WIDTH AND/OR SETTING TEMPERATURE IS USED, THE CONTRACTOR SHALL ADJUST DIMENSIONS ACCORDINGLY.

FOR ADDITIONAL NOTES AND DETAILS, REFER TO ODOT STANDARD DRAWING EXJ-4-87.

THE STRIP SEAL SHALL BE SUPPLIED IN ONE CONTINUOUS PIECE. NO SPLICES WILL BE ACCEPTABLE.

EXPANSION JOINT DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
77	94

SHEET	TOTAL
P.230	329

CUY-14-6.93
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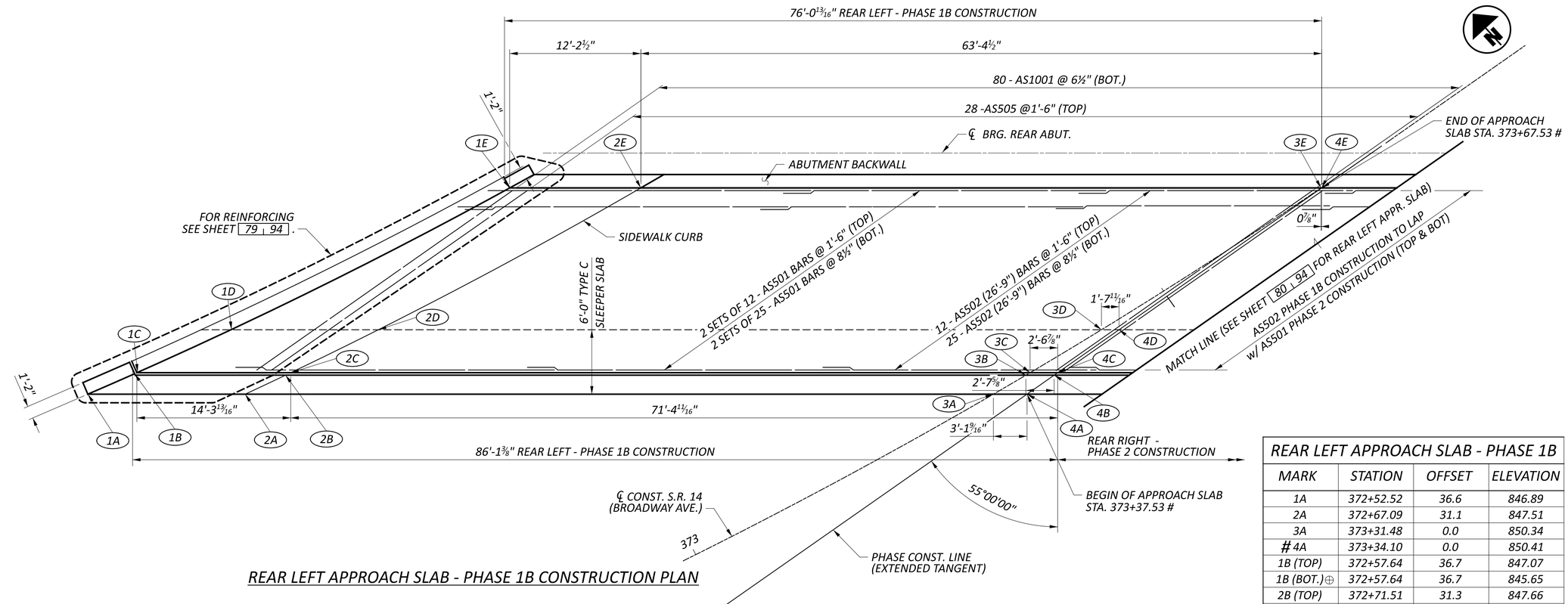
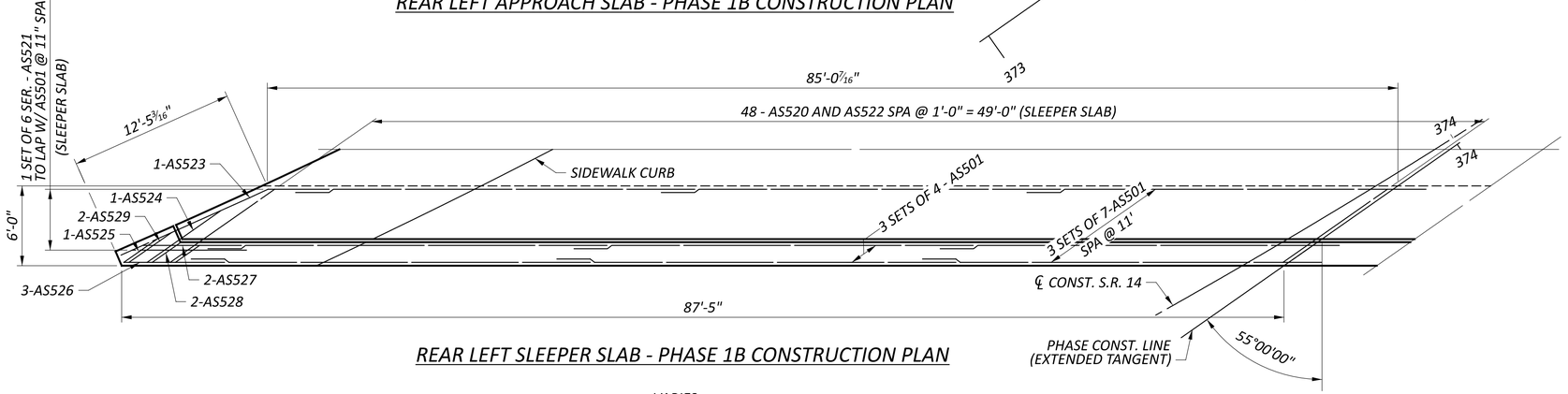
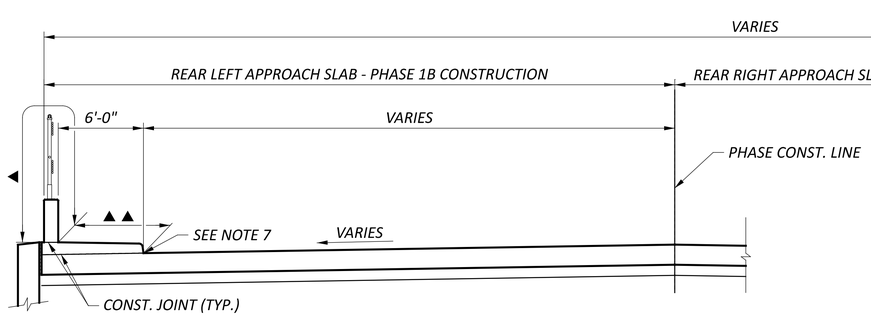


REAR LEFT APPROACH SLAB - PHASE 1B CONSTRUCTION PLAN



REAR LEFT SLEEPER SLAB - PHASE 1B CONSTRUCTION PLAN



REAR LEFT APPROACH SLAB - PHASE 1B CONSTRUCTION ELEVATION

LEGEND:

- ⊕ ELEVATIONS MEASURED AT THE TOP OF THE SLEEPER SLAB
- ▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
- ▲▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
- △ LAP LENGTH VARIES
- # MEASURED IN REFERENCE TO THE EXTENDED TANGENT

NOTES:

1. FOR RAILING, DEFLECTION JOINT, VANDAL PROTECTION FENCE AND SIDEWALK LAYOUT DETAILS, SEE SHEETS 81 | 94 THRU 82 | 94 .
2. APPROACH SLAB TYPE C INSTALLATION WITH ARMORLESS PREFORMED JOINT SEAL SYSTEM.
3. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS UNLESS OTHERWISE NOTED.
4. FOR REINFORCING SCHEDULE, SEE SHEET 94 | 94 .
5. FOR ADDITIONAL APPROACH SLAB DETAILS NOT SHOWN, SLEEPER SLAB INSTALLATION, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
6. THE COST OF THE RAILING, RAILING REINFORCING, SIDEWALK AND SIDEWALK REINFORCING ON THE APPROACH SLABS AND ALL REINFORCING FOR THE APPROACH SLABS ARE TO BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN.
7. ALL STATIONS AND ELEVATIONS LISTED ALONG THE SIDEWALK ARE AT THE TOE OF THE SIDEWALK CURB.
8. THE RAILING AND/OR FENCE POST ANCHORS SHALL BE CAST-IN-PLACE WITH BARRIERS AND WILL BE INCLUDED FOR PAYMENT UNDER ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.
9. MINIMUM CONCRETE REINFORCMENT LAP SPLICE LENGTHS ARE AS FOLLOWS:

   NO. 5 3'-1"
   NO. 10 6'-9"

REAR LEFT APPROACH SLAB - PHASE 1B

MARK	STATION	OFFSET	ELEVATION
1A	372+52.52	36.6	846.89
2A	372+67.09	31.1	847.51
3A	373+31.48	0.0	850.34
#4A	373+34.10	0.0	850.41
1B (TOP)	372+57.64	36.7	847.07
1B (BOT.)⊕	372+57.64	36.7	845.65
2B (TOP)	372+71.51	31.3	847.66
2B (BOT.)⊕	372+71.51	31.3	846.25
3B (TOP)	373+34.99	0.0	850.46
3B (BOT.)⊕	373+34.99	0.0	849.05
#4B (TOP)	373+37.18	0.0	850.52
#4B (BOT.)⊕	373+37.18	0.0	849.10
1C	372+57.89	36.8	847.08
2C	372+72.08	31.3	847.69
3C	373+35.44	0.0	850.48
#4C	373+37.58	0.0	850.54
1D ⊕	372+68.27	37.1	846.04
2D ⊕	372+81.76	31.6	846.62
3D ⊕	373+43.19	0.0	849.33
#4D ⊕	373+44.56	0.0	849.36
1E	372+99.74	38.3	848.58
2E	373+11.43	32.7	849.10
3E	373+67.53	0.0	851.55
#4E	373+67.58	0.0	851.55

ALL OFFSETS ARE GIVEN ALONG CONSTRUCTION CENTERLINE UNLESS NOTED OTHERWISE

REAR APPROACH SLAB DETAILS 1 OF 5
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
GAD	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
78	94

SHEET	TOTAL
P.231	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:01:04 PM USER: todd.roxberry
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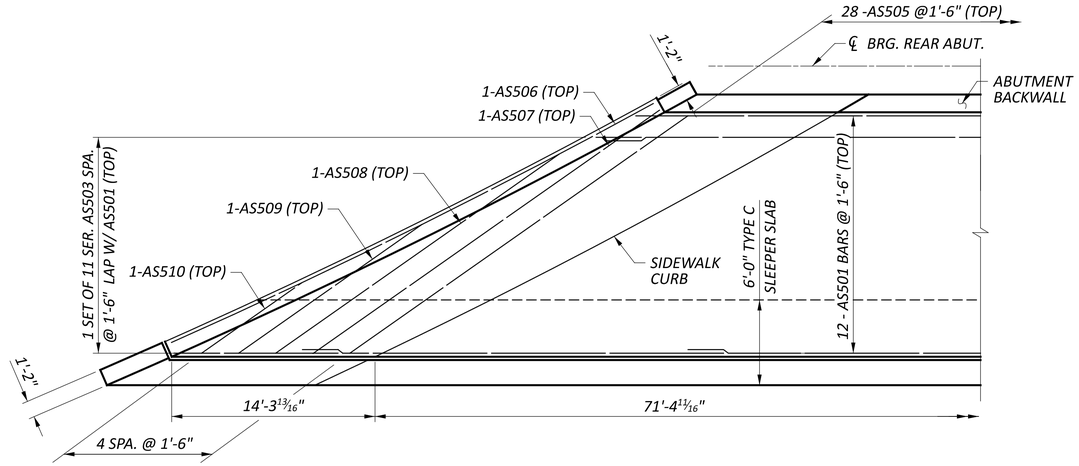
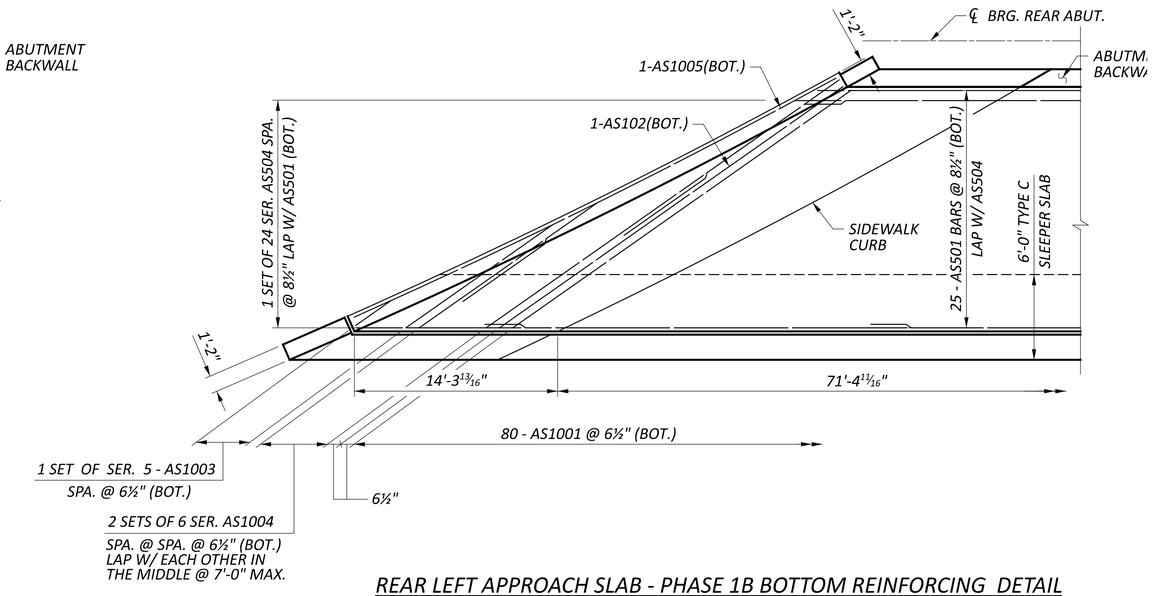


REAR LEFT APPROACH SLAB - PHASE 1B TOP REINFORCING DETAIL



REAR LEFT APPROACH SLAB - PHASE 1B BOTTOM REINFORCING DETAIL

NOTES:

1. FOR NOTES AND LEGEND, SEE SHEET 78 | 94 .

REAR APPROACH SLAB DETAILS 2 OF 5
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
GAD	JDM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
79	94

SHEET	TOTAL
P.232	329

CUY-14-6.93

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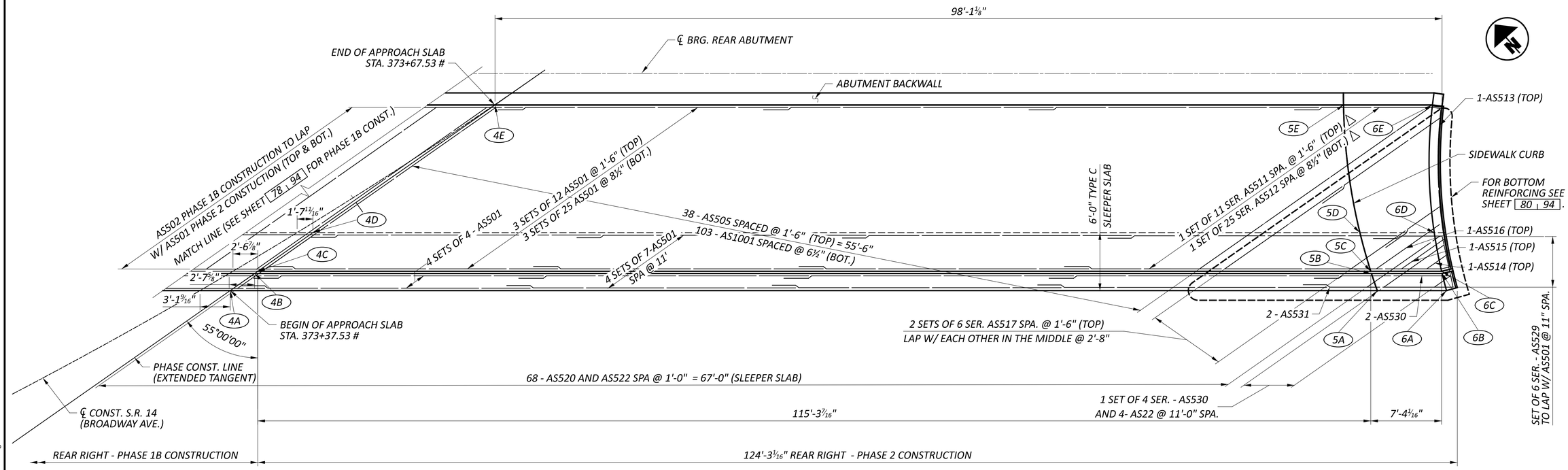
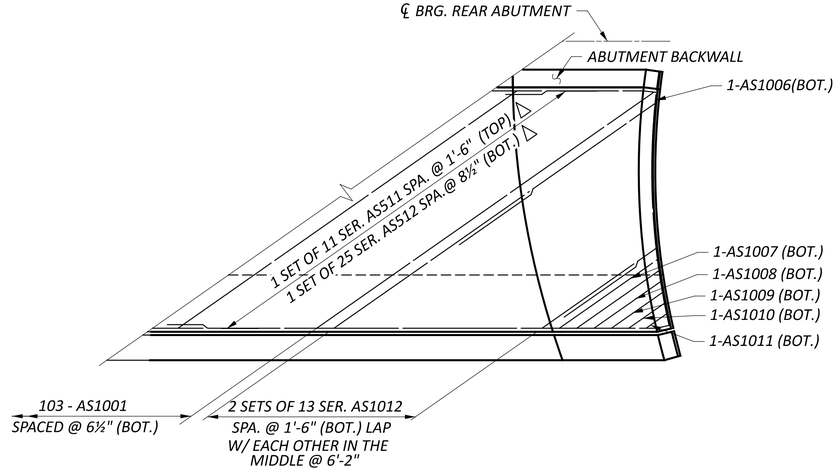
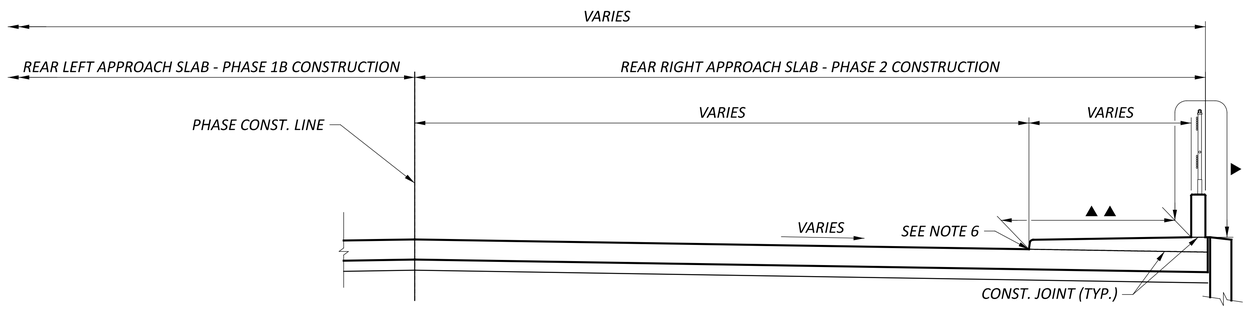


REAR RIGHT APPROACH & SLEEPER SLABS - PHASE 2 CONSTRUCTION PLAN



REAR RIGHT APPROACH SLAB CORNER - BOTTOM REINFORCING DETAIL



REAR RIGHT APPROACH SLAB - PHASE 2 CONSTRUCTION ELEVATION

REAR LEFT APPROACH SLAB - PHASE 2			
MARK	STATION	OFFSET	ELEVATION
# 4A	373+34.10	0.0	850.41
5A	374+31.43	68.2	851.65
6A	374+37.30	72.3	851.53
# 4B (TOP)	373+37.18	0.0	850.52
# 4B (BOT.)⊕	373+37.18	0.0	849.10
5B (TOP)	374+31.95	66.4	851.69
5B (BOT.)⊕	374+31.95	66.4	850.27
6B (TOP)	374+37.94	70.6	851.53
6B (BOT.)⊕	374+37.94	70.6	850.12
# 4C	373+37.58	0.0	850.54
5C	374+32.02	66.1	851.70
6C	374+38.03	70.3	851.53
# 4D ⊕	373+44.56	0.0	849.36
5D ⊕	374+33.40	62.2	850.38
6D ⊕	374+39.70	66.6	850.31
# 4E	373+67.58	0.0	851.55
5E	374+39.58	50.4	852.23
6E	374+47.12	55.7	852.11

ALL OFFSETS ARE GIVEN ALONG CONSTRUCTION CENTERLINE UNLESS NOTED OTHERWISE

NOTES:

1. FOR NOTES AND LEGEND, SEE SHEET 78 ı 94 .

REAR APPROACH SLAB DETAILS 3 OF 5

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
GAD	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
80	94

SHEET	TOTAL
P.233	329

CUY-14-6.93

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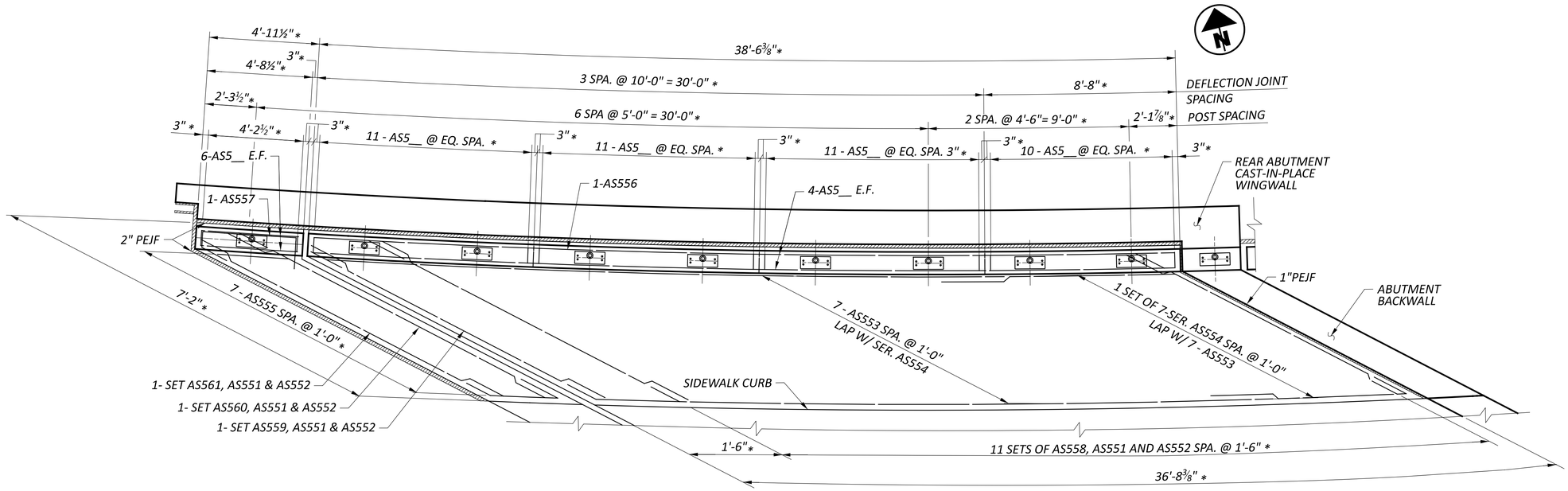
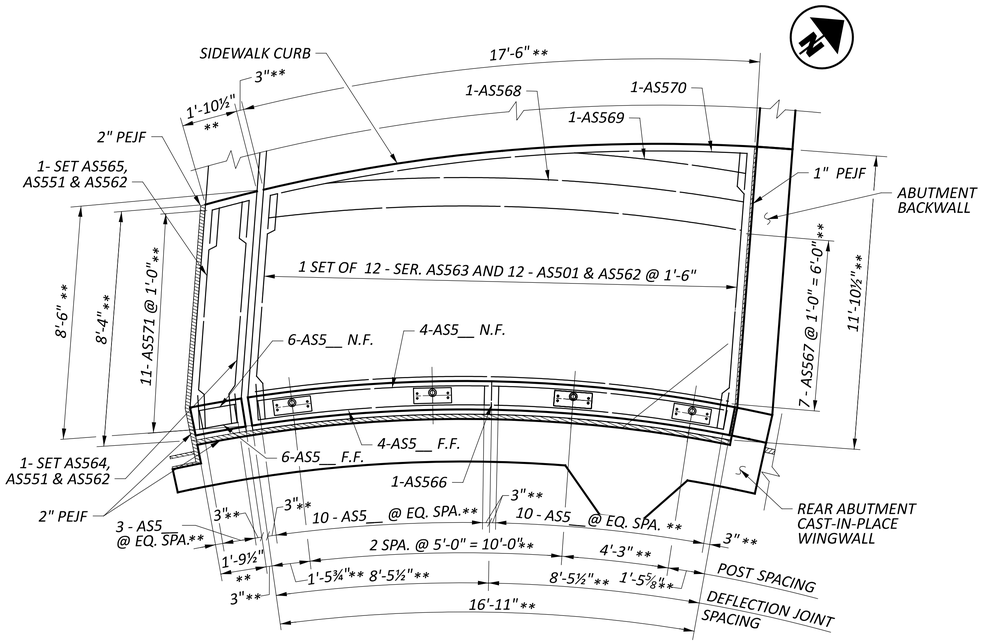


REAR LEFT APPROACH SIDEWALK AND RAILING PLAN



REAR RIGHT APPROACH SIDEWALK AND RAILING PLAN

LEGEND:

* MEASURED RADIALLY ALONG TOE OF LEFT PARAPET

** MEASURED RADIALLY ALONG TOE OF RIGHT PARAPET

NOTES:

1. FOR RAILING, DEFLECTION JOINT AND SIDEWALK DETAILS, SEE SHEET 82 , 94 .
3. FOR REINFORCING STEEL LIST, SEE SHEET 94 , 94 .
4. FOR ADDITIONAL DEFLECTION JOINT DETAILS, SEE ODOT STD. DWG. BR-2-15.
4. MINIMUM CONCRETE REINFORCEMENT LAP SPLICE LENGTHS ARE AS FOLLOW:

   NO. 5 3'-1" (RAILING)
   NO. 5 2'-5" (SIDEWALK)

5. FOR ADDITIONAL DETAILS CONCERING THE VANDAL PROTECTION FENCE, SEE ODOT STD. DWG. VPF-1-90.
6. THE RAILING AND/OR FENCE POST ANCHORS SHALL BE CAST-IN-PLACE WITH BARRIERS AND WILL BE INCLUDED FOR PAYMENT UNDER ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.

REAR APPROACH SLAB DETAILS 4 OF 5
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
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Akron, OH 44320
(330) 836-9111
www.aecom.com
DESIGNER GAD | CHECKER JDM
REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 81 | TOTAL 94
SHEET P.234 | TOTAL 329

CUY-14-6.93

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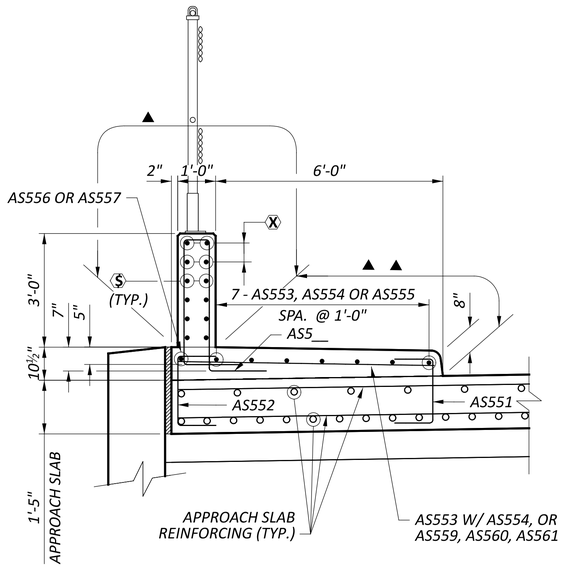
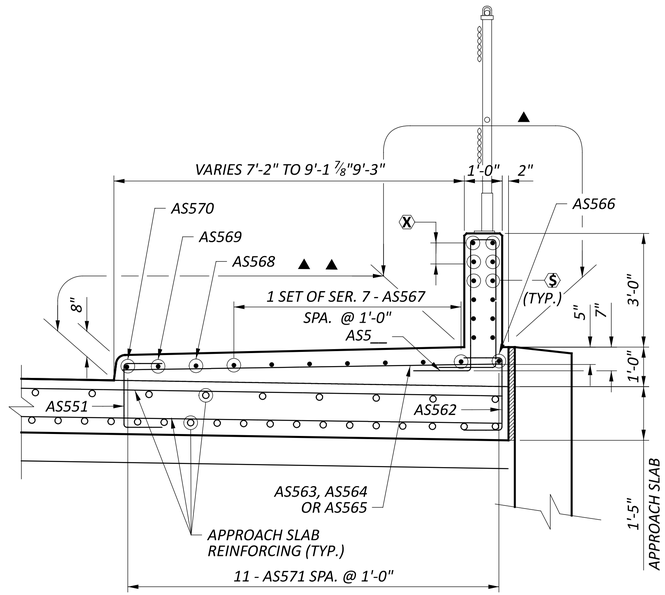


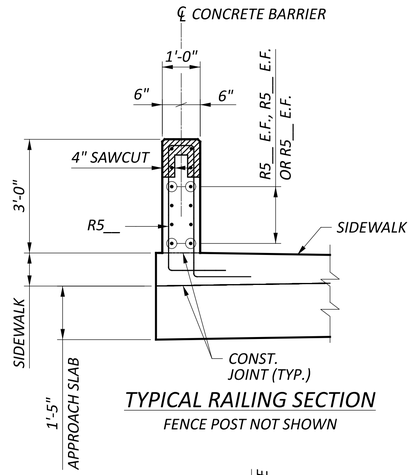
TYPICAL REAR LEFT SECTION THROUGH SIDEWALK AND RAILING

SECTION TAKEN PERPENDICULAR TO SIDEWALK



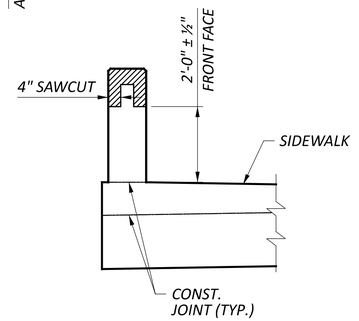
TYPICAL REAR RIGHT SECTION THROUGH SIDEWALK AND RAILING

SECTION TAKEN PERPENDICULAR TO SIDEWALK
(STA. 374+32.02 TO 374+39.58 AT TOE OF SIDEWALK)



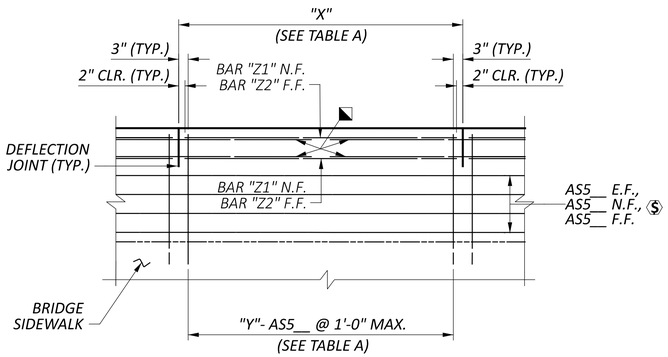
TYPICAL RAILING SECTION

FENCE POST NOT SHOWN



SAWCUT DETAIL

SAWCUT PERIMETER = 2'-10"



PARTIAL RAILING ELEVATION

BAR "Y" SHALL BE ADJUSTED AS NEEDED TO NOT CONFLICT WITH FENCE POST ANCHORS

TABLE A				
No. OF PANELS	LENGTH "X"	No. OF BARS IN EA. PANEL "Y"	BAR "Z1"	BAR "Z2"
3	10'-0"	11	AS5__	AS5__
1	8'-8"	10	AS5__	AS5__
2	8'-5½"	10	AS5__	AS5__

LEGEND:

- ▲ ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
- ▲▲ ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
- ⬕ ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT
- Ⓧ SEE THESE BARS IN PARTIAL RAILING ELEVATION VIEW AND TABLE A
- Ⓢ LEFT PARAPET N.F. BARS : 4-AS5__, 4-AS5__, 4-AS5__
  LEFT PARAPET F.F. BARS : 4-AS5__, 4-AS5__, 4- AS5__
  RIGHT PARAPET N.F. BARS : 4-AS5__
  LEFT PARAPET F.F. BARS: 4-AS5__

NOTES:

1. FOR RAILING, DEFLECTION JOINT, VANDAL PROTECTION FENCE AND SIDEWALK LAYOUT DETAILS, SEE SHEETS 81 , 94 .
4. FOR REINFORCING STEEL LIST, SEE SHEET 94 , 94 .
5. FOR ADDITIONAL DEFLECTION JOINT DETAILS, SEE ODOT STD. DWG. BR-2-15.
6. FOR ADDITIONAL DETAILS CONCERNING THE VANDAL PROTECTION FENCE, SEE ODOT STD. DWG. VPF-1-90.

REAR APPROACH SLAB DETAILS 5 OF 5
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
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Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
GAD	JDM

REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 82 | TOTAL 94
SHEET P.235 | TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:02:19 PM USER: todd.roxberry
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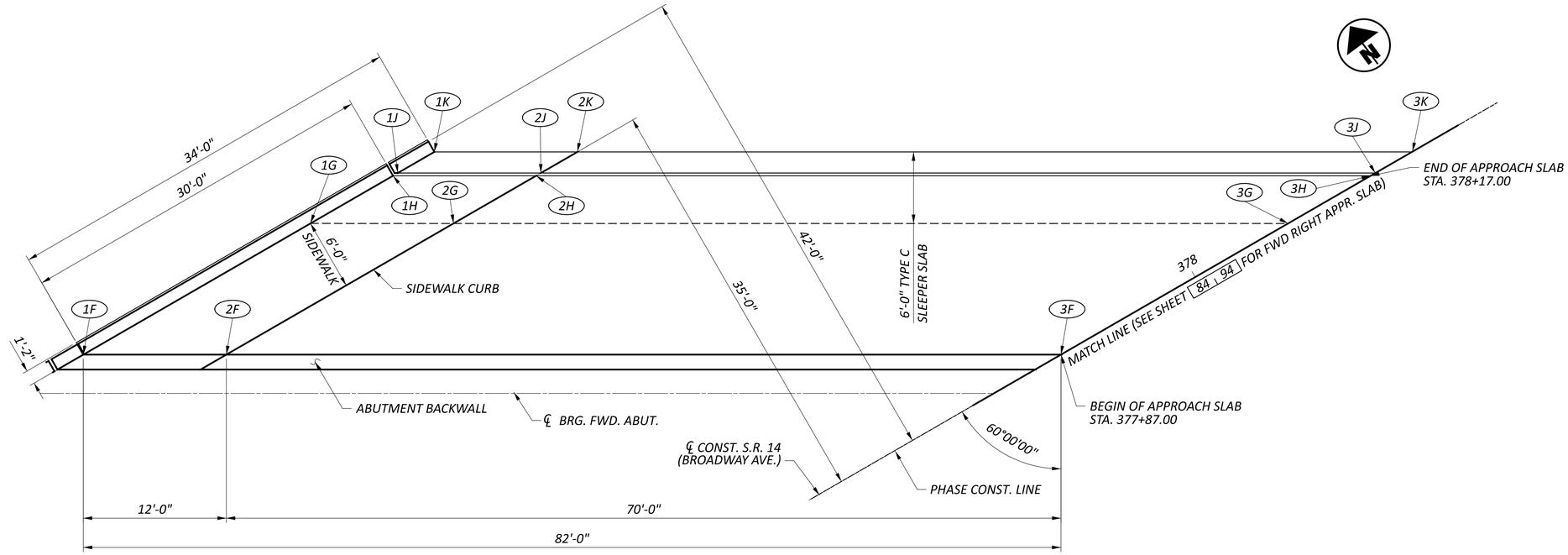
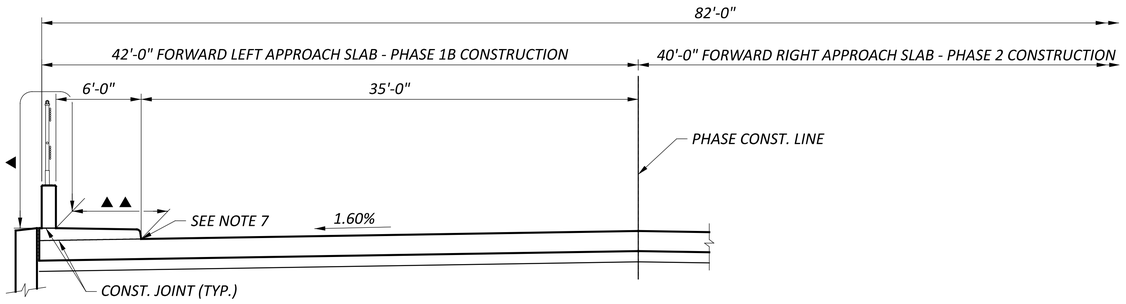


FORWARD LEFT APPROACH SLAB - PHASE 1B CONSTRUCTION PLAN



FORWARD LEFT APPROACH SLAB - PHASE 1B CONSTRUCTION ELEVATION

FWD. LEFT APPROACH SLAB - PHASE 1B			
MARK	STATION	OFFSET	ELEVATION
1F	377+15.99	41.0	856.94
2F	377+26.38	35.0	857.06
3F	377+87.00	0.0	857.57
1G ⊕	377+37.99	41.0	855.56
2G ⊕	377+48.38	35.0	855.66
3G ⊕	378+09.00	0.0	856.06
1H	377+45.99	41.0	856.98
2H	377+56.38	35.0	857.07
3H	378+17.00	0.0	857.43
1J (TOP)	377+46.44	41.0	856.98
1J (BOT.) ⊕	377+46.44	41.0	855.56
2J (TOP)	377+56.84	35.0	857.07
2J (BOT.) ⊕	377+56.84	35.0	855.66
3J (TOP)	378+17.46	0.0	857.43
3J (BOT.) ⊕	378+17.46	0.0	856.01
1K	377+49.99	41.0	856.98
2K	377+60.38	35.0	857.07
3K	378+21.00	0.0	857.41

LEGEND:

⊕ *ELEVATIONS MEASURED AT THE TOP OF THE SLEEPER SLAB*

▲ *LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)*

▲▲ *LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)*

NOTES:

1. *FOR RAILING, DEFLECTION JOINT, VANDAL PROTECTION FENCE AND SIDEWALK LAYOUT DETAILS, SEE SHEETS 85 ¦ 94 THRU 86 ¦ 94 .*
2. *APPROACH SLAB TYPE C INSTALLATION WITH ARMORLESS PREFORMED JOINT SEAL SYSTEM.*
3. *ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS UNLESS OTHERWISE NOTED.*
4. *FOR REINFORCING SCHEDULE, SEE SHEET 94 ¦ 94 .*
5. *FOR ADDITIONAL APPROACH SLAB DETAILS NOT SHOWN, SLEEPER SLAB NSTALLATION, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.*
6. *THE COST OF THE RAILING, RAILING REINFORCING, SIDEWALK AND SIDEWALK REINFORCING ON THE APPROACH SLABS AND ALL REINFORCING FOR THE APPROACH SLABS ARE TO BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN.*
7. *ALL STATIONS AND ELEVATIONS LISTED ALONG THE SIDEWALK ARE AT THE TOE OF THE SIDEWALK CURB.*
8. *THE RAILING AND/OR FENCE POST ANCHORS SHALL BE CAST-IN-PLACE WITH BARRIERS AND WILL BE INCLUDED FOR PAYMENT UNDER ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.*
9. *MINIMUM CONCRETE REINFORCMENT LAP SPLICE LENGTHS ARE AS FOLLOWS:*

NO. 5	3'-1"
NO. 10	6'-9"

FORWARD APPROACH SLAB DETAILS 1 OF 4

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
GAD	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
83	94

SHEET	TOTAL
P.236	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:02:39 PM USER: todd.roxberry
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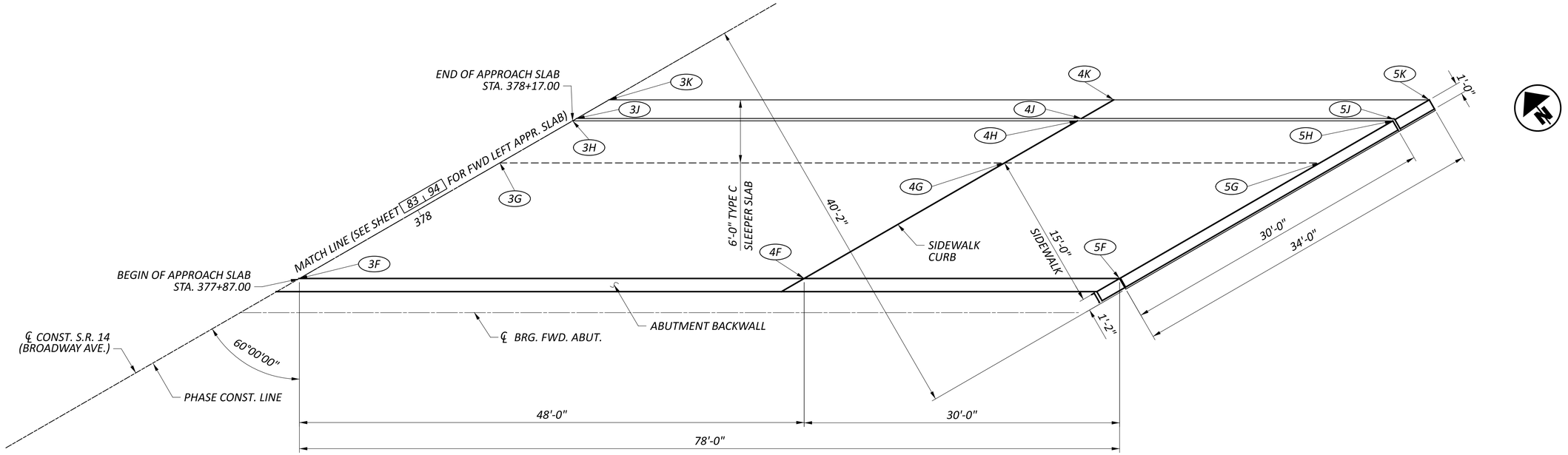
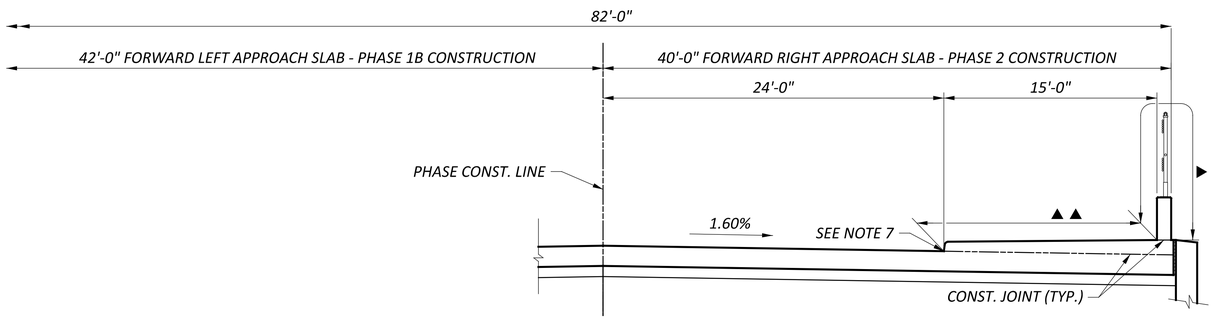


FORWARD LEFT APPROACH SLAB - PHASE 1B CONSTRUCTION PLAN



FORWARD RIGHT APPROACH SLAB - PHASE 1B CONSTRUCTION ELEVATION

FWD. LEFT APPROACH SLAB - PHASE 1B			
MARK	STATION	OFFSET	ELEVATION
3F	377+87.00	0.0	857.57
4F	378+28.57	24.0	856.97
5F	378+54.55	39.0	856.52
3G ⊕	378+09.00	0.0	856.06
4G ⊕	378+50.57	24.0	855.38
5G ⊕	378+76.55	39.0	854.89
3H	378+17.00	0.0	857.43
4H	378+58.57	24.0	856.73
5H	378+84.55	39.0	856.21
3J (TOP)	378+17.46	0.0	857.43
3J (BOT.) ⊕	378+17.46	0.0	856.01
4J (TOP)	378+59.03	24.0	856.72
4J (BOT.) ⊕	378+59.03	24.0	855.31
5J (TOP)	378+84.78	39.0	856.21
5J (BOT.) ⊕	378+84.78	39.0	854.79
3K	378+21.00	0.0	857.41
4K	378+62.57	24.0	856.69
5K	378+88.55	39.0	856.17

NOTES:

1. FOR NOTES AND LEGEND, SEE SHEET 83 , 94 .

FORWARD APPROACH SLAB DETAILS 2 OF 4
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
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DESIGNER	CHECKER
GAD	JDM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
84	94

SHEET	TOTAL
P.237	329

CUY-14-6.93

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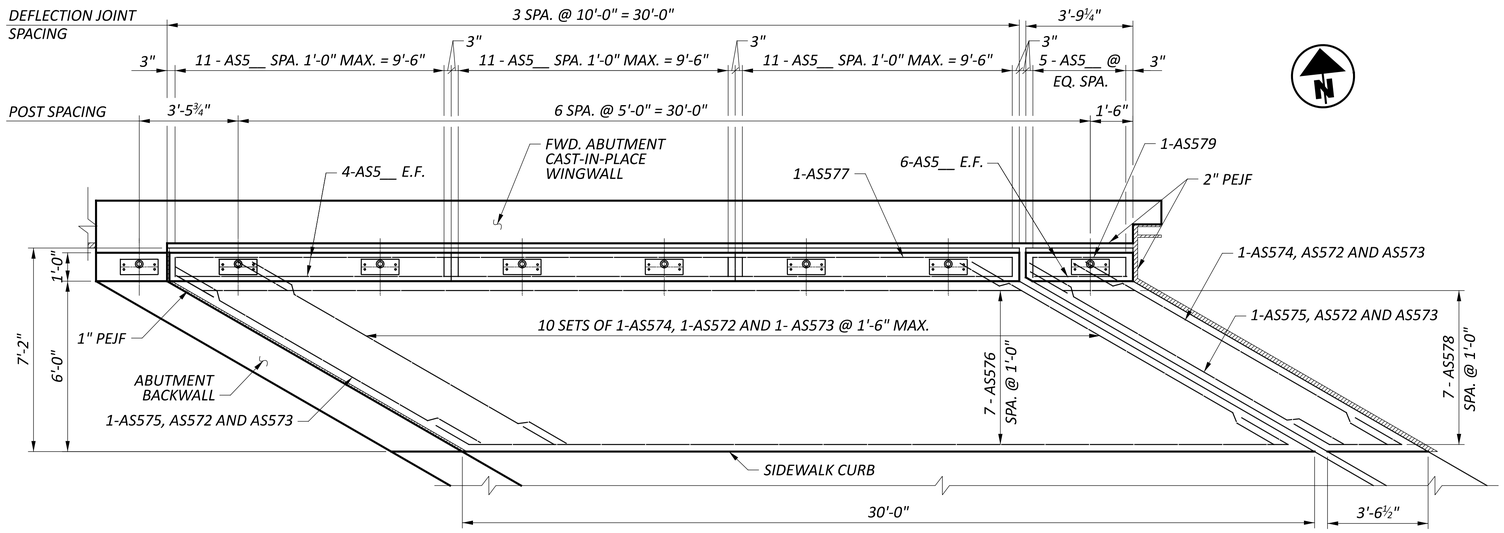
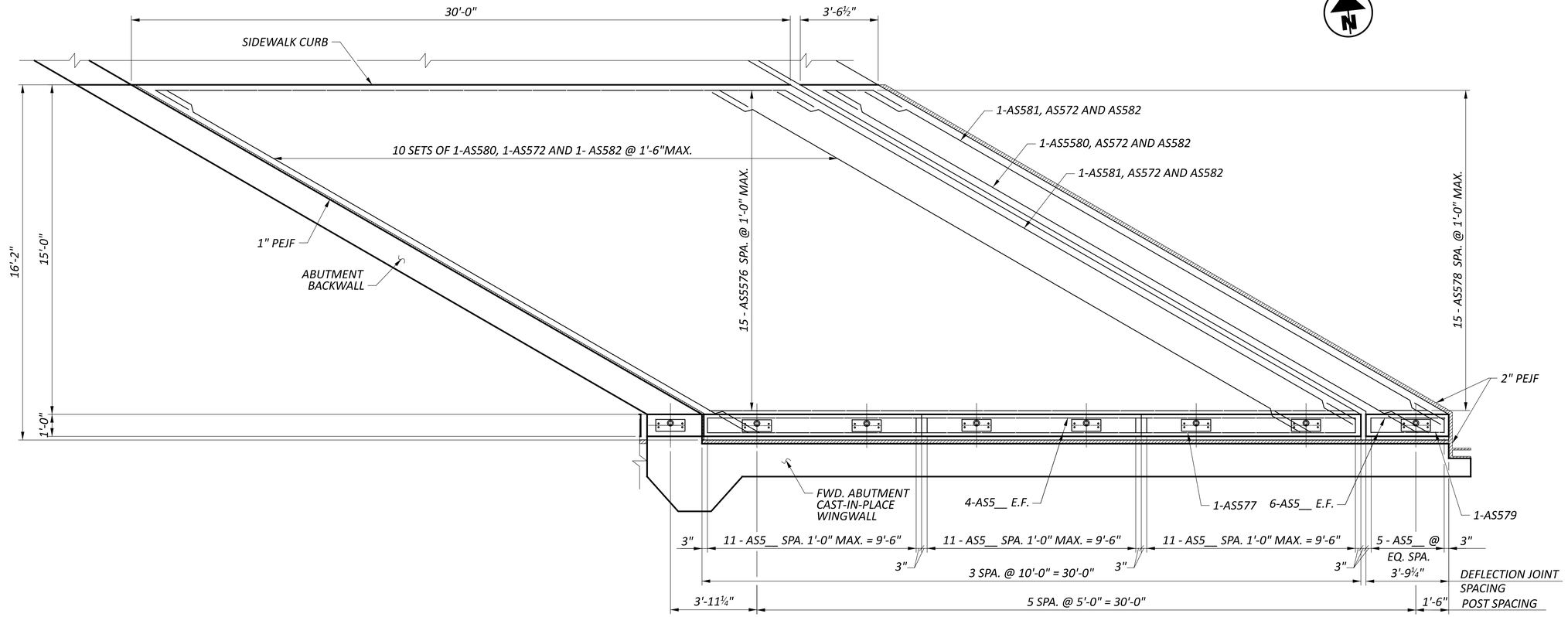


FORWARD LEFT APPROACH SIDEWALK AND RAILING PLAN



FORWARD RIGHT APPROACH SIDEWALK AND RAILING PLAN

NOTES:

1. FOR RAILING, DEFLECTION JOINT AND SIDEWALK DETAILS, SEE SHEET 86 | 94 .
2. FOR REINFORCING STEEL LIST, SEE SHEET 94 | 94 .
3. FOR ADDITIONAL DEFLECTION JOINT DETAILS, SEE ODOT STD. DWG. BR-2-15.
4. MINIMUM CONCRETE REINFORCEMENT LAP SPLICE LENGTHS ARE AS FOLLOW:

   NO. 5 3'-1" (RAILING)
   NO. 5 2'-5" (SIDEWALK)

5. FOR ADDITIONAL DETAILS CONCERING THE VANDAL PROTECTION FENCE, SEE ODOT STD. DWG. VPF-1-90.
6. THE RAILING AND/OR FENCE POST ANCHORS SHALL BE CAST-IN-PLACE WITH BARRIERS AND WILL BE INCLUDED FOR PAYMENT UNDER ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.

FORWARD APPROACH SLAB DETAILS 3 OF 4
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
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DESIGNER	CHECKER
GAD	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
85	94

SHEET	TOTAL
P.238	329

CUY-14-6.93

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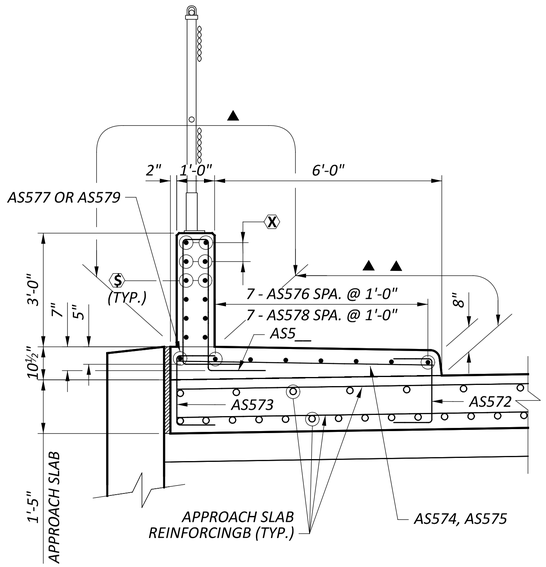
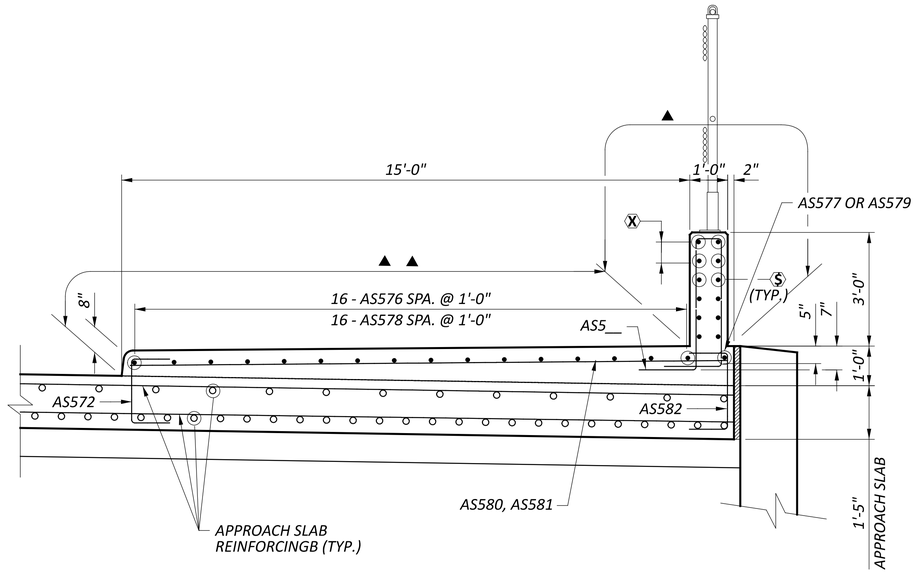


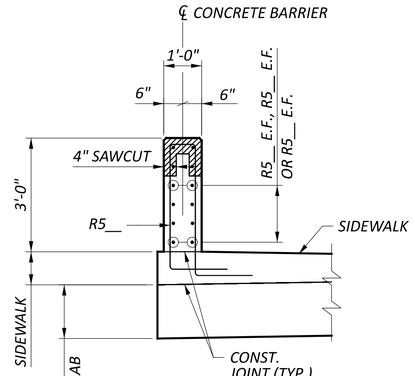
TYPICAL FORWARD LEFT SECTION THROUGH SIDEWALK AND RAILING

SECTION TAKEN PERPENDICULAR TO SIDEWALK



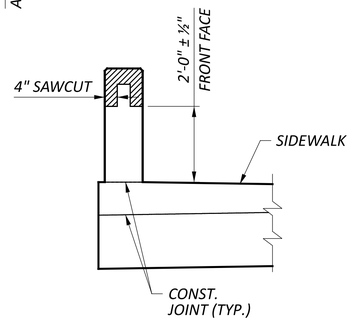
TYPICAL FORWARD RIGHT SECTION THROUGH SIDEWALK AND RAILING

SECTION TAKEN PERPENDICULAR TO SIDEWALK



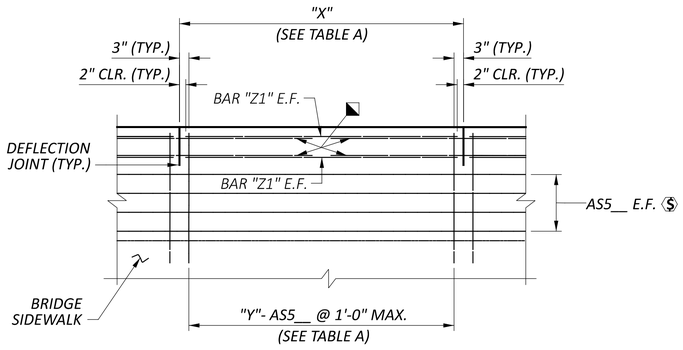
TYPICAL RAILING SECTION

FENCE POST NOT SHOWN



SAWCUT DETAIL

SAWCUT PERIMETER = 2'-10"



PARTIAL RAILING ELEVATION

BAR "Y" SHALL BE ADJUSTED AS NEEDED TO NOT CONFLICT WITH FENCE POST ANCHORS

TABLE A			
No. OF PANELS	LENGTH "X"	No. OF BARS IN EA. PANEL "Y"	BAR "Z1"
6	10'-0"	11	AS5__

LEGEND:

- ▲ ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
- ▲▲ ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
- ◥ ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT
- Ⓧ SEE THESE BARS IN PARTIAL RAILING ELEVATION VIEW AND TABLE A
- Ⓢ LEFT PARAPET E.F. BARS : 4-AS5__ RIGHT PARAPET E.F. BARS: 4-AS5__

NOTES:

1. FOR RAILING, DEFLECTION JOINT, VANDAL PROTECTION FENCE AND SIDEWALK LAYOUT DETAILS, SEE SHEETS 85 ¡ 94 .
4. FOR REINFORCING STEEL LIST, SEE SHEET 94 ¡ 94 .
5. FOR ADDITIONAL DEFLECTION JOINT DETAILS, SEE ODOT STD. DWG. BR-2-15.
6. FOR ADDITIONAL DETAILS CONCERNING THE VANDAL PROTECTION FENCE, SEE ODOT STD. DWG. VPF-1-90.

