



7/2/2025 | 6:00 PM

**Municipal Services Center, Council Chamber
3600 Tremont Road**

- 1. Call to Order/Roll Call**
- 2. Informal Review**
 - a. 2233-2335 North Bank Drive - Informal review of a proposed campus redevelopment of the National Church Residences (NCR) properties, which would include a new office headquarters building and two senior housing buildings.
- 3. Work Session Review (Active Application)**
 - a. 1336 Ridgeview Road (CU-01-25) - Work Session review of a conditional use and variances for a proposed Columbia Gas of Ohio utility station.
- 4. Adjournment**

Authors: Justin Milam, AICP, Senior Planner

BZAP Meeting Date: July 2, 2025

Subject: 2233-2335 North Bank Drive - Informal review of a proposed campus redevelopment of the National Church Residences (NCR) properties, which would include a new office headquarters building and two senior housing buildings.

Overview

National Church Residences (NCR), one of the City's top five employers and the nation's largest non-profit developers of senior housing, will be present to introduce and discuss the plan to redevelop their corporate campus located on the south side of North Bank Drive, just west of Arlington Centre Boulevard and east of Northwest Kiwanis Park. This proposal is the first major project following the City's 2022 study and rezoning of the Arlington Centre Boulevard area to a new Planned Mixed Office District (PMOD), where the goal was to enhance the vitality and longevity of this largely office park area.

This application would include a Major Site Plan plus either a Final Plat or Plat Amendment, which would require review by City Council. [Staff does not have enough information at this time to determine the appropriate application.] The plan includes a phased redevelopment where the three existing buildings would be demolished and replaced with a new office headquarters building and two senior housing buildings. The site would be redeveloped from east to west, with the office building and the center senior living building built first, and the western senior housing building in the future. Here's a breakdown of the proposal, all of which are subject to change:

NCR Office Headquarters Building (east):

- Four stories, 53'-6" tall with five-foot tall covered balcony at southwest corner
- Brick and metal panel exterior
- 59,000 square feet for approximately 250 employees (and designed to grow to 300)
- Two levels of structured parking, 159 spaces plus four surface spaces
- 73% development cover

Senior Housing Building (center):

- Four stories, 47'-6" tall
- Brick and fiber cement panel exterior
- 80 units
- One level of structured parking, 60 spaces
- 64% development cover



Future Senior Housing Building (west):

- Five stories, height and design TBD
- Exterior materials TBD, 50% brick/stone minimum
- 120 units
- One level of structured parking, 75 spaces plus 44 surface spaces
- Approximately 58% development cover
- Would return to a future BZAP Work Session to finalize design based on the above parameters

A Final Plat or Plat Amendment will be needed in order to move existing parcel lines and vacate/dedicate easements. The configuration of the existing four parcels will change, and includes the northern part of the existing lake being transferred to the City as part of an expansion of Northwest Kiwanis Park (to the west). A total of 104 parking spaces on the west side of Lot #3 will be shared between NCR and the City for the Park. A waterfront trail will be added along the north side of the lake, connecting the Park to Arlington Centre Boulevard. Here's a breakdown of the proposal, all of which are subject to change:

Lot Line Adjustment (Plat)/Use (from east to west):

Lot #1: Existing one-story office building (mostly occupied) to four-story headquarters office building

1.29 acres to 1.21 acres

Lot #2: Existing two-story office building (NCR HQ) to four-story senior housing building

1.36 acres to 1.49 acres

Lot #3: Existing two-story office building (NCR HQ) to five-story senior housing building (future)

2.27 acres to 2.26 acres

Lot #4: Existing two-story office building (office headquarters) to now lake only and transferred to the City

2.61 acres to 2.55 acres

NCR has already hosted two [community meetings](#), June 17-18, and had approximately 50 people in total. A third meeting is scheduled for July 23. These meetings have largely been positive, but concerns have been raised about traffic, parking, wayfinding and the building locations adjacent to the narrower parts of the lake. The City Engineer is in receipt of a traffic impact study, preliminary stormwater analysis, and utility information.

Zoning Code Requirements

The applicant is planning to attend the August 6, 2025 BZAP Work Session to update the Board on progress made since the July Work Session meeting. A Major Site Plan application is to be filed by July 23, 2025 so that a vote by the Board could potentially occur on August 20, 2025. At this point in time and based on the information available, Staff has not identified any variances to the UDO; a determine still needs to be made on Final Plat versus Plat Amendment. As the Board may recall, the UDO was amended in late-2022 to create a Planned Mixed-Office District, which allowed additional uses when certain parameters are met. The code also reduced building heights and site access across the district from the previous code.



Attachments

1.	25 06-25 BZAP Work Session 1
2.	Draft Plat_ 2025-06-23
3.	North Bank Office Park - Existing Plat #222





NATIONAL CHURCH RESIDENCES

CORPORATE CAMPUS

BZAP WORK SESSION - MAJOR SITE PLAN

07.02.2025



TABLE OF CONTENTS

- Property Information
- Site Engineering
- Landscape Design
- Architectural Design and Character
- Site Lighting
- Site Signage
- Traffic Impact Study

PROPERTY INFORMATION

LEGAL DESCRIPTION

Parcel 070-013862

Situated in the State of Ohio, County of Franklin, and in the City of Columbus:

Being all of Lot 1, of North Bank Office Park, a Subdivision of Part of Lot 2, of Arlington Centre, Upper Arlington, Ohio, of record in Plat Book 58, Page 49, Franklin County Recorder's Office being part of a 7.981 tract conveyed to Daniel K. Buck by deed of record in Deed Book 3796, Page 370 of the Franklin County Recorder's Office.

Parcel 070-013863

Situate in the City of Upper Arlington, County of Franklin, in the State of Ohio and being further described as:

Being all of Lot 2 of North Bank Office Park, a Subdivision of Part of Lot 2, of Upper Arlington Centre, Upper Arlington, Ohio, of record in Plat Book 58, Page 49, Recorder's Office, Franklin County, Ohio.

Parcel 070-013864

Situate in the County of Franklin, State of Ohio and in the City of Upper Arlington:

Being all of Lot 3 of North Bank Office Park, a Subdivision of Part of Lot 2 of Arlington Centre, Upper Arlington, Ohio, of record in Plat Book 58, Page 49, Recorder's Office, Franklin County, Ohio.

Parcel 070-013865

Situated in the County of Franklin in the State of Ohio and in the City of Upper Arlington:

Being all of Lot 4 of North Bank Office Park, a Subdivision of Part of Lot 2 of Arlington Centre, Upper Arlington, Ohio, of record in Plat Book 58, Page 49, Recorder's Office, Franklin County, Ohio, and together with an undivided one-third interest in Reserve A of North Bank Office Park, a Subdivision of Part of Lot 2 of Arlington Centre, Upper Arlington, Ohio, of record in Plat Book 58, Page 49, Recorder's Office, Franklin County, Ohio.

FIRST AMERICAN TITLE INSURANCE COMPANY
COMMITMENT FOR TITLE INSURANCE
TITLE COMMITMENT NO.: NCS-1162145C-COL
COMMITMENT DATE: FEBRUARY 10, 2023 AT 6:00 AM
SCHEDULE B, PART II
EXCEPTIONS

1.-10. ITEMS ARE BLANKET IN NATURE OR NOT SURVEY RELATED.

11. Easement filed August 1, 1983 in Volume No. 03525, Page F05, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

12. Easement filed July 1, 1982 in Volume No. 07982, Page H19, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

13. Memorandum of Lease by and between National Church Residences, an Ohio non-profit corporation, and LeadingAge Ohio, an Ohio non-profit corporation, dated June 11, 2013, and recorded June 25, 2013 as Instrument No. 201306250106944, Recorder's Office, Franklin County, Ohio. ITEM IS NOT SURVEY RELATED.

14. Right of Way filed February 28, 1980 in Volume 3779, Page 332, Recorder's Office, Franklin County, Ohio. (Supersedes Volume 3754, Page 47). ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN. NO SPECIFIC WIDTH IS PROVIDED.

15. Easement filed November 14, 1979 in Volume 3762, Page 870, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY AS SHOWN AS SHOWN LABELED "ITEM #17 NCS-1162145-COL".

16. Easement filed June 30, 1967 in Volume 2821, Page 379, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

17. Easement filed November 2, 1965 in Volume 2689, Page 477, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

18. Easement filed July 9, 1954 in Volume 1820, Page 280, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

19. Easement filed March 18, 1969 in Volume 2966, Page 341, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

20. Easement filed May 20, 1971 in Volume 3141, Page 32, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

21. Easement for Highway Purposes filed May 7, 1968 in Volume 2893, Page 299, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

22. Easement filed March 18, 1969 in Volume 2966, Page 324, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

23. Easement filed May 19, 1972 in Volume 3236, Page 448, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

24. Easement filed May 19, 1972 in Volume 3236, Page 451, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY AS SHOWN.

25. Easement filed May 19, 1972 in Volume 3236, Page 445, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

26. Easements as shown in the Plat of Arlington Centre, Upper Arlington, Ohio filed January 4, 1972 in Plat Book 45, Page 32, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

27. Restrictions and Easements as shown in the Plat of North Bank Office Park, a Subdivision of Part of Lot 2, of Arlington Centre, Upper Arlington, Ohio filed April 2, 1981 in Plat Book 58, Page 49, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

28.-31. ITEMS ARE NOT SURVEY RELATED.

FIRST AMERICAN TITLE INSURANCE COMPANY
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1.-10. ITEMS ARE BLANKET IN NATURE OR NOT SURVEY RELATED.

11. Easement filed October 29, 1984 in Volume No. 04954, Page G07, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

12. Easement filed August 14, 1986 in Volume No. 07933, Page D16, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

13. Right of Way filed February 28, 1980 in Volume 3779, Page 332, Recorder's Office, Franklin County, Ohio. (Supersedes Volume 3754, Page 47) ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY AS SHOWN, LABELED "ITEM #14 NCS-1162145C-COL".

14. Easement filed November 14, 1979 in Volume 3762, Page 870, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY AS SHOWN AS SHOWN LABELED "ITEM #17 NCS-1162145-COL".

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23. Easement filed May 19, 1972 in Volume 3236, Page 451, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY AS SHOWN, LABELED "ITEM #24 NCS-1162145C-COL".

24. Easement filed May 19, 1972 in Volume 3236, Page 445, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY.

25. Easements as shown in the Plat of Arlington Centre, Upper Arlington, Ohio filed January 4, 1972 in Plat Book 45, Page 32, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY AS SHOWN, LABELED "ITEM #26 NCS-1162145C-COL" AND "ITEM #28 NCS-1162145-COL".

26. Restrictions and Easements as shown in the Plat of North Bank Office Park, a Subdivision of Part of Lot 2, of Arlington Centre, Upper Arlington, Ohio filed April 2, 1981 in Plat Book 58, Page 49, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

27.-30. ITEMS ARE NOT SURVEY RELATED.

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12. Easement filed August 14, 1986 in Volume No. 07933, Page D15, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

13. Right of Way and Easement filed July 25, 1989 in Volume No. 13756, Page D04, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY, APPARENT LOCATION IS SHOWN.

14. Easement and Right of Way filed September 24, 1998 as Instrument No. 199808240243110, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

15. Water Line Easement filed January 21, 2014 as Instrument No. 201401210008306, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

16. Right of Way filed February 28, 1980 in Volume 3779, Page 332, Recorder's Office, Franklin County, Ohio. (Supersedes Volume 3754, Page 47) ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY AS SHOWN, LABELED "ITEM #14 NCS-1162145C-COL".

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29. Restrictions and Easements as shown in the Plat of North Bank Office Park, a Subdivision of Part of Lot 2, of Arlington Centre, Upper Arlington, Ohio filed April 2, 1981 in Plat Book 58, Page 49, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

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12. Easement filed August 22, 1986 in Volume No. 07982, Page I02, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

13. Right of Way and Easement filed July 25, 1989 in Volume No. 13756, Page D10, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY, APPARENT LOCATION SHOWN.

14. Development and Cross-Easement Agreement filed September 8, 1999 as Instrument No. 199909080229199, Recorder's Office, Franklin County, Ohio. ITEM IS LOCATED WITHIN THE SUBJECT PROPERTY AS SHOWN.

15. Water Line Easement filed January 21, 2014 as Instrument No. 201401210008306, Recorder's Office, Franklin County, Ohio. ITEM ABUTTS THE SUBJECT PROPERTY AS SHOWN, LABELED "ITEM #15 NCS-1162145A-COL".

16. Right of Way filed February 28, 1980 in Volume 3779, Page 332, Recorder's Office, Franklin County, Ohio. (Supersedes Volume 3754, Page 47) ITEM IS LOCATED OUTSIDE OF THE SUBJECT PROPERTY AS SHOWN, LABELED "ITEM #14 NCS-1162145C-COL".

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30.-33. ITEMS ARE NOT SURVEY RELATED.

NOTES

1.) OCCUPATION IN GENERAL FITS SURVEY, WITH NO ENCROACHMENTS OBSERVED, WITH THE EXCEPTION OF A NEIGHBORING FENCE LINE THAT LIES APPROXIMATELY 4.8' OVER THE PROPERTY LINE AT THE SOUTHWEST CORNER OF THE SUBJECT PROPERTY, AS SHOWN.

2.) SOURCE DOCUMENTS AS NOTED.

3.) MONUMENTATION IS IN GOOD CONDITION UNLESS OTHERWISE NOTED.

4.) BEARINGS ARE BASED ON THE STATE PLANE COORDINATE SYSTEM, OHIO SOUTH ZONE (NAD83-2011). AS DETERMINED BY A GPS SURVEY UTILIZING CORS STATION "COLB". THE PROJECT COORDINATES ARE BASED ON STATE PLANE COORDINATES AND HAVE BEEN SCALED TO GROUND BY USING A PROJECT ADJUSTMENT FACTOR OF 1.0000321628 APPLIED AT BASE POINT N 749,500.00. E 1,805,890.00. GRID AND GROUND COORDINATES ARE IDENTICAL AT THE BASE POINT.

5.) VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88), BASED ON SOURCE BENCHMARK "CORS STATION "COLB".

6.) UTILITIES SHOWN ARE BASED ON PHYSICAL MARKINGS, PLAN INFORMATION PROVIDED BY UTILITY OWNERS, AND LOCATIONS OF ABOVE-GROUND APPURTENANCES. OHIO811 WAS CONTACTED ON JULY 24, 2023, AND ON AUGUST 27, 2023. TICKET NUMBERS A323-900-174 & A320-904-305. SUPPLEMENTAL MARKINGS WERE PROVIDED BY "THE UNDERGROUND DETECTIVE" ON SEPTEMBER 7, 2023.

7.) THE SUBJECT PROPERTY IS LOCATED IN ZONE "X", AREA OF MINIMAL FLOOD HAZARD. AS DETERMINED BY GRAPHIC INTERPRETATION OF THE FLOOD INSURANCE RATE MAPS COMMUNITY NUMBER 39049C0162K EFFECTIVE JUNE 17, 2008.

8.) THERE ARE 285 REGULAR PARKING SPACES AND 12 DESIGNATED HANDICAPPED PARKING SPACES WITHIN THE SUBJECT PROPERTY. ADDITIONAL PARKING IS AVAILABLE VIA A CROSS-USE EASEMENT WITH THE ABUTTING PROPERTY TO THE WEST OF THE SUBJECT PROPERTY.

9.) THERE IS NO EVIDENCE OF CURRENT EARTHWORK, BUILDING CONSTRUCTION OR BUILDING ADDITION.

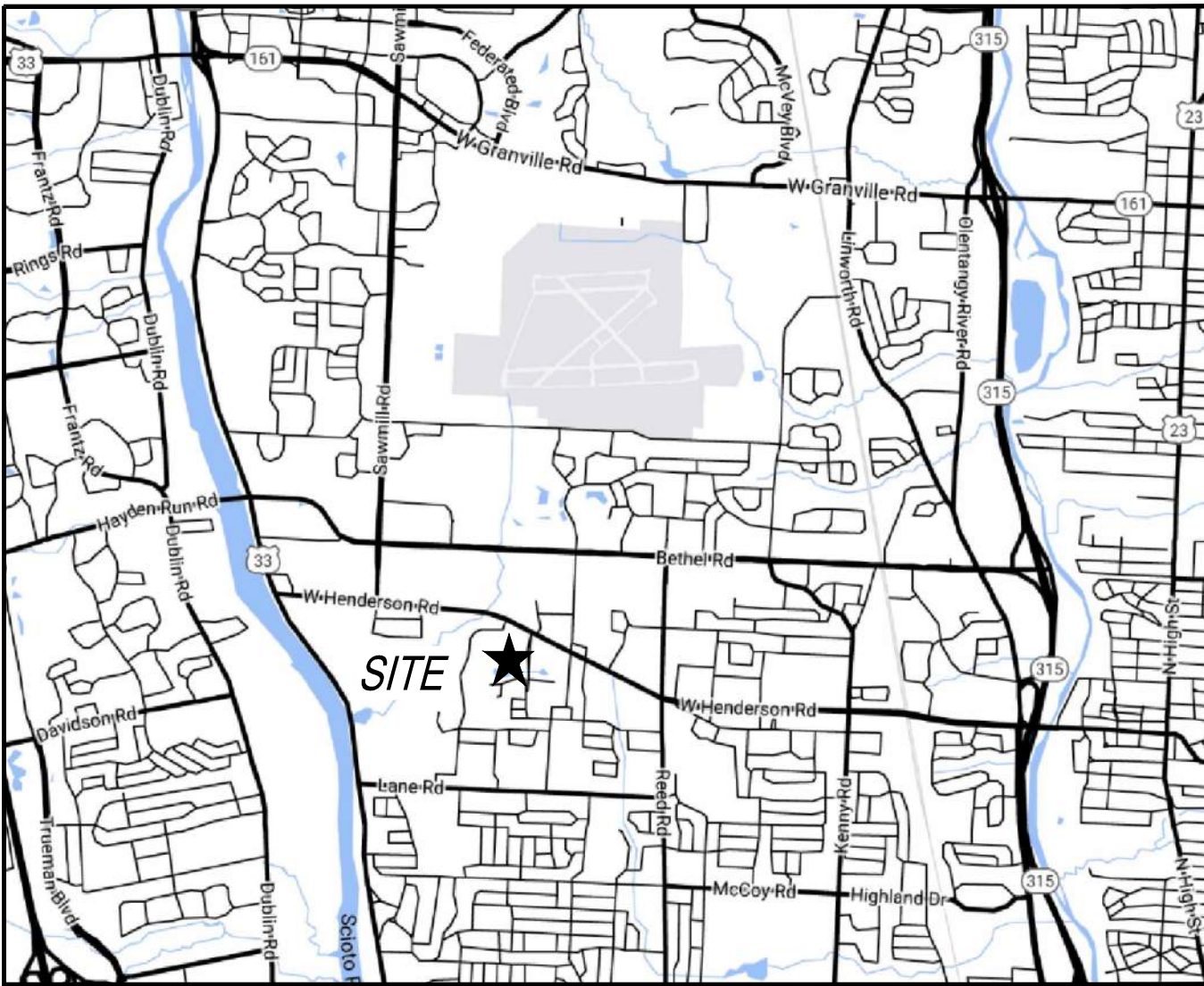
10.) THERE ARE NO KNOWN CHANGES, COMPLETED OR PROPOSED, IN THE STREET RIGHT-OF-WAY LINES.

11.) NO DIVISION OR PARTY WALLS WITH RESPECT TO ADJOINING PROPERTIES OBSERVED.

12.) THE SUBJECT PROPERTY IS ZONED "PMOD" (PLANNED MIXED-OFFICE DISTRICT) PER CITY OF UPPER ARLINGTON GIS. NO ZONING REPORT OR LETTER WAS PROVIDED.

13.) THE SUBJECT PROPERTY HAS DIRECT PEDESTRIAN AND VEHICULAR ACCESS TONORTH BANK DRIVE, A PUBLIC ROADWAY.

14.) THIS DRAWING IS BASED ON AN ACTUAL FIELD SURVEY PERFORMED BY THE KLEINGERS GROUP IN SEPTEMBER, 2023.



VICINITY MAP
NOT TO SCALE

LEGEND

●	5/8" CAPPED IRON PIN SET	⊗	WATER METER
○	5/8" IRON PIN FOUND	⊙	IRRIGATION CONTROL VALVE
⊗	1" IRON PIPE FOUND	⊕	WATER MANHOLE
⊙	NAIL SET	⊖	SANITARY MANHOLE
⊖	NAIL FOUND	⊗	CLEAN OUT
▲	RR SPIKE SET	—○—	SANITARY SEWER
■	MONUMENT (HIGHWAY OR CONCRETE)	⊙	STORM MANHOLE
◆	BENCHMARK	- - -	STORM SEWER
○—	UTILITY POLE	□	CATCH BASIN
←	GUY WIRE	□	INLET
—UE	UNDERGROUND ELECTRIC	⊙	YARD DRAIN
—E	OVERHEAD ELECTRIC	⊙S	DOWN SPOUT
⊞	HVAC UNIT	⊞	TRAFFIC CONTROL CABINET
⊞	TRANSFORMER	⊞	TRAFFIC SIGNAL POLE
⊞	GROUND LIGHT	⊞	SIGN
⊞	ELECTRIC BOX	⊞	GUARD POST (PIPE BOLLARD)
⊞	LIGHT POLE	⊞	BOLLARD
⊞	LAMP POST	⊞	FLAG POLE
⊞	ELECTRIC MANHOLE	—X—	FENCE
—UT	UNDERGROUND TELEPHONE	⊞	HARDWOOD TREE
—T	OVERHEAD TELEPHONE	—804—	CONTOUR LINES
⊞	TELEPHONE MANHOLE	—805—	
⊞	TELEPHONE PEDESTAL		
—G	GAS MAIN	□	CONCRETE
⊞	GAS VALVE	□	GRAVEL
—UC	UNDERGROUND CABLE TV	□	ASPHALT
—UFO	UNDERGROUND FIBER OPTIC	□	LANDSCAPE AREA
⊞	PULL BOX	□	BRICK / PAVER
⊞	CABLE/TV BOX	□	DECK / PORCH
—W	WATER MAIN		
⊞	FIRE HYDRANT		
⊞	WATER VALVE		
⊞	MONITORING WELL		
⊞	WELL		

To: National Church Residences, an Ohio not-for-profit corporation, and First American National Title Insurance Company;

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 10, 11(a), 11(b), 13, 14, 16, 17, 18, 19 and 20 of Table A thereof. The field work was completed on September 21, 2023.



Michael L. Keller
MICHAEL L. KELLER
OHIO PROFESSIONAL SURVEYOR NO. 7978

9/28/2023
DATE

THE KLEINGERS GROUP
CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE
www.kleingers.com
350 Worthington Rd
Suite H
Westerville, OH 43082
614.882.4311

SEAL:



NO. DATE DESCRIPTION

2233-2335 NORTH BANK DRIVE
LOTS 1-4, PB 58 PG 49
QTR. TWP. 1, TWP. 1, R. 19
UNITED STATES MILITARY LANDS
CITY OF UPPER ARLINGTON
FRANKLIN COUNTY OHIO

PROJECT NO.: 230274.001
DATE: 9/28/2023

SHEET NAME:

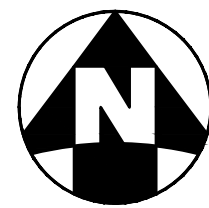
ALTANSPS LAND TITLE SURVEY

SHEET NO.

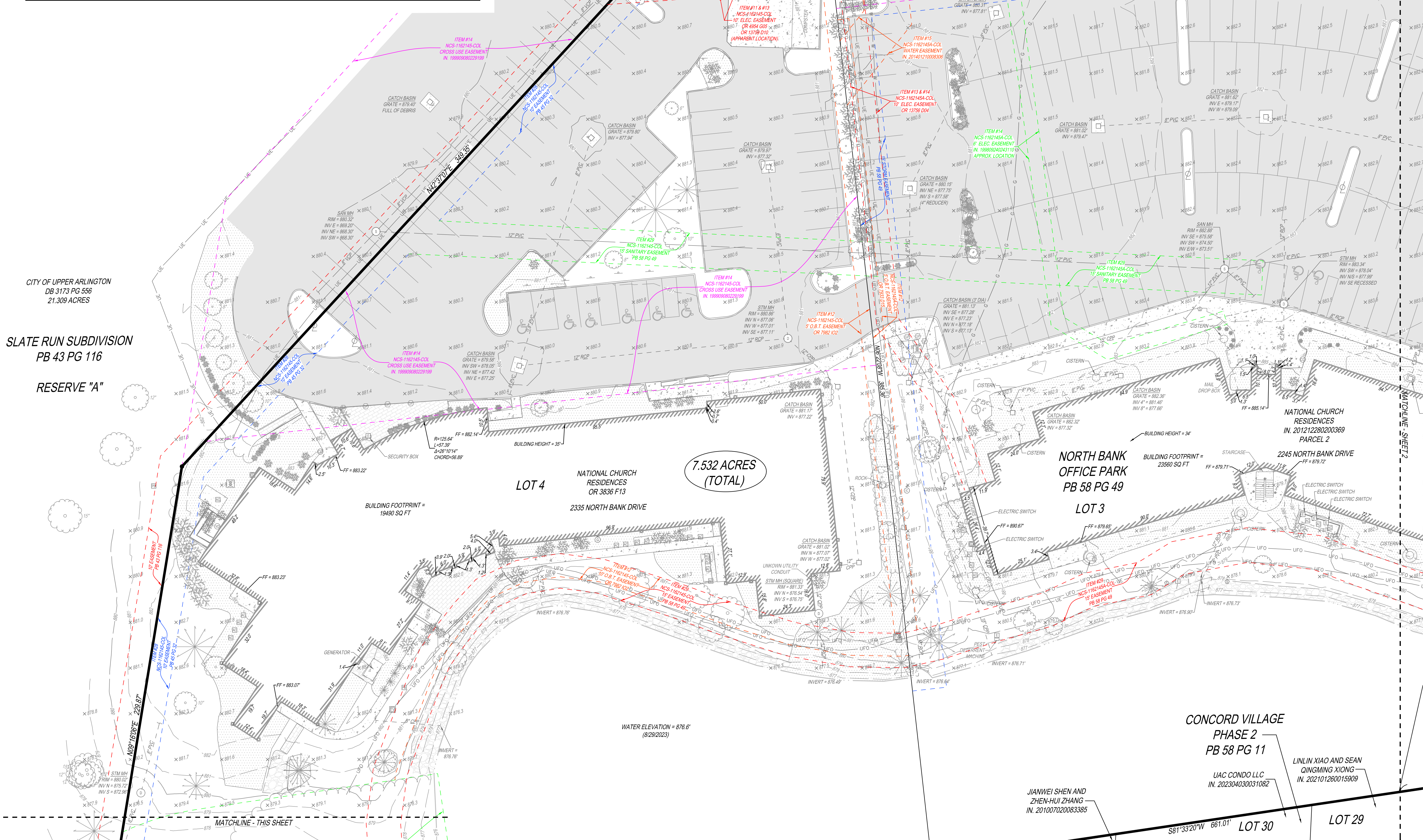
1 OF 3



NOTE:
UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPIATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 811 OR 1-800-362-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



NWES REALTY PARTNERS, PLLC
OR 29366 G09
1.2787 ACRES



AL:



O. DATE	DESCRIPTION
---------	-------------

**2233-2335 NORTH
BANK DRIVE
LOTS 1-4, PB 58 PG 49
QTR. TWP. 1, TWP. 1, R. 19
UNITED STATES MILITARY LANDS
CITY OF UPPER ARLINGTON
FRANKLIN COUNTY OHIO**

PROJECT NO:	230274.001
-------------	------------

TE: 9/28/2023

SCALE: 1" = 20'



HEET NAME:

ALTA/NSPS LAND TITLE SURVEY

SHEET NO.

3 OF 3



NOTE:
UNDERGROUND UTILITIES ARE PLOTTED FROM A
COMPILATION OF AVAILABLE RECORD INFORMATION AND
SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND
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PROTECTION SERVICE AT 811 OR 1-800-362-2764 BEFORE ANY
PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.

LEGEND

●	5/8" CAPPED IRON PIN SET	⊗ ^{WM}	WATER METER
○	5/8" IRON PIN FOUND	⊗ ^{ICV}	IRRIGATION CONTROL VALVE
⊗	1" IRON PIPE FOUND	⊗	WATER MANHOLE
▲	NAIL SET	⊗	SANITARY MANHOLE
△	NAIL FOUND	⊗	CLEAN OUT
▲	RR SPIKE SET	—	SANITARY SEWER
□	MONUMENT (HIGHWAY OR CONCRETE)	⊗	STORM MANHOLE
◆	BENCHMARK	- - -	STORM SEWER
⊗	UTILITY POLE	□	CATCH BASIN
←	GUY WIRE	□	INLET
— ^{UE} —	UNDERGROUND ELECTRIC	⊗ ^{YD}	YARD DRAIN
— ^E —	OVERHEAD ELECTRIC	□ ^{DS}	DOWN SPOUT
⊗	HVAC UNIT	⊗	TRAFFIC CONTROL CABINET
⊗	TRANSFORMER	⊗	TRAFFIC SIGNAL POLE
⊗	GROUND LIGHT	— ^{GP} —	SIGN
⊗	ELECTRIC BOX	● ^{GP}	GUARD POST (PIPE BOLLARD)
⊗	LIGHT POLE	⊗	BOLLARD
⊗	LAMP POST	⊗ ^{FP}	FLAG POLE
⊗	ELECTRIC MANHOLE	— ^X —	FENCE
— ^{UT} —	UNDERGROUND TELEPHONE	⊗	HARDWOOD TREE
— ^T —	OVERHEAD TELEPHONE	— ⁸⁰⁴ —	CONTOUR LINES
⊗	TELEPHONE MANHOLE	— ⁸⁰⁵ —	
⊗	TELEPHONE PEDESTAL		
— ^G —	GAS MAIN		CONCRETE
⊗	GAS VALVE		GRAVEL
— ^{UC} —	UNDERGROUND CABLE TV		ASPHALT
— ^{UFO} —	UNDERGROUND FIBER OPTIC		LANDSCAPE AREA
⊗	PULL BOX		BRICK / PAVER
⊗	CABLE/TV BOX		DECK / PORCH
— ^W —	WATER MAIN		
⊗	FIRE HYDRANT		
⊗	WATER VALVE		
⊗	MONITORING WELL		
⊗	WELL		

NOTES

- 1.) OCCUPATION IN GENERAL FITS SURVEY.
- 2.) SOURCE DOCUMENTS AS NOTED.
- 3.) MONUMENTATION IS IN GOOD CONDITION UNLESS OTHERWISE NOTED.
- 4.) BEARINGS ARE BASED ON THE STATE PLANE COORDINATE SYSTEM, OHIO SOUTH ZONE (NAD83-2011) AS DETERMINED BY A GPS SURVEY UTILIZING CORS STATION "COLB". THE PROJECT COORDINATES ARE BASED ON STATE PLANE COORDINATES AND HAVE BEEN SCALED TO GROUND BY USING A PROJECT ADJUSTMENT FACTOR OF 1.0000321628 APPLIED AT BASE POINT N 749,500.00 E 1,805,850.00. GRID AND GROUND COORDINATES ARE IDENTICAL AT THE BASE POINT.
- 5.) VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAV88), BASED ON SOURCE BENCHMARK CORS STATION "COLB".
- 6.) UTILITIES SHOWN ARE BASED ON PHYSICAL MARKINGS, PLAN INFORMATION PROVIDED BY UTILITY OWNERS, AND LOCATIONS OF ABOVE-GROUND APPURTENANCES. OHIO811 WAS CONTACTED ON JULY 24, 2023 AND ON AUGUST 27, 2023, TICKET NUMBERS A323-900-174 AND A320-504-305.
- 7.) THIS DRAWING IS BASED ON AN ACTUAL FIELD SURVEY PERFORMED BY THE KLEINGERS GROUP IN SEPTEMBER, 2023.

CIVIL ENGINEERING
SURVEYING
LANDSCAPE
ARCHITECTURE

www.kleingers.com
350 Worthington Rd
Suite H
Westerville, OH 43082
614.882.4311

SEAL:

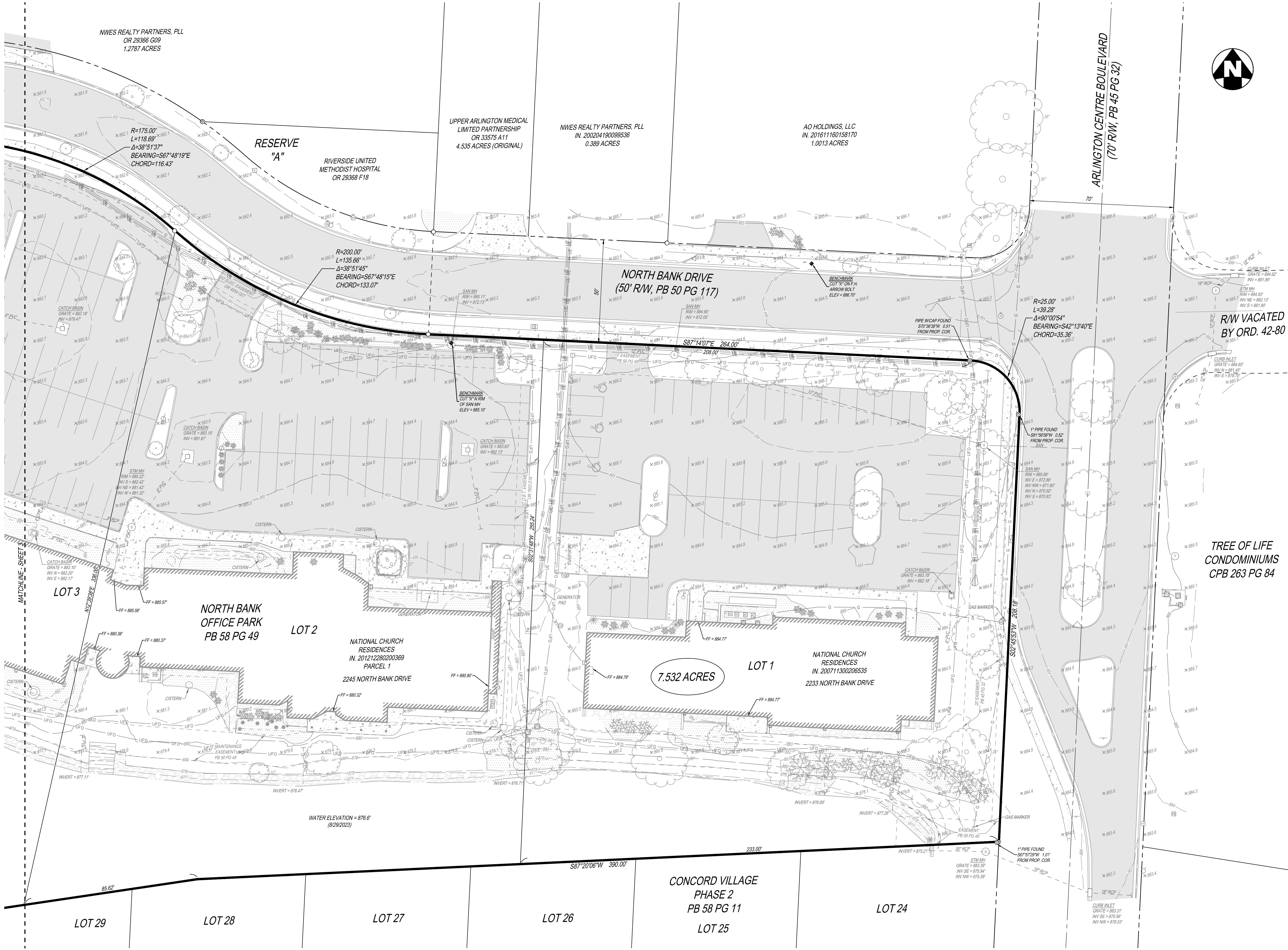
NO.	DATE	DESCRIPTION
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2233-2335 NORTH BANK DRIVE
LOTS 1-4, PB 58 PG 49
QTR. TWP. 1, TWP. 1, R. 19
UNITED STATES MILITARY LANDS
CITY OF UPPER ARLINGTON
FRANKLIN COUNTY OHIO

PROJECT NO: 230274.001
DATE: 9/15/2023
SCALE: 1" = 20'

SHEET NAME:
BOUNDARY AND TOPOGRAPHIC SURVEY

SHEET NO:
1 OF 3

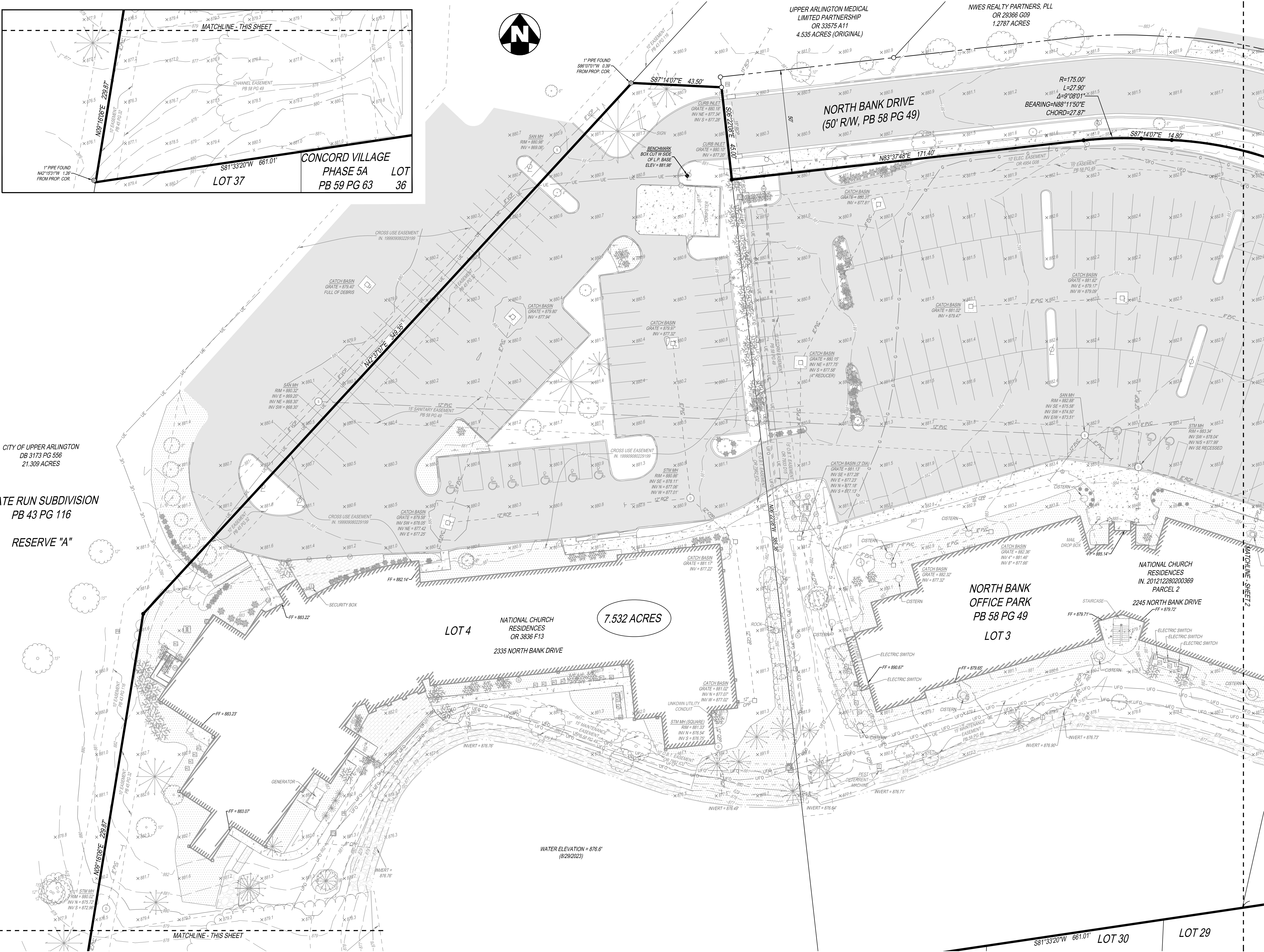


THE KLEINGERS GROUP

CIVIL ENGINEERING
SURVEYING
LANDSCAPE
ARCHITECTURE

www.kleingers.com
350 Worthington Rd
Suite H
Westerville, OH 43082
614.882.4311

PROJECT NO:	230274.001
DATE:	9/15/2023
SCALE:	1" = 20'
SHEET NAME: BOUNDARY AND TOPOGRAPHIC SURVEY	
SHEET NO: 2 OF 3	



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SEAL:

NO.	DATE	DESCRIPTION
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SHEET NAME:
BOUNDARY AND TOPOGRAPHIC SURVEY

SHEET NO:
3 OF 3

SITE ENGINEERING

Memorandum

Project #
230274.000

TO: Upper Arlington Engineer's Office
CC: Russ Garber, russg@designwithma.com
FROM: The Kleingers Group – Mike Couvreur, P.E.
DATE: June 25, 2025
RE: Preliminary Stormwater Memorandum

To Whom it May Concern:

The proposed National Church Residence Headquarters project will redevelop the existing site at the southwest corner of Red Bank Drive and Arlington Centre Boulevard. Currently, stormwater runoff from the site is managed by a regional retention pond installed when Concord Village was developed around 1980. A review of the record drawings for Concord Village indicates the pond was designed to detain the runoff from storms up to an including the 10yr design storm.

The existing site is fully developed with buildings and parking lots, resulting in an existing project coverage of 66% (4.39 acres impervious). The proposed site plan will reduce the impervious area on site by 0.71 acres, resulting in a project coverage of 56% (3.69 acres impervious). The resulting reduction in impervious area will reduce the runoff volume generated by the site that is tributary to the existing pond and no additional stormwater storage volume is proposed.

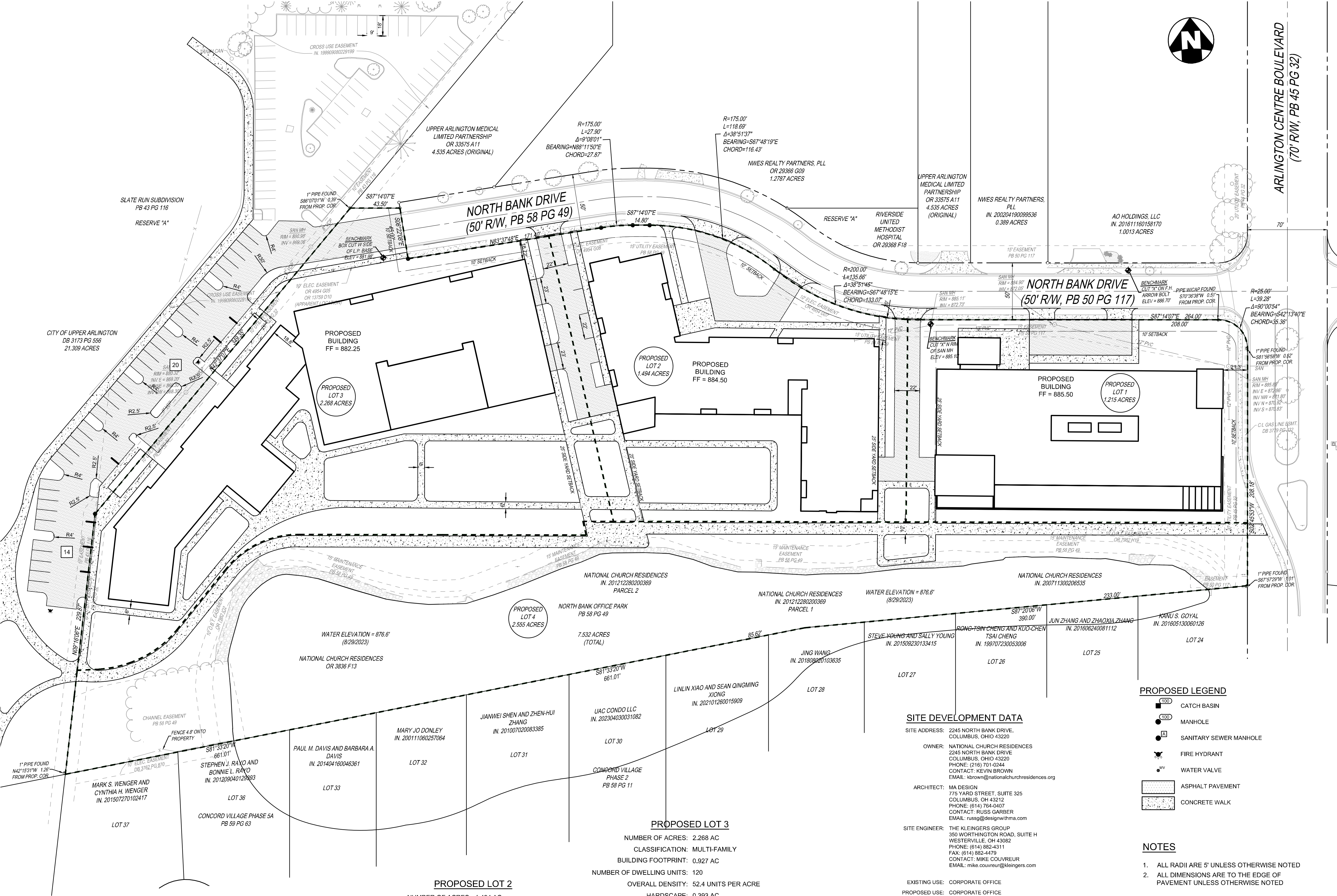
The site will disturb more than 1 acre and will adhere to the construction stormwater general permit issued by the Ohio EPA. Stormwater quality controls will be installed to meet the redevelopment criteria for the proposed development prior to discharging to the existing pond.

Supporting documentation, including pre- and post-development square footages and site plans, is attached for your review. Please let us know if any additional information or clarification is needed.

Thanks,



THE KLEINGERS GROUP
Michael J. Couvreur, PE, CPESC, CESSWI
Lead Civil Engineer



PROPOSED LOT 1

NUMBER OF ACRES: 1.215 AC
CLASSIFICATION: OFFICE
BUILDING FOOTPRINT: 0.730 AC
HARDSCAPE: 0.162 AC
LOT COVERAGE: 73%

PROPOSED LOT 2

NUMBER OF ACRES: 1.494 AC
CLASSIFICATION: MULTI FAMILY
BUILDING FOOTPRINT: 0.607 AC
NUMBER OF DWELLING UNITS: 80
OVERALL DENSITY: 53.5 UNITS PER ACRE
HARDSCAPE: 0.344 AC
LOT COVERAGE: 64%

PROPOSED LOT 3

NUMBER OF ACRES: 2.268 AC
CLASSIFICATION: MULTI-FAMILY
BUILDING FOOTPRINT: 0.927 AC
NUMBER OF DWELLING UNITS: 120
OVERALL DENSITY: 52.4 UNITS PER ACRE
HARDSCAPE: 0.393 AC
LOT COVERAGE: 58%

PROPOSED LOT 4

NUMBER OF ACRES: 2.555 AC
WATER FOOTPRINT: 1.373 AC
HARDSCAPE: 0.274 AC
LOT COVERAGE: 64%

SITE DEVELOPMENT DATA

SITE ADDRESS: 2245 NORTH BANK DRIVE, COLUMBUS, OHIO 43220

OWNER: NATIONAL CHURCH RESIDENCES
2245 NORTH BANK DRIVE
COLUMBUS, OHIO 43220
PHONE: (216) 701-0244
CONTACT: KEVIN BROWN
EMAIL: kbrown@nationalchurchresidences.org

ARCHITECT: MA DESIGN
775 YARD STREET, SUITE 325
COLUMBUS, OH 43212
PHONE: (614) 764-0407
CONTACT: RUSS GARBBER
EMAIL: russg@designwithma.com

SITE ENGINEER: THE KLEINGERS GROUP
350 WORTHINGTON ROAD, SUITE H
WESTERVILLE, OH 43082
PHONE: (614) 682-4311
FAX: (614) 682-4479
CONTACT: MIKE COUVREUR
EMAIL: mike.couvreur@kleingers.com

EXISTING USE: CORPORATE OFFICE
PROPOSED USE: CORPORATE OFFICE

ZONING DISTRICT: PMOD
EXISTING BUILDING HEIGHT: 34'-36"
MAXIMUM BUILDING HEIGHT: 56'
EXISTING IMPERVIOUS AREA: 4.39 AC.
PROPOSED IMPERVIOUS AREA: 3.69 AC.
REDUCTION IN IMPERVIOUS AREA: 0.7 AC. 15.94% REDUCTION

- PROPOSED LEGEND**
- 100 CATCH BASIN
 - 100 MANHOLE
 - A SANITARY SEWER MANHOLE
 - HYDRANT FIRE HYDRANT
 - WATER VALVE
 - ASPHALT PAVEMENT
 - CONCRETE WALK

- NOTES**
- ALL RADII ARE 5' UNLESS OTHERWISE NOTED
 - ALL DIMENSIONS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED

CODED NOTES

PARKING COUNT

THE KLEINGERS GROUP

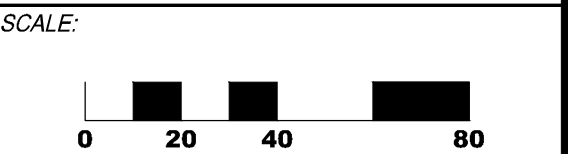
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Westerville, OH 43082
614.682.4311

CORPORATE CAMPUS REDEVELOPMENT MASTER PLAN
NATIONAL CHURCH RESIDENCES
NORTH BANK DRIVE

PROJECT NO: 230274.000

DATE: 2025-06-25

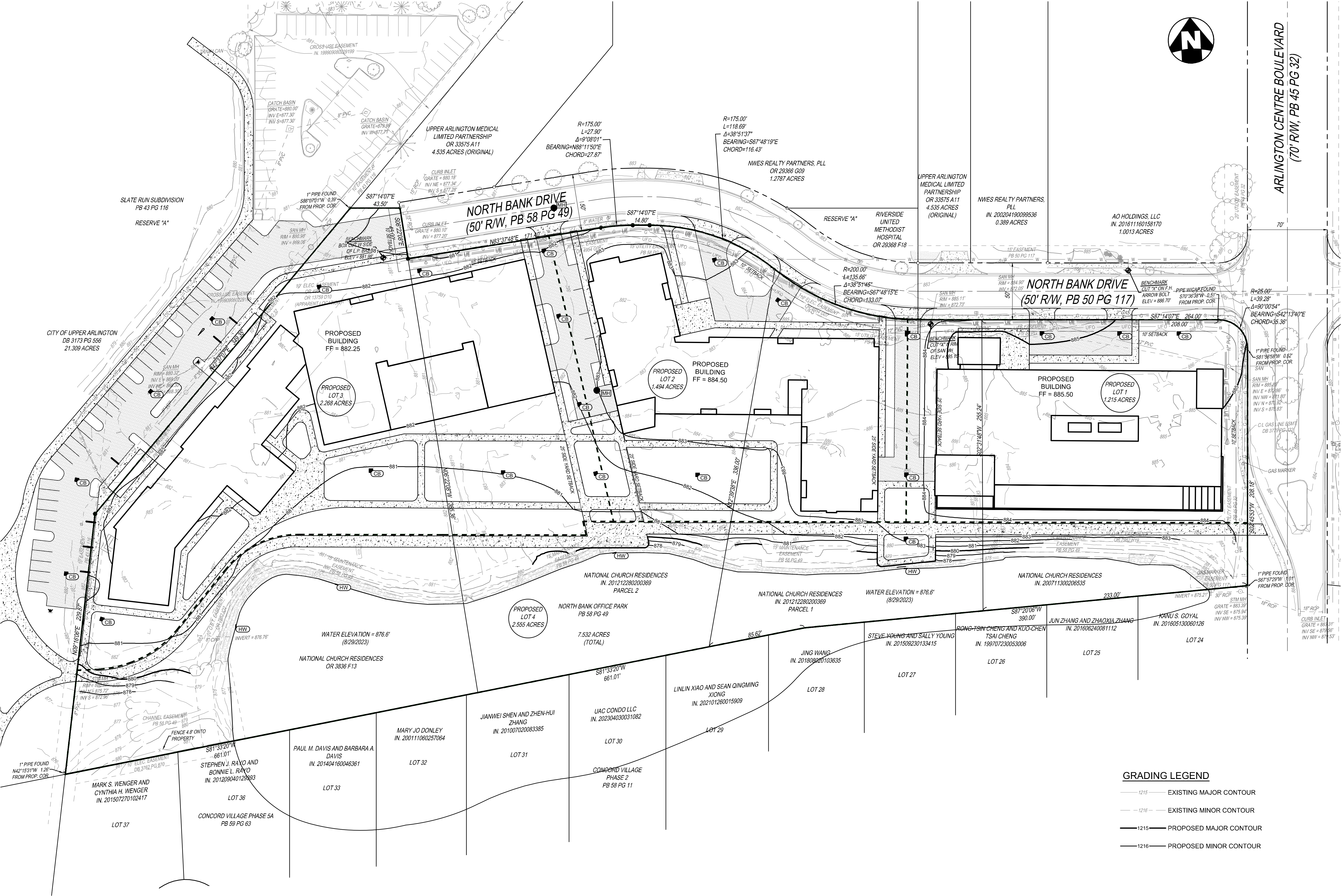


SHEET NAME:

LOCATION PLAN

SHEET NO.

C100



GRADING LEGEND

— 1215 — EXISTING MAJOR CONTOUR

— 1216 — EXISTING MINOR CONTOUR

— 1215 — PROPOSED MAJOR CONTOUR

— 1216 — PROPOSED MINOR CONTOUR


THE KLEINGERS GROUP

CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE

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Westerville, OH 43082
614.882.4311

CORPORATE CAMPUS REDEVELOPMENT MASTER PLAN
NATIONAL CHURCH RESIDENCES NORTH BANK DRIVE

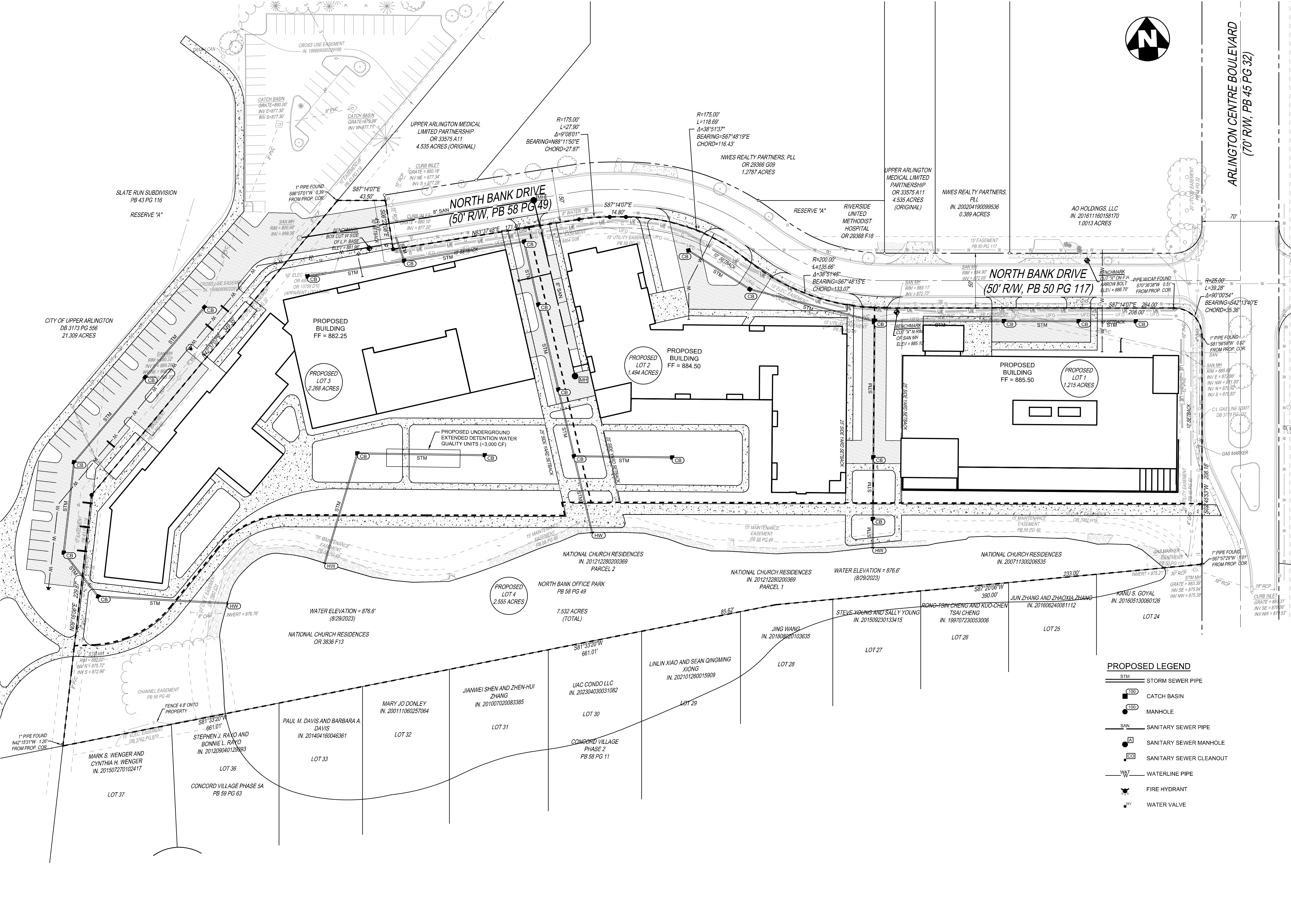
PROJECT NO: 230274.000
DATE: 2025-06-25

SCALE:
0 20 40 80

SHEET NAME:

GRADING PLAN

SHEET NO.
C300



- PROPOSED LEGEND**
- STM STORM SEWER PIPE
 - CATCH BASIN
 - MANHOLE
 - SAN SANITARY SEWER PIPE
 - SANITARY SEWER MANHOLE
 - SANITARY SEWER CLEANOUT
 - WAT WATERLINE PIPE
 - FIRE HYDRANT
 - WATER VALVE

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614.882.4311

SEAL:

NO.	DATE	DESCRIPTION
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CORPORATE CAMPUS REDEVELOPMENT MASTER PLAN

NATIONAL CHURCH RESIDENCES NORTH BANK DRIVE

PROJECT NO: 230274.000

DATE: 2025-06-25

SCALE:

0 20 40 80

SHEET NAME:

UTILITY PLAN

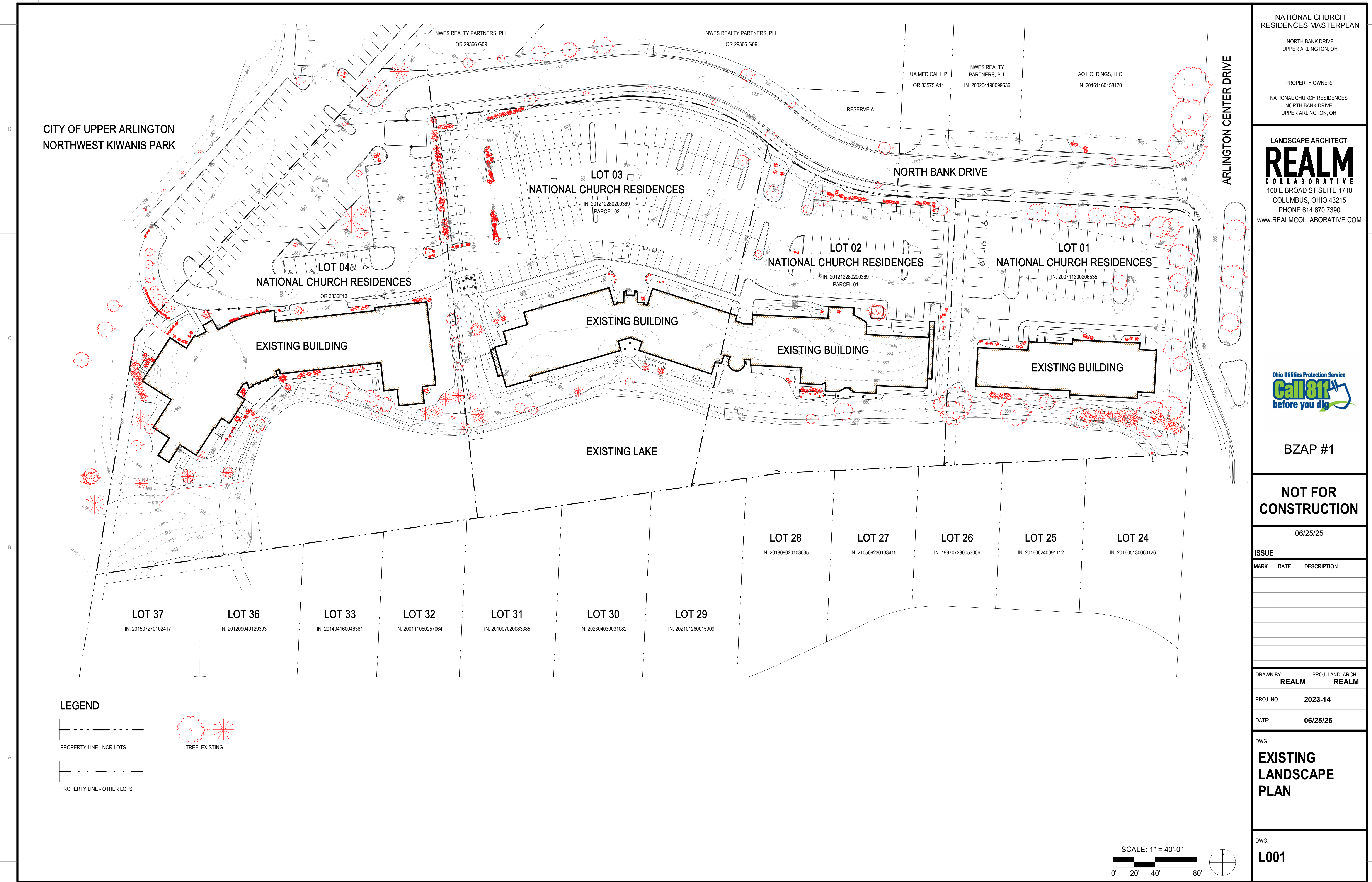
SHEET NO.

C400

LANDSCAPE DESIGN

CONCEPT PLAN





NATIONAL CHURCH
RESIDENCES MASTERPLAN

NORTH BANK DRIVE
UPPER ARLINGTON, OH

PROPERTY OWNER:
NATIONAL CHURCH RESIDENCES
NORTH BANK DRIVE
UPPER ARLINGTON, OH

LANDSCAPE ARCHITECT
REALM
COLLABORATIVE
100 E BROAD ST SUITE 1710
COLUMBUS, OHIO 43215
PHONE 614.670.7390
www.REALMCOLLABORATIVE.COM



BZAP #1

**NOT FOR
CONSTRUCTION**

06/25/25

ISSUE

[illegible]

DRAWN BY: REALM	PROJ. LAND. ARCH.: REALM
---------------------------	------------------------------------

PROJ. NO.: **2023-14**

DATE: 06/25/25

DWG.

EXISTING LANDSCAPE PLAN

DWG.

L001



LEGEND

PROPERTY LINE - NCR LOTS

PROPERTY LINE - OTHER LOTS

HARDSCAPE: ASPHALT

HARDSCAPE: VEHICULAR CONCRETE

HARDSCAPE: PEDESTRIAN CONCRETE

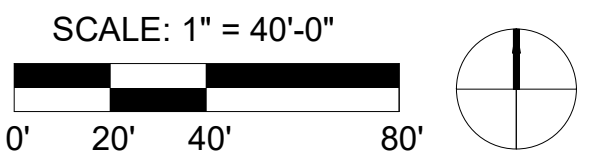
SOFTSCAPE: LAWN

SOFTSCAPE: FOUNDATION PLANTING

SOFTSCAPE: MEADOW PLANTING

TREE: EXISTING

TREE: PROPOSED



NATIONAL CHURCH
RESIDENCES MASTERPLAN

NORTH BANK DRIVE
UPPER ARLINGTON, OH

PROPERTY OWNER:
NATIONAL CHURCH RESIDENCES
NORTH BANK DRIVE
UPPER ARLINGTON, OH

LANDSCAPE ARCHITECT
REALM
COLLABORATIVE

100 E BROAD ST SUITE 1710
COLUMBUS, OHIO 43215
PHONE 614.670.7390
www.REALMCOLLABORATIVE.COM

Ohio Utilities Protection Service
Call 811
before you dig

BZAP #1

NOT FOR
CONSTRUCTION

06/25/25

ISSUE

MARK	DATE	DESCRIPTION

DRAWN BY:
REALM

PROJ. LAND. ARCH.:
REALM

PROJ. NO.:
2023-14

DATE:
06/25/25

DWG.

**LANDSCAPE
SITE PLAN -
OVERALL**

DWG.

L002

Page 22 of 391

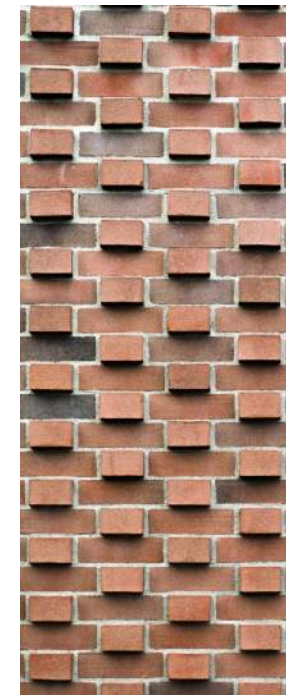
ARCHITECTURAL DESIGN AND CHARACTER



NORTH ELEVATION

LEGEND

1. curtainwall glazing
2. masonry
3. storefront glazing
4. metal panel
5. perforated metal screen
6. fiber cement panel
7. ivy screen





NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION



01. masonry



02. wood-look fiber cement



03. painted fiber cement panel



04. garage screen wall



05. vegetated screen wall

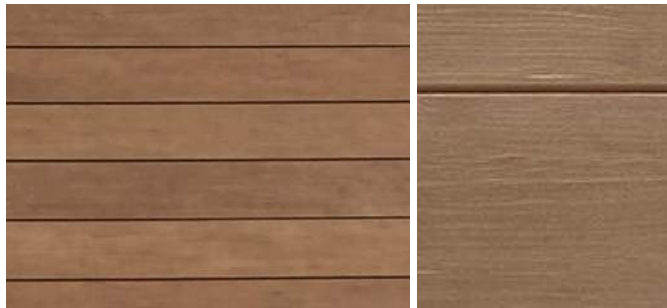
© 2025, MA DESIGN | ARTISTIC ILLUSTRATION ONLY - NOT FOR CONSTRUCTION



01. masonry



06. covered patio



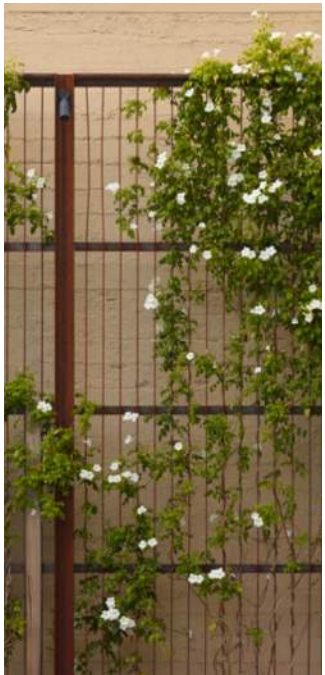
02. wood-look fiber cement



03. painted fiber cement panel



04. garage screen wall



05. vegetated screen wall

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NEIGHBORHOOD

WALKABLE





JUNE 20 - SUMMER SOLSTICE **7:00 AM**



JUNE 20 - SUMMER SOLSTICE **9:00 AM**



JUNE 20 - SUMMER SOLSTICE **12:00 PM**



JUNE 20 - SUMMER SOLSTICE **3:00 PM**



JUNE 20 - SUMMER SOLSTICE **5:00 PM**



JUNE 20 - SUMMER SOLSTICE **8:00 PM**

JUNE 20 - SUMMER SOLSTICE
 SUNRISE: 6:03 AM
 SUNSET: 9:04 PM



DECEMBER 21 - WINTER SOLSTICE **8:00 AM**



DECEMBER 21 - WINTER SOLSTICE **11:00 AM**



DECEMBER 21 - WINTER SOLSTICE **1:00 PM**



DECEMBER 21 - WINTER SOLSTICE **3:00 PM**



DECEMBER 21 - WINTER SOLSTICE **5:00 PM**

DECEMBER 21 - WINTER SOLSTICE
 SUNRISE: 7:50 AM
 SUNSET: 5:10 PM

SITE SIGNAGE



⌚ NOT TO SCALE

- A** Building Mounted Signage
- B** Wayfinding Signage

SITE LIGHTING

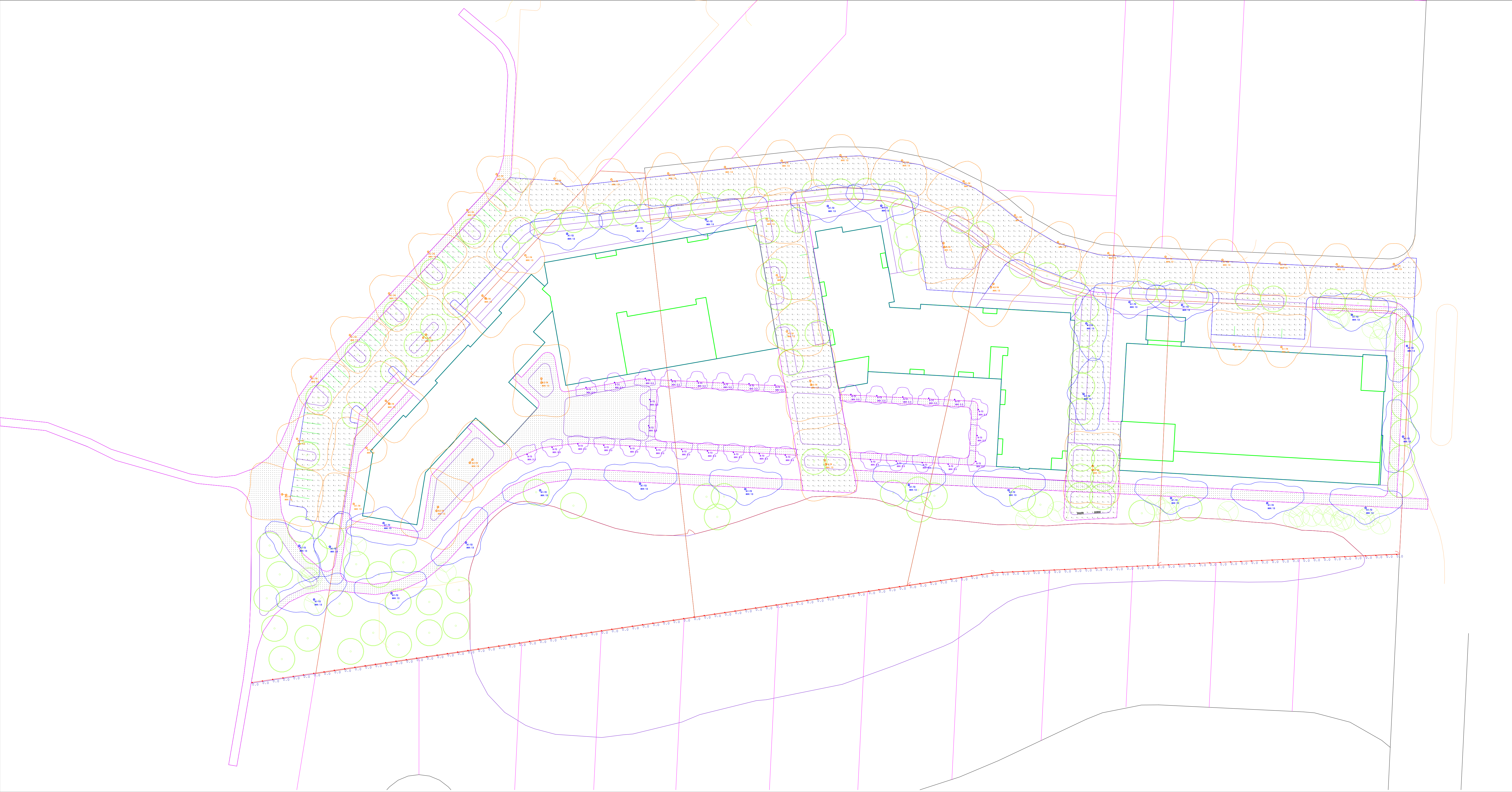
Luminaire Schedule - Part numbers are provided by the manufacturer and are only intended to be used as a reference to output and optics used.										
Symbol	Qty	Tag	Arrangement	Luminaire Lumens	Arr. Lum. Lumens	Luminaire Watts	Arr. Watts	LLF	Manufacturer	Description
	26	A1-T2	Single	6548	6548	60	60	0.900	LIGMAN	UMC-200111-T2-8030
	31	A1-T4	Single	6779	6779	60	60	0.900	LIGMAN	UMC-200111-T4-8030
	12	A2-T4	Back-Back	6779	13558	60	120	0.900	LIGMAN	UMC-200111-T4-8030
	33	B-T3	Single	2243	2243	22.4	22.4	0.900	LIGMAN	MC-100111-T3-W30

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Max/Min	Avg/Min
CONTINUE WEST WALKING PATH	Illuminance	Fc	8.39	74.0	0.2	370.00	41.95
NODE #1 AREA_NODE #1 AREA	Illuminance	Fc	2.43	16.6	0.0	N.A.	N.A.
NODE #2 AREA_NODE #2 AREA	Illuminance	Fc	2.73	14.8	0.0	N.A.	N.A.
PKG LOT & ACCESS ROAD	Illuminance	Fc	2.58	14.9	0.2	74.50	12.90
SOUTH & EAST WALKING PATHS	Illuminance	Fc	3.73	16.8	0.0	N.A.	N.A.
SOUTH PROPERTY LINE	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
WEST WALKING PATH	Illuminance	Fc	4.00	72.6	0.0	N.A.	N.A.

NOTES:

CALCULATION GRID VALUES 5'-0" O.C. ON PKG LOT
CALCULATION GRID VALUES 2'-0" O.C. WALKING PATHS
CALCULATIONS TAKEN AT GRADE, 0FT.

MOUNTING HEIGHTS AS NOTED ON DRAWING.



Not to Scale

Disclaimer:
JAW Lighting provides this photometric report as a general informational resource and makes no representations regarding its completeness, accuracy, or currency due to the nature of the data provided. The user accepts full responsibility for verifying the accuracy of all measurements, areas, inventories, or other data derived from this report, whether by manual or computerized methods. This light level analysis is an estimate based on assumed reflectance values for interior settings or estimated pole placements for exterior applications. The results of this analysis are dependent on third-party software and IES standards. Additionally, calculated values may differ from actual field measurements due to variables such as lamp output, input voltage, ballast variances, manufacturing tolerances, and application conditions. The presence of physical objects may further reduce light levels and create shadowing.

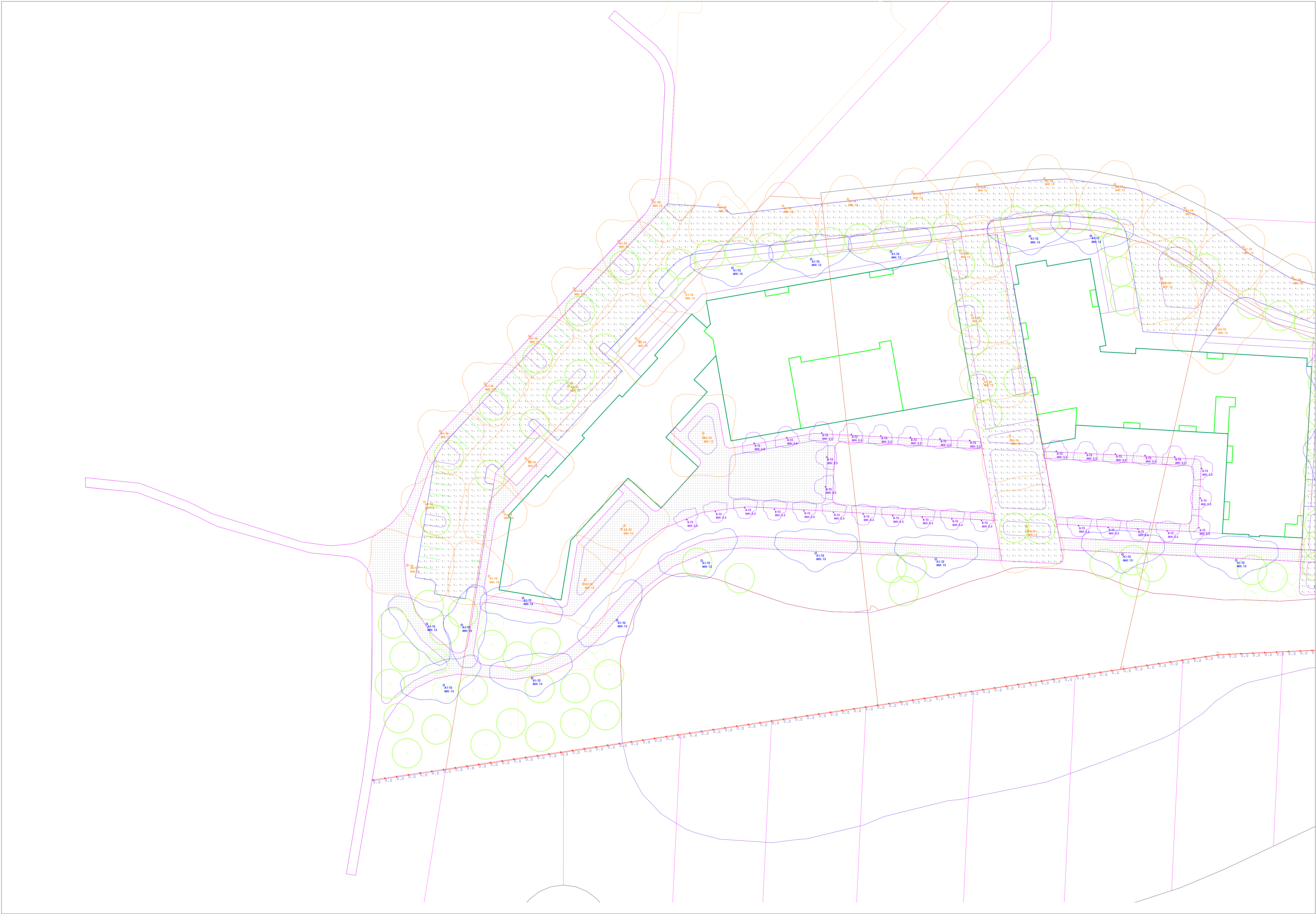
PROJECT NAME:
NATIONAL CHURCH CORPORATE CAMPUS

CLIENT NAME:
MA DESIGN

DRAWN BY:
Jose Saucedo
jose@jawlighting.com
615.695.2457

JAW CONTACT:
Melanie Gagnon
Melanie@jawlighting.com
614.338.9581

1	2	3
REVISIONS		



PROJECT NAME:

NATIONAL CHURCH CORPORATE CAMPUS

CLIENT NAME:

MA DESIGN

Date:6/23/2025
Page 2 of 3

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1	2	3
REVISIONS		

JAW CONTACT:
Melanie Gagnon
melanie@jawlighting.com
614.338.9581

DRAWN BY:
Jose Saucedo
jose@jawlighting.com
615.695.2457



JAW Lighting
720 Cool Springs Blvd.
Suite 500
Franklin, TN 37076



Scale: 1 inch= 35 Ft.

Disclaimer:
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CLIENT NAME:
MA DESIGN

DRAWN BY:
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jose@jawlighting.com
615.695.2457

JAW CONTACT:
Melanie Gagnon
Melanie@jawlighting.com
614.338.9581

1	2	3
REVISIONS		

UMC-20011

Macaron 2 Post Top



81w LED
7263 Lumens

60w LED
5380 Lumens

50w LED
4483 Lumens

30w LED
2690 Lumens

IP66
Suitable for wet locations

IK08
Impact Resistant [Vandal Resistant]

EPA - 1.00

Weight - 23.1 lbs

POLE NOT INCLUDED

Construction

Aluminum

Less than 0.1% copper content - Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength, clean detailed product lines and excellent heat dissipation.

Pre paint

8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket

Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management

LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermal below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression

Standard 10kv surge suppressor provided with all fixtures.

BUG Rating

B1 - U0 - G1

Finishing

All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint

UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

Inspired by Nature Finishes

The Inspired by nature Finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, and even marble or granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it's almost undistinguishable from real wood, even from a close visual inspection. The system of coating permeates the entire thickness of the coat and as a result, the coating cannot be removed by normal rubbing, chipping, or scratching.

The Coating Process

After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder provides protection against wear, abrasion, impact and corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration pattern printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a complete thermo print and then transferred into a customized oven. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a vivid timber look on aluminum remains.

Wood grain coating can create beautiful wood-looking products of any sort. There are over 300 combinations of designs currently in use. Wood grains can be made with different colors, designs, etc.

Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. These coatings rise to the highest conceivable standard of performance excellence and design innovation.

Added Benefits

- Resistance to salt-acid room, accelerated aging
- Boiling water, lime and condensed water resistant
- Anti-Graffiti, Anti-Slip, Anti-Microbial, Anti-Scratch
- Super durable (UV resistant)
- TGIC free (non-toxic)

Hardware

Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes

Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens

Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED

Precise optic design provides exceptional light control and precise distribution of light.
LED CRI > 80

Lumen - Maintenance Life

L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

Modern, contemporary post top
Beautiful modern urban post top in either single or V-arm configuration, offering powerful street lighting and asymmetric beam performance choices.

A modern style die-cast aluminum post top decorative lantern with excellent downward light distribution that complies with dark sky requirements. Outstanding visual appeal and precision optical system gives very low glare rating, whilst reducing light pollution. This luminaire is available in two configurations, namely a single or v-arm option to suit aesthetic design requirements.

Color temperature 2700K, 3000K, 3500K and 4000K, LED CRI >80 and life time 50,000 Hours. Stainless steel screws. Durable silicone rubber gasket and clear tempered glass. Powder paint with high corrosion resistance with chemical chromatised protection. Integral control gear.

Customer specific wattages can be provided, please contact the factory for more information.

Available with a selection of dimmable integral electronic drivers, as well as a provision to install wireless lighting controls to integrate with building management systems. (WATT-ADJ) This luminaire is provided with a programmable driver so that specific wattage requirements can be achieved. These settings are done at the factory during assembly.

To meet International Dark Sky criteria, 3000k or warmer LEDs must be selected.

Additional Options (Consult Factory For Pricing)



A90991
Zhaga Book 18



A90891
NEMA 7



RGBW
RGBW Macaron



LIGHCONNECT
IoT Ready Macaron

This luminaire is available with NEMA 7 or Zhaga Book 18 sockets for connection to intelligent lighting control systems.

SPLIT BEAM OPTIONS



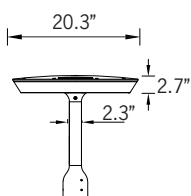
| Endless Solutions |

T4 & T4

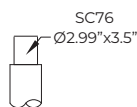
T2 & T3

T1 & T4

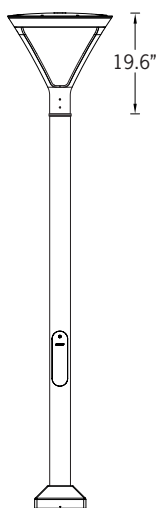
T1 & T4



Fixture Detail

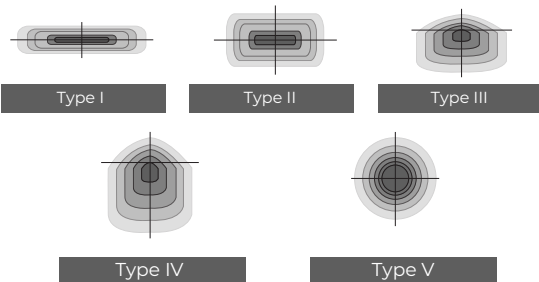


Tenon Detail

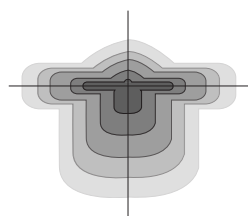


microVos
TECHNOLOGY

Ligman's micro Variable Optical System provides the ability to interchange, mix & rotate optics to provide specific light distributions for optimized spacing and uniformity.



The variable optic system allows for the designer to create hybrid distributions for precise lighting requirements.



HYBRID
TYPE I & TYPE IV

UMC-20011

Macaron 2 Post Top

PROJECT					DATE	
QUANTITY		TYPE		NOTE		

ORDERING EXAMPLE || UMC - 20011 - 81w - T2 - W30 - 02 - 120/277v - Options

UMC-20011					
LAMP	BEAM	LED COLOR	FINISH COLOR	VOLTAGE	
81w LED 7263 Lumens 60w LED 5380 Lumens 50w LED 4483 Lumens 30w LED 2690 Lumens	T1 - Type I Distribution T2 - Type II Distribution T3 - Type III Distribution T4 - Type IV Distribution T5 - Type V Distribution ME - Type ME Distribution FOR SPLIT BEAM, SPECIFY BELOW	W27 - 2700K W30 - 3000K W35 - 3500K W40 - 4000K	01 - BLACK RAL 9011 02 - DARK GREY RAL 7043 03 - WHITE RAL 9003 04 - METALLIC SILVER RAL 9006 05 - MATTE SILVER RAL 9006 06 - LIGMAN BRONZE 07 - CUSTOM RAL	120/277v Other - Specify	
SPLIT BEAM LEFT		SPLIT BEAM RIGHT			
T1 - Type I Distribution T2 - Type II Distribution T3 - Type III Distribution T4 - Type IV Distribution T5 - Type V Distribution ME - Type ME Distribution		T1 - Type I Distribution T2 - Type II Distribution T3 - Type III Distribution T4 - Type IV Distribution T5 - Type V Distribution ME - Type ME Distribution			

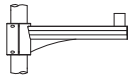
INSPIRED BY NATURE FINISHES

SW01 - OAK FINISH	
SW02 - WALNUT FINISH	
SW03 - PINE FINISH	
DF - DOUGLAS FIR FINISH	
CW - CHERRY WOOD FINISH	
NW - NATIONAL WALNUT FINISH	
SU01 - CONCRETE FINISH	
SU02 - SOFTSCAPE FINISH	
SU03 - STONE FINISH	
SU04 - CORTEN FINISH	

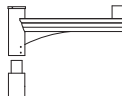
THERE IS AN ADDITIONAL COST FOR THESE FINISHES

ADDITIONAL OPTIONS		

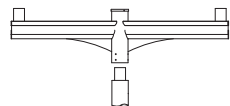
- DIM - 0-10v Dimming
NAT - Natatorium Rated
A20491 - Root Mount Kit
A90891 - NEMA 7
BS - Bird Spikes
RGBW - RGBW Macaron
SC60 - SC60 Tenon Detail
- OS - FSP Occupancy Sensor [See last page]
FSIR - Occupancy Sensor Remote Programmer [See last page]
A90991-U - Zhaga Book 18 Mounted On Top of Fixture
A90991-D - Zhaga Book 18 Mounted Below Fixture
AMB - Turtle Friendly Amber LED
IHSS - Internal House Side Shield



A20176
Aluminum Arm Pole Clamp



A20276
Aluminum Single Arm



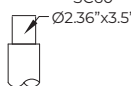
A20376
Aluminum Double Arm



BS
Bird Spikes



IHSS
Internal House Side Shield



SC60
Ø2.36" x 3.5"

Tenon Detail

More Custom Finishes Available Upon Request
Consult factory for pricing and lead times

Oak	Beech
Walnut	Bamboo
Pine	Birch
Cherry	Carbon
Chestnut	Galvanized
Mahogany	Steel



Macaron Product Family



Macaron 1

- UMC-20001-81w-7263lm
- UMC-20002-104w-14374lm



Macaron 2

- UMC-20011-81w-7263lm
- UMC-20012-104w-14374lm



Macaron 3

- UMC-98001-104w-14374lm



Macaron 4

- UMC-10001-22w-2854lm [23.6"]
- UMC-10002-31w-3904lm [23.6"]
- UMC-10003-46w-5021lm [23.6"]



Macaron 5

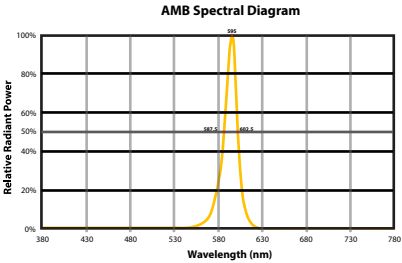
- UMC-10011-22w-2854lm [39.3"]
- UMC-10012-31w-3904lm [39.3"]
- UMC-10013-46w-5021lm [39.3"]



Macaron 8

- UMC-20041-22w-2854lm

CITY OF FLAGSTAFF & TURTLE FRIENDLY COMPLIANT



Narrow-Spectrum Amber LEDs
Peak wavelength between 585 & 595 nanometers and a full width of 50% power no greater than 15 nanometers.

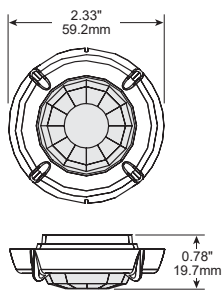
HIGH/LOW/OFF PIR OUTDOOR PHOTO/MOTION SENSOR IP66 - **legrand** Integrated photocell

Ligman provides integrated photocell control using the wattstopper legrand FSP-211B. These units are installed inside the fixture housing with only the external lenses being visible

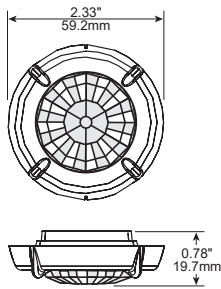


FSP-211B

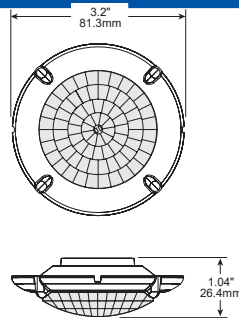
Dimensions of Lens Options



FSP-L2 dimensions



FSP-L3 dimensions



FSP-L7 dimensions

Product Overview

The FSP-221B is a family of passive infrared (PIR) outdoor sensors that raise or lower the electric lighting level to high, low or off based on motion and/or daylight contribution. Typically, once the sensor stops detecting movement and the time delay elapses, lights will first fade to low mode, and eventually switch off. When motion is detected, the sensor ramps the light level to high mode unless the daylight contribution is sufficient.

The integral photocell can also switch the lights on and off for dusk to dawn control, so that lighting remains on overnight even without motion detection.

The sensors control 0-10VDC or nondimming LED drivers or ballasts.

The low voltage FSP-201B may be used with dim-to-off drivers or ballasts.

Initial setup and subsequent sensor adjustments are made using a Wireless Handheld Configuration Tool (FSIR-100). This tool enables adjustment of sensor parameters including high/low mode, sensitivity, time delay, cut off and more.

The FSIR-100 can read current parameter settings, and stores up to six sensor parameter profiles to speed commissioning of multiple sensors.

Models

FSP-211B, 120-277 VAC

FSP-221B, 100-347 VAC

Specifications and Features

Three interchangeable lenses for mounting between 8' and 40'

Remote setup and adjustment with handheld wireless configuration tool

Adjustable high and low modes (high: 0 to 10V, low: off, 0 to 9.8V)

Adjustable time delay (30 seconds, 1 to 30 minutes)

Adjustable cut off delay (none, 1 to 59 minutes, 1 to 5 hours)

Adjustable sensitivity/service mode (low, med, max; on-fix, off-fix)

Adjustable setpoints: hold off setpoint (none, 1 to 250 fc, auto); photocell on/off setpoint (1 to 250 fc)

Adjustable ramp and fade times (1 to 60 seconds)

Operating temperature: -40°F to +167°F (-40°C to +75°C)

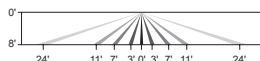
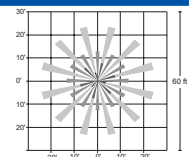
IP66 rated

Five year warranty

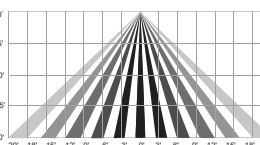
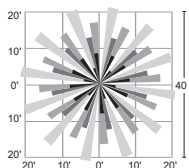
Factory Defaults

High mode:	10V
Low mode:	1V
Time delay:	5 minutes
Cut off:	1 hour
Setpoint:	Disabled
Sensitivity:	Max
Ramp up time:	Disabled
Fade down time:	Disabled
Photocell On/Off:	Disabled

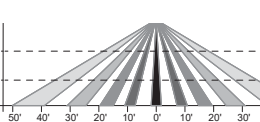
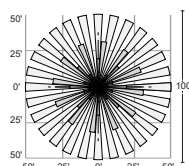
Coverage



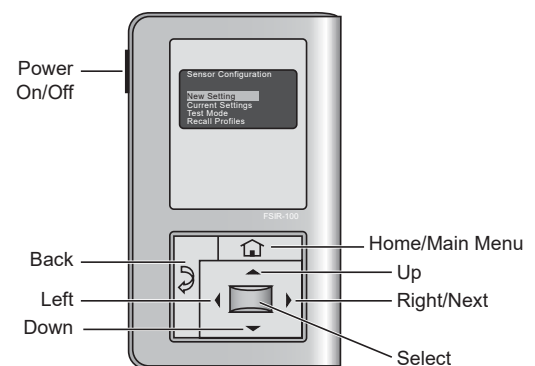
FSP-L2 top and side coverage patterns



FSP-L3 top and side coverage patterns



FSP-L7 top and side coverage patterns



The **FSIR-100** is a convenient handheld remote tool for sensor setting. Adjustable settings can be changed as needed for specific applications.

Catalog #	Color	Description
FSP-L2	White/Grey/Black/Brown The Trim color option will be selected to closest match fixture color. e.g. (Matte silver fixture - grey trim)	360° lens, maximum coverage 48' diameter from 8' height
FSP-L3	White/Grey/Black/Brown The Trim color option will be selected to closest match fixture color. e.g. (Matte silver fixture - grey trim)	360° lens, maximum coverage 40' diameter from 20' height
FSP-L7	White/Grey/Black/Brown The Trim color option will be selected to closest match fixture color. e.g. (Matte silver fixture - grey trim)	360° lens, maximum coverage 100' diameter from 40' height
FSIR-100	Black	Remote Handheld Configuration Tool

UMC-10012

Mini Macaron Bollard



LIGMAN
LIGHTING USA



31w LED
3904 Lumens

IP66
Suitable for wet locations

IK08
Impact Resistant [Vandal Resistant]

Weight - 9 lbs

Construction

Aluminum

Less than 0.1% copper content - Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength, clean detailed product lines and excellent heat dissipation.

Pre paint

8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket

Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management

LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermal below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression

Standard 10kv surge suppressor provided with all fixtures.

BUG Rating

Contact Factory

Finishing.

All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint

UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

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The Inspired by nature Finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, and even marble or granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it's almost undistinguishable from real wood, even from a close visual inspection. The system of coating permeates the entire thickness of the coat and as a result, the coating cannot be removed by normal rubbing, chipping, or scratching.

The Coating Process

After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder provides protection against wear, abrasion, impact and corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration pattern printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a complete thermo print and then transferred into a customized oven. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a vivid timber look on aluminum remains.

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Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. These coatings rise to the highest conceivable standard of performance excellence and design innovation.

Added Benefits

- Resistance to salt-acid room, accelerated aging
- Boiling water, lime and condensed water resistant
- Anti-Graffiti, Anti-Slip, Anti-Microbial, Anti-Scratch
- Super durable (UV resistant)
- TGIC free (non-toxic)

Hardware

Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes

Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens

Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED

Precise optic design provides exceptional light control and precise distribution of light.
LED CRI > 80

Lumen - Maintenance Life

L80 /B10 at 50,000 hours (This means that at least 90% of the

Modern contemporary bollard. Designed with a sleek and clean appearance. Features high powered optics, encapsulated within a small sized bollard. Designed to complement the Macaron pole top fixtures.

A modern style die-cast aluminum bollard with excellent downward light distribution that complies with dark sky requirements. Outstanding visual appeal and precision optical system gives very low glare rating, whilst reducing light pollution.

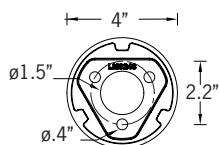
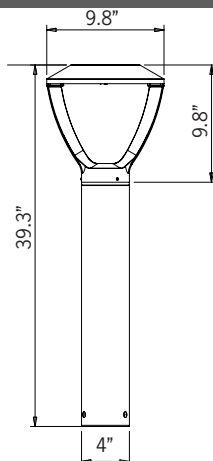
This fixture is available in two standard heights, however custom heights can be specified.

This bollard is available with the following light distributions to maximize spacing and vastly improve uniformity;
Type II, III, Wide and Very Wide.

Color temperature 2700K, 3000K, 3500K and 4000K, LED CRI >80 and life time 50,000 Hours. Stainless steel screws. Durable silicone rubber gasket. Powder paint with high corrosion resistance with chemical chromatised protection. Integral control gear.

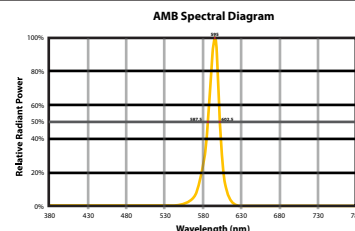
Customer specific wattages can be provided, please contact the factory for more information.

To meet International Dark Sky criteria, 3000k or warmer LEDs must be selected.



Mounting Detail

CITY OF FLAGSTAFF & TURTLE FRIENDLY COMPLIANT



Narrow-Spectrum Amber LEDs

Peak wavelength between 585 & 595 nanometers and a full width of 50% power no greater than 15 nanometers.

UMC-10012

Mini Macaron Bollard



PROJECT					DATE	
QUANTITY		TYPE		NOTE		

ORDERING EXAMPLE || UMC - 10012 - 31w - T2 - W30 - 02 - 120/277v - Options

UMC-10012					
LAMP	BEAM	LED COLOR	FINISH COLOR	VOLTAGE	
31w LED 3904 Lumens	T2 - Type II Distribution T3 - Type III Distribution W - Wide 77"x99" VW - Very Wide 120"x140" 	W27 - 2700K W30 - 3000K W35 - 3500K W40 - 4000K	01 - BLACK RAL 9011 02 - DARK GREY RAL 7043 03 - WHITE RAL 9003 04 - METALLIC SILVER RAL 9006 05 - MATTE SILVER RAL 9006 06 - LIGMAN BRONZE 07 - CUSTOM RAL	120/277v Other - Specify	

ADDITIONAL OPTIONS		

NAT - Natatorium Rated
DIM - 0-10v Dimming
AMB - Turtle Friendly Amber LED
HGT - Custom Bollard Height

INSPIRED BY NATURE FINISHES

SW01 - OAK FINISH

SW02 - WALNUT FINISH

SW03 - PINE FINISH

DF - DOUGLAS FIR FINISH

CW - CHERRY WOOD FINISH

NW - NATIONAL WALNUT FINISH

SU01 - CONCRETE FINISH

SU02 - SOFTSCAPE FINISH

SU03 - STONE FINISH

SU04 - CORTEN FINISH

THERE IS AN ADDITIONAL COST FOR THESE FINISHES

More Custom Finishes Available Upon Request

Consult factory for pricing and lead times

Oak	Walnut	Pine	Cherry	Chestnut	Mahogany	Beech	Bamboo	Birch	Carbon	Galvanized	Steel



Example: Inspired by Nature Finish



Macaron Product Family



Macaron 1

- UMC-20001-81w-7263lm
- UMC-20002-104w-14374lm



Macaron 2

- UMC-20011-81w-7263lm
- UMC-20012-104w-14374lm



Macaron 3

- UMC-98001-104w-14374lm



Macaron 4

- UMC-10001-22w-2854lm [23.6°]
- UMC-10002-31w-3904lm [23.6°]
- UMC-10003-46w-5021lm [23.6°]



Macaron 5

- UMC-10011-22w-2854lm [39.3°]
- UMC-10012-31w-3904lm [39.3°]
- UMC-10013-46w-5021lm [39.3°]



Macaron 8

- UMC-20041-22w-2854lm

TRAFFIC IMPACT STUDY

JUNE 24, 2025

Traffic Impact Study for the proposed

NATIONAL CHURCH RESIDENCES HQ REDEVELOPMENT

Upper Arlington, Ohio

prepared for:

MA Design

775 Yard Street, Suite 325

Columbus, OH 43212



**6219 Centre Park Drive
West Chester, OH 45069
p. 513-779-7851
f. 513-779-7852**

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<i>Appendix B:</i>	Revised ITE Trip Generation
<i>Appendix C:</i>	Synchro 11 Capacity Analysis Reports

This study was conducted to analyze the impact of the proposed National Church Residences redevelopment to be located south of North Bank Drive in Upper Arlington, Ohio. The proposed redevelopment is planned to maintain the site access off of North Bank Drive. In the preparation of the study, traffic counts were collected by The Kleingers Group in the study area during peak times and were used to develop projected background traffic volumes. Counted traffic volumes have been submitted to MORPC for annual linear growth rates to generate those background traffic volumes. Site-generated trips for the proposed redevelopment were developed and distributed onto the roadway network based on data contained in the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 11th Edition and existing traffic patterns. Intersection capacity analyses for the projected Opening Year (2027) and Future Year (2037) traffic volumes were conducted at the study area intersections. **Note that since the October 5, 2023 Preliminary Traffic Volume Submittal was prepared for this study, the densities of the various land uses within the development have changed, which has resulted in lower trip generation. This study incorporates the updated trip generation and uses the previously outlined study assumptions.**

The following findings were made during the traffic impact study process.

1. Capacity analyses indicate that the intersection of West Henderson Road and Arlington Centre Boulevard is expected to operate with acceptable levels of service in the opening year (2027) and future year (2037) for the No-Build and Build Scenarios.
2. Capacity analyses indicate that the intersection of North Bank Drive and Arlington Centre Boulevard is expected to operate with acceptable levels of service in the opening year (2027) and future year (2037) for the No-Build and Build Scenarios.

The findings of this traffic impact study indicate that roadway improvements are not needed for the proposed National Church Residences HQ Redevelopment.

This study was conducted to analyze the impact of the proposed National Church Residences redevelopment to be located south of North Bank Drive in Upper Arlington, Ohio. The proposed redevelopment is planned to maintain the site access points off of North Bank Drive. In the preparation of the study, traffic counts were collected by The Kleingers Group in the study area during peak times and were used to develop projected background traffic volumes. Counted traffic volumes have been submitted to MORPC for annual linear growth rates to generate those background traffic volumes. Site-generated trips for the proposed redevelopment were developed and distributed onto the roadway network based on data contained in the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 11th Edition and existing traffic patterns. Intersection capacity analyses for the projected Opening Year (2027) and Future Year (2037) traffic volumes were conducted at the study area intersections. A Project Location Map is provided as Figure 2A. A preliminary site plan is in development and existing accesses are to remain. **Note that since the October 5, 2023 Preliminary Traffic Volume Submittal was prepared for this study, the densities of the various land uses within the development have changed, which has resulted in lower trip generation. This study incorporates the updated trip generation and uses the previously outlined study assumptions.**

2.1 DEVELOPMENT DESCRIPTION

The redevelopment is proposed to include approximately 55,000 square feet of office space on the east end of the site, a 120 unit mid-market senior independent living facility, and an 80 unit mixed-income senior living facility. This will also include the appropriate amount of parking for each of the respective spaces. The redevelopment will be accessible via access drives along North Bank Drive. The proposed development is planned to be completed by 2027.

2.2 STUDY AREA

The study area was determined through coordination with the City of Upper Arlington and City of Columbus staff and includes the intersections expected to have the most impact from the increased traffic volumes from the proposed redevelopment. The study area for this analysis includes the following intersections:

- West Henderson Road at Arlington Centre Boulevard
- North Bank Drive at Arlington Centre Boulevard



THE KLEINGERS GROUP

Civil Engineering Land Surveying Landscape Architecture

3.1 AREA LAND USE

Area land use in the immediate area surrounding the National Church Residences redevelopment consists of a mix of office, medical, institutional, and residential land uses. Office buildings and religious institutions are primarily located to the east of the development, with access coming from Center Loop. Northwest Eye Surgeons is located on the north side of North Bank Drive. The Northwest Park is located to the west of the development along Stonehaven Drive. Suburban neighborhoods are located south of the development, on the other side of the existing pond.

3.2 SITE ACCESSIBILITY

West Henderson Road provides two through travel lanes in each direction. It is classified as a minor arterial that runs east and west with a posted speed limit of 35 miles per hour within the study area.

Arlington Centre Boulevard provides one through travel lane in each direction. It is classified as a local roadway that runs north and south with a posted speed limit of 25 miles per hour. On-street parking is provided on both sides of the street. A 20-foot curbed median separates the northbound and south bound directional traffic.

North Bank Drive is a local roadway that runs east and west with a posted speed limit of 25 miles per hour.

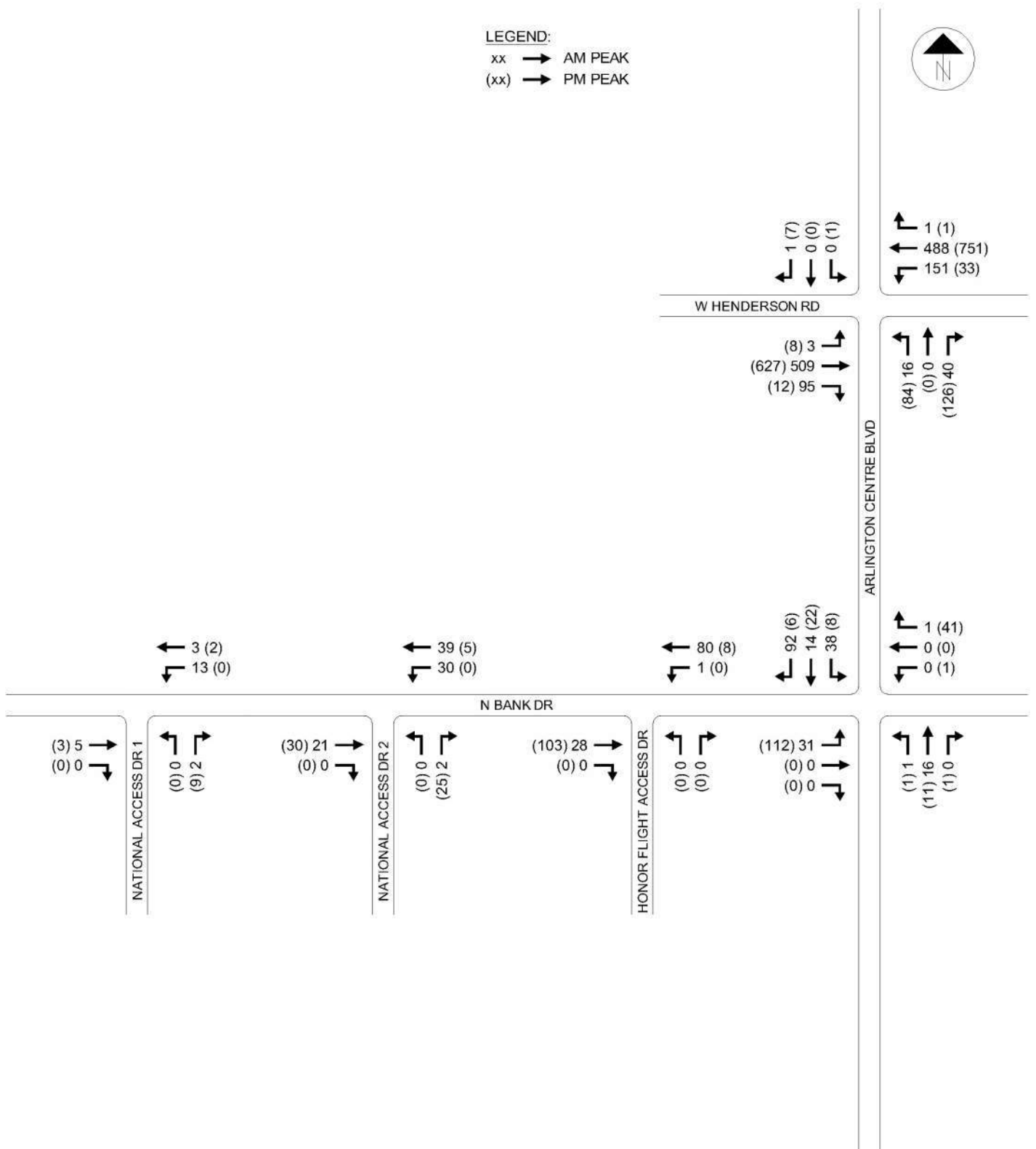
The intersection of West Henderson Road and Arlington Centre Boulevard is signalized. The following is the lane configuration to be used as the existing conditions. The eastbound approach has one (1) left turn lane, one (1) thru lane, and one (1) thru-right lane. The westbound approach has one (1) left turn lane, one (1) thru lane, and one (1) thru-right lane. The northbound approach has one (1) left turn lane and one (1) right turn lane. The westbound left turn has a protected and permitted phase.

The intersection of Arlington Centre Boulevard and North Bank Drive is an unsignalized intersection. The following is the lane configuration to be used as the existing conditions. The eastbound approach is stop controlled with one (1) full movement lane. The westbound approach is stop controlled with one (1) full movement lane. The northbound approach is free flowing with one (1) full movement lane. The southbound approach is free flowing with one (1) full movement lane.

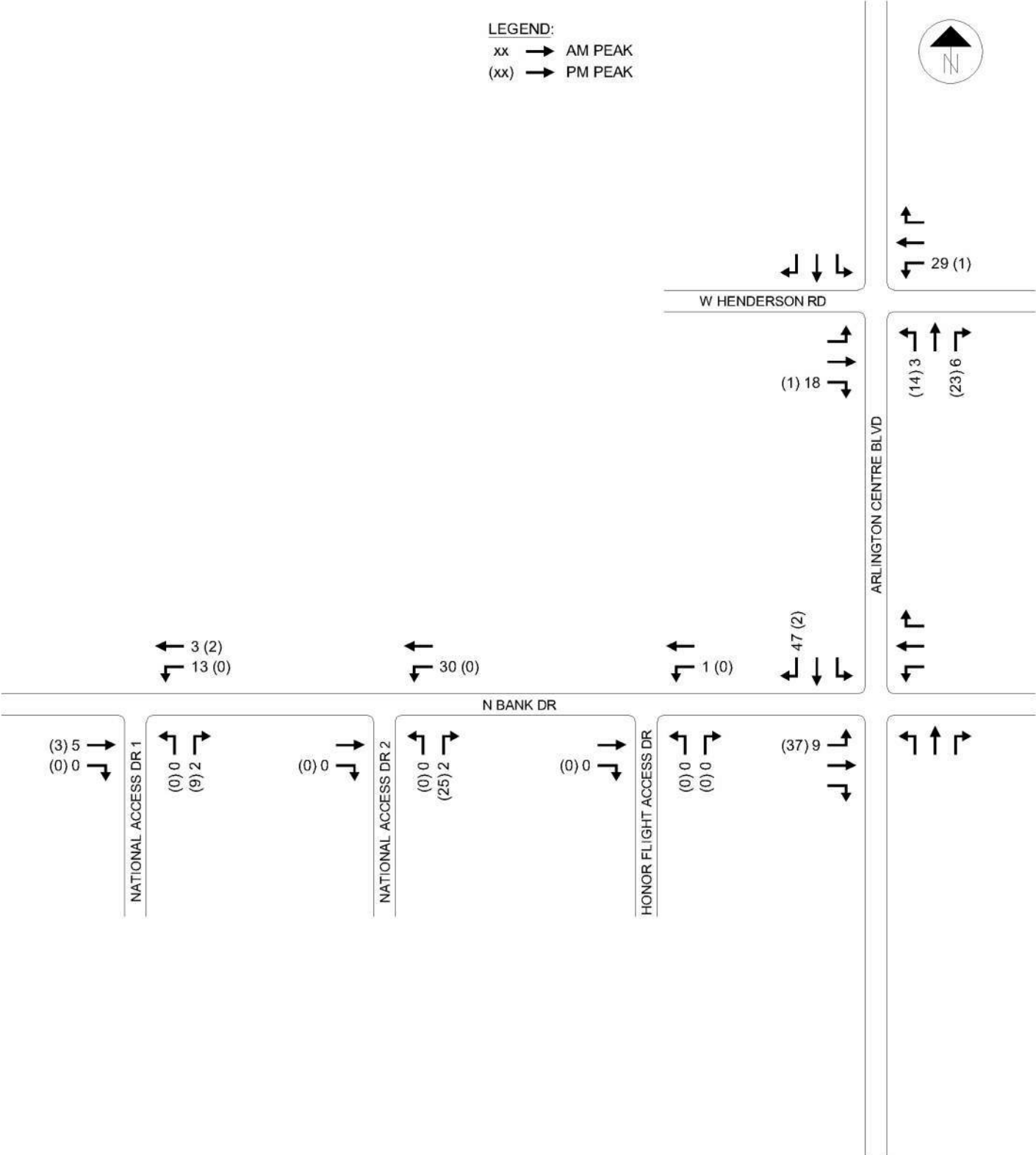
3.3 EXISTING TRAFFIC VOLUMES

Turning movement counts were collected at the study intersections as part of the approved Memorandum of Understanding, which is provided in Appendix A of this report. As provided in the MOU, the overall peak hours were found to occur from 8:00 to 9:00 AM and from 4:00 to 5:00 PM. At the intersection of West Henderson Road at Arlington Centre Boulevard, the PM peak hour of 4:30 to 5:30 PM was used in the analyses. This peak hour and count information can be found in Appendix A.

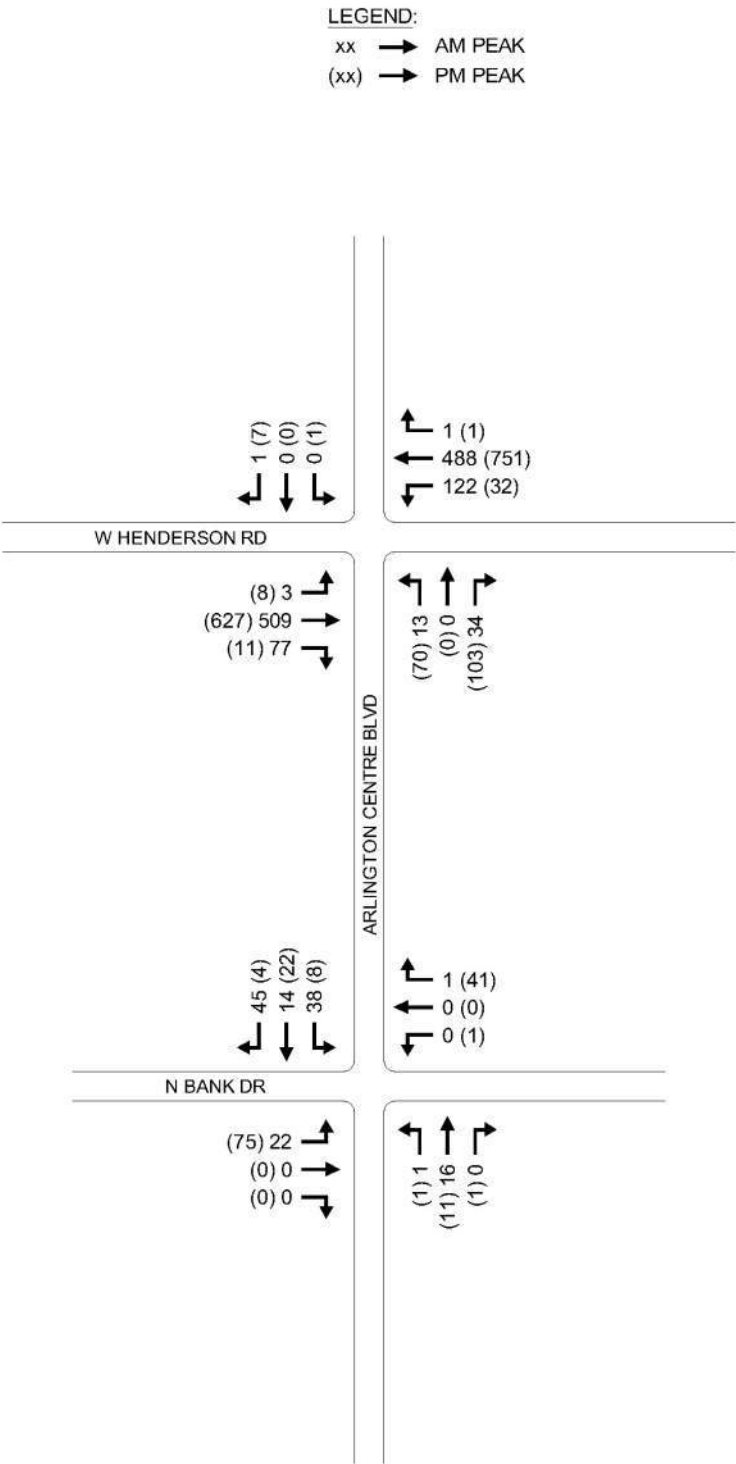
Peak hour traffic counts are presented in Figure 3A. Existing National Church Residences site trips have been pulled out from the counted volumes and are presented in Figure 3B. The remaining traffic volumes are the 2023 Background Traffic Volumes and are presented in Figure 3C.



2023 Counted Traffic Volumes



Existing Site Traffic



2023 Background Traffic Volumes

4.1 PROJECTED BACKGROUND (NON-SITE) TRAFFIC VOLUMES

Volume projections to the opening year (2027) and future year (2037) were calculated at the study intersections utilizing linear annual growth rates provided by MORPC. The provided MORPC growth rates are displayed in Figure 4A.

The resulting background traffic volumes for the opening year (2027) and horizon year (2037) are illustrated in Figures 4B and 4C, respectively.

4.2 NO-BUILD TRAFFIC VOLUMES

The existing North Church Residences traffic volumes from Figure 3B were added to the opening year and future year background traffic volumes (Figures 4B and 4C) to produce the opening year (2027) and future year (2037) No-Build Traffic Volumes and are presented in Figures 4F and 4G, respectively.

4.3 ESTIMATED SITE-GENERATED TRAFFIC VOLUMES

Trip generation for the proposed development was performed as part of the MOU provided in Appendix A. However, a revised trip generation is presented in this study due to the change in size for each land use. Table 4A below summarizes the revised trip generation performed. Revised ITE trip generation reports are provided in Appendix B of this report.

Land Use	ITE LUC	Size	Units	AM Peak			PM Peak		
				Enter	Exit	Total	Enter	Exit	Total
General Office Building	710	55	KSF	88	12	100	17	84	101
Senior Adult Housing - Multifamily	252	120	Dwelling Units	8	16	24	17	13	30
Senior Adult Housing - Multifamily	252	80	Dwelling Units	5	11	16	11	9	20
Total Trips				101	39	140	45	106	151

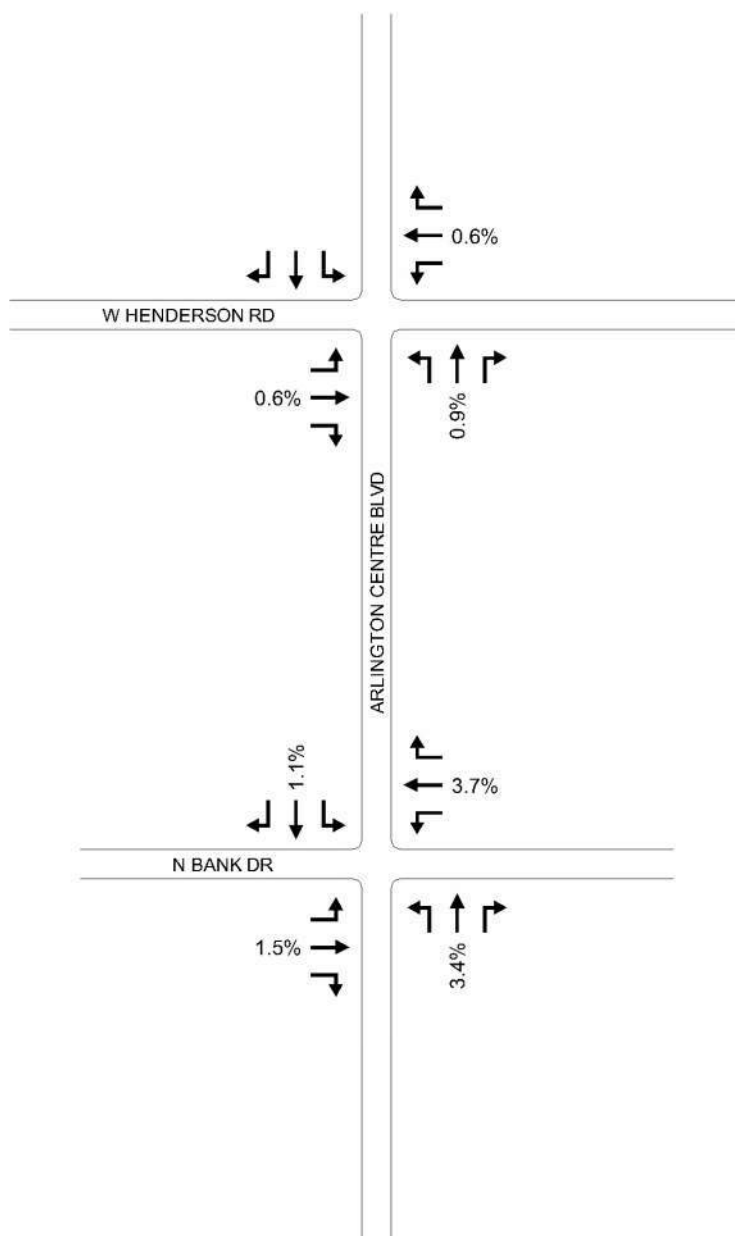
Table 4A: ITE Trip Generation Summary

4.4 TRIP DISTRIBUTION

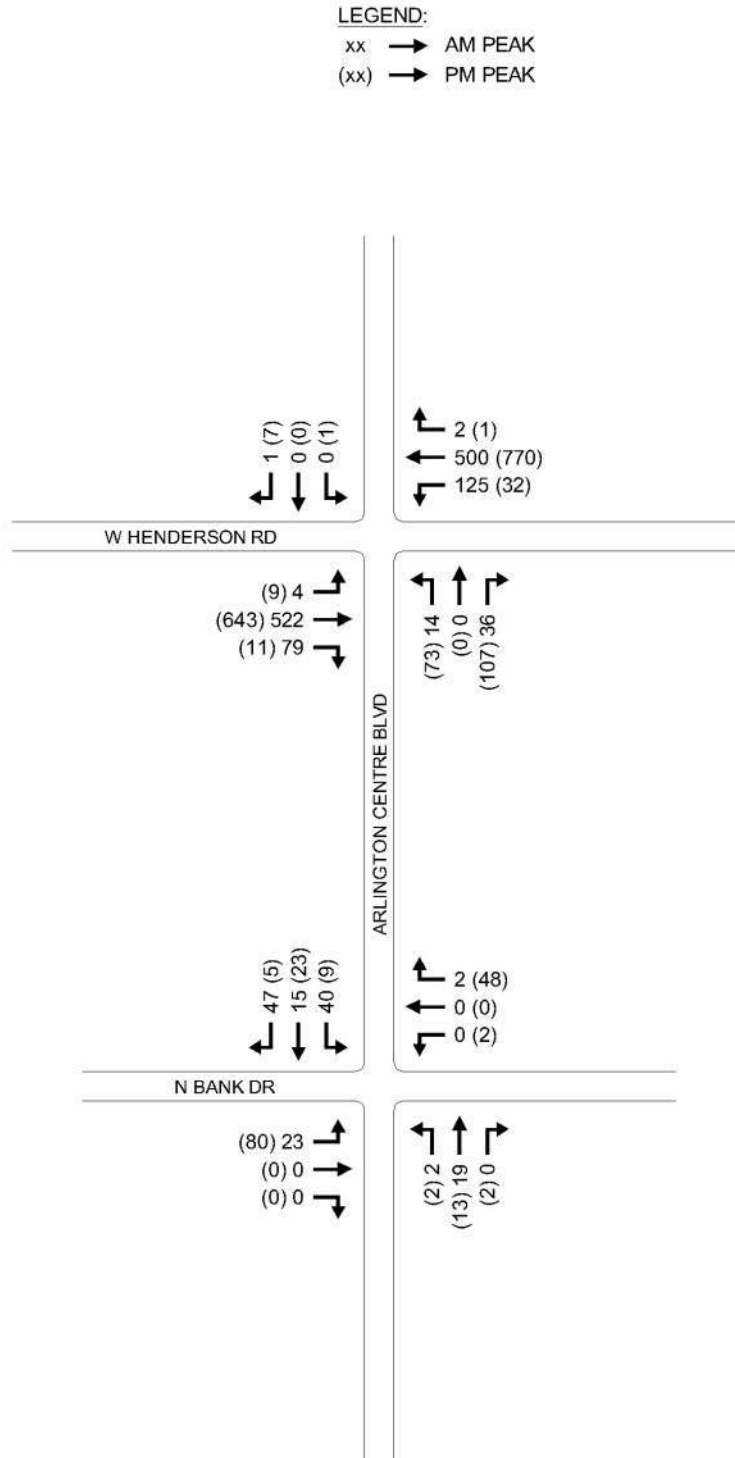
As presented in the Traffic Volume Submittal MOU, the proposed trip distribution is based on existing travel patterns. Proposed trip distribution is presented again in Figure 4D of this report. The volumes from Table 4A have been distributed accordingly, and are displayed in Figure 4E.

4.5 BUILD TRAFFIC VOLUMES

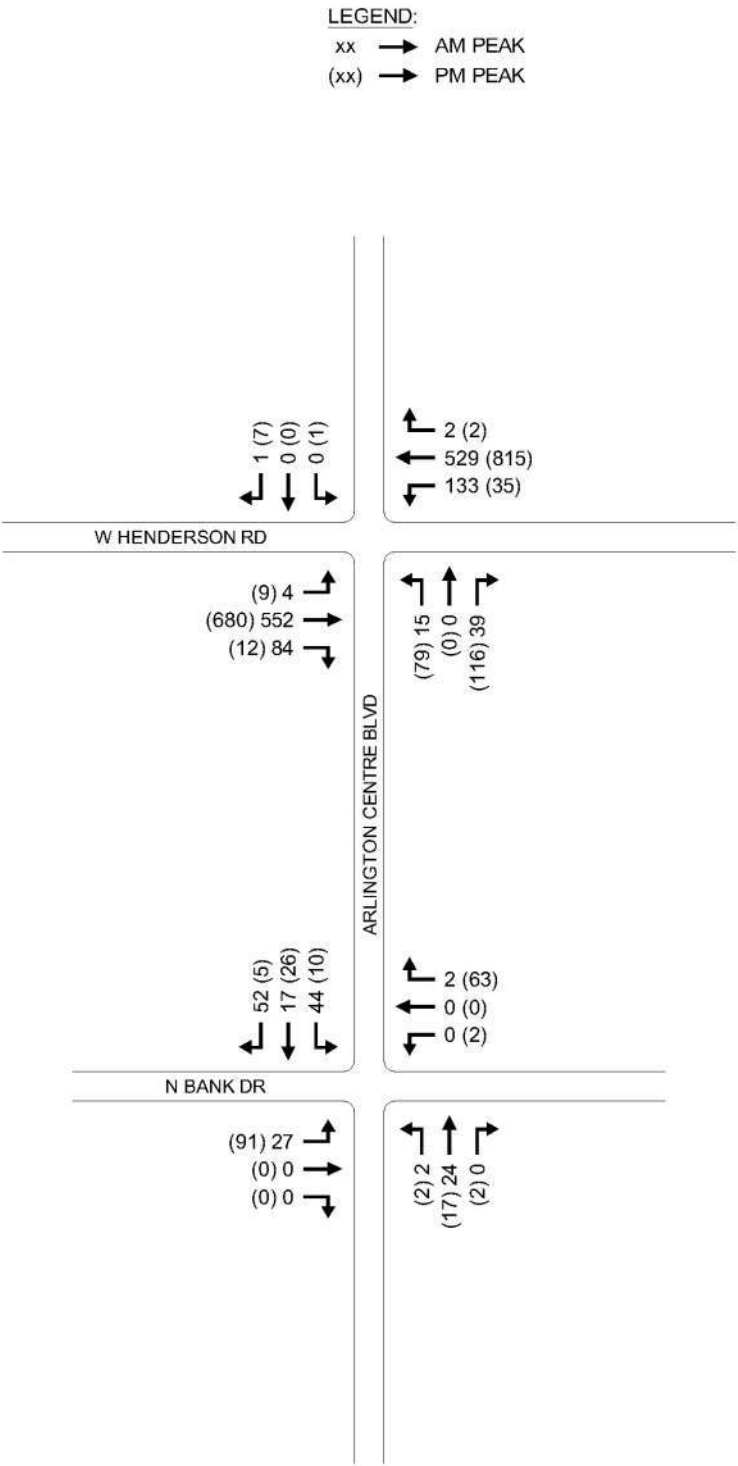
The Traffic Volumes of Figure 4E have been added to the opening year (2027) and future year (2037) Background Traffic Volumes to develop the opening year and future year Build Traffic Volumes, presented in Figures 4H and 4I, respectively.