FORWARD APPROACH SLAB DETAILS 4 OF 4

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
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Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
GAD	JDM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
86	94

SHEET	TOTAL
P.239	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:03:34 PM USER: todd.roxberry
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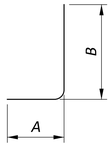
BENDING DIAGRAMS



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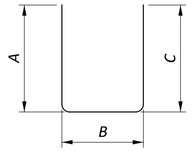
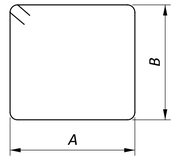
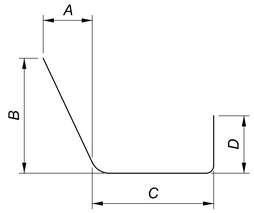


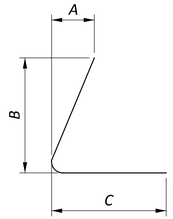
TYPE-2



TYPE-3



TYPE-10



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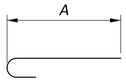

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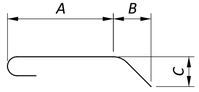

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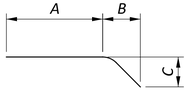

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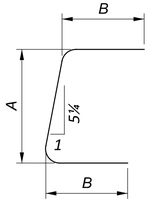

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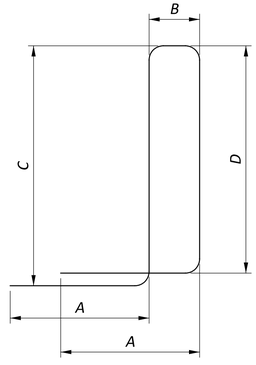

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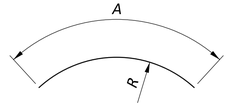

TYPE-38

NOTES:

1. *BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.*
2. *ALL REINFORCING IS TO BE EPOXY COATED.*
3. *THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.*

EXAMPLES:

A618
- *NO. 6 SIZE BAR*
- *ABUTMENT*

S1008
- *NO. 10 SIZE BAR*
- *SUPERSTRUCTURE*

R502
- *NO. 5 BAR*
- *RAILING*

CONCRETE REINFORCING BAR LIST - NOTES AND DIAGRAMS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER MRW 02/06/23
PROJECT ID 104132

SUBSET	TOTAL
87	94

SHEET	TOTAL
P.240	329

CUY-14-6.93

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	ABUTMENT		TOTAL				A	B	C	D	E	R	INC
	REAR	FWD.											
ABUTMENTS													

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	ABUTMENT		TOTAL				A	B	C	D	E	R	INC
	REAR	FWD.											
ABUTMENTS (CONTINUED)													

NOTES:

1. *FOR REINFORCING NOTES AND BENDING DIAGRAMS, SEE SHEET* 87 | 94.
2. *ABUTMENT REINFORCING TABLE CONTINUES ON SHEET* 89 | 94.

CONCRETE REINFORCING BAR LIST - ABUTMENTS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
88	94

SHEET	TOTAL
P.241	329

CUY-14-6.93

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MARK	NUMBER		TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	ABUTMENT						A	B	C	D	E	R	INC
	REAR	FWD.											
ABUTMENTS (CONTINUED)													

MARK	NUMBER		TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	ABUTMENT						A	B	C	D	E	R	INC
	REAR	FWD.											
ABUTMENTS (CONTINUED)													
					SUB-TOTAL								

NOTES:

1. *FOR REINFORCING NOTES AND BENDING DIAGRAMS, SEE SHEET* 87 | 94 .

CONCRETE REINFORCING BAR LIST - ABUTMENTS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

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DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
89	94

SHEET	TOTAL
P.242	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:04:20 PM USER: todd.roxberry
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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER 1	PIER 2	TOTAL				A	B	C	D	E	R	INC
PIERS													

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER 1	PIER 2	TOTAL				A	B	C	D	E	R	INC
PIERS (CONTINUED)													

NOTES:

1. *FOR REINFORCING NOTES AND BENDING DIAGRAMS, SEE SHEET* 87 | 94.
2. *PIER REINFORCING TABLE CONTINUES ON SHEET* 91 | 94.

CONCRETE REINFORCING BAR LIST - PIERS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY
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DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
90	94

SHEET	TOTAL
P.243	329

CUY-14-6.93

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER 1	PIER 2	TOTAL				A	B	C	D	E	R	INC
PIERS (CONTINUED)													

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER 1	PIER 2	TOTAL				A	B	C	D	E	R	INC
PIERS (CONTINUED)													
					SUB-TOTAL								

NOTES:

1. *FOR REINFORCING NOTES AND BENDING DIAGRAMS, SEE SHEET* 87 | 94 .

CONCRETE REINFORCING BAR LIST - PIERS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

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DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
91	94

SHEET	TOTAL
P.244	329

CUY-14-6.93

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE (CONTINUED)											
SUB-TOTAL											

NOTES:

1. *FOR REINFORCING NOTES AND BENDING DIAGRAMS, SEE SHEET* 87 | 94 .

CONCRETE REINFORCING BAR LIST - SUPERSTRUCTURE
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
92	94

SHEET	TOTAL
P.245	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:05:00 PM USER: todd.roxberry
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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RAILINGS											

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RAILINGS (CONTINUED)											
SUB-TOTAL											

NOTES:

1. *FOR REINFORCING NOTES AND BENDING DIAGRAMS, SEE SHEET* 87 | 94 .

CONCRETE REINFORCING BAR LIST - RAILING
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
JDM	GAD

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
93	94

SHEET	TOTAL
P.246	329

CUY-14-6.93

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	APPROACH SLAB		TOTAL										
	REAR	FWD.					A	B	C	D	E	R	INC
APPROACH SLABS *													

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	APPROACH SLAB		TOTAL										
	REAR	FWD.					A	B	C	D	E	R	INC
APPROACH SLABS * (CONTINUED)													
SUB-TOTAL													

LEGEND:

* *APPROACH SLAB BARS ARE LISTED FOR INFORMATION PURPOSES ONLY AND ARE TO BE INCLUDED IN ITEM 526 FOR PAYMENT.*

NOTES:

1. *FOR REINFORCING NOTES AND BENDING DIAGRAMS, SEE SHEET* 87 , 94 .

CONCRETE REINFORCING BAR LIST - APPROACH SLABS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN 1801806

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
GAD	JDM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
94	94

SHEET	TOTAL
P.247	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:05:31 PM USER: todd.roxberry
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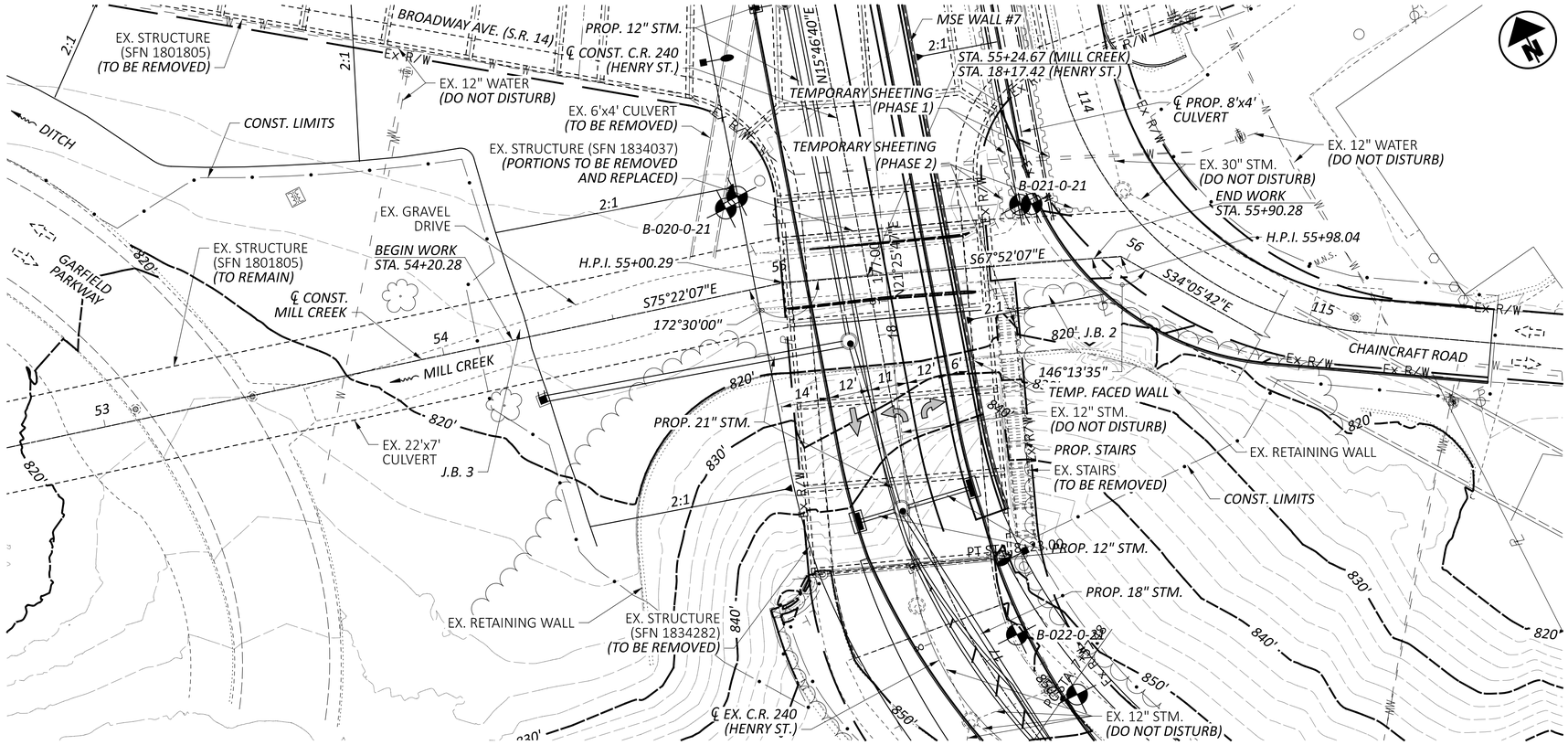

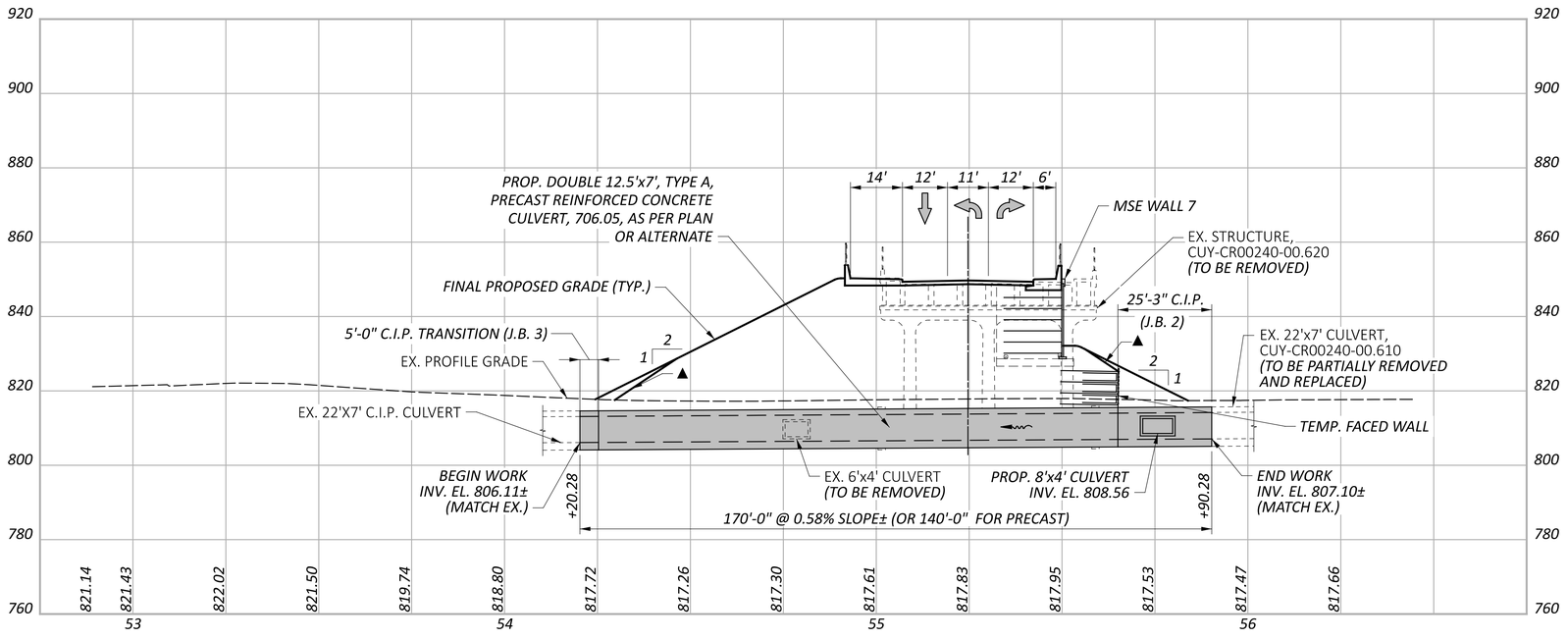

BENCHMARK DATA

BM1 STA.	368+64.50,	ELEV.	253.70,	OFFSET	35.95',	RT.
BM2 STA.	382+56.95,	ELEV.	259.43	OFFSET	5.75',	RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET P.3.

DESIGN TRAFFIC:

2026 ADT = 7,000 *2026 ADTT = 630*
2046 ADT = 7,500 *2046 ADTT = 675*
DIRECTIONAL DISTRIBUTION = 0.54

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*
2. *HYDRAULIC DATA NOT TO BE DETERMINED. REPLACING BOX CULVERT WITH HYDRAULICALLY EQUIVELENT TWO CELL CULVERT OR ALTERNATIVE.*

LEGEND

- *BORING LOCATION*
- *TEMPORARY GRADING PER OSHA'S LIMITS*

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 4 SPANS AT 24'-0"±
ROADWAY: 46'-0"± F/F SAFETY CURB (5'-0"± SIDEWALK)
LOADING: HS20-44 AND ALTERNATE MILITARY
SKEW: 0°0'0"±
APPROACH SLABS: 20'-0"±
ALIGNMENT: TANGENT
CROWN: VARIES
STRUCTURE FILE NUMBER: 1834282
DATE BUILT: 1929 (1988 MAJOR RECONSTRUCTION)
DISPOSITION: TO BE REMOVED

EXISTING STRUCTURE

TYPE: *22'x7' CAST IN PLACE, 4 SIDED REINFORCED CONCRETE CULVERT*

SPANS: 22'-0"± CLEAR SPAN
ROADWAY: 46'-0"± TOE/TOE CURB (56'-0"± TOE/TOE PARAPET)
LOADING: HS20-44 AND ALTERNATE MILITARY
SKEW: 0°0'0"±
WEARING SURFACE: NONE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: NONE
STRUCTURE FILE NUMBER: 1834037
DATE BUILT: 1928
DISPOSITION: TO BE PARTIALLY REMOVED AND REPLACED

PROPOSED STRUCTURE

TYPE: DOUBLE 12.5' x 7', TYPE A, PRECAST REINFORCED CONCRETE BOX CULVERT, 706.05, AS PER PLAN OR ALTERNATE
SPANS: 2 CELL 12.5'x7' CLEAR SPAN OR 22'-0" FOR ALTERNATE
ROADWAY: 35'-0" TOE/TOE CURB (55'-0" TOE/TOE PARAPET)
LOADING: HL93 AND 60 PSF FUTURE WEARING SURFACE
SKEW: 0°0'0"
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: VARIES

COORDINATES: LATITUDE N 41°25'51.06"
LONGITUDE W 81°36'02.99"

HORIZONTAL SCALE IN FEET
0 10 20 40

SITE PLAN 1 OF 2
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN	1834037
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	HER
CHECKER	JTH
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	1
TOTAL	9
SHEET	P.248
TOTAL	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:05:50 PM USER: todd.roxberry
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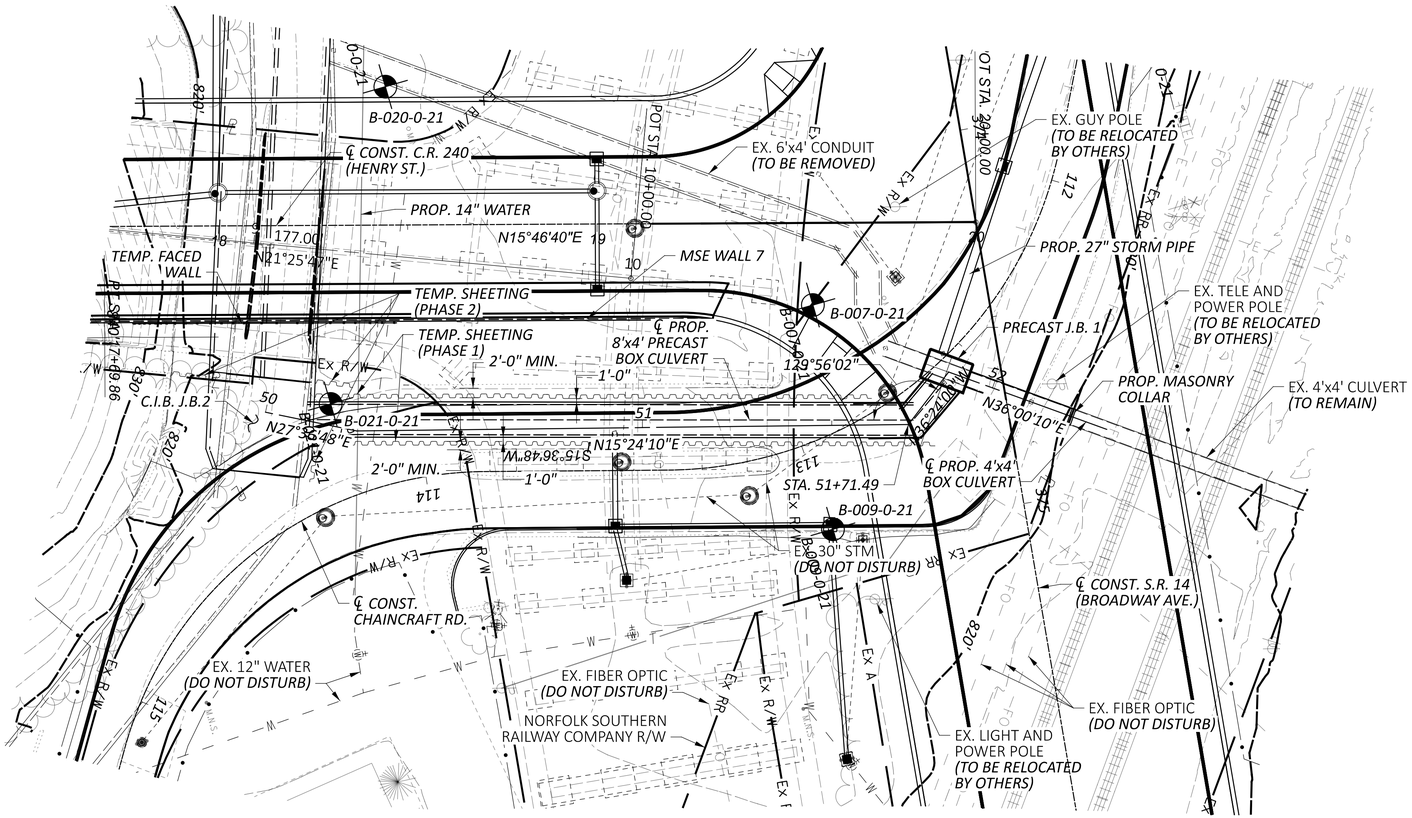

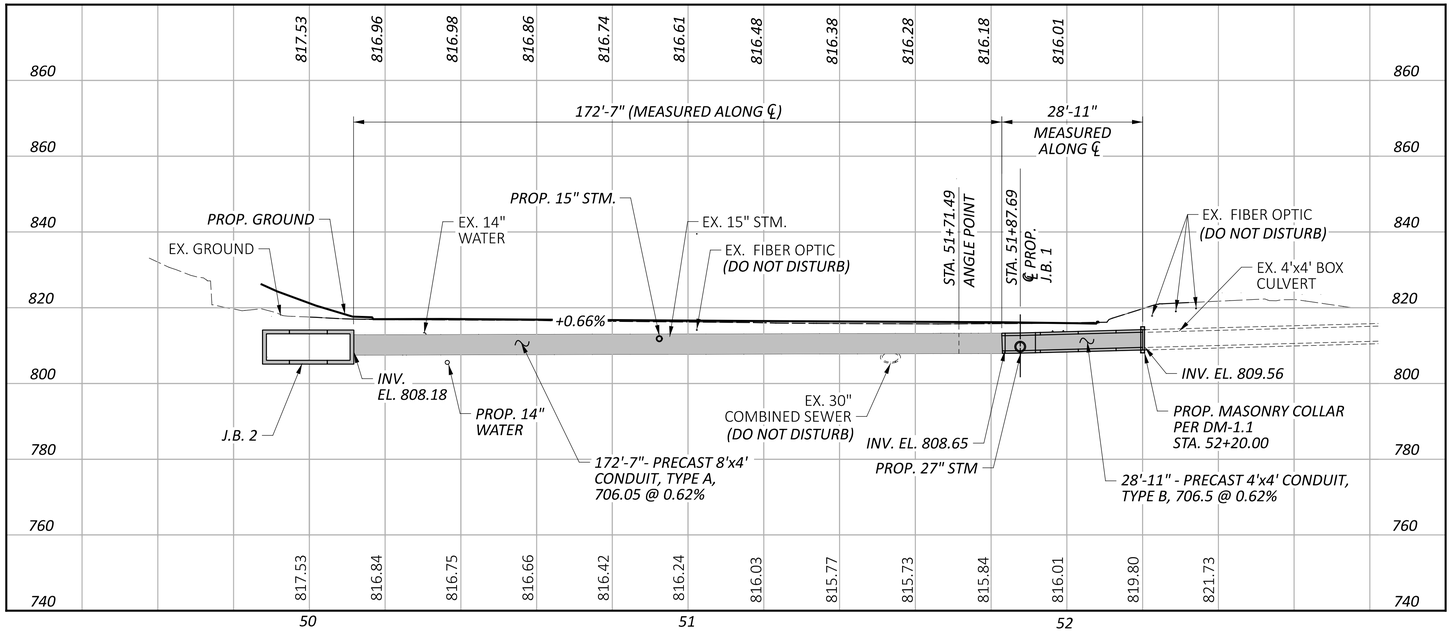

BENCHMARK DATA

BM1 STA.	368+64.50,	ELEV.	253.70,	OFFSET	35.95',	RT.
BM2 STA.	382+56.95,	ELEV.	259.43	OFFSET	5.75',	RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET P.3.

DESIGN TRAFFIC:
2026 ADT = 7,000 *2026 ADTT = 630*
2046 ADT = 7,500 *2046 ADTT = 675*
DIRECTIONAL DISTRIBUTION = 0.54

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*

LEGEND

BORING LOCATION

EXISTING STRUCTURE

TYPE: 4'x4' CONCRETE CULVERT
6'x4' CONCRETE CULVERT

SPANS: 6'-0" CLEAR SPAN
4'-0" CLEAR SPAN

ROADWAY: VARIES

LOADING: UNKNOWN

SKEW: VARIES

WEARING SURFACE: NONE

APPRAOCH SLABS: NONE

ALIGNMENT: VARIES

CROWN: NONE

STRUCTURE FILE NUMBER: NONE

DATE BUILT: UNKNOWN

DISPOSITION: 6'x4' TO BE REMOVED, 4'x4' TO BE PARTICALLY REMOVED AND REPLACED

PROPOSED STRUCTURE

TYPE: 8'x4' PRECAST 4 SIDED BOX CULVERT, TYPE A, 706.05
4'x4' PRECAST 4 SIDED BOX CULVERT, TYPE A, 706.05
PRECAST JUNCTION BOX 1, CAST IN PLACE JUNCTION BOX 2 AND 3

SPANS: 8'-0" CLEAR SPAN
4'-0" CLEAR SPAN

ROADWAY: NONE

LOADING: NONE

SKEW: VARIES

APPROACH SLABS: NONE

ALIGNMENT: AS SHOWN

CROWN: NONE

COORDINATES: LATITUDE N 41°25'51.04"
LONGITUDE W 81°36'02.34"

HORIZONTAL SCALE IN FEET
0 10 20 40

SITE PLAN 2 OF 2
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN -

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
HER	JTH

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
2	9

SHEET	TOTAL
P.249	329

CUY-14-6.93

MODEL: CLP_CULVERT SHEET PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:06:17 PM USER: todd.roxberry
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SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

SS800 DATED 7-15-22
SS840 DATED 4-15-22

DESIGN SPECIFICATIONS:

THE STRUCTURES CONFORM TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 EDITION, AND THE ODOT BRIDGE DESIGN MANUAL, 2020 AND CURRENT UPDATES.

DESIGN LOADING:

HL-93 LOADING (TRUCK AND TANDUM) WITH A 0.06 KSF FUTURE WEARING SURFACE.

DESIGN DATA:

THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL = 30°
UNIT WEIGHT OF SOIL = 120 PCF
SLOPE OF BACKFILL: 2:1 (MAX)
UNIT WEIGHT OF CONCRETE = 150 PCF

THE FOLLOWING DESIGN DATA IS ASSUMED FOR THE CAST-IN-PLACE SECTIONS:

CLASS QC2 CONCRETE - COMPRESSIVE STRENGTH 4.5 KSI
REINFORCING STEEL - ASTM A615, A616, OR A617
GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

THE FOLLOWING DESIGN DATA IS ASSUMED FOR THE PRECAST SECTIONS UNLESS SPECIFIED OTHERWISE:

CONCRETE - COMPRESSIVE STRENGTH 7 KSI
REINFORCING STEEL - GRADE 60 MINIMUM YIELD
STRENGTH 60,000 PSI

BEARING RESISTANCE:

AS STATED IN THE PROJECT STRUCTURE FOUNDATION EXPLORATION REPORT, THE FACTORED BEARING RESISTANCE IS 16.4 KSF. THE CONTRACTOR SHALL REPORT ANY POOR SOIL CONDITIONS EXPERIENCED IN THE FIELD PRIOR TO THE PLACEMENT OF THE PRECAST BOX CULVERT OR FORMING OF THE CAST-IN-PLACE TRANSITIONS. IF POOR SOIL IS OBSERVED, THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO IMPROVE THE SOIL SO THAT THE REQUIRED BEARING RESISTANCE MAY BE ACHIEVED.

UTILITY LINES:

ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY(IES). THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM. SEE ROADWAY GENERAL NOTES FOR A LISTING OF UTILITY OWNERS AND CONTACT INFORMATION.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS. DO NOT BEGIN WORK UNTIL THE ENGINEER ACCEPTS THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING CONCRETE REINFORCEMENT TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

CARE SHOULD BE EXERSIED IN REMOVING PORTIONS OF THE EXISTING ELEMENTS SO THAT NO DAMAGE IS DONE TO THE PORTIONS WHICH ARE TO REMAIN. ANY RESULTING DAMAGE TO THE CONTRACTOR.

PAYMENT: THIS WORK WILL BE PAID FOR THE CONTRACT LUMP SUM PRICE BID.

SEQUENCE OF CONSTRUCTION:

REFER TO SHEET P.13/329 FOR SEQUENCE OF CONSTRUCTION.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

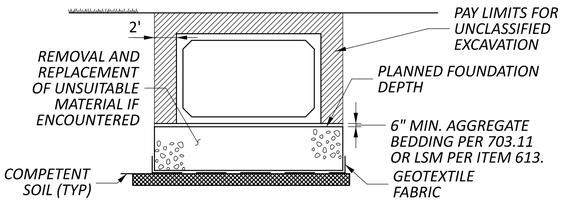
TEMPORARY SHEETING PILING SHALL BE PLACED IN ACCORDANCE WITH ITEM 503.03 AND DRIVEN TO SUPPORT THE EXISTING OR NEW ROADWAY EMBANKMENT ABOVE THE CULVERT EXCAVATION. THE SHEET PILING WILL BE DRIVEN TO A MINIMUM DEPTH OF 17.5 FEET BELOW THE BOTTOM OF EXCAVATION. THE DESIGN EXCAVATION DEPTH IS APPROXIMATLY 11'. THE SHEET PILING WILL HAVE A MINIMUM SECTION MODULUS OF 20.6 CUBIC INCHES PER FOOT OF WALL. TOP ELEVATION OF SHEET PILE SHALL BE 818± AND MINIMUM BOTTOM ELEVATION SHALL BE 789.5.

SHEET PILING WILL BE REMOVED AFTER THE CULVERT HAS BEEN INSTALLED AND BACKFILL PLACED UP TO THE SUBGRADE ELEVATION. ALL WORK ASSOCIATED WITH THE PLACEMENT AND REMOVAL OF THE SHEET PILING WILL BE INCLUDED FOR PAYMENT WITH THE LUMP SUM ITEM BID FOR ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN.

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATIVE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATIVE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATIVE DEISIGN.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503. THE FOUNDATION FOR THE CONDUIT BED SHALL BE FIRM FOR ITS FULL LENGTH. UNSUITABLE MATERIAL ENCOUNTERED BELOW THE PLAN FOUNDATION SHALL BE REMOVED TO THE DEPTH DIRECTED BY THE ENGINEER UNDER THE CONDUIT AND TO THE WIDTH OF THE TRENCH AND REPLACED WITH COMPACTED BEDDING MATERIAL CONFORMING TO 703.11, PLACED OVER GEOTEXTILE FABRIC. EXCAVATION OF UNSUITABLEMATERIAL, REPLACEMNENT WITH COMPACTED BEDDING MATERIAL AND GEOTEXTILE FABRIC, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN.



LSM MAY BE PROVIDED IN ACCORDANCE WITH 611.06 HOWEVER NO SEPERATE PAYMENT WILL BE MADE AND THE COST WILL BE INCLUDED IN THE PRICE BID FOR ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN.

REMOVAL OF UNSUITABLE MATERIAL AND REPLACEMENT WITH COMPACTED BEDDING MATERIAL 703.11, INCLUDED WITH ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN. A DEPTH OF 1'-0" SHALL BE ASSUMED FOR ESTABLISHING PAY QUANTITY.

ITEM 840 - MECHANICAL STABILIZING EARTH WALL, AS PER PLAN (TEMPORARY WIRE FACED MSE WALLS):

1.0 GENERAL

THE WORK CONSISTS OF DESIGNING THE INTERNAL STABILITY OF THE WALL; PREPARING SHOW DRAWINGS; AND FABRICATING AND CONSTRUCTING THE WIRE FACED MSE WALLS.

ALL MSE WALL DESIGN, FABRICATION, ERECTION AND CONSTRUCTION SHALL BE PER THE ODOT SUPPLEMENTAL SPECIFICATION 840 "MECHANICALLY STABILIZED EARTH WALL" EXCEPT AS MODIFIED IN THE FOLLOWING NOTES AND AS SHOWN ON THESE DRAWINGS.

2.0 MATERIALS

THE MATERIALS SHALL BE PER 840.03 EXCEPT THAT THE WIRE FACING AND SOIL RETENTION FABRIC SHALL BE PROVIDED INSTEAD OF PRECAST CONCRETE FABRIC PANELS.

2.1 WIRE FACING

THE WIRE FACING SHALL BE WELDED WIRE FABRIC CMS 709.10. THE DESIGN SHALL PROVIDE POSITIVE ANCHORAGE OF THE CAST-IN-PLACE REINFORCED CONCRETE FACING TO THE SOIL REINFORCMENT.

2.2 SOIL RETENTION FABRIC

THE INSIDE OF THE WIRE FACED MSE WALL SHALL HAVE RETENTION OR FILTER FABRIC PLACED WITHIN THE REINFORCED FILL AS SHOWN IN THE PLANS. RETENTION FABRIC SHALL BE A WOVEN POLYPROPYLENE FABRIC.

ITEM 511 - CLASS QC2 CONCRETE, CULVERT:

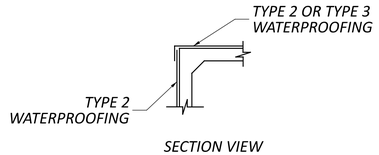
BASIS OF PAYMENT: ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT CAST-IN-PLACE JUNCTION BOXES 2 AND 3 SHALL BE INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE, MISC.: CAST IN PLACE SECTIONS. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

ITEM 512 - TYPE 2 WATERPROOFING:

IF PAVEMENT IS NOT PLACED DIRECTLY ON TOP OF THE CULVERT, TYPE 2 WATERPROOFING, PER CMS 512.08 AND 711.25 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT BID PRICE PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

ITEM 512 - TYPE 3 WATERPROOFING:

IF PAVEMENT IS TO BE USED DIRECTLY ON TOP OF THE CULVERT. TYPE 3 WATERPROOFING, PER CMS 512.08 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 3 WATERPROOFING.



SECTION VIEW

ITEM 611- JUNCTION CHAMBER, AS PER PLAN:

PRECAST JUNCTION BOX 1 SIZE AND SHAPE NEEDS TO ACCOMMODATE A 4'x4' CONDUIT, AN 8'x4' CONDUIT AND A 27" STORM SEWER.

JUNCTION CHAMBER SHALL BE DESIGNED PER CMS 706.05.

ITEM 611 - CONDUIT, MISC.: DOUBLE 12.5' x 7', TYPE A, PRECAST REINFORCED CONCRETE BOX CULVERT, 706.05, AS PER PLAN, DESIGN COVER 35 FT:

PROVIDE PER CMS 706.05 EXCEPT MAXIMUM COMPRESSIVE STRENGTH EQUALS 7.0 KSI AND REINFORCED STEEL SHALL BE GRADE 80 WITH MAXIMUM YIELD STRENGTH OF 80 KSI.

PLACEMENT OF THE DOUBLE 12.5'X7',TYPE A, 706.05, BOX CULVERT OR ALTERNATIVE:

AFTER PLACING THE PRECAST SECTIONS, THE CONTRACTOR SHALL NOT CONSTRUCT THE CAST IN PLACE SECTIONS UNTIL THE EMBANKEMNT ON TOP OF THE PRECAST HAS BEEN PLACED. FURTHERMORE, AS SHOWN ON THE PROFILE ON SHEET 1 / 9, THE TOE OF THE WEST EMBANKMENT MAY BE TEMPORARILY SLOPED AT 1.5:1 TO FACILITATE WITH THE CONSTRUCTION OF THE CAST IN PLACE SECTION. AFTER THE CAST IN PLACE HAS BEEN CONSTRUCTED, THE CONTACTOR SHALL RE-GRADE THE EMBANKEMT TO THE FINAL PROPOSED GRADE OF 2:1.

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THE CULVERT DETAILS:

ALT - ALTERNATE
C.I.P. - CAST IN PLACE
℄ - CENTRLINE
CLR. - CLEAR
E.F. - EACH FACE
EX. - EXISTING
EL. - ELEVATION
INV. - INVERT
J.B. - JUNCTION BOX
LSM - LOW STRENGTH MORTAR
MAX. - MAXIMUM
MIN. - MINIMUM
PROP. - PROPOSED
REF. - REFERENCE
SPA. - SPACE(D) OR SPACING
STA. - STATION
TEMP. - TEMPORARY
TYP. - TYPICAL

ESTIMATED QUANTITIES

CALCULATED BY: JTH
CHECKED BY: HER

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
202	11100	LS	LS	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	
503	21101		CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	
509	10000		LB	EPOXY COATED REINFORCING STEEL	
510	10000		EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	53100		CU. YD.	CLASS QC2 CONCRETE, MISC.: CAST IN PLACE SECTIONS	
512	10100		SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	33000		SQ. YD.	TYPE 2 WATERPROOFING	
512	33010		SQ. YD.	TYPE 3 WATERPROOFING	
602	20000		CU. YD.	CONCRETE MASONARY	
611	97400		FT.	CONDUIT, MISC.: PRECAST 4'x4' CONDUIT, TYPE A, 706.05	
611	97400		FT.	CONDUIT, MISC.: DOUBLE 12.5' x 7', TYPE A, PRECAST REINFORCED CONCRETE BOX CULVERT, 706.05, AS PER PLAN	
611	94800		FT.	PRECAST 8'x4' CONDUIT, TYPE A, 706.05	
611	99731		EACH	JUNCTION CHAMBER, AS PER PLAN	
624	10000		LS	MOBILIZATION	
840	20001		SQ. FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	

CULVERT GENERAL NOTES (PRECAST AND CAST IN PLACE) AND ESTIMATED QUANTITIES
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN 1834037
DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
HER	JTH

REVIEWER MRW 02/06/23
PROJECT ID 104132
SUBSET 3 TOTAL 9
SHEET P.250 TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:06:37 PM USER: todd.roxberry
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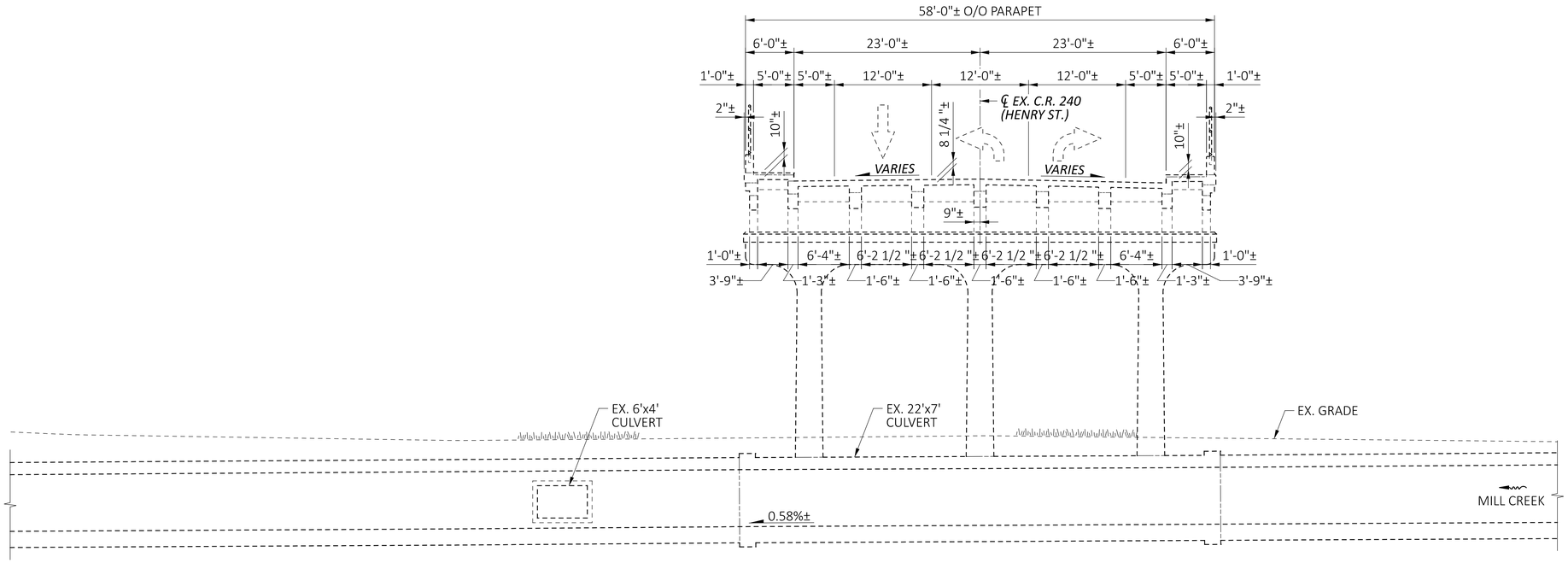
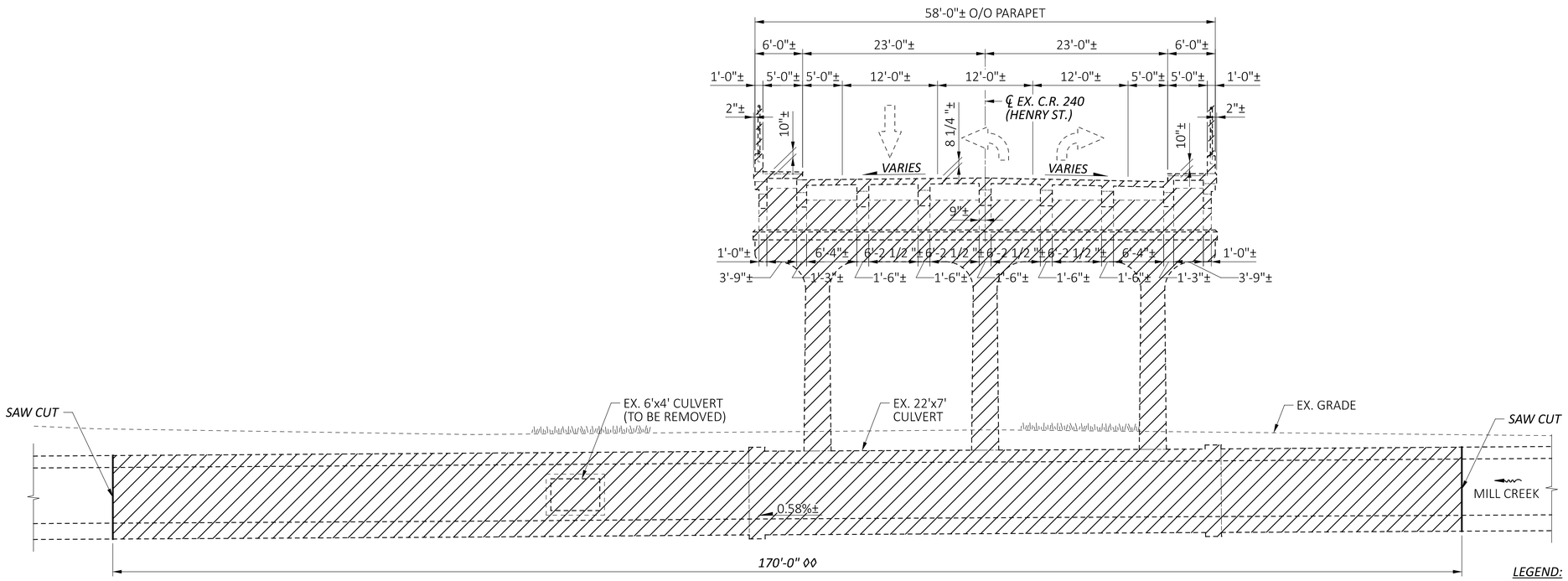


EXISTING CONDITION & PHASE 1



PHASE 2 - REMOVAL

LEGEND:

◊◊ *MEASURED ALONG ℄ CONST. MILL CREEK*

ITEM 202 - PORTIONS OF STRUCTURE REMOVED

PHASE CONSTRUCTION DETAILS
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN 1834037

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
HER	JTH

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
4	9

SHEET	TOTAL
P.251	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 8:06:54 PM USER: todd.roxberry
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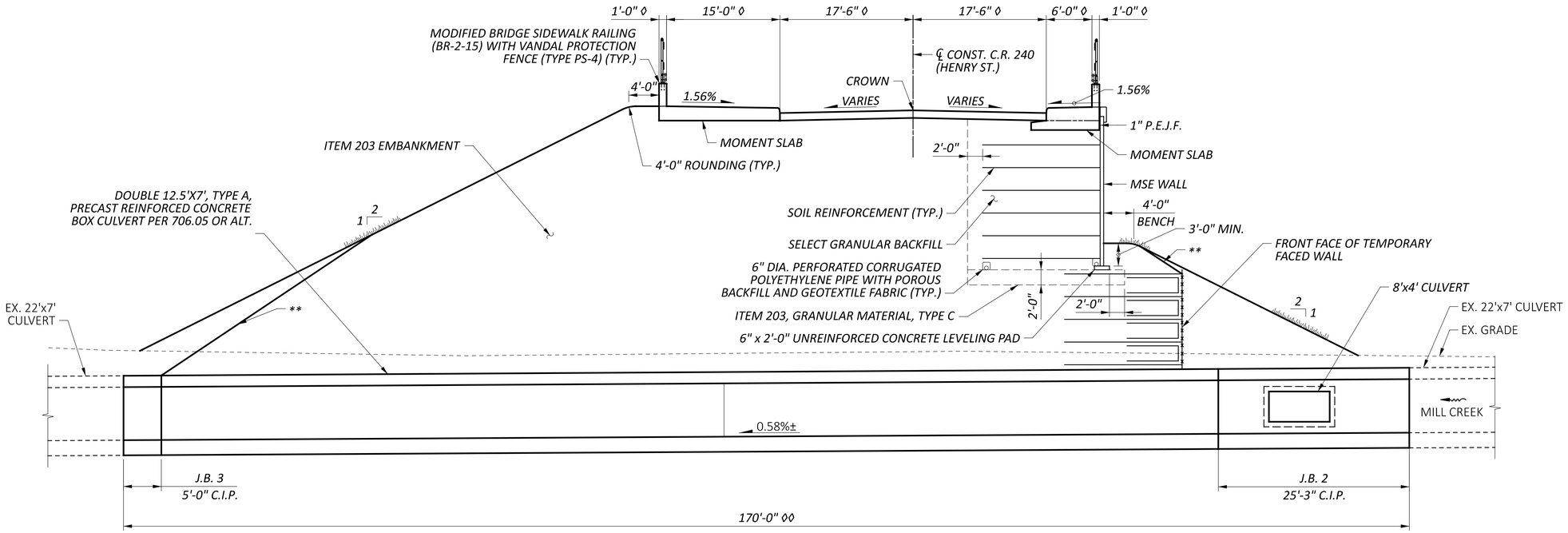
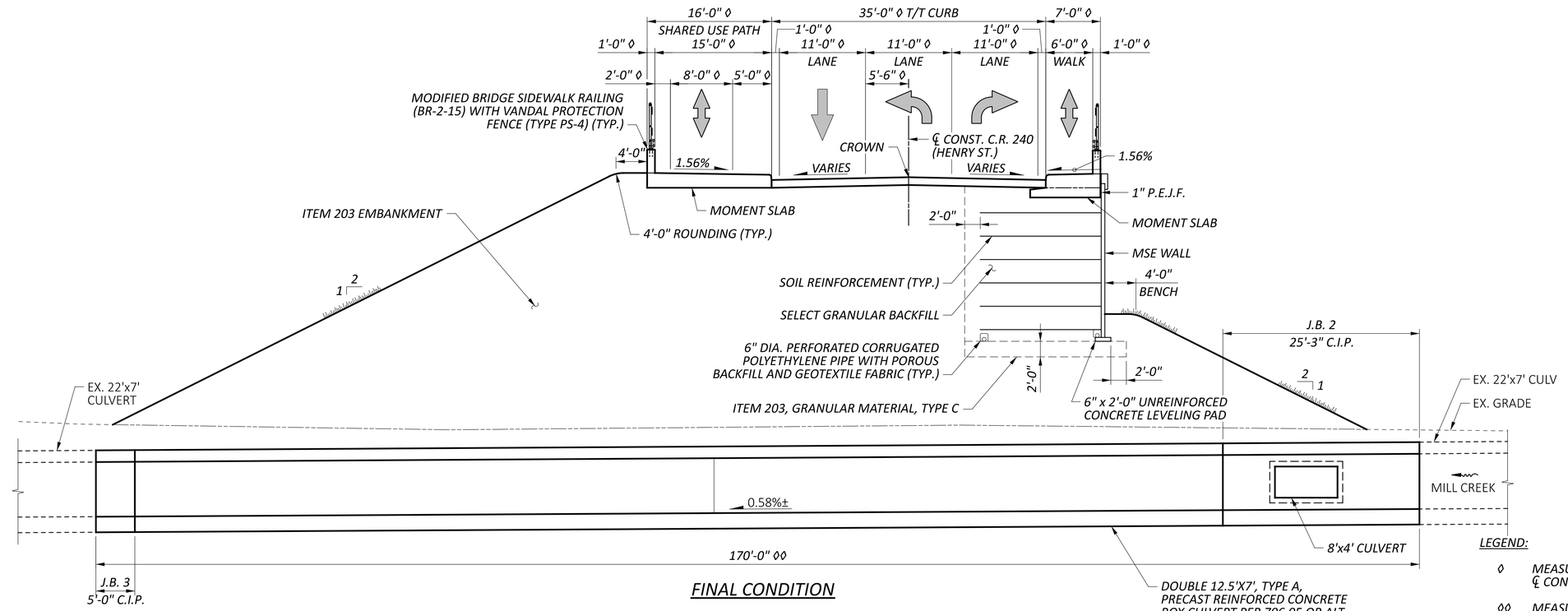


PHASE 2 - CONSTRUCTION



FINAL CONDITION

LEGEND:

◊ MEASURED PERPENDICULAR TO ℄ CONST. C.R. 240 (HENRY ST.)

◊◊ MEASURED ALONG ℄ CONST. MILL CREEK

** TEMPORARY GRADING PER OSHA'S LIMITS

PHASE CONSTRUCTION DETAILS
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN	1834037
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER / CHECKER	HER / JTH
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET / TOTAL	5 / 9
SHEET / TOTAL	P.252 / 329

CUY-14-6.93

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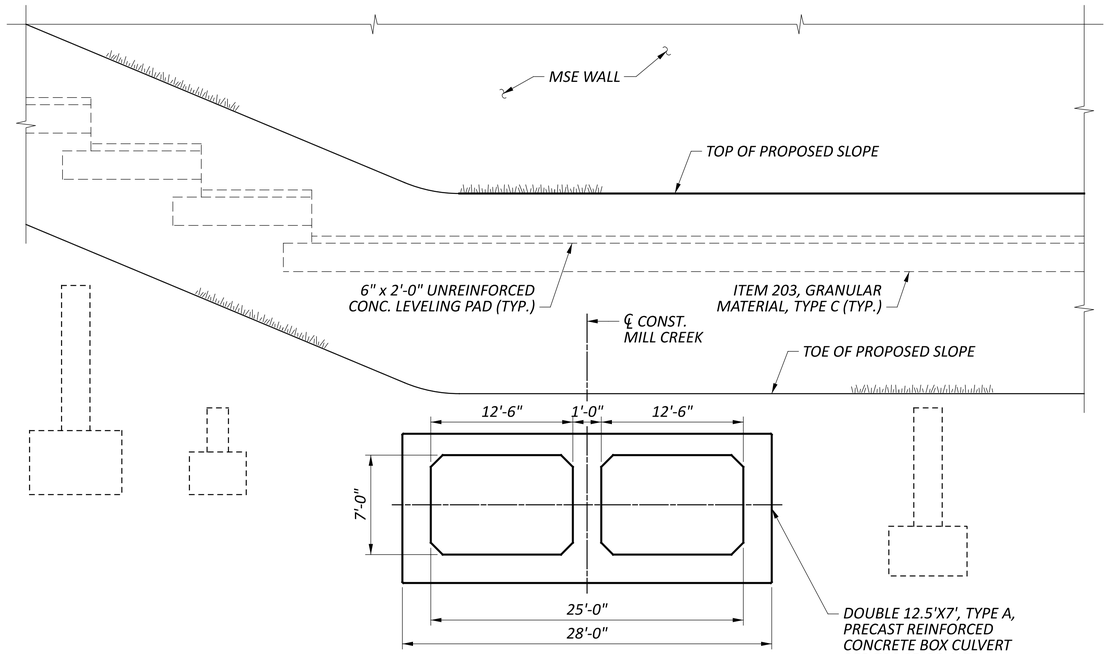
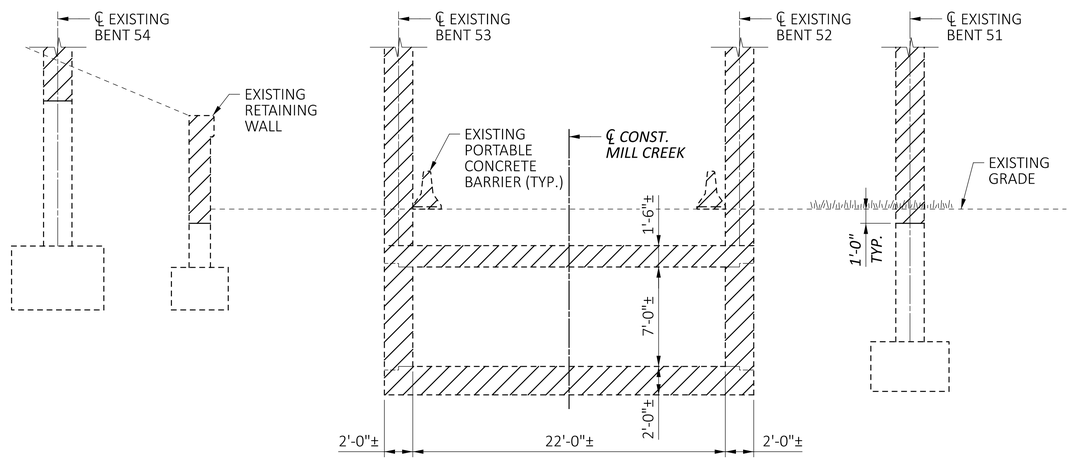


PHASE 2 - CONSTRUCTION & FINAL CONDITION



EXISTING CONDITION & PHASE 2 - REMOVAL

LEGEND:

ITEM 202 - PORTIONS OF STRUCTURE REMOVED

CULVERT DETAILS
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN	1834037
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER / CHECKER	HER / JTH
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET / TOTAL	6 / 9
SHEET / TOTAL	P.253 / 329

CUY-14-6.93

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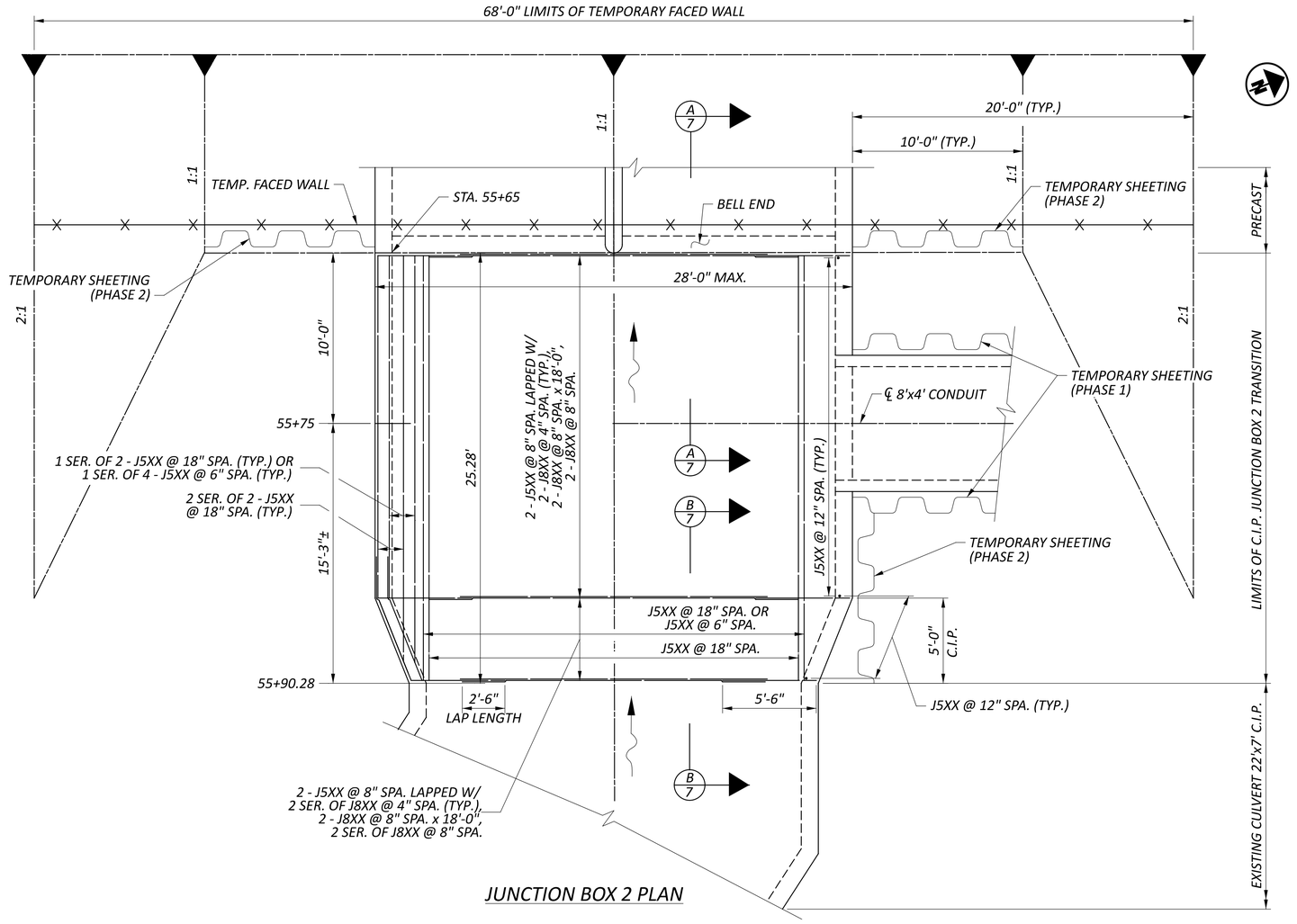
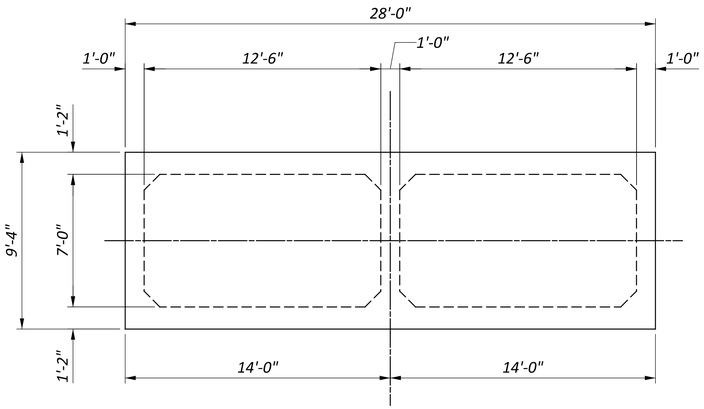
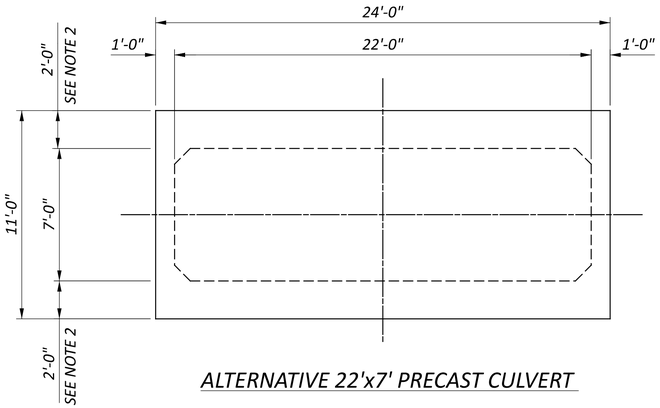


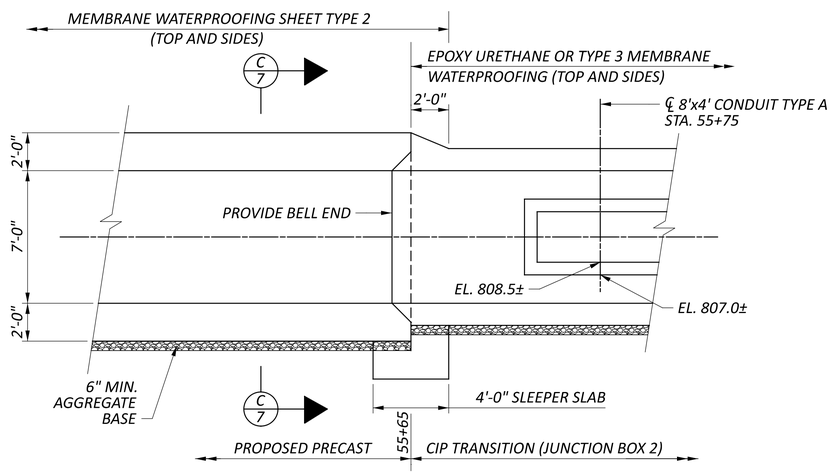
JUNCTION BOX 2 PLAN



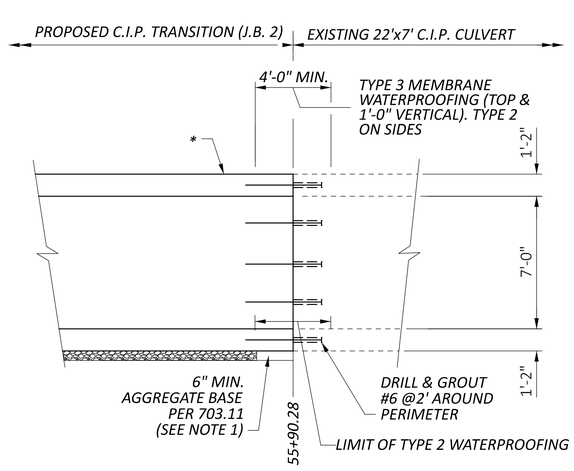
C 7 SECTION SEE NOTE 3



ALTERNATIVE 22'x7' PRECAST CULVERT



A 7 ELEVATION



B 7 ELEVATION

LEGEND:

** EXCEPT AT THE JOINTS AT EACH END, THE C.I.P. TRANSITION MAY BE SEALED WITH MEMBRANE WATERPROOFING PER 512.08 OR EPOXY URETHANE PER 512.03.*

NOTES:

1. *LSM MAY BE USED FOR BEDDING PER 611.06. IF LSM IS USED, IT SHALL EXTEND 6" MIN. ABOVE THE CULVERT.*
2. *CULVERT DESIGN IS BY PRECAST CONCRETE PROVIDER IN ACCORDANCE WITH PROJECT REQUIREMENTS. 2'-0" IS ESTIMATED THICKNESS.*
3. *ALTERNATIVE PRECAST SINGLE CELL 22'x7' BOX CULVERT AS SHOWN ON THIS SHEET MAY BE CONSTRUCTED AT NO ADDITIONAL COST TO THE PROJECT.*

CAST IN PLACE JUNCTION BOX 2 DETAILS
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN	1834037
DESIGN AGENCY	AECOM
	564 White Pond Drive, Akron, OH 44320, (330) 836-9111, www.aecom.com
DESIGNER	HER
CHECKER	JTH
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	7
TOTAL	9
SHEET	P.254
TOTAL	329

CUY-14-6.93

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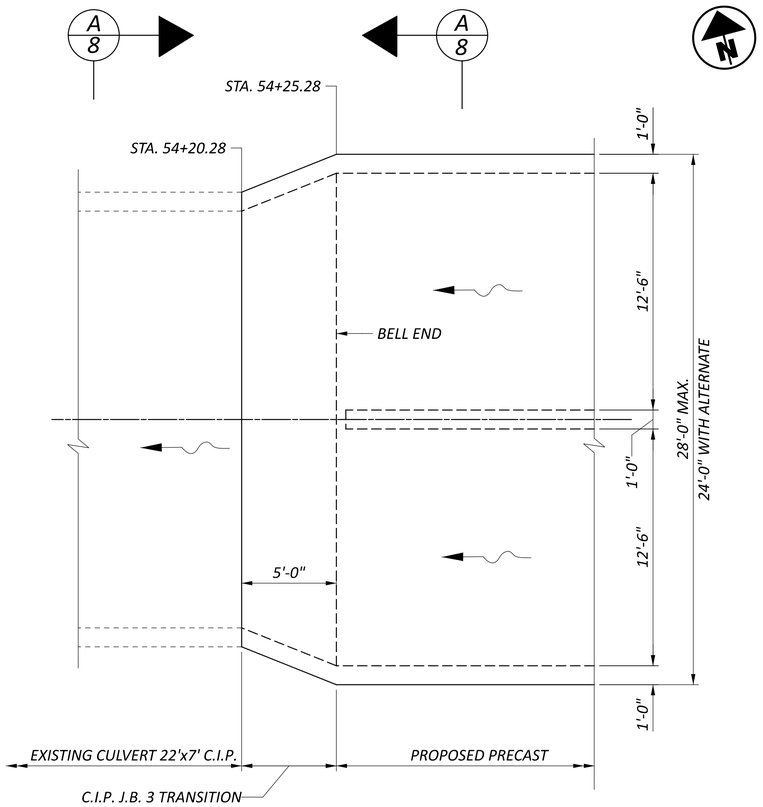
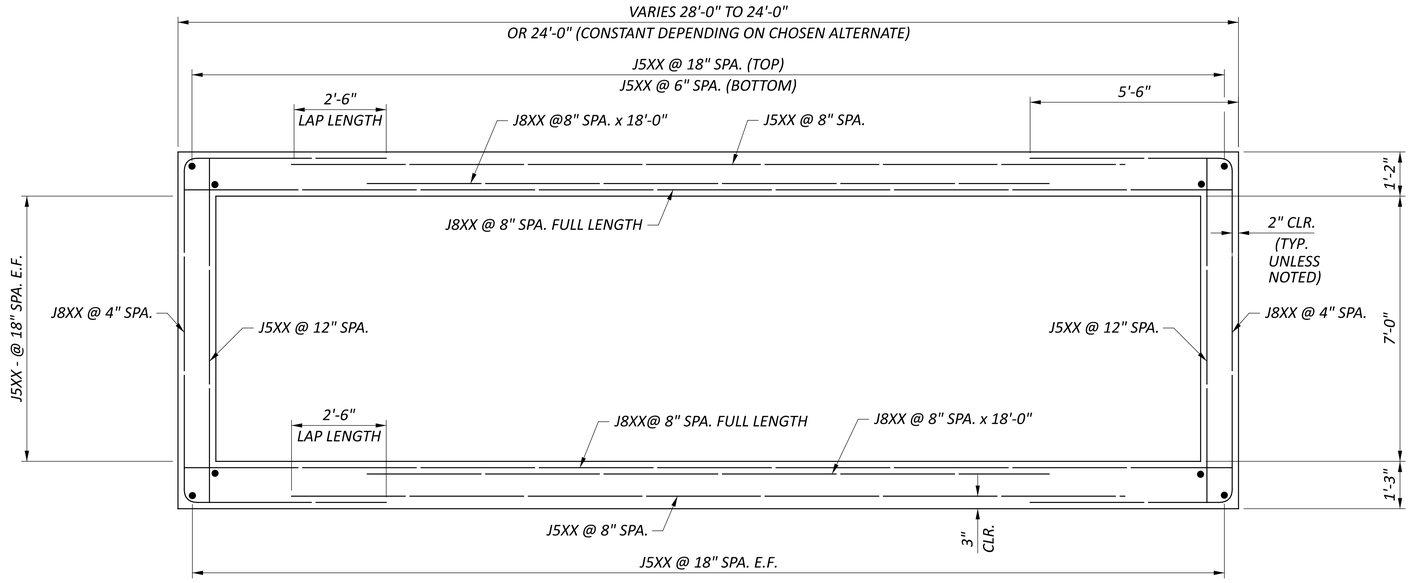
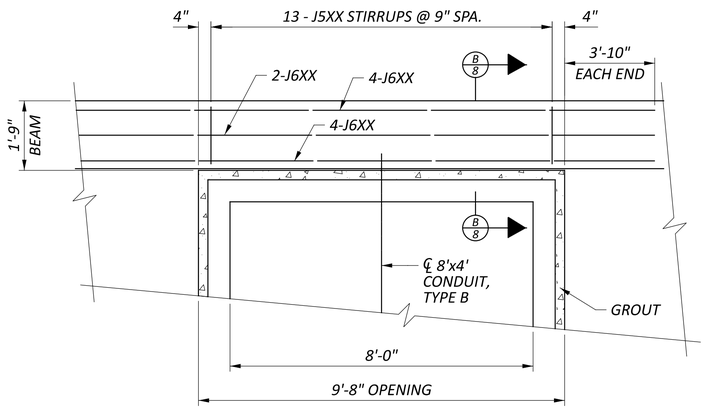


JUNCTION BOX 3 PLAN

SEE NOTE 2

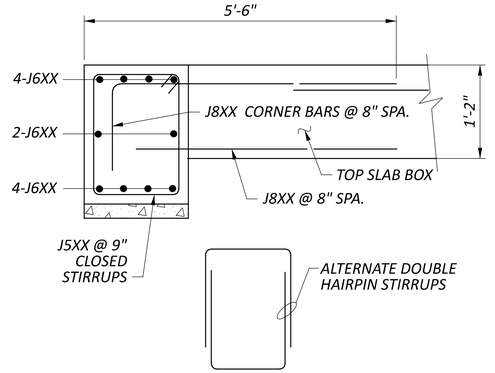


JUNCTION BOX 2 REINFORCING DETAIL



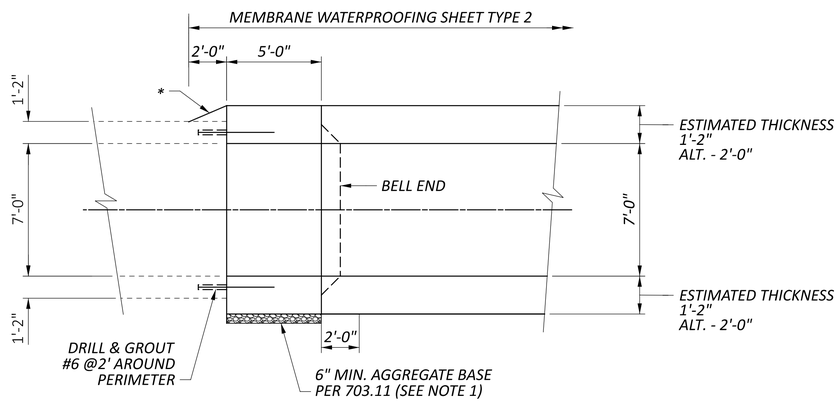
REINFORCING DETAIL

J.B. 2 SHOWN
J.B. 3 SAME REINFORCING



B/8 SECTION

J.B. 2 SHOWN
J.B. 3 SAME REINFORCING



A/8 ELEVATION

LEGEND:

* FOR ALT. 1, PROVIDE A 1'-0" MIN. CONCRETE CANT STRIP TO FACILITATE PLACEMENT OF MEMBRANE WATERPROOFING

NOTE:

1. LSM MAY BE USED FOR BEDDING PER 611.06. IF LSM IS USED IT SHALL BE EXTENDED 6" MIN. ABOVE CULVERT.
2. REINFORCING IS THE SAME AS J.B. 2.

CAST IN PLACE JUNCTION BOX 3 AND REINFORCEMENT LAYOUT
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN	1834037
DESIGN AGENCY	AECOM
	564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com
DESIGNER	JTH
CHECKER	HER
REVIEWER	MRW 02/06/23
PROJECT ID	104132
SUBSET	8
TOTAL	9
SHEET	P.255
TOTAL	329

CUY-14-6.93

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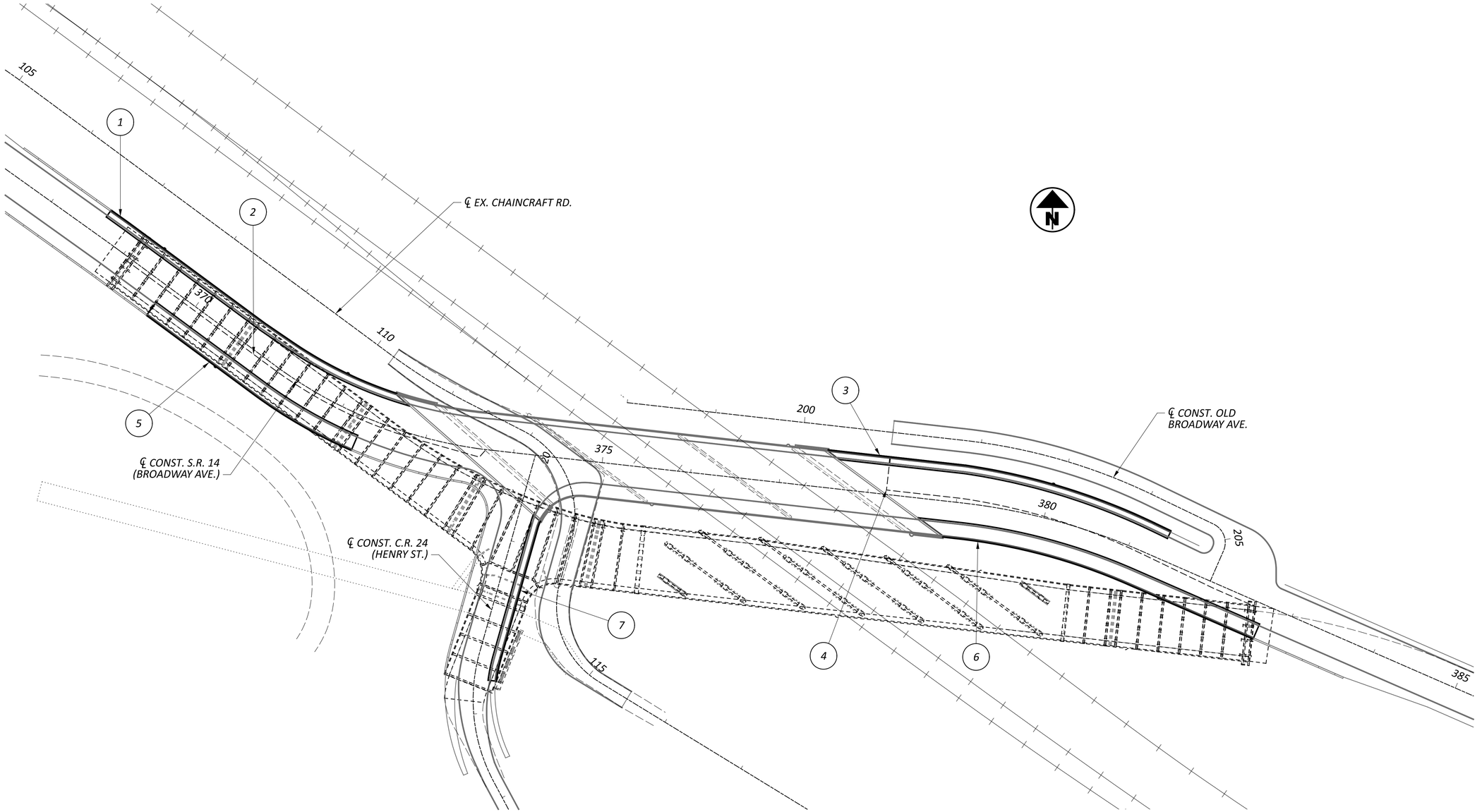
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC



MSE WALL SCHEMATIC PLAN

LEGEND:

(#) - *MSE WALL IDENTIFICATION NUMBER*

MSE WALL SCHEMATIC PLAN
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN
-

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
1	22

SHEET	TOTAL
P.257	329

CUY-14-6.93

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

BR-2-15	DATED (REVISED)	01-21-22
VPF-1-90	DATED (REVISED)	07-20-18

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

SS840	DATED	4-15-22

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

LIVE LOAD SURCHARGE: 240 PSF

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(COPING AND LEVELING PAD)

CONCRETE REINFORCEMENT:
EPOXY COATED STEEL REINFORCEMENT - MIN. YIELD STRENGTH 60 KSI

MSE WALL FOUNDATION BEARING RESISTANCE:

THE FACTORED BEARING RESISTANCE AT THE BASE OF THE REINFORCED SOIL MASS IS "A" KIPS PER SQUARE FOOT, WHERE "A" DENOTES THE PRESSURE AT EACH WALL AS FOLLOWS:

10.3 FOR WALL 01
11.5 FOR WALL 03
9.3 FOR WALL 05
14.1 FOR WALL 06
8.5 FOR WALL 07

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS SECTION 503 AND SHALL INCLUDE THE EXCAVATION REQUIRED TO CONSTRUCT THE NEW ABUTMENTS, WING WALLS AND PIER FOOTINGS. EXCAVATION AND BACKFILLING REQUIRED FOR SUBSTRUCTURE REMOVAL AND STRUCTURE DRAINAGE SHALL BE INCLUDED WITH RESPECTIVE ITEMS 202 AND 518.

ITEM 840 - MECHANICALLY STABILIZED EARTH WALL:

CONSTRUCT MSE RETAINING WALLS IN ACCORDANCE WITH SS840 EXCEPT AS MODIFIED HEREIN.

ITEM 840 - MECHANICALLY STABILIZING EARTH WALL, AS PER PLAN, (TEMPORARY WIRE FACED WALL):

1.0 GENERAL

THIS WORK CONSISTS OF DESIGNING THE INTERNAL STABILITY OF THE WALL; PREPARING SHOP DRAWINGS; AND FABRICATING AND CONSTRUCTING THE WIRE FACED MSE WALLS.

ALL THE MSE WALL DESIGN, FABRICATION, ERECTION AND CONSTRUCTION SHALL BE PER THE ODOT SUPPLEMENTAL SPECIFICATION 840 "MECHANICALLY STABILIZED EARTH WALL" EXCEPT AS MODIFIED IN THE FOLLOWING NOTES AND AS SHOWN ON THESE DRAWINGS.

2.0 MATERIALS

THE MATERIALS SHALL BE PER 840.03 EXCEPT THAT THE WIRE FACING AND SOIL RETENTION FABRIC SHALL BE PROVIDED INSTEAD OF PRECAST CONCRETE FABRIC PANELS.

2.1 WIRE FACING

THE WIRE FACING SHALL BE WELDED WIRE FABRIC CMS 709.10. THE DESIGN SHALL PROVIDE POSITIVE ANCHORAGE OF THE CAST-IN-PLACE REINFORCED CONCRETE FACING TO THE SOIL REINFORCEMENT. ALL METAL COMPONENTS OF THE WIRE-FACED MSE WALL SHALL BE GALVANIZED ACCORDING TO SS867.03.A.

2.2 SOIL RETENTION FABRIC

THE INSIDE OF THE WIRE FACED MSE WALL SHALL HAVE RETENTION OR FILTER FABRIC PLACED WITHIN THE REINFORCED FILL AS SHOWN IN THE PLANS. RETENTION FABRIC SHALL BE A WOVEN POLYPROPYLENE FABRIC.

2.3 LEVELING PAD

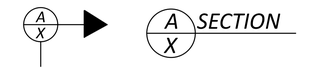
THE CONCRETE LEVELING PAD WILL BE BUILT PER 840.03 EXCEPT THAT THE PAD SHALL BE REINFORCED AS SHOWN IN THESE PLANS.

ABBREVIATIONS AND SYMBOLS

THE FOLLOWING STANDARD ABBREVIATIONS ARE USED THROUGHOUT THE PLANS:

APPR. - APPROACH
B OR BOT. - BOTTOM
BRG. - BEARING
BTWN - BETWEEN
C/C - CENTER TO CENTER
C.I.P. - CAST IN PLACE
C.J. - CONSTRUCTION JOINT
℄ - CENTERLINE
CLR. - CLEARANCE
CONST. - CONSTRUCTION
DIA. - DIAMETER
DWG. - DRAWING
EA. - EACH
E.F. - EACH FACE
EL. OR ELEV. - ELEVATION
EQ. - EQUAL
EST. - ESTIMATED
EX. OR EXIST. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
F/F - FACE TO FACE
F.S. - FIELD SPLICE
FIX. - FIXED
FTG. - FOOTING
FWD. - FORWARD
GIR. - GIRDER
GIR'S. - GIRDERS
HORIZ. - HORIZONTAL
HW - HIGH WATER MARK
JT. - JOINT
LF - LEFT FORWARD
LT. - LEFT
MAX. - MAXIMUM
MID - MIDDLE
MIN. - MINIMUM
N.B. - NORTHBOUND
N.F. - NEAR FACE
NO. - NUMBER
O.C.J. - OPTIONAL CONSTRUCTION JOINT
O/O - OUT TO OUT
ORD. - ORDINARY
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
P/G OR P.G.- PROFILE GRADE
P1 - PIER 1
P2 - PIER 2
PL. - PLATE
PR. OR PROP. - PROPOSED
R.A. - REAR ABUTMENT
R.C.P. - ROCK CHANNEL PROTECTION
REF. - REFERENCE
REIN. - REINFORCING OR REINFORCEMENT
REQ. OR REQ'D. - REQUIRED
RT. - RIGHT
S.B. - SOUTHBOUND
SER. - SERIES
SHLD. - SHOULDER
SPA. - SPACE(D) OR SPACING
STA. - STATION
STD. DWG. OR SCD - STANDARD CONSTRUCTION DRAWING
T&B - TOP AND BOTTOM
T/ - TOP
THK. - THICK
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
VAR. - VARIES
VERT. - VERTICAL
W/ - WITH

THE SYMBOLS BELOW DESIGNATE THE NAMES AND LOCATIONS OF THE SECTION DETAILS THROUGHOUT THE STRUCTURE PLANS. THE TOP LETTER DESIGNATES THE SECTION NAME. THE BOTTOM NUMBER(S) SHOWN WHICH STRUCTURE SHEET IS BEING CROSS REFERENCED.



MSE WALL GENERAL NOTES
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN
-

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
2	22

SHEET	TOTAL
P.258	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:20:09 PM USER: todd.roxberry
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ESTIMATED QUANTITIES						CALC BY:							
						CHECK BY:							
ITEM ODOT	EXT.	PARTICIPATION	TOTAL	UNIT	DESCRIPTION	CUY-00014-06.930							REF. SHEET
						WALL 01	WALL 02	WALL 03	WALL 04	WALL 05	WALL 06	WALL 07	
203	35120			CY	GRANULAR MATERIAL, TYPE C								
509	10000			LB	EPOXY COATED REINFORCING STEEL								
511	53010			CY	CLASS QC1 CONCRETE, MISC.: MOMENT SLAB AND PARAPET								
512	10050			SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)								
512	10100			SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)								
516	13200			SF	½" PREFORMED EXPANSION JOINT FILLER								
516	13600			SF	1" PREFORMED EXPANSION JOINT FILLER								
607	39901			FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN								
840	20000			SF	MECHANICALLY STABILIZED EARTH WALL								
840	20001			SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN								
840	21000			CY	WALL EXCAVATION								
840	22000			SY	FOUNDATION PREPARATION								
840	23000			CY	SELECT GRANULAR BACKFILL								
840	25010			FT	6" DRAINAGE PIPE, PERFORATED								
840	26000			FT	CONCRETE COPING								
840	27000			DAY	ON-SITE ASSISTANCE								
840	28000	LS	LS		SGB INSPECTION AND COMPACTION TESTING								

MSE WALL ESTIMATED QUANTITIES
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN
-

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
3	22

SHEET	TOTAL
P.259	329

CUY-14-6.93

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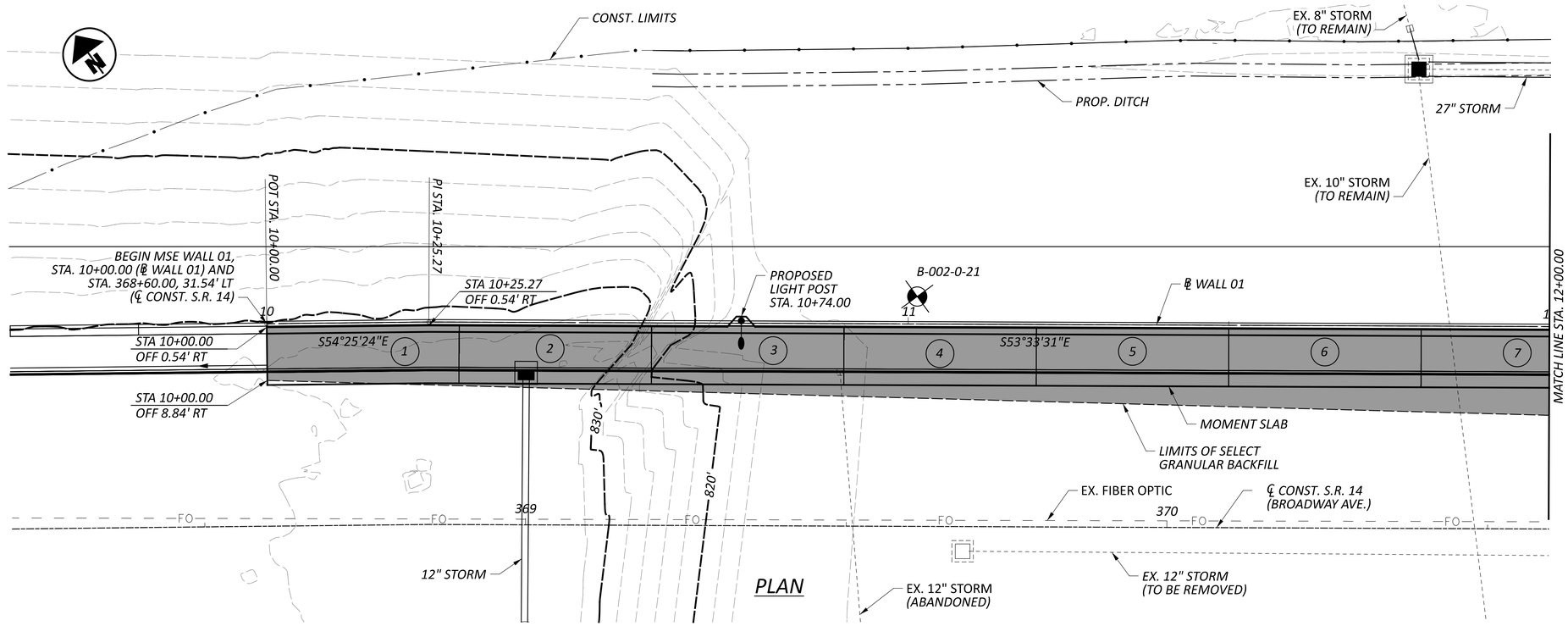

PROFILE

LEGEND:

(#) - MOMENT SLAB PANEL NUMBER

- PROJECT BORING LOCATION

NOTES:

1. FOR MOMENT SLAB SECTION, DETAILS AND NOTES, SEE SHEET 6 , 22 .
2. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 , 22 .

WALL 01 - SITE PLAN 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN
-

DESIGN AGENCY

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www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
4	22

SHEET	TOTAL
P.260	329

CUY-14-6.93

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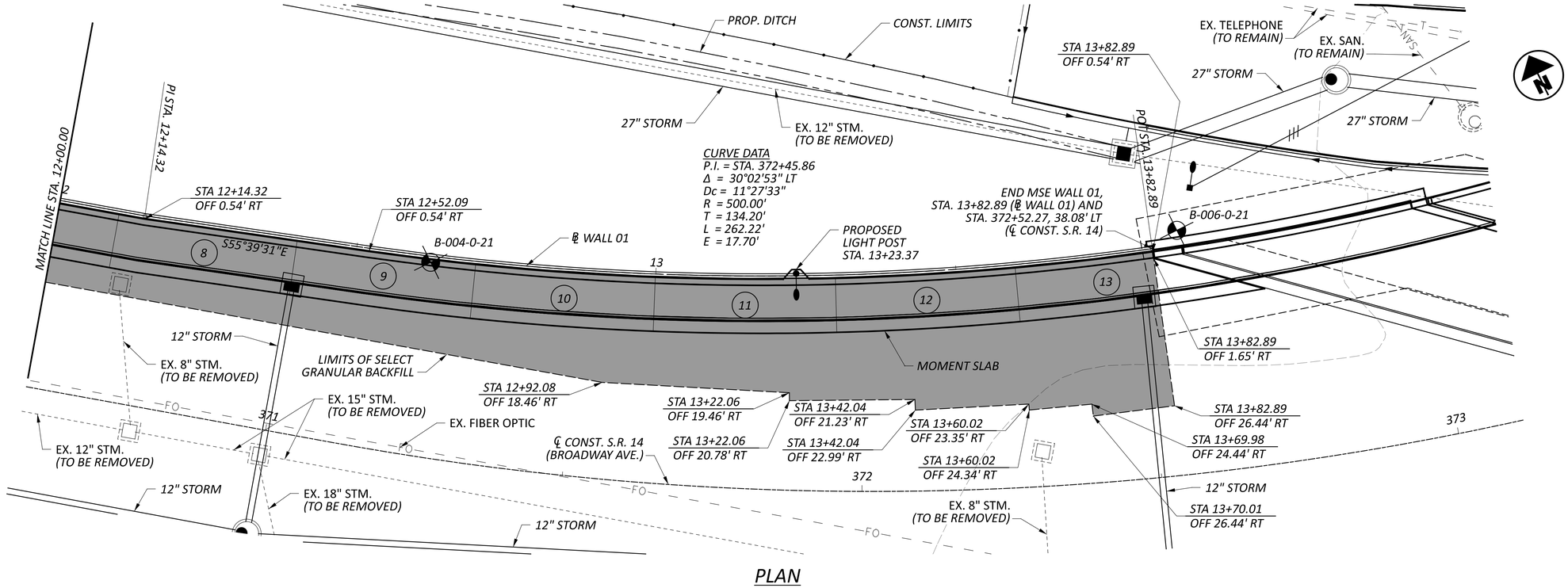
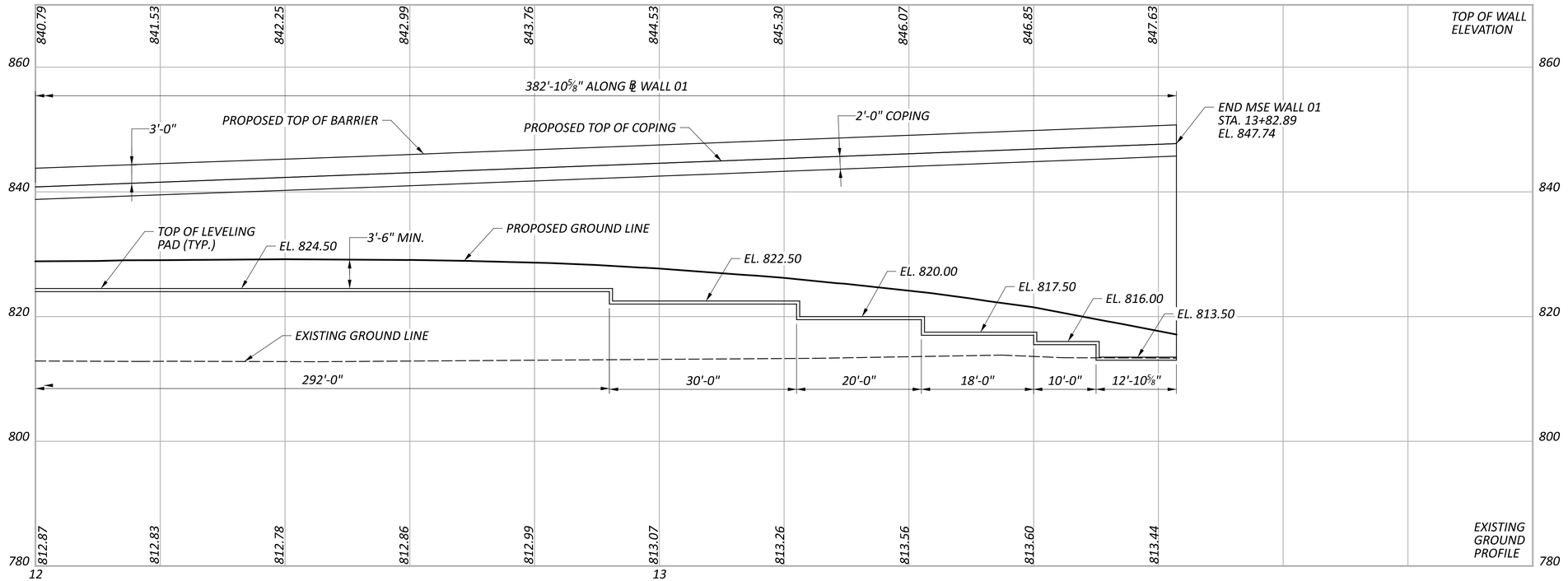


PLAN



PROFILE

LEGEND:

(#) - MOMENT SLAB PANEL NUMBER

- PROJECT BORING LOCATION

NOTES:

1. FOR MOMENT SLAB SECTION, DETAILS AND NOTES, SEE SHEET 6 , 22 .
2. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 , 22 .

WALL 01 - SITE PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
5	22

SHEET	TOTAL
P.261	329

CUY-14-6.93

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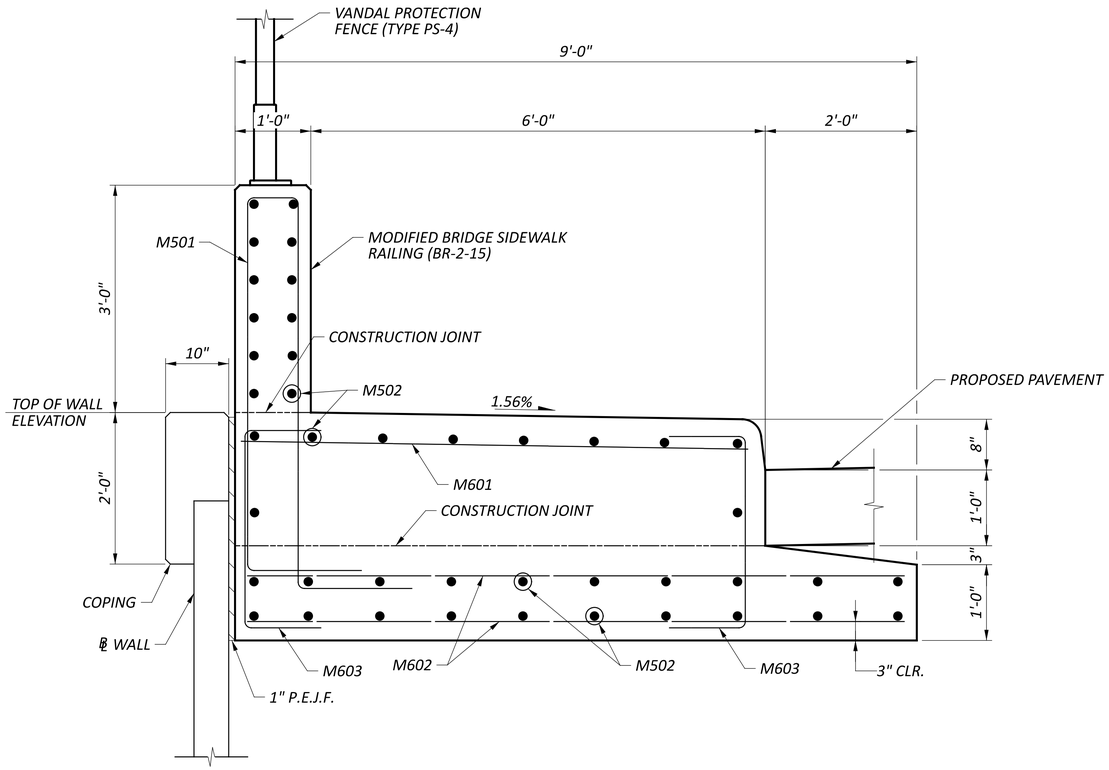
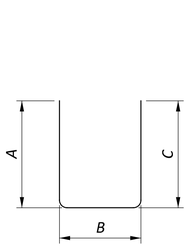
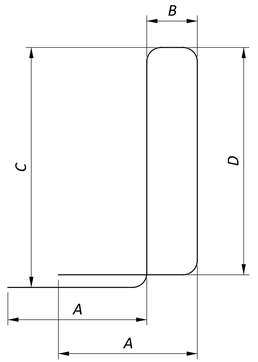


TYPICAL MOMENT SLAB DETAIL

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
MOMENT SLAB											



TYPE-2

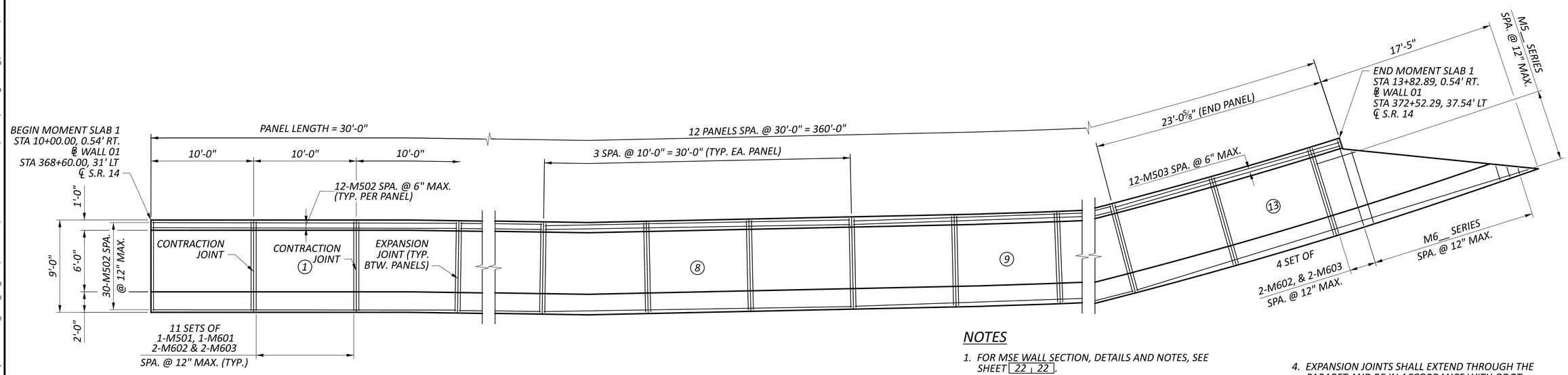


TYPE-30

REINFORCING STEEL NOTES:

1. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.
2. ALL REINFORCING IS TO BE EPOXY COATED.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.

EXAMPLES:
- M603 — NO. 6 SIZE BAR, MOMENT SLAB
- S1008 — NO. 10 SIZE BAR, SUPERSTRUCTURE
- R502 — NO. 5 BAR, RAILING



MOMENT SLAB PLAN

TYP. ALL PANELS U.N.O.

LEGEND

(#) - MOMENT SLAB PANEL NUMBER

NOTES

1. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 ı 22 .
2. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" MIN. FOR ALLOTHER SURFACES UNLESS NOTED.
3. CONTROL JOINTS IN THE PARAPET SHALL BE PER ODOT STANDARD DRAWING BR-2-15 AND SPACED TO ALIGN WITH THE MOMENT SLAB CONTRACTION JOINTS.
4. EXPANSION JOINTS SHALL EXTEND THROUGH THE PARAPET AND BE IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.
5. CONTRACTION JOINTS SHALL BE PLACED IN THE MOMENT SLAB AT 3 EQUAL SPACES BETWEEN EXPANSION JOINTS IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.

WALL 01 - MOMENT SLAB DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY
AECOM
564 White Pond Drive
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www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
6	22

SHEET	TOTAL
P.262	329

CUY-14-6.93

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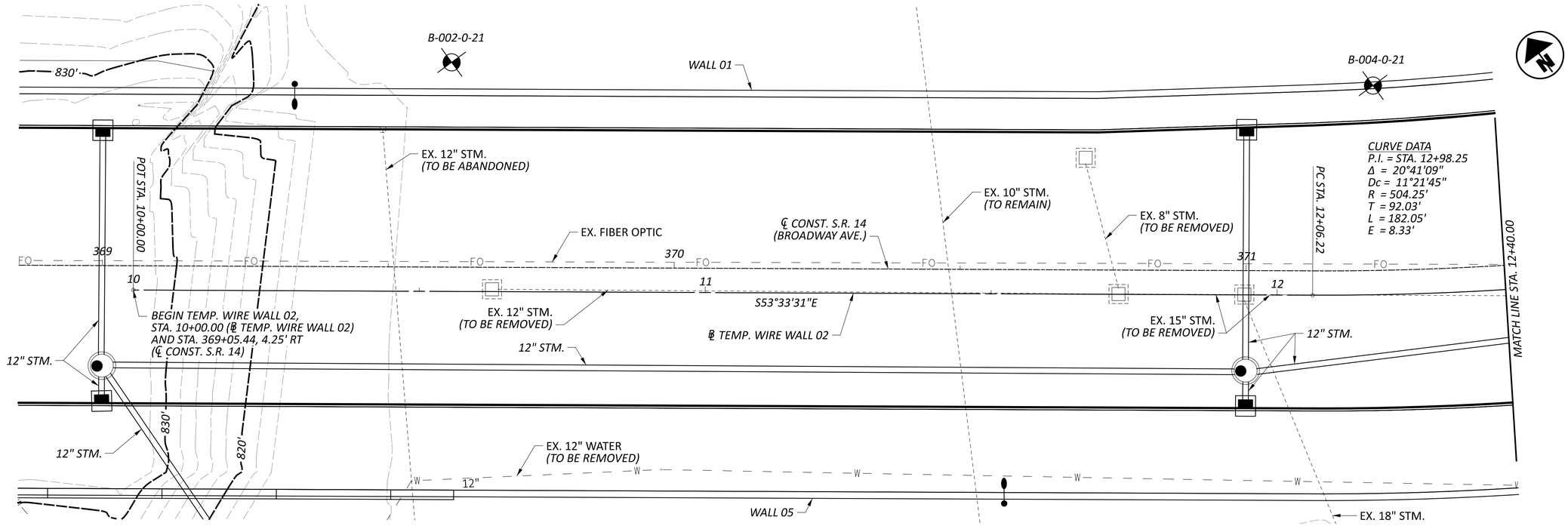
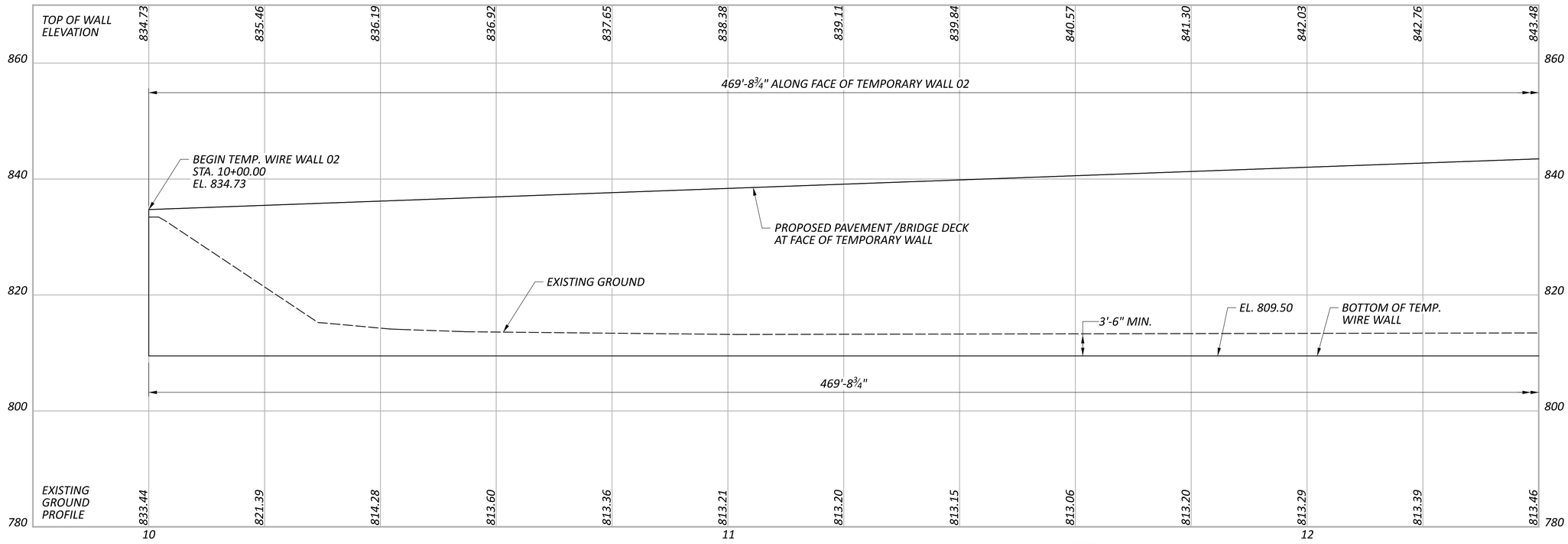


PLAN



PROFILE

LEGEND:

PROJECT BORING LOCATION

NOTES:

1. FOR TEMPORARY WIRE WALL NOTES, SEE SHEET 2 ı 22 .

TEMPORARY WALL 02 - SITE PLAN 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

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SFN
-

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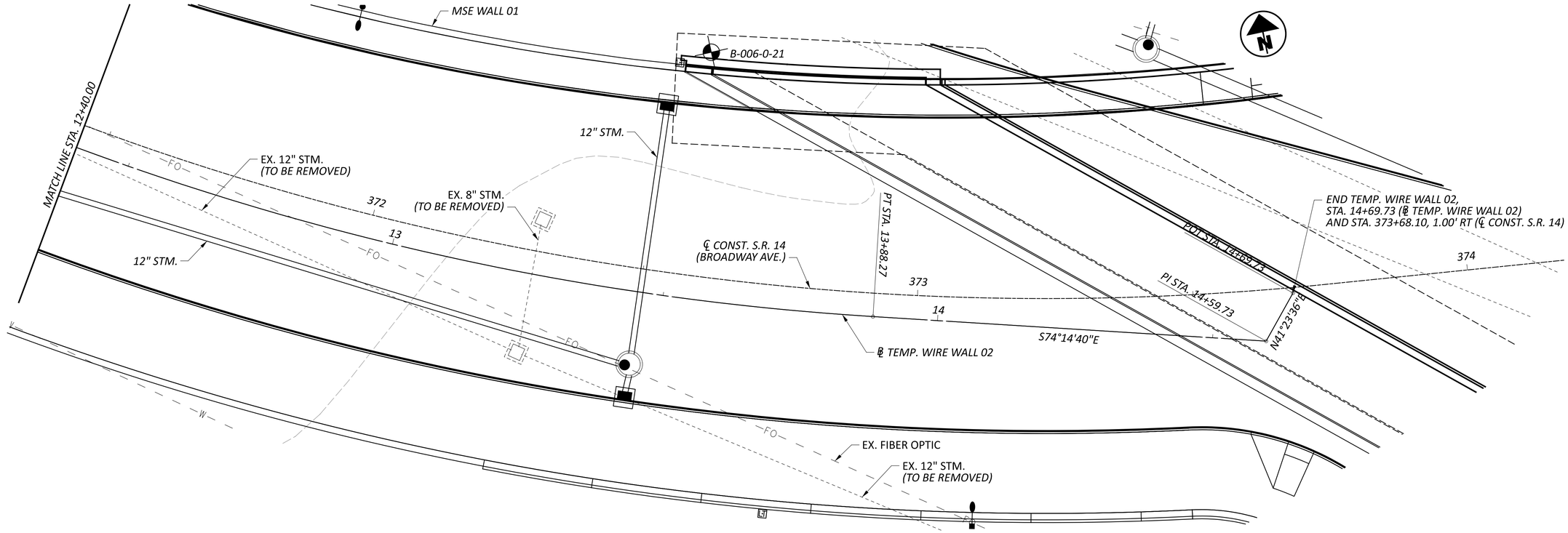
DESIGNER	CHECKER
TLN	ERM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
7	22

SHEET	TOTAL
P.263	329



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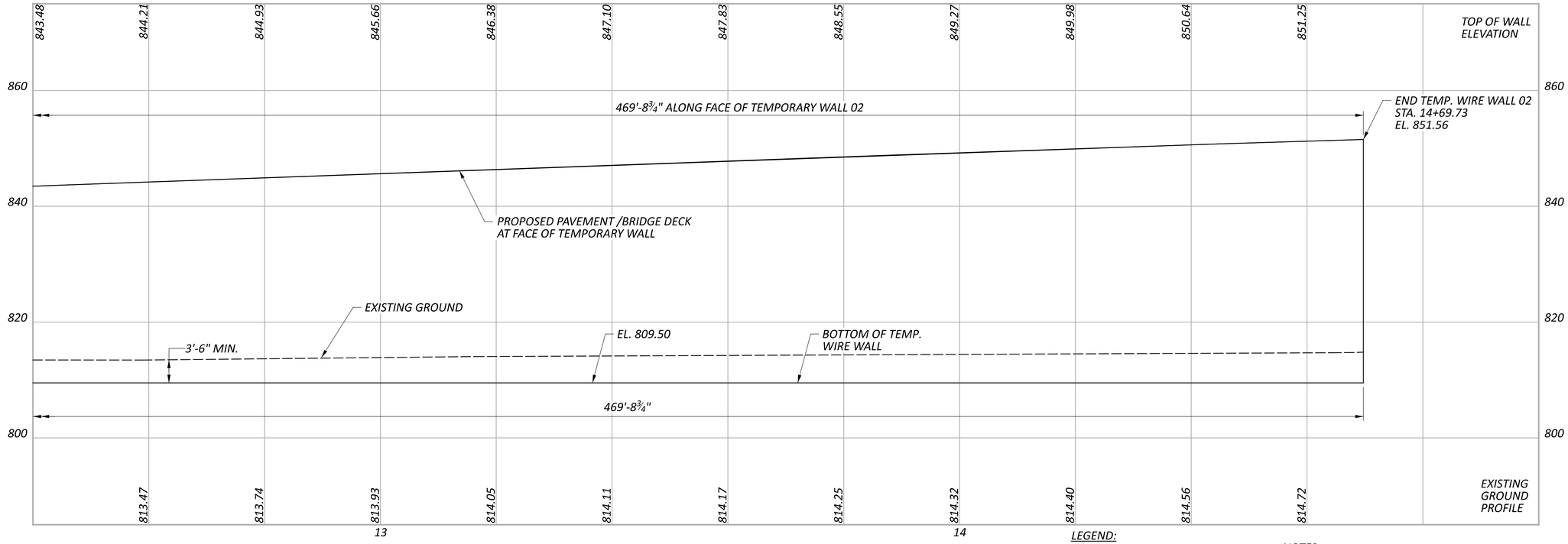

PROFILE

LEGEND:

PROJECT BORING LOCATION

NOTES:

1. FOR TEMPORARY WIRE WALL NOTES, SEE SHEET 2 ¡ 22 .

TEMPORARY WALL 02 - SITE PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN
-

DESIGN AGENCY

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www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
8	22

SHEET	TOTAL
P.264	329

CUY-14-6.93

MODEL: BLP_WALL002 - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:21:59 PM USER: todd.roxberry
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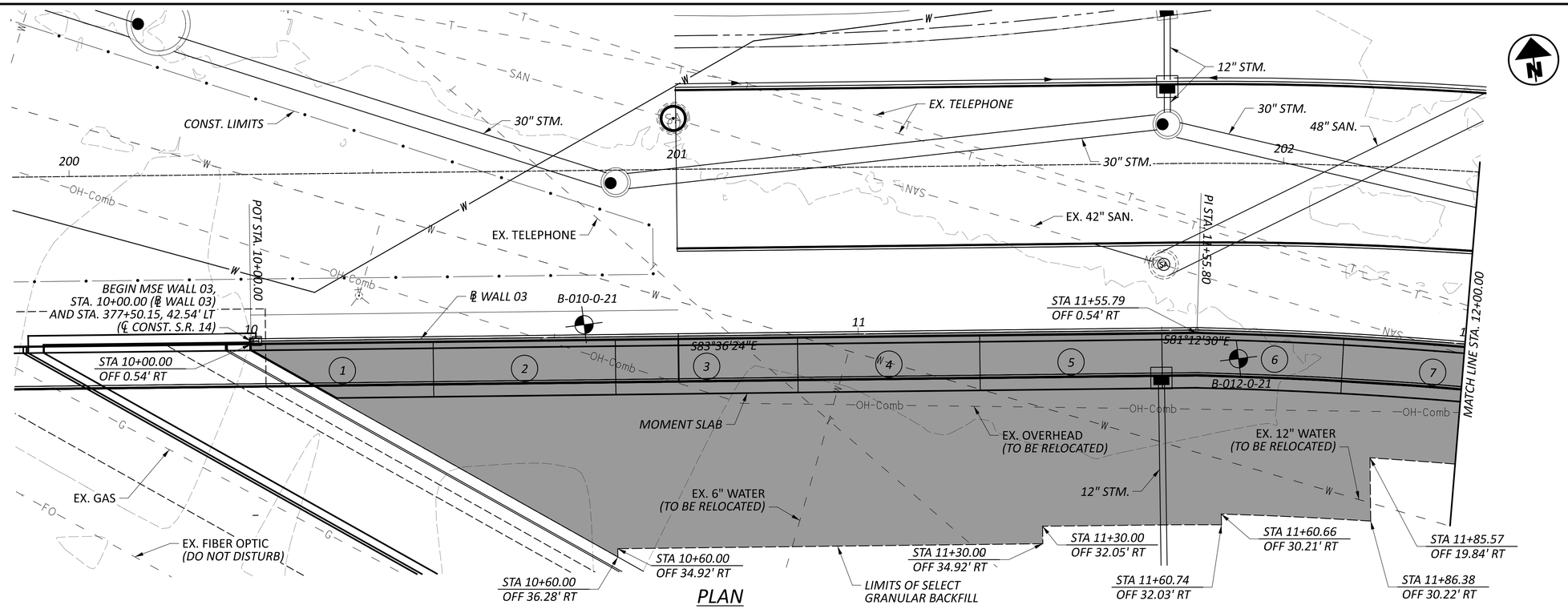
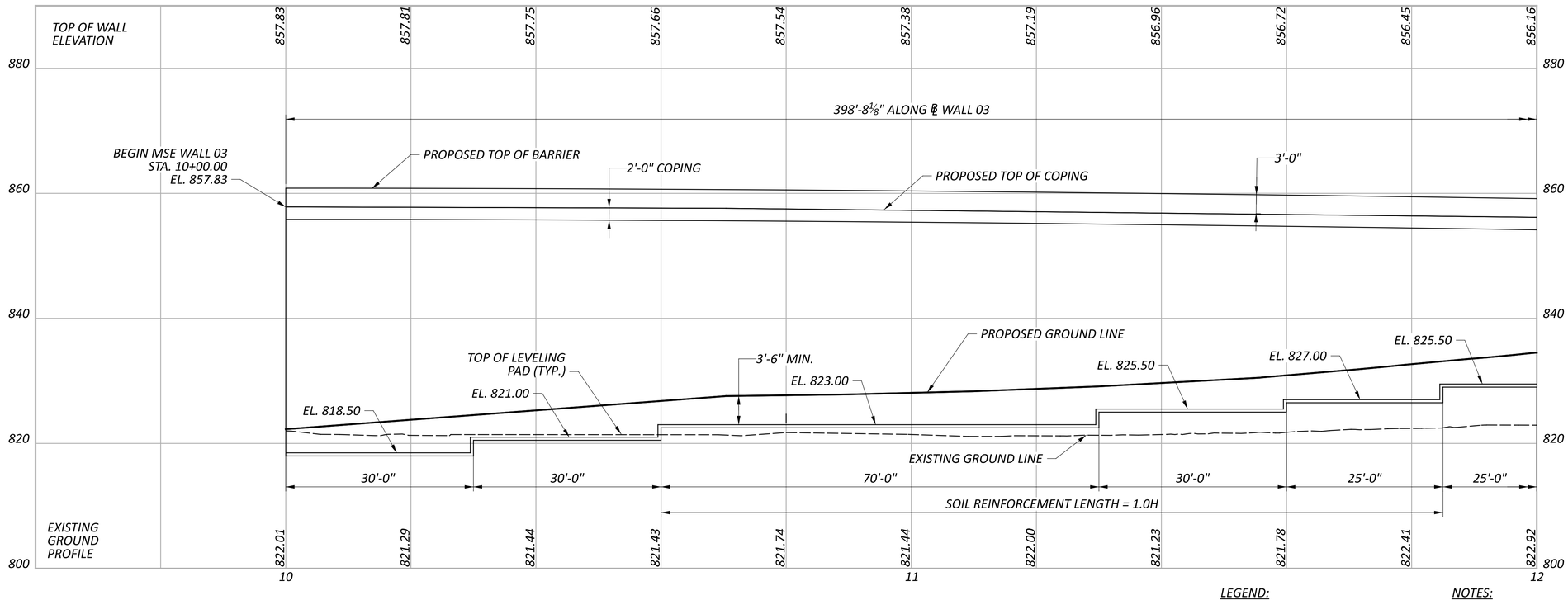


PLAN



PROFILE

LEGEND:

(#) - MOMENT SLAB PANEL NUMBER

- PROJECT BORING LOCATION

NOTES:

1. FOR MOMENT SLAB SECTION, DETAILS AND NOTES, SEE SHEET 6 ¦ 22.
2. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 ¦ 22.