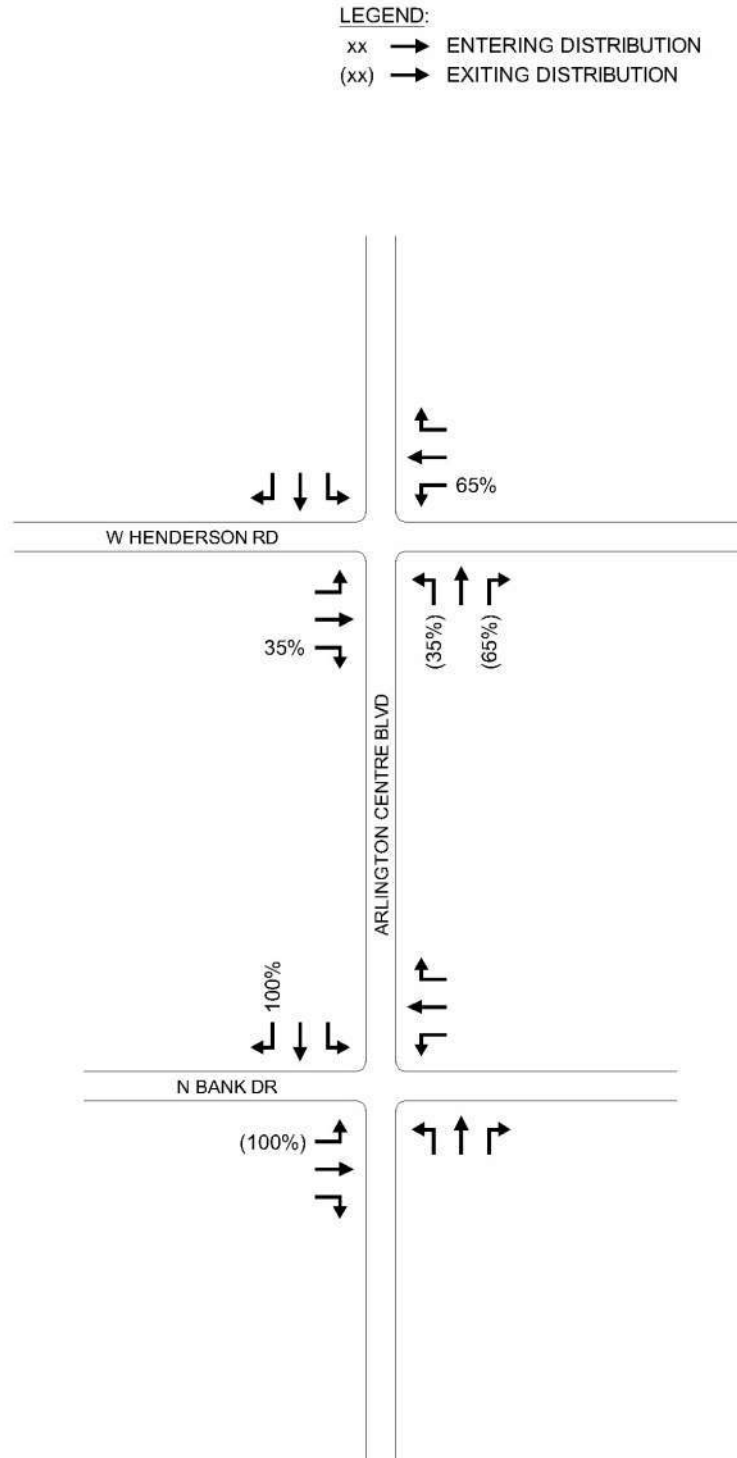
MORPC Growth Rates



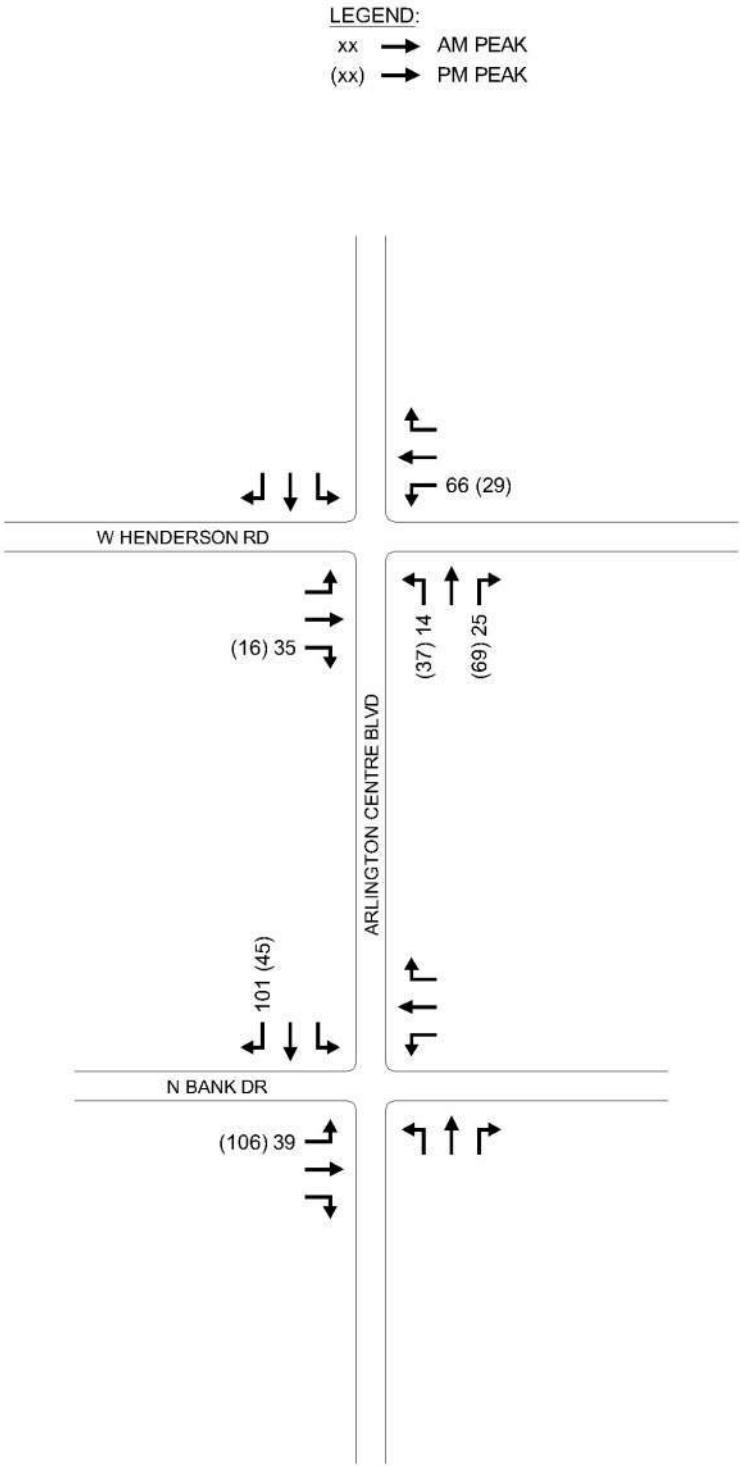
2027 Background Traffic Volumes



2037 Background Traffic Volumes



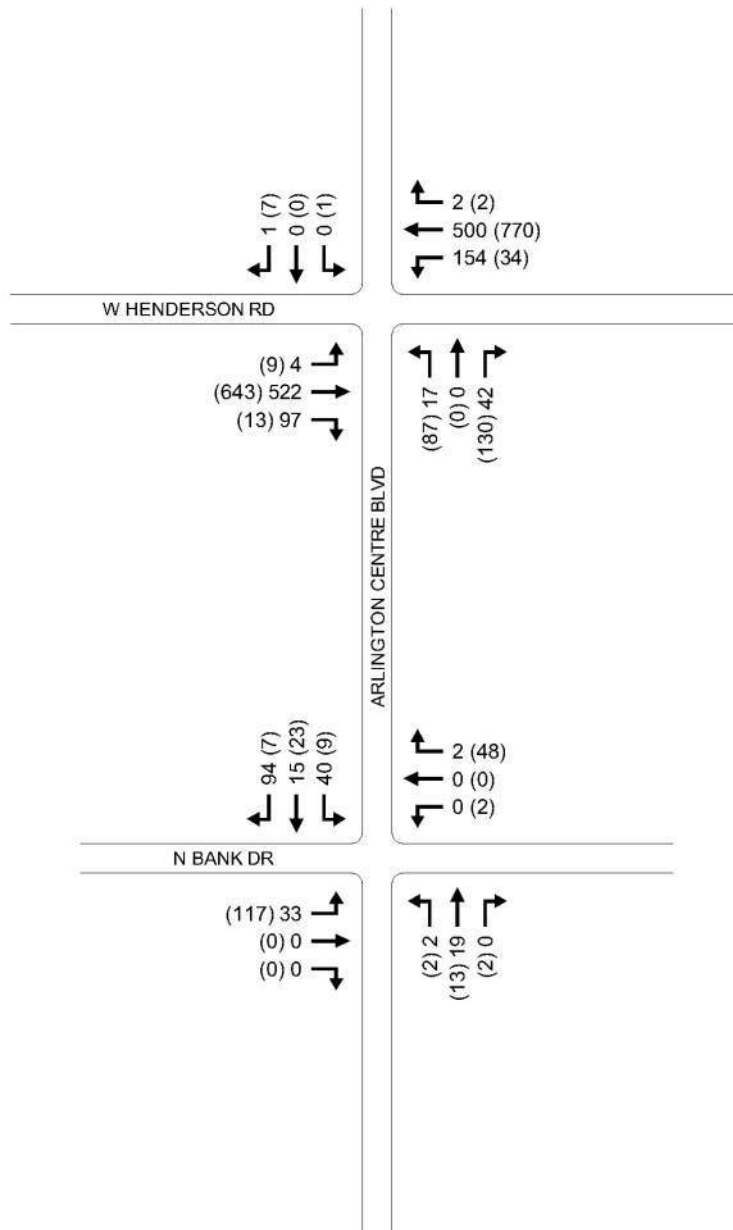
National Church Residences - Trip Distribution



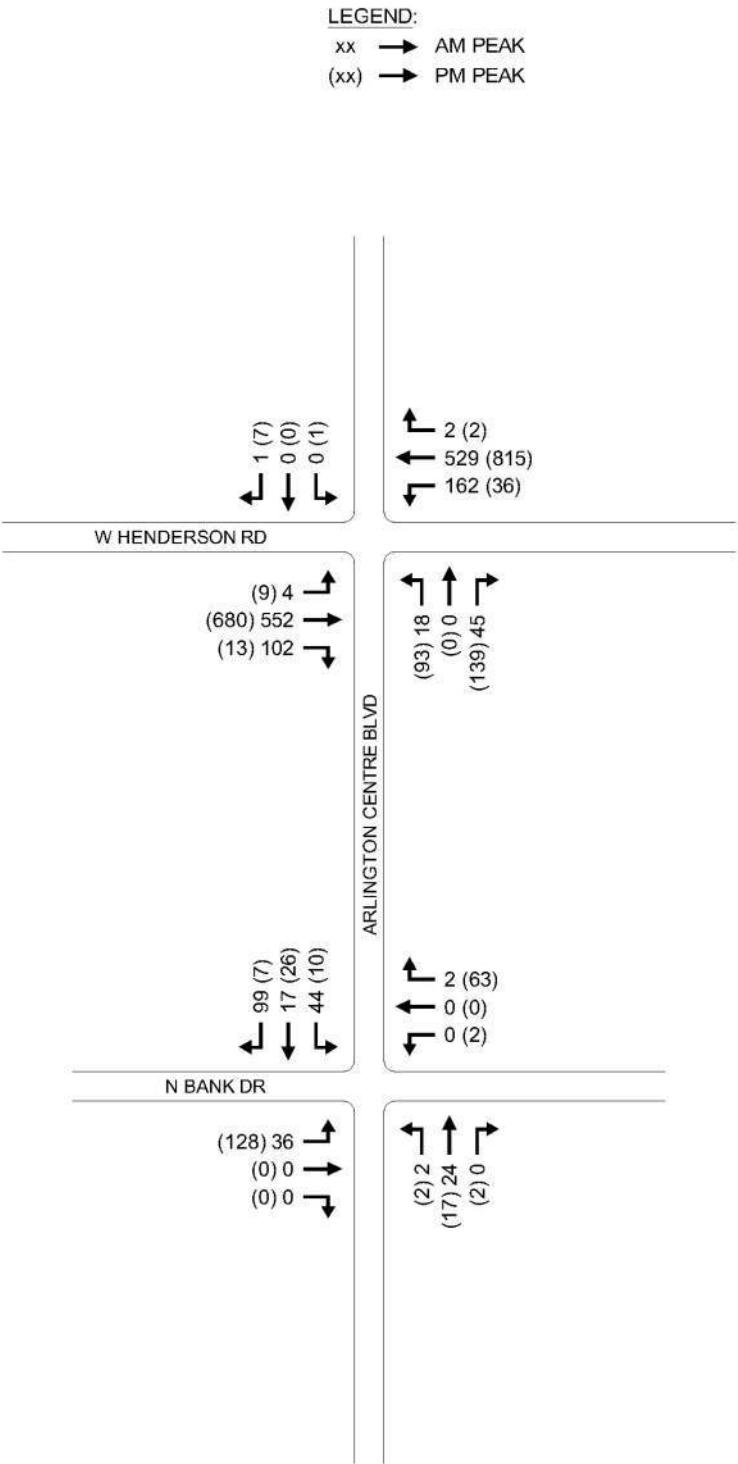
National Church Residences - Site-Generated Trips

LEGEND:

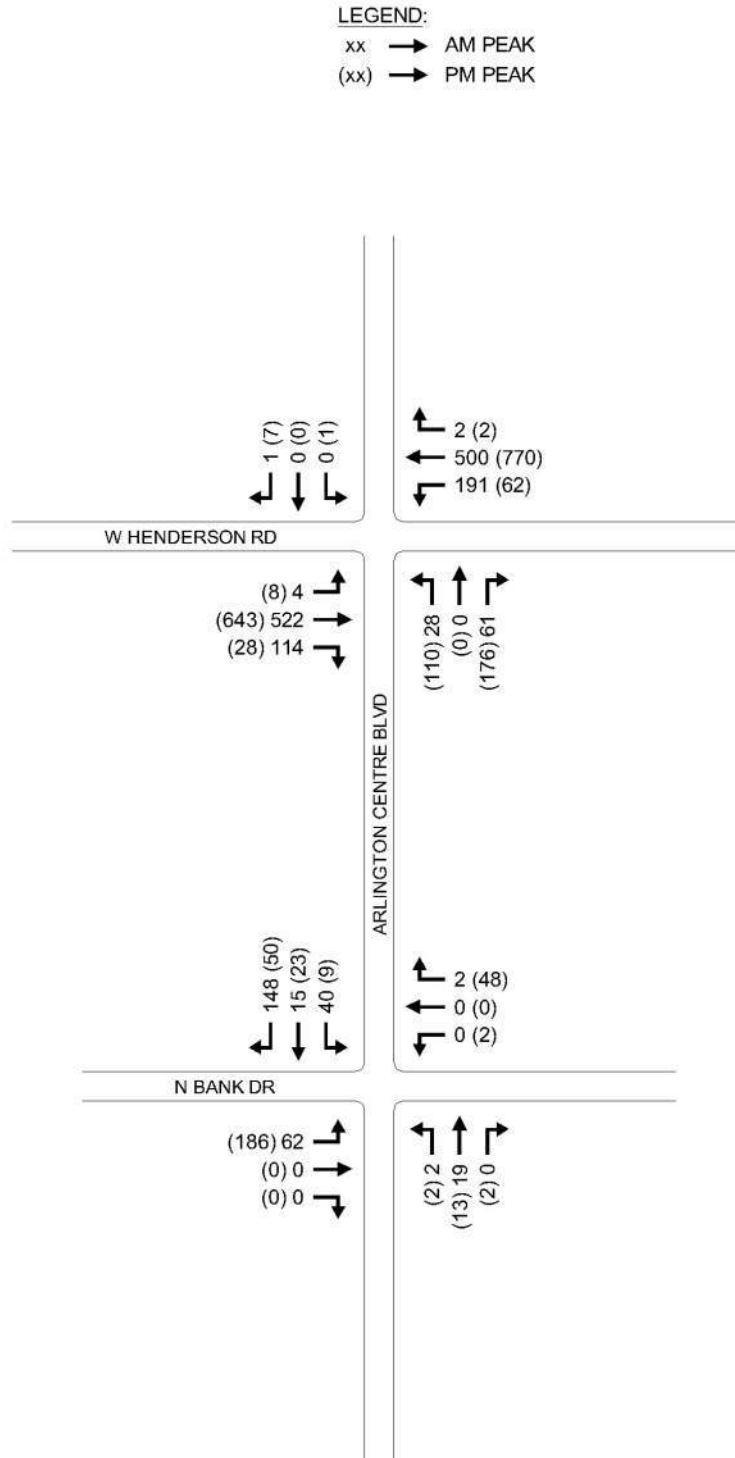
xx → AM PEAK
(xx) → PM PEAK



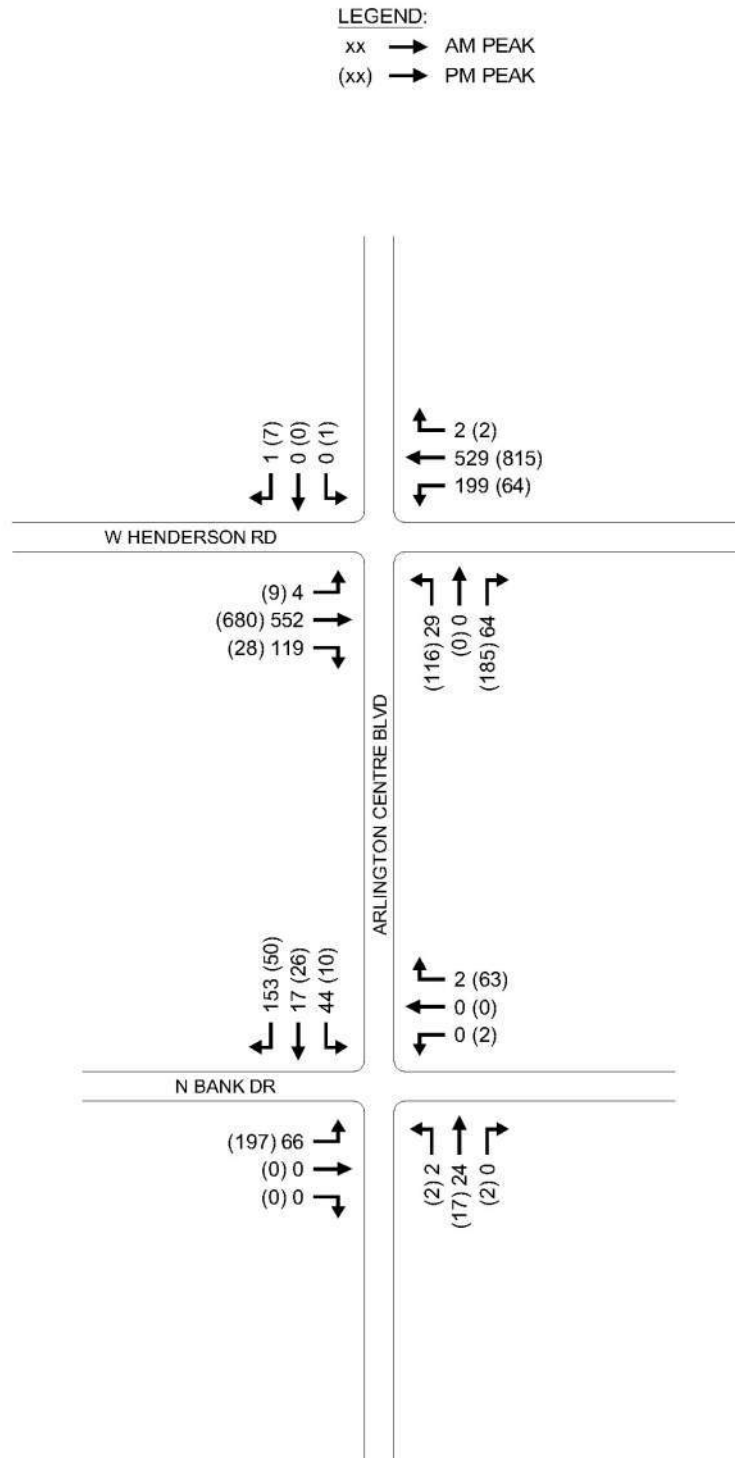
2027 No-Build Traffic Volumes



2037 No-Build Traffic Volumes



2027 Build Traffic Volumes



2037 Build Traffic Volumes

Projected 2027 and 2037, no-build and build scenario traffic volumes were analyzed at the study intersections to determine the impact of the proposed development. Synchro 11 capacity analysis software, utilizing HCM 6th edition output, was used to determine the Level of Service (LOS) of the study intersections. The LOS represents an intersection's measure of effectiveness and is used to determine the impacts on the intersection from the proposed development. LOS values range from "A" (best) to "F" (failing). Recommended improvements are based upon the results of the above described analyses.

5.1 CAPACITY ANALYSES

The projected traffic volumes were analyzed, using Synchro 11 capacity analysis software, at the study intersections for the no-build and build scenarios in the opening year (2027) and the future year (2037). Capacity analyses reports for each analysis are included in Appendix C of this report. All scenarios analyzed utilize existing signal timings.

West Henderson Road at Arlington Centre Boulevard

Table 5A summarizes the capacity analyses performed at the intersection of West Henderson Road and Arlington Centre Boulevard.

		Eastbound			Westbound			Northbound			Southbound			INT.
		LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	
West Henderson @ Arlington Centre 2023 No-Build	AM	3.2 A	4.3 A		2.1 A	1.4 A		56.7 E		69.5 E		55.6 E		5.6 A
	PM	5.5 A	7.2 A		4.1 A	4.2 A		54.1 D		54.5 D		46.1 D		11.9 B
West Henderson @ Arlington Centre 2027 No-Build	AM	3.3 A	4.4 A		2.2 A	1.5 A		56.5 E		68.8 E		55.3 E		5.8 A
	PM	5.7 A	7.5 A		4.3 A	4.4 A		53.9 D		53.8 D		45.6 D		12.1 B
West Henderson @ Arlington Centre 2027 Build	AM	3.7 A	5.1 A		2.8 A	1.8 A		55.2 E		65.2 E		53.4 D		7.2 A
	PM	7.9 A	10.3 B		6.1 A	6.1 A		52.7 D		51.8 D		41.3 D		15.1 B
West Henderson @ Arlington Centre 2037 No-Build	AM	3.3 A	4.6 A		2.4 A	1.6 A		56.3 E		68.0 E		55.0 D		5.9 A
	PM	6.1 A	8.1 A		4.7 A	4.9 A		53.6 D		52.8 D		44.6 D		12.5 B
West Henderson @ Arlington Centre 2037 Build	AM	3.8 A	5.3 A		3.0 A	1.9 A		55.0 D		64.8 E		53.0 D		7.4 A
	PM	8.3 A	11.1 B		6.5 A	6.7 A		52.7 D		51.6 D		40.4 D		15.6 B

Table 5A: No-Build & Build, West Henderson @ Arlington Centre, Capacity Analyses Summary

According to the analysis, No-Build and Build scenarios for the opening year (2027) and future year (2037) are expected to have acceptable levels of service. The additional traffic from the National Church Residences Redevelopment is not expected to have a significant effect on the levels of service. All turning movements expected to operate at LOS grade “E” or better and total intersection at LOS grade “B” or better.

Arlington Centre Boulevard at North Bank Drive

Table 5B summarizes the capacity analyses performed at the intersection of Arlington Centre Boulevard and North Bank Drive.

		Eastbound			Westbound			Northbound			Southbound			INT.
		LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	
Arlington Centre @ N Bank Dr 2023 No-Build	AM	9.9			8.4			7.4			7.3			
	PM	A			A			A			A			
Arlington Centre @ N Bank Dr 2027 No-Build	AM	10.1			8.5			7.3			7.3			
	PM	B			A			A			A			
Arlington Centre @ N Bank Dr 2027 Build	AM	10.1			8.4			7.4			7.3			
	PM	B			A			A			A			
Arlington Centre @ N Bank Dr 2027 Build	AM	10.6			8.4			7.6			7.3			
	PM	B			A			A			A			
Arlington Centre @ N Bank Dr 2037 No-Build	AM	11.4			8.6			7.5			7.3			
	PM	B			A			A			A			
Arlington Centre @ N Bank Dr 2037 No-Build	AM	10.3			8.4			7.5			7.3			
	PM	B			A			A			A			
Arlington Centre @ N Bank Dr 2037 Build	AM	10.8			8.4			7.6			7.3			
	PM	B			A			A			A			
Arlington Centre @ N Bank Dr 2037 Build	AM	12.0			8.7			7.5			7.3			
	PM	B			A			A			A			

Table 5B: No-Build & Build, Arlington Centre @ N Bank Dr, Capacity Analyses Summary

According to the analysis results, No-Build and Build scenarios for the opening year (2027) and future year (2037) are expected to operate with acceptable levels of service. The additional traffic from the National Church Residences Redevelopment is not expected to have a significant effect on the levels of service. All turning movements expected to operate at LOS grade “B” or better and total intersection at LOS grade “A”.

6.1 FINDINGS

The following findings were made during the traffic impact study process.

1. Capacity analyses indicate that the intersection of West Henderson Road and Arlington Centre Boulevard is expected to operate with acceptable levels of service in the opening year (2027) and future year (2037) for the No-Build and Build Scenarios.
2. Capacity analyses indicate that the intersection of North Bank Road and Arlington Centre Boulevard is expected to operate with acceptable levels of service in the opening year (2027) and future year (2037) for the No-Build and Build Scenarios.

6.2 RECOMMENDATIONS

The findings of this traffic impact study indicate that roadway improvements are not needed for the proposed National Church Residences HQ Redevelopment.

Trip Generation Memorandum of Understanding

Memorandum of Understanding

Project #
230274.000

TO: Aaron Scott, PE (City of Upper Arlington); Daniel Moorhead, PE, PTP (City of Columbus)

CC: FILE

FROM: Mark W. Nolt, PE, PTOE

DATE: October 5, 2023

RE: Preliminary Traffic Volume Submittal – National Church Residences HQ Redevelopment TIS

The following outlines the methods and assumptions to be used in the traffic analyses of the proposed National Church Residences redevelopment, located south of North Bank Drive in Upper Arlington, Ohio. The redevelopment is proposed to include approximately 75,000 square feet of office space, a 150 unit mid-market senior independent living facility, and a 60 unit affordable senior living facility. The development is planned to be opened and operational in 2027.

Study Area

In agreement with the City of Upper Arlington and the City of Columbus, the following intersections will be analyzed:

- West Henderson Road at Arlington Centre Boulevard
- North Bank Drive at Arlington Centre Boulevard

Data Collection

Turning movement counts were collected by The Kleingers Group on Tuesday, September 19th, 2023, from 6:30 to 9:30 AM and from 3:30 to 6:30 PM at the two study intersections and three additional access drive intersections along North Bank Drive. Traffic count data sheets are attached to this memo. The AM Peak hour was found to occur between 8:00 and 9:00 AM and the PM peak hour was found to occur between 4:00 and 5:00 PM. The AM and PM peak hour counted traffic volumes are presented in Figure 3A.

Background Traffic Growth

A background traffic growth rate, which has been requested from MORPC, will be applied to the counted traffic volumes to obtain the 2027 and 2037 no-build traffic volumes. Existing site related traffic volumes have been isolated from the 2023 counted traffic volumes and are presented in Figure 3B.

Site Generated Trips

Trip generation for the proposed development is based on data contained in the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 11th edition. The ITE Land Use #710, General Office Building, was deemed most appropriate for the proposed office space and the ITE Land Use #252, Senior Adult Housing – Multifamily, was deemed most appropriate for both senior living facilities. These trips are summarized in Table A. ITE data plot graphs are attached to this memo.



Land Use	ITE LUC	Size	Units	AM Peak			PM Peak		
				Enter	Exit	Total	Enter	Exit	Total
General Office Building	710	75	KSF	115	16	131	22	109	131
Senior Adult Housing - Multifamily	252	150	Dwelling Units	10	19	29	21	17	38
Senior Adult Housing - Multifamily	252	60	Dwelling Units	4	8	12	8	7	15
Total Trips				129	43	172	51	133	184

Table A: Trip Generation

Estimated Trip Distribution

The proposed trip distribution is based on existing count data at the study intersections, as well as assumed travel patterns. The proposed trip distribution is shown in Figure 4A.

Build Traffic Volumes

The vehicle trips in Table A have been distributed according to Figure 4A and are shown in Figure 4B. The existing site traffic from Figure 3B will be removed from the projected 2027 and 2037 no-build traffic volumes to obtain the 2027 and 2037 background traffic volumes. These background volumes will be combined with the distributed site-generated traffic volumes from Figure 4B to obtain the 2027 and 2037 build traffic volumes.

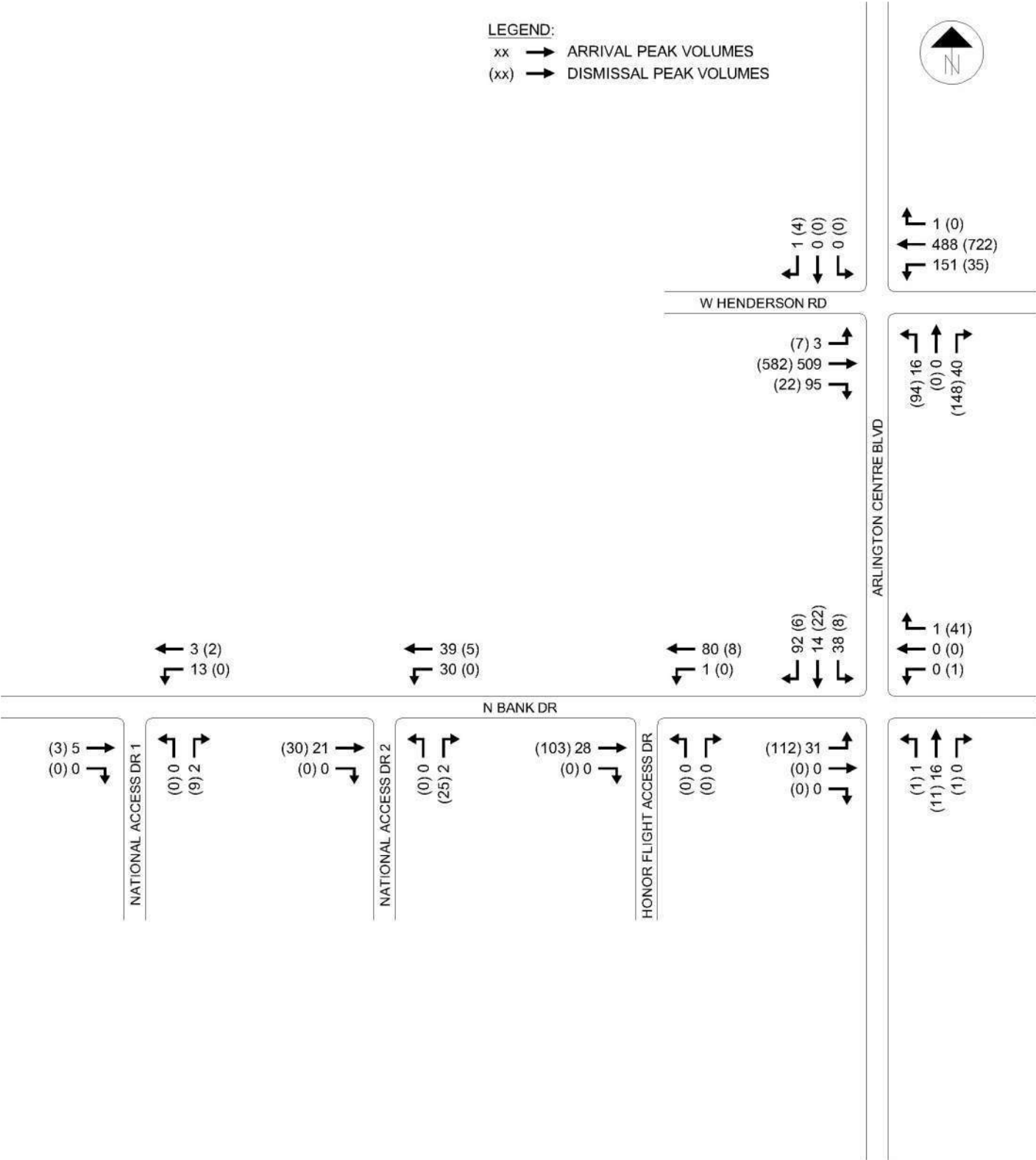
Synchro capacity analyses software will be used to perform capacity analyses at the study intersections. Capacity analyses will be performed for the projected AM and PM peak hour traffic volumes for the following scenarios:

- Counted Year (2023)
- Opening Year (2027) – No-Build
- Opening Year (2027) – Build
- Future Year (2037) – No-Build
- Future Year (2037) – Build

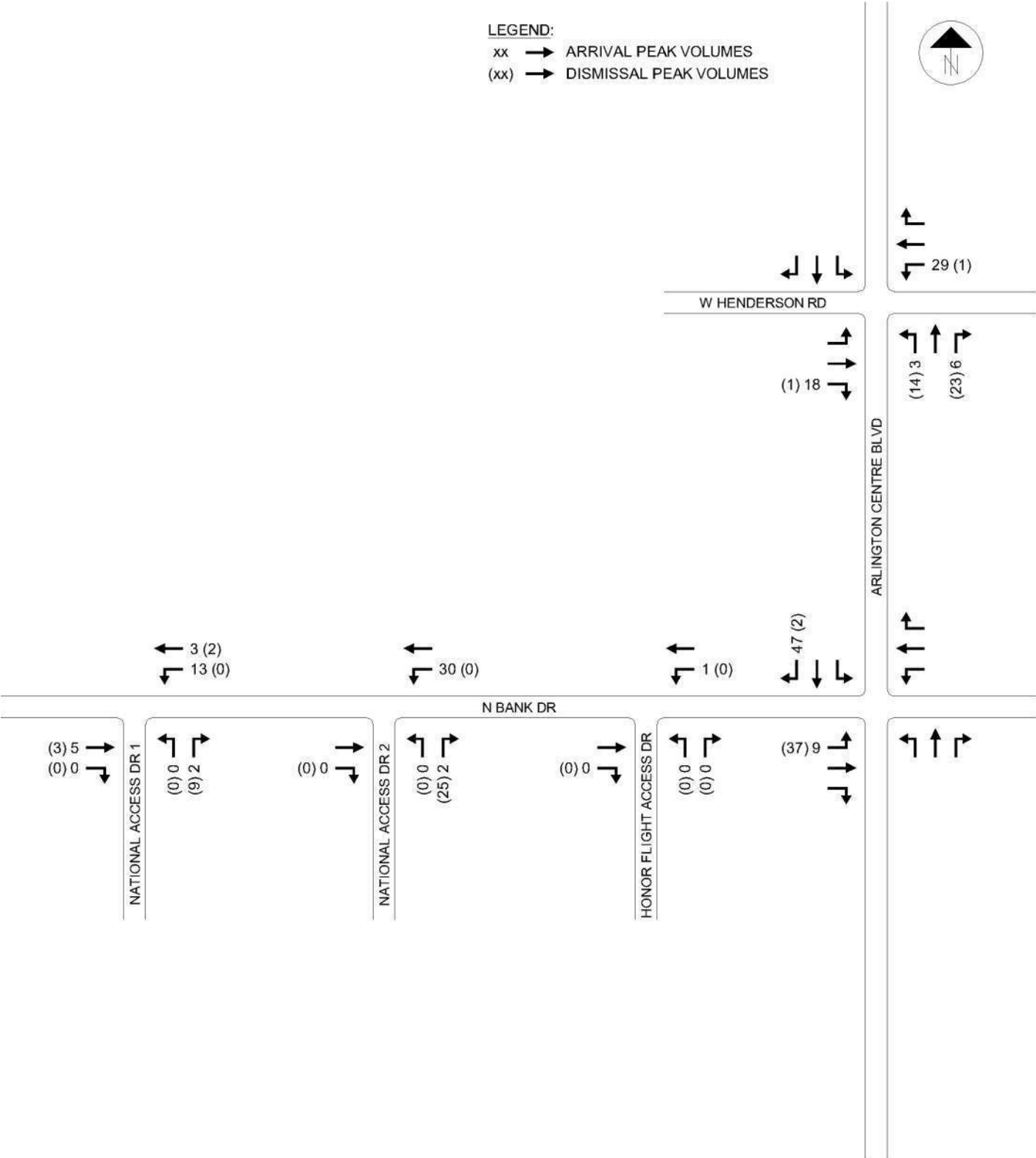
Capacity analyses will be performed using existing traffic signal timings at the intersection of W. Henderson Road and Arlington Centre Boulevard.

This is intended to be a concurrence document. Please review the assumptions and proposed methodology outlined above and respond whether you concur with the approach and/or have comments.

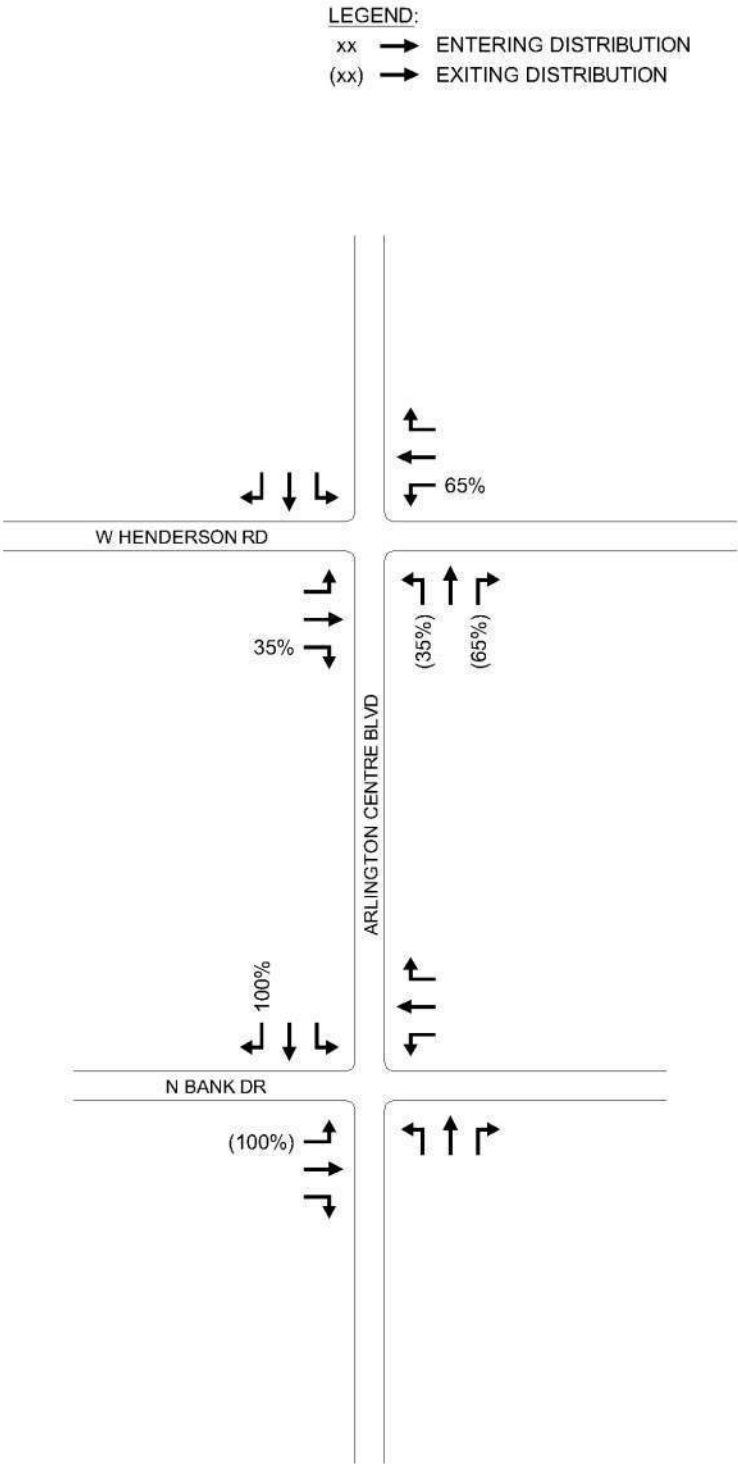
Thank you in advance for your time and input. We greatly appreciate it.



2023 Counted Traffic Volumes

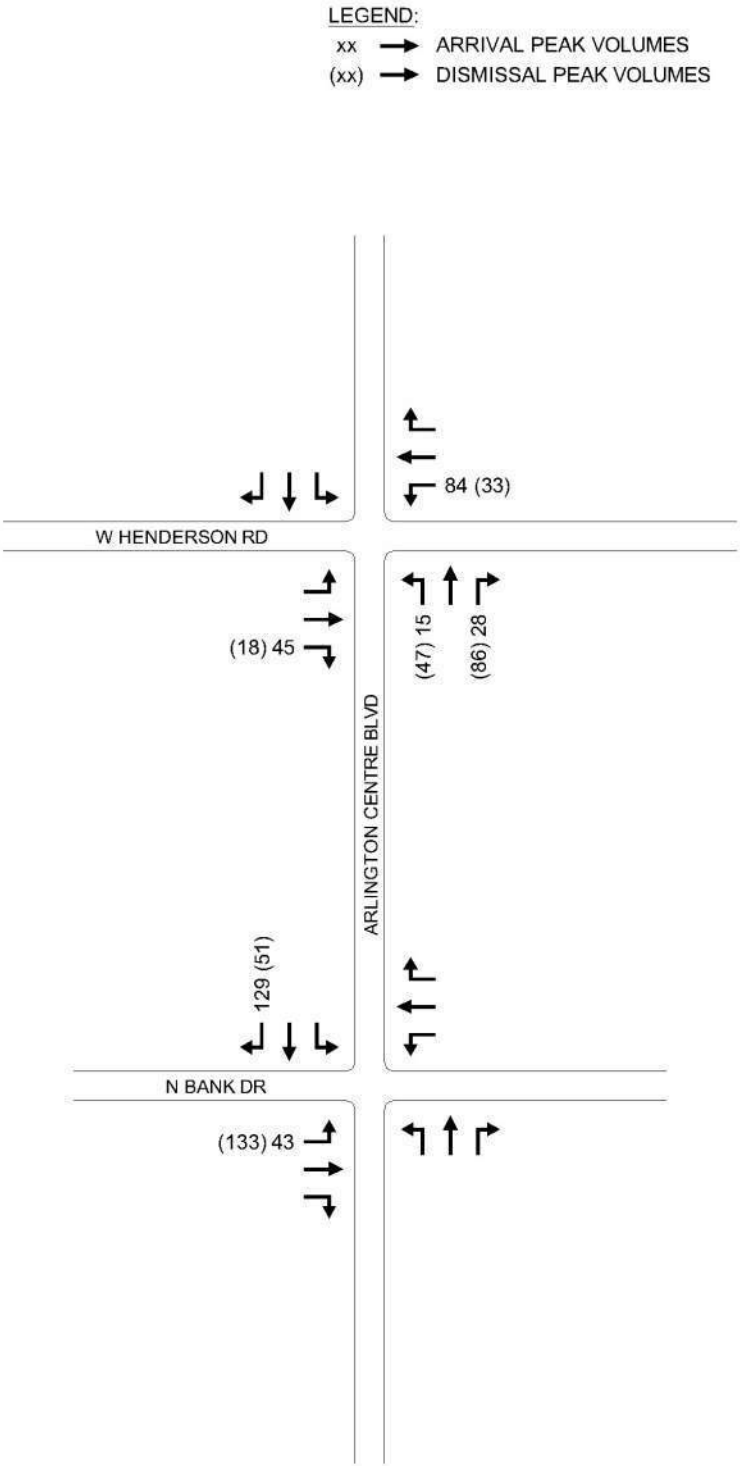


Existing Site Traffic



Trip Distribution

FIGURE 4A
OCTOBER 5, 2023



Site Generated Trips

FIGURE 4B
OCTOBER 5, 2023

W Henderson Rd @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109187, Location: 40.058561, -83.079038



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

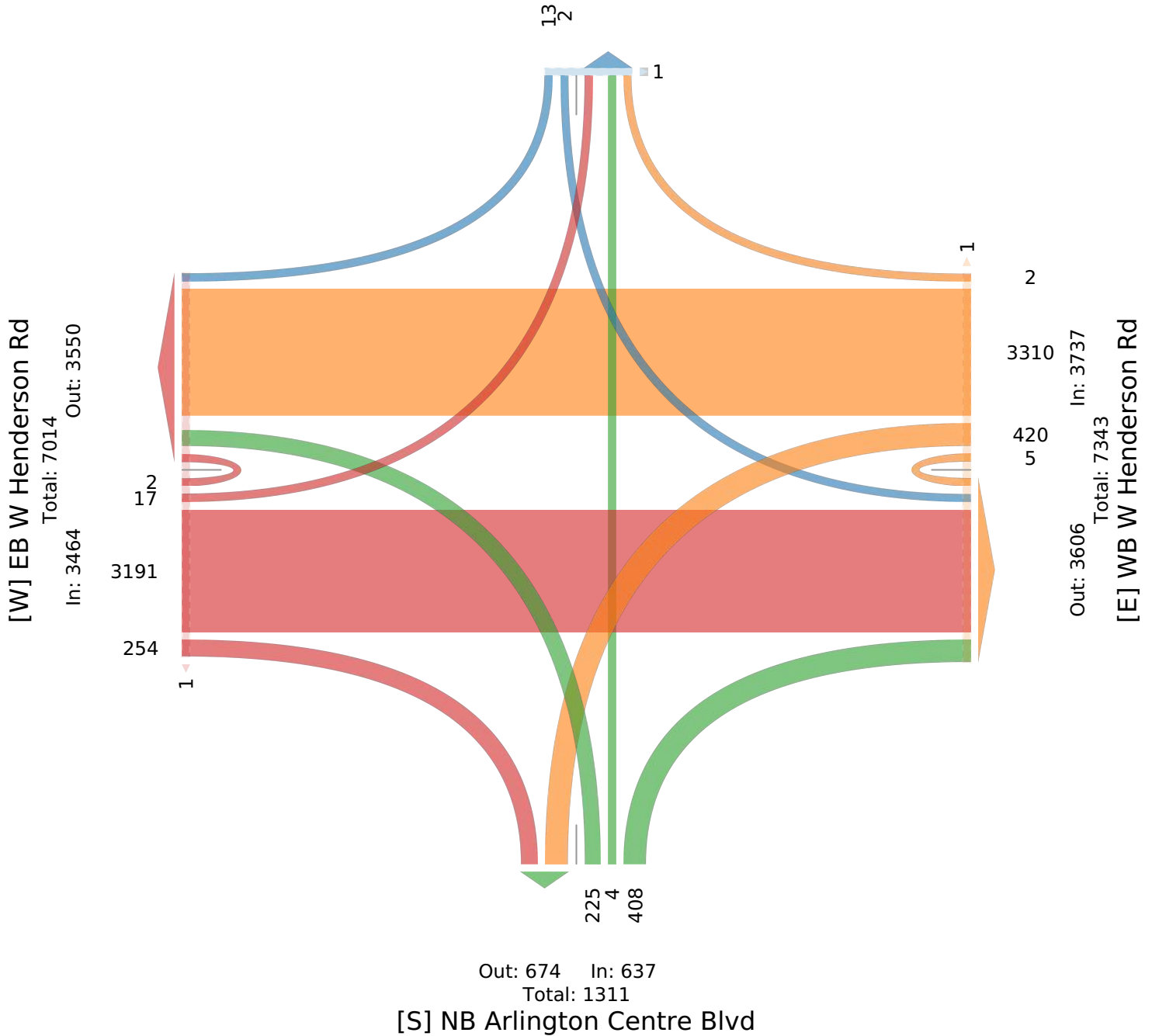
Leg Direction	EB W Henderson Rd Eastbound						WB W Henderson Rd Westbound						NB Arlington Centre Blvd Northbound						SB Kickboxing Dr Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-09-19																									
6:30AM	0	69	8	0	77	0	12	51	0	0	63	1	0	0	3	0	3	0	0	0	1	0	1	0	144
6:45AM	0	80	14	0	94	0	19	67	0	0	86	0	0	0	2	0	2	0	0	0	0	0	0	0	182
Hourly Total	0	149	22	0	171	0	31	118	0	0	149	1	0	0	5	0	5	0	0	0	1	0	1	0	326
7:00AM	0	86	6	0	92	1	14	53	0	0	67	0	2	0	6	0	8	0	0	0	0	0	0	0	167
7:15AM	0	153	11	0	164	0	20	74	0	0	94	0	1	0	4	0	5	0	0	0	0	0	0	0	263
7:30AM	0	163	16	0	179	0	23	103	0	1	127	0	2	0	7	0	9	0	0	0	0	0	0	0	315
7:45AM	0	127	22	0	149	0	29	122	0	0	151	0	0	0	7	0	7	0	0	0	0	0	0	0	307
Hourly Total	0	529	55	0	584	1	86	352	0	1	439	0	5	0	24	0	29	0	0	0	0	0	0	0	1052
8:00AM	0	137	24	0	161	0	39	122	1	1	163	0	2	0	8	0	10	0	0	0	0	0	0	0	334
8:15AM	1	125	26	0	152	0	29	119	0	0	148	0	3	0	9	0	12	0	0	0	1	0	1	0	313
8:30AM	1	135	23	0	159	0	42	116	0	0	158	0	7	0	11	0	18	0	0	0	0	0	0	0	335
8:45AM	1	112	22	0	135	0	41	131	0	1	173	0	4	0	12	0	16	0	0	0	0	0	0	0	324
Hourly Total	3	509	95	0	607	0	151	488	1	2	642	0	16	0	40	0	56	0	0	0	1	0	1	0	1306
9:00AM	0	112	17	0	129	0	26	111	0	1	138	0	6	1	12	0	19	0	0	0	1	0	1	0	287
9:15AM	2	110	13	0	125	0	24	116	0	0	140	0	5	0	11	0	16	0	0	0	0	0	0	0	281
Hourly Total	2	222	30	0	254	0	50	227	0	1	278	0	11	1	23	0	35	0	0	0	1	0	1	0	568
3:30PM	1	139	7	0	147	0	9	161	0	0	170	0	8	0	39	0	47	0	0	0	0	0	0	0	364
3:45PM	0	154	6	0	160	0	12	172	0	0	184	0	23	0	37	0	60	0	1	0	0	0	1	0	405
Hourly Total	1	293	13	0	307	0	21	333	0	0	354	0	31	0	76	0	107	0	1	0	0	0	1	0	769
4:00PM	1	144	8	0	153	0	11	191	0	0	202	0	17	0	31	0	48	0	0	0	0	0	0	0	403
4:15PM	1	140	7	0	148	0	8	166	0	1	175	0	25	0	40	0	65	0	0	0	0	0	0	0	388
4:30PM	1	128	2	0	131	0	10	174	0	0	184	0	33	0	44	0	77	0	0	0	3	0	3	0	395
4:45PM	4	170	5	0	179	0	6	191	0	0	197	0	19	0	33	0	52	0	0	0	1	0	1	0	429
Hourly Total	7	582	22	0	611	0	35	722	0	1	758	0	94	0	148	0	242	0	0	0	4	0	4	0	1615
5:00PM	1	155	3	0	159	0	7	201	0	0	208	0	16	0	29	0	45	0	0	0	3	0	3	0	415
5:15PM	2	174	2	0	178	0	10	185	1	0	196	0	16	0	20	0	36	0	1	0	0	0	1	1	411
5:30PM	1	162	4	1	168	0	6	187	0	0	193	0	15	0	12	0	27	0	0	0	0	0	0	0	388
5:45PM	0	135	3	0	138	0	4	206	0	0	210	0	8	1	13	0	22	0	0	0	2	0	2	0	372
Hourly Total	4	626	12	1	643	0	27	779	1	0	807	0	55	1	74	0	130	0	1	0	5	0	6	1	1586
6:00PM	0	141	2	1	144	0	11	136	0	0	147	0	5	2	11	0	18	0	0	0	1	0	1	0	310
6:15PM	0	140	3	0	143	0	8	155	0	0	163	0	8	0	7	0	15	0	0	0	0	0	0	0	321
Hourly Total	0	281	5	1	287	0	19	291	0	0	310	0	13	2	18	0	33	0	0	0	1	0	1	0	631
Total	17	3191	254	2	3464	1	420	3310	2	5	3737	1	225	4	408	0	637	0	2	0	13	0	15	1	7853
% Approach	0.5%	92.1%	7.3%	0.1%	-	-	11.2%	88.6%	0.1%	0.1%	-	-	35.3%	0.6%	64.1%	0%	-	-	13.3%	0%	86.7%	0%	-	-	-
% Total	0.2%	40.6%	3.2%	0%	44.1%	-	5.3%	42.1%	0%	0.1%	47.6%	-	2.9%	0.1%	5.2%	0%	8.1%	-	0%	0%	0.2%	0%	0.2%	-	-
Lights and Motorcycles	17	3149	246	2	3414	-	413	3247	2	4	3666	-	220	4	402	0	626	-	2	0	13	0	15	-	7721
% Lights and Motorcycles	100%	98.7%	96.9%	100%	98.6%	-	98.3%	98.1%	100%	80.0%	98.1%	-	97.8%	100%	98.5%	0%	98.3%	-	100%	0%	100%	0%	100%	-	98.3%
Heavy	0	42	8	0	50	-	7	63	0	1	71	-	5	0	6	0	11	-	0	0	0	0	0	-	132
% Heavy	0%	1.3%	3.1%	0%	1.4%	-	1.7%	1.9%	0%	20.0%	1.9%	-	2.2%	0%	1.5%	0%	1.7%	-	0%	0%	0%	0%	0%	-	1.7%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

W Henderson Rd @ Arlington Centre Blvd - TMC
 Tue Sep 19, 2023
 Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians)
 All Movements
 ID: 1109187, Location: 40.058561, -83.079038

[N] SB Kickboxing Dr

Total: 38
 In: 15 Out: 23



W Henderson Rd @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

AM Peak (8 AM - 9 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109187, Location: 40.058561, -83.079038



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB W Henderson Rd Eastbound							WB W Henderson Rd Westbound							NB Arlington Centre Blvd Northbound							SB Kickboxing Dr Southbound							
Time	L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*	Int	
2023-09-19 8:00AM	0	137	24	0	161	0		39	122	1	1	163	0		2	0	8	0	10	0		0	0	0	0	0	0		334
8:15AM	1	125	26	0	152	0		29	119	0	0	148	0		3	0	9	0	12	0		0	0	1	0	1	0		313
8:30AM	1	135	23	0	159	0		42	116	0	0	158	0		7	0	11	0	18	0		0	0	0	0	0	0		335
8:45AM	1	112	22	0	135	0		41	131	0	1	173	0		4	0	12	0	16	0		0	0	0	0	0	0		324
Total	3	509	95	0	607	0		151	488	1	2	642	0		16	0	40	0	56	0		0	0	1	0	1	0		1306
% Approach	0.5%	83.9%	15.7%	0%	-	-		23.5%	76.0%	0.2%	0.3%	-	-		28.6%	0%	71.4%	0%	-	-		0%	0%	100%	0%	-	-		-
% Total	0.2%	39.0%	7.3%	0%	46.5%	-		11.6%	37.4%	0.1%	0.2%	49.2%	-		1.2%	0%	3.1%	0%	4.3%	-		0%	0%	0.1%	0%	0.1%	-		-
PHF	0.750	0.929	0.913	-	0.943	-		0.899	0.931	0.250	0.500	0.928	-		0.571	-	0.833	-	0.778	-		-	-	0.250	-	0.250	-		0.975
Lights and Motorcycles	3	490	94	0	587	-		151	475	1	2	629	-		16	0	40	0	56	-		0	0	1	0	1	-		1273
% Lights and Motorcycles	100%	96.3%	98.9%	0%	96.7%	-		100%	97.3%	100%	100%	98.0%	-		100%	0%	100%	0%	100%	-		0%	0%	100%	0%	100%	-		97.5%
Heavy	0	19	1	0	20	-		0	13	0	0	13	-		0	0	0	0	0	-		0	0	0	0	0	-		33
% Heavy	0%	3.7%	1.1%	0%	3.3%	-		0%	2.7%	0%	0%	2.0%	-		0%	0%	0%	0%	0%	-		0%	0%	0%	0%	0%	-		2.5%
Pedestrians	-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	0		
% Pedestrians	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

W Henderson Rd @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

AM Peak (8 AM - 9 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109187, Location: 40.058561, -83.079038



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

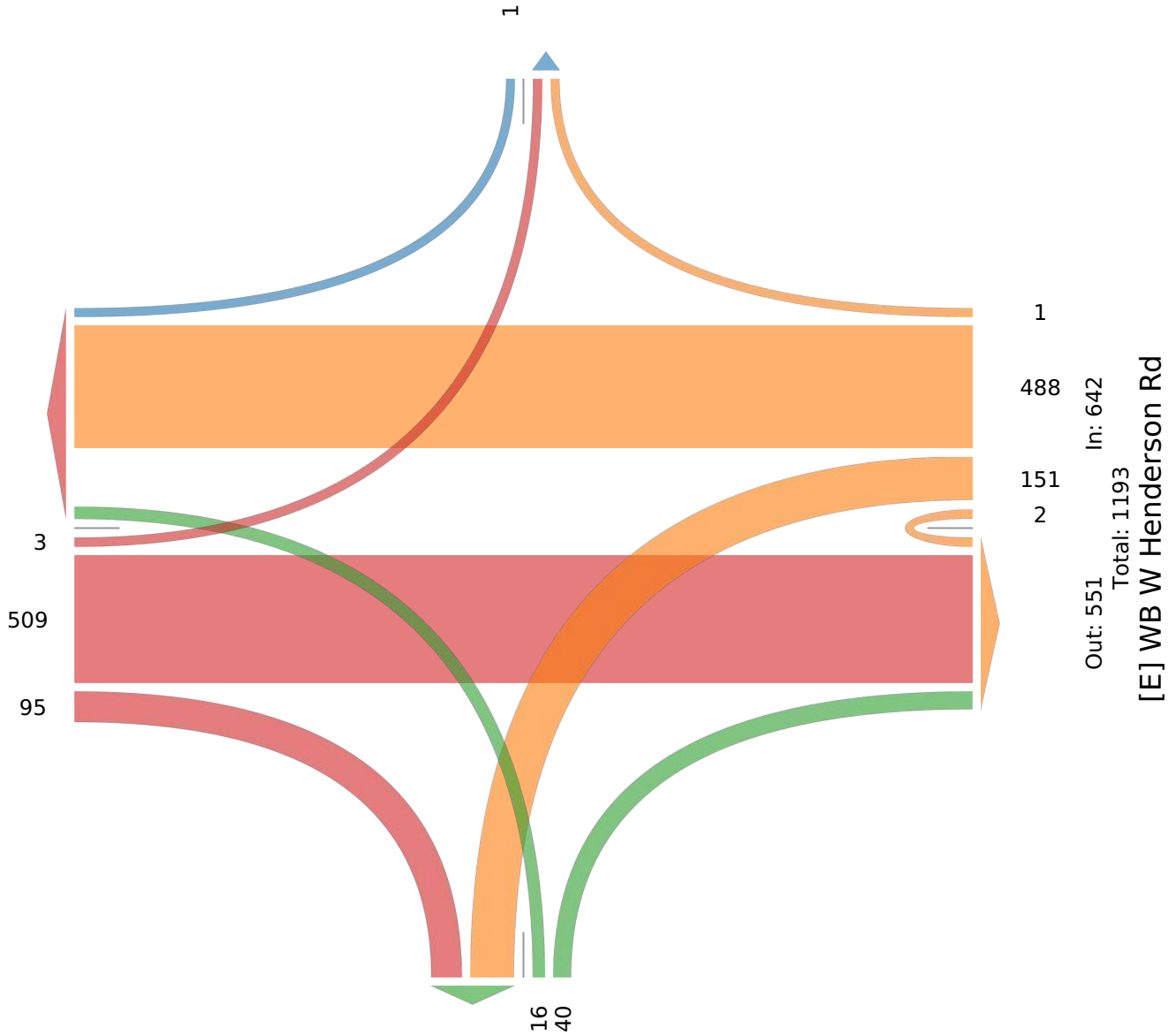
[N] SB Kickboxing Dr

Total: 5
In: 1 Out: 4

1

[W] EB W Henderson Rd

Total: 1112
In: 607 Out: 505



Out: 246 In: 56
Total: 302
[S] NB Arlington Centre Blvd

W Henderson Rd @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

Forced Peak (4 PM - 5 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109187, Location: 40.058561, -83.079038



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB W Henderson Rd Eastbound						WB W Henderson Rd Westbound						NB Arlington Centre Blvd Northbound						SB Kickboxing Dr Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-09-19 4:00PM	1	144	8	0	153	0	11	191	0	0	202	0	17	0	31	0	48	0	0	0	0	0	0	0	403
4:15PM	1	140	7	0	148	0	8	166	0	1	175	0	25	0	40	0	65	0	0	0	0	0	0	0	388
4:30PM	1	128	2	0	131	0	10	174	0	0	184	0	33	0	44	0	77	0	0	0	3	0	3	0	395
4:45PM	4	170	5	0	179	0	6	191	0	0	197	0	19	0	33	0	52	0	0	0	1	0	1	0	429
Total	7	582	22	0	611	0	35	722	0	1	758	0	94	0	148	0	242	0	0	0	4	0	4	0	1615
% Approach	1.1%	95.3%	3.6%	0%	-	-	4.6%	95.3%	0%	0.1%	-	-	38.8%	0%	61.2%	0%	-	-	0%	0%	100%	0%	-	-	-
% Total	0.4%	36.0%	1.4%	0%	37.8%	-	2.2%	44.7%	0%	0.1%	46.9%	-	5.8%	0%	9.2%	0%	15.0%	-	0%	0%	0.2%	0%	0.2%	-	-
PHF	0.438	0.856	0.688	-	0.853	-	0.795	0.945	-	0.250	0.938	-	0.712	-	0.841	-	0.786	-	-	-	0.333	-	0.333	-	0.941
Lights and Motorcycles	7	580	21	0	608	-	34	708	0	1	743	-	90	0	146	0	236	-	0	0	4	0	4	-	1591
% Lights and Motorcycles	100%	99.7%	95.5%	0%	99.5%	-	97.1%	98.1%	0%	100%	98.0%	-	95.7%	0%	98.6%	0%	97.5%	-	0%	0%	100%	0%	100%	-	98.5%
Heavy	0	2	1	0	3	-	1	14	0	0	15	-	4	0	2	0	6	-	0	0	0	0	0	-	24
% Heavy	0%	0.3%	4.5%	0%	0.5%	-	2.9%	1.9%	0%	0%	2.0%	-	4.3%	0%	1.4%	0%	2.5%	-	0%	0%	0%	0%	0%	-	1.5%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

W Henderson Rd @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

Forced Peak (4 PM - 5 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109187, Location: 40.058561, -83.079038



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

[N] SB Kickboxing Dr

Total: 11

In: 4 Out: 7

4

[W] EB W Henderson Rd

Total: 1431

In: 611 Out: 820

7
582
22

722

35
1

In: 758

Total: 1489

Out: 731

[E] WB W Henderson Rd

Out: 57 In: 242

Total: 299

[S] NB Arlington Centre Blvd

North Bank Dr @ Arlington Centre Blvd - TMC
 Tue Sep 19, 2023
 Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians)
 All Movements
 ID: 1109168, Location: 40.056555, -83.07934

Leg Direction	EB N Bank Dr Eastbound						WB Centre Loop E Westbound						NB Arlington Centre Blvd Northbound						SB Arlington Centre Blvd Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-09-19 6:30AM	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	14	0	16	0	17
6:45AM	0	0	0	0	0	0	0	0	2	0	2	0	0	2	0	0	2	0	0	1	21	0	22	0	26
Hourly Total	1	0	0	0	1	1	0	0	2	0	2	0	0	2	0	0	2	1	1	2	35	0	38	0	43
7:00AM	3	0	0	0	3	0	0	0	0	0	0	0	0	5	0	0	5	0	1	1	13	0	15	0	23
7:15AM	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	5	0	3	5	18	0	26	0	31
7:30AM	3	0	0	0	3	2	0	0	1	0	1	0	0	4	0	0	4	0	2	3	25	0	30	0	38
7:45AM	2	0	0	0	2	0	0	0	0	0	0	0	1	3	0	0	4	0	6	4	23	0	33	0	39
Hourly Total	8	0	0	0	8	2	0	0	1	0	1	0	2	16	0	0	18	0	12	13	79	0	104	0	131
8:00AM	8	0	0	0	8	0	0	0	0	0	0	0	0	3	0	0	3	0	5	3	26	0	34	0	45
8:15AM	4	0	0	0	4	0	0	0	0	0	0	0	1	5	0	0	6	0	7	2	21	0	30	0	40
8:30AM	9	0	0	0	9	0	0	0	0	0	0	0	0	5	0	0	5	0	10	4	25	0	39	0	53
8:45AM	10	0	0	0	10	0	0	0	1	0	1	0	0	3	0	0	3	0	16	5	20	0	41	0	55
Hourly Total	31	0	0	0	31	0	0	0	1	0	1	0	1	16	0	0	17	0	38	14	92	0	144	0	193
9:00AM	12	0	0	0	12	0	0	0	1	0	1	0	0	4	0	0	4	0	15	5	14	1	35	0	52
9:15AM	8	0	0	0	8	0	0	0	0	0	0	0	0	2	0	0	2	0	3	1	23	0	27	0	37
Hourly Total	20	0	0	0	20	0	0	0	1	0	1	0	0	6	0	0	6	0	18	6	37	1	62	0	89
3:30PM	21	0	0	0	21	0	0	0	9	0	9	0	0	3	0	0	3	0	3	7	3	0	13	0	46
3:45PM	19	0	1	0	20	0	0	0	6	0	6	0	0	9	0	0	9	0	0	5	5	0	10	0	45
Hourly Total	40	0	1	0	41	0	0	0	15	0	15	0	0	12	0	0	12	0	3	12	8	0	23	0	91
4:00PM	25	0	0	0	25	0	1	0	4	0	5	0	1	4	0	0	5	0	1	7	2	0	10	0	45
4:15PM	35	0	0	0	35	0	0	0	14	0	14	0	0	1	1	0	2	0	6	4	1	0	11	0	62
4:30PM	34	0	0	0	34	0	0	0	14	0	14	0	0	3	0	0	3	0	1	6	2	0	9	0	60
4:45PM	18	0	0	0	18	0	0	0	9	0	9	0	0	3	0	0	3	0	0	5	1	0	6	0	36
Hourly Total	112	0	0	0	112	0	1	0	41	0	42	0	1	11	1	0	13	0	8	22	6	0	36	0	203
5:00PM	12	0	0	0	12	0	0	0	7	0	7	0	0	4	0	0	4	0	2	4	0	0	6	0	29
5:15PM	9	0	0	0	9	0	0	0	8	0	8	0	0	3	0	0	3	0	1	6	1	0	8	0	28
5:30PM	9	0	0	0	9	2	0	0	4	0	4	0	0	4	0	0	4	2	2	4	1	0	7	0	24
5:45PM	8	0	0	0	8	0	0	0	3	0	3	0	0	4	0	0	4	0	1	2	0	0	3	0	18
Hourly Total	38	0	0	0	38	2	0	0	22	0	22	0	0	15	0	0	15	2	6	16	2	0	24	0	99
6:00PM	6	1	0	0	7	0	1	0	1	0	2	1	0	3	0	0	3	0	1	6	4	0	11	0	23
6:15PM	4	0	0	0	4	0	0	0	3	0	3	0	0	4	0	0	4	0	1	5	1	0	7	0	18
Hourly Total	10	1	0	0	11	0	1	0	4	0	5	1	0	7	0	0	7	0	2	11	5	0	18	0	41
Total	260	1	1	0	262	5	2	0	87	0	89	1	4	85	1	0	90	3	88	96	264	1	449	0	890
% Approach	99.2%	0.4%	0.4%	0%	-	-	2.2%	0%	97.8%	0%	-	-	4.4%	94.4%	1.1%	0%	-	-	19.6%	21.4%	58.8%	0.2%	-	-	-
% Total	29.2%	0.1%	0.1%	0%	29.4%	-	0.2%	0%	9.8%	0%	10.0%	-	0.4%	9.6%	0.1%	0%	10.1%	-	9.9%	10.8%	29.7%	0.1%	50.4%	-	-
Lights and Motorcycles	257	0	1	0	258	-	1	0	86	0	87	-	4	83	1	0	88	-	86	94	261	1	442	-	875
% Lights and Motorcycles	98.8%	0%	100%	0%	98.5%	-	50.0%	0%	98.9%	0%	97.8%	-	100%	97.6%	100%	0%	97.8%	-	97.7%	97.9%	98.9%	100%	98.4%	-	98.3%
Heavy	3	1	0	0	4	-	1	0	1	0	2	-	0	2	0	0	2	-	2	2	3	0	7	-	15
% Heavy	1.2%	100%	0%	0%	1.5%	-	50.0%	0%	1.1%	0%	2.2%	-	0%	2.4%	0%	0%	2.2%	-	2.3%	2.1%	1.1%	0%	1.6%	-	1.7%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

North Bank Dr @ Arlington Centre Blvd - TMC
 Tue Sep 19, 2023
 Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians)
 All Movements
 ID: 1109168, Location: 40.056555, -83.07934

[N] SB Arlington Centre Blvd

Total: 882

In: 449

Out: 433

264

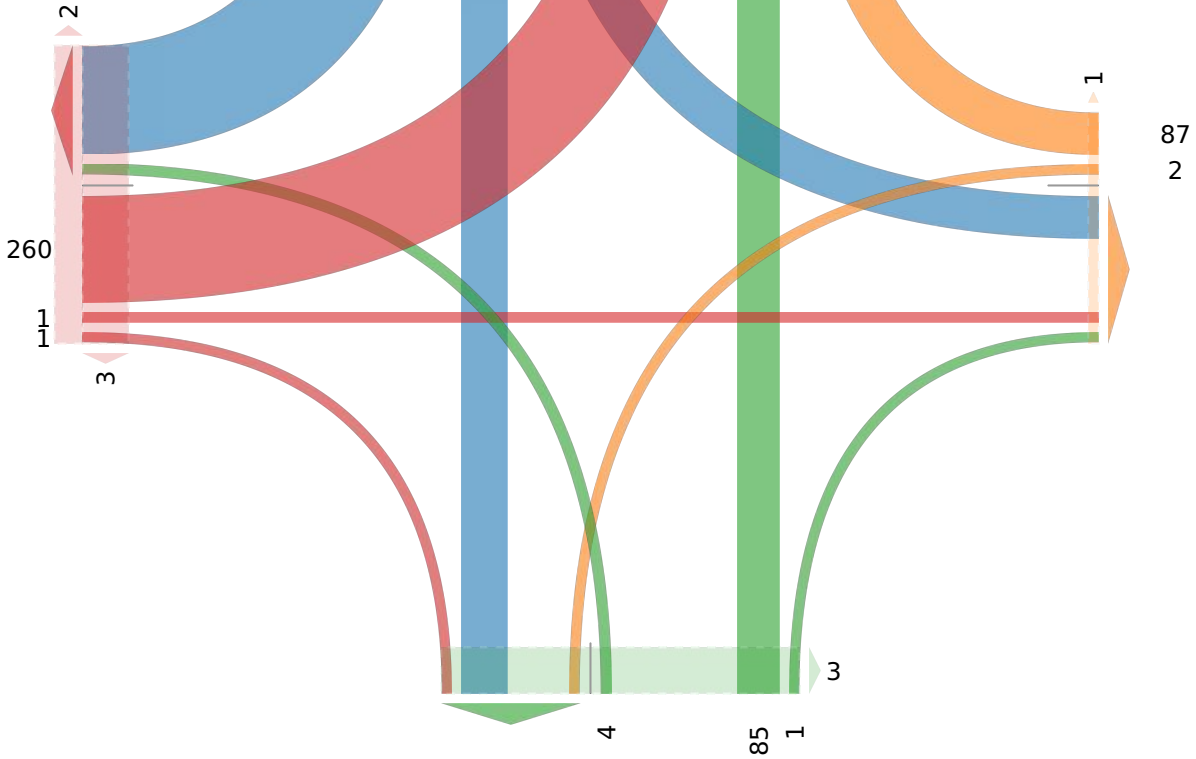
96

88

1

[W] EB N Bank Dr

Total: 530
 In: 262 Out: 268



Out: 99 In: 90
 Total: 189

[S] NB Arlington Centre Blvd

North Bank Dr @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

Forced Peak (8 AM - 9 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109168, Location: 40.056555, -83.07934



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound						WB Centre Loop E Westbound						NB Arlington Centre Blvd Northbound						SB Arlington Centre Blvd Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-09-19 8:00AM	8	0	0	0	8	0	0	0	0	0	0	0	0	3	0	0	3	0	5	3	26	0	34	0	45
8:15AM	4	0	0	0	4	0	0	0	0	0	0	0	1	5	0	0	6	0	7	2	21	0	30	0	40
8:30AM	9	0	0	0	9	0	0	0	0	0	0	0	0	5	0	0	5	0	10	4	25	0	39	0	53
8:45AM	10	0	0	0	10	0	0	0	1	0	1	0	0	3	0	0	3	0	16	5	20	0	41	0	55
Total	31	0	0	0	31	0	0	0	1	0	1	0	1	16	0	0	17	0	38	14	92	0	144	0	193
% Approach	100%	0%	0%	0%	-	-	0%	0%	100%	0%	-	-	5.9%	94.1%	0%	0%	-	-	26.4%	9.7%	63.9%	0%	-	-	-
% Total	16.1%	0%	0%	0%	16.1%	-	0%	0%	0.5%	0%	0.5%	-	0.5%	8.3%	0%	0%	8.8%	-	19.7%	7.3%	47.7%	0%	74.6%	-	-
PHF	0.775	-	-	-	0.775	-	-	-	0.250	-	0.250	-	0.250	0.800	-	-	0.708	-	0.594	0.700	0.885	-	0.878	-	0.877
Lights and Motorcycles	30	0	0	0	30	-	0	0	1	0	1	-	1	16	0	0	17	-	38	14	92	0	144	-	192
% Lights and Motorcycles	96.8%	0%	0%	0%	96.8%	-	0%	0%	100%	0%	100%	-	100%	100%	0%	0%	100%	-	100%	100%	100%	0%	100%	-	99.5%
Heavy	1	0	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Heavy	3.2%	0%	0%	0%	3.2%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.5%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

North Bank Dr @ Arlington Centre Blvd - TMC
Tue Sep 19, 2023
Forced Peak (8 AM - 9 AM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians)
All Movements
ID: 1109168, Location: 40.056555, -83.07934

[N] SB Arlington Centre Blvd

Total: 192

In: 144

Out: 48

92

14

38

[W] EB N Bank Dr

Total: 124

In: 31

Out: 93

31

1

Out: 38

In: 1

Total: 39

[E] WB Centre Loop E

Out: 14

In: 17

Total: 31

[S] NB Arlington Centre Blvd

North Bank Dr @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

Forced Peak (4 PM - 5 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109168, Location: 40.056555, -83.07934



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound						WB Centre Loop E Westbound						NB Arlington Centre Blvd Northbound						SB Arlington Centre Blvd Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-09-19 4:00PM	25	0	0	0	25	0	1	0	4	0	5	0	1	4	0	0	5	0	1	7	2	0	10	0	45
4:15PM	35	0	0	0	35	0	0	0	14	0	14	0	0	1	1	0	2	0	6	4	1	0	11	0	62
4:30PM	34	0	0	0	34	0	0	0	14	0	14	0	0	3	0	0	3	0	1	6	2	0	9	0	60
4:45PM	18	0	0	0	18	0	0	0	9	0	9	0	0	3	0	0	3	0	0	5	1	0	6	0	36
Total	112	0	0	0	112	0	1	0	41	0	42	0	1	11	1	0	13	0	8	22	6	0	36	0	203
% Approach	100%	0%	0%	0%	-	-	2.4%	0%	97.6%	0%	-	-	7.7%	84.6%	7.7%	0%	-	-	22.2%	61.1%	16.7%	0%	-	-	-
% Total	55.2%	0%	0%	0%	55.2%	-	0.5%	0%	20.2%	0%	20.7%	-	0.5%	5.4%	0.5%	0%	6.4%	-	3.9%	10.8%	3.0%	0%	17.7%	-	-
PHF	0.800	-	-	-	0.800	-	0.250	-	0.732	-	0.750	-	0.250	0.688	0.250	-	0.650	-	0.333	0.786	0.750	-	0.818	-	0.819
Lights and Motorcycles	110	0	0	0	110	-	1	0	41	0	42	-	1	10	1	0	12	-	8	22	5	0	35	-	199
% Lights and Motorcycles	98.2%	0%	0%	0%	98.2%	-	100%	0%	100%	0%	100%	-	100%	90.9%	100%	0%	92.3%	-	100%	100%	83.3%	0%	97.2%	-	98.0%
Heavy	2	0	0	0	2	-	0	0	0	0	0	-	0	1	0	0	1	-	0	0	1	0	1	-	4
% Heavy	1.8%	0%	0%	0%	1.8%	-	0%	0%	0%	0%	0%	-	0%	9.1%	0%	0%	7.7%	-	0%	0%	16.7%	0%	2.8%	-	2.0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

North Bank Dr @ Arlington Centre Blvd - TMC
 Tue Sep 19, 2023
 Forced Peak (4 PM - 5 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians)
 All Movements
 ID: 1109168, Location: 40.056555, -83.07934

[N] SB Arlington Centre Blvd

Total: 200
 In: 36 Out: 164

6 2 8

[W] EB N Bank Dr

Total: 119
 In: 112 Out: 7

112

41
 1

Out: 9 In: 42
 Total: 51

[E] WB Centre Loop E

Out: 23 In: 13
 Total: 36

[S] NB Arlington Centre Blvd

Honor Flight Access One - TMC

Tue Sep 19, 2023

Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109160, Location: 40.05657, -83.080143



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound				WB N Bank Dr Westbound				NB Honor Flight Access Dr Northbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	Int
2023-09-19 6:30AM	1	0	0	1	0	9	0	9	0	0	0	0	10
6:45AM	0	0	0	0	0	21	0	21	0	0	0	0	21
Hourly Total	1	0	0	1	0	30	0	30	0	0	0	0	31
7:00AM	3	0	0	3	0	13	0	13	0	0	0	0	16
7:15AM	1	0	0	1	0	19	0	19	0	0	0	0	20
7:30AM	4	0	0	4	0	25	0	25	0	0	0	0	29
7:45AM	2	0	0	2	0	22	0	22	0	0	0	0	24
Hourly Total	10	0	0	10	0	79	0	79	0	0	0	0	89
8:00AM	7	0	0	7	0	26	0	26	0	0	0	0	33
8:15AM	4	0	0	4	0	21	0	21	0	0	0	0	25
8:30AM	9	0	0	9	1	20	0	21	0	0	0	0	30
8:45AM	8	0	0	8	0	13	0	13	0	0	0	0	21
Hourly Total	28	0	0	28	1	80	0	81	0	0	0	0	109
9:00AM	11	0	0	11	1	10	0	11	0	0	0	0	22
9:15AM	7	0	0	7	2	19	0	21	0	1	0	1	29
Hourly Total	18	0	0	18	3	29	0	32	0	1	0	1	51
3:30PM	21	0	0	21	0	2	0	2	0	0	0	0	23
3:45PM	19	0	0	19	0	6	0	6	0	1	0	1	26
Hourly Total	40	0	0	40	0	8	0	8	0	1	0	1	49
4:00PM	23	0	0	23	0	3	0	3	0	0	0	0	26
4:15PM	34	0	0	34	0	1	0	1	0	0	0	0	35
4:30PM	29	0	0	29	0	2	0	2	0	0	0	0	31
4:45PM	17	0	0	17	0	2	0	2	0	0	0	0	19
Hourly Total	103	0	0	103	0	8	0	8	0	0	0	0	111
5:00PM	11	0	0	11	0	0	0	0	0	0	0	0	11
5:15PM	8	0	0	8	0	1	0	1	0	0	0	0	9
5:30PM	9	0	0	9	0	1	0	1	0	0	0	0	10
5:45PM	6	0	0	6	0	0	0	0	0	0	0	0	6
Hourly Total	34	0	0	34	0	2	0	2	0	0	0	0	36
6:00PM	5	0	0	5	0	3	0	3	0	0	0	0	8
6:15PM	5	0	0	5	1	0	0	1	0	0	0	0	6
Hourly Total	10	0	0	10	1	3	0	4	0	0	0	0	14
Total	244	0	0	244	5	239	0	244	0	2	0	2	490
% Approach	100%	0%	0%	-	2.0%	98.0%	0%	-	0%	100%	0%	-	-
% Total	49.8%	0%	0%	49.8%	1.0%	48.8%	0%	49.8%	0%	0.4%	0%	0.4%	-
Lights and Motorcycles	241	0	0	241	5	237	0	242	0	2	0	2	485
% Lights and Motorcycles	98.8%	0%	0%	98.8%	100%	99.2%	0%	99.2%	0%	100%	0%	100%	99.0%
Heavy	3	0	0	3	0	2	0	2	0	0	0	0	5
% Heavy	1.2%	0%	0%	1.2%	0%	0.8%	0%	0.8%	0%	0%	0%	0%	1.0%

* L: Left, R: Right, T: Thru, U: U-Turn

Honor Flight Access One - TMC

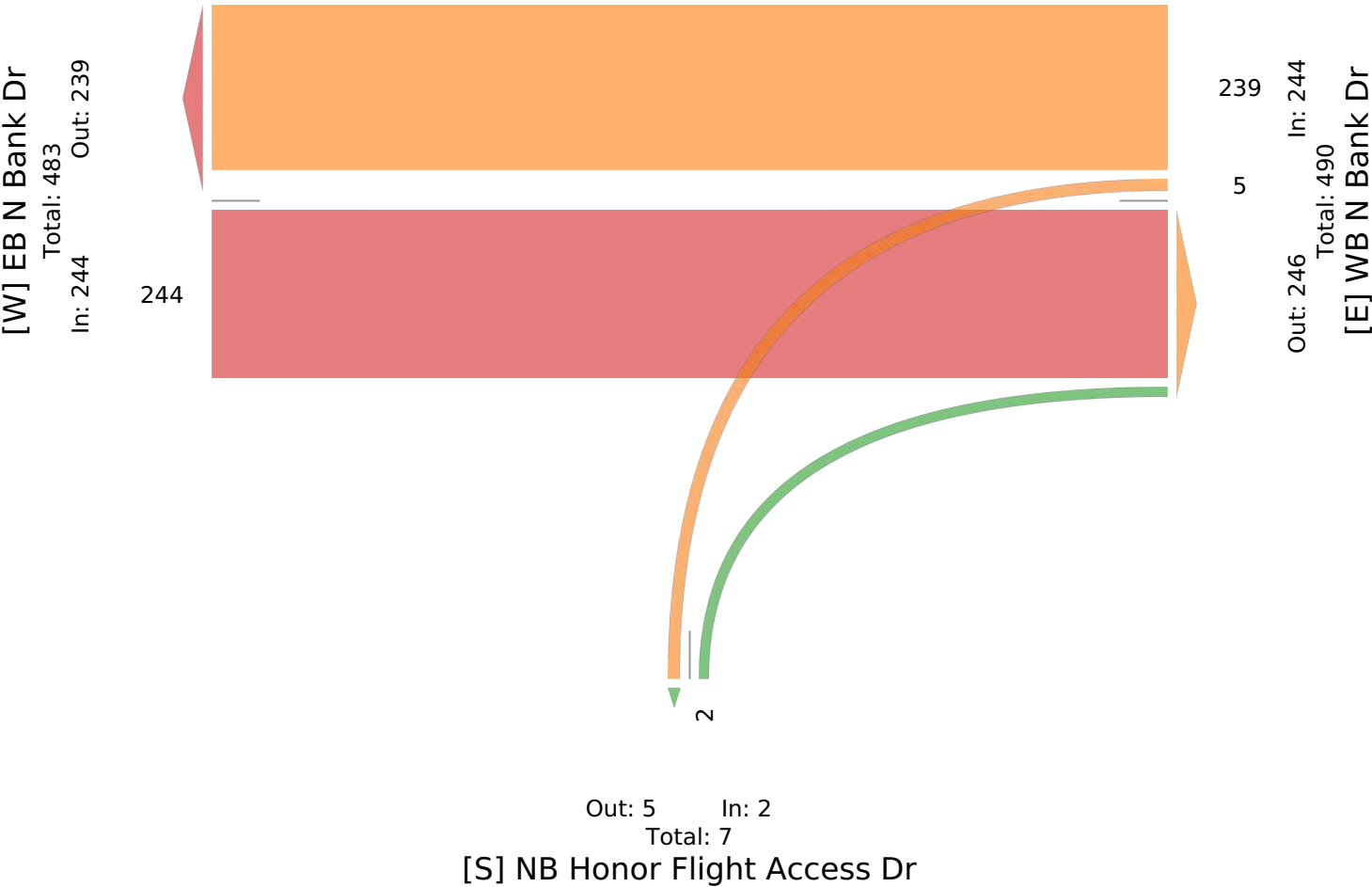
Tue Sep 19, 2023

Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109160, Location: 40.05657, -83.080143



Honor Flight Access One - TMC

Tue Sep 19, 2023

Forced Peak (8 AM - 9 AM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109160, Location: 40.05657, -83.080143



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound				WB N Bank Dr Westbound				NB Honor Flight Access Dr Northbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	Int
2023-09-19 8:00AM	7	0	0	7	0	26	0	26	0	0	0	0	33
8:15AM	4	0	0	4	0	21	0	21	0	0	0	0	25
8:30AM	9	0	0	9	1	20	0	21	0	0	0	0	30
8:45AM	8	0	0	8	0	13	0	13	0	0	0	0	21
Total	28	0	0	28	1	80	0	81	0	0	0	0	109
% Approach	100%	0%	0%	-	1.2%	98.8%	0%	-	0%	0%	0%	-	-
% Total	25.7%	0%	0%	25.7%	0.9%	73.4%	0%	74.3%	0%	0%	0%	0%	-
PHF	0.778	-	-	0.778	0.250	0.769	-	0.779	-	-	-	-	0.826
Lights and Motorcycles	27	0	0	27	1	80	0	81	0	0	0	0	108
% Lights and Motorcycles	96.4%	0%	0%	96.4%	100%	100%	0%	100%	0%	0%	0%	-	99.1%
Heavy	1	0	0	1	0	0	0	0	0	0	0	0	1
% Heavy	3.6%	0%	0%	3.6%	0%	0%	0%	0%	0%	0%	0%	-	0.9%

* L: Left, R: Right, T: Thru, U: U-Turn

Honor Flight Access One - TMC

Tue Sep 19, 2023

Forced Peak (8 AM - 9 AM)

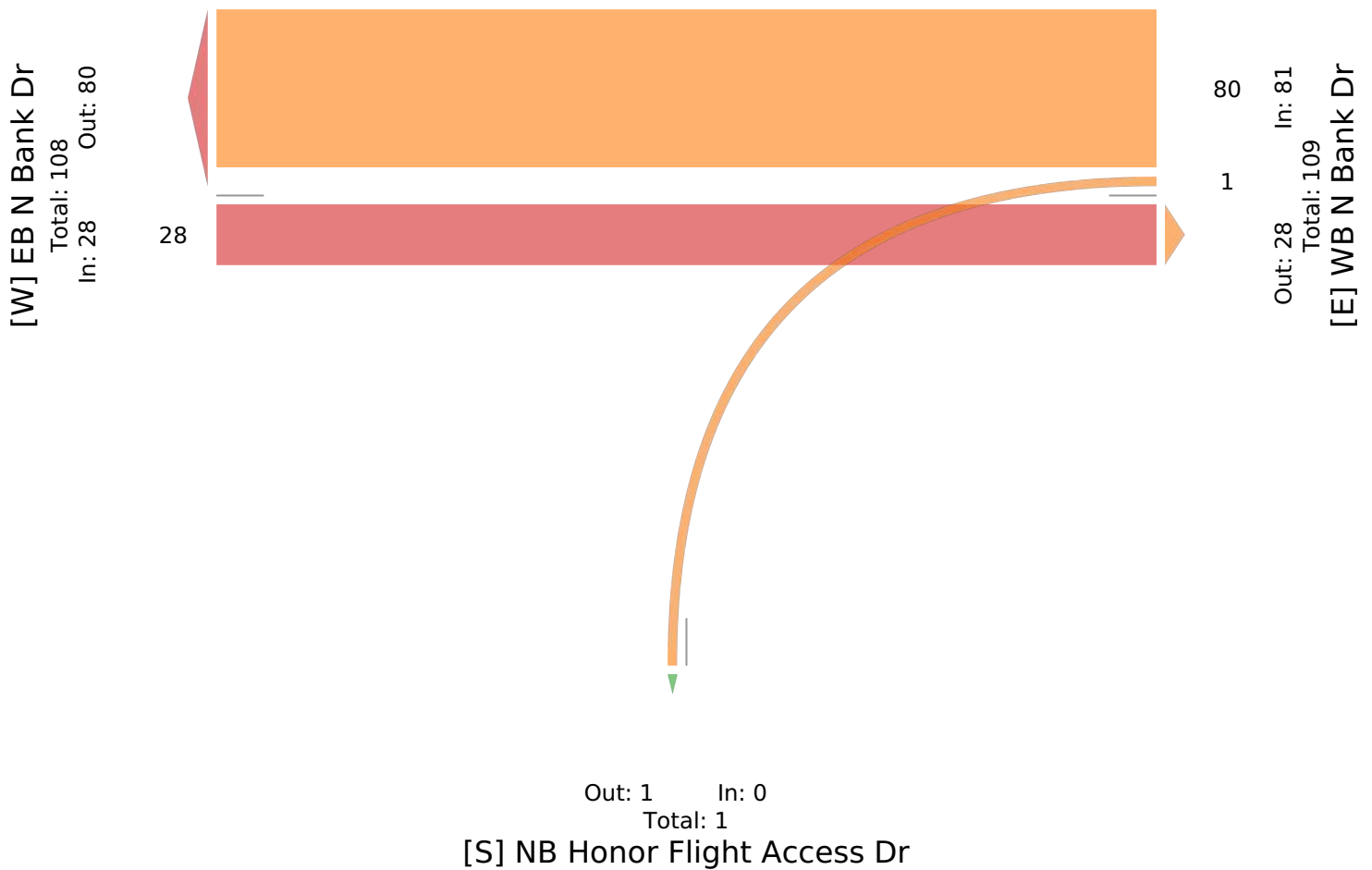
All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109160, Location: 40.05657, -83.080143



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



Honor Flight Access One - TMC

Tue Sep 19, 2023

Forced Peak (4 PM - 5 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109160, Location: 40.05657, -83.080143



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound				WB N Bank Dr Westbound				NB Honor Flight Access Dr Northbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	Int
2023-09-19 4:00PM	23	0	0	23	0	3	0	3	0	0	0	0	26
4:15PM	34	0	0	34	0	1	0	1	0	0	0	0	35
4:30PM	29	0	0	29	0	2	0	2	0	0	0	0	31
4:45PM	17	0	0	17	0	2	0	2	0	0	0	0	19
Total	103	0	0	103	0	8	0	8	0	0	0	0	111
% Approach	100%	0%	0%	-	0%	100%	0%	-	0%	0%	0%	-	-
% Total	92.8%	0%	0%	92.8%	0%	7.2%	0%	7.2%	0%	0%	0%	0%	-
PHF	0.757	-	-	0.757	-	0.667	-	0.667	-	-	-	-	0.793
Lights and Motorcycles	101	0	0	101	0	7	0	7	0	0	0	0	108
% Lights and Motorcycles	98.1%	0%	0%	98.1%	0%	87.5%	0%	87.5%	0%	0%	0%	-	97.3%
Heavy	2	0	0	2	0	1	0	1	0	0	0	0	3
% Heavy	1.9%	0%	0%	1.9%	0%	12.5%	0%	12.5%	0%	0%	0%	-	2.7%

* L: Left, R: Right, T: Thru, U: U-Turn

ID: 1109160, Location: 40.05657, -83.080143



Out: 103 In: 8
Total: 111
[E] WB N Bank Dr

National Church Access Two - TMC

Tue Sep 19, 2023

Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109166, Location: 40.056651, -83.080774



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound				WB N Bank Dr Westbound				NB Church Access Two Dr Northbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	Int
2023-09-19 6:30AM	0	0	0	0	3	1	0	4	0	1	0	1	5
6:45AM	0	0	0	0	2	6	0	8	0	0	0	0	8
Hourly Total	0	0	0	0	5	7	0	12	0	1	0	1	13
7:00AM	1	0	0	1	2	5	0	7	0	0	0	0	8
7:15AM	0	0	0	0	1	4	0	5	0	0	0	0	5
7:30AM	1	0	0	1	1	13	0	14	0	1	0	1	16
7:45AM	1	0	0	1	5	7	0	12	0	0	0	0	13
Hourly Total	3	0	0	3	9	29	0	38	0	1	0	1	42
8:00AM	4	0	0	4	10	13	0	23	0	0	0	0	27
8:15AM	4	0	0	4	6	11	0	17	0	0	0	0	21
8:30AM	8	0	0	8	9	9	0	18	0	0	0	0	26
8:45AM	5	0	0	5	5	6	0	11	0	2	0	2	18
Hourly Total	21	0	0	21	30	39	0	69	0	2	0	2	92
9:00AM	9	0	0	9	6	5	0	11	0	0	0	0	20
9:15AM	4	0	0	4	9	10	0	19	0	0	0	0	23
Hourly Total	13	0	0	13	15	15	0	30	0	0	0	0	43
3:30PM	6	0	0	6	0	2	0	2	0	6	0	6	14
3:45PM	10	0	0	10	1	3	0	4	0	2	0	2	16
Hourly Total	16	0	0	16	1	5	0	6	0	8	0	8	30
4:00PM	7	1	0	8	0	3	0	3	0	7	0	7	18
4:15PM	12	0	0	12	0	0	0	0	0	7	0	7	19
4:30PM	8	0	0	8	0	1	0	1	0	6	0	6	15
4:45PM	3	1	0	4	0	1	0	1	0	5	0	5	10
Hourly Total	30	2	0	32	0	5	0	5	0	25	0	25	62
5:00PM	2	0	0	2	0	0	0	0	0	7	0	7	9
5:15PM	0	0	0	0	1	0	0	1	0	6	0	6	7
5:30PM	1	0	0	1	1	0	0	1	0	4	0	4	6
5:45PM	2	0	0	2	0	0	0	0	0	4	0	4	6
Hourly Total	5	0	0	5	2	0	0	2	0	21	0	21	28
6:00PM	4	1	0	5	1	2	0	3	0	0	0	0	8
6:15PM	1	0	0	1	0	0	0	0	0	1	0	1	2
Hourly Total	5	1	0	6	1	2	0	3	0	1	0	1	10
Total	93	3	0	96	63	102	0	165	0	59	0	59	320
% Approach	96.9%	3.1%	0%	-	38.2%	61.8%	0%	-	0%	100%	0%	-	-
% Total	29.1%	0.9%	0%	30.0%	19.7%	31.9%	0%	51.6%	0%	18.4%	0%	18.4%	-
Lights and Motorcycles	92	3	0	95	63	102	0	165	0	59	0	59	319
% Lights and Motorcycles	98.9%	100%	0%	99.0%	100%	100%	0%	100%	0%	100%	0%	100%	99.7%
Heavy	1	0	0	1	0	0	0	0	0	0	0	0	1
% Heavy	1.1%	0%	0%	1.0%	0%	0%	0%	0%	0%	0%	0%	0%	0.3%

* L: Left, R: Right, T: Thru, U: U-Turn

National Church Access Two - TMC

Tue Sep 19, 2023

Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)

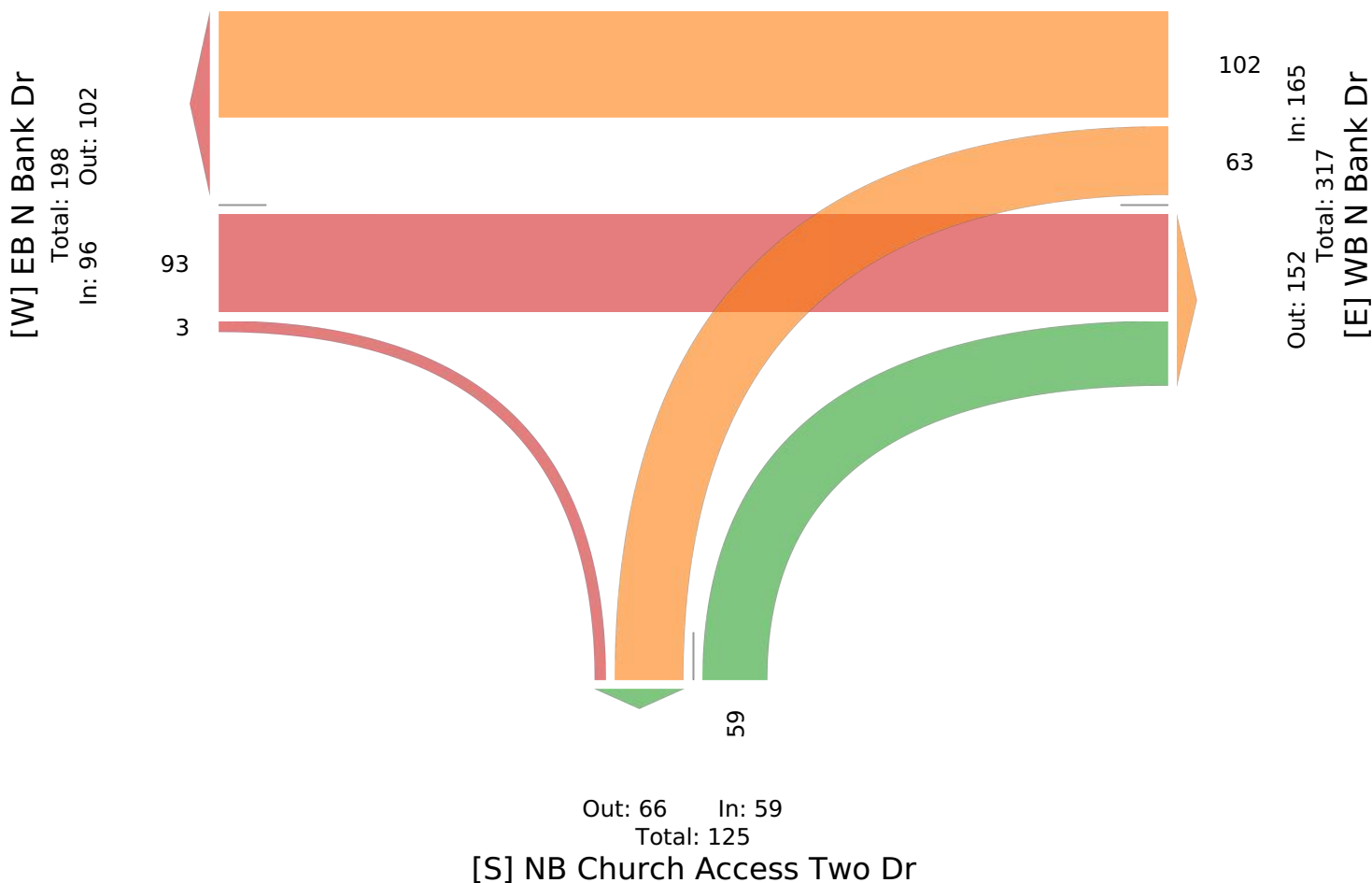
All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109166, Location: 40.056651, -83.080774



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



National Church Access Two - TMC

Tue Sep 19, 2023

AM Peak (8 AM - 9 AM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109166, Location: 40.056651, -83.080774



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound				WB N Bank Dr Westbound				NB Church Access Two Dr Northbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	Int
2023-09-19 8:00AM	4	0	0	4	10	13	0	23	0	0	0	0	27
8:15AM	4	0	0	4	6	11	0	17	0	0	0	0	21
8:30AM	8	0	0	8	9	9	0	18	0	0	0	0	26
8:45AM	5	0	0	5	5	6	0	11	0	2	0	2	18
Total	21	0	0	21	30	39	0	69	0	2	0	2	92
% Approach	100%	0%	0%	-	43.5%	56.5%	0%	-	0%	100%	0%	-	-
% Total	22.8%	0%	0%	22.8%	32.6%	42.4%	0%	75.0%	0%	2.2%	0%	2.2%	-
PHF	0.656	-	-	0.656	0.750	0.750	-	0.750	-	0.250	-	0.250	0.852
Lights and Motorcycles	21	0	0	21	30	39	0	69	0	2	0	2	92
% Lights and Motorcycles	100%	0%	0%	100%	100%	100%	0%	100%	0%	100%	0%	100%	100%
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

* L: Left, R: Right, T: Thru, U: U-Turn

National Church Access Two - TMC

Tue Sep 19, 2023

AM Peak (8 AM - 9 AM) - Overall Peak Hour

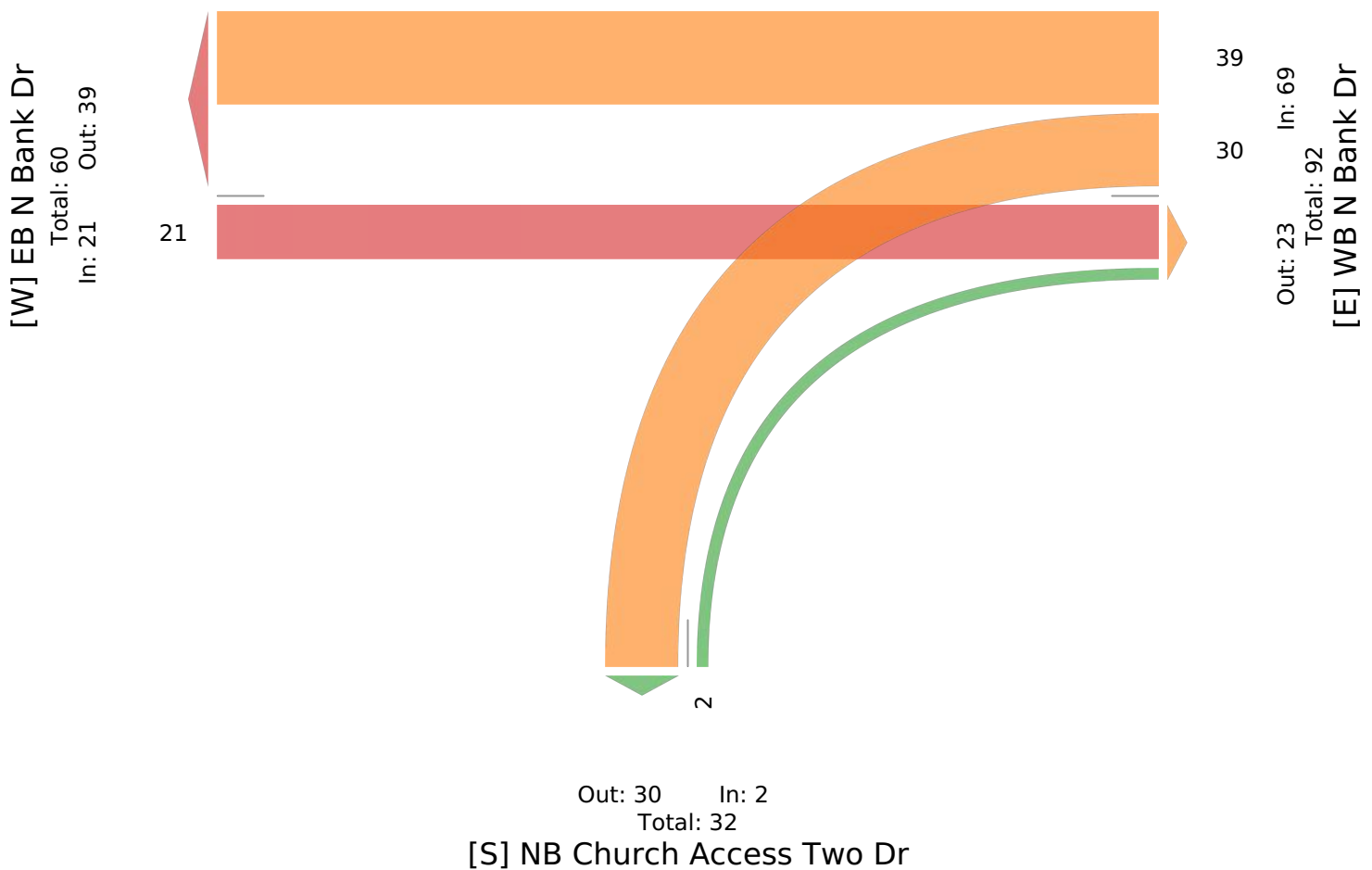
All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109166, Location: 40.056651, -83.080774



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



National Church Access Two - TMC

Tue Sep 19, 2023

Forced Peak (4 PM - 5 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109166, Location: 40.056651, -83.080774

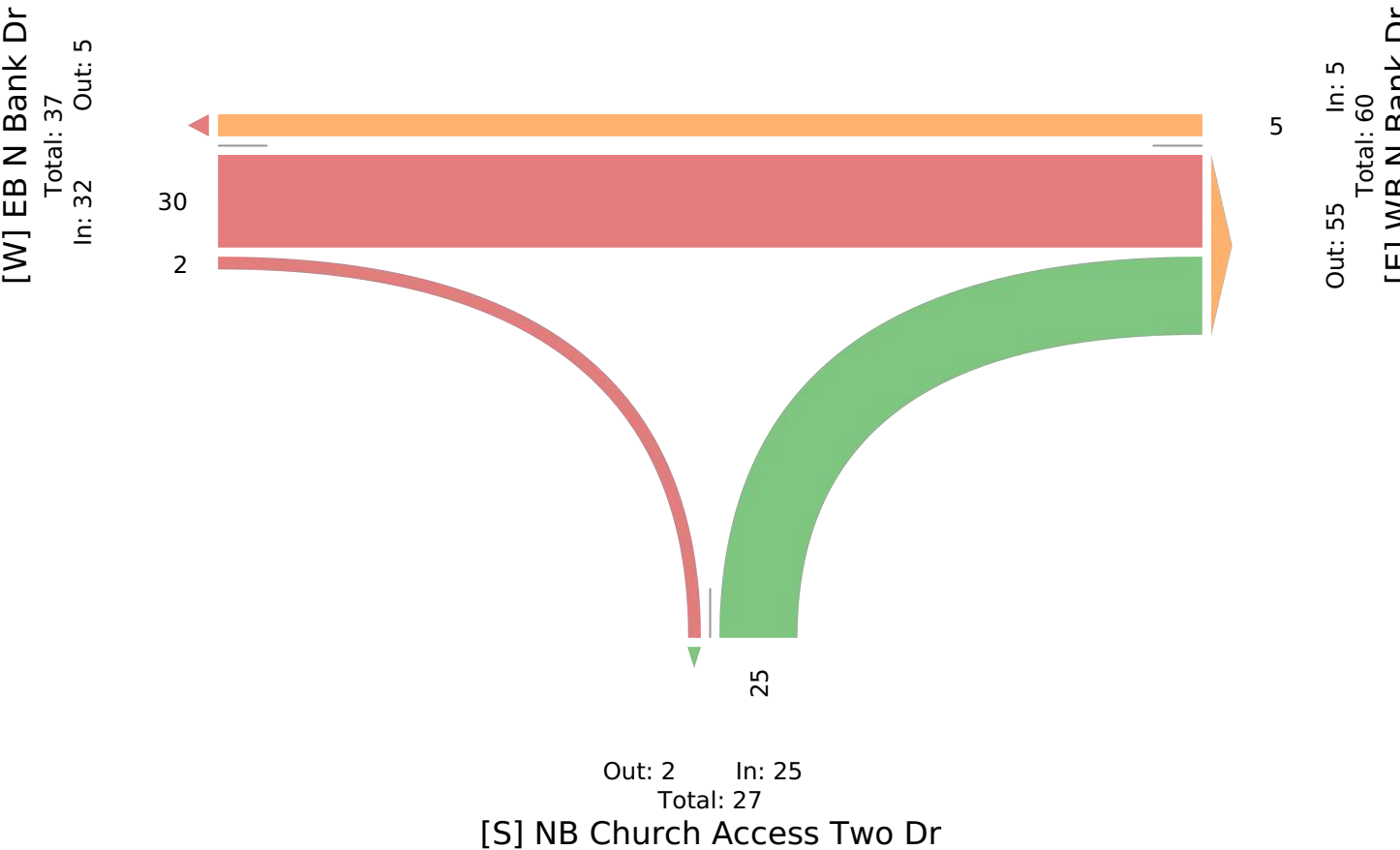


Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound				WB N Bank Dr Westbound				NB Church Access Two Dr Northbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	Int
2023-09-19 4:00PM	7	1	0	8	0	3	0	3	0	7	0	7	18
4:15PM	12	0	0	12	0	0	0	0	0	7	0	7	19
4:30PM	8	0	0	8	0	1	0	1	0	6	0	6	15
4:45PM	3	1	0	4	0	1	0	1	0	5	0	5	10
Total	30	2	0	32	0	5	0	5	0	25	0	25	62
% Approach	93.8%	6.3%	0%	-	0%	100%	0%	-	0%	100%	0%	-	-
% Total	48.4%	3.2%	0%	51.6%	0%	8.1%	0%	8.1%	0%	40.3%	0%	40.3%	-
PHF	0.625	0.500	-	0.667	-	0.417	-	0.417	-	0.893	-	0.893	0.816
Lights and Motorcycles	29	2	0	31	0	5	0	5	0	25	0	25	61
% Lights and Motorcycles	96.7%	100%	0%	96.9%	0%	100%	0%	100%	0%	100%	0%	100%	98.4%
Heavy	1	0	0	1	0	0	0	0	0	0	0	0	1
% Heavy	3.3%	0%	0%	3.1%	0%	0%	0%	0%	0%	0%	0%	0%	1.6%

* L: Left, R: Right, T: Thru, U: U-Turn

National Church Access Two - TMC
Tue Sep 19, 2023
Forced Peak (4 PM - 5 PM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1109166, Location: 40.056651, -83.080774



National Church Access One - TMC

Tue Sep 19, 2023

Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109163, Location: 40.056787, -83.081965



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound				WB N Bank Dr Westbound				NB National Church Access Dr Northbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	Int
2023-09-19 6:30AM	0	0	0	0	1	0	0	1	0	0	0	0	1
6:45AM	0	0	0	0	0	2	0	2	0	0	0	0	2
Hourly Total	0	0	0	0	1	2	0	3	0	0	0	0	3
7:00AM	0	0	0	0	1	2	0	3	0	1	0	1	4
7:15AM	0	0	0	0	1	0	0	1	0	0	0	0	1
7:30AM	1	0	0	1	3	1	0	4	0	0	0	0	5
7:45AM	1	0	0	1	1	1	0	2	0	0	0	0	3
Hourly Total	2	0	0	2	6	4	0	10	0	1	0	1	13
8:00AM	2	0	0	2	2	1	0	3	0	0	0	0	5
8:15AM	1	0	0	1	3	2	0	5	0	0	0	0	6
8:30AM	1	0	0	1	5	0	0	5	0	1	0	1	7
8:45AM	1	0	0	1	3	0	0	3	0	1	0	1	5
Hourly Total	5	0	0	5	13	3	0	16	0	2	0	2	23
9:00AM	1	0	0	1	0	1	0	1	0	0	0	0	2
9:15AM	0	0	0	0	2	1	0	3	0	0	0	0	3
Hourly Total	1	0	0	1	2	2	0	4	0	0	0	0	5
3:30PM	0	0	0	0	1	1	0	2	0	1	0	1	3
3:45PM	4	0	0	4	1	0	0	1	0	1	0	1	6
Hourly Total	4	0	0	4	2	1	0	3	0	2	0	2	9
4:00PM	0	0	0	0	0	0	0	0	0	4	0	4	4
4:15PM	1	0	0	1	0	0	0	0	0	2	0	2	3
4:30PM	0	0	0	0	0	1	0	1	0	2	0	2	3
4:45PM	2	0	0	2	0	1	0	1	0	1	0	1	4
Hourly Total	3	0	0	3	0	2	0	2	0	9	0	9	14
5:00PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	1	0	1	1
6:00PM	0	0	0	0	0	2	0	2	0	1	0	1	3
6:15PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	2	0	2	0	1	0	1	3
Total	15	0	0	15	24	16	0	40	0	16	0	16	71
% Approach	100%	0%	0%	-	60.0%	40.0%	0%	-	0%	100%	0%	-	-
% Total	21.1%	0%	0%	21.1%	33.8%	22.5%	0%	56.3%	0%	22.5%	0%	22.5%	-
Lights and Motorcycles	14	0	0	14	24	16	0	40	0	16	0	16	70
% Lights and Motorcycles	93.3%	0%	0%	93.3%	100%	100%	0%	100%	0%	100%	0%	100%	98.6%
Heavy	1	0	0	1	0	0	0	0	0	0	0	0	1
% Heavy	6.7%	0%	0%	6.7%	0%	0%	0%	0%	0%	0%	0%	0%	1.4%

* L: Left, R: Right, T: Thru, U: U-Turn

National Church Access One - TMC

Tue Sep 19, 2023

Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)

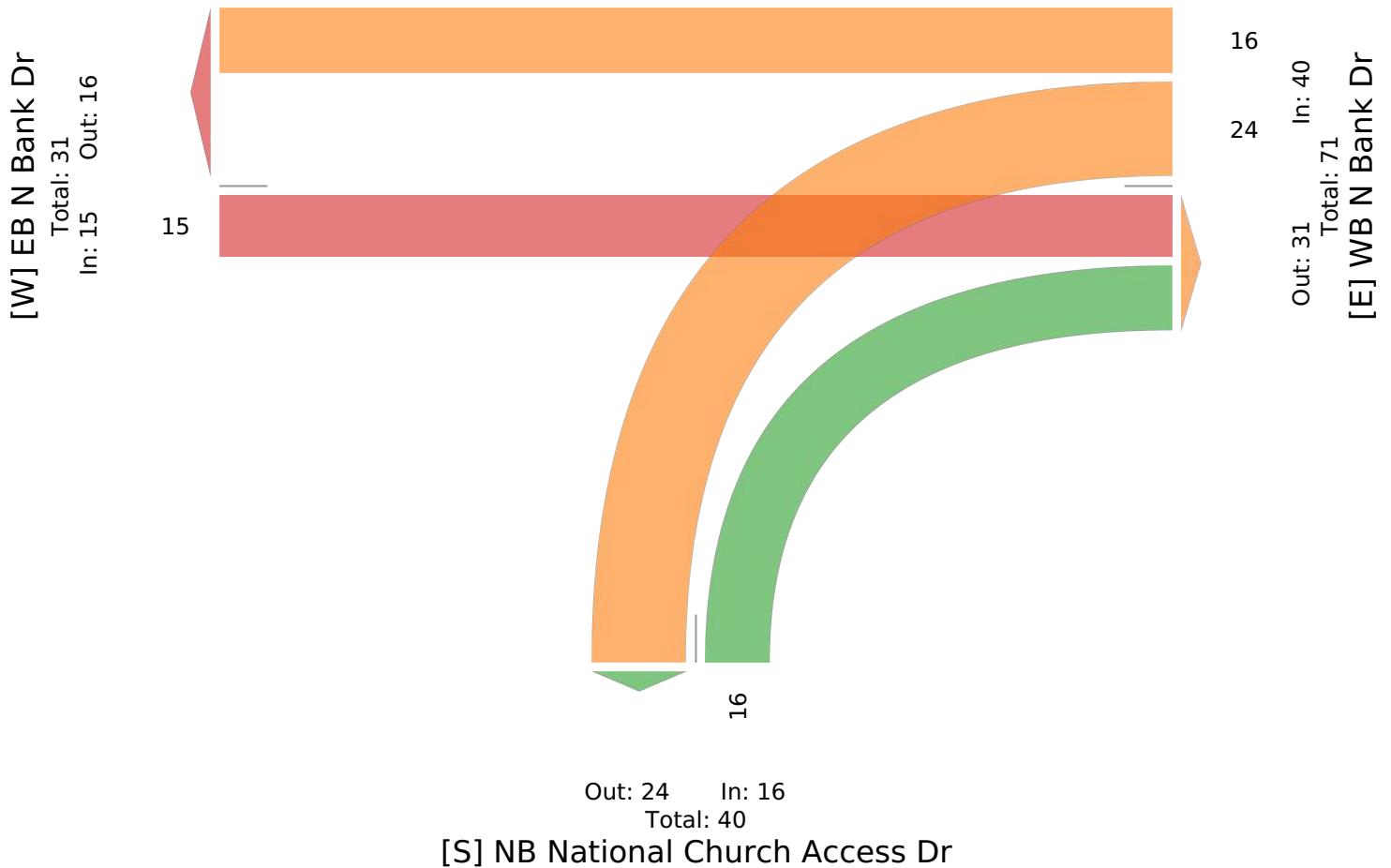
All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109163, Location: 40.056787, -83.081965



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US



National Church Access One - TMC

Tue Sep 19, 2023

AM Peak (8 AM - 9 AM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109163, Location: 40.056787, -83.081965

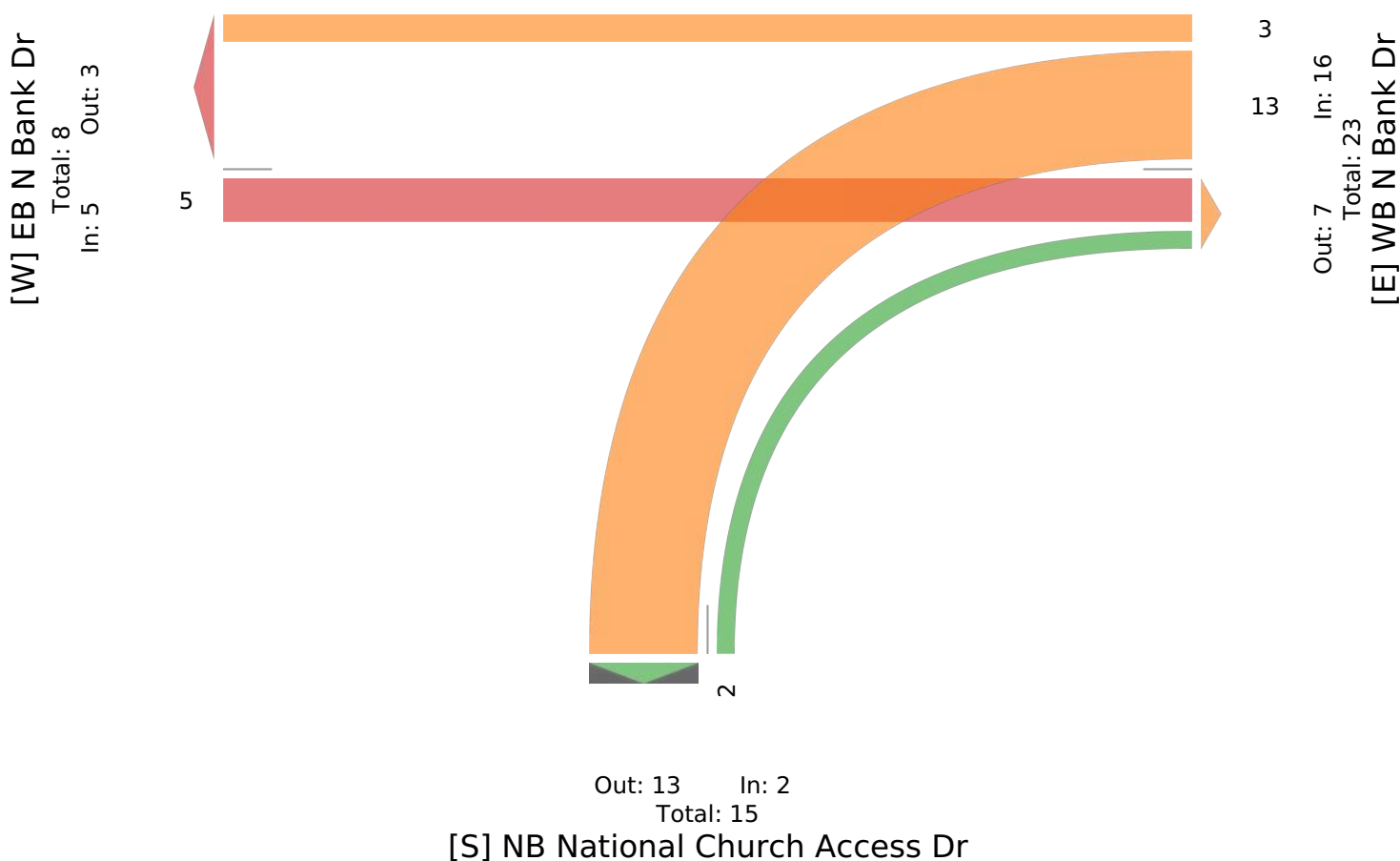


Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound				WB N Bank Dr Westbound				NB National Church Access Dr Northbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	Int
2023-09-19 8:00AM	2	0	0	2	2	1	0	3	0	0	0	0	5
8:15AM	1	0	0	1	3	2	0	5	0	0	0	0	6
8:30AM	1	0	0	1	5	0	0	5	0	1	0	1	7
8:45AM	1	0	0	1	3	0	0	3	0	1	0	1	5
Total	5	0	0	5	13	3	0	16	0	2	0	2	23
% Approach	100%	0%	0%	-	81.3%	18.8%	0%	-	0%	100%	0%	-	-
% Total	21.7%	0%	0%	21.7%	56.5%	13.0%	0%	69.6%	0%	8.7%	0%	8.7%	-
PHF	0.625	-	-	0.625	0.650	0.375	-	0.800	-	0.500	-	0.500	0.821
Lights and Motorcycles	5	0	0	5	13	3	0	16	0	2	0	2	23
% Lights and Motorcycles	100%	0%	0%	100%	100%	100%	0%	100%	0%	100%	0%	100%	100%
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

* L: Left, R: Right, T: Thru, U: U-Turn

National Church Access One - TMC
 Tue Sep 19, 2023
 AM Peak (8 AM - 9 AM) - Overall Peak Hour
 All Classes (Lights and Motorcycles, Heavy)
 All Movements
 ID: 1109163, Location: 40.056787, -83.081965



National Church Access One - TMC

Tue Sep 19, 2023

Forced Peak (4 PM - 5 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1109163, Location: 40.056787, -83.081965

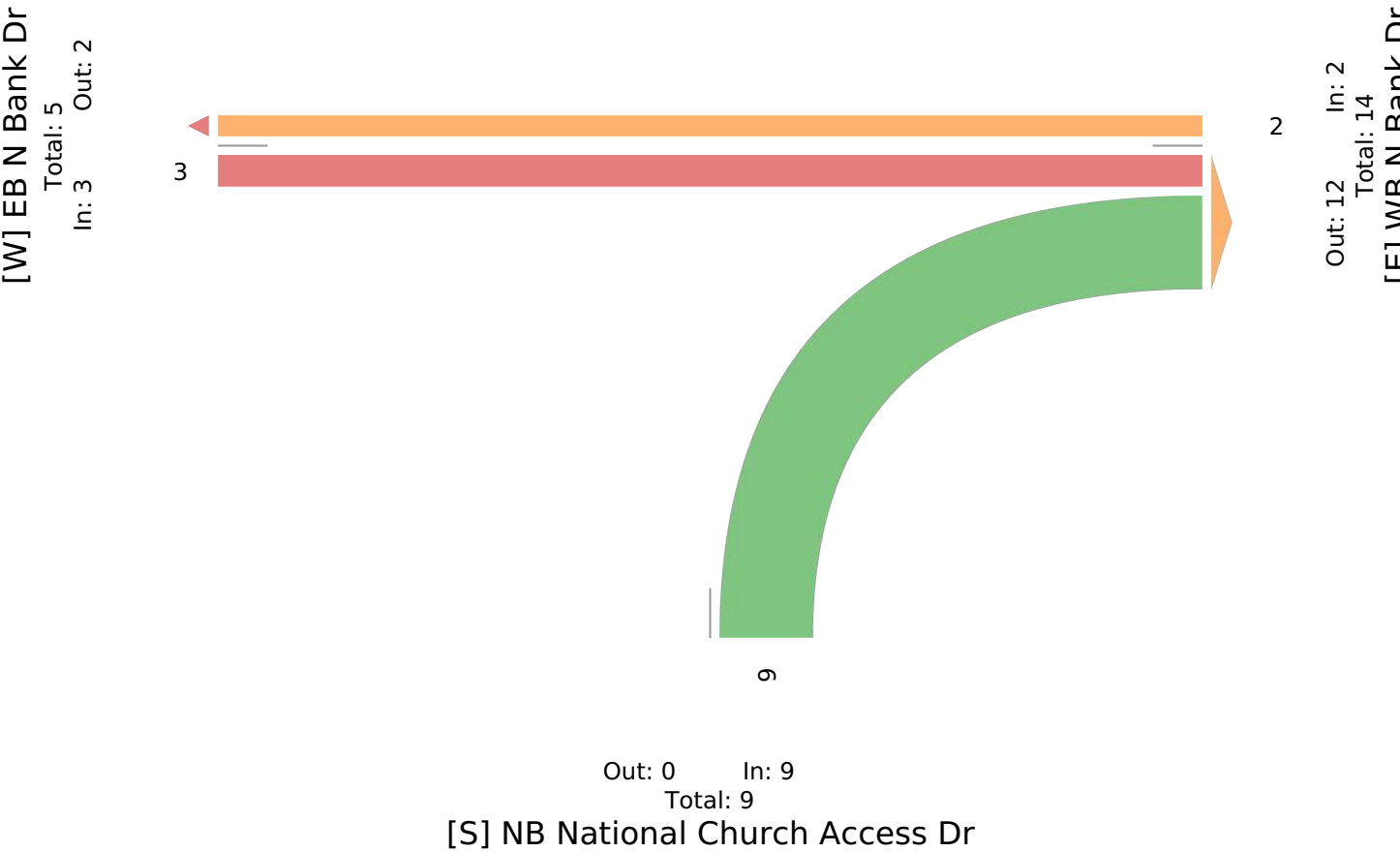


Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB N Bank Dr Eastbound				WB N Bank Dr Westbound				NB National Church Access Dr Northbound				
Time	T	R	U	App	L	T	U	App	L	R	U	App	Int
2023-09-19 4:00PM	0	0	0	0	0	0	0	0	0	4	0	4	4
4:15PM	1	0	0	1	0	0	0	0	0	2	0	2	3
4:30PM	0	0	0	0	0	1	0	1	0	2	0	2	3
4:45PM	2	0	0	2	0	1	0	1	0	1	0	1	4
Total	3	0	0	3	0	2	0	2	0	9	0	9	14
% Approach	100%	0%	0%	-	0%	100%	0%	-	0%	100%	0%	-	-
% Total	21.4%	0%	0%	21.4%	0%	14.3%	0%	14.3%	0%	64.3%	0%	64.3%	-
PHF	0.375	-	-	0.375	-	0.500	-	0.500	-	0.563	-	0.563	0.875
Lights and Motorcycles	2	0	0	2	0	2	0	2	0	9	0	9	13
% Lights and Motorcycles	66.7%	0%	0%	66.7%	0%	100%	0%	100%	0%	100%	0%	100%	92.9%
Heavy	1	0	0	1	0	0	0	0	0	0	0	0	1
% Heavy	33.3%	0%	0%	33.3%	0%	0%	0%	0%	0%	0%	0%	0%	7.1%

* L: Left, R: Right, T: Thru, U: U-Turn

National Church Access One - TMC
Tue Sep 19, 2023
Forced Peak (4 PM - 5 PM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1109163, Location: 40.056787, -83.081965



Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
252

LAND USE GROUP:
(200-299) Residential

LAND USE :
252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

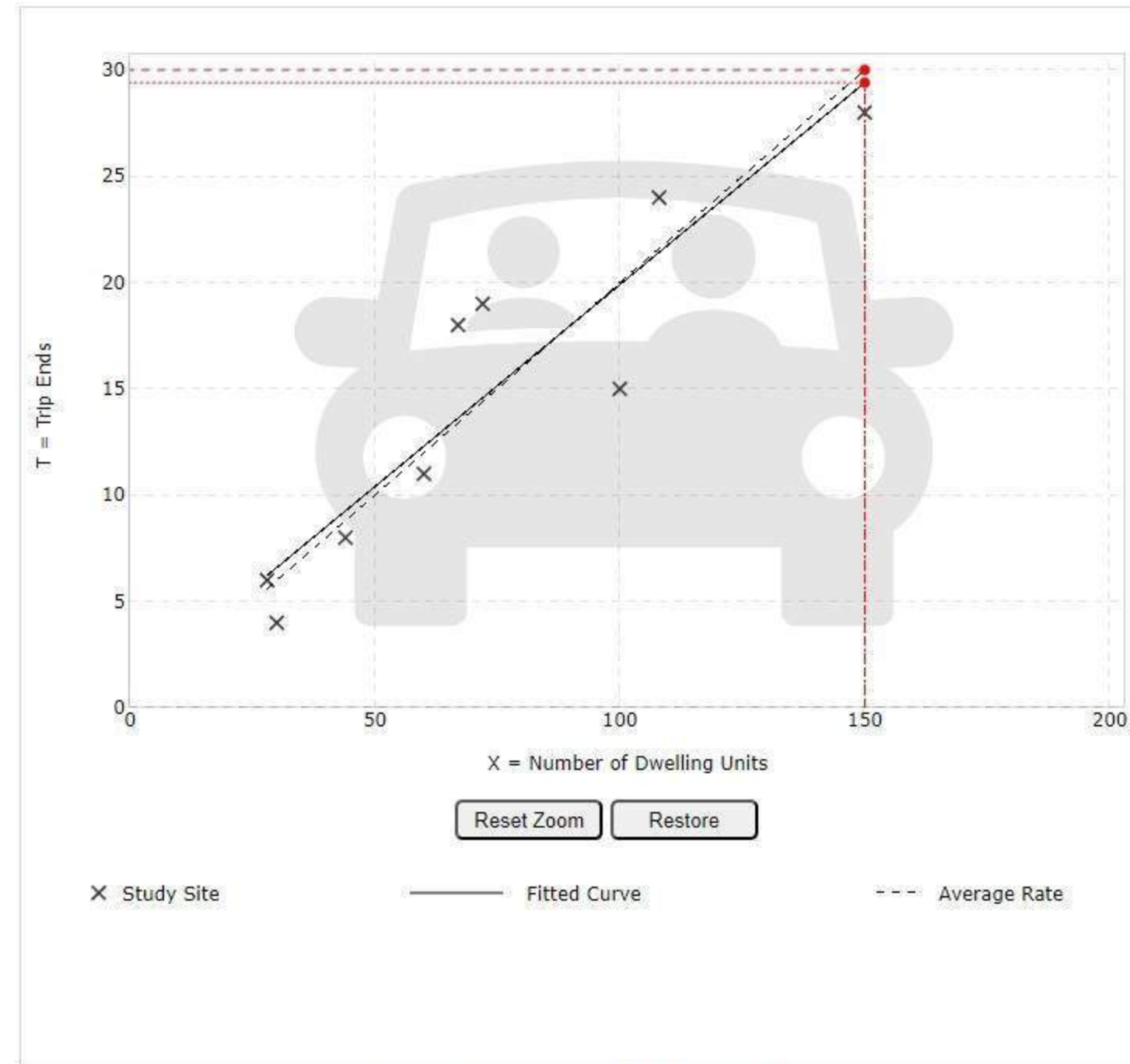
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
150 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Senior Adult Housing - Multifamily (252) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
9

Avg. Num. of Dwelling Units:
73

Average Rate:
0.20

Range of Rates:
0.13 - 0.27

Standard Deviation:
0.04

Fitted Curve Equation:
 $T = 0.19(X) + 0.90$

R²:
0.85

Directional Distribution:
34% entering, 66% exiting

Calculated Trip Ends:
Average Rate: 30 (Total), 10 (Entry), 20 (Exit)
Fitted Curve: 29 (Total), 10 (Entry), 19 (Exit)

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
252

LAND USE GROUP:
(200-299) Residential

LAND USE :
252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

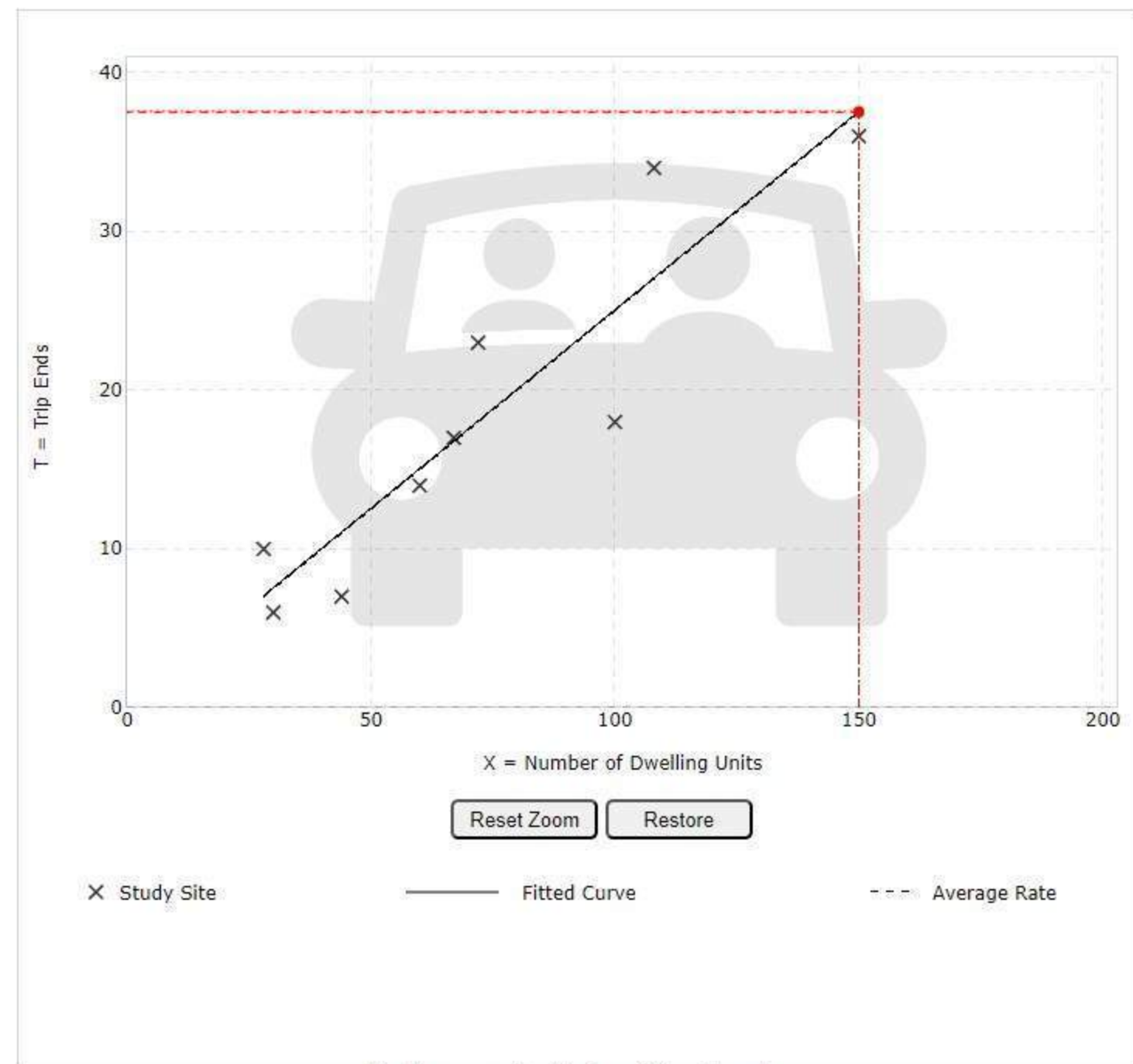
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
150 Calculate

Data Plot and Equation



Reset Zoom

Restore

x Study Site

— Fitted Curve

- - - Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Senior Adult Housing - Multifamily (252) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
9

Avg. Num. of Dwelling Units:
73

Average Rate:
0.25

Range of Rates:
0.16 - 0.36

Standard Deviation:
0.06

Fitted Curve Equation:
 $T = 0.25(X) + 0.07$

R²:
0.84

Directional Distribution:
56% entering, 44% exiting

Calculated Trip Ends:
Average Rate: 38 (Total), 21 (Entry), 17 (Exit)
Fitted Curve: 38 (Total), 21 (Entry), 17 (Exit)

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
710

LAND USE GROUP:
(700-799) Office

LAND USE:
710 - General Office Building

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

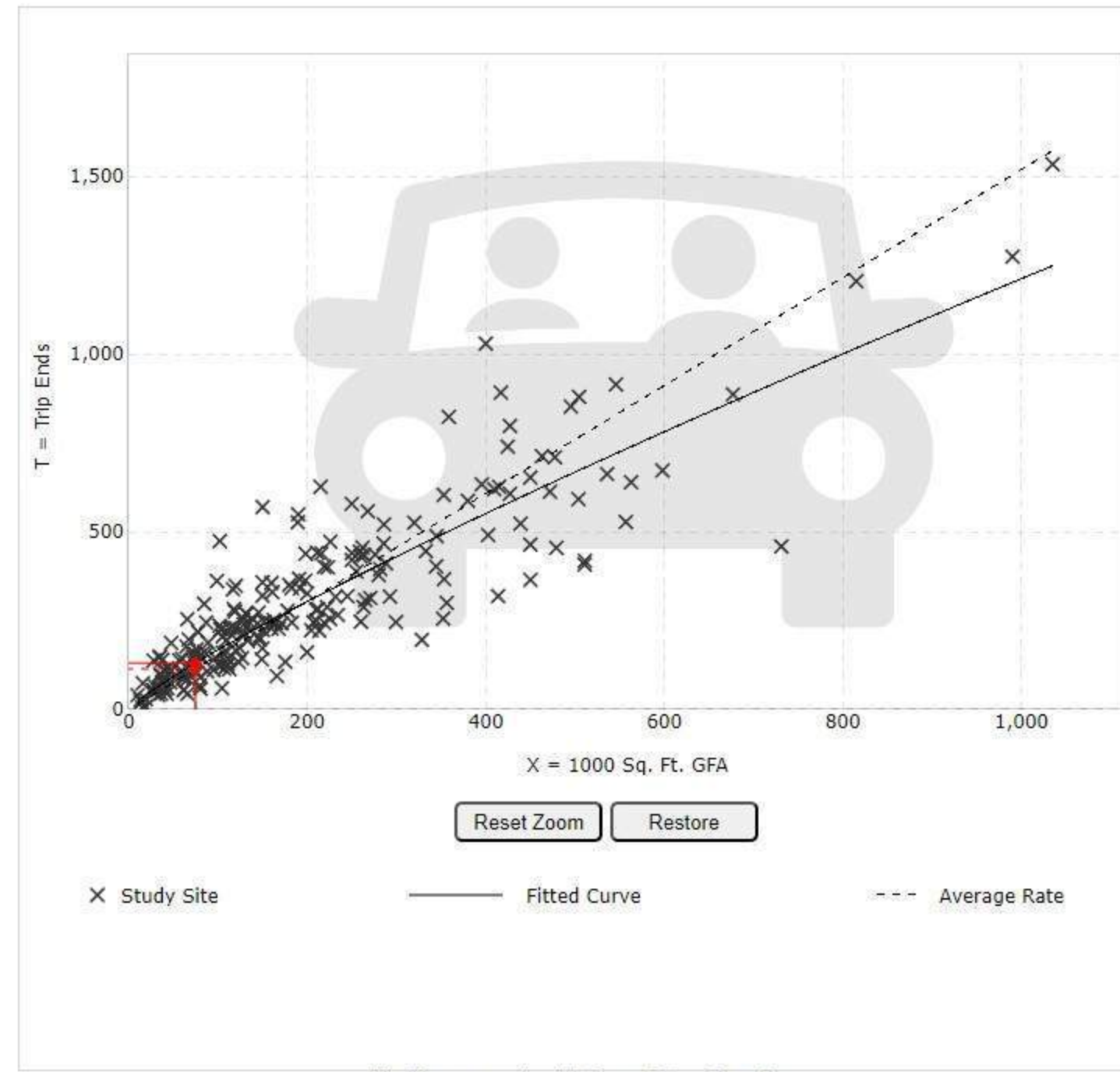
INDEPENDENT VARIABLE (IV):
1000 Sq. Ft. GFA

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
75 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
General Office Building (710) [Click for Description and Data Plots](#)

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
221

Avg. 1000 Sq. Ft. GFA:
201

Average Rate:
1.52

Range of Rates:
0.32 - 4.93

Standard Deviation:
0.58

Fitted Curve Equation:
 $\ln(T) = 0.86 \ln(X) + 1.16$

R²:
0.78

Directional Distribution:
88% entering, 12% exiting

Calculated Trip Ends:
Average Rate: 114 (Total), 100 (Entry), 14 (Exit)
Fitted Curve: 131 (Total), 115 (Entry), 16 (Exit)

Query

Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

710



LAND USE GROUP:

(700-799) Office

LAND USE :

710 - General Office Building

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

1000 Sq. Ft. GFA

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:

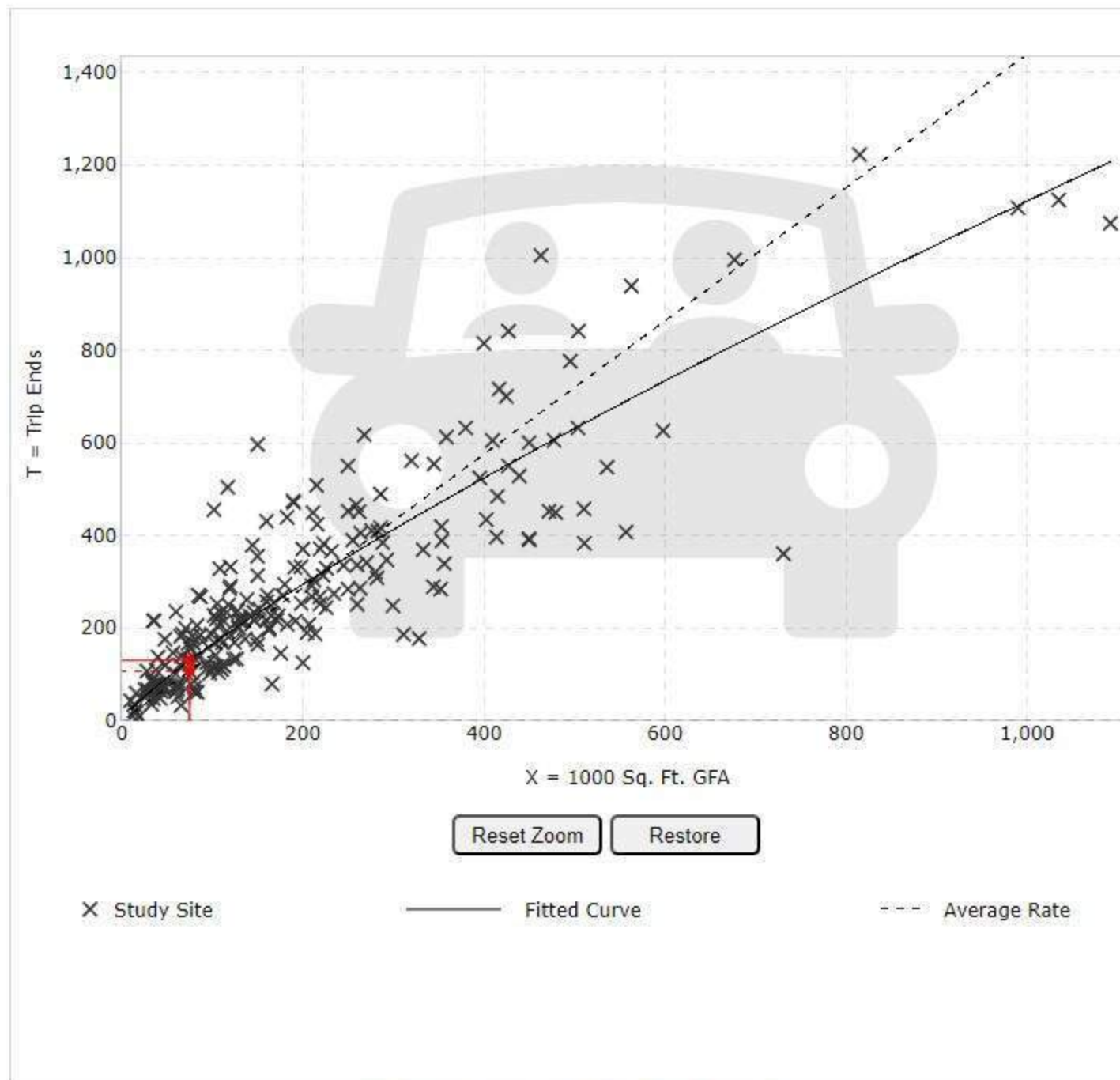
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

75

Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:

General Office Building (710) [Click for Description and Data Plots](#)

Independent Variable:

1000 Sq. Ft. GFA

Time Period:

Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

232

Avg. 1000 Sq. Ft. GFA:

199

Average Rate:

1.44

Range of Rates:

0.26 - 6.20

Standard Deviation:

0.60

Fitted Curve Equation:

$\ln(T) = 0.83 \ln(X) + 1.29$

R²:

0.77

Directional Distribution:

17% entering, 83% exiting

Calculated Trip Ends:

Average Rate: 108 (Total), 18 (Entry), 90 (Exit)

Fitted Curve: 131 (Total), 22 (Entry), 109 (Exit)

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
252

LAND USE GROUP:
(200-299) Residential

LAND USE :
252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

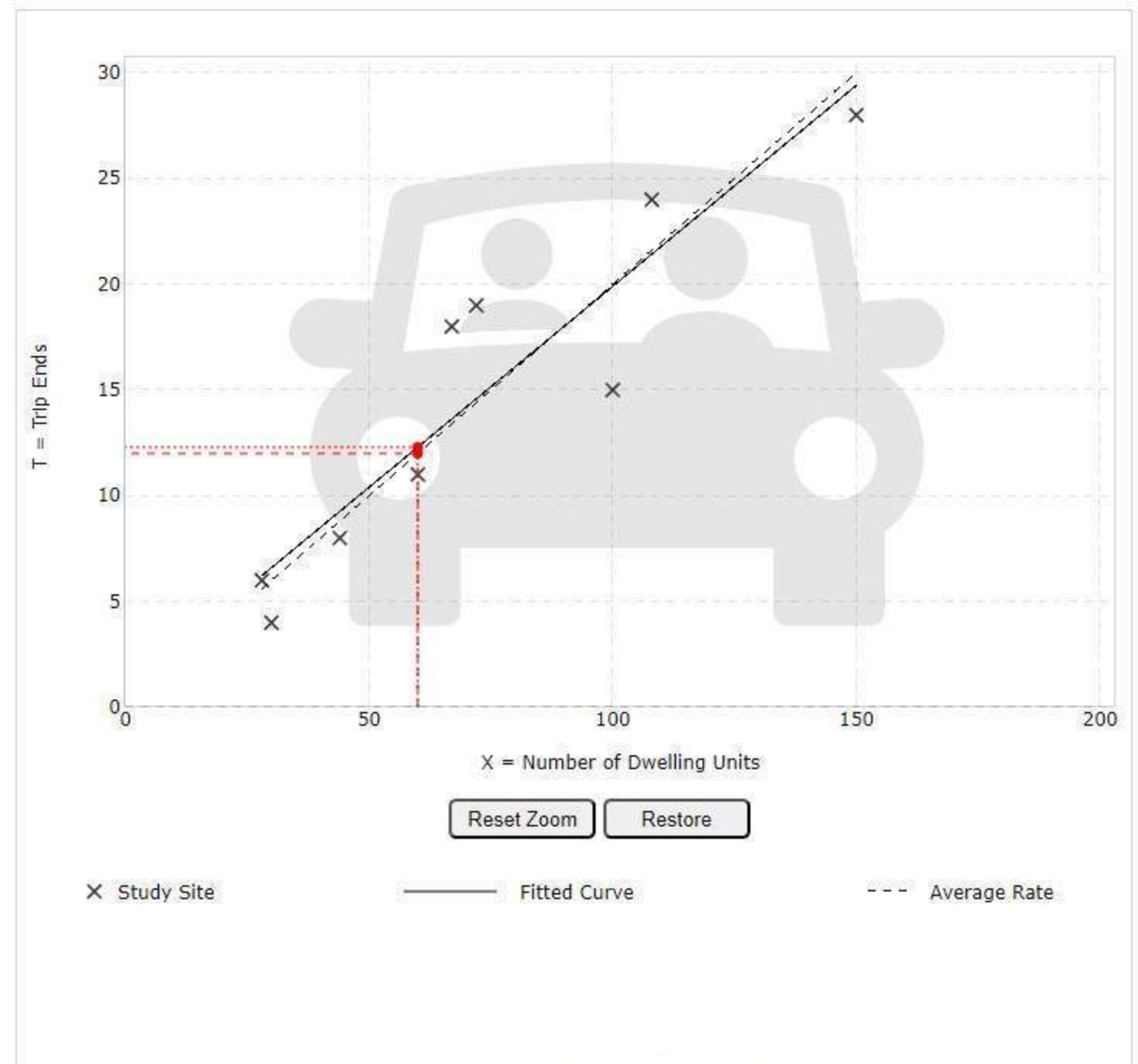
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
60 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Senior Adult Housing - Multifamily (252) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
9