WALL 03 - SITE PLAN 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

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www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
9	22

SHEET	TOTAL
P.265	329

CUY-14-6.93

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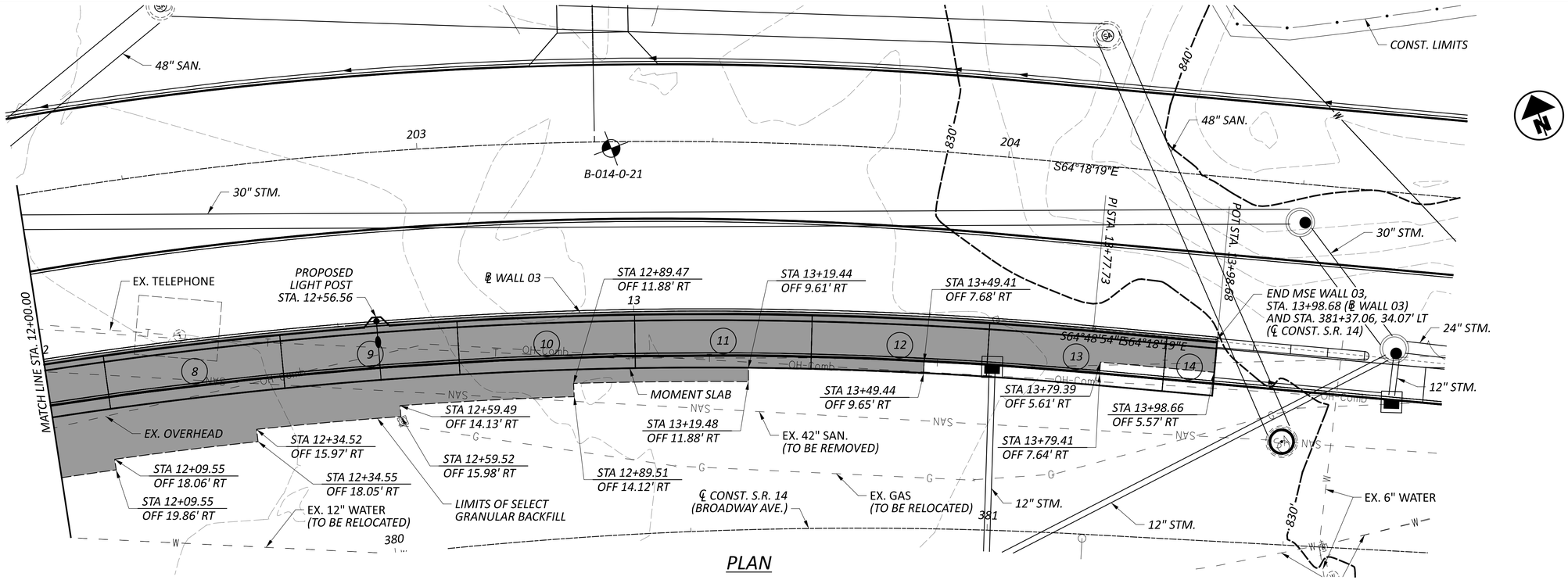
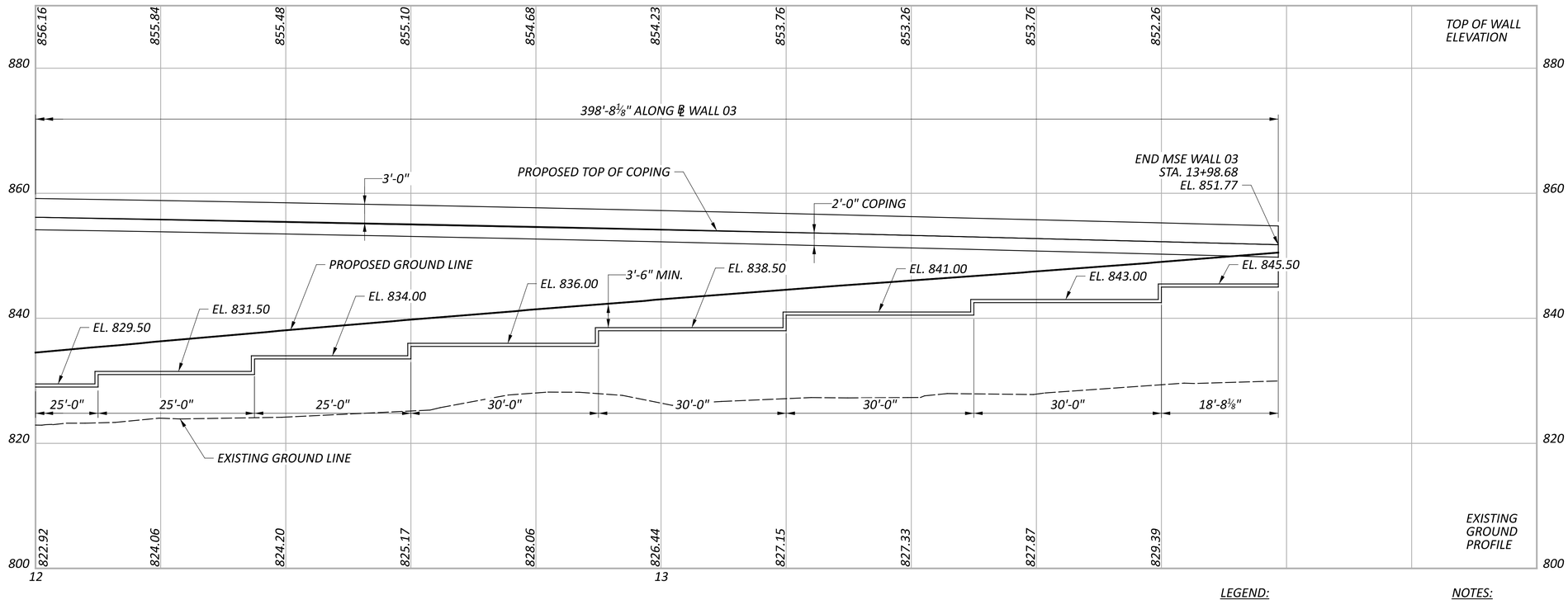


PLAN



PROFILE

LEGEND:

(#) - MOMENT SLAB PANEL NUMBER

⊕ - PROJECT BORING LOCATION

NOTES:

1. FOR MOMENT SLAB SECTION, DETAILS AND NOTES, SEE SHEET 6 ¦ 22.
2. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 ¦ 22.

WALL 03 - SITE PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

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Akron, OH 44320
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www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
10	22

SHEET	TOTAL
P.266	329

CUY-14-6.93

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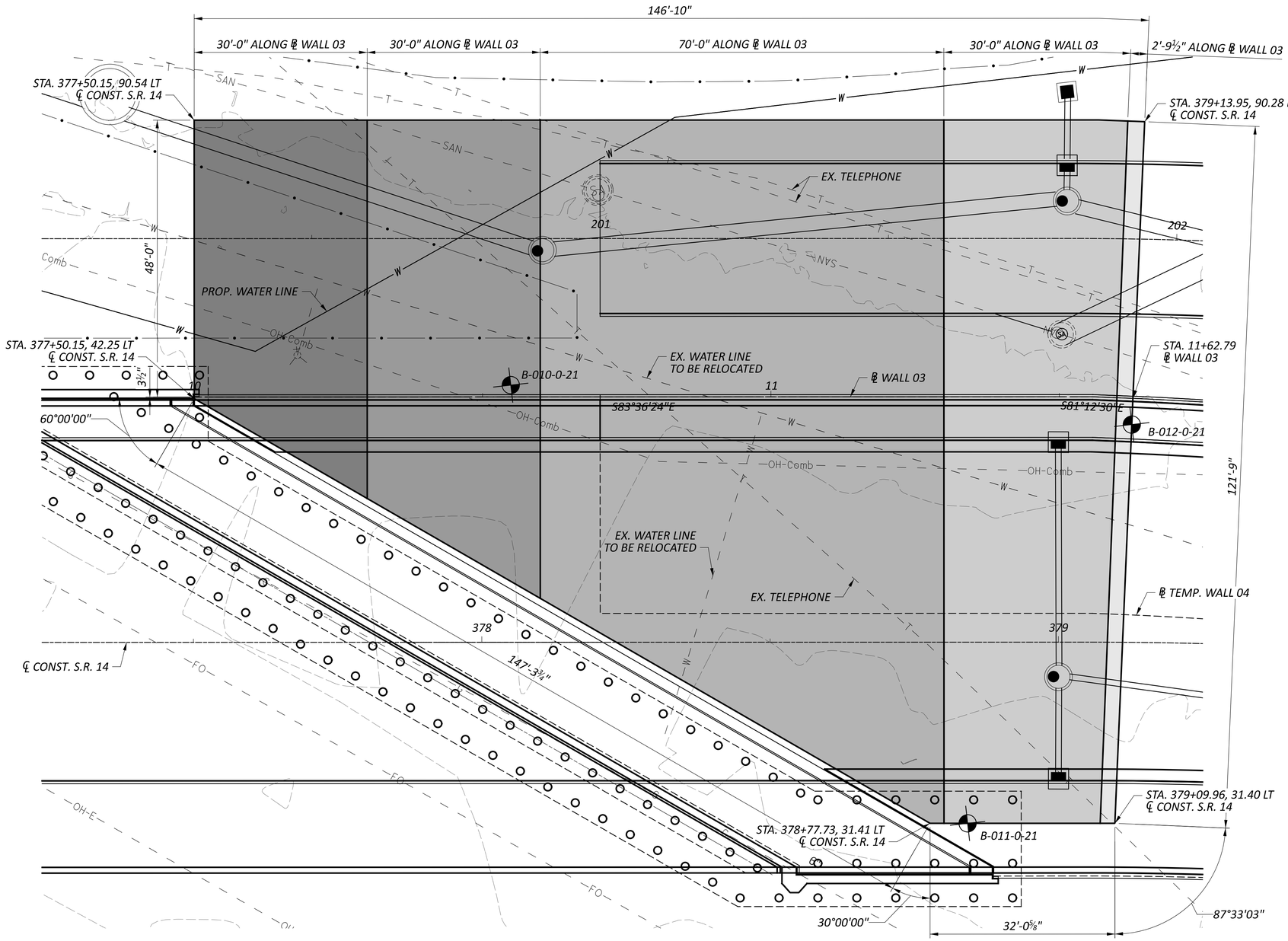

LEGEND:

- - UNDERCUT DOWN TO EL. 809.50
- - UNDERCUT DOWN TO EL. 812.00
- - UNDERCUT DOWN TO EL. 814.00
- - UNDERCUT DOWN TO EL. 816.50
- - UNDERCUT DOWN TO EL. 818.00

GROUND IMPROVEMENT PLAN

NOTES:

1. ITEM 203, GRANULAR MATERIAL, TYPE C SHALL BE PLACED DOWN TO AN ELEVATION, 9'-0" BELOW THE BOTTOM OF THE LEVELING PAD.
2. THE AREAS DEFINED HEREIN ARE THE ANTICIPATED MAXIMUM UNDERCUT LIMITS. UPON AN ENGINEERS ASSESSMENT, IF GRANULAR MATERIAL IS ENCOUNTERED IN THE FIELD, THE LIMITS OF THE UNDERCUT MAY BE ADJUSTED.
3. EXISTING WATERLINES ARE TO BE RELOCATED PRIOR TO EXCAVATION, EXISTING TELEPHONE LINES ARE TO BE SUPPORTED IN PLACE AS NEEDED.

WALL 03 - GROUND IMPROVEMENT PLAN
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

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564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
11	22

SHEET	TOTAL
P.267	329

CUY-14-6.93

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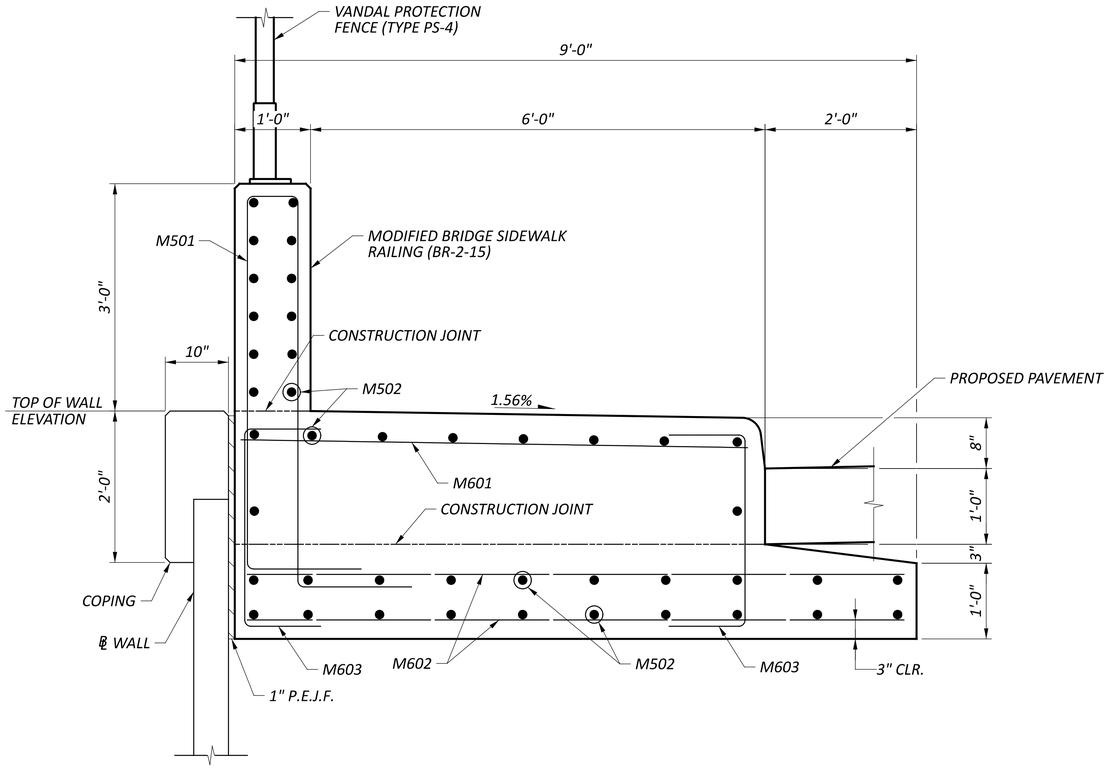
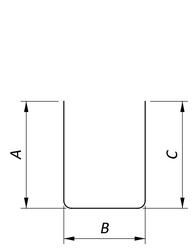
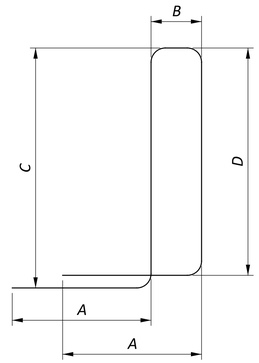


TYPICAL MOMENT SLAB DETAIL

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
MOMENT SLAB											



TYPE-2



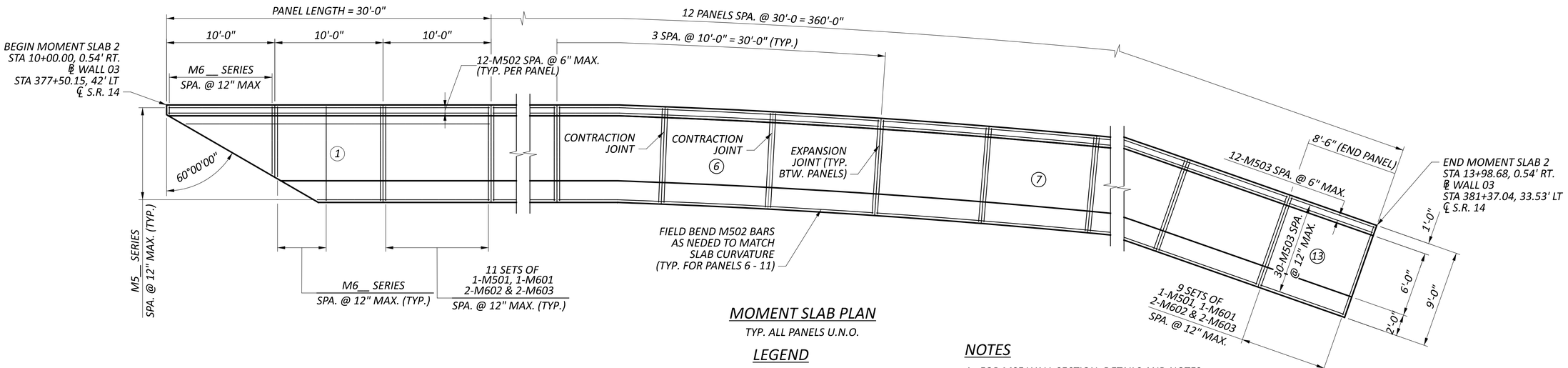
TYPE-30

REINFORCING STEEL NOTES:

1. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.
2. ALL REINFORCING IS TO BE EPOXY COATED.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.

EXAMPLES:

- M603 — NO. 6 SIZE BAR, MOMENT SLAB
- S1008 — NO. 10 SIZE BAR, SUPERSTRUCTURE
- R502 — NO. 5 BAR, RAILING



MOMENT SLAB PLAN

TYP. ALL PANELS U.N.O.

LEGEND

(#) - MOMENT SLAB PANEL NUMBER

NOTES

1. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 ı 22 .
2. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" MIN. FOR ALLOTHER SURFACES UNLESS NOTED.
3. CONTROL JOINTS IN THE PARAPET SHALL BE PER ODOT STANDARD DRAWING BR-2-15 AND SPACED TO ALIGN WITH THE MOMENT SLAB CONTRACTION JOINTS.
4. EXPANSION JOINTS SHALL EXTEND THROUGH THE PARAPET AND BE IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.
5. CONTRACTION JOINTS SHALL BE PLACED IN THE MOMENT SLAB AT 3 EQUAL SPACES BETWEEN EXPANSION JOINTS IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.

WALL 03 - MOMENT SLAB DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
12	22

SHEET	TOTAL
P.268	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:23:15 PM USER: todd.roxberry
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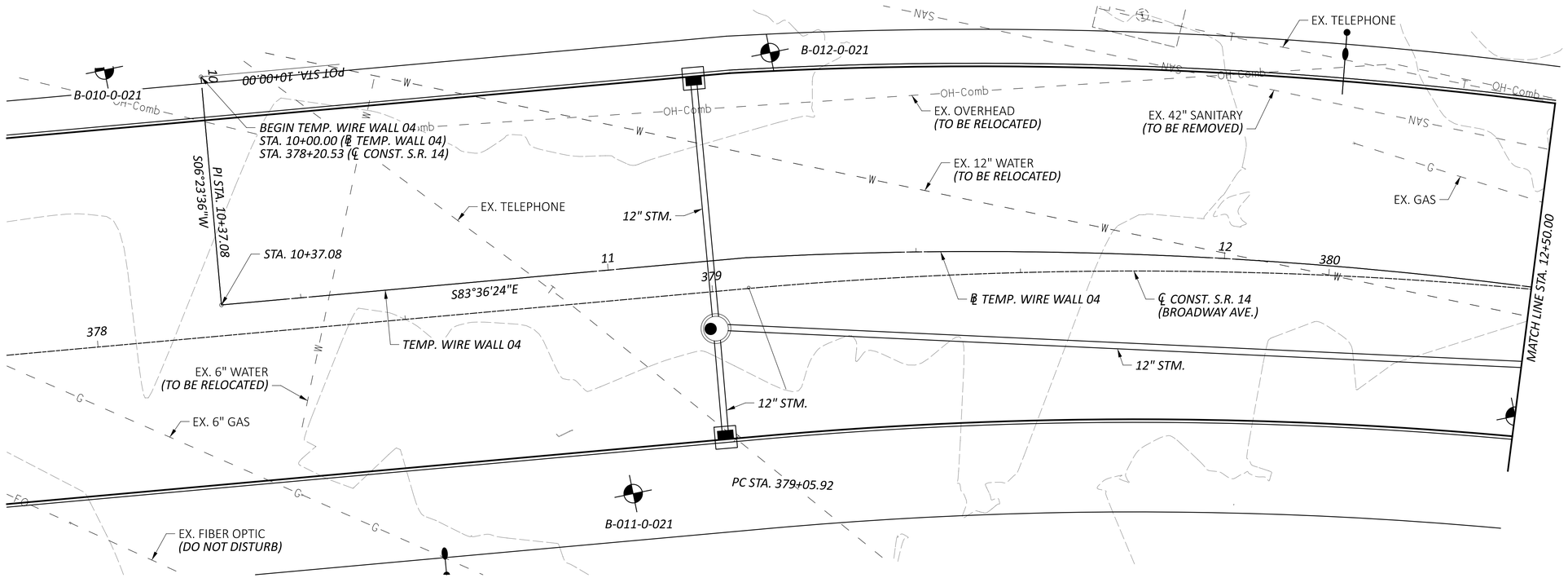
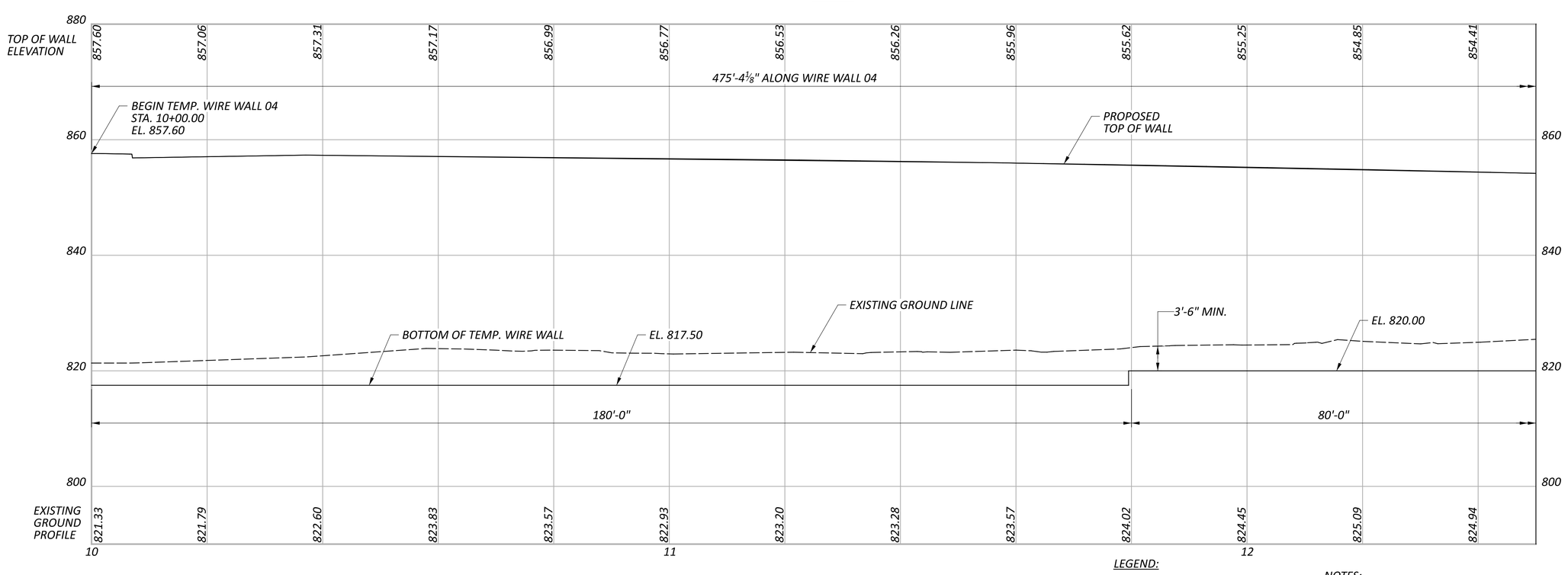


PLAN



PROFILE

LEGEND:

PROJECT BORING LOCATION

NOTES:

1. FOR TEMPORARY WIRE WALL NOTES, SEE SHEET 2 ı 22 .

TEMPORARY WALL 04 - SITE PLAN 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

CUY-14-6.93

MODEL: BLP_WALL004 - Plan 3 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:23:35 PM USER: todd.roxberry
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SFN	-
DESIGN AGENCY	AECOM

564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

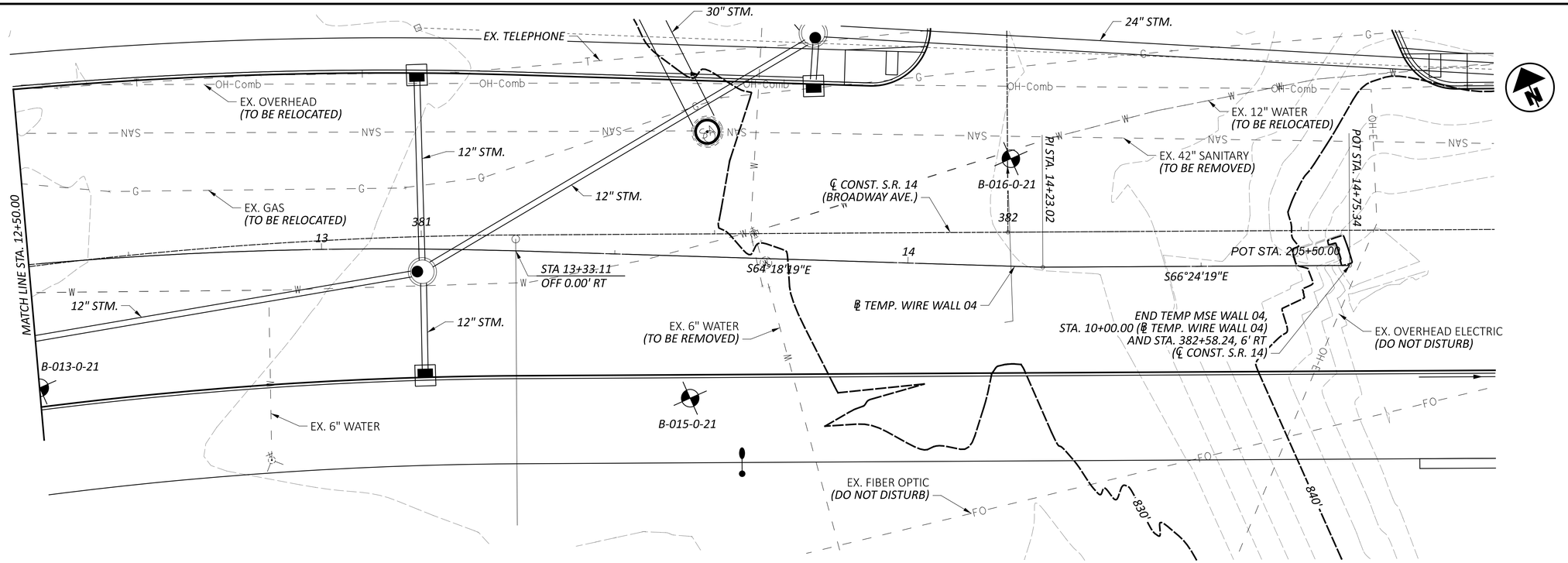
DESIGNER	CHECKER
TLN	ERM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
13	22

SHEET	TOTAL
P.269	329



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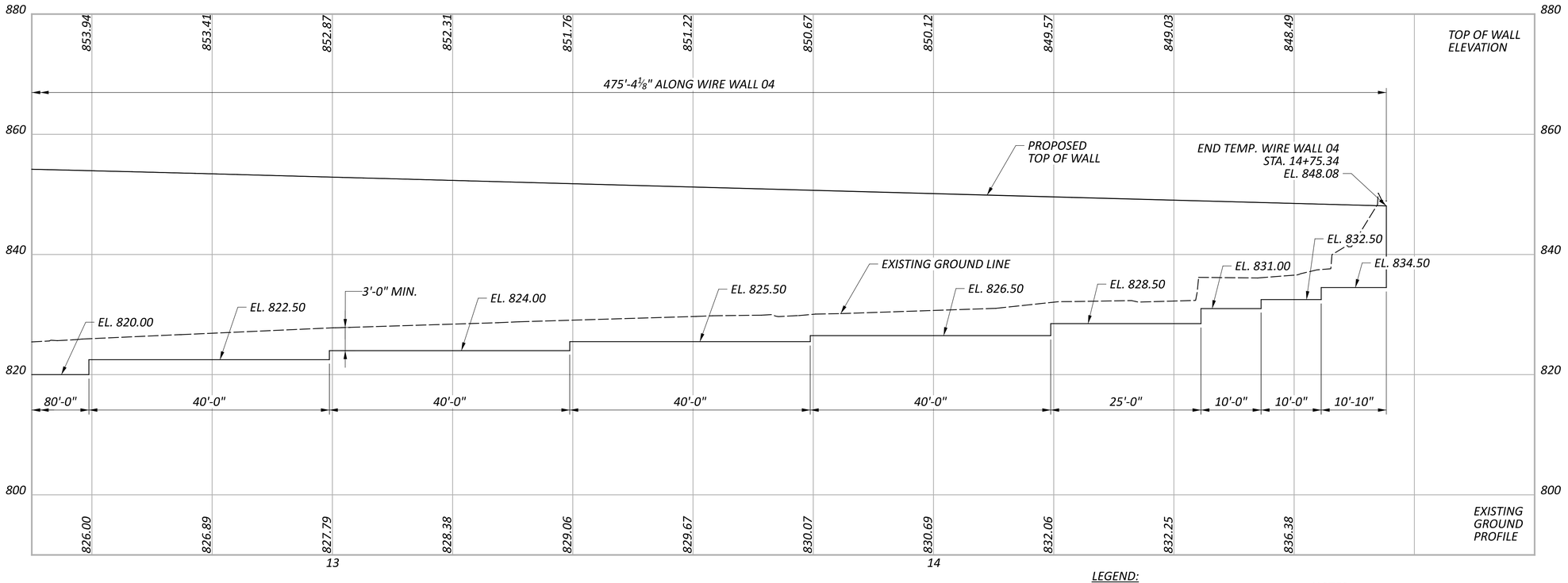

PROFILE

LEGEND:

PROJECT BORING LOCATION

NOTES:

1. FOR TEMPORARY WIRE WALL NOTES, SEE SHEET 2 , 22 .

TEMPORARY WALL 04 - SITE PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN
-

DESIGN AGENCY

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DESIGNER	CHECKER
TLN	ERM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
14	22

SHEET	TOTAL
P.270	329

CUY-14-6.93

MODEL: BLP_WALL004 - Plan 4 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:23:55 PM USER: todd.roxberry
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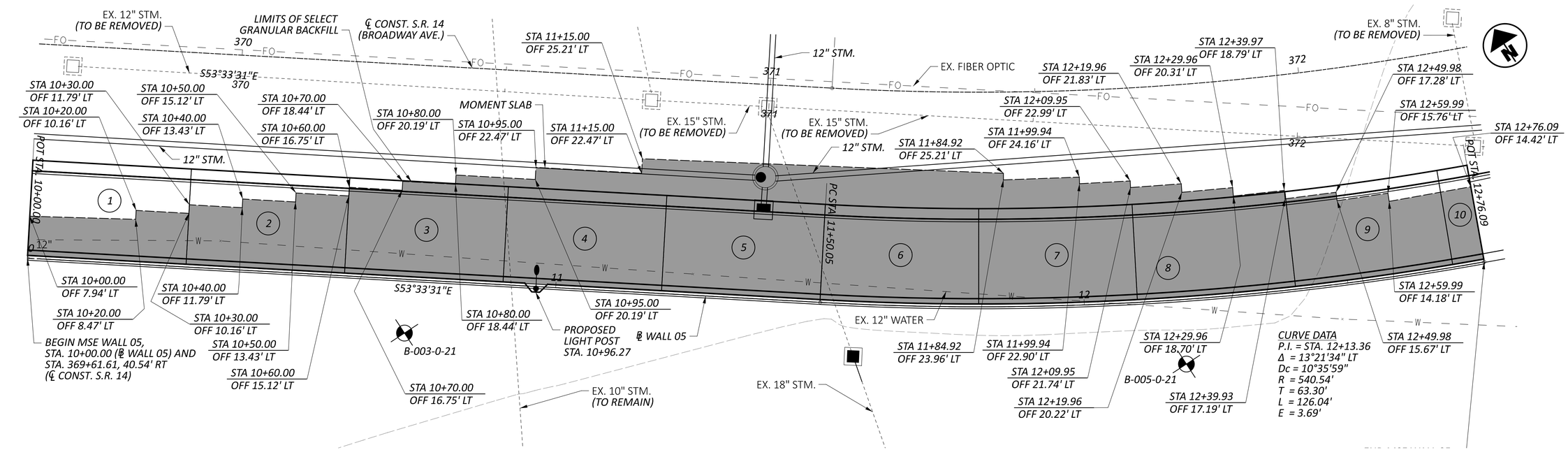

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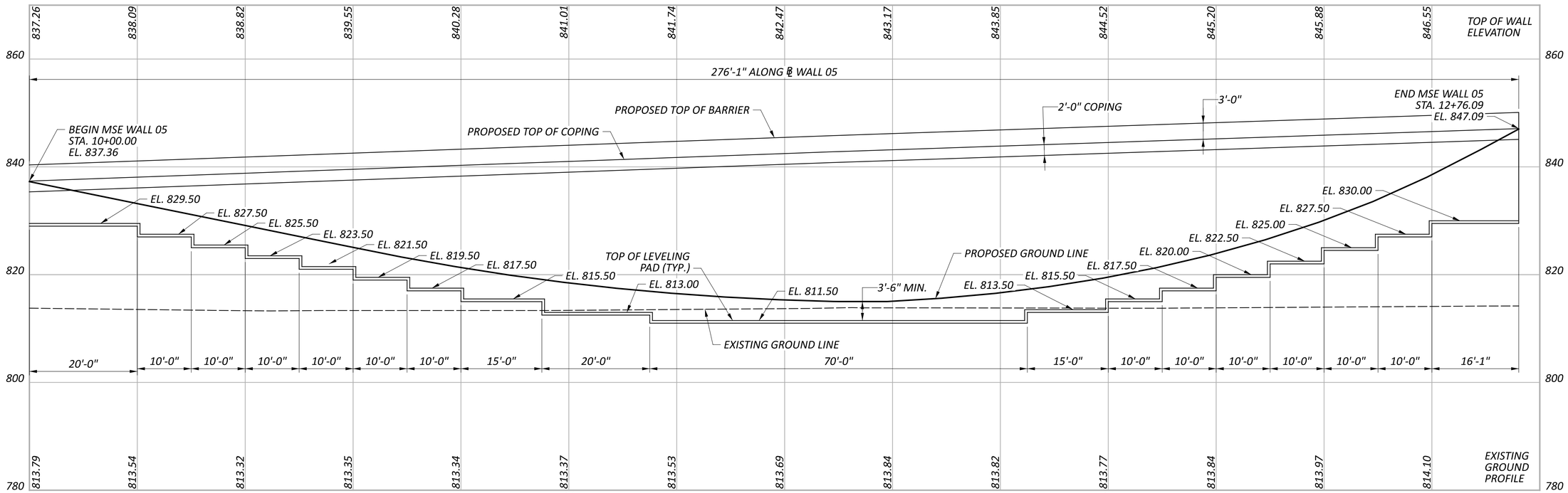

PROFILE

LEGEND:

(#) - MOMENT SLAB PANEL NUMBER

⊕ - PROJECT BORING LOCATION

NOTES:

1. FOR MOMENT SLAB SECTION, DETAILS AND NOTES, SEE SHEET 6 ¦ 22.
2. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 ¦ 22.

WALL 05 - SITE PLAN
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
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DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
15	22

SHEET	TOTAL
P.271	329

CUY-14-6.93

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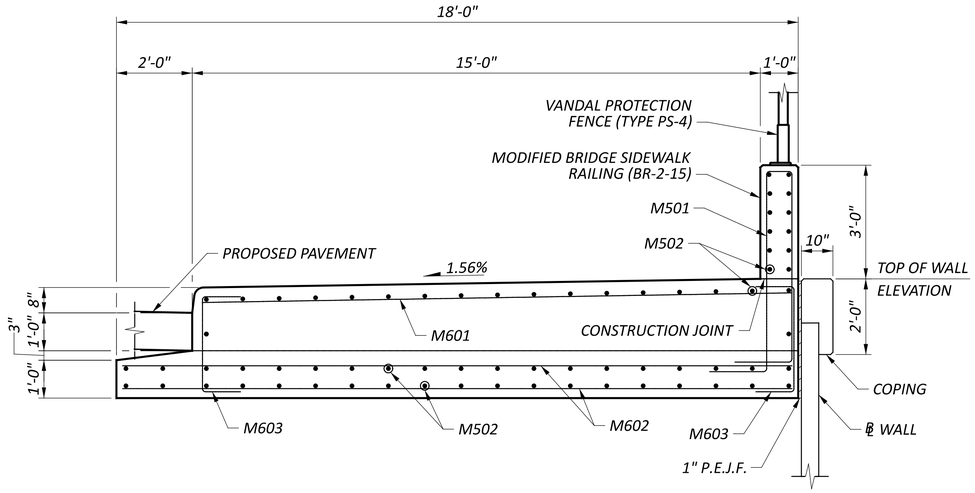
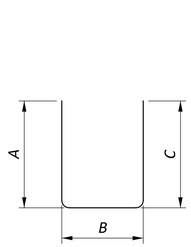
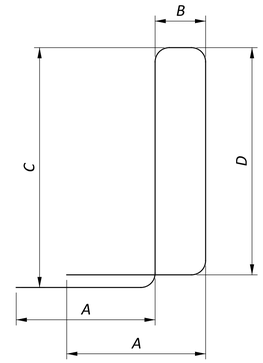


TYPICAL MOMENT SLAB DETAIL

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
MOMENT SLAB											



TYPE-2

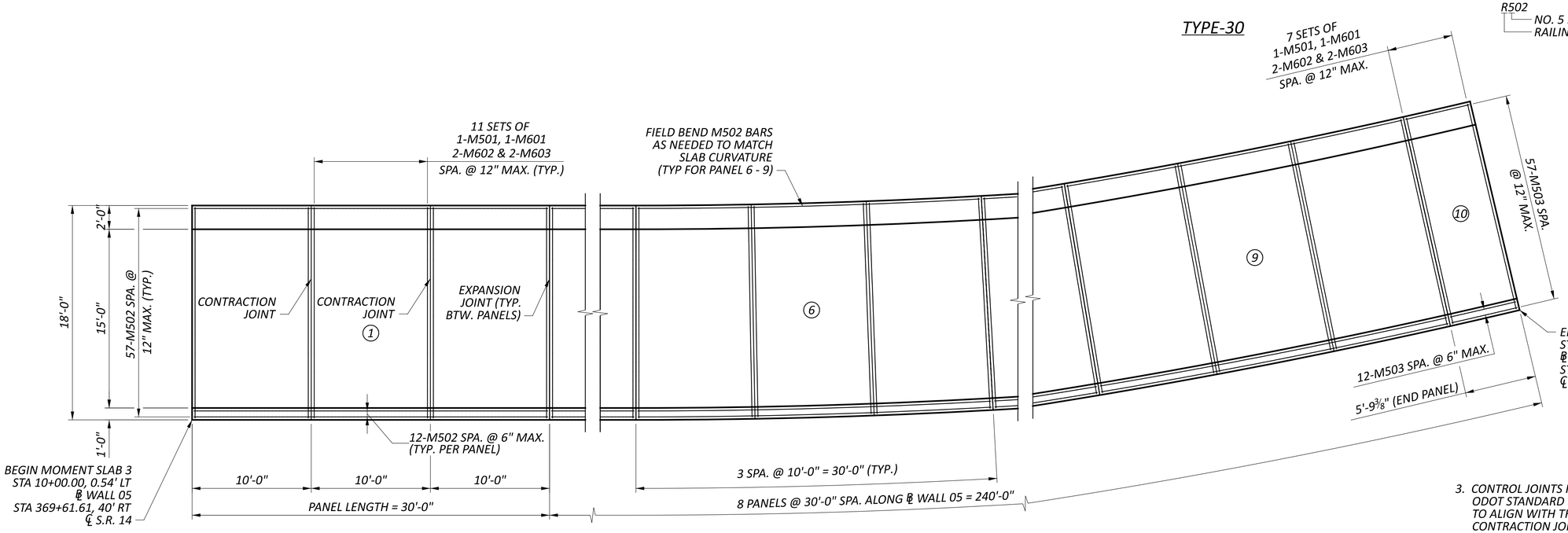


TYPE-30

REINFORCING STEEL NOTES:

1. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.
2. ALL REINFORCING IS TO BE EPOXY COATED.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.

EXAMPLES:
- M603 — NO. 6 SIZE BAR, MOMENT SLAB
- S1008 — NO. 10 SIZE BAR, SUPERSTRUCTURE
- R502 — NO. 5 BAR, RAILING



MOMENT SLAB PLAN
TYP. ALL PANELS U.N.O.

LEGEND
(#) - MOMENT SLAB PANEL NUMBER

NOTES
1. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 ↕ 22.
2. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" MIN. FOR ALLOTHER SURFACES UNLESS NOTED.
3. CONTROL JOINTS IN THE PARAPET SHALL BE PER ODOT STANDARD DRAWING BR-2-15 AND SPACED TO ALIGN WITH THE MOMENT SLAB CONTRACTION JOINTS.
4. EXPANSION JOINTS SHALL EXTEND THROUGH THE PARAPET AND BE IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.
5. CONTRACTION JOINTS SHALL BE PLACED IN THE MOMENT SLAB AT 3 EQUAL SPACES BETWEEN EXPANSION JOINTS IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.

WALL 05 - MOMENT SLAB DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY
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DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
16	22

SHEET	TOTAL
P.272	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:24:33 PM USER: todd.roxberry
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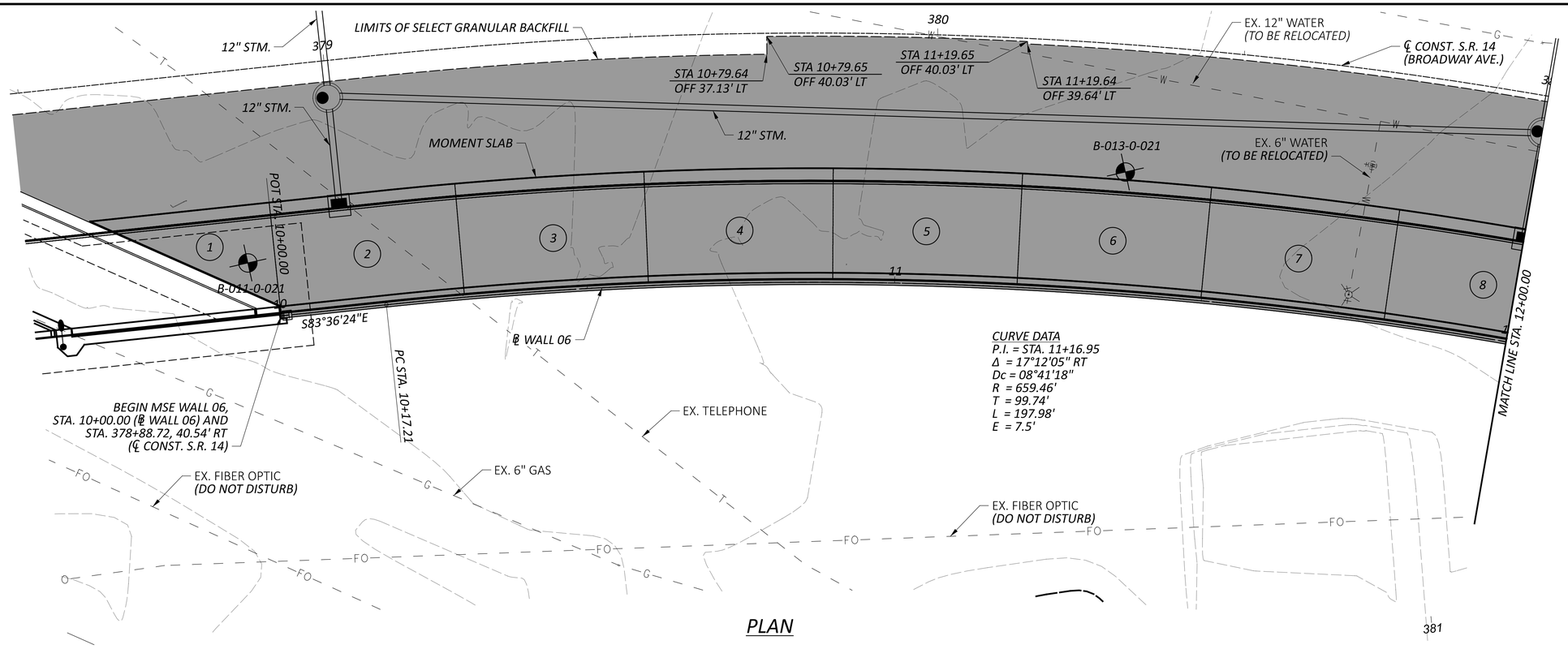
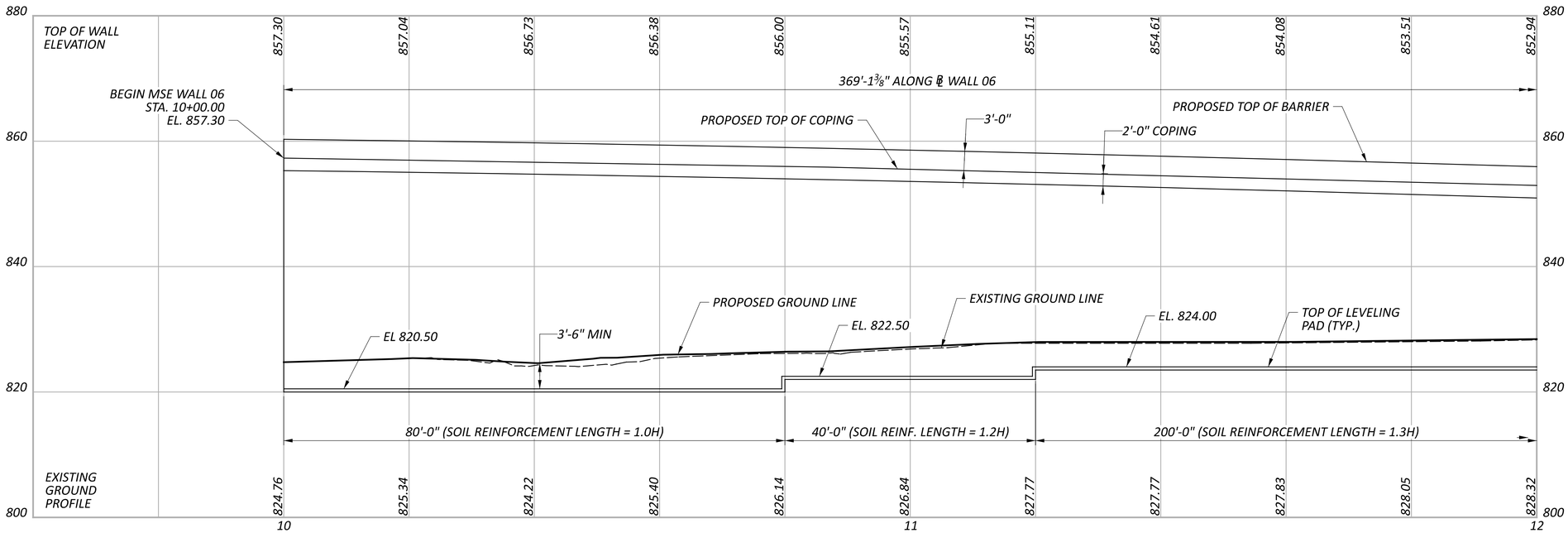


PLAN



PROFILE

LEGEND:

(#) - MOMENT SLAB PANEL NUMBER

- PROJECT BORING LOCATION

NOTES:

1. FOR MOMENT SLAB SECTION, DETAILS AND NOTES, SEE SHEET 19 , 22 .
2. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 , 22 .

WALL 06 - SITE PLAN 1 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

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DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
17	22

SHEET	TOTAL
P.273	329

CUY-14-6.93

MODEL: BLP_WALL006 - Plan 1 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:24:53 PM USER: todd.roxberry
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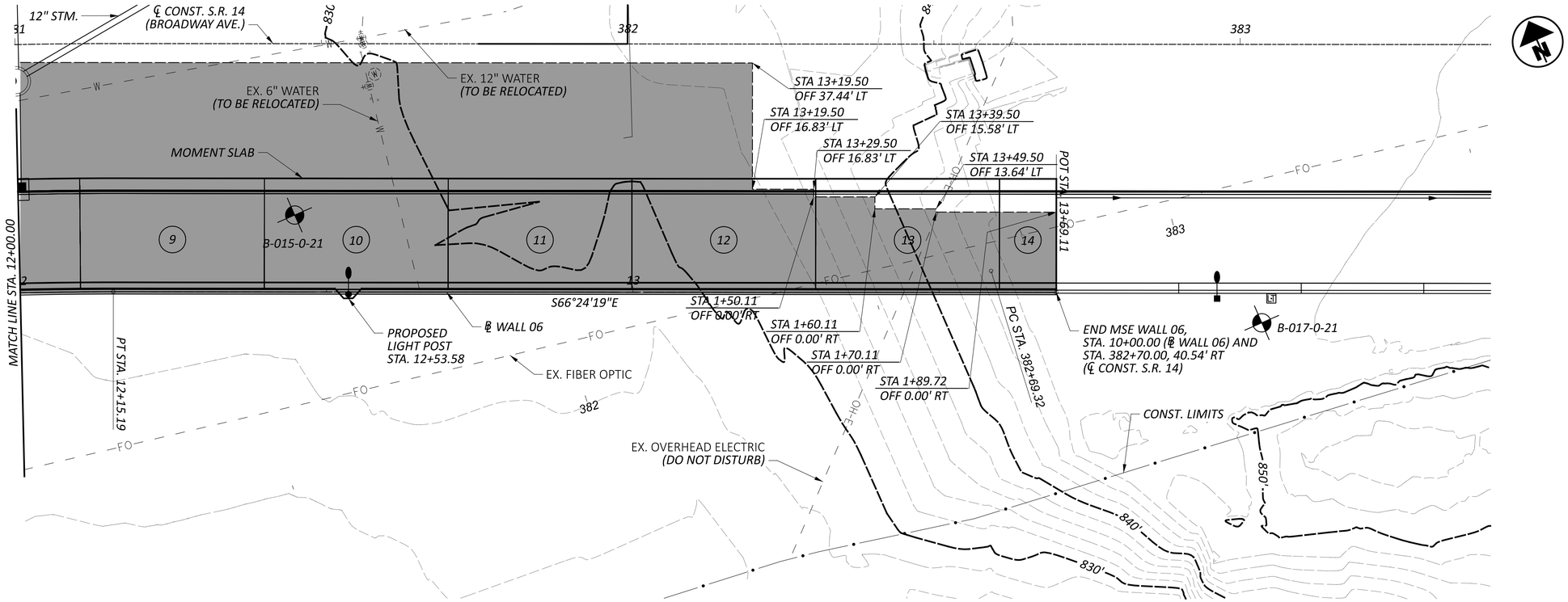
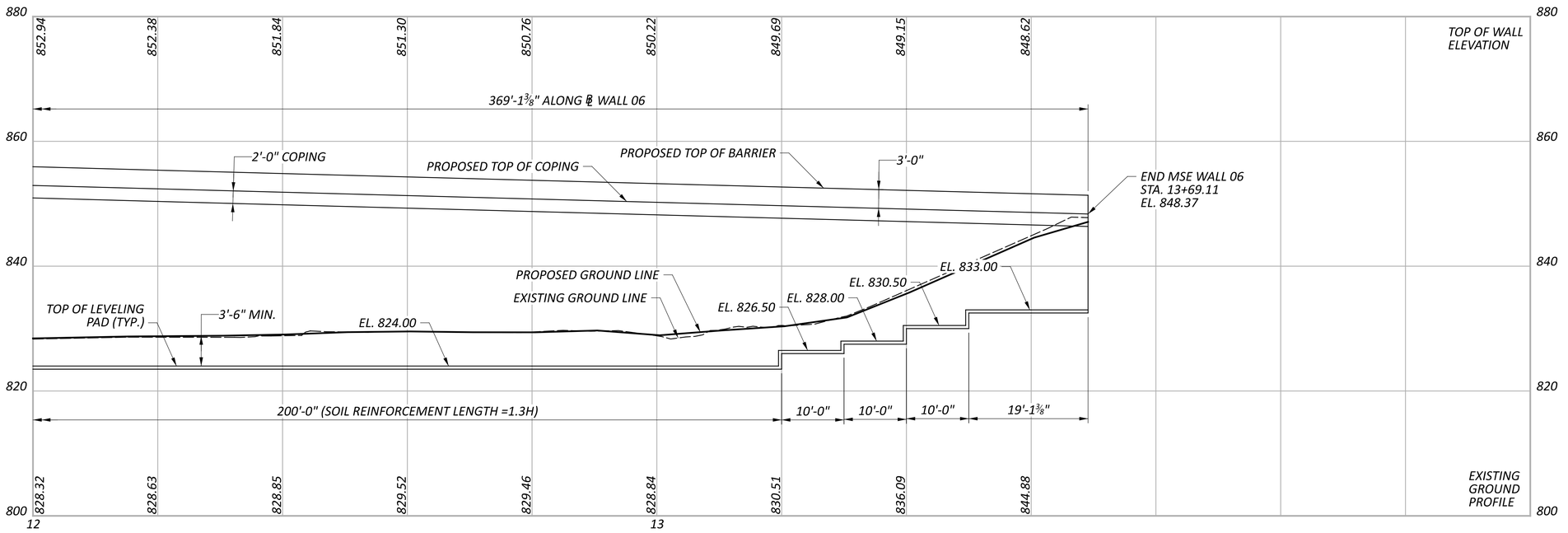


PLAN



PROFILE

LEGEND:

(#) - MOMENT SLAB PANEL NUMBER

- PROJECT BORING LOCATION

NOTES:

1. FOR MOMENT SLAB SECTION, DETAILS AND NOTES, SEE SHEET 6 , 22 .
2. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 , 22 .

WALL 06 - SITE PLAN 2 OF 2
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

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www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
18	22

SHEET	TOTAL
P.274	329

CUY-14-6.93

MODEL: BLP_WALL006 - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:25:16 PM USER: todd.roxberry
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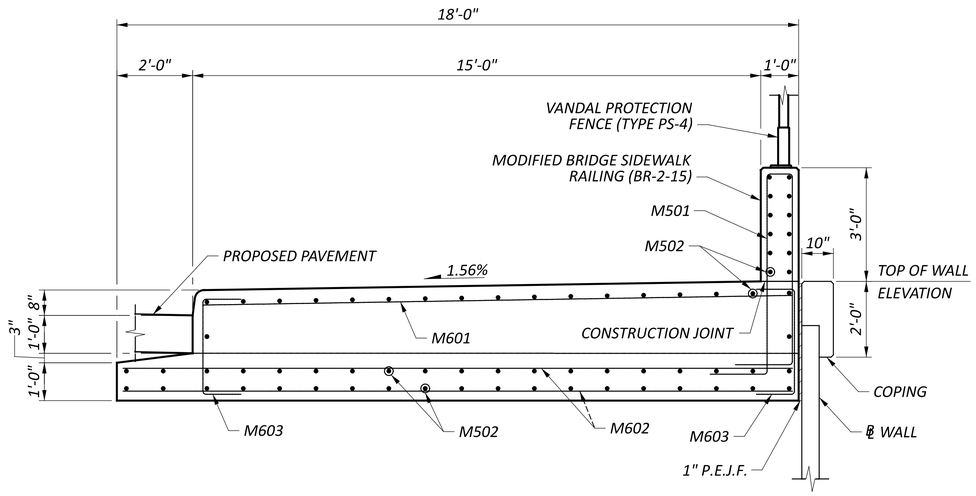
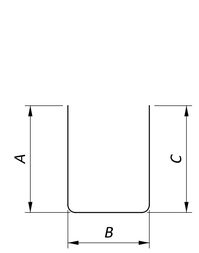


TYPICAL MOMENT SLAB DETAIL

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
MOMENT SLAB											



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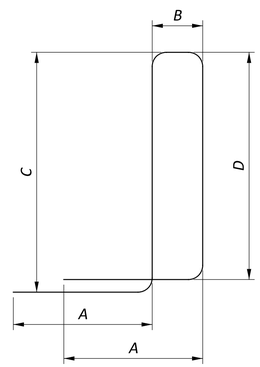


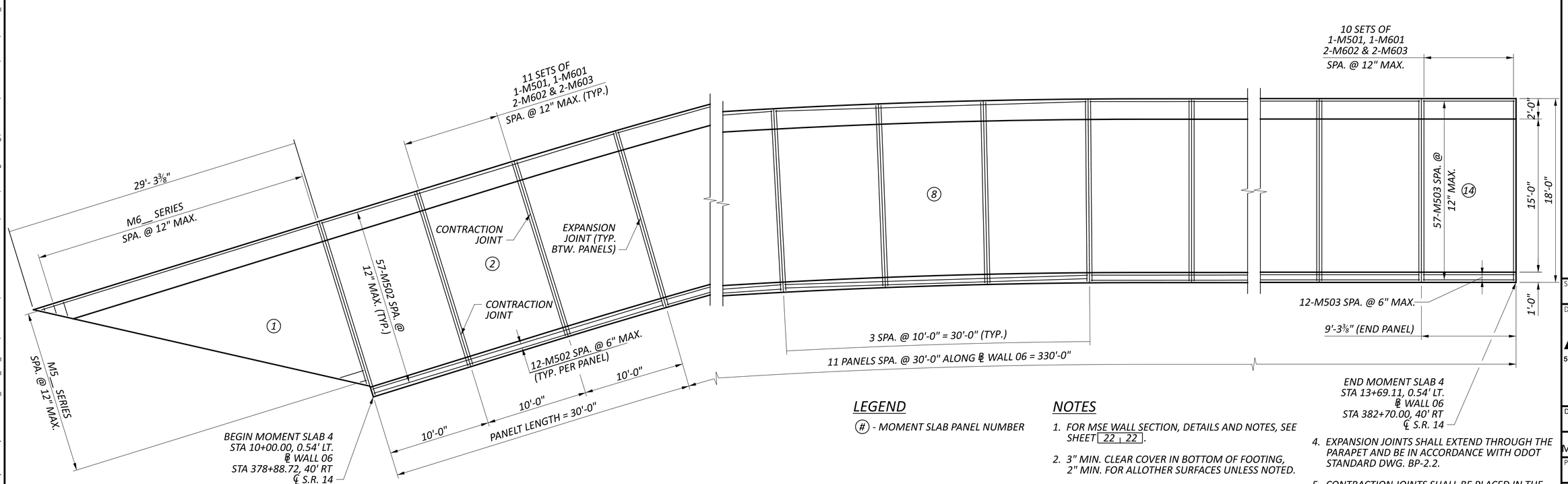
TYPE-30

REINFORCING STEEL NOTES:

1. *BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.*
2. *ALL REINFORCING IS TO BE EPOXY COATED.*
3. *THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.*

EXAMPLES:

- *M603* — *NO. 6 SIZE BAR, MOMENT SLAB*
- *S1008* — *NO. 10 SIZE BAR, SUPERSTRUCTURE*
- *R502* — *NO. 5 BAR, RAILING*



LEGEND

(#) - *MOMENT SLAB PANEL NUMBER*

MOMENT SLAB PLAN

TYP. ALL PANELS U.N.O.

NOTES

1. *FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 , 22 .*
2. *3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" MIN. FOR ALLOTHER SURFACES UNLESS NOTED.*
3. *CONTROL JOINTS IN THE PARAPET SHALL BE PER ODOT STANDARD DRAWING BR-2-15 AND SPACED TO ALIGN WITH THE MOMENT SLAB CONTRACTION JOINTS.*
4. *EXPANSION JOINTS SHALL EXTEND THROUGH THE PARAPET AND BE IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.*
5. *CONTRACTION JOINTS SHALL BE PLACED IN THE MOMENT SLAB AT 3 EQUAL SPACES BETWEEN EXPANSION JOINTS IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.*

WALL 06 - MOMENT SLAB DETAILS
BRIDGE NO. CUY-00014-06.930
BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

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564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
19	22

SHEET	TOTAL
P.275	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:25:34 PM USER: todd.roxberry
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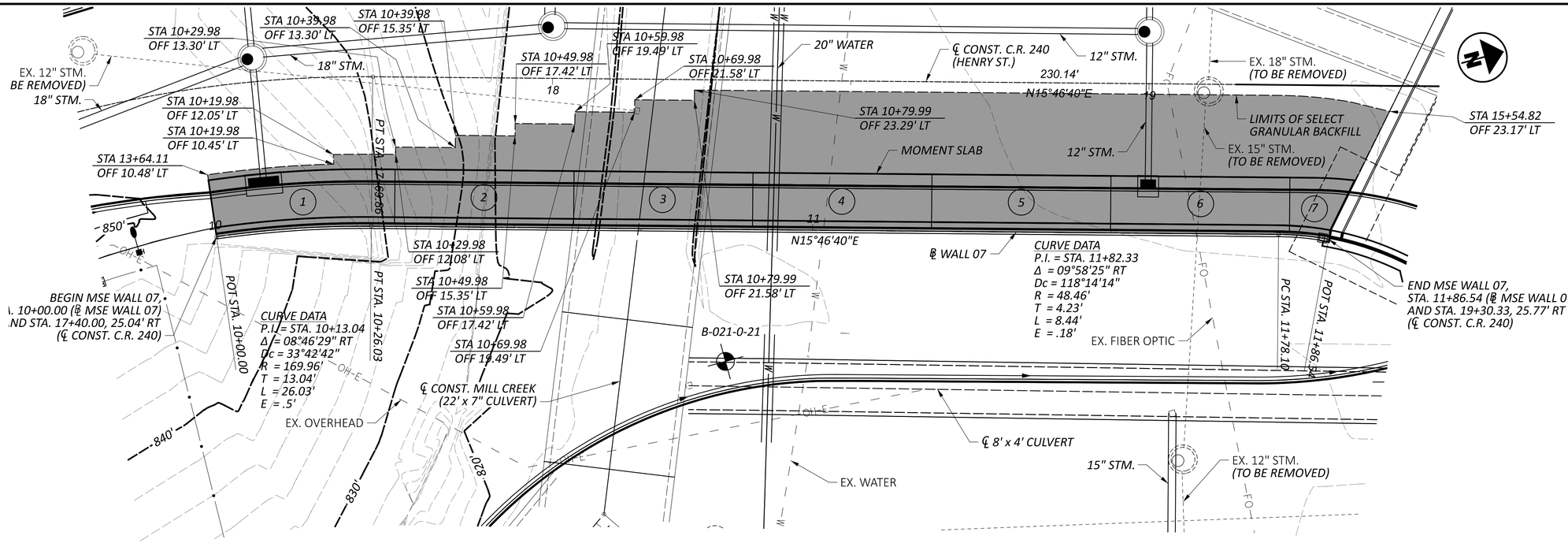
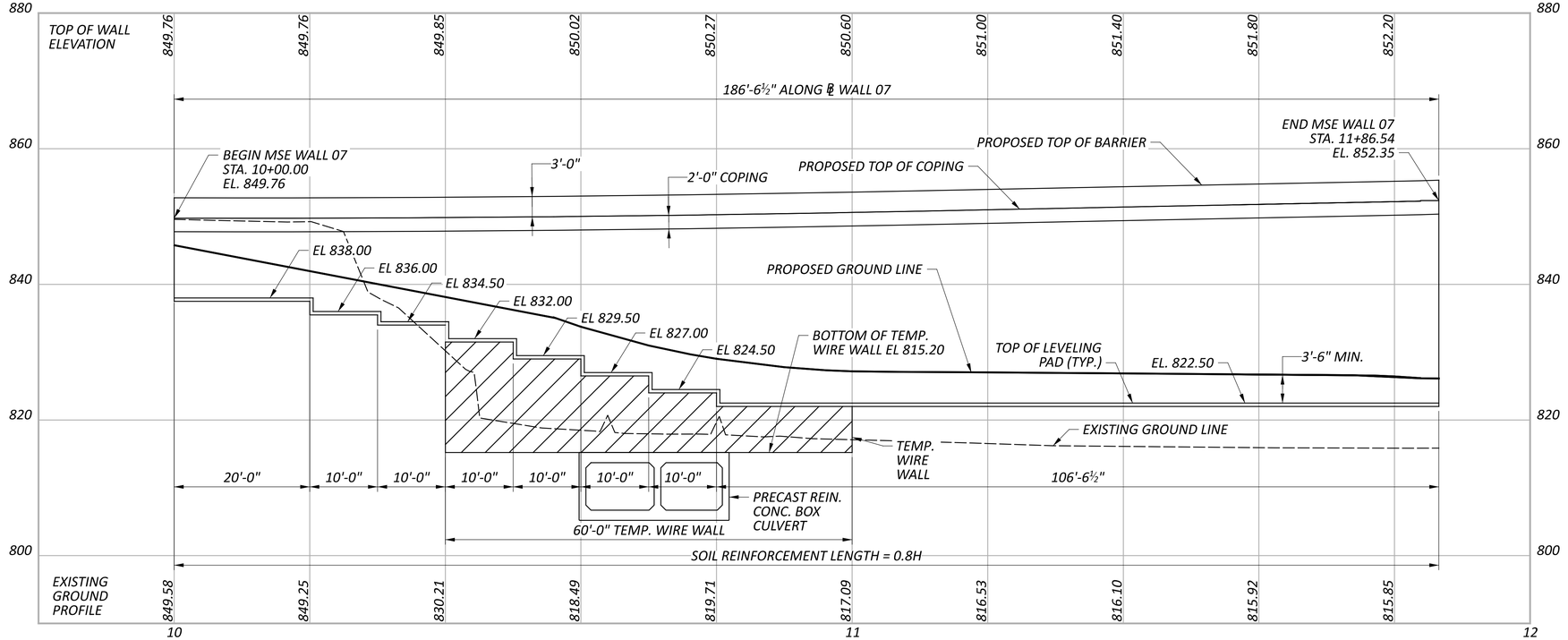


PLAN



PROFILE

LEGEND:

(#) - MOMENT SLAB PANEL NUMBER

- PROJECT BORING LOCATION

NOTES:

1. FOR MOMENT SLAB SECTION, DETAILS AND NOTES, SEE SHEET [6 , 22].
2. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET [22 , 22].

WALL 07 - SITE PLAN
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN
-

DESIGN AGENCY

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www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER
MRW 02/06/23

PROJECT ID
104132

SUBSET	TOTAL
20	22

SHEET	TOTAL
P.276	329

CUY-14-6.93

MODEL: BLP_WALL007 - Plan 3 PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:25:54 PM USER: todd.roxberry
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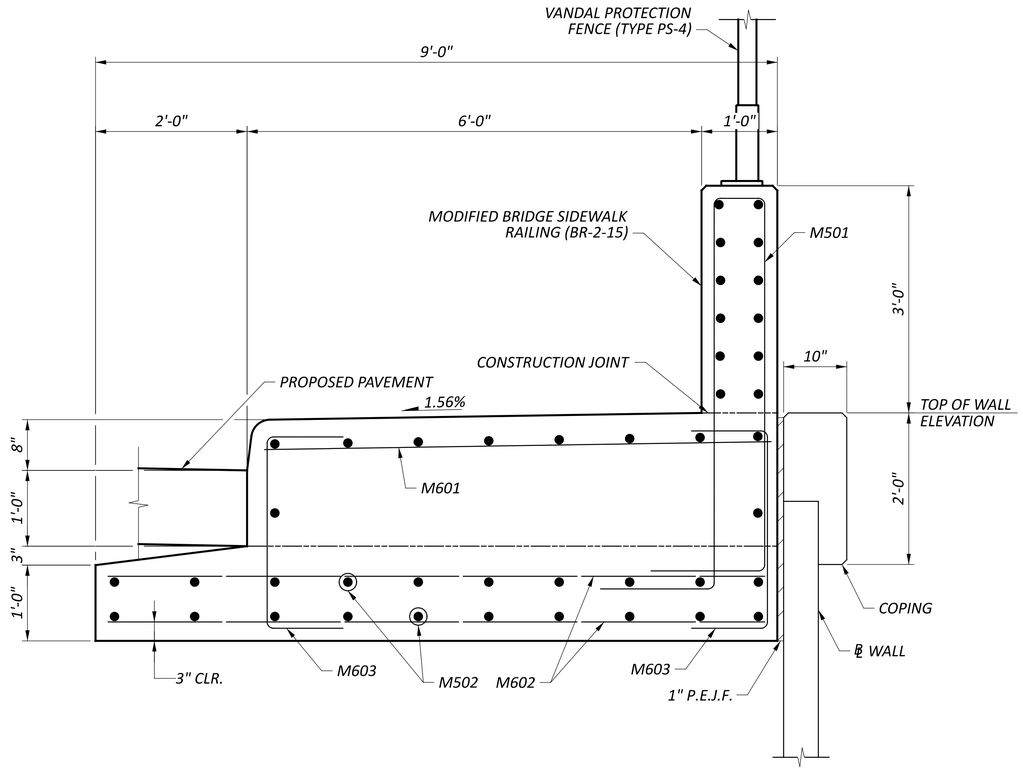
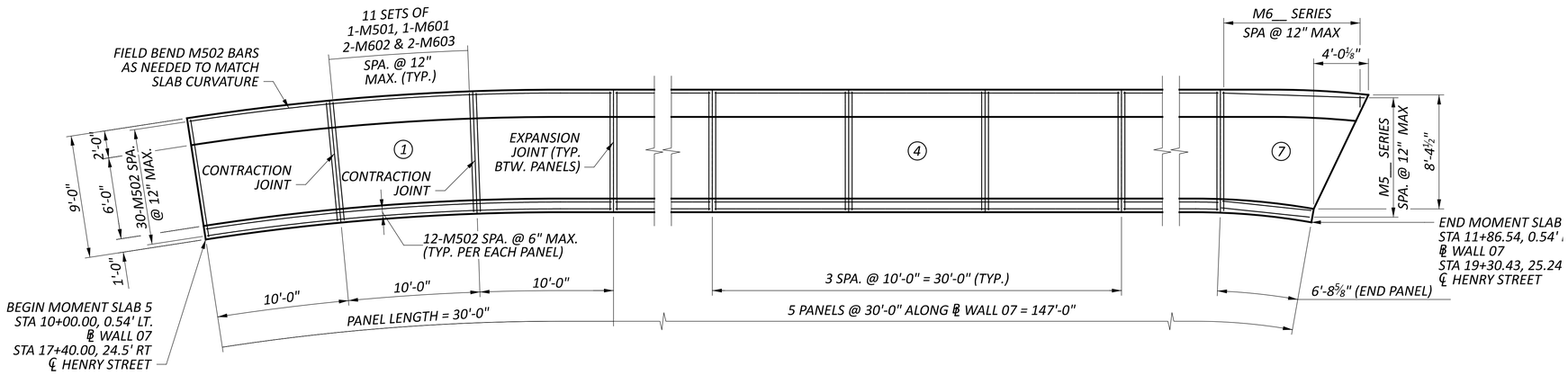


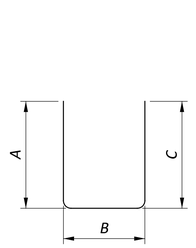
TYPICAL MOMENT SLAB DETAIL



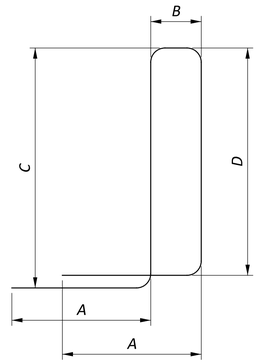
MOMENT SLAB PLAN

TYP. ALL PANELS U.N.O.

MARK	NUMBER / TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
MOMENT SLAB											



TYPE-2



TYPE-30

REINFORCING STEEL NOTES:

1. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.
2. ALL REINFORCING IS TO BE EPOXY COATED.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.

EXAMPLES:

- M603 — NO. 6 SIZE BAR, MOMENT SLAB
- S1008 — NO. 10 SIZE BAR, SUPERSTRUCTURE
- R502 — NO. 5 BAR, RAILING

LEGEND

(#) - MOMENT SLAB PANEL NUMBER

NOTES

1. FOR MSE WALL SECTION, DETAILS AND NOTES, SEE SHEET 22 ↓ 22.
2. 3" MIN. CLEAR COVER IN BOTTOM OF FOOTING, 2" MIN. FOR ALLOTHER SURFACES UNLESS NOTED.
3. CONTROL JOINTS IN THE PARAPET SHALL BE PER ODOT STANDARD DRAWING BR-2-15 AND SPACED TO ALIGN WITH THE MOMENT SLAB CONTRACTION JOINTS.
4. EXPANSION JOINTS SHALL EXTEND THROUGH THE PARAPET AND BE IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.
5. CONTRACTION JOINTS SHALL BE PLACED IN THE MOMENT SLAB AT 3 EQUAL SPACES BETWEEN EXPANSION JOINTS IN ACCORDANCE WITH ODOT STANDARD DWG. BP-2.2.

WALL 07 - MOMENT SLAB DETAILS
BRIDGE NO. CUY-CR00240-00.610
HENRY STREET (C.R. 240) OVER MILL CREEK

SFN -

DESIGN AGENCY

AECOM
564 White Pond Drive
Akron, OH 44320
(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER: MRW 02/06/23

PROJECT ID: 104132

SUBSET	TOTAL
21	22

SHEET	TOTAL
P.277	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:26:14 PM USER: todd.roxberry
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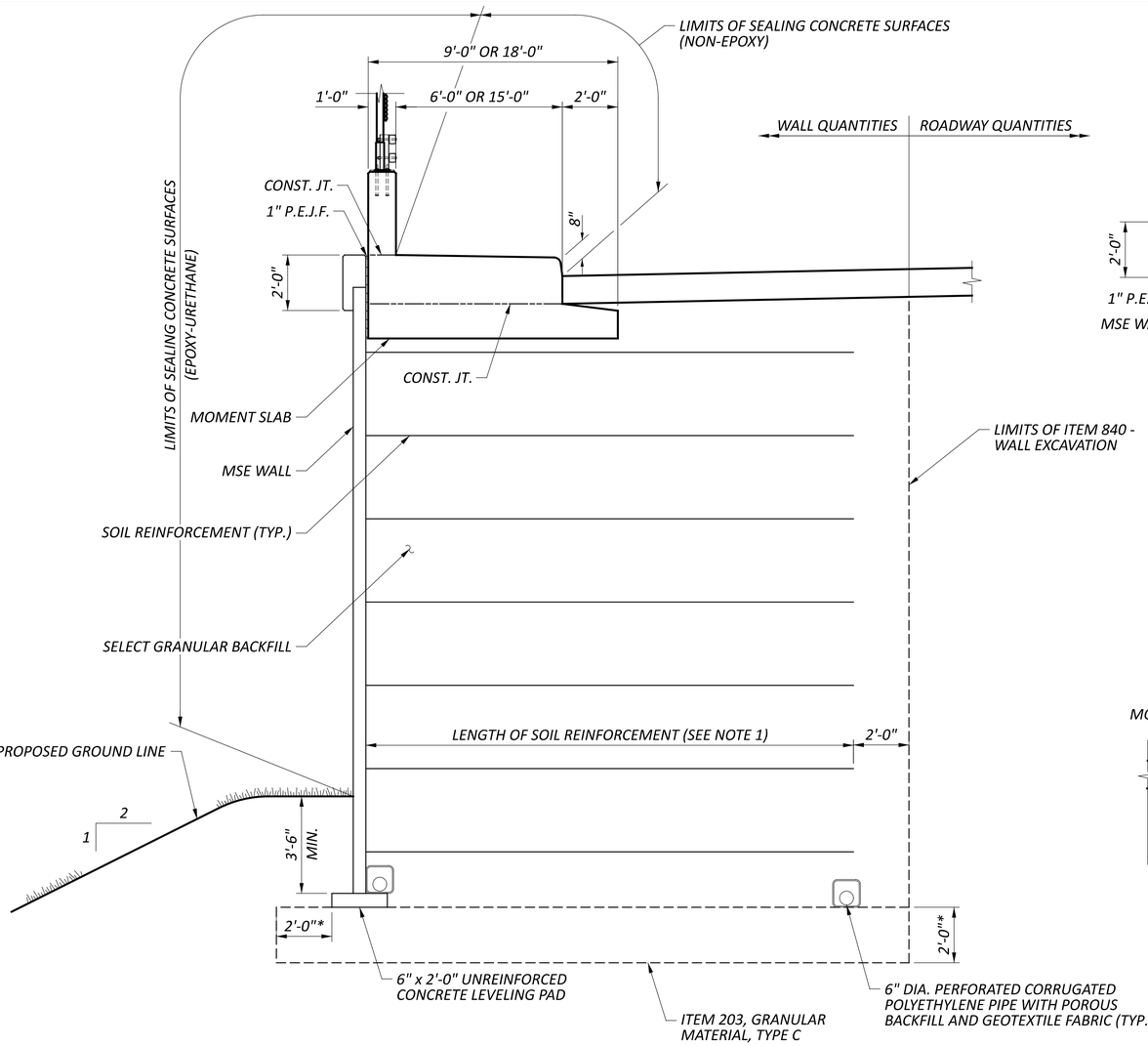
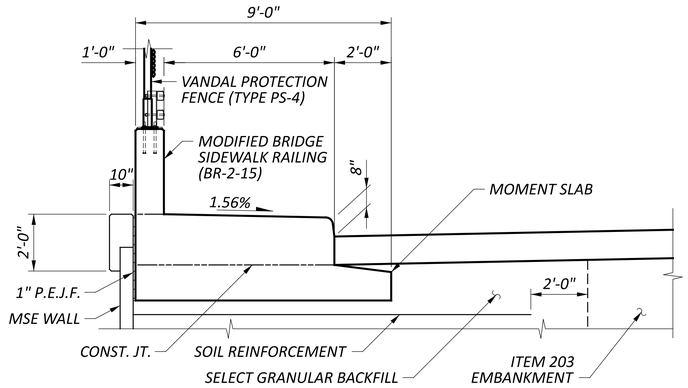


MSE WALL AND MOMENT SLAB - TYPICAL SECTION

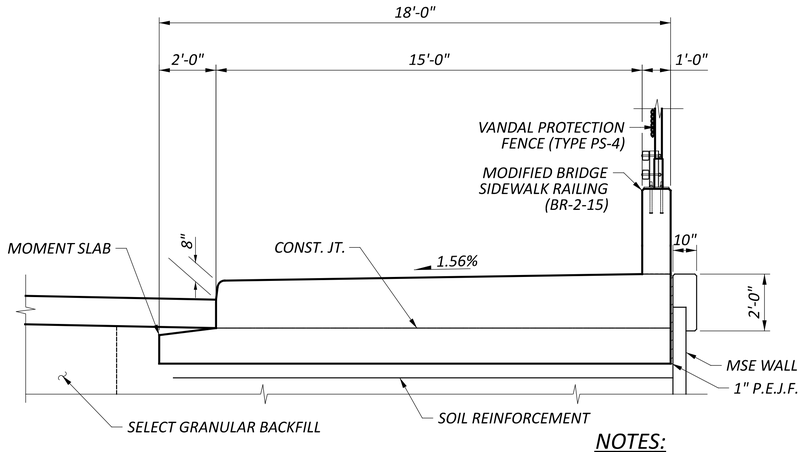
WALL 01, WALL 03, WALL 05, WALL 06 AND WALL 07

* SEE NOTE 3



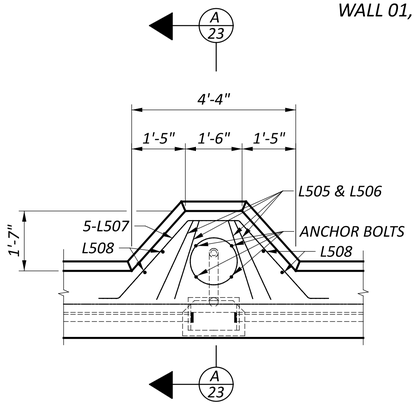
9'-0" MOMENT SLAB - TYPICAL SECTION

WALL 01, WALL 03 AND WALL 07

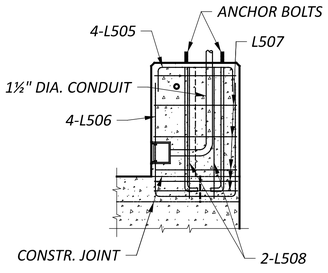


18'-0" MOMENT SLAB - TYPICAL SECTION

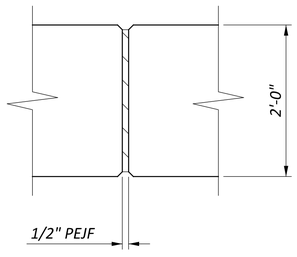
WALL 05 AND WALL 06



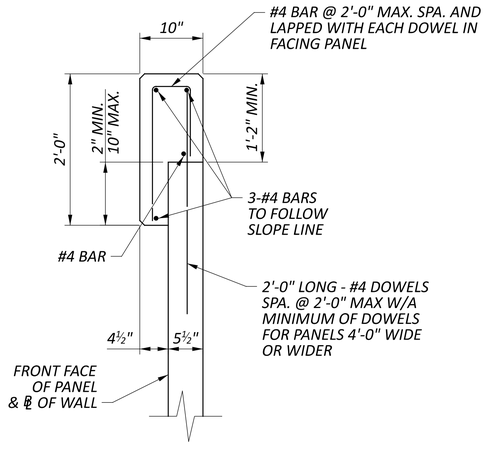
PLAN VIEW



A 23 SECTION



COPING EXPANSION JOINT



MSE WALL COPING

NOTES:

1. SOIL REINFORCEMENT LENGTH TO BE DETERMINED BY WALL SUPPLIER ON THE APPROVED WALL SYSTEM, BUT SHALL NOT BE LESS THEN 0.7H WHERE H IS THE DESIGN HEIGHT OF THE WALL, UNLESS NOTED OTHERWISE OR 8'-0", WHICHEVER IS GREATER.
2. FLOW LINE OF 6" DIA. PERFORATED PLASTIC PIPE WILL VARY TO PROVIDE POSITIVE DRAINAGE AT OUTLET. MINIMUM SLOPE OF PIPE SHALL BE ⅛" PER FOOT.
3. ADDITIONAL ITEM 203, GRANULAR MATERIAL, TYPE C IS TO BE ADDED TO THE GROUND IMPROVEMENT UNDERCUT AREA AT WALL 03. FOR GROUND IMPROVEMENT AREA, SEE SHEET 11 | 22 .
4. THE THICKNESS OF MSE WALL PANELS IS ASSUMED AT 5½".
5. COPING EXPANSION JOINTS SHALL BE SPACED NO MORE THAN 20 FEET APART AND ALIGNED WITH JOINTS BETWEEN FALING PANELS.
6. COMPACT EXPOSED BEARING SURFACE WITH VIBRATORY EQUIPMENT TO THE REQUIREMENTS OF CMS 204 AND SS 840.
7. THE RAILING AND/OR FENCE POST ANCHORS SHALL BE CAST-IN-PLACE WITH BARRIERS AND WILL BE INCLUDED FOR PAYMENT UNDER ITEM 607-VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.
8. ALL TOP OF WALL ELEVATIONS ARE GIVEN AT THE TOP OF COPING.
9. THE WALL BASELINE IS LOCATED AT THE FRONT FACE OF MSE WALL.
10. MINIMUM DISTANCE FROM THE PROPOSED GROUND SURFACE TO THE TOP OF THE LEVELING PAD IS DETERMINED BASED ON A FROST DEPTH OF 3.5 FT.
11. THE WALL PLANS PRESENT THE MINIMUM LOCATION WHERE STEPS IN THE LEVELING PAD CAN OCCUR. THE FINAL LOCATIONS WILL BE DETERMINED BY THE WALL MANUFACTURE IN THE SHOP DRAWING.

TYPICAL WALL SECTIONS AND DETAILS

BRIDGE NO. CUY-00014-06.930

BROADWAY AVENUE (S.R. 14) OVER CHAINCRAFT ROAD, W&LE AND NS RAILWAYS

SFN -

DESIGN AGENCY

AECOM
564 White Pond Drive
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(330) 836-9111
www.aecom.com

DESIGNER	CHECKER
TLN	ERM

REVIEWER MRW 02/06/23

PROJECT ID 104132

SUBSET	TOTAL
22	22

SHEET	TOTAL
P.278	329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/15/2023 TIME: 9:26:32 PM USER: todd.roxberry
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PROJECT DESCRIPTION

REPLACEMENT OF BRIDGE CARRYING SR-14 OVER CHAINCRAFT ROAD, NORFOLK SOUTHERN AND WHEELING AND LAKE ERIE RAILWAYS, REALIGNMENT OF ASSOCIATED APPROACH ROADWAYS, REPLACEMENT OF SECTION OF CULVERT CARRYING MILL CREEK UNDER HENRY STREET, AND CONSTRUCTION OF SEVEN (7) RETAINING WALLS IN THE CITY OF GARFIELD HEIGHTS, CUYAHOGA COUNTY, OHIO.

HISTORIC RECORDS

THE FOLLOWING PLANS WERE AVAILABLE FOR REVIEW AND EVALUATION FOR THIS PROJECT:

BRIDGE FOUNDATION INVESTIGATION SHEETS AND BORING LOGS AS PART OF ODOT BRIDGE REHABILITATION PROJECT CUY 14 06.99 BROADWAY AVENUE BRIDGE NO. 123, PREPARED BY THE MASON, SANDEFUR & DE VERTEUIL, INC., DATED AUGUST 23, 1983;

HISTORICAL SOIL BORINGS ASSOCIATED WITH THE ABOVE REFERENCED PLANS WERE REVIEWED, HOWEVER, WERE NOT UTILIZED FOR OUR ANALYSIS, AND THEREFORE, ARE NOT REFERENCED OR PRESENTED WITHIN THESE GEOTECHNICAL PROFILE SHEETS.

GEOLOGY

THE PROJECT SITE IS LOCATED WITHIN THE GALION GLACIATED LOW PLATEAU. THIS AREA IS CHARACTERIZED AS ROLLING UPLAND MANTLED WITH THIN TO THICK DRIFT AND IS TRANSITIONAL BETWEEN THE GENTLY ROLLING TILL PLAIN AND THE HILLY GLACIATED ALLEGHENY PLATEAU WITH THE OVERALL AREA RANGING IN ELEVATION FROM 800 FT TO 1400 FT, WITH MODERATE RELIEF (100 FT). THE GEOLOGY IS DESCRIBED AS MEDIUM- TO LOW-LIME WISCONSINAN AGE TILL OVER MISSISSIPPIAN-AGE SHALES AND SANDSTONE.

RECONNAISSANCE

A FIELD RECONNAISSANCE VISIT FOR THE PROPOSED CUY-14-0693 BRIDGE REPLACEMENT PROJECT WAS CONDUCTED ON AUGUST 9, 2021. NO APPARENT GEOHAZARDS WERE OBSERVED WITHIN THE IMMEDIATE VICINITY OF THE PROJECT SITE. LAND USE OF THE AREA SURROUNDING THE PROPOSED PROJECT SITE CAN BE DESCRIBED AS A MIX OF PARKS, INDUSTRIAL PROPERTIES AND RAILROAD RIGHT-OF-WAY.

BRIDGE CUY-14-0693

THE EXISTING BRIDGE CARRYING SR-14 OVER CHAINCRAFT ROAD, NORFOLK SOUTHERN RAILWAY AND WHEELING & LAKE ERIE RAILWAY CONSISTS OF A MULTI-SPAN, REINFORCED CONCRETE AND STEEL BEAM BRIDGE. AT THE EXISTING BRIDGE ABUTMENT LOCATIONS, SR-14 IS SUPPORTED ON AN EMBANKMENT CONSTRUCTED ABOUT 18 TO 22 FT ABOVE THE SURROUNDING AREA. EXISTING EMBANKMENT SLOPES AT EACH ABUTMENT APPEARED TO BE APPROXIMATELY 2 HORIZONTAL TO 1 VERTICAL (2H:1V) WITH NO SIGNS OF INSTABILITY OBSERVED DURING OUR SITE VISIT. IN GENERAL, THE BRIDGE SUBSTRUCTURES APPEARED TO BE IN GOOD CONDITION WITH NO APPARENT SIGNS OF DISTRESS DUE TO GEOTECHNICAL CONCERNS NOTED DURING OUR FIELD RECONNAISSANCE VISIT.

THE SITE OF THE PROPOSED REAR ABUTMENT, LOCATED BETWEEN CHAINCRAFT ROAD AND THE EXISTING BRIDGE STRUCTURE, WAS OBSERVED TO BE A RELATIVELY FLAT GRASSY AREA WITH OVERHEAD UTILITIES, WHILE THE LOCATIONS OF THE PROPOSED BRIDGE PIERS AND FORWARD ABUTMENT WERE OBSERVED TO BE IN HEAVILY VEGETATED AREAS AND LOCATED WITHIN CLOSE PROXIMITY TO THE NORFOLK SOUTHERN RAILWAY AND WHEELING & LAKE ERIE RAILWAY. THE FORWARD PIER AND FORWARD ABUTMENT ARE PROPOSED WITHIN EXISTING RAILROAD RIGHT-OF-WAY. WITH RESPECT TO DRAINAGE, THE SITE OF THE PROPOSED BRIDGE APPEARED TO BE WELL DRAINED, WITH NO SIGNS OF PONDING OR DRAINAGE ISSUES OBSERVED DURING OUR FIELD VISIT.

CULVERT CUY-CR002-00.610

THE SITE OF THE PROPOSED CULVERT REPLACEMENT WAS OBSERVED TO BE A RELATIVELY FLAT AREA CONSISTING OF A GRAVEL ACCESS ROAD CONNECTING GARFIELD PARKWAY AND CHAINCRAFT RD. NO APPARENT SIGNS OF GEOTECHNICAL RELATED DISTRESS WERE NOTED IN THE VICINITY OF THE CULVERT LOCATION DURING OUR FIELD RECONNAISSANCE VISIT. THE CULVERT LOCATION ALSO APPEARED TO BE WELL DRAINED, WITH NO SIGNS OF PONDING OR DRAINAGE ISSUES OBSERVED DURING OUR VISIT.

RETAINING WALLS 1 AND 5 & TEMPORARY WALL 2

THE LOCATION OF THE PROPOSED MSE WALLS RW-1, RW-5 AND TEMPORARY RW-2 ENCOMPASSES THE AREA BEGINNING FROM THE WESTERN END OF THE EXISTING CUY-14-0693 BRIDGE STRUCTURE (BENT NO. 1) AND EXTENDING EAST TO THE REAR ABUTMENT OF THE NEWLY REALIGNED BRIDGE CUY-14-0693. A MAJORITY OF THIS AREA IS LOCATED UNDERNEATH AND CLOSELY SURROUNDING THE EXISTING BRIDGE AND WAS OBSERVED TO BE A RELATIVELY FLAT GRASSY AREA THAT CONTAINED A FEW SMALLER TREES AS WELL AS OVERHEAD LIGHT AND UTILITY POLES. THE SLOPE NEAR BENT NO. 1 OF THE EXISTING BRIDGE WAS OBSERVED TO BE AT ABOUT 2 HORIZONTAL TO 1 VERTICAL (2H:1V) WITH NO SIGNS OF INSTABILITY OBSERVED AT THE TIME OF OUR VISIT. IN GENERAL, THE AREA DID NOT APPEAR TO HAVE ANY DRAINAGE CONCERNS WITH NO APPARENT SIGNS OF PONDING OBSERVED AT THE TIME OF OUR SITE VISIT. IT WAS NOTED THAT A SEDIMENT-FILLED CONCRETE DRAINAGE SWALE, LOCATED BETWEEN BENT NO. 1 AND BENT NO. 2 OF THE EXISTING BRIDGE, APPEARED TO DIRECT BRIDGE DRAINAGE TO A SMALL AREA BENEATH THE BRIDGE.

LEGEND

	DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL AND/OR STONE FRAGMENTS	A-1-a	11	39
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	43	129
	GRAVEL &/OR STONE FRAGMENTS WITH SAND & SILT	A-2-4	7	1
	FINE SAND	A-3	1	2
	COARSE AND FINE SAND	A-3a	5	24
	SANDY SILT	A-4a	14	6
	SILT	A-4b	1	2
	SILT AND CLAY	A-6a	5	7
	SILTY CLAY	A-6b	1	0
	CLAY	A-7-6	13	19
		TOTAL	101	229
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		

BORING LOCATION - PLAN VIEW.

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC — INDICATES WATER CONTENT IN PERCENT.

N_{60} — INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

X/Y/D" — NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT):
X= NUMBER OF BLOWS FOR FIRST 6 INCHES.
Y= NUMBER OF BLOWS (UNCORRECTED) FOR D INCHES OF PENETRATION AT REFUSAL.

W — INDICATES FREE WATER ELEVATION.

INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.

SS — INDICATES A SPLIT SPOON SAMPLE.

NP — INDICATES A NON-PLASTIC SAMPLE.

RECONNAISSANCE (CONTINUED)

RETAINING WALLS 3 AND 6 & TEMPORARY WALL 4

THE LOCATION OF THE PROPOSED MSE WALLS RW-3, RW-6 AND TEMPORARY RW-4 ENCOMPASSES THE AREA LOCATED IMMEDIATELY FOLLOWING THE FORWARD ABUTMENT OF THE REALIGNED BRIDGE CUY 14 0693 (THE EDGE OF THE WHEELING & LAKE ERIE RAILWAY) AND EXTENDING NORTH/EAST TO MATCH INTO THE EXISTING SR 14 GRADES BEYOND THE EXISTING BRIDGE. AT THE TIME OF OUR SITE VISIT, THE INDICATED AREA CONSISTED OF: 1) GRAVEL AND PAVED ACCESS ROADS TO THE ADJACENT INDUSTRIAL PROPERTIES; AND 2) HEAVILY VEGETATED AREAS CONTAINING VARIOUS DEBRIS SUCH AS PILES OF BROKEN CONCRETE, WOOD, TIRES, ABANDONED TRAILERS, ETC. AT THE END OF THE EXISTING BRIDGE (BENT NO. 49), A SMALL CONCRETE RETAINING WALL APPEARED TO BE ACTING AS A WING WALL AND WOOD LAGGING WAS OBSERVED TO BE RETAINING SOIL BETWEEN BENT NO. 48 AND BENT NO. 49. NEITHER THE RETAINING WALL NOR THE LAGGING SHOWED OBVIOUS SIGNS OF INSTABILITY AT THE TIME OF OUR SITE VISIT. THE EMBANKMENT SLOPE ADJACENT TO BENT NO. 49 WAS OBSERVED TO BE HEAVILY VEGETATED AND SLOPING AT APPROXIMATELY 2H:1V. THE EMBANKMENT APPEARED TO BE STABLE WITH NO APPARENT SIGNS OF INSTABILITY OBSERVED. IN GENERAL, THE AREA DID NOT APPEAR TO HAVE ANY DRAINAGE CONCERNS WITH NO APPARENT SIGNS OF PONDING OBSERVED WITHIN THE FOOTPRINT OF THE PROPOSED WALLS AT THE TIME OF OUR SITE VISIT.

LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS | COBBLES		GRAVEL	COARSE SAND	FINE SAND	SILT | CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE	

RECONNAISSANCE (CONTINUED)

RETAINING WALL 7

THE LOCATION OF THE PROPOSED MSE WALL RW-7 EXTENDS ALONG EASTERN SIDE OF THE EXISTING HENRY STREET BRIDGE (CUY-CR24-0061) FROM THE REAR ABUTMENT OF THE PROPOSED BRIDGE CUY-14-0693 TO BENT NO. 56 OF THE EXISTING HENRY STREET BRIDGE. THIS AREA ENCOMPASSES PORTIONS OF THE EXISTING BRIDGE AS WELL AS THE EXISTING HENRY STREET EMBANKMENT SLOPE AT THIS LOCATION. THE SLOPE IS PARTIALLY SUPPORTED BY A RETAINING WALL THAT IS ALSO RETAINING FILL AROUND THE EXISTING BRIDGE PIERS. A STAIRCASE ALSO ASCENDS THE EXISTING EMBANKMENT SLOPE IN THIS LOCATION ALLOWING FOR PEDESTRIAN ACCESS TO AND FROM CHAINCRAFT ROAD AND HENRY STREET. THE EMBANKMENT AT THIS LOCATION WAS OBSERVED TO BE HEAVILY VEGETATED AND SLOPE UPWARD FROM THE EXISTING WALL TO THE HENRY STREET ELEVATION AT APPROXIMATELY 2.5H:1V. THE SLOPE AND THE EXISTING RETAINING WALL APPEARED TO BE STABLE WITH NO APPARENT SIGNS OF INSTABILITY OBSERVED DURING OUR SITE VISIT. IN GENERAL, THE SITE APPEARED TO BE WELL-DRAINED WITH NO APPARENT SIGNS OF PONDING OBSERVED AT THE TIME OF OUR VISIT.

RECON. - EB, 08/09/21
DRILLING - CA, JH, JL, 08/02/21 - 09/13/21
DRAWN - MWJ, AI, 02/07/23 - 02/13/23
REVIEWED - BPA, 02/13/13

GEOTECHNICAL PROFILE -ROADWAY

DESIGN AGENCY
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TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI

REVIEWER BPA 02/13/23

PROJECT ID 104132

SUBSET 1 | TOTAL 51

SHEET P.279 | TOTAL 329

CUY-14-6.93

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SUBSURFACE EXPLORATION

THE EXPLORATION FOR THE PROJECT WAS CONDUCTED BY NEAS BETWEEN AUGUST 2, 2021 AND SEPTEMBER 13, 2021. THE EXPLORATION INCLUDED 22 BORINGS DRILLED TO DEPTHS RANGING FROM 7.5 TO 61.5 FT BGS. THE BORINGS WERE DRILLED USING A EITHER A CME 55, CME 75 OR CME 55X TRUCK OR TRACK MOUNTED DRILLING RIG UTILIZING 3.25-INCH DIAMETER HOLLOW STEM AUGERS. SOIL SAMPLES WERE GENERALLY RECOVERED AT 2.5-FT INTERVALS TO DEPTHS BETWEEN 20 AND 40 FT BGS AND AT 5.0-FT INTERVALS THEREAFTER USING A SPLIT SPOON SAMPLER (AASHTO T-206 "STANDARD METHOD FOR PENETRATION TEST AND SPLIT BARREL SAMPLING OF SOILS"). SAMPLES IN COMBINED STRUCTURE/SUBGRADE BORINGS WERE SAMPLED CONTINUOUSLY TO DEPTHS BETWEEN 7.5 AND 11 FT BGS. STANDARD PENETRATION TESTS (SPT) WERE CONDUCTED USING CME AUTO HAMMERS THAT HAD BEEN CALIBRATED TO BE BETWEEN 68.4% AND 89% EFFICIENT.

EXPLORATION FINDINGS

THE SUBSURFACE PROFILE GENERALLY CONSISTS OF AN UPPER STRATUM OF HIGHLY VARIABLE FILL/POSSIBLE FILL SOILS RANGING FROM COARSE-GRAINED, NON-COHESIVE MATERIAL TO FINE-GRAINED, COHESIVE MATERIAL ATOP NATURAL SAND AND GRAVEL SOILS. THE HIGHLY VARIABLE FILL POSSIBLE FILL SOILS CAN BE DESCRIBED AS LOOSE TO VERY DENSE OR SOFT TO HARD, WHILE THE NATURAL SAND AND GRAVEL SOILS ENCOUNTERED UNDERLYING THE FILL/POSSIBLE FILL SOILS CAN BE DESCRIBED AS MEDIUM DENSE TO VERY DENSE NON-COHESIVE, GRANULAR MATERIAL. BEDROCK WAS NOT ENCOUNTERED WITHIN THE DEPTHS OF THE BORINGS PERFORMED AT THE PROJECT SITE.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2023.

AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE SOIL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.

SUMMARY OF SOIL TEST DATA
SR-14

EXPLORATION NO., STATION & OFFSET	FROM		TO	SAMPLE ID	N60	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO4
B-018-0-21	02.50	-	04.00	SS-1	8	56	4	5	3	5	35	52	42	20	22	24	A-7-6 (13)	-
STA. 384+07, 19' LT.	05.00	-	06.50	SS-2	8	22	2.75				SAME AS SS-1					22	A-7-6 (VISUAL)	-
LATITUDE = 41.430756																		
LONGITUDE = -81.597174																		
B-019-0-21	01.50	-	03.00	SS-1	11	61	3.75	3	1	1	15	80	52	25	27	29	A-7-6 (17)	-
STA. 385+30, 53' LT.	03.00	-	04.50	SS-2	11	67	3.75	1	0	0	20	79	56	26	30	30	A-7-6 (19)	-
LATITUDE = 41.430718	04.50	-	06.00	SS-3	10	72	3.5				SAME AS SS-2					31	A-7-6 (VISUAL)	-
LONGITUDE = -81.596761	06.00	-	07.50	SS-4	10	89	4.25				SAME AS SS-2					28	A-7-6 (VISUAL)	-

GEOTECHNICAL PROFILE -ROADWAY
EXPLORATION NOTES (CONT.)

DESIGN AGENCY
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DESIGNER
MWJ/AI

REVIEWER
BPA 02/13/23

PROJECT ID
104132

SUBSET 2 | TOTAL 51

SHEET P.280 | TOTAL 329

CUY-14-6.93

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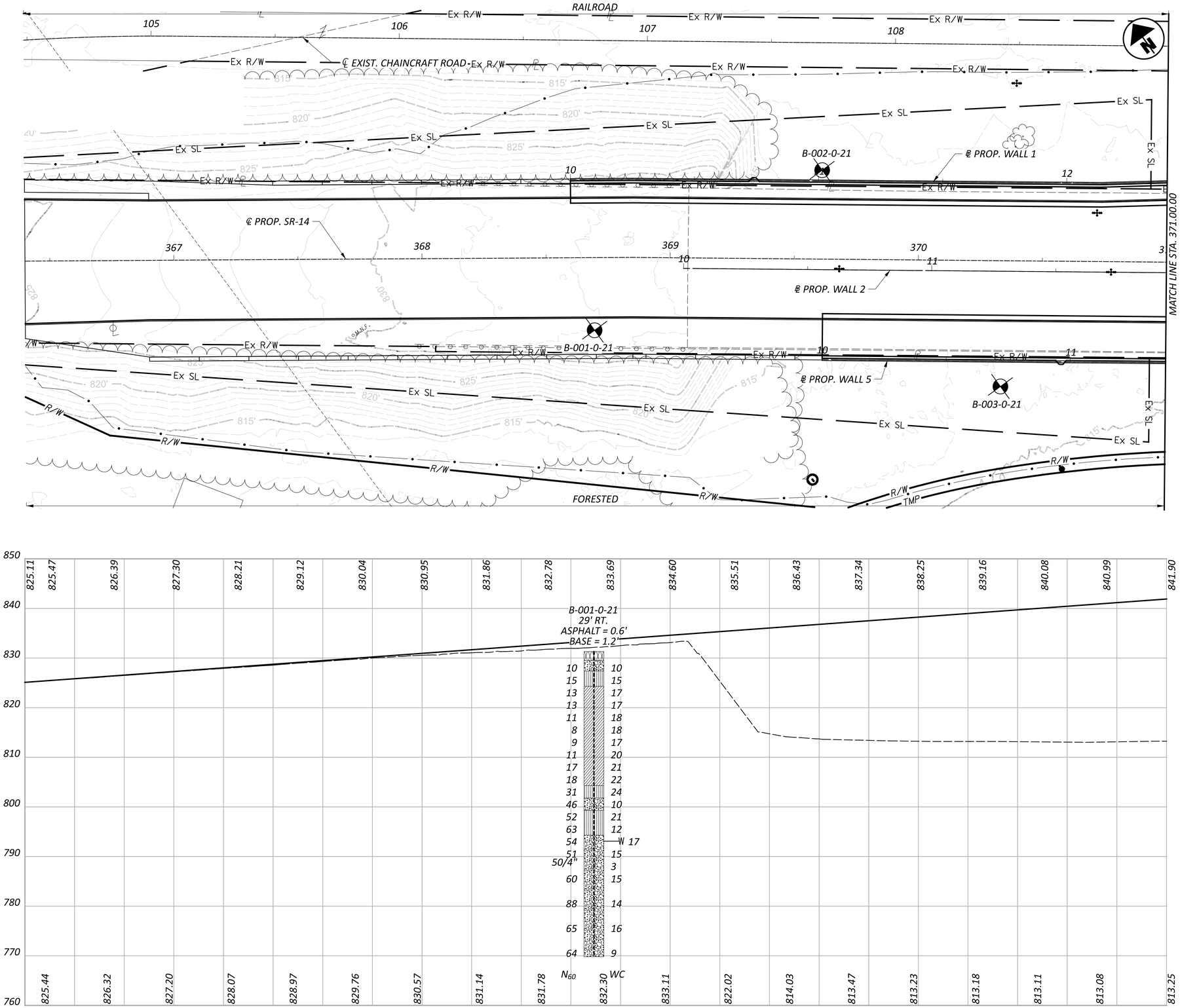

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HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO STA. 371+00 BRIDGE CUY-14-0693

DESIGN AGENCY
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DESIGNER
MWJ/AI

REVIEWER
BPA 02/13/23

PROJECT ID
104132

SUBSET 3 | TOTAL 51

SHEET P.281 | TOTAL 329

INFORMATION FOR B-004-0-21 CAN BE FOUND ON SHEETS 15 AND 17
INFORMATION FOR B-005-0-21 CAN BE FOUND ON SHEETS 15 AND 21
INFORMATION FOR B-006-0-21 CAN BE FOUND ON SHEETS 5, 13, 15 AND 17
INFORMATION FOR B-007-0-21 CAN BE FOUND ON SHEETS 5, 13 AND 27
INFORMATION FOR B-008-0-21 AND B-009-0-21 CAN BE FOUND ON SHEETS 5 AND 13
INFORMATION FOR B-020-0-21 CAN BE FOUND ON SHEET 12
INFORMATION FOR B-021-0-21 CAN BE FOUND ON SHEETS 12, 13 AND 27

INDUSTRIAL

FORESTED

INDUSTRIAL

℄ PROP. OLD BROADWAY AVENUE

℄ EX. CHAINCRAFT ROAD

℄ PROP. WALL 1

℄ PROP. SR-14

℄ PROP. WALL 2

℄ PROP. WALL 5

℄ PROP. HENRY STREET

℄ PROP. MILL CREEK

℄ PROP. WALL 7

MATCH LINE STA. 376+00.00 R2

B-004-0-21
B-005-0-21
B-006-0-21
B-007-0-21
B-008-0-21
B-009-0-21
B-020-0-21
B-021-0-21

Ex U
Ex RR
Ex R/W
Ex SW
Ex CH
TMP
R/W
SW
O.M.N.F.

HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
STA. 371+00 TO STA. 376+00 BRIDGE CUY-14-0693

CUY-14-6.93

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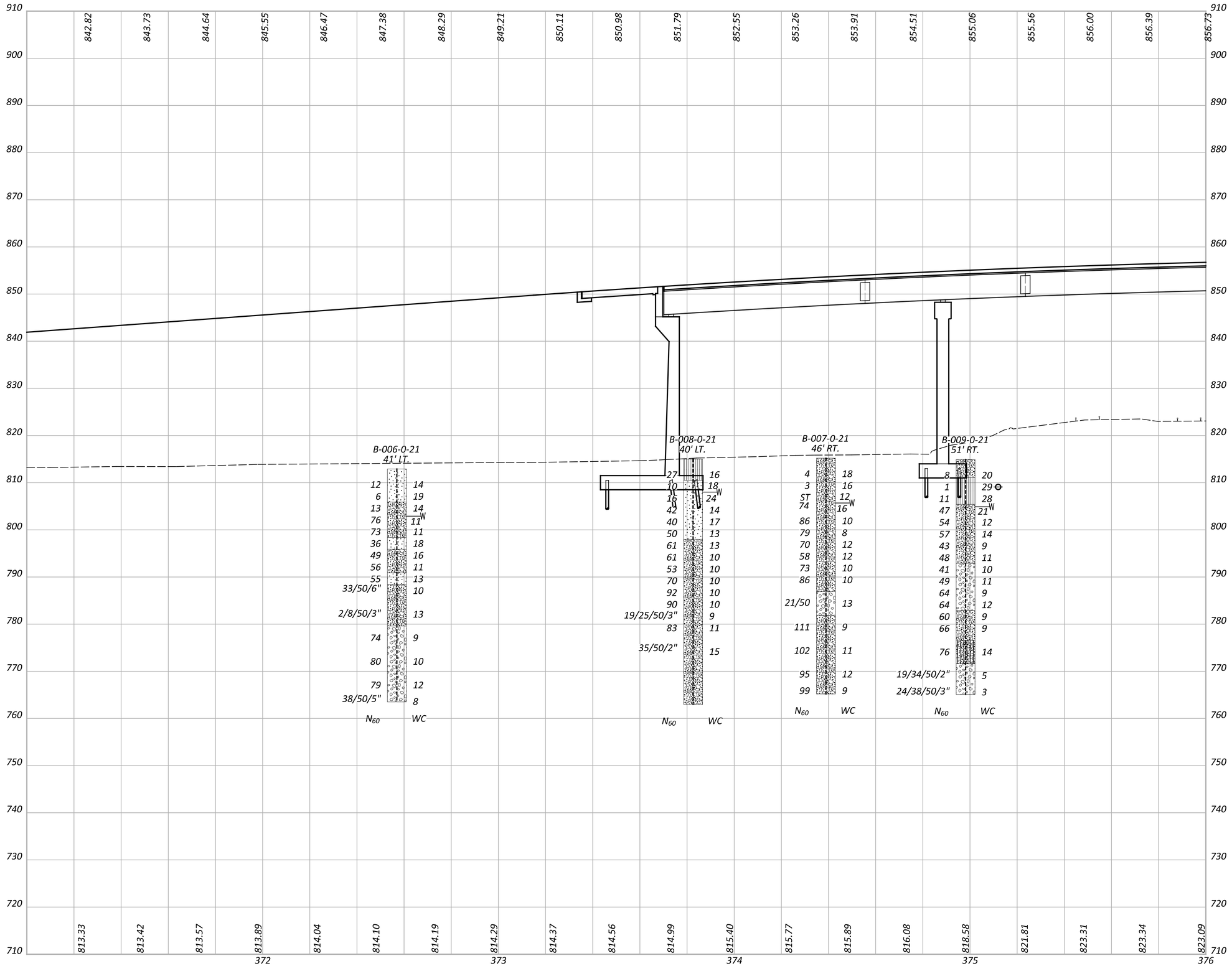
DESIGNER	MWJ/AI
REVIEWER	BPA 02/13/23
PROJECT ID	104132
SUBSET	4
TOTAL	51
SHEET	P.282
TOTAL	329



HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
STA. 371+00 TO STA. 376+00 BRIDGE CUY-14-0693

CUY-14-6.93

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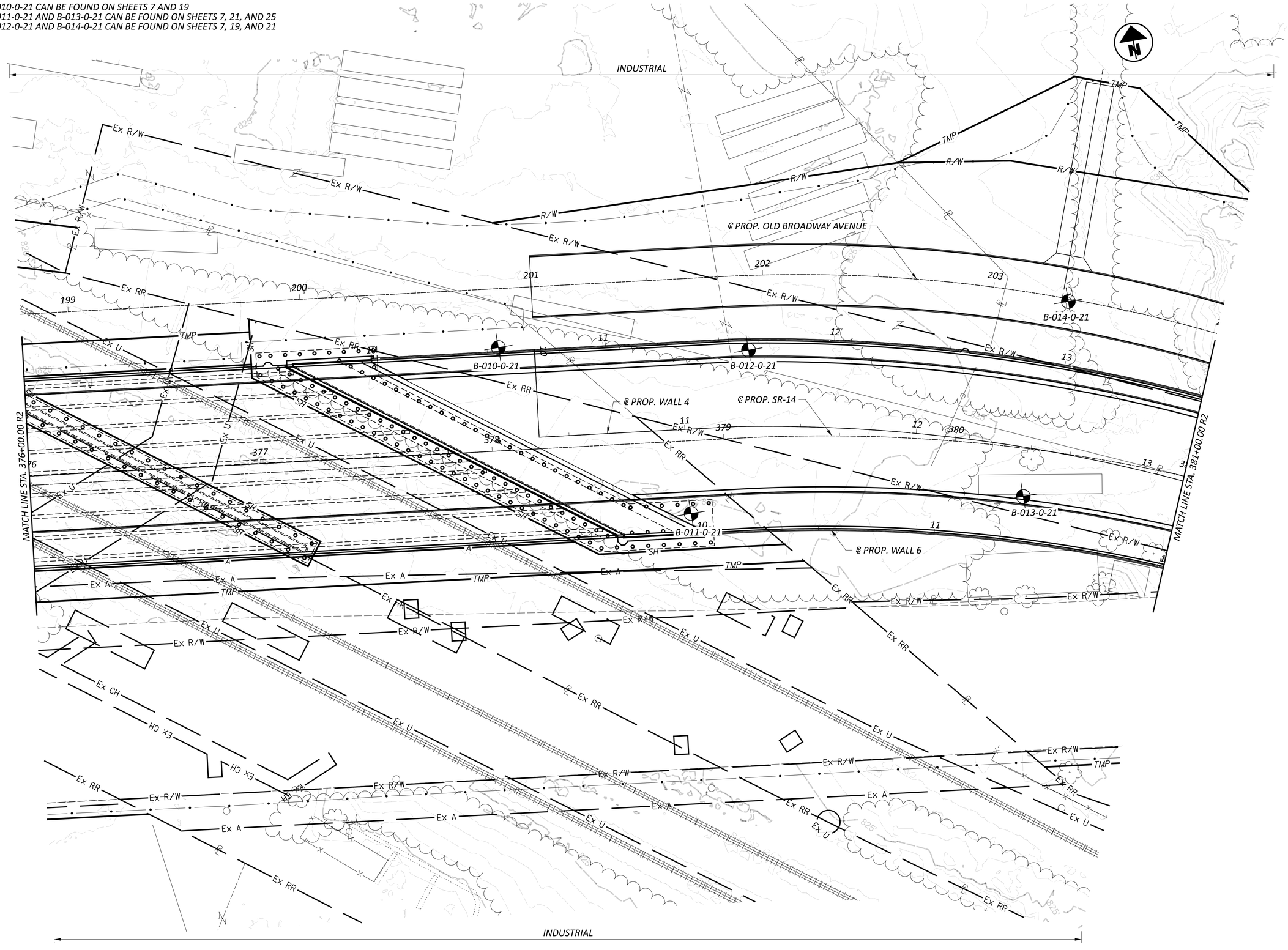
DESIGN AGENCY
NEAS
Nationwide Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 5 TOTAL 51
SHEET P.283 TOTAL 329

INFORMATION FOR B-010-0-21 CAN BE FOUND ON SHEETS 7 AND 19
INFORMATION FOR B-011-0-21 AND B-013-0-21 CAN BE FOUND ON SHEETS 7, 21, AND 25
INFORMATION FOR B-012-0-21 AND B-014-0-21 CAN BE FOUND ON SHEETS 7, 19, AND 21



HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
STA. 376+00 TO STA. 381+00 BRIDGE CUY-14-0693

DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER	MWJ/AI
REVIEWER	BPA 02/13/23
PROJECT ID	104132
SUBSET	TOTAL
6	51
SHEET	TOTAL
P.284	329

CUY-14-6.93

MODEL: 104132_ZP102 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:08:17 PM USER: mjasiewicz
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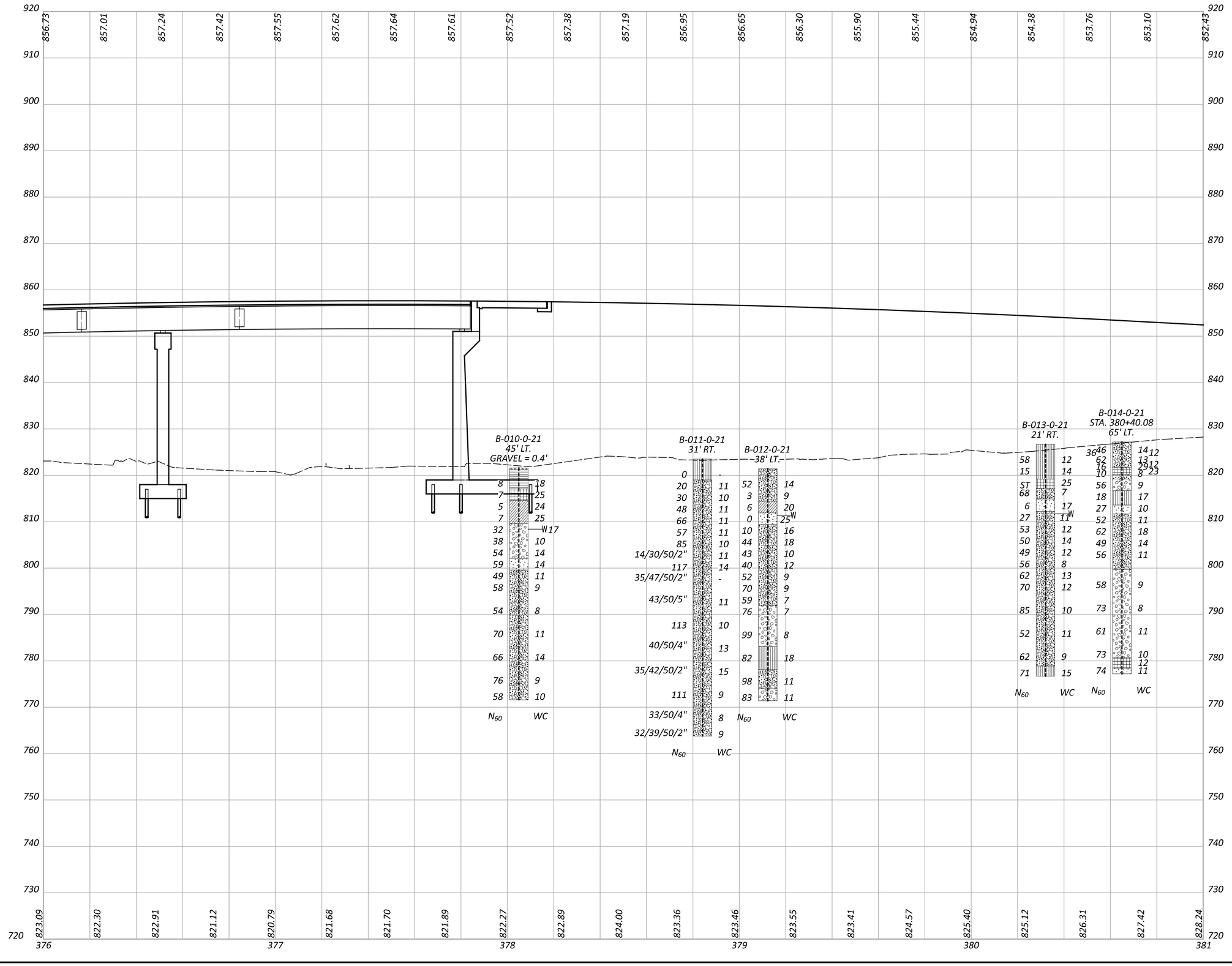

HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
STA. 376+00 TO STA. 381+00 BRIDGE CUY-14-0693

CUY-14-6.93

MODEL: 104132_ZF102 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:23:19 PM USER: mjasiewicz
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DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 7 TOTAL 51
SHEET P.285 TOTAL 329

MODEL: 104132_ZP103 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:08:52 PM USER: mjasiewicz
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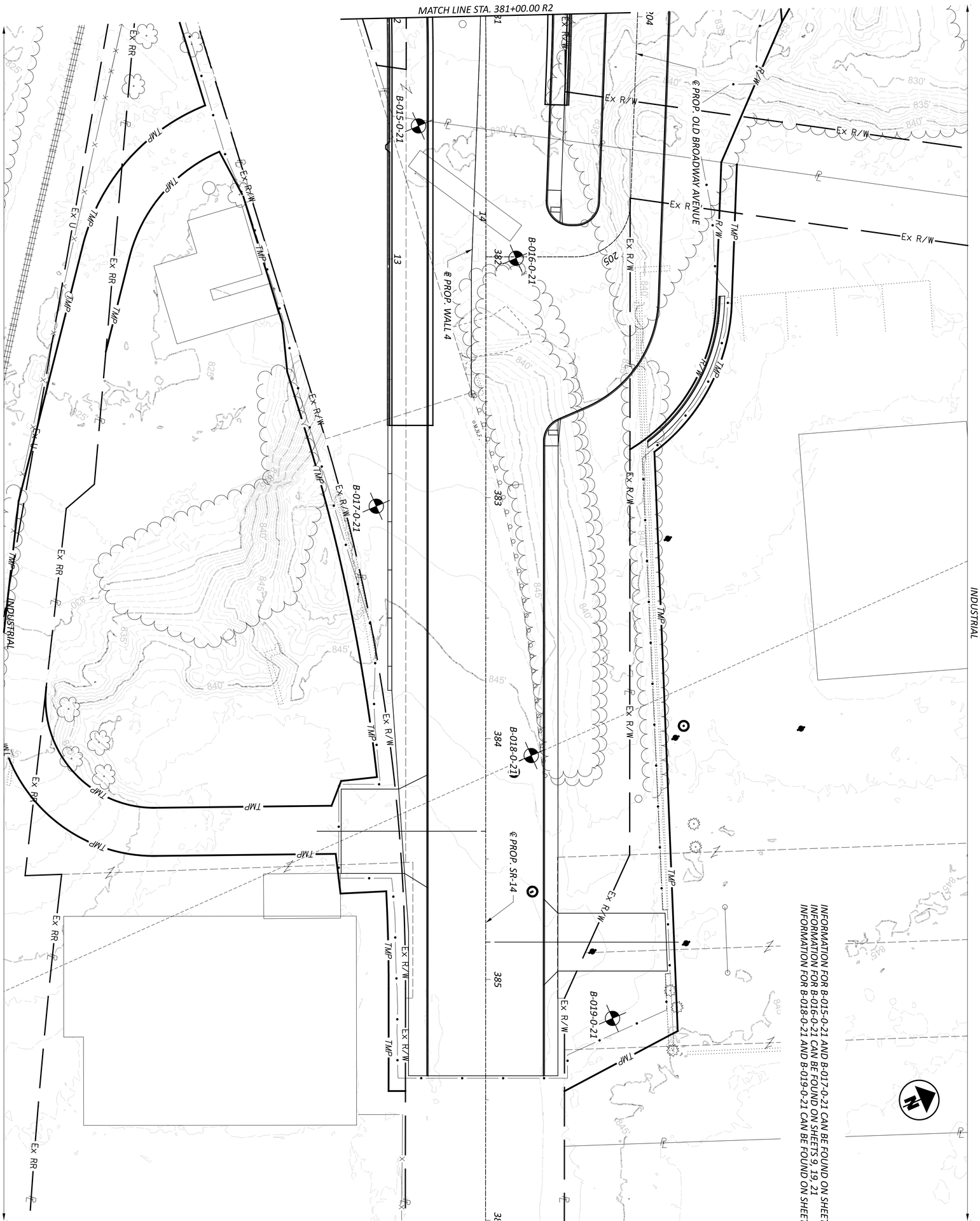
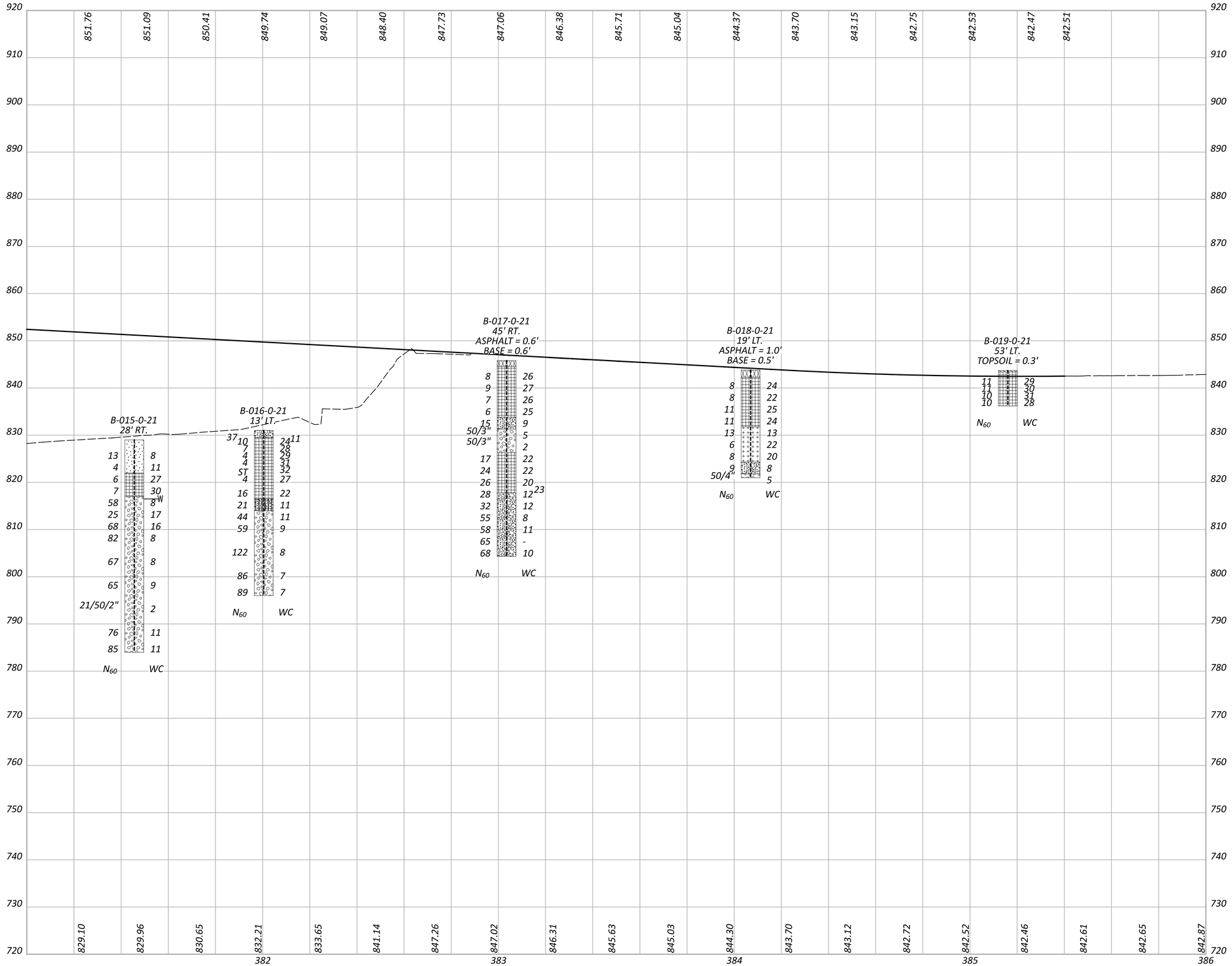


GEOTECHNICAL PROFILE -ROADWAY
STA. 381+00 TO STA. 386+00 SR-14

HORIZONTAL SCALE IN FEET
0 20
10 40

DESIGN AGENCY
2800 CORPORATE EXCHANGE DR. SUITE 300 COLUMBUS, OH. 43231 TEL: 614.714.0299 WWW.MEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 8 TOTAL 51
SHEET P.286 TOTAL 329



HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
STA. 381+00 TO STA. 386+00 SR-14

CUY-14-6.93

MODEL: 104132_ZF103 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:09:10 PM USER: mjasiewicz
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DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
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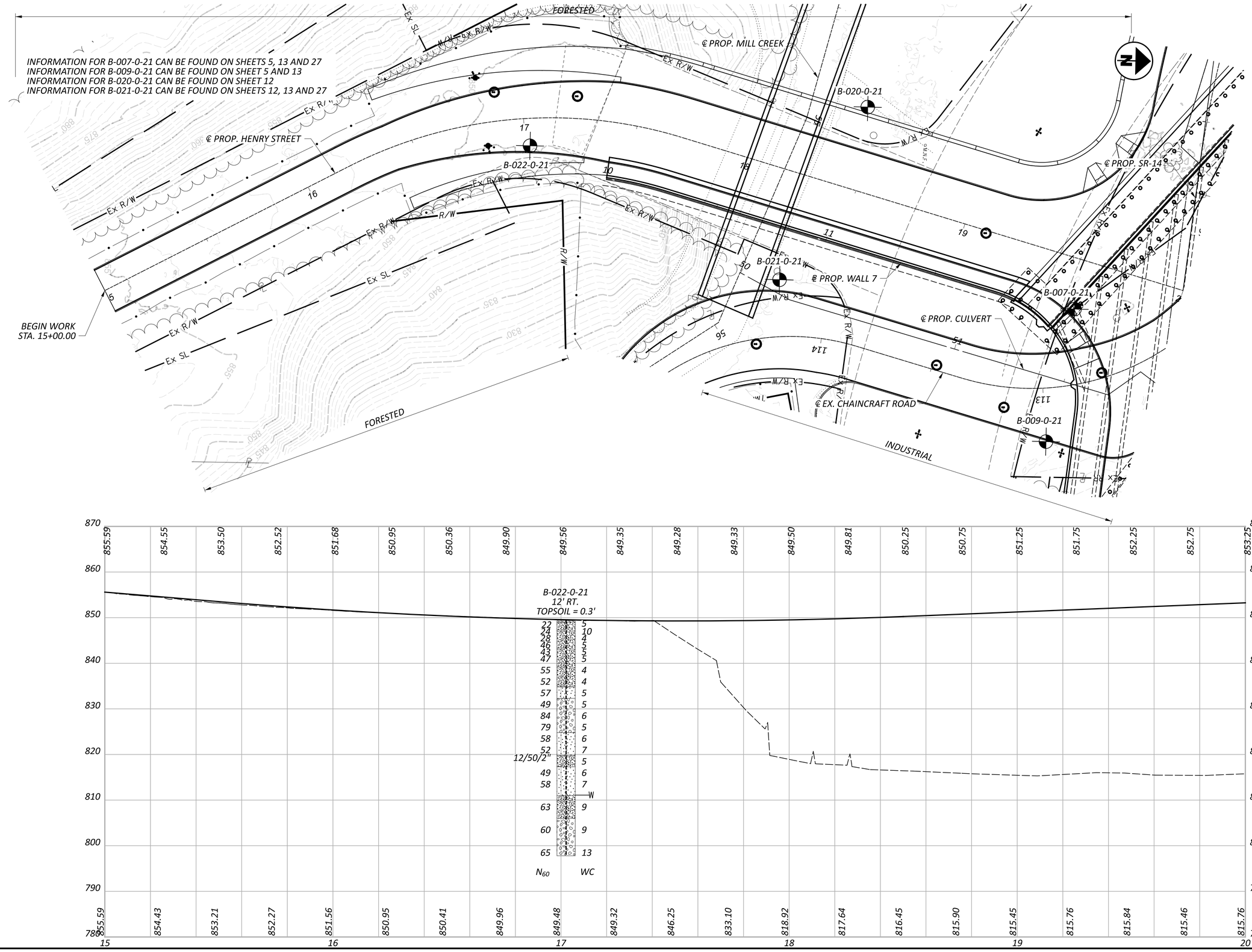
DESIGNER
MWJ/AI

REVIEWER
BPA 02/13/23

PROJECT ID
104132

SUBSET 9 TOTAL 51

SHEET P.287 TOTAL 329


INFORMATION FOR B-007-0-21 CAN BE FOUND ON SHEETS 5, 13 AND 27
INFORMATION FOR B-009-0-21 CAN BE FOUND ON SHEET 5 AND 13
INFORMATION FOR B-020-0-21 CAN BE FOUND ON SHEET 12
INFORMATION FOR B-021-0-21 CAN BE FOUND ON SHEETS 12, 13 AND 27
BEGIN WORK
STA. 15+00.00
FORESTED
FORESTED
INDUSTRIAL
℄ PROP. HENRY STREET
℄ PROP. MILL CREEK
℄ PROP. SR-14
℄ PROP. WALL 7
℄ PROP. CULVERT
℄ EX. CHAINCRAFT ROAD
B-022-0-21
B-020-0-21
B-021-0-21
B-007-0-21
B-009-0-21
Ex R/W
Ex SL
R/W
Ex R/W
Ex SL
Ex R/W
Ex R/W
Ex R/W

CUY-14-6.93

MODEL: 104132_ZP201 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:03:26 PM USER: mjasiewicz
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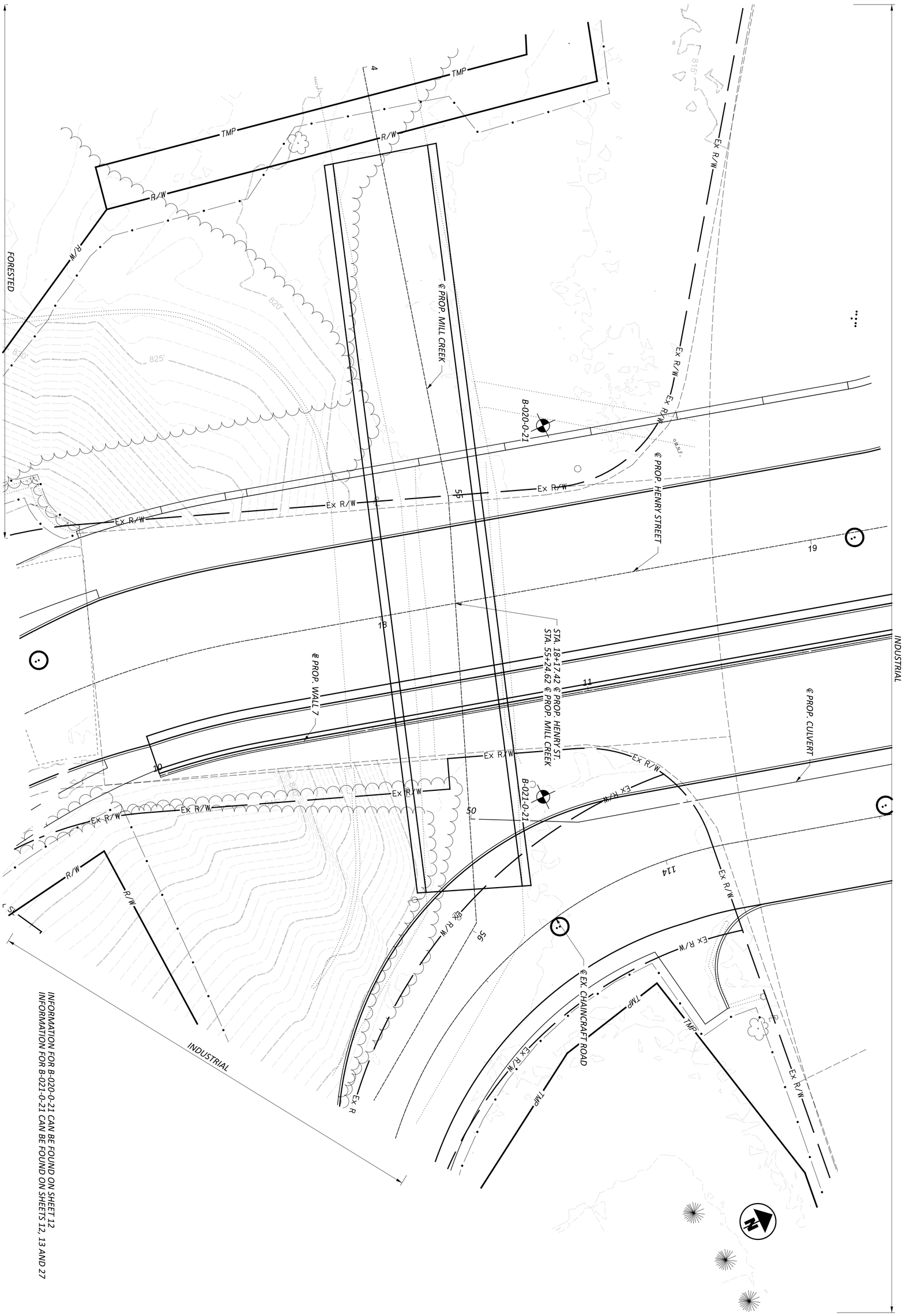
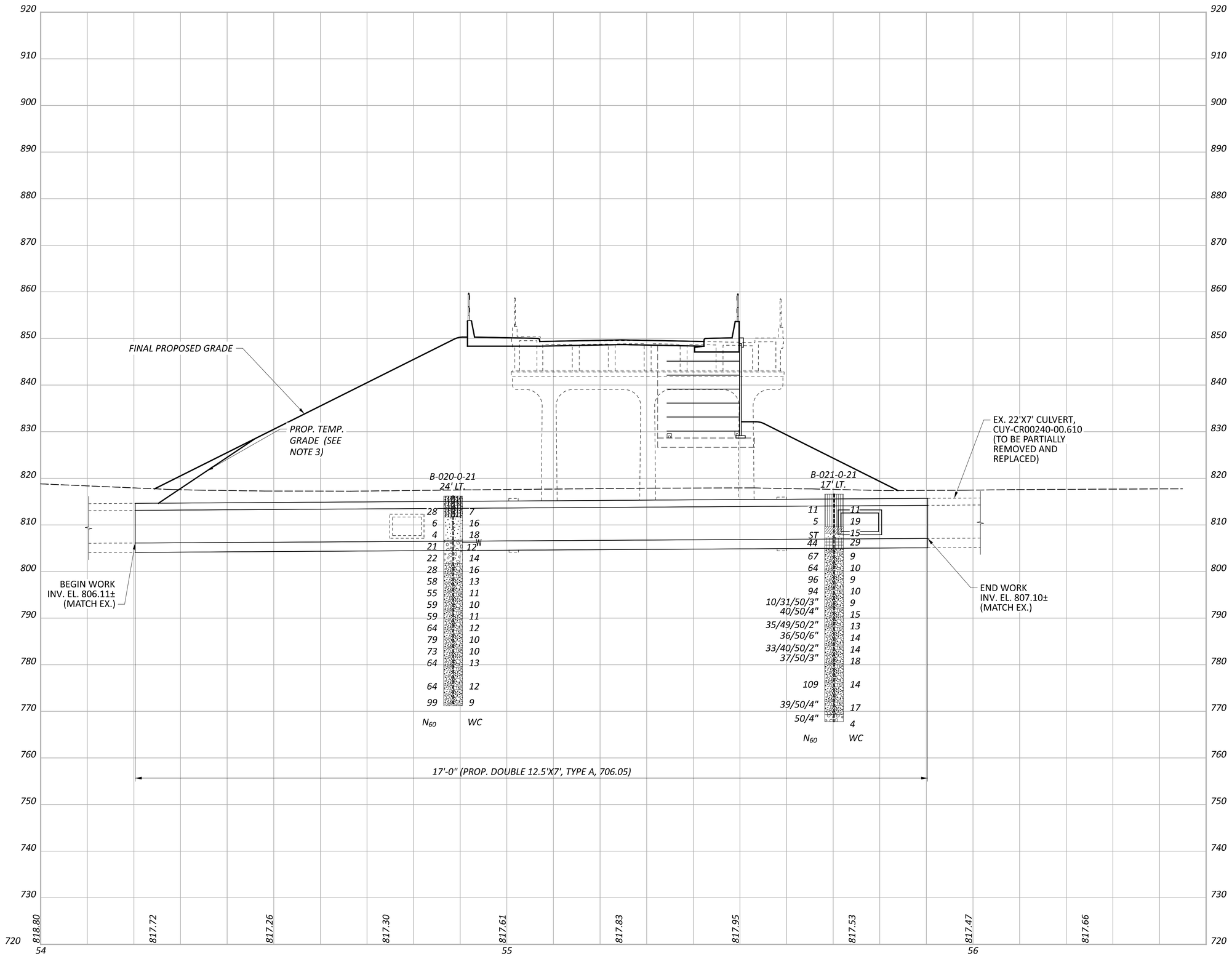


DESIGN AGENCY
2800 CORPORATE EXCHANGE DR. SUITE 300 COLUMBUS, OH. 43231 TEL:614.714.0299 WWW.MEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 11 TOTAL 51
SHEET P. 289 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END CULVERT CUY-CR002-00.610

HORIZONTAL SCALE IN FEET
0 10
5 20



HORIZONTAL SCALE IN FEET
0 5 10 20

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END CULVERT CUY-CR002-00.610

CUY-14-6.93

MODEL: 104132_ZF201 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:26:07 PM USER: mjasiewicz
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DESIGN AGENCY
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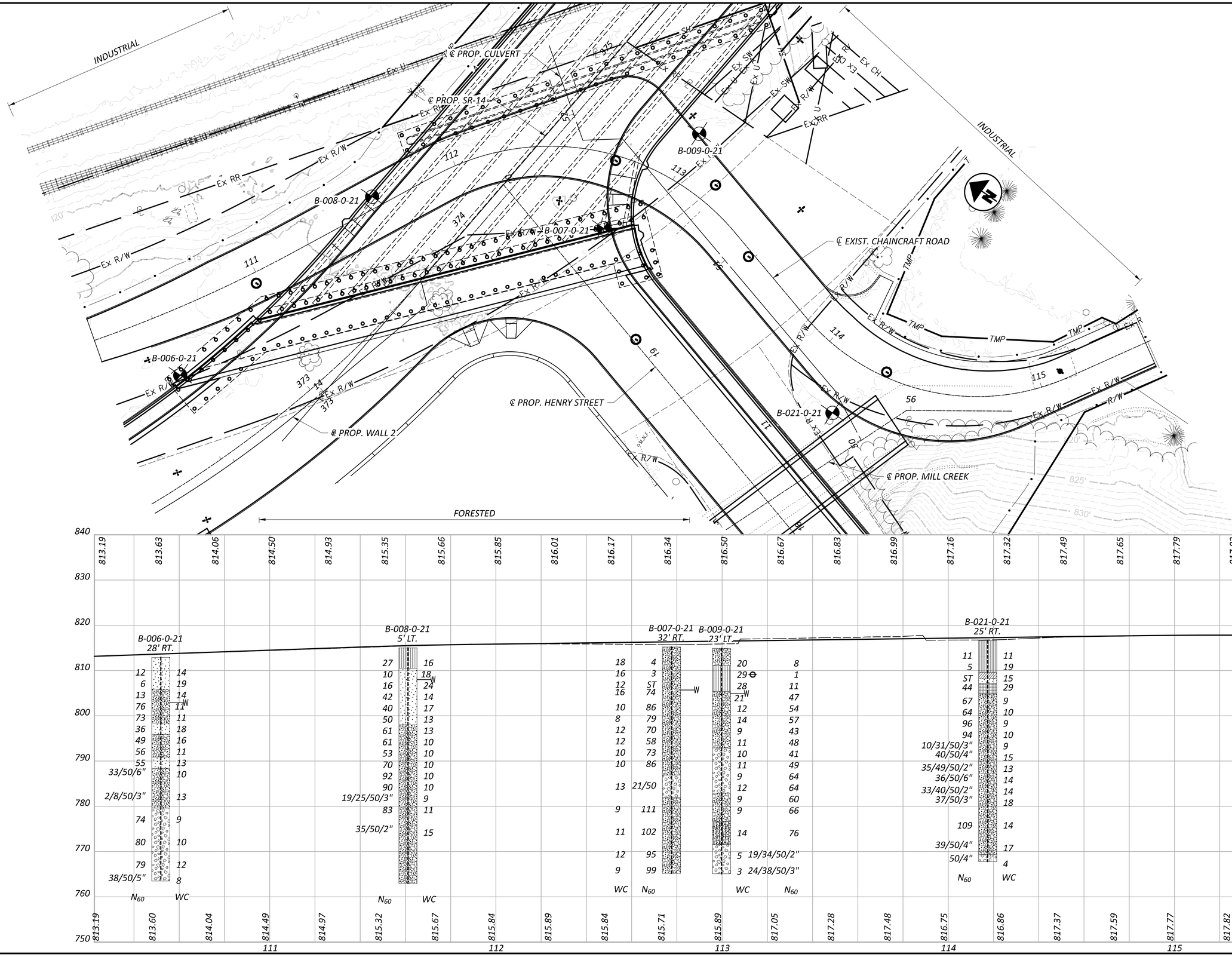
Noltisaac Engineering & Architectural Services Inc
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER	MWJ/AI
REVIEWER	BPA 02/13/23
PROJECT ID	104132
SUBSET	12
TOTAL	51
SHEET	P.290
TOTAL	329



HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END CHAINCRAFT ROAD

CUY-14-6.93

MODEL: 104132_IP201 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:10:28 PM USER: mjasiewicz
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DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
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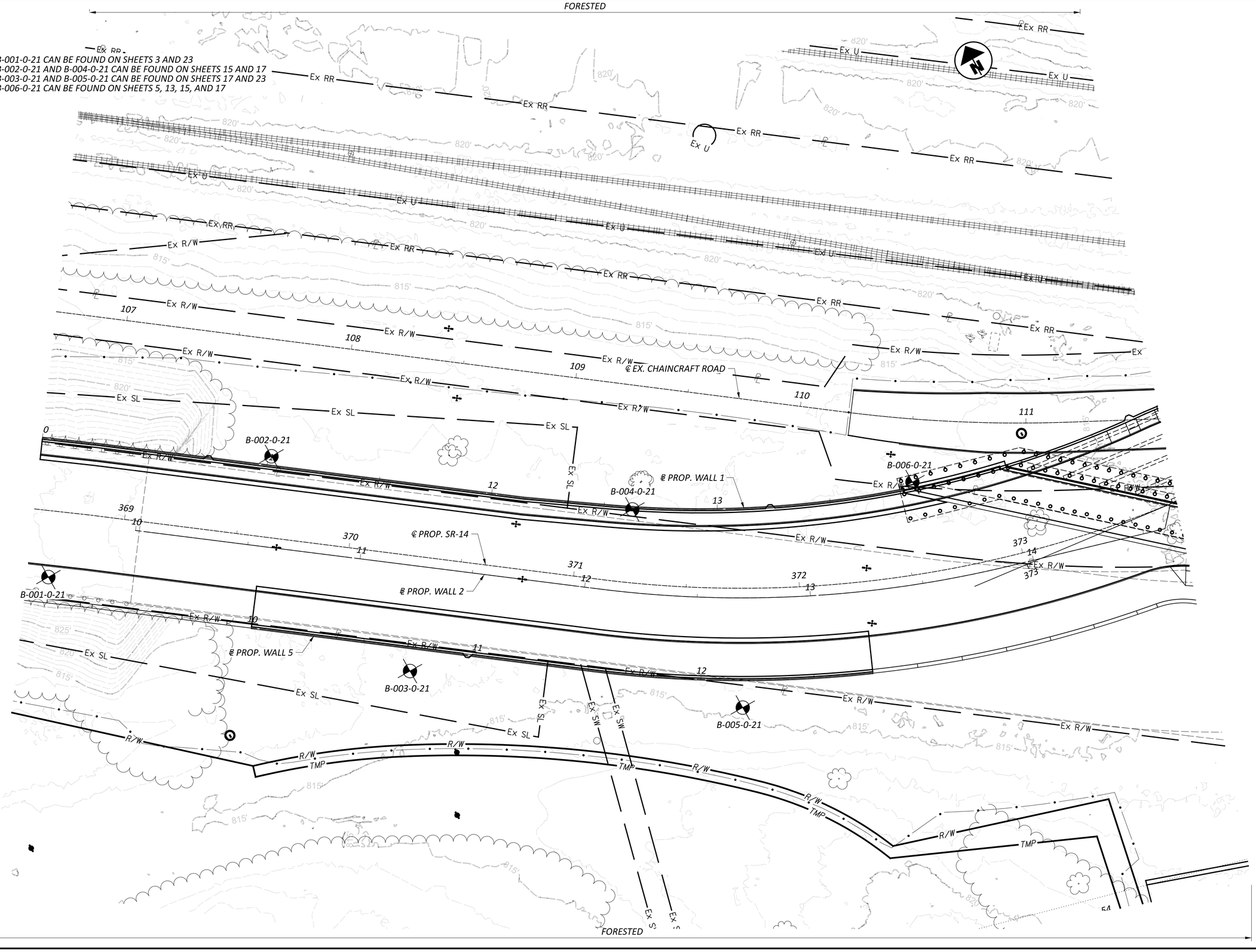
DESIGNER	MWJ/AI
REVIEWER	BPA 02/13/23
PROJECT ID	104132
SUBSET	13
TOTAL	51
SHEET	P.291
TOTAL	329

INFORMATION FOR B-001-0-21 CAN BE FOUND ON SHEETS 3 AND 23
INFORMATION FOR B-002-0-21 AND B-004-0-21 CAN BE FOUND ON SHEETS 15 AND 17
INFORMATION FOR B-003-0-21 AND B-005-0-21 CAN BE FOUND ON SHEETS 17 AND 23
INFORMATION FOR B-006-0-21 CAN BE FOUND ON SHEETS 5, 13, 15, AND 17



HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE - ROADWAY
BEGIN TO END WALL 1

CUY-14-6.93

MODEL: 104132_ZP301 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:10:40 PM USER: mjasiewicz
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DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
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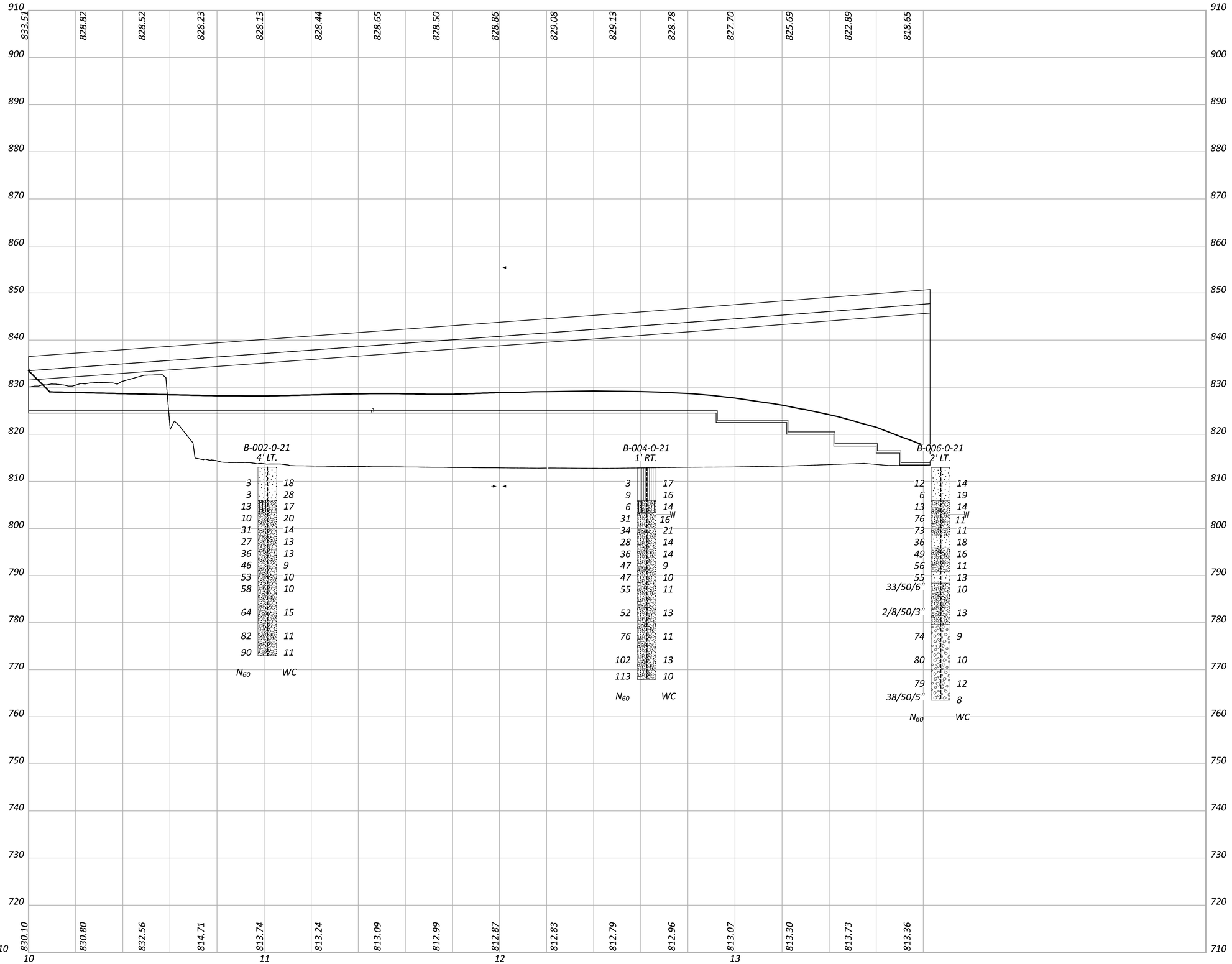
DESIGNER	MWJ/AI
REVIEWER	BPA 02/13/23
PROJECT ID	104132
SUBSET	14
TOTAL	51
SHEET	P.292
TOTAL	329



HORIZONTAL SCALE IN FEET
0 20 40
10

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 1

CUY-14-6.93

MODEL: 104132_ZF301 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:18:19 PM USER: akhail
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DESIGN AGENCY
NEAS
Nationwide Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
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DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 15 TOTAL 51
SHEET P.293 TOTAL 329

INFORMATION FOR B-002-0-21 AND B-004-0-21 CAN BE FOUND ON SHEETS 15 AND 17
INFORMATION FOR B-003-0-21 AND B-005-0-21 CAN BE FOUND ON SHEETS 17 AND 23
INFORMATION FOR B-006-0-21 CAN BE FOUND ON SHEETS 5, 15, 17 AND 13
INFORMATION FOR B-007-0-21 CAN BE FOUND ON SHEETS 5, 13 AND 27
INFORMATION FOR B-008-0-21 AND B-009-0-21 CAN BE FOUND ON SHEETS 5 AND 13
INFORMATION FOR B-020-0-21 CAN BE FOUND ON SHEET 12
INFORMATION FOR B-021-0-21 CAN BE FOUND ON SHEETS 12, 13 AND 27

FORESTED
℄ PROP. OLD BROADWAY AVENUE
℄ EX. CHAINCRAFT ROAD
℄ PROP. WALL 1
℄ PROP. WALL 2
℄ PROP. WALL 5
℄ PROP. SR-14
℄ PROP. CULVERT
℄ PROP. HENRY STREET
℄ PROP. MILL CREEK
FORESTED
B-002-0-21
B-004-0-21
B-003-0-21
B-005-0-21
B-006-0-21
B-008-0-21
B-009-0-21
B-007-0-21
B-020-0-21
B-021-0-21
Ex R/W
Ex RR
Ex U
Ex SL
Ex SW
R/W
TMP
O.W.M.F.

HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 2

CUY-14-6.93

MODEL: 104132_ZP401 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:11:02 PM USER: mjasiewicz
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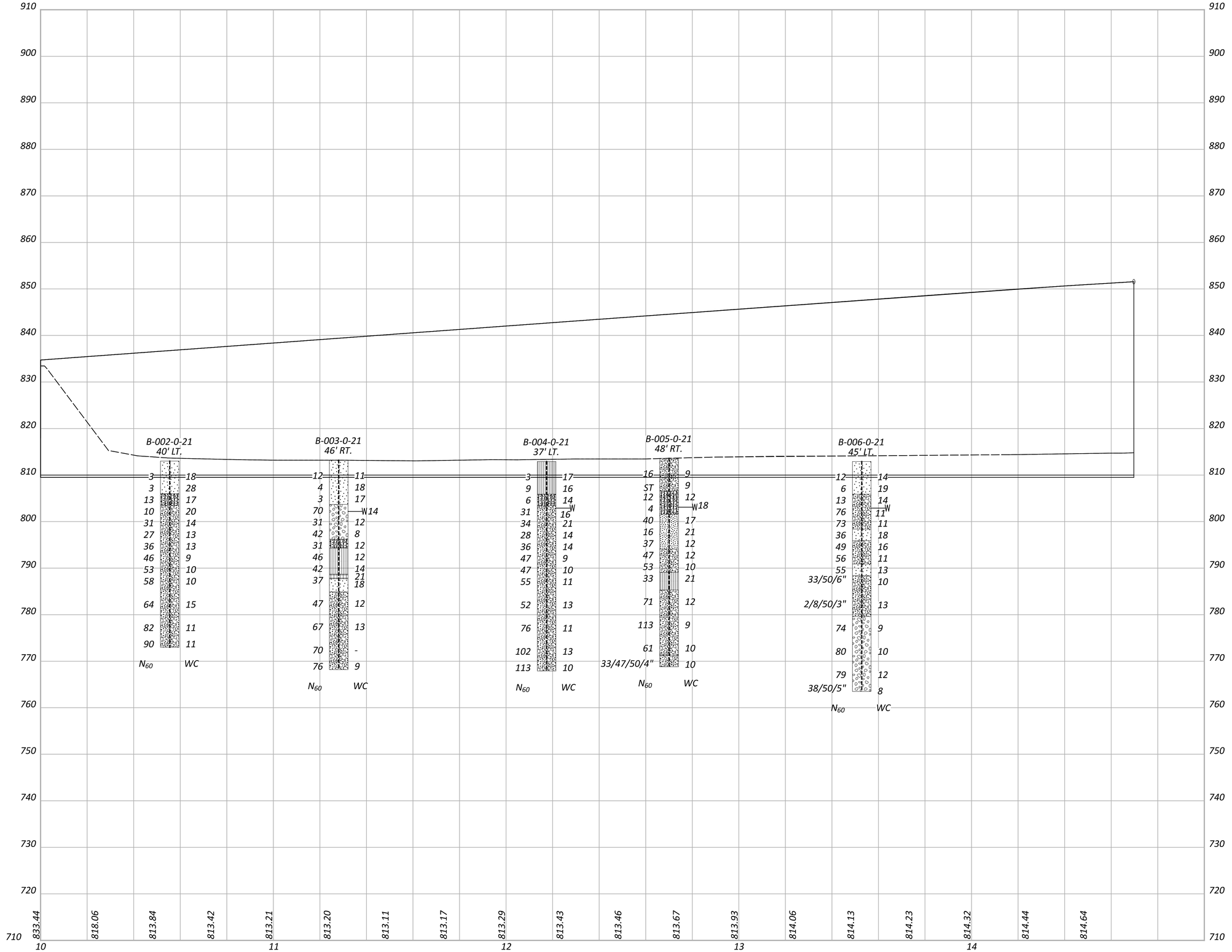
DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 16 TOTAL 51
SHEET P.294 TOTAL 329



HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 2

CUY-14-6.93

MODEL: 104132_ZF401 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:21:52 PM USER: akhail
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DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER
MWJ/AI

REVIEWER
BPA 02/13/23

PROJECT ID
104132

SUBSET	TOTAL
17	51

SHEET	TOTAL
P.295	329

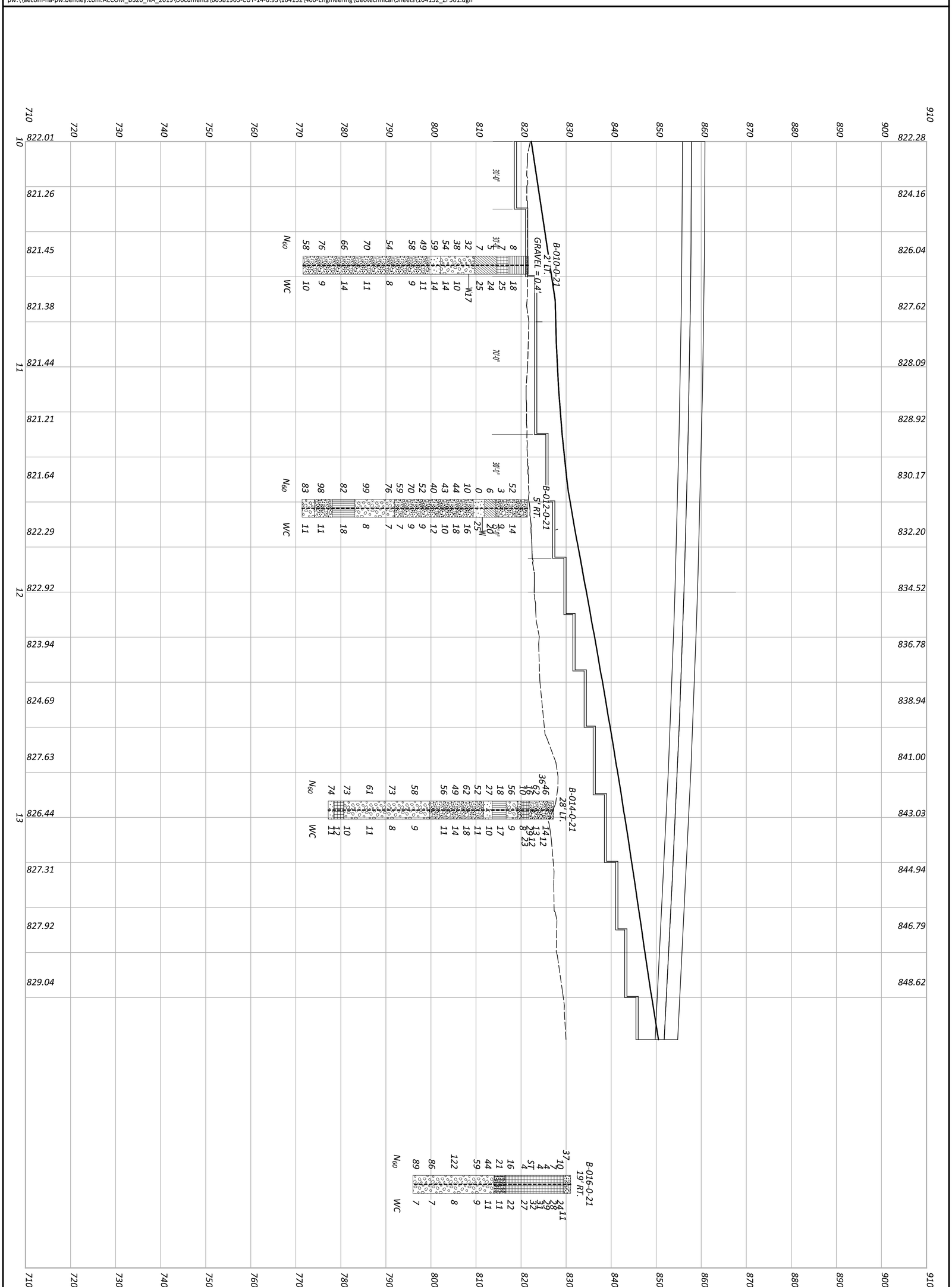
INDUSTRIAL

INFORMATION FOR B-010-0-21 CAN BE FOUND ON SHEETS 7 AND 19
INFORMATION FOR B-011-0-21 AND B-013-0-21 CAN BE FOUND ON SHEETS 7, 21, AND 25
INFORMATION FOR B-012-0-21 AND B-014-0-21 CAN BE FOUND ON SHEETS 7, 19, AND 21
INFORMATION FOR B-015-0-21 CAN BE FOUND ON SHEETS 9, 21, AND 25
INFORMATION FOR B-016-0-21 CAN BE FOUND ON SHEETS 9, 19, 21

℄ PROP. OLD BROADWAY AVENUE 203
℄ PROP. WALL 3
℄ PROP. WALL 4
℄ PROP. SR 14
℄ PROP. WALL 6
℄ PROP. WALL 5
℄ PROP. WALL 7
℄ PROP. WALL 8
℄ PROP. WALL 9
℄ PROP. WALL 10
℄ PROP. WALL 11
℄ PROP. WALL 12
℄ PROP. WALL 13
℄ PROP. WALL 14
℄ PROP. WALL 15
℄ PROP. WALL 16
℄ PROP. WALL