Avg. Num. of Dwelling Units:
73

Average Rate:
0.20

Range of Rates:
0.13 - 0.27

Standard Deviation:
0.04

Fitted Curve Equation:
 $T = 0.19(X) + 0.90$

R²:
0.85

Directional Distribution:
34% entering, 66% exiting

Calculated Trip Ends:
Average Rate: 12 (Total), 4 (Entry), 8 (Exit)
Fitted Curve: 12 (Total), 4 (Entry), 8 (Exit)

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

252

LAND USE GROUP:

(200-299) Residential

LAND USE:

252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

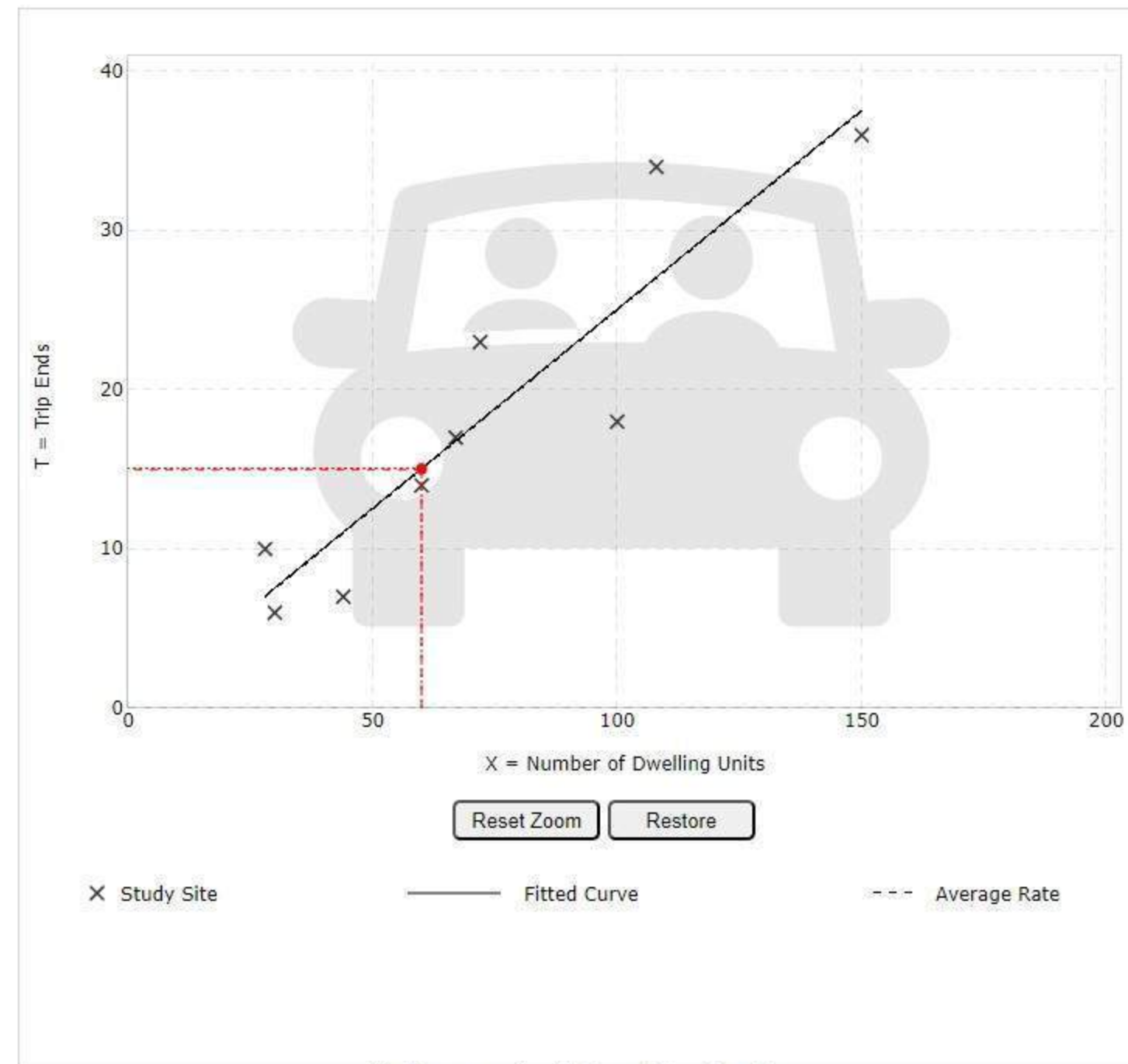
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

60 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:

Senior Adult Housing - Multifamily (252) [Click for Description and Data Plots](#)

Independent Variable:

Dwelling Units

Time Period:

Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

9

Avg. Num. of Dwelling Units:

73

Average Rate:

0.25

Range of Rates:

0.16 - 0.36

Standard Deviation:

0.06

Fitted Curve Equation:

$T = 0.25(X) + 0.07$

R²:

0.84

Directional Distribution:

56% entering, 44% exiting

Calculated Trip Ends:

Average Rate: 15 (Total), 8 (Entry), 7 (Exit)

Fitted Curve: 15 (Total), 8 (Entry), 7 (Exit)

W Henderson Rd @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109187, Location: 40.058561, -83.079038



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

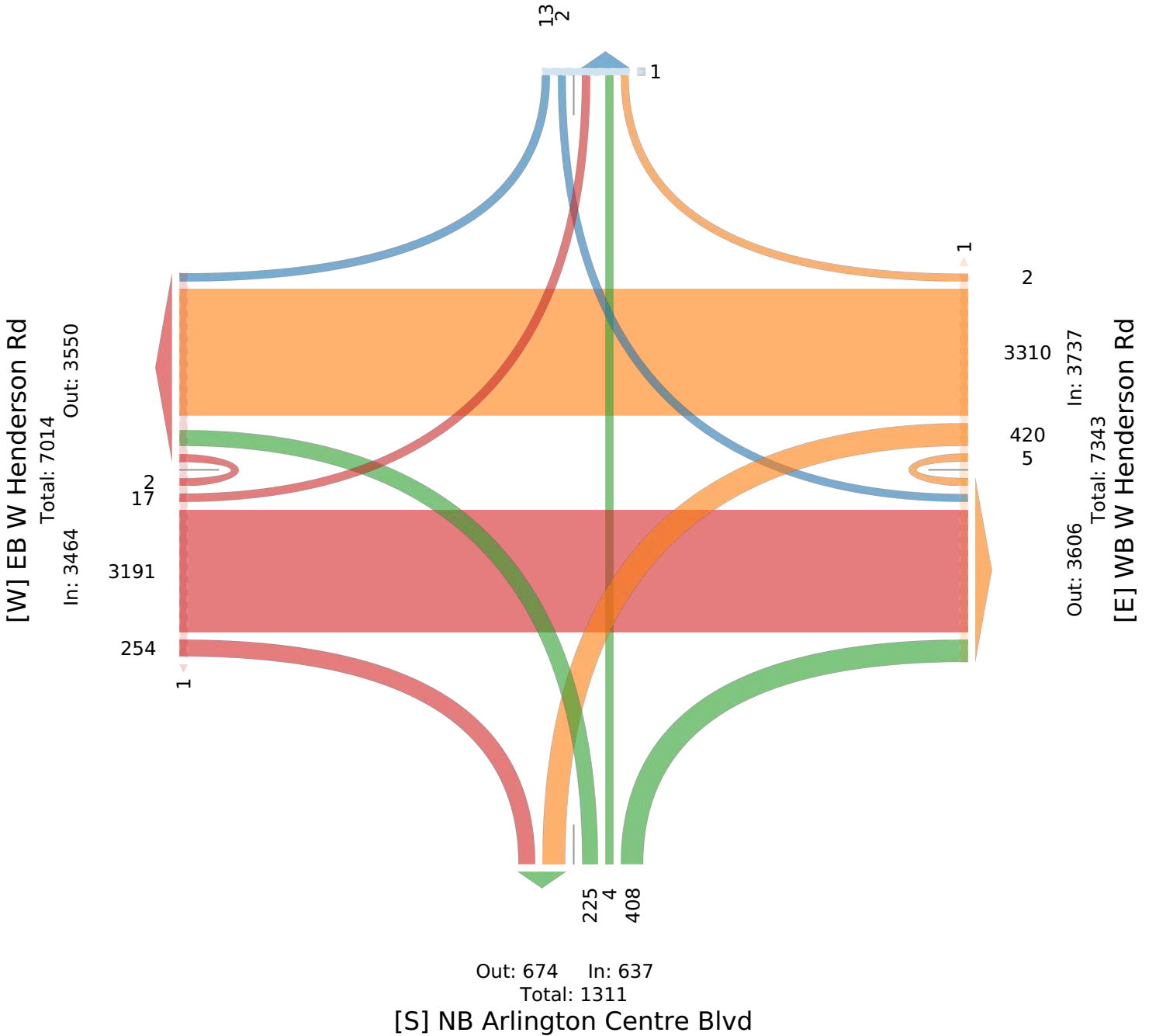
Leg Direction	EB W Henderson Rd Eastbound						WB W Henderson Rd Westbound						NB Arlington Centre Blvd Northbound						SB Kickboxing Dr Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-09-19																									
6:30AM	0	69	8	0	77	0	12	51	0	0	63	1	0	0	3	0	3	0	0	0	1	0	1	0	144
6:45AM	0	80	14	0	94	0	19	67	0	0	86	0	0	0	2	0	2	0	0	0	0	0	0	0	182
Hourly Total	0	149	22	0	171	0	31	118	0	0	149	1	0	0	5	0	5	0	0	0	1	0	1	0	326
7:00AM	0	86	6	0	92	1	14	53	0	0	67	0	2	0	6	0	8	0	0	0	0	0	0	0	167
7:15AM	0	153	11	0	164	0	20	74	0	0	94	0	1	0	4	0	5	0	0	0	0	0	0	0	263
7:30AM	0	163	16	0	179	0	23	103	0	1	127	0	2	0	7	0	9	0	0	0	0	0	0	0	315
7:45AM	0	127	22	0	149	0	29	122	0	0	151	0	0	0	7	0	7	0	0	0	0	0	0	0	307
Hourly Total	0	529	55	0	584	1	86	352	0	1	439	0	5	0	24	0	29	0	0	0	0	0	0	0	1052
8:00AM	0	137	24	0	161	0	39	122	1	1	163	0	2	0	8	0	10	0	0	0	0	0	0	0	334
8:15AM	1	125	26	0	152	0	29	119	0	0	148	0	3	0	9	0	12	0	0	0	1	0	1	0	313
8:30AM	1	135	23	0	159	0	42	116	0	0	158	0	7	0	11	0	18	0	0	0	0	0	0	0	335
8:45AM	1	112	22	0	135	0	41	131	0	1	173	0	4	0	12	0	16	0	0	0	0	0	0	0	324
Hourly Total	3	509	95	0	607	0	151	488	1	2	642	0	16	0	40	0	56	0	0	0	1	0	1	0	1306
9:00AM	0	112	17	0	129	0	26	111	0	1	138	0	6	1	12	0	19	0	0	0	1	0	1	0	287
9:15AM	2	110	13	0	125	0	24	116	0	0	140	0	5	0	11	0	16	0	0	0	0	0	0	0	281
Hourly Total	2	222	30	0	254	0	50	227	0	1	278	0	11	1	23	0	35	0	0	0	1	0	1	0	568
3:30PM	1	139	7	0	147	0	9	161	0	0	170	0	8	0	39	0	47	0	0	0	0	0	0	0	364
3:45PM	0	154	6	0	160	0	12	172	0	0	184	0	23	0	37	0	60	0	1	0	0	0	1	0	405
Hourly Total	1	293	13	0	307	0	21	333	0	0	354	0	31	0	76	0	107	0	1	0	0	0	1	0	769
4:00PM	1	144	8	0	153	0	11	191	0	0	202	0	17	0	31	0	48	0	0	0	0	0	0	0	403
4:15PM	1	140	7	0	148	0	8	166	0	1	175	0	25	0	40	0	65	0	0	0	0	0	0	0	388
4:30PM	1	128	2	0	131	0	10	174	0	0	184	0	33	0	44	0	77	0	0	0	3	0	3	0	395
4:45PM	4	170	5	0	179	0	6	191	0	0	197	0	19	0	33	0	52	0	0	0	1	0	1	0	429
Hourly Total	7	582	22	0	611	0	35	722	0	1	758	0	94	0	148	0	242	0	0	0	4	0	4	0	1615
5:00PM	1	155	3	0	159	0	7	201	0	0	208	0	16	0	29	0	45	0	0	0	3	0	3	0	415
5:15PM	2	174	2	0	178	0	10	185	1	0	196	0	16	0	20	0	36	0	1	0	0	0	1	1	411
5:30PM	1	162	4	1	168	0	6	187	0	0	193	0	15	0	12	0	27	0	0	0	0	0	0	0	388
5:45PM	0	135	3	0	138	0	4	206	0	0	210	0	8	1	13	0	22	0	0	0	2	0	2	0	372
Hourly Total	4	626	12	1	643	0	27	779	1	0	807	0	55	1	74	0	130	0	1	0	5	0	6	1	1586
6:00PM	0	141	2	1	144	0	11	136	0	0	147	0	5	2	11	0	18	0	0	0	1	0	1	0	310
6:15PM	0	140	3	0	143	0	8	155	0	0	163	0	8	0	7	0	15	0	0	0	0	0	0	0	321
Hourly Total	0	281	5	1	287	0	19	291	0	0	310	0	13	2	18	0	33	0	0	0	1	0	1	0	631
Total	17	3191	254	2	3464	1	420	3310	2	5	3737	1	225	4	408	0	637	0	2	0	13	0	15	1	7853
% Approach	0.5%	92.1%	7.3%	0.1%	-	-	11.2%	88.6%	0.1%	0.1%	-	-	35.3%	0.6%	64.1%	0%	-	-	13.3%	0%	86.7%	0%	-	-	-
% Total	0.2%	40.6%	3.2%	0%	44.1%	-	5.3%	42.1%	0%	0.1%	47.6%	-	2.9%	0.1%	5.2%	0%	8.1%	-	0%	0%	0.2%	0%	0.2%	-	-
Lights and Motorcycles	17	3149	246	2	3414	-	413	3247	2	4	3666	-	220	4	402	0	626	-	2	0	13	0	15	-	7721
% Lights and Motorcycles	100%	98.7%	96.9%	100%	98.6%	-	98.3%	98.1%	100%	80.0%	98.1%	-	97.8%	100%	98.5%	0%	98.3%	-	100%	0%	100%	0%	100%	-	98.3%
Heavy	0	42	8	0	50	-	7	63	0	1	71	-	5	0	6	0	11	-	0	0	0	0	0	-	132
% Heavy	0%	1.3%	3.1%	0%	1.4%	-	1.7%	1.9%	0%	20.0%	1.9%	-	2.2%	0%	1.5%	0%	1.7%	-	0%	0%	0%	0%	0%	-	1.7%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

W Henderson Rd @ Arlington Centre Blvd - TMC
 Tue Sep 19, 2023
 Full Length (6:30 AM-9:30 AM, 3:30 PM-6:30 PM)
 All Classes (Lights and Motorcycles, Heavy, Pedestrians)
 All Movements
 ID: 1109187, Location: 40.058561, -83.079038

[N] SB Kickboxing Dr

Total: 38
 In: 15 Out: 23



W Henderson Rd @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

AM Peak (8 AM - 9 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109187, Location: 40.058561, -83.079038



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

Leg Direction	EB W Henderson Rd Eastbound							WB W Henderson Rd Westbound							NB Arlington Centre Blvd Northbound							SB Kickboxing Dr Southbound							
Time	L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*	Int	
2023-09-19 8:00AM	0	137	24	0	161	0		39	122	1	1	163	0		2	0	8	0	10	0		0	0	0	0	0	0		334
8:15AM	1	125	26	0	152	0		29	119	0	0	148	0		3	0	9	0	12	0		0	0	1	0	1	0		313
8:30AM	1	135	23	0	159	0		42	116	0	0	158	0		7	0	11	0	18	0		0	0	0	0	0	0		335
8:45AM	1	112	22	0	135	0		41	131	0	1	173	0		4	0	12	0	16	0		0	0	0	0	0	0		324
Total	3	509	95	0	607	0		151	488	1	2	642	0		16	0	40	0	56	0		0	0	1	0	1	0		1306
% Approach	0.5%	83.9%	15.7%	0%	-	-		23.5%	76.0%	0.2%	0.3%	-	-		28.6%	0%	71.4%	0%	-	-		0%	0%	100%	0%	-	-		-
% Total	0.2%	39.0%	7.3%	0%	46.5%	-		11.6%	37.4%	0.1%	0.2%	49.2%	-		1.2%	0%	3.1%	0%	4.3%	-		0%	0%	0.1%	0%	0.1%	-		-
PHF	0.750	0.929	0.913	-	0.943	-		0.899	0.931	0.250	0.500	0.928	-		0.571	-	0.833	-	0.778	-		-	-	0.250	-	0.250	-		0.975
Lights and Motorcycles	3	490	94	0	587	-		151	475	1	2	629	-		16	0	40	0	56	-		0	0	1	0	1	-		1273
% Lights and Motorcycles	100%	96.3%	98.9%	0%	96.7%	-		100%	97.3%	100%	100%	98.0%	-		100%	0%	100%	0%	100%	-		0%	0%	100%	0%	100%	-		97.5%
Heavy	0	19	1	0	20	-		0	13	0	0	13	-		0	0	0	0	0	-		0	0	0	0	0	-		33
% Heavy	0%	3.7%	1.1%	0%	3.3%	-		0%	2.7%	0%	0%	2.0%	-		0%	0%	0%	0%	0%	-		0%	0%	0%	0%	0%	-		2.5%
Pedestrians	-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	0		
% Pedestrians	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

W Henderson Rd @ Arlington Centre Blvd - TMC

Tue Sep 19, 2023

AM Peak (8 AM - 9 AM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians)

All Movements

ID: 1109187, Location: 40.058561, -83.079038



Provided by: The Kleingers Group
6219 Centre Park Drive, West Chester, OH, 45069, US

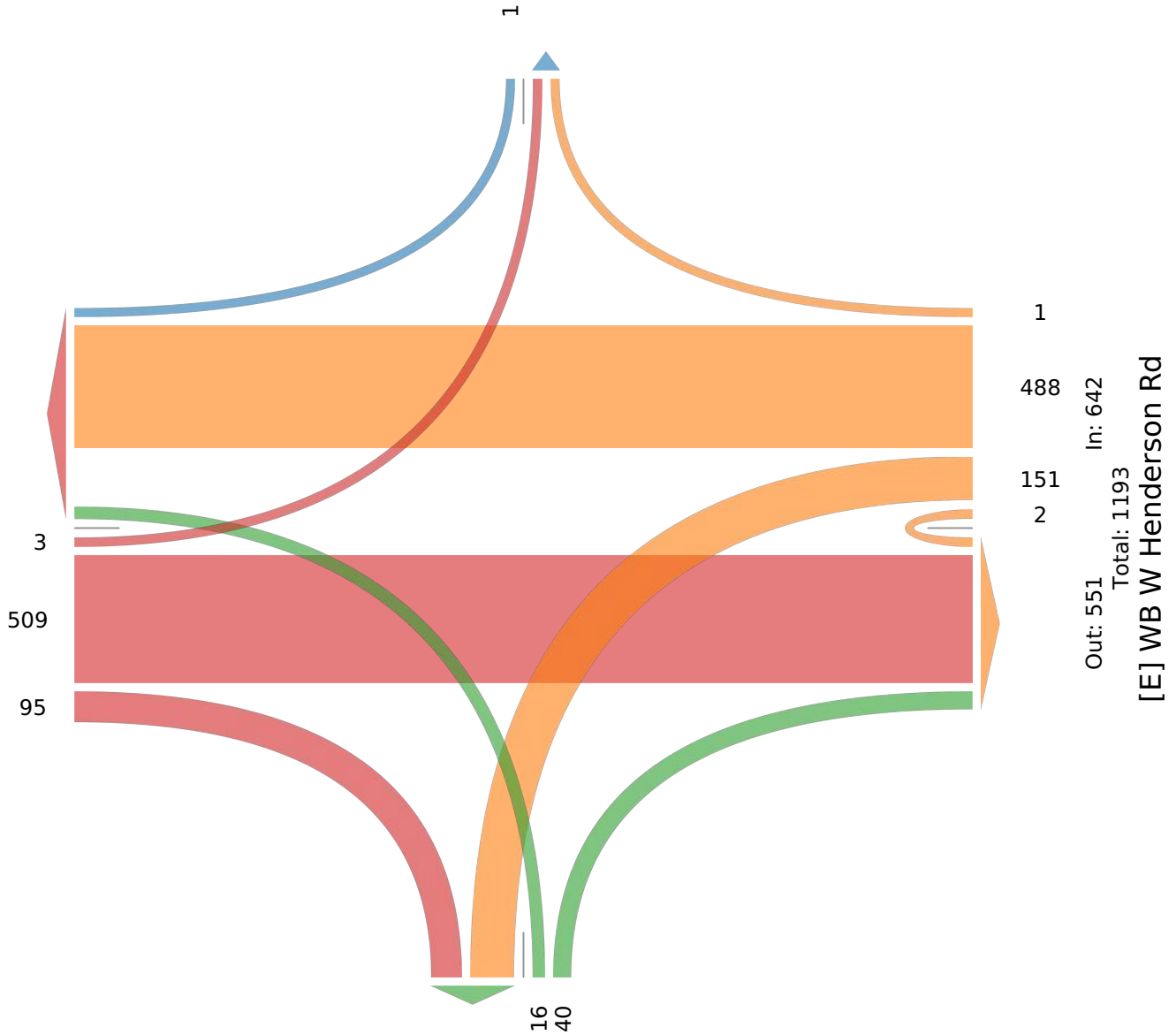
[N] SB Kickboxing Dr

Total: 5
In: 1 Out: 4

1

[W] EB W Henderson Rd

Total: 1112
In: 607 Out: 505



[S] NB Arlington Centre Blvd

Out: 246 In: 56
Total: 302

W Henderson Rd @ Arlington Centre Blvd - TMC
 Tue Sep 19, 2023
 PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
 All Classes (Lights and Motorcycles, Heavy, Pedestrians)
 All Movements
 ID: 1109187, Location: 40.058561, -83.079038

Leg Direction	EB W Henderson Rd Eastbound						WB W Henderson Rd Westbound						NB Arlington Centre Blvd Northbound						SB Kickboxing Dr Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2023-09-19 4:30PM	1	128	2	0	131	0	10	174	0	0	184	0	33	0	44	0	77	0	0	0	3	0	3	0	395
4:45PM	4	170	5	0	179	0	6	191	0	0	197	0	19	0	33	0	52	0	0	0	1	0	1	0	429
5:00PM	1	155	3	0	159	0	7	201	0	0	208	0	16	0	29	0	45	0	0	0	3	0	3	0	415
5:15PM	2	174	2	0	178	0	10	185	1	0	196	0	16	0	20	0	36	0	1	0	0	0	1	1	411
Total	8	627	12	0	647	0	33	751	1	0	785	0	84	0	126	0	210	0	1	0	7	0	8	1	1650
% Approach	1.2%	96.9%	1.9%	0%	-	-	4.2%	95.7%	0.1%	0%	-	-	40.0%	0%	60.0%	0%	-	-	12.5%	0%	87.5%	0%	-	-	-
% Total	0.5%	38.0%	0.7%	0%	39.2%	-	2.0%	45.5%	0.1%	0%	47.6%	-	5.1%	0%	7.6%	0%	12.7%	-	0.1%	0%	0.4%	0%	0.5%	-	-
PHF	0.500	0.901	0.600	-	0.904	-	0.825	0.934	0.250	-	0.944	-	0.636	-	0.716	-	0.682	-	0.250	-	0.583	-	0.667	-	0.962
Lights and Motorcycles	8	626	12	0	646	-	33	735	1	0	769	-	80	0	125	0	205	-	1	0	7	0	8	-	1628
% Lights and Motorcycles	100%	99.8%	100%	0%	99.8%	-	100%	97.9%	100%	0%	98.0%	-	95.2%	0%	99.2%	0%	97.6%	-	100%	0%	100%	0%	100%	-	98.7%
Heavy	0	1	0	0	1	-	0	16	0	0	16	-	4	0	1	0	5	-	0	0	0	0	0	-	22
% Heavy	0%	0.2%	0%	0%	0.2%	-	0%	2.1%	0%	0%	2.0%	-	4.8%	0%	0.8%	0%	2.4%	-	0%	0%	0%	0%	0%	-	1.3%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

W Henderson Rd @ Arlington Centre Blvd - TMC
 Tue Sep 19, 2023
 PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
 All Classes (Lights and Motorcycles, Heavy, Pedestrians)
 All Movements
 ID: 1109187, Location: 40.058561, -83.079038

[N] SB Kickboxing Dr

Total: 17
 In: 8 Out: 9

7 1

1

[W] EB W Henderson Rd

Total: 1489
 In: 647 Out: 842

8
 627
 12

1
 751
 33

[E] WB W Henderson Rd

In: 785
 Total: 1539
 Out: 754

84
 126

Out: 45 In: 210
 Total: 255

[S] NB Arlington Centre Blvd

Revised ITE Trip Generation

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
252

LAND USE GROUP:
(200-299) Residential

LAND USE:
252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

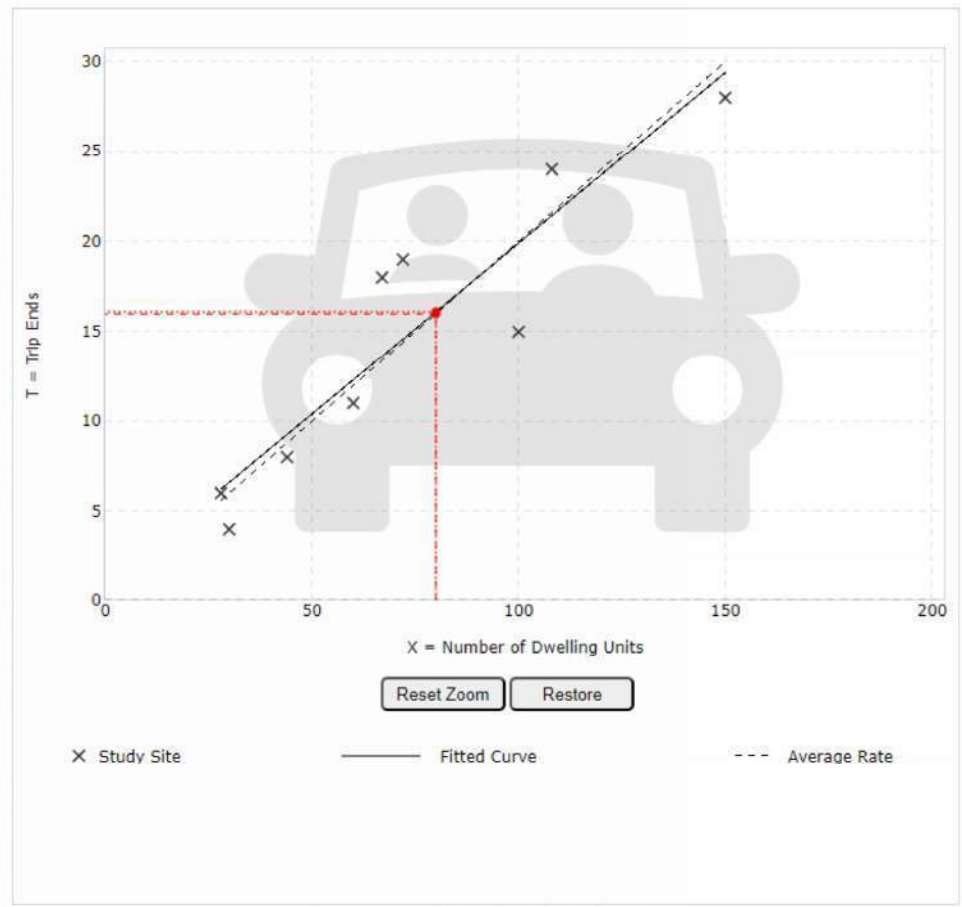
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
80 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:
Senior Adult Housing - Multifamily (252) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
9

Avg. Num. of Dwelling Units:
73

Average Rate:
0.20

Range of Rates:
0.13 - 0.27

Standard Deviation:
0.04

Fitted Curve Equation:
 $T = 0.19(X) + 0.90$

R²:
0.85

Directional Distribution:
34% entering, 66% exiting

Calculated Trip Ends:
Average Rate: 16 (Total), 5 (Entry), 11 (Exit)
Fitted Curve: 16 (Total), 5 (Entry), 11 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Query

Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

252



LAND USE GROUP:

(200-299) Residential

LAND USE:

252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street

TRIP TYPE:

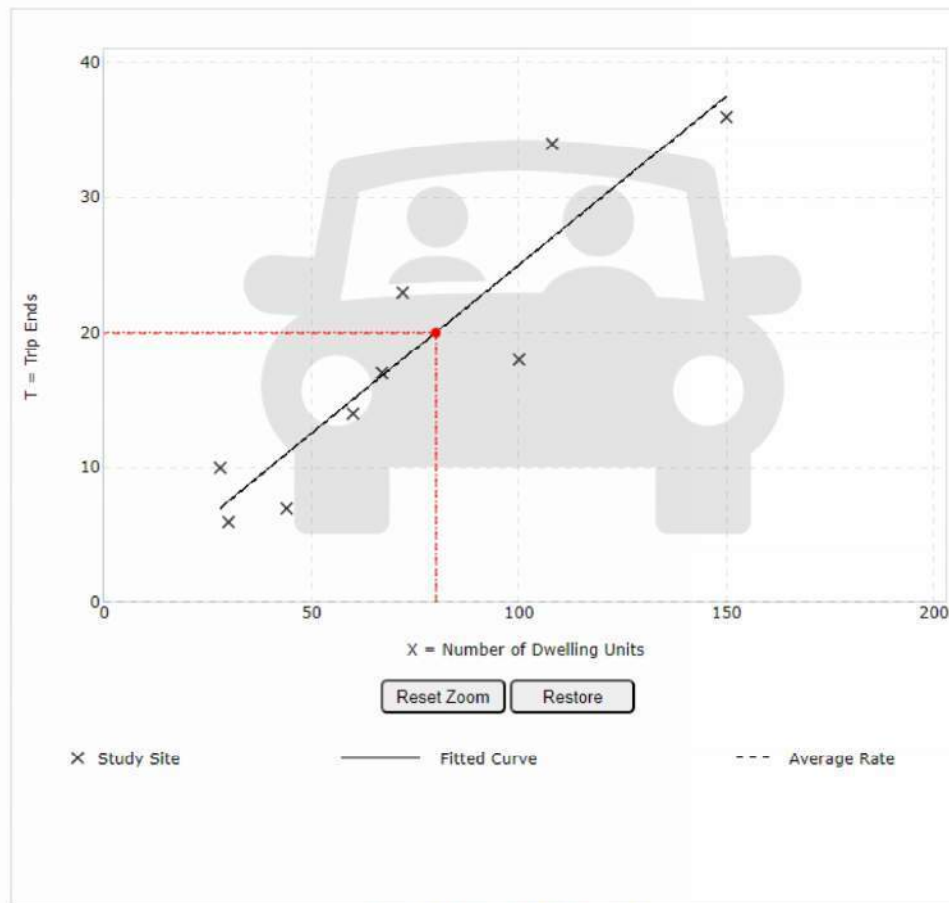
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

80

Calculate

Data Plot and Equation



x Study Site

— Fitted Curve

- - - Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:

Senior Adult Housing - Multifamily (252) [Click for Description and Data Plots](#)

Independent Variable:

Dwelling Units

Time Period:

Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

9

Avg. Num. of Dwelling Units:

73

Average Rate:

0.25

Range of Rates:

0.16 - 0.36

Standard Deviation:

0.06

Fitted Curve Equation:

 $T = 0.25(X) + 0.07$ R^2 :

0.84

Directional Distribution:

56% entering, 44% exiting

Calculated Trip Ends:

Average Rate: 20 (Total), 11 (Entry), 9 (Exit)

Fitted Curve: 20 (Total), 11 (Entry), 9 (Exit)

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
252

LAND USE GROUP:
(200-299) Residential

LAND USE:
252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

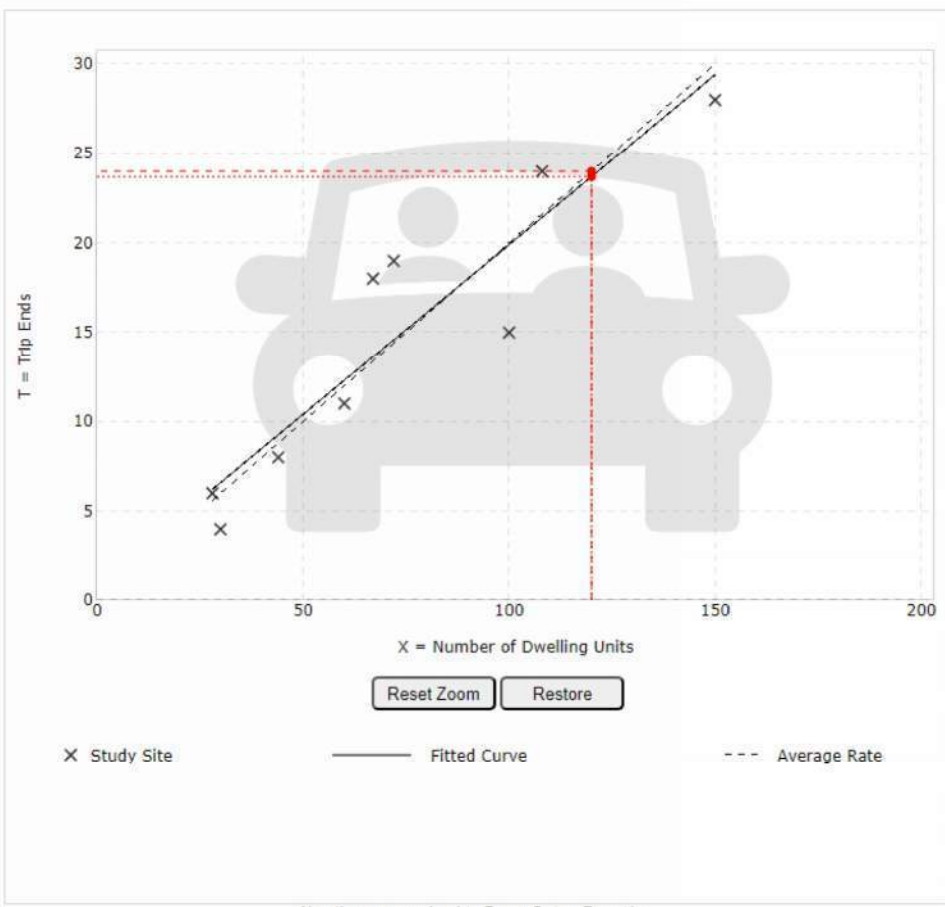
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
120 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:	Senior Adult Housing - Multifamily (252) Click for Description and Data Plots
Independent Variable:	Dwelling Units
Time Period:	Weekday Peak Hour of Adjacent Street Traffic One Hour Between 7 and 9 a.m.
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	9
Avg. Num. of Dwelling Units:	73
Average Rate:	0.20
Range of Rates:	0.13 - 0.27
Standard Deviation:	0.04
Fitted Curve Equation:	$T = 0.19(X) + 0.90$
R ² :	0.85
Directional Distribution:	34% entering, 66% exiting
Calculated Trip Ends:	Average Rate: 24 (Total), 8 (Entry), 16 (Exit) Fitted Curve: 24 (Total), 8 (Entry), 16 (Exit)

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
252

LAND USE GROUP:
(200-299) Residential

LAND USE:
252 - Senior Adult Housing - Multifamily

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
Dwelling Units

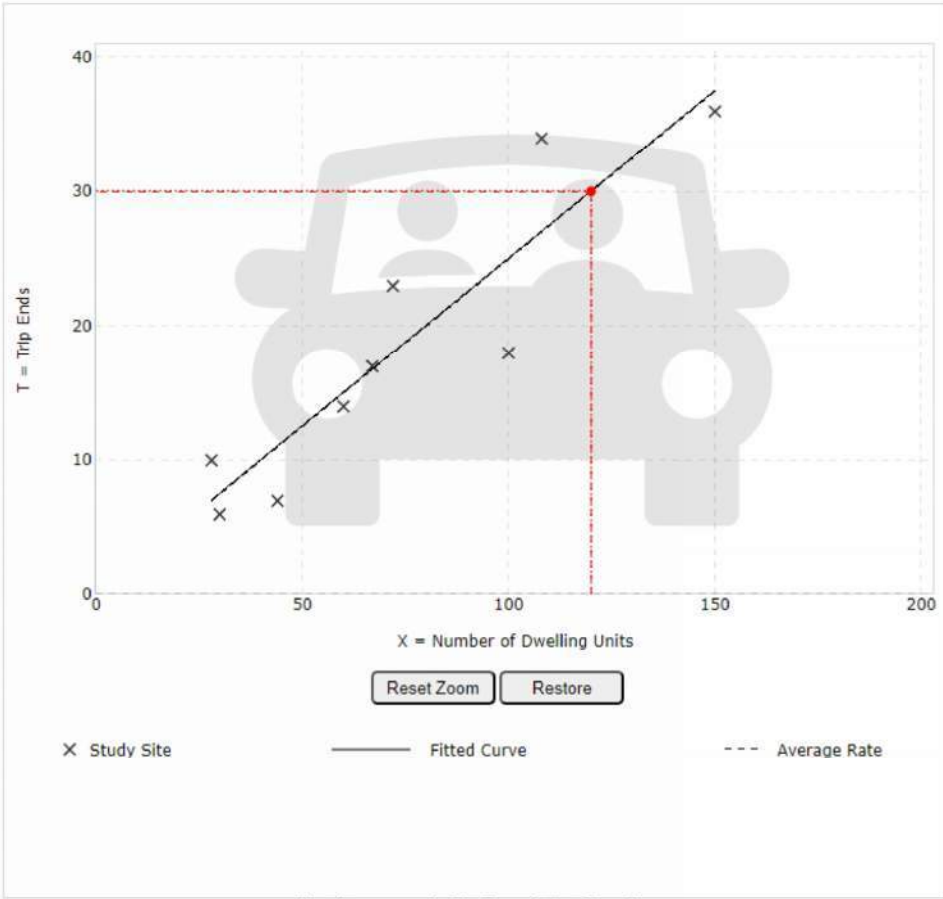
TIME PERIOD:
Weekday, Peak Hour of Adjacent Street

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
120

Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Senior Adult Housing - Multifamily (252) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
9

Avg. Num. of Dwelling Units:
73

Average Rate:
0.25

Range of Rates:
0.16 - 0.36

Standard Deviation:
0.06

Fitted Curve Equation:
 $T = 0.25(X) + 0.07$

R^2 :
0.84

Directional Distribution:
56% entering, 44% exiting

Calculated Trip Ends:
Average Rate: 30 (Total), 17 (Entry), 13 (Exit)
Fitted Curve: 30 (Total), 17 (Entry), 13 (Exit)



Graph Look Up

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
710

LAND USE GROUP:
(700-799) Office

LAND USE:
710 - General Office Building

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

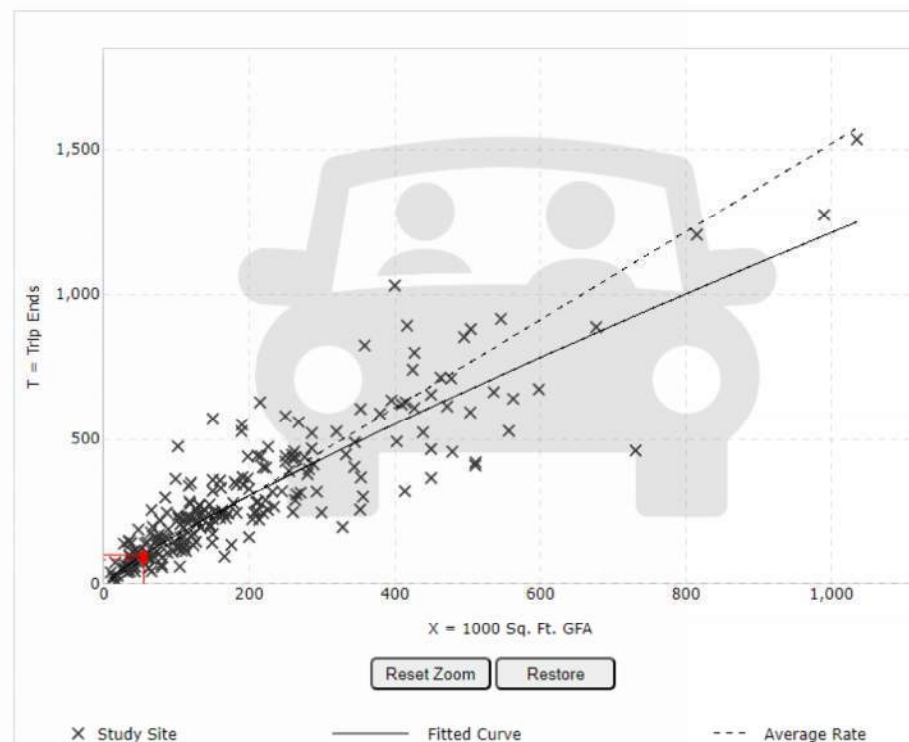
INDEPENDENT VARIABLE (IV):
1000 Sq. Ft. GFA

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
55 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:
General Office Building (710) [Click for Description and Data Plots](#)

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
221

Avg. 1000 Sq. Ft. GFA:
201

Average Rate:
1.52

Range of Rates:
0.32 - 4.93

Standard Deviation:
0.58

Fitted Curve Equation:
 $\ln(T) = 0.86 \ln(X) + 1.16$

R²:
0.78

Directional Distribution:
88% entering, 12% exiting

Calculated Trip Ends:
Average Rate: 84 (Total), 74 (Entry), 10 (Exit)
Fitted Curve: 100 (Total), 88 (Entry), 12 (Exit)

Query

Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

710

LAND USE GROUP:

(700-799) Office

LAND USE:

710 - General Office Building

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

1000 Sq. Ft. GFA

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street

TRIP TYPE:

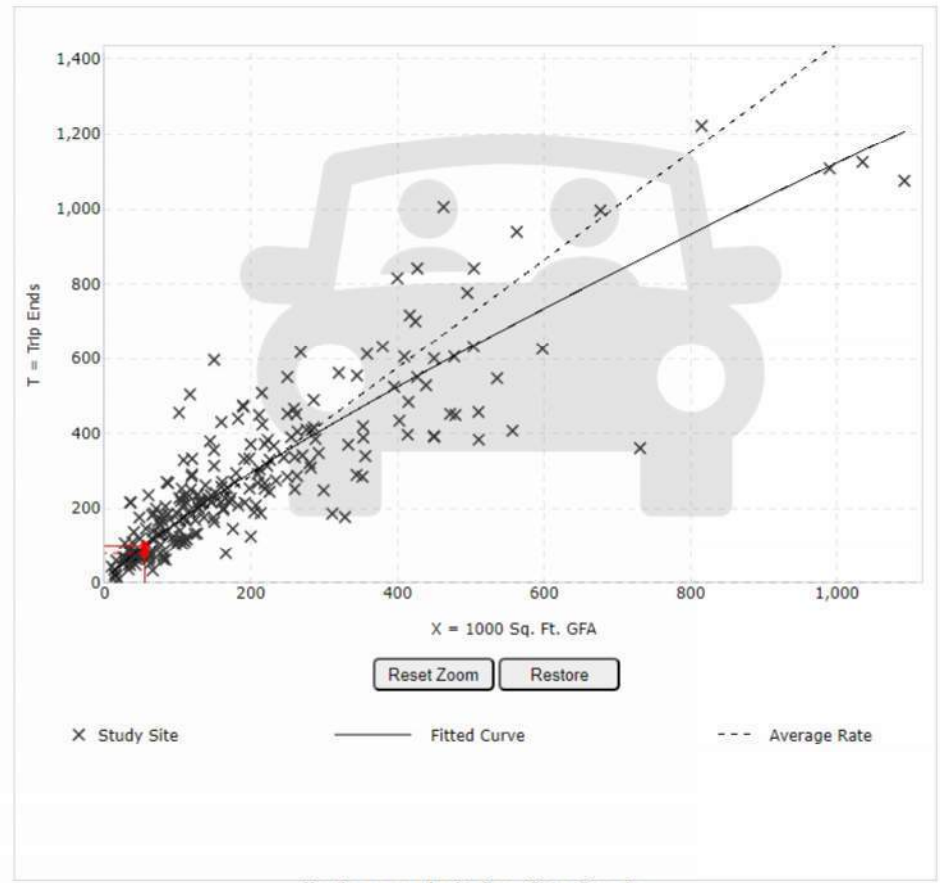
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

55

Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:	General Office Building (710) Click for Description and Data Plots
Independent Variable:	1000 Sq. Ft. GFA
Time Period:	Weekday Peak Hour of Adjacent Street Traffic One Hour Between 4 and 6 p.m.
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	232
Avg. 1000 Sq. Ft. GFA:	199
Average Rate:	1.44
Range of Rates:	0.26 - 6.20
Standard Deviation:	0.60
Fitted Curve Equation:	$\ln(T) = 0.83 \ln(X) + 1.29$
R ² :	0.77
Directional Distribution:	17% entering, 83% exiting
Calculated Trip Ends:	Average Rate: 79 (Total), 13 (Entry), 66 (Exit) Fitted Curve: 101 (Total), 17 (Entry), 84 (Exit)

Synchro 11 Capacity Analysis Reports

1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2023 AM No Build

Existing Conditions
10/29/2024

							
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Configurations							
Traffic Volume (vph)	3	509	151	488	16	0	0
Future Volume (vph)	3	509	151	488	16	0	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	NA
Protected Phases		2	1	6		8	4
Permitted Phases	2		6		8		
Detector Phase	2	2	1	6	8	8	4
Switch Phase							
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	11.9	30.0	23.0	23.0	23.0
Total Split (s)	60.0	60.0	30.0	90.0	30.0	30.0	30.0
Total Split (%)	50.0%	50.0%	25.0%	75.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None
Act Effct Green (s)	89.9	89.9	103.6	103.7	8.6	8.6	8.6
Actuated g/C Ratio	0.75	0.75	0.86	0.86	0.07	0.07	0.07
v/c Ratio	0.00	0.26	0.24	0.17	0.17	0.37	0.01
Control Delay	5.3	5.6	2.6	2.0	54.6	61.2	50.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	5.6	2.6	2.0	54.6	61.2	50.0
LOS	A	A	A	A	D	E	D
Approach Delay		5.6		2.1		59.3	50.0
Approach LOS		A		A		E	D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 6.2

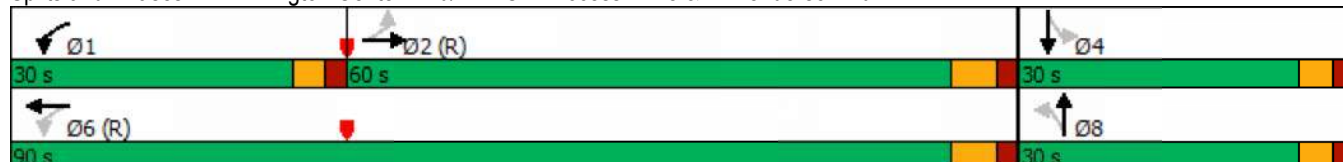
Intersection LOS: A

Intersection Capacity Utilization 61.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2023 AM No Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	509	95	151	488	1	16	0	40	0	0	1
Future Volume (veh/h)	3	509	95	151	488	1	16	0	40	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1900	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	3	553	103	164	530	1	17	0	43	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	0	0	0	0	0	2
Cap, veh/h	727	2287	425	721	3164	6	115	0	63	0	0	63
Arrive On Green	0.77	0.77	0.77	0.06	0.87	0.87	0.04	0.00	0.04	0.00	0.00	0.04
Sat Flow, veh/h	866	2968	551	1781	3639	7	1439	0	1610	0	0	1610
Grp Volume(v), veh/h	3	328	328	164	259	272	17	0	43	0	0	1
Grp Sat Flow(s),veh/h/ln	866	1763	1756	1781	1777	1869	1439	0	1610	0	0	1610
Q Serve(g_s), s	0.1	6.3	6.3	1.9	2.7	2.7	1.4	0.0	3.2	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	6.3	6.3	1.9	2.7	2.7	1.5	0.0	3.2	0.0	0.0	0.1
Prop In Lane	1.00		0.31	1.00		0.00	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	727	1358	1353	721	1545	1625	115	0	63	0	0	63
V/C Ratio(X)	0.00	0.24	0.24	0.23	0.17	0.17	0.15	0.00	0.69	0.00	0.00	0.02
Avail Cap(c_a), veh/h	727	1358	1353	991	1545	1625	359	0	335	0	0	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	3.2	3.9	3.9	1.9	1.2	1.2	56.2	0.0	56.9	0.0	0.0	55.5
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.2	0.2	0.2	0.6	0.0	12.5	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	2.0	0.4	0.5	0.5	0.5	0.0	1.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.2	4.3	4.3	2.1	1.4	1.4	56.7	0.0	69.5	0.0	0.0	55.6
LnGrp LOS	A	A	A	A	A	A	E	A	E	A	A	E
Approach Vol, veh/h		659			695			60			1	
Approach Delay, s/veh		4.3			1.6			65.9			55.6	
Approach LOS		A			A			E			E	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.9	98.5		9.7		110.3		9.7				
Change Period (Y+Rc), s	* 4.9	* 6		5.0		* 6		5.0				
Max Green Setting (Gmax), s	* 25	* 54		25.0		* 84		25.0				
Max Q Clear Time (g_c+I1), s	3.9	8.3		2.1		4.7		5.2				
Green Ext Time (p_c), s	0.4	4.5		0.0		3.4		0.2				

Intersection Summary

HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

2: Arlington Cen Blvd/Arlington Center Blvd & N Bank Rd/Center Loop E Existing Conditions
 2023 AM No Build 10/29/2024

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	0	0	0	0	1	1	16	0	38	14	92
Future Vol, veh/h	31	0	0	0	0	1	1	16	0	38	14	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	0	0	0	0	0	0	0	0	0
Mvmt Flow	35	0	0	0	0	1	1	18	0	43	16	105
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	176	175	69	175	227	18	121	0	0	18	0	0
Stage 1	155	155	-	20	20	-	-	-	-	-	-	-
Stage 2	21	20	-	155	207	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	784	717	991	792	676	1066	1479	-	-	1612	-	-
Stage 1	845	767	-	1004	883	-	-	-	-	-	-	-
Stage 2	995	877	-	852	734	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	765	695	991	774	656	1066	1479	-	-	1612	-	-
Mov Cap-2 Maneuver	765	695	-	774	656	-	-	-	-	-	-	-
Stage 1	844	745	-	1003	882	-	-	-	-	-	-	-
Stage 2	993	876	-	827	713	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.9		8.4			0.4			1.9			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL		NBT	NBR		EBLn1WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1479		-	-	765	1066	1612	-	-			
HCM Lane V/C Ratio	0.001		-	-	0.046	0.001	0.027	-	-			
HCM Control Delay (s)	7.4		0	-	9.9	8.4	7.3	0	-			
HCM Lane LOS	A		A	-	A	A	A	A	-			
HCM 95th %tile Q(veh)	0		-	-	0.1	0	0.1	-	-			

1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2023 PM No Build

Existing Conditions
10/29/2024

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	8	627	33	751	84	0	1	0
Future Volume (vph)	8	627	33	751	84	0	1	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		2	1	6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	12.0	30.0	23.0	23.0	23.0	23.0
Total Split (s)	72.0	72.0	18.0	90.0	30.0	30.0	30.0	30.0
Total Split (%)	60.0%	60.0%	15.0%	75.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	86.1	86.1	94.3	93.2	15.8	15.8		15.8
Actuated g/C Ratio	0.72	0.72	0.79	0.78	0.13	0.13		0.13
v/c Ratio	0.02	0.27	0.06	0.30	0.50	0.67		0.04
Control Delay	8.0	7.4	3.8	4.6	56.9	64.6		42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	8.0	7.4	3.8	4.6	56.9	64.6		42.8
LOS	A	A	A	A	E	E		D
Approach Delay		7.5		4.5		61.5		42.8
Approach LOS		A		A		E		D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 18 (15%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 13.1

Intersection LOS: B

Intersection Capacity Utilization 47.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2023 PM No Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	627	12	33	751	1	84	0	126	1	0	7
Future Volume (veh/h)	8	627	12	33	751	1	84	0	126	1	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	9	682	13	36	816	1	91	0	137	1	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	0	0	0
Cap, veh/h	532	2519	48	605	2849	3	181	0	198	41	14	174
Arrive On Green	0.70	0.70	0.70	0.04	0.78	0.78	0.13	0.00	0.13	0.13	0.00	0.13
Sat Flow, veh/h	674	3595	69	1781	3642	4	1396	0	1572	59	114	1380
Grp Volume(v), veh/h	9	340	355	36	398	419	91	0	137	9	0	0
Grp Sat Flow(s),veh/h/ln	674	1791	1873	1781	1777	1870	1396	0	1572	1553	0	0
Q Serve(g_s), s	0.5	8.4	8.4	0.6	7.5	7.5	2.3	0.0	10.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	8.4	8.4	0.6	7.5	7.5	12.3	0.0	10.0	10.0	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.00	1.00		1.00	0.11		0.89
Lane Grp Cap(c), veh/h	532	1255	1312	605	1390	1462	181	0	198	229	0	0
V/C Ratio(X)	0.02	0.27	0.27	0.06	0.29	0.29	0.50	0.00	0.69	0.04	0.00	0.00
Avail Cap(c_a), veh/h	532	1255	1312	727	1390	1462	296	0	328	358	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.5	6.6	6.6	4.1	3.7	3.7	51.9	0.0	50.2	46.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.5	0.0	0.5	0.5	2.1	0.0	4.3	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	3.2	0.2	2.3	2.4	2.8	0.0	4.2	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	7.2	7.1	4.1	4.2	4.2	54.1	0.0	54.5	46.1	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h	704			853			228			9		
Approach Delay, s/veh	7.1			4.2			54.3			46.1		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2	4			6		8				
Phs Duration (G+Y+Rc), s	9.8	90.1	20.1			99.9		20.1				
Change Period (Y+Rc), s	* 4.9	* 6	5.0			* 6		5.0				
Max Green Setting (Gmax), s	* 13	* 66	25.0			* 84		25.0				
Max Q Clear Time (g_c+I1), s	2.6	10.4	12.0			9.5		14.3				
Green Ext Time (p_c), s	0.0	4.8	0.0			5.9		0.8				

Intersection Summary

HCM 6th Ctrl Delay 11.9

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

2: Arlington Cen Blvd/Arlington Center Blvd & N Bank Rd/Center Loop E Existing Conditions
2023 PM No Build 10/29/2024

Intersection												
Int Delay, s/veh	7.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	112	0	0	1	0	41	1	11	1	8	22	6
Future Vol, veh/h	112	0	0	1	0	41	1	11	1	8	22	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	8	8	8	3	3	3
Mvmt Flow	137	0	0	1	0	50	1	13	1	10	27	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	92	67	31	67	70	14	34	0	0	14	0	0
Stage 1	51	51	-	16	16	-	-	-	-	-	-	-
Stage 2	41	16	-	51	54	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.18	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.272	-	-	2.227	-	-
Pot Cap-1 Maneuver	892	824	1043	931	824	1072	1540	-	-	1598	-	-
Stage 1	962	852	-	1009	886	-	-	-	-	-	-	-
Stage 2	974	882	-	967	854	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	846	818	1043	926	818	1072	1540	-	-	1598	-	-
Mov Cap-2 Maneuver	846	818	-	926	818	-	-	-	-	-	-	-
Stage 1	961	847	-	1008	885	-	-	-	-	-	-	-
Stage 2	928	881	-	961	849	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	10.1			8.5			0.6			1.6		
HCM LOS	B			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1540	-	-	846 1068	1598	-	-
HCM Lane V/C Ratio	0.001	-	-	0.161 0.048	0.006	-	-
HCM Control Delay (s)	7.3	0	-	10.1 8.5	7.3	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6 0.2	0	-	-

1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2027 AM No Build

Existing Conditions

10/29/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Configurations	↰	↰↱	↰	↰↱	↰	↱	↰↱
Traffic Volume (vph)	4	522	154	500	17	0	0
Future Volume (vph)	4	522	154	500	17	0	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	NA
Protected Phases		2	1	6		8	4
Permitted Phases	2		6		8		
Detector Phase	2	2	1	6	8	8	4
Switch Phase							
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	18.9	30.0	23.0	23.0	23.0
Total Split (s)	60.0	60.0	30.0	90.0	30.0	30.0	30.0
Total Split (%)	50.0%	50.0%	25.0%	75.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None
Act Effct Green (s)	89.6	89.6	103.4	103.5	8.8	8.8	8.8
Actuated g/C Ratio	0.75	0.75	0.86	0.86	0.07	0.07	0.07
v/c Ratio	0.01	0.26	0.25	0.18	0.17	0.39	0.01
Control Delay	5.5	5.7	2.7	2.0	54.4	61.5	49.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.5	5.7	2.7	2.0	54.4	61.5	49.0
LOS	A	A	A	A	D	E	D
Approach Delay		5.7		2.2		59.5	49.0
Approach LOS		A		A		E	D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 6.4

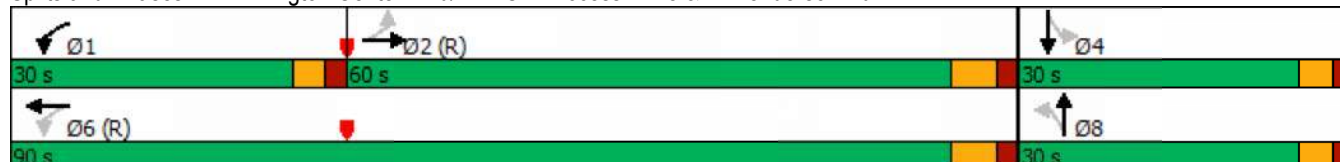
Intersection LOS: A

Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2027 AM No Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	522	97	154	500	2	17	0	42	0	0	1
Future Volume (veh/h)	4	522	97	154	500	2	17	0	42	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	567	105	167	543	2	18	0	46	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	0	0	0	0	0	0
Cap, veh/h	716	2282	421	710	3148	12	119	0	67	0	0	67
Arrive On Green	0.77	0.77	0.77	0.06	0.87	0.87	0.04	0.00	0.04	0.00	0.00	0.04
Sat Flow, veh/h	855	2971	549	1781	3631	13	1439	0	1610	0	0	1610
Grp Volume(v), veh/h	4	336	336	167	266	279	18	0	46	0	0	1
Grp Sat Flow(s),veh/h/ln	855	1763	1757	1781	1777	1868	1439	0	1610	0	0	1610
Q Serve(g_s), s	0.1	6.5	6.6	2.0	2.8	2.8	1.5	0.0	3.4	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	6.5	6.6	2.0	2.8	2.8	1.5	0.0	3.4	0.0	0.0	0.1
Prop In Lane	1.00		0.31	1.00		0.01	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	716	1354	1349	710	1540	1619	119	0	67	0	0	67
V/C Ratio(X)	0.01	0.25	0.25	0.24	0.17	0.17	0.15	0.00	0.69	0.00	0.00	0.02
Avail Cap(c_a), veh/h	716	1354	1349	979	1540	1619	359	0	335	0	0	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	3.2	4.0	4.0	2.0	1.2	1.2	55.9	0.0	56.8	0.0	0.0	55.2
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.2	0.2	0.2	0.6	0.0	12.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.1	0.4	0.5	0.5	0.6	0.0	1.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.3	4.4	4.4	2.2	1.5	1.5	56.5	0.0	68.8	0.0	0.0	55.3
LnGrp LOS	A	A	A	A	A	A	E	A	E	A	A	E
Approach Vol, veh/h	676			712			64			1		
Approach Delay, s/veh	4.4			1.7			65.3			55.3		
Approach LOS	A			A			E			E		
Timer - Assigned Phs	1	2	4			6		8				
Phs Duration (G+Y+Rc), s	11.9	98.2	10.0			110.0		10.0				
Change Period (Y+Rc), s	* 4.9	* 6	5.0			* 6		5.0				
Max Green Setting (Gmax), s	* 25	* 54	25.0			* 84		25.0				
Max Q Clear Time (g_c+l1), s	4.0	8.6	2.1			4.8		5.4				
Green Ext Time (p_c), s	0.4	4.6	0.0			3.5		0.2				

Intersection Summary

HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	0	0	0	0	2	2	19	0	40	15	94
Future Vol, veh/h	33	0	0	0	0	2	2	19	0	40	15	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	0	0	0	0	0	0	0	0	0
Mvmt Flow	38	0	0	0	0	2	2	22	0	45	17	107

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	188	187	71	187	240	22	124	0	0	22	0	0
Stage 1	161	161	-	26	26	-	-	-	-	-	-	-
Stage 2	27	26	-	161	214	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	770	706	989	778	665	1061	1475	-	-	1607	-	-
Stage 1	839	763	-	997	878	-	-	-	-	-	-	-
Stage 2	988	872	-	846	729	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	750	684	989	759	644	1061	1475	-	-	1607	-	-
Mov Cap-2 Maneuver	750	684	-	759	644	-	-	-	-	-	-	-
Stage 1	838	740	-	996	877	-	-	-	-	-	-	-
Stage 2	985	871	-	821	707	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.1		8.4		0.7		2	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1475	-	-	750 1061	1607	-	-
HCM Lane V/C Ratio	0.002	-	-	0.05 0.002	0.028	-	-
HCM Control Delay (s)	7.4	0	-	10.1 8.4	7.3	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2 0	0.1	-	-

1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2027 PM No Build

Existing Conditions

10/29/2024

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	9	643	34	770	87	0	1	0
Future Volume (vph)	9	643	34	770	87	0	1	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		2	1	6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	12.0	30.0	23.0	23.0	23.0	23.0
Total Split (s)	72.0	72.0	18.0	90.0	30.0	30.0	30.0	30.0
Total Split (%)	60.0%	60.0%	15.0%	75.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	85.8	85.8	94.0	92.9	16.1	16.1		16.1
Actuated g/C Ratio	0.72	0.72	0.78	0.77	0.13	0.13		0.13
v/c Ratio	0.02	0.28	0.07	0.31	0.51	0.67		0.04
Control Delay	8.1	7.6	3.9	4.7	57.0	64.5		42.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	8.1	7.6	3.9	4.7	57.0	64.5		42.5
LOS	A	A	A	A	E	E		D
Approach Delay		7.6		4.7		61.5		42.5
Approach LOS		A		A		E		D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 18 (15%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 13.3

Intersection LOS: B

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2027 PM No Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	643	13	34	770	2	87	0	130	1	0	7
Future Volume (veh/h)	9	643	13	34	770	2	87	0	130	1	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	10	699	14	37	837	2	95	0	141	1	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	0	0	0
Cap, veh/h	519	2497	50	592	2827	7	185	0	206	41	15	180
Arrive On Green	0.70	0.70	0.70	0.04	0.78	0.78	0.13	0.00	0.13	0.13	0.00	0.13
Sat Flow, veh/h	661	3591	72	1781	3637	9	1396	0	1572	60	112	1378
Grp Volume(v), veh/h	10	348	365	37	409	430	95	0	141	9	0	0
Grp Sat Flow(s),veh/h/ln	661	1791	1872	1781	1777	1869	1396	0	1572	1550	0	0
Q Serve(g_s), s	0.6	8.8	8.8	0.6	8.0	8.0	2.7	0.0	10.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	8.8	8.8	0.6	8.0	8.0	12.9	0.0	10.3	10.3	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.00	1.00		1.00	0.11		0.89
Lane Grp Cap(c), veh/h	519	1245	1302	592	1381	1453	185	0	206	236	0	0
V/C Ratio(X)	0.02	0.28	0.28	0.06	0.30	0.30	0.51	0.00	0.68	0.04	0.00	0.00
Avail Cap(c_a), veh/h	519	1245	1302	712	1381	1453	293	0	328	357	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.7	6.9	6.9	4.2	3.9	3.9	51.7	0.0	49.8	45.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	0.5	0.0	0.5	0.5	2.2	0.0	4.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.2	3.4	0.2	2.5	2.6	2.9	0.0	4.3	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	7.5	7.5	4.3	4.4	4.4	53.9	0.0	53.8	45.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		723			876			236			9	
Approach Delay, s/veh		7.4			4.4			53.8			45.6	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.9	89.4		20.7		99.3		20.7				
Change Period (Y+Rc), s	* 4.9	* 6		5.0		* 6		5.0				
Max Green Setting (Gmax), s	* 13	* 66		25.0		* 84		25.0				
Max Q Clear Time (g_c+I1), s	2.6	10.8		12.3		10.0		14.9				
Green Ext Time (p_c), s	0.0	5.0		0.0		6.1		0.8				

Intersection Summary

HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	7.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	117	0	0	2	0	48	2	13	2	9	23	7
Future Vol, veh/h	117	0	0	2	0	48	2	13	2	9	23	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	8	8	8	3	3	3
Mvmt Flow	143	0	0	2	0	59	2	16	2	11	28	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	106	77	33	76	80	17	37	0	0	18	0	0
Stage 1	55	55	-	21	21	-	-	-	-	-	-	-
Stage 2	51	22	-	55	59	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.18	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.272	-	-	2.227	-	-
Pot Cap-1 Maneuver	873	813	1041	919	814	1068	1536	-	-	1592	-	-
Stage 1	957	849	-	1003	882	-	-	-	-	-	-	-
Stage 2	962	877	-	962	850	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	820	806	1041	913	807	1068	1536	-	-	1592	-	-
Mov Cap-2 Maneuver	820	806	-	913	807	-	-	-	-	-	-	-
Stage 1	956	843	-	1002	881	-	-	-	-	-	-	-
Stage 2	908	876	-	955	844	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	10.3			8.6			0.9			1.7		
HCM LOS	B			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1536	-	-	820 1061	1592	-	-
HCM Lane V/C Ratio	0.002	-	-	0.174 0.057	0.007	-	-
HCM Control Delay (s)	7.3	0	-	10.3 8.6	7.3	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6 0.2	0	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Configurations							
Traffic Volume (vph)	4	522	191	500	28	0	0
Future Volume (vph)	4	522	191	500	28	0	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	NA
Protected Phases		2	1	6		8	4
Permitted Phases	2		6		8		
Detector Phase	2	2	1	6	8	8	4
Switch Phase							
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	11.9	30.0	23.0	23.0	23.0
Total Split (s)	60.0	60.0	30.0	90.0	30.0	30.0	30.0
Total Split (%)	50.0%	50.0%	25.0%	75.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None
Act Effct Green (s)	87.6	87.6	102.1	102.2	10.3	10.3	10.1
Actuated g/C Ratio	0.73	0.73	0.85	0.85	0.09	0.09	0.08
v/c Ratio	0.01	0.28	0.32	0.18	0.24	0.48	0.01
Control Delay	6.5	6.6	3.4	2.4	54.6	63.0	48.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	6.6	3.4	2.4	54.6	63.0	48.0
LOS	A	A	A	A	D	E	D
Approach Delay		6.6		2.7		60.4	48.0
Approach LOS		A		A		E	D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 8.1

Intersection LOS: A

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2027 AM Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	522	114	191	500	2	28	0	61	0	0	1
Future Volume (veh/h)	4	522	114	191	500	2	28	0	61	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1900	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	4	567	124	208	543	2	30	0	66	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	0	0	0	0	0	2
Cap, veh/h	702	2163	472	683	3089	11	142	0	93	0	0	93
Arrive On Green	0.75	0.75	0.75	0.06	0.85	0.85	0.06	0.00	0.06	0.00	0.00	0.06
Sat Flow, veh/h	855	2878	627	1781	3631	13	1439	0	1610	0	0	1610
Grp Volume(v), veh/h	4	347	344	208	266	279	30	0	66	0	0	1
Grp Sat Flow(s),veh/h/ln	855	1763	1743	1781	1777	1868	1439	0	1610	0	0	1610
Q Serve(g_s), s	0.1	7.3	7.3	2.8	3.1	3.1	2.4	0.0	4.8	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	7.3	7.3	2.8	3.1	3.1	2.5	0.0	4.8	0.0	0.0	0.1
Prop In Lane	1.00		0.36	1.00		0.01	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	702	1325	1310	683	1512	1589	142	0	93	0	0	93
V/C Ratio(X)	0.01	0.26	0.26	0.30	0.18	0.18	0.21	0.00	0.71	0.00	0.00	0.01
Avail Cap(c_a), veh/h	702	1325	1310	952	1512	1589	359	0	335	0	0	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	3.7	4.6	4.6	2.5	1.6	1.6	54.5	0.0	55.6	0.0	0.0	53.3
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.2	0.3	0.2	0.7	0.0	9.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	2.4	0.7	0.7	0.7	0.9	0.0	2.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.7	5.1	5.1	2.8	1.8	1.8	55.2	0.0	65.2	0.0	0.0	53.4
LnGrp LOS	A	A	A	A	A	A	E	A	E	A	A	D
Approach Vol, veh/h	695				753				96			
Approach Delay, s/veh	5.1				2.1				62.1			
Approach LOS	A				A				E			
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	11.9	96.2	11.9		108.1		11.9					
Change Period (Y+Rc), s	* 4.9	* 6	5.0		* 6		5.0					
Max Green Setting (Gmax), s	* 25	* 54	25.0		* 84		25.0					
Max Q Clear Time (g_c+I1), s	4.8	9.3	2.1		5.1		6.8					
Green Ext Time (p_c), s	0.5	4.8	0.0		3.5		0.4					

Intersection Summary

HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	0	0	0	0	2	2	19	0	40	15	148
Future Vol, veh/h	62	0	0	0	0	2	2	19	0	40	15	148
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	0	0	0	0	0	0	0	0	0
Mvmt Flow	70	0	0	0	0	2	2	22	0	45	17	168
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	218	217	101	217	301	22	185	0	0	22	0	0
Stage 1	191	191	-	26	26	-	-	-	-	-	-	-
Stage 2	27	26	-	191	275	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	736	679	952	744	615	1061	1402	-	-	1607	-	-
Stage 1	808	740	-	997	878	-	-	-	-	-	-	-
Stage 2	988	872	-	815	686	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	716	657	952	725	595	1061	1402	-	-	1607	-	-
Mov Cap-2 Maneuver	716	657	-	725	595	-	-	-	-	-	-	-
Stage 1	807	716	-	996	877	-	-	-	-	-	-	-
Stage 2	985	871	-	789	664	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	10.6		8.4			0.7			1.4			
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1402	-	-	716	1061	1607	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.098	0.002	0.028	-	-				
HCM Control Delay (s)	7.6	0	-	10.6	8.4	7.3	0	-				
HCM Lane LOS	A	A	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0.1	-	-				

1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2027 PM Build

Existing Conditions
10/29/2024

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	8	643	62	770	120	0	1	0
Future Volume (vph)	8	643	62	770	120	0	1	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		2	1	6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	11.9	30.0	23.0	23.0	23.0	23.0
Total Split (s)	72.0	72.0	18.0	90.0	30.0	30.0	30.0	30.0
Total Split (%)	60.0%	60.0%	15.0%	75.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	79.3	79.3	90.2	89.1	19.9	19.9		19.9
Actuated g/C Ratio	0.66	0.66	0.75	0.74	0.17	0.17		0.17
v/c Ratio	0.02	0.31	0.13	0.32	0.57	0.74		0.03
Control Delay	10.4	10.4	5.3	6.1	54.6	63.6		38.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.4	10.4	5.3	6.1	54.6	63.6		38.5
LOS	B	B	A	A	D	E		D
Approach Delay		10.4		6.1		59.9		38.5
Approach LOS		B		A		E		D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 18 (15%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 16.6

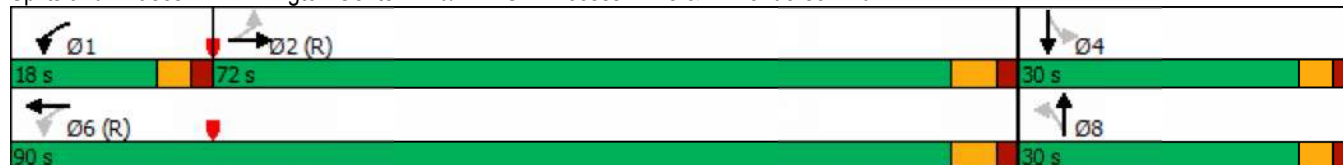
Intersection LOS: B

Intersection Capacity Utilization 68.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2027 PM Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	643	28	62	770	2	120	0	176	1	0	7
Future Volume (veh/h)	8	643	28	62	770	2	120	0	176	1	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	9	699	30	67	837	2	130	0	191	1	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	0	0	0
Cap, veh/h	480	2225	95	549	2651	6	217	0	282	45	17	231
Arrive On Green	0.64	0.64	0.64	0.05	0.73	0.73	0.18	0.00	0.18	0.18	0.00	0.18
Sat Flow, veh/h	661	3499	150	1781	3637	9	1396	0	1572	63	97	1286
Grp Volume(v), veh/h	9	358	371	67	409	430	130	0	191	9	0	0
Grp Sat Flow(s),veh/h/ln	661	1791	1858	1781	1777	1869	1396	0	1572	1446	0	0
Q Serve(g_s), s	0.6	10.9	10.9	1.4	9.7	9.7	5.3	0.0	13.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	10.9	10.9	1.4	9.7	9.7	18.9	0.0	13.6	13.6	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.00	1.00		1.00	0.11		0.89
Lane Grp Cap(c), veh/h	480	1139	1182	549	1295	1362	217	0	282	293	0	0
V/C Ratio(X)	0.02	0.31	0.31	0.12	0.32	0.32	0.60	0.00	0.68	0.03	0.00	0.00
Avail Cap(c_a), veh/h	480	1139	1182	650	1295	1362	258	0	328	338	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.1	9.9	9.9	6.2	5.7	5.7	50.1	0.0	46.0	40.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.7	0.7	0.1	0.6	0.6	2.7	0.0	4.5	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.3	4.4	0.5	3.4	3.5	4.0	0.0	5.7	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	10.7	10.6	6.3	6.4	6.3	52.8	0.0	50.5	40.7	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		738			906			321			9	
Approach Delay, s/veh		10.6			6.3			51.4			40.7	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.1	82.3		26.5		93.5		26.5				
Change Period (Y+Rc), s	* 4.9	* 6		5.0		* 6		5.0				
Max Green Setting (Gmax), s	* 13	* 66		25.0		* 84		25.0				
Max Q Clear Time (g_c+I1), s	3.4	12.9		15.6		11.7		20.9				
Green Ext Time (p_c), s	0.1	5.1		0.0		6.1		0.6				

Intersection Summary

HCM 6th Ctrl Delay 15.4

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	186	0	0	2	0	48	2	13	2	9	23	50
Future Vol, veh/h	186	0	0	2	0	48	2	13	2	9	23	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	8	8	8	3	3	3
Mvmt Flow	227	0	0	2	0	59	2	16	2	11	28	61
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	132	103	59	102	132	17	89	0	0	18	0	0
Stage 1	81	81	-	21	21	-	-	-	-	-	-	-
Stage 2	51	22	-	81	111	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.18	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.272	-	-	2.227	-	-
Pot Cap-1 Maneuver	840	787	1007	884	762	1068	1469	-	-	1592	-	-
Stage 1	927	828	-	1003	882	-	-	-	-	-	-	-
Stage 2	962	877	-	932	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	789	781	1007	879	756	1068	1469	-	-	1592	-	-
Mov Cap-2 Maneuver	789	781	-	879	756	-	-	-	-	-	-	-
Stage 1	926	822	-	1002	881	-	-	-	-	-	-	-
Stage 2	908	876	-	925	801	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	11.4		8.6			0.9			0.8			
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1469	-	-	789	1059	1592	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.287	0.058	0.007	-	-				
HCM Control Delay (s)	7.5	0	-	11.4	8.6	7.3	0	-				
HCM Lane LOS	A	A	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	1.2	0.2	0	-	-				

1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2037 AM No Build

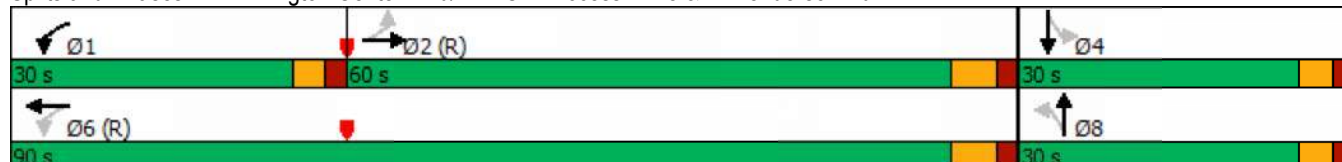
Existing Conditions
10/29/2024

							
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Configurations							
Traffic Volume (vph)	4	552	162	529	18	0	0
Future Volume (vph)	4	552	162	529	18	0	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	NA
Protected Phases		2	1	6		8	4
Permitted Phases	2		6		8		
Detector Phase	2	2	1	6	8	8	4
Switch Phase							
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	11.9	30.0	23.0	23.0	23.0
Total Split (s)	60.0	60.0	30.0	90.0	30.0	30.0	30.0
Total Split (%)	50.0%	50.0%	25.0%	75.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None
Act Effct Green (s)	89.3	89.3	103.2	103.3	9.0	9.0	9.0
Actuated g/C Ratio	0.74	0.74	0.86	0.86	0.08	0.08	0.08
v/c Ratio	0.01	0.28	0.28	0.19	0.19	0.40	0.01
Control Delay	5.8	6.0	2.9	2.1	54.6	61.8	49.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	6.0	2.9	2.1	54.6	61.8	49.0
LOS	A	A	A	A	D	E	D
Approach Delay		6.0		2.3		59.7	49.0
Approach LOS		A		A		E	D

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 30 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 6.6
Intersection Capacity Utilization 61.8%
Analysis Period (min) 15
Intersection LOS: A
ICU Level of Service B

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2037 AM No Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	552	102	162	529	2	18	0	45	0	0	1
Future Volume (veh/h)	4	552	102	162	529	2	18	0	45	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	600	111	176	575	2	20	0	49	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	0	0	0	0	0	0
Cap, veh/h	695	2274	420	685	3140	11	122	0	71	0	0	71
Arrive On Green	0.77	0.77	0.77	0.06	0.86	0.86	0.04	0.00	0.04	0.00	0.00	0.04
Sat Flow, veh/h	830	2971	548	1781	3632	13	1439	0	1610	0	0	1610
Grp Volume(v), veh/h	4	355	356	176	281	296	20	0	49	0	0	1
Grp Sat Flow(s),veh/h/ln	830	1763	1757	1781	1777	1868	1439	0	1610	0	0	1610
Q Serve(g_s), s	0.1	7.1	7.1	2.1	3.1	3.1	1.6	0.0	3.6	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	7.1	7.1	2.1	3.1	3.1	1.7	0.0	3.6	0.0	0.0	0.1
Prop In Lane	1.00		0.31	1.00		0.01	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	695	1349	1345	685	1536	1615	122	0	71	0	0	71
V/C Ratio(X)	0.01	0.26	0.26	0.26	0.18	0.18	0.16	0.00	0.69	0.00	0.00	0.01
Avail Cap(c_a), veh/h	695	1349	1345	954	1536	1615	359	0	335	0	0	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	3.3	4.1	4.1	2.2	1.3	1.3	55.7	0.0	56.6	0.0	0.0	54.9
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.2	0.3	0.2	0.6	0.0	11.4	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.3	0.5	0.6	0.6	0.6	0.0	1.7	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.3	4.6	4.6	2.4	1.6	1.6	56.3	0.0	68.0	0.0	0.0	55.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	A	A	D
Approach Vol, veh/h		715			753			69			1	
Approach Delay, s/veh		4.6			1.8			64.6			55.0	
Approach LOS		A			A			E			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.9	97.8		10.3		109.7		10.3				
Change Period (Y+Rc), s	* 4.9	* 6		5.0		* 6		5.0				
Max Green Setting (Gmax), s	* 25	* 54		25.0		* 84		25.0				
Max Q Clear Time (g_c+I1), s	4.1	9.1		2.1		5.1		5.6				
Green Ext Time (p_c), s	0.4	5.0		0.0		3.8		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			5.9									
HCM 6th LOS			A									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	36	0	0	0	0	2	2	24	0	44	17	99
Future Vol, veh/h	36	0	0	0	0	2	2	24	0	44	17	99
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	0	0	0	0	0	0	0	0	0
Mvmt Flow	41	0	0	0	0	2	2	27	0	50	19	113

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	208	207	76	207	263	27	132	0	0	27	0	0
Stage 1	176	176	-	31	31	-	-	-	-	-	-	-
Stage 2	32	31	-	176	232	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	747	688	982	755	646	1054	1466	-	-	1600	-	-
Stage 1	823	752	-	991	873	-	-	-	-	-	-	-
Stage 2	982	867	-	831	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	725	664	982	735	623	1054	1466	-	-	1600	-	-
Mov Cap-2 Maneuver	725	664	-	735	623	-	-	-	-	-	-	-
Stage 1	822	726	-	990	872	-	-	-	-	-	-	-
Stage 2	979	866	-	803	692	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.3		8.4		0.6		2	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1466	-	-	725 1054	1600	-	-
HCM Lane V/C Ratio	0.002	-	-	0.056 0.002	0.031	-	-
HCM Control Delay (s)	7.5	0	-	10.3 8.4	7.3	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2 0	0.1	-	-

1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2037 PM No Build

Existing Conditions
10/29/2024

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	9	680	36	815	93	0	1	0
Future Volume (vph)	9	680	36	815	93	0	1	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		2	1	6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	11.9	30.0	23.0	23.0	23.0	23.0
Total Split (s)	72.0	72.0	18.0	90.0	30.0	30.0	30.0	30.0
Total Split (%)	60.0%	60.0%	15.0%	75.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	85.1	85.1	93.3	92.2	16.8	16.8		16.8
Actuated g/C Ratio	0.71	0.71	0.78	0.77	0.14	0.14		0.14
v/c Ratio	0.02	0.30	0.07	0.33	0.52	0.69		0.04
Control Delay	8.4	8.1	4.1	5.1	56.5	64.7		41.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	8.4	8.1	4.1	5.1	56.5	64.7		41.8
LOS	A	A	A	A	E	E		D
Approach Delay		8.1		5.0		61.4		41.8
Approach LOS		A		A		E		D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 18 (15%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 50.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2037 PM No Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	680	13	36	815	2	93	0	139	1	0	7
Future Volume (veh/h)	9	680	13	36	815	2	93	0	139	1	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	10	739	14	39	886	2	101	0	151	1	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	0	0	0
Cap, veh/h	492	2462	47	564	2794	6	191	0	221	42	15	190
Arrive On Green	0.68	0.68	0.68	0.04	0.77	0.77	0.14	0.00	0.14	0.14	0.00	0.14
Sat Flow, veh/h	631	3596	68	1781	3638	8	1396	0	1572	61	109	1357
Grp Volume(v), veh/h	10	368	385	39	433	455	101	0	151	9	0	0
Grp Sat Flow(s),veh/h/ln	631	1791	1873	1781	1777	1869	1396	0	1572	1526	0	0
Q Serve(g_s), s	0.6	9.8	9.8	0.7	9.0	9.0	3.1	0.0	11.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	9.8	9.8	0.7	9.0	9.0	14.0	0.0	11.0	10.9	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.00	1.00		1.00	0.11		0.89
Lane Grp Cap(c), veh/h	492	1226	1282	564	1365	1435	191	0	221	248	0	0
V/C Ratio(X)	0.02	0.30	0.30	0.07	0.32	0.32	0.53	0.00	0.68	0.04	0.00	0.00
Avail Cap(c_a), veh/h	492	1226	1282	683	1365	1435	286	0	328	354	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.1	7.5	7.5	4.6	4.3	4.3	51.4	0.0	49.1	44.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	0.6	0.1	0.6	0.6	2.3	0.0	3.7	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.6	3.8	0.2	2.9	3.0	3.1	0.0	4.6	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.1	8.1	8.1	4.7	4.9	4.9	53.6	0.0	52.8	44.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		763			927			252			9	
Approach Delay, s/veh		8.1			4.9			53.1			44.6	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	88.2		21.8		98.2		21.8				
Change Period (Y+Rc), s	* 4.9	* 6		5.0		* 6		5.0				
Max Green Setting (Gmax), s	* 13	* 66		25.0		* 84		25.0				
Max Q Clear Time (g_c+I1), s	2.7	11.8		12.9		11.0		16.0				
Green Ext Time (p_c), s	0.0	5.3		0.0		6.6		0.8				
Intersection Summary												
HCM 6th Ctrl Delay				12.5								
HCM 6th LOS				B								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	128	0	0	2	0	63	2	17	2	10	26	7
Future Vol, veh/h	128	0	0	2	0	63	2	17	2	10	26	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	8	8	8	3	3	3
Mvmt Flow	156	0	0	2	0	77	2	21	2	12	32	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	126	88	37	87	91	22	41	0	0	23	0	0
Stage 1	61	61	-	26	26	-	-	-	-	-	-	-
Stage 2	65	27	-	61	65	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.18	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.272	-	-	2.227	-	-
Pot Cap-1 Maneuver	848	802	1035	904	803	1061	1530	-	-	1586	-	-
Stage 1	950	844	-	997	878	-	-	-	-	-	-	-
Stage 2	946	873	-	955	845	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	781	795	1035	898	796	1061	1530	-	-	1586	-	-
Mov Cap-2 Maneuver	781	795	-	898	796	-	-	-	-	-	-	-
Stage 1	949	837	-	996	877	-	-	-	-	-	-	-
Stage 2	877	872	-	947	838	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	10.8			8.7			0.7			1.7		
HCM LOS	B			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1530	-	-	781 1055	1586	-	-
HCM Lane V/C Ratio	0.002	-	-	0.2 0.075	0.008	-	-
HCM Control Delay (s)	7.4	0	-	10.8 8.7	7.3	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7 0.2	0	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Configurations							
Traffic Volume (vph)	4	552	199	529	29	0	0
Future Volume (vph)	4	552	199	529	29	0	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	NA
Protected Phases		2	1	6		8	4
Permitted Phases	2		6		8		
Detector Phase	2	2	1	6	8	8	4
Switch Phase							
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	11.9	30.0	23.0	23.0	23.0
Total Split (s)	60.0	60.0	30.0	90.0	30.0	30.0	30.0
Total Split (%)	50.0%	50.0%	25.0%	75.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None
Act Effct Green (s)	87.0	87.0	101.8	101.9	10.6	10.6	10.4
Actuated g/C Ratio	0.72	0.72	0.85	0.85	0.09	0.09	0.09
v/c Ratio	0.01	0.29	0.35	0.19	0.25	0.49	0.01
Control Delay	6.8	7.1	3.7	2.5	54.5	63.1	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.8	7.1	3.7	2.5	54.5	63.1	47.0
LOS	A	A	A	A	D	E	D
Approach Delay		7.1		2.8		60.4	47.0
Approach LOS		A		A		E	D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 8.4

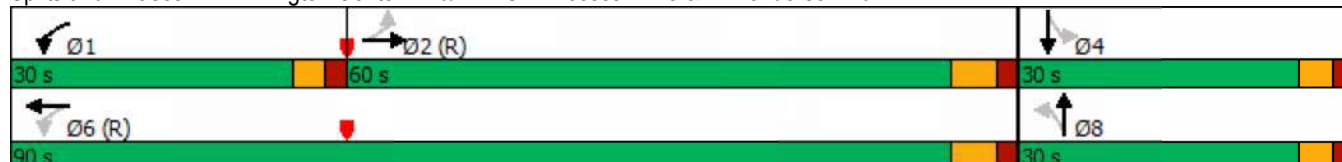
Intersection LOS: A

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2037 AM Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	552	119	199	529	2	29	0	64	0	0	1
Future Volume (veh/h)	4	552	119	199	529	2	29	0	64	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	600	129	216	575	2	32	0	70	0	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	0	0	0	0	0	0
Cap, veh/h	681	2162	464	660	3079	11	146	0	97	0	0	97
Arrive On Green	0.75	0.75	0.75	0.06	0.85	0.85	0.06	0.00	0.06	0.00	0.00	0.06
Sat Flow, veh/h	830	2887	619	1781	3632	13	1439	0	1610	0	0	1610
Grp Volume(v), veh/h	4	366	363	216	281	296	32	0	70	0	0	1
Grp Sat Flow(s),veh/h/ln	830	1763	1744	1781	1777	1868	1439	0	1610	0	0	1610
Q Serve(g_s), s	0.1	7.9	7.9	2.9	3.4	3.4	2.6	0.0	5.1	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.1	7.9	7.9	2.9	3.4	3.4	2.6	0.0	5.1	0.0	0.0	0.1
Prop In Lane	1.00		0.36	1.00		0.01	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	681	1320	1306	660	1506	1584	146	0	97	0	0	97
V/C Ratio(X)	0.01	0.28	0.28	0.33	0.19	0.19	0.22	0.00	0.72	0.00	0.00	0.01
Avail Cap(c_a), veh/h	681	1320	1306	928	1506	1584	359	0	335	0	0	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	3.8	4.8	4.8	2.7	1.7	1.7	54.2	0.0	55.4	0.0	0.0	53.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.3	0.3	0.3	0.7	0.0	9.5	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.6	2.6	0.7	0.8	0.8	1.0	0.0	2.4	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.8	5.3	5.3	3.0	1.9	1.9	55.0	0.0	64.8	0.0	0.0	53.0
LnGrp LOS	A	A	A	A	A	A	D	A	E	A	A	D
Approach Vol, veh/h		733			793			102			1	
Approach Delay, s/veh		5.3			2.2			61.7			53.0	
Approach LOS		A			A			E			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.9	95.8		12.3		107.7		12.3				
Change Period (Y+Rc), s	* 4.9	* 6		5.0		* 6		5.0				
Max Green Setting (Gmax), s	* 25	* 54		25.0		* 84		25.0				
Max Q Clear Time (g_c+I1), s	4.9	9.9		2.1		5.4		7.1				
Green Ext Time (p_c), s	0.6	5.1		0.0		3.8		0.4				

Intersection Summary

HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	66	0	0	0	0	2	2	24	0	44	17	153
Future Vol, veh/h	66	0	0	0	0	2	2	24	0	44	17	153
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	0	0	0	0	0	0	0	0	0
Mvmt Flow	75	0	0	0	0	2	2	27	0	50	19	174

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	238	237	106	237	324	27	193	0	0	27	0	0
Stage 1	206	206	-	31	31	-	-	-	-	-	-	-
Stage 2	32	31	-	206	293	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	714	662	946	722	597	1054	1392	-	-	1600	-	-
Stage 1	794	729	-	991	873	-	-	-	-	-	-	-
Stage 2	982	867	-	801	674	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	693	638	946	702	575	1054	1392	-	-	1600	-	-
Mov Cap-2 Maneuver	693	638	-	702	575	-	-	-	-	-	-	-
Stage 1	793	703	-	990	872	-	-	-	-	-	-	-
Stage 2	979	866	-	772	650	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.8		8.4		0.6		1.5	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1392	-	-	693 1054	1600	-	-
HCM Lane V/C Ratio	0.002	-	-	0.108 0.002	0.031	-	-
HCM Control Delay (s)	7.6	0	-	10.8 8.4	7.3	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4 0	0.1	-	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↰	↰↱	↰	↰↱	↰	↱		↰↱
Traffic Volume (vph)	9	680	64	815	116	0	1	0
Future Volume (vph)	9	680	64	815	116	0	1	0
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		2	1	6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	24.0	24.0	7.0	24.0	5.0	5.0	5.0	5.0
Minimum Split (s)	30.0	30.0	11.9	30.0	23.0	23.0	23.0	23.0
Total Split (s)	72.0	72.0	18.0	90.0	30.0	30.0	30.0	30.0
Total Split (%)	60.0%	60.0%	15.0%	75.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.1	3.0	4.1	3.0	3.0	3.0	3.0
All-Red Time (s)	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	4.9	6.0	5.0	5.0		5.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effect Green (s)	78.5	78.5	89.5	88.4	20.6	20.6		20.6
Actuated g/C Ratio	0.65	0.65	0.75	0.74	0.17	0.17		0.17
v/c Ratio	0.03	0.33	0.14	0.34	0.53	0.75		0.03
Control Delay	10.8	11.0	5.6	6.5	52.2	63.4		37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	10.8	11.0	5.6	6.5	52.2	63.4		37.8
LOS	B	B	A	A	D	E		D
Approach Delay		11.0		6.5		59.1		37.8
Approach LOS		B		A		E		D

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 18 (15%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 16.6

Intersection LOS: B

Intersection Capacity Utilization 69.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd



1: Arlington Center Blvd/FYZICAL Access Drive & W Henderson Rd
2037 PM Build

Existing Conditions

10/29/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	680	28	64	815	2	116	0	185	1	0	7
Future Volume (veh/h)	9	680	28	64	815	2	116	0	185	1	0	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	10	739	30	70	886	2	126	0	201	1	0	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	0	0	0
Cap, veh/h	459	2219	90	528	2641	6	213	0	287	44	18	227
Arrive On Green	0.63	0.63	0.63	0.05	0.73	0.73	0.18	0.00	0.18	0.18	0.00	0.18
Sat Flow, veh/h	631	3508	142	1781	3638	8	1396	0	1572	59	96	1244
Grp Volume(v), veh/h	10	377	392	70	433	455	126	0	201	9	0	0
Grp Sat Flow(s),veh/h/ln	631	1791	1860	1781	1777	1869	1396	0	1572	1400	0	0
Q Serve(g_s), s	0.7	11.8	11.8	1.5	10.6	10.6	4.9	0.0	14.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	11.8	11.8	1.5	10.6	10.6	19.3	0.0	14.4	14.4	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.00	1.00		1.00	0.11		0.89
Lane Grp Cap(c), veh/h	459	1133	1176	528	1290	1357	213	0	287	289	0	0
V/C Ratio(X)	0.02	0.33	0.33	0.13	0.34	0.34	0.59	0.00	0.70	0.03	0.00	0.00
Avail Cap(c_a), veh/h	459	1133	1176	628	1290	1357	249	0	328	329	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.2	10.3	10.3	6.4	6.0	6.0	50.0	0.0	46.0	40.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.8	0.8	0.1	0.7	0.7	2.7	0.0	5.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.6	4.8	0.5	3.7	3.9	3.9	0.0	6.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.3	11.1	11.0	6.5	6.7	6.6	52.7	0.0	51.6	40.4	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		779			958			327			9	
Approach Delay, s/veh		11.0			6.6			52.0			40.4	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.2	81.9		26.9		93.1		26.9				
Change Period (Y+Rc), s	* 4.9	* 6		5.0		* 6		5.0				
Max Green Setting (Gmax), s	* 13	* 66		25.0		* 84		25.0				
Max Q Clear Time (g_c+I1), s	3.5	13.8		16.4		12.6		21.3				
Green Ext Time (p_c), s	0.1	5.5		0.0		6.6		0.6				
Intersection Summary												
HCM 6th Ctrl Delay				15.6								
HCM 6th LOS				B								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	197	0	0	2	0	63	2	17	2	10	26	50
Future Vol, veh/h	197	0	0	2	0	63	2	17	2	10	26	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	0	0	0	8	8	8	3	3	3
Mvmt Flow	240	0	0	2	0	77	2	21	2	12	32	61

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	152	114	63	113	143	22	93	0	0	23	0	0
Stage 1	87	87	-	26	26	-	-	-	-	-	-	-
Stage 2	65	27	-	87	117	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.18	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.272	-	-	2.227	-	-
Pot Cap-1 Maneuver	815	776	1002	869	752	1061	1464	-	-	1586	-	-
Stage 1	921	823	-	997	878	-	-	-	-	-	-	-
Stage 2	946	873	-	926	803	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	751	769	1002	863	745	1061	1464	-	-	1586	-	-
Mov Cap-2 Maneuver	751	769	-	863	745	-	-	-	-	-	-	-
Stage 1	920	816	-	996	877	-	-	-	-	-	-	-
Stage 2	877	872	-	919	797	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	8.7	0.7	0.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1464	-	-	751 1054	1586	-	-
HCM Lane V/C Ratio	0.002	-	-	0.32 0.075	0.008	-	-
HCM Control Delay (s)	7.5	0	-	12 8.7	7.3	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.4 0.2	0	-	-

The undersigned hereby certifies that this subdivision plat conforms to applicable zoning regulations.
Approved this day of _____, 20_____.
Franklin Count Zoning Officer

The undersigned hereby certifies that this subdivision plat conforms to Franklin County General Health District Board of Health regulations.
Approved this day of _____, 20_____.
Franklin County Public Health

The undersigned hereby certifies adequate and legal water and sanitary sewer plant capacities exist to serve this subdivision.
Approved this day of _____, 20_____.
Franklin County Sanitary Engineer

The undersigned hereby certifies that this subdivision plat conforms to applicable subdivision regulations.
Approved this day of _____, 20_____.
Franklin County Drainage Engineer

Approved this day of _____, 20_____.
Franklin County Engineer

- 5/8" IRON PIN FOUND (UNLESS NOTED OTHERWISE)
- 5/8" IRON PIN SET (KLEINGERS GROUP)
- ⊙ IRON PIPE FOUND (SIZE AS NOTED)
- NEW LOT LINES
- - - - OLD LOT LINES
- CENTERLINE
- RIGHT OF WAY

SURVEYOR'S CERTIFICATION



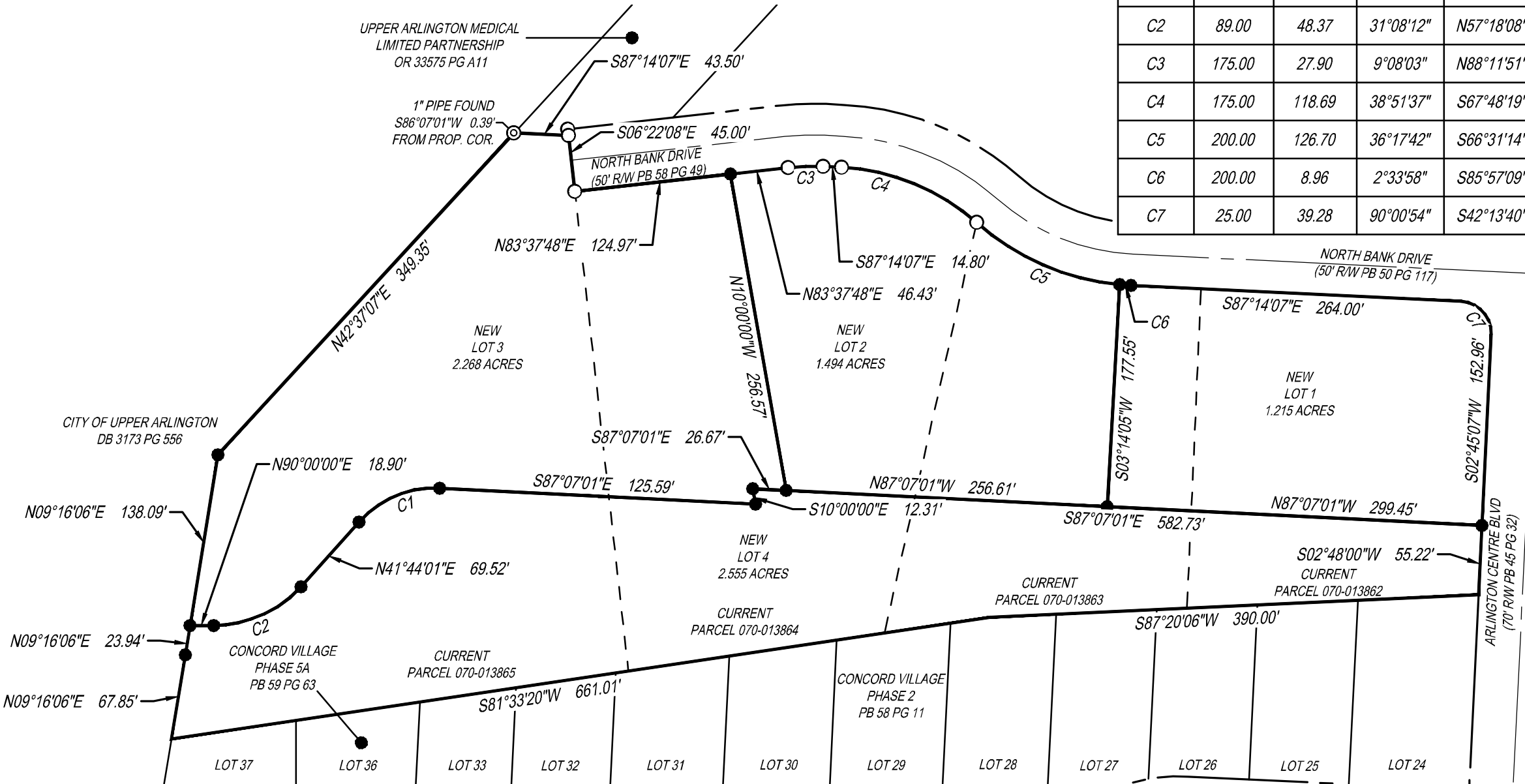
I HEREBY CERTIFY THAT THIS PLAT OF SURVEY WAS PREPARED UNDER MY DIRECTION AND IN ACCORDANCE WITH OHIO ADMINISTRATIVE CODE CHAPTER 4733-37 "MINIMUM STANDARDS FOR BOUNDARY SURVEYS". ALL MONUMENTATION HAS BEEN SET AS SHOWN.

Preliminary

06/23/2025 3:50:40 PM

JOHN T. PAUL DATE
OHIO PROFESSIONAL SURVEYOR NO. 8818

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	DIRECTION	CHORD
C1	81.00	72.31	51°08'58"	N67°18'30"E	69.93
C2	89.00	48.37	31°08'12"	N57°18'08"E	47.77
C3	175.00	27.90	9°08'03"	N88°11'51"E	27.87
C4	175.00	118.69	38°51'37"	S67°48'19"E	116.43
C5	200.00	126.70	36°17'42"	S66°31'14"E	124.59
C6	200.00	8.96	2°33'58"	S85°57'09"E	8.96
C7	25.00	39.28	90°00'54"	S42°13'40"E	35.36



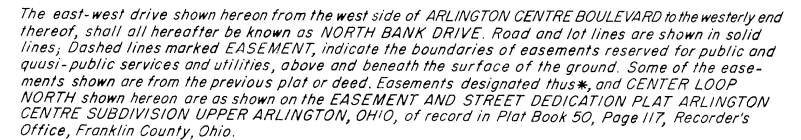
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NE QRT. TWP., T1N, R19W
UNITED STATES MILITARY DISTRICT
CITY OF UPPER ARLINGTON
COUNTY OF FRANKLIN, OHIO

SEAL:

NO.	DATE	DESCRIPTION

PROJECT NO: 230274VSD002
DATE: 06-23-2025
SCALE: 1" = 100'
SHEET NAME: MINOR SUBDIVISION
SHEET NO. 1 OF 1



Ruby Jewell Skaggs
Notary Public, State of Ohio.

Authors: Justin Milam, AICP, Senior Planner

BZAP Meeting Date: July 2, 2025

Subject: 1336 Ridgeview Road (CU-01-25) - Work Session review of a conditional use and variances for a proposed Columbia Gas of Ohio utility station.

Overview

Representatives from Columbia Gas of Ohio will be present to introduce a conditional use application with variances that was submitted for the July 16, 2025 BZAP hearing. Columbia Gas is proposing to construct a new utility station at 1336 Ridgeview Road, in place of an existing single-family residence. This proposal supports the upgrade/replacement of existing high-pressure underground natural gas lines on nearby City streets. [Another utility station project/conditional use is anticipated at 2723 Brandon Road, which would replace/upgrade an existing utility station there.]

A pre-application with the Ohio Power Siting Board (OPSB) was filed by Columbia Gas of Ohio to the Public Utilities Commission on June 21, 2024 for the high-pressure pipeline update project, with the application filed on November 26, 2024. That application received accelerated approval from OPSB earlier this year. According to Columbia Gas, the project is driven by the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration's MEGA Rule, which requires safety upgrades to public utilities before certain dates. Columbia Gas of Ohio representatives provided an overview of the project to City Council on January 27, 2025. A series of five "office hours" were held at the Tremont Library in January and February 2025, with a public forum held on February 24, 2025.

Staff has drafted a preliminary comment letter (attached) that outlines the City's current and preliminary review of the application. This should serve as the guide for the Work Session discussion and the applicant should work to proactively address all of the noted items.

Zoning Code Requirements

Utility stations are noted as a Conditional Use in most residential districts in the community. [Article 6.10\(C\)\(11\)](#) provides the criteria for the installation of utility stations in the community, which are in addition to the nine [Conditional Use standards](#). Of note, the utility station must meet the performance standards for that zone, including height and coverage limits. Based on the proposed design as submitted, Staff has identified three variances to the UDO which must receive approval from the Board. Staff is hopeful that at least one of the variances (fence-related) can be eliminated. The Board's review is to be focused on the



proposed utility station at this location only; any replacement infrastructure projects within City right-of-way have to meet all City standards and requirements.

Attachments

1.	UA Prelim Comments - Columbia Gas Ridgeview - 06.27.25
2.	Conditional Use Application w/ Notice
3.	NCHP Ridgeview Renderings 06.18.25
4.	NCHP Ridgeview Station - Building Design
5.	NCHP Ridgeview Station - Landscape
6.	NCHP Ridgeview Station - Outdoor Lighting
7.	NCHP Ridgeview Station Full Submission
8.	West-Central-NCHP-LON
9.	Exhibit A - Columbia Gas, Upper Arlington City Council



Date: Friday, June 27, 2025

To: Corey Oliver, PE, PMP, Campos EPC

From: Justin Milam, AICP, Senior Planner

RE: Conditional Use 01-25; Columbia Gas Utility Station at 1336 Ridgeview Road

This memo serves as a summary of preliminary Staff comments regarding the submittal of a conditional use and variance application for a proposed Columbia Gas utility station located at 1336 Ridgeview Road in Upper Arlington, Ohio (Parcel Number [070-004545](#)). The subject property is zoned R-1b, One-Family Residence District, and per Ordinance No. 11-2024, Utility Stations are designated as a *Conditional Use* in this District by the City's Unified Development Ordinance (UDO). The purpose of the City's Utility Station regulations is to facilitate a balance between necessary utility infrastructure and protecting public health, safety, and welfare, as well as property values.

The City's Technical Review Committee has met to discuss this application and comments have been compiled below for your review. This will serve as a guide for the discussion at the July 2, 2025 Board of Zoning and Planning (BZAP) Work Session. The application is tentatively scheduled for a public review and vote by the Board on July 16, 2025.

The items identified in this letter are based on the City's preliminary review of the submitted drawings and is not an exhaustive list. Other items may need to be addressed to comply with the UDO and City code; the City reserves the right to address additional items on this project as necessary.

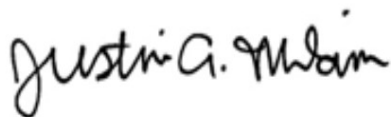
- 1) **Notification** – The 100-foot notice for variances and 300-foot notice for conditional uses (for utility stations) has been completed. A “Ready for Change” sign, which advertises the public meetings, will be posted on-site and is to remain during the zoning review process.
- 2) **Conditional Use** – A document should be submitted which responds to each of the conditional use standards listed in UDO Article 4.05(F).
- 3) **Variances** – A total of three variances are to be incorporated into the conditional use application at this time. These include: a fence with prongs/spikes/edges, a building that does not meet the side yard longwall setback, and increasing the maximum secondary building height from 15 to 17 feet. Please work to eliminate or reduce these requested variances; Staff is unlikely to support any requested fence (due to safety concerns) or building height (new ordinance) variances. Additional variances may be needed as more information is submitted. A document should be submitted which responds to each of the variance standards listed in UDO Article 4.09(D).
- 4) **Building Design** - Article 6.10(C)(11) outlines the standards for building/utility station design, which essentially requires them to look like single-family homes. The primary building, other

than the side yard longwall setback, meets these standards, which require adherence to the City's Residential Design Standards. The design of the secondary building, other than its height, meets them as well. Both buildings have been reviewed by the City's third-party architect, who helps Staff determine conformance with the neighborhood compatibility standards. No information has been submitted on the proposed accessory building. The building/site's numerical address placard will need to be added to the front of the building for clear identification purposes.

- 5) **Landscape Plan and Fencing** – Please submit the latest landscape plan, as the most recent one is dated October 14, 2024 and lacks fencing details. A full landscape plan will be required, which includes six-foot tall privacy fencing (or a wall) along the side and rear property lines (not in the front yard), and a mixture of deciduous and evergreen trees. A minimum of one tree for each 25 feet of property line length is required on-site (a total of 28). Any mature trees in good condition should be preserved. The City Forester will provide comments on the landscape plan once the most recent version is submitted or confirmed. Proposed plantings above or near utility lines will need caution. Perimeter fencing may be coordinated with adjacent property owners. Additional information/requirements for pronged fencing should be submitted as well.
- 6) **Site Plan** – Please provide a clear site plan that shows the proposed building setbacks, as well as a chart indicating compliance with the City's maximum coverage limits: building (27 percent), total development (40 percent), and front yard development (25 percent). Removing any unnecessary hardscapes should be considered. The submitted site renderings were very helpful, but did not include views along the rear of the property.
- 7) **Exterior Lighting** – While no specific outdoor lighting fixtures were submitted, it appears the exterior lighting plan is compliant with the City's Dark Sky® standards. The plan follows those of a typical residential home, which keep light on-site.
- 8) **Safety and Security Measures** – Please provide details regarding safety and security measures as well as any failsafe systems that will be used during the construction and operation of the proposed station. If any 'off gassing' systems are proposed, please also provide details on these, including any air quality data near other similar Columbia Gas facilities. The Fire Division has requested training on the proposed station before operation commences. Any additional PHMSA/Mega Rule federal requirements you can submit would be helpful for the Board's review.
- 9) **Permit(s)** – Should the conditional use and variances be approved, a Demolition Permit, Building Permit, and associated trade permits will then be required. For work located in City right-of-way, separate approvals and permits are required. Please continue working with the City Engineer on stormwater management efforts.
- 10) **Station Abandonment** – If the proposed utility station is ever abandoned for more than two years, the property shall be restored to grass.
- 11) **Appeals** – After decisions are rendered on this application and any future permits, there are different processes that can be filed by the applicant or any aggrieved party. Article 4.10 and Table 4-A of the UDO outlines these processes.

The City appreciates Columbia Gas' commitment to the community to provide safe and reliable natural gas for our homes and businesses. The City also appreciates Columbia Gas' efforts to adapt its traditional processes, listen to neighborhood residents in a variety of outlets, and make positive changes based on them. Please continue to address the noted items so that as many of these issues are resolved prior to a formal BZAP vote.

Regards,



Justin A. Milam, AICP
Senior Planner

The City of Upper Arlington
3600 Tremont Road, Upper Arlington, OH 43221

o: 614-583-5083

e: jmilam@uaoh.net | upperarlingtonoh.gov



City of Upper Arlington

C: Steven Schoeny, City Manager
Jackie Thiel, PE, Assistant City Manager
Darren Shulman, City Attorney
Roger Eastep, Chief Building Official
Gary Wilfong, PE, Public Service Director
Aaron Scott, PE, City Engineer
Rory Stimpson, PE, Assistant City Engineer
Chad Gibson, AICP, Community Development Director
Alan Thompson, UAFD Battalion Chief
Samantha Simmons, City Forester
Emma Speight, Community Affairs Director
Chris Zimmer, Fire Chief
Lt. Branden Staiger, UAPD
Keith Hall, Police Chief

25-2936

Conditional Use

Status: Active

Submitted On: 6/18/2025

Primary Location

1336 RIDGEVIEW RD
UPPER ARLINGTON, OH 43221

Owner

COLUMBIA GAS OF OHIO INC
COLUMBUS OH 43215

Applicant

 Corey Oliver
 804-986-2558
 corey.oliver@camposepc.com
 1 Carriage Ln
Building D
Charleston, South Carolina 29407

BZAP Information

BZAP Case

CU-01-25

BZAP Review Date

07/16/2025

BZAP Conditions

Status

Vote Tally

Application Information

Project Description*

Columbia Gas of Ohio plans to utilize this site to construct a natural gas regulator station which will provide safe and reliable gas distribution service to the Upper Arlington community. Enhanced safety features will be included in the design to comply with PHMSA federal code requirements.

How will this development comply with the zoning standards found in the City's Unified Development Ordinance?*

The proposed facilities will comply with the Upper Arlington Code of Ordinances applying to Zoning Designation Residential R1-B. All facilities will be installed within a building of residential aesthetic, designed by a local architecture firm. The building design will comply with residential building codes such as setbacks, driveways, fencing, etc.

How will this development comply with the goals and objectives listed in the City's Master Plan?* ?

The proposed use of this site will comply with the City of Upper Arlington's Master Plan (2013). Upper Arlington is a mature community that is largely residential with a small amount of commercial uses. The installation of the proposed natural gas station will allow for Columbia Gas of Ohio to continue to provide safe and reliable energy to the community. The facilities will be installed with a residential character, along with a typical landscaping plan, to minimize adverse visual impact to the surrounding community. These facilities will allow for a cheap and reliable energy source to be provided to the residences and businesses operating in Upper Arlington.

Briefly explain how potential impacts on the adjoining neighborhood will be mitigated.* ?

Columbia Gas of Ohio strives to minimize impact on the surrounding community as much as possible. The natural gas facilities will provide an energy stream for the betterment of the community. Enhanced safety features will be installed to ensure compliance with PHMSA federal code and reduce required maintenance. This will allow for remote operation of equipment and minimize the amount of on-site operations. Residential driveway will be installed so that traffic will not be impacted during any on-site maintenance operations. The sidewalk will be replaced in the ROW to maintain walkability within the neighborhood. A local architecture firm was contracted to provide a residential aesthetic for the primary building and detached garage to minimize visual impact.

What are the primary goals and objectives for this development.*

The primary goal and objective of this development is to provide safe and reliable natural gas distribution service to the community members and businesses of Upper Arlington. The proposed regulator station will provide enhanced, modern equipment with some remote operation capabilities.

Revised: May 2023

Certification of Notice

Applicant Name: Columbia Gas of Ohio

Location of property subject to BZAP request: 1336 Ridgeview Rd, Columbus OH 43221

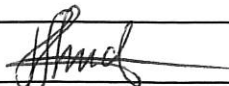
This application will be heard by the Board of Zoning and Planning on: July 16th, 2025

Describe activity which requires Board of Zoning and Planning review:

Columbia Gas of Ohio is seeking a Conditional Use Permit for the installation of a natural gas regulator station to provide safe and reliable distribution service to the residences and businesses of the City of Upper Arlington.

Board of Zoning and Planning (BZAP) meetings begin at 6 PM on Wednesdays and are held at the Upper Arlington Municipal Services Center, 3600 Tremont Road, Upper Arlington, Ohio, 43221. Meeting location details and additional instructions will be provided on the Agenda, which is posted on the City's website at upperarlingtonoh.portal.civicclerk.com. For further information, please contact the Planning Division at planning@uaoh.net.

Your signature below **DOES NOT** constitute approval or disapproval of the request. Your signature only represents that you have been properly notified of the request. You are encouraged to attend any and all meetings regarding this matter.

Address of Property to be notified:	Property Owner Name:	Property Owner Signature or Certified Mail No.:	Date obtained or Mail sent:
2778 Pickwick Dr	Erwin Logan, Augostini Rosemary		
2788 Pickwick Dr	Mills Janet M		
2800 Pickwick Dr	Buffer James C, Buffer Heather P		
2757 North Star Rd	Buehler Gary		
2773 North Star Rd	Dame Craig L, Dame Teresa L		
2789 North Star Rd	Su Cheng Ming Tr, Su Judy Hsiao-Ju Tr		
1385 Ridgeview Rd	Ensign Derek Jason, Ensign Margaret		
1415 Ridgeview Rd	Feinberg Russell S, Feinberg Trina S		
1425 Ridgeview Rd	Shipengrover Joanna D, Davison John R		
1426 Ridgeview Rd	Rollins Brandon C, Kerr Melanie R		
Applicant Signature: 			Date: <u>6/18/25</u>

Revised: May 2023

Certification of Notice

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2778 Pickwick Dr	Logan Erwin & Rosemary Augustini	9589 0710 5270 1809 9835 39	06/25/2025
2781 Pickwick Dr	Paul & Margaret Robinson	9589 0710 5270 1809 9835 46	06/25/2025
2788 Pickwick Dr	Janet Mills	9589 0710 5270 1809 9835 53	06/25/2025
2793 Pickwick Dr	Alexandra & Andrew Schill	9589 0710 5270 1809 9835 60	06/25/2025
2800 Pickwick Dr	James & Heather Buffer	9589 0710 5270 1809 9835 77	06/25/2025
2803 Pickwick Dr	Elizabeth Christ	9589 0710 5270 1117 2750 12	06/25/2025
2812 Pickwick Dr	James & Dana Cowardin	9589 0710 5270 1117 2775 04	06/25/2025
2815 Pickwick Dr	Peter & Monika Zoretic	9589 0710 5270 1117 2774 98	06/25/2025
2826 Pickwick Dr	Kevin Clapp	9589 0710 5270 1117 2774 81	06/25/2025
2715 North Star Rd	Darin Easley	9589 0710 5270 1117 2774 74	06/25/2025
2723 North Star Rd	Stephanie & Tiffany Lancaster	9589 0710 5270 1809 9833 24	06/25/2025
2731 North Star Rd	Ryan Ballantyne	9589 0710 5270 1809 9833 31	06/25/2025
2754 North Star Rd	Daniel & Jill Wendorff	9589 0710 5270 1809 9833 48	06/25/2025
Applicant Signature: <i>Cerys Oliver</i>			Date: 06/26/2025

Revised: May 2023

Certification of Notice

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2757 North Star Rd	Gary Buehler	9589 0710 5270 1809 9833 55	06/25/2025
2770 North Star Rd	Craig King	9589 0710 5270 1809 9833 62	06/25/2025
2773 North Star Rd	Craig & Teresa Dame	9589 0710 5270 1809 9833 79	06/25/2025
2786 North Star Rd	Nelson McCreary & Jill Davis	9589 0710 5270 1809 9833 86	06/25/2025
2789 North Star Rd	Cheng & Judy Su	9589 0710 5270 1809 9833 93	06/25/2025
2800 North Star Rd	Horst & Mary Hildebrandt	9589 0710 5270 1809 9834 09	06/25/2025
2803 North Star Rd	Harry Wagner & Helen Kennedy	9589 0710 5270 1809 9834 16	06/25/2025
2812 North Star Rd	7 Palms Resort LLC	9589 0710 5270 1809 9834 23	06/25/2025
2815 North Star Rd	William & Christina Hadler	9589 0710 5270 1809 9834 30	06/25/2025
2827 North Star Rd	Scott Schricker & Diane Basso	9589 0710 5270 1809 9834 47	06/25/2025
1385 Ridgeview Rd	Derek & Margaret Ensign	9589 0710 5270 1809 9834 54	06/25/2025
1415 Ridgeview Rd	Russell & Trina Feinberg	9589 0710 5270 1809 9834 61	06/25/2025
1425 Ridgeview Rd	Joanna Shipengrover & John Davison	9589 0710 5270 1809 9834 78	06/25/2025
Applicant Signature: <i>Ceray Oliver</i>			Date: 06/26/2025

Revised: May 2023

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1426 Ridgeview Rd	Brandon Rollins & Melanie Kerr	9589 0710 5270 1809 9834 85	06/25/2025
1435 Ridgeview Rd	Steven Maheras & Sally Francis	9589 0710 5270 1809 9834 92	06/25/2025
1445 Ridgeview Rd	Pops Holding LLC	9589 0710 5270 1809 9835 08	06/25/2025
1450 Ridgeview Rd	Jennifer & David Miller	9589 0710 5270 1809 9835 15	06/25/2025
1461 Ridgeview Rd	Khandakar Islam & Tasmina Rahman	9589 0710 5270 1117 2773 82	06/25/2025
2710 Montcalm Rd	John Cox & Monica Lee	9589 0710 5270 1117 2773 75	06/25/2025
2711 Montcalm Rd	Martina Leveni & Manfredi Villani	9589 0710 5270 1117 2774 67	06/25/2025
2720 Montcalm Rd	Lingchun Zeng & Hua Pang	9589 0710 5270 1117 2774 50	06/25/2025
2721 Montcalm Rd	Gil Bohrer & Zuzana Bohrerova	9589 0710 5270 1117 2774 43	06/25/2025
2730 Montcalm Rd	Kathy Horava	9589 0710 5270 1117 2774 36	06/25/2025
2731 Montcalm Rd	Alexander & Victoria Sokolova	9589 0710 5270 1117 2774 29	06/25/2025
1430 Harlton Ct	Christine & Ryan Bruns	9589 0710 5270 1117 2774 12	06/25/2025
1440 Harlton Ct	Cynthia & Andrew Laux	9589 0710 5270 1117 2774 05	06/25/2025
Applicant Signature: 			Date: 06/26/2025

Revised: May 2023

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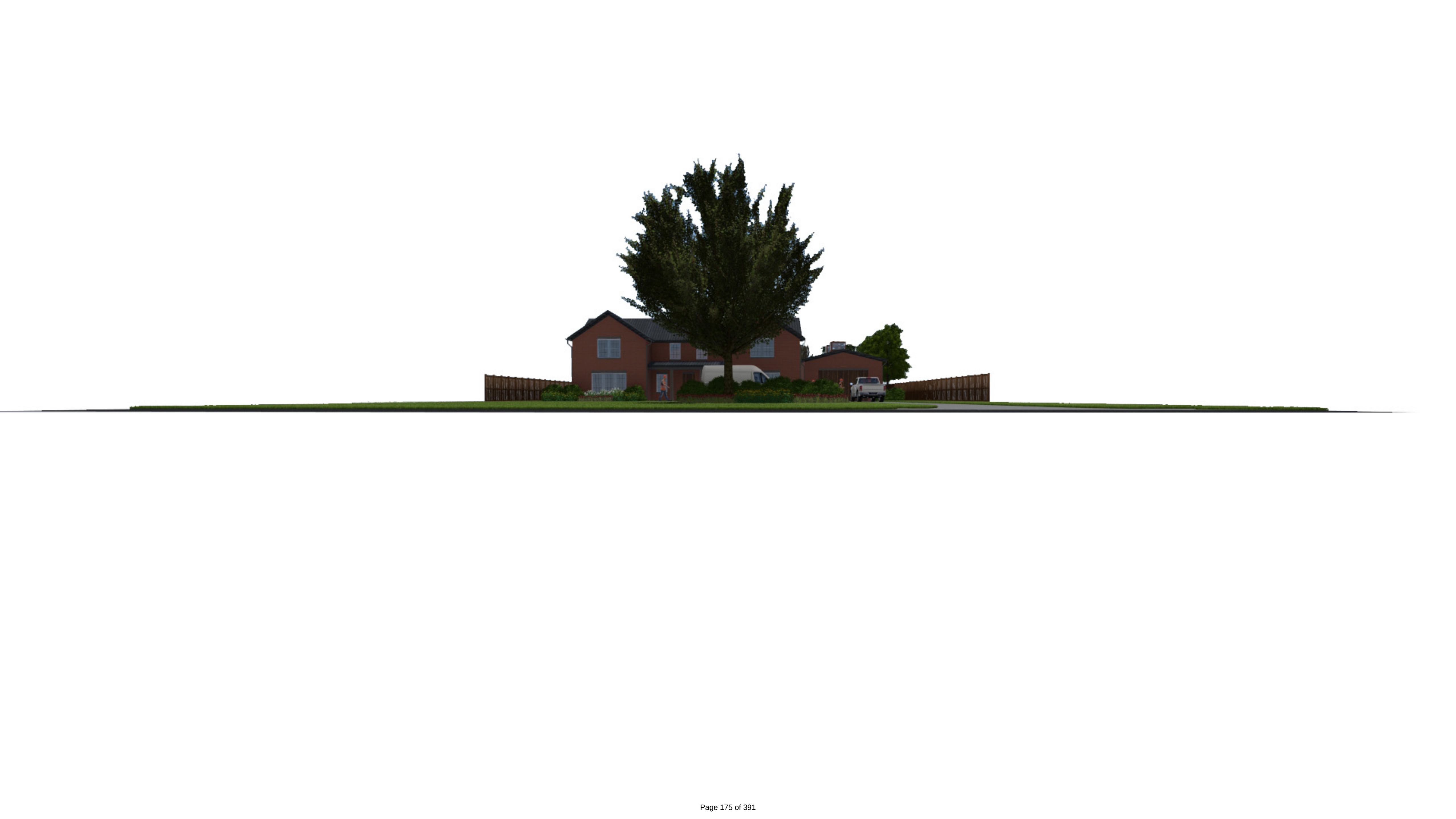
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Address of Property to be notified:	Property Owner Name:	Property Owner Signature or Certified Mail No.:	Date obtained or Mail sent:
1450 Harlton Ct	Jennifer Taylor	9589 0710 5270 1117 2773 99	06/25/2025
Applicant Signature: <i>Ceray Oliver</i>			Date: 06/26/2025





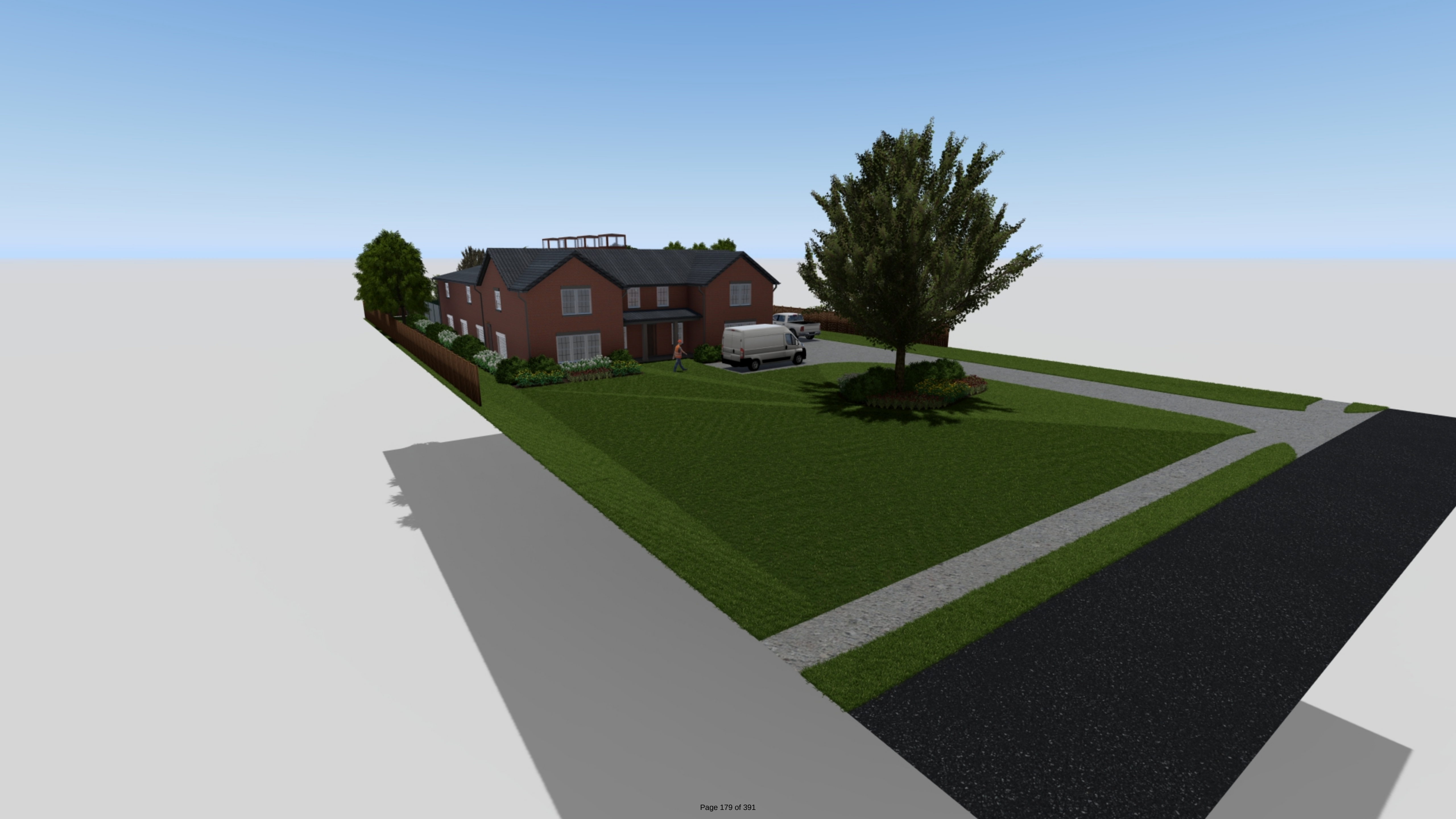


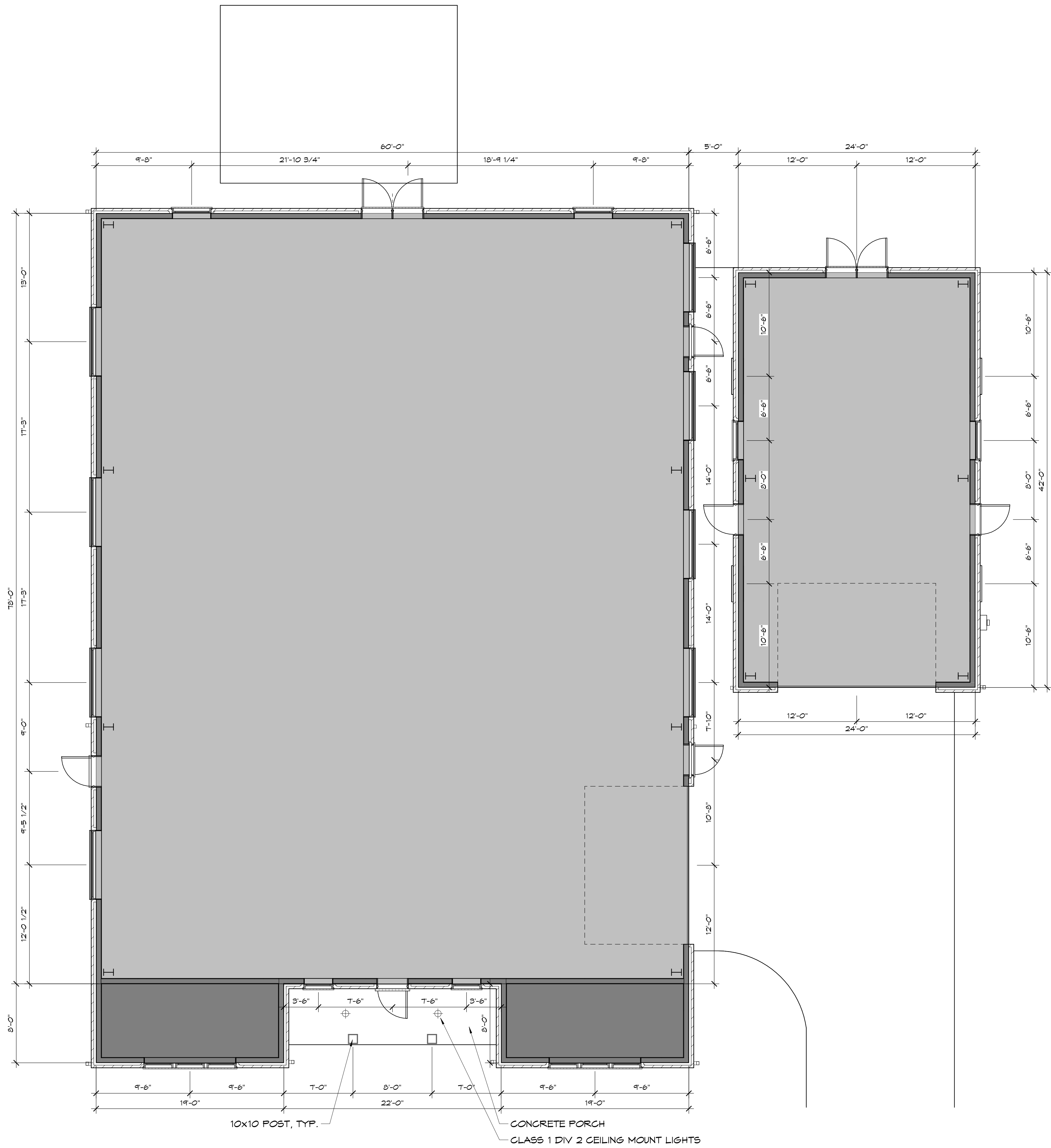






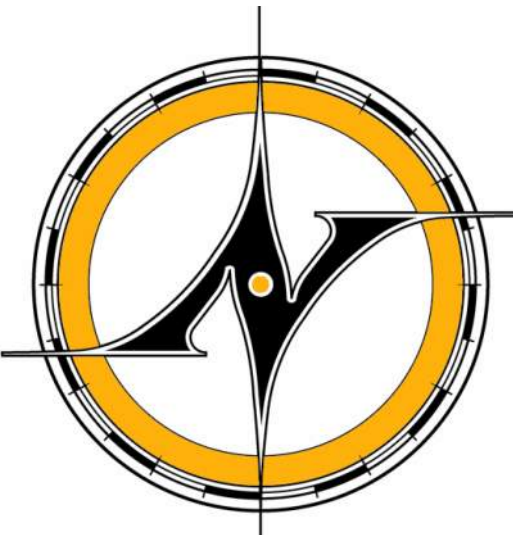






FIRST FLOOR PLAN

SCALE: 3/16" = 1'-0"



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UPPER ARLINGTON, OHIO 43220
INFO@NEW-AVENUE.NET

614 . 884 . 8888

DESIGN SET : 06/11/2025

Columbia Gas/
NiSource Utility Building
Architectural Design Consulting

1336 Ridgeview Road
Upper Arlington, Ohio

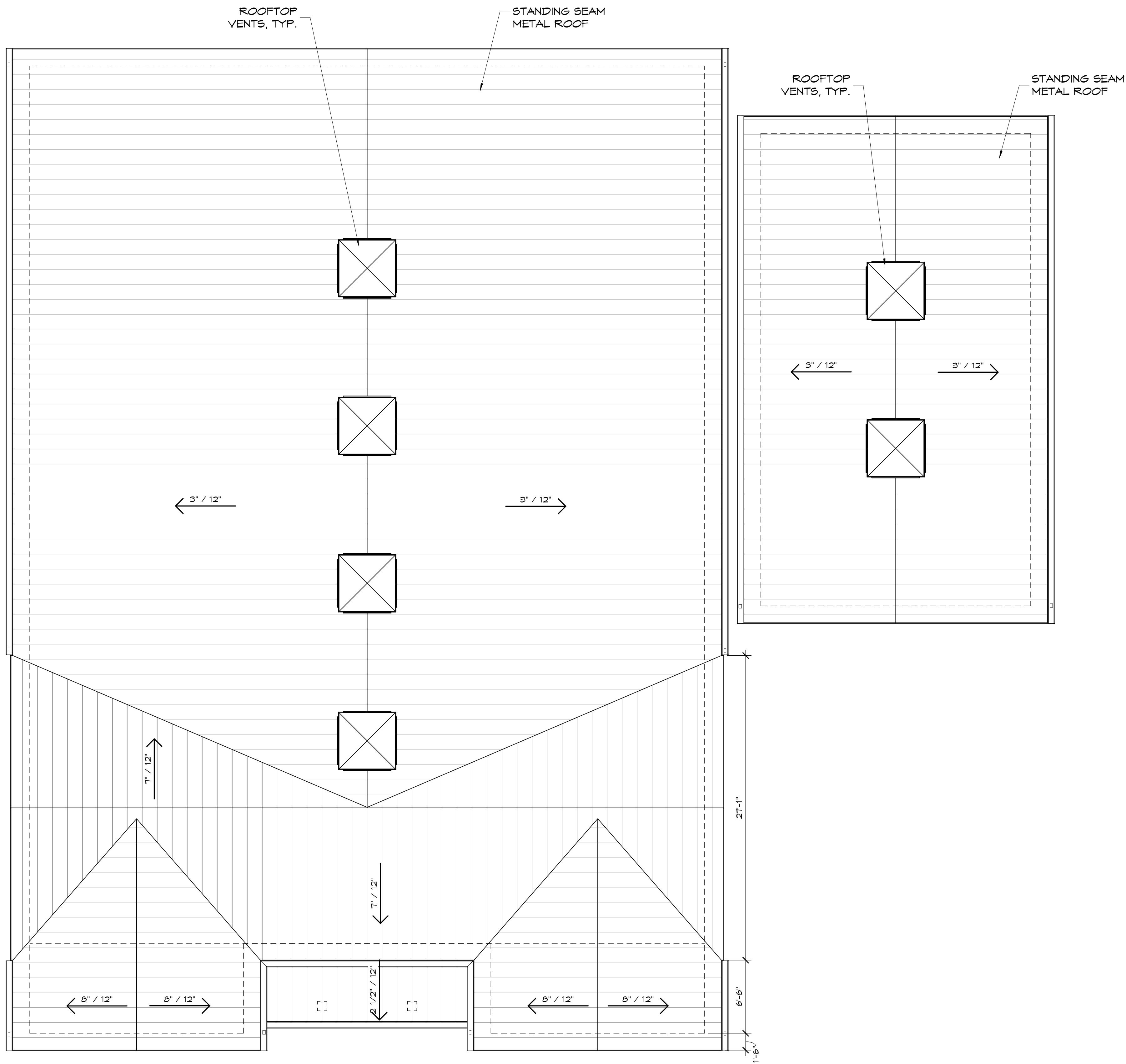
NOT FOR
CONSTRUCTION

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Project No: 25-0014

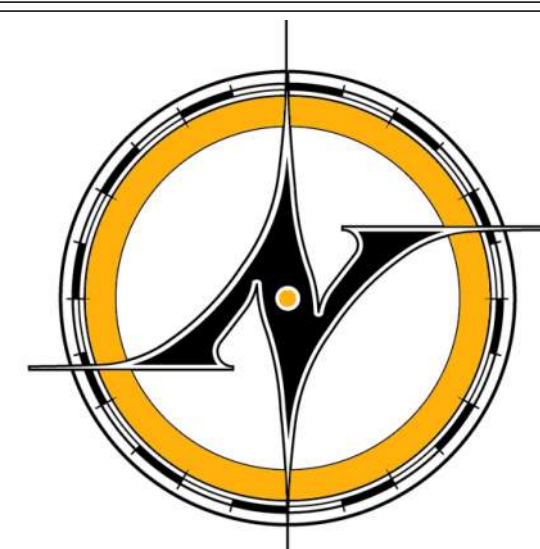
FIRST FLOOR
PLAN

A1.1



ROOF PLAN

SCALE: 3/16" = 1'-0"



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DESIGN SET : 06/11/2025

Columbia Gas/
NiSource Utility Building
Architectural Design Consulting

1336 Ridgeview Road
Upper Arlington, Ohio

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Project No: 25-0014

ROOF PLAN

A1.2

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Project No: 25-0014

EXTERIOR ELEVATIONS

A5.1



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



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

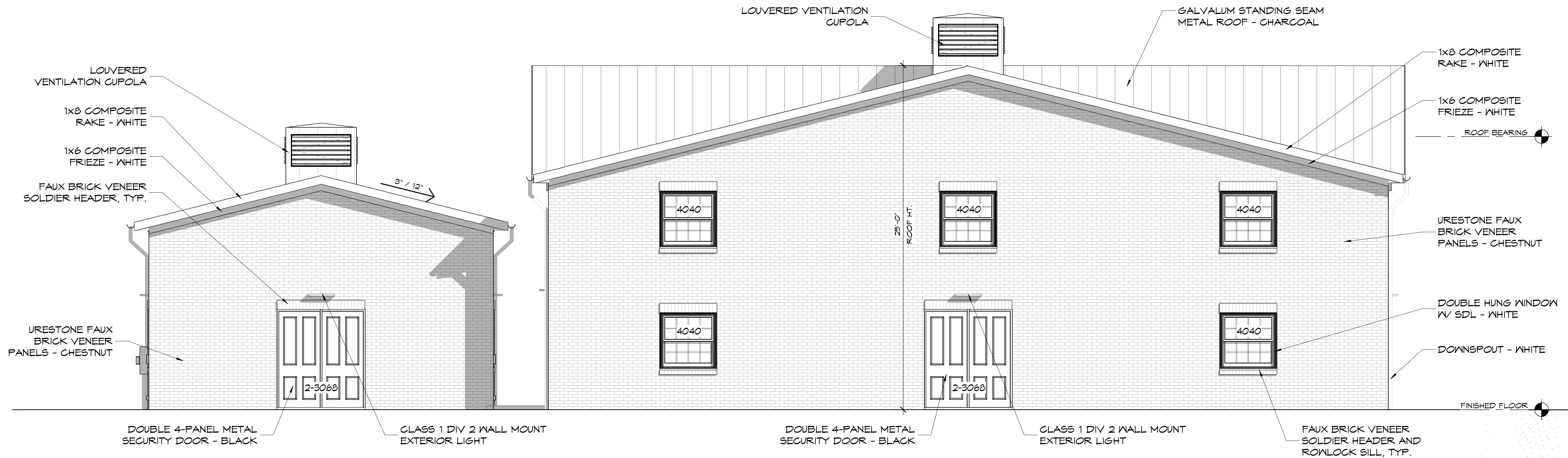
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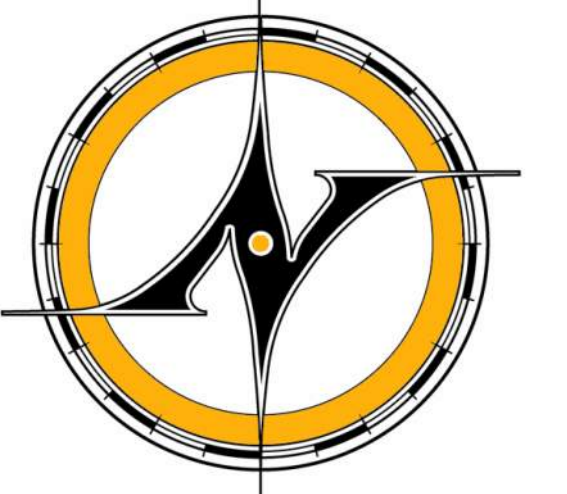
LEFT SIDE ELEVATION

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



REAR ELEVATION

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



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614 . 884 . 8888

DESIGN SET : 06/11/2025

Columbia Gas/
NiSource Utility Building
Architctural Design Consulting

1336 Ridgeview Road
Upper Arlington, Ohio

**NOT FOR
CONSTRUCTION**

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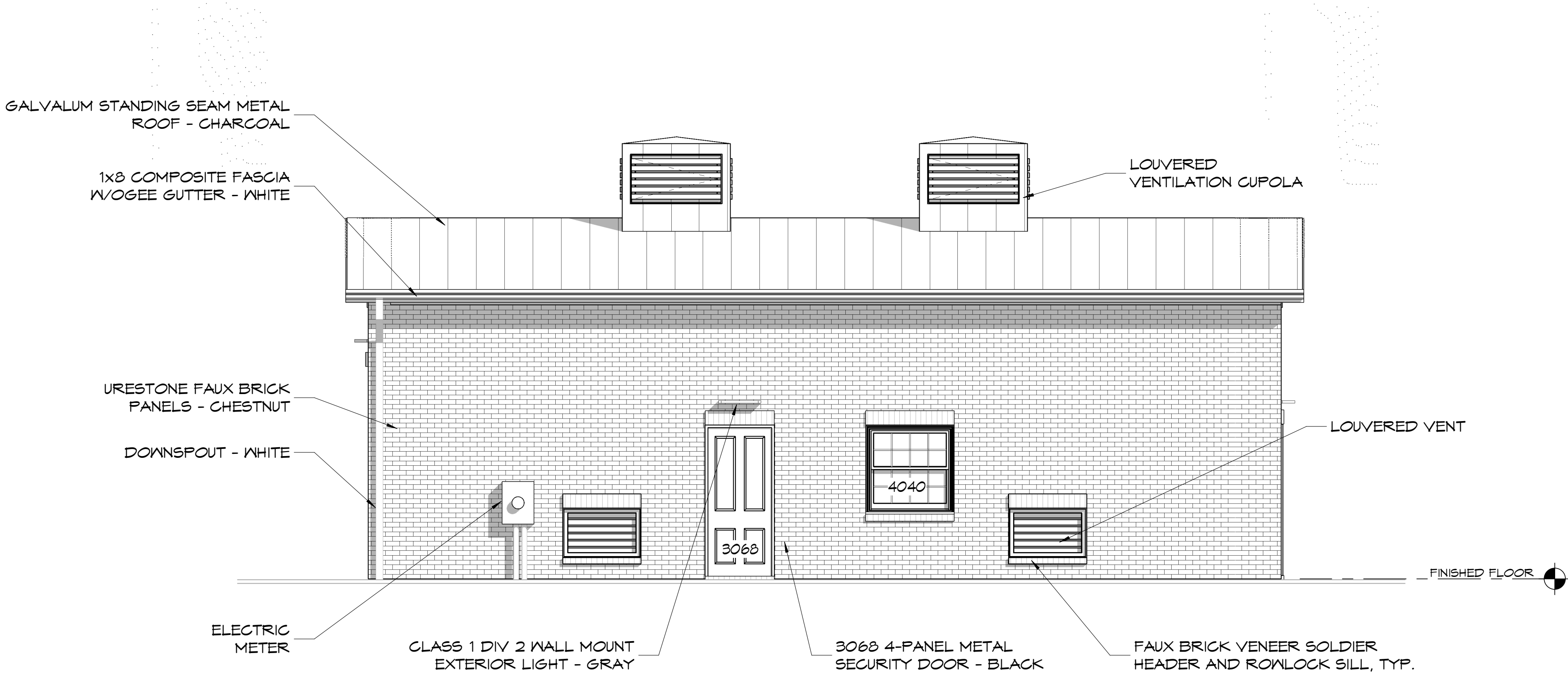
Project No: 25-0014

**EXTERIOR
ELEVATIONS**

A5.2

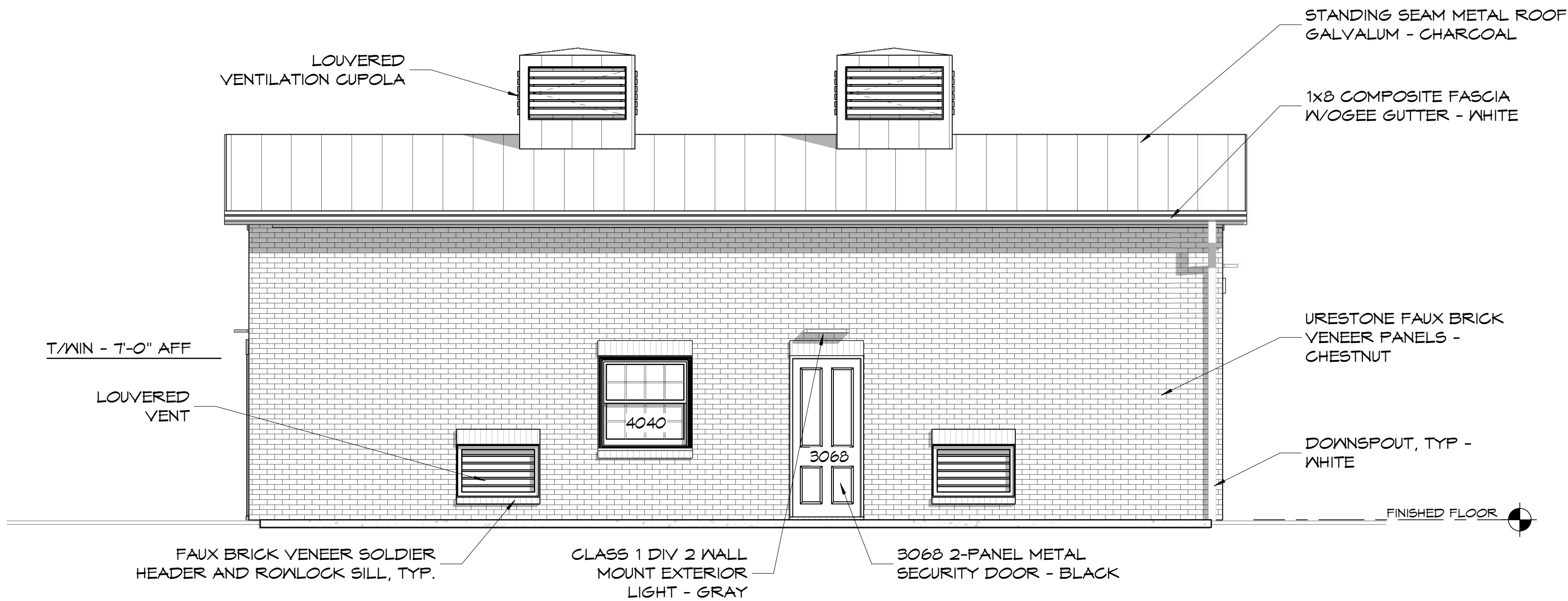
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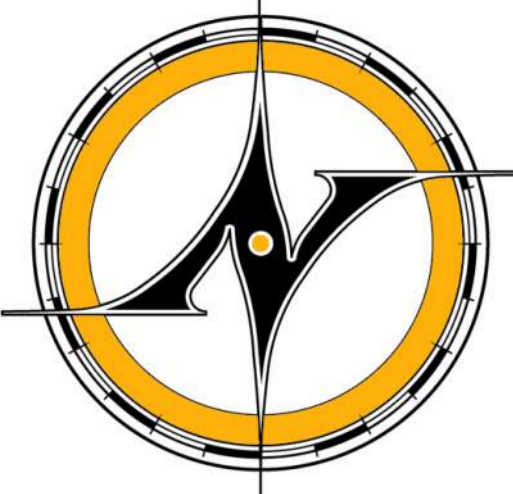
GARAGE LEFT ELEVATION

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



GARAGE RIGHT ELEVATION

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



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DESIGN SET : 06/11/2025

Columbia Gas/
NiSource Utility Building
Architectural Design Consulting

1336 Ridgeview Road
Upper Arlington, Ohio

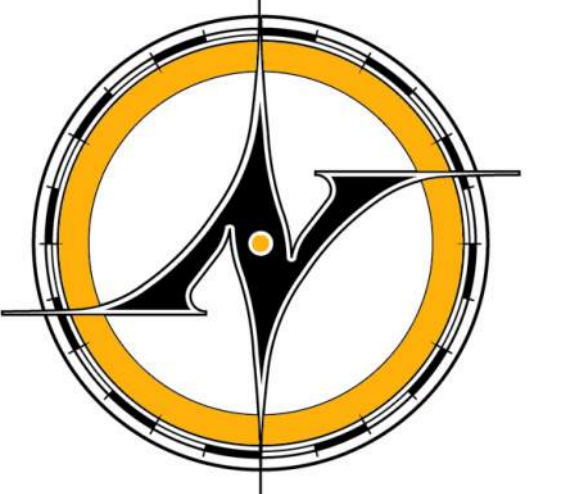
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GARAGE
ELEVATIONS

A5.3



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3D VIEWS

A15.1



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RIDGEVIEW STATION

PERSPECTIVE RENDERING

Project No: 25-0014

Date: 2025-06-11

R1



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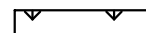
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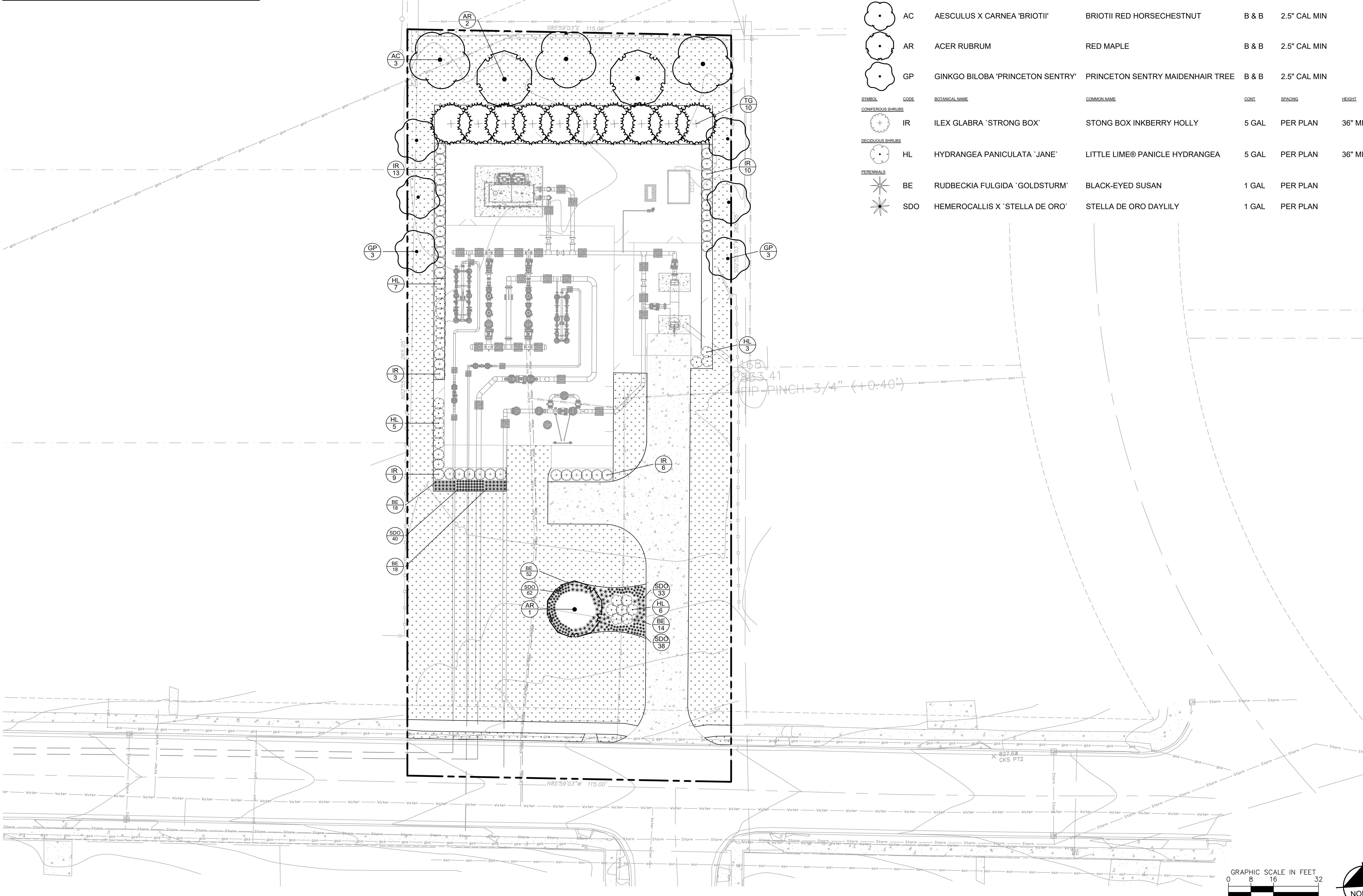
PERSPECTIVE RENDERING

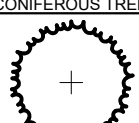
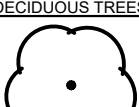
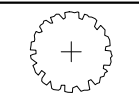
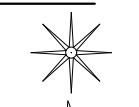
Project No: 25-0014

Date: 2025-06-11

R2

SEEDING LEGEND	
	SEED BUFFALO GRASS (BOUTELOUA DACTYLOIDES) SEED



PLANT SCHEDULE						
SYMBOL	CODE	BOTANICAL NAME	COMMON NAME	CONT	CAL/SIZE	HEIGHT
CONIFEROUS TREES						
	TG	THUJA X 'GREEN GIANT'	GREEN GIANT ARBORVITAE	B & B	6' HT. MIN.	
DECIDUOUS TREES						
	AC	AESCULUS X CARNEA 'BRIOTII'	BRIOTII RED HORSECHESTNUT	B & B	2.5" CAL MIN	
	AR	ACER RUBRUM	RED MAPLE	B & B	2.5" CAL MIN	
	GP	GINKGO BILOBA 'PRINCETON SENTRY'	PRINCETON SENTRY MAIDENHAIR TREE	B & B	2.5" CAL MIN	
DECIDUOUS SHRUBS						
	IR	ILEX GLABRA 'STRONG BOX'	STONG BOX INKBERRY HOLLY	5 GAL	PER PLAN	36" MIN
	HL	HYDRANGEA PANICULATA 'JANE'	LITTLE LIME® PANICLE HYDRANGEA	5 GAL	PER PLAN	36" MIN
PERENNIALS						
	BE	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	1 GAL	PER PLAN	
	SDO	HEMEROCALLIS X 'STELLA DE ORO'	STELLA DE ORO DAYLILY	1 GAL	PER PLAN	

[illegible]

SCOPE OF WORK

1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

1. ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED AND DESIGNATED TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY BEST MANAGEMENT PRACTICES (BMP) DEVICES ACCORDING TO ALL REGULATORY AGENCY'S STANDARDS THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MAINTENANCE OF TRAFFIC (MGT) THAT MAY BE REQUIRED FOR THE PROJECT.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO EXCAVATION. THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA, LOCATING ALL UNDERGROUND FACILITIES DURING CONSTRUCTION, THE SAFETY AND PROTECTION THEREOF, REPAIRING ANY DAMAGE THERETO RESULTING FROM THE WORK. THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. THE CONTRACTOR SHALL NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

C. PROTECTION OF EXISTING PLANT MATERIALS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIPLINE AND SPILLING OIL, GASOLINE, OR OTHER VOLATILE MATERIALS WITHIN THE DRIPLINE. NO MATERIALS SHALL BE BURNED ON SITE. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISAPPEARED AND/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF FOUR HUNDRED DOLLARS (\$400) PER INCH CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL, FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

2. SEE TREE MITIGATION PLAN AND NOTES, IF APPLICABLE.

D. MATERIALS

1. GENERAL

MATERIAL SAMPLES LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON SITE OR AS DETERMINED BY THE OWNER, UPON APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SAMPLE SIZE
MULCH	ONE (1) CUBIC FOOT
TOPSOIL, MIX	ONE (1) CUBIC FOOT
PLANTS	ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY)

2. PLANT MATERIALS

a. FURNISH NURSERY-GROWN PLANTS TRUE TO GENUS, SPECIES, VARIETY, CULTIVAR, STEM FORM, SHEARING, AND OTHER FEATURES INDICATED IN PLANT SCHEDULE SHOWN ON DRAWINGS AND COMPLYING WITH ANSI Z60.1, AND WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPLANTING OR ROOT PRUNING. PROMOTE WELL-SHAPED, FULLY BRANCHED, HEALTHY VIGOROUS STOCK, DENSELY FOLIATED WHEN IN LEAF AND FREE OF DISEASE, PESTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.

b. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE.

c. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE PROJECT LANDSCAPE ARCHITECT. ANY ROW TREES MUST BE APPROVED BY OFFICE OF THE CITY FORESTER.

d. PROVIDE PLANTS OF SIZES, GRADES, AND BALL OR CONTAINER SIZES COMPLYING WITH ANSI Z60.1 FOR TYPES AND FORMS AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. THE ENGINEER REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

e. TREES WITH DAMAGED, CROOKED, OR MULTIPLE LEADERS; TIGHT VERTICAL BRANCHES WHERE BARK IS SQUEEZED BETWEEN TWO BRANCHES; OR TOO THICK TRUNKS (CROSSING TRUNKS); CROSSING TRUNKS; CUT-OFF LIMBS MORE THAN $\frac{1}{2}$ INCH (19 MM) IN DIAMETER; OR WITH STEM GIRDLING ROOTS WILL BE REJECTED.

f. FURNISH TREES AND SHRUBS WITH ROOT BALLS MEASURED FROM TOP OF ROOT BALL, WHICH SHALL BEGIN AT ROOT FLARE ACCORDING TO ANSI Z60.1. ROOT FLARE SHALL BE VISIBLE BEFORE PLANTING.

g. LABEL AT LEAST ONE PLANT OF EACH VARIETY, SIZE, AND CALIPER WITH A SECURELY ATTACHED, WATERPROOF TAG BEARING LEGIBLE DESIGNATION, A COMMON NAME AND FULL SCIENTIFIC NAME AND GENUS AND SPECIES, INCLUDING NOMENCLATURE FOR HYBRID, VARIETY, OR CULTIVAR, IF APPLICABLE FOR THE PLANT AS SHOWN ON DRAWINGS.

h. IF FORMAL ARRANGEMENTS OR CONSECUTIVE ORDER OF PLANTS IS SHOWN ON DRAWINGS, SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD, AND NUMBER THE LABELS TO ASSURE SYMMETRY IN PLANTING.

E. SOIL MIXTURE

1. CONTRACTOR SHALL TEST EXISTING SOIL AND AMEND AS NECESSARY IN ACCORDANCE WITH THE GUIDELINES BELOW.

2. SOIL MIXTURE SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW. CONTRACTOR TO SUBMIT SAMPLES AND PH TESTING RESULTS OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

a. TOPSOIL, FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT OPENINGS SHALL BE FERTILE, FRIABLE, AND OF LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEAL OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN LESS THAN (5) PERCENT DECOMPOSED ORGANIC MATTER, HAVE A PH BETWEEN 5.5 AND 8.0, AND SOLUBLE SALTS LESS THAN 3.0 MMHOS/CM. SUBMIT SOIL SAMPLE AND PH TESTING RESULTS FOR APPROVAL.

b. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND.

3. TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE - AT WHICH POINT THE CONTRACTOR SHALL CONTACT THE PROJECT LANDSCAPE ARCHITECT TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.

F. WATER

1. WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER ABOVE THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCE OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

* WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

1. CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

* FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. MULCH

1. MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED A DEPTH OF THREE (3) INCHES. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE) OR AS SHOWN IN PLANTING DETAILS, UNLESS OTHERWISE NOTED ON PLANS. MULCH SHALL BE LOCAL ROVER MULCH OR APPROVED EQUAL. DYED MULCH NOT ACCEPTABLE. SUBMIT SAMPLES TO PROJECT LANDSCAPE ARCHITECT FOR APPROVAL. MULCH SHALL BE PROVIDED OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE RING (6" MINIMUM) PLANTED UNDER THIS CONTRACT, AS WELL AS FOR ANY EXISTING LANDSCAPE AREAS AS SHOWN ON PLANS.

DIGGING AND HANDLING

1. ALL TREES SPECIFIED SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE SPECIFIED BY PROJECT LANDSCAPE ARCHITECT.

2. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLOT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO THE SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILTRUP" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.

3. B&B, AND FIELD GROWN (FG) PLANTS SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS SHALL NOT BE HANDLED BY STEMS.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.

2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG ENOUGH FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.

3. ROOT BOUND PLANTS ARE NOT ACCEPTABLE AND WILL BE REJECTED.

K. MATERIALS LIST

1. QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE PLANS SHALL GOVERN. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE.

L. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN DISTURBED DURING CONSTRUCTION.

2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. ADJACENT BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES, IF APPLICABLE.

M. PLANTING PROCEDURES

1. THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER DAILY. ALL MORTAR, CEMENT, BUILDING MATERIALS, AND TOXIC MATERIAL, SHALL BE COMPLETELY REMOVED FROM PLANTING AREAS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS IN PLANTING AREAS WHICH WILL ADVERSELY AFFECT THE PLANT GROWTH, THE CONTRACTOR SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.

2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MARK AND PROTECT EXISTING UTILITIES. CALL COLORADO (811) TO LOCATE UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

3. CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL PLANTING AREAS TO A MINIMUM DEPTH OF 36" OR TO NATIVE SOIL. CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTING AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE POOR DRAINAGE CONDITION PLANTING DETAIL.

4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS SPECIFIED HEREIN. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

5. COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND PLANTS. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED OR APPROPRIATELY HEALED IN FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE SHALL BE EXERCISED.

6. WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.

7. ALL PLANTING OPENINGS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH ANSI Z60.1-2014 AMERICAN STANDARD FOR NURSERY STOCK.

8. TEST ALL TREE OPENINGS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL.

9. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN.

10. PRIOR TO EXCAVATION OF TREE OPENINGS, AN AREA EQUAL TO TWO TIMES THE DIAMETER OF THE ROOT BALL SHALL BE ROTO-TILLED TO A DEPTH EQUAL TO THE DEPTH OF THE ROOT BALL.

11. EXCAVATION OF TREE OPENINGS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB-BASES.

12. IN CONTINUOUS SHRUBS AND GROUND COVER BEDS, THE ROTO-TILLED PERIMETER SHOULD EXTEND TO A DISTANCE OF ONE FOOT BEYOND THE DIAMETER OF A SINGLE ROOT BALL. THE BED SHALL BE TILLED TO A DEPTH EQUAL TO THE ROOT BALL DEPTH PLUS 6".

13. TREE OPENINGS FOR WELL DRAINED SOILS SHALL BE DUG SO THAT THE BOTTOM OF THE ROOT BALL WILL REST ON UNDISTURBED SOIL, AND THE TOP OF THE ROOT BALL WILL BE FLUSH WITH FINISH GRADE. IN POORLY DRAINED SOILS THE TREE OPENING SHALL BE DUG SO THAT THE ROOT BALL RESTS ON UNDISTURBED SOIL. THE TOP OF THE ROOT BALL IS 1" ABOVE FINISH GRADE. PLANT PIT WALLS SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.

14. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.

15. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION 'E'.

16. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. SOIL MIXTURE SHALL BE BACK FILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).

17. AMEND PINE AND OAK PLANT OPENINGS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT OPENINGS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.

18. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET, ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE.

19. ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.

20. TREES SHALL BE PRUNED, IN ACCORDANCE WITH ANSI A300, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY CERTIFIED ARBORIST.

21. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. MATERIALS INSTALLED SHALL MEET MINIMUM SPECIFICATION REQUIREMENTS OR QUANTITIES SHOWN ON PLANT LIST. HOWEVER IS GREATER, CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6". REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" OF THE PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION 'E'. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.

22. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE PROJECT LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.

23. ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT

LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.

2. ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS BY MEANS OF A SOD CUTTER TO A DEPTH OF THREE (3) INCHES, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL, PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.

3. PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.

4. SODDING

a. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

b. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOPDRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN FERTILIZE INSTALLED SO AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.

5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

6. LAWN MAINTENANCE

a. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK, INCLUDING REGRAIDDING IF NECESSARY.

b. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

O. EDGING

a. CONTRACTOR SHALL INSTALL 4"x6" ROLLED TOP STEEL EDGING BETWEEN ALL SOD/SEED AREAS AND PLANTING BEDS.

P. CLEANUP

1. UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM CONTRACTORS WORK. ALL PAVED AREAS SHALL BE CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE.

Q. PLANT MATERIAL MAINTENANCE

1. ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, PRUNING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.

R. FINAL INSPECTION AND ACCEPTANCE OF WORK

1. FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

S. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED (INCLUDING SOD) BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.

2. ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED AT NO ADDITIONAL COST TO THE OWNER.

3. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE AND IRRIGATION MAINTENANCE, THE CONTRACTOR SHOULD VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE (1) YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER. CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH.

[illegible]



- NOTES:

- NOTES:

- SECTION



1 SHRUB PLANTING

NTS

2 ORNAMENTAL GRASS PLANTING

NTS

2 PERENNIAL PLANTING

NTS



- ## NOTES

- ## 4 EVERGREEN TREE PLANTING

NTS

5 TREE PLANTING

SCALE: N.T.S.

L-05xxx Columbia Gas - Ridgeview Station.AGI

Mounting Height: various

Reflectance: Outdoors

Date:6/11/2025

Page 1 of 10

Workplane: n/a

Point Spacing: 5'



Luminaire Schedule

Symbol	Qty	Label	Description	LLF	LLD	LDD	Lumens	Mnt Ht
	9	LPD3C4D2P	2' Linear	0.950	0.950	1.000	3691	9
	1	LPD3C4M2P	4' Linear	0.950	0.950	1.000	7135	13

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Back Entrance	Illuminance	Fc	1.49	6.9	0.0	N.A.	N.A.
Back of Garage	Illuminance	Fc	2.99	8.1	0.3	9.97	27.00
Entrance	Illuminance	Fc	2.32	7.5	0.1	23.20	75.00
Garage Entrance	Illuminance	Fc	2.69	11.0	0.1	26.90	110.00
Garage Side	Illuminance	Fc	1.96	8.0	0.1	19.60	80.00
North Side	Illuminance	Fc	1.03	7.7	0.0	N.A.	N.A.
Between House and Garage	Illuminance	Fc	5.41	11.0	1.3	4.16	8.46

Lumen and wattage values are typical, with a tolerance of +/- 10%. All designs and information provided are based upon Dialight's interpretation of information provided by the client or accepted by the client at the time. It remains the responsibility of the client to determine that the design is fit for purpose and that the parameters of the design are maintained to ensure continued compliance. This includes, but is not limited to: light fixture positions, quantities and mounting heights, room conditions (such as reflectance's and equipment locations if considered at the time), use and supplementary task lighting if used. Dialight cannot accept responsibility in respect of the design provided if these design parameters are not maintained and shall in no way be liable to the client or to any third parties for any direct, indirect or consequential damage, loss or expense arising from any defect in the design, or arising from the actual design provided, save where such damage, loss or expense arises as a result of Dialight's negligence.

This design and the information provided is done so in confidence, for the sole purpose of the recipient and may not be disclosed to any non-related third party or used for any other purpose without the express written permission of Dialight.

L-05xxx Columbia Gas - Ridgeview Station.AGI

Mounting Height: various

Reflectance: Outdoors

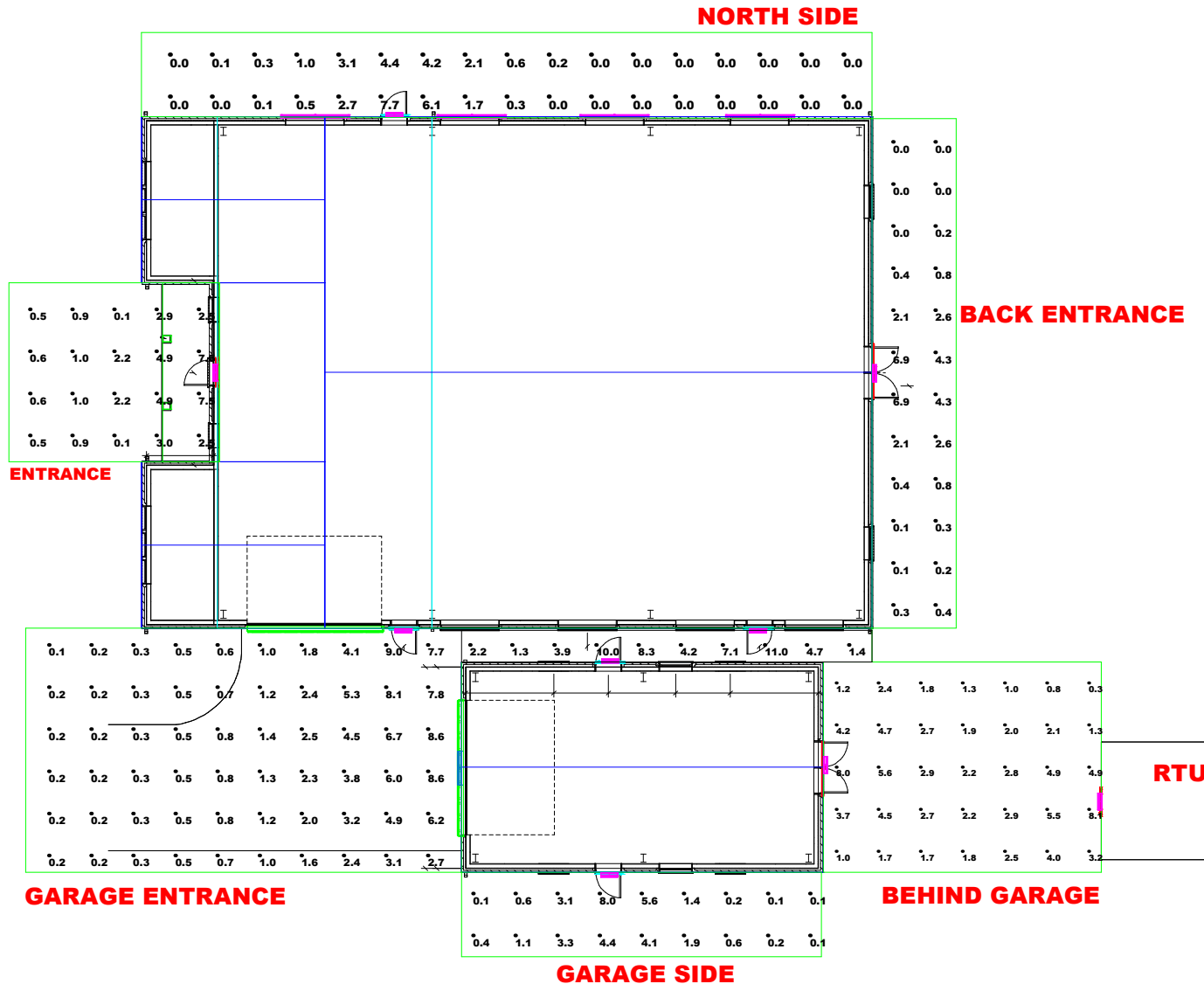
Date:6/11/2025

Page 2 of 10

Workplane: n/a

Point Spacing: 5'

Dialight
Dialight Corporation
Farmingdale, NJ
(732) 919-3119



L-05xxx Columbia Gas - Ridgeview Station.AGI

Mounting Height: various

Reflectance: Outdoors

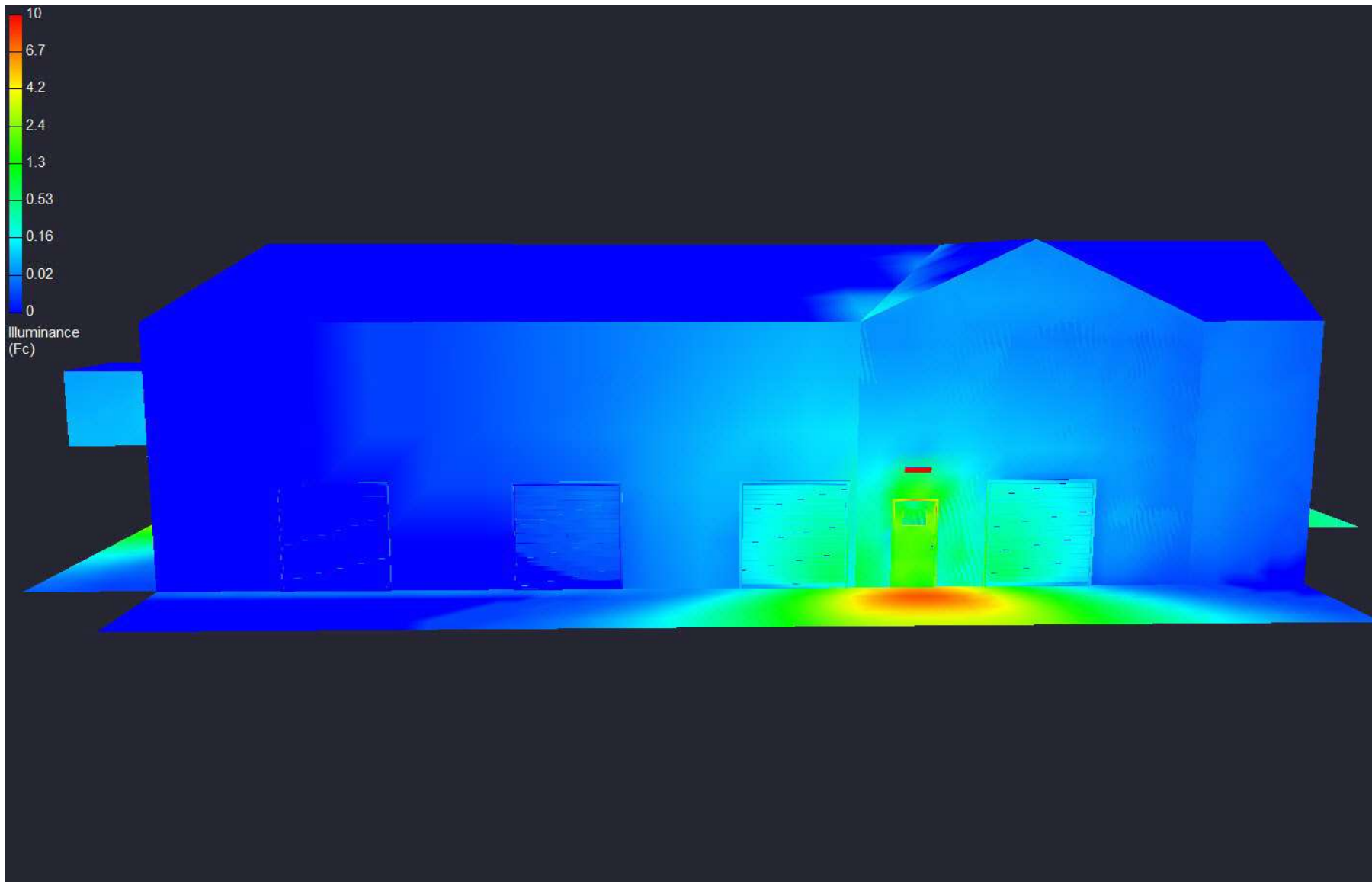
Date:6/11/2025

Page 3 of 10

Workplane: n/a

Point Spacing: 5'

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Dialight Corporation
Farmingdale, NJ
(732) 919-3119



L-05xxx Columbia Gas - Ridgeview Station.AGI

Mounting Height: various

Reflectance: Outdoors

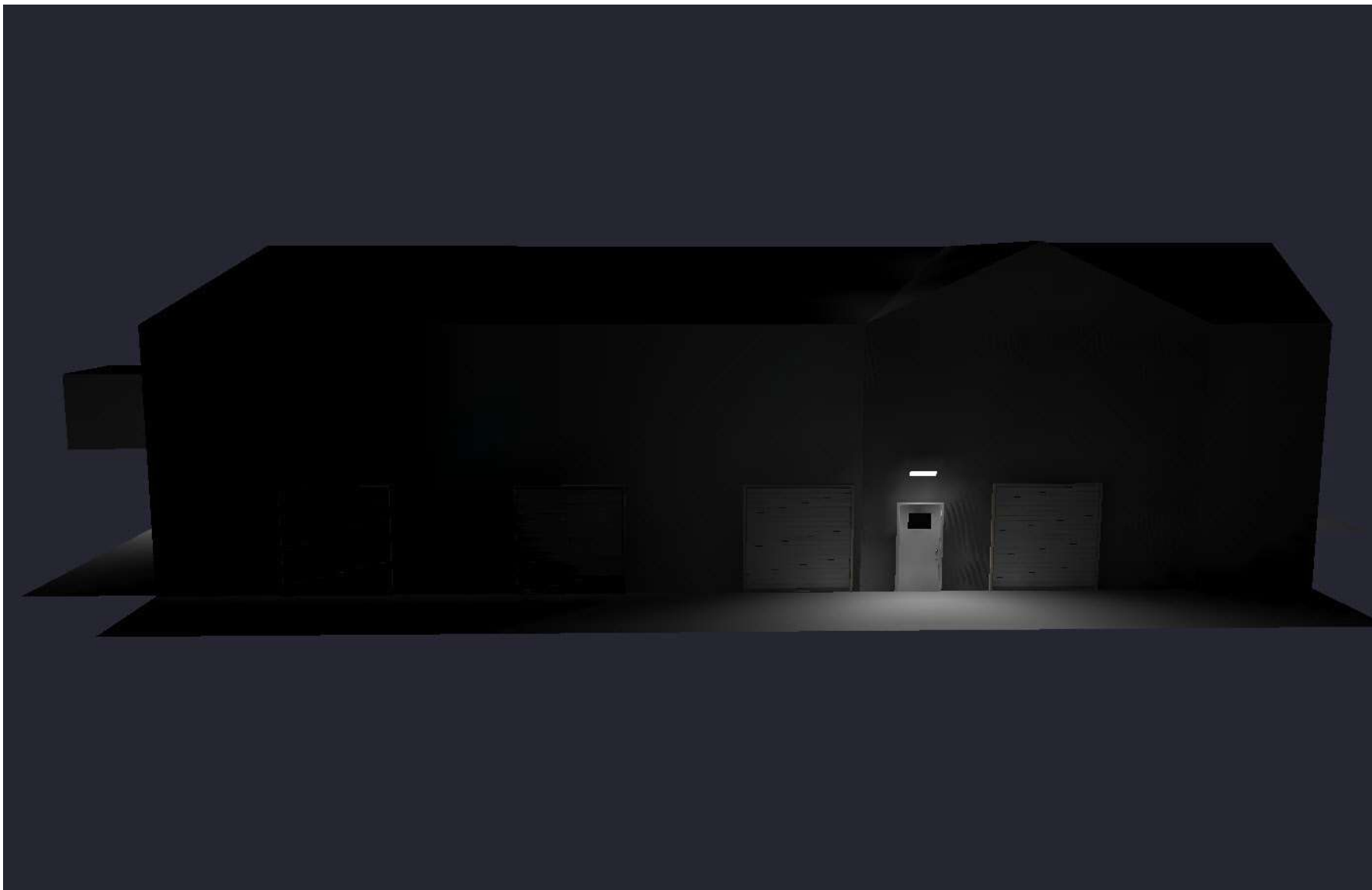
Date:6/11/2025

Page 4 of 10

Workplane: n/a

Point Spacing: 5'

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L-05xxx Columbia Gas - Ridgeview Station.AGI

Mounting Height: various

Reflectance: Outdoors

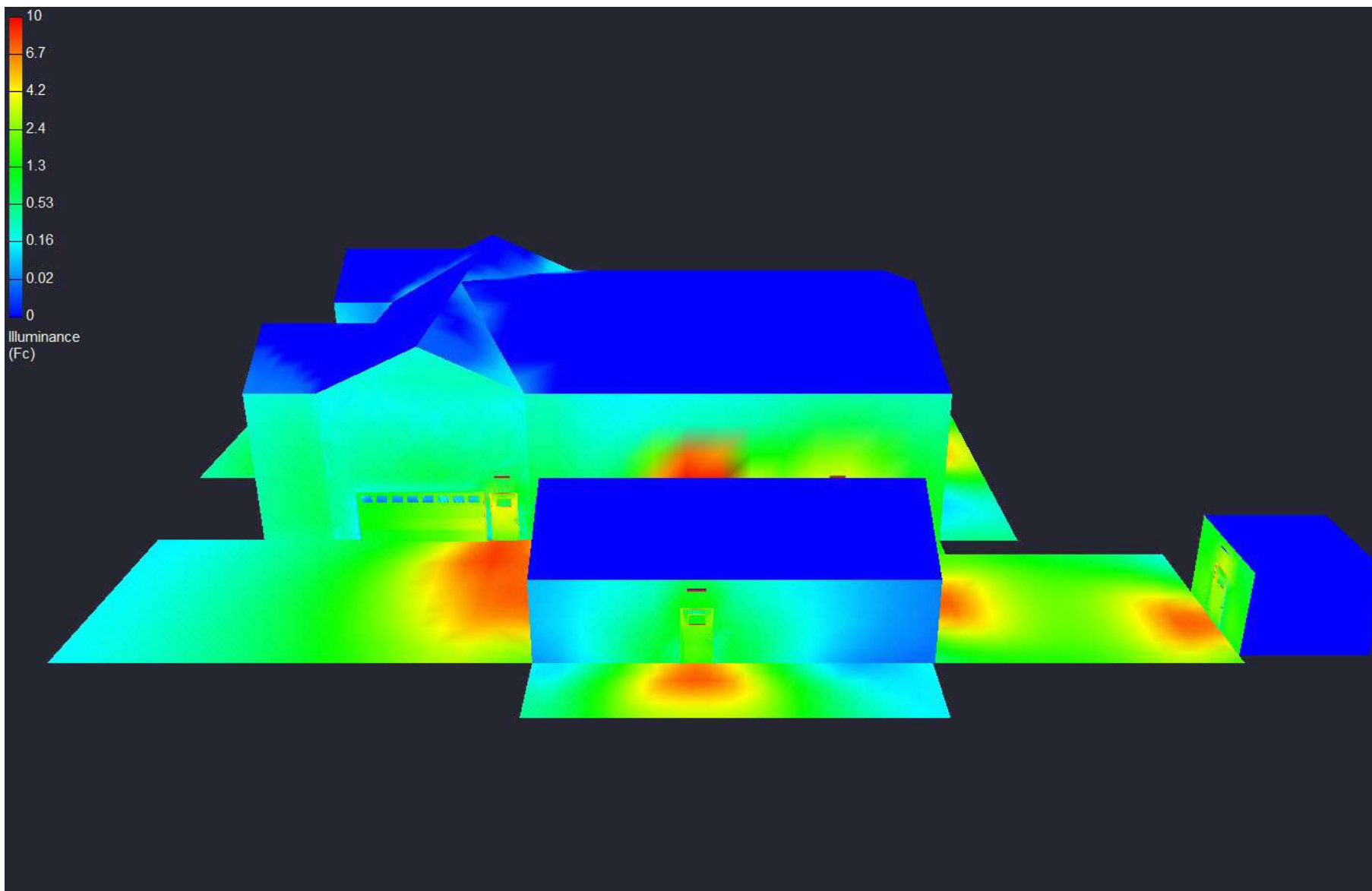
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Page 5 of 10

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Point Spacing: 5'

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Reflectance: Outdoors

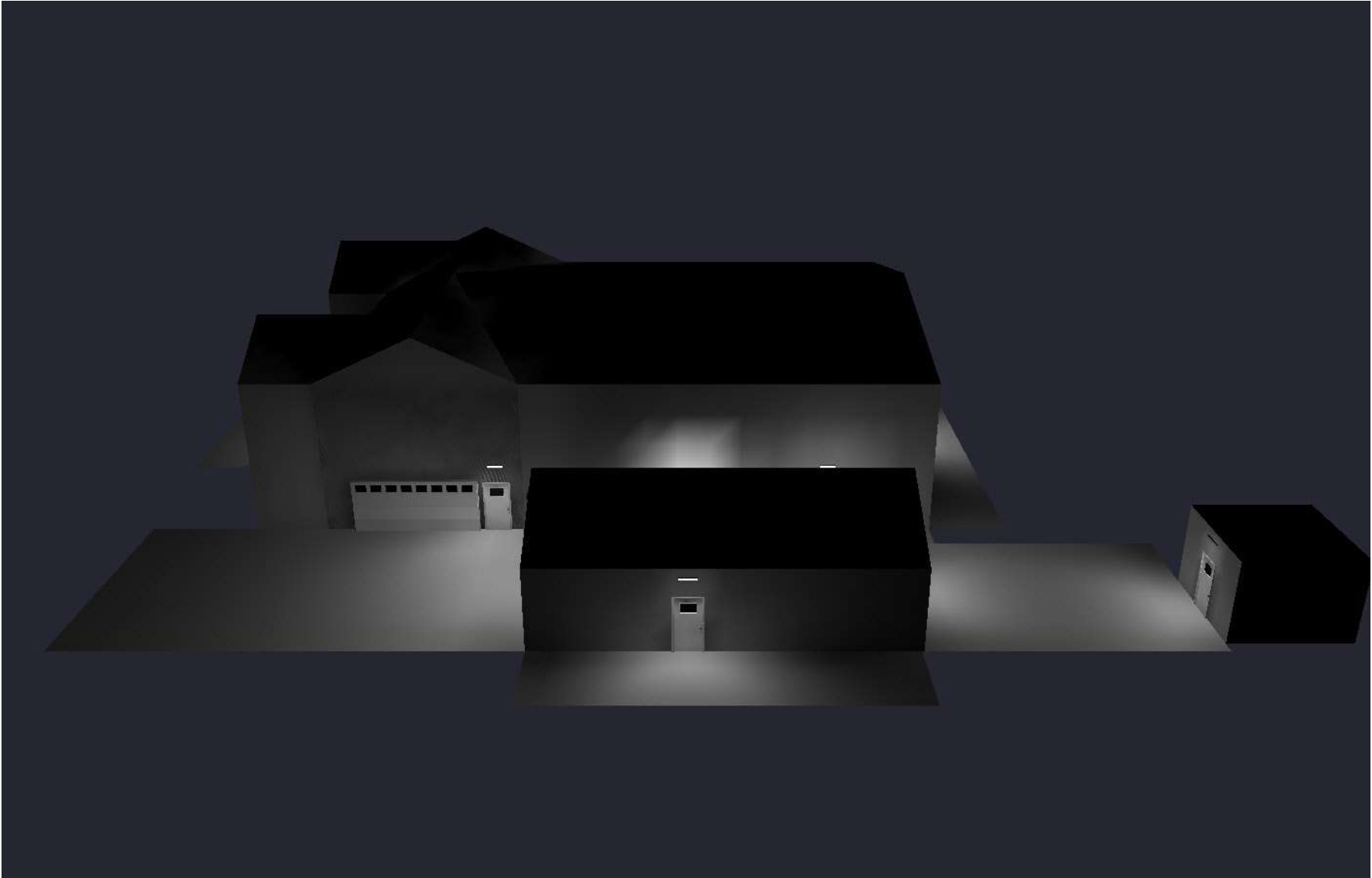
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Page 6 of 10

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Point Spacing: 5'

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Mounting Height: various

Reflectance: Outdoors

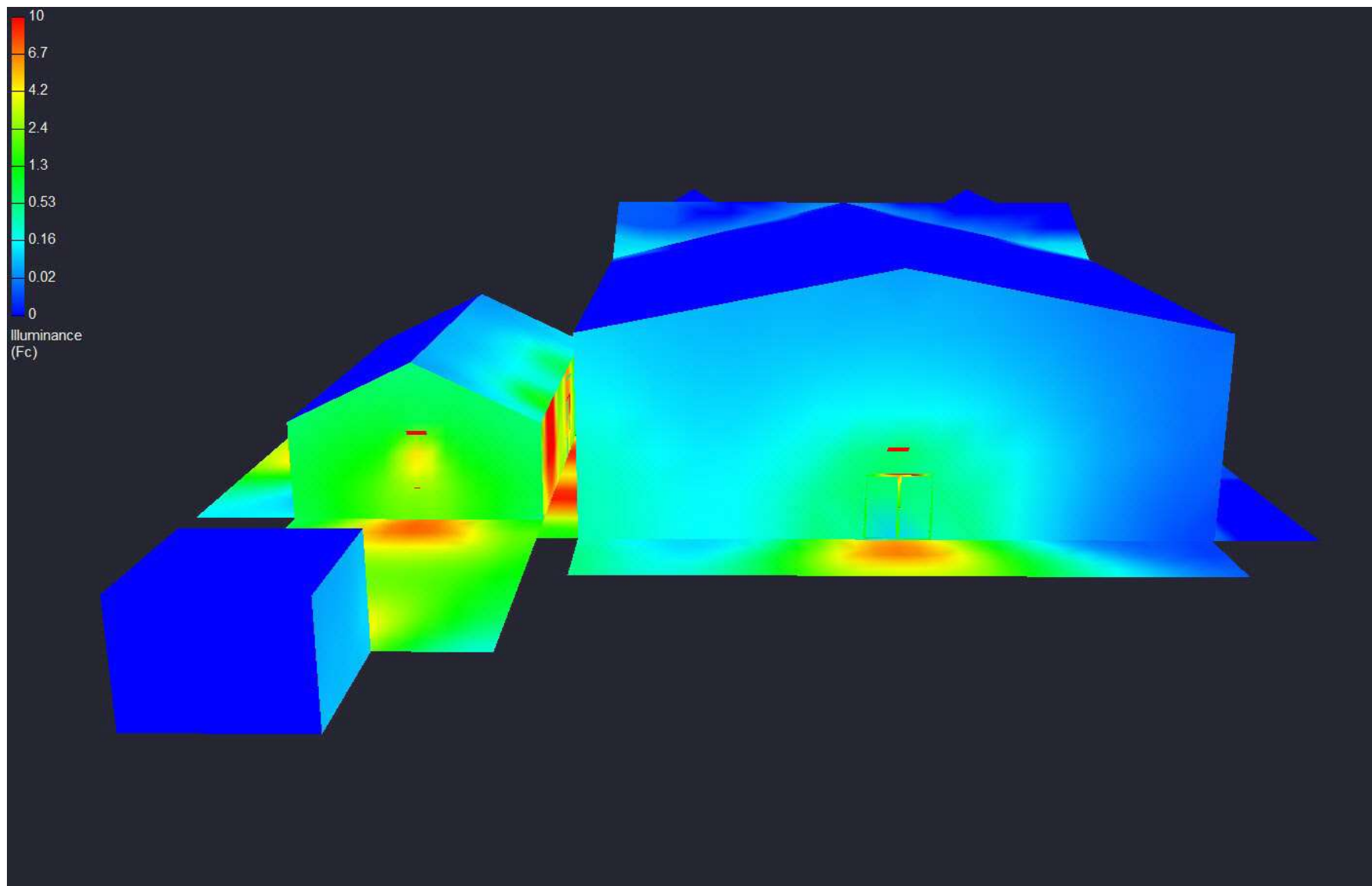
Date:6/11/2025

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Point Spacing: 5'

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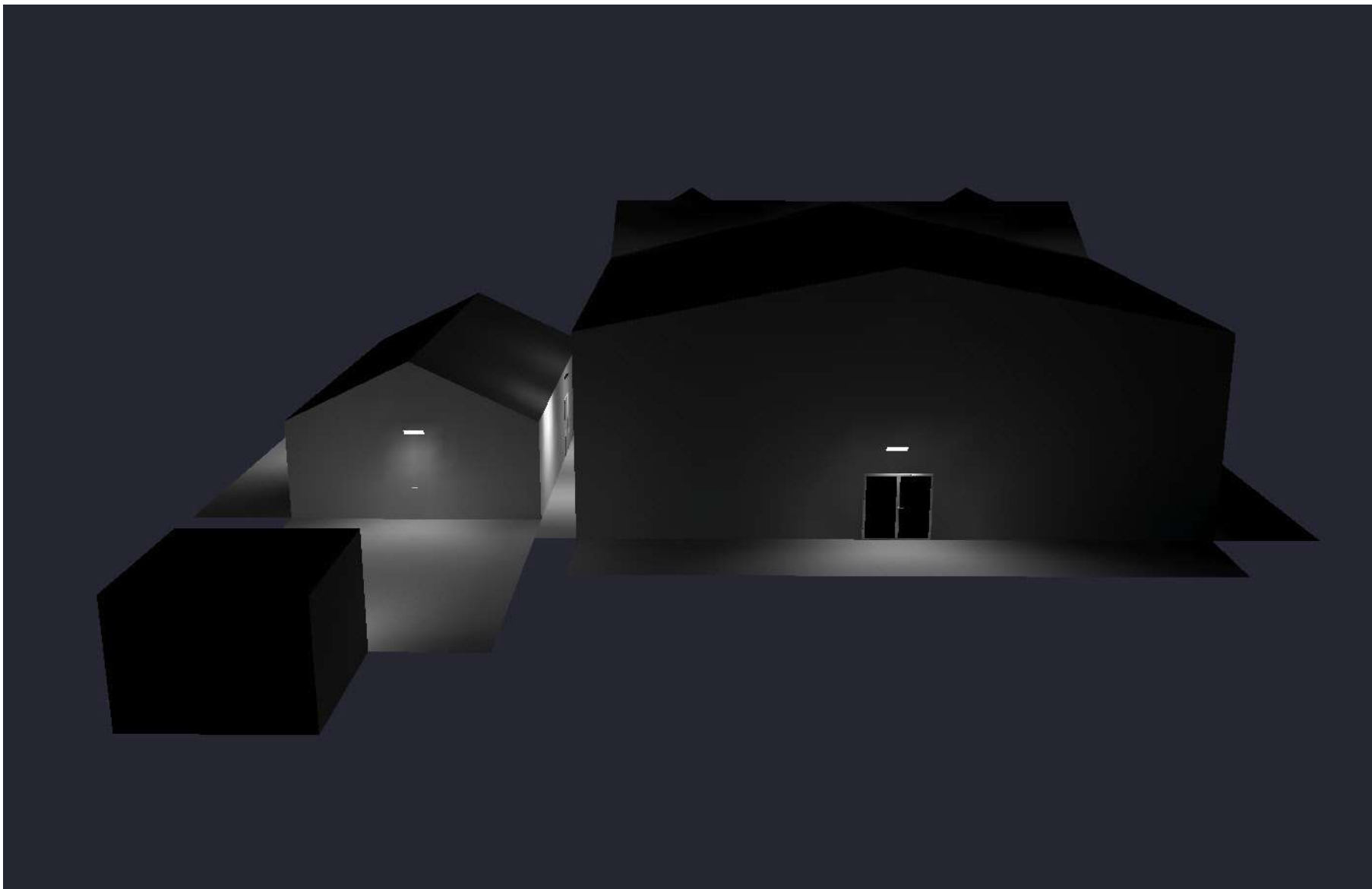
Date:6/11/2025

Page 8 of 10

Workplane: n/a

Point Spacing: 5'

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Reflectance: Outdoors

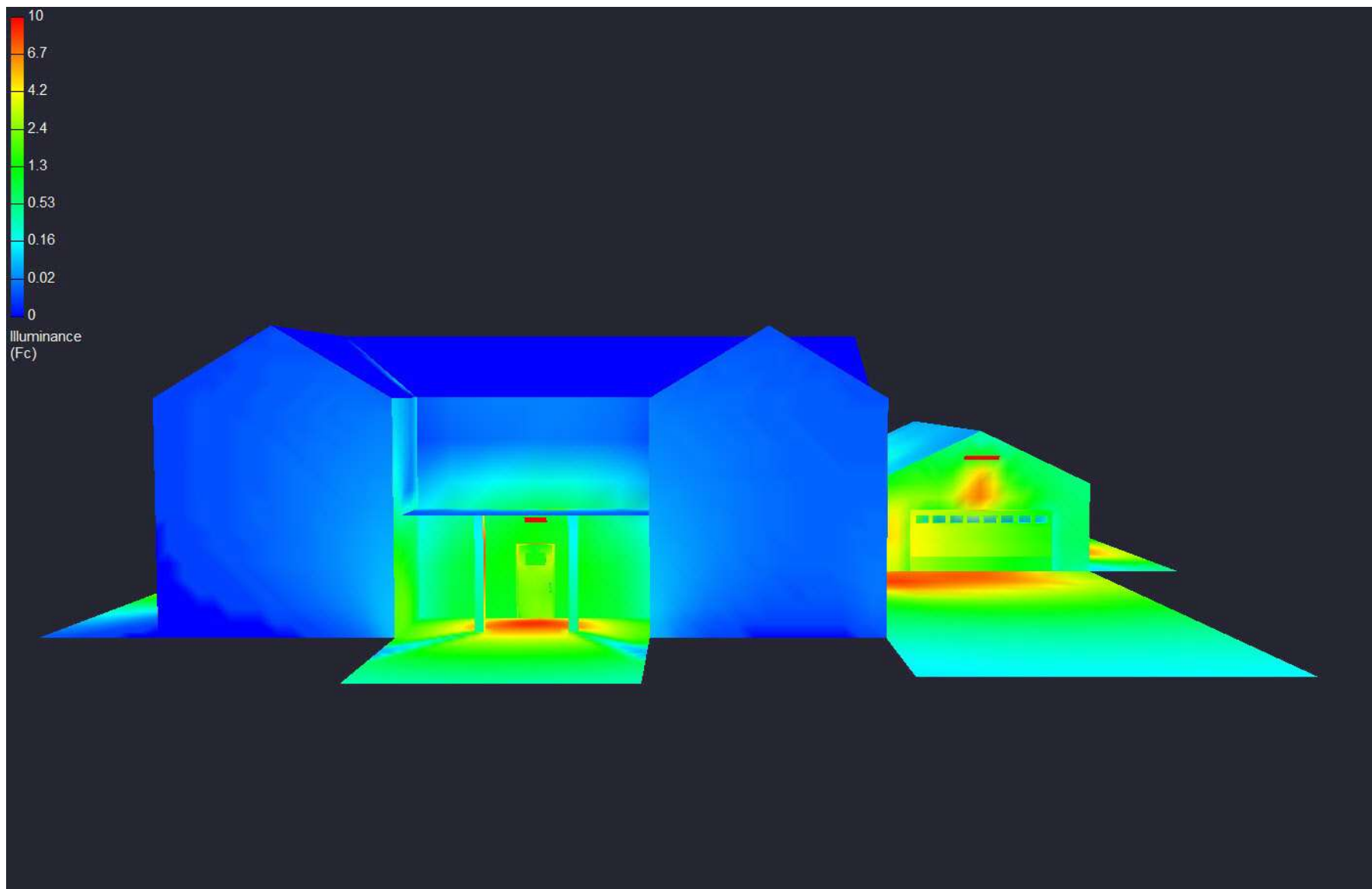
Date:6/11/2025

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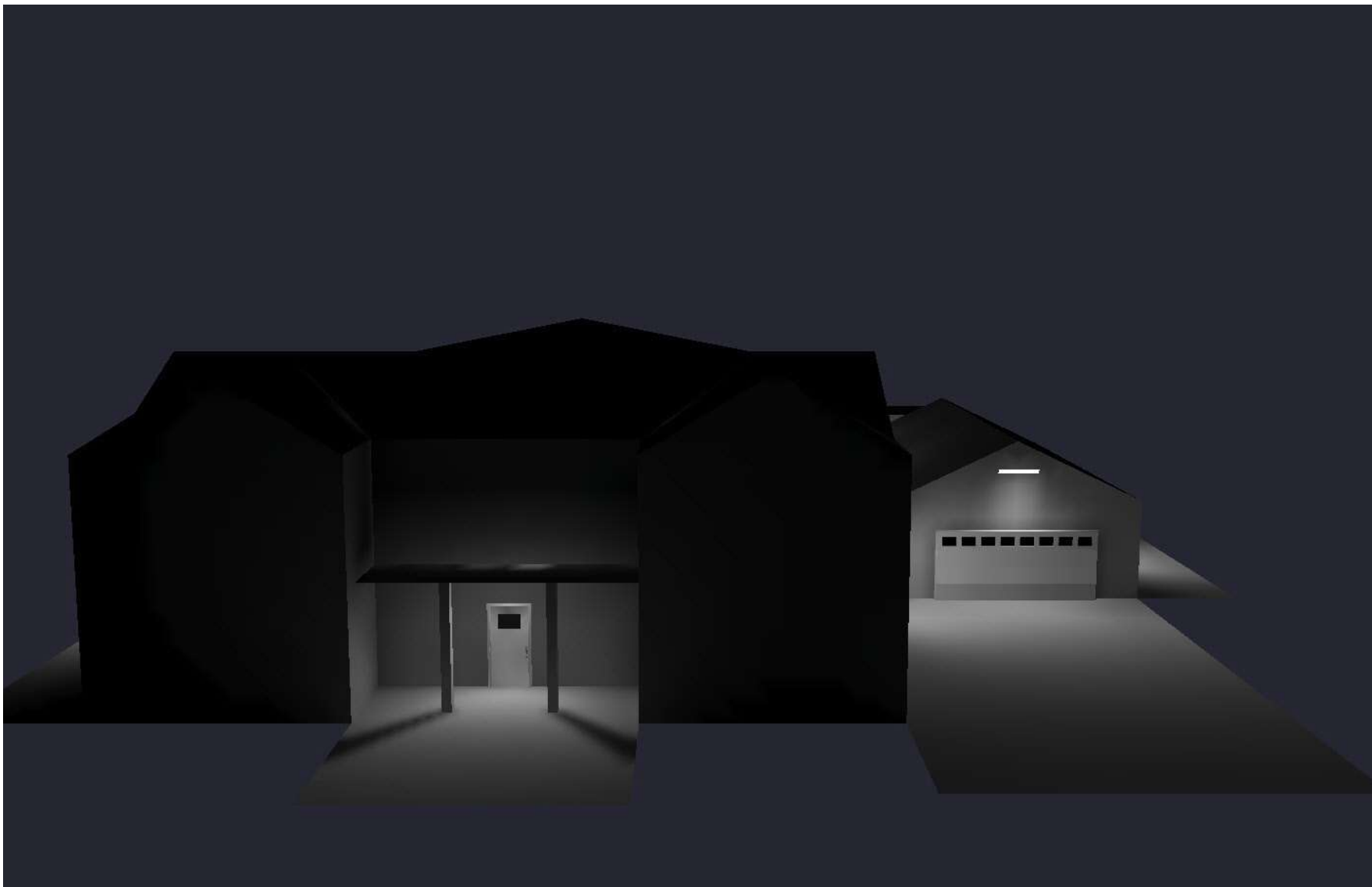
Date:6/11/2025

Page 10 of 10

Workplane: n/a

Point Spacing: 5'

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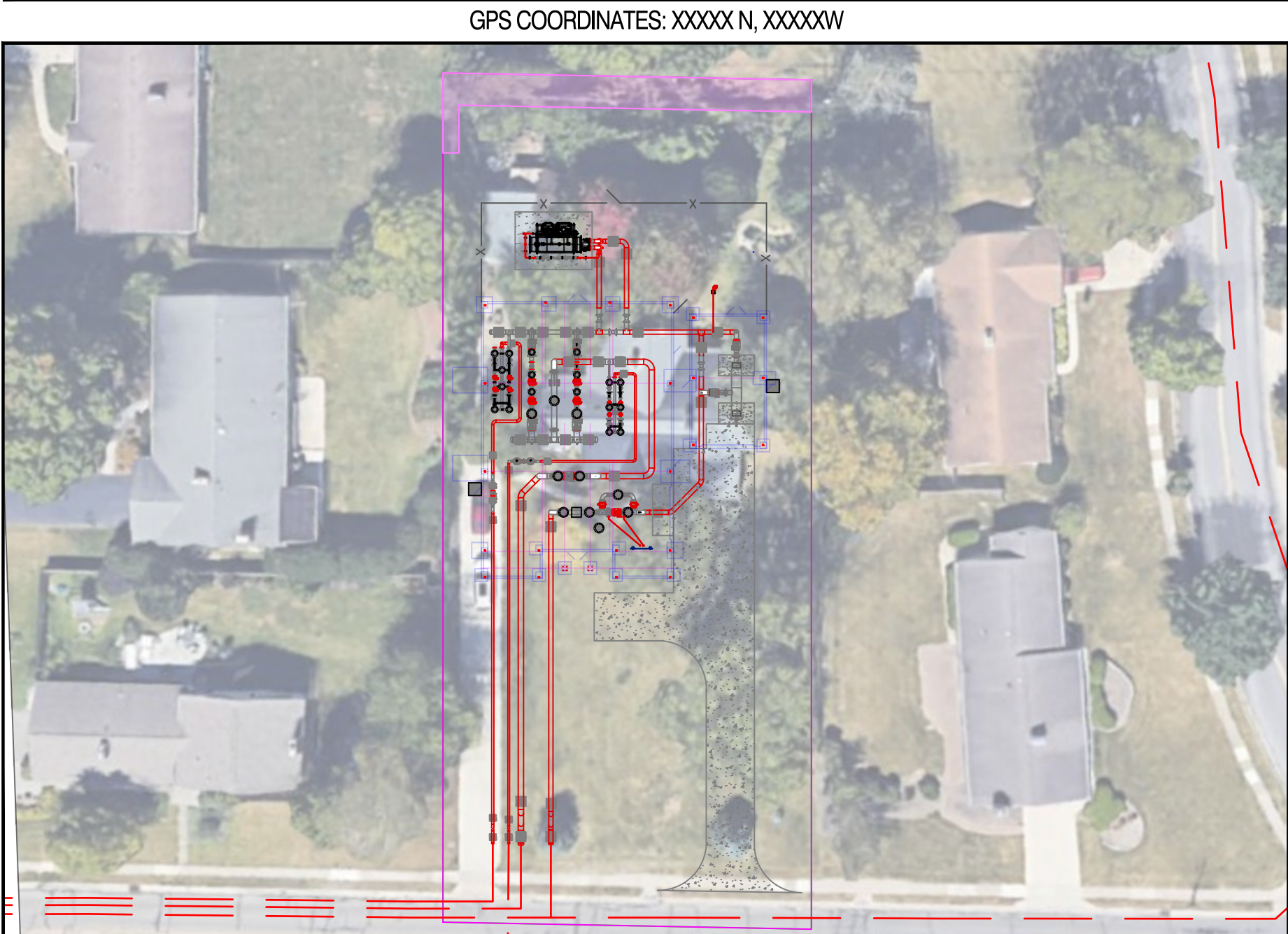
INSTALLATION ORDER NUMBER24-0136951-00

PROJECT ID 21-78790

RIDGEVIEW STATION

JOB TYPE: PLANT REGULATORS - NEW (573)

VICINITY MAP



PROJECT DESCRIPTION

NEW INSTALL OF RIDGEVIEW STATION

SHEET INDEX			
NUMBER	PROJECT ELEMENT	REVISION	REVISION DATE
0	COVER SHEET	0	6/16/2025
1	GENERAL NOTES	0	6/16/2025
2	ISOMETRIC	0	6/16/2025
3	SITE OVERVIEW	0	6/16/2025
4	PRESSURE TEST DETAILS	0	6/16/2025
5	GRAVEL LAYOUT	0	6/16/2025
6	FENCE LAYOUT	0	6/16/2025
7	FENCE DETAILS 1	0	6/16/2025
8	FENCE DETAILS 2	0	6/16/2025
9	CONCRETE LAYOUT	0	6/16/2025
10	CONCRETE DIMENSIONS	0	6/16/2025
11	CONCRETE CALLOUTS	0	6/16/2025
12	CONCRETE DETAILS	0	6/16/2025
13	ROV DETAILS	0	6/16/2025
14	TRANSMITTER PIPING DETAILS	0	6/16/2025
15	FILTER DETAILS	0	6/16/2025
16	GENERATOR DETAILS	0	6/16/2025
17	HEATER BLOCK DETAILS	0	6/16/2025
18	HEATER SUPPLY UNIT	0	6/16/2025
19	232 REGULATION	0	6/16/2025
20	232 OUTLET	0	6/16/2025
21	100 REGULATION	0	6/16/2025
22	100 OUTLET	0	6/16/2025
23	077 REGULATION	0	6/16/2025
24	077 OUTLET	0	6/16/2025
25	CORROSION LAYOUT	0	6/16/2025
26	ELECTICAL CLASSIFICATION	0	6/16/2025
27	I&C OVERVIEW	0	6/16/2025
28	BOM	0	6/16/2025
29	BOM 2	0	6/16/2025
APPENDIX A	ILLUMINATION PLAN	0	6/16/2025
APPENDIX B	PLMB-0002A	0	6/16/2025
APPENDIX C	SITE CIVIL	0	6/16/2025
APPENDIX D	SITE STRUCTURAL	0	6/16/2025
APPENDIX E	BUILDING ARCHITECTURE	0	6/16/2025
APPENDIX F	BUILDING STRUCTURAL STEEL	0	6/16/2025
APPENDIX G	BUILDING FOUNDATION	0	6/16/2025

PROJECT INFORMATION

FIELD ENGINEER / PROJECT MANAGER:KAITLIN DYGERT | GREG HARPER

CONSTRUCTION FLL:###

PERMITS:CITY PERMIT
STATE PERMIT
ENVIRONMENTAL PERMIT

TCC/LOA:1324 | COLUMBUS NORTHWEST

COUNTY:COLUMBUS / FRANKLIN

TAX DISTRICT/TOWNSHIP ID:0250200 | UPPER ARLINGTON

MAP/GRID NUMBER:7324428E

24 HR. EMERGENCY LINE:1-800-544-5606

VALVES PLANNED FOR ABANDONMENT

VALVE NO.	FACILITY ID	LOCATION DESCRIPTION	ABANDONED VALVE INSERTED?		DISPOSITION			
			YES*	NO	VALVE REMOVED (NO BOX ABOVE GROUND VALVE)	VALVE, VALVE BOX & LID REMOVED	VALVE REMAINS IN PLACE, BOX & LID REMOVED	VALVE REMAINS IN PLACE, BOX FILLED W/ CONCRETE
#								
#								
#								
#								
#								

* - IF "YES," APPROVAL AND REASON ARE REQUIRED AND SHALL BE DOCUMENTED.
NOTE: IF VALVE COULD NOT BE LOCATED, MAKE APPLICABLE COMMENT IN ABOVE TABLE.

PROJECT SUMMARY TABLE

PROPOSED INSTALLATION			PROPOSED ABANDONMENT		
LENGTH (FT)	SIZE (IN)	TYPE	LENGTH (FT)	SIZE (IN)	TYPE
0'	0"		0'	0"	
0'	TOTAL INSTALLATION (FEET)		0'	TOTAL ABANDONMENT (FEET)	

PROPOSED GAS SERVICES

	REPLACEMENTS	TIE OVERS	TOTAL SERVICES	METER OUTS
ESTIMATED GAS SERVICES				



0

Ohio Utilities Protection Service

Call811

before you dig

PROPOSED

REVISIONS

REV. #	DATE	DESCRIPTION
---	---	---
---	---	---
---	---	---
---	---	---
---	---	---
1	---	---
0	9/29/23	PRELIMINARY

DESIGNED BY

CRDM

09/11/24

330-596-0111

DRAWN BY

CRDM

09/11/24

330-596-0111

CHECKED BY

CAMPOS

XX/XX/XX

AS-BUILT BY

NAME

DATE

PHONE #

SITE NAME:

INST# 24-0136951-00

ABAN# ----

PROJECT ID# 21-78790

RIDGEVIEW STATION

COLUMBUS / FRANKLIN, OH

DRAWING TITLE:

COVER SHEET

DRAWING NO:

General Notes

1.

Deviation from NiSource CAD Standards is at discretion of reviewing Professional Engineer.
2.

Refer to project documentation for the associated Environmental Compliance Plan (ECP) and any project-specific documentation.
3.

The proposed gas facility locations shown are approximate and are subject to change.
4.

Property lines, structures, street lines, etc. were compiled using the NiSource GIS and are to be considered approximate and not to scale.
5.

Existing utilities, where shown, have been compiled from above ground evidence only and are to be considered approximate. NiSource does not guarantee the location of the underground utilities shown or that all existing utilities and/or subsurface structures are shown.
6.

Individual service line designs for services smaller than 3 inches in diameter are not provided by Engineering. These services shall be installed using the standard design criteria and material specified in the NiSource standards. Services 3 inches and larger in diameter shall be designed, reviewed, and represented on a separate plan set as necessary.
7.

This project will adhere to all applicable federal, state or local permitting requirements for abandonment and installation of natural gas pipelines. All Federal, State, and Local codes and standards will be adhered including, but not limited to, the following:

Code of Federal Regulations (CFR)

49 CFR 192 Pipeline Safety Regulations

29 CFR 1910 Occupational Safety and Health Administration (OSHA)

American Society of Mechanical Engineers (ASME)

ASME B31.8 Gas Transmission and Distribution Piping Systems

8.

All NiSource design codes and standards will be adhered to as applicable.

9.

Prior to beginning any excavation on site, the person responsible for earth moving shall notify utility owners of their intent to excavate and to have the exact locations of the utility lines marked by contacting the one call center in their state subject to any applicable state advance notification requirements.

10.

Proposed or completed gas facility installation location references may be indicated by a combination of the following codes:
- F - FRONT

BK - BACK

L - LEFT

R - RIGHT

B - BUILDING EDGE

CU - CURB

CLP - CENTER OF PAVEMENT

CLR - CENTER OF RIGHT-OF-WAY

CEL - CENTER OF EASTBOUND LANE

CWL - CENTER OF WESTBOUND LANE

CNL - CENTER OF NORTHBOUND LANE

CSL - CENTER OF SOUTHBOUND LANE

D - DRIVEWAY EDGE

EP - EDGE OF PAVEMENT

ES - EDGE OF SIDEWALK

PL - PROPERTY LINE
11.

For transmission projects, ensure compliance of required TVC QA/QC with Gas Standard 1660.040
- Drawing Revision Conditions:
1.

If, during the course of project construction, anticipated changes to project plans result in complex project criteria being met as defined by NiSource Gas Standard 2810.050 "Stakeholder Reviews of Design Capital Projects," the changes shall not be implemented until revised project documentation is reviewed by the Project Engineer and approved by a Professional Engineer as necessary.

2.

Any additional gas pressure containing material not listed on the project Bill of Materials must be reviewed by the Project Engineer and reviewing Professional Engineer prior to use.

3.

Any significant changes to proposed primary pipeline installation methods and location must be reviewed by the Project Engineer and reviewing Professional Engineer.

4.

Any significant changes to proposed project scope must be reviewed by the Project Engineer and reviewing Professional Engineer. Significant changes to project scope may include changes to proposed design pressure, change of proposed pipe size and material affecting system hydraulics, and the addition or removal of significant amounts of pipeline installation or abandonment.

5.

Any significant changes to proposed tie-ins must be reviewed by the Project Engineer and reviewing Professional Engineer. Significant changes may include the following: addition or removal of a tie-in, change in proposed tie-in material, change in proposed tie-in method, and change in tie-in location if system hydraulics may be affected.

6.

During the course of project construction or procurement, the availability of pipe seam type may change due to procurement issues. Any pipe seam type changes between seamless (SMLS) and electric-weld resistance (ERW)) do not require PE Field Memo Change due to both seam types having the same design factor.
- Environmental Notes
1.

All NiSource construction activities must be completed in accordance with the Environmental Construction Standards (HSE 4440.020) and the project Environmental Compliance Plan (ECP). Said ECP shall be provided by others.

2.

The project ECP and any site-specific erosion control drawings, must be provided to the contractor with the project drawings for review and planning prior to the start of construction activities. This includes any tree clearing activities required prior to the start of facility construction activities.

3.

The project ECP and any associated drawings must be reviewed with construction, the contractor, and an environmental representative prior to the start of construction activities.

4.

These documents must remain on site for the duration of the construction project, and any project scope changes, with the potential to impact the requirements of the ECP or environmental drawings, must be coordinated with an environmental representative prior to completion.
- DRAWING LEGEND
- Gas Main Material/Pressure Label References
- MATERIAL CODES

CS* Coated Steel Gas Main

WT* Weld Treated Gas Main

CI* Cast Iron Gas Main

BS* Bare Steel Gas Main

WI* Wrought Iron Gas Main

PH* High Density Polyethylene Gas Main

PM* Medium Density Polyethylene Gas Main
- PRESSURE CODES
- *LP Low Pressure

*IP Intermediate Pressure

*MP Medium Pressure

*HP High Pressure
- MISCELLANEOUS CODES
- *-SER Service

*-R Riser

(TC) Transmission Class
- Gas Main Installation Method Label References
- AT Attached

BH Bridge Hanger

BLGH Building Hanger

DB Directional Bore

IS Inserted

OC Open Cut

PB Pneumatic Bore

PL Plowed

RT Roof Top

(E) Existing

(P) Proposed
- ←

W1

Weld Location

←

T1

Gas Main Tie-in Location

←

A1

Gas Main Abandonment Location
- Gas Facility Symbolology
- ⊗x"GV Gas Valve

●x"PV Critical Gas Valve

(Gate - GV, Plug - PV, PE Ball - BP, ST Ball - BV)

○x"HVTT High Volume Tapping Tee

○x"SST Pressure Control Fitting - ShortStopp Tee

○x"SPH Pressure Control Fitting - Spherical Tee

○x"MF-BO Pressure Control Fitting - Mueller Bottom-out

○x"MF-SO Pressure Control Fitting - Mueller Side-out

○x"MF-FT Pressure Control Fitting - Mueller Flange Tee

⊗x"SS Pressure Control Fitting - ShortStopp

⊗x"MF Pressure Control Fitting - Mueller Stopper

⊗x"x" POLYTAP Polytapp Side Saddle Fitting

┆ Transition

┆ End Cap

┆ Riser

┆ Reducer

EM Electronic Marker

TWS Flush-mounted Tracer Wire Station

┆ Post Pipeline Marker with Tracer Wire

MM Gas Main Marker without Tracer Wire

(W) Test Well

(R) Regulator Station

(H) Single Customer Regulator

(M) Meter

(MS) Meter with Regulator

┆ Test Point (Station)

(T) Gas Service Tie-over

(R) Gas Service Replacement

(R) Meter Move Out
- Swing Tie Symbology
- ┆ Telephone Manhole

┆ Drain Manhole

┆ Electric Manhole

┆ Catch Basis

┆ Sewer Manhole

┆ Fire Hydrant

┆ Utility Pole

┆ Property Marker

┆ Telephone Pedestal

┆ Television Pedestal

┆ Unknown Manhole

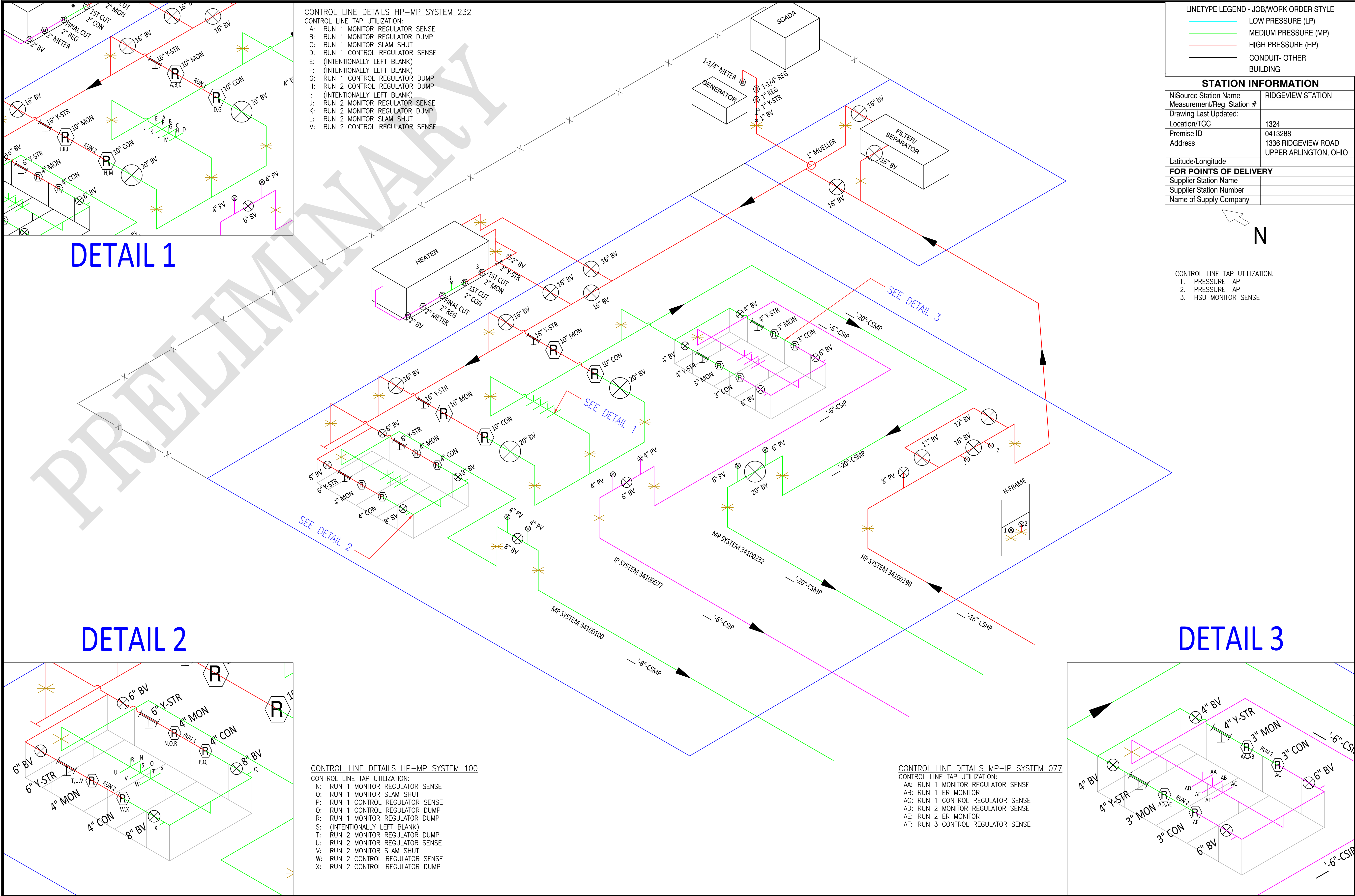
┆ Water Box

┆ Water Gate

┆ Electric Pedestal

┆ Iron Pin

┆ Light Pole
-
-
-
- PROPOSED
- | REVISIONS | | | |
|-----------|---------|-------------|-----|
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| --- | --- | --- | --- |
| 1 | --- | --- | --- |
| 0 | 9/29/23 | PRELIMINARY | |
| REV. # | DATE | DESCRIPTION | |
- | | | | |
|-------------|--------|----------|--------------|
| DESIGNED BY | CRDM | 09/11/24 | 330-596-0111 |
| DRAWN BY | CRDM | 09/11/24 | 330-596-0111 |
| CHECKED BY | CAMPOS | XX/XX/XX | --- |
| AS-BUILT BY | | | |
- | | | | |
|-------------------------|--|--|--|
| SITE NAME: | | | |
| INST# 24-0136951-00 | | | |
| ABAN# ---- | | | |
| PROJECT ID# 21-78790 | | | |
| RIDGEVIEW STATION | | | |
| COLUMBUS / FRANKLIN, OH | | | |
- DRAWING TITLE:
- GENERAL NOTES
- DRAWING NO:
- 1
- Page 202 of 391



LINETYPE LEGEND - JOB/WORK ORDER STYLE

- LOW PRESSURE (LP)
- MEDIUM PRESSURE (MP)
- HIGH PRESSURE (HP)
- CONDUIT- OTHER
- BUILDING

STATION INFORMATION

NiSource Station Name	RIDGEVIEW STATION
Measurement/Reg. Station #	
Drawing Last Updated:	
Location/TCC	1324
Premise ID	0413288
Address	1336 RIDGEVIEW ROAD UPPER ARLINGTON, OHIO
Latitude/Longitude	
FOR POINTS OF DELIVERY	
Supplier Station Name	
Supplier Station Number	
Name of Supply Company	

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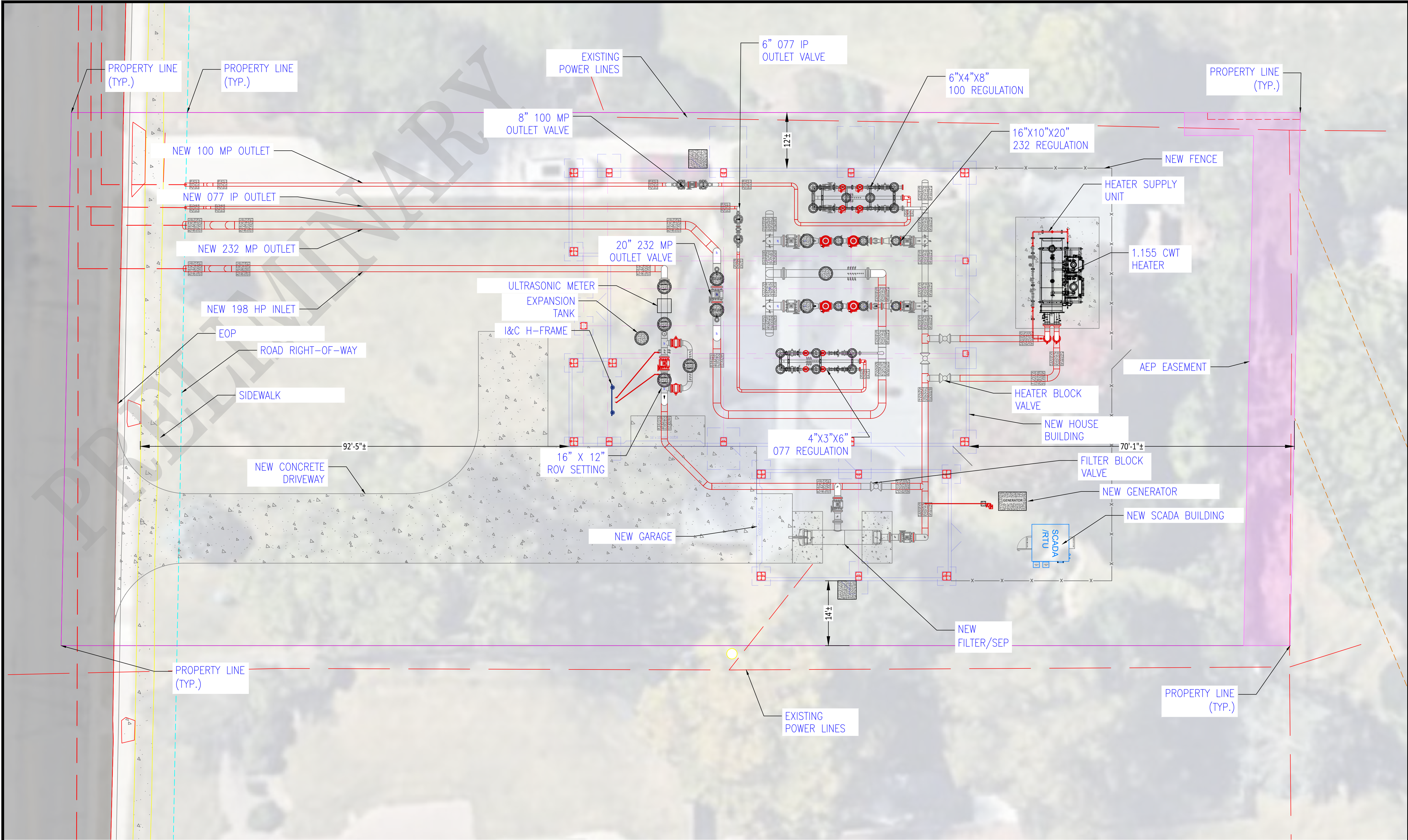
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0	9/29/23	PRELIMINARY	---
REV. #	DATE	DESCRIPTION	

DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

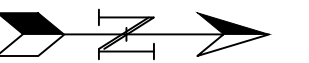
SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

DRAWING TITLE:
ISOMETRIC

DRAWING NO:
2



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SCALE: 3/32" = 1'-0"

PROPOSED

REVISIONS			
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0	9/29/23	PRELIMINARY	
REV. #	DATE	DESCRIPTION	

DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

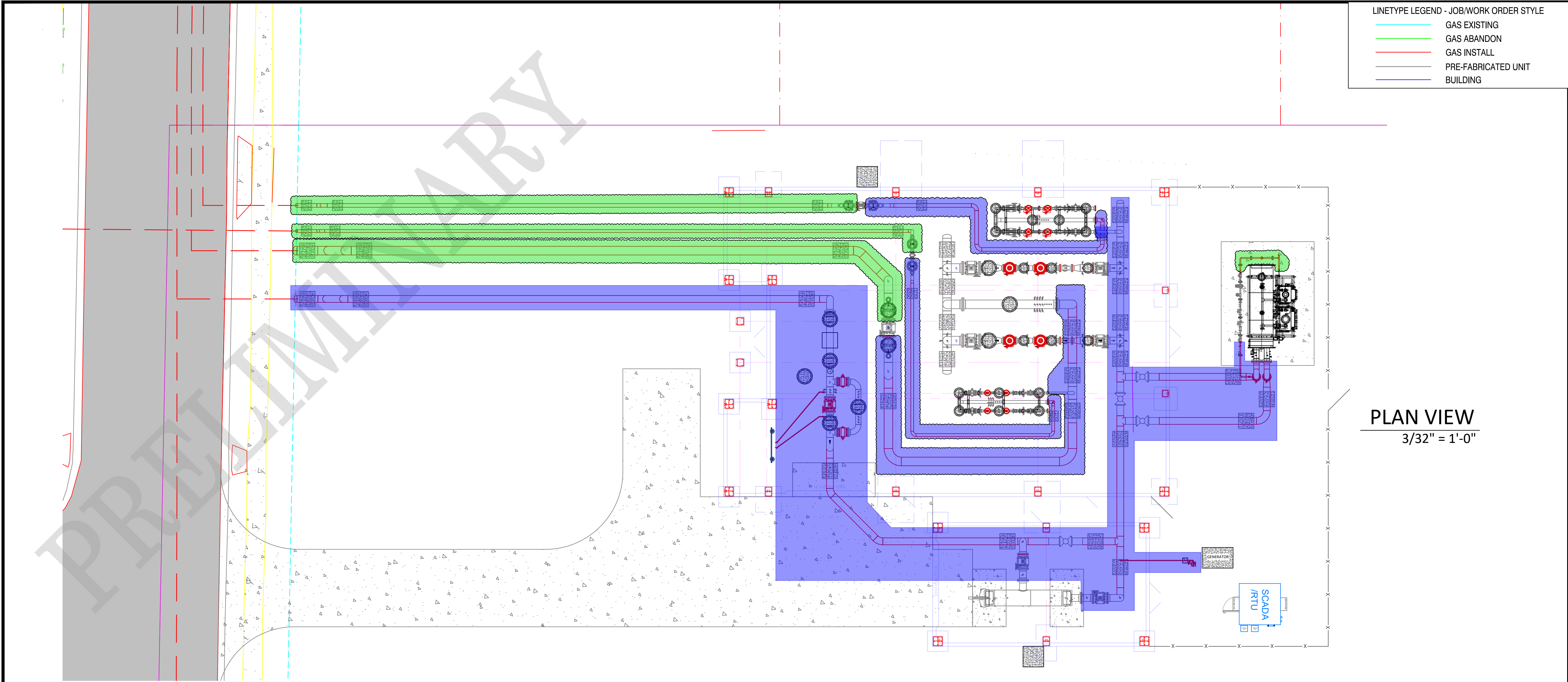
DRAWING TITLE:
SITE OVERVIEW

DRAWING NO:
3

ALL COMPONENTS OF THIS DRAWING ARE DESIGNED PER COMPANY GAS STANDARDS. ANY CHANGES MUST BE APPROVED BY THE DESIGN ENGINEER

BENCHMARKING AND SURVEY POINTS TO BE PROVIDED BY CAMPOS

LINETYPE LEGEND - JOB/WORK ORDER STYLE	
---	GAS EXISTING
---	GAS ABANDON
---	GAS INSTALL
---	PRE-FABRICATED UNIT
---	BUILDING



LINETYPE LEGEND - JOB/WORK ORDER STYLE	
---	GAS EXISTING
---	GAS ABANDON
---	GAS INSTALL
---	PRE-FABRICATED UNIT
---	BUILDING

PLAN VIEW
3/32" = 1'-0"

DESIGN NOTES:

- DESIGN ENGINEERING IS NOT RESPONSIBLE FOR PRESSURE TEST DESIGN, OTHER THAN TO STATE THE TEST MEDIUM (AIR OR INERT GAS). PIPELINE CONTRACTOR IS RESPONSIBLE FOR PRESSURE TESTING CONFIGURATION AND ANY ADDITIONAL MATERIALS REQUIRED ARE THE RESPONSIBILITY OF PROJECT MANAGEMENT AND/OR FIELD ENGINEERING.
- PIPING TO BE TESTED ACCORDING TO ANSI 150 PARAMETERS ACCORDING TO ASME B16.5
- ALL INLET AND OUTLET TIE INS ARE NOT A PART OF THIS PLAN SET AND SHALL BE REPRESENTED ON PIPELINE PLAN SET.
- DO NOT SUBJECT THE FOLLOWING COMPONENTS TO PRESSURE TESTING:
 - KINGTOOL FILTER/SEPARATOR
 - GENERATOR REGULATORS/METER
 - HEATER SUPPLY UNIT
 - 1.155 MBTU HEATER
 - ALL REGULATORS FOR ALL SYSTEMS
 - ANY I&C EQUIPMENT
- ALL OUTLETS INCLUDING BOTH MP OUTLETS AND IP OUTLETS DO NOT NEED TO BE TESTED TOGETHER. ALL THREE ARE DIFFERENT SYSTEMS WITH DIFFERENT MAOPS. ALL NEED TO BE TESTED AT 90 PSIG MINIMUM
 - 340100232 MAOP 50 PSIG
 - 340100100 MAOP 55 PSIG
 - 340100077 MAOP 9.5 PSIG
- PROPERTY LINE IS THE TERMINATION OF STATION PRESSURE TESTING. CONTRACTOR TO ASSUME WELD END CAP TO BE INSTALLED AT THE ROAD RIGHT-OF-WAY LINE.

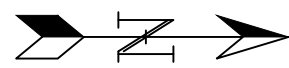
NEW HP MAINLINE/STATION INLET

DESIGN DATA		
DESIGN FACTOR:	0.4	REF. CFR 192.111
DESIGN PRESSURE:	275 PSIG	≥ MAOP
MINIMUM TEST PRESSURE:	413 PSIG	1.5 x DESIGN PRESSURE
MAXIMUM TEST PRESSURE:	450 PSIG	PER ANSI B16.5
MINIMUM TEST DURATION:	FIELD DET.	PER G.S. 1500 SERIES
PERCENT SMYS AT DESIGN PRESSURE:	14.10 %	% SMYS BASED ON: 20", 0.375" WALL, X-52
PERCENT SMYS AT MINIMUM TEST PRESSURE:	21.18 %	% SMYS BASED ON: 20", 0.375" WALL, X-52
PERCENT SMYS AT MAXIMUM TEST PRESSURE:	23.08 %	% SMYS BASED ON: 20", 0.375" WALL, X-52
MAOP LIMITING ELEMENT:	PRESSURE TEST	
ASSEMBLED DESIGN PRESSURE:	275 PSIG	
TEST MEDIUM:	AIR OR INERT GAS	
PERCENT X-RAY:	100 %	

MP'S/IP OUTLETS & HEATER FINAL CUT

DESIGN DATA		
DESIGN FACTOR:	0.4	REF. CFR 192.111
DESIGN PRESSURE:	60 PSIG	≥ MAOP
MINIMUM TEST PRESSURE:	90 PSIG	1.5 x DESIGN PRESSURE
MAXIMUM TEST PRESSURE:	125 PSIG	PER ANSI B16.5
MINIMUM TEST DURATION:	FIELD DET.	PER G.S. 1500 SERIES
PERCENT SMYS AT DESIGN PRESSURE:	3.08 %	% SMYS BASED ON: 20", 0.375" WALL, X-52
PERCENT SMYS AT MINIMUM TEST PRESSURE:	4.62 %	% SMYS BASED ON: 20", 0.375" WALL, X-52
PERCENT SMYS AT MAXIMUM TEST PRESSURE:	6.41 %	% SMYS BASED ON: 20", 0.375" WALL, X-52
MAOP LIMITING ELEMENT:	PRESSURE TEST	
ASSEMBLED DESIGN PRESSURE:	60 PSIG	
TEST MEDIUM:	AIR OR INERT GAS	
PERCENT X-RAY:	100 %	

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SCALE: 3/32" = 1'-0"

PROPOSED

REVISIONS		
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0	9/29/23	PRELIMINARY
REV. #	DATE	DESCRIPTION

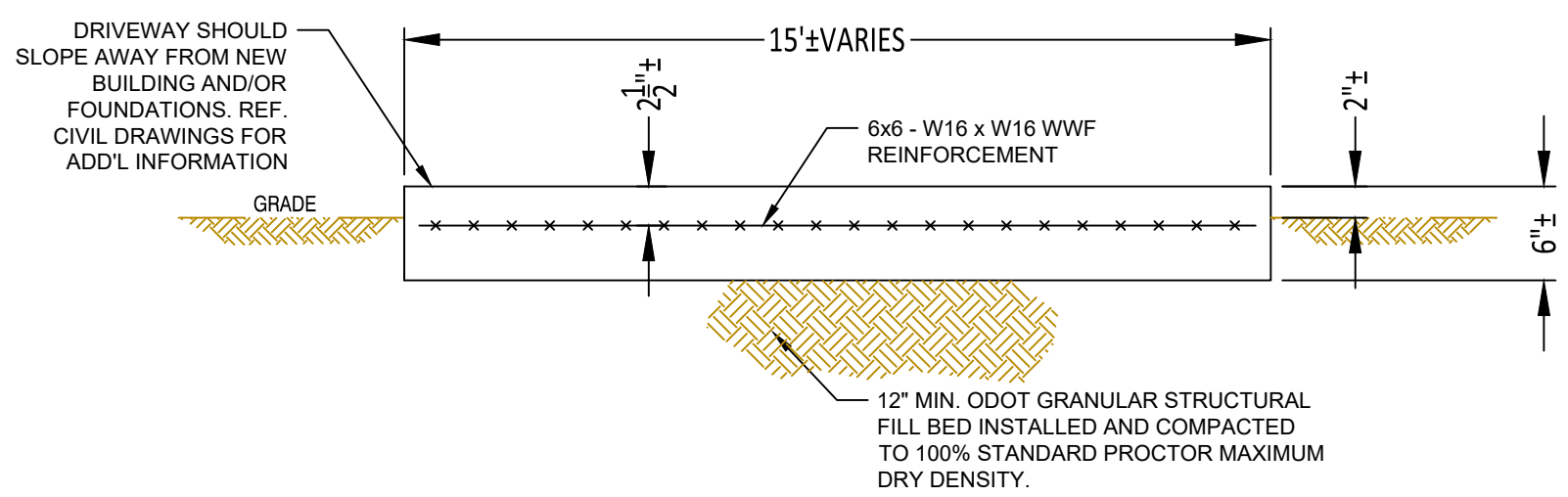
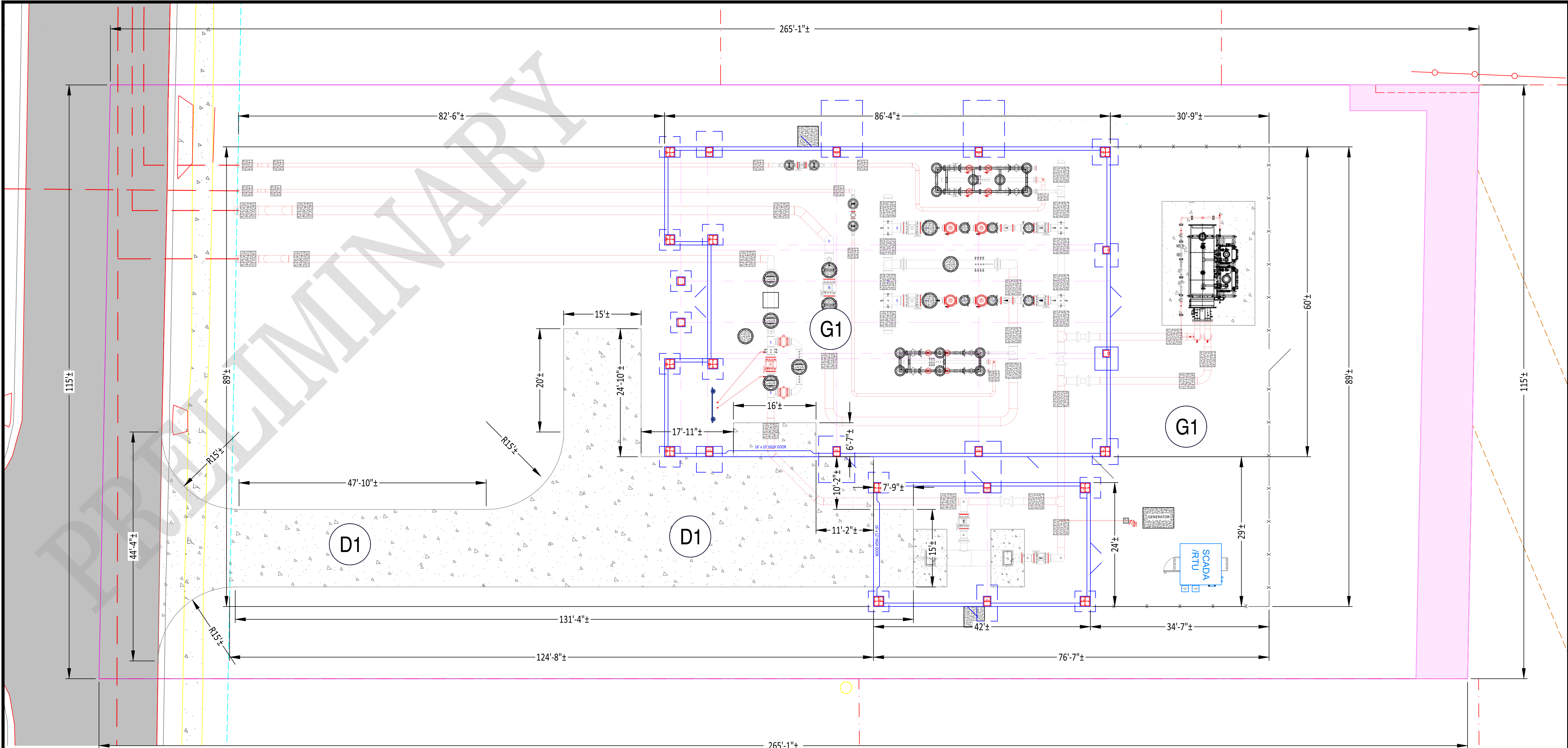
DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

DRAWING TITLE:
PRESSURE TEST DETAILS

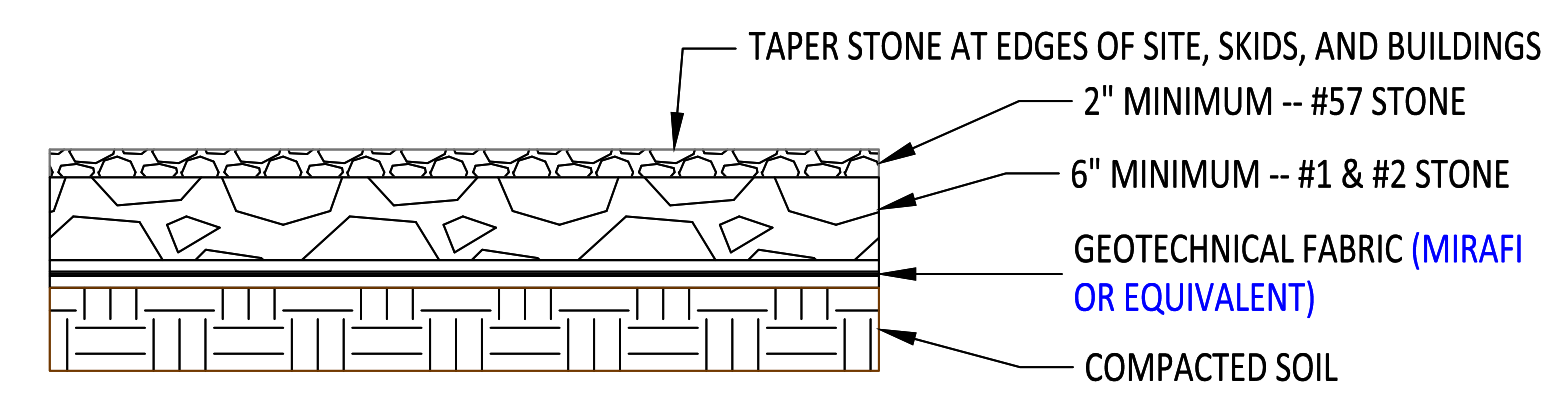
DRAWING NO:

4



D1
TYPICAL DRIVEWAY - SLAB SETION
1" = 1'-0"

- DESIGN NOTES:**
1. DRIVEWAY TO BE CONCRETED PER REQUIREMENTS SET FORTH BY UPPER ARLINGTON. DESIGN ENGINEERING RECOMMENDS DRIVEWAY CORNERS BE STAKED IN FIELD BASED ON SURVEY.
 2. REMAINDER OF SITE (INCLUDING INSIDE OF THE BUILDINGS, AND WITHIN FENCING BOUNDARY) TO BE GRAVELED PER THE DETAIL BELOW. .
 3. CONCRETE SHOULD FOLLOW SLOPE AND GRADE AS SET FORTH PER CAMPOS CIVIL DRAWINGS. OTHERWISE, IT SHOULD FOLLOW NATURAL GRADE AND/OR SLOPE.



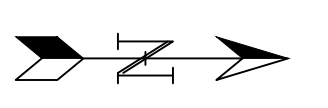
G1
TYPICAL SECTION -- SITE
NTS

LINETYPE LEGEND - JOB/WORK ORDER STYLE

---	GAS EXISTING
---	GAS ABANDON
---	GAS INSTALL
---	PRE-FABRICATED UNIT
---	BUILDING

GRADE PLAN TO BE PROVIDED BY CAMPOS

SURVEY POINTS/LOCATION TO BE MARKED BY CAMPOS



SCALE: 3/32" = 1'-0"
PROPOSED

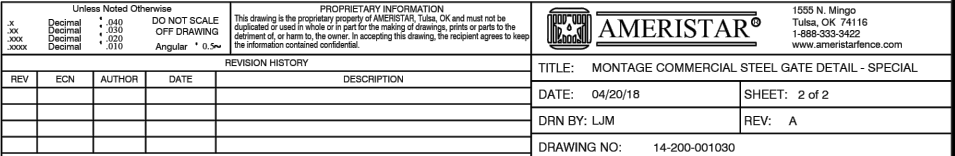
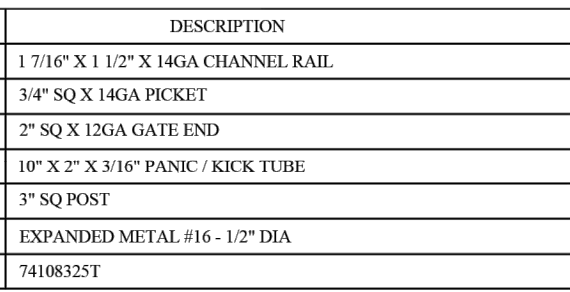
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REV. #	DATE	DESCRIPTION	

DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

DRAWING TITLE:
GRAVEL LAYOUT

DRAWING NO:
5



REVISIONS		
REV.	DATE	DESCRIPTION
1		
0	9/29/23	PRELIMINARY
REV. #	DATE	DESCRIPTION

DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
	NAME	DATE	PHONE #

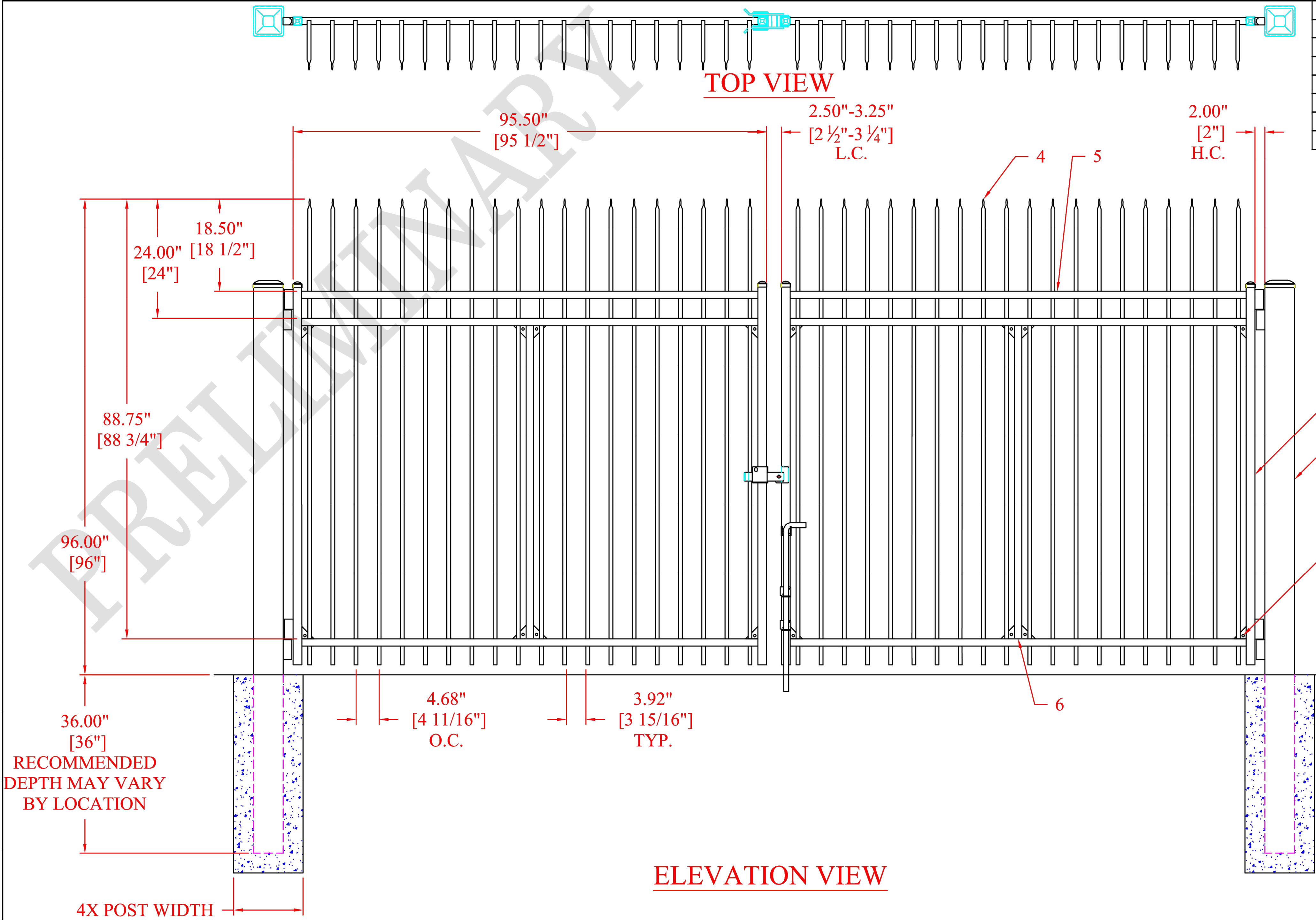
SITE NAME:
INST# 24-0136951-00
ABAN# ---
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

DRAWING TITLE:

FENCE DETAILS

DRAWING NO:

7



#	DESCRIPTION
1	6" SQ X 3/8" POST
2	1 1/2" SQ X 14 GA GATE END
3	GG25 GATE GUSSETS
4	3/4" SQ X 14 GA PICKET
5	1 1/2" SQ X 14 GA FORERUNNER RAIL
6	1 1/2" SQ X 16 GA MIDDLE UPRIGHT
HU517-DSX200-DLB100	

FN2

DETAIL

Unless Noted Otherwise			PROPRIETARY INFORMATION	
x	Decimal	± .040	DO NOT SCALE OFF DRAWING Angular ± 0.5°	This drawing is the proprietary property of AMERISTAR, Tulsa, OK and must not be duplicated or used in whole or in part for the making of drawings, prints or parts to the detriment of, or harm to, the owner. In accepting this drawing, the recipient agrees to keep the information contained confidential.
xx	Decimal	± .030		
xxx	Decimal	± .020		
xxxx	Decimal	± .010		
REV	ECN	AUTHOR	DATE	
G		KMc	07/30/2014	INITIAL RELEASE



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www.ameristarfence.com

TITLE: MONTAGE COMMERCIAL STEEL GATE	
DATE: 07/30/2014	SHEET: 1 of 2
DRN BY: KMc	REV: G
DRAWING NO: 1WIX394-96	

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0	9/29/23	PRELIMINARY	
REV. #	DATE	DESCRIPTION	

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DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

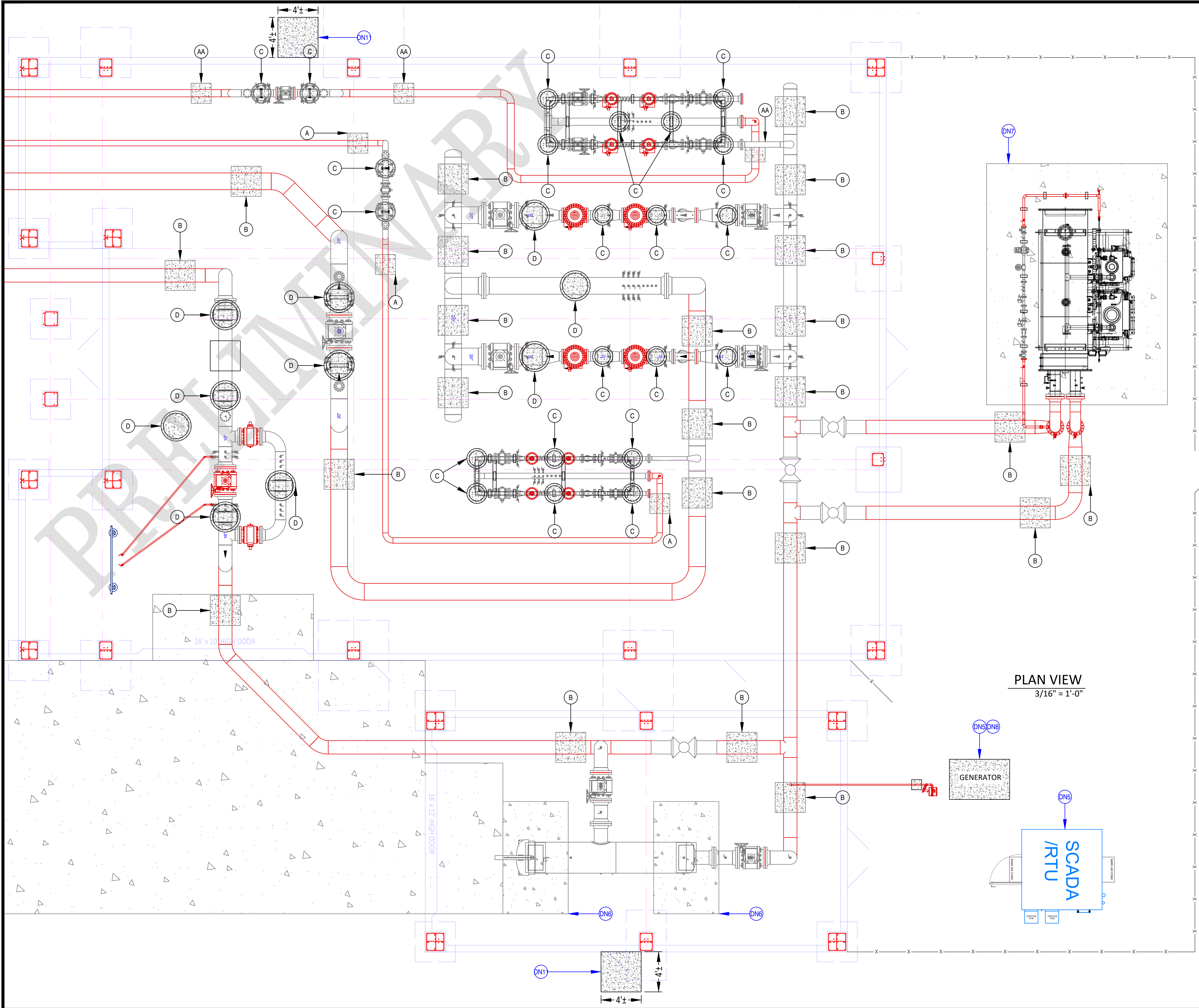
DRAWING TITLE:
FENCE DETAILS

DRAWING NO:
8



DRAWING NO:

10



- DESIGN NOTES:
1. CONCRETE DETAILS SHOW SPECIFIC DETAILS.
 2. BUILDINGS FOUNDATION ARE TO BE DESIGNED AND CERTIFIED BY OTHERS. FOUNDATION INSTALLATION TO BE COMPLETED BY CONTRACTOR.SEE SUPPORTING DOCUMENTS FOR SPECIFIC INSTALLATION DETAILS.
 3. SONOTUBE DETAILS FOUND ON PAGE 12 SLEEPER AND CONCRETE NOTES AND CALLOUTS TO BE FOUND ON PAGE 12
 4. ALL SONOTUBES AND SLEEPERS LOCATIONS TO BE FIELD SURVEYED.
 5. COH GENERATOR AND SCADA FOUNDATION DESIGN TO BE DESIGNED BY OTHERS. CONTACT I&C GROUP FOR ADDITIONAL INFORMATION
 6. SEE FILTER PIER DETAILS IN APPENDIX WHICH IS TO BE DESIGNED BY OTHERS.
 7. SEE HEATER PAD DETAILS IN APPENDIX WHICH IS TO BE DESIGNED BY OTHERS.
 8. GENERATOR PAD TO BE DESIGNED BY OTHERS. SEE APPENDIX FOR ADDITIONAL INFORMATION
 9. MINIMUM EDGE DISTANCE SHALL BE 6D OR 4" FOR ANCHORS
 10. PIPE SUPPORTS ANCHORAGE -CONTRACTOR TO UTILIZE THREADED ANCHOR RODS, HILTI, HAS-V-36 HDG WITH HILTI HIT-HY-200R EPOXY FOR THE FOLLOWING EZLINE MODELS
 11. 4'X4' WALKOUT CONCRETE FOR EMERGENCY DOOR EXIT.

E-ZLINE MODEL NO.	ANCHOR ROD Ø X L	MIN ANCHOR EMBEDMENT
204	1/2" X 9"	6"
510	1/2" X 9"	6"
1218	5/8" X 9"	6"
2024	3/4" X 10"	8"

LINETYPE LEGEND - JOB/WORK ORDER STYLE	
—	GAS EXISTING
—	GAS ABANDON
—	GAS INSTALL
—	PRE-FABRICATED UNIT
—	BUILDING

CONCRETE DETAILS CAN BE FOUND ON PAGE 12

SURVEY POINTS/LOCATION TO BE MARKED BY CAMPOS

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SCALE: 3/16" = 1'-0"

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REVISIONS		
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0	9/29/23	PRELIMINARY
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RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

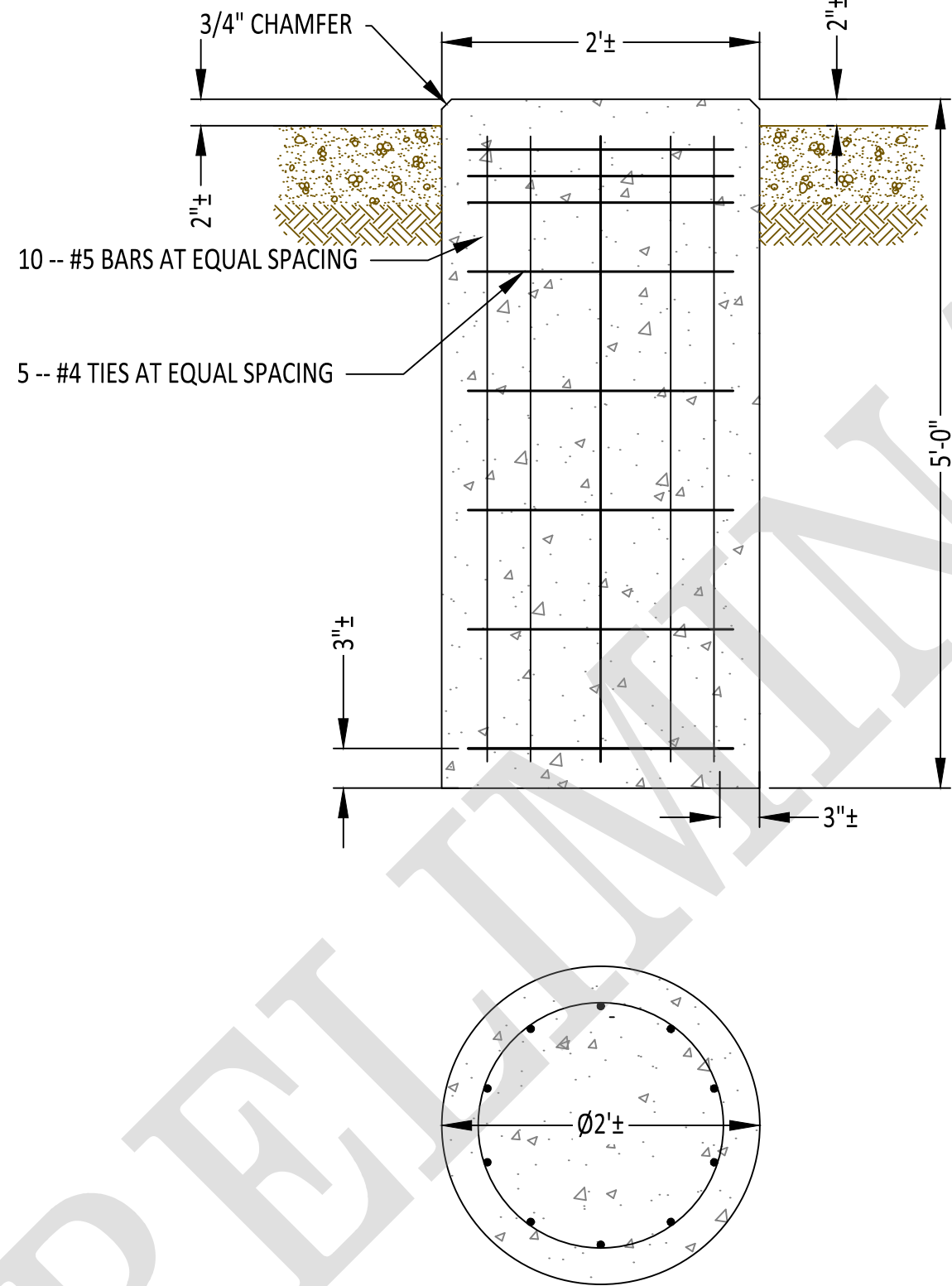
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CONCRETE CALLOUTS

DRAWING NO:
11

SONOTUBE DETAIL

1" = 1'-0"

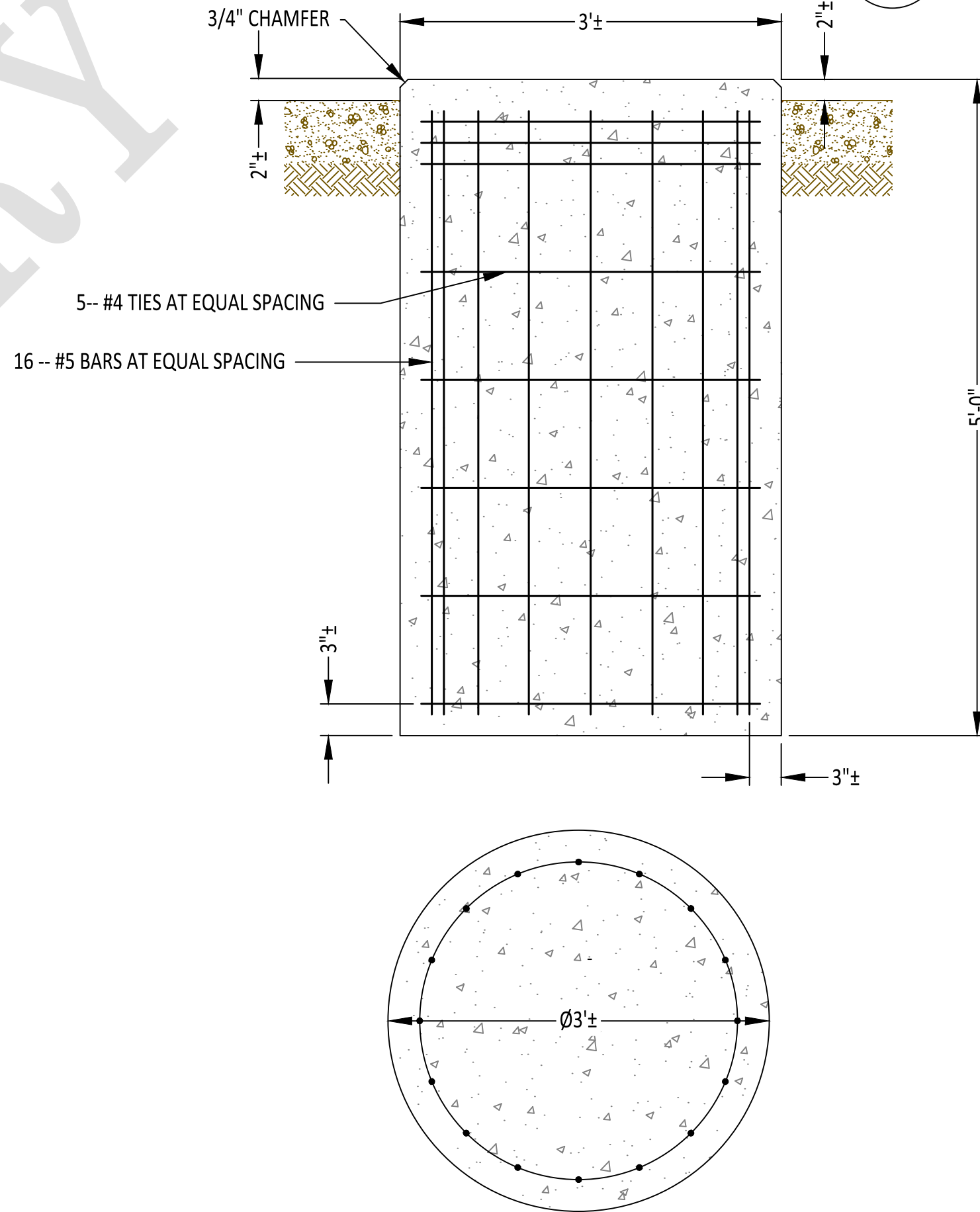
C



SONOTUBE DETAIL

1" = 1'-0"

D

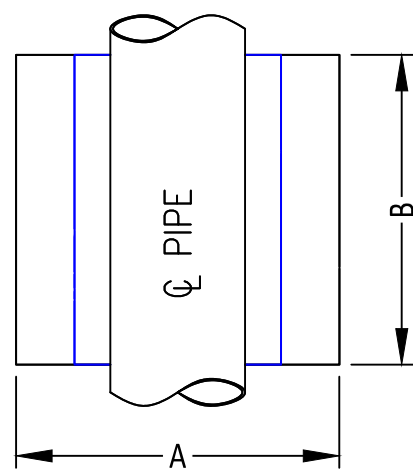


STATION CONCRETE NOTES

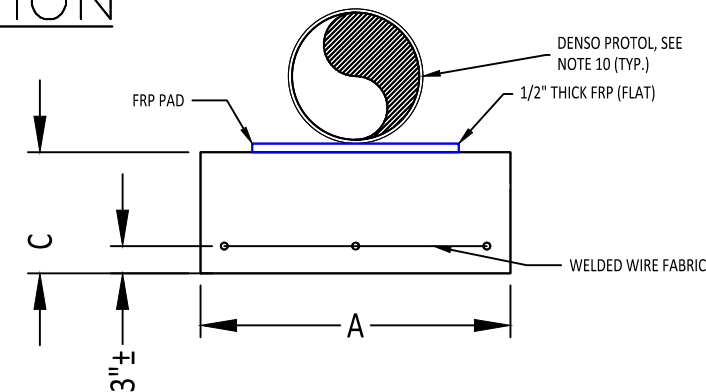
- THE STATION SHALL HAVE BOLLARD PROTECTION INSTALLED PER GS 2300.020 EXHIBIT A. OR AS CALLED OUT ON THIS PLAN SET.
- THE PREPARED PLAN GIVES THE DIMENSIONS BETWEEN THE SONOTUBES. THE FIRST SONOTUBE LOCATION IS RELATIVELY FLEXIBLE AND CAN BE FIELD ADJUSTED AS NEEDED. AFTER THE FIRST TUBE IS POURED, THE REMAINING SONOTUBES MUST BE POURED SQUARE, LEVEL AND BASED ON THE DIMENSIONS FOUND ON THE PREVIOUS PAGE. ANY DEVIATION FROM THIS MUST BE APPROVED BY EITHER PROJECT MANAGEMENT OR M&R ENGINEERING.
- COLUMBIA GAS OF OHIO WILL ACCEPT SONOCO "SONOTUBE" BRAND TUBES OR EQUIVALENT FOR THIS PROJECT.
- EARLY SET HIGH STRENGTH CONCRETE IS ACCEPTABLE TO USE UNDER CERTAIN CONDITIONS:
 - THE TUBES MUST BE KEPT DAMP WHILE CURING.
 - THE TUBES MUST BE COVERED WITH BLANKETS WHILE CURING.
 - THE BLANKETS MUST SLOWLY AND CAREFULLY BE REMOVED TO PREVENT FLASH CURING.
 - A FINAL INSPECTION BY COLUMBIA GAS OF OHIO WILL BE PERFORMED TO ENSURE THAT NO SHRINKAGE CRACKING HAS OCCURRED.
 - IF SHRINKAGE CRACKING OCCURS, THE TUBE WILL BE REMOVED AND RE-POURED AS DIRECTED BY COLUMBIA GAS OF OHIO.
- IT IS **REQUIRED** THAT ALL SKID UNITS BE **GROUND**ED AND **ANCHOR**ED.
- IT IS **REQUIRED** THAT ALL FLANGE INSULATOR KITS INSTALLED INSIDE THE BUILDING BE WIRED TO A GROUNDING CELL, PER COH CORROSION RECOMMENDATION.
- CONCRETE & REBAR SPECIFICATIONS AS SPECIFIED BELOW UNLESS OTHERWISE NOTED:
 - ACI-301 STD SPECIFICATIONS FOR STRUCTURAL CONCRETE
 - ACI-318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - ACI-305R HOT & COLD WEATHER CONCRETING
 - ACI-304 GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE
 - PORTLAND CEMENT PER ASTM C-150 TYPE II (OR ASTM C1157 TYPE HS) W/ AIR ENTRAINING AGENT ADDED (MAY BE ELIMINATED ON FOOTERS OR SLABS BELOW GRADE).
 - NON-HIGH SULFATE RESISTANCE TYPE OF CEMENT MAY BE USED IF IT IS KNOWN THAT CONCRETE WILL NOT BE SUBJECT TO SULFATE ATTACK
 - ≥4500 PSI COMPRESSIVE STRENGTH AT OR AFTER 28 DAYS
 - MAXIMUM WATER:CEMENT RATIO: 0.45
 - RECOMMENDED AVERAGE TOTAL AIR CONTENT: 4.5-7.5%
 - MAXIMUM AGGREGATE SIZE: 0.75"
 - MAXIMUM SLUMP: 3" ± 1.25" [WALLS, COLUMNS, PILES, & BEAMS]; 2.75" ± 0.75" [ALL OTHER CONCRETE]
 - ≤25% FLYASH CONTENT BY WEIGHT
 - WATER -- PREFERRED POTABLE NATURAL WATER, ALTERNATIVE -- <2000 PPM TOTAL DISSOLVED SOLIDS
 - MINIMUM CEMENT CONTENT 517 LBS (5-1/2 BAGS) PER CUBIC YARD OF CONCRETE
 - ALL CONCRETE SHALL BE PROTECTED BY ONE OR MORE CURING MATERIALS, POLYETHYLENE SHEETING WILL BE PERMITTED AS CURING ONLY ON AREAS WHERE INTIMATE CONTACT WITH THE CONCRETE SURFACE CAN BE OBTAINED AND MAINTAINED FOR AT LEAST SEVEN DAYS. MEMBRANE FORMING CURING COMPOUND MAY BE USED IF IMMEDIATELY APPLIED AFTER ACCEPTANCE OF THE CONCRETE FINISH
 - ALL EXPOSED CONCRETE SURFACES SHALL BE A FLOAT FINISH AND STEEL TROWELED TO PRODUCE A SMOOTH, UNIFORM SURFACE. UPON REMOVAL OF FORMS, ALL FINES AND IRREGULAR PROJECTIONS SHALL BE REMOVED. CAVITIES PRODUCED BY FORM TIES AND OTHER HOLES, HONEYCOMB SPOTS, BROKEN CORNERS OR EDGES, AND OTHER DEFECTS SHALL BE REPAIRED AND RUBBED
 - CONTRACTOR SHALL COMPACT THE GRANULAR BASE DIRECTLY UNDER CONCRETE TO 100% SPMD
 - DESIGN, DETAIL, FABRICATE, AND PLACE REINFORCING STEEL PER LATEST ACI AND CRSI SPECIFICATION WITH ASTM A-615 MATERIAL
 - STEEL REINFORCMENT BAR SHALL CONFORM TO ASTM A-615, GRADE 60.