CUY-14-6.93

MODEL: 104132_ZF501 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:20:30 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZF501.dgn



GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 3

HORIZONTAL SCALE IN FEET
0 20
10 40

DESIGN AGENCY
AECOM
2800 CORPORATE EXCHANGE DR. SUITE 200
COLUMBUS, OH. 43231
TEL: 614.714.0299
WWW.AECOM.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 19 TOTAL 51
SHEET P. 297 TOTAL 329

INFORMATION FOR B-010-0-21 CAN BE FOUND ON SHEETS 7 AND 19
INFORMATION FOR B-011-0-21 AND B-013-0-21 CAN BE FOUND ON SHEETS 7, 21, AND 25
INFORMATION FOR B-012-0-21 AND B-014-0-21 CAN BE FOUND ON SHEETS 7, 19, AND 21
INFORMATION FOR B-015-0-21 CAN BE FOUND ON SHEETS 9, 21, AND 25
INFORMATION FOR B-016-0-21 CAN BE FOUND ON SHEETS 9, 19, 21

INDUSTRIAL

℄ PROP. OLD BROADWAY AVENUE

℄ PROP. WALL 4

℄ PROP. SR-14

℄ PROP. WALL 6

B-010-0-21
B-011-0-21
B-012-0-21
B-013-0-21
B-014-0-21
B-015-0-21
B-016-0-21

Ex R/W
Ex RR
Ex U
Ex A
Ex CH
TMP
R/W
SH

HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 4

DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 20 | TOTAL 51
SHEET P.298 | TOTAL 329

CUY-14-6.93

MODEL: 104132_ZP601 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:12:04 PM USER: mjasiewicz
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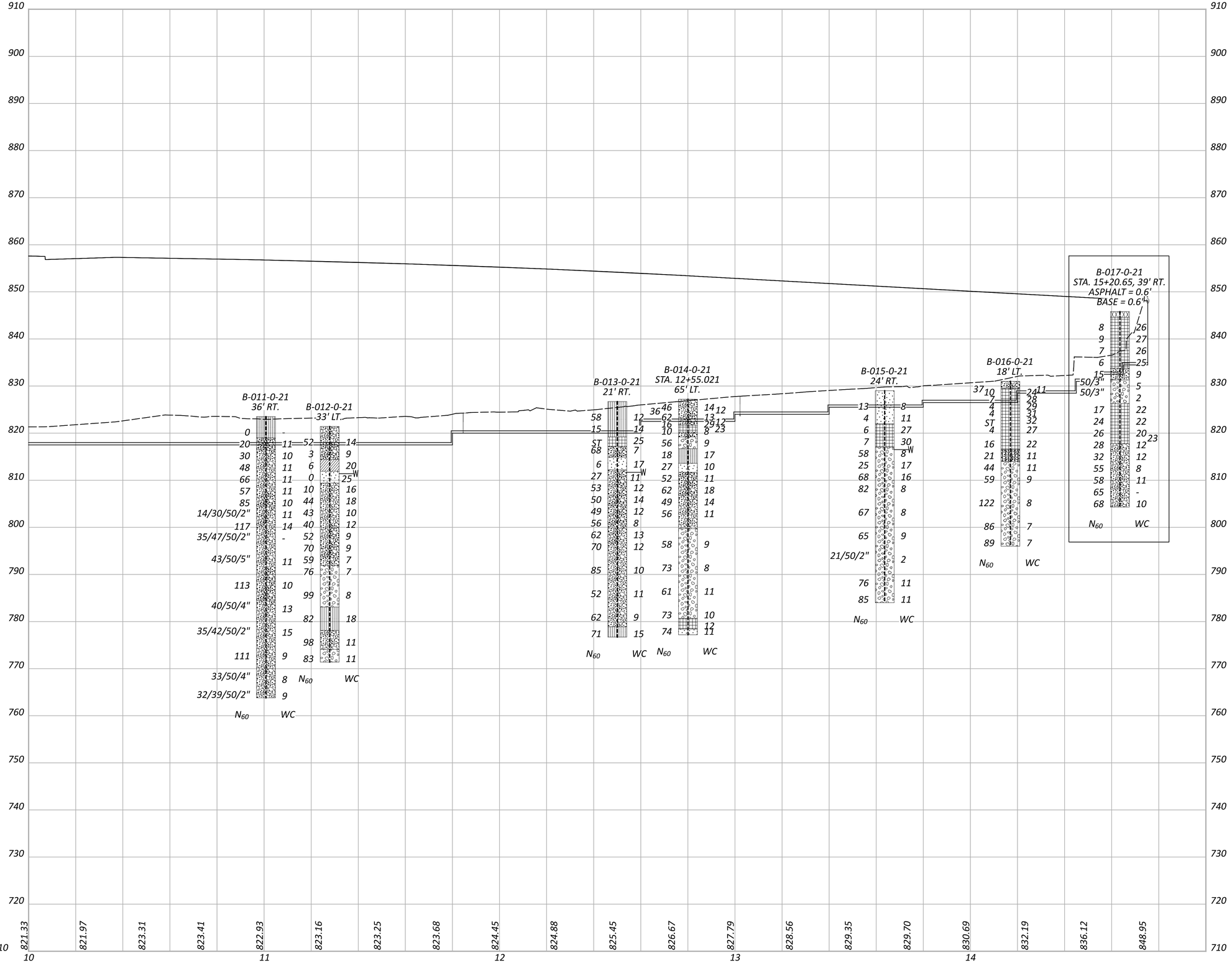

HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 4

CUY-14-6.93

MODEL: 104132_ZF601 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:18:28 PM USER: mjasiewicz
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DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER
MWJ/AI

REVIEWER
BPA 02/13/23

PROJECT ID
104132

SUBSET 21 | TOTAL 51

SHEET P.299 | TOTAL 329

INFORMATION FOR B-003-0-21 AND B-005-0-21 CAN BE FOUND ON SHEETS 17 AND 23
INFORMATION FOR B-004-0-21 CAN BE FOUND ON SHEETS 15 AND 17
INFORMATION FOR B-006-0-21 CAN BE FOUND ON SHEETS 5, 13, 15 AND 17
INFORMATION FOR B-007-0-21 CAN BE FOUND ON SHEETS 5, 13 AND 27
INFORMATION FOR B-008-0-21 AND CAN BE FOUND ON SHEET 5 AND 13
INFORMATION FOR B-020-0-21 CAN BE FOUND ON SHEET 12

INDUSTRIAL
FORESTED
Ex U
Ex RR
Ex R/W
Ex SL
Ex SW
R/W
TMP
℄ EX. CHAINCRAFT ROAD
℄ PROP. SR-14
℄ PROP. WALL 1
℄ PROP. WALL 2
℄ PROP. WALL 5
℄ PROP. MILL CREEK
℄ PROP. HENRY STREET
B-003-0-21
B-004-0-21
B-005-0-21
B-006-0-21
B-007-0-21
B-008-0-21
B-020-0-21
820'
815'
108
109
110
111
112
370
371
372
373
374
10
11
12
13
14
19
50
51
52
53
54

HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 5

DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 22 TOTAL 51
SHEET P.300 TOTAL 329

CUY-14-6.93

MODEL: 104132_ZP701 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:12:40 PM USER: mjasiewicz
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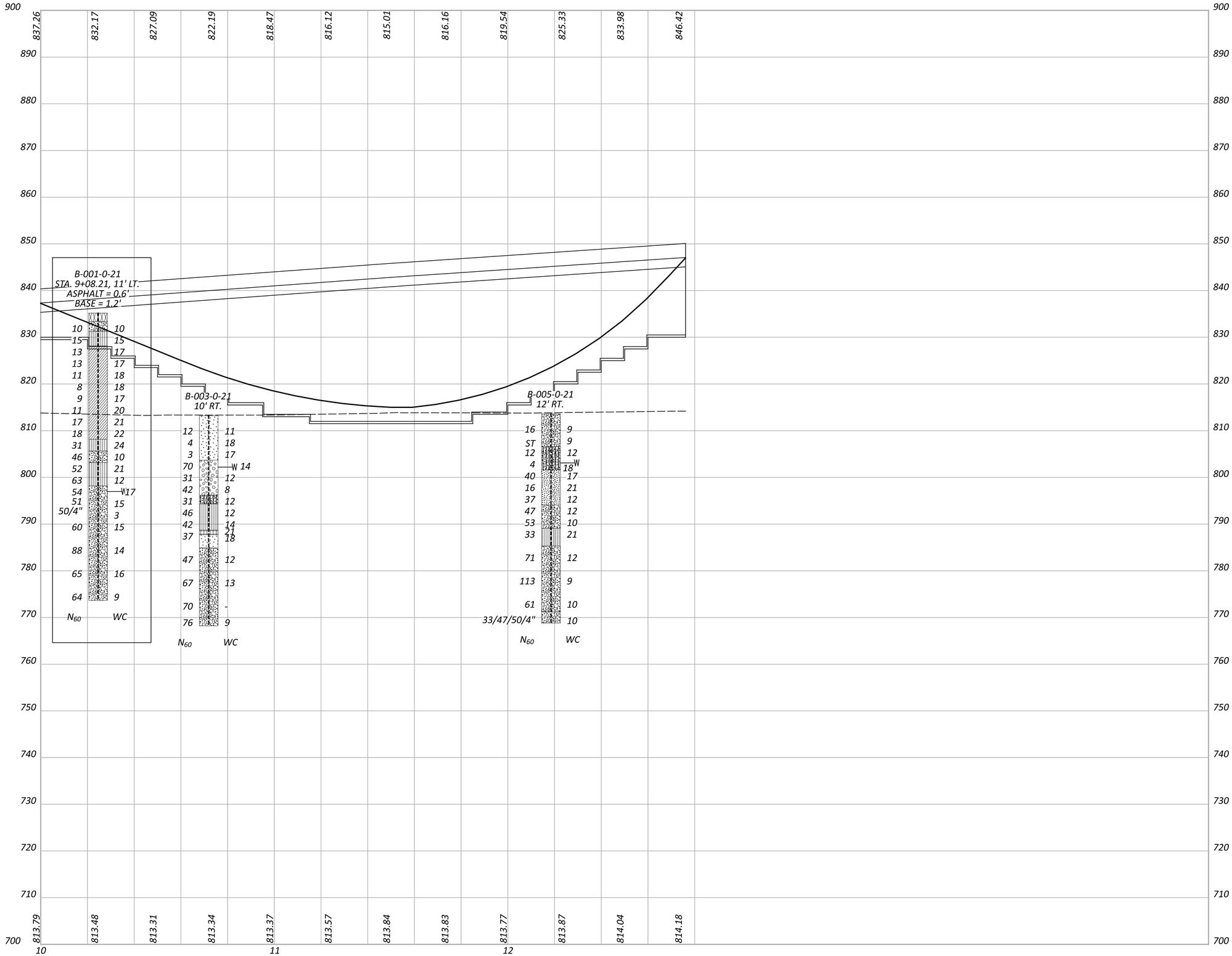

CUY-14-6.93

MODEL: 104132_ZF701 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:16:17 PM USER: mjasiewicz
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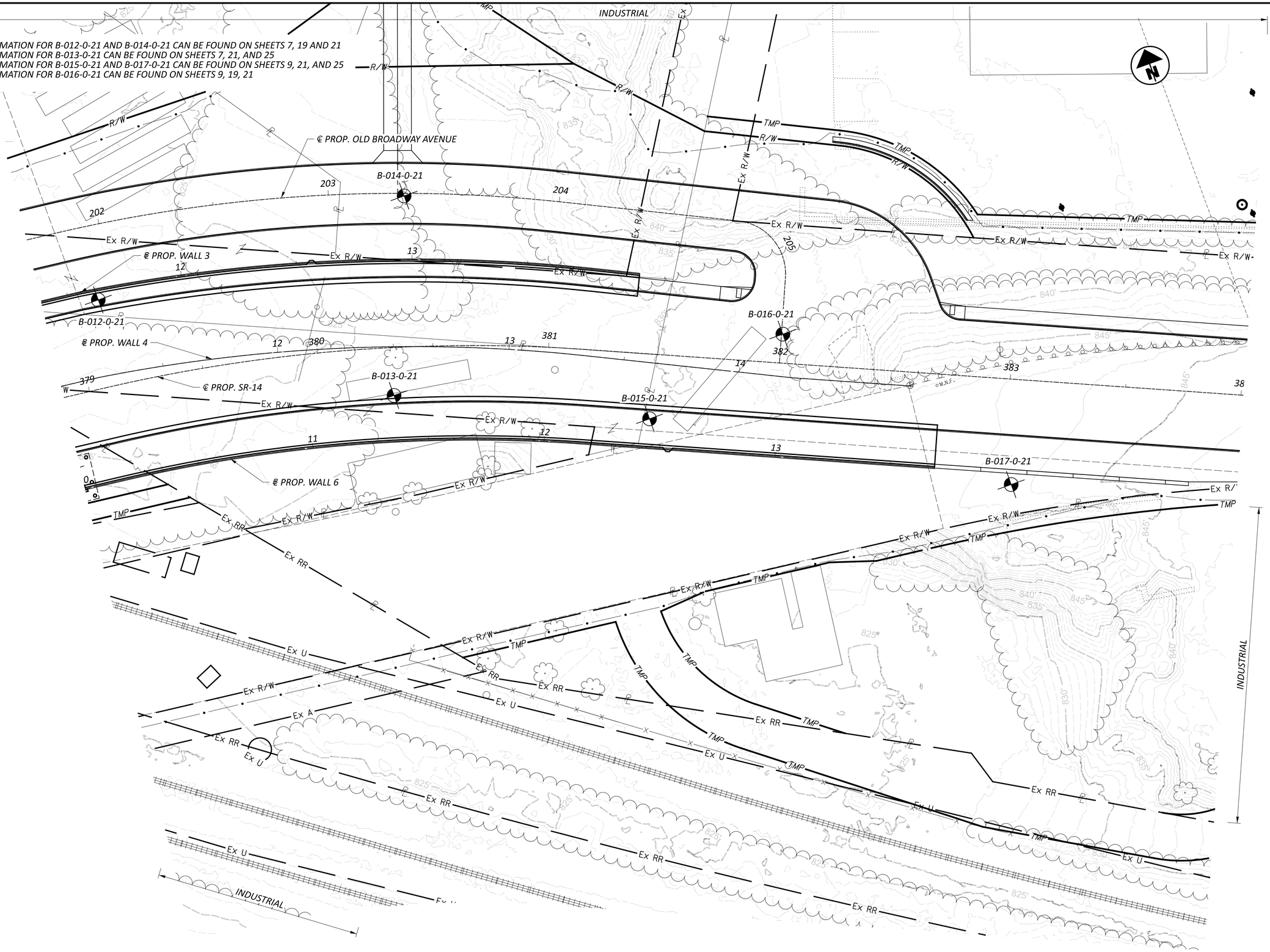
HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 5

DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER	
MWJ/AI	
REVIEWER	
BPA 02/13/23	
PROJECT ID	
104132	
SUBSET	TOTAL
23	51
SHEET	TOTAL
P.301	329

INFORMATION FOR B-012-0-21 AND B-014-0-21 CAN BE FOUND ON SHEETS 7, 19 AND 21
INFORMATION FOR B-013-0-21 CAN BE FOUND ON SHEETS 7, 21, AND 25
INFORMATION FOR B-015-0-21 AND B-017-0-21 CAN BE FOUND ON SHEETS 9, 21, AND 25
INFORMATION FOR B-016-0-21 CAN BE FOUND ON SHEETS 9, 19, 21



HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 6

DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 24 | TOTAL 51
SHEET P.302 | TOTAL 329

CUY-14-6.93

MODEL: 104132_ZP801 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:13:17 PM USER: mjasiewicz
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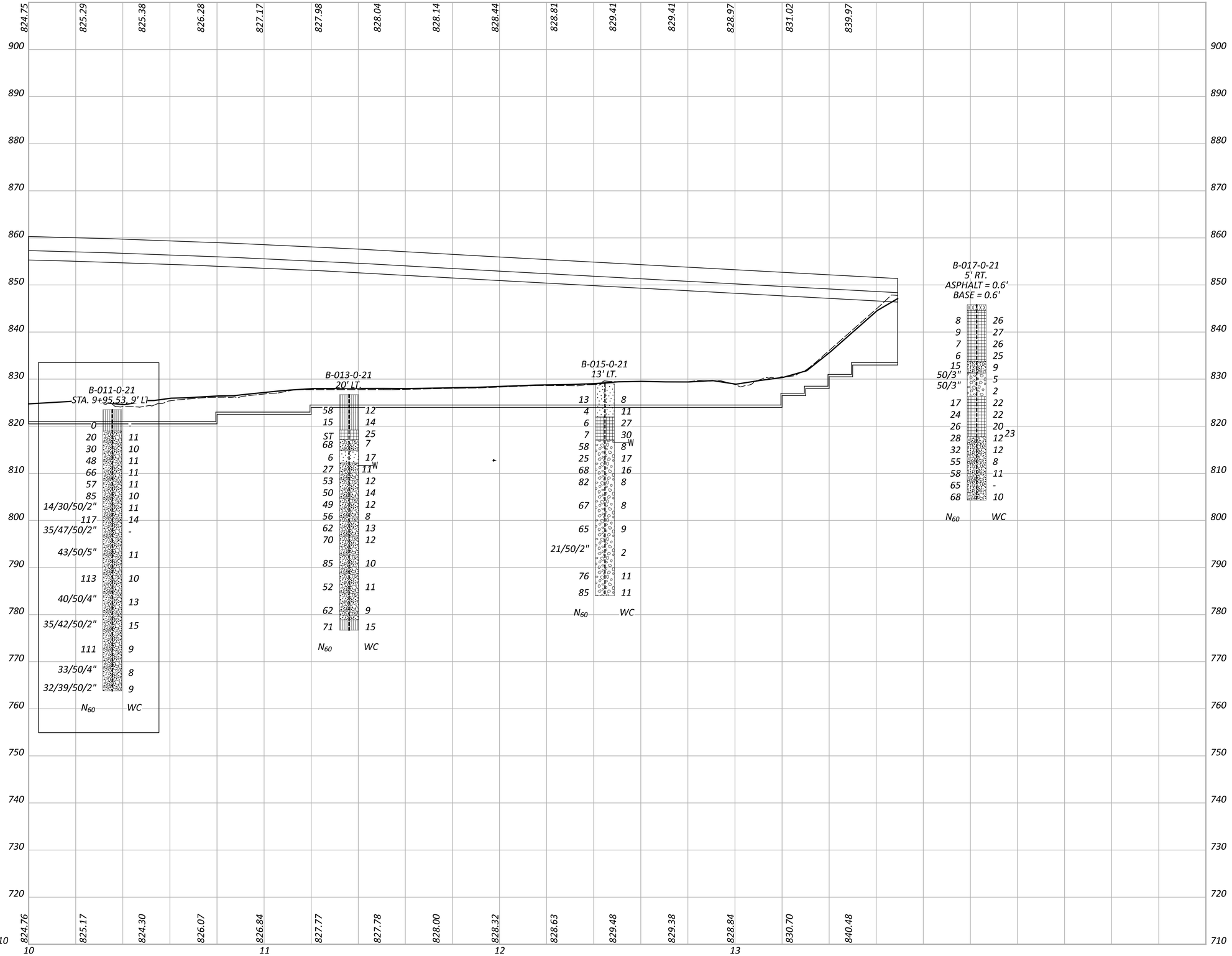

HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 6

CUY-14-6.93

MODEL: 104132_ZF801 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:14:39 PM USER: mjasiewicz
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DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 25 TOTAL 51
SHEET P.303 TOTAL 329

INFORMATION FOR B-007-0-21 CAN BE FOUND ON SHEETS 5, 13 AND 27
INFORMATION FOR B-008-0-21 AND B-009-0-21 CAN BE FOUND ON SHEETS 5 AI
INFORMATION FOR B-020-0-21 CAN BE FOUND ON SHEET 12
INFORMATION FOR B-021-0-21 CAN BE FOUND ON SHEETS 12, 13 AND 27
INFORMATION FOR B-022-0-21 CAN BE FOUND ON SHEETS 10 AND 27

HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 7

CUY-14-6.93

MODEL: 104132_ZP901 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:13:40 PM USER: mjasiewicz
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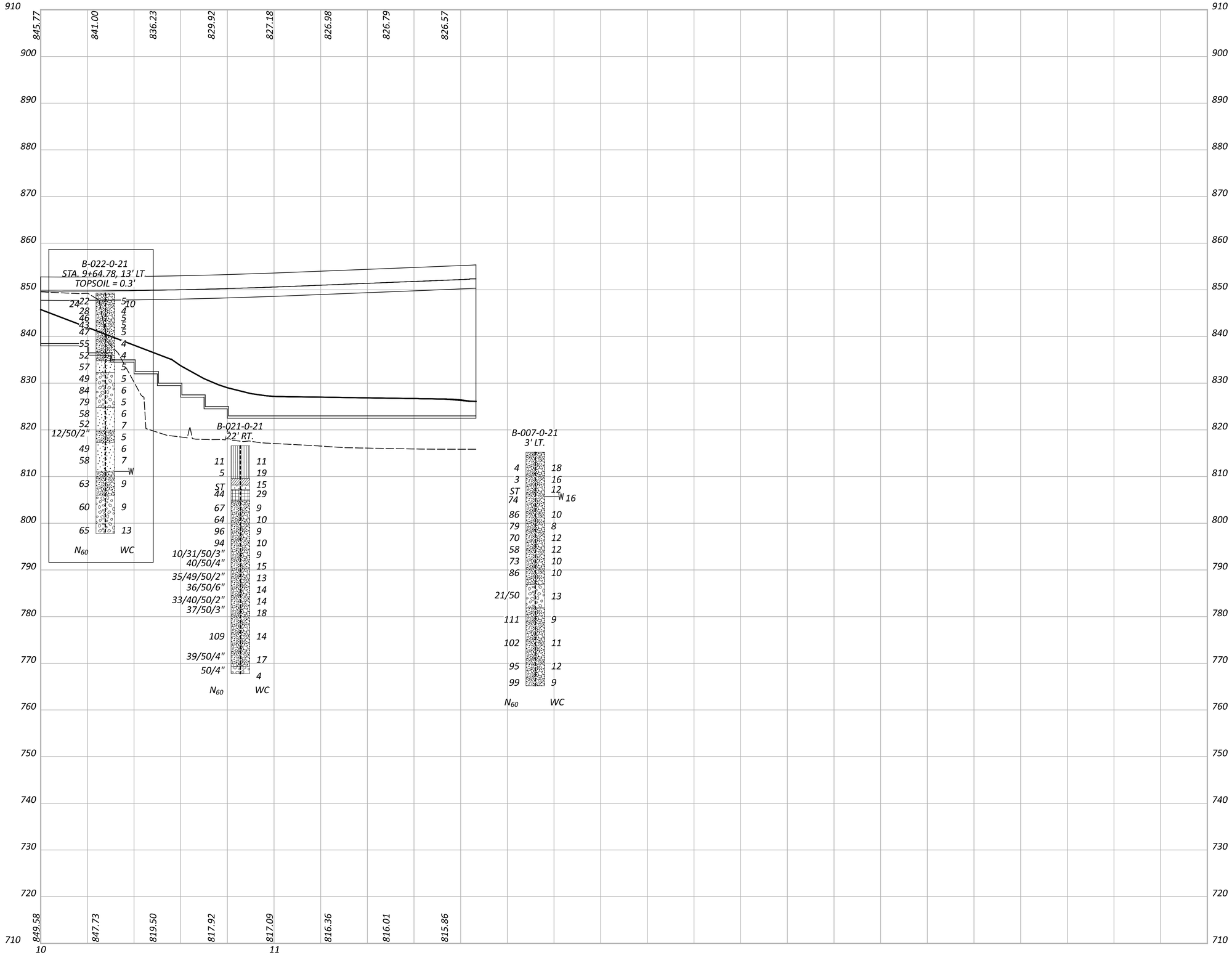
DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 26 TOTAL 51
SHEET P.304 TOTAL 329



HORIZONTAL SCALE IN FEET
0 10 20 40

GEOTECHNICAL PROFILE -ROADWAY
BEGIN TO END WALL 7

CUY-14-6.93

MODEL: 104132_ZF901 PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 1:12:52 PM USER: mjasiewicz
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DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 27 TOTAL 51
SHEET P.305 TOTAL 329

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:14:08 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL001.dgn

PROJECT: CUY-14-6.93
TYPE: RETAINING WALL
PID: 104132 SFN:
START: 8/25/21 END: 8/25/21

DRILLING FIRM / OPERATOR: NEAS / ASHBAUGH
SAMPLING FIRM / LOGGER: NEAS / ASHBAUGH
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 55T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/5/19
ENERGY RATIO (%): 68.4

STATION / OFFSET: 368+69, 29' RT.
ALIGNMENT: SR-14
ELEVATION: 831.3 (MSL) EOB: 61.5 ft.
LAT / LONG: 41.431969, -81.602477

EXPLORATION ID B-001-0-21
PAGE 1 OF 2

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
7.0" ASPHALT AND 14.5" BASE (DRILLERS DESCRIPTION)	829.5																	
LOOSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, TRACE CLAY, CONTAINS SLAG, DAMP **(FILL)**	827.4		4 4 5	10	100	SS-1	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
HARD, BROWN, **SANDY SILT**, SOME CLAY, TRACE GRAVEL, DAMP	824.3		6 7 6	15	78	SS-2	4.25	4	8	21	46	21	23	16	7	15	A-4a (6)	
STIFF TO VERY STIFF, BROWN, **SILT AND CLAY**, SOME SAND, TRACE GRAVEL, DAMP TO MOIST			5 6 5	13	67	SS-3	3.50	-	-	-	-	-	-	-	-	17	A-6a (V)	
			4 5 6	13	67	SS-4	2.75	7	8	14	40	31	31	20	11	17	A-6a (8)	
			4 4 6	11	56	SS-5	2.75	-	-	-	-	-	-	-	-	18	A-6a (V)	
			4 3 4	8	44	SS-6	2.25	-	-	-	-	-	-	-	-	18	A-6a (V)	
			3 4 4	9	67	SS-7	2.25	6	10	17	38	29	30	19	11	17	A-6a (7)	
			3 5 5	11	78	SS-8	2.00	-	-	-	-	-	-	-	-	20	A-6a (V)	
@22.5' TO 26.5'; BECOMES GRAY MOTTLED WITH GRAY AND ORANGISH BROWN, CONTAINS IRON STAINING			6 8 7	17	78	SS-9	3.00	3	5	16	42	34	35	20	15	21	A-6a (10)	
			7 8 8	18	56	SS-10	2.50	-	-	-	-	-	-	-	-	22	A-6a (V)	
DENSE, DARK GRAY, **SANDY SILT**, LITTLE GRAVEL, TRACE CLAY, CONTAINS TRACE ROOTS AND HIGHLY WEATHERED WOOD FRAGMENTS, SLIGHTLY ORGANIC, WET	804.3		7 12 15	31	56	SS-11	-	19	9	33	31	8	NP	NP	NP	24	A-4a (1)	
DENSE, GRAY AND LIGHT BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, TRACE CLAY, MOIST	801.8		10 19 21	46	56	SS-12	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
STIFF TO VERY STIFF, MAROONISH GRAY, **SANDY SILT**, "AND" CLAY, TRACE GRAVEL, CONTAINS 1.0" SILT SEAMS, MOIST TO DAMP	799.3		12 20 26	52	56	SS-13	1.75	10	3	3	48	36	26	17	9	21	A-4a (8)	
			17 24 31	63	44	SS-14	2.00	-	-	-	-	-	-	-	-	12	A-4a (V)	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, TRACE CLAY, WET TO MOIST	794.3	W 793.1	17 20 27	54	50	SS-15	-	-	-	-	-	-	-	-	-	17	A-1-b (V)	
			15 21 24	51	61	SS-16	-	-	-	-	-	-	-	-	-	15	A-1-b (V)	
@42.5'; ENCOUNTERED A SILTSTONE COBBLE/BOULDER			50/4"	-	25	SS-17	-	-	-	-	-	-	-	-	-	3		
			17 22 31	60	67	SS-18	-	11	67	14	6	2	NP	NP	NP	15	A-1-b (0)	
			21 27 50	88	33	SS-19	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			15 27 30	65	89	SS-20	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:48 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 300 COLUMBUS, OH. 43231
TEL: 614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 28 TOTAL 51
SHEET P.306 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALL 5
BORING LOG B-001-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:15:28 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL002.dgn

PID: 104132 | SFN: | PROJECT: CUY-14-6.93 | STATION / OFFSET: 368+69, 29' RT. | START: 8/25/21 | END: 8/25/21 | PG 2 OF 2 | B-001-0-21

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
	771.3																	
	769.8	61 EOB	16 20 36	64	78	SS-21	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	

NOTES: GROUNDWATER ENCOUNTERED AT 38.2' DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:48 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231
TEL:614.714.0299
WWW.MEASINC.COM

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALL 5
BORING LOG B-001-0-21 (CONTINUED)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:16:39 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL003.dgn

PROJECT: CUY-14-6.93
TYPE: RETAINING WALL
PID: 104132 SFN:
START: 8/5/21 END: 8/5/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 369+61, 36' LT.
ALIGNMENT: SR-14
ELEVATION: 813.0 (MSL) EOB: 40.0 ft.
LAT / LONG: 41.431962, -81.602068

EXPLORATION ID B-002-0-21

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
VERY LOOSE, BROWN, **COARSE AND FINE SAND** SOME SILT, TRACE TO LITTLE GRAVEL, TRACE CLAY, CONTAINS ROOTS AND TRACE IRON STAINING, WET	813.0		2 1 1	3	100	SS-1	-	-	-	-	-	-	-	-	-	18	A-3a (V)	
			1 1 1	3	100	SS-2	-	-	-	-	-	-	-	-	-	28	A-3a (V)	
MEDIUM DENSE, BROWN, **GRAVEL WITH SAND AND SILT**, TRACE CLAY, CONTAINS ROOTS AND TRACE IRON STAINING, MOIST	806.0		4 5 4	13	100	SS-3	-	30	14	29	21	6	NP	NP	NP	17	A-2-4 (0)	
LOOSE TO DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE TO LITTLE SILT, TRACE CLAY, MOIST TO WET	803.5		1 2 5	10	100	SS-4	-	-	-	-	-	-	-	-	-	20	A-1-b (V)	
			4 9 12	31	100	SS-5	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			10 8 10	27	100	SS-6	-	27	37	26	8	2	NP	NP	NP	13	A-1-b (0)	
			8 11 13	36	39	SS-7	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
			5 11 20	46	28	SS-8	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
@22.5'; SS-9 BECOMES VERY DENSE			15 16 20	53	50	SS-9	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			17 19 20	58	56	SS-10	-	38	39	15	6	2	NP	NP	NP	10	A-1-b (0)	
			18 20 23	64	50	SS-11	-	-	-	-	-	-	-	-	-	15	A-1-b (V)	
			21 25 30	82	39	SS-12	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
	773.0	EOB	23 29 32	90	67	SS-13	-	42	41	10	6	1	NP	NP	NP	11	A-1-b (0)	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE. RAN A SLURRY MIX AS CIRCULATING FLUID.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 50 GAL. BENTONITE GROUT; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:48 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL: 614.0299 WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 30 TOTAL 51
SHEET P.308 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 1 & 2
BORING LOG B-002-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:17:58 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL004.dgn

PROJECT: CUY-14-6.93
TYPE: RETAINING WALL
PID: 104132 SFN:
START: 8/2/21 END: 8/2/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 370+98, 14' RT.
ALIGNMENT: SR-14
ELEVATION: 813.2 (MSL) EOB: 45.0 ft.
LAT / LONG: 41.431652, -81.602046

EXPLORATION ID B-003-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 813.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
VERY LOOSE TO MEDIUM DENSE, BROWN, **COARSE AND FINE SAND** SOME SILT, LITTLE TO SOME GRAVEL, TRACE CLAY, MOIST TO WET			2 4 4	12	83	SS-1	-	-	-	-	-	-	-	-	-	11	A-3a (V)	
			1 2 1	4	67	SS-2	-	-	-	-	-	-	-	-	-	18	A-3a (V)	
	803.7		1 1 1	3	78	SS-3	-	21	17	34	23	5	NP	NP	NP	17	A-3a (0)	
DENSE TO VERY DENSE, BROWN AND GRAY, **GRAVEL AND STONE FRAGMENTS** LITTLE TO SOME SAND, TRACE SILT, TRACE CLAY, WET TO MOIST @11.0'; ENCOUNTERED POSSIBLE COBBLE		W 802.2	1 12 35	70	22	SS-4	-	-	-	-	-	-	-	-	-	14	A-1-a (V)	
			13 10 11	31	56	SS-5	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	
	796.2		18 12 16	42	89	SS-6	-	-	-	-	-	-	-	-	-	8	A-1-a (V)	
DENSE, BROWN AND MAROONISH GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT** LITTLE CLAY, DAMP	794.3		13 11 10	31	89	SS-7	-	32	15	18	19	16	21	13	8	12	A-2-4 (0)	
DENSE, BROWN AND MAROONISH GRAY, **SANDY SILT**, LITTLE CLAY, TRACE TO LITTLE GRAVEL, DAMP			23 12 19	46	100	SS-8	-	17	10	30	28	15	NP	NP	NP	12	A-4a (2)	
			13 14 14	42	100	SS-9	-	4	14	26	39	17	NP	NP	NP	14	A-4a (4)	
STIFF, MAROONISH GRAY, **CLAY**, SOME SILT, TRACE SAND, TRACE GRAVEL, MOIST	788.7 / 787.7					SS-10A	1.50	-	-	-	-	-	-	-	-	21	A-7-6 (V)	
@25.0'; ENCOUNTERED HEAVE			10 9 16	37	100	SS-10B	-	-	-	-	-	-	-	-	-	18	A-3a (V)	
DENSE, GRAY, **COARSE AND FINE SAND** TRACE GRAVEL, TRACE SILT, TRACE CLAY, WET	784.9																	
DENSE TO VERY DENSE, GRAY, **GRAVEL WITH SAND** TRACE SILT, TRACE CLAY, MOIST																		
@30.0' TO 45.0'; DIFFICULT DRILLING DUE TO COBBLES AND/OR BOULDERS			10 17 15	47	100	SS-11	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
			24 20 25	67	100	SS-12	-	24	40	23	10	3	NP	NP	NP	13	A-1-b (0)	
@40.0'; SS-13 CONTAINS NO RECOVERY			11 21 26	70	0	SS-13	-	-	-	-	-	-	-	-	-	-		
	768.2	EOB	9 23 28	76	44	SS-14	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	

NOTES: GROUNDWATER ENCOUNTERED AT 11.0' DURING DRILLING. HOLE DID NOT CAVE. ENCOUNTERED HEAVE AT 25.0', USED WATER AS CIRCULATION FLUID.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 50 GAL. BENTONITE GROUT; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:48 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL: 614.714.0299 WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 31 TOTAL 51
SHEET P.309 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 2 & 5
BORING LOG B-003-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:19:16 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL005.dgn

PROJECT: CUY-14-6.93
TYPE: RETAINING WALL
PID: 104132 SFN:
START: 8/5/21 END: 8/5/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 371+23, 32' LT.
ALIGNMENT: SR-14
ELEVATION: 812.9 (MSL) EOB: 45.0 ft.
LAT / LONG: 41.431688, -81.601606

EXPLORATION ID B-004-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
VERY LOOSE TO LOOSE, BROWN, **SANDY SILT**, LITTLE GRAVEL, TRACE CLAY, MOIST	812.9		2 1 1	3	78	SS-1	-	16	9	36	30	9	NP	NP	NP	17	A-4a (1)	
			1 2 4	9	67	SS-2	-	-	-	-	-	-	-	-	-	16	A-4a (V)	
LOOSE, BROWN, **GRAVEL WITH SAND AND SILT** TRACE CLAY, MOIST	805.9		2 2 2	6	33	SS-3	-	32	17	30	17	4	NP	NP	NP	14	A-2-4 (0)	
MEDIUM DENSE TO VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE SILT, TRACE CLAY, WET TO MOIST	803.4	W 802.9	8 10 11	31	56	SS-4	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	
			3 9 14	34	100	SS-5	-	-	-	-	-	-	-	-	-	21	A-1-b (V)	
			9 9 10	28	100	SS-6	-	29	43	18	8	2	NP	NP	NP	14	A-1-b (0)	
			7 12 12	36	44	SS-7	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			6 13 19	47	44	SS-8	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
			13 14 18	47	44	SS-9	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
@25.0'; DIFFICULT DRILLING DUE TO POSSIBLE ENCOUNTER WITH COBBLES AND/OR BOULDERS			12 16 21	55	33	SS-10	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			15 16 19	52	39	SS-11	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
			19 22 29	76	44	SS-12	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			25 31 38	102	89	SS-13	-	35	55	6	3	1	NP	NP	NP	13	A-1-b (0)	
	767.9	EOB	32 35 41	113	83	SS-14	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	

NOTES: GROUNDWATER ENCOUNTERED AT 10.0' DURING DRILLING. HOLE DID NOT CAVE. RAN A SLURRY MIX AS CIRCULATING FLUID.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 50 GAL. BENTONITE GROUT; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:48 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL: 614.714.0299 WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 32 TOTAL 51
SHEET P.310 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 1 & 2
BORING LOG B-004-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:20:33 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL006.dgn

PROJECT: CUY-14-6.93	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	DRILL RIG: CME 75T	STATION / OFFSET: 372+69, 18' RT.	EXPLORATION ID B-005-0-21
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	HAMMER: CME AUTOMATIC	ALIGNMENT: SR-14	
PID: 104132 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 5/1/19	ELEVATION: 813.6 (MSL) EOB: 44.8 ft.	PAGE 1 OF 1
START: 8/3/21 END: 8/4/21	SAMPLING METHOD: SPT / ST	ENERGY RATIO (%): 89	LAT / LONG: 41.431413, -81.601611	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND** LITTLE SILT, TRACE CLAY, SS-1 CONTAINS A 1.5" LIMESTONE FRAGMENT, DAMP	813.6		5 6 5	16	44	SS-1	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
					75	ST-2	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
VERY LOOSE TO MEDIUM DENSE, BROWN, **GRAVEL WITH SAND AND SILT** LITTLE CLAY, DAMP TO MOIST	806.6		1 4 4	12	100	SS-3	-	29	13	28	19	11	NP	NP	NP	12	A-2-4 (0)	
		W 803.1	1 1 2	4	17	SS-4	-	-	-	-	-	-	-	-	-	18	A-2-4 (V)	
MEDIUM DENSE TO DENSE, GRAY, **FINE SAND**, "AND" COARSE SAND, TRACE SILT, TRACE GRAVEL, TRACE CLAY, MOIST TO WET	801.6		6 13 14	40	67	SS-5	-	-	-	-	-	-	-	-	-	17	A-3 (V)	
	FS		3 4 7	16	100	SS-6	-	3	43	44	8	2	NP	NP	NP	21	A-3 (0)	
@17.5'; ENCOUNTERED HEAVE. PULLED AUGERS AND REDRILLED WITH A SLURRY MIX TO COMBAT HEAVE.			14 12 13	37	100	SS-7	-	-	-	-	-	-	-	-	-	12	A-3 (V)	
DENSE TO VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE SILT, TRACE CLAY, MOIST	794.1		5 15 17	47	56	SS-8	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
			7 16 20	53	100	SS-9	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
STIFF, GRAY, **SANDY SILT**, "AND" CLAY, TRACE GRAVEL, CONTAINS A 2.0" SILT SEAM, MOIST	789.1		13 14 8	33	39	SS-10	1.75	8	6	12	38	36	26	17	9	21	A-4a (8)	
VERY DENSE, GRAY, **GRAVEL WITH SAND** LITTLE SILT, TRACE CLAY, DAMP TO MOIST @30.0' TO 44.8'; DIFFICULT DRILLING DUE TO COBBLES AND/OR BOULDERS	785.3		11 23 25	71	100	SS-11	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
			22 34 42	113	100	SS-12	-	34	34	16	12	4	NP	NP	NP	9	A-1-b (0)	
			12 16 25	61	100	SS-13	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
VERY DENSE, GRAY, **STONE FRAGMENTS WITH SAND** TRACE SILT, TRACE CLAY, STONE FRAGMENTS ARE LIMESTONE. POSSIBLE LIMESTONE COBBLE, MOIST	771.3																	
	768.8	EOB	33 47 50/4"	-	44	SS-14	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	

NOTES: GROUNDWATER ENCOUNTERED AT 10.5' DURING DRILLING. HOLE DID NOT CAVE. ENCOUNTERED HEAVE AT 17.5'.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 75 GAL. BENTONITE GROUT; POURED 2 BAGS HOLE PLUG

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:49 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

SHEET	TOTAL	SUBSET	TOTAL	PROJECT ID	REVIEWER	DESIGNER	DESIGN AGENCY
P.311	329	33	51	104132	BPA 02/13/23	MWJ/AI	NEAS 2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL:614.714.0299 WWW.NEASINC.COM

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 2 & 5
BORING LOG B-005-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:21:49 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL007.dgn

PROJECT: CUY-14-6.93
TYPE: BRIDGE
PID: 104132 SFN: 1081085
START: 8/9/21 END: 8/9/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 372+57, 41' LT.
ALIGNMENT: SR-14
ELEVATION: 812.9 (MSL) EOB: 49.4 ft.
LAT / LONG: 41.431548, -81.601193

EXPLORATION ID B-006-0-21

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
LOOSE TO MEDIUM DENSE, BROWN, **COARSE AND FINE SAND**, SOME SILT, LITTLE GRAVEL, TRACE CLAY, CONTAINS ROOTS, MOIST TO WET	812.9																	
		3	3 5 3	12	22	SS-1	-	-	-	-	-	-	-	-	-	14	A-3a (V)	
		5	1 2 2	6	44	SS-2	-	-	-	-	-	-	-	-	-	19	A-3a (V)	
	805.9	7																
MEDIUM DENSE TO VERY DENSE, BROWN AND GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, CONTAINS 1.5" STONE FRAGMENTS, WET TO MOIST @10.0' TO 49.4'; ENCOUNTERED COBBLES DURING DRILLING		8	1 4 5	13	39	SS-3	-	44	14	24	16	2	NP	NP	NP	14	A-1-b (0)	
	W 802.9	10	6 16 35	76	100	SS-4	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
		13	8 34 15	73	100	SS-5	-	21	45	17	14	3	NP	NP	NP	11	A-1-b (0)	
	798.4	15																
DENSE, GRAY, **COARSE AND FINE SAND**, LITTLE SILT, TRACE GRAVEL, TRACE CLAY, WET		16	19 10 14	36	50	SS-6	-	-	-	-	-	-	-	-	-	18	A-3a (V)	
	795.9	17																
DENSE TO VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, TRACE CLAY, WET TO MOIST		18	12 17 16	49	78	SS-7	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	
		21	7 16 22	56	100	SS-8	-	30	38	20	9	3	NP	NP	NP	11	A-1-b (0)	
	790.9	22																
VERY DENSE, GRAY, **COARSE AND FINE SAND**, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, MOIST		23	9 17 20	55	89	SS-9	-	-	-	-	-	-	-	-	-	13	A-3a (V)	
	788.4	24																
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, DAMP TO MOIST		25	33 50	-	83	SS-10	-	58	14	10	15	3	NP	NP	NP	10	A-1-b (0)	
		31	2 8 50/3"	-	80	SS-11	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
	779.6	33																
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS**, SOME TO "AND" SAND, LITTLE SILT, TRACE CLAY, DAMP TO MOIST		36	10 22 28	74	100	SS-12	-	51	23	13	11	2	NP	NP	NP	9	A-1-a (0)	
		41	18 23 31	80	89	SS-13	-	-	-	-	-	-	-	-	-	10	A-1-a (V)	
		46	17 26 27	79	89	SS-14	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	
	763.5	EOB 49	38 50/5"	-	82	SS-15	-	-	-	-	-	-	-	-	-	8	A-1-a (V)	

NOTES: GROUNDWATER ENCOUNTERED AT 10.0' DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS HOLE PLUG; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:49 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240
COLUMBUS, OH. 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 34 TOTAL 51
SHEET P.312 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
BRIDGE CUY-14-0693, RETAINING WALLS 1 & 2
BORING LOG B-006-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:23:13 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL008.dgn

PROJECT: CUY-14-6.93
TYPE: BRIDGE
PID: 104132 SFN: 1081085
START: 8/10/21 END: 8/10/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT / ST

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 374+39, 46' RT.
ALIGNMENT: SR-14
ELEVATION: 815.2 (MSL) EOB: 50.0 ft.
LAT / LONG: 41.431220, -81.600616

EXPLORATION ID B-007-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 815.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
VERY LOOSE, BROWN AND GRAY BECOMING GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE TO LITTLE SILT, TRACE CLAY, WET TO DAMP			4 1 2	4	17	SS-1	-	-	-	-	-	-	-	-	-	18	A-1-b (V)	
			1 1 1	3	28	SS-2	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	
					83	ST-3	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
@9.0'; BECOMES VERY DENSE. DIFFICULT DRILLING DUE TO COBBLES AND/OR BOULDERS		W 805.7	8 21 29	74	33	SS-4	-	37	23	23	13	4	NP	NP	NP	16	A-1-b (0)	
			6 25 33	86	67	SS-5	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			27 24 29	79	100	SS-6	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
			20 21 26	70	100	SS-7	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
			15 17 22	58	39	SS-8	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
			18 24 25	73	44	SS-9	-	32	41	15	8	4	NP	NP	NP	10	A-1-b (0)	
			13 27 31	86	100	SS-10	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
	786.9																	
VERY DENSE, GRAY AND DARK GRAY, **STONE FRAGMENTS** LITTLE SAND, TRACE SILT, TRACE CLAY, STONE FRAGMENTS ARE LIMESTONE, POSSIBLE LIMESTONE COBBLE/BOULDER, MOIST			21 50	-	31	SS-11	-	-	-	-	-	-	-	-	-	13	A-1-a (V)	
	781.9																	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE SILT, TRACE CLAY, DAMP TO MOIST			24 25 50	111	78	SS-12	-	35	37	15	9	4	NP	NP	NP	9	A-1-b (0)	
			30 32 37	102	100	SS-13	-	29	38	17	10	6	NP	NP	NP	11	A-1-b (0)	
			26 29 35	95	83	SS-14	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
	765.2	EOB	21 32 35	99	100	SS-15	-	31	36	20	10	3	NP	NP	NP	9	A-1-b (0)	

NOTES: GROUNDWATER ENCOUNTERED AT 9.5' DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS BENTONITE CHIPS; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:49 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL:614.714.0299 WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 35 TOTAL 51
SHEET P.313 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
BRIDGE CUY-14-0693 & RETAINING WALL 7
BORING LOG B-007-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:24:35 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL009.dgn

PROJECT: CUY-14-6.93
TYPE: BRIDGE
PID: 104132 SFN: 1081085
START: 8/18/21 END: 8/19/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA / NQ2
SAMPLING METHOD: SPT / NQ2

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 373+83, 41' LT.
ALIGNMENT: SR-14
ELEVATION: 815.0 (MSL) EOB: 52.0 ft.
LAT / LONG: 41.431475, -81.600782

EXPLORATION ID B-008-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
MEDIUM DENSE, GRAYISH BROWN, **SANDY SILT**, LITTLE CLAY, TRACE GRAVEL, MOIST	815.0																	
			20 13 5	27	33	SS-1	-	5	13	39	32	11	NP	NP	NP	16	A-4a (2)	
LOOSE TO DENSE, GRAYISH BROWN, **COARSE AND FINE SAND**, LITTLE SILT, TRACE GRAVEL, TRACE CLAY, MOIST TO WET	810.5																	
			7 3 4	10	22	SS-2	-	-	-	-	-	-	-	-	-	18	A-3a (V)	
		W 808.0																
			2 6 5	16	39	SS-3	-	-	-	-	-	-	-	-	-	24	A-3a (V)	
			7 11 17	42	44	SS-4	-	-	-	-	-	-	-	-	-	14	A-3a (V)	
			10 13 14	40	50	SS-5	-	7	29	48	12	4	NP	NP	NP	17	A-3a (0)	
			9 14 20	50	72	SS-6	-	-	-	-	-	-	-	-	-	13	A-3a (V)	
	798.0																	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE SILT, TRACE CLAY, MOIST TO WET @17.0' TO 52.0'; ENCOUNTERED COBBLES AND/OR BOULDERS DURING DRILLING			10 20 21	61	33	SS-7	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
			12 20 21	61	33	SS-8	-	44	21	22	10	3	NP	NP	NP	10	A-1-b (0)	
			11 17 19	53	28	SS-9	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			12 22 25	70	22	SS-10	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			11 29 33	92	44	SS-11	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			20 29 32	90	50	SS-12	-	47	20	23	8	2	NP	NP	NP	10	A-1-b (0)	
			19 25 50/3"	-	40	SS-13	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
			32 26 30	83	56	SS-14	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			35 50/2"	-	50	SS-15	-	-	-	-	-	-	-	-	-	15	A-1-b (V)	
@42.0' - 52.0'; CORED THROUGH GRANITE AND SILTSTONE COBBLES AND BOULDERS																		
				-	NQ2-1		-	-	-	-	-	-	-	-	-	-		
	763.0	EOB																

NOTES: GROUNDWATER ENCOUNTERED AT 7.0' DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 10 GAL. BENTONITE GROUT; POURED 3 BAGS HOLE PLUG; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:49 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

SHEET	TOTAL
P.314	329

SUBSET	TOTAL
36	51

PROJECT ID: 104132
REVIEWER: BPA 02/13/23
DESIGNER: MWJ/AI

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 300 COLUMBUS, OH. 43231
TEL:614.714.0299
WWW.NEASINC.COM

GEOTECHNICAL PROFILE -ROADWAY
BRIDGE CUY-14-0693
BORING LOG B-008-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:26:00 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL010.dgn

PROJECT: CUY-14-6.93
TYPE: BRIDGE
PID: 104132 SFN: 1081085
START: 8/19/21 END: 8/20/21

DRILLING FIRM / OPERATOR: NEAS / JL
SAMPLING FIRM / LOGGER: NEAS / JL
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 55T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/5/19
ENERGY RATIO (%): 68.4

STATION / OFFSET: 374+98, 51' RT.
ALIGNMENT: SR-14
ELEVATION: 814.9 (MSL) EOB: 49.8 ft.
LAT / LONG: 41.431188, -81.600404

EXPLORATION ID B-009-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
LOOSE, BLACK, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, STONE FRAGMENTS ARE WEAK BLACK SHALE, CONTAINS SLAG, WET	814.9																	
	811.1		4 4 3	8	67	SS-1	-	-	-	-	-	-	-	-	-	20	A-1-b (V)	
VERY LOOSE TO MEDIUM DENSE, GRAY AND BROWN WITH TRACE BLACK STREAKS, **SANDY SILT**, TRACE CLAY, TRACE GRAVEL, SLIGHTLY ORGANIC, SS-3 CONTAINS A 1.5" SANDSTONE FRAGMENT, WET			0 0 1	1	100	SS-2	-	2	5	49	34	10	NP	NP	NP	29	A-4a (2)	
	805.4		1 5 5	11	72	SS-3	-	-	-	-	-	-	-	-	-	28	A-4a (V)	
DENSE TO VERY DENSE, BROWN AND GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE TO LITTLE SILT, TRACE CLAY, WET TO DAMP **@9.5' TO 49.8'; ENCOUNTERED COBBLES AND/OR BOULDERS DURING DRILLING**		W 804.9																
			2 23 18	47	28	SS-4	-	-	-	-	-	-	-	-	-	21	A-1-b (V)	
			9 16 31	54	100	SS-5	-	48	33	9	6	4	NP	NP	NP	12	A-1-b (0)	
			8 16 34	57	39	SS-6	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			9 19 19	43	39	SS-7	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
	792.9		13 21 21	48	28	SS-8	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
DENSE TO VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS**, SOME TO "AND" SAND, TRACE SILT, TRACE CLAY, DAMP TO MOIST			10 16 20	41	28	SS-9	-	-	-	-	-	-	-	-	-	10	A-1-a (V)	
			12 20 23	49	28	SS-10	-	-	-	-	-	-	-	-	-	11	A-1-a (V)	
			11 26 30	64	33	SS-11	-	60	28	8	3	1	NP	NP	NP	9	A-1-a (0)	
	782.9		16 27 29	64	44	SS-12	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, TRACE CLAY, MOIST			17 22 31	60	39	SS-13	-	49	30	14	6	1	NP	NP	NP	9	A-1-b (0)	
			25 27 31	66	50	SS-14	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
	776.6																	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**, TRACE CLAY, DAMP			29 32 35	76	28	SS-15	-	35	19	11	26	9	NP	NP	NP	14	A-2-4 (0)	
	771.6																	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS**, TRACE SAND, TRACE SILT, TRACE CLAY, DAMP			19 34 50/2"	-	21	SS-16	-	-	-	-	-	-	-	-	-	5	A-1-a (V)	
			24 38 50/3"	-	27	SS-17	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
	765.1	EOB																

NOTES: GROUNDWATER ENCOUNTERED AT 10.0' DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS HOLE PLUG; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:49 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL:614.714.0299 WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 37 TOTAL 51
SHEET P.315 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
BRIDGE CUY-14-0693
BORING LOG B-009-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:27:21 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL011.dgn

PROJECT: CUY-14-6.93	DRILLING FIRM / OPERATOR: NEAS / JL	DRILL RIG: CME 55T	STATION / OFFSET: 378+05, 45' LT.	EXPLORATION ID B-010-0-21
TYPE: BRIDGE	SAMPLING FIRM / LOGGER: NEAS / JL	HAMMER: CME AUTOMATIC	ALIGNMENT: SR-14	
PID: 104132 SFN: 1081085	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/5/19	ELEVATION: 821.6 (MSL) EOB: 50.0 ft.	PAGE 1 OF 1
START: 8/24/21 END: 8/24/21	SAMPLING METHOD: SPT	ENERGY RATIO (%): 68.4	LAT / LONG: 41.431345, -81.599251	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
5.0" LIMESTONE #57 GRAVEL (DRILLERS DESCRIPTION)	821.2																	
VERY STIFF, BROWN, **SILTY CLAY**, SOME SAND, SOME GRAVEL, CONTAINS BRICK FRAGMENTS, DAMP **(FILL)**			7 3 4	8	44	SS-1	2.25	25	14	13	18	30	39	21	18	18	A-6b (5)	
	817.1																	
VERY STIFF, BROWN, **CLAY**, SOME SILT, LITTLE SAND, TRACE GRAVEL, MOIST			3 3 3	7	50	SS-2	2.75	10	9	5	22	54	48	23	25	25	A-7-6 (16)	
	814.6																	
MEDIUM STIFF TO VERY STIFF, BROWN AND GRAY, **SILT AND CLAY**, SOME SAND, TRACE GRAVEL, CONTAINS IRON STAINING, MOIST			0 2 2	5	78	SS-3	0.75	6	7	28	39	20	30	18	12	24	A-6a (6)	
			0 2 4	7	72	SS-4	2.25	-	-	-	-	-	-	-	-	25	A-6a (V)	
	809.6																	
DENSE TO VERY DENSE, BROWN AND GRAY, **GRAVEL**, SOME SAND, LITTLE SILT, TRACE CLAY, MOIST TO WET		W 808.4	5 13 15	32	67	SS-5	-	-	-	-	-	-	-	-	-	17	A-1-a (V)	
			8 15 18	38	56	SS-6	-	55	19	11	12	3	NP	NP	NP	10	A-1-a (0)	
			9 21 26	54	61	SS-7	-	-	-	-	-	-	-	-	-	14	A-1-a (V)	
	802.1																	
VERY DENSE, BROWN AND GRAY, **COARSE AND FINE SAND**, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, MOIST			19 25 27	59	56	SS-8	-	-	-	-	-	-	-	-	-	14	A-3a (V)	
	799.6																	
DENSE TO VERY DENSE, BROWN AND GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**TRACE TO LITTLE SILT, TRACE CLAY, DAMP TO WET			21 20 23	49	44	SS-9	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			22 24 27	58	28	SS-10	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
			10 22 25	54	33	SS-11	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
			15 28 33	70	39	SS-12	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			15 26 32	66	72	SS-13	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			29 31 36	76	94	SS-14	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
	771.6	EOB	35 20 31	58	56	SS-15	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	