CONCRETE NOTE (SLEEPERS)

PLAN



ELEVATION



- CONTRACTOR TO FURNISH ALL MATERIALS
- CONCRETE SUPPORT CONFIGURATION MAY VARY ACCORDING TO PIPE SIZE & FITTINGS.
- DO NOT PLACE CONCRETE SUPPORTS BENEATH PIPE WELDS
 - WELDS ARE TO ≥1D AWAY FROM CONCRETE
- STEEL REINFORCEMENT BAR SHALL CONFORM TO ASTM A-615, GRADE 60
- ALL REINFORCING DIMENSIONS ARE OUT TO OUT OF BAR
- REBAR QUANTITIES SHOWN ARE FOR ONE EACH. QUANTITIES REQUIRED IS CONTRACTORS RESPONSIBILITY
- BOTTOM OF FOOTERS AND/OR SLEEPERS SHALL EXTEND TO UNDISTURBED EARTH; BOTTOM OF CONCRETE TO BE PLACED ON SOLID FOOTING
- WELDED WIRE MESH PER ASTM A1064
- RIGID FORM WORK NOT REQUIRED
- PIPING RESTING ON CONCRETE SUPPORTS SHALL BE COATED WITH DENSO PROTOL 7000/7200, OR 7125 (40MILS THICKNESS) FROM A POINT ±6" PAST THE OUTER EDGE OF THE CONCRETE SUPPORT
 - DENSO PROTOL MAY BE INSTALLED DIRECTLY OVER EXISTING FBE COATED PIPE
 - FIBERGLASS REINFORCED PAD (FRP) SHOULD BE INSTALLED BETWEEN THE CONCRETE & THE PIPE, TO LAY FLAT ON THE CONCRETE, NOT WRAPPED AROUND THE PIPE

CONCRETE SLEEPER DETAILS

CALL OUT	PIPE SIZE (")	FRP SIZE (")	WIDTH 'A' (FEET)	LENGTH 'B' (FEET)	DEPTH 'C' (FEET)	CU.YARDS CONC.	WELDED WIRE FABRIC/MESH REQUIRED
	2	12x12	2	2	1	0.15 ±	4"x4"-4/4 WELD WIRE MESH
	3	12x12	2	2	1	0.15 ±	4"x4"-4/4 WELD WIRE MESH
	4	12x12	2	2	1	0.15 ±	4"x4"-4/4 WELD WIRE MESH
A	6	12x12	2	2	1	0.15 ±	4"x4"-4/4 WELD WIRE MESH
AA	8	12x12	2	2	1	0.15 ±	6"x6"-10/10 WELD WIRE MESH
	10	12x12	3	3	1	0.33 ±	6"x6"-10/10 WELD WIRE MESH
	12	12x12	3	3	1 1/2	0.50 ±	6"x6"-10/10 WELD WIRE MESH
	14	12x12	3	3	1 1/2	0.50 ±	6"x6"-10/10 WELD WIRE MESH
B	16	12x12	3	3	1 1/2	0.50 ±	6"x6"-10/10 WELD WIRE MESH
	18	12x12	3	3	1 1/2	0.50 ±	6"x6"-10/10 WELD WIRE MESH
B	20	12x12	3	3	1 1/2	0.50 ±	6"x6"-10/10 WELD WIRE MESH
	22	12x12	3	3	1 1/2	0.50 ±	6"x6"-10/10 WELD WIRE MESH
	24	12x12	4	4	1 1/2	0.89 ±	6"x6"-10/10 WELD WIRE MESH
	26	12x12	4	4	2	1.19 ±	6"x6"-10/10 WELD WIRE MESH
	30	12x12	4	4	2	1.19 ±	6"x6"-10/10 WELD WIRE MESH
	36	12x12	5	5	2 1/2	2.31 ±	6"x6"-10/10 WELD WIRE MESH
	42	12x12	5 1/2	5 1/2	2 3/4	3.08 ±	6"x6"-10/10 WELD WIRE MESH

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PROPOSED

REVISIONS

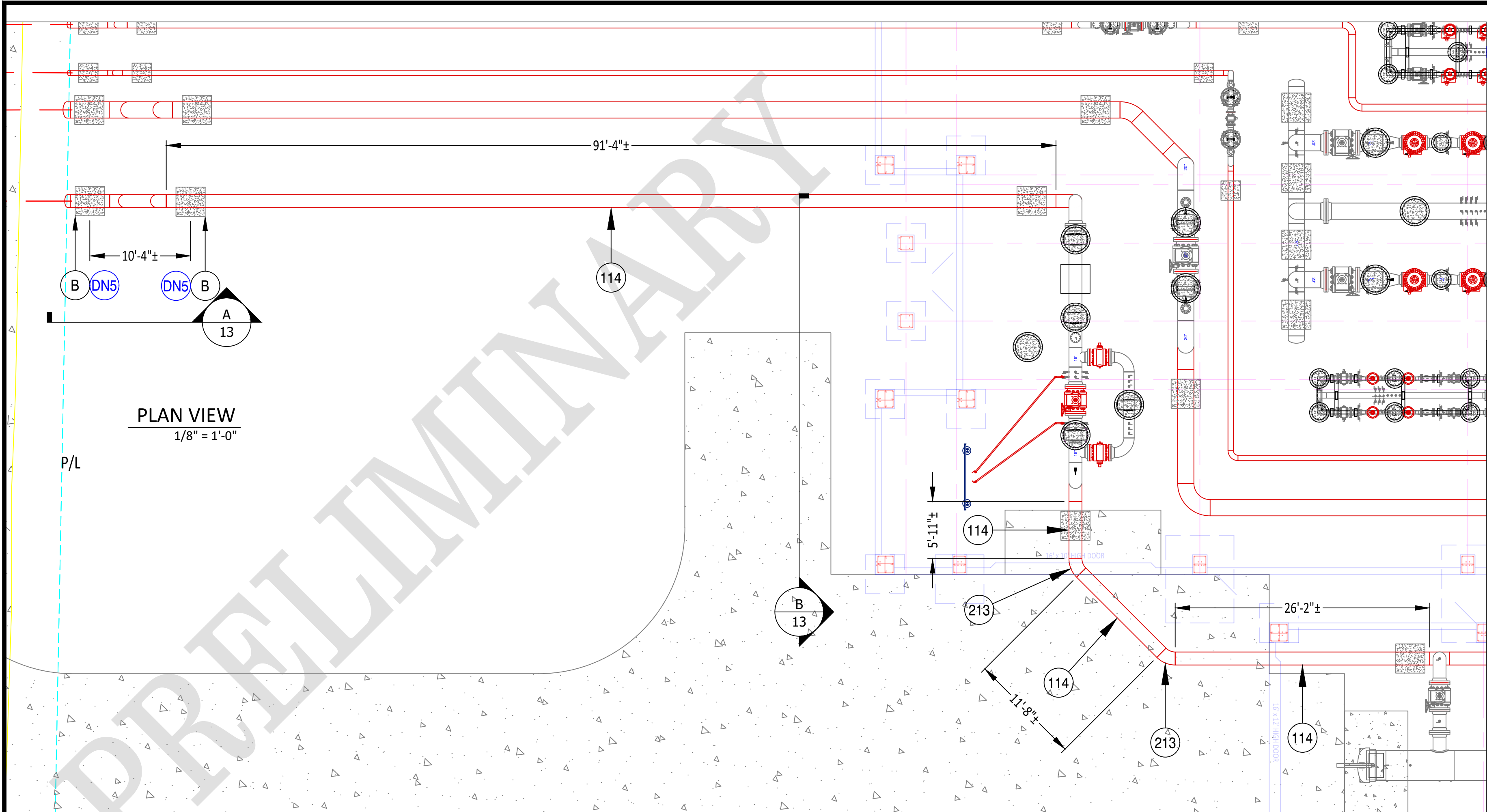
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0	9/29/23	PRELIMINARY

DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

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CONCRETE DETAILS

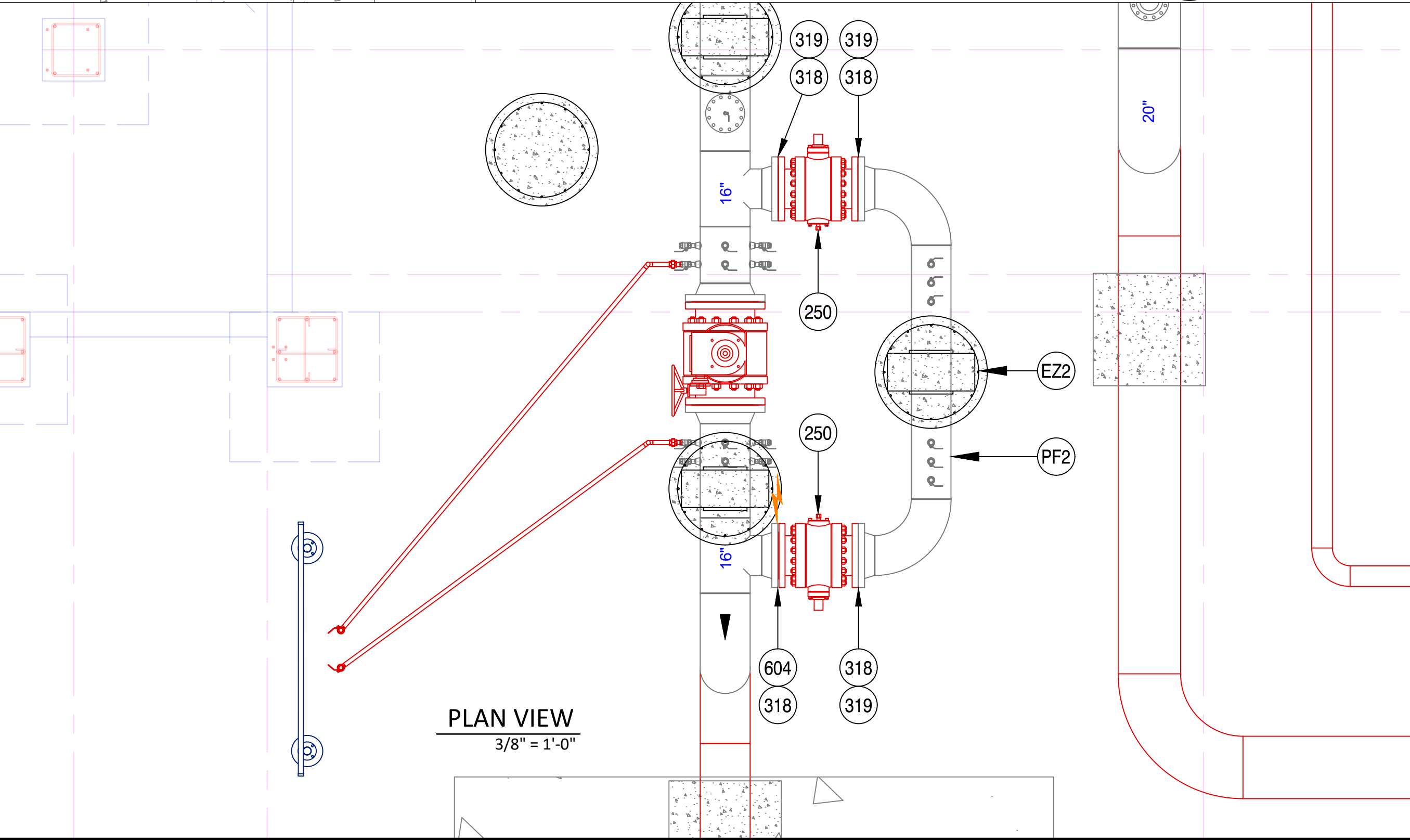
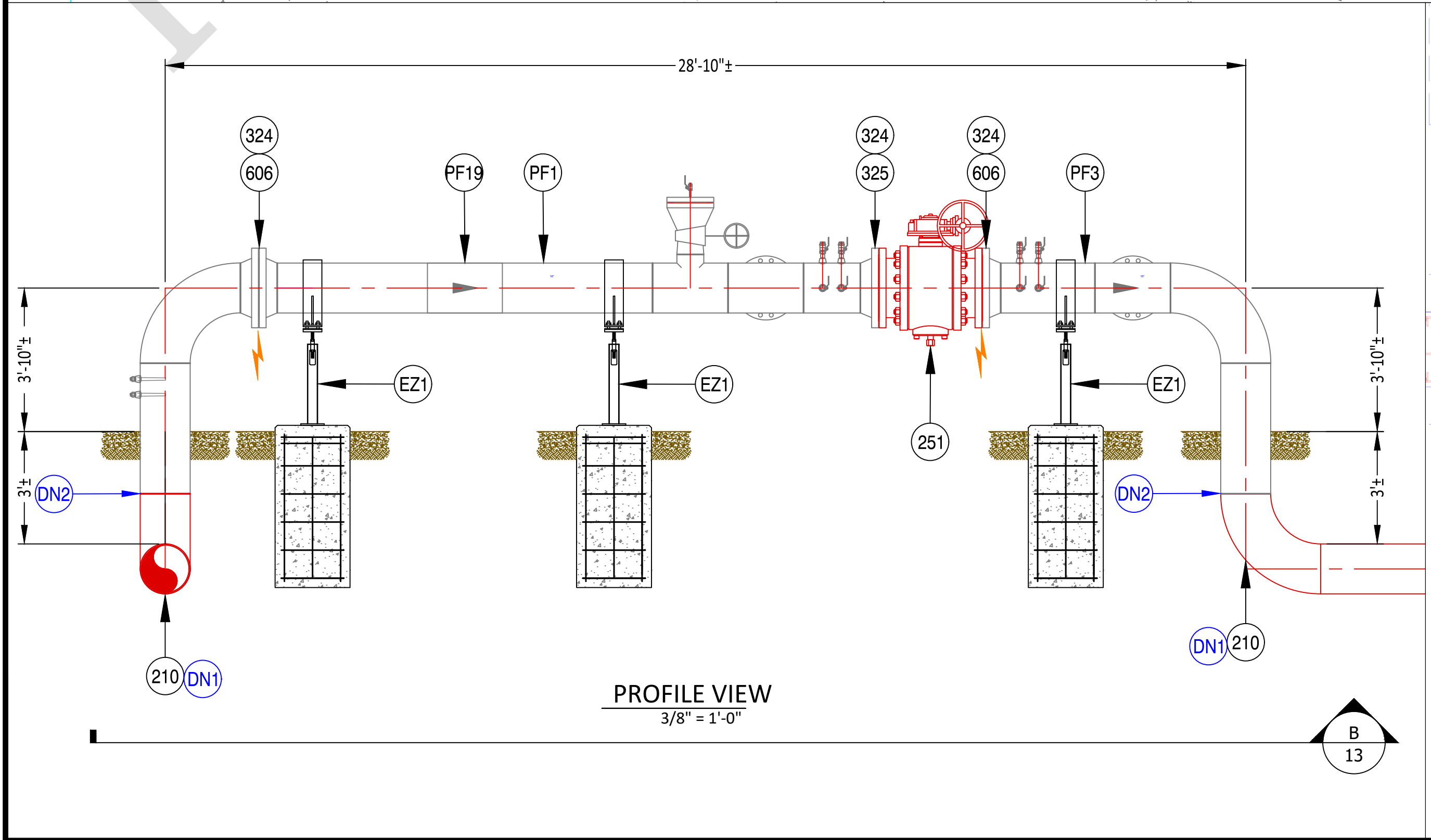
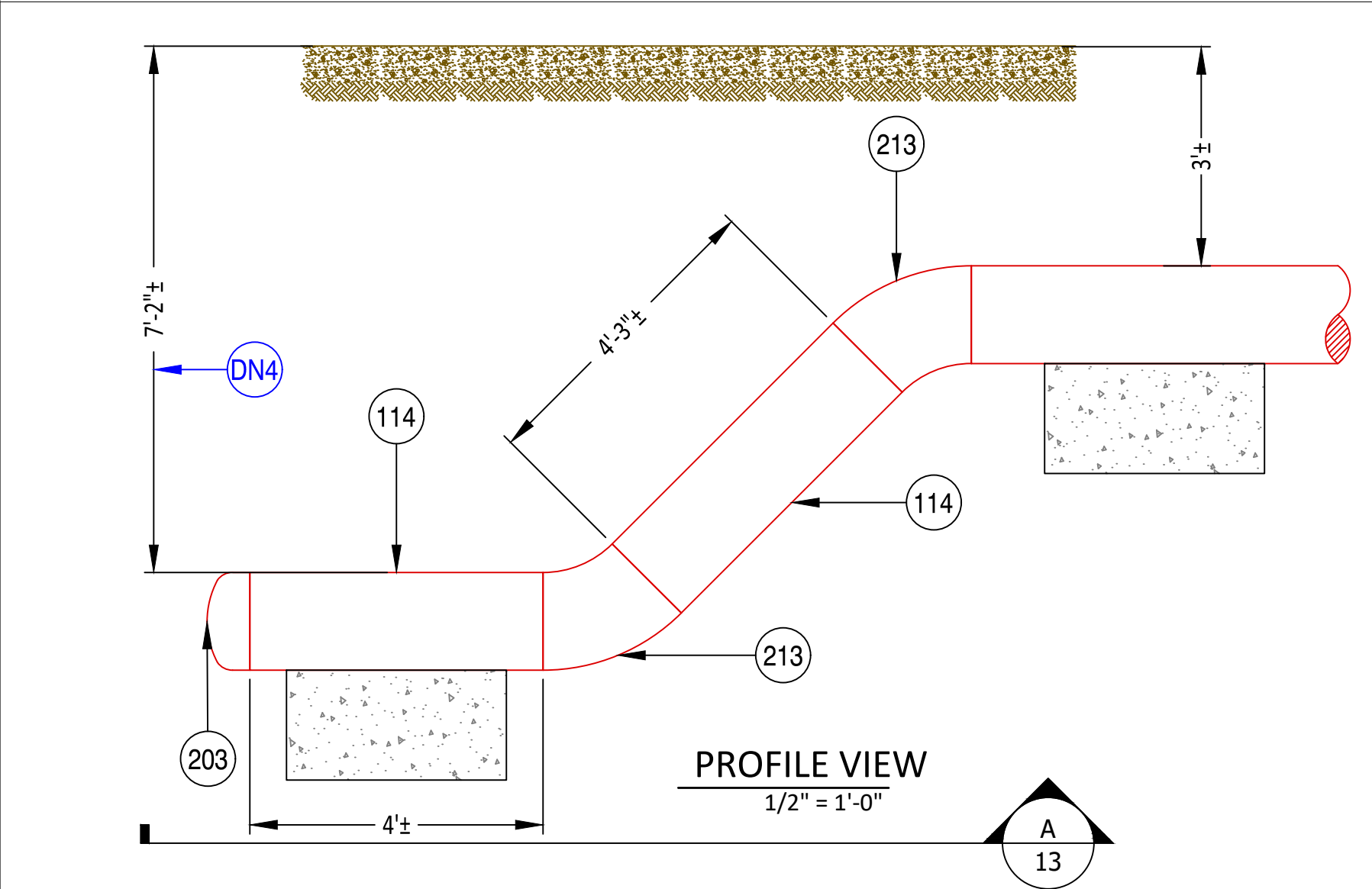
DRAWING NO:
12



DESIGN NOTES

1. ROTATE ELBOW AS NEEDED AND WELD
2. ALL PIPE DIMENSIONS CUT TO FIT. **ALL** PIPE INSTALLED IN FIELD TO BE MEASURED AND VERIFIED PRIOR TO FIELD WELDING.
3. REFER TO CONCRETE DETAILS FOR ANCHORING AND EZLINE DETAILS.
4. DEPTH SET BY MAINLINE. VERIFY RISER HEIGHT PRIOR TO INSTALLATION. TIE IN DETAILS TO BE ON MAINLINE DRAWING PACKAGE PROVIDED BY CAMPOS
5. CONCRETE DETAILS ON PREVIOUS PAGES.

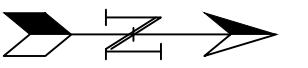
LINETYPE LEGEND - JOB/WORK ORDER STYLE	
—	GAS EXISTING
—	GAS ABANDON
—	GAS INSTALL
—	PRE-FABRICATED UNIT
—	BUILDING



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0



SCALE: 1/8" = 1'-0"
PROPOSED

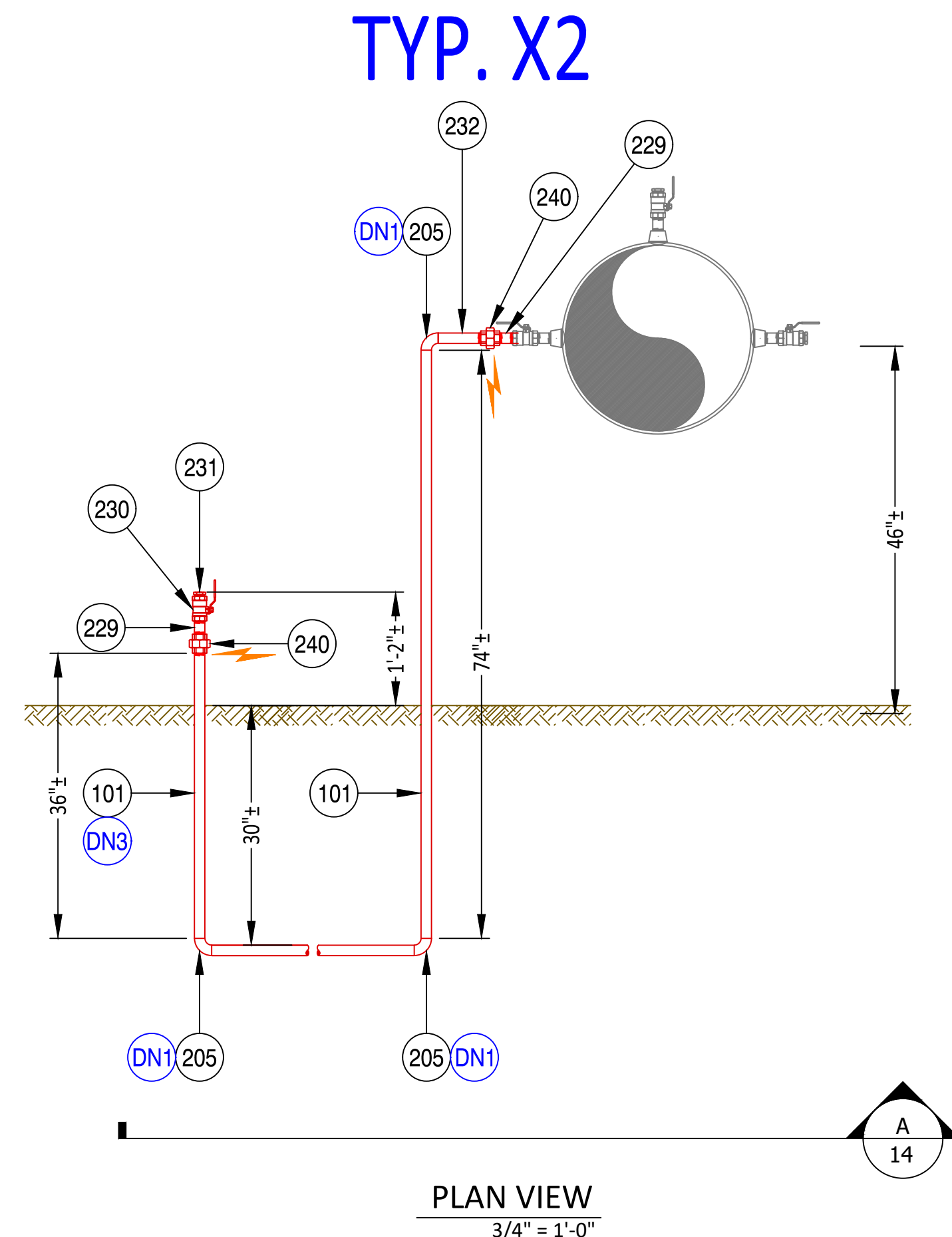
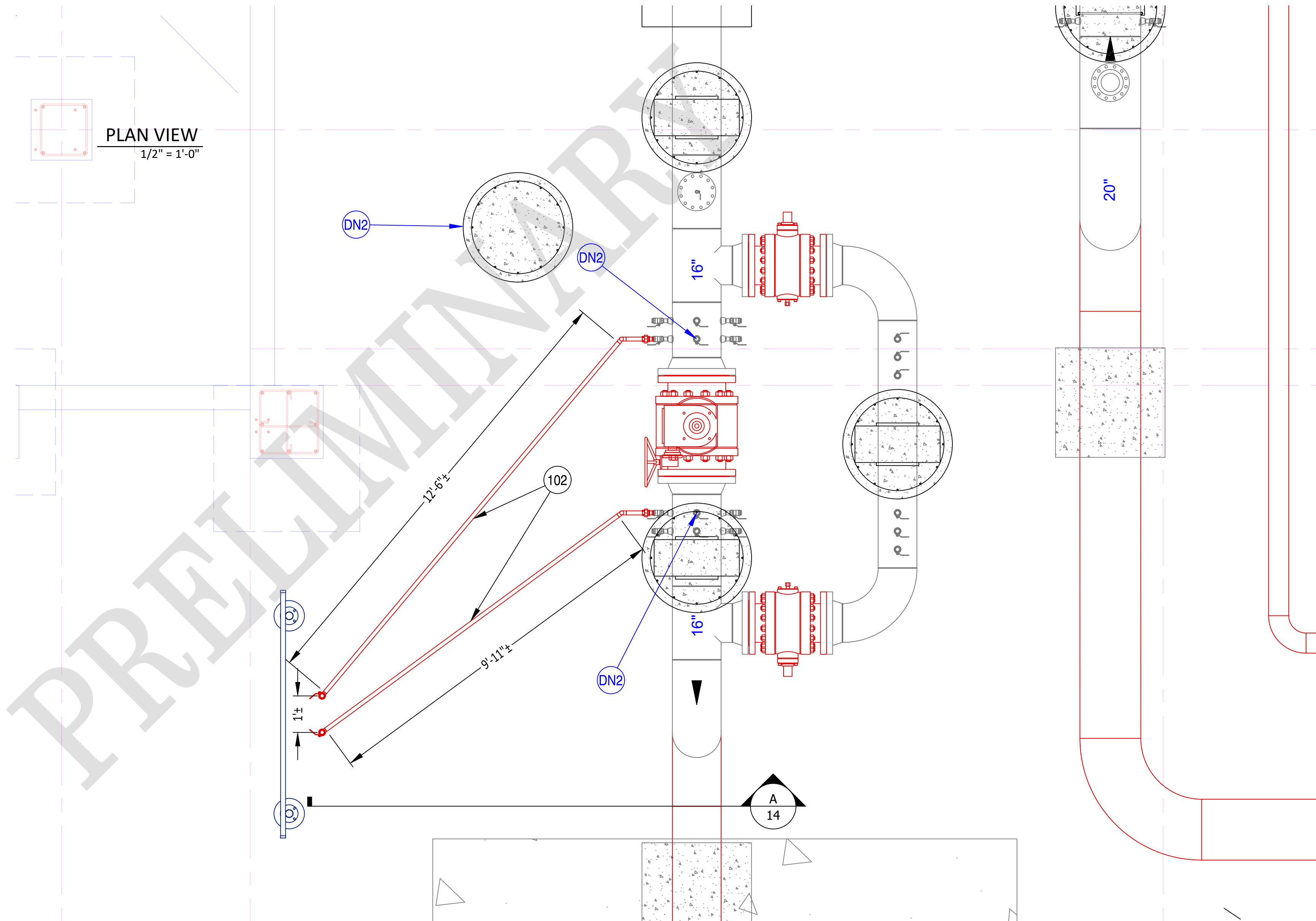
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DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	--
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

ROV DETAILS

DRAWING NO:
13

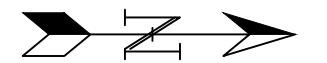


DESIGN NOTES

1. ROTATE ELBOW AS NEEDED AND WELD
2. TAP DESIGNATED FOR ACTUATOR SUPPLY GAS. ALL ACTUATOR TUBING, CHECK VALVES, AND TANK CONNECTIONS ARE THE RESPONSIBILITY OF THE I&C GROUP. THIS MATERIAL IS NOT REPRESENTED AS PART OF THIS PLAN SET.
3. FIELD THREAD PIPE AS NECESSARY FOR CONNECTION INTO THREADED FITTINGS.
4. CONSIDER: TRANSMITTER PIPING TO BE RUN AFTER H-FRAME IS IN PLACE AND BUILDING CONCRETE IS POURED TO AVOID CONFLICTS WITH FOUNDATIONS.

LINETYPE LEGEND - JOB/WORK ORDER STYLE			
—	GAS EXISTING	—	GAS ABANDON
—	GAS INSTALL	—	PRE-FABRICATED UNIT
—	BUILDING		

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SCALE: 1/2" = 1'-0"
PROPOSED

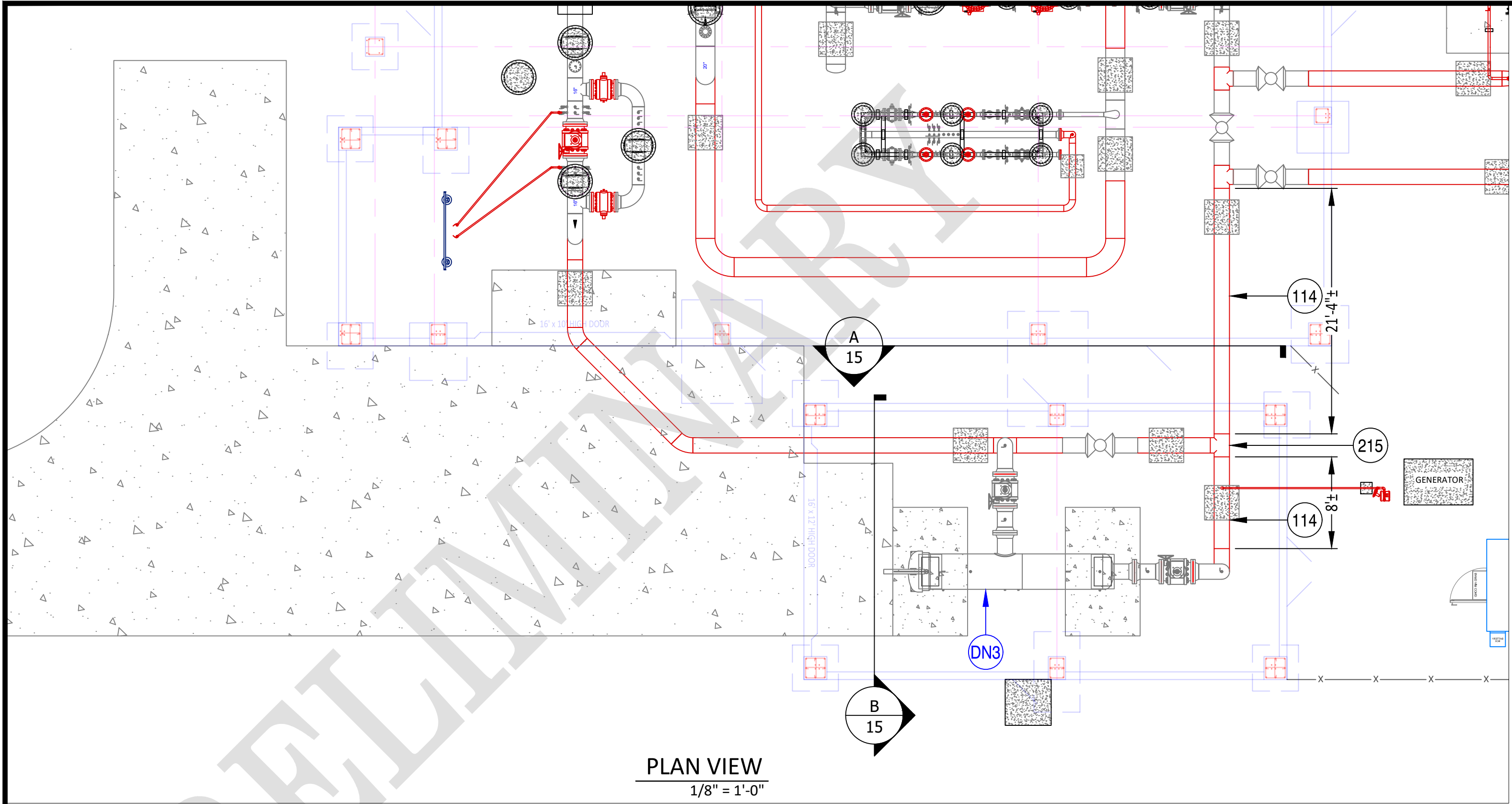
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REV. #	DATE	DESCRIPTION	

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DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

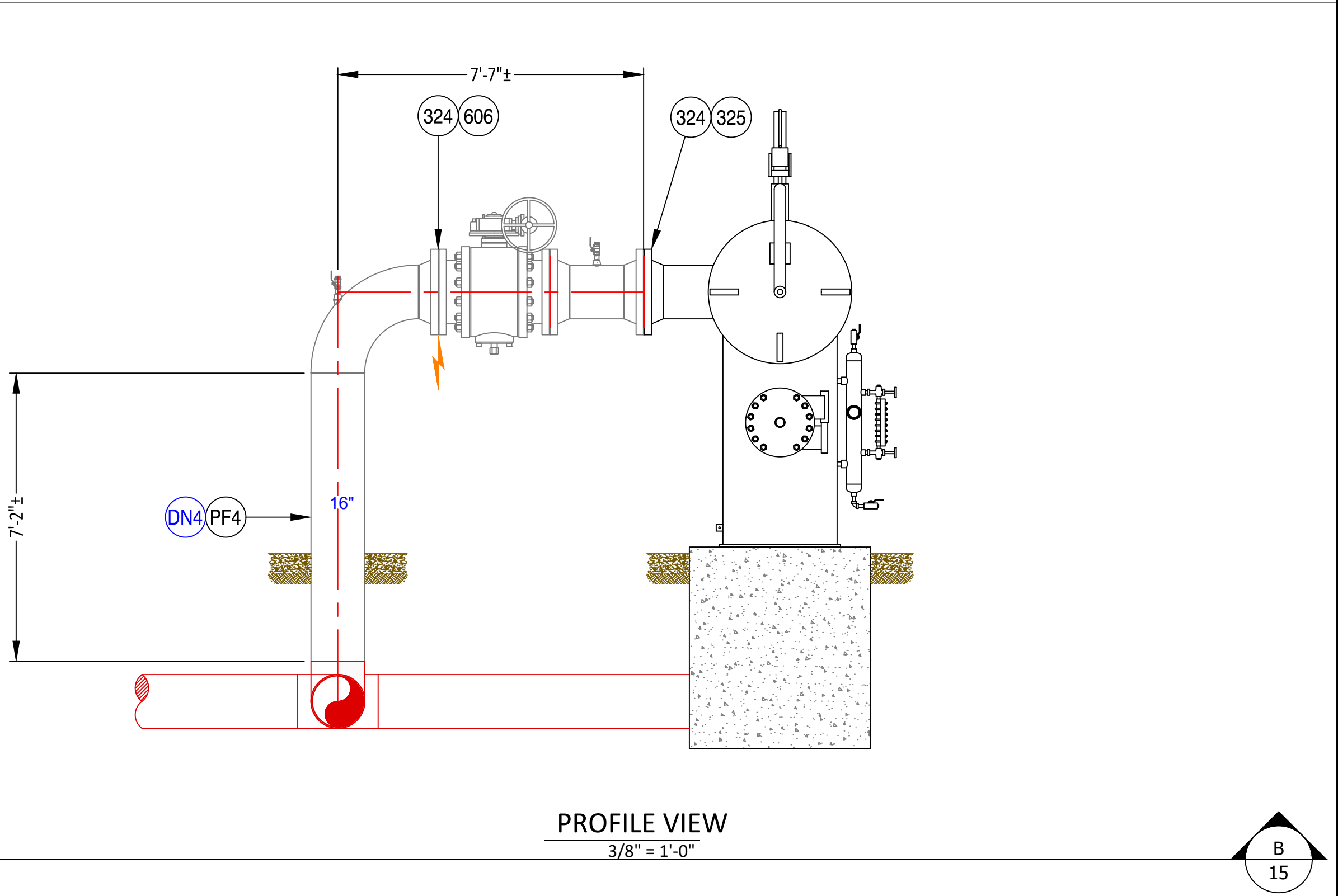
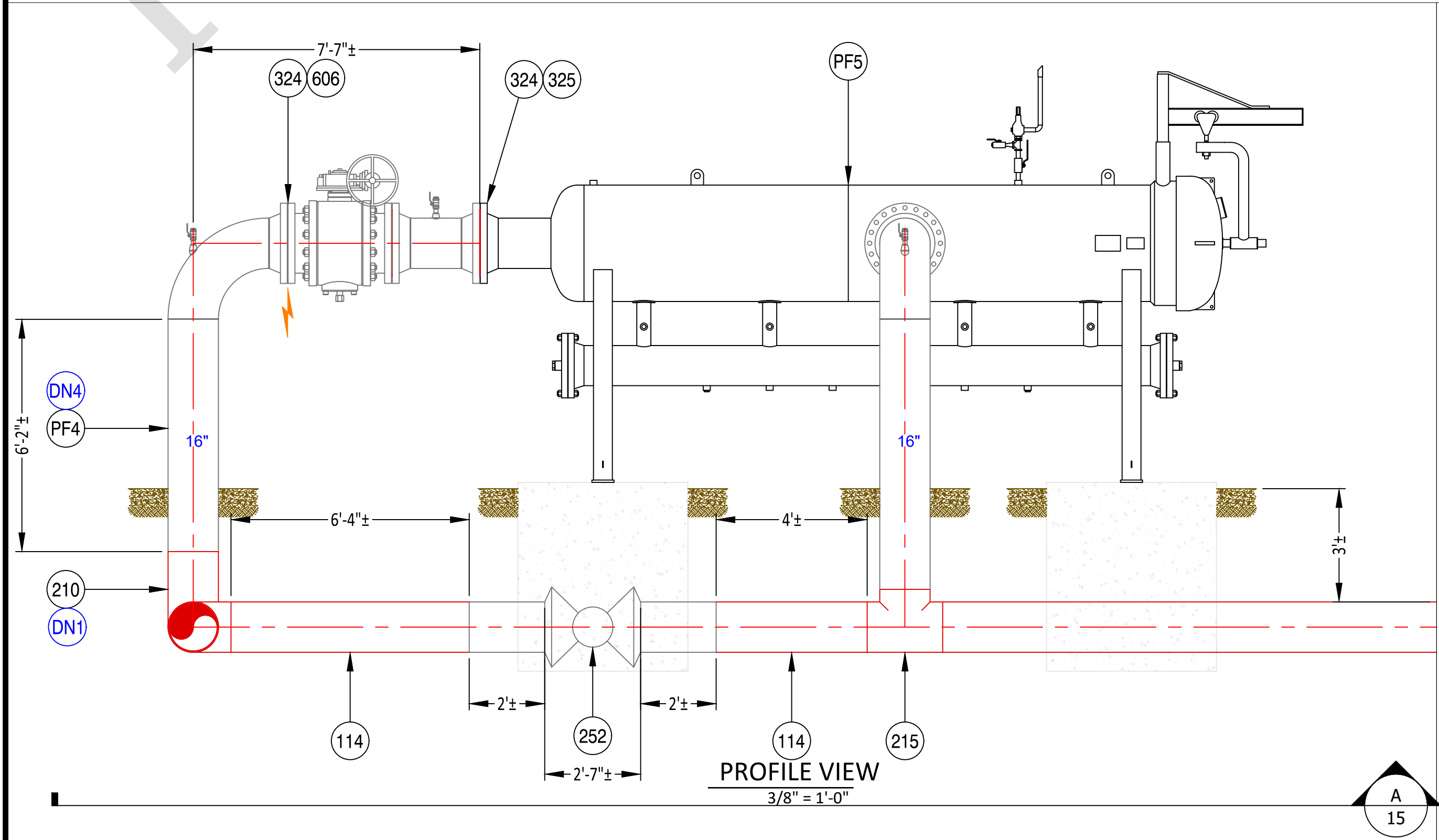
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TRANSMITTER PIPING DETAILS

DRAWING NO:
14



LINETYPE LEGEND - JOB/WORK ORDER STYLE	
—	GAS EXISTING
—	GAS ABANDON
—	GAS INSTALL
—	PRE-FABRICATED UNIT
—	BUILDING

- DESIGN NOTES**
1. ROTATE ELBOW AS NEEDED AND WELD
 2. ALL PIPE DIMENSIONS CUT TO FIT. **ALL** PIPE INSTALLED IN FIELD TO BE MEASURED AND VERIFIED PRIOR TO FIELD WELDING.
 3. ENSURE SUMP BRIDAL FACES OPPOSITE DIRECTION OF FILTER INLET
 4. CUT PREFABRICATED RISERS TO FIT



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SCALE: 1/8" = 1'-0"

PROPOSED

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DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
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	NAME	DATE	PHONE #

SITE NAME:

INST# 24-0136951-00

ABAN# ----

PROJECT ID# 21-78790

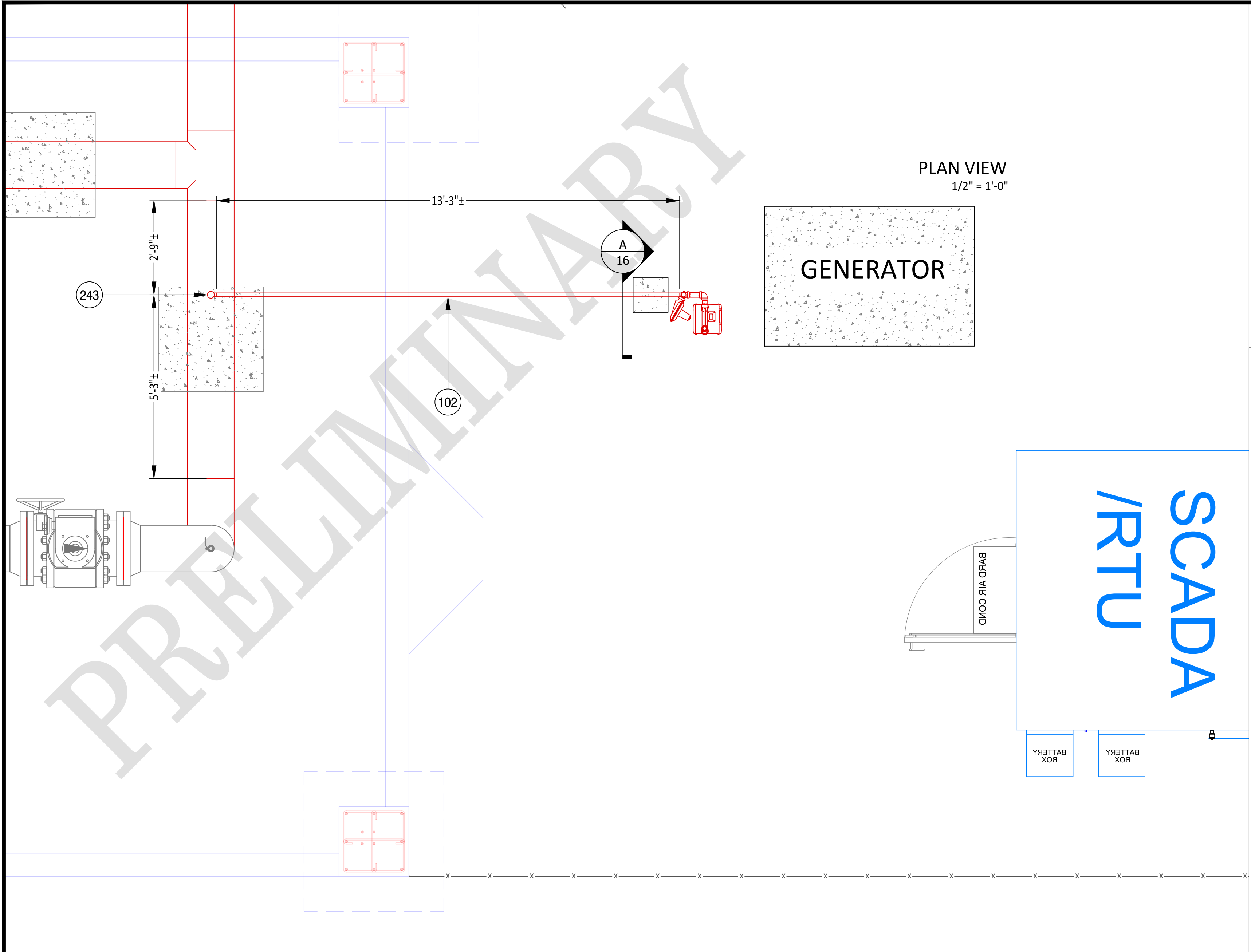
RIDGEVIEW STATION

COLUMBUS / FRANKLIN, OH

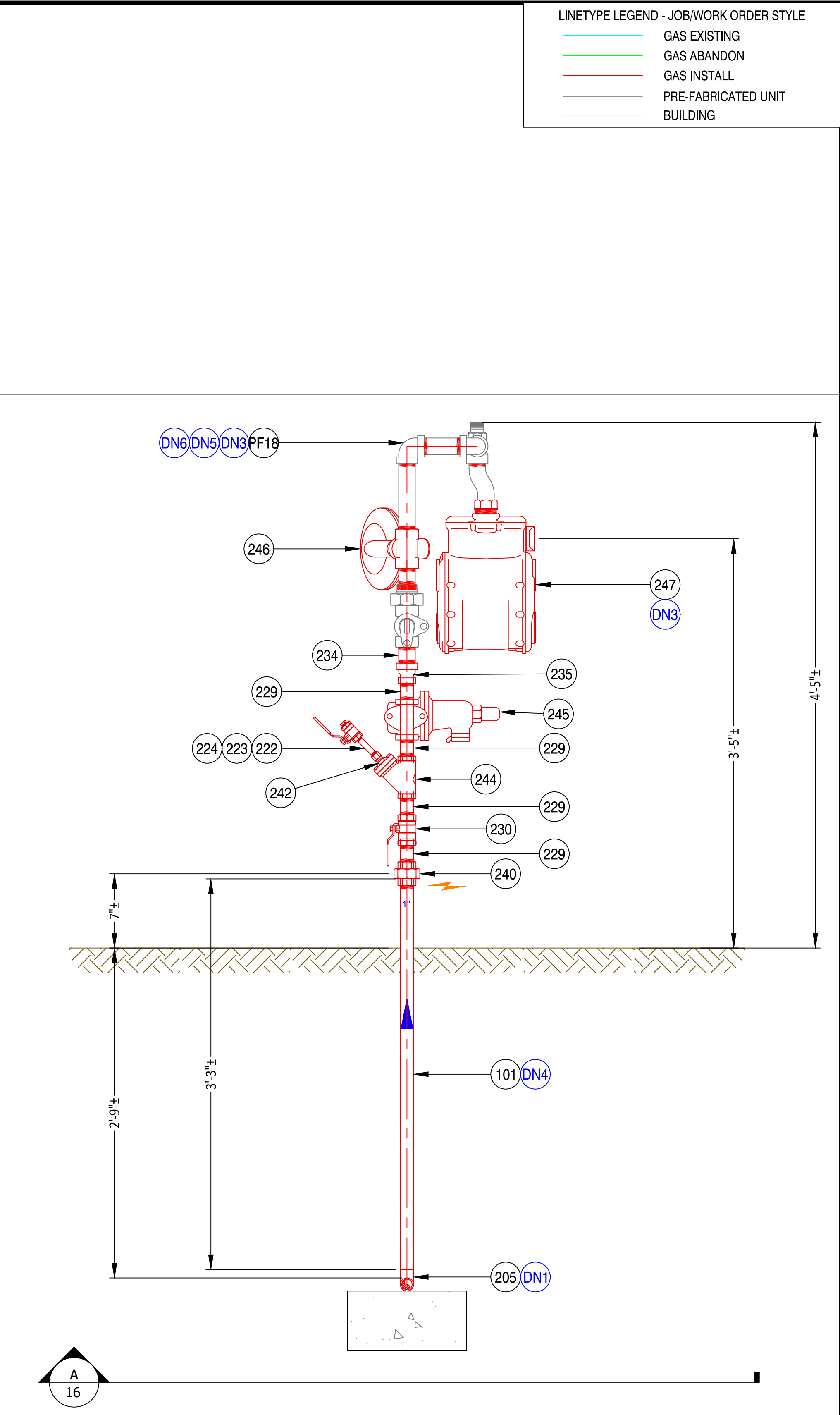
FILTER DETAILS

DRAWING NO:

15



- DESIGN NOTES**
- 1. ROTATE ELBOW AS NEEDED AND WELD
 - 2. DEPTH OF INCOMING SERVICE LINE IS DETERMINED BY DEPTH OF PROPOSED 16" PIPE. DEPTH AT THE TAP LOCATION IS ASSUMED TO BE 36" FROM GRADE TO TOP OF 16" PIPE. CUT RISER TO FIT. ALL PIPE INSTALLED IN FIELD TO BE MEASURED AND VERIFIED PRIOR TO FIELD WELDING.
 - 3. HOUSE LINE PIPING DOWNSTREAM OF METER TO GENERATOR CONNECTION IS THE RESPONSIBILITY OF THE I&C GROUP. THIS MATERIAL IS NOT REPRESENTED AS PART OF THIS PLAN SET.
 - 4. FIELD THREAD PIPE AS NECESSARY FOR CONNECTION INTO THREADED FITTINGS.
 - 5. RISER BRACKET AS SHOWN ON PLMB-0002A DRAWING TO BE FIELD FIT AS NECESSARY. SEE APPENDIX A FOR ADDITIONAL DETAILS.
 - 6. ENSURE SERVICE SETTING IS PROPERLY SUPPORTED.



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SCALE: 1/2" = 1'-0"

PROPOSED

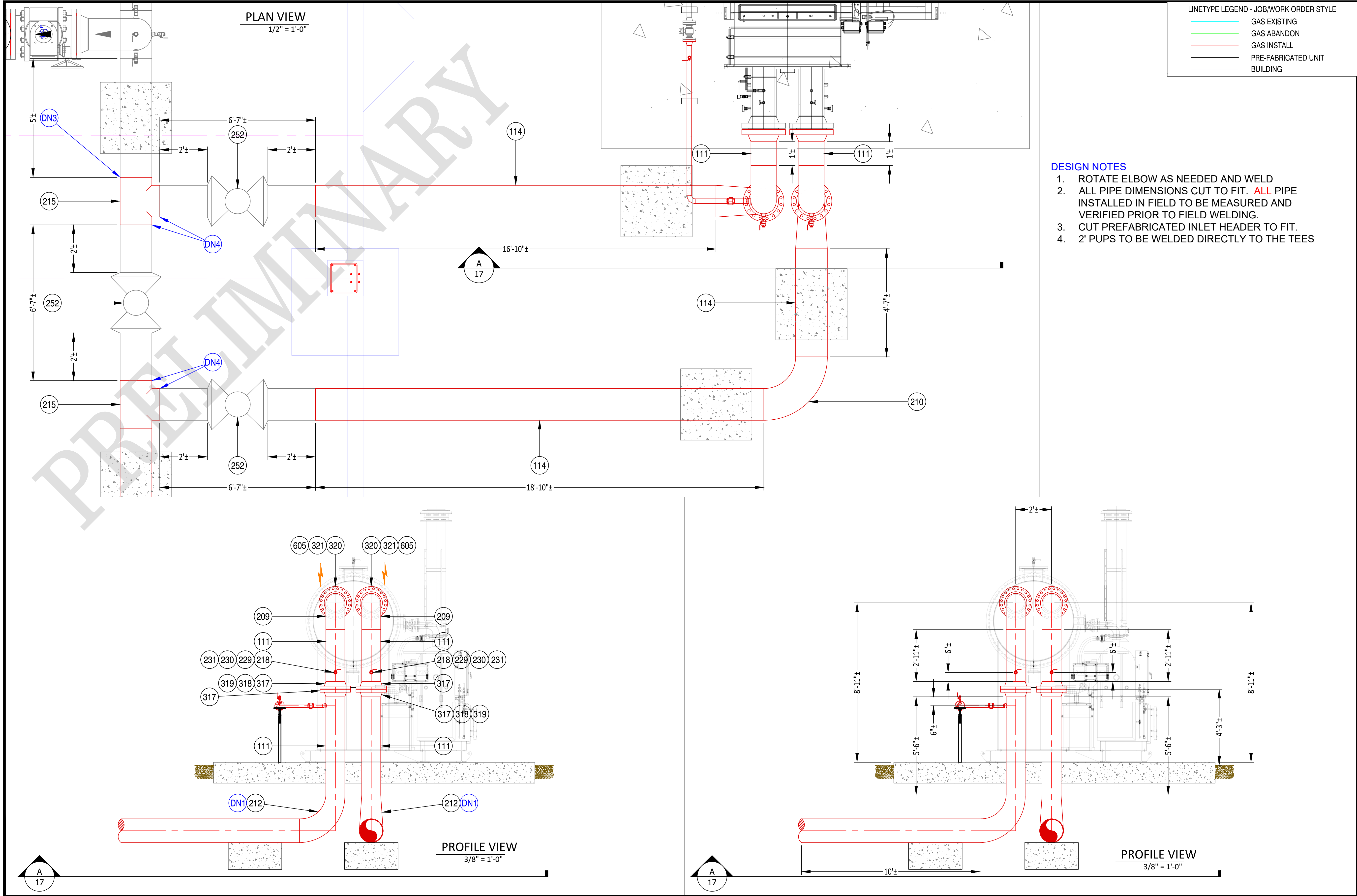
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DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
	NAME	DATE	PHONE #
SITE NAME:			
INST# 24-0136951-00			
ABAN# ----			
PROJECT ID# 21-78790			
RIDGEVIEW STATION			
COLUMBUS / FRANKLIN, OH			

GENERATOR DETAILS

DRAWING NO:

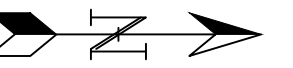
16



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SCALE: 1/2" = 1'-0"

PROPOSED

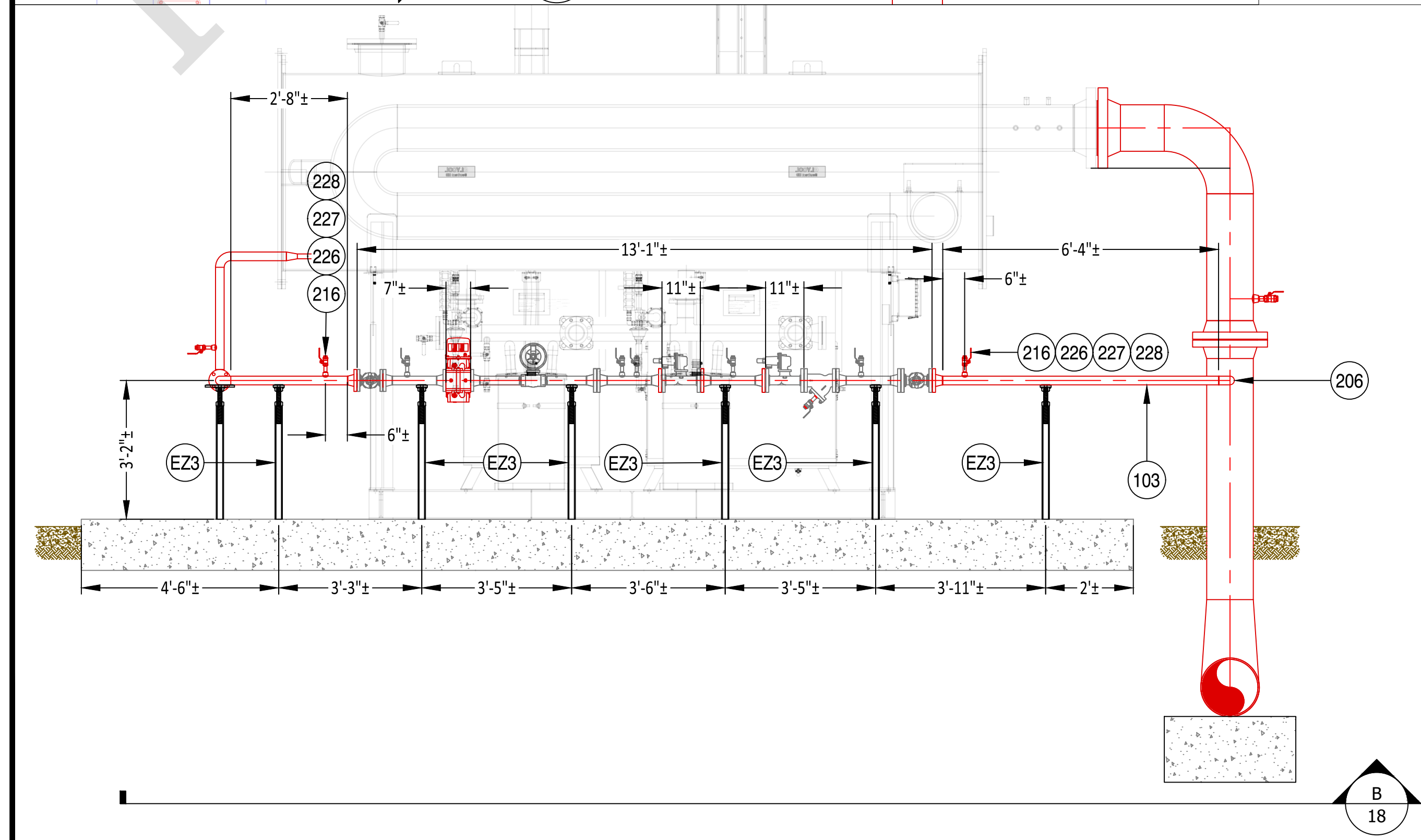
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REV. #	DATE	DESCRIPTION

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DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

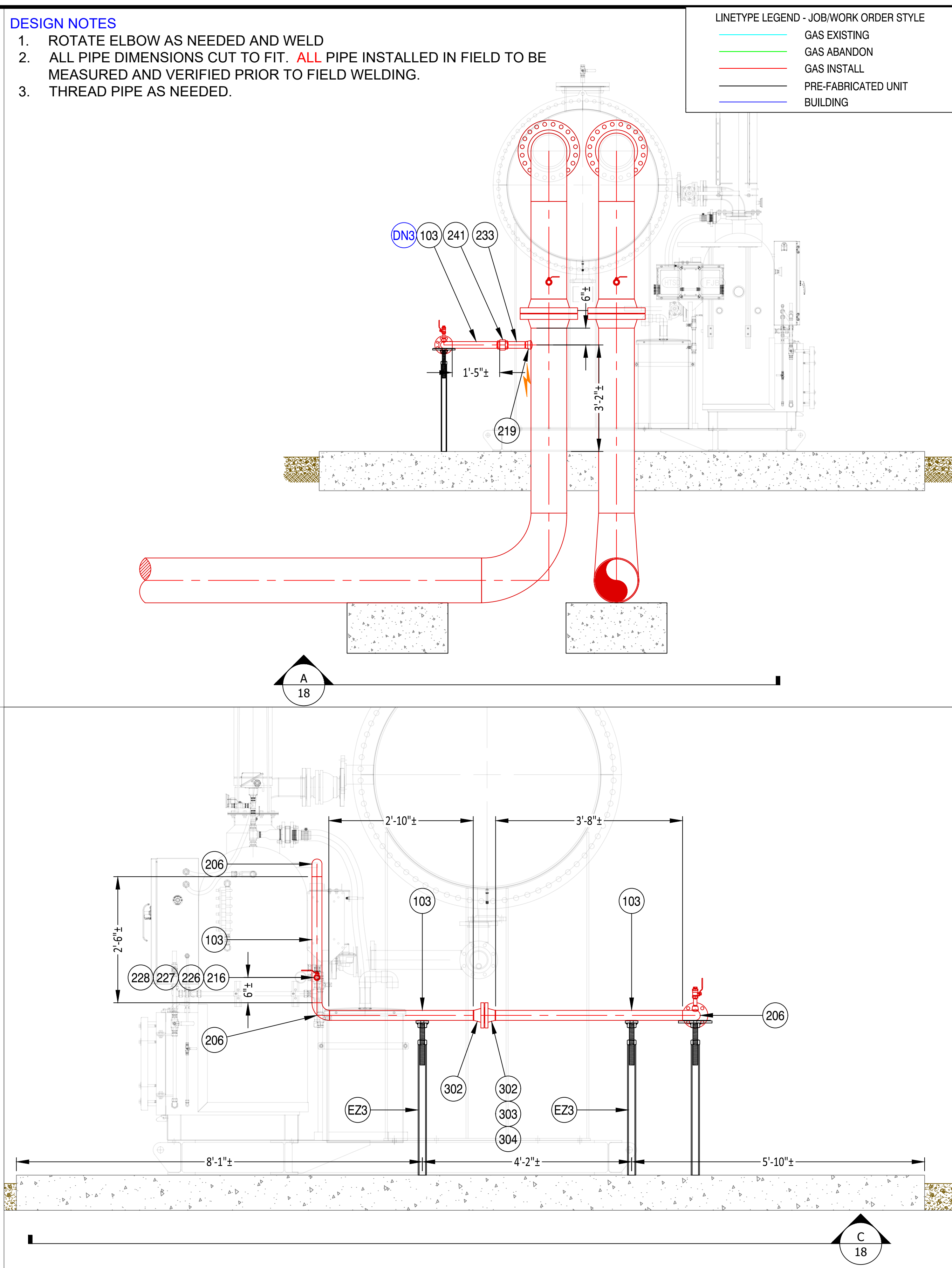
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INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

HEATER BLOCK DETAILS

DRAWING NO:
17



2. ALL PIPE DIMENSIONS CUT TO FIT. **ALL** PIPE INSTALLED IN FIELD TO BE MEASURED AND VERIFIED PRIOR TO FIELD WELDING.
3. THREAD PIPE AS NEEDED.



LINETYPE LEGEND - JOB/WORK ORDER STYLE

	GAS EXISTING
	GAS ABANDON
	GAS INSTALL
	PRE-FABRICATED UNIT
	BUILDING



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SCALE: 3/8" = 1'-0"

PROPOSED

REVISIONS			
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REV. #	DATE	DESCRIPTION	
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DRAWN BY	CRDM	09/11/24	330-596-0111
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	NAME	DATE	PHONE #

SITE NAME:

INST# 24-0136951-00

ABAN# ----

PROJECT ID# 21-78790

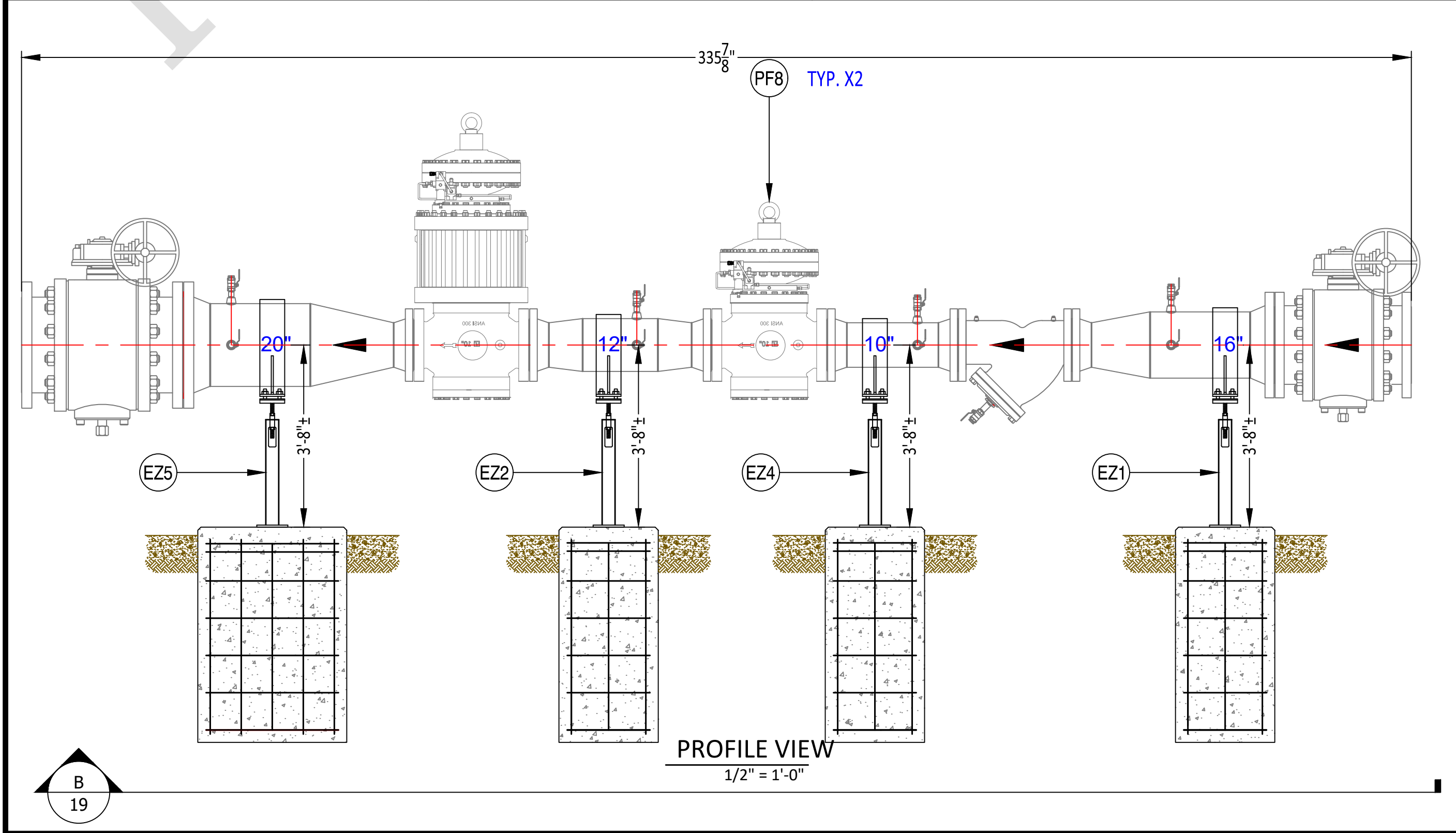
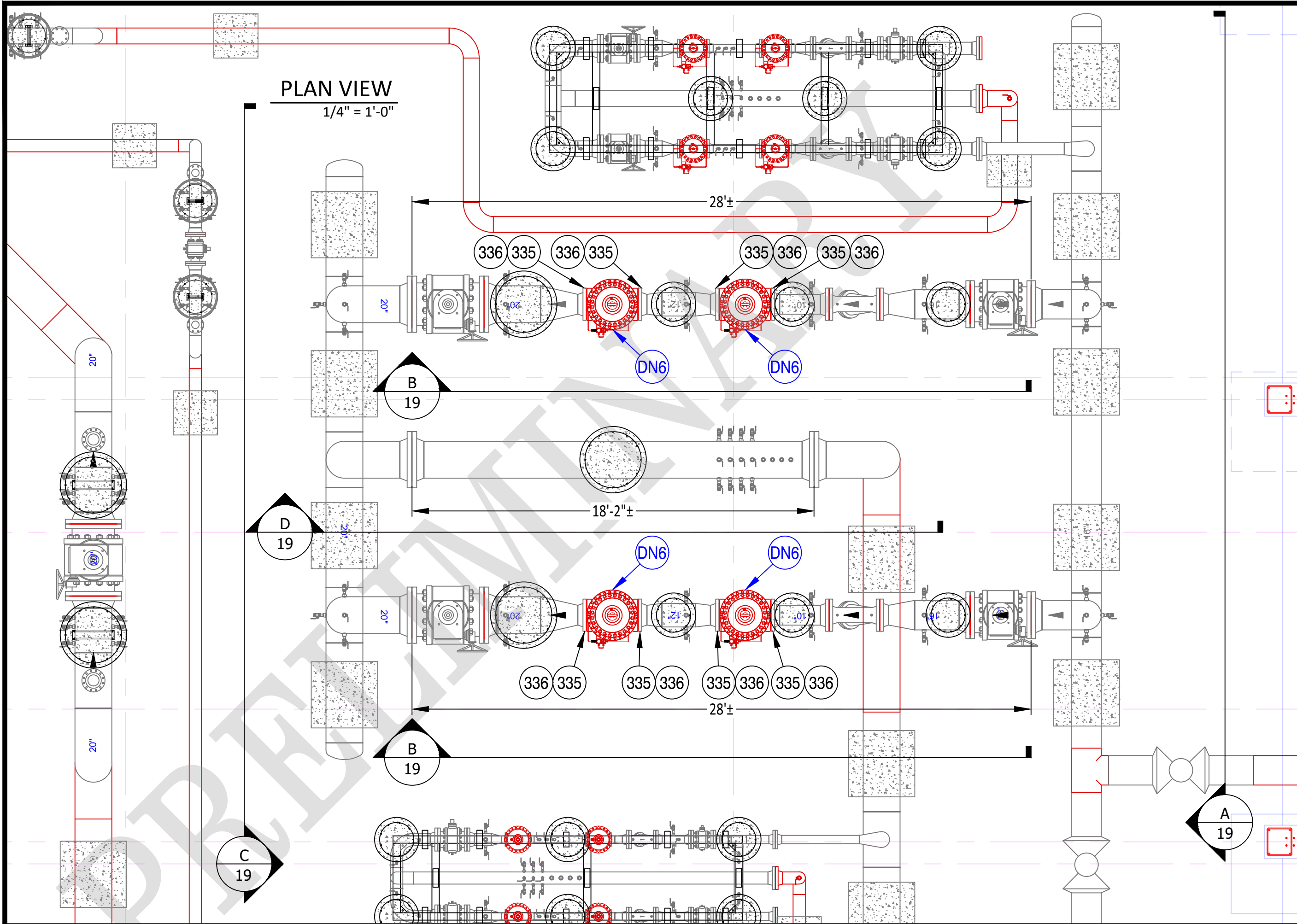
RIDGEVIEW STATION

COLUMBUS / FRANKLIN, OH

HEATER SUPPLY UNIT

DRAWING NO:

18

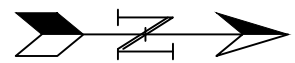
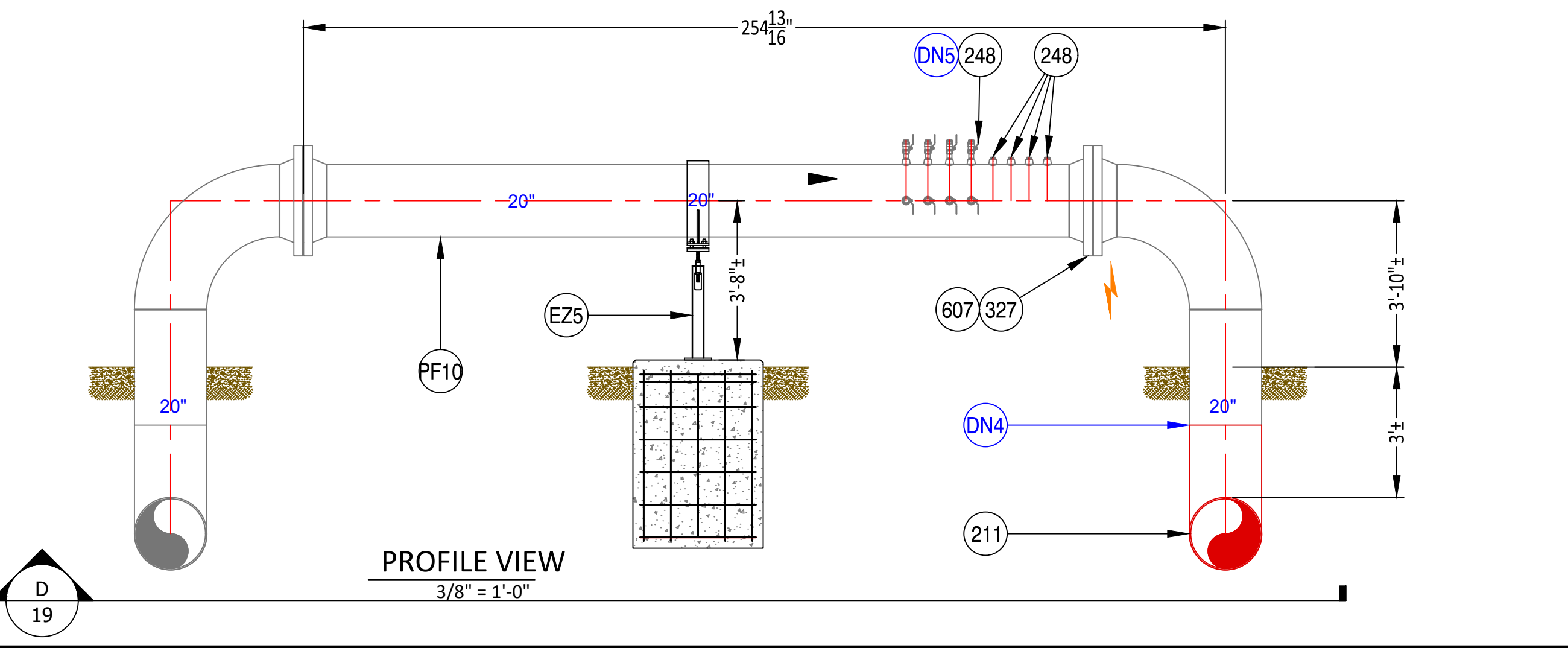
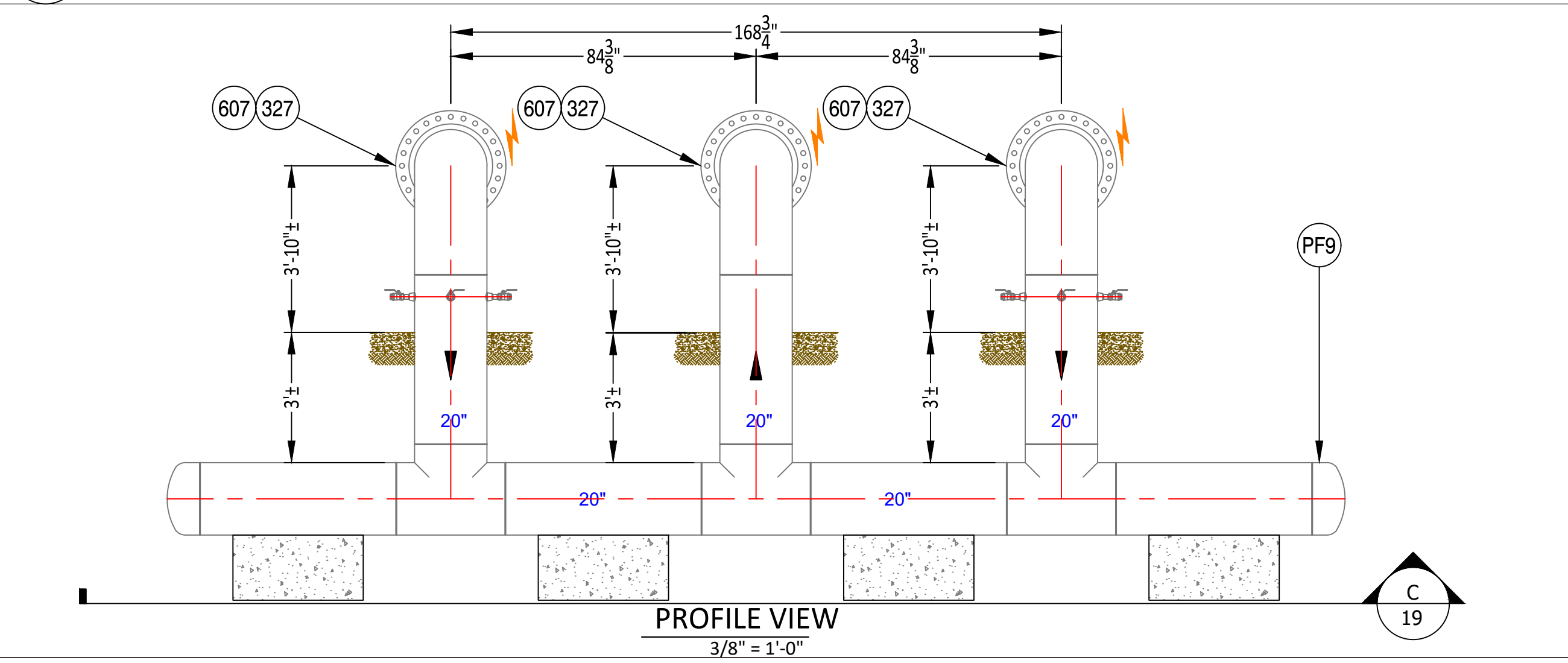
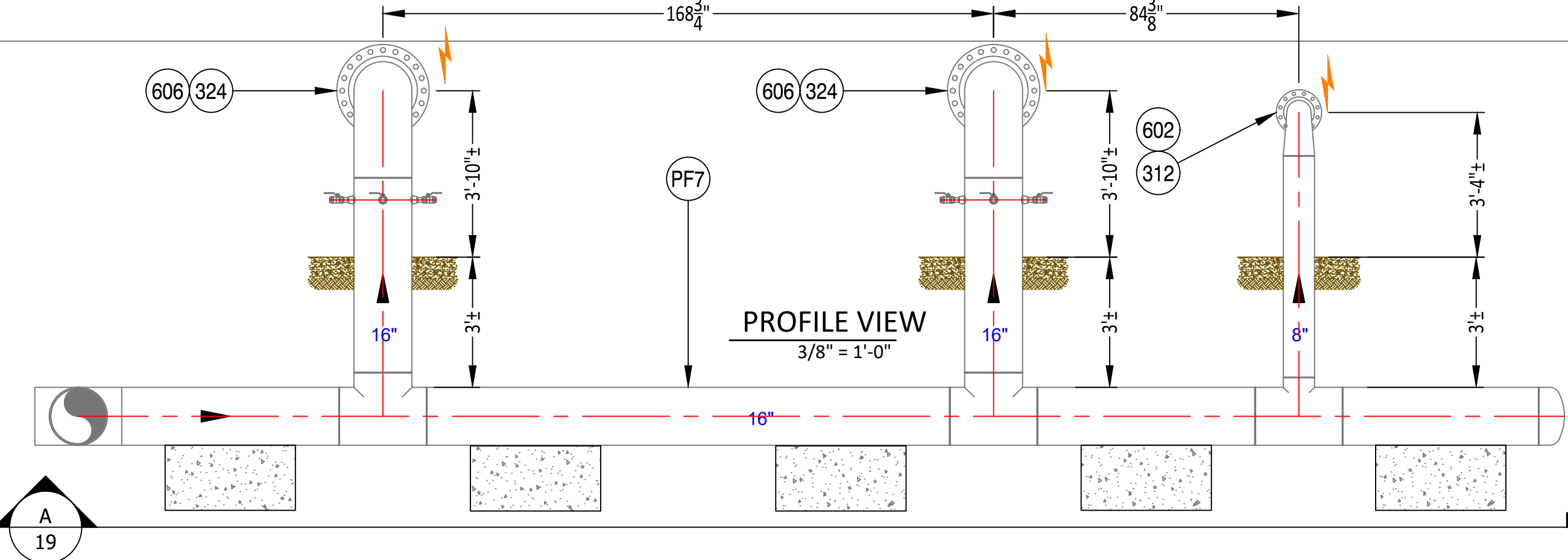


DESIGN NOTES

1. ROTATE ELBOW AS NEEDED AND WELD
2. ALL PIPE DIMENSIONS CUT TO FIT. **ALL** PIPE INSTALLED IN FIELD TO BE MEASURED AND VERIFIED PRIOR TO FIELD WELDING.
3. BOLTS AND GASKETS TO BE INSTALLED.
4. CUT PREFABRICATED RISERS TO FIT
5. REMOVE THREADED BLOWOFF AND INSTALL THERMOWELL AT THIS LOCATION. CRITICAL PRIOR TO START UP. INSTALL CWT THERMOWELLS PER MANUFACTURE RECOMMENDATION.
6. REGULATION ORDERED ON PO61185. TO BE INSTALLED IN THE FIELD.

LINETYPE LEGEND - JOB/WORK ORDER STYLE

—	GAS EXISTING
—	GAS ABANDON
—	GAS INSTALL
—	PREFABRICATED UNIT
—	BUILDING



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

PROPOSED

REVISIONS			
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NAME		DATE	PHONE #

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INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

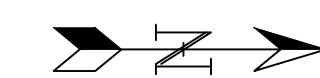
232 REGULATION

DRAWING NO:
19

PLAN VIEW
1/8" = 1'-0"

LINETYPE LEGEND - JOB/WORK ORDER STYLE	
---	GAS EXISTING
---	GAS ABANDON
---	GAS INSTALL
---	PRE-FABRICATED UNIT
---	BUILDING

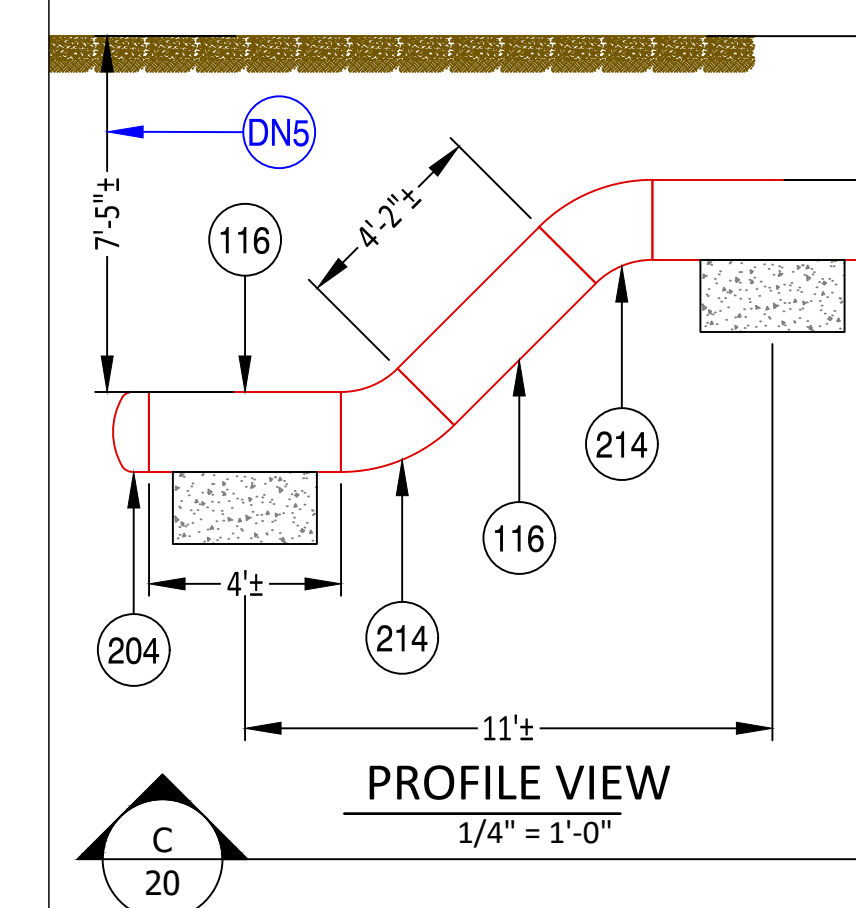
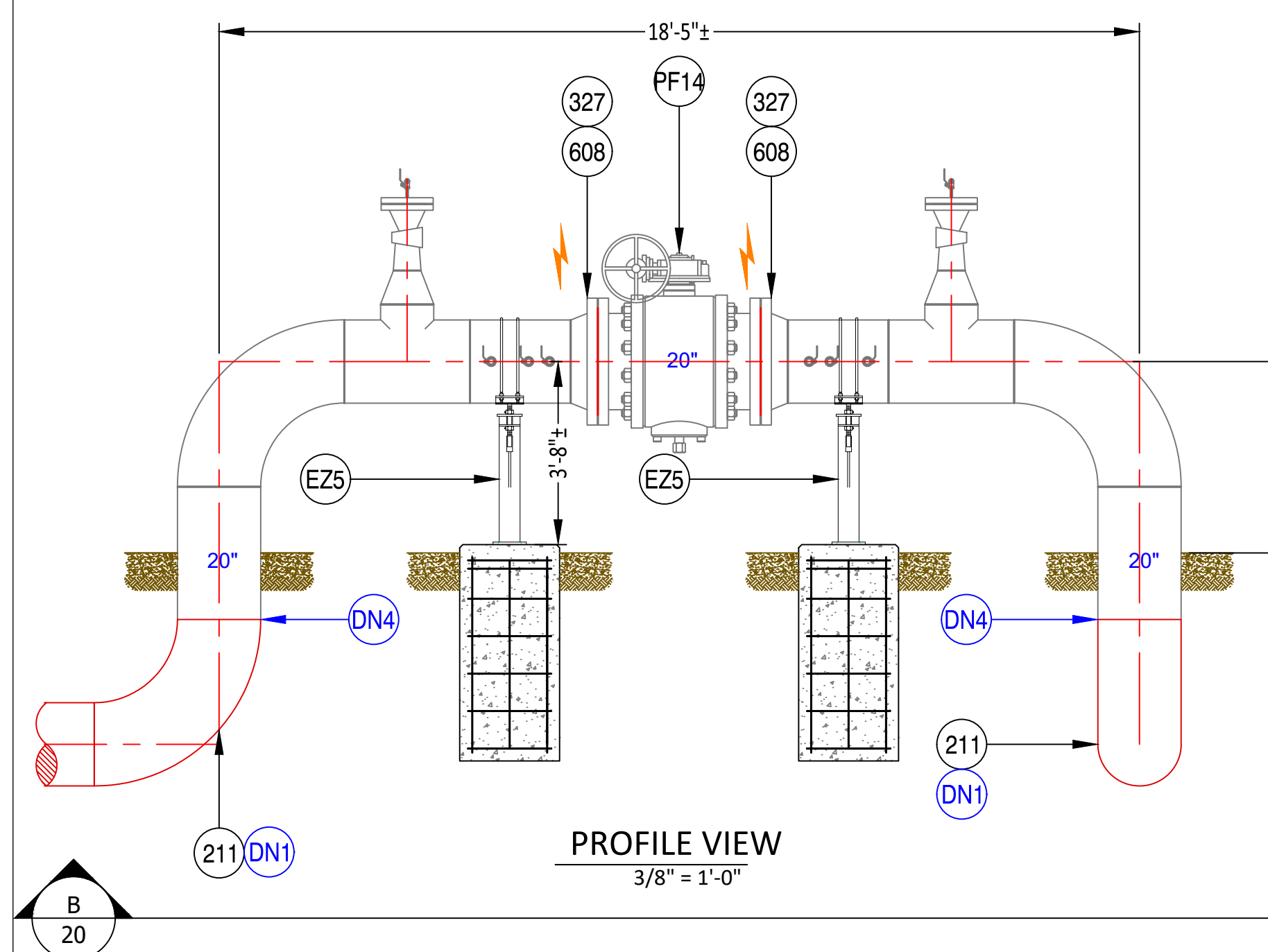
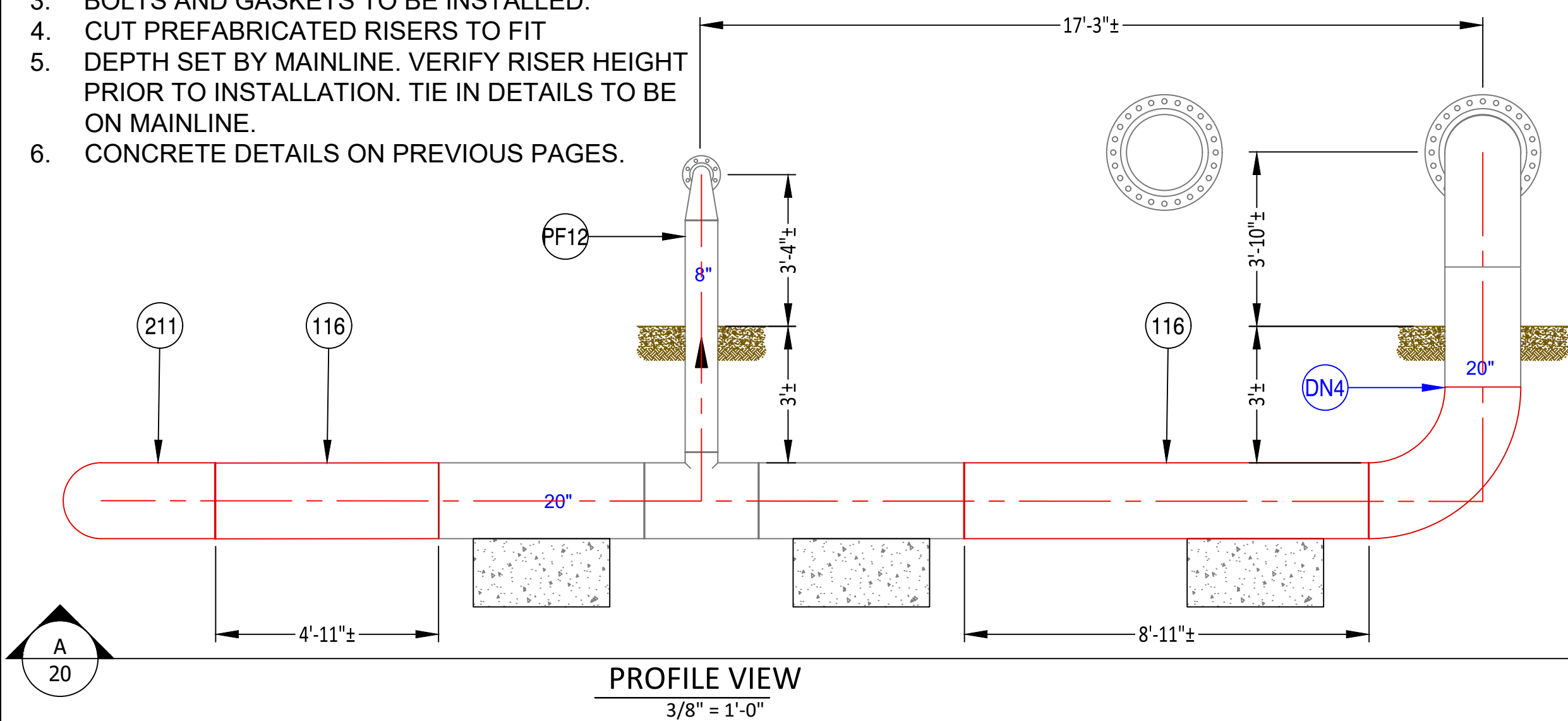
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SCALE: 1/8" = 1'-0"
PROPOSED

DESIGN NOTES

1. ROTATE ELBOW AS NEEDED AND WELD
2. ALL PIPE DIMENSIONS CUT TO FIT. **ALL** PIPE INSTALLED IN FIELD TO BE MEASURED AND VERIFIED PRIOR TO FIELD WELDING.
3. BOLTS AND GASKETS TO BE INSTALLED.
4. CUT PREFABRICATED RISERS TO FIT
5. DEPTH SET BY MAINLINE. VERIFY RISER HEIGHT PRIOR TO INSTALLATION. TIE IN DETAILS TO BE ON MAINLINE.
6. CONCRETE DETAILS ON PREVIOUS PAGES.



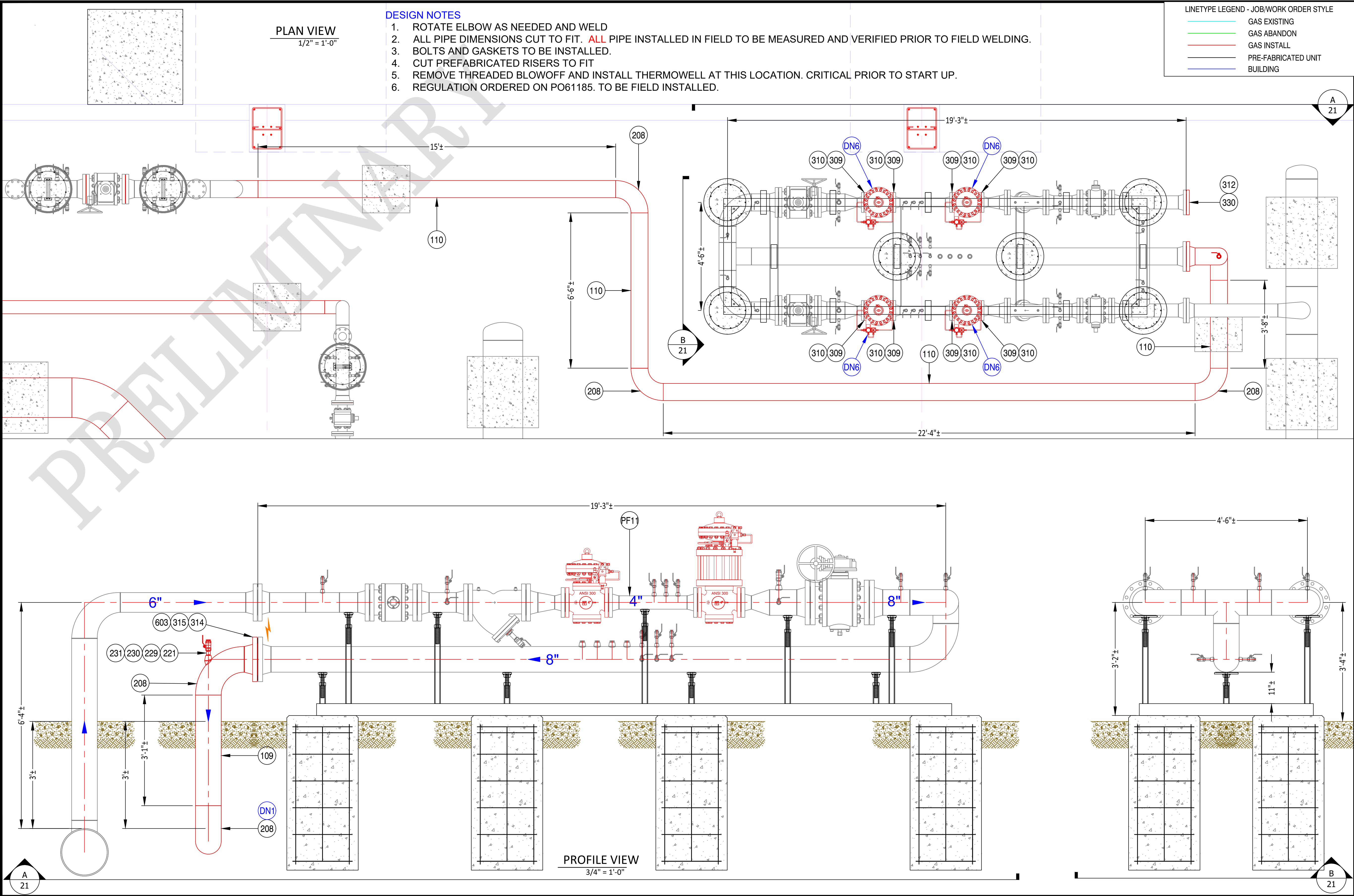
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AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

232 OUTLET

DRAWING NO:
20



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SCALE: 1/2" = 1'-0"
PROPOSED

REVISIONS			
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CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

100 REGULATION

DRAWING NO:
21

This mechanical floor plan illustrates a long horizontal duct system, likely for a large-scale ventilation or air conditioning project. The system is represented by a series of parallel red lines. Key features include:

- Dimensions:** A long horizontal dimension of 96'-11"± is indicated at the top. A smaller vertical dimension of 6'± is shown on the left side.
- Annotations:**
 - AA (AA DN6) is noted at the top left.
 - 110 is circled in the center.
 - A 22 is circled on the right side.
 - 20° is noted near a curved duct section at the bottom right.
- Components:** The plan shows various mechanical components, including duct sections, valves, and a large circular fan or blower unit on the right side.
- Structural Elements:** The plan includes a grid of structural columns and beams, with some columns highlighted in red.
- Other Details:** A large circular feature, possibly a shaft or a large duct, is located on the right side. A small rectangular area is marked with a red crosshair.

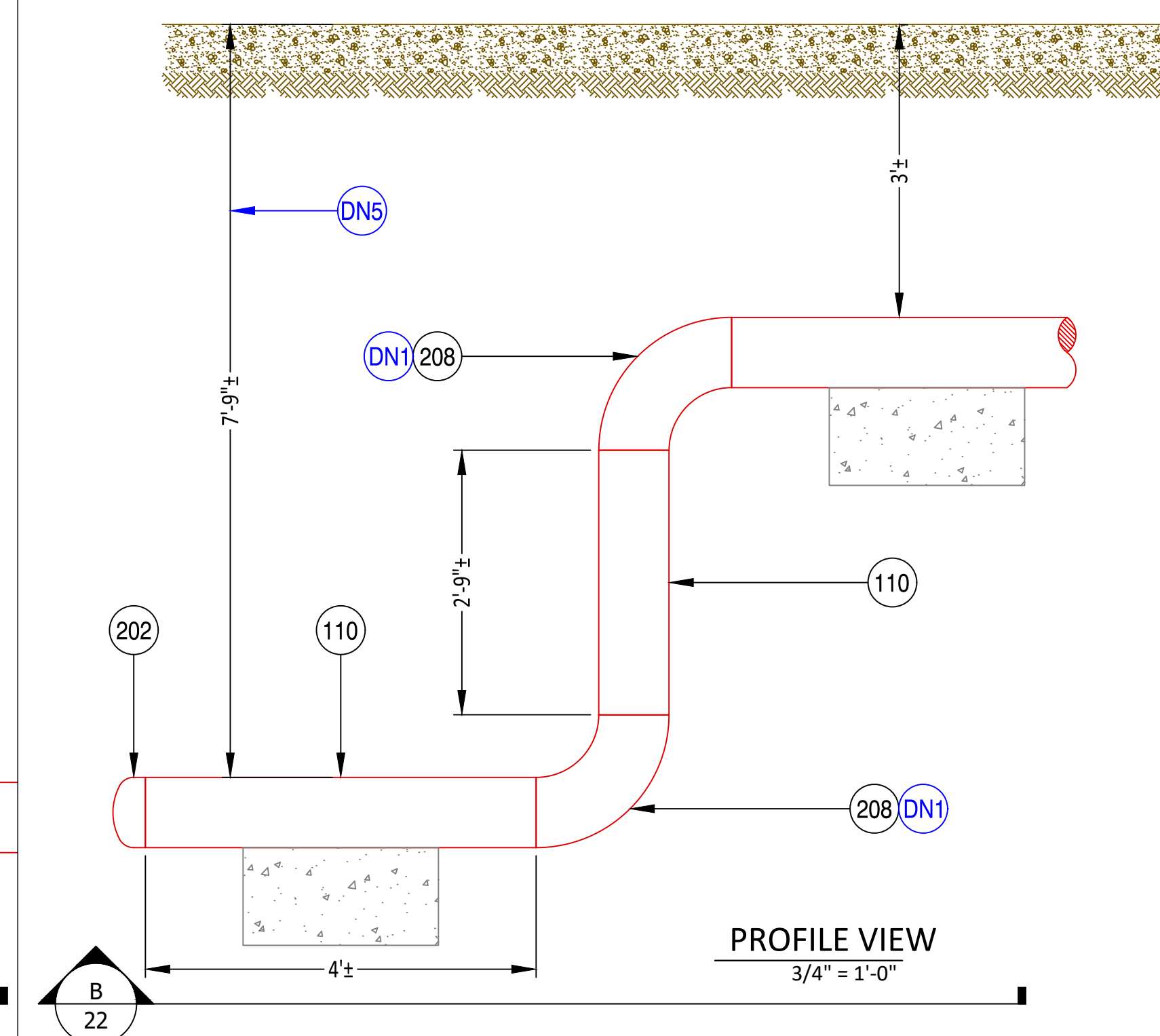
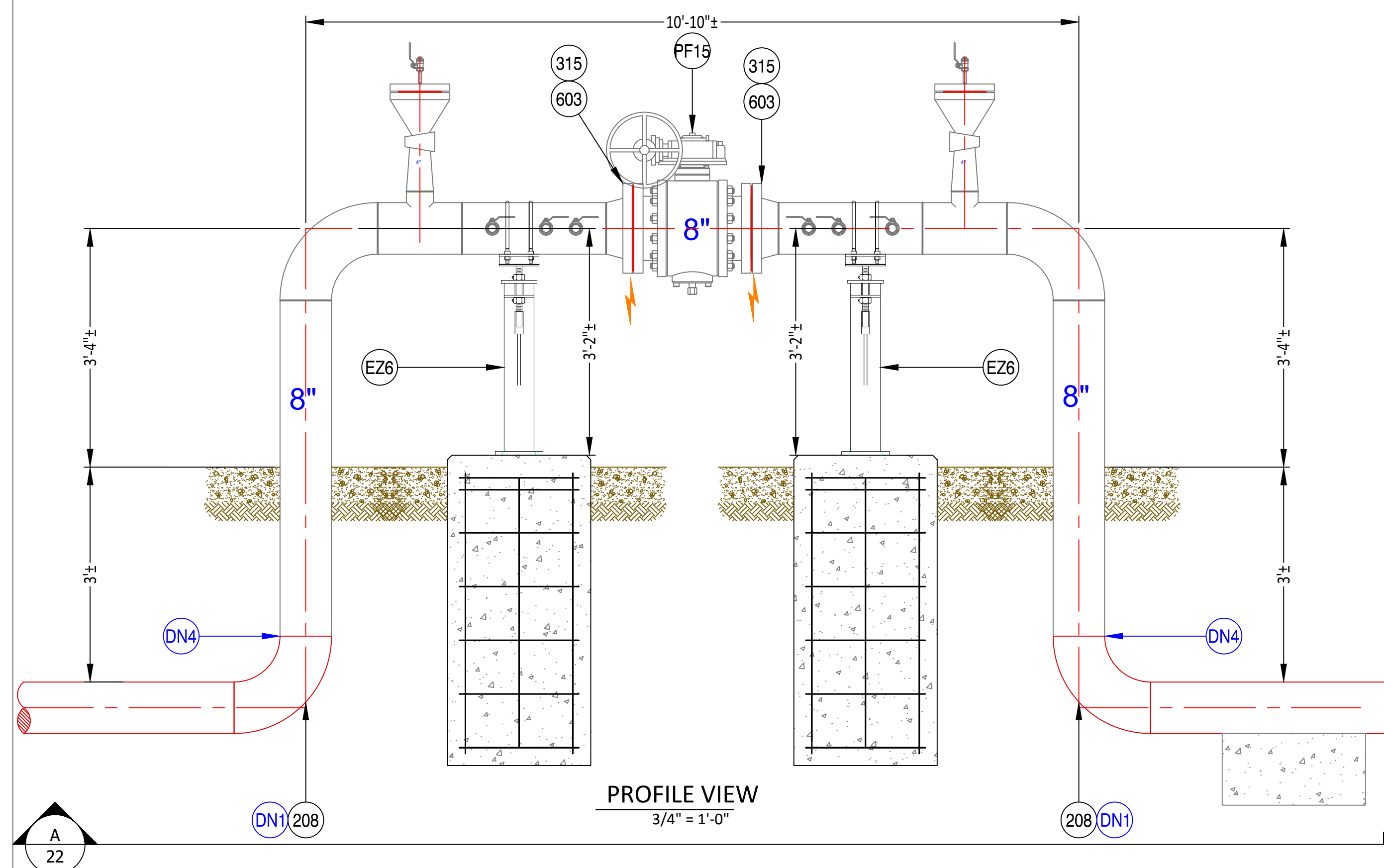


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SCALE: 3/16" = 1'-0"

PROPOSED

1. ROTATE ELBOW AS NEEDED AND WELD
2. ALL PIPE DIMENSIONS CUT TO FIT. **ALL** PIPE INSTALLED IN FIELD TO BE MEASURED AND VERIFIED PRIOR TO FIELD WELDING.
3. BOLTS AND GASKETS TO BE INSTALLED.
4. CUT PREFABRICATED RISERS TO FIT
5. DEPTH SET BY MAINLINE. VERIFY RISER HEIGHT PRIOR TO INSTALLATION. TIE IN DETAILS TO BE ON MAINLINE.
6. CONCRETE DETAILS ON PREVIOUS PAGES.



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	NAME	DATE	PHONE

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

100 OUTLET

DRAWING NO:

22

DESIGN NOTES

1. ROTATE ELBOW AS NEEDED AND WELD
2. ALL PIPE DIMENSIONS CUT TO FIT. **ALL** PIPE INSTALLED IN FIELD TO BE MEASURED AND VERIFIED PRIOR TO FIELD WELDING.
3. BOLTS AND GASKETS TO BE FIELD INSTALLED.
4. CUT PREFABRICATED RISERS TO FIT
5. REGULATORS ORDERED OFF PO61185. TO BE INSTALLED IN THE FIELD.

PLAN VIEW
1/2" = 1'-0"

LINETYPE LEGEND - JOB/WORK ORDER STYLE

- GAS EXISTING
- GAS ABANDON
- GAS INSTALL
- PREFABRICATED UNIT
- BUILDING

NiSource



SCALE: 1/2" = 1'-0"

PROPOSED

REVISIONS			
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CHECKED BY	CAMPOS	XX/XX/XX	--
AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:

INST# 24-0136951-00

ABAN# ----

PROJECT ID# 21-78790

RIDGEVIEW STATION

COLUMBUS / FRANKLIN, OH

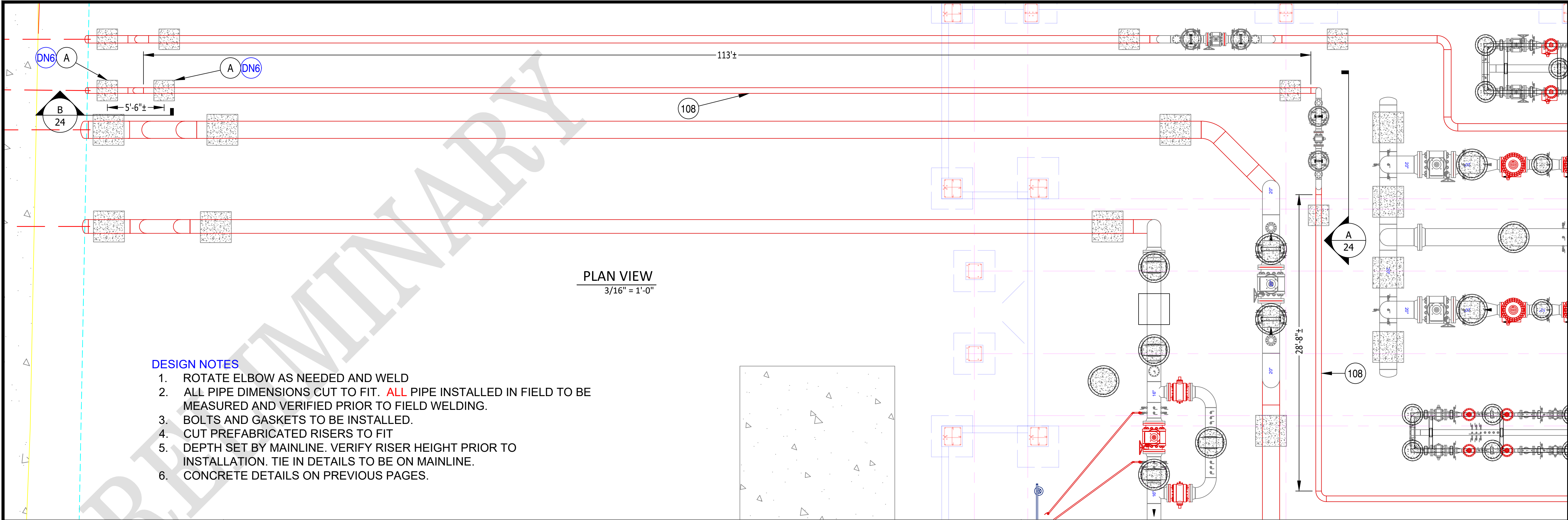
077 REGULATION

DRAWING NO:

23

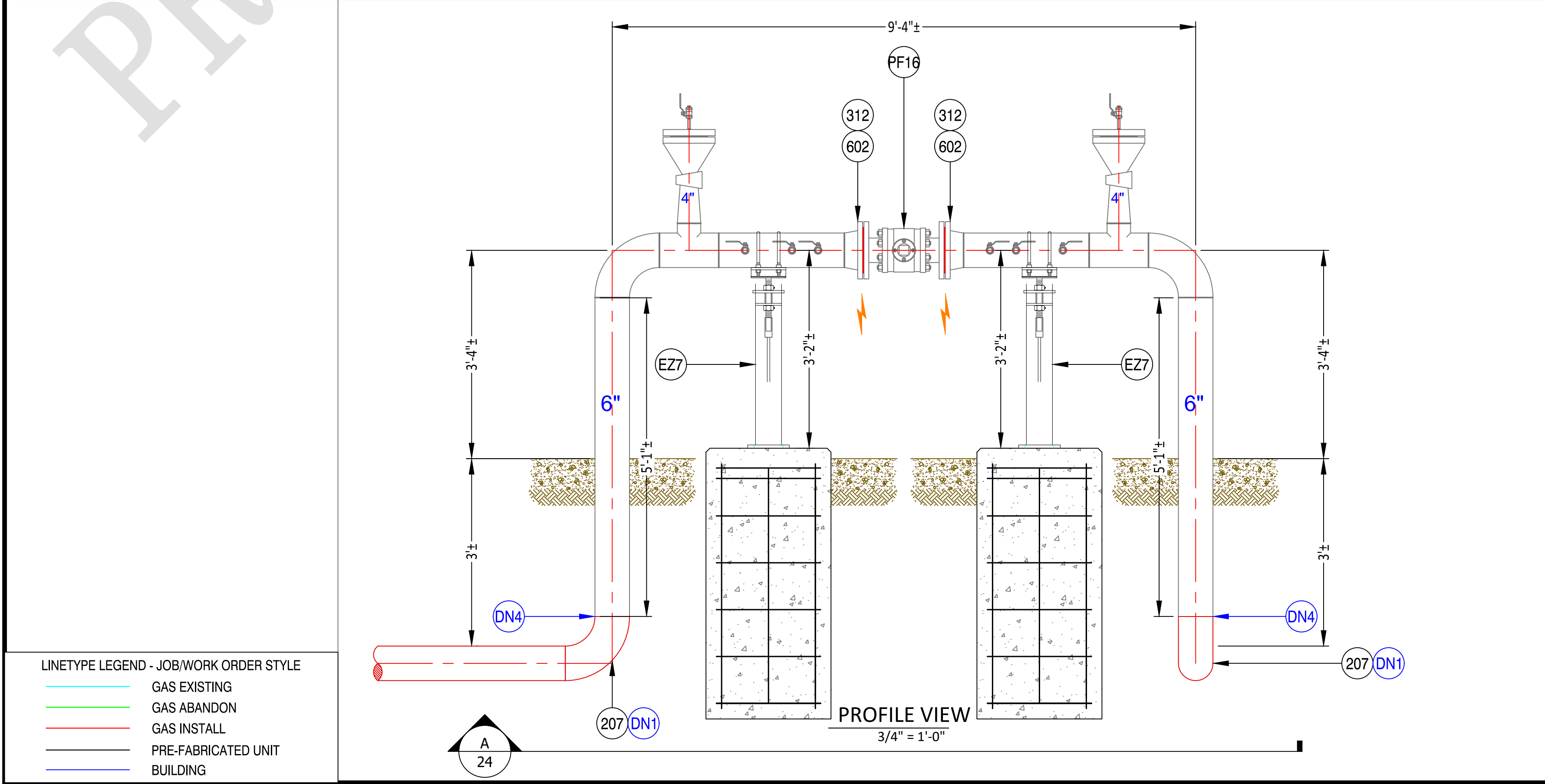
PLAN VIEW
3/4" = 1'-0"

PLAN VIEW
3/4" = 1'-0"

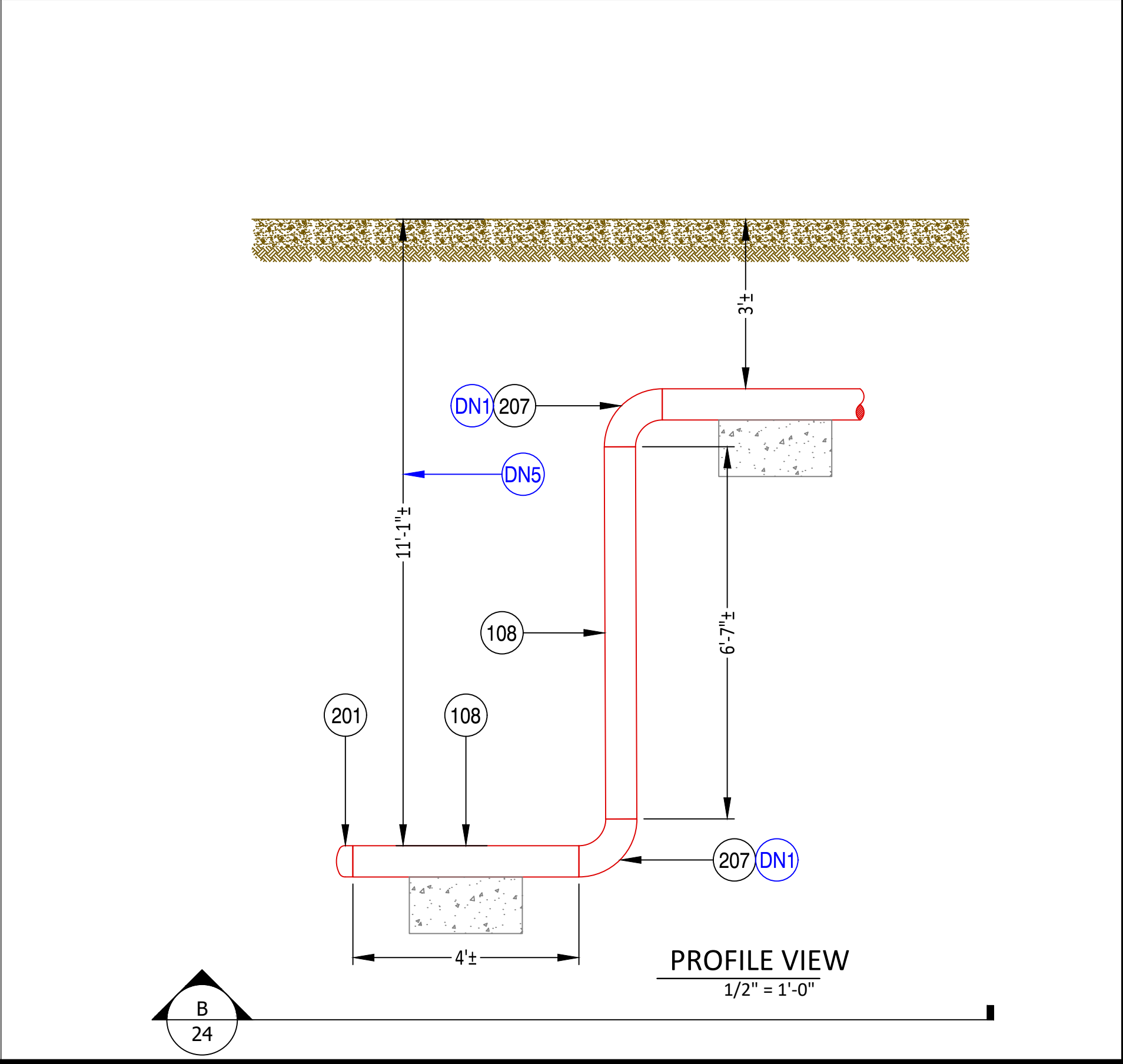


PLAN VIEW
3/16" = 1'-0"

- DESIGN NOTES**
1. ROTATE ELBOW AS NEEDED AND WELD
 2. ALL PIPE DIMENSIONS CUT TO FIT. **ALL** PIPE INSTALLED IN FIELD TO BE MEASURED AND VERIFIED PRIOR TO FIELD WELDING.
 3. BOLTS AND GASKETS TO BE INSTALLED.
 4. CUT PREFABRICATED RISERS TO FIT
 5. DEPTH SET BY MAINLINE. VERIFY RISER HEIGHT PRIOR TO INSTALLATION. TIE IN DETAILS TO BE ON MAINLINE.
 6. CONCRETE DETAILS ON PREVIOUS PAGES.



PROFILE VIEW
3/4" = 1'-0"

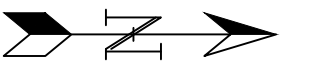


PROFILE VIEW
1/2" = 1'-0"

LINETYPE LEGEND - JOB/WORK ORDER STYLE

---	GAS EXISTING
---	GAS ABANDON
---	GAS INSTALL
---	PREFABRICATED UNIT
---	BUILDING

NiSource



SCALE: 3/16" = 1'-0"

PROPOSED

REVISIONS			
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1	---	---	---
0	9/29/23	PRELIMINARY	---
REV. #	DATE	DESCRIPTION	

DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY	---	---	---
NAME		DATE	PHONE #

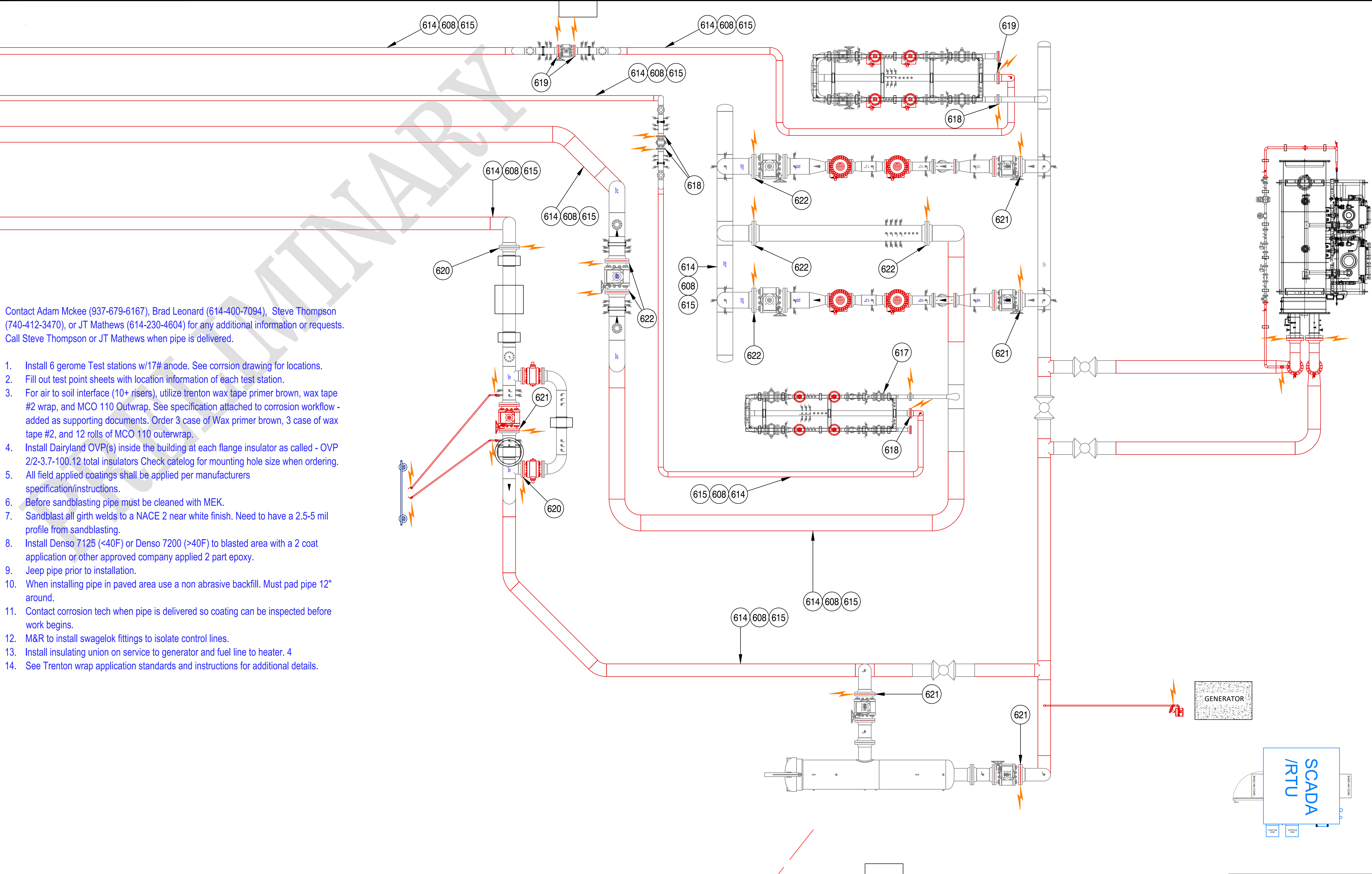
SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

077 OUTLET

DRAWING NO:
24

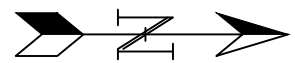
Contact Adam McKee (937-679-6167), Brad Leonard (614-400-7094), Steve Thompson (740-412-3470), or JT Mathews (614-230-4604) for any additional information or requests. Call Steve Thompson or JT Mathews when pipe is delivered.

1. Install 6 gerome Test stations w/17# anode. See corrsion drawing for locations.
2. Fill out test point sheets with location information of each test station.
3. For air to soil interface (10+ risers), utilize trenton wax tape primer brown, wax tape #2 wrap, and MCO 110 Outwrap. See specification attached to corrosion workflow - added as supporting documents. Order 3 case of Wax primer brown, 3 case of wax tape #2, and 12 rolls of MCO 110 outerwrap.
4. Install Dairyland OVP(s) inside the building at each flange insulator as called - OVP 2/2-3.7-100.12 total insulators Check catelog for mounting hole size when ordering.
5. All field applied coatings shall be applied per manufacturers specification/instructions.
6. Before sandblasting pipe must be cleaned with MEK.
7. Sandblast all girth welds to a NACE 2 near white finish. Need to have a 2.5-5 mil profile from sandblasting.
8. Install Denso 7125 (<40F) or Denso 7200 (>40F) to blasted area with a 2 coat application or other approved company applied 2 part epoxy.
9. Jeep pipe prior to installation.
10. When installing pipe in paved area use a non abrasive backfill. Must pad pipe 12" around.
11. Contact corrosion tech when pipe is delivered so coating can be inspected before work begins.
12. M&R to install swagelok fittings to isolate control lines.
13. Install insulating union on service to generator and fuel line to heater. 4
14. See Trenton wrap application standards and instructions for additional details.



ALL COMPONENTS OF THIS DRAWING ARE DESIGNED PER COMPANY GAS STANDARDS. ANY CHANGES MUST BE APPROVED BY THE DESIGN ENGINEER

LINETYPE LEGEND - JOB/WORK ORDER STYLE			
—	GAS EXISTING		
—	GAS ABANDON		
—	GAS INSTALL		
—	PRE-FABRICATED UNIT		
—	BUILDING		



SCALE: 3/16" = 1'-0"

PROPOSED

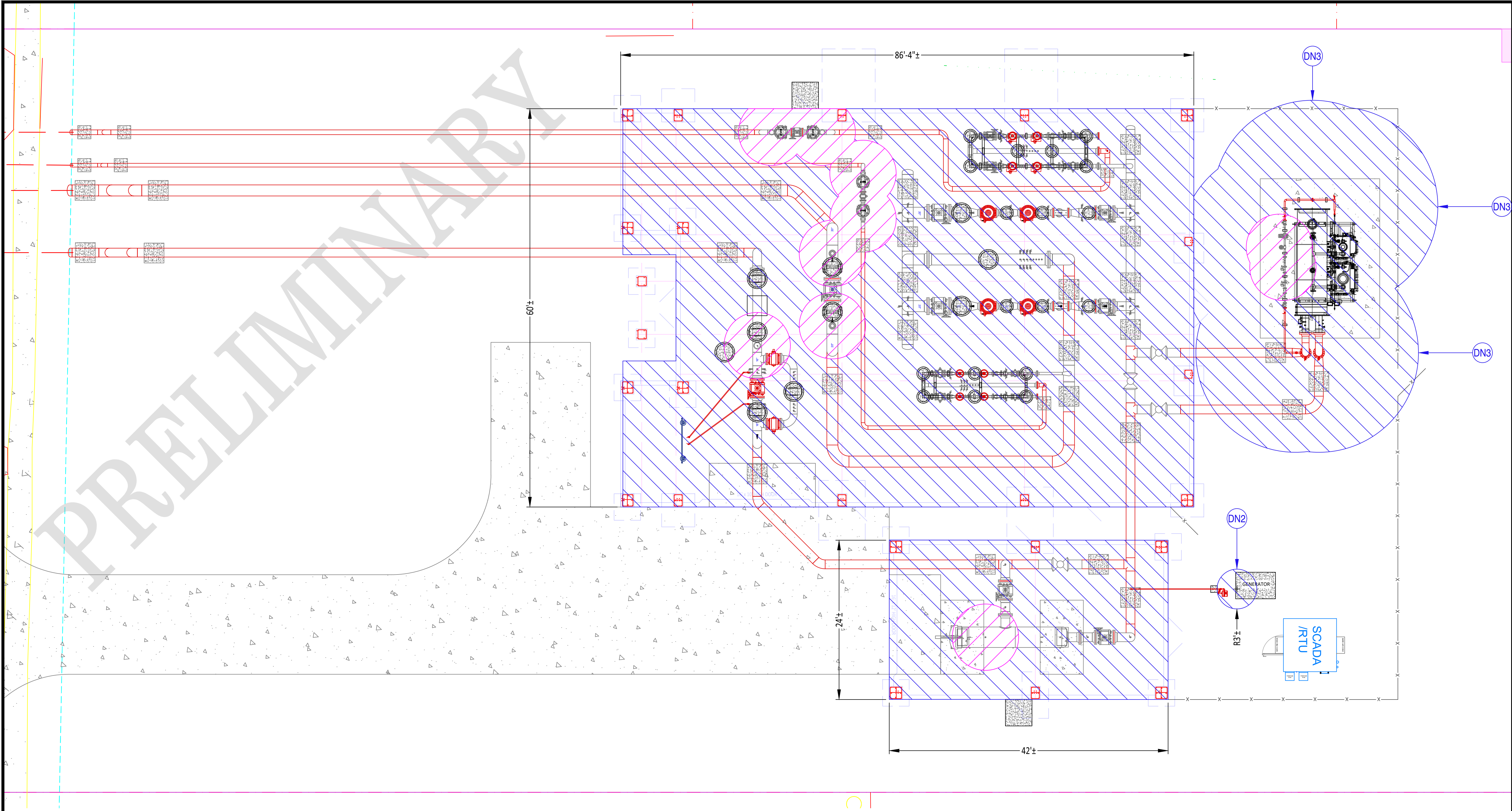
REVISIONS			
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1	---	---	---
0	9/29/23	PRELIMINARY	
REV. #	DATE	DESCRIPTION	

DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
NAME		DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

DRAWING TITLE:
CORROSION LAYOUT

DRAWING NO:
25



CAUTION NOTES:

- CONTRACTOR SHALL PLACE THE NECESSARY SIGNAGE AROUND THE SITE FENCE FOR ANY ELECTRICAL CLASSIFICATION ZONES OUTSIDE OF THE FENCE LINE
- CONTRACTOR SHALL PLACE THE NECESSARY ONE-CALL (CALL BEFORE YOU DIG) TO LOCATE UNDERGROUND FOREIGN UTILITIES PRIOR TO EXCAVATION.
- CONTRACTOR AND NISOURCE REPRESENTATIVES SHALL IDENTIFY AND MARK LOCATIONS OF ALL UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA PRIOR TO EXCAVATION.
- AN AIR QUALITY TEST SHOULD BE TAKEN AT THE START OF ANY CAD WELDING OR ACTIVITIES THAT WILL RESULT IN OPEN SPARKS OR FLAMES. THESE TESTS SHOULD BE TAKEN ONCE DAILY WHILE POTENTIALLY SHOULD BE TAKEN ONCE DAILY WHILE POTENTIALLY
- REGULATION AND BLOWDOWNS TO BE VENTED TO ATMOSPHERE, OUTSIDE OF THE BUILDING, DURING NORMAL OPERATION

LEGEND:

CLASS I, DIVISION I AREA (5' RADIUS)

CLASS I, DIVISION II AREA (15' RADIUS)

NON-CLASSIFIED AREA

****NOTE - ALL REGULATOR VENT LINES SHOULD BE MADE TO VENT CONTROL GAS OUTSIDE, ABOVE THE ROOF LINE.****

DESIGN NOTES:

- ELECTRICAL CLASSIFICATION IS SHOWN FOR PROPOSED NEW FACILITIES AND IS BASED ON AGA XL1001
- SERVICE SETTING IS BASED ON 3' MINIMUM CLEARANCE FROM GS 3020 SERIES
- SIGNS SHALL BE ADDED AROUND STATION, ESPECIALLY AREAS WHERE CLD2 AREA EXTENDS PAST THE STATION FENCE

LINETYPE LEGEND - JOB/WORK ORDER STYLE

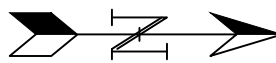
- GAS EXISTING
- GAS ABANDON
- GAS INSTALL
- PRE-FABRICATED UNIT
- BUILDING

NiSource

0

Ohio Utilities Protection Service

Call 811
before you dig



SCALE: 1/8" = 1'-0"

PROPOSED

REVISIONS

REV. #	DATE	DESCRIPTION
1	9/29/23	PRELIMINARY
0	9/29/23	PRELIMINARY

DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:

INST# 24-0136951-00

ABAN# ----

PROJECT ID# 21-78790

RIDGEVIEW STATION
COLUMBUS / FRANKLIN, OH

DRAWING TITLE:

ELECTRICAL CLASSIFICATION

DRAWING NO:

26

BILL OF MATERIAL					BILL OF MATERIAL - CORROSION					BILL OF MATERIAL - CORROSION				
STOCK NO.	ITEM	QTY.	SIZE	DESCRIPTION	STOCK NO.	ITEM	QTY.	SIZE	DESCRIPTION	STOCK NO.	ITEM	QTY.	SIZE	DESCRIPTION
SPEC. ORDER	PF1	1	16"	RMV MAIN HEADER, PREFABRICATED 16", ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	SPEC. ORDER	601	1	4"	INSULATING KIT, TYPE E, ANSI 300, C10 GASKET W/ VITON SEAL, ASME B16.21, ONE FULLE LENGTH G10, INSULATING SLEEVE, TWO INSULATING WASHERS, & (2) ASTM F436 HARDER WASHERS P/ BOLTS, ASME B16.5, GPT, FLEXITALLIC, OR EQUIVALENT INSULATING KIT	SPEC. ORDER	635	13	16"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 300, SSFP-16-300, (2 CART./FLG)
SPEC. ORDER	PF2	1	12"	RMV BYPASS, PREFABRICATED 12", ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	SPEC. ORDER	602	4	6"	INSULATING KIT, TYPE E, ANSI 300, C10 GASKET W/ VITON SEAL, ASME B16.21, ONE FULLE LENGTH G10, INSULATING SLEEVE, TWO INSULATING WASHERS, & (2) ASTM F436 HARDER WASHERS P/ BOLTS, ASME B16.5, GPT, FLEXITALLIC, OR EQUIVALENT INSULATING KIT	SPEC. ORDER	636	8	20"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 300, SSFP-20-300, (2-3/4 CART./FLG)
SPEC. ORDER	PF3	1	16"	RMV OUTLET RISER, PREFABRICATED 16", ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	SPEC. ORDER	603	3	8"	INSULATING KIT, TYPE E, ANSI 300, C10 GASKET W/ VITON SEAL, ASME B16.21, ONE FULLE LENGTH G10, INSULATING SLEEVE, TWO INSULATING WASHERS, & (2) ASTM F436 HARDER WASHERS P/ BOLTS, ASME B16.5, GPT, FLEXITALLIC, OR EQUIVALENT INSULATING KIT	SPEC. ORDER	637	1	120 LB DRUM	GREASE, ADVANCED KLEERGEL, CORROSION INHIBITING
SPEC. ORDER	PF4	2	16"	FILTER VALVE, PREFABRICATED 16", ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	SPEC. ORDER	604	1	12"	INSULATING KIT, TYPE E, ANSI 300, C10 GASKET W/ VITON SEAL, ASME B16.21, ONE FULLE LENGTH G10, INSULATING SLEEVE, TWO INSULATING WASHERS, & (2) ASTM F436 HARDER WASHERS P/ BOLTS, ASME B16.5, GPT, FLEXITALLIC, OR EQUIVALENT INSULATING KIT	BILL OF MATERIAL - PRESSURE TESTING MATERIALS				
SPEC. ORDER	PF5	1	16"	FILTER/SEPARATOR, KINGTOOL, 16" A300 FLANGES, 36" BARREL, 12" FLANGED SUMP, 285# W.P., SEE QUOTE 0524-204-R1	SPEC. ORDER	605	2	12"	INSULATING KIT, TYPE E, ANSI 600, C10 GASKET W/ VITON SEAL, ASME B16.21, ONE FULLE LENGTH G10, INSULATING SLEEVE, TWO INSULATING WASHERS, & (2) ASTM F436 HARDER WASHERS P/ BOLTS, ASME B16.5, GPT, FLEXITALLIC, OR EQUIVALENT INSULATING KIT					
SPEC. ORDER	PF6	1	12"	1.155 MBTU HEATER, CWT, 12" A600 FLANGES, 12" X-52 COIL, SEE QUOTE DLH-1155-7A2L-X52-LAC150	SPEC. ORDER	606	6	16"	INSULATING KIT, TYPE E, ANSI 300, C10 GASKET W/ VITON SEAL, ASME B16.21, ONE FULLE LENGTH G10, INSULATING SLEEVE, TWO INSULATING WASHERS, & (2) ASTM F436 HARDER WASHERS P/ BOLTS, ASME B16.5, GPT, FLEXITALLIC, OR EQUIVALENT INSULATING KIT	STOCK NO.	ITEM	QTY.	SIZE	DESCRIPTION
SPEC. ORDER	PF7	1	16"	232 INLET HEADER, PREFABRICATED 16", ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	SPEC. ORDER	607	6	20"	INSULATING KIT, TYPE E, ANSI 300, C10 GASKET W/ VITON SEAL, ASME B16.21, ONE FULLE LENGTH G10, INSULATING SLEEVE, TWO INSULATING WASHERS, & (2) ASTM F436 HARDER WASHERS P/ BOLTS, ASME B16.5, GPT, FLEXITALLIC, OR EQUIVALENT INSULATING KIT	19-14-071	T1	1	2"	FLANGE, BLIND, R.F., ANSI 150, C.S., GB, ASME B16.5, SA105, DP=285 PSIG, 4 BOLTS PER FLANGE
SPEC. ORDER	PF8	2	16"x10"x20"	232 TOPWORKS, PREFABRICATED, ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	42-31-217	608	6	17 LB	ANODE, MAGNESIUM, HI POTENTIAL, W/ 10' OF #12 RED LEAD WIRE	SPEC. ORDER	T2	8	5/8" x 3-3/4"	STUD BOLT, A-193, GRADE B7, THREADED ENTIRE LENGTH, W 2-2H NUTS, A194, BOLTS (FTF), NUTS, AND WASHERS (IF REQ'D) TO BE PTFE COATED
SPEC. ORDER	PF9	1	20"	232 OUTLET HEADER, PREFABRICATED, ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	42-09-925	609	20	---	PROFILING PETROLATUM MASTIC, DENSO, 4 LB BLK	40-73-0321	T3	3	2"	GASKET, RING, ANSI 150, ASME B16.21, 1/16" THICK, NON-GLASS/ ASBESTOS, GARLOCK, BLUEGARD STYLE 3000, 1,000 PSIG MAX
SPEC. ORDER	PF10	1	20"	232 CONTROL SPOOL, PREFABRICATED, ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	42-11-303	610	16	4" x 100'	UTILITY TAPE, ALL-PURPOSE, DENSO	19-14-271	T4	1	2"	FLANGE, BLIND, R.F., ANSI 300, C.S., GB, ASME B16.5, SA105, DP= 740 PSIG, 8 BOLTS PER FLANGE
SPEC. ORDER	PF11	1	6"x4"x8"	100 MP REGULATION, PREFABRICATED, ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	42-11-106	611	30	6" x 25'	PRIMER-INTEGRATED COLOR PETROLATUM TAPE, GRAY, DENSO, 48 MILLS	SPEC. ORDER	T5	16	5/8" x 4"	STUD BOLT, A-193, GRADE B7, THREADED ENTIRE LENGTH, W 2-2H NUTS, A194, BOLTS (FTF), NUTS, AND WASHERS (IF REQ'D) TO BE PTFE COATED
SPEC. ORDER	PF12	1	4"	IP INLET, PREFABRICATED, ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	42-09-971	612	30		EPOXY, DENSO 7125 PROTOL, BURSH GRADE, TWO PART EPOXY, 1L KIT	SPEC. ORDER	T6	3	2"	GASKET, SPIRAL WOUND, ANSI 300, ASME B16.20, 1/8" THICK, FLEXITALLIC, STYLE CGI, OUTER RING C.S., INNER RING 316L, 316L/FLEXICARB WINDING
SPEC. ORDER	PF13	1	4"x3"x6"	IP REGULATION, PREFABRICATED, ANSI 300, DP = 232# SEE BANGS FABRICATION DRAWING FOR DETAILS	42-09-972	613	30		EPOXY, DENSO 7200 PROTOL, BURSH GRADE, TWO PART EPOXY, 1L KIT	19-14-279	T7	1	4"	FLANGE, BLIND, R.F., ANSI 300, C.S., GB, ASME B16.5, SA105, DP= 740 PSIG, 8 BOLTS PER FLANGE
SPEC. ORDER	PF14	1	20"	232 OUTLET VALVE, PREFABRICATED, ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	42-32-0611	614	6	3"	TEST STATION, GEROME, #107, FOR 3" CONDUIT W/ COL. GAS EMBLEM 5 TERM	SPEC. ORDER	T8	16	3/4" x 5"	STUD BOLT, A-193, GRADE B7, THREADED ENTIRE LENGTH, W 2-2H NUTS, A194, BOLTS (FTF), NUTS, AND WASHERS (IF REQ'D) TO BE PTFE COATED
SPEC. ORDER	PF15	1	8"	100 OUTLET VALVE, PREFABRICATED, ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	74-47-506	615	1	#12	WIRE, BLACK, SOLID, COPPER, TW WIRE, 500' SPOOL	SPEC. ORDER	T9	3	4"	GASKET, SPIRAL WOUND, ANSI 300, ASME B16.20, 1/8" THICK, FLEXITALLIC, STYLE CGI, OUTER RING C.S., INNER RING 316L, 316L/FLEXICARB WINDING
SPEC. ORDER	PF16	1	6"	IP OUTLET VALVE, PREFABRICATED, ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	42-09-105	616	12		DENSO PASTE S105 5.5#TUB, WET APPLCIATION PASTE	19-14-283	T10	4	6"	FLANGE, BLIND, R.F., ANSI 300, C.S., GB, ASME B16.5, SA105, DP= 740 PSIG, 12 BOLTS PER FLANGE
SPEC. ORDER	PF17	1	2"	HEATER FUEL TRAIN, PREFABRICATED, ANSI 300, DP = 275# SEE BANGS FABRICATION DRAWING FOR DETAILS	SPEC. ORDER	617	2	4"	OVP, DAIRYLAND, 2/2-3.7-100 MOUNTING BRACKET - 4" ANSI 300 FLANGE	SPEC. ORDER	T11	60	3/4" x 5-1/2"	STUD BOLT, A-193, GRADE B7, THREADED ENTIRE LENGTH, W 2-2H NUTS, A194, BOLTS (FTF), NUTS, AND WASHERS (IF REQ'D) TO BE PTFE COATED
SPEC. ORDER	PF18	1	1-1/4"	METER SETTING, PREFABRICATED, PLMB-0002A DRAWING, SEE APPENDIX A FOR ADDITIONAL DETAILS	SPEC. ORDER	618	5	6"	OVP, DAIRYLAND, 2/2-3.7-100 MOUNTING BRACKET - 6" ANSI 300 FLANGE	SPEC. ORDER	T12	6	6"	GASKET, SPIRAL WOUND, ANSI 300, ASME B16.20, 1/8" THICK, FLEXITALLIC, STYLE CGI, OUTER RING C.S., INNER RING 316L, 316L/FLEXICARB WINDING
SPEC. ORDER	PF19	1	16"	METER, USM, FLEXIM CLAMP-ON, SEE QUOTE FOR ADDITIONAL DETAILS.	SPEC. ORDER	619	3	8"	OVP, DAIRYLAND, 2/2-3.7-100 MOUNTING BRACKET - 8" ANSI 300 FLANGE	19-14-287	T13	3	8"	FLANGE, BLIND, R.F., ANSI 300, C.S., GB, ASME B16.5, SA105, DP= 740 PSIG, 12 BOLTS PER FLANGE
SPEC. ORDER	EZ1	5	16" PIPE	SUPPORT, EZ LINE, 16" PIPE, MODEL 1218, FIG. F, 1200Ø CRADLE, W/ 4 SLOTTED HOLES, W/ 2 U-BOLTS, W/ I-CLIP LINER, 1218-F, D = 44"	SPEC. ORDER	620	3	12"	OVP, DAIRYLAND, 2/2-3.7-100 MOUNTING BRACKET - 12" ANSI 300 FLANGE	SPEC. ORDER	T14	48	7/8" x 6-1/4"	STUD BOLT, A-193, GRADE B7, THREADED ENTIRE LENGTH, W 2-2H NUTS, A194, BOLTS (FTF), NUTS, AND WASHERS (IF REQ'D) TO BE PTFE COATED
SPEC. ORDER	EZ2	3	12" PIPE	SUPPORT, EZ LINE, 12" PIPE, MODEL 1218, FIG. F, 1200Ø CRADLE, W/ 4 SLOTTED HOLES, W/ 2 U-BOLTS, W/ I-CLIP LINER, 1218-F, D = 44"	SPEC. ORDER	621	6	16"	OVP, DAIRYLAND, 2/2-3.7-100 MOUNTING BRACKET - 16" ANSI 300 FLANGE	SPEC. ORDER	T15	5	8"	GASKET, SPIRAL WOUND, ANSI 300, ASME B16.20, 1/8" THICK, FLEXITALLIC, STYLE CGI, OUTER RING C.S., INNER RING 316L, 316L/FLEXICARB WINDING
SPEC. ORDER	EZ3	8	2" PIPE	SUPPORT, EZ LINE, 2" PIPE, MODEL 204, FIG. F, 1200Ø CRADLE, W/ 4 SLOTTED HOLES, W/ 2 U-BOLTS, W/ I-CLIP LINER, 204-F, D = 38"	SPEC. ORDER	622	4	20"	OVP, DAIRYLAND, 2/2-3.7-100 MOUNTING BRACKET - 20" ANSI 300 FLANGE	19-14-531	T16	2	12"	FLANGE, BLIND, R.F., ANSI 600, C.S., GB, ASME B16.5, SA105, DP= 1,480 PSIG, 20 BOLTS PER FLANGE
SPEC. ORDER	EZ4	2	10" PIPE	SUPPORT, EZ LINE, 10" PIPE, MODEL 510, FIG. F, 1200Ø CRADLE, W/ 4 SLOTTED HOLES, W/ 2 U-BOLTS, W/ I-CLIP LINER, 510-F, D = 44"	SPEC. ORDER	623	3 CASES	---	TRENTON WAX TAPE, PRIMER BROWN, SEE APPENDIX C FOR DETAILS	SPEC. ORDER	T17	60	1-1/4" x 9-1/4"	STUD BOLT, A-193, GRADE B7, THREADED ENTIRE LENGTH, W 2-2H NUTS, A194, BOLTS (FTF), NUTS, AND WASHERS (IF REQ'D) TO BE PTFE COATED
SPEC. ORDER	EZ5	5	20" PIPE	SUPPORT, EZ LINE, 20" PIPE, MODEL 2024HD, FIG. F, 1200Ø CRADLE W/ 4 SLOTTED HOLES, W/2 U-BOLTS, W/ I-CLIP LINER, 2024-F, D=44"	SPEC. ORDER	624	3 CASES	---	TRENTON WAX TAPE # 2 BROWN, SEE APPENDIX C FOR DETAILS	SPEC. ORDER	T18	4	12"	GASKET, SPIRAL WOUND, ANSI 600, ASME B16.20, 1/8" THICK, FLEXITALLIC, STYLE CGI, OUTER RING C.S., INNER RING 316L, 316L/FLEXICARB WINDING
SPEC. ORDER	EZ6	2	8" PIPE	SUPPORT, EZ LINE, 8" PIPE, MODEL 510, FIG. F, 1200Ø CRADLE, W/ 4 SLOTTED HOLES, W/ 2 U-BOLTS, W/ I-CLIP LINER, 510-F, D = 38"	SPEC. ORDER	625	12 ROLLS	---	TRENTON MCO 110 OUTER WRAP, SEE APPENDIX C FOR DETAILS	19-14-295	T19	4	16"	FLANGE, BLIND, R.F., ANSI 300, C.S., GB, ASME B16.5, SA105, DP= 740 PSIG, 16 BOLTS PER FLANGE
SPEC. ORDER	EZ7	2	6" PIPE	SUPPORT, EZ LINE, 6" PIPE, MODEL 510, FIG. F, 1200Ø CRADLE, W/ 4 SLOTTED HOLES, W/ 2 U-BOLTS, W/ I-CLIP LINER, 510-F, D = 38"	SPEC. ORDER	626	3	2"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 150, SSFP-02-150, (1/4 CART./FLG)	SPEC. ORDER	T20	80	1-1/4" x 8-1/4"	STUD BOLT, A-193, GRADE B7, THREADED ENTIRE LENGTH, W 2-2H NUTS, A194, BOLTS (FTF), NUTS, AND WASHERS (IF REQ'D) TO BE PTFE COATED
					SPEC. ORDER	627	8	2"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 300, SSFP-02-300, (1/4 CART./FLG)	SPEC. ORDER	T21	6	16"	GASKET, SPIRAL WOUND, ANSI 300, ASME B16.20, 1/8" THICK, FLEXITALLIC, STYLE CGI, OUTER RING C.S., INNER RING 316L, 316L/FLEXICARB WINDING
					SPEC. ORDER	628	8	3"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 150, SSFP-03-150, (1/2 CART./FLG)	19-14-299	T22	3	20"	FLANGE, BLIND, R.F., ANSI 300, C.S., GB, ASME B16.5, SA105, DP= 740 PSIG, 24 BOLTS PER FLANGE
					SPEC. ORDER	629	22	4"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 300, SSFP-04-300, (1/2 CART./FLG)	SPEC. ORDER	T23	96	1-1/4" x 9"	STUD BOLT, A-193, GRADE B7, THREADED ENTIRE LENGTH, W 2-2H NUTS, A194, BOLTS (FTF), NUTS, AND WASHERS (IF REQ'D) TO BE PTFE COATED
					SPEC. ORDER	630	19	6"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 300, SSFP-06-300, (3/4 CART./FLG)	SPEC. ORDER	T24	5	20"	GASKET, SPIRAL WOUND, ANSI 300, ASME B16.20, 1/8" THICK, FLEXITALLIC, STYLE CGI, OUTER RING C.S., INNER RING 316L, 316L/FLEXICARB WINDING
					SPEC. ORDER	631	8	8"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 300, SSFP-08-300, (1 CART./FLG)	26-87-027	T25	1	1"	UNION, THRD, FNPT, BLK CS, SA105, 3000#, MSS SP 83
					SPEC. ORDER	632	12	10"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 300, SSFP-10-300, (1 CART./FLG)	26-87-043	T26	1	1-1/4"	UNION, THRD, FNPT, BLK CS, SA105, 3000#, MSS SP 83
					SPEC. ORDER	633	6	12"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 300, SSFP-12-300, (1-1/2 CART./FLG)	SPEC. ORDER	T27	2	1-1/4"	CAP, THREADED, 3000#, C.S., ASTM A105, GRADE B, THD, B16.11
					SPEC. ORDER	634	2	12"	FLANGE PROTECTOR, STAINLESS STEEL, ADVANCE PRODUCTS, SERIES 7100, 316L, ANSI 600, SSFP-12-600, (4 CART./FLG)	26-58-430	T28	1	1"	PLUG, HEX HEAD, 6,000#, CS, ASTM A105, GR-B, THD, B16.11



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Ohio Utilities Protection Service

Call 811

before you dig

PROPOSED

REVISIONS			
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1	---	---	---
0	3/6/24	PRELIMINARY	
REV. #	DATE	DESCRIPTION	

DESIGNED BY	CRDM	09/11/24	330-596-0111
DRAWN BY	CRDM	09/11/24	330-596-0111
CHECKED BY	CAMPOS	XX/XX/XX	---
AS-BUILT BY		NAME	DATE PHONE #

SITE NAME:

INST# 24-0136951-00

ABAN# ----

PROJECT ID# 21-78790

RIDGEVIEW STATION

COLUMBUS / FRANKLIN, OH

DRAWING TITLE:

BOM 2

DRAWING NO:

29

L-05xxx Columbia Gas - Ridgeview Station.AGI

Mounting Height: various

Reflectance: Outdoors

Date:6/11/2025

Page 1 of 10

Workplane: n/a

Point Spacing: 5'



Luminaire Schedule

Symbol	Qty	Label	Description	LLF	LLD	LDD	Lumens	Mnt Ht
	9	LPD3C4D2P	2' Linear	0.950	0.950	1.000	3691	9
	1	LPD3C4M2P	4' Linear	0.950	0.950	1.000	7135	13

Calculation Summary

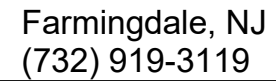
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Back Entrance	Illuminance	Fc	1.49	6.9	0.0	N.A.	N.A.
Back of Garage	Illuminance	Fc	2.99	8.1	0.3	9.97	27.00
Entrance	Illuminance	Fc	2.32	7.5	0.1	23.20	75.00
Garage Entrance	Illuminance	Fc	2.69	11.0	0.1	26.90	110.00
Garage Side	Illuminance	Fc	1.96	8.0	0.1	19.60	80.00
North Side	Illuminance	Fc	1.03	7.7	0.0	N.A.	N.A.
Between House and Garage	Illuminance	Fc	5.41	11.0	1.3	4.16	8.46

Lumen and wattage values are typical, with a tolerance of +/- 10%. All designs and information provided are based upon Dialight's interpretation of information provided by the client or accepted by the client at the time. It remains the responsibility of the client to determine that the design is fit for purpose and that the parameters of the design are maintained to ensure continued compliance. This includes, but is not limited to: light fixture positions, quantities and mounting heights, room conditions (such as reflectance's and equipment locations if considered at the time), use and supplementary task lighting if used. Dialight cannot accept responsibility in respect of the design provided if these design parameters are not maintained and shall in no way be liable to the client or to any third parties for any direct, indirect or consequential damage, loss or expense arising from any defect in the design, or arising from the actual design provided, save where such damage, loss or expense arises as a result of Dialight's negligence.

This design and the information provided is done so in confidence, for the sole purpose of the recipient and may not be disclosed to any non-related third party or used for any other purpose without the express written permission of Dialight.

Page 2 of 10

Point Spacing: 5'



L-05xxx Columbia Gas - Ridgeview Station.AGI

Mounting Height: various

Reflectance: Outdoors

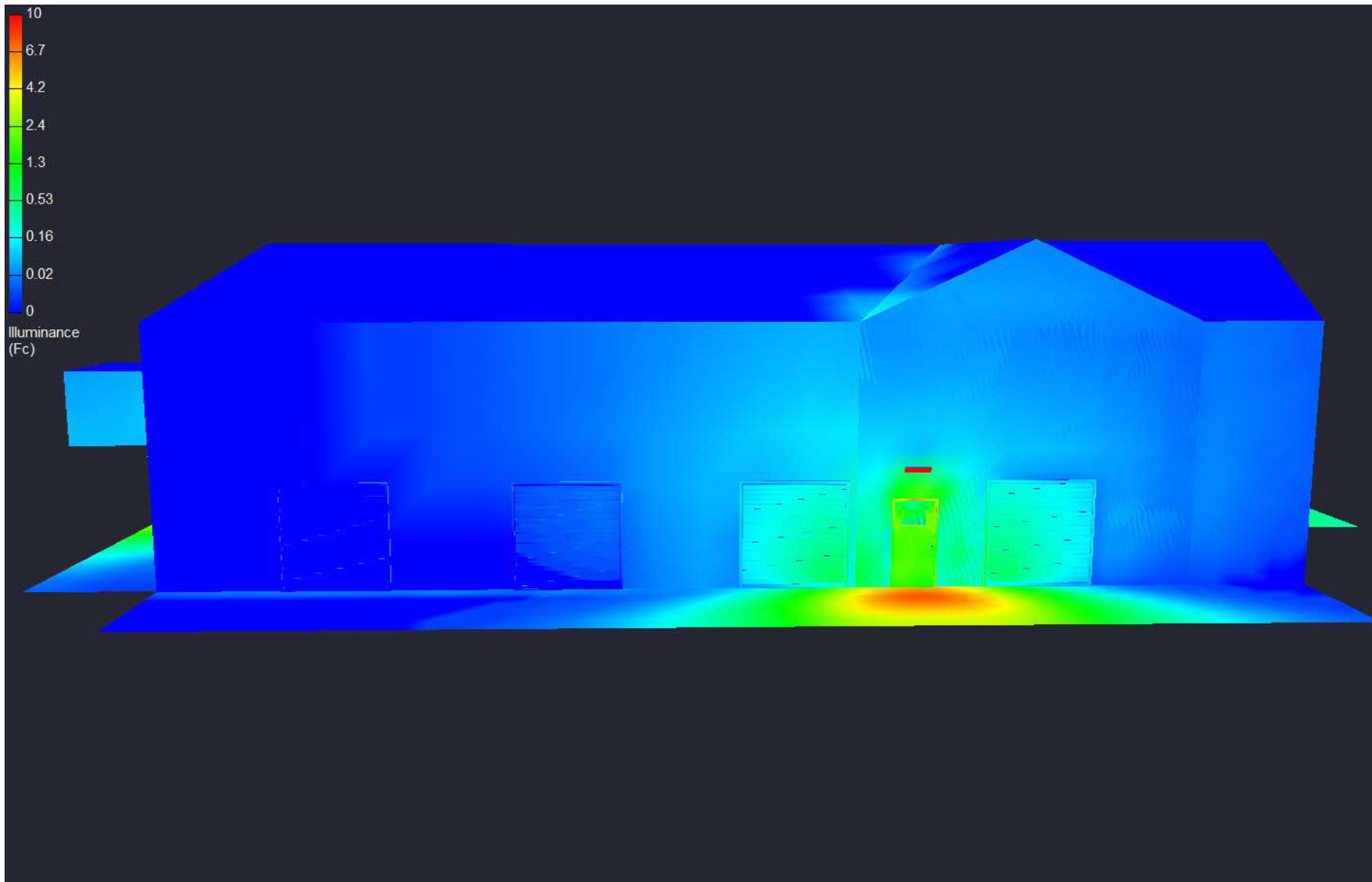
Date:6/11/2025

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Workplane: n/a

Point Spacing: 5'

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Farmingdale, NJ
(732) 919-3119



L-05xxx Columbia Gas - Ridgeview Station.AGI

Mounting Height: various

Reflectance: Outdoors

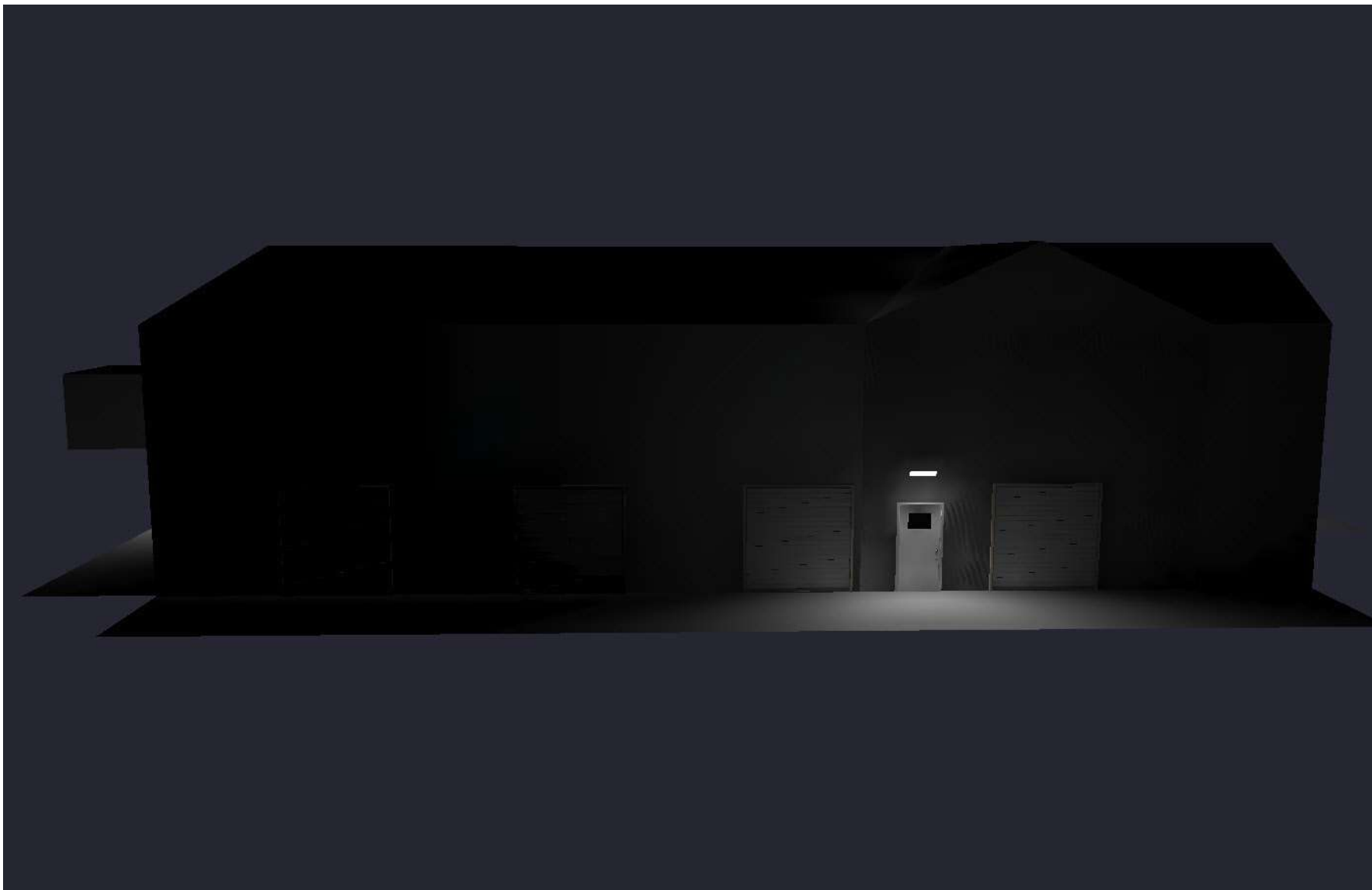
Date:6/11/2025

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Workplane: n/a

Point Spacing: 5'

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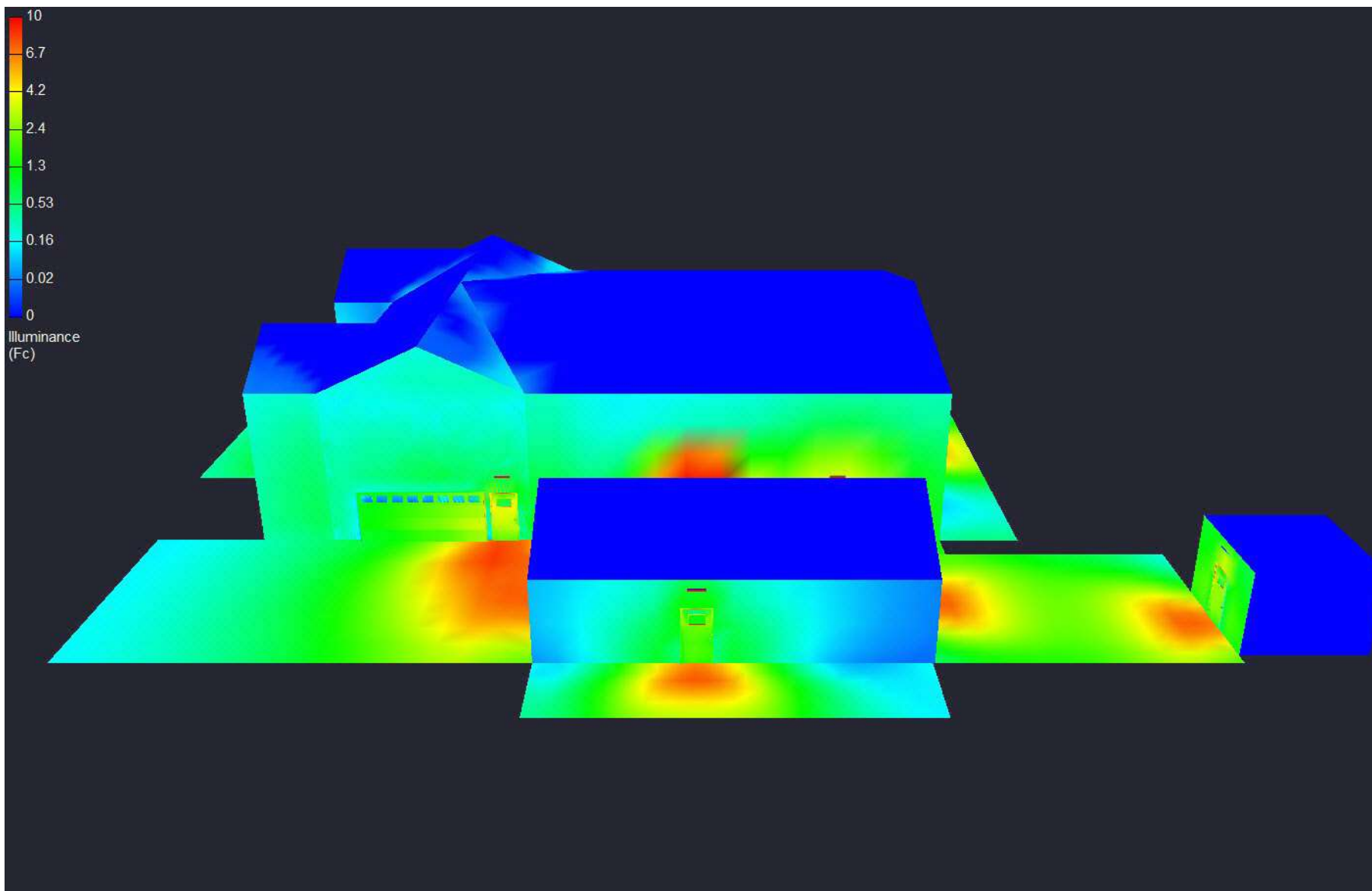
Date:6/11/2025

Page 5 of 10

Workplane: n/a

Point Spacing: 5'

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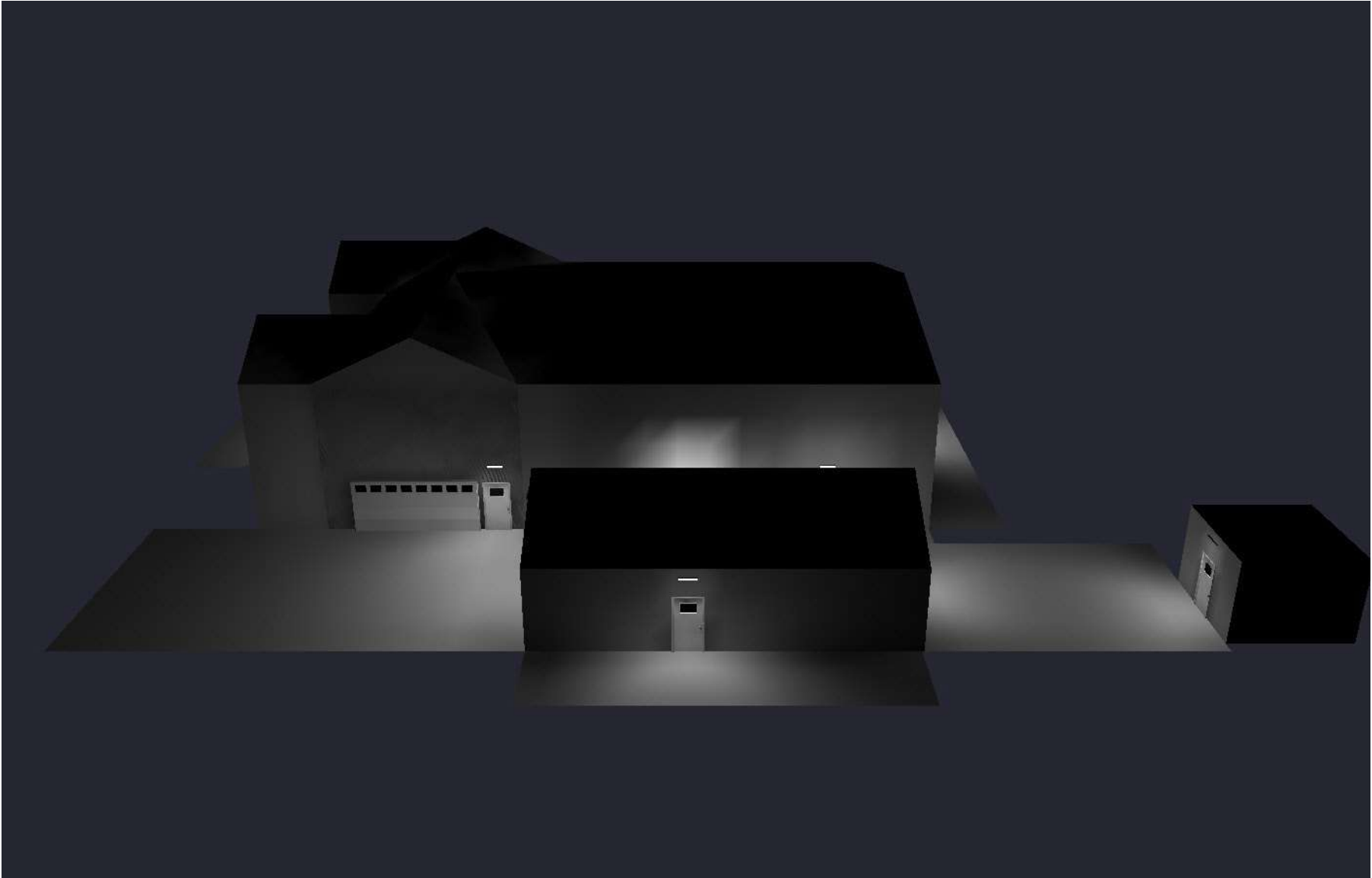
Date:6/11/2025

Page 6 of 10

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Point Spacing: 5'

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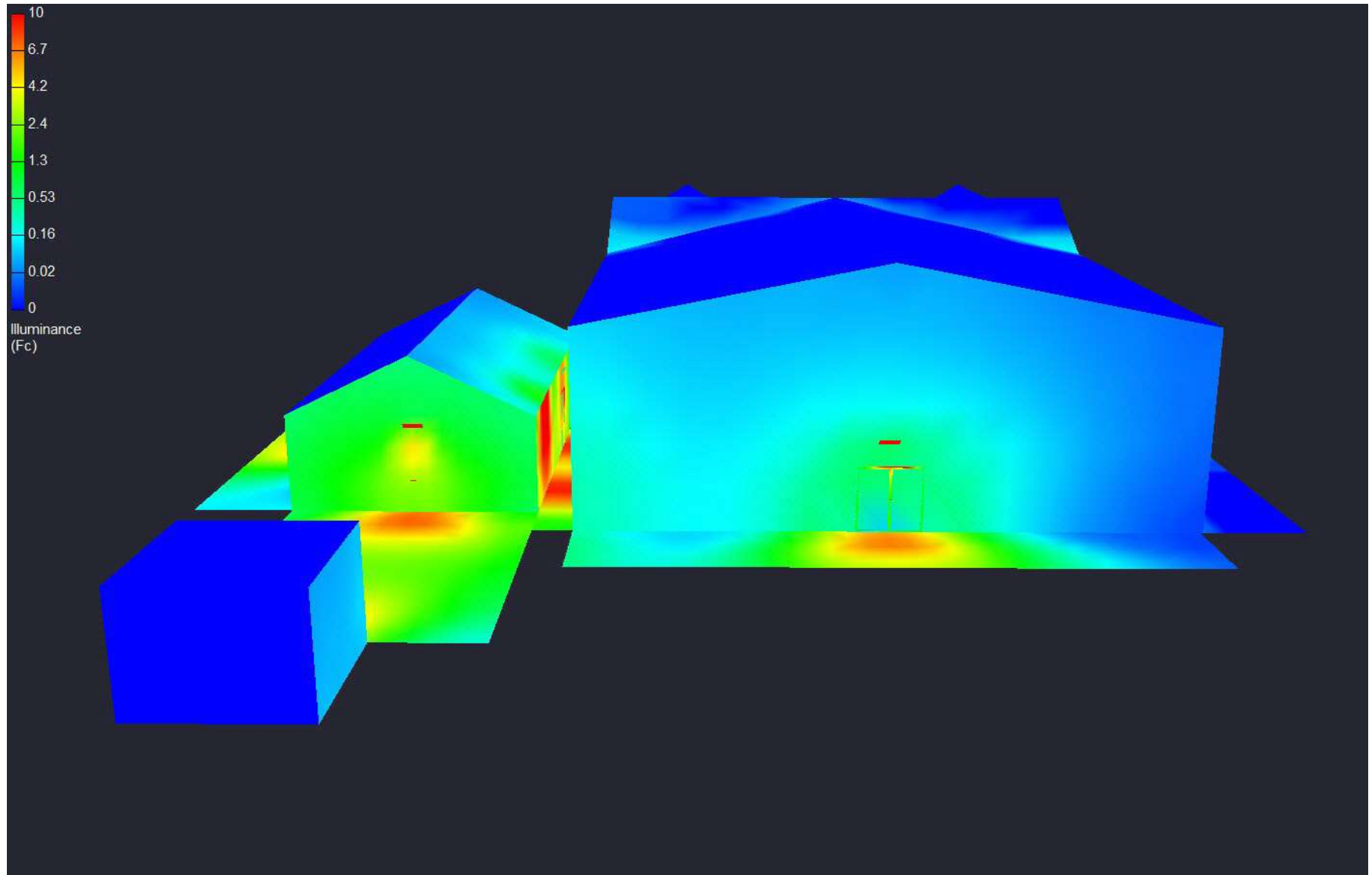
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Point Spacing: 5'

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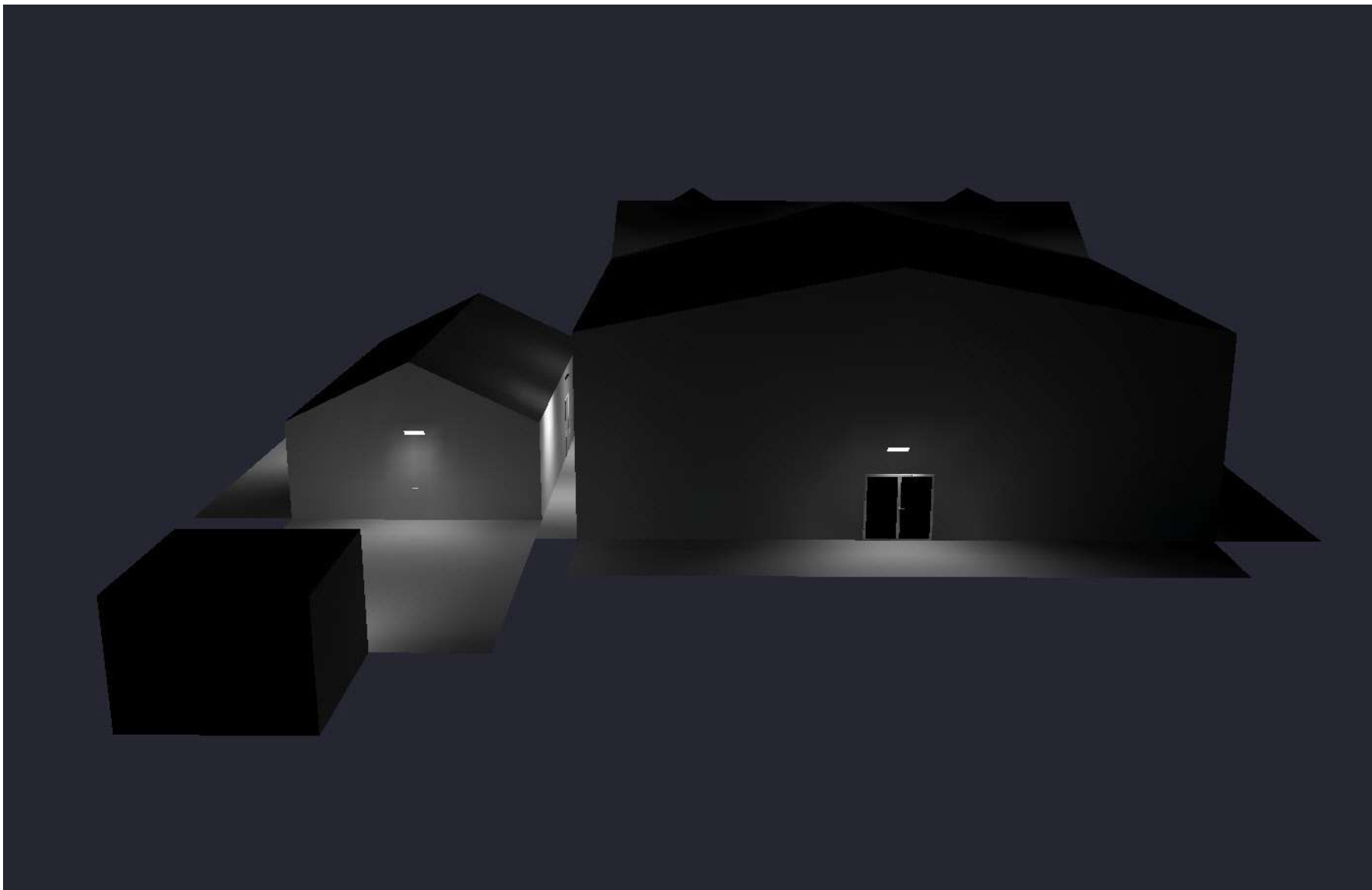
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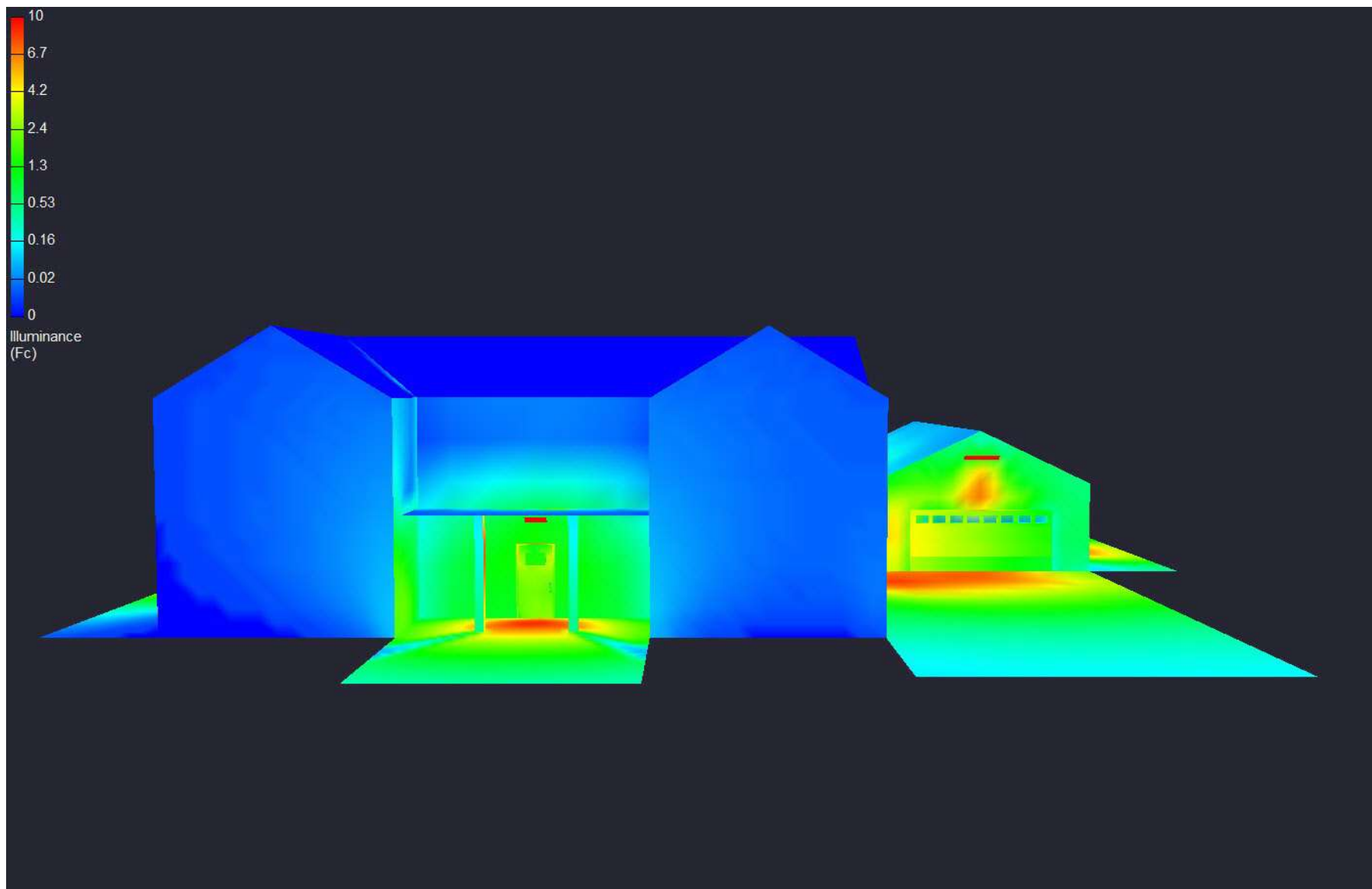
Date:6/11/2025

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Page 10 of 10

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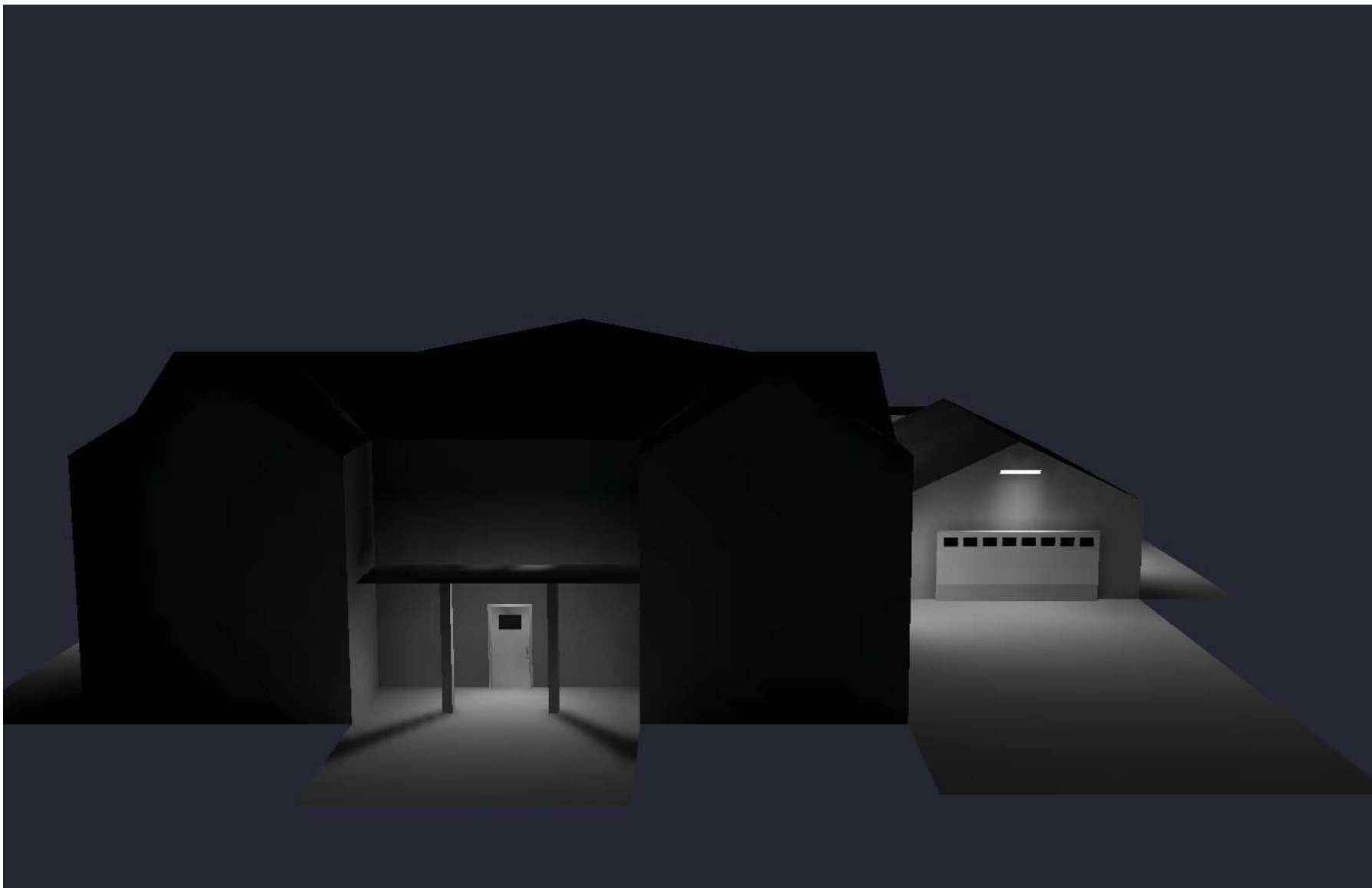
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CIVIL / GRADING NOTES

GENERAL

1. CAMPOS EPC ISSUES THESE DRAWINGS FOR CONSTRUCTION UNDER THE ASSUMPTION THAT ALL REQUIRED FEDERAL, STATE, AND LOCAL PERMITS HAVE BEEN ACQUIRED BY THE OWNER/CONTRACTOR PRIOR ANY CONSTRUCTION ACTIVITIES UNLESS EXPLICITLY APPROVED OTHERWISE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SITE SAFETY OF HIS OWN PERSONNEL, ALL VISITORS TO THE SITE AND THE GENERAL PUBLIC.
3. THE CONTRACTOR SHALL NOT CHANGE OR DEViate FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE OWNER AND ENGINEER OF RECORD.
4. CONTRACTOR SHALL MAINTAIN A SET OF AS-BUILT DRAWINGS WITH ALL CHANGES IDENTIFIED TO BE SUBMITTED TO THE ENGINEER OR RECORD AT PROJECT COMPLETION.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CALL 811 OR APPLICABLE UTILITY MARKING SERVICE PRIOR TO CONSTRUCTION AS REQUIRED BY LAW TO ENSURE SAFE DIGGING CONDITIONS.
6. UTILITY LOCATIONS SHOWN ON PLANS SHOULD BE FIELD VERIFIED AND MARKED PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE NOTED TO THE ENGINEER OF RECORD.
7. THERE SHALL BE NO EARTH DISTURBING ACTIVITY OUTSIDE THE LIMITS DESIGNATED ON THESE PLANS.
8. FIELD VERIFY PROPERTY BOUNDARIES, LEASE BOUNDARIES, EASEMENT LIMITS, AND ALL OTHER DIMENSIONS PRIOR TO STARTING CONSTRUCTION. BRING ANY DISCREPANCIES TO THE INSPECTOR'S ATTENTION AND RECONCILE WITH THE ENGINEER PRIOR TO CONSTRUCTION. ALL DIMENSIONS ARE DECIMAL-FEET AND OR FEET-INCHES AND ALL ELEVATIONS ARE IN FEET UNLESS NOTED OTHERWISE.
9. THE CONTRACTOR SHALL REPAIR ALL EXISTING DISTURBED AREAS, FENCES, WALLS, SHEDS OR OTHER STRUCTURES DAMAGED DURING CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER CONDITIONS.
10. THE FINISHED GRADE SURFACE AND DRAINAGE PATTERN SHALL ROUGHLY MAINTAIN THE EXISTING NATURAL GRADE EXCEPT WHERE INDICATED WITHIN THESE PLANS.

SUBSURFACE INVESTIGATION

11. SITE SPECIFIC GEOTECHNICAL INVESTIGATION WAS NOT PERFORMED FOR THIS SITE. THE OWNER WILL PROVIDE THE CONTRACTOR WITH A COPY OF THE GEOTECHNICAL ENGINEERING REPORT WHICH INCLUDES BORING AND SOILS DATA. THE OWNER DOES NOT REPRESENT THAT THE BORING LOGS AND OTHER TEST DATA INDICATE THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED THROUGHOUT THE SITES. THE BORING LOGS AND TEST DATA ONLY INDICATE THE CONDITIONS AT THE PARTICULAR LOCATIONS OF THE BORINGS OR TESTING LOCATIONS. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY INTERPRETATION AND CONCLUSIONS WHICH MAY BE MADE AS TO THE NATURE OF THE MATERIALS TO BE ENCOUNTERED AND THE DIFFICULTY OF PERFORMING THE WORK.

SURVEY

12. SURVEY LOCATION DATA DEPICTED IN THIS DRAWING PACKAGE IS FOR INFORMATIONAL PURPOSES ONLY AND SHOULD BE VERIFIED PRIOR TO CONSTRUCTION. SURVEY LOCATION DATA, BENCHMARKS, AND ALL LINework (EASEMENTS, ROW, U/G) DEPICTED ON THESE PLANS PROVIDED BY PUBLICLY AVAILABLE SOURCES ONLINE OR SITE RECONNAISSANCE.

BASIS OF COORDINATES AND BEARINGS

13. THE HORIZONTAL DATUM FOR COORDINATE DATA DEPICTED IN THIS DRAWING PACKAGE IS THE OHIO, STATE PLANE SOUTH ZONE, US SURVEY FOOT, NAD83 (OH83-SF) AS DETERMINED LOCALLY BY ONLINE POSITIONING USE SYSTEM (OPUS) DERIVED FROM GEODETIC VALUES PUBLISHED BY THE NATIONAL GEODETIC SURVEY (NGS).
14. THE VERTICAL DATUM FOR COORDINATE DATA DEPICTED IN THIS DRAWING PACKAGE IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS DETERMINED LOCALLY BY ONLINE POSITIONING USE SYSTEM (OPUS) AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE NATIONAL GEODETIC SURVEY (NGS).

WEATHER

15. UNLESS APPROVED COMPENSATORY MEASURES ARE IN PLACE, NO EXCAVATION, GRADING OR OTHER WORK SHALL BE PERFORMED IN INCLEMENT WEATHER CONDITIONS WHICH PREVENT ATTAINING SATISFACTORY CONSTRUCTION AS SPECIFIED HEREIN.

ENVIRONMENTAL PROTECTION

GENERAL

16. THE CONTROL OF ENVIRONMENTAL POLLUTION WHICH COULD RESULT FROM CONSTRUCTION OPERATIONS UNDER THIS CONTRACT REQUIRES CONSIDERATION OF LAND, WATER AND AIR QUALITY AT THE SITE.
17. EROSION CONTROL PLANS ARE BY OTHERS. ALL PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY OTHER EARTH DISTURBING ACTIVITY. ALL OTHER STRUCTURAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS SOON AS THE CONSTRUCTION ACTIVITIES, AROUND WHICH THEY ARE BASED, COMMENCE AND MAINTAINED BY OTHERS UNTIL PROJECT ACCEPTANCE AND FINAL COMPLETION OCCURS.
18. THE CONTRACTOR AND SUBCONTRACTORS SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS CONCERNING ENVIRONMENTAL POLLUTION CONTROL OR ABATEMENT. THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS AND COMPLY WITH SUCH PERMITS CONCERNING ENVIRONMENTAL PROTECTION.
19. THE OWNER AND THE CONTRACTOR SHALL ESTABLISH THE CRITERIA FOR COMPLIANCE AND ADMINISTRATION OF THE ENVIRONMENTAL POLLUTION CONTROL PROGRAM PRIOR TO COMMENCEMENT OF WORK.
20. THE OWNER WILL NOTIFY THE CONTRACTOR IN WRITING OF ANY NONCOMPLIANCE WITH THIS SPECIFICATION AND THE ACTION TO BE TAKEN. THE CONTRACTOR SHALL IMMEDIATELY TAKE CORRECTIVE ACTION

PROTECTION OF LAND RESOURCES

21. LAND RESOURCES ADJACENT TO THE PROJECT BOUNDARIES SHALL BE PRESERVED IN THEIR PRESENT CONDITION OR RESTORED TO A NATURAL APPEARANCE PRIOR TO FINAL ACCEPTANCE OF PROJECT.
22. THE CONTRACTOR SHALL NOT INJURE OR DESTROY TREES OR SHRUBS ADJACENT TO THE PROJECT SITE. CONSTRUCTION ACTIVITIES SHALL BE CONFINED TO THE AREA SHOWN ON THE PLANS.
23. THE CONTRACTOR SHALL OBTAIN ALL APPROPRIATE PERMITS AND APPROVAL PRIOR TO REMOVAL OF ANY TREES REQUIRED BY THE PROPOSED WORK SHOWN IN THESE PLANS.
24. TEMPORARY ROADS, EMBANKMENTS OR EXCAVATIONS SHALL BE RESTORED TO NATURAL GRADE AND SEEDED PRIOR TO COMPLETION OF CONSTRUCTION. VEGETATION MUST BE ESTABLISHED ON ALL EXPOSED SOILS PRIOR TO FINAL ACCEPTANCE OF PROJECT.

PROTECTION OF WATER RESOURCES

25. THE CONTRACTOR SHALL NOT ADVERSELY AFFECT THE EXISTING WATER QUALITY WITHIN OR ADJACENT TO THE PROJECT SITE. NO CONSTRUCTION WASTES OR OTHER HARMFUL MATERIALS WILL BE PERMITTED TO ENTER THESE WATER RESOURCES.
26. SURFACE DRAINAGE FROM CUTS AND FILLS SHALL BE PROTECTED BY AN EFFECTIVE EROSION AND SEDIMENT CONTROL PLAN OR SHALL BE GRADED TO CONTROL EROSION WITHIN ACCEPTABLE LIMITS. THESE MEASURES SHALL BE DESIGNED AND MAINTAINED BY OTHERS AND SHALL BE MAINTAINED UNTIL PERMANENT DRAINAGE AND EROSION CONTROL FACILITIES ARE COMPLETED.

CONTROL OF AIR POLLUTANTS

27. NO FIRES SHALL BE ALLOWED TO DISPOSE OF DEBRIS.
28. THE CONTRACTOR SHALL MAINTAIN THE PROJECT SITE AND ACCESS ROADS FREE FROM DUST WHICH WOULD CAUSE A HAZARD OR NUISANCE TO OTHERS. REFER TO JURISDICTIONAL REQUIREMENTS FOR DUST CONTROL MEASURES.
29. THE CONTRACTOR SHALL OBTAIN DUST PERMIT FROM AUTHORITY HAVING JURISDICTION AND PAY ALL ASSOCIATED FEES PRIOR TO STARTING WORK.

PRODUCTS

GENERAL

30. ALL PRODUCTS/MATERIALS USED DURING THE CONSTRUCTION OF THESE PLANS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO PURCHASING, DELIVERY, AND INSTALLATION.

GEOTEXTILE

31. SEPARATION AND REINFORCEMENT GEOSYNTHETIC SHALL BE TENCATE MIRAFI RS380I OR APPROVED EQUAL, UNLESS NOTED OTHERWISE. EQUIVALENT GEOSYNTHETICS SHALL MEET STRENGTH AND FILTRATION CHARACTERISTICS OF SPECIFIED PRODUCTS. WHERE STRICTLY SEPARATION GEOSYNTHETIC IS CALLED FOR, THE CONTRACTOR MAY UTILIZE TENCATE MIRAFI 180N, UNLESS NOTED OTHERWISE. PROVIDE GEOSYNTHETIC ROLLS WITH SUITABLE WRAPPING FOR PROTECTION AGAINST MOISTURE, AND EXTENDED ULTRAVIOLET EXPOSURE PRIOR TO PLACEMENT. EACH ROLL SHALL BE LABELED TO PROVIDE PRODUCT IDENTIFICATION SUFFICIENT FOR INVENTORY AND QUALITY CONTROL PURPOSES. STORE ROLLS IN A MANNER, WHICH PROTECTS THEM FROM THE ELEMENTS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. ELEVATE GEOSYNTHETICS STORED OUTDOORS AND PROTECT WITH WATERPROOF COVER.
32. GEOSYNTHETICS SHALL BE INSTALLED AS INDICATED ON THE PLANS AND OUTLINED HEREIN. THE MATERIALS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS INCLUDING, BUT NOT LIMITED TO, SPICE LENGTHS/LAP WIDTHS, TENSIONING, AND ORIENTATION. THE GEOSYNTHETICS SHALL BE INSTALLED TO MINIMIZE CUTTING AND WASTAGE. CARE SHALL BE TAKEN TO NOT RIP THE GEOSYNTHETIC MATERIALS. TEARS SHALL BE COVERED WITH PIECES OF GEOSYNTHETIC MATERIAL WITH AT LEAST 12 INCHES OF OVERLAP OR PER MANUFACTURER'S SPECIFIED INSTRUCTIONS. THE GEOSYNTHETIC MATERIALS SHALL NOT REMAIN EXPOSED LONGER THAN 24 HOURS, OR AS OTHERWISE SPECIFIED IN THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

FILL

33. THE NATIVE SOILS ON SITE SHALL BE TESTED FOR COMPLIANCE OR DETERMINED TO BE COMPLIANT BY A COMPETENT INDIVIDUAL WITH THE GENERAL BACKFILL OR ENGINEERED FILL CRITERIA BELOW PRIOR TO USE.
34. EACH UNIQUE FILL SOURCE (ON-SITE BORROW OR IMPORT LOCATION) AND/OR IF A CHANGE IN MATERIAL TYPE OCCURS, LABORATORY TESTING INCLUDING MOISTURE CONTENT (ASTM D2216), GRAIN SIZE DISTRIBUTION (ASTM D6193), ATTERBERG LIMITS (ASTM D4318), AND MODIFIED PROCTOR (ASTM D1557) SHOULD BE PERFORMED. THE RESULTS SHOULD BE EVALUATED TO CONFIRM THE SUITABILITY OF THE FILL SOURCE PRIOR TO BEING USED ONSITE.
35. NATIVE SOILS MAY BE APPROVED FOR USE AS GENERAL FILL PROVIDED THE MATERIALS ARE FREE OF DEBRIS, SIGNIFICANT ORGANICS, OR OTHER DELETERIOUS MATERIALS AND COMPLY WITH THE SPECIFICATIONS IN THE TABLE BELOW.
36. PROJECT FILL AND BACKFILL MATERIALS SHALL MEET THE REQUIREMENTS NOTED IN THE FOLLOWING TABLE:

MATERIAL	PROJECT LOCATION FOR SPECIFIED SOIL	GRAIN SIZE		OTHER REQUIREMENTS
		SIEVE	PERCENT FINER	
GENERAL BACKFILL - (IMPORTED SOILS OR CRITERIA FOR APPROVAL OF NATIVE SOILS AS GENERAL BACKFILL)	GENERAL BACKFILL WHERE APPROVED FOR USE	3"	100	PI LESS THAN OR EQUAL TO 30; LL OF 50 OR LESS. NO ORGANICS
		NO. 4	30-100	
		NO. 200	0-30	
ENGINEERED FILL - (IMPORTED SOILS OR CRITERIA FOR APPROVAL OF NATIVE SOILS AS ENGINEERED FILL)	AS INDICATED ON PLANS	3"	100	PI LESS THAN OR EQUAL TO 15; LL OF 40 OR LESS. SAND EQUIVALENT VALUE NO LESS THAN 20. RESISTIVITY SUBMITTED FOR CORROSION REVIEW.
		NO. 4	20-65	
		N. 200	0-8	
AGGREGATE BASE COURSE - (#4 LIMESTONE)	ROADWAYS OR AREAS SUBJECT TO VEHICLE TRAFFIC	1 1/2"	100	THE LL SHALL NOT EXCEED 25 (35 IF SLAG) AND THE PI SHALL NOT EXCEED 5. THE LL SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T-89 AND THE PI IN ACCORDANCE WITH AASHTO T-90.
		1"	80-100	
		1/2"	55-80	
		NO. 4	35-60	
		NO. 200	5-10	
CRUSHED ROCK (#57) - (#57 STONE ASTM D448 PER AASHTO M43)	BARRIER BENEATH PADS - TRENCH BEDDING & BACKFILL	1-1/2"	100	RESISTIVITY SUBMITTED FOR CORROSION REVIEW
		1"	95-100	
		1/2"	25-60	
TRENCH BEDDING/SHADING - (AASHTO M-6 SAND)	UTILITY CORRIDOR BEDDING/SHADING	NO. 4	100	RESISTIVITY SUBMITTED FOR CORROSION REVIEW
		NO. 4	40-75	
		NO. 200	0-10	
WASHED STONE (#8 WASHED)	BACKFILL FOR UNDERGROUND DETENTION STORAGE VOLUME, UNDER DRAINS, AND EROSION CONTROL BMP'S	1"	100	RESISTIVITY SUBMITTED FOR CORROSION REVIEW-
		3/4"	75-95	
		1/2"	40-70	
		NO. 4	0-15	
		NO. 8	0-10	

OPERATIONS:

CLEARING AND GRUBBING

37. ALL PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY OTHER EARTH DISTURBING ACTIVITY. ALL OTHER STRUCTURAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS SOON AS THE CONSTRUCTION ACTIVITIES, AROUND WHICH THEY ARE BASED, COMMENCE.
38. ALL AREAS REQUIRING NEW CUT AND FILL OPERATIONS SHALL BE GRUBBED TO REMOVE ANY GRASS, ROOTS, ORGANIC MATERIAL, EXISTING FILL, OR OTHER DEBRIS. STRIPPED MATERIAL SHALL BE DISPOSED OF OUTSIDE THE SITE AT AN APPROPRIATE DISPOSAL FACILITY OR STOCKPILED ON SITE FOR USE DURING RESTORATION ACTIVITIES PER THE ENGINEER'S DIRECTION. MANAGEMENT AND COSTS OF MATERIAL DISPOSAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

PROOF-ROLLING

39. ALL OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SPECIFIED GEOTECHNICAL REPORT IF AVAILABLE, FOR SITUATIONS NOT SPECIFIED WITHIN THE REPORT OR IF NO REPORT IS PROVIDED, REFER TO THE FOLLOWING SPECIFICATIONS.

40. PROOF-ROLLING SHALL BE PERFORMED AT AREAS OF PROPOSED FILL PLACEMENT, PROPOSED STRUCTURE FOOTPRINTS, PROPOSED ACCESS OR SERVICE ROADS SUBJECT TO VEHICLE LOADING, AND SLAB SUBGRADES FOR THE PROJECT.
41. PRIOR TO PLACEMENT OF FILL, SUBGRADE SURFACES SHALL BE CLEANED OF DEBRIS, ORGANIC MATTER, MUD, LOOSE SOIL AND OTHER UNSUITABLE MATERIAL. AFTER THE AREAS OF THE SITE HAVE BEEN STRIPPED AND UNSUITABLE MATERIALS HAVE BEEN REMOVED, AT-GRADE AREAS, AND AREAS THAT ARE TO RECEIVE FILL SHALL BE PROOF-ROLLED WITH A LOADED DUMP TRUCK OR SIMILAR PNEUMATIC-TIRED VEHICLE WITH A MINIMUM LOADED WEIGHT OF 10 TONS. PROOF-ROLLING CONSISTS OF APPLYING REPEATED PASSES TO THE SUBGRADE WITH THIS EQUIPMENT. SUBGRADES IN AREAS OF CUT SHOULD BE SIMILARLY PROOF-ROLLED SUBSEQUENT TO EXCAVATION. THE PROOF-ROLLING OPERATION SHALL BE PERFORMED UNDER THE OBSERVATION OF THE OWNER'S DESIGNATED REPRESENTATIVE. ANY AREAS WHICH DEFLECT, RUT, OR PUMP UNDER THE PROOF-ROLLING, AND FAIL TO BE REMEDIED WITH SUCCESSIVE PASSES AS DETERMINED BY THE OWNER, SHALL BE STABILIZED OR UNDERCUT TO MORE STABLE SOILS DEPENDING ON THE SITE CONDITIONS AT THE TIME OF CONSTRUCTION. ALL MATERIAL UNDERCUT SHALL BE REPLACED AND COMPACTED WITH AN APPROVED FILL.

SUBGRADE STABILIZATION

42. WET AND UNSTABLE EXPOSED SUBGRADE SOILS, IF ENCOUNTERED, MAY BE STABILIZED IN LIEU OF UNDERCUTTING AND SOIL REPLACEMENT WHEN DIRECTED BY THE ENGINEER.

PREPARATION

43. AFTER PROOF-ROLLING AND BEFORE PLACING FILL MATERIAL, THE SUBGRADE SOIL SURFACE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 8 INCHES, WETTED OR DRIED TO PRODUCE 2% HIGHER MOISTURE CONTENT THAN OPTIMUM MOISTURE CONTENT, AND RECOMPACTED TO AT LEAST 90% OF M.D.D. PER ASTM D-1557 FOR GRANULAR SOILS OR TO AT LEAST 95% OF M.D.D. PER D-698 FOR COHESIVE, FINE-GRAINED SOILS.

COMPACTION

44. COMPACTION SHALL BE PERFORMED BY ROLLING WITH APPROVED TAMPING ROLLERS, PNEUMATIC-TIRED ROLLERS, THREE-WHEEL POWER ROLLERS OR OTHER APPROVED EQUIPMENT SUITABLE FOR THE SOIL AND COMPACTION SPECIFIED. MATERIAL SHALL BE MOISTENED OR AERATED AS NECESSARY TO PROVIDE THE MOISTURE CONTENT THAT WILL READILY FACILITATE OBTAINING THE SPECIFIED COMPACTION WITH THE EQUIPMENT USED. EACH LAYER SHALL BE COMPACTED TO NOT LESS THAN THE PERCENTAGE OF MAXIMUM DENSITY AND SHOULD BE MOISTURE CONDITIONED AS NOTED BELOW.

MATERIAL	COMPACTION REQUIREMENT	MAX LIFT THICKNESS
GENERAL BACKFILL	90% OF MDD BY MODIFIED PROCTOR (ASTM D-1557) OR 95% OF MDD BY STD. PROCTOR (ASTM D-698) M.C. ±2% OF OPTIMUM M.C.	8" LOOSE LIFT MAX IF USING LARGE COMPACTION EQUIPMENT. 6" LOOSE LIFT MAX IF USING WALK BEHIND OR HAND OPERATED EQUIPMENT
ENGINEERED FILL	90% OF MDD BY MODIFIED PROCTOR (ASTM D-1557) OR 95% OF MDD BY STD. PROCTOR (ASTM D-698) M.C. ±2% OF OPTIMUM M.C.	8" LOOSE LIFT MAX IF USING LARGE COMPACTION EQUIPMENT. 6" LOOSE LIFT MAX IF USING WALK BEHIND OR HAND OPERATED EQUIPMENT
AGGREGATE BASE COURSE	90% OF MDD BY MODIFIED PROCTOR (ASTM D-1557) OR 95% OF MDD BY STD. PROCTOR (ASTM D-698) M.C. ±2% OF OPTIMUM M.C.	8" LOOSE LIFT MAX IF USING LARGE COMPACTION EQUIPMENT. 6" LOOSE LIFT MAX IF USING WALK BEHIND OR HAND OPERATED EQUIPMENT
CRUSHED ROCK (#57)	90% OF MDD BY MODIFIED PROCTOR (ASTM D-1557) OR 95% OF MDD BY STD. PROCTOR (ASTM D-698) M.C. ±2% OF OPTIMUM M.C.	8" LOOSE LIFT MAX IF USING LARGE COMPACTION EQUIPMENT. 6" LOOSE LIFT MAX IF USING WALK BEHIND OR HAND OPERATED EQUIPMENT
TRENCH BEDDING/SHADING	90% OF MDD BY MODIFIED PROCTOR (ASTM D-1557) OR 95% OF MDD BY STD. PROCTOR (ASTM D-698) M.C. ±2% OF OPTIMUM M.C.	8" LOOSE LIFT MAX IF USING LARGE COMPACTION EQUIPMENT. 6" LOOSE LIFT MAX IF USING WALK BEHIND OR HAND OPERATED EQUIPMENT
WASHED STONE	90% OF MDD BY MODIFIED PROCTOR (ASTM D-1557) OR 95% OF MDD BY STD. PROCTOR (ASTM D-698) M.C. ±2% OF OPTIMUM M.C.	8" LOOSE LIFT MAX IF USING LARGE COMPACTION EQUIPMENT. 6" LOOSE LIFT MAX IF USING WALK BEHIND OR HAND OPERATED EQUIPMENT

SLOPED SURFACES

45. PLACEMENT OF FILL AGAINST SLOPED SURFACES STEEPER THAN 4 HORIZONTAL-TO-1 VERTICAL SHALL BE STEPPED OR BENCHED INTO COMPETENT SUBGRADE MATERIAL AS DETERMINED BY THE ONSITE GEOTECHNICAL ENGINEER, SCARIFIED AND COMPACTED AS DESCRIBED ABOVE.
46. AN 18" MIN. DEPTH BY 5' MIN. WIDTH KEYWAY SHALL BE EXCAVATED INTO COMPETENT NATIVE SOILS AT THE BASE OF THE EXISTING SLOPE.
47. VERTICAL SIDES FOR EACH BENCH SHALL BE APPROXIMATELY 3' IN HEIGHT WITH A 4' MAXIMUM HEIGHT. EACH HORIZONTAL CUT SHALL BEGIN AT THE INTERSECTION OF THE EXISTING GROUND AND THE VERTICAL SIDES OF THE PREVIOUS BENCH.
48. THE BENCHING SHALL COMPLY WITH MAXIMUM ALLOWABLE SLOPES FOR THE SITE SPECIFIC SOIL TYPE PER OSHA GUIDANCE AND RECOMMENDATIONS WITHIN THE GEOTECHNICAL REPORT IF AVAILABLE.

PLACEMENT

49. FILL SHALL NOT BE PLACED UNTIL THE EXCAVATION AND SUBGRADE PREPARATION (OR PORTIONS THEREOF) HAVE BEEN COMPLETED, INSPECTED, AND APPROVED BY THE ENGINEER. FILL SHALL BE PLACED ON A SCARIFIED AND RECOMPACTED SURFACE IN HORIZONTAL LIFTS NOT EXCEEDING THE LIFT THICKNESS INDICATED IN THE COMPACTION TABLE AND THEN COMPACTED TO RELATIVE COMPACTION AS NOTED IN THE TABLE TO BRING THE AREA UP TO GRADE ELEVATION. MATERIALS PLACED BY DUMPING IN PILES OR WINDROWS SHALL BE SPREAD UNIFORMLY BEFORE BEING COMPACTED. NO MATERIAL SHALL BE PLACED ON SURFACES THAT ARE MUDDY, FROZEN OR CONTAIN FROST.
50. MAINTAIN POSITIVE DRAINAGE ACROSS THE SITE THROUGHOUT THE PROJECT. PROVIDE LOCALIZED GRADING AROUND ALL EXISTING AND PROPOSED FOUNDATIONS/FLATWORK TO ENSURE RUNOFF IS NOT DIRECTED TOWARD FOUNDATIONS/FLATWORK AND PONDING IS PREVENTED. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

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REVISIONS			
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REV. #	DATE	DESCRIPTION	
INTERNAL ENG.	C. MCCULLOUGH	06/18/25	330-596-0111
DESIGNED BY	J. ANDERSON	06/18/25	303-623-3345
CHECKED BY	D. BORCHHERDING	06/18/25	303-623-3345
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:

INST# 24-0136951-00

ABAN# ----

PROJECT ID# 21-78790

RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:

GENERAL NOTES

DRAWING NO:

C-01

CIVIL / GRADING NOTES

OPERATIONS (CONTINUED):

INSPECTION- GENERAL COMPACTION TESTING REQUIREMENTS

51. ALL REQUIRED INSPECTIONS SHALL BE PERFORMED, RECORDED, AND APPROVED PRIOR TO PROCEEDING TO A SUBSEQUENT TASK. INSPECTIONS SHALL BE PERFORMED AT A MINIMUM FOR SUBGRADE PREPARATION, COMPACTION, BACKFILL, FINISHED GRADES OF ALL FEATURES, AND TEMPORARY AND PERMANENT DRAINAGE BMP'S. INSPECTIONS ARE PERMITTED TO BE PERFORMED BY A THIRD PARTY PROVIDED INSPECTION REPORTS ARE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO ACCEPTANCE.
52. THE ON-SITE FIELD GEOTECHNICAL ENGINEER SHALL HAVE AUTHORITY TO MODIFY THE TESTING FREQUENCIES BELOW AS FIELD CONDITIONS WARRANT. VALUES LISTED BELOW ARE MINIMUM CRITERIA RECOMMENDED BY CAMPOS EPC.
53. IN-SITU DENSITY TESTING OF THE SOILS SHOULD BE TESTED WITH EITHER THE SAND CONE (ASTM D1556) OR NUCLEAR DENSITY TEST (ASTM D6938).
54. COMPACTION TESTING FREQUENCIES FOR ALL ROADS AND UTILITY TRENCHES TO BE ONE (1) TEST PER 150 FT OF OF LENGTH, OR FRACTION THEREOF PER 8" LIFT.
55. COMPACTION TESTING FREQUENCIES FOR ALL AREAS SCHEDULED FOR FOUNDATIONS OR ANY OTHER ITEM SENSITIVE TO LOCALIZED SETTLEMENT TO BE ONE (1) TEST PER 500 SF OR FRACTION THEREOF PER 8" LIFT.
56. COMPACTION TESTING FREQUENCIES FOR ALL FILL EMBANKMENTS TO BE ONE (1) TEST PER 1,000 SF OR FRACTION THEREOF PER 8" LIFT.
57. COMPACTION TESTING FREQUENCIES FOR ALL REMAINING AREAS TO BE ONE (1) TEST PER 5,000 SF, OR FRACTION THEREOF PER 8" LIFT.

CONCRETE

58. GENERAL USE CONCRETE SHALL HAVE A 4000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.
59. REFER TO STRUCTURAL DRAWINGS FOR CONCRETE SPECIFICATIONS AND DETAILS.

CRACK CONTROL JOINTS

60. SAW CUT CONTROL JOINTS 1/8" TO 1/4" WIDE AS SOON AS PRACTICAL TO AVOID RAVELING EDGE.
61. CONTROL JOINTS TO BE CUT TO A QUARTER OF THE PLACED CONCRETE THICKNESS IN DEPTH.
62. SPACING OF JOINTS SHALL BE BETWEEN 24 TO 30 TIMES THE PLACED CONCRETE THICKNESS. THE ASPECT RATIO FOR UNREINFORCED PANELS OR UNLESS NOTED OTHERWISE SHALL BE A MAXIMUM OF 1.5 TO 1. IRREGULAR SHAPES SUCH AS "L'S" OR "T'S" SHALL BE AVOIDED.

ROLLED EROSION CONTROL PRODUCTS (RECP)

63. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
64. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP x 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF GREEN STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAKING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF GREEN STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
65. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING GREEN STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAKING PATTERN GUIDE. STAKING PATTERNS SHALL FOLOW THE INSTALLATION DETAIL IN THESE PLANS.
66. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5' OVERLAP DEPENDING ON RECP'S TYPE.
67. CONSECUTIVE RECP'S SPliced DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP'S WIDTH.
NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.
68. ALL EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN (NAG) SC150 BN BIODEGRADABLE BLANKET OR ENGINEER APPROVED EQUIVALENT.

EARTHWORK CALCULATIONS:

- a. ASSUMPTIONS:
- TOPSOIL THICKNESS OF XX" TO BE CLEARED FROM LIMITS OF GRADING & STOCKPILED.
 - VOLUMES NOT MODIFIED FOR SHRINKAGE, SWELLING, NOR COMPACTION OF SOIL.
- b. SOIL QUANTITIES:
- TOPSOIL STRIPPED & STOCKPILED 550 C.Y.
 - TOPSOIL VOLUME SPOILED OR DISPERSED OUTSIDE OF GRADING LIMITS 500 C.Y.
 - USABLE TOPSOIL VOLUME ON BANKS & SWALES 50 C.Y.
 - AGGREGATE BASE COURSE..... 335 C.Y.
 - CRUSHED ROCK (#57) 165 C.Y.
- c. OTHER MATERIAL QUANTITIES:
- CONCRETE 60 C.Y.
 - GEOTEXTILE..... AS REQUIRED
 - STATION FENCING..... 159 L.F.
- d. MODEL VOLUMES
- MODEL CUT VOLUME 70 C.Y.
 - MODEL FILL VOLUME 680 C.Y.
 - MODEL NET (FILL) 610 C.Y.
- e. SUMMARY
- TOTAL EXPORT..... 500 C.Y.
 - DELETERIOUS CUT MATERIAL 500 C.Y.
 - TOTAL IMPORT..... 560 C.Y.
 - AGGREGATE BASE COURSE..... 335 C.Y.
 - CRUSHED ROCK (#57) 165 C.Y.
 - ENGINEERED FILL 60 C.Y.

EXAMPLE: MODEL CUT - MODEL FILL + TOTAL IMPORT =ADDITIONAL IMPORT (NEG) OR LEFTOVER USABLE CUT (POS)

ABBREVIATION LIST:

- N: NORTHING
E: EASTING
FC: FENCE CORNER
GB: GRADE BREAK
TOC: TOP OF CONCRETE
TOP: TOP OF POND
BOP: BOTTOM OF POND
PC: POINT OF CURVATURE
PT: POINT OF TANGENCY
PU: EXISTING GRADE
PG: PROPOSED GRADE
FES: FLARED END SECTION
FFE: FINISHED FLOOR ELEVATION
BW: BACK OF WALK
TBC: TOP BACK OF CURB
FL: FLOW LINE
TOW: TOP OF WALL
BOW: BOTTOM OF WALL



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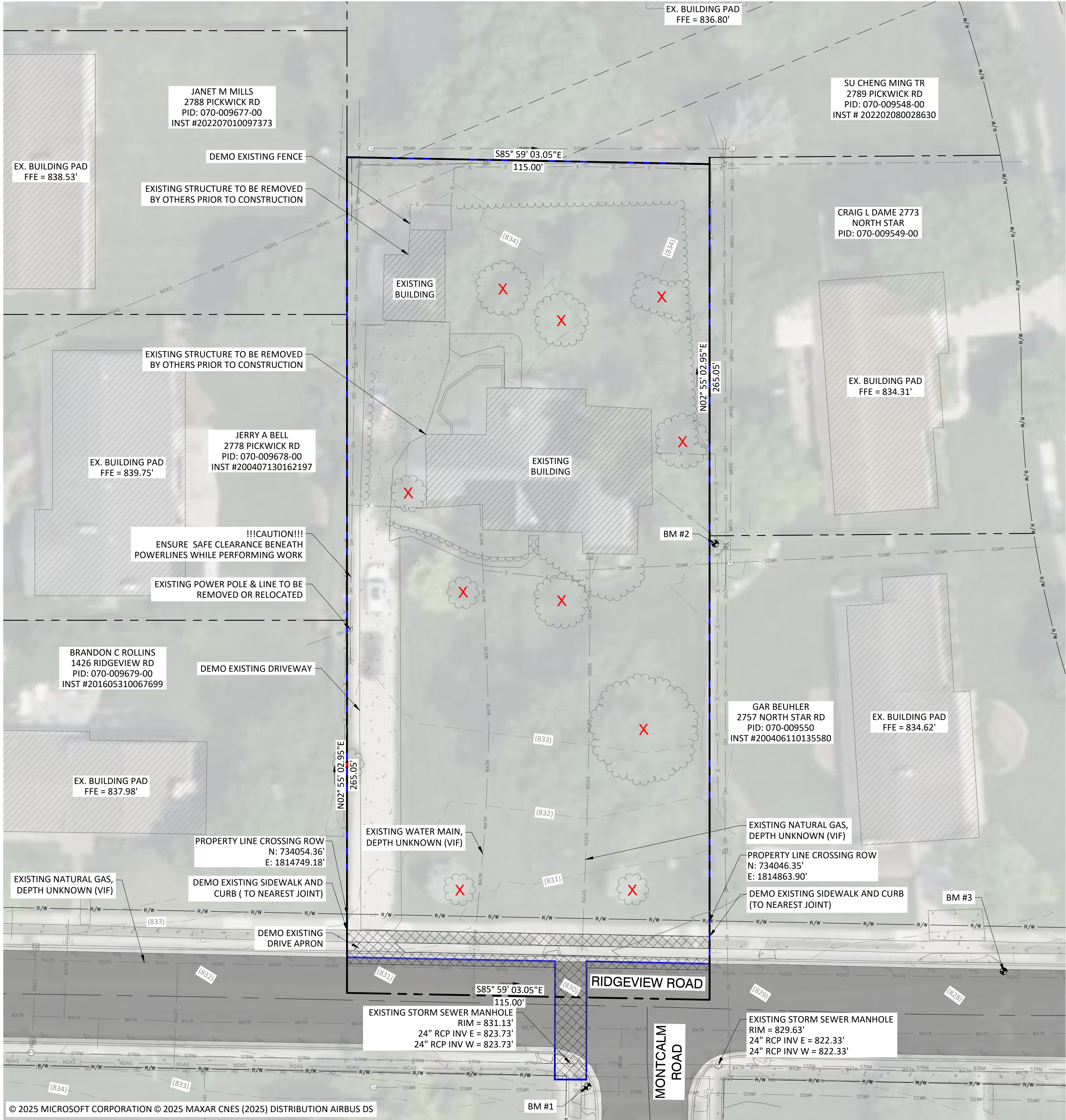
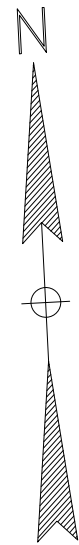
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REV. #	DATE	DESCRIPTION	
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DESIGNED BY	J. ANDERSON	06/18/25	303-623-3345
CHECKED BY	D. BORCHERDING	06/18/25	303-623-3345
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:
GENERAL NOTES

DRAWING NO:
C-02



EXISTING CONDITIONS & DEMO PLAN
SCALE: 1"=20'

SURVEY LEGEND:

---	PROPERTY LINE
---	ADJACENT PROPERTY LINE
---	EXISTING ROAD CENTERLINE
---	EXISTING ROAD RIGHT OF WAY LINE
---	EXISTING EASEMENT
---	EXISTING FENCE LINE
---	EXISTING EDGE OF ROAD
---	EXISTING OVERHEAD WIRE
---	EXISTING ELECTRIC
---	EXISTING NATURAL GAS
---	EXISTING SEWER
---	EXISTING STORM
---	EXISTING TELEPHONE LINE
---	EXISTING WATER
---	EXISTING VEGETATION
---	EXISTING MAJOR CONTOUR (5' INTERVALS)
---	EXISTING MINOR CONTOUR (1' INTERVALS)
---	LIMITS OF GRADING (0.67 AC)
---	EXISTING CONCRETE
---	EXISTING ASPHALT
---	EXISTING BUILDING
---	PAVEMENT AND SIDEWALK DEMOLITION
---	EXISTING LIGHT
---	EXISTING POWER POLE
---	EXISTING FIRE HYDRANT
---	EXISTING WATER VALVE
---	EXISTING UTILITY POLE
---	EXISTING STREET SIGN
---	EXISTING GUY WIRE
---	EXISTING SEWER MANHOLE
---	EXISTING STORM MANHOLE
---	EXISTING CATCH BASIN
---	BENCHMARK
---	TREE REMOVAL

BENCHMARK TABLE				
POINT #	DESCRIPTION	ELEV	NORTHING	EASTING
BENCHMARK 1	CPT	829.99'	733995.91'	1814822.59'
BENCHMARK 2	FIP PINCH 3/4" (+0.40')	833.41'	734165.74'	1814871.74'
BENCHMARK 3	CPT	827.61'	734025.63'	1814956.21'



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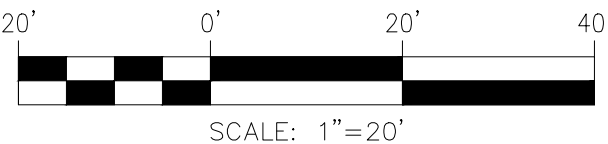
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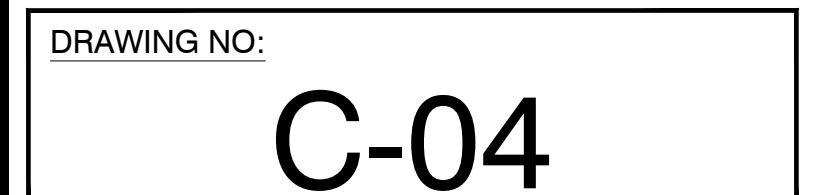
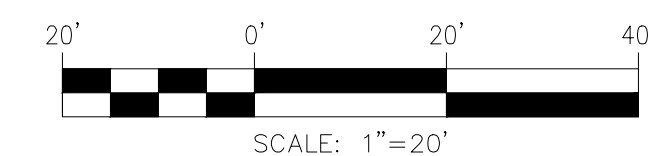
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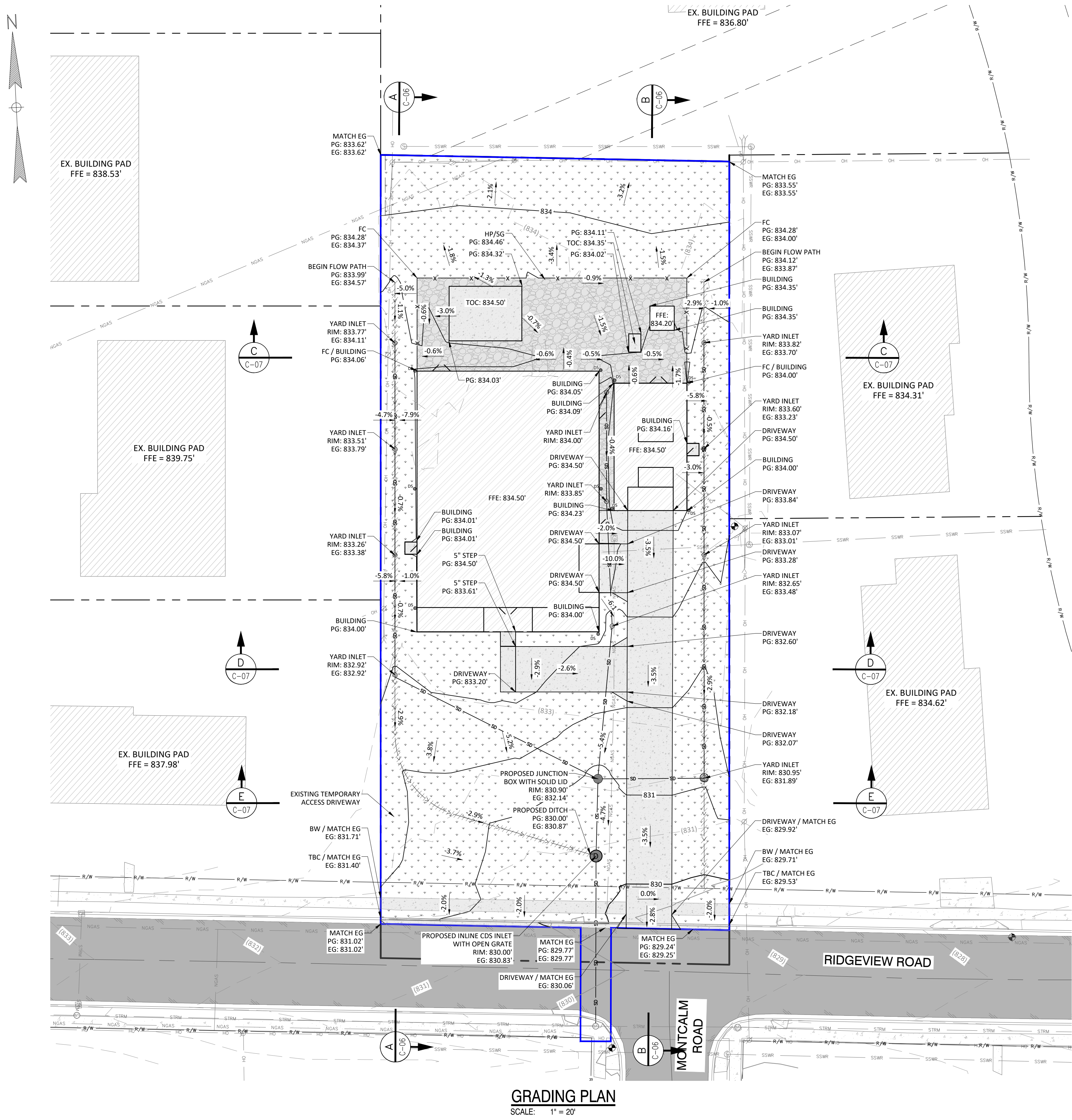
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INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:
**EXISTING CONDITIONS
& DEMO PLAN**

DRAWING NO:
C-03

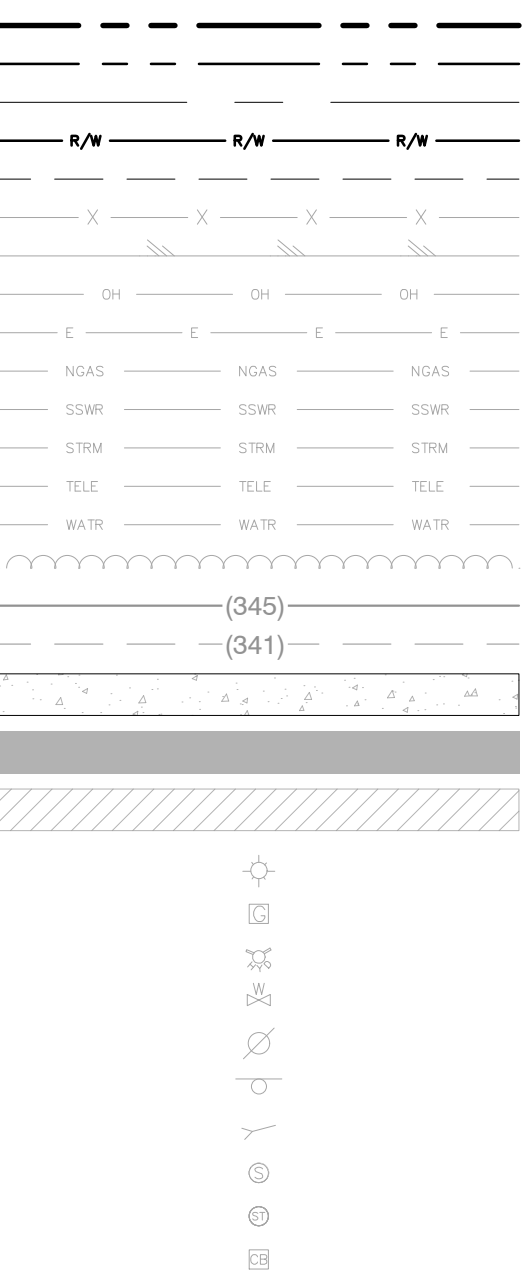






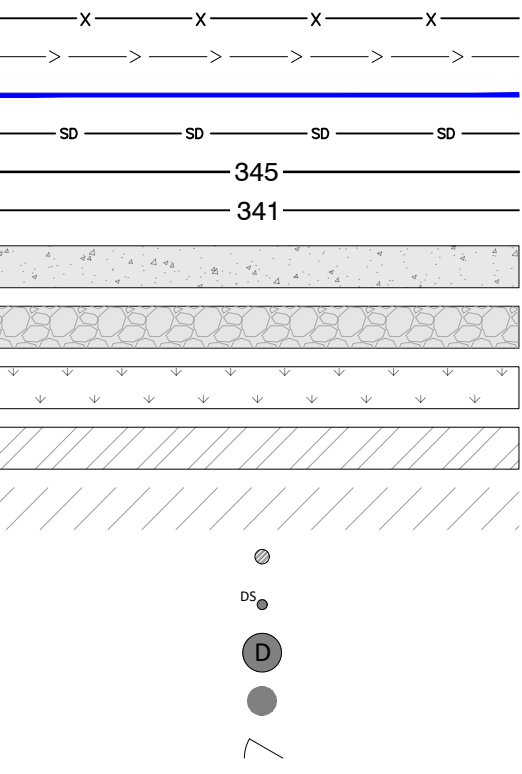
GRADING PLAN
SCALE: 1" = 20'

GRADING PLAN LEGEND:



- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING ROAD CENTERLINE
- EXISTING ROAD RIGHT OF WAY LINE
- EXISTING EASEMENT
- EXISTING FENCE LINE
- EXISTING EDGE OF ROAD
- EXISTING OVERHEAD WIRE
- EXISTING ELECTRIC
- EXISTING NATURAL GAS
- EXISTING SEWER
- EXISTING STORM
- EXISTING TELEPHONE LINE
- EXISTING WATER
- EXISTING VEGETATION
- EXISTING MAJOR CONTOUR (5' INTERVALS)
- EXISTING MINOR CONTOUR (1' INTERVALS)
- EXISTING CONCRETE
- EXISTING ASPHALT
- EXISTING BUILDING
- EXISTING LIGHT
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING UTILITY POLE
- EXISTING STREET SIGN
- EXISTING GUY WIRE
- EXISTING SEWER MANHOLE
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN

GRADING LEGEND:



- PROPOSED FENCE LINE
- PROPOSED DRAINAGE CENTERLINE
- LIMITS OF GRADING (0.67 AC)
- PROPOSED STORM SEWER
- PROPOSED MAJOR CONTOUR (5' INTERVALS)
- PROPOSED MINOR CONTOUR (1' INTERVALS)
- PROPOSED CONCRETE
- PROPOSED GRAVEL SURFACING
- PROPOSED VEGETATION
- PROPOSED BUILDING
- PROPOSED TURF MAT
- PROPOSED YARD INLET
- PROPOSED DOWN SPOUTS
- PROPOSED STORM SEWER MANHOLE
- PROPOSED JUNCTION BOX
- PROPOSED PERSONNEL GATE



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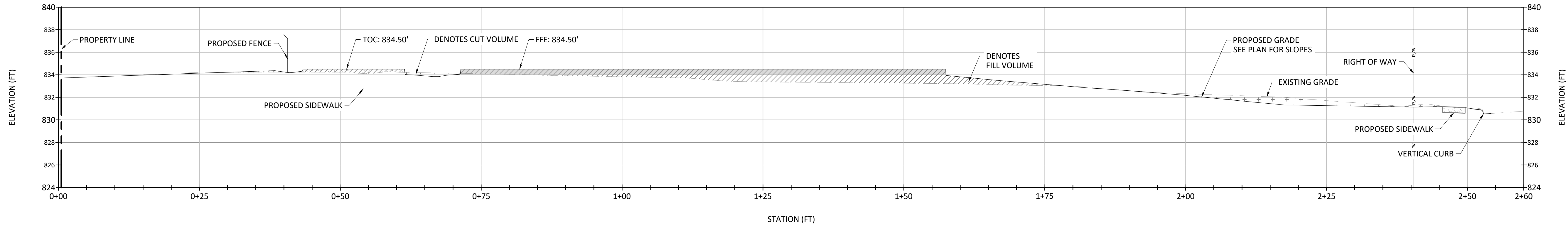
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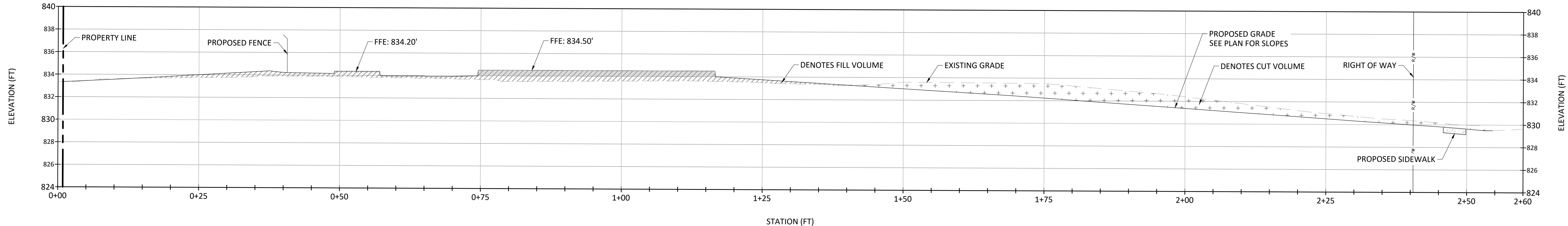
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RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:
GRADING PLAN

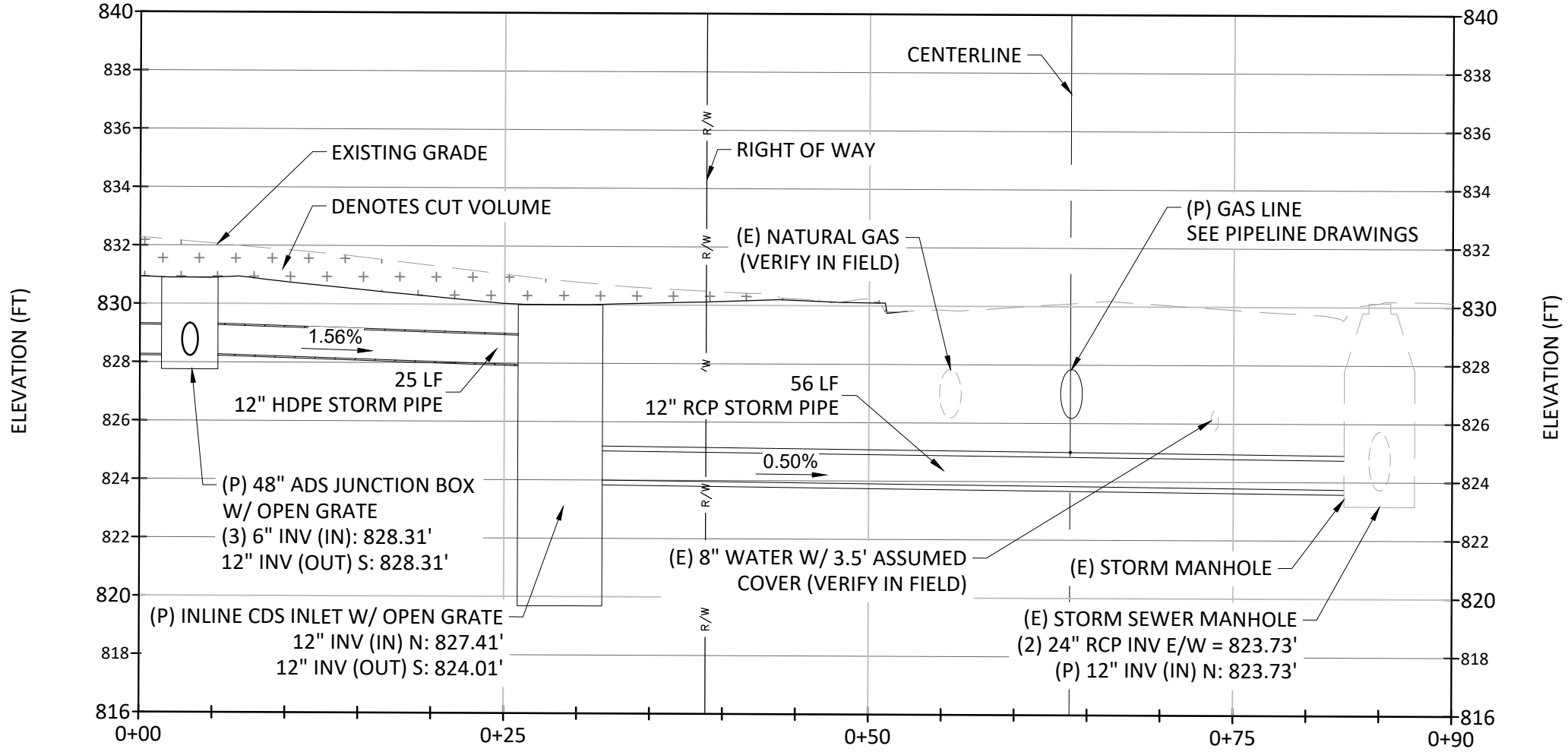
DRAWING NO:
C-05



PROFILE A
SCALE H: 1"=10'
SCALE V: 1"=5'



PROFILE B
SCALE H: 1"=10'
SCALE V: 1"=5'



STORM SEWER SS
SCALE H: 1"=10'
SCALE V: 1"=5'

- NOTES:
1. MINIMUM VERTICAL SEPARATION REQUIREMENTS TO BE DETERMINED DURING PERMITTING.

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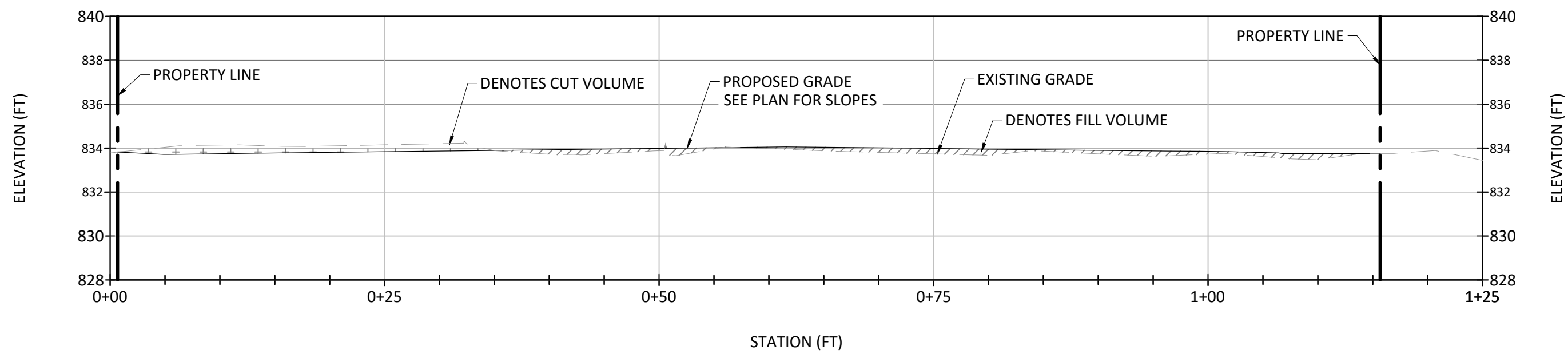
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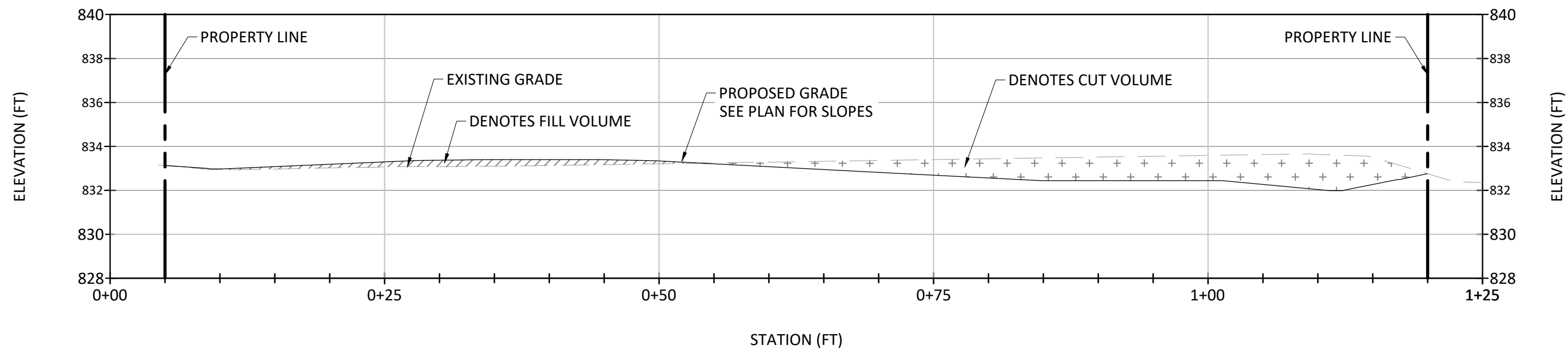
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RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:
PROFILES & DETAILS

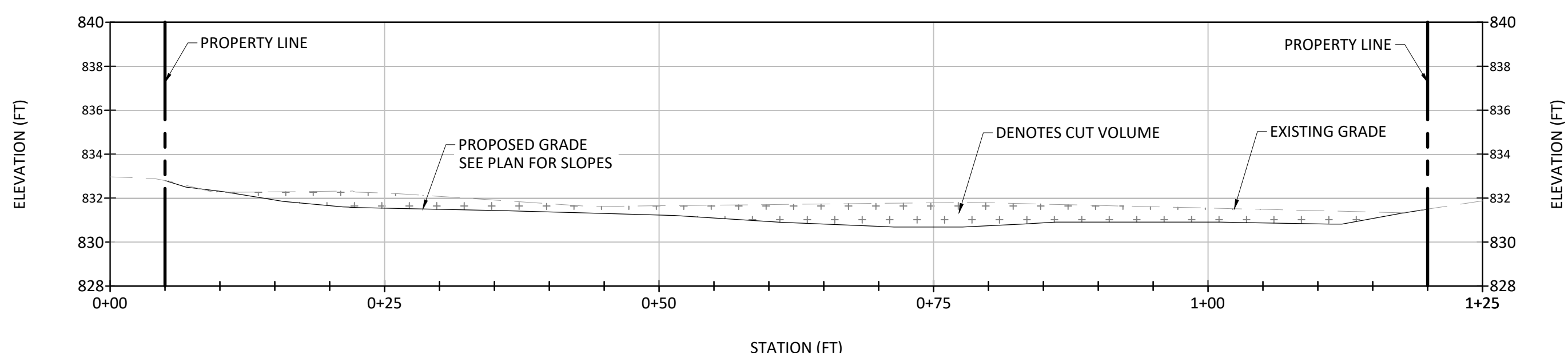
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C-06



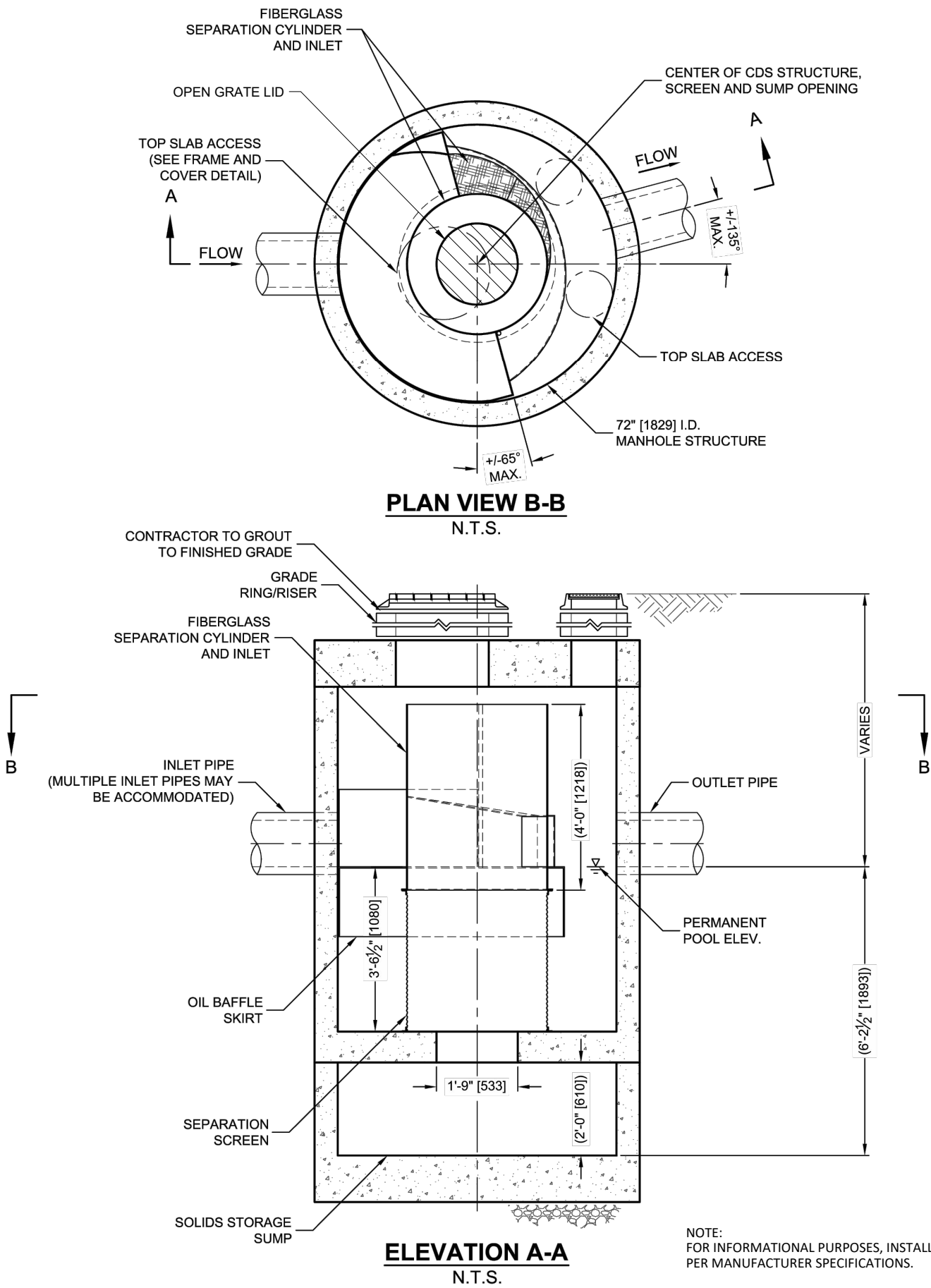
PROFILE C-05
SCALE H: 1"=10'
SCALE V: 1"=5'



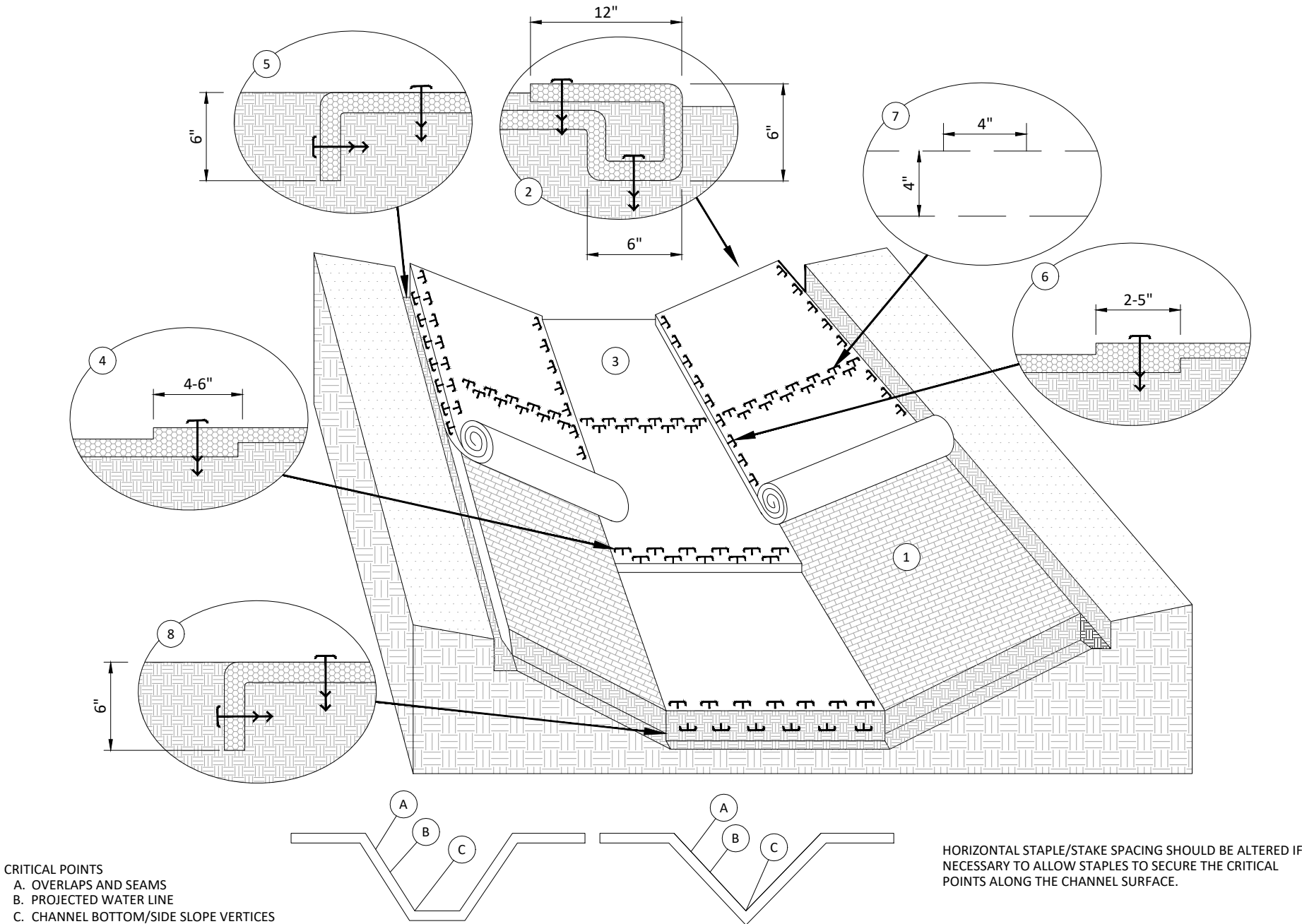
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SCALE H: 1"=10'
SCALE V: 1"=5'



PROFILE E-05
SCALE H: 1"=10'
SCALE V: 1"=5'



CONTECH INLINE CDS STANDARD DETAIL
SCALE: NOT TO SCALE



ROLLED EROSION CONTROL PRODUCTS (RECP) TURF REINFORCEMENT MAT (FOR CHANNELS AND SWALES)
SCALE: NOT TO SCALE

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ABAN# ----

PROJECT ID# 21-78790

RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:

PROFILES & DETAILS

DRAWING NO:

C-07

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, PCSM PLAN PREPARER, AND A REPRESENTATIVE FROM THE CITY OF COLUMBUS TO AN ON-SITE PRE-CONSTRUCTION MEETING.
3. AT LEAST 48 HOURS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE OHIO UTILITIES PROTECTION SERVICE SHALL BE NOTIFIED AT 1-800-362-2764 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
4. IT IS THE RESPONSIBILITY OF THE SITE OWNER TO NOTIFY THE CITY OF COLUMBUS TWO WORKING DAYS PRIOR TO COMMENCEMENT OF INITIAL SITE LAND DISTURBANCE ON ANY SITE OF ONE OR MORE ACRES. THIS INCLUDES SITE CLEARING, GRUBBING, AND ANY EARTH MOVING. PRIMARY EROSION AND SEDIMENT CONTROL PRACTICES ARE MANDATED BY REGULATION TO BE IN PLACE FROM THE BEGINNING OF THE CONSTRUCTION ACTIVITY. PLEASE CONTACT THE STORMWATER AND REGULATORY MANAGEMENT SECTION AT (614)-654-6311. DETAILS OF THIS REQUIREMENT MAY BE FOUND IN THE REGULATION FOR CONTROL OF STORMWATER POLLUTION FROM LAND DISTURBANCE. FAILURE TO COMPLY MAY RESULT IN ENFORCEMENT ACTION.
5. ALL EARTH DISTURBANCE SHOULD PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. THE SEQUENCE MAY CHANGE.
6. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
7. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
8. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
9. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH
10. GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
11. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION.
12. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN AND FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
13. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL.
14. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRAIDING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
16. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEPED INTO ANY ROADSIDE DITCH, STORMSEWER, OR SURFACE WATER.
18. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
19. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES-6 TO 12 INCHES ON COMPACTED SOILS - PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL. EROSION AND SEDIMENT CONTROL GENERAL NOTES
20. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENTS SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
22. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
23. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

24. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
25. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD
26. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE: CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
27. STABILIZATION OF DISTURBED AREAS MUST BE INITIATED WITHIN SEVEN DAYS OF REACHING FINAL GRADE. TEMPORARY STABILIZATION OF DISTURBED AREAS THAT WILL BE REWORKED, BUT NOT FOR 14 DAYS OR MORE FROM THE DATE THEY WERE LAST DISTURBED, MUST BE INITIATED WITHIN SEVEN DAYS OF LAST DISTURBANCE.
28. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
29. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE DEPARTMENT.
30. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
31. WHEN POSSIBLE, CLEAN ALL CONSTRUCTION EQUIPMENT AND VEHICLES THOROUGHLY BEFORE THEY ARE BROUGHT ON SITE TO REMOVE POTENTIAL INVASIVE PLANT SEEDS THAT MAY HAVE BEEN PICKED UP AT OTHER SITES.
32. IF TEMPORARY CONSTRUCTION ENTRANCES (TCES) ARE NEEDED FOR THE PROJECT, THE LOCATION WILL BE DETERMINED AT THE TIME OF CONSTRUCTION. SEE DETAILS IN SECTION 2.5.5 AND FIGURE 16 OF THE NISOURCE ENVIRONMENTAL CONSTRUCTION STANDARDS.
33. THE CITY OF COLUMBUS CONSTRUCTION AND MATERIALS SPECIFICATIONS (CMSC), 2018 EDITION, REVISION (03/01/2018), INCLUDING ALL REVISIONS AND SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN UNLESS NOTED OTHERWISE. [NOTE REVISION AS PER DPU ADMINISTRATOR 10/3/2018]
34. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING DIVISIONS AT LEAST 24-HOURS IN ADVANCE OF ANTICIPATED START OF CONSTRUCTION:

DIVISION OF SEWERAGE AND DRAINAGE (614) 645-7102
DIVISION OF DESIGN AND CONSTRUCTION (CONSTRUCTION SECTION) (614) 645-0433
35. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECT ON THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL CALL, TOLL FREE, THE OHIO UTILITIES PROTECTION SERVICE (1-800-362-2764) 48 HOURS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEASE 48 HOURS TO WORK IN THE VICINITY OF THEIR UNDERGROUND LINES.
36. CONSTRUCTION OF THIS PROJECT MAY NOT BEGIN UNTIL THE EASEMENTS INDICATED HAVE BEEN RECORDED BY THE CITY.
37. THE DEVELOPER/OWNER SHALL, PRIOR TO ANY CONSTRUCTION OPERATION, DEPOSIT WITH THE CITY THE TOTAL ESTIMATED COSTS FOR INSPECTION AND WHERE REQUIRED A REPAVING GUARANTEE.
38. ANY MODIFICATION TO THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE ADMINISTRATOR OF THE DIVISION OF SEWERAGE AND DRAINAGE.
39. EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED AS PART OF THIS PROJECT. EROSION AND SEDIMENT CONTROL MEASURES SPECIFIC TO THIS SITE MAY BE FOUND ON SHEET NO. EC-01 OF THIS PLAN. LAND-DISTURBING ACTIVITIES MUST COMPLY WITH ALL PROVISIONS OF THE DIVISION OF SEWERAGE AND DRAINAGE EROSION AND SEDIMENT CONTROL REGULATION. ALL LAND-DISTURBING ACTIVITIES SHALL BE SUBJECT TO INSPECTION AND SITE INVESTIGATION BY THE CITY OF COLUMBUS AND/OR THE OHIO EPA. 40. IT IS THE RESPONSIBILITY OF THE CITY OWNER TO NOTIFY THE CITY OF COLUMBUS A MINIMUM OF TWO WORKING DAYS PRIOR TO COMMENCEMENT OF INITIAL SITE LAND DISTURBANCE ON ANY SITE OF ONE OR MORE ACRES. THIS INCLUDES SITE CLEARING, GRUBBING AND ANY EARTH MOVING. PRIMARY EROSION AND SEDIMENT CONTROL PRACTICES ARE MANDATED BY REGULATION TO BE IN PLACE FROM THE BEGINNING OF THE CONSTRUCTION ACTIVITY. PLEASE CONTACT THE STORMWATER MANAGEMENT OFFICE AT (614) 645-6700, OR FAX AT (614) 645-1506. DETAILS OF THIS REQUIREMENT MAY BE FOUND IN THE EROSION AND SEDIMENT POLLUTION CONTROL REGULATION (ADOPTED JUNE 1, 1994). FAILURE TO COMPLY MAY RESULT IN ENFORCEMENT ACTION AS DETAILED IN THE COLUMBUS CITY CODES SECTION 1145.80.
41. THE AMOUNT OF FILL WITHIN DESIGNATED FEMA FLOODPLAIN AREAS ONSITE IS 0 C.Y. THE AMOUNT OF FILL COMPENSATED WITHIN DESIGNATED FEMA FLOODPLAIN AREAS ONSITE IS 0 C.Y.
42. THE PONDING OR DETENTION AREAS ON THE PLANS ARE A PART OF THE STORM SEWER FACILITIES. THE DEVELOPER/OWNER WILL ASSUME THE RESPONSIBILITY TO MAINTAIN THE PONDING OR DETENTION AREAS SO AS NOT TO REDUCE THE WATER STORAGE AREAS. IF THE OWNER DOES NOT MAINTAIN THE PONDING AND DETENTION AREAS, THE PLAN WILL BECOME VOID AND THE CITY WILL PLUG THE SEWER AT THE OUTLET.
43. AS A CONDITION OF FINAL ACCEPTANCE, THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT SURVEYS TO TO VERIFY THE FINAL GRADES AND ELEVATIONS OF STORM WATER DETENTION BASINS AND WETLANDS THAT ARE TO BE OWNED AND OPERATED BY THE CITY. AT THE COMPLETION OF HOME CONSTRUCTION, THE OWNER/DEVELOPER SHALL FIELD SURVEY THE STORM WATER DETENTION FACILITY TO VERIFY THAT THE FACILITIES ARE CONSTRUCTED ACCORDING TO APPROVED PLANS. SHOULD A DISCREPANCY BETWEEN THE PLANS AND CONSTRUCTED GRADES EXIST, THE DESIGN STORAGE OF THE DETENTION FACILITY SHALL BE RESTORED BY THE OWNER/DEVELOPER AS DIRECTED BY THE CITY OF COLUMBUS.
44. IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, CONCRETE, RIP RAP, ROCK CHANNEL PROTECTION, SODDING, POURING BOTTOMS, MUDDING LIFT HOLES, ETC.

INSPECTION AND MAINTENANCE

1. NO SOLID OR LIQUID WASTE, INCLUDING BUILDING MATERIALS OR THEIR PACKAGING, SHALL BE DISCHARGED IN STORMWATER RUNOFF.
2. CONCRETE TRUCKS ARE NOT PERMITTED TO WASH OUT DIRECTLY INTO STORM SEWERS, STREAMS OR DRAINAGE CHANNELS.
3. WASTE DISPOSAL VIA OPEN BURNING IS PROHIBITED WHERE NOT PERMITTED UNDER THE STATE OF OHIO OPEN BURNING LAWS.
4. CONTAMINATED SOILS OR SOILS WHERE CONSTRUCTION SITE CHEMICALS HAVE BEEN SPILLED MUST BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
5. STORMWATER THAT COMES IN CONTACT WITH CONTAMINATED SOILS, OR SOLID AND INDUSTRIAL WASTE MUST BE COLLECTED AND DISPOSED OF AS A WASTEWATER.
6. FUEL TANKS AND DRUMS OR OTHER CONTAINERS HOLDING CONSTRUCTION SITE CHEMICALS MUST BE STORED WITHIN A DIKED AREA
7. SEDIMENT-LADEN TRENCH OR GROUNDWATER MUST PASS THROUGH A SEDIMENT-SETTLING POND, OR BE DEWATERED IN PLACE USING A SUMP PIT, FILTER BAG OR OTHER COMPARABLE METHOD, PRIOR TO BEING DISCHARGED FROM THE SITE.
8. GROUND WATER FREE FROM SEDIMENT OR OTHER POLLUTANTS MAY BE DISCHARGED WITHOUT TREATMENT, PROVIDED THIS WATER DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.

REQUIREMENTS FOR CONTROLS OF OTHER WASTES

1. ALL BMPS MUST BE MAINTAINED IN A FUNCTIONAL CONDITION UNTIL ALL UPSLOPE AREAS THEY CONTROL ARE PERMANENTLY RESTABILIZED.
2. QUALIFIED PERSONNEL (PROVIDED BY THE OWNER) MUST INSPECT ALL BMPS AT LEAST ONCE EVERY 7 DAYS AND PRIOR TO AND BY THE END OF THE NEXT CALENDAR DAY (EXCLUDING WEEKENDS AND HOLIDAYS) FOR ANY STORM EVENT WITH GREATER THAN 0.5 INCHES OF RAIN PER 24 HOURS AND DETERMINE IF THE SWP3 HAS BEEN PROPERLY IMPLEMENTED.
3. WRITTEN REPORTS SUMMARIZING INSPECTION RESULTS MUST BE MADE AVAILABLE UPON REQUEST. REPORTS MUST INCLUDE: DATE OF INSPECTION, NAME AND QUALIFICATIONS OF THE INSPECTOR, WEATHER CONDITIONS, LOCATIONS WHERE IN-STREAM OR OFF-SITE SEDIMENTATION WAS OBSERVED, LOCATIONS OF BMPS NEEDING MAINTENANCE, LOCATIONS OF BMPS FAILING TO OPERATE CORRECTLY OR PROVIDE ADEQUATE PROTECTION, OR LOCATION OF AREAS IN NEED OF ADDITIONAL BMPS NOT IN PLACE AT THE TIME OF INSPECTION.
4. THE REPORTS MUST IDENTIFY INCIDENCES OF NON-COMPLIANCE WITH THE NPDES PERMIT. WHERE A REPORT DOES NOT IDENTIFY INCIDENCES OF NON-COMPLIANCE, THE REPORT MUST CONTAIN A CERTIFICATION THAT THE SITE IS IN COMPLIANCE AT THE TIME OF INSPECTION.
5. MAINTENANCE OR REPAIR OF BMPS MUST BE COMPLETED WITHIN 3 DAYS OF THE DATE OF THE INSPECTION THAT REVEALED THEY WERE DEFICIENT. FOR SEDIMENT PONDS, REPAIR OR MAINTENANCE IS REQUIRED WITHIN 10 DAYS OF THE DATE OF THE INSPECTION.
6. WHEN INSPECTIONS REVEAL THAT A BMP IS NOT EFFECTIVE AND THAT ANOTHER, MORE APPROPRIATE BMP IS REQUIRED, THE SWP3 MUST BE AMENDED AND THE MORE APPROPRIATE BMP MUST BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION THAT REVEALED THE DEFICIENCY.
7. WHEN THE INSPECTION REVEALS THAT A BMP DEPICTED ON THE SWP3 HAS NOT BEEN INSTALLED, BUT IS REQUIRED TO PROVIDE ADEQUATE CONTROL AT THE SITE, IT MUST BE INSTALLED PRIOR TO THE NEXT STORM EVENT, WHICH PRODUCES RUNOFF, BUT IN NO CASE LATER THAN 10 DAYS FROM THE DATE OF INSPECTION, WHICH REVEALED THE DEFICIENCY.
8. THE REPORTS MUST BE MAINTAINED FOR THREE (3) YEARS FOLLOWING THE SUBMITTAL OF A NOTICE OF TERMINATION.

PAVEMENT CUTTING, SAWING AND EXCAVATION OPERATIONS NOTE:

ALL PUBLIC AGENCIES AND PRIVATE CONTRACTORS PERFORMING PAVEMENT-CUTTING OPERATIONS ON CITY OF COLUMBUS STREETS AND ROADWAYS SHALL PROTECT THE ENVIRONMENT FROM DISCHARGES CREATED BY THEIR PAVEMENT CUTTING OPERATIONS. NOTE THAT COLUMBUS CITY CODE 1145 PROHIBITS NON-STORMWATER DISCHARGE INTO THE CITY OF COLUMBUS SEWER SYSTEM, CURB INLETS AND ANY PART OF ITS MS4 (MUNICIPAL SEPARATE STORM SEWER SYSTEM). THE REQUIREMENT INCLUDES BUT IS NOT LIMITED TO WET OR DRY SAW-CUTTING, JACK HAMMERING, EXCAVATION EQUIPMENT USE, ETC. THE PUBLIC AGENCY AND/OR PRIVATE CONTRACTOR WORK CREWS SHALL RECOVER AND DISPOSE OF DETRITUS, POLLUTED WATERS, OR OTHER SUCH DISCHARGES RESULTING FROM THEIR PAVEMENT CUTTING OPERATIONS AND PROTECT ALL STORM SEWER INLETS FROM RECEIVING ANY DISCHARGES FROM THE CONSTRUCTION OPERATIONS. THE AGENCY OR CONTRACTOR RESPONSIBLE FOR EACH PAVEMENT CUTTING ACTIVITY SHALL BE SOLELY LIABLE FOR NOTICE OF VIOLATIONS (NOV/S) AND FINES ISSUED BY CITY OF COLUMBUS AND/OR STATE OF OHIO AUTHORITIES. EQUIPMENT, MATERIALS AND METHODS SHALL BE PROVIDED BY THE RESPONSIBLE PUBLIC AGENCY AND/OR PRIVATE CONTRACTOR TO WORK CREWS PERFORMING THE PAVEMENT CUTTING ACTIVITY AND MADE AVAILABLE TO WORK CREWS FOR USE IN CLEANING UP DISCHARGES RESULTING FROM SUCH CUTTING ACTIVITIES AND PREVENTING RUNOFF. ALL WORK CREWS SHALL BE TRAINED TO EXERCISE AND EMPLOY EQUIPMENT, MATERIALS, AND ENVIRONMENTAL PROTECTIVE MEASURES TO PREVENT POLLUTED DISCHARGES FROM ENTERING THE CITY OF COLUMBUS STORM SEWER SYSTEM AND WATERS OF THE STATE OF OHIO. THE PUBLIC AGENCY AND/OR PRIVATE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT THE INLET PROTECTION IS ADEQUATE. THE MOST STRINGENT PROJECT PLANS, NOTES AND/OR DRAWINGS INCLUDING STORMWATER POLLUTION PREVENTION PLAN (SWP3) OR SPILL PREVENTION/REMEDIATION PLAN SHALL APPLY TO ALL PAVEMENT CUTTING, SAWING OR EXCAVATION OPERATIONS.

TEMPORARY MAINTENANCE

TEMPORARY GRASSES IMMEDIATELY SEED DISTURBED AREAS UPON COMPLETION OF AN EARTH DISTURBANCE ACTIVITY OR STAGE. UPON TEMPORARY CESSATION OF AN EARTH DISTURBANCE ACTIVITY OR ANY STAGE OR PHASE OF AN ACTIVITY WHERE A CESSATION OF EARTH DISTURBANCE ACTIVITIES WILL EXCEED SEVEN DAYS, THE SITE SHALL BE IMMEDIATELY SEEDED, MULCHED, OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION PENDING FUTURE EARTH DISTURBANCE ACTIVITIES. SEED TOPSOIL STORAGE AREAS AND STOCKPILES. REFER TO OHIO E&S STANDARDS FOR STORMWATER MANAGEMENT LAND DEVELOPMENT AND URBAN STREAM PROTECTION FOR GUIDANCE TO INCREASE SOIL SUPPLEMENTS BEYOND THE AMOUNTS ESTABLISHED IN THIS PLAN.

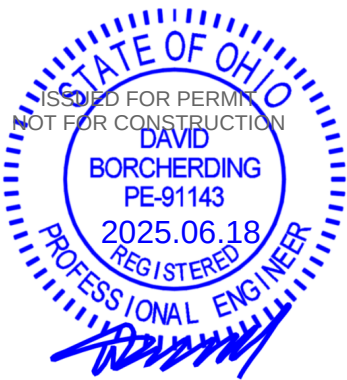
INLET FILTER PROTECTION INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

PERMANENT MAINTENANCE

- PERMANENT GRASSES
1. PLANT PERMANENT SEED MIXTURES ONLY DURING THE CALENDAR PERIODS IDENTIFIED FOR SEEDING.
2. RESEED AREAS THAT DO NOT SHOW ESTABLISHED GROWTH AFTER THIRTY (30) DAYS OF PLANTING.

TRENCH PLUGS

1. INSTALL PERMANENT TRENCH PLUGS AT THE LOCATIONS INDICATED ON THE PLANS.
2. FILL BAGS WITH APPROVED MATERIAL. DO NOT USE TOPSOIL TO FILL BAGS. IMPERVIOUS TRENCH PLUGS ARE REQUIRED FOR ALL STREAM, RIVER, WETLAND, OR OTHER WATER BODY CROSSINGS.
3. THE PROPERTY OWNER, ITS ADMINISTRATORS, EXECUTORS, SUCCESSORS, HEIRS OR ASSIGNS SHALL MAINTAIN THE STORMWATER CONTROL FACILITY OR FACILITIES IN GOOD WORKING CONDITION ACCEPTABLE TO THE CITY AND IN ACCORDANCE WITH THE SCHEDULE OF LONG-TERM MAINTENANCE ACTIVITIES IN THE STORMWATER CONTROL FACILITY MAINTENANCE PLAN. THE PROPERTY OWNER SHALL MAINTAIN COPIES OF COMPLETE, DATED AND SIGNED INSPECTION CHECKLISTS IN A MAINTENANCE INSPECTION LOG, ALONG WITH RECORDED DATES AND DESCRIPTIONS OF MAINTENANCE ACTIVITIES PERFORMED BY THE PROPERTY OWNER TO REMEDY THE DEFICIENCIES OBSERVED DURING PRIOR INSPECTIONS. THE MAINTENANCE INSPECTION LOG SHALL BE KEPT ON THE PROPERTY AND SHALL BE MADE AVAILABLE TO THE CITY UPON REQUEST. A COPY OF THE MAINTENANCE INSPECTION LOG SHALL BE SUBMITTED ANNUALLY BY DECEMBER 31ST OF EACH YEAR; MAINTENANCE INSPECTION LOGS SHALL BE SUBMITTED TO: CITY OF COLUMBUS DIVISION OF SEWERAGE AND DRAINAGE, STORMWATER AND REGULATORY MANAGEMENT SECTION 1250 FAIRWOOD AVENUE, COLUMBUS, OHIO 43206



401 N Front St, Suite 380, Columbus, OH 43215
(380) 799-8503

ISSUED FOR PERMIT

REVISIONS			
0	06/18/25	ISSUED FOR PERMIT	
REV. #	DATE	DESCRIPTION	

INTERNAL ENG.	C. MCCULLOUGH	06/18/25	330-596-0111
DESIGNED BY	J. ANDERSON	06/18/25	303-623-3345
CHECKED BY	D. BORCHERDING	06/18/25	303-623-3345
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:

INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790

RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:

EROSION CONTROL
PLAN NOTES

DRAWING NO:

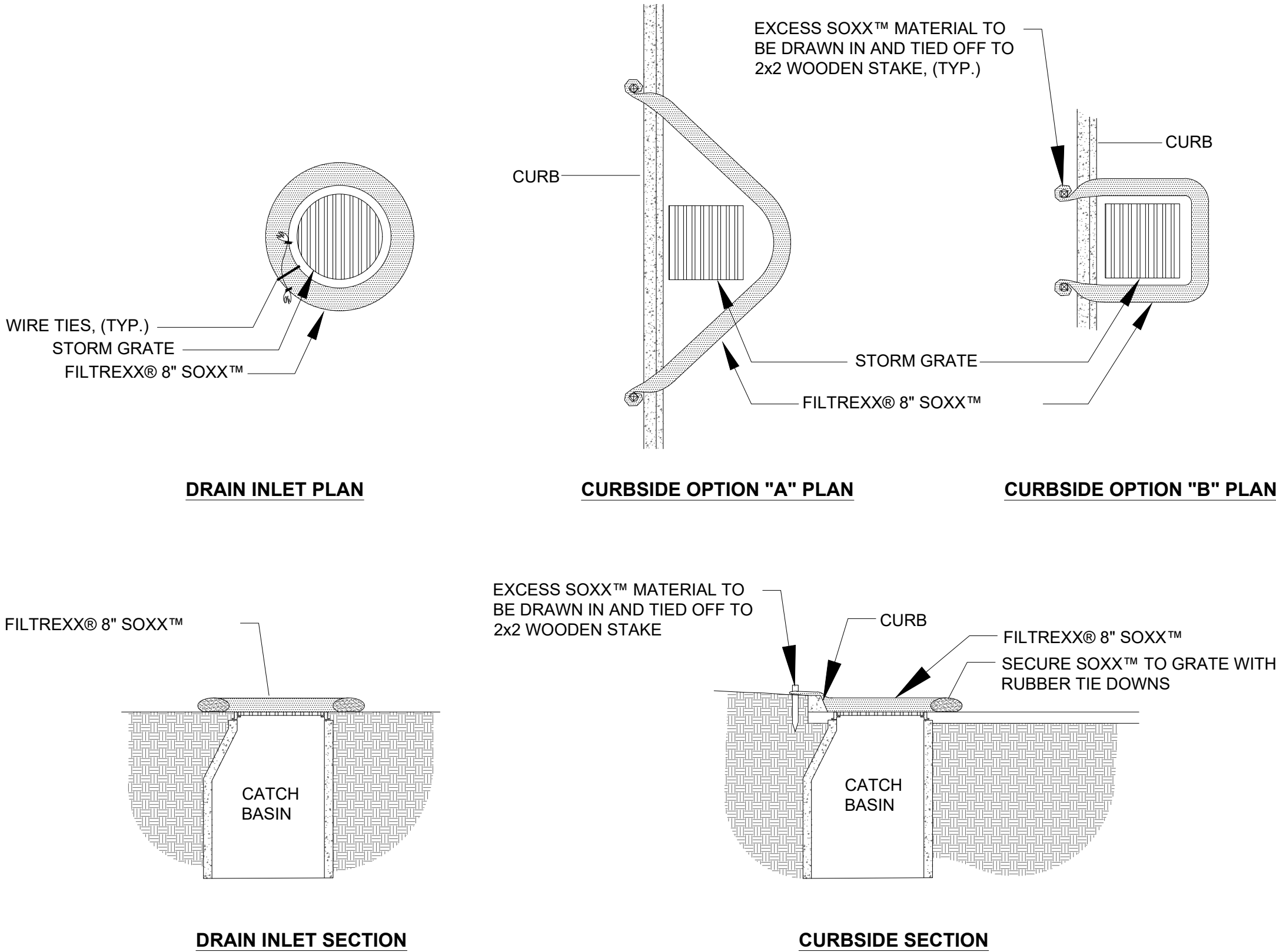
C-08

EROSION AND SEDIMENT CONTROL NARRATIVE

PLAN DESIGNER	CAMPOS EPC 401N. FRONT ST. COLUMBUS, OHIO 43215 CONTACT: LIZ ROCKOW EMAIL: ELIZABETH.ROCKOW@CAMPOSEPC.COM PHONE: 815-641-9294
SITE OWNER	NISOURCE CONTACT INFORMATION: MICHAEL ULKOKO PHONE: 614-981-0661
SITE CONTRACT	BEN LONG BLONG@NISOURCE.COM/ 574.286.6234
PROJECT DESCRIPTION	NISOURCE HAS PURCHASED 214 W WEBER RD, COLUMBUS, OH 43202 AND THE VACANT LOT DIRECTLY TO ITS WEST. IN ADDITION, NISOURCE WILL BE INSTALLING PIPING IN THE CITY OF COLUMBUS' RIGHT OF WAY ON DORRIS AVE., WEST WEBER ROAD, NEIL AVE., AND WEST TULANE ROAD. THE LIMIT OF DISTURBANCE IS 1.58 ACRES. ACTIVITIES WILL INCLUDE DEMOLITION OF CURRENT PROPERTIES ON PARCELS, CLEARING, GRUBBING, GRADING, CONSTRUCTION OF NEW STATIONS, PIPELINE INSTALLATION, ROAD RESTORATION, SEEDING AND STABILIZATION. THE PURPOSE OF THIS SITE IS TO IMPROVE THE NATURAL GAS INFRASTRUCTURE IN THE CITY OF COLUMBUS. PERMANENT INSTALLATION IS EXPECTED DURING THIS PROJECT IN THE FORM OF PIPING, GRAVEL, AND ACCESS DRIVES.
ADJACENT AREA	THE SITE IS SURROUNDED RESIDENTIAL AREA TO THE NORTH, SOUTH, EAST AND WEST
PROJECT SITE AREA	SITE AREA: 0.67 AC TOTAL DISTURBED AREA: 0.67 AC PRE-DEVELOPED IMPERVIOUS AREA: 0.14 AC POST DEVELOPMENT IMPERVIOUS AREA: 0.21 AC
EXISTING SITE CONDITIONS	SITE HAS EXISTING RESIDENTIAL STRUCTURE, LOT TO THE DIRECT WEST IS VACANT AND SEEDED WITH GRASS. ROW AREA IS PAVED WITH SEEDED GRASS ON EITHER SIDE.
SOILS	BENNINGTON-URBAN LAND COMPLEX
RECEIVING STREAM	OLENTANGY RIVER
EROSION AND SEDIMENT CONTROL MEASURES	SEDIMENT FENCE, SEDIMENT SOCK, CONCRETE WASHOUT, CONSTRUCTION ENTRANCE, AND INLET PROTECTIONS WILL BE USED. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE SUBJECT TO CHANGE BASED OF FIELD CONDITIONS
PERMANENT STABILIZATION	THE SITE WILL BE STABILIZED BY THE USE OF SEEDING IN GRASS AREAS, GRAVEL WILL BE USED TO PERMANENTLY STABILIZE THE SITE.
POST-CONSTRUCTION STORM WATER MANAGEMENT	SITE WILL BE PERMANENTLY STABILIZED AND RESEEDED AS NEEDED.
CONSTRUCTION RUNOFF DESTINATION	DRAINAGE AREA IS GOING TO EXISTING INLETS WITHIN ROW. INLET PROTECTION WILL USED FOR ALL INLET IN THE VICINITY OF THE PROJECT. EACH INLET WILL HAVE LESS THAN 1 ACRE OF DRAINAGE AREA.
CONSTRUCTION SEQUENCE	DEMOLITION OF EXISTING STRUCTURE WILL TAKE PLACE; SITE WILL HAVE A NATURAL GAS STATION INSTALLED. NATURAL GAS STATION WILL HAVE PIPING AND ASSOCIATED SUPPORT STRUCTURES AND ACCESS DRIVE INSTALLED. SITE WILL BE REGRADED AND PERMANENTLY STABILIZED. BEFORE DISTURBANCE, SILT FENCE, CONSTRUCTION ENTRANCE, CONCRETE WASHOUT, AND INLET PROTECTION WILL BE INSTALLED. THE VEGETATION WILL BE CLEARED, EROSION CONTROL BLANKETS WILL BE PLACED AS NEEDED, CONSTRUCTION WILL BEGIN. POST-CONSTRUCTION THE SITE WILL BE PERMANENTLY STABILIZED. ACTIVITIES ON THIS SITE WILL BE INSTALLATION OF A PERIMETER FENCE, SEDIMENT BASINS, SILT FENCE, CONCRETE WASHOUT AND A CONSTRUCTION ENTRANCE UTILIZING THE EXISTING TURN OFF. AFTER STATION IS CONSTRUCTED PIPELINE INSTALLATION IN THE RIGHT OF WAY WILL BEGIN. BEFORE DISTURBANCE, INLET PROTECTION AND SOCK FILTER WILL BE PLACED. DURING CONSTRUCTION, BMP'S WILL BE REGULARLY EVALUATED, MAINTAINED, AND REPLACED AS NEEDED. AFTER INSTALLATION, AREA WILL BE REPAVED/RESEEDED DEPENDING ON THE AREA. BMP'S WILL BE REMOVED FOLLOWING STABILIZATION OF ROW. THE SEQUENCE OF EVENTS: · THE CONTRACTOR SHALL PLACE THE REQUIRED FENCE, CONSTRUCTION ENTRANCE, AND SEDIMENT FENCE PRIOR TO ANY CONSTRUCTION ACTIVITY IN ACCORDANCE WITH THE PLAN DETAILS. · THE CONTRACTOR SHALL PERFORM CLEARING AND STOCKPILING MATERIAL AS DETAILED IN THIS PLAN. · THE CONTRACTOR SHALL PROPERLY MAINTAIN ALL EROSION AND SEDIMENT CONTROL AT ALL TIMES DURING CONSTRUCTION OPERATIONS. · THE CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION DEVICES ONLY AFTER ALL AREAS HAVE BEEN STABILIZED AND RESEDED. THE CONTRACTOR SHALL CLEAN ALL EXISTING INLETS AND STORM SEWER INLETS.THE CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION DEVICES ONLY AFTER ALL AREAS HAVE BEEN STABILIZED AND RESEDED. THE CONTRACTOR SHALL CLEAN ALL EXISTING INLETS AND STORM SEWER INLETS.
OEPA NPDES PERMIT	OHC000006

NOTES:

- DIRECT DISCHARGE OF SEDIMENT LADEN WATER TO THE CITY'S SEWER SYSTEM OR A RECEIVING STREAM IS A VIOLATION OF OHIO EPA AND CITY OF COLUMBUS REGULATIONS. THE CONTRACTOR WILL BE HELD LIABLE FOR THE VIOLATION AND SUBSEQUENT FINES.
- THE EXACT LOCATION OF THE CONCRETE WASHOUT(S) MAY BE FIELD LOCATED BY THE ON-SITE PROJECT ENGINEER/CONTACT. APPLIES TO ALL SWP3 PLAN REVIEW PAGES.
- THE USE OF PORTABLE CONCRETE WASHOUT UNITS IS APPROVED (AND ENCOURAGED) FOR ALL CONSTRUCTION AREAS IN THE CITY OF COLUMBUS.
- UPPER BANK ABOVE NORMAL WATER ELEVATION SHOULD BE STABILIZED QUICKLY WITH STRAW BLANKETS, JUTTE MATTING OR SIMILAR GEO-TEXTILE.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATION AT THE DISCRETION OF THE CITY OF COLUMBUS AND/OR THE OHIO EPA.
- ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL.
- STREET CLEANING (ON AN AS-NEEDED BASIS) IS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT THIS INCLUDES SWEEPING, POWER CLEANING AND (IF NECESSARY) MANUAL REMOVAL OF DIRT OR MUD IN THE STREET GUTTERS.
- THIS PLAN MUST BE POSTED ON-SITE. A COPY OF THE SWPPP PLAN AND THE APPROVED EPA STORMWATER PERMIT (WITH THE SITE-SPECIFIC NOI NUMBER) SHALL BE KEPT ON-SITE AT ALL TIMES.
- THE USE OF STRAW WATTLES HAS PROVEN TO BE A VERSATILE AND EFFECTIVE ESC BMP, ESPECIALLY IN RESIDENTIAL SETTINGS. STRAW WATTLES MAY BE SUBSTITUTED FOR SILT FENCE. ADDITIONALLY: THE USE OF COMPOST FILTER SOCKS AND COMPOST BLANKETS ARE GAINING WIDER ACCEPTANCE NATIONWIDE, THEY ARE NOW APPROVED FOR USE ON ALL COLUMBUS SWP3 PLANS AND CONSTRUCTION SITES.
- STRAW WATTLES OR COMPOST ROLLS HAVE TO BE A MINIMUM OF 12 INCHES IN DIAMETER NOW (OEPA).