NOTES: GROUNDWATER ENCOUNTERED AT 13.2' DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:49 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

SHEET P.316 TOTAL 329	SUBSET 38 TOTAL 51	PROJECT ID 104132	REVIEWER BPA 02/13/23	DESIGNER MWJ/AI

DESIGN AGENCY NEAS
2800 CORPORATE EXCHANGE DR. SUITE 300 COLUMBUS, OH. 43231
TEL:614.714.0299
WWW.NEASINC.COM

GEOTECHNICAL PROFILE -ROADWAY
BRIDGE CUY-14-0693, RETAINING WALLS 3 & 4
BORING LOG B-010-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:28:38 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL012.dgn

PROJECT: CUY-14-6.93	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	DRILL RIG: CME 55X	STATION / OFFSET: 378+84, 31' RT.	EXPLORATION ID B-011-0-21
TYPE: BRIDGE	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	HAMMER: CME AUTOMATIC	ALIGNMENT: SR-14	
PID: 104132 SFN: 1081085	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/5/19	ELEVATION: 823.5 (MSL) EOB: 59.7 ft.	PAGE 1 OF 1
START: 8/30/21 END: 8/30/21	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81.9	LAT / LONG: 41.431112, -81.598998	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
VERY LOOSE, WHITE, **SANDY SILT**, TRACE CLAY, TRACE GRAVEL, **UNTESTABLE MATERIAL. RESEMBLES LIME**, MOIST **(FILL)**	823.5		0 0 0	0	100	SS-1	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
	819.0																	
MEDIUM DENSE TO DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**TRACE TO LITTLE SILT, TRACE CLAY, DAMP TO MOIST			3 7 8	20	28	SS-2	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			5 10 12	30	22	SS-3	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			8 17 18	48	39	SS-4	-	18	33	31	14	4	NP	NP	NP	11	A-1-b (0)	
@12.5'; BECOMES VERY DENSE. DIFFICULT DRILLING DUE TO COBBLES AND/OR BOULDERS			8 20 28	66	22	SS-5	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			7 13 29	57	39	SS-6	-	44	27	11	13	5	NP	NP	NP	11	A-1-b (0)	
			20 29 33	85	28	SS-7	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			14 30 50/2"	-	64	SS-8	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			15 37 49	117	22	SS-9	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
@25.0'; SS-10 CONTAINS NO RECOVERY			35 47 50/2"	-	0	SS-10	-	-	-	-	-	-	-	-	-	-		
			43 50/5"	-	45	SS-11	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			30 39 44	113	22	SS-12	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			40 50/4"	-	30	SS-13	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
			35 42 50/2"	-	21	SS-14	-	-	-	-	-	-	-	-	-	15	A-1-b (V)	
			20 37 44	111	44	SS-15	-	48	29	12	8	3	NP	NP	NP	9	A-1-b (0)	
			33 50/4"	-	70	SS-16	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
	763.8	EOB	32 39 50/2"	-	29	SS-17	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE. RAN A SLURRY MIX AT 10.0' TO COMBAT HEAVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 100 GAL. BENTONITE GROUT; POURED 1 BAG HOLE PLUG; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:49 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 300
COLUMBUS, OH. 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 39 TOTAL 51
SHEET P.317 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
BRIDGE CUY-14-0693, RETAINING WALLS 4 & 6
BORING LOG B-011-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:30:05 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL013.dgn

PROJECT: CUY-14-6.93
TYPE: RETAINING WALL
PID: 104132 SFN:
START: 8/17/21 END: 8/17/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 379+12, 38' LT.
ALIGNMENT: SR-14
ELEVATION: 821.4 (MSL) EOB: 50.0 ft.
LAT / LONG: 41.431290, -81.598864

EXPLORATION ID B-012-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
VERY DENSE, GRAY AND BROWN, **STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, CONTAINS 2.0" SLAG FRAGMENTS, WET TO MOIST **(FILL)**	821.4		6 11 24	52	83	SS-1	-	48	20	12	11	9	NP	NP	NP	14	A-1-b (0)	
@5.0'; CHANGES TO VERY LOOSE			6 1 1	3	17	SS-2	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
STIFF, BROWN, **SILT AND CLAY**, LITTLE SAND, TRACE GRAVEL, MOIST	814.4		1 2 2	6	11	SS-3	1.75	-	-	-	-	-	-	-	-	20	A-6a (V)	
VERY LOOSE, GRAY AND BROWN, **COARSE AND FINE SAND**, LITTLE GRAVEL, LITTLE SILT, TRACE CLAY, WET	811.9	W 811.4	0 0 0	0	67	SS-4	-	-	-	-	-	-	-	-	-	25	A-3a (V)	
LOOSE, BROWN AND GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** LITTLE SILT, TRACE CLAY, WET TO DAMP	809.4		1 3 4	10	44	SS-5	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	
@12.0' TO 50.0'; ENCOUNTERED COBBLES DURING DRILLING			4 15 15	45	28	SS-6	-	-	-	-	-	-	-	-	-	18	A-1-b (V)	
@15.0' TO 29.0'; BECOMES DENSE TO VERY DENSE			12 14 15	43	100	SS-7	-	46	24	11	15	4	NP	NP	NP	10	A-1-b (0)	
			10 12 15	40	56	SS-8	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
			20 16 19	52	39	SS-9	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
			20 21 26	70	33	SS-10	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
	791.9		15 19 21	59	33	SS-11	-	-	-	-	-	-	-	-	-	7	A-1-b (V)	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS**, SOME SAND, TRACE SILT, TRACE CLAY, DAMP			9 25 26	76	28	SS-12	-	67	17	9	6	1	NP	NP	NP	7	A-1-a (0)	
			11 32 35	99	56	SS-13	-	-	-	-	-	-	-	-	-	8	A-1-a (V)	
VERY DENSE, GRAY, **SANDY SILT**, TRACE GRAVEL, TRACE CLAY, WET	783.1		19 25 30	82	89	SS-14	-	7	20	36	35	2	NP	NP	NP	18	A-4a (0)	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE SILT, TRACE CLAY, MOIST	778.1		33 34 32	98	50	SS-15	-	42	26	24	7	1	NP	NP	NP	11	A-1-b (0)	
VERY DENSE, GRAY, **STONE FRAGMENTS**, TRACE SAND, TRACE SILT, TRACE CLAY, MOIST	774.1		37 26 30	83	44	SS-16	-	-	-	-	-	-	-	-	-	11	A-1-a (V)	
	771.4	EOB																

NOTES: GROUNDWATER ENCOUNTERED AT 10.0' DURING DRILLING. HOLE DID NOT CAVE. RAN A SLURRY MIX AS CIRCULATING FLUID.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS HOLE PLUG; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:50 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 360 COLUMBUS, OH. 43231 TEL: 614.714.0299 WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 40 TOTAL 51
SHEET P.318 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 3 & 4
BORING LOG B-012-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:31:31 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL014.dgn

PROJECT: CUY-14-6.93
TYPE: RETAINING WALL
PID: 104132 SFN:
START: 8/12/21 END: 8/12/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT / ST

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 380+32, 21' RT.
ALIGNMENT: SR-14
ELEVATION: 826.7 (MSL) EOB: 50.0 ft.
LAT / LONG: 41.431063, -81.598479

EXPLORATION ID B-013-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
MEDIUM DENSE TO VERY DENSE, BROWN AND BLACK, **SANDY SILT**, LITTLE GRAVEL, LITTLE CLAY, CONTAINS BRICK FRAGMENTS AND TRACE IRON STAINING, DAMP **(FILL)**	826.7		9 17 22	58	72	SS-1	-	-	-	-	-	-	-	-	-	12	A-4a (V)	
			4 5 5	15	39	SS-2	-	20	19	20	21	20	23	16	7	14	A-4a (1)	
HARD, GRAYISH BROWN, **CLAY**, SOME SILT, TRACE GRAVEL, TRACE SAND, MOIST	819.2				79	ST-3	4.25	5	2	1	27	65	43	23	20	25	A-7-6 (13)	
VERY DENSE, BROWN, **STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, STONE FRAGMENTS ARE SANDSTONE, CONTAINS IRON STAINING, DAMP	817.2		11 24 22	68	44	SS-4	-	-	-	-	-	-	-	-	-	7	A-1-b (V)	
LOOSE, BROWN, **COARSE AND FINE SAND** SOME SILT, TRACE CLAY, TRACE GRAVEL, CONTAINS TRACE IRON STAINING, WET	814.9		3 2 2	6	78	SS-5	-	-	-	-	-	-	-	-	-	17	A-3a (V)	
MEDIUM DENSE TO VERY DENSE, BROWN AND GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE TO LITTLE SILT, TRACE CLAY, MOIST TO WET	812.2	W 811.7	4 9 9	27	44	SS-6	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
@17.5' TO 50.0'; ENCOUNTERED COBBLES DURING DRILLING			7 15 21	53	100	SS-7	-	28	44	14	10	4	NP	NP	NP	12	A-1-b (0)	
			14 15 19	50	33	SS-8	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			10 13 20	49	44	SS-9	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
			11 16 22	56	72	SS-10	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
			14 19 23	62	39	SS-11	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
			15 21 26	70	50	SS-12	-	36	44	10	9	1	NP	NP	NP	12	A-1-b (0)	
			17 28 29	85	33	SS-13	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			13 15 20	52	39	SS-14	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			19 20 22	62	50	SS-15	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
VERY STIFF, GRAYISH BROWN AND MAROON, **SANDY SILT**, SOME CLAY, LITTLE GRAVEL, MOIST	778.9		14 15 33	71	50	SS-16	2.75	11	16	16	36	21	20	14	6	15	A-4a (4)	
	776.7	EOB																

NOTES: GROUNDWATER ENCOUNTERED AT 15.0' DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS HOLE PLUG; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:50 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

SHEET P.319 TOTAL 329
SUBSET 41 TOTAL 51
PROJECT ID 104132
REVIEWER BPA 02/13/23
DESIGNER MWJ/AI
DESIGN AGENCY NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL:614.714.0299 WWW.NEASINC.COM

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 4 & 6
BORING LOG B-013-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:32:53 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_D520_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL015.dgn

PROJECT: CUY-14-6.93
TYPE: RETAINING WALL
PID: 104132 SFN:
START: 8/13/21 END: 8/13/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 380+40, 65' LT.
ALIGNMENT: SR-14
ELEVATION: 827.2 (MSL) EOB: 50.0 ft.
LAT / LONG: 41.431281, -81.598355

EXPLORATION ID B-014-0-21

PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
MEDIUM DENSE TO VERY DENSE, GRAY AND BROWN, **GRAVEL WITH SAND**, TRACE SILT, TRACE CLAY, WET TO MOIST	827.2	1	7 12 19	46	56	SS-1	-	41	21	27	8	3	NP	NP	NP	14	A-1-b (0)	
		2	6 10 14	36	44	SS-2	-	52	17	19	9	3	NP	NP	NP	12	A-1-b (0)	
		3																
		4	8 19 23	62	67	SS-3	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
	821.7	5	3 5 6	16	83	SS-4A	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
VERY STIFF, BROWN, **CLAY**, SOME SILT, TRACE SAND, TRACE GRAVEL, MOIST						SS-4B	2.75	-	-	-	-	-	-	-	-	29	A-7-6 (V)	
	820.2	6	4 4 3	10	78	SS-5A	3.00	3	3	4	29	61	45	21	24	23	A-7-6 (15)	
LOOSE, BROWN, **GRAVEL WITH SAND**, TRACE SILT, TRACE CLAY, DAMP		7				SS-5B	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
	819.2	8																
VERY DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, TRACE SAND, TRACE SILT, TRACE CLAY, POSSIBLE ENCOUNTER WITH COBBLE, DAMP		9	10 18 20	56	56	SS-6	-	-	-	-	-	-	-	-	-	9	A-1-a (V)	
	816.7	10																
STIFF, BROWN AND ORANGISH BROWN, **SANDY SILT**, LITTLE CLAY, LITTLE GRAVEL, CONTAINS IRON STAINING, MOIST		11																
		12	5 6 6	18	56	SS-7	1.25	11	23	28	23	15	24	14	10	17	A-4a (1)	
	813.6	13																
MEDIUM DENSE, BROWN AND GRAY, **COARSE AND FINE SAND**, SOME SILT, LITTLE CLAY, LITTLE GRAVEL, MOIST		14	3 7 11	27	33	SS-8	-	-	-	-	-	-	-	-	-	10	A-3a (V)	
	811.7	15																
DENSE TO VERY DENSE, GRAY, **GRAVEL WITH SAND**, TRACE SILT, TRACE CLAY, MOIST TO WET @15.5' TO 50.0'; DIFFICULT DRILLING/ENCOUNTERED COBBLES DURING DRILLING		16																
		17	9 15 20	52	78	SS-9	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
		18																
		19	16 21 21	62	22	SS-10	-	-	-	-	-	-	-	-	-	18	A-1-b (V)	
		20																
		21																
		22	11 12 21	49	50	SS-11	-	13	60	15	8	4	NP	NP	NP	14	A-1-b (0)	
		23																
		24	10 18 20	56	56	SS-12	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
		25																
		26																
	799.7	27																
VERY DENSE, BROWN BECOMING GRAY, **GRAVEL AND STONE FRAGMENTS**, SOME SAND, TRACE SILT, TRACE CLAY, MOIST		28																
		29																
		30																
		31	15 19 20	58	28	SS-13	-	-	-	-	-	-	-	-	-	9	A-1-a (V)	
		32																
		33																
		34																
		35																
		36	18 22 27	73	39	SS-14	-	64	20	7	7	2	NP	NP	NP	8	A-1-a (0)	
		37																
		38																
		39																
		40																
		41	14 20 21	61	28	SS-15	-	-	-	-	-	-	-	-	-	11	A-1-a (V)	
		42																
		43																
		44																
		45																
		46	21 24 25	73	44	SS-16	-	-	-	-	-	-	-	-	-	10	A-1-a (V)	
	780.7	47																
VERY STIFF, MAROONISH GRAY, **CLAY**, SOME SILT, TRACE SAND, TRACE GRAVEL, DAMP		48																
	778.4	49	17 20 30	74	44	SS-17A	2.25	-	-	-	-	-	-	-	-	12	A-7-6 (V)	
VERY DENSE, GRAY, **COARSE AND FINE SAND**, TRACE GRAVEL, TRACE SILT, TRACE CLAY, MOIST	777.2	EOB 50				SS-17B	-	-	-	-	-	-	-	-	-	11	A-3a (V)	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE. RAN A SLURRY MIX AS CIRCULATING FLUID.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS HOLE PLUG; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:50 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 42 TOTAL 51
SHEET P.320 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 3 & 4
BORING LOG B-014-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:34:14 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL016.dgn

PROJECT: CUY-14-6.93	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	DRILL RIG: CME 75T	STATION / OFFSET: 381+46, 28' RT.	EXPLORATION ID B-015-0-21
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	HAMMER: CME AUTOMATIC	ALIGNMENT: SR-14	
PID: 104132 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 5/1/19	ELEVATION: 829.0 (MSL) EOB: 45.0 ft.	PAGE 1 OF 1
START: 8/11/21 END: 8/11/21	SAMPLING METHOD: SPT	ENERGY RATIO (%): 89	LAT / LONG: 41.430932, -81.598114	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
VERY LOOSE TO MEDIUM DENSE, BROWN, **COARSE AND FINE SAND**, LITTLE GRAVEL, LITTLE SILT, TRACE CLAY, MOIST	829.0		3 5 4	13	100	SS-1	-	-	-	-	-	-	-	-	-	8	A-3a (V)	
			1 1 2	4	89	SS-2	-	18	22	34	16	10	NP	NP	NP	11	A-3a (0)	
VERY STIFF, BROWN, **CLAY**, "AND" SILT, LITTLE SAND, TRACE GRAVEL, MOIST	822.0		1 1 3	6	100	SS-3	3.50	-	-	-	-	-	-	-	-	27	A-7-6 (V)	
			1 2 3	7	100	SS-4	3.25	1	7	10	40	42	50	23	27	30	A-7-6 (17)	
MEDIUM DENSE TO VERY DENSE, BROWN BECOMING GRAY, **GRAVEL AND STONE FRAGMENTS** SOME SAND, TRACE SILT, TRACE CLAY, WET TO DAMP	817.0	W 816.5	14 19 20	58	44	SS-5	-	57	22	11	8	2	NP	NP	NP	8	A-1-a (0)	
@15.0' - 45.0'; ENCOUNTERED COBBLES DURING DRILLING			13 10 7	25	28	SS-6	-	-	-	-	-	-	-	-	-	17	A-1-a (V)	
			9 22 24	68	56	SS-7	-	-	-	-	-	-	-	-	-	16	A-1-a (V)	
			15 27 28	82	100	SS-8	-	-	-	-	-	-	-	-	-	8	A-1-a (V)	
			18 20 25	67	100	SS-9	-	64	19	9	6	2	NP	NP	NP	8	A-1-a (0)	
			17 23 21	65	100	SS-10	-	-	-	-	-	-	-	-	-	9	A-1-a (V)	
			21 50/2"	-	25	SS-11	-	-	-	-	-	-	-	-	-	2	A-1-a (V)	
			23 24 27	76	22	SS-12	-	-	-	-	-	-	-	-	-	11	A-1-a (V)	
	784.0	EOB	22 26 31	85	17	SS-13	-	-	-	-	-	-	-	-	-	11	A-1-a (V)	

NOTES: GROUNDWATER ENCOUNTERED AT 12.5' DURING DRILLING. HOLE DID NOT CAVE. RAN A SLURRY MIX AS CIRCULATING FLUID.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS HOLE PLUG; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:50 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

SHEET P.321	SUBSET 43	PROJECT ID 104132	REVIEWER BPA 02/13/23	DESIGNER MWJ/AI	DESIGN AGENCY NEAS 2800 CORPORATE EXCHANGE DR. SUITE 360 COLUMBUS, OH. 43231 TEL:614.714.0299 WWW.NEASINC.COM
TOTAL 329	TOTAL 51				

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 4 & 6
BORING LOG B-015-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:35:33 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL017.dgn

PROJECT: CUY-14-6.93	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	DRILL RIG: CME 75T	STATION / OFFSET: 302+01, 13' LT.	EXPLORATION ID B-016-0-21
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	HAMMER: CME AUTOMATIC	ALIGNMENT: SR-14	
PID: 104132 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 5/1/19	ELEVATION: 831.0 (MSL) EOB: 35.0 ft.	PAGE 1 OF 1
START: 8/11/21 END: 8/11/21	SAMPLING METHOD: SPT / ST	ENERGY RATIO (%): 89	LAT / LONG: 41.430972, -81.597870	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
DENSE, BLACK AND BROWN, **GRAVEL WITH SAND** LITTLE SILT, TRACE CLAY, SLIGHTLY ORGANIC, MOIST	831.0	1	6 14 11	37	83	SS-1	-	42	20	16	16	6	NP	NP	NP	11	A-1-b (0)	
	829.5																	
MEDIUM STIFF TO VERY STIFF, BROWN AND GRAY, **CLAY**, LITTLE TO "AND" SILT, TRACE TO LITTLE SAND, TRACE GRAVEL, CONTAINS IRON STAINING, MOIST TO DAMP		2	2 3 4	10	100	SS-2	2.75	5	8	7	37	43	49	22	27	24	A-7-6 (17)	
		3																
		4	1 2 3	7	56	SS-3	2.00	-	-	-	-	-	-	-	-	28	A-7-6 (V)	
		5	1 2 1	4	100	SS-4	0.75	3	2	2	21	72	52	24	28	29	A-7-6 (18)	
		6																
		7	1 1 2	4	100	SS-5	1.00	-	-	-	-	-	-	-	-	31	A-7-6 (V)	
@7.8' TO 8.3'; Qu = 1409 PSF @ 13.5%		8			77	ST-6	3.50	0	1	1	17	81	54	24	30	32	A-7-6 (19)	
		9																
		10	2 2 1	4	100	SS-7	2.00	-	-	-	-	-	-	-	-	27	A-7-6 (V)	
		11																
		12																
		13	3 5 6	16	100	SS-8	2.75	-	-	-	-	-	-	-	-	22	A-7-6 (V)	
	816.5	14																
MEDIUM DENSE, BROWN AND GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT**TRACE CLAY, CONTAINS IRON STAINING, DAMP		15																
		16	5 7 7	21	89	SS-9	-	51	18	10	13	8	26	18	8	11	A-2-4 (0)	
	814.0	17																
DENSE TO VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS** "AND" SAND, TRACE SILT, TRACE CLAY, DAMP TO MOIST		18	6 13 17	45	72	SS-10	-	-	-	-	-	-	-	-	-	11	A-1-a (V)	
		19																
		20																
		21	5 19 21	59	83	SS-11	-	50	31	11	7	1	NP	NP	NP	9	A-1-a (0)	
		22																
		23																
		24																
		25																
		26	22 39 43	122	100	SS-12	-	-	-	-	-	-	-	-	-	8	A-1-a (V)	
		27																
		28																
		29																
		30																
		31	17 29 29	86	89	SS-13	-	-	-	-	-	-	-	-	-	7	A-1-a (V)	
		32																
		33																
		34	20 27 33	89	44	SS-14	-	-	-	-	-	-	-	-	-	7	A-1-a (V)	
	796.0	35 EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE. RAN A SLURRY MIX AS CIRCULATING FLUID.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 3 BAGS BENTONITE CHIPS; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:50 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

SHEET P.322 TOTAL 329	SUBSET 44 TOTAL 51	PROJECT ID 104132	REVIEWER BPA 02/13/23	DESIGNER MWJ/AI

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL:614.714.0299 WWW.NEASINC.COM

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 3 & 4
BORING LOG B-016-0-21

NEAS
National Engineering & Architectural Services Inc.

5710 Westbourne Avenue
Columbus, OH 43213
614.892.0162

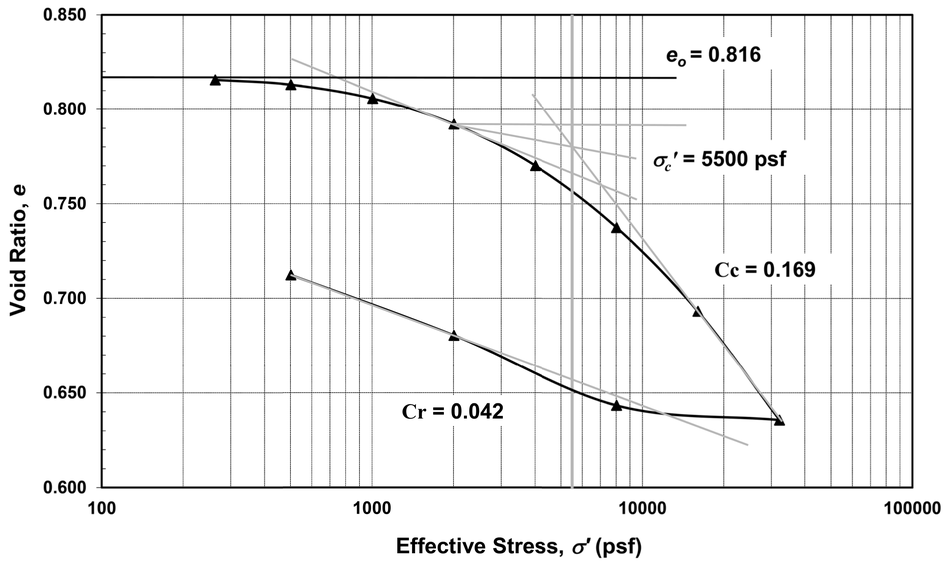
Consolidation Test

Project Name: CUY-14-6.93 | Prepared by: LR
Source: B-016-0-21 ST-6 (8.9'-9.0') | Checked by: ZM
Description: Medium stiff, grayish brown, CLAY, little silt, trace sand, trace gravel, moist. Please note that a 200g seating load was required to prevent swelling. | Date: 10/13/2021
Test Specification: ASTM D 2435
Initial Void Ratio: 0.816 | Initial Bulk Unit Weight (lb/ft^3): 122
In-situ Vertical Effective Stress (psf): 1100 | Dry Unit Weight (lb/ft^3): 93

Compression and Swelling Index

Compression Index (Cc): 0.169 | Preconsolidation Pressure (σ_c') (psf): **5500**
Recompression Index (Cr): 0.042 | Over-Consolidation Ratio (OCR): **5.00**

Consolidation Curve



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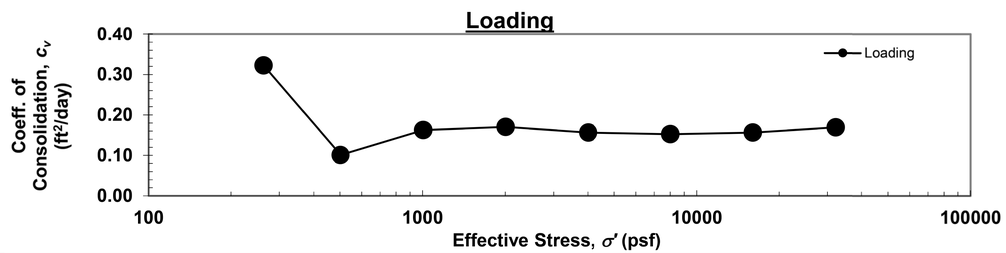


NEAS
National Engineering & Architectural Services Inc.

5710 Westbourne Avenue
Columbus, OH 43213
614-892-0162

Unconfined Compressive Strength of Cohesive Soil (ASTM D2166)

(Project: CUY-14-6.93, Boring Location: B-016-0-21, ST-6, Depth: 7.8 - 8.3ft)
Tested Date: 9/29/2021

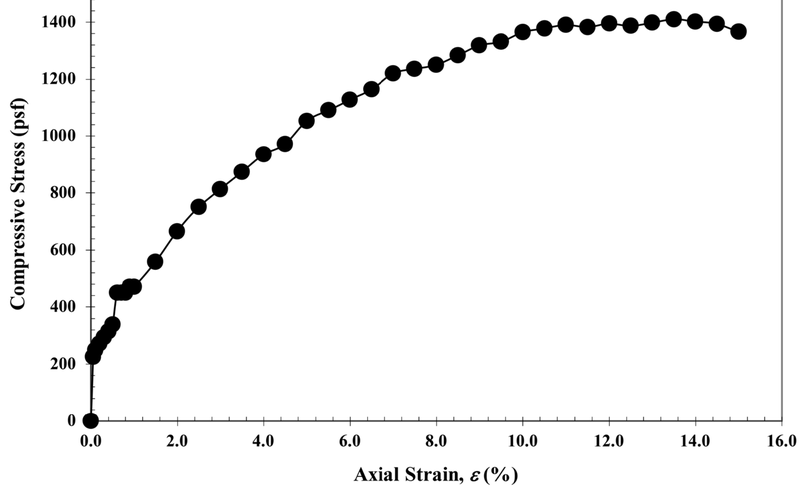
Specimen Properties

Average Dia., D_{avg} (in): 2.85
Average Height H_{avg} (in): 5.73
Area, A (in^2): 6.36
Volume, V (in^3): 36.45
Wet Mass of Specimen (lb): 2.6
Moisture Content (%): 30.9
Dry Mass of Specimen (lb): 2.0
Wet Unit Weight, γ (lb/ft^3): 121.2
Dry Unit Weight, γ_d (lb/ft^3): 92.6

Final Specimen Figure

Results

Unconfined Compressive Strength (psf): **1409**
Strain (%): **13.5**



Notes: Medium stiff, grayish brown, CLAY, little silt, trace sand, trace gravel, moist.

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 3 & 4
B-016-0-21 ST-6 CONSOLIDATION & SOIL UNC

DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 45 | TOTAL 51
SHEET P.323 | TOTAL 329

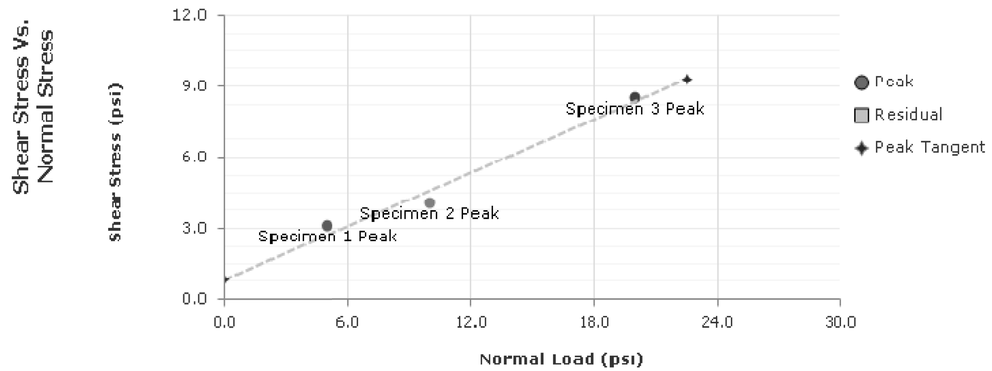
CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:36:49 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZD001.dgn

Direct Shear Test

T236

Project: CUY-14-6.93
Project Number: 104132
Location: B-016-0-21 ST-6
Client Name: AECOM



C (psi): 0.9
Phi (°): 20.5
Residual C (psi): NA
Residual Phi (°): NA

Initial	Specimen Number 1	2	3	4	5	6	7	8
Moisture (%):	33.3	30.7	27.4					
Dry Density (pcf):	86.5	92.0	93.3					
Void Ratio:	0.927	0.812	0.787					
Saturation (%):	96.0	101.1	93.2					
Diameter (in):	2.4975	2.4973	2.4973					
Height (in):	1.0028	1.0007	1.0018					
Final	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture (%):	40.6	33.8	33.8					
Dry Density (pcf):	86.1	93.1	93.1					
Void Ratio:	0.936	0.790	0.790					
Saturation (%):	115.9	114.2	114.1					
Height (in):	0.9958	0.9852	0.9814					
Normal Stress (psi):	5.0	10.0	20.0					
Peak Shear Stress (psi):	3.1	4.1	8.5					
Residual Stress (psi):	NA	NA	NA					
Horizontal Deformation (%):	3.1	2.4	3.5					
Rate (in/min):	0.010416	0.012816	0.004896					

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 3 & 4
B-016-0-21 ST-6 DIRECT SHEAR

DESIGN AGENCY
NEAS National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 46 | TOTAL 51
SHEET P.324 | TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:37:58 PM USER: mjasiewicz
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MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:38:38 PM USER: mjasiewicz
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PROJECT: CUY-14-6.93
TYPE: RETAINING WALL
PID: 104132 SFN:
START: 8/24/21 END: 8/24/21

DRILLING FIRM / OPERATOR: NEAS / ASHBAUGH
SAMPLING FIRM / LOGGER: NEAS / ASHBAUGH
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 55T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/5/19
ENERGY RATIO (%): 68.4

STATION / OFFSET: 383+04, 46' RT.
ALIGNMENT: SR-14
ELEVATION: 845.8 (MSL) EOB: 41.5 ft.
LAT / LONG: 41.430711, -81.597615

EXPLORATION ID B-017-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
7.0" ASPHALT AND 7.5" CONCRETE (DRILLERS DESCRIPTION)	845.8 844.6																	
STIFF TO VERY STIFF, BROWN AND GRAY, **CLAY**, SOME SILT, TRACE TO LITTLE GRAVEL, TRACE TO LITTLE SAND, CONTAINS TRACE IRON STAINING, MOIST		3	3 4	8	44	SS-1	2.00	-	-	-	-	-	-	-	-	26	A-7-6 (V)	
		4	4 4	9	56	SS-2	2.25	-	-	-	-	-	-	-	-	27	A-7-6 (V)	
@7.5'; SS-3 CONTAINS A 2.0" STONE FRAGMENT		3	3 3	7	50	SS-3	3.00	16	2	4	26	52	45	20	25	26	A-7-6 (15)	
		3	2 3	6	56	SS-4	1.75	-	-	-	-	-	-	-	-	25	A-7-6 (V)	
	833.8																	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND** LITTLE SILT, TRACE CLAY, DAMP		4	5 8	15	28	SS-5	-	43	23	17	11	6	NP	NP	NP	9	A-1-b (0)	
	831.3																	
VERY DENSE, GRAY, **STONE FRAGMENTS** TRACE SAND, TRACE SILT, TRACE CLAY, POSSIBLE COBBLE(S), DAMP TO DRY		50/3"	-	67	SS-6	-	-	-	-	-	-	-	-	-	5	A-1-a (V)		
		50/3"	-	67	SS-7	-	-	-	-	-	-	-	-	-	2	A-1-a (V)		
	826.3																	
VERY STIFF TO HARD, GRAY AND BROWN, **CLAY**, SOME SILT, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST		8	7 8	17	67	SS-8	2.50	-	-	-	-	-	-	-	-	22	A-7-6 (V)	
		8	9 12	24	72	SS-9	4.50	4	3	4	34	55	44	22	22	22	A-7-6 (14)	
		10	10 13	26	83	SS-10	4.50	-	-	-	-	-	-	-	-	20	A-7-6 (V)	
	817.8																	
MEDIUM DENSE TO VERY DENSE, BROWN AND GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** LITTLE SILT, TRACE CLAY, SS-11B CONTAINS TRACE IRON STAINING, DAMP TO MOIST		9	11 14	29	56	SS-11A	2.50	-	-	-	-	-	-	-	-	23	A-7-6 (V)	
						SS-11B	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
		13	14 14	32	44	SS-12	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
		17	21 27	55	78	SS-13	-	43	22	18	14	3	NP	NP	NP	8	A-1-b (0)	
		15	22 29	58	67	SS-14	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
@37.5'; SS-15 CONTAINS NO RECOVERY		20	26 31	65	0	SS-15	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	
		22	25 35	68	44	SS-16	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
	804.3	EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; POURED 2 BAGS HOLE PLUG; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:50 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

SHEET P.325 TOTAL 329
SUBSET 47 TOTAL 51
PROJECT ID 104132
REVIEWER BPA 02/13/23
DESIGNER MWJ/AI
DESIGN AGENCY NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL: 614.714.0299 WWW.NEASINC.COM

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALLS 4 & 6
BORING LOG B-017-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:39:56 PM USER: mjasiewicz
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PROJECT: CUY-14-6.93
TYPE: RETAINING WALL
PID: 104132 SFN:
START: 8/6/21 END: 8/6/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 75T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 5/1/19
ENERGY RATIO (%): 89

STATION / OFFSET: 373+66, 148' RT.
ALIGNMENT: SR-14
ELEVATION: 816.2 (MSL) EOB: 45.0 ft.
LAT / LONG: 41.430969, -81.600935

EXPLORATION ID B-020-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 816.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
MEDIUM DENSE, BROWN AND GRAY, **GRAVEL WITH SAND AND SILT**, TRACE CLAY, DAMP			6 10 9	28	50	SS-1	-	33	25	16	18	8	NP	NP	NP	7	A-2-4 (0)	
	811.7																	
VERY LOOSE TO LOOSE, BROWN, **COARSE AND FINE SAND**, LITTLE SILT, LITTLE GRAVEL, TRACE CLAY, CONTAINS INTERBEDDED 1.0" SILTY CLAY SEAMS, WET			3 2 2	6	100	SS-2	-	-	-	-	-	-	-	-	-	16	A-3a (V)	
			2 2 1	4	89	SS-3	-	11	25	35	19	10	NP	NP	NP	18	A-3a (0)	
	806.7																	
MEDIUM DENSE, BROWN, **STONE FRAGMENTS** SOME SAND, LITTLE SILT, TRACE CLAY, MOIST TO WET @10.0' - 45.0'; ENCOUNTERED COBBLES DURING DRILLING		W 806.2	2 6 8	21	28	SS-4	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	
			5 7 8	22	56	SS-5	-	59	14	12	12	3	NP	NP	NP	14	A-1-a (0)	
	801.7																	
MEDIUM DENSE TO VERY DENSE, GRAY, **GRAVEL WITH SAND**, TRACE SILT, TRACE CLAY, WET TO MOIST			13 12 7	28	100	SS-6	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	
			9 18 21	58	100	SS-7	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
			12 18 19	55	33	SS-8	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			14 18 22	59	33	SS-9	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			16 18 22	59	50	SS-10	-	36	36	15	10	3	NP	NP	NP	11	A-1-b (0)	
			18 21 22	64	28	SS-11	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
			16 22 31	79	44	SS-12	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			17 20 29	73	61	SS-13	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			13 19 24	64	28	SS-14	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
			9 21 22	64	33	SS-15	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
	771.2	EOB	25 28 39	99	100	SS-16	-	47	30	11	8	4	NP	NP	NP	9	A-1-b (0)	

NOTES: GROUNDWATER ENCOUNTERED AT 10.0' DURING DRILLING. HOLE DID NOT CAVE. RAN A SLURRY MIX AS CIRCULATING FLUID.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 100 GAL. BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:51 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

SHEET P.326 | TOTAL 329
SUBSET 48 | TOTAL 51
PROJECT ID 104132
REVIEWER BPA 02/13/23
DESIGNER MWJ/AI
DESIGN AGENCY NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231 TEL:614.714.0299 WWW.NEASINC.COM

GEOTECHNICAL PROFILE -ROADWAY
CULVERT CUY-CR002-00.610
BORING LOG B-020-0-21

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:41:15 PM USER: mjasiewicz
pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\60581903-CUY-14-6.93\104132\400-Engineering\Geotechnical\Sheets\104132_ZL021.dgn

PROJECT: CUY-14-6.93
TYPE: CULVERT
PID: 104132 SFN:
START: 8/31/21 END: 8/31/21

DRILLING FIRM / OPERATOR: NEAS / J. HODGES
SAMPLING FIRM / LOGGER: NEAS / J. HODGES
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT / ST

DRILL RIG: CME 55X
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/5/19
ENERGY RATIO (%): 81.9

STATION / OFFSET: 374+43, 176' RT.
ALIGNMENT: SR-14
ELEVATION: 816.6 (MSL) EOB: 48.8 ft.
LAT / LONG: 41.430865, -81.600658

EXPLORATION ID B-021-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 816.6	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
VERY STIFF, BROWN, **SANDY SILT**, LITTLE GRAVEL, LITTLE CLAY, CONTAINS IRON STAINING, DAMP TO MOIST			7 4 4	11	100	SS-1	2.50	19	18	19	29	15	22	15	7	11	A-4a (2)	
			3 2 2	5	100	SS-2	3.00	-	-	-	-	-	-	-	-	19	A-4a (V)	
	809.6																	
SOFT TO STIFF, BROWN, **SILT AND CLAY**, SOME SAND, SOME GRAVEL, DAMP	808.2				100	ST-3	1.25	23	18	16	22	21	28	17	11	15	A-6a (2)	
@7.6' TO 8.1'; Qu = 582 PSF @ 3.5% @8.2'; CONTAINS A 3.0" BLACK ORGANIC SEAM CONTAINING WOOD FRAGMENTS	807.2		5 15 17	44	100	SS-4	0.25	-	-	-	-	-	-	-	-	29	A-7-6 (V)	
BROWNISH GRAY WITH TRACE BLACK STREAKS, **COARSE AND FINE SAND** LITTLE SILT, TRACE GRAVEL, TRACE CLAY, SLIGHTLY ORGANIC, WET	804.8																	
SOFT, DARK GRAY, **CLAY**, SOME SILT, LITTLE SAND, TRACE GRAVEL, CONTAINS IRON STAINING, MOIST			6 18 31	67	100	SS-5	-	39	24	15	16	6	NP	NP	NP	9	A-1-b (0)	
VERY DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND** TRACE TO LITTLE SILT, TRACE CLAY, DAMP TO WET **@11.8' TO 48.8'; ENCOUNTERED COBBLES AND/OR BOULDERS DURING DRILLING**			9 15 32	64	39	SS-6	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			25 36 34	96	44	SS-7	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
			7 28 41	94	56	SS-8	-	41	28	16	12	3	NP	NP	NP	10	A-1-b (0)	
			10 31 50/3"	-	20	SS-9	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
			40 50/4"	-	40	SS-10	-	-	-	-	-	-	-	-	-	15	A-1-b (V)	
			35 49 50/2"	-	29	SS-11	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
			36 50	-	25	SS-12	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			33 40 50/2"	-	21	SS-13	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			37 50/3"	-	22	SS-14	-	-	-	-	-	-	-	-	-	18	A-1-b (V)	
			29 38 42	109	28	SS-15	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			39 50/4"	-	20	SS-16	-	-	-	-	-	-	-	-	-	17	A-1-b (V)	
	769.3																	
VERY DENSE, GRAY, **STONE FRAGMENTS**, TRACE SAND, TRACE SILT, TRACE CLAY, DAMP	767.8	EOB	50/4"	-	50	SS-17	-	-	-	-	-	-	-	-	-	4	A-1-a (V)	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE. RAN A SLURRY MIX AT 10.0' TO COMBAT HEAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 1 BAG BENTONITE CHIPS; PUMPED 100 GAL. BENTONITE GROUT; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:51 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

SHEET	TOTAL
P.327	329

SUBSET	TOTAL
49	51

PROJECT ID 104132

REVIEWER BPA 02/13/23

DESIGNER MWJ/AI

DESIGN AGENCY NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231
TEL:614.714.0299
WWW.NEASINC.COM

GEOTECHNICAL PROFILE -ROADWAY
CULVERT CUY-CR002-00.610 & RETAINING WALL 7
BORING LOG B-021-0-21

NEAS
National Engineering & Architectural Services Inc.

5710 Westbourne Avenue
Columbus, OH 43213
614-892-0162

Unconfined Compressive Strength of Cohesive Soil (ASTM D2166)

(Project: CUY-14-6.93, Boring Location: B-021-0-21, ST-3, Depth: 7.6 - 8.1ft)

Tested Date: 9/14/2021

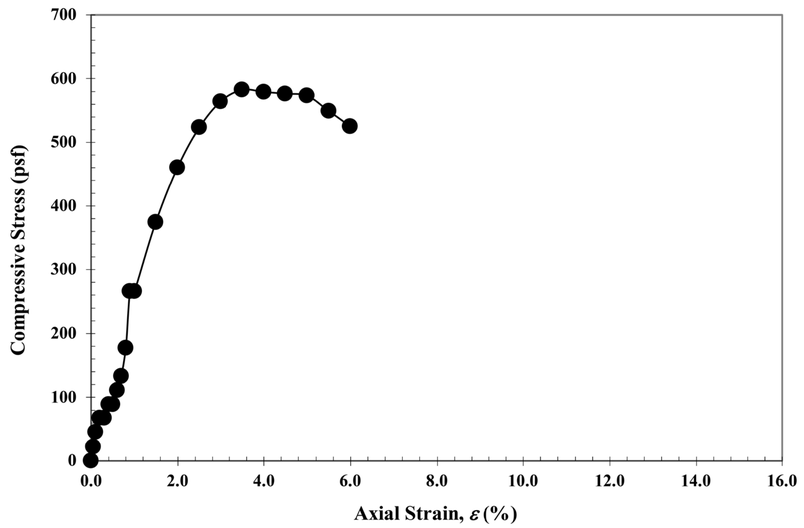
Specimen Properties

Average Dia., D_{avg} (in):	2.86
Average Height, H_{avg} (in):	5.72
Area, A (in^2):	6.44
Volume, V (in^3):	36.84
Wet Mass of Specimen (lb):	2.9
Moisture Content (%):	16.3
Dry Mass of Specimen (lb):	2.5
Wet Unit Weight, γ (lb/ft^3):	136.6
Dry Unit Weight, γ_d (lb/ft^3):	117.5

Final Specimen Figure

Results

Unconfined Compressive Strength (psf):	**582**
Strain (%):	**3.5**



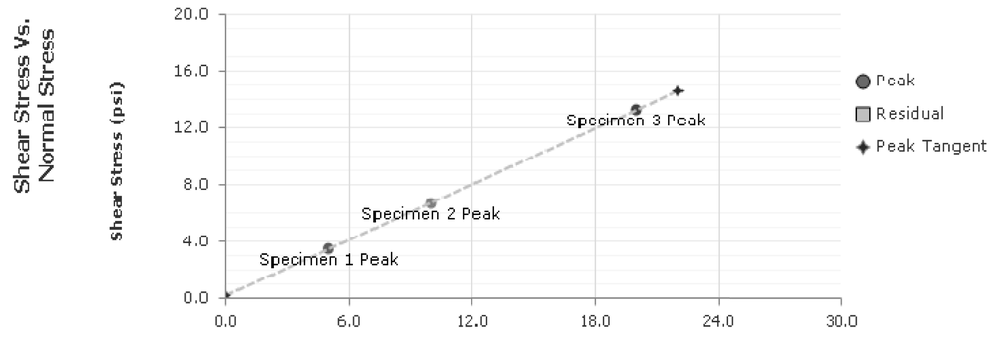
Notes: Soft, brown and gray, SILT AND CLAY, some sand, some gravel, damp.

NEAS
National Engineering & Architectural Services Inc.

Direct Shear Test

T236

Project: CUY-14-6.93
Project Number: 104132
Location: B-021-0-21 ST-3
Client Name: AECOM



C (psi): 0.2 **Residual C (psi):** NA

Phi (°): 33.1 **Residual Phi (°):** NA

Initial	Specimen Number 1	2	3	4	5	6	7	8
Moisture (%):	26.1	24.1	29.7					
Dry Density (pcf):	96.4	98.5	92.2					
Void Ratio:	0.729	0.692	0.807					
Saturation (%):	95.5	93.2	98.1					
Diameter (in):	2.4973	2.4973	2.4973					
Height (in):	1.0060	1.0000	1.0018					
Final	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture (%):	28.7	24.9	30.6					
Dry Density (pcf):	96.8	99.3	92.6					
Void Ratio:	0.723	0.678	0.801					
Saturation (%):	106.0	97.9	102.1					
Height (in):	1.0008	1.0000	1.0018					
Normal Stress (psi):	5.0	10.0	20.0					
Peak Shear Stress (psi):	3.5	6.7	13.3					
Residual Stress (psi):	NA	NA	NA					
Horizontal Deformation (%):	5.2	4.8	5.4					
Rate (in/min):	0.014869	0.007800	0.030816					

GEOTECHNICAL PROFILE -ROADWAY
CULVERT CUY-CR002-00.610 & RETAINING WALL 7
B-021-0-21 ST-3 SOIL UNC & DIRECT SHEAR

DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 50 TOTAL 51
SHEET P.328 TOTAL 329

CUY-14-6.93

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:42:31 PM USER: mjasiewicz
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MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2023 TIME: 12:43:41 PM USER: mjasiewicz
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PROJECT: CUY-14-6.93
TYPE: CULVERT
PID: 104132 SFN:
START: 8/26/21 END: 8/26/21

DRILLING FIRM / OPERATOR: NEAS / ASHBAUGH
SAMPLING FIRM / LOGGER: NEAS / ASHBAUGH
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: CME 55T
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/5/19
ENERGY RATIO (%): 68.4

STATION / OFFSET: 374+00, 292' RT.
ALIGNMENT: SR-14
ELEVATION: 849.3 (MSL) EOB: 51.5 ft.
LAT / LONG: 41.430563, -81.600868

EXPLORATION ID B-022-0-21
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 849.3	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
4.0" TOPSOIL (DRILLERS DESCRIPTION)	849.0																	
MEDIUM DENSE TO VERY DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, SS-1 CONTAINS ROOT HAIRS, DAMP TO MOIST		1	5 7 12	22	44	SS-1	-	39	26	21	11	3	NP	NP	NP	5	A-1-b (0)	
		2	8 10 11	24	44	SS-2	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
		3																
		4	12 14 11	29	28	SS-3	-	62	11	11	13	3	NP	NP	NP	4	A-1-b (0)	
		5	10 19 21	46	50	SS-4	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
		6																
		7	9 16 22	43	56	SS-5	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
		8	10 17 24	47	67	SS-6	-	29	38	15	14	4	NP	NP	NP	5	A-1-b (0)	
		9																
		10																
		11	18 22 26	55	56	SS-7	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
		12																
		13	15 21 25	52	61	SS-8	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
	834.8	14																
VERY DENSE, LIGHT BROWN, **COARSE AND FINE SAND**, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP		15																
		16	12 21 29	57	61	SS-9	-	-	-	-	-	-	-	-	-	5	A-3a (V)	
	832.3	17																
DENSE TO VERY DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS**, SOME SAND, TRACE SILT, TRACE CLAY, DAMP		18	10 15 28	49	50	SS-10	-	52	18	16	10	4	NP	NP	NP	5	A-1-a (0)	
		19																
		20																
		21	20 34 40	84	33	SS-11	-	-	-	-	-	-	-	-	-	6	A-1-a (V)	
		22																
		23	20 29 40	79	22	SS-12	-	-	-	-	-	-	-	-	-	5	A-1-a (V)	
	824.8	24																
VERY DENSE, BROWN, **COARSE AND FINE SAND**, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP		25																
		26	12 21 30	58	50	SS-13	-	1	29	56	10	4	NP	NP	NP	6	A-3a (0)	
		27																
		28	15 20 26	52	56	SS-14	-	-	-	-	-	-	-	-	-	7	A-3a (V)	
	819.8	29																
VERY DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, TRACE SILT, TRACE CLAY, DAMP		30	12 50/2"	-	63	SS-15	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
	817.3	31																
DENSE TO VERY DENSE, BROWN, **COARSE AND FINE SAND**, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP		32																
		33	12 17 26	49	67	SS-16	-	-	-	-	-	-	-	-	-	6	A-3a (V)	
		34																
		35																
		36	14 21 30	58	83	SS-17	-	-	-	-	-	-	-	-	-	7	A-3a (V)	
	811.0	37																
	W 811.1	38																
VERY DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, MOIST		39																
		40																
		41	16 24 31	63	50	SS-18	-	50	21	13	12	4	NP	NP	NP	9	A-1-b (0)	
	806.0	42																
VERY DENSE, BROWN, **GRAVEL**, "AND" SAND, TRACE SILT, TRACE CLAY, MOIST TO WET		43																
		44																
		45																
		46	14 23 30	60	67	SS-19	-	52	25	12	8	3	NP	NP	NP	9	A-1-a (0)	
		47																
		48																
		49																
		50																
	797.8	51	20 22 35	65	72	SS-20	-	-	-	-	-	-	-	-	-	13	A-1-a (V)	
	EOB																	

NOTES: GROUNDWATER ENCOUNTERED AT 38.2' DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 11/19/21 13:51 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\CUY-14-6.93\GINT FILES\CUY-14-6.93.GPJ

DESIGN AGENCY
NEAS
2800 CORPORATE EXCHANGE DR. SUITE 240 COLUMBUS, OH. 43231
TEL: 614.714.0299
WWW.NEASINC.COM

DESIGNER MWJ/AI
REVIEWER BPA 02/13/23
PROJECT ID 104132
SUBSET 51 TOTAL 51
SHEET P.329 TOTAL 329

GEOTECHNICAL PROFILE -ROADWAY
RETAINING WALL 7
BORING LOG B-022-0-21

CUY-14-6.93

MODEL: 50 scale - Sht 1 [Sheet] PAPERSIZE: 17x11 (in.) DATE: 8/17/2023 TIME: 3:56:42 PM USER: jim.villacres
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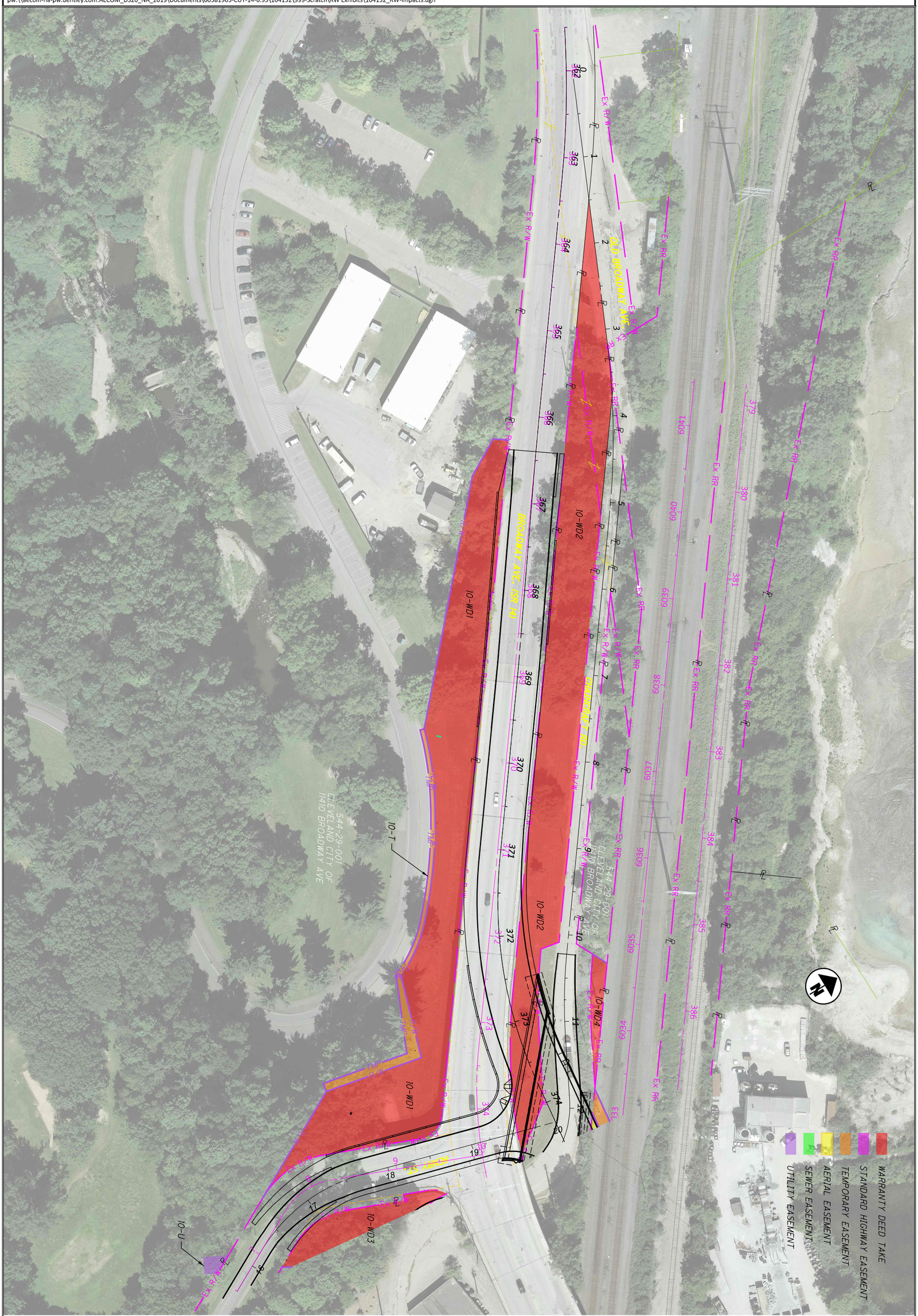

SHEET P.1 TOTAL 2	PROJECT ID 104132	REVIEWER JPV 08-22-23	DESIGNER SAW	AECOM 564 White Pond Drive Akron, OH 44320 (330) 836-9111 www.aecom.com	DESIGN AGENCY

CUY-14-06.93
RIGHT-OF-WAY IMPACTS

HORIZONTAL SCALE IN FEET
0 50
25 100

HORIZONTAL SCALE IN FEET
0 25 50 100

CUY-14-06.93
RIGHT-OF-WAY IMPACTS

WARRANTY DEED TAKE
STANDARD HIGHWAY EASEMENT
TEMPORARY EASEMENT
AERIAL EASEMENT
SEWER EASEMENT
UTILITY EASEMENT

GARFIELD ALLOYS INC
FILLING DEVELOPMENT, LLC
14307 BROADWAY LLC
FANTON REALTY, LTD
BAUMANN PROPERTIES, LTD
544-29-001 CLEVELAND CITY OF 11410 BROADWAY AVE
WHEELING & LAKE ERIE RAILWAY COMPANY
NORFOLK SOUTHERN RAILWAY
BROADWAY AVE. (SR 14)
OLD BROADWAY AVE.
DEARBORN RD.

DESIGN AGENCY
AECOM
564 White Pond Drive
Akron, OH 44320
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DESIGNER	SAW
REVIEWER	JPV 08-22-23
PROJECT ID	104132
SHEET	P.2
TOTAL	2

MODEL: 50 scale - Sht 2 [Sheet] PAPERSIZE: 17x11 (in.) DATE: 8/17/2023 TIME: 4:02:23 PM USER: jim.villacres
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CUY-14-6.93

Appendix E – Other Information