- NOTES:
- ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
 - FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
 - COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

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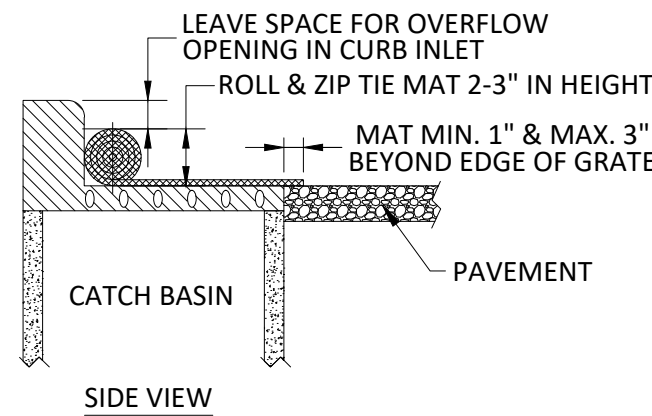
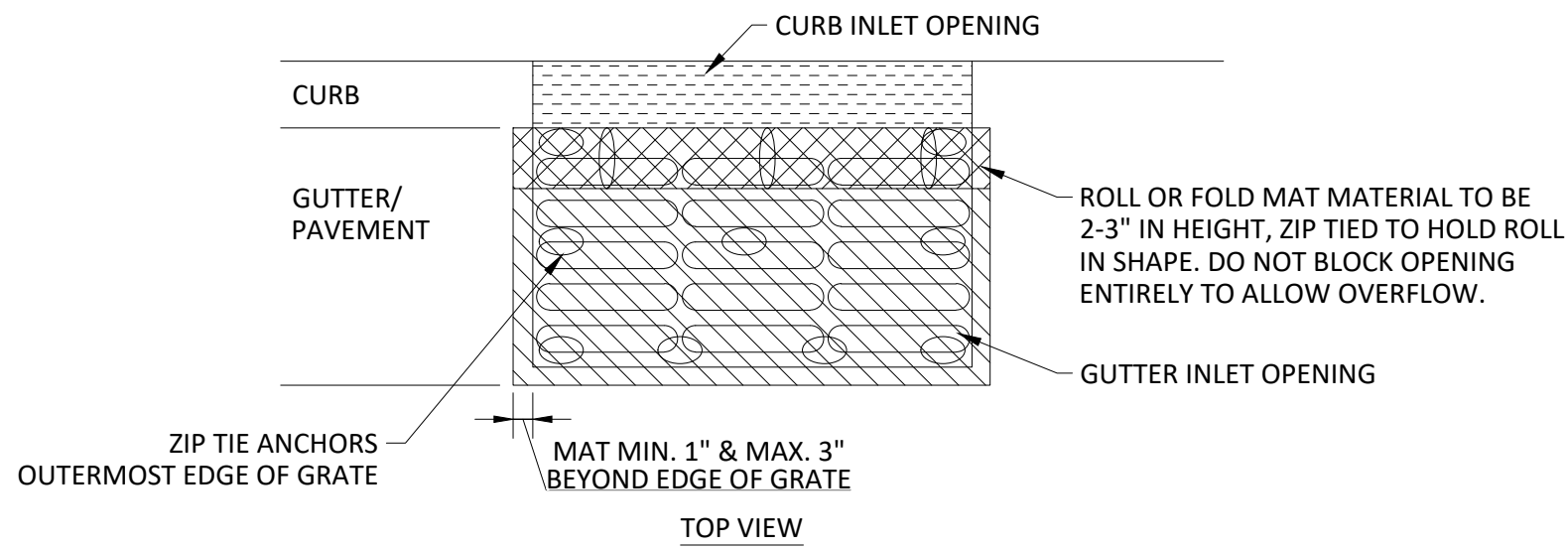
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REVISIONS			
0	06/18/25	ISSUED FOR PERMIT	
REV. #	DATE	DESCRIPTION	
INTERNAL ENG.	C. MCCULLOUGH	06/18/25	330-596-0111
DESIGNED BY	J. ANDERSON	06/18/25	303-623-3345
CHECKED BY	D. BORCHERDING	06/18/25	303-623-3345
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

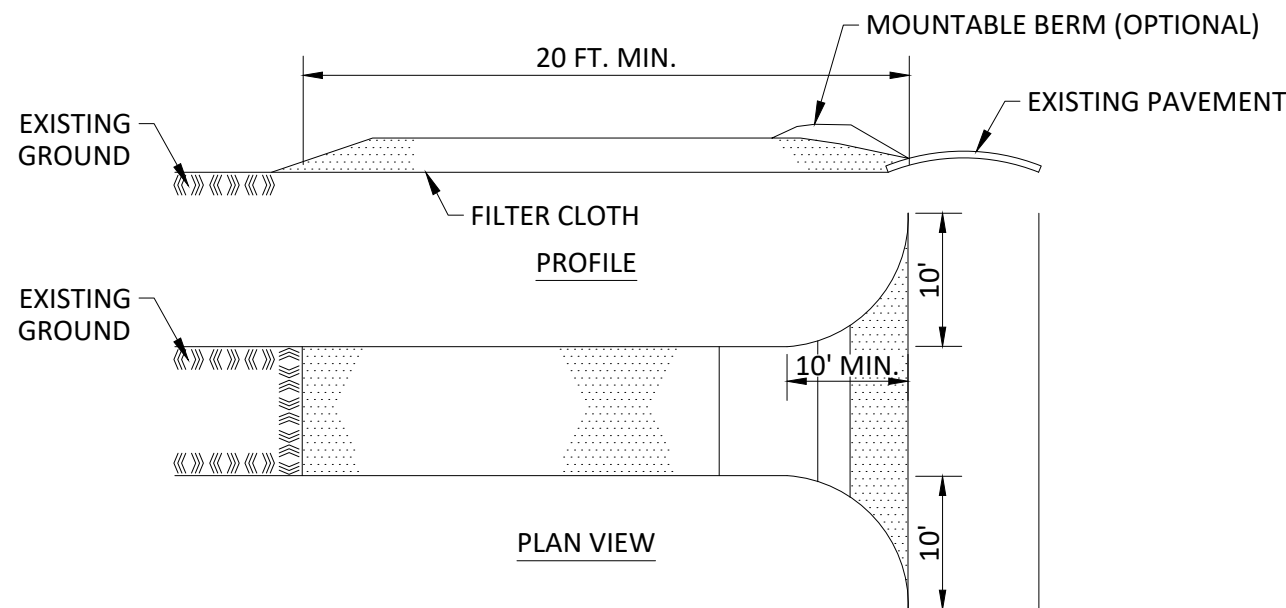
DRAWING TITLE:
**EROSION CONTROL
PLAN NOTES**

DRAWING NO:
C-09



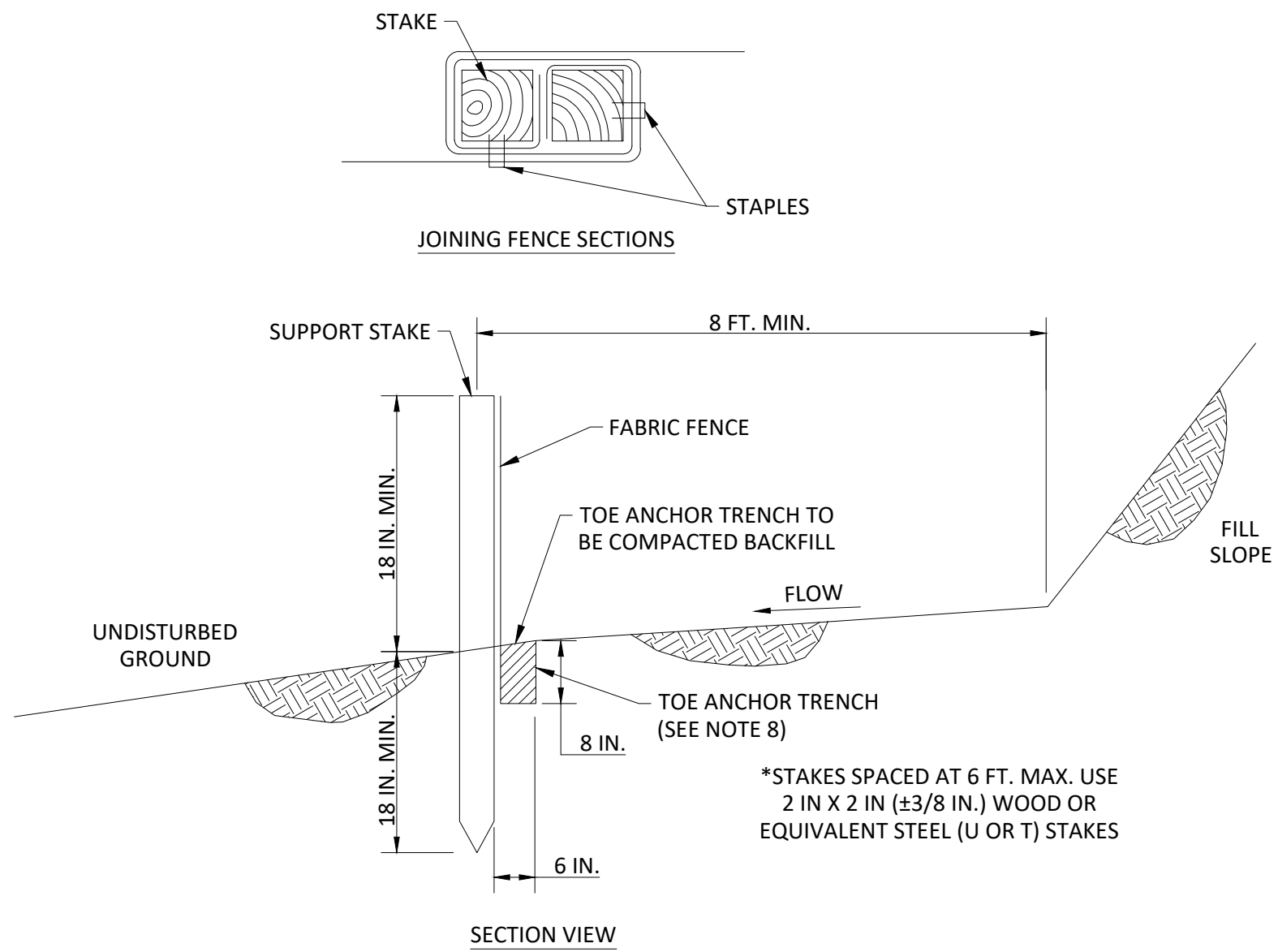
NOTES:

1. THE NUMBER OF ZIP TIES REQUIRED VARIES DEPENDING ON SIZE OF GRATE. FOLLOW MFG. INSTRUCTIONS FOR QUANTITY AND/OR SPACING OF TIES.
2. THE ROLLED OR FOLDED PORTION OF MAT PROTECTING THE CURB OPENING MUST BE AS TIGHT AGAINST THE CURB AS POSSIBLE TO PREVENT RUN-OFF FROM FLOWING BEHIND OR UNDER FILTER MEDIA
3. DO NOT COMPLETELY OBSTRUCT THE CURB INLET WITH ROLLED OR FOLDED PORTION OF MAT TO ALLOW FOR OVERFLOW.
4. WHERE FREQUENT STREET FLOODING OCCURS OR IS A CONCERN, AN OVERFLOW HOLE MAY BE CUT INTO THE CENTER OF THE MAT WITH WRITTEN APPROVAL OF MS4 & NISOURCE ENVIRONMENTAL.
5. USE OF MATS WITH OVERFLOW HOLES MANUFACTURED AND INTEGRAL TO THE DESIGN OF THE MAT ARE APPROVED FOR USE.



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT. LENGTH - AS REQUIRED.
2. THICKNESS - NOT LESS THAN SIX (6) INCHES.
3. WIDTH - TWENTY (20) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
4. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
5. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
7. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAYS. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

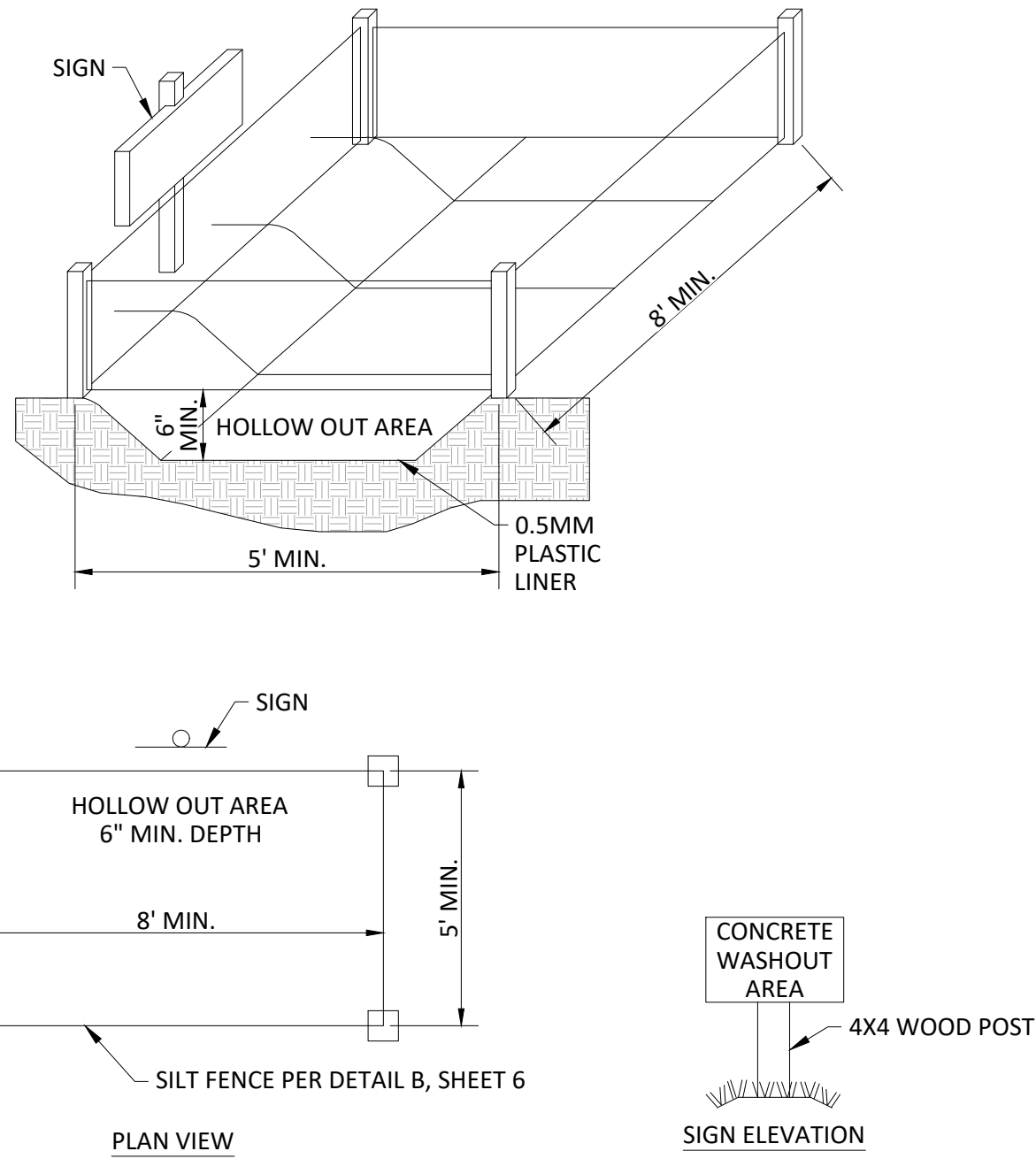


MAXIMUM SLOPE LENGTH FOR SILT FENCE

SLOPE - PERCENT	MAXIMUM SLOPE LENGTH (FT.) ABOVE FENCE STANDARD (18" HIGH) SILT FENCE
2 (OR LESS)	100
5-10	50
10-20	25
20-40	15
40-50	10

NOTES:

1. FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS REQUIRED BY STATE SPECIFIC SPECIFICATIONS. FABRIC SHALL BE IN USE NO LONGER THAN THE MANUFACTURERS RECOMMENDED LIFE SPAN AND SHALL BE REPLACED WITH NEW FABRIC AFTER THE LIFE SPAN HAS BEEN EXCEEDED.
2. FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.
3. SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
4. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.
5. ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (FIGURE 18).
6. FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.
7. SILT FENCE THAT HAS BECOME CLOGGED WITH SEDIMENT AND CAN NO LONGER BE CLEANED SHALL BE REPLACED.
8. TOE ANCHOR TRENCH MEASUREMENTS MAY BE REDUCED IN STATE SPECIFIC INSTANCES:
VIRGINIA = 4" VERT. x 4" HORZ.
PENNSYLVANIA & KENTUCKY = 6" VERT. x 6" HORZ.
INDIANA = 8" VERT. x 4" HORZ.
OHIO, MASSACHUSETTS & MARYLAND = 8" VERT.

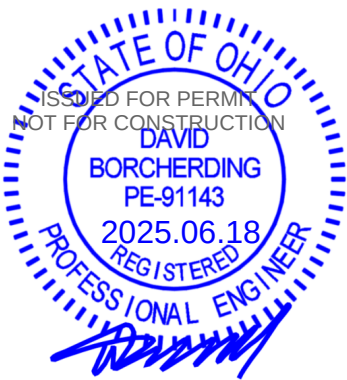


NOTES:

1. CONCRETE TRUCKS SHALL UTILIZE AREAS TO WASHOUT TRUCKS.
2. ACCUMULATED CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED PROPERLY.
3. PLACE PLASTIC LINER OVER THE ENTIRE HOLLOW OUT AREA PRIOR TO USE.
4. PROVIDE ITEMS NOTED ABOVE INCLUDING REMOVAL OF CONCRETE WASHOUT UPON COMPLETION OF THE PROJECT AS NOTED IN THE BID PRICE FOR THE PROJECT.
5. FILL HOLLOW AREA TO A DEPTH OF 4 TO 6 INCHES WITH CMSC ITEM 703 AGGREGATE, SIZE #57, #2, OR #4.
6. USE OF ROLL AWAY OR OTHER PORTABLE CONTAINERS IS AN ACCEPTABLE ALTERNATIVE (AND HIGHLY ENCOURAGED) PROVIDED THEY ARE USED IN ACCORDANCE WITH NPDES GUIDELINES ON CONCRETE WASHOUT.

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INTERNAL ENG.	C. MCCULLOUGH	06/18/25	330-596-0111
DESIGNED BY	J. ANDERSON	06/18/25	303-623-3345
CHECKED BY	D. BORCHERDING	06/18/25	303-623-3345
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# ----
PROJECT ID# 21-78790
RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:
**EROSION CONTROL
DETAILS**

DRAWING NO:
C-11

APPENDIX D - STRUCTURAL DRAWINGS

STRUCTURAL DRAWING INDEX		
DWG No.	REV	DRAWING TITLE
D-01	0	STRUCTURAL DRAWING INDEX
D-02	0	STRUCTURAL GENERAL NOTES
D-03	0	STRUCTURAL BILL OF MATERIAL
D-04	0	OVERALL STRUCTURAL PLAN
D-05	0	DRIVEWAY AND SIDEWALK ENLARGED DETAILED PLAN
D-06	0	STRUCTURAL SECTIONS AND DETAILS - FILTER SEPARATOR SUPPORT
D-07	0	STRUCTURAL SECTIONS AND DETAILS - BOILER/HEATER
D-08	0	STRUCTURAL SECTIONS AND DETAILS - SCADA BUILDING PAD
D-09	0	STRUCTURAL SECTIONS AND DETAILS - GENERATOR PAD





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PROPOSED

REVISIONS		
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REV. #	DATE	DESCRIPTION

INTERNAL ENG.	H.ROQUE	09/13/24	470-322-4636
DESIGNED BY	H.ROQUE	09/13/24	470-322-4636
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AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:

INST# 24-0136951-00
ABAN# XX-XXXXXXX-XX
PROJECT ID# 21-78791

NEW BRANDON ROAD, RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:

STRUCTURAL DRAWING INDEX

DRAWING NO:

D-01

EARTHWORK AND CONCRETE CONSTRUCTION NOTES / SPECIFICATIONS

A. GENERAL SITE INFORMATION

1. DESIGN CODE = 2024 OHIO BUILDING CODE, RISK CATEGORY = IV. FRANKLIN COUNTY, OH.

2. SNOW LOAD = 20 PSF

3. WIND SPEED = V = 119 MPH; EXPOSURE = "C" (CONSERVATIVE) ULT

4. SITE CLASS = "D"

5. SEISMIC DESIGN ENVELOPE PARAMETERS; S_s : 0.119 F_a : 1.6 S_{D1} : 0.096 S_1 : 0.06 F_v : 2.4 S_{DS} : 0.127
- } SEISMIC DESIGN CATEGORY (SDC) = C; I_E = 1.50

B. EARTHWORK AND FOUNDATION CONSTRUCTION

1. FOUNDATION CONSTRUCTION AND SITE PREPARATION METHODS SHALL FOLLOW RECOMMENDATIONS OUTLINED IN THE 2024 OHIO BUILDING CODE. SPECIFIC REQUIREMENTS ARE AS FOLLOWS:
- a. FOUNDATION SYSTEM: SHALLOW SPREAD FOOTINGS.

b. FROST DEPTH: 32 IN.

c. SOIL ENGINEERING DESIGN PARAMETERS: NO SITE SPECIFIC GEOTECH REPORT EXISTS. IT IS POSSIBLE THE SITE NATIVE SOILS MAY EXHIBIT SHRINKAGE/SWELLING DEPENDING ON WATER LEVEL ON SOIL. CONTRACTOR SHALL NOTIFY ENGINEERING OF SOILS ENCOUNTERED DURING EXCAVATION ACTIVITIES FOR FOOTERS TO DETERMINE IF ADDITIONAL EXCAVATION AND BACKFILL IS REQUIRED TO MITIGATE SHRINK/SWELL POTENTIAL.

d. PRESUMPTIVE CLAY AS PER TABLE IBC 1806.2 CLASS 5 (1,500 psf). CONTRACTOR SHALL NOTIFY ENGINEERING OF SITE SOIL CONDITIONS THAT MAY AFFECT FOUNDATION PERFORMANCE NEGATIVELY SUCH AS BUT NOT LIMITED TO: MUDDY OR SATURATED SOIL, FROZEN SOIL, ORGANICS, PEAT OR UNPREPARED FILL.

e. COMPACTION CRITERIA FOR FOUNDATIONS: UNLESS OTHERWISE DICTATED BY ONSITE GEOTECHNICAL PERSONNEL, MINIMUM COMPACTION CRITERIA FOR PREPARED SUBGRADE SHALL BE 100% STANDARD PROCTOR MAXIMUM DRY DENSITY. FOOTINGS SHALL BEAR ON A 12" THICK MIN. LAYER OF ODOT ITEM 304 GRANULAR MATERIAL FILL UNLESS NOTED OTHERWISE.

2. EXCAVATION AND BACKFILL:

- a. ALL EXCAVATION AND GRADING WORK FOR FOUNDATIONS SHALL CONFORM TO THE SPECIFICATIONS HEREIN AND ALL LOCAL, COUNTY, STATE, AND FEDERAL LAWS AND REGULATIONS. ENTIRE AREA AROUND EACH FOUNDATION MUST BE THOROUGHLY PROBED FOR UNDERGROUND PIPE, CONDUIT, HIGH PRESSURE LINES, ETC. BEFORE ANY EXCAVATION BEGINS.

b. WHENEVER POSSIBLE, EXCAVATION FOR CONCRETE FOUNDATION SHALL BE NEATLY CUT TO THE EXACT SIZE SPECIFIED.

c. IF THE GROUND WATER LEVEL IS FOUND TO BE ABOVE THE BOTTOM OF THE FOUNDATION EXCAVATION, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:

I. EXCAVATE THE FOUNDATION 1' BELOW THE BOTTOM OF THE CONCRETE FOUNDATION AND 1' BEYOND THE FOUNDATION BASE ON EACH SIDE.

II. THE WATER SHALL BE REMOVED FROM THE EXCAVATED FOUNDATION. CONTRACTOR SHALL KEEP EXCAVATED FOUNDATION FREE OF WATER AT ALL TIMES UNTIL THE BASE HAS BEEN PREPARED TO THE FINISHED ELEVATION OF THE FOUNDATION BASE.

III. PLACE WOVEN GEOTEXTILE FABRIC MIRAFI 600X OR EQUAL 1' BEYOND THE FOUNDATION BASE ON EACH SIDE.

IV. PLACE 12" OF CLASS II AGGREGATE BASE IN TWO SEPARATE 6" LIFTS, COMPACT TO 95% OF THE MAX DRY DENSITY PER ASTM D1557.

V. BEFORE PLACING THE FORMS, REBAR AND CONCRETE POUR, THE CONTRACTOR SHALL KEEP THE EXCAVATED FOUNDATION FREE OF WATER.

d. DURING AND UPON COMPLETION OF THE INSTALLATION OF ANY FOUNDATION, THE WORK SHALL BE INSPECTED AND APPROVED BY THE OWNER OR THEIR REPRESENTATIVE BEFORE THE EXCAVATION IS BACKFILLED. AFTER SUCH APPROVAL, THE EXCAVATION, UNLESS REQUIRED TO BE LEFT OPEN FOR GOOD CAUSE, SHALL BE PROMPTLY BACKFILLED IN A SATISFACTORY MANNER PROVIDED THE FOUNDATION HAS ATTAINED SUFFICIENT STRENGTH.

e. FORMS SHALL NOT BE STRIPPED UNTIL 3 DAYS AFTER THE POUR OR CONCRETE STRENGTH REACHES 75% F'C, WHICHEVER OCCURS LATER.

f. STRUCTURAL BACKFILL SHALL CONSIST OF GRANULAR NON-EXPANSIVE SAND, GRAVEL AND SAND-GRAVEL MIXTURES, WITH PLASTICITY INDEX OF 15% OR LESS, WITH 100% LESS THAN 4" SIZE ROCK AND MAX. 30% PASSING NO. 200 SIEVE. IT SHALL BE PLACED IN 8" MAX. LIFTS.
3. SUBGRADE CONDITIONS SHOULD BE INSPECTED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF ANY CONCRETE. STRUCTURAL FILL SHALL BE INSPECTED AND TESTED.

EXPOSURE CATEGORY & CLASS				f'c AT 28 DAYS	CEMENT TYPE	W/C RATIO (MAX.)	AIR CONTENT	MAX SLUMP		OTHER PROVISIONS
F FREEZING THAWING	C CORROSION PROTECTION	S SULFATE EXPOSURE	P PERMEABILITY							
F2	C1	S0	P0 TO P1	4500 psi	II	0.45	4.5% TO 7.5%	ALL CONC.	DRILLED PIERS 4 6"	N/A

LEAN CONCRETE SHALL BE (F'C) <1500 psi

4. AGGREGATES SHALL BE CRUSHED STONE CONFORMING TO "SPECIFICATION FOR CONCRETE AGGREGATES" ASTM C33.
5. WATER USED IN MIXING CONCRETE SHALL CONFORM TO ASTM C1602.
6. REINFORCING BARS SHALL BE DEFORMED, INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO ASTM A615 (ASTM A706 OR ASTM A615 MEETING THE REQUIREMENTS OF ACI-318, SECTION 21.1.5.2) GRADE 60. FIELD SPLICES AND DEVELOPMENT LENGTH SHALL COMPLY WITH THE FOLLOWING SCHEDULE, UNLESS NOTED OTHERWISE:

BAR SIZE	BAR DIA	TOP BAR	OTHER
#3	3/8"	15"	12"
#4	500"	20"	15"
#5	625"	26"	20"
#6	750"	29"	23"
#7	875"	47"	36"
#8	1.00"	61"	47"
#9	1.125"	77"	59"
#10	1.27"	97"	75"
#11	1.41"	120"	92"

REINFORCEMENT SHALL BE INSPECTED BEFORE CONCRETE IS PLACED

7. CONCRETE PROTECTION FOR REINFORCEMENT - CLEAR DISTANCE FROM FACE OF CONCRETE TO BAR SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.
- a. CONCRETE DEPOSITED AGAINST GROUND OR VOID FORM: 3" .

b. CONCRETE SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH GROUND AFTER REMOVAL OF FORMS: 1 1/2" FOR #5 BARS AND SMALLER, 2" FOR #6 THROUGH #18.

c. SURFACES NOT EXPOSED TO GROUND OR WEATHER: 3/4" FOR SLABS AND WALLS WITH #11 AND SMALLER BARS, 1 5/8" FOR BEAMS AND COLUMNS.
8. EXPANSION JOINT MATERIAL FOR EXPANSION OR ISOLATION JOINTS SHALL BE PREMOLDED, BITUMINOUS IMPREGNATED FIBERBOARD.CONFORMING TO ASTM D994. JOINT THICKNESS SHALL BE 1/2" UNLESS NOTED OTHERWISE ON DESIGN DRAWINGS.
9. JOINT SEALANT FOR ALL CONCRETE CONTROL, CONSTRUCTION AND ISOLATION JOINTS SHALL BE SIKAFLEX-1A BY SIKA CORP., OR APPROVED EQUAL.
10. GROUT USED FOR VARIOUS APPLICATIONS SHALL BE AS FOLLOWS:
- a. GROUT USED FOR STRUCTURAL STEEL COLUMN BASE PLATES SHALL BE PREPACKED, HIGH-FLUIDITY NON-SHRINK, NATURAL AGGREGATE GROUT SUCH AS "MASTERFLOW 713 PLUS" BY BASF (FORMERLY MASTER BUILDERS) OR APPROVED EQUAL. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION. SPACE BETWEEN THE ANCHOR RODS AND OVERSIZED HOLES IN THE BASE PLATE SHALL BE FULLY GROUTED WITH NON-SHRINK GROUT TO ASSURE PROPER SHEAR TRANSFER. GROUTING SHALL BE PERFORMED ONE BOLT AT A TIME, WHILE OTHER BASE PLATE RODS ARE FULLY TIGHTENED.

b. GROUT USED FOR GROUTING COMPRESSORS, TURBINES, LARGE PUMPS, AND OTHER RECIPROCATING OR ROTATING EQUIPMENT THAT REQUIRES EPOXY GROUTING AS SHOWN ON DESIGN DRAWINGS SHALL BE "FIVE STAR HP" EPOXY GROUT BY FIVE STAR PRODUCTS, INC. OR APPROVED EQUAL, FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.

c. GROUT USED FOR DRILLED AND EPOXY-GROUTED REBARS SHALL BE HILTI HIT-RE-500-SD EPOXY OR APPROVED EQUAL.
11. COLUMN BASE PLATE GROUT PROCEDURE:
- a. SELECT A NON-SHRINK, NON-METALLIC GROUT DESIGNED FOR DAMP PACKING, BASF CONSTRUCTION GROUT OR OWNER APPROVED EQUAL, FOLLOW ALL MFGR.'S INSTRUCTIONS. APPLY GROUT BETWEEN THE TEMPERATURE RANGE OF 50 TO 90 DEG. F.

b. BUSH HAMMER AND CLEAN CONCRETE SURFACE WHERE GROUT WILL BE APPLIED.

c. CLEAN ALL SURFACES TO BE GROUTED.

d. SATURATE CONCRETE SURFACES WITH CLEAN WATER 24 HOURS BEFORE GROUTING, REMOVE WATER IMMEDIATELY BEFORE APPLICATION.

e. PLACE TIGHT AND SECURE FORMS ON ALL SIDES EXCEPT THE SIDE WHERE THE GROUT WILL BE APPLIED.

f. MIX THE GROUT FOLLOWING MFGR.'S INSTRUCTIONS, THE GROUT SHOULD BE DAMP ENOUGH THAT IT CAN BE MOLDED INTO A BALL, THE BALL SHOULD NEITHER SLUMP NOR CRUMBLE DUE TO LACK OF MOISTURE.

g. PLACE GROUT IMMEDIATELY AFTER MIXING, RAMMING UNDER THE BASE PLATE WITH A WOODEN DOWEL, WORKING AT AN ANGLE TO THE CORNERS TO ENSURE EVEN COMPACTION.

h. REMOVE FORMS, SHAPE 45 DEG. BEVEL TO CONCRETE SURFACE ALL SIDES.

i. CURE 8 HOURS KEEPING MOIST WITH BURLAP, ETC.
12. VOID FORM MATERIAL SHALL BE "SURE VOID" OR APPROVED EQUAL. KEEP VOID FROM MATERIAL DRY DURING PLACEMENT AND INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.VOID FORM SHALL BE BIODEGRADABLE AND CAPABLE OF SUPPORTING THE FLUID WEIGHT OF THE CONCRETE.
13. ALL WELDING PROCEDURES, INCLUDING STUD WELDING, AND QUALIFICATIONS SHALL BE IN ACCORDANCE WITH AWS D1.1.
14. ALL WALKS AND EXTERIOR SLABS SHALL BE LIGHT BROOM FINISHED AFTER CONCRETE HAS RECEIVED A FLOAT FINISH. FOLLOW ACI 301 PROCEDURES.
15. EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS NOTED.
16. CHECK ALL ELECTRICAL, MECHANICAL AND PIPING DRAWINGS FOR EMBEDDED ITEMS (PIPE, CONDUIT, ETC.) AND BLOCKOUTS BEFORE PLACING CONCRETE.
17. IF REINFORCING OR MESH IS FIELD CUT FOR SMALL OPENINGS, CONDUIT, ELECTRICAL BOXES, ETC. CUT REINFORCING SHALL BE REPLACED WITH AN EQUIVALENT AREA OF STEEL. ALL SUCH BARS SHALL EXTEND 24" MINIMUM (OR MESH LAP 2") BEYOND CORNER OR EDGE OF OPENING IF NECESSARY. REINFORCING SHALL BE BENT TO PROVIDE THIS MINIMUM EMBEDMENT. MAKE ALL BARS CONTINUOUS AROUND CORNERS.
18. THE CONTRACTOR SHALL VERIFY ALL EQUIPMENT ANCHOR ROD DIMENSIONS AGAINST THE CERTIFIED EQUIPMENT DRAWINGS BEFORE PLACING CONCRETE. TOLERANCES FOR ANCHOR ROD LOCATIONS AND ELEVATIONS SHALL BE AS DEFINED IN THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) CODE OF STANDARD PRACTICE.
19. ALL WATER STOP SHALL BE BENTONITE FLEXIBLE STRIP WATERSTOP BY VOLCLAY OR APPROVED EQUAL
20. CONCRETE MIX DESIGN AND REBAR SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER-OF-RECORD FOR APPROVAL PRIOR TO CONSTRUCTION.

C. CONTRACTOR'S MEANS AND METHODS.

1. THE STRUCTURAL DRAWINGS AND NOTES REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. FOR THIS REASON, DURING ERECTION OF THE STRUCTURE AND/OR THE DEMOLITION OF THE STRUCTURE OR PORTIONS OF THE STRUCTURE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY BRACING TO WITHSTAND ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING LATERAL LOADS, EXCAVATIONS, SHORING, STOCKPILES OF MATERIALS AND EQUIPMENT, IN ADDITION TO ANY WORKER SAFETY REQUIREMENTS. SUCH BRACING SHALL BE LEFT IN PLACE AS LONG AS IT MAY BE REQUIRED FOR SAFETY AND UNTIL ALL STRUCTURAL FRAMING AND DIAPHRAGMS ARE IN PLACE WITH CONNECTIONS COMPLETED. DISCOVERY.
2. DURING CONSTRUCTION, THE CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS OR AS BUILT DIMENSIONS WHICH ARE NOT NOW KNOWN OR ARE AT VARIANCE WITH PROJECT DOCUMENTATION (DISCOVERY). SUCH CONDITIONS MAY INTERFERE WITH CONSTRUCTION OR REQUIRE PROTECTION AND / OR SUPPORT OF EXISTING WORK DURING CONSTRUCTION, OR MAY CONSIST OF DAMAGE OR DETERIORATION TO THE STRUCTURAL MATERIALS OR COMPONENTS WHICH COULD JEOPARDIZE THE INTEGRITY OF THE STRUCTURE(S) RELATED TO SUCH DISCOVERIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCOVERY HE OR SHE IDENTIFIES THAT MAY INTERFERE WITH THE PROPER EXECUTION OF THE WORK OR JEOPARDIZE THE INTEGRITY OF THE STRUCTURE(S) PRIOR TO PROCEEDING WITH WORK RELATED TO SUCH DISCOVERIES.

D. CONTRACTOR'S COORDINATION

1. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS AND DETAILS BETWEEN ALL TRADES, SUBCONTRACTORS AND VENDOR SUPPLIED EQUIPMENT PRIOR TO COMMENCING ANY CONSTRUCTION. THE STRUCTURAL ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY INCONSISTENCIES RELATING TO THE STRUCTURE. FAILURE TO DO SO SHALL RELIEVE THE STRUCTURAL ENGINEER OF ALL CONSEQUENCES RELATED TO THE INCONSISTENCY.
2. SEE MECHANICAL, ELECTRICAL AND OTHER DISCIPLINE'S DRAWINGS FOR ADDITIONAL INFORMATION RELATING TO THE STRUCTURE.

E. DRAWING CONVENTIONS

1. T.O.C. EL. INDICATES TOP OF CONCRETE ELEVATION.
2. B.O.C. EL. INDICATES BOTTOM OF CONCRETE ELEVATION.
3. SCALES NOTED ON DRAWINGS ARE ACCURATE FOR FULL-SIZE (24x 36)DRAWINGS ONLY.

SCHEDULE OF CIVIL INSPECTIONS / SPECIAL INSPECTIONS (AS APPLICABLE)

INSPECTION AND TESTING REPORTS SHALL BE COMPLETED AND DISTRIBUTED AT THE COMPLETION OF EACH TASK. IF A TASK IS TO TAKE LONGER THAN THREE (3) DAYS, PROVIDE REPORTS FOR EACH DAY. PROVIDE COPIES OF REPORTS TO: CONTRACTOR, OWNER, AND THE ENGINEER OF RECORD. INSPECTOR TO KEEP A NON-COMPLIANCE LIST DOCUMENTING ITEMS INSPECTED NOT MEETING APPROVED CONSTRUCTION DOCUMENTS AND WHEN/HOW RESOLVED.

CIVIL INSPECTIONS ARE DEFINED HEREIN AS INSPECTIONS OF EARTHWORK, FOUNDATION CONSTRUCTION AND CONCRETE CONSTRUCTION.

INSPECTION AND VERIFICATION OF CONCRETE CONSTRUCTION				
INSPECTION REQUIRED Y/N	VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTION		REFERENCED STANDARD
		CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	
Y	1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS AND PLACEMENT.	---	X	ACI 318: 3.5, 26.6
N	2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2b.	---	X	AWS D1.4 ACI 318: 26.6.4
Y	3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	---	X	ACI 318: 26.7
Y	4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	---	X	ACI 318: 26.7
Y	5. VERIFICATION OF ANCHOR MATERIAL CERTIFICATIONS.	---	X	AISC 360
Y	6. VERIFYING USE OF REQUIRED DESIGN MIX.	---	X	ACI 318: 26.4
Y	7. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---	ASTM C 172 ASTM C 31 ACI 318: 26.12,26.13
Y	8. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---	ACI 318: 26.5
Y	9. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X	ACI 318: 26.5.3
Y	10. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORING AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	---	X	ACI 318: 26.11
Y	11. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X	ACI 318: 26.11

INSPECTION AND VERIFICATION OF SOILS			
INSPECTION REQUIRED Y/N	VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTION	
		CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
Y	1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE DESIRED BEARING CAPACITY.	---	X
Y	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	---	X
Y	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	---	X
Y	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	---
Y	5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	---	X



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PROPOSED

REVISIONS			
0	06/18/2025	ISSUED FOR BID	
REV. #	DATE	DESCRIPTION	

INTERNAL ENG.	H. ROQUE	09/13/24	470-322-4636
DESIGNED BY	H. ROQUE	09/13/24	470-322-4636
CHECKED BY	A. TOMBO	09/13/24	772-801-9684
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:

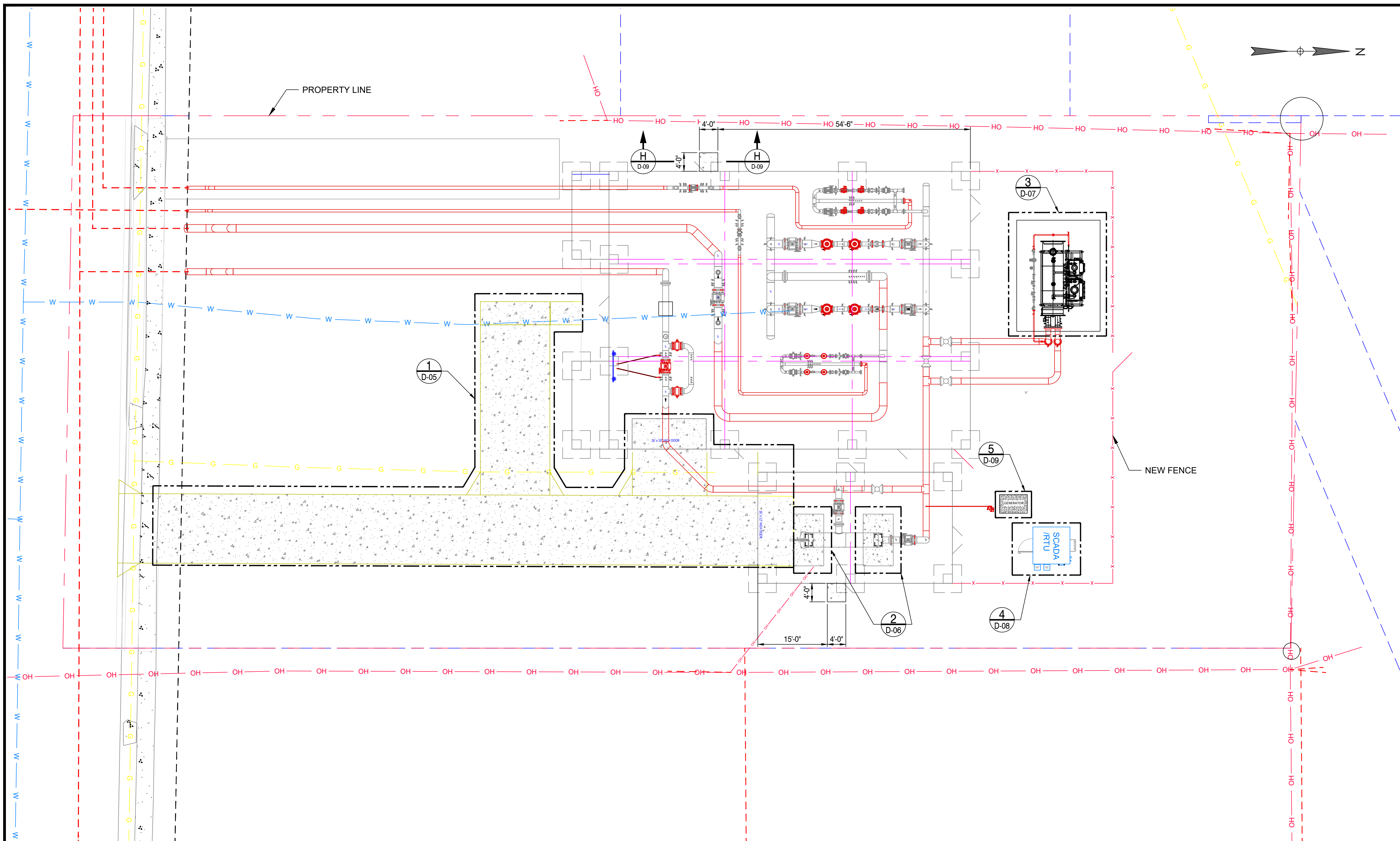
INST# 24-0136951-00
ABAN# XX-XXXXXXX-XX
PROJECT ID# 21-78791
NEW BRANDON ROAD, RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:

STRUCTURAL GENERAL NOTES

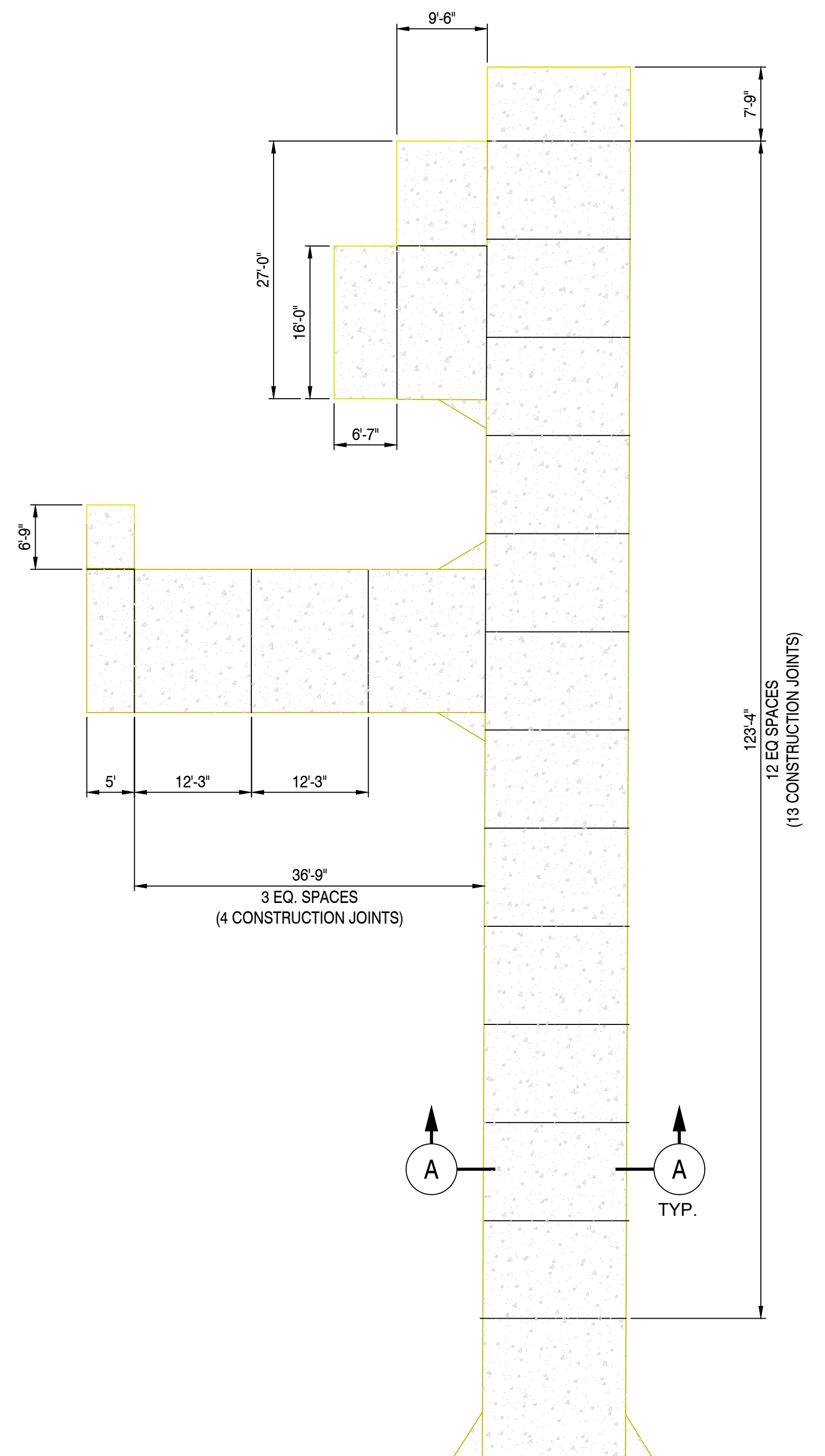
DRAWING NO:

D-02



PLAN VIEW
SCALE: $3/32" = 1'-0"$





DRIVEWAY SHOULD SLOPE AWAY FROM NEW BUILDING AND/OR FOUNDATIONS. REF. CIVIL DRAWINGS FOR ADD'L INFORMATION

15'-0" MAX.

6"

GRADE

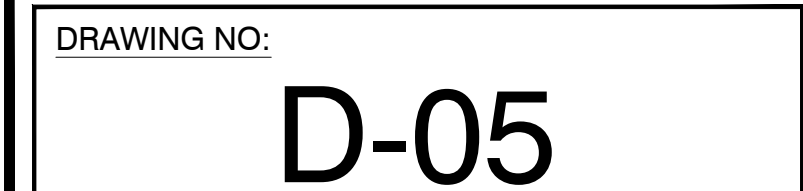
6"

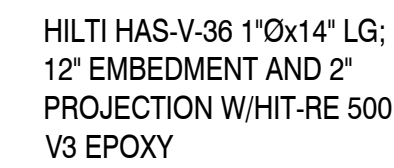
6x6 - W16 x W16 WWF REINFORCEMENT

12" MIN. ODOT GRANULAR STRUCTURAL FILL BED INSTALLED AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.

NOTE:

1. CONCRETE SHOULD FOLLOW SLOPE AND GRADES AS SET FORTH PER CIVIL DRAWINGS. OTHERWISE, IT SHOULD FOLLOW NATURAL GRADE AND/OR SLOPE AWAY FROM STRUCTURE.

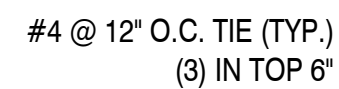




SCALE: 1/2" = 1'-0"
(TYP. 2 LOCATIONS)

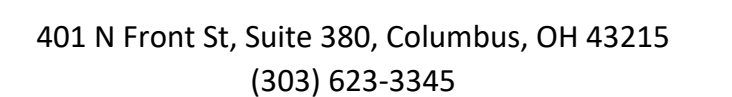


SCALE: $3/4" = 1'-0"$



SCALE: 3/4" = 1'-0"

Ohio Utilities Protection Service
Call 811
before you dig



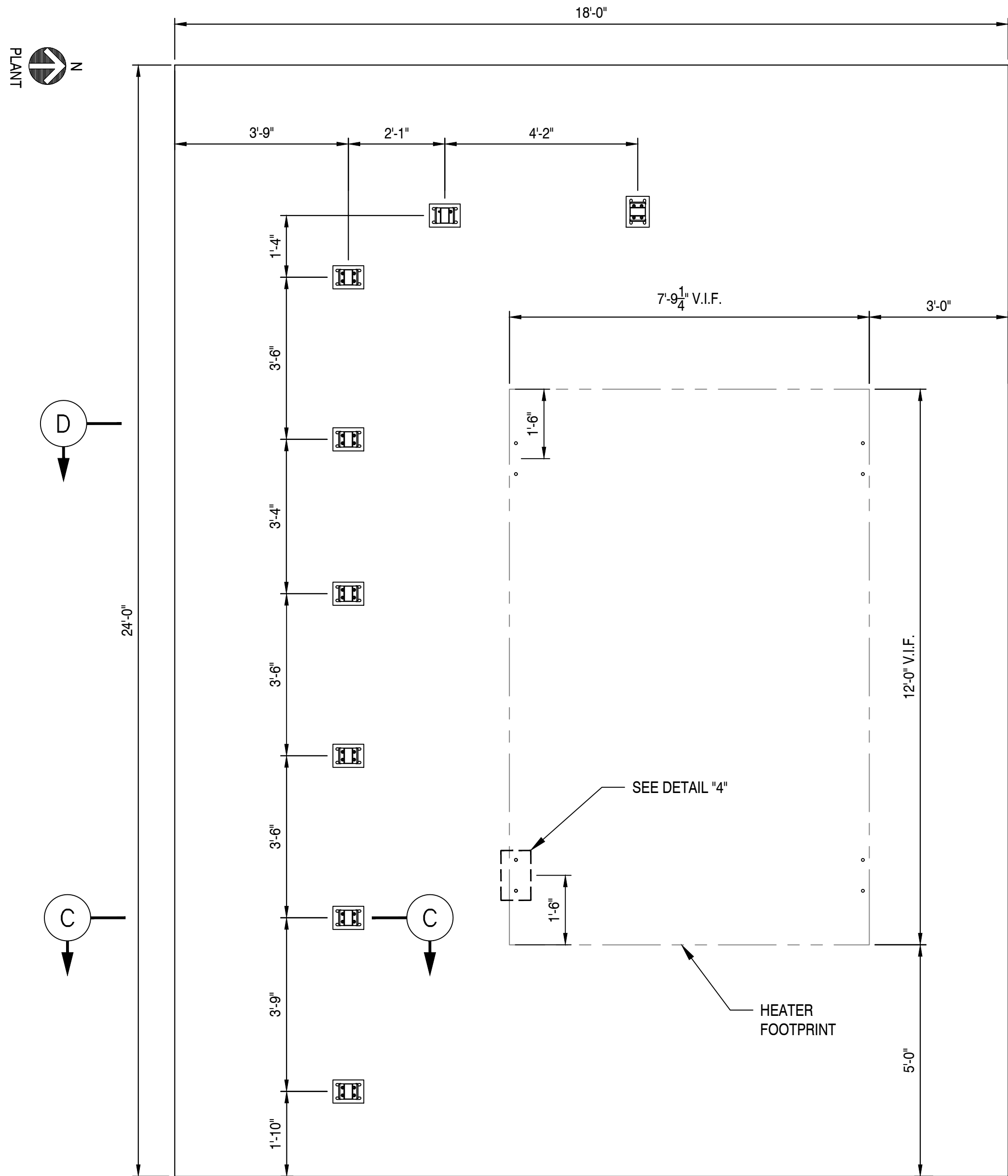
REVISIONS		
0	06/18/2025	ISSUED FOR BID
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DESIGNED BY	H. ROQUE	09/13/24	470-322-4636
CHECKED BY	A. TOMBO	09/13/24	772-801-9684
AS-BUILT BY			
	NAME	DATE	PHONE #

DRAWING TITLE:
STRUCTURAL SECTION AND DETAILS -
FILTER SEPARATOR SUPPORT

DRAWING NO:

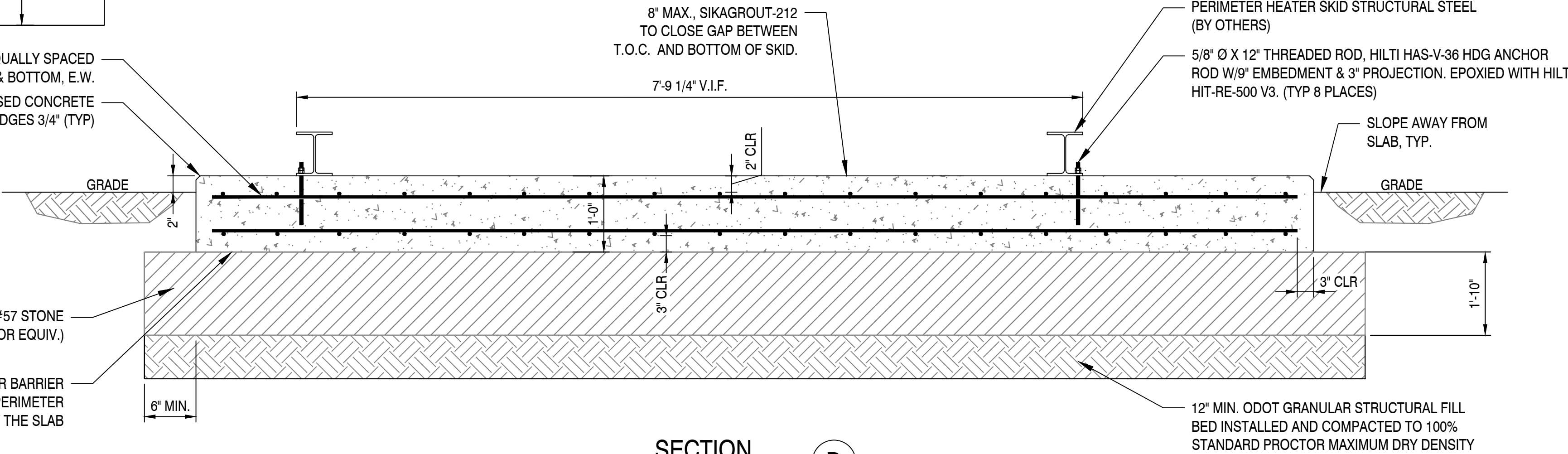
D-06



HEATER SUPPORT DETAIL 3
SCALE: 1/2" = 1'-0"

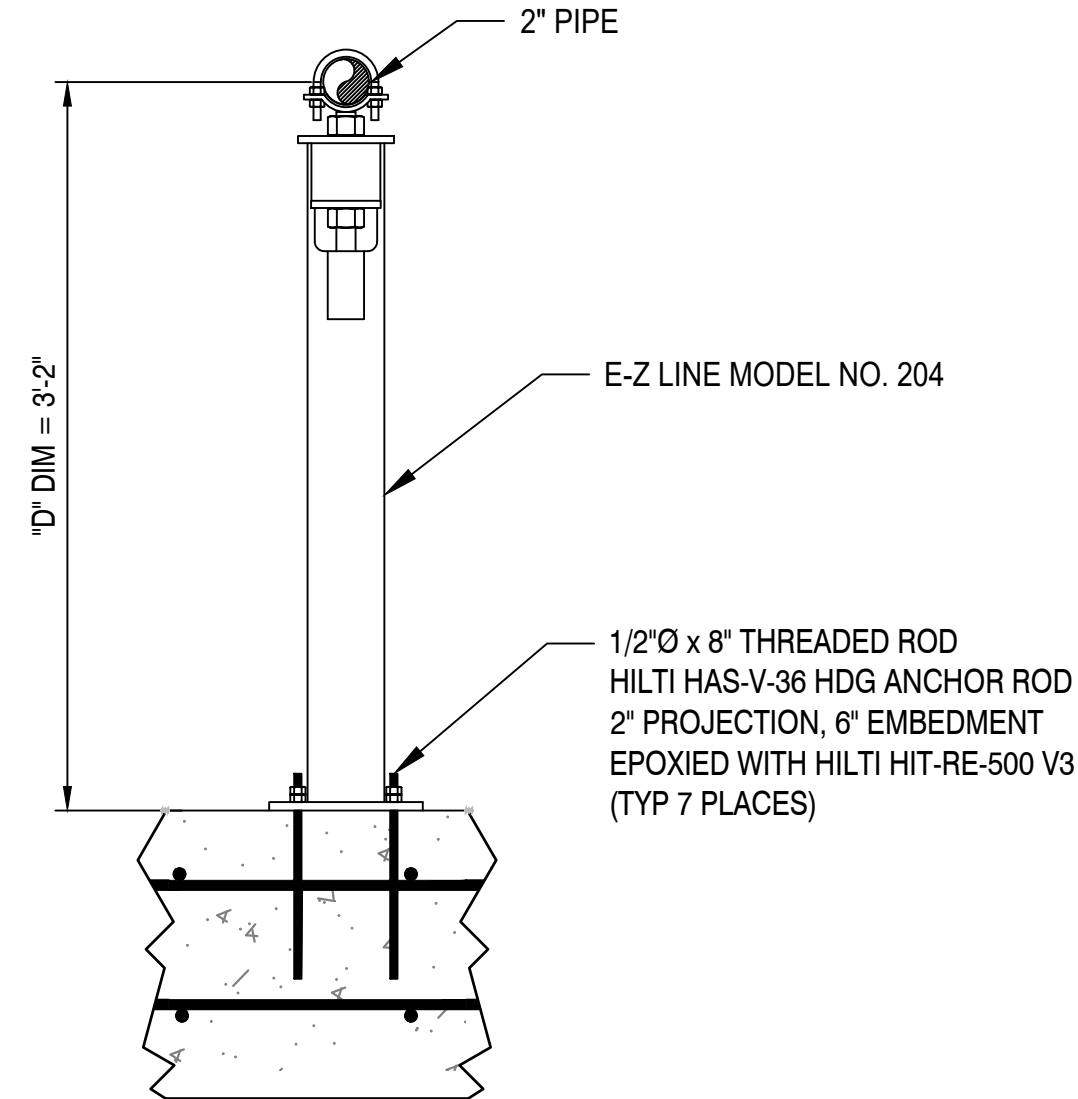
#5 @ 12" EQUALLY SPACED
TOP & BOTTOM, E.W.
CHAMFER ALL EXPOSED CONCRETE
EDGES 3/4" (TYP)

AASHTO #57 STONE
(OR EQUIV.)
10 MIL MIN. VAPOR BARRIER
TO COVER THE FULL PERIMETER
BELOW THE SLAB

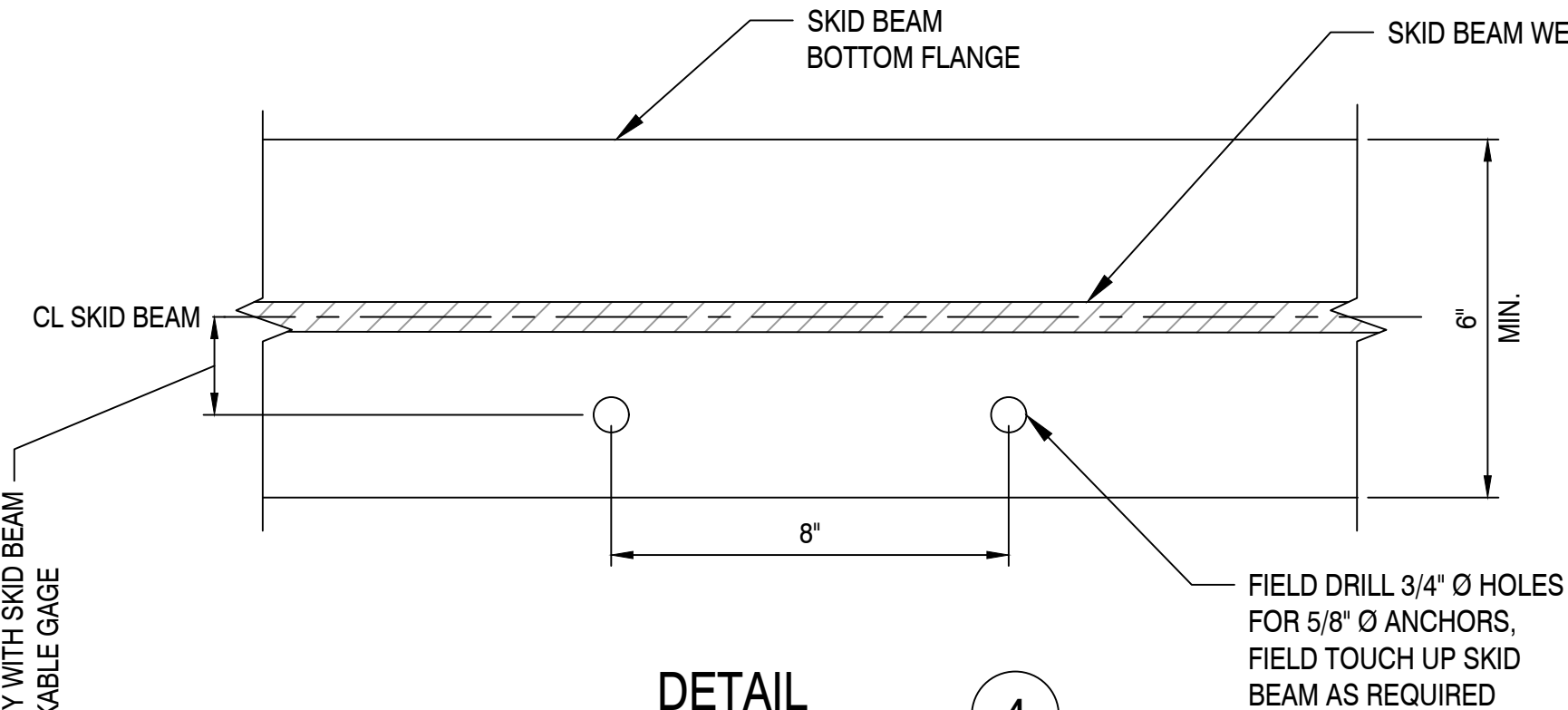


SECTION D
SCALE: 3/4" = 1'-0"

NOTE:
1. HEATER DIMENSIONS TO BE CONFIRMED/
VERIFIED AGAINST VENDOR DRAWINGS.



PIPE SUPPORT SECTION C
SCALE: NTS



DETAIL 4
SCALE: NTS
TYP. (4) PLC'S

NiSource

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CAMPOS
EPC

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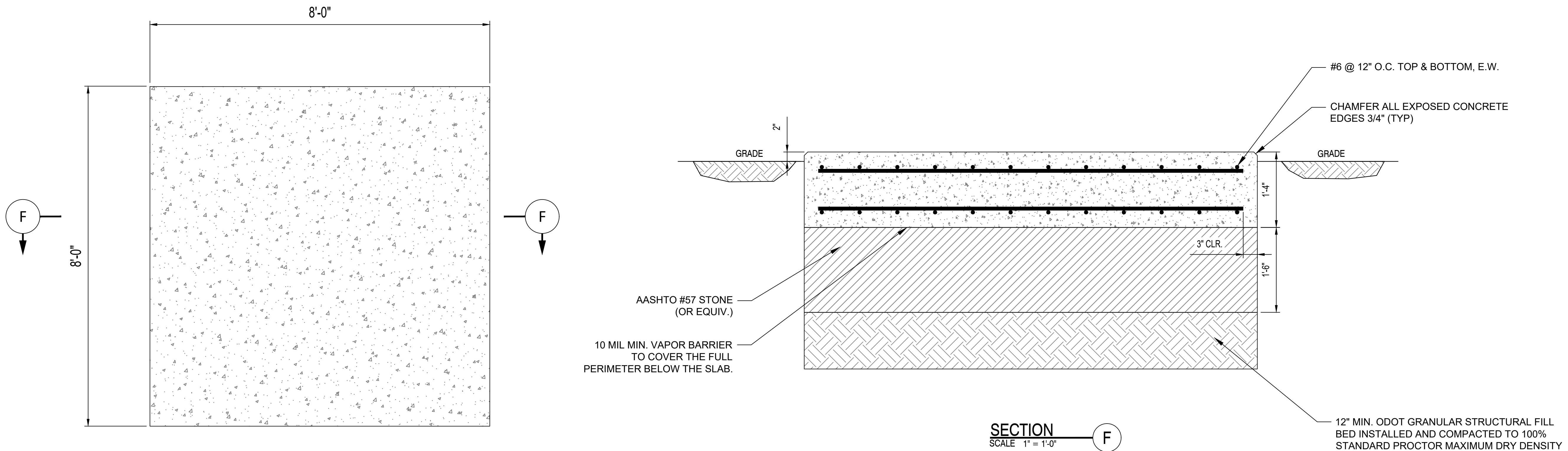
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DESIGNED BY	H. ROQUE	09/13/24	470-322-4636
CHECKED BY	A. TOMBO	09/13/24	772-801-9684
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:
INST# 24-0136951-00
ABAN# XX-XXXXXXX-XX
PROJECT ID# 21-78791
NEW BRANDON ROAD, RIDGEVIEW STATION
UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:
**STRUCTURAL SECTION & DETAILS
BOILER/HEATER**

DRAWING NO:
D-07



SCADA PAD DETAIL

SCALE: 3/4" = 1'-0"

4
D-04

NOTES:

1. BUILDING NOT SHOWN FOR CLARITY
2. BUILDING DIMENSIONS (8'-0" x 8'-0") TO BE FIELD VERIFIED/CONFIRMED.
3. BUILDING ANCHOR TO BE SET FORTH BY OTHERS (BUILDING DESIGNER/CONTRACTOR)



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DESIGNED BY	H. ROQUE	09/13/24	470-322-4636
CHECKED BY	A. TOMBO	09/13/24	772-801-9684
AS-BUILT BY			
	NAME	DATE	PHONE #

SITE NAME:

INST# 24-0136951-00
ABAN# XX-XXXXXXXX-XX
PROJECT ID# 21-78791

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UPPER ARLINGTON, FRANKLIN COUNTY, OHIO

DRAWING TITLE:
STRUCTURAL SECTIONS AND DETAILS
SCADA BUILDING PAD

DRAWING NO: **D-08**

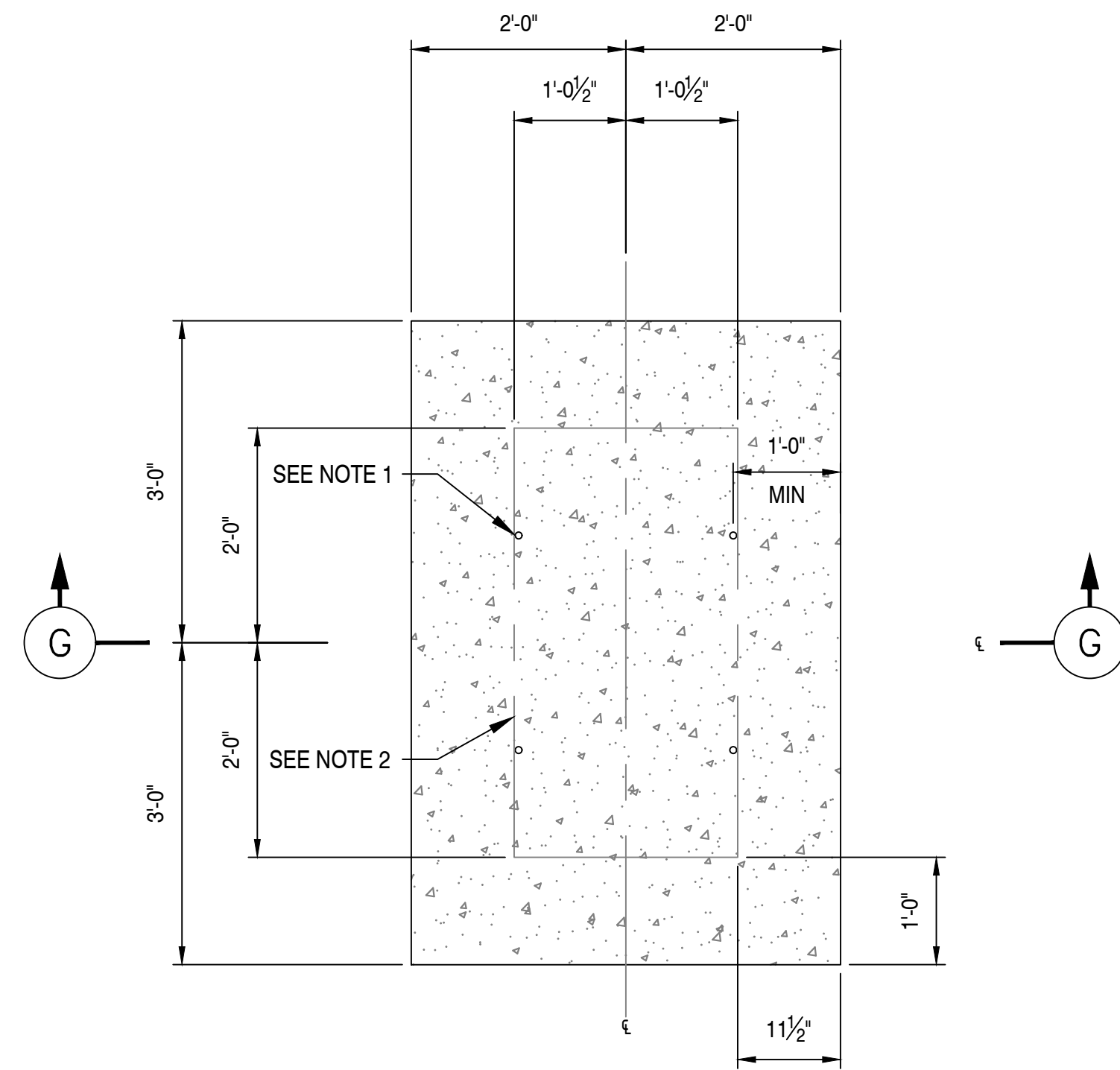


Diagram illustrating the cross-section of a generator pad foundation. The structure consists of the following layers and components:

- Generator Skid:** NOT SHOWN FOR CLARITY.
- Concrete Slab:** 10" thick, reinforced with #5 bars at 12" O.C. TOP & BOTTOM, E.W. (See Note 1). Chamfer all exposed concrete edges 3/4" (TYP).
- Vapor Barrier:** 10 MIL MIN. VAPOR BARRIER TO COVER THE FULL PERIMETER BELOW THE SLAB.
- Stone Layer:** AASHTO #57 STONE (OR EQUIV.), 2'-0" thick.
- Granular Fill:** 12" MIN. ODOT GRANULAR STRUCTURAL FILL BED INSTALLED AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- Dimensions:**
 - Slab thickness: 10"
 - Stone layer thickness: 2'-0"
 - Granular fill layer thickness: 2'-0"
 - Clearance (CLR): 3"
- Other Labels:** GRADE, SEE NOTE 1.

NOTES:

1. ANCHOR INSTALLATION PER MANUFACTURER RECOMMENDATION, CONTACT EOR, SHALL CONNECTION NEED ADDITIONAL DESIGN.
2. GENERAC GENERATOR, CENTERED IN SLAB, REF. MECHANICAL DRAWINGS OR CONTRACT DOCUMENTS FOR ADDITIONAL MODEL INFO.
3. SIDEWALK SHOULD SLOPE AWAY FROM NEW BUILDING AND/OR FOUNDATIONS.
4. MAX. LENGTH TO BE AS NECESSARY PER FIELD CONDITIONS. MAX. DISTANCE BETWEEN CONSTRUCTION/CONTROL JOINT SHOULD NOT EXCEED 12 FT.
5. USE 1/2" EXPANSION JOINT WHEN POURING ADJACENT TO NEW BUILDING (BY OTHERS).



REVISIONS

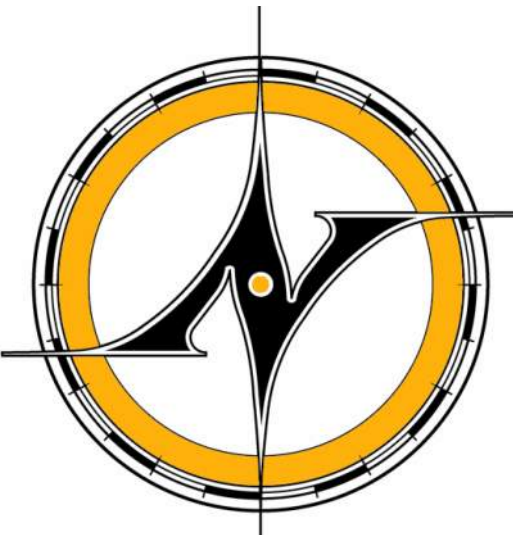
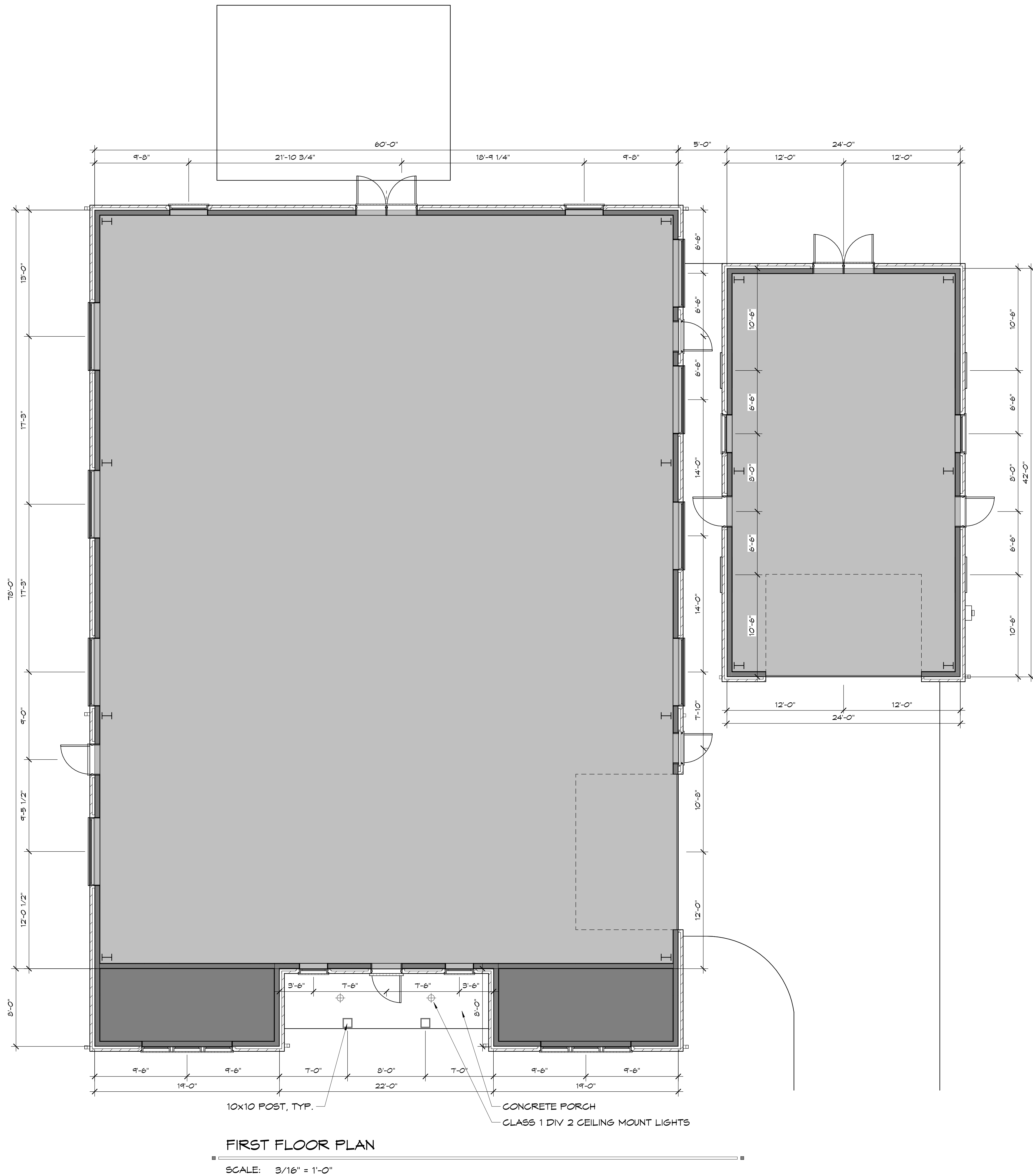
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REV. #	DATE	DESCRIPTION	
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DESIGNED BY	H. ROQUE	09/13/24	470-322-4636
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	NAME	DATE	PHONE #

INST# 24-0136951-00
ABAN# XX-XXXXXXX-XX
PROJECT ID# 21-78791
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STRUCTURAL SECTIONS AND DETAILS

GENERATOR PAD

D-09



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DESIGN SET : 06/11/2025

Columbia Gas/
NiSource Utility Building
Architectural Design Consulting

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Upper Arlington, Ohio

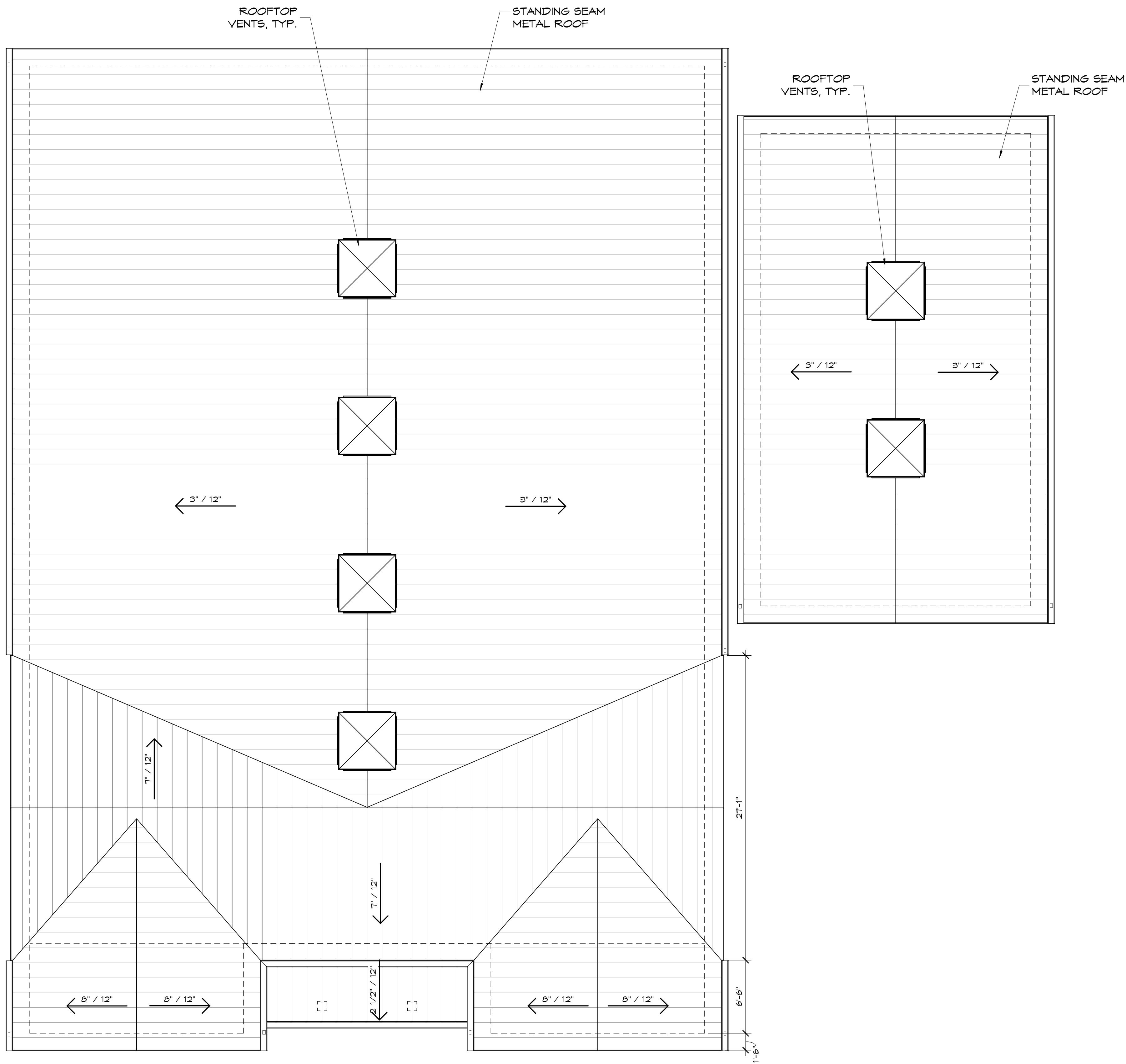
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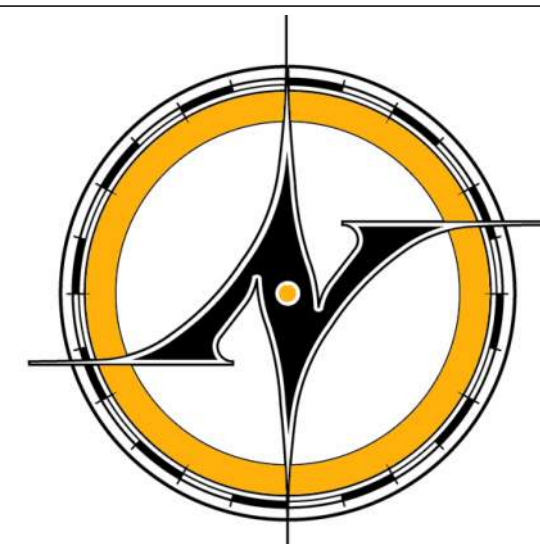
**FIRST FLOOR
PLAN**

A1.1



ROOF PLAN

SCALE: 3/16" = 1'-0"



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ROOF PLAN

A1.2

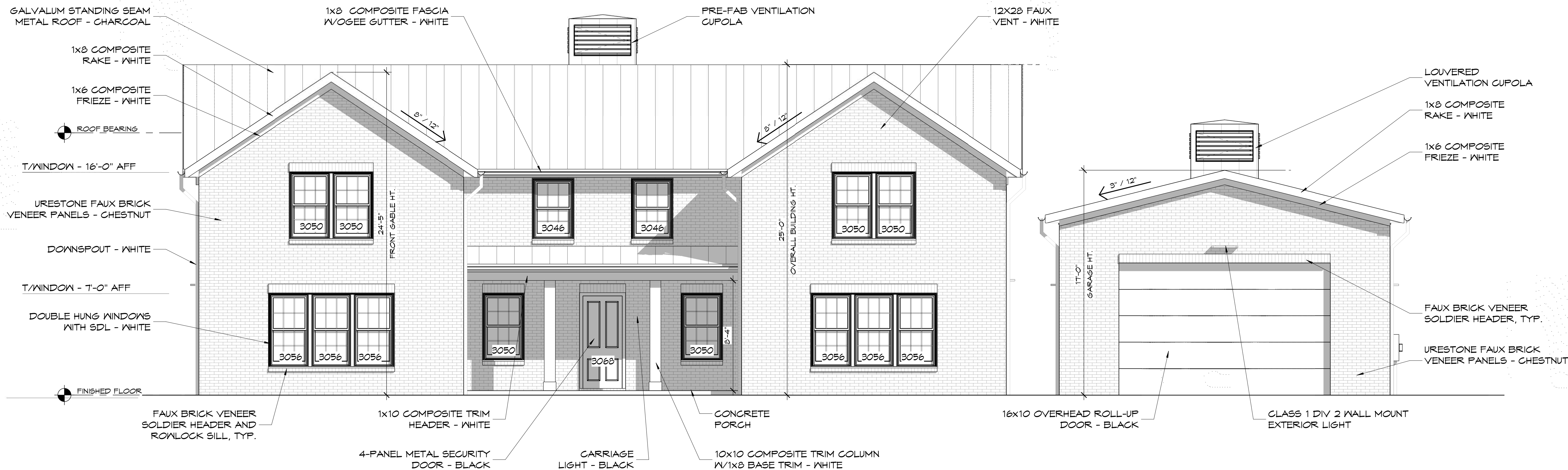
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RIGHT SIDE ELEVATION

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



FRONT ELEVATION

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



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EXTERIOR
ELEVATIONS

A5.1

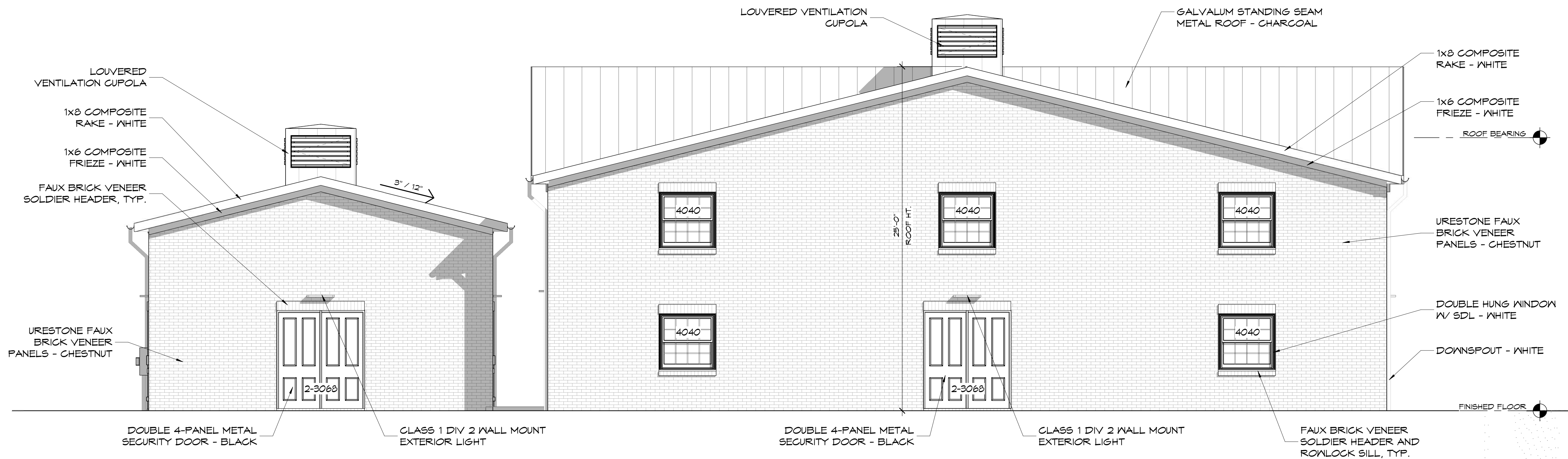
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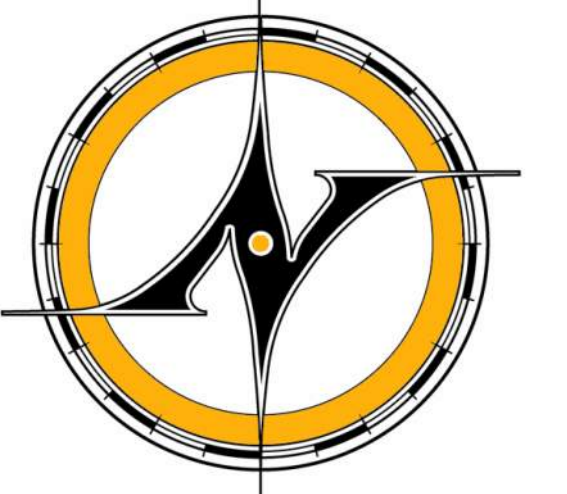
LEFT SIDE ELEVATION

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



REAR ELEVATION

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



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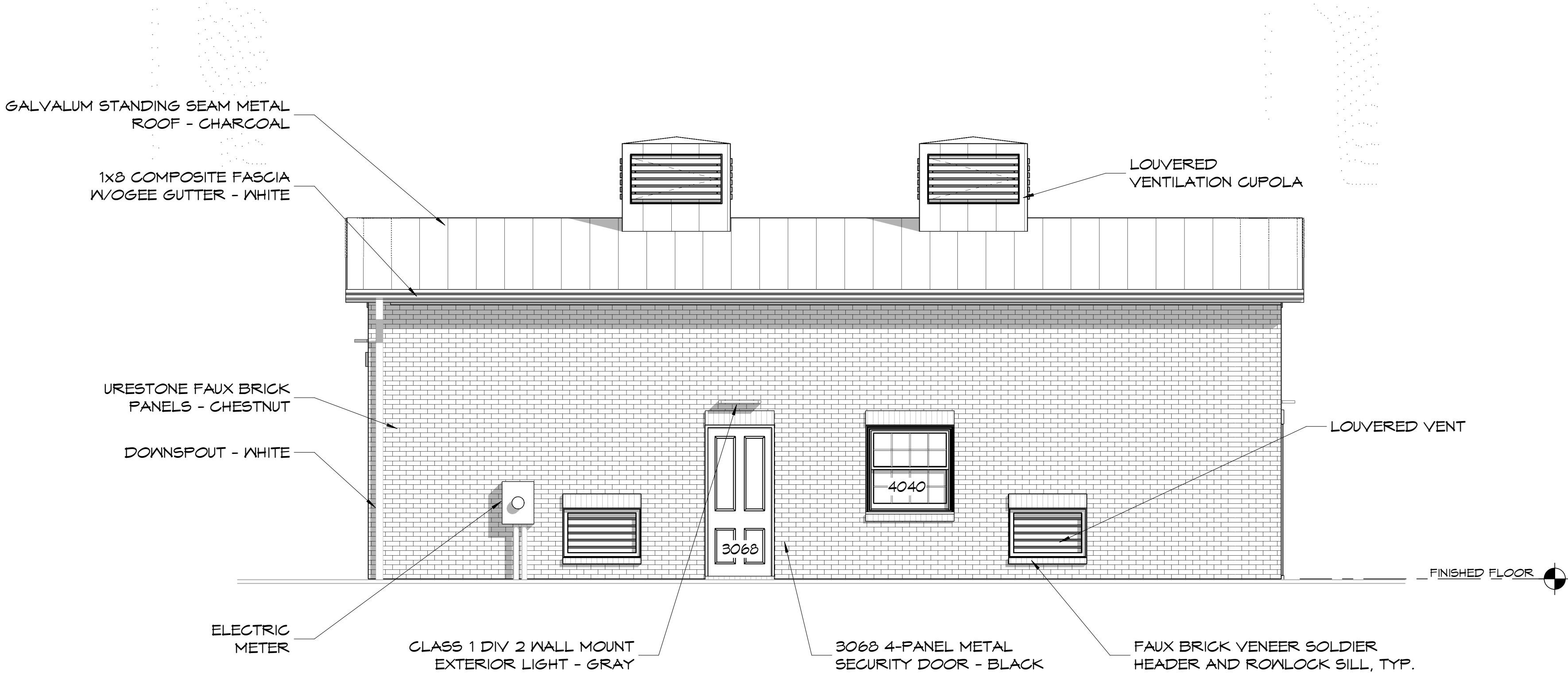
Project No: 25-0014

**EXTERIOR
ELEVATIONS**

A5.2

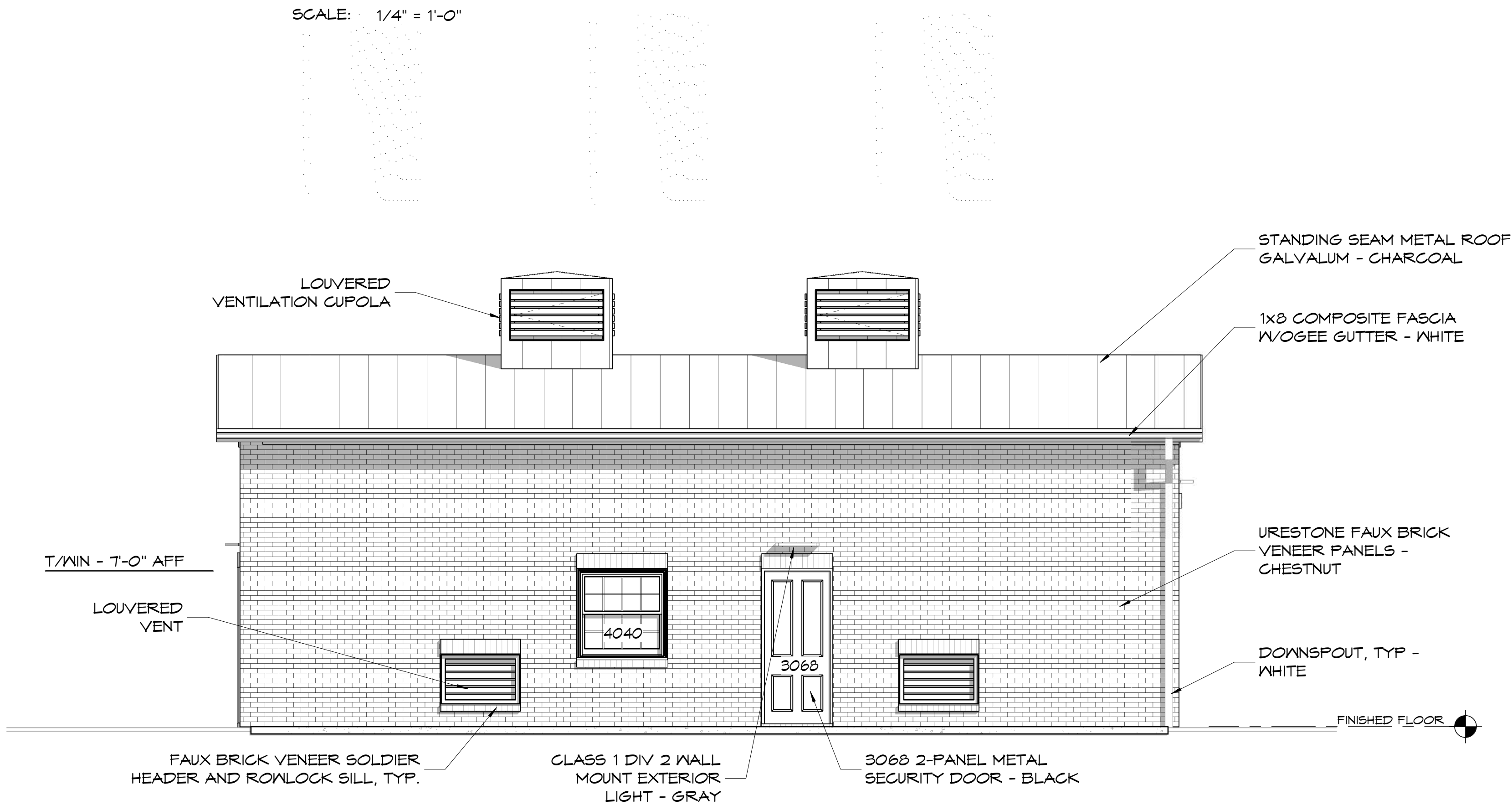
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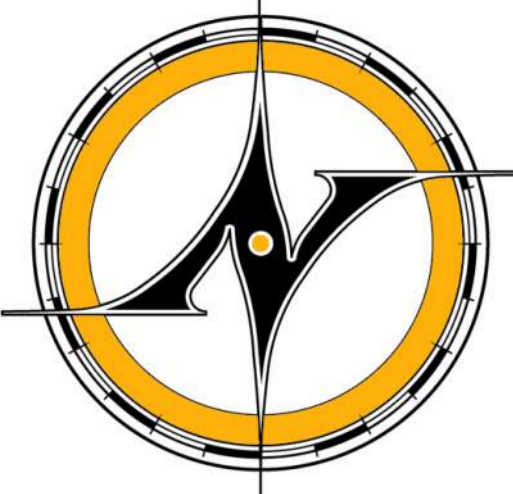
GARAGE LEFT ELEVATION

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



GARAGE RIGHT ELEVATION

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



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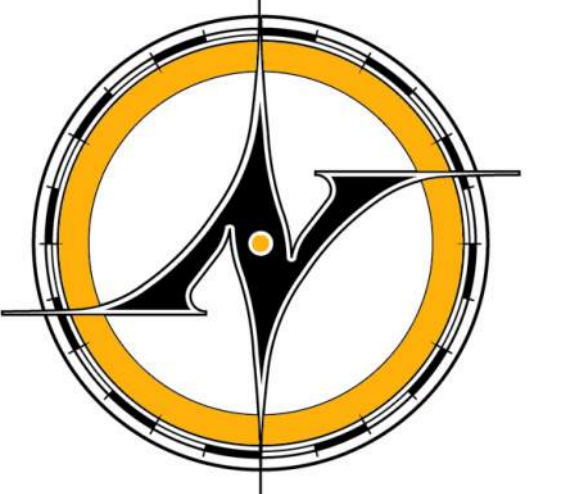
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GARAGE
ELEVATIONS

A5.3



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3D VIEWS

A15.1





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RIDGEVIEW STATION

PERSPECTIVE RENDERING

Project No: 25-0014

Date: 2025-06-11

R2

GENERAL NOTES

1.1 Fabrication shall be in accordance with R.G.B. standard practices in compliance with the applicable sections, relating to design requirements and allowable stresses of the latest edition of the "AWS Structural Welding Code D1.1 and D1.3". R.G.B. manufacturing procedures are certified by:

Reference	Certification numbers
Houston	R.G.B. #456

1.2 **MATERIALS**

	ASTM DESIGNATION	MIN. YIELD STRENGTH
Hot Rolled Steel Shapes (W, S, C & L)	A572/A529	Fy = 50 KSI
Hot Rolled Steel Shapes (W)	A992	Fy = 50 KSI
Round Structural Tubing (HSS)	A500	Fy = 42 KSI
Square/Rect. Structural Tubing (HSS)	A500	Fy = 46 KSI
Structural Steel Web Plate	A572/A1011	Fy = 55 KSI
Structural Steel Flange Plates/Bars	A529/A572	Fy = 55 KSI
Cold Formed Light Gage	A653/A1011	Fy = 55 KSI
Roof and Wall Sheets	A792/A653	Fy = 50, 80 KSI
Cable Brace	A475	Extra High Strength
Rod Brace	A36	Fy = 36 KSI

		MIN. TENSILE STRENGTH
Machine Bolts & Nuts	A307	Fu = 60 KSI
High Strength Bolts (1"Ø and less)	F3125/Gr. A325—TYPE 1	Fu = 120 KSI
High Strength Bolts (>1"Ø to 1 1/2"Ø)	F3125/Gr. A325—TYPE 1	Fu = 105 KSI
Anchor Bolts (if supplied)	A36/A307/F1554 Gr.36	Fu = 58–80 KSI

1.3 **PRIMER**
Shop primer paint is a rust inhibitive primer which meets the end performance of Federal Specification SSPC No. 15 and is R.G.B. Red or Gray Oxide color. This paint is not intended for long term exposure to the elements. R.G.B. is not responsible for any deterioration of the shop primer paint as a result of improper handling and/or jobsite storage. R.G.B. shall not be responsible for any field applied paint and/or coatings. (Section 6.5 AISC Code of Standard Practice, 16th Edition). Nominal thickness of primer will be 1 mil unless otherwise specified in contract documents.

1.4 **GALVANIZED OR SPECIAL COATINGS:**
See Contract Documents

1.5 **ALL BOLTS ARE 1/2"Ø x 0'-1" A307 (snug-tightened) EXCEPT :**
a) Eave strut connection – 1/2"Ø x 0'-1 1/4" A307 without washer (unless noted otherwise)
b) Endwall rafter splice – 5/8"Ø x 0'-1 3/4" F3125/Gr. A325–N with washer
c) Endwall column to rafter connection – 1/2"Ø x 0'-1 1/4" F3125/Gr. A325–N without washer
d) Main frame moment splice connections – F3125/Gr. A325–N with washer,
SEE CROSS SECTION for dimensions.
NOTE: One (01) washer is supplied on main frame moment splice and to A325 bolts unless noted otherwise on drawing

1.6 **F3125/Gr. A325 BOLT TIGHTENING REQUIREMENTS**
All high strength bolts are F3125/Gr. A325–N unless specifically noted otherwise. Structural bolts shall be tightened by the turn–of–the–nut or calibrated wrench methods in accordance with the 16th Edition AISC/RCSG "Specification For Structural Joints using ASTM F3125/Gr. A325 or A490 Bolts". Washers are supplied separately from high strength bolts, however, assembly with washers are required before erection. Installation inspection is recommended and be based on Section 9.1 and 9.2 of AISC/RCSG.

Snug–tight is permitted EXCEPT for the following conditions:
a) Building located in high seismic areas; Seismic Design Categories D, E, F
b) Building supporting cranes
c) Building supporting machinery that creates vibration, impact or stress reversal
d) Connections using ASTM A490
e) Connections using slip–critical condition
f) or as prohibited in the contracts/specifications

1.7 **CLOSURE STRIPS ARE FURNISHED FOR APPLICATION:**
INSIDE– Under roof panels at eave
OUTSIDE – Between endwall panels and rake trim
– Under continuous ridge vent skirts

1.8 **ERECTION NOTE:**
All bracing, strapping, & bridging shown and provided by R.G.B. for this building is required and shall be installed by the erector as a permanent part of the structure. If additional bracing is required for stability during erection, it shall be the erector's responsibility to determine the amount of such bracing and to procure and install as needed.

1.9 **ERECTION AND UNLOADING NOT BY R.G.B.**

1.10 **SHORTAGES**
Any claims or shortages by buyer must be made to R.G.B. within five (5) working days after delivery, or such claims will be considered to have been waived by the customer and disallowed.

1.11 **CORRECTIONS OF ERRORS AND REPAIRS (MBMA 6.10)**
Claims for correction of alleged misfits will be disallowed unless R.G.B. shall have received prior notice thereof and allowed reasonable inspection of such misfits. The correction of minor misfits by the use of drift pins to draw the components into line, moderate amounts of reaming, chipping and cutting, and the replacement of minor shortages of material are a normal part of erection and are not subject to claim. No part of the Building may be returned for alleged misfits without the prior approval of R.G.B.

BUYER/END USE CUSTOMER RESPONSIBILITIES

2.1 It is the responsibility of the BUYER/END USE CUSTOMER to obtain appropriate approvals and secure necessary permits from City, County, State, or Federal Agencies as required, and to advise/release R.G.B. to fabricate upon receiving such.

2.2 Rigid Global Buildings (hereafter referred to as R.G.B.) standard specifications apply unless stipulated otherwise in the Contract Documents. R.G.B. design, fabrication, quality criteria, standards, practice, methods and tolerances shall govern the work with any other interpretation to the contrary notwithstanding. It is understood by both Parties that the BUYER/END USE CUSTOMER is responsible for clarification of inclusions or exclusions from the architectural plans and/or specifications.

2.3 In case of discrepancies between R.G.B. structural steel plans and plans for other trades, R.G.B. plans shall govern. (Section. 3 AISC Code of Standard Practices, 16th Edition)

2.4 Approval of R.G.B. drawings and calculations indicates that R.G.B. has correctly interpreted and applied the Contract Documents. This approval constitutes the contractor/owners acceptance of the R.G.B. design concepts, assumptions, and loading. (Section 4 AISC Code 15th Edition and MBMA 3.3.3)

2.5 Once the BUYER/END USE CUSTOMER has signed R.G.B. Approval Package and the project is released for fabrication, changes shall be billed to the BUYER/END USE CUSTOMER including material, engineering and other costs. An additional fee may be charged if the project must be moved from the fabrication and shipping schedule.



100 SOUTHPOINTE SQUARE LANE ♦ CANONSBURG, PA 15317

PH: 724.225.2202 ♦ INFO@STEELNATION.COM

SN # 1471
RIDGEVIEW STATION HOUSE (NISOURCE CG UTILITY BUILDING

SALES NO.	82361	JOB NO.	173424	BUILDING	A (Utility Building)
CUSTOMER	STEEL NATION BUILDINGS, INC.				
END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)				
END USE	UTILITY BUILDING				
STREET	1336 RIDGEVIEW ROAD				
CITY ST ZIP	UPPER ARLINGTON, OH 43221				
COUNTY	FRANKLIN				

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING AS INDICATED:

DESIGN LOADS:

Design Code	: IBC 21
Dead Load (psf)	: Metal building structure only by RGB
Collateral Load (psf)	: 5.00
Wind Load	
Basic Design Wind Speed	: V (3 sec. gust) = 115 mph mph
Allowable Stress Design Wind Speed	: Vasd (3 sec. gust) = 89.08 mph
Risk Category	: II - Normal
Wind Exposure	: C
Internal Pressure Coefficient, GCPI	: 0.18 / -0.18
Design Wind Pressure For Wall	: Based on Allowable Stress Design Wind Speed
Components Wind Pressure (psf)	: 14.48
Components Wind Suction (psf)	: -16.00
Claddings Wind Pressure (psf)	: 17.98
Claddings Wind Suction (psf)	: -19.51
Live Load	
Primary Framing (psf)	: 20.00
Trib. Area Reduction	: No
Secondary Framing (psf)	: 20.00
Snow Load	
Ground Snow Load, Pg (psf)	: 20.0000
Roof Snow Load, Pf (psf)	: 20.00
Sloped Roof Snow Load, Ps (psf)	: 20.00
Snow Exposure Factor, Ce	: 1.0000
Snow Importance Factor, Is	: 1.0000
Thermal Factor, Ct	: 1.00
Sloped Factor, Cs	: 1.0000

Seismic Load	
Seismic Importance Factor, Ie	: 1.00
Seismic Occupancy Category	: II - Normal
Site Class	: d
Mapped Spectral Response Acceleration	: Ss = 0.1195 :S1 = 0.0600
Spectral Response Coefficients	: Sds = 0.1275 :Sd1 = 0.0960
Seismic Design Category	: B
Basic Force Resisting Systems Used	: Steel System Not Specifically Detailed For Seismic Resistance
	: Rigid Frames
	: Braced Frames
	: Longitudinal = 4.90 Transverse= 4.94
	: Rigid Frames = 3.00
	: SW Wind Bent = 3.00
	: Rigid Frames = 0.043
	: SW Wind Bent = 0.043
	: Equivalent Lateral Force Procedure
	: 6.06 (in/hr)
	: UNBALANCED SNOW LOAD
	: SNOW DRIFT LOAD AT BLDG.-C
	: SLIDING SNOW LOAD AT BLDG.-C
	: BLDG-B&B1 (GABLE/HIPPED BUMP-OUT) LOADS

Total Design Base Shear, V (kips)
Response Modification Factors, R

Seismic Response Coefficient, Cs

Analysis Procedure Used

Rainfall Intensity

DESIGN and DETAIL REQUIREMENTS

BUILDING DESCRIPTION:

Width (ft)	: 60
Length (ft)	: 78
Eave Ht. at BSW (ft)	: 17.5
Eave Ht. at FSW (ft)	: 17.5
Roof Slope at BSW	: 3:0:12
Roof Slope at FSW	: 3:0:12
Bay Spacing FROM LEFT TO RIGHT (ft) :	1 at 25 1 at 27.5 1 at 25.5

COVERING AND TRIMS:

Roof Panels & Trims

Panel Type	: 24 Ga. Platinum (16" Wide) SSR
Panel Color	: S3000 Kynar
Trim Colors	
Eave Trim	: Glvm.Plus
Eave Gutter	: Sculptured Gutter
Gable Trim	: S3000 Standard

Wall Panel & Trims

Panel Type	: 26 Ga. RPBM
Panel Color	: Glvm.Plus
Trim Colors	
Corner Trims	: Glvm.Plus
Opening Trims	: S3000 Standard
Downspouts	: Box Downspout
Base Trim	: None
Mas. Flash	: N/A

Special Requirements : NONE

CONT.

: BLDG.-C (PORCH CANOPY) LOADS
: TOP RUNNING CRANE LOAD
- (1) 3T (CMAA Class C)

: DEFLECTION LIMIT:

Rafter - L/240 (LL), L/180 (DL+LL)
Purlins - L/240 (LL), L/180 (DL+LL)
Girts - L/240
Endwall Column - L/240
Lateral Drift - H/200
Crane Beam:

Vertical - L/600
Lateral - L/400

: EAVE AND GABLE EXTENTION-2'-0"

: (4) CUPOLA (BY OTHERS) - 350 LB EA
: ROOF IS 24 Ga PLATINUM-16 WITH
QUAD-LOK

Before erecting your building, please see the Rigid Erection & Safety Manual at rigidbuilding.com/document—library

2.6 The BUYER/END USE CUSTOMER is responsible for overall project coordination. All interface, compatibility, and design considerations concerning any materials not furnished by R.G.B. and R.G.B. steel system are to be considered and coordinated by the BUYER/END USE CUSTOMER. Specific design criteria concerning this interface between materials must be furnished before release for fabrication or R.G.B. assumptions will govern (Section 4 and Commentary, AISC Code of Standard Practice, 16th Edition)

2.7 It is the responsibility of the BUYER/END USE CUSTOMER to ensure that R.G.B. plans comply with the applicable requirements of any governing building authorities. The supplying of sealed engineering data and drawings for the metal building system does not imply or constitute an agreement that R.G.B. or its design engineers are acting as the engineer of record or design professional for a construction project. These drawings are sealed only to certify the design of the structural components furnished by R.G.B.

2.8 The BUYER/END USE CUSTOMER is responsible for setting of anchor bolts and erection of steel in accordance with R.G.B. "For Construction" drawings only. Temporary supports such as guys, braces, falsework, cribbing or other elements required for the erection operation shall be determined furnished and installed by the erector. No items should be purchased from a preliminary set of drawings, including anchor bolts. Use only final "FOR CONSTRUCTION DRAWINGS" for this use. (Section 7 AISC Code of Standard Practice, 16th Edition.)

2.9 Rigid Global Buildings is responsible for the design of the anchor bolt to permit the transfer of forces between the base plate and the anchor bolt in shear, bearing and tension, but is not responsible for the transfer of anchor bolt forces to the concrete, anchor bolt embedment or the adequacy of the anchor bolt in relation to the concrete. Unless otherwise provided in the Order Documents, R.G.B. does not design and is not responsible for the design, material and construction of the foundation or foundation embedments. The END USE CUSTOMER should assure himself that adequate provisions are made in the foundation design for loads imposed by column reactions of the building, other imposed loads, and bearing capacity of the soil and other conditions of the building site. It is recommended that the anchorage/anchor bolt embedment and foundation of the building be designed by a Registered Professional Engineer experienced in the design of such structures. (Chapter IV Section 3.2.2 Metal Building Systems Manual 2021 Edition)

2.10 Normal erection operations include the corrections of minor misfits by moderate amounts of reaming, chipping, welding or cutting, and the drawing of elements into line through the use of drift pins. Errors which cannot be corrected by the foregoing means or which require major changes in member configuration are to be reported immediately to R.G.B. by the BUYER/END USE CUSTOMER, to enable whoever is responsible either to correct the error or to approve the most efficient and economic method of correction to be used by others. (Section 7 AISC Code of Standard Practice, 16th Edition)

2.11 Neither the fabricator nor the BUYER/END USE CUSTOMER will cut, drill or otherwise alter his work, or the work of other trades, to accommodate other trades, unless such work is clearly specified in the contract documents. Whenever such work is specified, the BUYER/END USE CUSTOMER is responsible for furnishing complete information as to materials, size, location and number of alterations prior to preparation of shop drawings. (Section 7 AISC Code of Standard Practice, 16th Edition)

2.12 **WARNING:** In no case should Galvalume steel panels be used in conjunction with lead or copper. Both lead and copper have harmful corrosive effects on the Galvalume alloy coating when they are in contact with Galvalume steel panels. Even run–off from copper flashing, wiring, or tubing onto Galvalume should be avoided.

2.13 **SAFETY COMMITMENT:** Rigid Global Buildings has a commitment to manufacture quality building components that can be safely erected. However, the safety commitment and job site practices of the erector are beyond the control of R.G.B.

It is strongly recommended that safe working conditions and accident prevention practices be the top priority of any job site. Local, State, and Federal safety and health standards should always be followed to help insure workers safety. Make certain all employees know the safest and most productive way of erecting a building. Emergency procedures should be known to all employees. Daily meetings highlighting safety procedures are also recommended. The use of hard hats, rubber sole shoes for roof work, proper equipment for handling material, and safety nets where applicable, are recommended.

2.14 Roof drainage systems (gutter, downspouts, etc.) must be free of any obstruction to ensure smooth operation at any given time.

2.15 It is recommended by Factory Mutual (Reference: B2.44) that roofs be cleared of snow when half of the maximum snow depth is reached. The maximum snow depth can be estimated based on the design snow load and the density of snow and/or ice buildup. See Chart below.

ROOF SNOW LOAD (IN PSF)	EQUIVALENT SNOW HEIGHT AT ROOF (IN INCHES)	RECOMMENDED SNOW HEIGHT WHEN SNOW REMOVAL SHOULD START (IN INCHES)
20	16.60	8.30
30	17.90	8.95
40	19.20	9.60
50	20.50	10.25
60	21.80	10.90
70	23.10	11.55
80	24.40	12.20

NOTE:
For Snow/Ice Removal Procedure, Refer to Metal Building System Manual 2021 Edition Section A9.4, Page A–59

FOR PERMIT

5/29/2025

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CUSTOMER: STEEL NATION BUILDINGS, INC.				
SALES NO. 82361	JOB NO. 173424	BUILDING: A (Utility Building)	DWG. NO. C01 OF 4	ISSUE: A



LEGENDS & ABBREVIATIONS

DESIGN:

Accel.	Acceleration
Coeff.	Coefficient
CL, Collat	Collateral Load
DL, Dead	Dead Load
H, Horz, Horiz	Horizontal
L	Left
LL, Live	Live Load
LnWnd, LnWind, LWIND	Longitudinal Wind Load
Min, min	Minimum
Max, max	Maximum
R	Right
SL	Snow Load
Slide	Sliding Snow Load
SEIS, Seis	Seismic Load
U_Snow	Unbalance Snow Load
V, Vert	Vertical
WL, Wind_L	Wind Load Left
WR, Wind_R	Wind Load Right
WP, Wind_P	Wind Pressure
WS, Wind_S	Wind Suction

ENGLISH UNITS

Acre	Acres
FT, ft	Feet
GA, Ga, ga	Gage
Gal	Gallons
IN, in	Inches
K, k	Kips
KSI, ksi	Kips Per Square-Inches
lb, #	Pounds
MPH, mph	Miles Per Hour
PLF, plf, lb/ft	Pounds Per Linear-Foot
PSF, psf, lb/ft²	Pounds Per Square-Feet
TON, ton	Tons
Yd	Yard

METRIC UNITS

cm	Centimeters
Hec	Hectares
liter	Liters
m	Meters
mm	Millimeters
N	Newtons
km	Kilometers
kN	Kilonewtons
kN/m²	Kilonewtons Per Square-meter
kPa	Kilopascals
kph	Kilometers Per Hour
Pa	Pascals

USEFUL CONVERSION

English	To	English	Metric	To	Metric
1 mile		1760 Yd		1 km	1000 m
1 Yd		3 Ft		1 m	100 cm
1 Ft		12 in		1 cm	10 mm
1 in		16/16 in		1 kN	1000 N
1 Ton (English)		2 Kips		1 kg	9.8066 N
1 Kip		1000 lb		1 Ton (Metric)	1000 kg
1 lb		16 ounces		1 Hec	10,000 m²
1 Acre		43560 Ft²		1 m³	1000 liter
1 Ft³		7.4805 Gal		1 kPa	1 kN/m²

English	To	Metric	Metric	To	English
1 in		2.54 cm		1 cm	0.3937 in
1 ft		0.3048 m		1 m	3.2808 ft
1 lb		0.4536 kg		1 kg	2.2046 lb
1 Ton (English)		907.18 kg		1 Ton (Metric)	2204.6 lb
1 Kip		4.4482 kN		1 kN	0.2248 kip
1 mile		1.6093 km		1 km	0.6213 mile
1 Acre		0.4046 Hec		1 Hec	2.4715 Acres
1 lb/ft²		0.0478 kPa		1 kPa	20.8854 lb/ft²

Fraction	To	Decimal	Fraction	To	Decimal
1/16		0.0625	9/16		0.5625
1/8		0.1250	5/8		0.6250
3/16		0.1875	11/16		0.6875
1/4		0.2500	3/4		0.7500
5/16		0.3125	13/16		0.8125
3/8		0.3750	7/8		0.8750
7/16		0.4375	15/16		0.9375
1/2		0.5000	16/16		1.0000

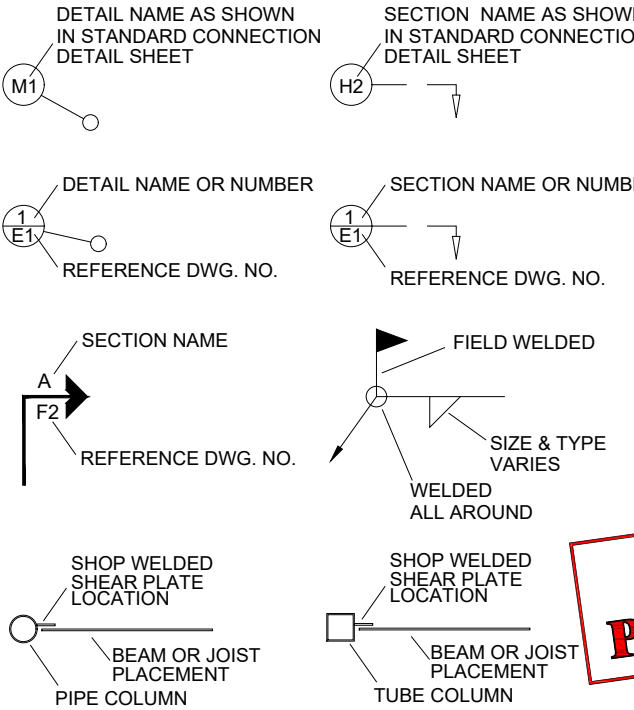
DRAWINGS:

AB, A.B.	Anchor Bolt
AS, As Shown	As Shown
Aux.	Auxiliary
BLDG., Bldg.	Building
B.P., Base PL	Base Plate
BOTT., Bott.	Bottom
Bott. Base PL, B.O.B.P	Bottom Of Base Plate
B.O.S.	Bottom Of Steel
BSW	Back Sidewall
BY OTHERS	By Other Supplier or Not By Rigid
C/C	Center to Center
C.I.P.	Cast-In-Place
CL, C	Center Line
CLR.	Clear, Clearance
CMU	Concrete Masonry Unit
COL., Col.	Column
CONC., Conc.	Concrete
CONT.	Continuous, Continuation
DET.	Detail
DIA., Dia., Ø	Diameter
DIM., Dim.	Dimension
DWG., Dwg.	Drawing
EH, E.H.	Eave Height
EJ, Exp. Jt.	Expansion Joint
EL, Elev.	Elevation
EP	End Plate
ES, E.S.	Eave Strut
EW	Endwall
EW COL, EC	Endwall Column
EW RAF	Endwall Rafter
Exp. Bolt	Expansion Bolt
FFL, Fin. Flr.	Finish Floor Line
FLG., FLGE., Flg., Flge.	Flange
FNB, F.N.B.	Fin Neck Bolt
FO, F.O.	Framed Opening
FRM., Frm.	Frame
FSW	Front Sidewall
GA, Ga.	Gage
GALV., Galv.	Galvanized
G.O.L.	Gage of Outstanding Leg
H, Ht.	Height
HED,HEDS	High Eave Double Slope
HES,HESS	High Eave Single Slope
Horz, Horiz	Horizontal
HSB, H.S.B.	High Strength Bolt
HSS	Hollow Structural Section
INT., Int.	Interior, Intermediate
I/S	Inside
LED,LEDS	Low Eave Double Slope
LES,LESS	Low Eave Single Slope
LEW	Left Endwall
LHI	Left Hand In
LHO	Left Hand Out
LL	Long Life
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LT	Lean-To
LT COL	Lean-To Column
LT RAF	Lean-To Rafter
LG., Lg.	Long
L, Lt.	Length
L x W x H	Length x Width x Height
MAX., max.	Maximum
MIN., min.	Minimum
MKD., MK'D.	Marked
MB, M.B.	Machine Bolt
MEZZ., Mezz.	Mezzanine
N.A., N/A	Not Applicable
NO., No.	Number
NS/FS, NS&FS	Near Side and Far Side
O.C.	On Center
O/S	Outside
OH, Opp Hand	Opposite Hand (Mirror Image)
OHD, O.H.D.	Over-Head Door
O/O	Out to Out
PF COL	Portal Frame Column (Wind Bent Column)
PF RAF	Portal Frame Rafter (Wind Bent Rafter)
PL, P	Plate
QTY., Qty.	Quantity
REF., Ref.	Refer, Reference
REW	Right Endwall

DRAWINGS:

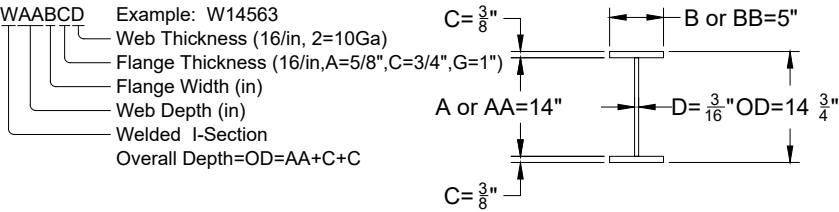
RHB	Round Head Bolt
RHI	Right Hand In
RHO	Right Hand Out
REINF.	Reinforced
REQ'D., REQD.,	Required
REV., Rev.	Revised, Revision
RF, R.F.	Rigid Frame
RF COL	Rigid Frame Column
RF RAF	Rigid Frame Rafter
RUD, R.U.D.	Roll-Up Door
SC	Slip Critical
SDS	Self-Drilling Screws
SECT., Sect.	Section
SHTG., Shtg.	Sheeting
Sol Col	Soldier Column
SP	Splice Plate
SSR	Standing Seam Roof
SST	Stainless Steel
ST COL	Straight Column
STIFF.	Stiffener
STD.	Standard
STS	Self-Tapping Screws
SW	Sidewall
SYM., Sym., SYMM., Symm.	Symmetry, Symmetrical
TBE	To Be Established
TBD	To Be Determined
TC	Tension Control
THK., Thk.	Thick
TOC, T.O.C.	Top Of Concrete
TOS, T.O.S.	Top Of Steel
T & B, TOP & BOTT	Top and Bottom
TYP., Typ., typ.	Typical
UN, U.N.O.	Unless Noted, Unless Noted Otherwise
Vert.	Vertical
WD	Walk Door
W, Wd.	Width
W.P.	Work Point, Working Point

SECTIONS AND DETAILS:

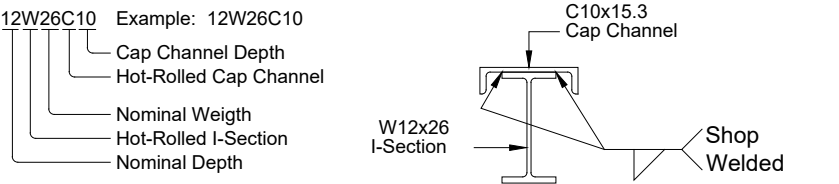


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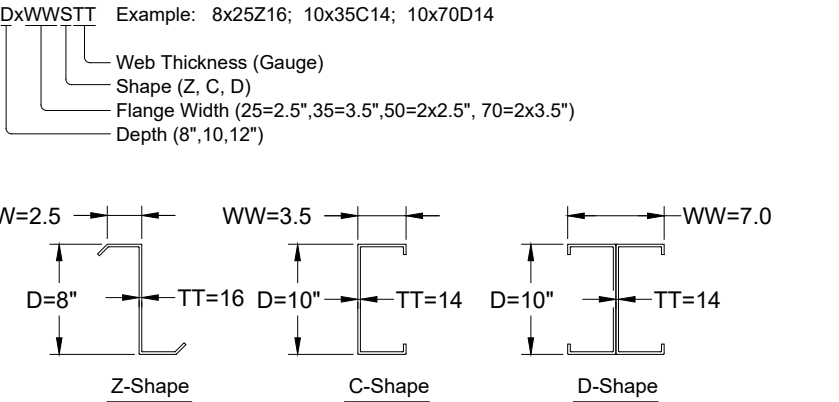
BUILT-UP SECTIONS: USED FOR FRAMES, BEAMS, COLUMNS



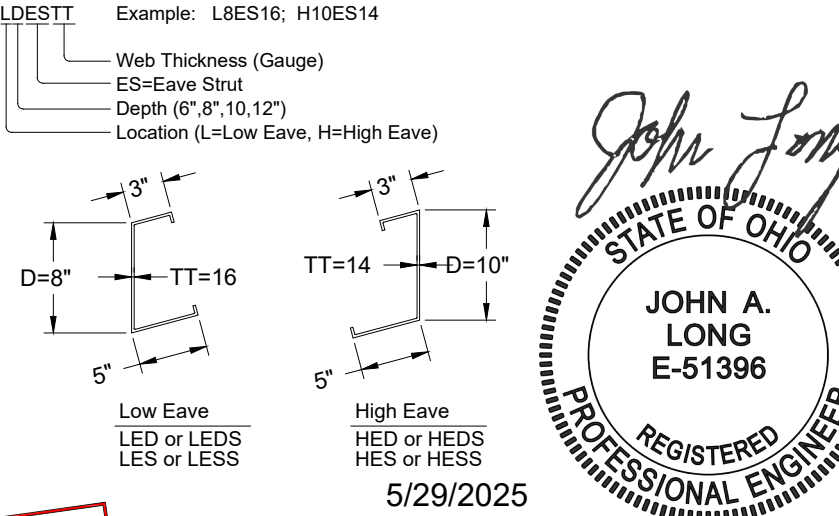
CRANE BEAM SECTIONS: USED FOR RUNWAY BEAMS, MONORAILS



COLD-FORMED SECTIONS Z,C,D: USED FOR PURLINS,GIRTS,JAMBS,JOISTS



COLD-FORMED SECTION ES: USED FOR EAVE STRUTS



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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	LEGENDS & ABBREVIATIONS
A	APPROVAL/PERMIT	05/00/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
						END USE	UTILITY BUILDING BUILDING A (Utility Building)
						STREET	1336 RIDGEVIEW ROAD
						CITY ST ZIP	UPPER ARLINGTON, OH 43221
						SALES NO:	82361
						JOB NO:	173424
						SCALE:	N.T.S.
						DWG. NO:	C02 OF 4
						ISSUE:	A

DRAWING INDEX																																																																																														
DWG.NO.	ISSUE	DRAWING TITLE	DWG.NO.	ISSUE	DRAWING TITLE	DWG.NO.	ISSUE	DRAWING TITLE																																																																																						
C01	A	COVER SHEET	E19	A	WIND FRAME ELEVATION: FRAME LINE -A H /4-5																																																																																									
C02	A	LEGENDS AND ABBREVIATIONS	E20	A	DETAIL DRAWINGS																																																																																									
C03	A	DRAWING INDEX	E21	A	DETAIL DRAWINGS																																																																																									
C04	A	UNLOADING HANDLING AND STORING OF MATERIALS	E22	A	DETAIL DRAWINGS																																																																																									
			E23	A	DETAIL DRAWINGS																																																																																									
F01	A	COLUMN LAYOUT PLAN	E24	A	DETAIL DRAWINGS																																																																																									
F02	A	ANCHOR BOLT DETAILS	E25	A	DETAIL DRAWINGS																																																																																									
F03	A	ANCHOR BOLT REACTIONS																																																																																												
F04	A	ANCHOR BOLT REACTIONS																																																																																												
F05	A	ANCHOR BOLT REACTIONS																																																																																												
F06	A	ANCHOR BOLT REACTIONS																																																																																												
F07	A	ANCHOR BOLT REACTIONS																																																																																												
F08	A	ANCHOR BOLT REACTIONS																																																																																												
E01	A	ROOF FRAMING PLAN																																																																																												
E02	A	ROOF SHEETING PLAN																																																																																												
E03	A	SIDEWALL FRAMING & SHEETING ELEVATION-LINE A																																																																																												
E04	A	SIDEWALL FRAMING & SHEETING ELEVATION-LINE H																																																																																												
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E07	A	SIDEWALL FRAMING & SHEETING ELEVATION-LINE G & B			FOR PERMIT John Long STATE OF OHIO JOHN A. LONG E-51396 REGISTERED PROFESSIONAL ENGINEER 5/29/2025 SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT RIGID GLOBAL ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY RIGID IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN RIGID ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED. <table><tr><td>ISSUE</td><td>DESCRIPTION</td><td>DATE</td><td>DRN.</td><td>CHK.</td><td>DES.</td><td rowspan="7"> STEELNATION 100 SOUTHPOINTE SQUARE LANE • CANONSBURG, PA 15107 PH: 724.225.2200 • INFO@STEELNATION.COM </td><td>DESCRIPTION</td><td colspan="4">DRAWING INDEX</td></tr><tr><td>A</td><td>APPROVAL/PERMIT</td><td>05/00/25</td><td>LNT</td><td>FFF</td><td>RDL</td><td>CUSTOMER</td><td colspan="4">STEEL NATION BUILDINGS, INC.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>END USER</td><td colspan="4">COLUMBIA GAS (NISOURCE UTILITY BUILDING)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>END USE</td><td>UTILITY BUILDING</td><td>BUILDING</td><td colspan="2">A (Utility Building)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>STREET</td><td colspan="4">1336 RIDGEVIEW ROAD</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>CITY ST ZIP</td><td colspan="4">UPPER ARLINGTON, OH 43221</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>SALES NO:</td><td>82361</td><td>JOB NO:</td><td>173424</td><td>SCALE: N.T.S.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>STACK BUILDING NO:</td><td></td><td></td><td>DWG. NO:</td><td>C03 OF 4</td></tr></table>	ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	STEELNATION 100 SOUTHPOINTE SQUARE LANE • CANONSBURG, PA 15107 PH: 724.225.2200 • INFO@STEELNATION.COM	DESCRIPTION	DRAWING INDEX				A	APPROVAL/PERMIT	05/00/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.										END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)										END USE	UTILITY BUILDING	BUILDING	A (Utility Building)								STREET	1336 RIDGEVIEW ROAD										CITY ST ZIP	UPPER ARLINGTON, OH 43221										SALES NO:	82361	JOB NO:	173424	SCALE: N.T.S.							STACK BUILDING NO:			DWG. NO:	C03 OF 4
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E09	A	CRANE BEAM LAYOUT																																																																																												
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E11	A	RIGID FRAME ELEVATION: FRAME LINE -3 & 4																																																																																												
E12	A	RIGID FRAME ELEVATION: FRAME LINE -5																																																																																												
E13	A	RIGID FRAME ELEVATION: FRAME LINE - H A / 3-2																																																																																												
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E16	A	RIGID FRAME ELEVATION: FRAME LINE -B A -1																																																																																												
E17	A	RIGID FRAME ELEVATION: FRAME LINE -B A -2																																																																																												
E18	A	RIGID FRAME ELEVATION: FRAME LINE -D E /1.1-2																																																																																												

UNLOADING, HANDLING AND STORING OF MATERIALS

STRUCTURAL

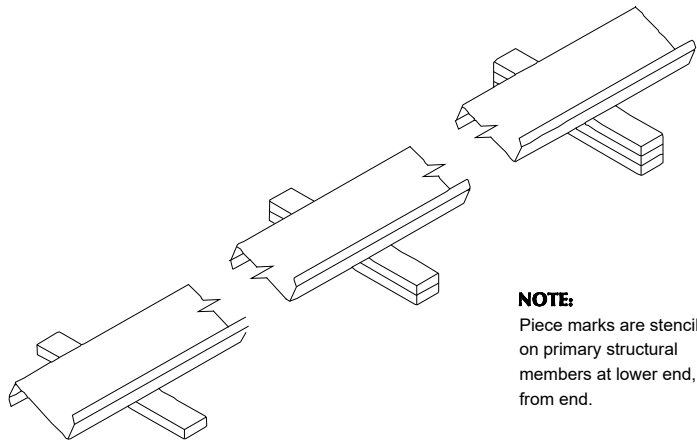
A great amount of time and trouble can be saved if the building site is according to a pre-arranged plan. Proper location and handling of components will eliminate unnecessary handling.

Inspect all shipments prior to releasing the tie-downs for loads that may have shifted during transit, **REMEMBER, SAFETY FIRST!**

Blocking under the columns and rafters protects the splice plates and the slab from damage during the unloading process. It also facilitates the placing of slings or cables around the members for later lifting and allows members to be bolted together into sub-assemblies while on the ground. Extra care should always be exercised in the unloading operations to prevent injuries from handling the steel and to prevent damage to materials and the concrete slabs.

If water is allowed to remain for extended periods in bundles of primed parts such as girts, purlins etc., the pigment will fade and the paint will gradually soften, reducing the bond to the steel. Therefore, upon receipt of a job, all bundles of primed parts should be stored at an angle to allow any trapped water to drain away and permit air circulation for drying. Puddles of water should not be allowed to collect and remain on columns, rafters or beams for the same reason.

All Primer should be touched up as required before erection!



NOTE:
Piece marks are stenciled on primary structural members at lower end, 1'-0" from end.

WALLS AND ROOF PANELS

RIGID's wall and roof panels including color coated, galvalume and galvanized, provide excellent service under widely varied conditions. All unloading and erection personnel should fully understand that these panels are quality merchandise which merit cautious care in handling.

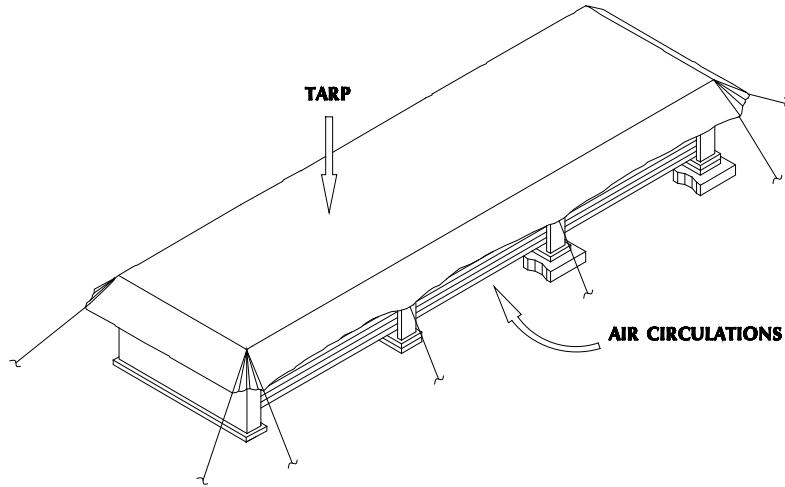
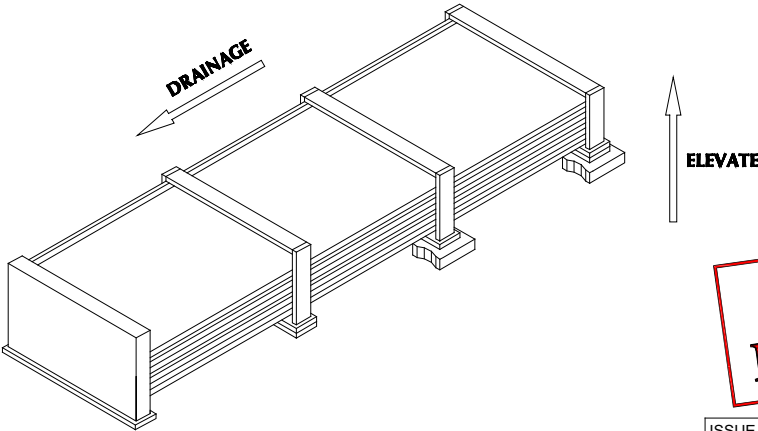
Under no circumstances should panels be handled roughly. Packages of sheets should be lifted off the truck with extreme care taken to insure that no damage occurs to ends of the sheets or to side ribs. The packages should be stored off the ground sufficiently high to allow air circulation underneath the packages. This avoids ground moisture and deters people from walking on the packages. One end of the package should always be elevated to encourage drainage in case of rain.

All stacked metal panels are subject, to some degree, to localized discoloration or stain when water is trapped between their closely nested surfaces. RIGID exercises extreme caution during fabricating and shipping operations to insure that all panel stock is kept dry. However, due to climatic conditions, water formed by condensation of humid air can be trapped between stacked sheets. Water can also be trapped between stacked sheets when exposed to rain. This discoloration caused by trapped moisture is often called wet storage stain.

The stain is usually superficial and has little effect on the appearance or service life of the panels as long as it is not permitted to remain on the panels. However, moisture in contact with the surface of the panels over an extended period can severely attack the finish and reduce the effective service life. Therefore, it is imperative that all panels be inspected for moisture upon receipt of the order. If moisture is present, dry the panels at once and store in a dry, warm place.

CAUTION: Care should always be taken when walking on panels. Use safety lines and nets when necessary! Panels are slippery. Oil or wax applied to the roof and wall panels for protection against weather damage will make them a very slippery surface. Wipe dry any oil that has puddled from bundles stored on a slope. Dew, frost, or other forms of moisture greatly increase the slipperiness of the panels. Always assume panel surface is slippery and act accordingly. **Think safety!**

Use wood blocking to elevate and slope the panels in a manner that will allow moisture to drain. Wood blocking placed between bundles will provide additional air circulation. Cover the stacked bundles with a tarp or plastic cover leaving enough opening at the bottom for air to circulate.



When handling or uncrating the panels, lift, rather than slide, them apart. Burled edges may scratch the coated surfaces when sheets are slid over one another. Never allow panels to be walked on while on the ground.

Rough and improper handling of a panel is inexcusable and a prime example of poor job supervision.

NOTE:
Use gloves when handling metal panels to prevent hand injuries. Be aware, of the dangers of handling panels on a windy day. A large panel can catch enough wind to knock a worker off his feet, even at ground level!! **Safety first!**

GENERAL NOTE:
1. OIL CANNING OF PANELS IS NOT A CAUSE OF REJECTION.
2. EXTREME CARE MUST BE EXERCISED DURING THE ERECTION OF ROOF PANELS AND TRIMS. FOOT TRAFFIC MAY RESULT IN PERMANENT PANEL DISTORTION AND FINISH ABRASION.

FOR PERMIT

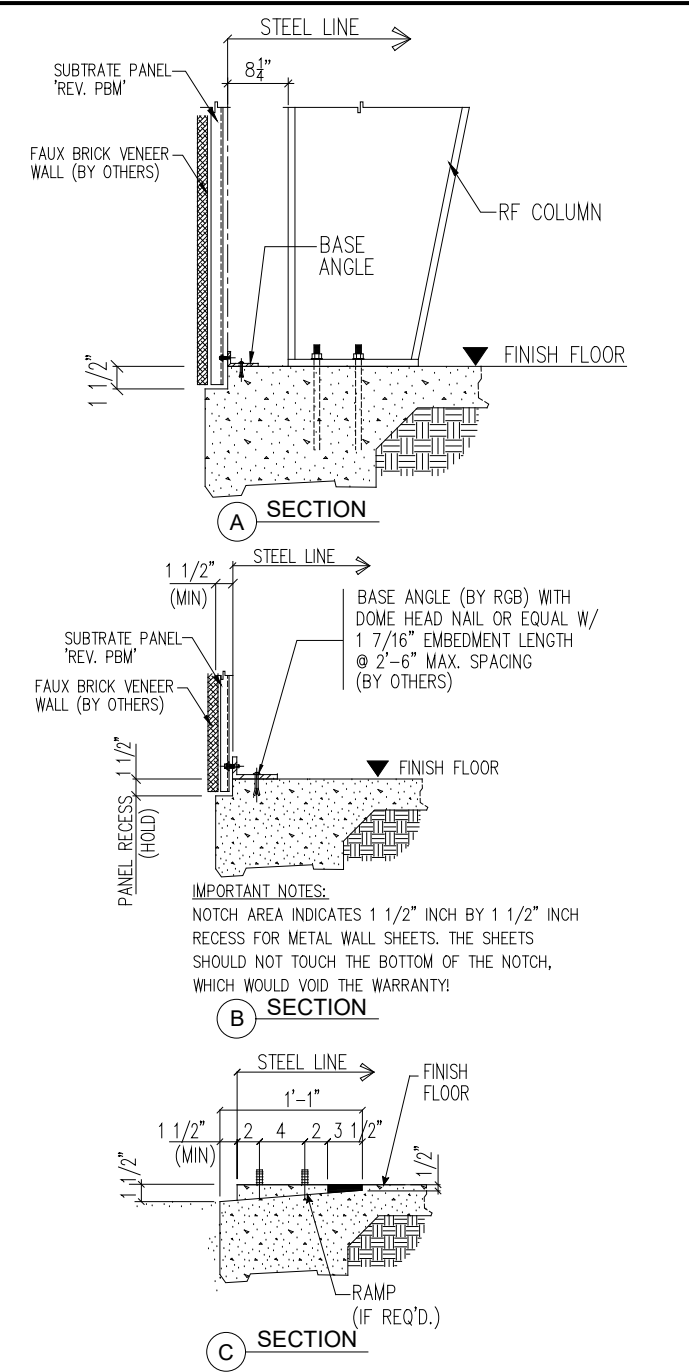
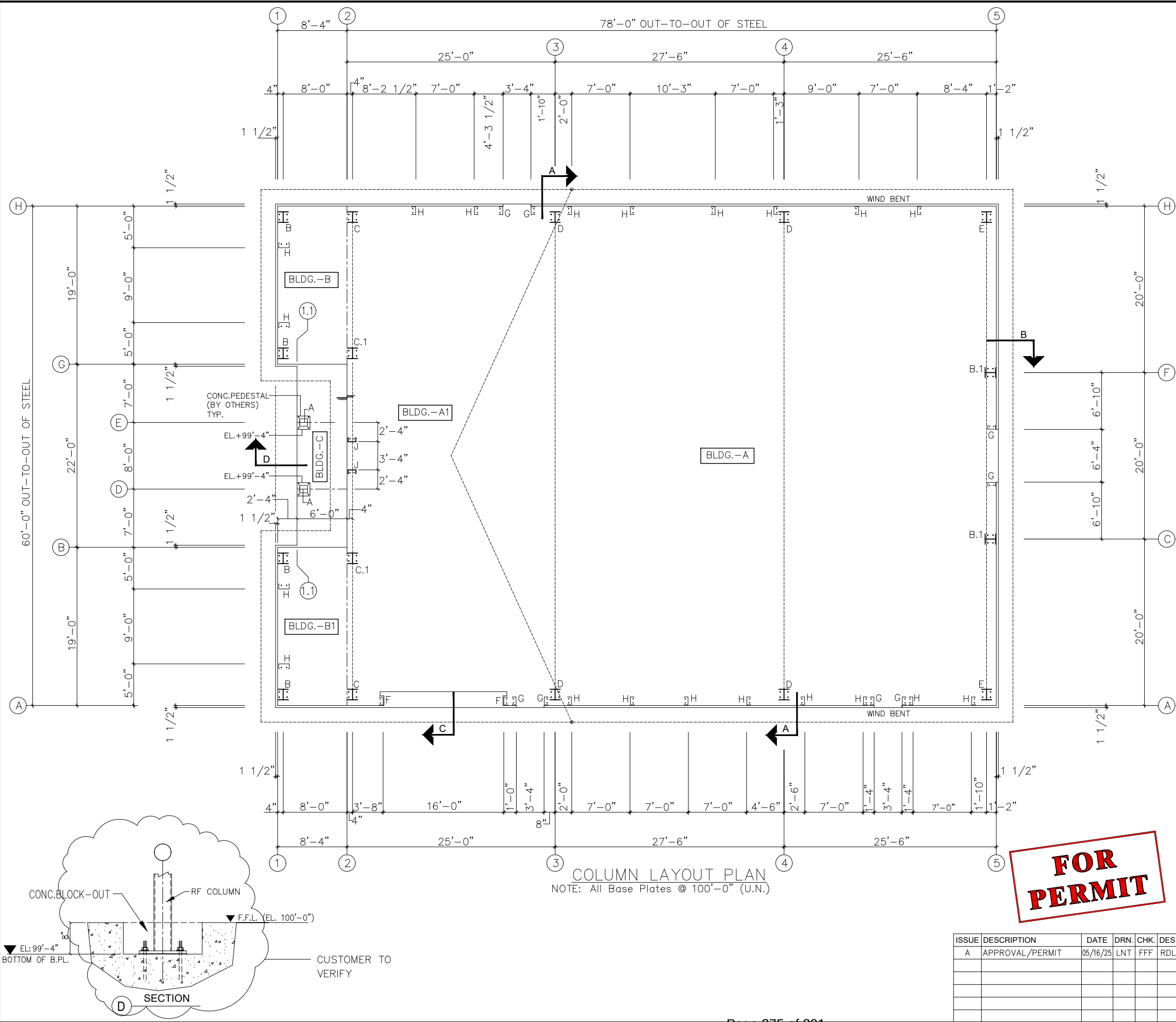


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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	LEGENDS & ABBREVIATIONS
A	APPROVAL/PERMIT	05/00/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
						END USE	UTILITY BUILDING
						STREET	1336 RIDGEVIEW ROAD
						CITY ST ZIP	UPPER ARLINGTON, OH 43221
						SALES NO.	82361
						JOB NO.	173424
						SCALE	N.T.S.
						DWG. NO.	C04 OF 4
						ISSUE	A





FOR PERMIT



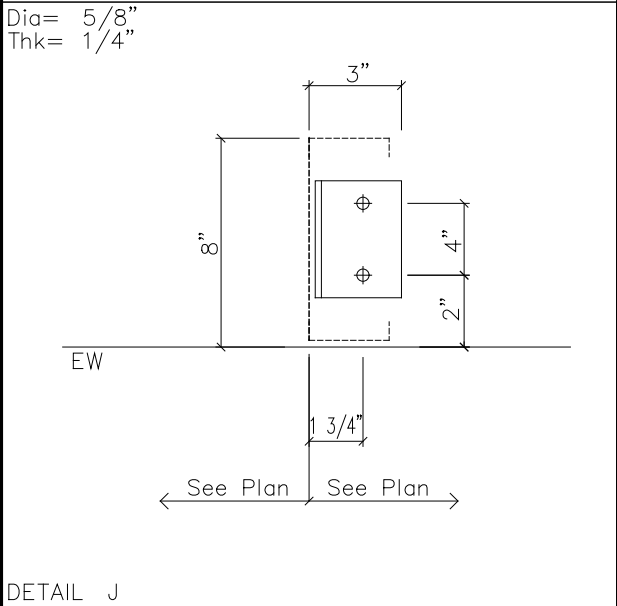
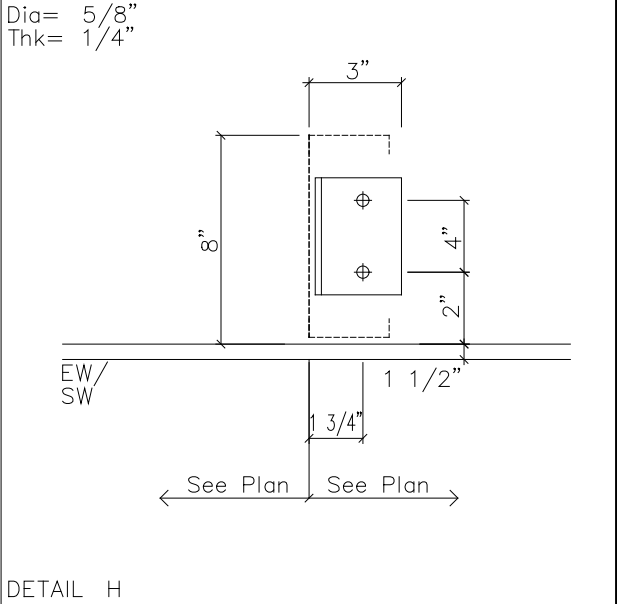
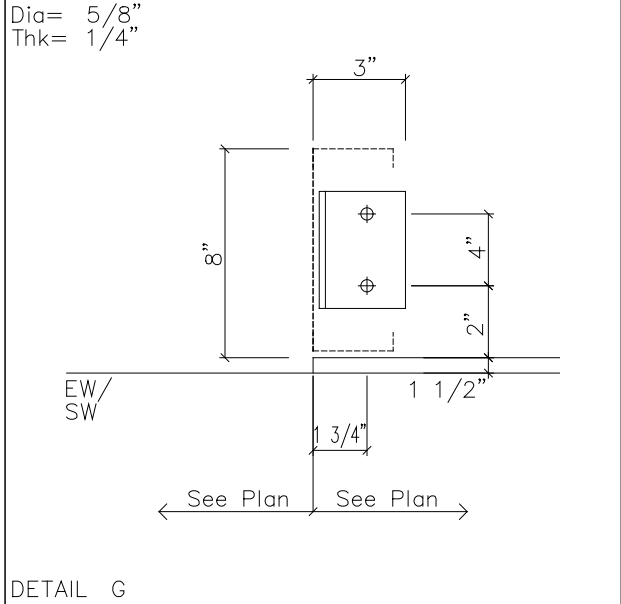
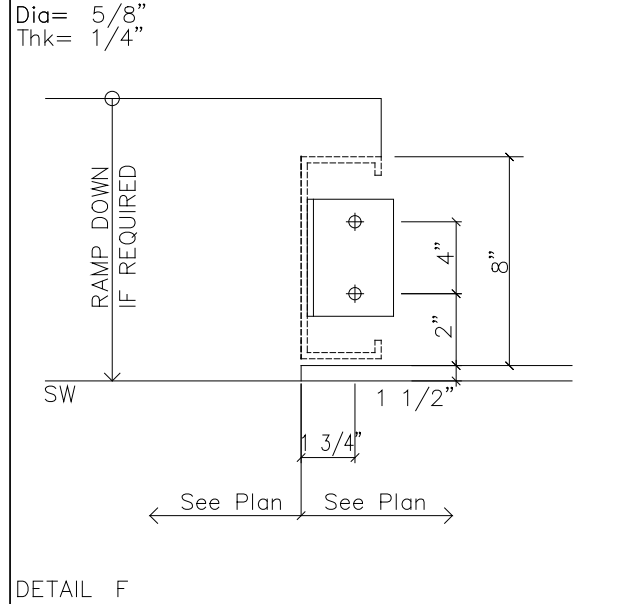
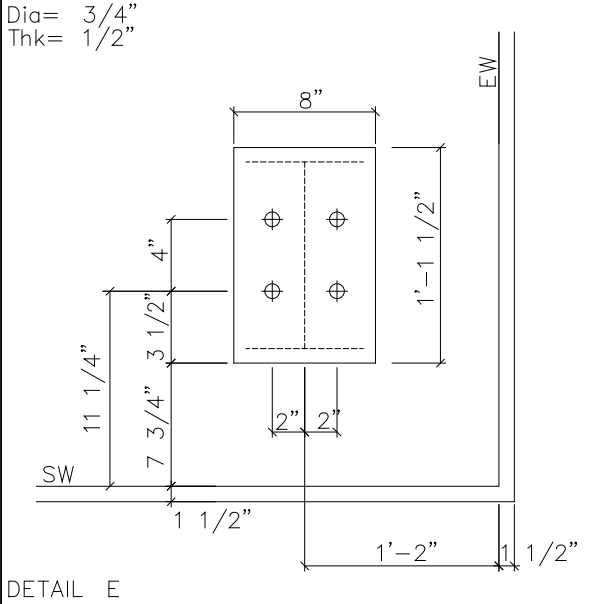
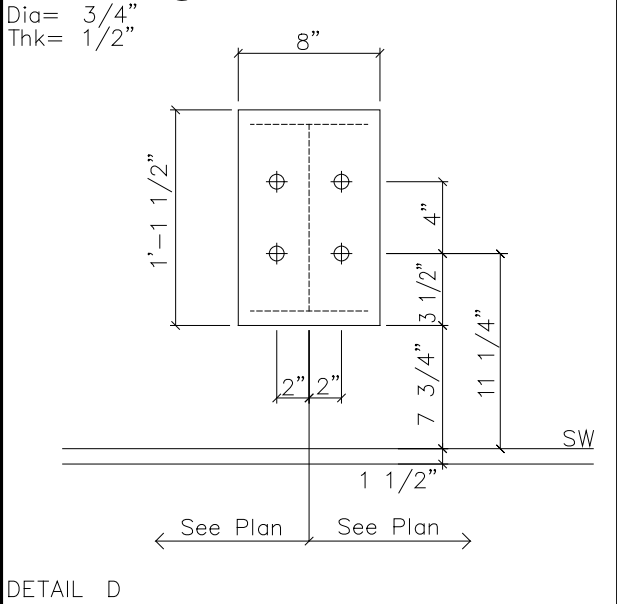
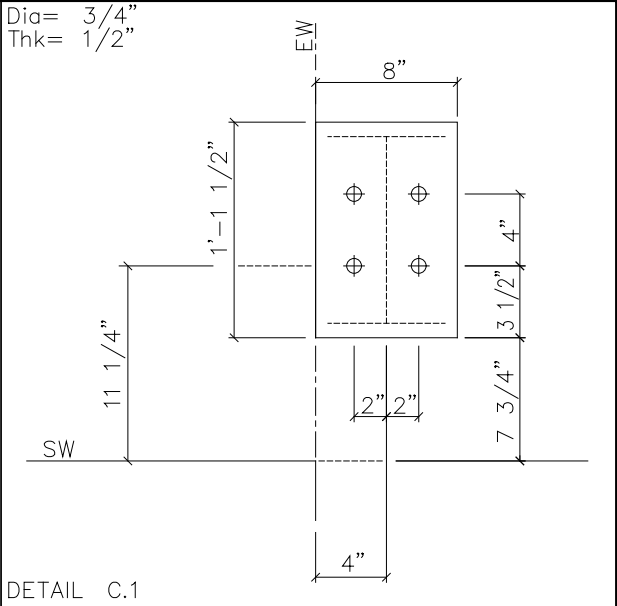
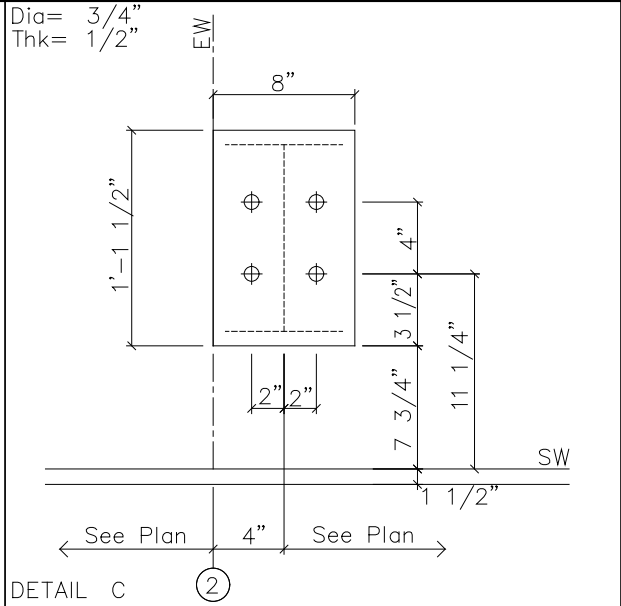
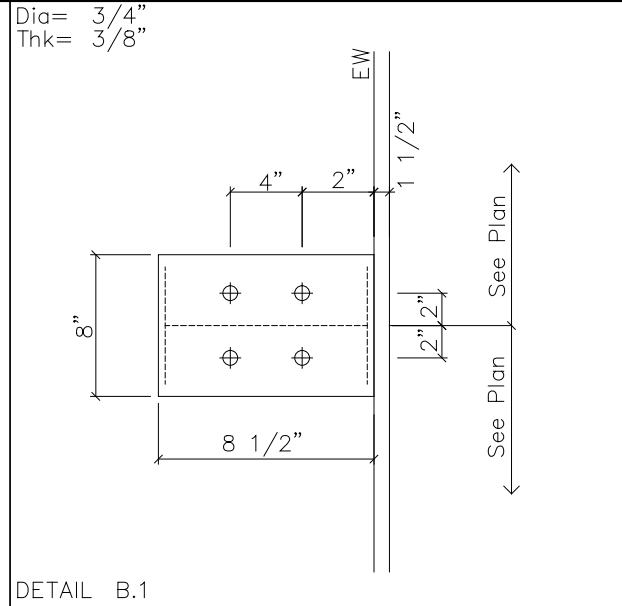
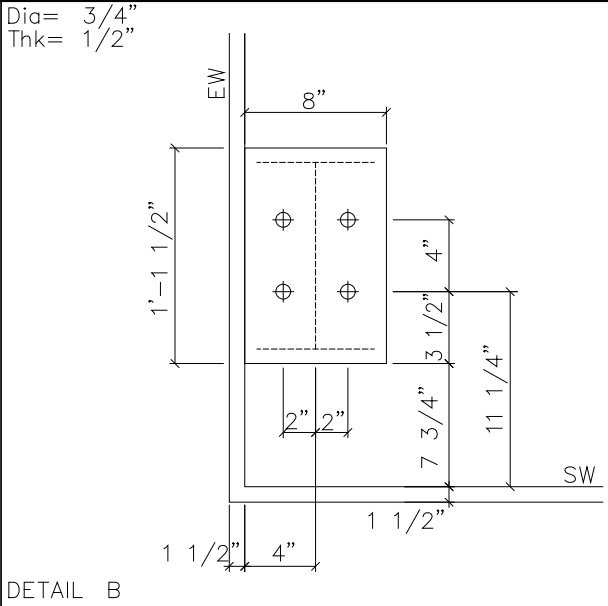
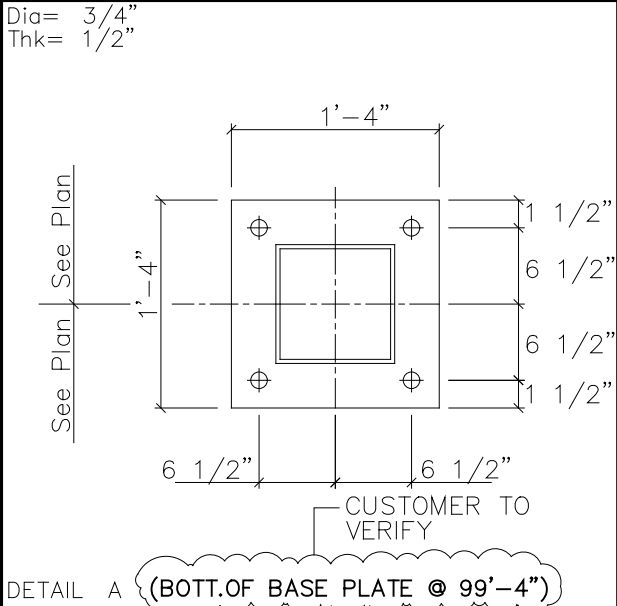
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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	05/16/25	LNT	FFF	RDL



DESCRIPTION	COLUMN LAYOUT PLAN
CUSTOMER	STEEL NATION BUILDINGS, INC.
END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
END USE	UTILITY BUILDING
STREET	1336 RIDGEVIEW ROAD
CITY ST ZIP	UPPER ARLINGTON, OH 43221
SALES NO.	82361
JOB NO.	173424
SCALE	3/16"
DWG. NO.	F01 OF 8
ISSUES	A



GENERAL NOTES:
① THE ANCHOR BOLT DETAILS SHOWN ON THIS DRAWING LOCATE THE ANCHOR BOLTS IN REFERENCE TO BOTH THE BUILDING STEEL LINE AND THE OUTSIDE OF RIGID'S SUGGESTED PANEL RECESS OF 1-1/2".
② THE ANCHOR BOLT SETTING PLAN LOCATES ANCHOR BOLTS IN REFERENCE TO THE OUTSIDE OF THE PANEL RECESS SHOWN. IF THE ACTUAL PANEL RECESS IS DIFFERENT FROM WHAT IS SHOWN ON THE ANCHOR BOLT SETTING PLAN, THEN ALL REFERENCE DIMENSIONS FROM THE OUTSIDE OF THE PANEL RECESS MUST BE DETERMINED BY THE CUSTOMER.
③ BOTTOM OF ALL BASE PLATES ARE AT THE SAME ELEVATION. (UNLESS NOTED)

NOTE:
ONLY ANCHOR BOLTS SETTING PLAN ISSUED & STAMPED "FOR CONSTRUCTION" SHALL BE USED IN SETTING ANCHOR BOLTS. "RIGID GLOBAL BUILDINGS" SHALL NOT BE RESPONSIBLE FOR ERROR OR DISCREPANCY IF THE DRAWING USED IS NOT VALID FOR CONSTRUCTION.

QTY.	SYMBOL	DIA.	PROJ.	ANCHOR BOLT DETAIL	
0	+	1/2"	1"	ANCHOR BOLT PROJECTION "PROJ." IS MEASURED FROM BOTTOM OF BASE PLATE	DETAIL OF ANCHOR BOLT AS PER THE SUPPLIER
64	+	5/8"	2"		
72	+	3/4"	2 1/2"		
0	+	7/8"	2 3/4"		
0	+	1"	3"	LENGTH OF "PROJ." SHOWN IS FOR ONE NUT + ONE WASHER	NUTS & WASHERS BY SUPPLIER
0	+	1 1/8"	3 1/2"		
0	+	1 1/2"	3 1/2"		
ANCHOR BOLTS NOT BY RIGID GLOBAL BUILDINGS					

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	05/16/25	LNT	FFF	RDL



DESCRIPTION	ANCHOR BOLT DETAILS			
CUSTOMER	STEEL NATION BUILDINGS, INC.			
END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)			
END USE	UTILITY BUILDING	BUILDING	A (Utility Building)	
STREET	1336 RIDGEVIEW ROAD			
CITY ST ZIP	UPPER ARLINGTON, OH 43221			
SALES NO.	JOB NO.	SCALE	DWG. NO.	ISSUE
82361	173424	N.T.S.	F02 OF 8	A

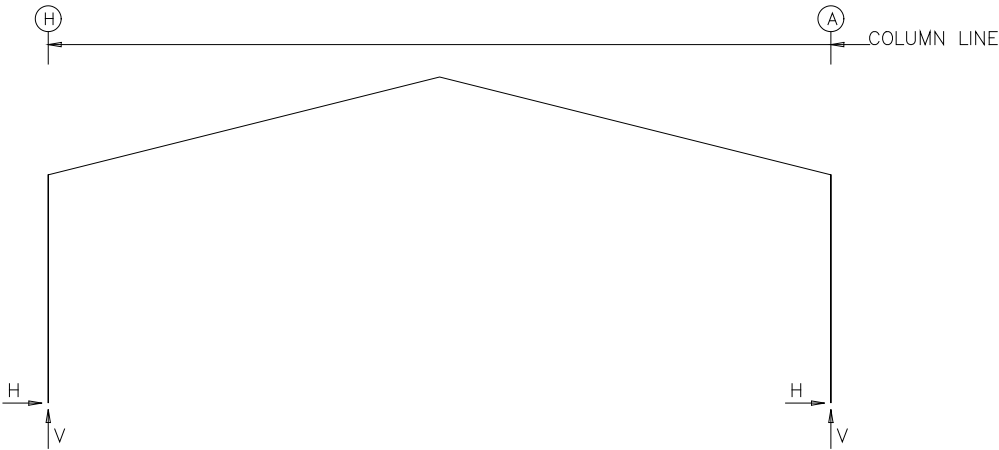
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FRAME LINES: 3 4 5



RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	-----Dead-----		-----Collateral-----		-----Live-----		-----Snow-----		-----Wind_Left1-----		-Wind_Right1-	
3*	H	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
3*	A	1.5	3.8	2.3	4.4	7.8	17.0	7.8	17.0	-11.1	-19.6	-1.1	-12.8
		-1.5	3.8	-2.3	4.4	-7.8	17.0	-7.8	17.0	1.1	-12.8	11.1	-19.6
Frame Line	Column Line	--Wind_Left2-		-Wind_Right2-		--Wind_Long1-		--Wind_Long2-		-Seismic_Left		Seismic_Right	
3*	H	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
3*	A	-10.1	-12.3	-0.1	-5.5	-1.9	-20.6	-3.6	-18.4	-0.7	-0.4	0.7	0.4
		0.1	-5.5	10.1	-12.3	3.6	-18.4	1.9	-20.6	-0.7	0.4	0.7	-0.4
Frame Line	Column Line	-Seismic_Long		-MIN_SNOW--		-F2CRNA_1--		-F2CRNA_2--		-F2CRNA_3--		-F2CRNA_4--	
3*	H	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
3*	A	0.0	-1.1	7.8	17.0	0.5	10.1	1.6	10.5	0.5	5.0	1.6	5.5
		0.0	-2.1	-7.8	17.0	-1.6	5.5	-0.5	5.0	-1.6	10.5	-0.5	10.1
Frame Line	Column Line	F2UNB_SL_L-		F2UNB_SL_R-									
3*	H	Horz	Vert	Horz	Vert								
3*	A	6.3	16.4	6.3	9.2								
		-6.3	9.2	-6.3	16.4								
Frame Line	Column Line	-----Dead-----		-----Collateral-----		-----Live-----		-----Snow-----		-----Wind_Left1-----		-Wind_Right1-	
5	H	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
5	A	0.9	2.5	1.2	2.4	4.4	9.8	4.4	9.8	-7.9	-14.4	-1.4	-9.6
		-0.9	2.5	-1.2	2.4	-4.4	9.8	-4.4	9.8	1.4	-9.6	7.9	-14.4
Frame Line	Column Line	--Wind_Left2-		-Wind_Right2-		--Wind_Long1-		--Wind_Long2-		-Seismic_Left		Seismic_Right	
5	H	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
5	A	-7.3	-10.2	-0.8	-5.4	-1.8	-16.7	-3.2	-14.9	-0.6	-0.3	0.6	0.3
		0.8	-5.4	7.3	-10.2	3.2	-14.9	1.8	-16.7	-0.6	0.3	0.6	-0.3
Frame Line	Column Line	-Seismic_Long		-MIN_SNOW--		-F3CRNA_1--		-F3CRNA_2--		-F3CRNA_3--		-F3CRNA_4--	
5	H	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
5	A	0.0	-1.1	4.4	9.8	0.4	9.1	1.5	9.5	0.4	4.1	1.5	4.6
		0.0	-2.1	-4.4	9.8	-1.5	4.6	-0.4	4.1	-1.5	9.5	-0.4	9.1
Frame Line	Column Line	F3UNB_SL_L-		F3UNB_SL_R-									
5	H	Horz	Vert	Horz	Vert								
5	A	3.5	9.5	3.5	5.3								
		-3.5	5.3	-3.5	9.5								

3* Frame lines: 3 4

a - Out-Of-Plane Horizontal Load

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in)		Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Qty	Dia	Width	Length	Thick	
3*	H	1	11.6	25.2	6	-5.7	-9.5	4	0.750	8.000	13.50	0.500	0.0
		21	10.9	28.8	10	-0.2	-10.1						
3*	A	7	5.7	-9.5	1	-11.6	25.2	4	0.750	8.000	13.50	0.500	0.0
		22	-10.9	28.8	12	0.2	-10.1						
3*	Frame lines: 3 4												

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in)		Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Qty	Dia	Width	Length	Thick	
5	H	26	6.5	15.7	6	-4.2	-7.1	4	0.750	8.000	13.50	0.500	0.0
		24	6.5	19.4	10	-0.5	-8.5						
5	A	7	4.2	-7.1	23	-6.5	15.7	4	0.750	8.000	13.50	0.500	0.0
		25	-6.5	19.4	12	0.5	-8.5						

ENDWALL COLUMN: BASIC COLUMN REACTIONS (k)

Frm Line	Col Line	Dead Vert	Wind Press	Wind Suct	Seis Long
			Horz	Horz	Horz
5	C	0.3	-5.2	5.8	0.1
5	F	0.3	-5.2	5.8	0.1

ENDWALL COLUMN: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in)		Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Qty	Dia	Width	Length	Thick	
5	C	31	3.5	0.2	30	-3.1	0.2	4	0.750	8.000	8.500	0.375	0.0
		14	-0.1	0.3									
5	F	31	3.5	0.2	30	-3.1	0.2	4	0.750	8.000	8.500	0.375	0.0
		14	-0.1	0.3									



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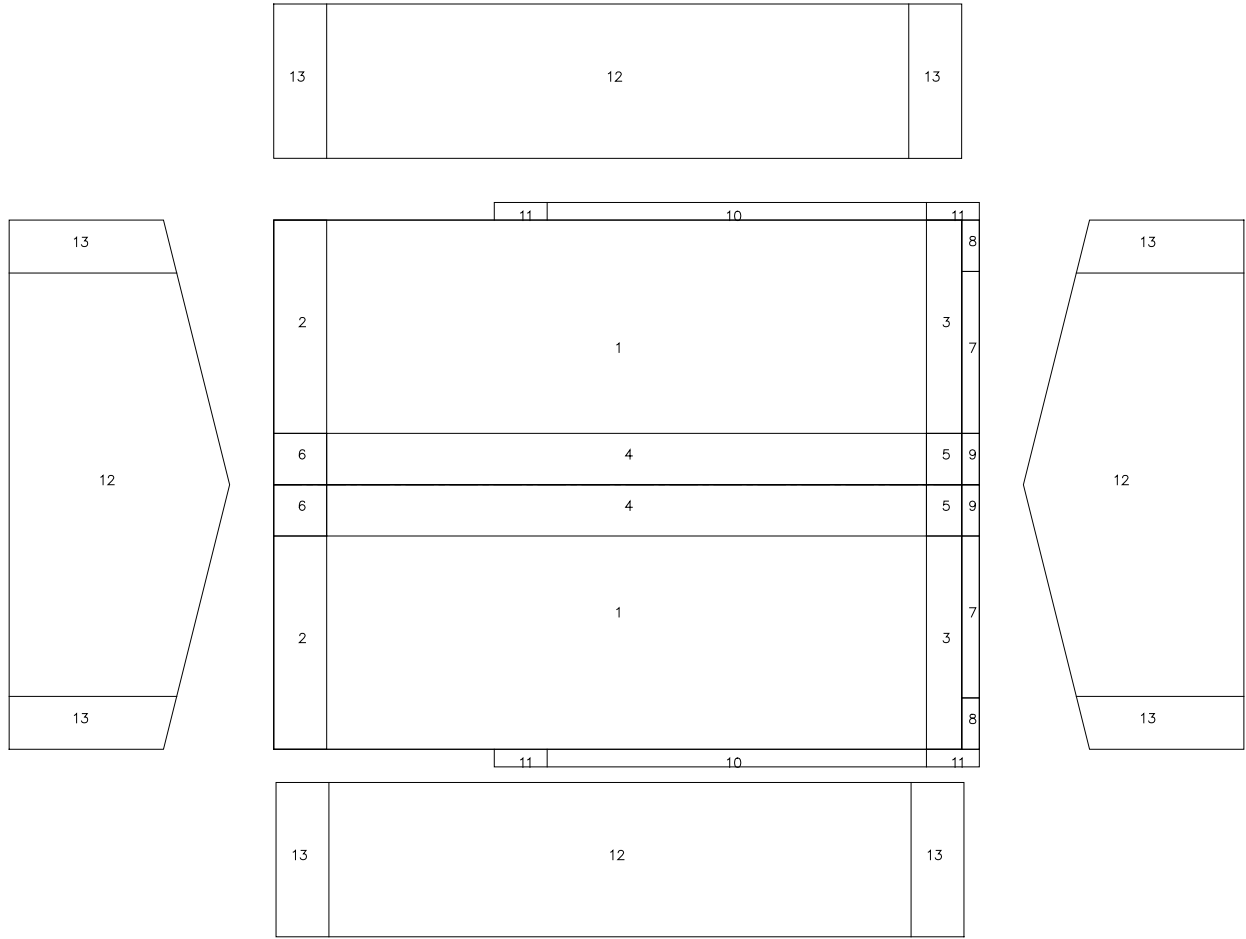
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	 100 SOUTHPOINTE SQUARE, LANE 4 • LANCASTER, PA 17327 PH: 734.225.2200 • INFO@STEELNATION.COM	DESCRIPTION	ANCHOR BOLT REACTIONS							
A	APPROVAL/PERMIT	05/16/25	LNT	FFF	RDL		CUSTOMER	STEEL NATION BUILDINGS, INC.							
							END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)							
							END USE	UTILITY BUILDING	BUILDING	A (Utility Building)					
							STREET	1336 RIDGEVIEW ROAD							
							CITY ST ZIP	UPPER ARLINGTON, OH 43221							
							SALES NO.	82361	JOB NO.	173424	SCALE	N.T.S.	DWG. NO.	F03 OF 8	ISSUE

ENDWALL COLUMN:				BASIC COLUMN REACTIONS (k)		
Frm Line	Col Line	Dead Vert	Wind Press Horz	Wind Suct Horz	Seis Long Horz	
5	C	0.3	-5.2	5.8	0.1	
5	F	0.3	-5.2	5.8	0.1	

ENDWALL COLUMN:		MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES											
Frm Line	Col Line	Column_Reactions(k)						Bolt(in) Qty Dia		Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
5	C	31 14	3.5 -0.1	0.2 0.3	30	-3.1	0.2	4	0.750	8.000	8.500	0.375	0.0
5	F	31 14	3.5 -0.1	0.2 0.3	30	-3.1	0.2	4	0.750	8.000	8.500	0.375	0.0

BUILDING BRACING REACTIONS									
—Wall Loc	—Col Line	± Reactions(k)		—Wind Horz	—Seismic Horz	—Panel_Shear (lb/ft)	Wind	Seis	Note
				Vert	Vert				
L_EW	2								(h)
F_SW	A	4,5		4.0	5.2	1.6	2.1		(b)
R_EW	5								(h)
B_SW	H	4,5		4.0	5.2	0.8	1.1		(b)
(b)Wind bent in bay, base above finish floor									
(h)Rigid frame at endwall									
CRANE BRACING REACTIONS									
—Wall Loc	—Col Line	± Reactions(k)		—Crane Horz	—Seismic Horz				
				Vert	Vert				
F_SW	A	4 ,5		1.0	0.4				
B_SW	H	5 ,4		1.0	0.4				
Reactions for seismic represent shear force, Eh									
Reaction values shown are unfactored									

NOTES FOR REACTIONS	
1. All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.	
2. Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.	
3. Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.	
4. Building reactions are based on the following building data:	
Width	(ft) = 60.0
Length	(ft) = 78.0
Eave Height	(ft) = 17.5/ 17.5
Roof Slope	(rise/12) = 3.00/ 3.00
Roof Dead Load	(psf) = 3.0
Live Load	(psf) = 20.0
Collateral Load	(psf) = 5.0
Snow Load	(psf) = 20.0
Wind Speed	(mph) =115.0
Wind Code	=OBC 24 (IBC 21)
Exposure	=C
Closure	=Enclosed
Internal Wind Coeff	=-0.18, +0.18
Risk Category	=II - Normal
Importance - Wind	= 1.00
Importance - Seismic	= 1.00
Seismic Design Category	=B
Seismic Coeff	(Sms) = 0.19
5. Loading conditions are:	
1	Dead+Collateral+Snow+Slide_Snow
2	Dead+Collateral+0.75Live+0.45Wind_Long1R
3	Dead+Collateral+0.75Live+0.45Wind_Long2L
4	Dead+Collateral+0.75Snow+0.45Wind_Left1+0.75Snow_Drift
5	Dead+Collateral+0.75Snow+0.45Wind_Left1+0.75Slide_Snow
6	0.6Dead+0.6Wind_Left1
7	0.6Dead+0.6Wind_Right1
8	0.6Dead+0.6Wind_Left2
9	0.6Dead+0.6Wind_Right2
10	0.6Dead+0.6Wind_Long1L
11	0.6Dead+0.6Wind_Long1R
12	0.6Dead+0.6Wind_Long2L
13	0.6Dead+0.6Wind_Long2R
14	1.02Dead+1.02Collateral+0.7Seismic_LongR
15	Dead+Collateral+F1CRNA_2
16	Dead+Collateral+F1CRNA_3
17	Dead+0.75Snow+0.3Wind_Left1+0.75F1CRNA_1
18	Dead+0.75Snow+0.3Wind_Right1+0.75F1CRNA_4
19	Dead+Collateral+F1UNB_SL_L
20	Dead+Collateral+F1UNB_SL_R
21	Dead+Collateral+0.75Snow+0.75Slide_Snow+0.75F2CRNA_2
22	Dead+Collateral+0.75Snow+0.75Slide_Snow+0.75F2CRNA_3
23	Dead+Collateral+0.75Snow+0.75Slide_Snow+0.75F3CRNA_1
24	Dead+Collateral+0.75Snow+0.75Slide_Snow+0.75F3CRNA_2
25	Dead+Collateral+0.75Snow+0.75Slide_Snow+0.75F3CRNA_3
26	Dead+Collateral+0.75Snow+0.75Slide_Snow+0.75F3CRNA_4
27	0.6Dead+0.6Wind_Left1+0.6Wind_Suction
28	0.6Dead+0.6Wind_Pressure+0.6Wind_Long1L
29	0.6Dead+0.6Wind_Right1+0.6Wind_Suction
30	0.6Dead+0.6Wind_Pressure+0.6Wind_Long2L
31	0.6Dead+0.6Wind_Right2+0.6Wind_Suction



DESIGN CALCULATION WIND
82361A1

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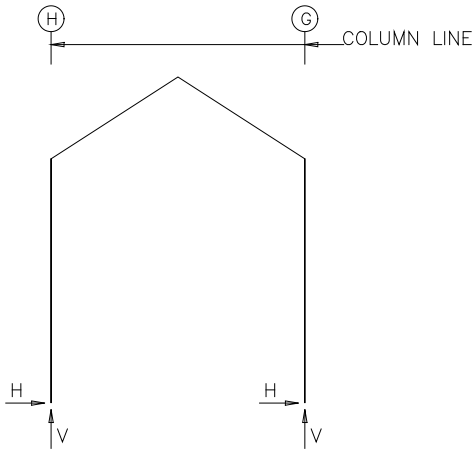


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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	 100 SOUTHPOINTE SQUARE LAND P.O. BOX 225 HAWKINSBURG, PA 15117 PH: 724.233.2250 WWW.STEELNATION.COM	DESCRIPTION	ANCHOR BOLT REACTIONS	
A	APPROVAL/PERMIT	05/16/25	LNT	FFF	RDL		CUSTOMER	STEEL NATION BUILDINGS, INC.	
							END USER	COLUMBIA GAS (NiSOURCE UTILITY BUILDING)	
							END USE	UTILITY BUILDING	BUILDING A (Utility Building)
							STREET	1336 RIDGEVIEW ROAD	
							CITY ST ZIP	UPPER ARLINGTON, OH 43221	
							SALES NO:	82361	JOB NO: 173424
							SCALE:	N.T.S.	DWG NO: F04 OF 8
							ISSUE:	A	

FRAME LINES: 1 2



RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in) Qty	Dia	Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
1	H	2	1.2	1.7	5	-1.4	-1.0	4	0.750	8.000	13.50	0.500	0.0
		3	0.4	4.8	7	0.6	-4.4						
1	G	6	1.4	-1.0	1	-1.2	1.7	4	0.750	8.000	13.50	0.500	0.0
		3	-0.4	4.8	7	-0.6	-4.4						

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in) Qty	Dia	Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
2	H	2	2.3	2.9	5	-2.6	-2.1	4	0.750	8.000	13.50	0.500	0.0
		8	1.7	10.0	4	-1.9	-2.8						
2	G	6	2.6	-2.1	1	-2.3	2.9	4	0.750	8.000	13.50	0.500	0.0
		3	-0.8	6.2	7	-1.2	-5.0						

BUILDING BRACING REACTIONS

Wall Loc	Col Line	± Reactions(k)				Panel_Shear (lb/ft)		Note
		Wind Horz	Wind Vert	Seismic Horz	Seismic Vert	Wind	Seis	
L_EW	1							(h)
F_SW	G	1.2	2.9	6.1	0.2	0.5		
R_EW	2.1	Braced to Bldg.-A						
B_SW	H	Braced to Bldg.-A						

(h)Rigid frame at endwall

Reactions for seismic represent shear force, Eh
Reaction values shown are unfactored

RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	Dead		Collateral		Live		Snow		Wind_Left1		Wind_Right1	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1	H	0.0	0.6	0.0	0.4	0.1	1.5	0.1	1.5	-1.6	-3.0	1.8	0.9
1	G	0.0	0.6	0.0	0.4	-0.1	1.5	-0.1	1.5	-1.8	0.9	1.6	-3.0
Frame Line	Column Line	Wind_Left2		Wind_Right2		Wind_Long1		Wind_Long2		Seismic_Left		Seismic_Right	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1	H	-2.1	-2.5	1.3	1.5	1.0	-7.9	0.6	-6.0	-0.1	-0.1	0.1	0.1
1	G	-1.3	1.5	2.1	-2.5	-1.0	-7.9	-0.6	-6.0	-0.1	0.1	0.1	-0.1
Frame Line	Column Line	Seismic_Long		Wind_Left3		Wind_Right3		Wind_Left4		Wind_Right4		MIN_SNOW	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1	H	0.0	-0.5	-1.8	-2.8	2.0	1.8	-2.3	-2.3	1.5	2.3	0.1	1.5
1	G	0.0	-0.5	-2.0	1.8	1.8	-2.8	-1.5	2.3	2.3	-2.3	-0.1	1.5
Frame Line	Column Line	Dead		Collateral		Live		Snow		Wind_Left1		Wind_Right1	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
2	H	0.1	0.9	0.1	0.7	0.2	2.5	0.2	2.5	-3.2	-5.6	3.4	2.1
2	G	-0.1	0.9	-0.1	0.7	-0.2	2.5	-0.2	2.5	-3.4	2.1	3.2	-5.6
Frame Line	Column Line	Wind_Left2		Wind_Right2		Wind_Long1		Wind_Long2		Seismic_Left		Seismic_Right	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
2	H	-4.1	-4.5	2.5	3.1	1.9	-3.1	1.2	0.1	-0.2	-0.5	0.2	0.5
2	G	-2.5	3.1	4.1	-4.5	-1.9	-9.2	-1.2	-6.0	-0.2	0.5	0.2	-0.5
Frame Line	Column Line	Seismic_Long		Wind_Left3		Wind_Right3		Wind_Left4		Wind_Right4		MIN_SNOW	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
2	H	0.0	0.0	-3.5	-5.5	3.8	3.4	-4.5	-4.4	2.9	4.5	0.2	2.5
2	G	0.0	-0.5	-3.8	3.4	3.5	-5.5	-2.9	4.5	4.5	-4.4	-0.2	2.5
Frame Line	Column Line	F2CRNA_1		F2CRNA_2		F2CRNA_3		F2CRNA_4					
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert				
2	H	0.3	7.6	1.0	8.3	-0.1	3.0	0.6	3.8				
2	G	-0.8	2.0	-0.5	1.2	-0.5	1.1	-0.1	0.3				

NOTES FOR REACTIONS

- All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
- Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
- Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
- Building reactions are based on the following building data:

Width (ft) = 19.0

Length (ft) = 19.4

Eave Height (ft) = 18.3/ 18.3

Roof Slope (rise/12) = 7.74/ 7.74

Roof Dead Load (psf) = 2.7

Live Load (psf) = 20.0

Collateral Load (psf) = 5.0

Snow Load (psf) = 20.0

Wind Speed (mph) = 115.0

Wind Code = OBC 24 (IBC 21)

Exposure = C

Closure = Enclosed

Internal Wind Coeff = -0.18, +0.18

Risk Category = II - Normal

Importance - Wind = 1.00

Importance - Seismic = 1.00

Seismic Design Category = B

Seismic Coeff (Sms) = 0.19
- Loading conditions are:

1 Dead+0.6Wind_Left3

2 Dead+0.6Wind_Right3

3 Dead+Collateral+0.75Snow+0.45Wind_Long2R+0.75Slide_Snow

4 0.6Dead+0.6Wind_Left1

5 0.6Dead+0.6Wind_Left4

6 0.6Dead+0.6Wind_Right4

7 0.6Dead+0.6Wind_Long1L

8 Dead+0.75Snow+0.3Wind_Right2+0.75Slide_Snow+0.75F2CRNA_2

9 0.6Dead+0.6Wind_Suction+0.6Wind_Long1L

10 0.6Dead+0.6Wind_Pressure+0.6Wind_Long1L

11 Dead+Collateral+CRANEA1

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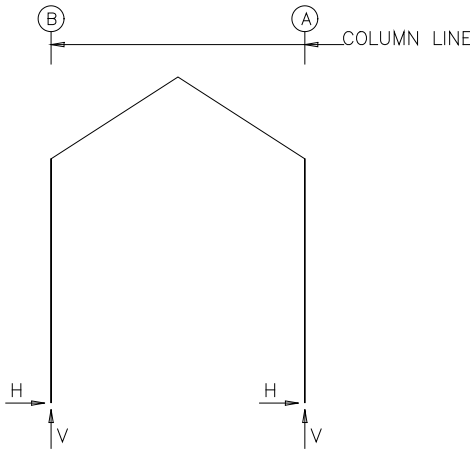


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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	STEELNATION 100 SOUTHPOINTE SQUARE LAND • HANOVERBURG, PA 17037 PH: 724.225.2200 • INFO@STEELNATION.COM	DESCRIPTION	ANCHOR BOLT REACTIONS							
A	APPROVAL/PERMIT	05/16/25	LNT	FFF	RDL		CUSTOMER	STEEL NATION BUILDINGS, INC.							
							END USER	COLUMBIA GAS (NiSOURCE UTILITY BUILDING)							
							END USE	UTILITY BUILDING	BUILDING	A (Utility Building)					
							STREET	1336 RIDGEVIEW ROAD							
							CITY ST ZIP	UPPER ARLINGTON, OH 43221							
							SALES NO.	82361	JOB NO.	173424	SCALE	N.T.S.	DWG. NO.	F05 OF 8	ISSUE

FRAME LINES: 1 2



RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in)		Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Qty	Dia	Width	Length	Thick	
1	B	2	1.2	1.7	5	-1.4	-1.0	4	0.750	8.000	13.50	0.500	0.0
		3	0.4	4.8	7	0.6	-4.4						
1	A	6	1.4	-1.0	1	-1.2	1.7	4	0.750	8.000	13.50	0.500	0.0
		3	-0.4	4.8	7	-0.6	-4.4						

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in)		Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Qty	Dia	Width	Length	Thick	
2	B	2	2.3	2.9	5	-2.6	-2.1	4	0.750	8.000	13.50	0.500	0.0
		3	0.8	6.2	7	1.2	-5.0						
2	A	6	2.6	-2.1	1	-2.3	2.9	4	0.750	8.000	13.50	0.500	0.0
		8	-1.7	10.0	4	1.9	-2.8						

BUILDING BRACING REACTIONS

Loc	Wall Line	Col Line	± Reactions(k)				Panel_Shear (lb/ft)		Note
			Wind Horz	Wind Vert	Seismic Horz	Seismic Vert	Wind	Seis	
L_EW	1								(h)
F_SW	A								
R_EW	2.1								
B_SW	B								

(h)Rigid frame at endwall

Reactions for seismic represent shear force, Eh
Reaction values shown are unfactored

RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	Dead		Collateral		Live		Snow		Wind_Left1		Wind_Right1	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1	B	0.0	0.6	0.0	0.4	0.1	1.5	0.1	1.5	-1.6	-3.0	1.8	0.9
1	A	0.0	0.6	0.0	0.4	-0.1	1.5	-0.1	1.5	-1.8	0.9	1.6	-3.0
Frame Line	Column Line	Wind_Left2		Wind_Right2		Wind_Long1		Wind_Long2		Seismic_Left		Seismic_Right	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1	B	-2.1	-2.5	1.3	1.5	1.0	-7.9	0.6	-6.0	-0.1	-0.1	0.1	0.1
1	A	-1.3	1.5	2.1	-2.5	-1.0	-7.9	-0.6	-6.0	-0.1	0.1	0.1	-0.1
Frame Line	Column Line	Seismic_Long		Wind_Left3		Wind_Right3		Wind_Left4		Wind_Right4		MIN_SNOW	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1	B	0.0	-0.5	-1.8	-2.8	2.0	1.8	-2.3	-2.3	1.5	2.3	0.1	1.5
1	A	0.0	-0.5	-2.0	1.8	1.8	-2.8	-1.5	2.3	2.3	-2.3	-0.1	1.5
Frame Line	Column Line	Dead		Collateral		Live		Snow		Wind_Left1		Wind_Right1	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
2	B	0.1	0.9	0.1	0.7	0.2	2.5	0.2	2.5	-3.2	-5.6	3.4	2.1
2	A	-0.1	0.9	-0.1	0.7	-0.2	2.5	-0.2	2.5	-3.4	2.1	3.2	-5.6
Frame Line	Column Line	Wind_Left2		Wind_Right2		Wind_Long1		Wind_Long2		Seismic_Left		Seismic_Right	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
2	B	-4.1	-4.5	2.5	3.1	1.9	-9.2	1.2	-6.0	-0.2	-0.5	0.2	0.5
2	A	-2.5	3.1	4.1	-4.5	-1.9	-3.1	-1.2	0.1	-0.2	0.5	0.2	-0.5
Frame Line	Column Line	Seismic_Long		Wind_Left3		Wind_Right3		Wind_Left4		Wind_Right4		MIN_SNOW	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
2	B	0.0	-0.5	-3.5	-5.5	3.8	3.4	-4.5	-4.4	2.9	4.5	0.2	2.5
2	A	0.0	0.0	-3.8	3.4	3.5	-5.5	-2.9	4.5	4.5	-4.4	-0.2	2.5
Frame Line	Column Line	F2CRNA_1		F2CRNA_2		F2CRNA_3		F2CRNA_4					
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert				
2	B	0.1	0.3	0.5	1.1	0.5	1.2	0.8	2.0				
2	A	-0.6	3.8	0.1	3.0	-1.0	8.3	-0.3	7.6				

NOTES FOR REACTIONS

- All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
- Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
- Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
- Building reactions are based on the following building data:

Width (ft) = 19.0

Length (ft) = 19.4

Eave Height (ft) = 18.3/ 18.3

Roof Slope (rise/12) = 7.74/ 7.74

Roof Dead Load (psf) = 2.7

Live Load (psf) = 20.0

Collateral Load (psf) = 5.0

Snow Load (psf) = 20.0

Wind Speed (mph) = 115.0

Wind Code = OBC 24 (IBC 21)

Exposure = C

Closure = Enclosed

Internal Wind Coeff = -0.18, +0.18

Risk Category = II - Normal

Importance - Wind = 1.00

Importance - Seismic = 1.00

Seismic Design Category = B

Seismic Coeff (Sms) = 0.19
- Loading conditions are:

1 Dead+0.6Wind_Left3

2 Dead+0.6Wind_Right3

3 Dead+Collateral+0.75Snow+0.45Wind_Long2R+0.75Slide__Snow

4 0.6Dead+0.6Wind_Right1

5 0.6Dead+0.6Wind_Left4

6 0.6Dead+0.6Wind_Right4

7 0.6Dead+0.6Wind_Long1L

8 Dead+0.75Snow+0.3Wind_Left2+0.75Slide__Snow+0.75F2CRNA_3

9 0.6Dead+0.6Wind_Suction+0.6Wind_Long1L

10 0.6Dead+0.6Wind_Pressure+0.6Wind_Long1L

11 Dead+Collateral+CRANE A1

FOR PERMIT

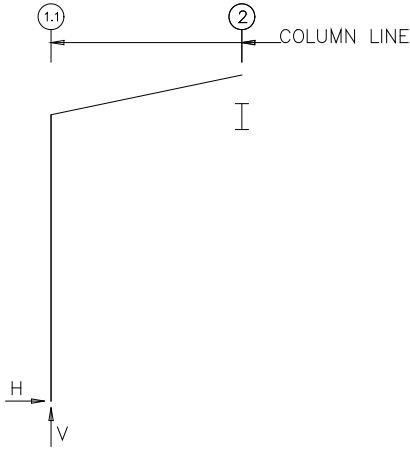


5/29/2025

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ISSUE	DESCRIPTION	DATE	DRN	CHK	DES	 100 SOUTHPOINTE SQUARE LAND  CANONSBURG, PA 15017 PH: 724.225.2200  INFO@STEELNATION.COM	DESCRIPTION	ANCHOR BOLT REACTIONS							
A	APPROVAL/PERMIT	05/16/25	LNT	FFF	RDL		CUSTOMER	STEEL NATION BUILDINGS, INC.							
							END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)							
							END USE	UTILITY BUILDING	BUILDING	A (Utility Building)					
							STREET	1336 RIDGEVIEW ROAD							
							CITY ST ZIP	UPPER ARLINGTON, OH 43221							
							SALES NO:	82361	JOB NO:	173424	SCALE:	N.T.S.	DWG. NO:	F06 OF 8	ISSUE:

FRAME LINES: D E



RIGID FRAME: BASIC COLUMN REACTIONS (k)

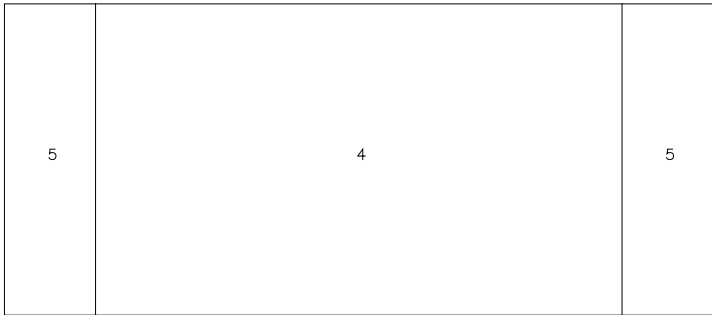
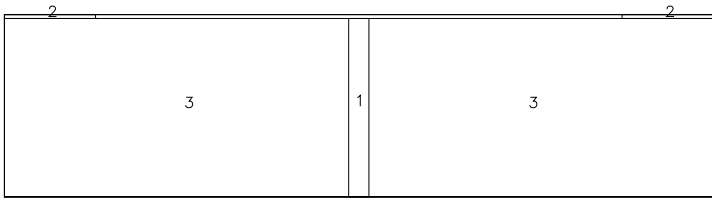
Frame Line	Column Line	-----Dead-----		-----Collateral-----		-----Live-----		-----Snow-----		-----Snow_Drift-----		-----Wind_Left1-----	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
D*	1.1	0.0	0.3	0.1	0.2	0.2	0.9	0.2	0.9	0.5	1.9	-0.5	-1.6
Frame Line	Column Line	--Wind_Right1--		--Wind_Left2--		--Wind_Right2--		--Wind_Long1--		--Wind_Long2--		--Seismic_Long	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
D*	1.1	0.6	-1.2	-1.2	-0.4	-0.1	0.0	0.7	-1.6	0.1	0.1	0.0	0.0
Frame Line	Column Line	--Wind_Left3--		--Wind_Right3--		--Wind_Left4--		--Wind_Right4--		--MIN_SNOW--			
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert		
D*	1.1	-0.3	-0.7	0.6	-1.2	-1.0	0.5	-0.1	0.0	0.2	0.9		

D* Frame lines: D E

BUILDING BRACING REACTIONS

---Wall---		Col	± Reactions(k)				Panel_Shear			
Loc	Line	Line	Horz	Vert	Horz	Vert	Wind	Seis	Note	
L_EW	B	Braced to Bldg.-B1&B2								
F_SW	2	Braced to Bldg.-B1&B2								
R_EW	G	Braced to Bldg.-B1&B2								
B_SW	1.1	Braced to Bldg.-B1&B2								

Reactions for seismic represent shear force, Eh
Reaction values shown are unfactored



DESIGN CALCULATION WIND
82361C

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)								Bolt(in)		Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Qty	Dia			Width	Length	Thick	
D*	1.1	3	0.9	1.9	5	-0.7	0.0	4	0.750			16.00	16.00	0.500	0.0
		1	0.8	3.3	6	0.5	-0.8								
D*	Frame lines: D E														

NOTES FOR REACTIONS

- All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
- Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
- Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
- Building reactions are based on the following building data:
 - Width (ft) = 6.0
 - Length (ft) = 23.3
 - Eave Height (ft) = 9.0/ 10.3
 - Roof Slope (rise/12) = 2.50
 - Roof Dead Load (psf) = 2.5
 - Live Load (psf) = 20.0
 - Collateral Load (psf) = 5.0
 - Snow Load (psf) = 20.0
 - Wind Speed (mph) = 115.0
 - Wind Code = OBC 24 (IBC 21)
 - Exposure = C
 - Closure = Partially Enclosed
 - Internal Wind Coeff = -0.55, +0.55
 - Risk Category = II - Normal
 - Importance - Wind = 1.00
 - Importance - Seismic = 1.00
 - Seismic Design Category = B
 - Seismic Coeff (Sms) = 0.19
- Loading conditions are:
 - Dead+Collateral+Snow+Snow_Drift
 - Dead+Collateral+0.75Snow+0.75Snow_Drift+0.45Wind_Left4
 - Dead+Collateral+0.75Snow+0.45Wind_Long1L+0.75Snow_Drift
 - 0.6Dead+0.6Wind_Left1
 - 0.6Dead+0.6Wind_Left2
 - 0.6Dead+0.6Wind_Long1L
 - 0.6Dead+0.6Wind_Long1R

Components & Cladding (Factored)							
Zone	Width (ft)	Length (ft)	Pressure(psf)		Suction(psf)		
			Member	Panel	Member	Panel	
1			12.71	16.22	-15.84	-42.11	
2			12.71	16.22	-15.84	-42.11	
3	6.00	3.00	12.71	16.22	-23.17	-67.52	
4			17.59	20.64	-18.61	-20.64	
5	3.00		17.59	20.64	-25.30	-33.44	
(+) wind towards surface							
(-) wind away from surface							

FOR
PERMIT



5/29/2025

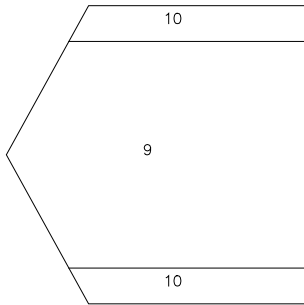
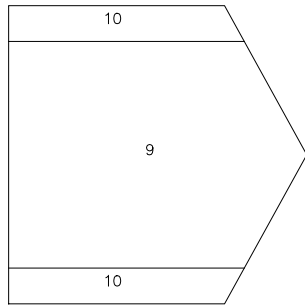
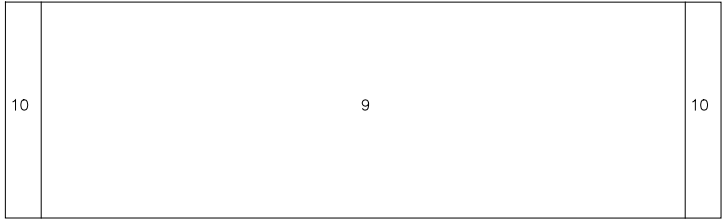
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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	188 SOUTHPOINTE SQUARE LANCASTERSBURG, PA 18317 PH: 714.335.2000 INFO@STEELNATION.COM	DESCRIPTION	ANCHOR BOLT REACTIONS								
A	APPROVAL/PERMIT	05/16/25	LNT	FFF	RDL		CUSTOMER	STEEL NATION BUILDINGS, INC.								
							END USER	COLUMBIA GAS (NiSOURCE UTILITY BUILDING)								
							END USE	UTILITY BUILDING		BUILDING	A (Utility Building)					
							STREET	1336 RIDGEVIEW ROAD								
							CITY ST ZIP	UPPER ARLINGTON, OH 43221								
							SALES NO.	82361	DWG NO.	173424	SCALE	N.T.S.	DWG. NO.	F07 OF 8	ISSUES	A

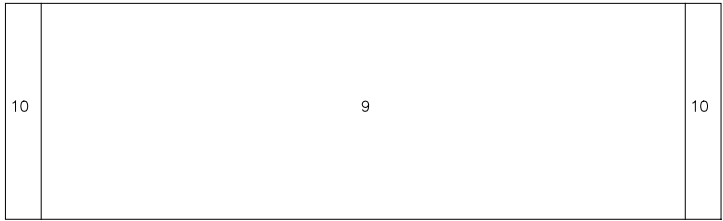


Components & Cladding (Factored)						
Zone	Width (ft)	Length (ft)	Pressure(psf)		Suction(psf)	
			Member	Panel	Member	Panel
1			10.91	17.33	-14.98	-30.25
2		1.00	10.91	17.33	-17.97	-33.28
3	3.00	1.00	10.91	17.33	-20.82	-40.84
4	8.28	2.00	12.55	17.33	-39.24	-42.66
5	3.00	2.00	12.55	17.33	-45.68	-50.22
6	3.00	2.00	12.55	17.33	-39.24	-42.66
7	2.28	16.00	10.08	14.44	-24.45	-39.73
8	2.28	3.00	10.08	14.44	-30.32	-50.45
9			14.52	18.03	-16.05	-19.56
10	3.00		14.52	18.03	-17.17	-24.06

(+) wind towards surface
(-) wind away from surface

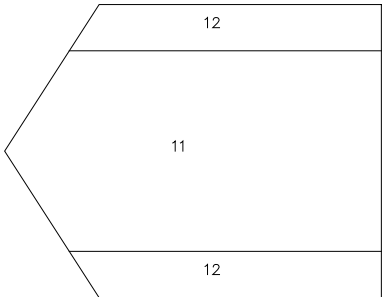
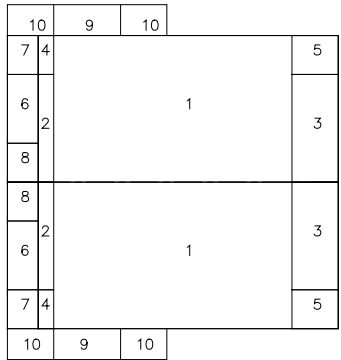
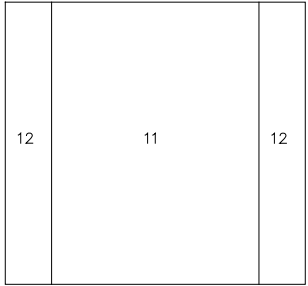


DESIGN CALCULATION WIND
82361A1

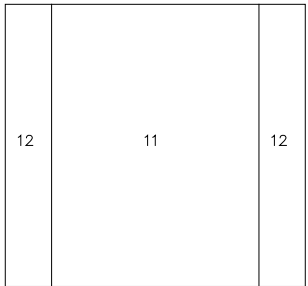


Components & Cladding (Factored)						
Zone	Width (ft)	Length (ft)	Pressure(psf)		Suction(psf)	
			Member	Panel	Member	Panel
1			10.89	17.30	-14.95	-30.20
2		1.00	10.89	17.30	-17.94	-33.22
3		3.00	10.89	17.30	-17.94	-33.22
4	3.00	1.00	10.89	17.30	-20.77	-40.77
5	3.00	3.00	10.89	17.30	-20.77	-40.77
6	5.30	2.00	10.13	17.30	-39.16	-42.58
7	3.00	2.00	10.13	17.30	-45.59	-50.13
8	3.00	2.00	10.13	17.30	-39.16	-42.58
9	2.38	4.33	10.08	14.41	-24.40	-39.66
10	2.38	3.00	10.08	14.41	-30.26	-50.37
11			13.20	16.48	-14.29	-16.48
12	3.00		13.20	16.48	-21.44	-30.15

(+) wind towards surface
(-) wind away from surface



DESIGN CALCULATION WIND
82361B



FOR
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5/29/2025

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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	ANCHOR BOLT REACTIONS
A	APPROVAL/PERMIT	05/16/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
						END USE	UTILITY BUILDING BUILDING A (Utility Building)
						STREET	1336 RIDGEVIEW ROAD
						CITY ST ZIP	UPPER ARLINGTON, OH 43221
						SALES NO:	82361
						JOB NO:	173424
						SCALE:	N.T.S.
						DWG NO:	F08 OF 8
						ISSUE:	A



MEMBER TABLE	
ROOF PLAN	
MARK	PART
EB-1	8x35C14
EB-2	W8x10
EB-3	8x35C14
P-1	8x25Z16
P-2	8x25Z16
P-3	8x25Z16
E-1	L10ES14
E-2	L10ES14
E-3	L10ES14
E-4	8x25C16
E-5	8x25C16
E-6	L10ES14
CB-1	CB0250
CB-2	CB0250

EXTENSION/CANOPY BOLTS				
ROOF PLAN (BLDG. B & B1)				
MARK	QUAN	TYPE	DIA	LENGTH
EB-2	4	A325	5/8"	1 1/2"

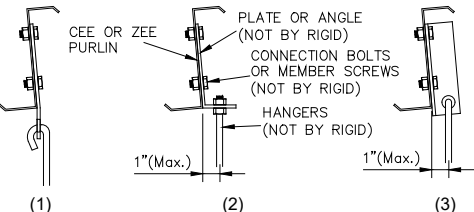
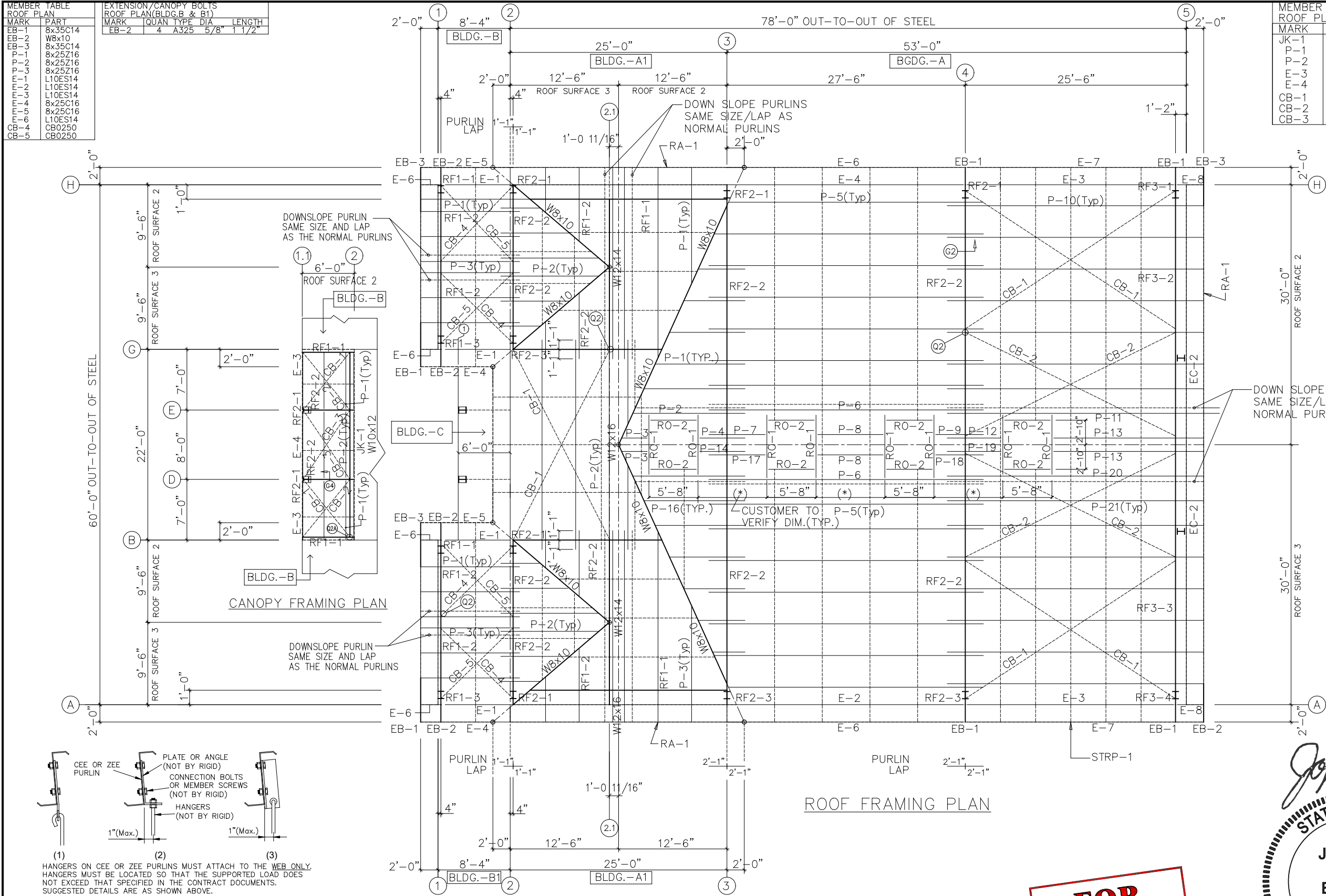
MEMBER TABLE	
ROOF PLAN (BLDG. C)	
MARK	PART
JK-1	W8x12
P-1	8x25Z16
P-2	8x25Z16
E-3	L8ES16
E-4	L8ES16
CB-1	CB0250
CB-2	CB0250
CB-3	CB0250

EXTENSION/CANOPY BOLTS				
ROOF PLAN (BLDG. A)				
MARK	QUAN	TYPE	DIA	LENGTH
EB-1	4	A325	5/8"	1 1/2"

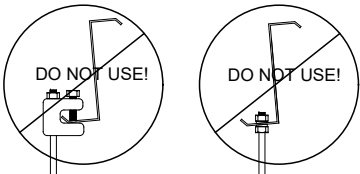
MEMBER TABLE	
ROOF PLAN	
MARK	PART
EB-1	W8x10
EB-2	8x35C14
EB-3	8x35C14
RO-1	8x25C16
RO-2	8x25C16
P-1	8x30Z14
P-2	8x30Z12
P-3	8x30Z14
P-4	8x30Z14
P-5	8x30Z14
P-6	8x30Z12
P-7	8x30Z14
P-8	8x30Z14
P-9	8x30Z14
P-10	8x30Z14
P-11	8x30Z12
P-12	8x30Z14
P-13	8x30Z14
P-14	8x30Z14
P-15	8x30Z12
P-16	8x30Z14
P-17	8x30Z14
P-18	8x30Z14
P-19	8x30Z14
P-20	8x30Z12
P-21	8x30Z14
E-1	L8ES16
E-2	L8ES16
E-3	L8ES16
E-4	L8ES16
E-5	L8ES16
E-6	8x25C12
E-7	8x25C16
E-8	L8ES16
CB-1	CB0250
CB-2	CB0250

EXTENSION/CANOPY BOLTS				
ROOF PLAN (BLDG. A1)				
MARK	QUAN	TYPE	DIA	LENGTH
EB-1	4	A325	5/8"	1 1/2"

MEMBER TABLE	
ROOF PLAN	
MARK	PART
EB-1	W8x10
P-1	8x25Z16
P-2	8x25Z16
P-3	8x25Z16
E-1	L10ES14
E-2	L10ES14
E-6	8x25C16
CB-1	CB0250



HANGERS ON CEE OR ZEE PURLINS MUST ATTACH TO THE WEB ONLY. HANGERS MUST BE LOCATED SO THAT THE SUPPORTED LOAD DOES NOT EXCEED THAT SPECIFIED IN THE CONTRACT DOCUMENTS. SUGGESTED DETAILS ARE AS SHOWN ABOVE.



DO NOT USE C-CLAMPS OR ANY OTHER HANGER ATTACHED TO THE FLANGE OF THE PURLIN. IT REDUCES THE CAPACITY OF THE PURLIN AND PRODUCE SECONDARY STRESSES.

1 TYP. COLLATERAL LOAD CONNECTION DETAIL
SF38

IMPORTANT NOTES:

High R-value roof insulation systems require two layers of insulation. The sag straps that prevent purlin roll may conflict with faced roof insulation between purlins. Rigid Global Buildings recommends an unfaced layer between the purlins that can be cut around the required framing.

ROOF FRAMING PLAN

FOR PERMIT



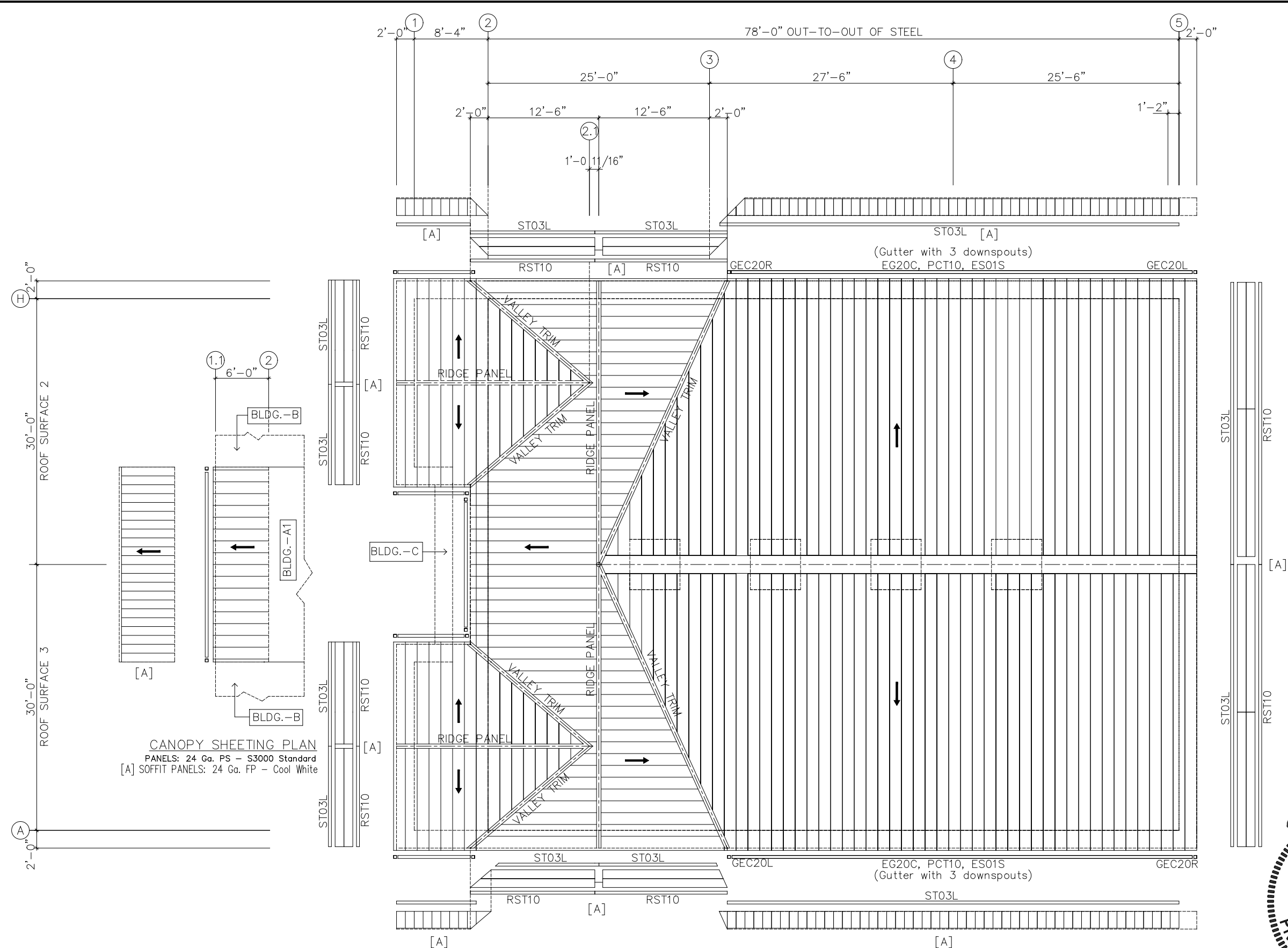
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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL

DESCRIPTION	ROOF FRAMING PLAN
CUSTOMER	STEEL NATION BUILDINGS, INC.
END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
END USE	UTILITY BUILDING
STREET	1336 RIDGEVIEW ROAD
CITY ST ZIP	UPPER ARLINGTON, OH 43221
SALES NO.	82361
JOB NO.	173424
SCALE	3/16"
DWG. NO.	E01 OF 25
ISSUES	A





IMPORTANT NOTES:

Additional Panel Information

Roof Panel: Platinum (16" Wide) SSR
Roof Insulation Thickness (in.) Above Purlin: 3
SSR Clip Type: High Floating System
SSR Seam Type: Quad-Lok

1. OIL CANNING OF PANELS IS NOT A CAUSE OF REJECTION.
2. EXTREME CARE MUST BE EXERCISED DURING ERECTION OF ROOF PANELS AND TRIMS. FOOT TRAFFIC MAY RESULT IN PERMANENT PANEL DISTORTION AND FINISH ABRASION.

ERECTOR'S NOTE

1. INSTALLER OF STANDING SEAM ROOF PANEL MUST STUDY THE INSTALLATION MANUALS PRIOR TO INSTALLATION. MANUALS ARE PROVIDED WITH THE MATERIALS SHIPMENT BUT CAN BE REQUESTED OR DOWNLOADED FROM THE RIGID GLOBAL BUILDINGS WEBSITE AT www.rigidbuilding.com
2. FAILURE TO INSTALL THE ROOF SHEETS IN ACCORDANCE WITH THE SHEETING DIRECTIONAL ARROWS SHOWN ON THESE PLANS MAY RESULT IN IMPROPER FIT-UP OF THE OUTSIDE CLOSURES (END DAMS) AND POSSIBLY OTHER TRIM COMPONENTS WHICH COULD AFFECT THE OVERALL APPEARANCE AND WEATHER TIGHTNESS OF THE BUILDING. RIGID WILL NOT BE HELD REPO-N-SIBLE FOR THE CHARGES OR ADDITIONAL FIELD WORK DUE TO NOT FOLLOWING SHEETING DIRECTIONAL ARROWS AND OTHER PROCEDURES OUTLINED IN THE ERECTION MANUAL.
3. IN THE EVENT THAT A DISCREPANCY OR ERROR ARISES WITH MATERIALS SHIPPED FOR THIS PROJECT OR ON THESE ERECTION DRAWINGS, THE ERECTOR/INSTALLER MUST NOTIFY RGB PRIOR TO CORRECTING. IF RGB IS NOT NOTIFIED, RGB WILL NOT HONOR BACKCHARGES BY ANY PARTY INVOLVED.
4. MEMBER SCREW AND STITCH SCREW PATTERNS AND LOCATIONS SHALL BE IN ACCORDANCE WITH ROOF AND WALL DETAILS SHOWN ON DWG.# E_
5. RGB SUPPLIES 5% FOR OVERAGE AND ANY CLAIM ON SHORTAGE BECAUSE OF NON-COMPLIANCE WITH THE DRAWINGS SHALL NOT BE RGB'S RESPONSIBILITY.

FOR PERMIT



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ROOF SHEETING PLAN

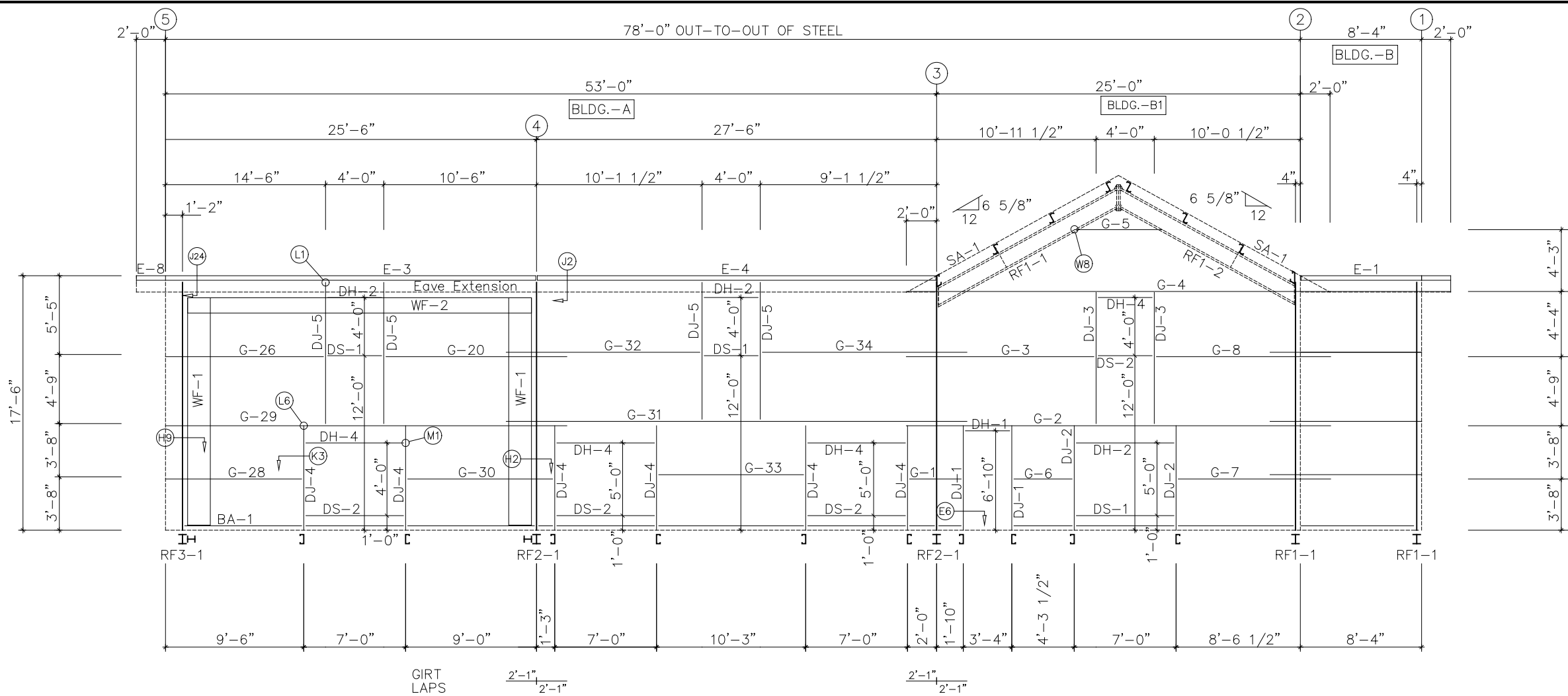
PANELS: 24 Ga. PS - S3000 Standard
[A] SOFFIT PANELS: 24 Ga. FP - Cool White

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL



100 SOUTHFOURTH SQUARE LAND CENTER, HANCOCKSBURG, PA 17031
PH: 717.425.1234 FAX: 717.425.1235

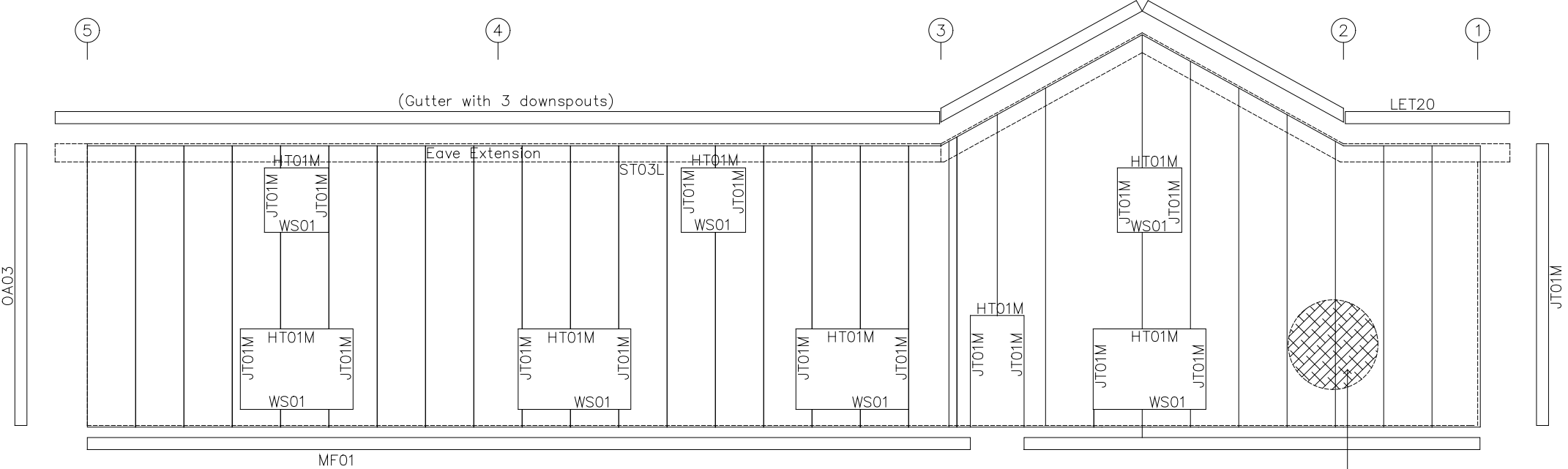
DESCRIPTION	ROOF SHEETING PLAN
CUSTOMER	STEEL NATION BUILDINGS, INC.
END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
END USE	UTILITY BUILDING
STREET	1336 RIDGEVIEW ROAD
CITY ST ZIP	UPPER ARLINGTON, OH 43221
SALES NO.	82361
JOB NO.	173424
SCALE	3/16"
DWG. NO.	E02 OF 25
ISSUES	A



BOLT TABLE				
FRAME LINE H				
LOCATION		QUAN	TYPE	DIA
WF-1 - WF-2		8	A325	5/8"
WF-1 - RF3-1		8	A325	5/8"
WF-1 - RF2-1		8	A325	5/8"

MEMBER TABLE	
FRAME LINE H	
MARK	PART
WF-1	W18662
WF-2	W12652
DJ-3	8x25C16
DJ-4	8x25C16
DJ-5	8x25C16
DH-2	8x25C16
DH-3	8x25C16
DH-4	8x25C16
DS-1	8x25C16
DS-2	8x25C16
E-3	L8ES16
E-4	L8ES16
E-8	L8ES16
G-20	8x25Z16
G-26	8x25Z16
G-28	8x25Z16
G-29	8x25Z12
G-30	8x25Z16
G-31	8x25Z12
G-32	8x25Z16
G-33	8x25Z16
G-34	8x25Z16
G-35	8x25Z16
G-36	8x25Z12
G-37	8x25Z16
G-38	8x25Z16
G-39	8x25Z16
G-40	8x25Z16

SIDEWALL FRAMING: FRAME LINE H



SIDEWALL SHEETING & TRIM: FRAME LINE H

PANELS :26 Ga. RPBM - Glvm.Plus

FOR PERMIT



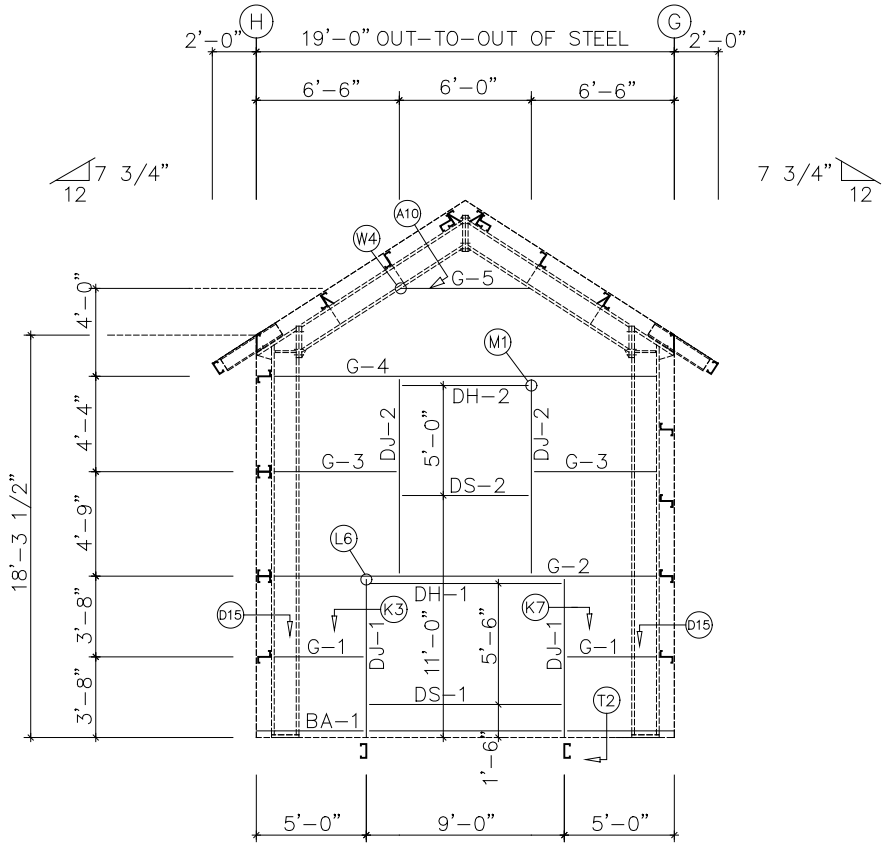
5/29/2025

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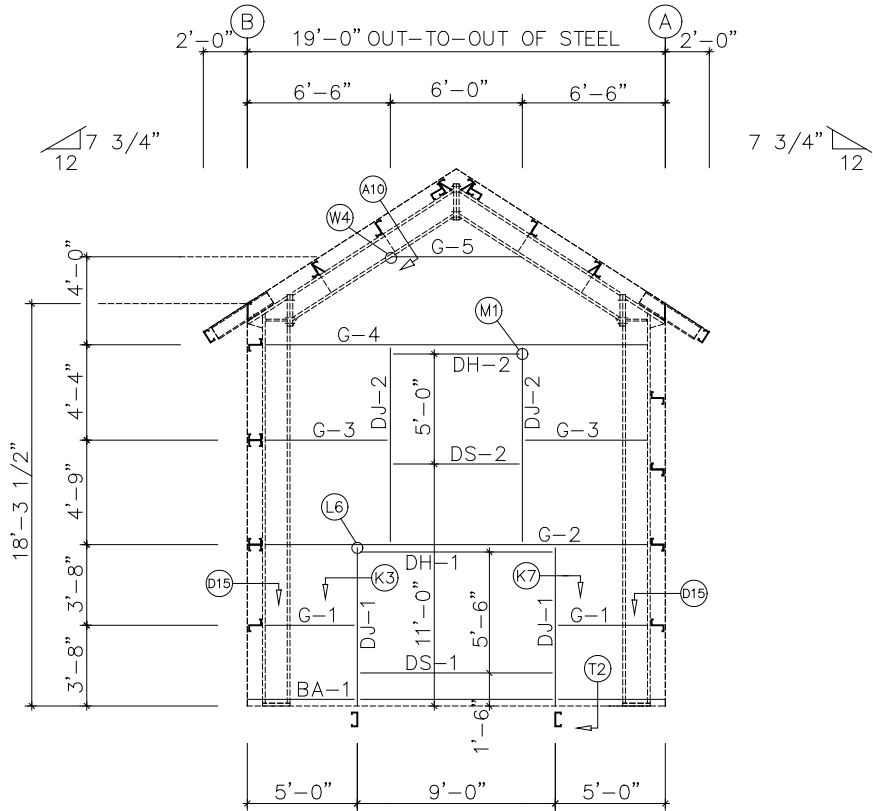
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	SIDEWALL FRAMING & SHEETING ELEVATION-LINE H								
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.								
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)								
						END USE	UTILITY BUILDING	BUILDING	A (Utility Building)						
						STREET	1336 RIDGEVIEW ROAD								
						CITY ST ZIP	UPPER ARLINGTON, OH 43221								
						SALES NO.	82361	JOB NO.	173424	SCALE	1/4"	DWG. NO.	E04 OF 25	ISSUE	A



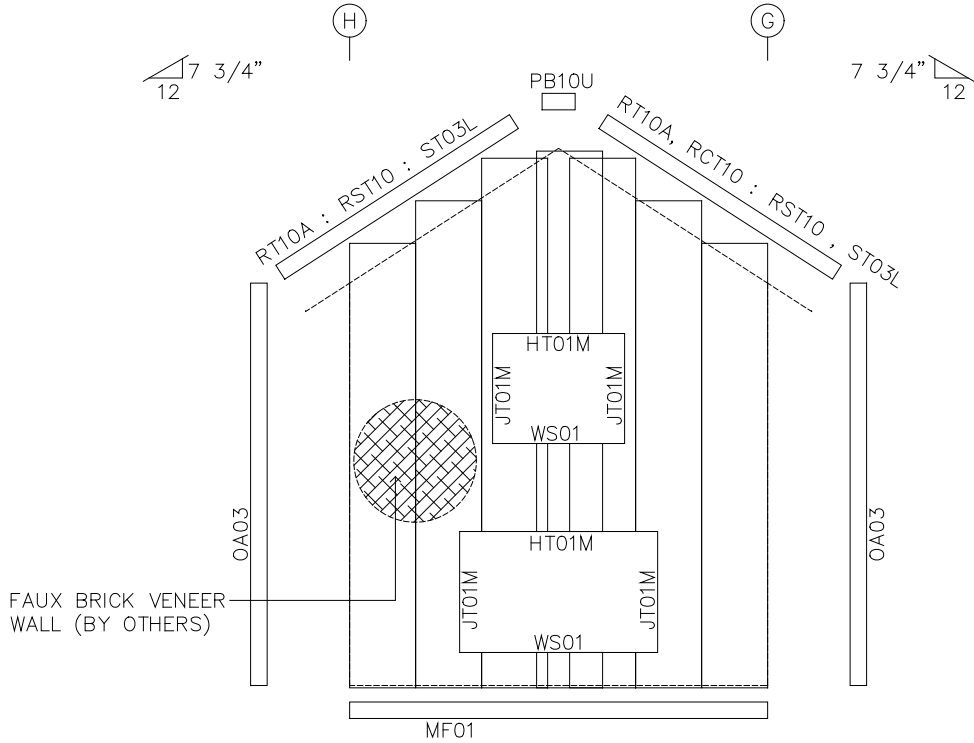
MEMBER TABLE	
FRAME LINE 1(H-G)	
MARK	PART
DJ-1	8x25C16
DJ-2	8x25C16
DH-1	8x25C16
DH-2	8x25C16
DS-1	8x25C16
DS-2	8x25C16
G-1	8x25Z16
G-2	8x25Z16
G-3	8x25Z16
G-4	8x25Z16
G-5	8x25Z16



ENDWALL FRAMING: FRAME LINE 1

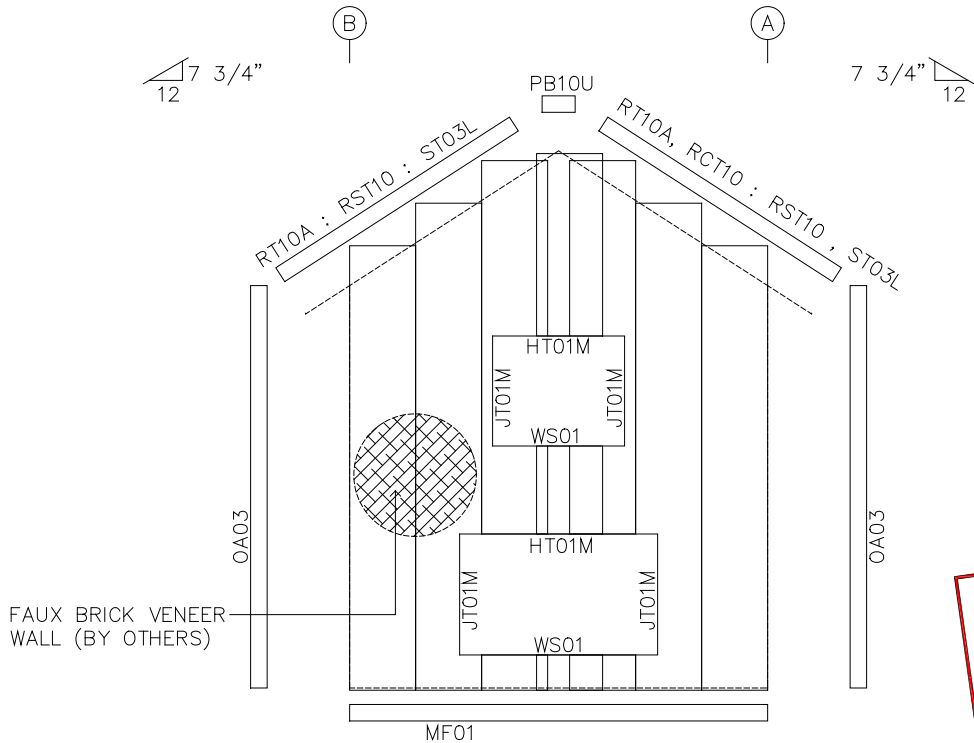


ENDWALL FRAMING: FRAME LINE 1



ENDWALL SHEETING & TRIM: FRAME LINE 1

PANELS: 26 Ga. RPBM – Glvm.Plus



ENDWALL SHEETING & TRIM: FRAME LINE 1

PANELS: 26 Ga. RPBM – Glvm.Plus

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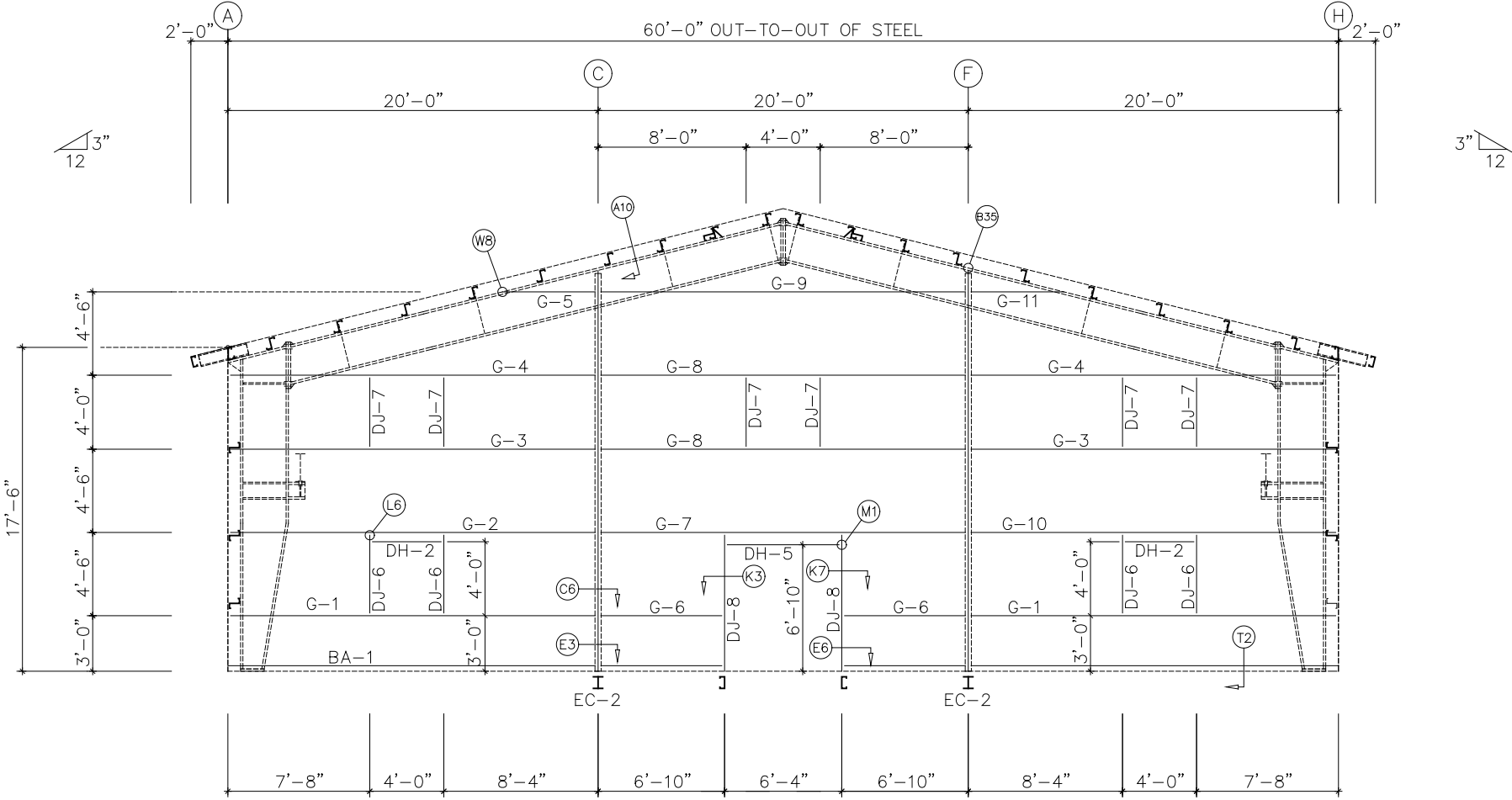
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NOTE:
FIELD CUT PANEL TO SUIT ROOF SLOPE:

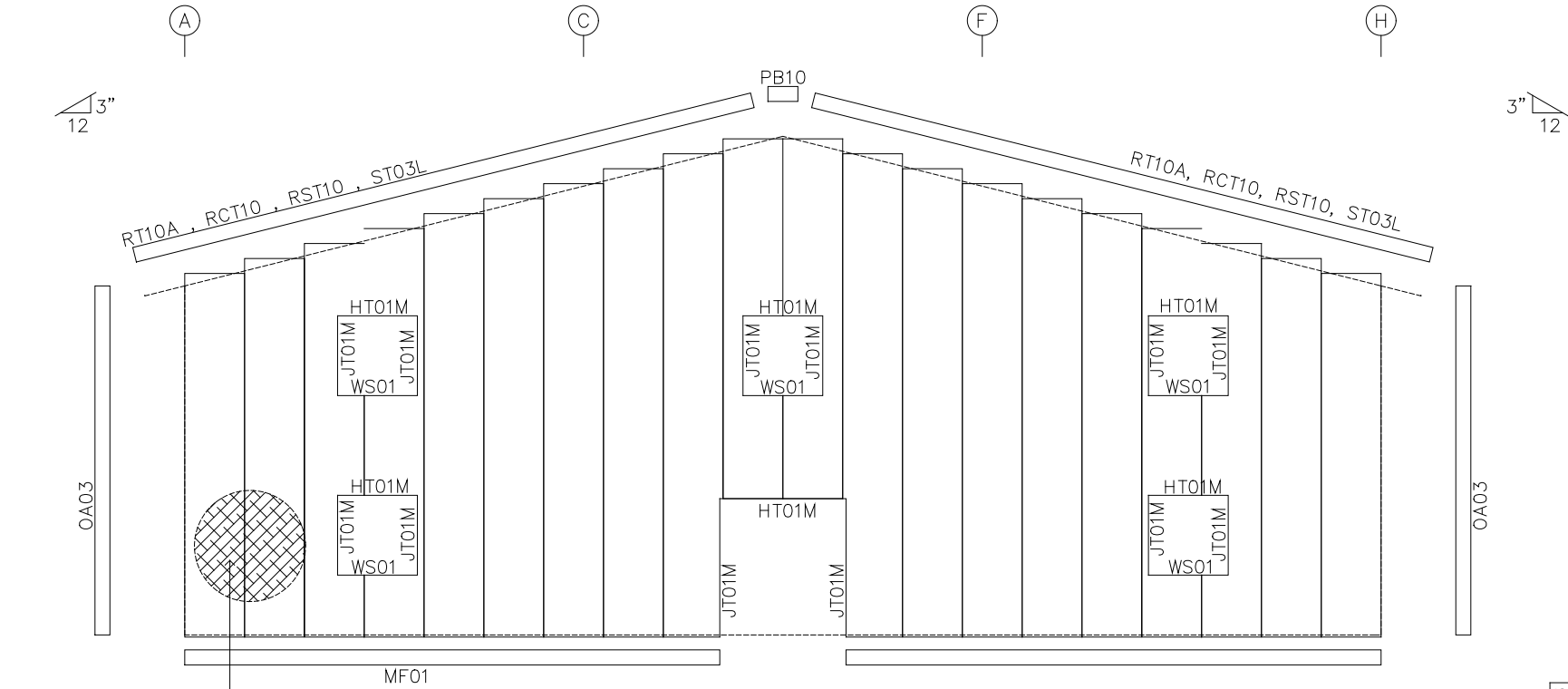
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	STEELNATION 100 SOUTHPOINTE SQUARE LANE • CANONSBURG, PA 15107 PH: 724.225.2202 • INFO@STEELNATION.COM	DESCRIPTION	ENDWALL FRAMING & SHEETING ELEVATION- LINE 1								
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL		CUSTOMER	STEEL NATION BUILDINGS, INC.								
							END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)								
							END USE	UTILITY BUILDING	BUILDING	A (Utility Building)						
							STREET	1336 RIDGEVIEW ROAD								
							CITY ST ZIP	UPPER ARLINGTON, OH 43221								
							SALES NO.	82361	JOB NO.	173424	SCALE	1/4"	DWG. NO.	E05 OF 25	ISSUES	A

BOLT TABLE				
FRAME LINE 5				
LOCATION	QUAN	TYPE	DIA	LENGTH
Columns/Raf	2	A325	1/2"	1 1/4"

MEMBER TABLE	
FRAME LINE 5	
MARK	PART
EC-2	W8x13
DJ-6	8x25C16
DJ-7	8x25C16
DJ-8	8x25C16
DH-2	8x25C16
DH-5	8x25C16
G-1	8x25C16
G-2	8x25Z16
G-3	8x25C12
G-4	8x25C12
G-5	8x25Z16
G-6	8x25Z16
G-7	8x25Z14
G-8	8x25C12
G-9	8x35Z14
G-10	8x25Z16
G-11	8x25Z16



ENDWALL FRAMING: FRAME LINE 5



ENDWALL SHEETING & TRIM: FRAME LINE 5

PANELS: 26 Ga. RPBM - Glvm.Plus

FOR PERMIT



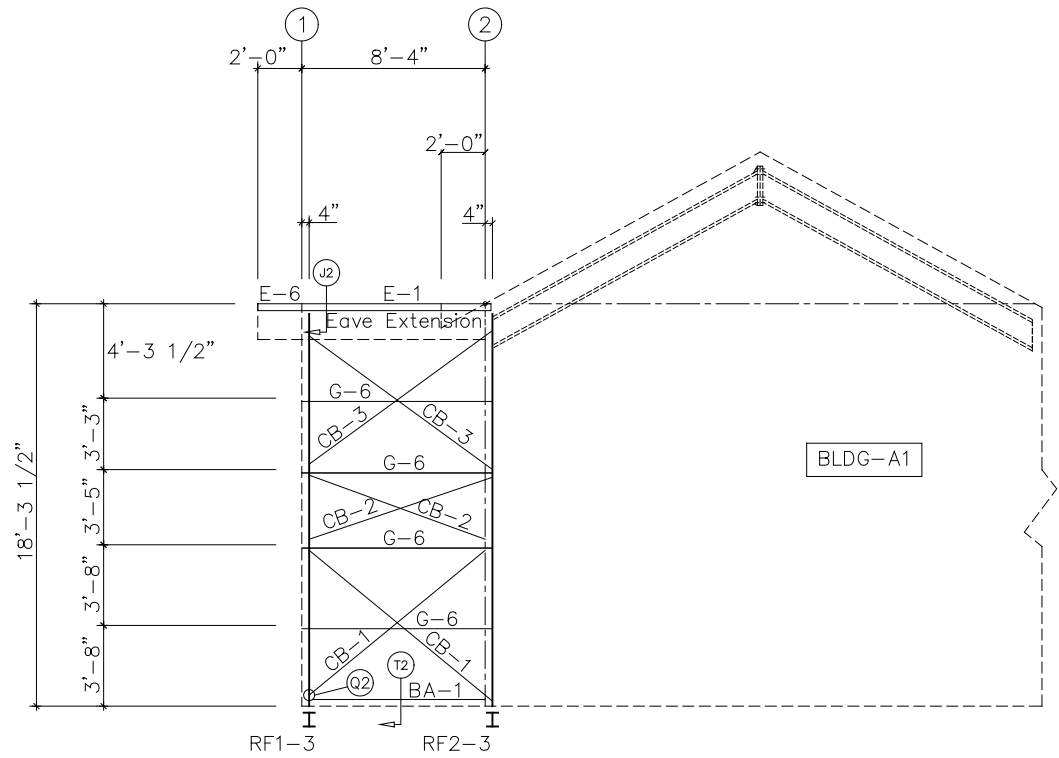
5/29/2025

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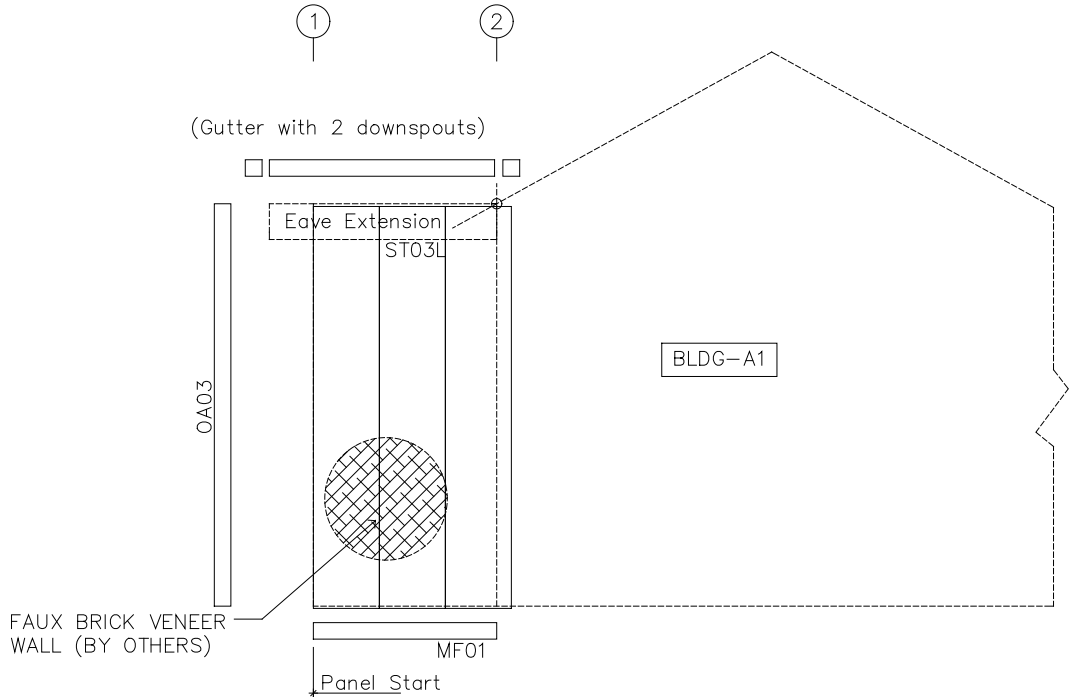
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	ENDWALL FRAMING & SHEETING ELEVATION-LINE 5
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
						END USE	UTILITY BUILDING
						STREET	1336 RIDGEVIEW ROAD
						CITY ST ZIP	UPPER ARLINGTON, OH 43221
						SALES NO.	82361
						JOB NO.	173424
						SCALE	1/4"
						DWG. NO.	E06 OF 25
						ISSUES	A



NOTE:
FIELD CUT PANEL TO SUIT ROOF SLOPE:

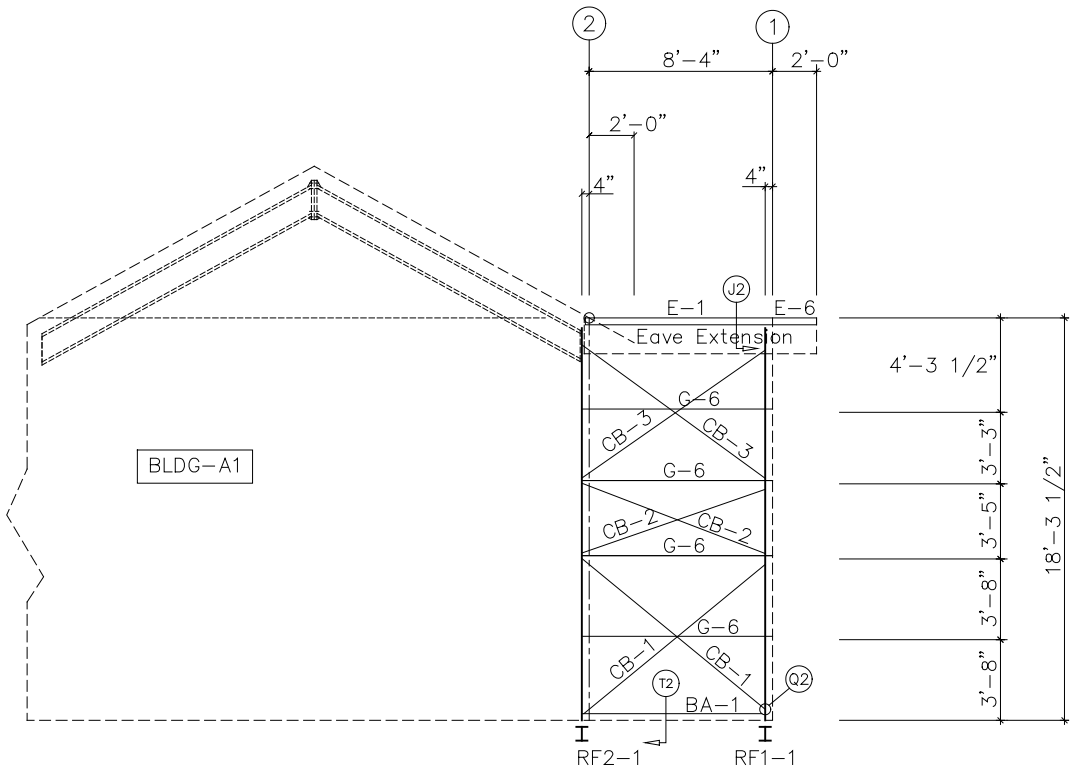


SIDEWALL FRAMING: FRAME LINE G

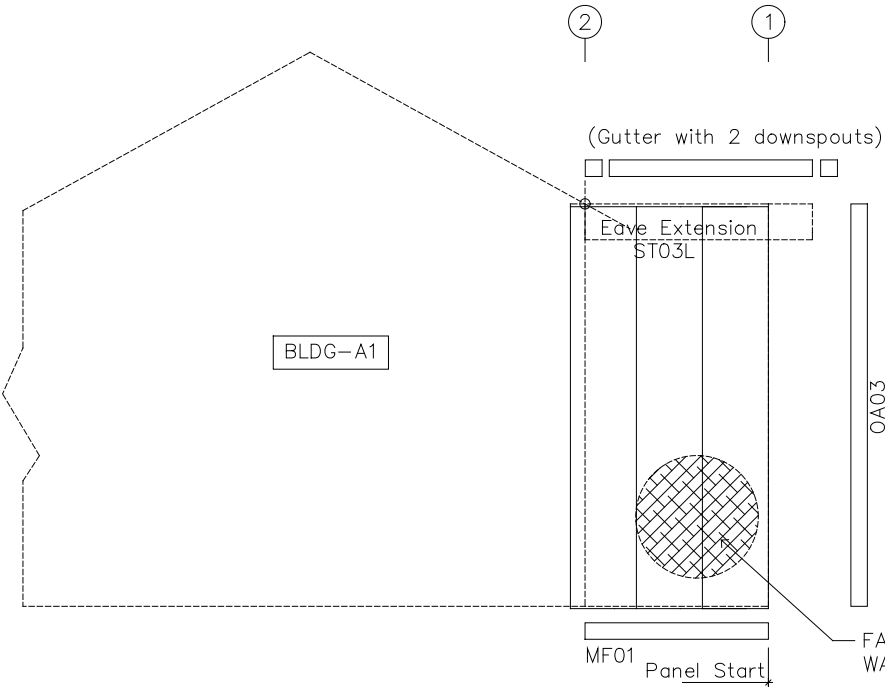


SIDEWALL SHEETING & TRIM: FRAME LINE G

PANELS: 26 Ga. RPBM – Glvm.Plus



SIDEWALL FRAMING: FRAME LINE B



SIDEWALL SHEETING & TRIM: FRAME LINE B

PANELS: 26 Ga. RPBM – Glvm.Plus

MEMBER TABLE	
FRAME LINE G	
MARK	PART
E-1	L10ES14
E-2	L10ES14
E-6	L10ES14
G-6	8x25Z16
G-7	8x25Z16
CB-1	CB0250
CB-2	CB0250
CB-3	CB0250

MEMBER TABLE	
FRAME LINE B	
MARK	PART
E-1	L10ES14
E-3	L10ES14
E-6	L10ES14
G-6	8x25Z16
G-7	8x25Z16
CB-1	CB0250
CB-2	CB0250
CB-3	CB0250

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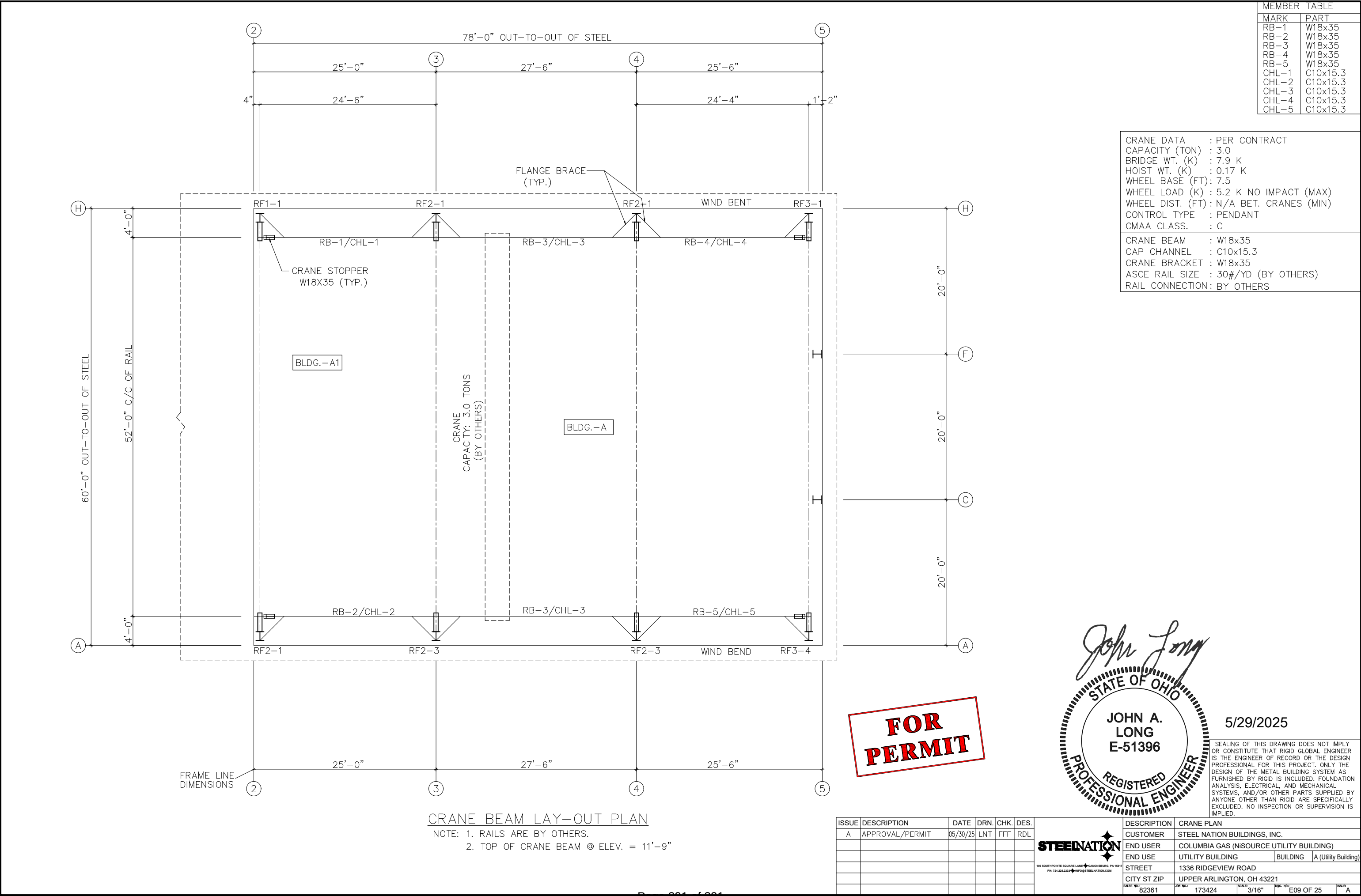


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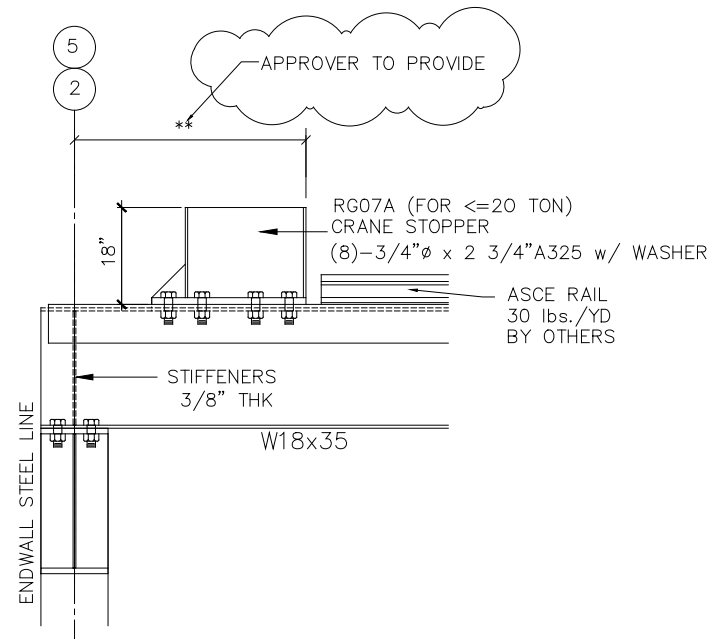
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	SIDEWALL FRAMING & SHEETING ELEVATION-LINE G B								
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.								
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)								
						END USE	UTILITY BUILDING	BUILDING	A (Utility Building)						
						STREET	1336 RIDGEVIEW ROAD								
						CITY ST ZIP	UPPER ARLINGTON, OH 43221								
						SALES NO.	82361	JOB NO.	173424	SCALE	1/4"	DWG. NO.	E07 OF 25	ISSUES	A



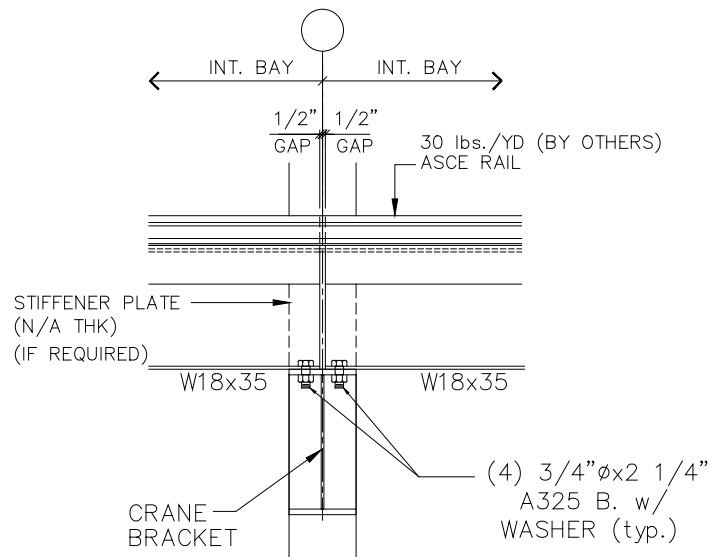


CRANE BEAM LAY-OUT PLAN

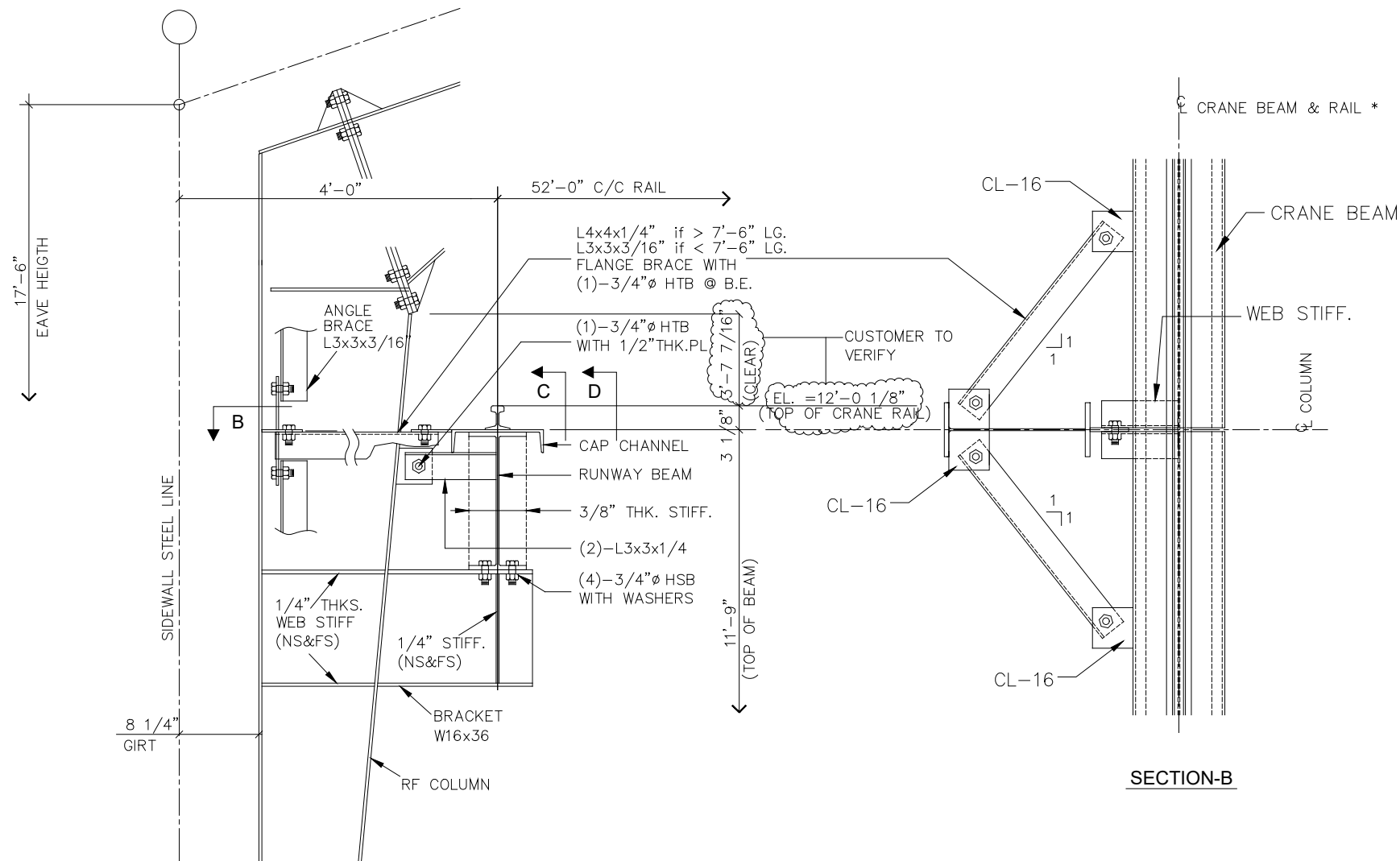
NOTE: 1. RAILS ARE BY OTHERS.
2. TOP OF CRANE BEAM @ ELEV. = 11'-9"



SECTION-C



SECTION-D



DETAIL-A

SECTION-B

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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	CRANE DETAILS
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
						END USE	UTILITY BUILDING BUILDING [A (Utility Building)]
						STREET	1336 RIDGEVIEW ROAD
						CITY ST ZIP	UPPER ARLINGTON, OH 43221
						SALES NO.	82361
						JOB NO.	173424
						SCALE	3/16"
						DWG. NO.	E10 OF 25
						ISSUES	A



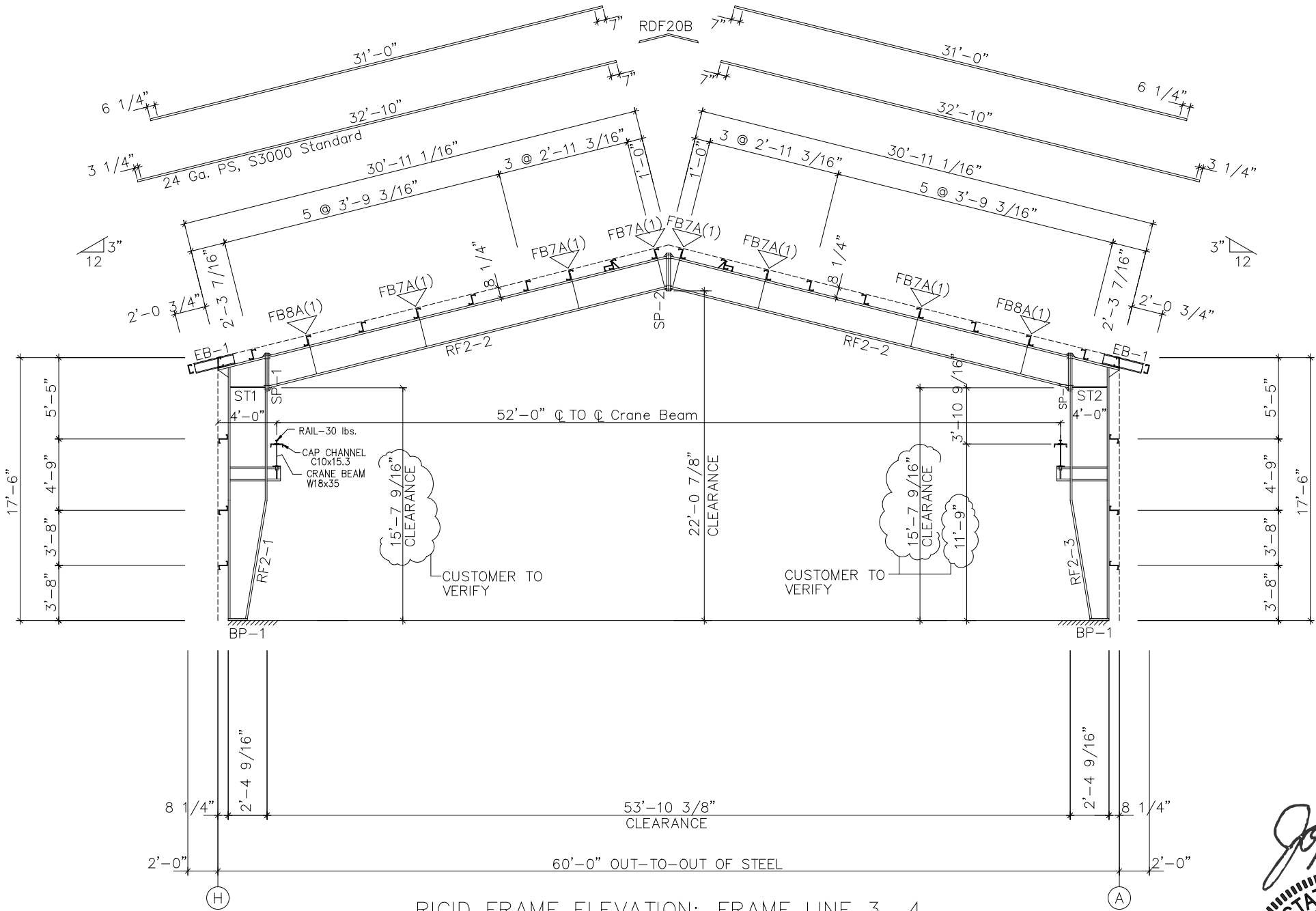
SPLICE PLATE & BOLT TABLE										
Mark	Qty		Int	Type	Dia	Length	Width	Thick	Length	
	Top	Bot								
SP-1	4	4	0	A325	0.875	2.50	6"	5/8"	2'-6"	
SP-2	4	4	0	A325	0.625	2.00	6"	1/2"	2'-5	15/16"

STIFFENER TABLE				
Mark	Stiff Mark	Plate Size		
		Width	Thick	Length
RF2-1	ST1	2.500	0.250	19.75
RF2-1	ST2	2.500	0.250	28.00
RF2-1	ST3	2.500	0.250	28.00
RF2-1	ST4	2.500	0.250	27.50
RF2-3	ST5	2.500	0.250	27.50
RF2-3	ST6	2.500	0.250	28.00
RF2-3	ST7	2.500	0.250	28.00
RF2-3	ST8	2.500	0.250	19.75

BASE PLATE TABLE			
Col Mark	Plate Size		
	Width	Thick	Length
BP-1	8"	1/2"	1'-1 1/2"

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
FBXXA(2)=FLANGE BRACE AT BOTH SIDES
A - L2x2x14

MEMBER TABLE					
Mark	Web Depth		Web Plate		Outside Flange W x Thk x Length
	Start/End	Thick	Length		
RF2-1	12.0/28.0	0.188	95.5		6 x 1/4" x 95.5
	28.0/28.0	0.188	88.1		6 x 5/16" x 107.2
	28.0/28.0	0.250	26.2		6 x 5/16" x 37.5
RF2-2	22.0/22.0	0.188	97.2		6 x 5/16" x 91.6
	22.0/22.0	0.135	240.0		6 x 1/4" x 240.0
RF2-3	28.0/28.0	0.250	26.2		6 x 5/16" x 37.5
	28.0/28.0	0.188	88.1		6 x 5/16" x 107.2
	28.0/12.0	0.188	95.5		6 x 1/4" x 95.5
EB-1	W8x10				



GENERAL NOTES:

- CONSTRUCTION NOTES FOR THE RIGID FRAMES.
1. ALL PRIMARY STRUCTURAL STEEL SHALL BE FABRICATED FROM 50 OR 55 KSI STEEL.
 2. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED WITH A325 H. S. BOLTS.
 3. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
 4. WELDING PROCESSES USED BY MANUFACTURER ARE IN ACCORDANCE WITH SEC. 1.3 OF AWS D 1.1.
 5. A325 High Strength bolt shall be tightened with one washer. Refer to General Notes 1.5 and 1.6 on cover sheet for tightening methods and installation inspections.

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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL

DESCRIPTION	RIGID FRAME ELEVATION		
CUSTOMER	STEEL NATION BUILDINGS, INC.		
END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)		
END USE	UTILITY BUILDING	BUILDING	A (Utility Building)
STREET	1336 RIDGEVIEW ROAD		
CITY ST ZIP	UPPER ARLINGTON, OH 43221		
SALES NO.	82361	JOB NO.	173424
SCALE	1/4"	DRW. NO.	E11 OF 25
ISSUE	A		



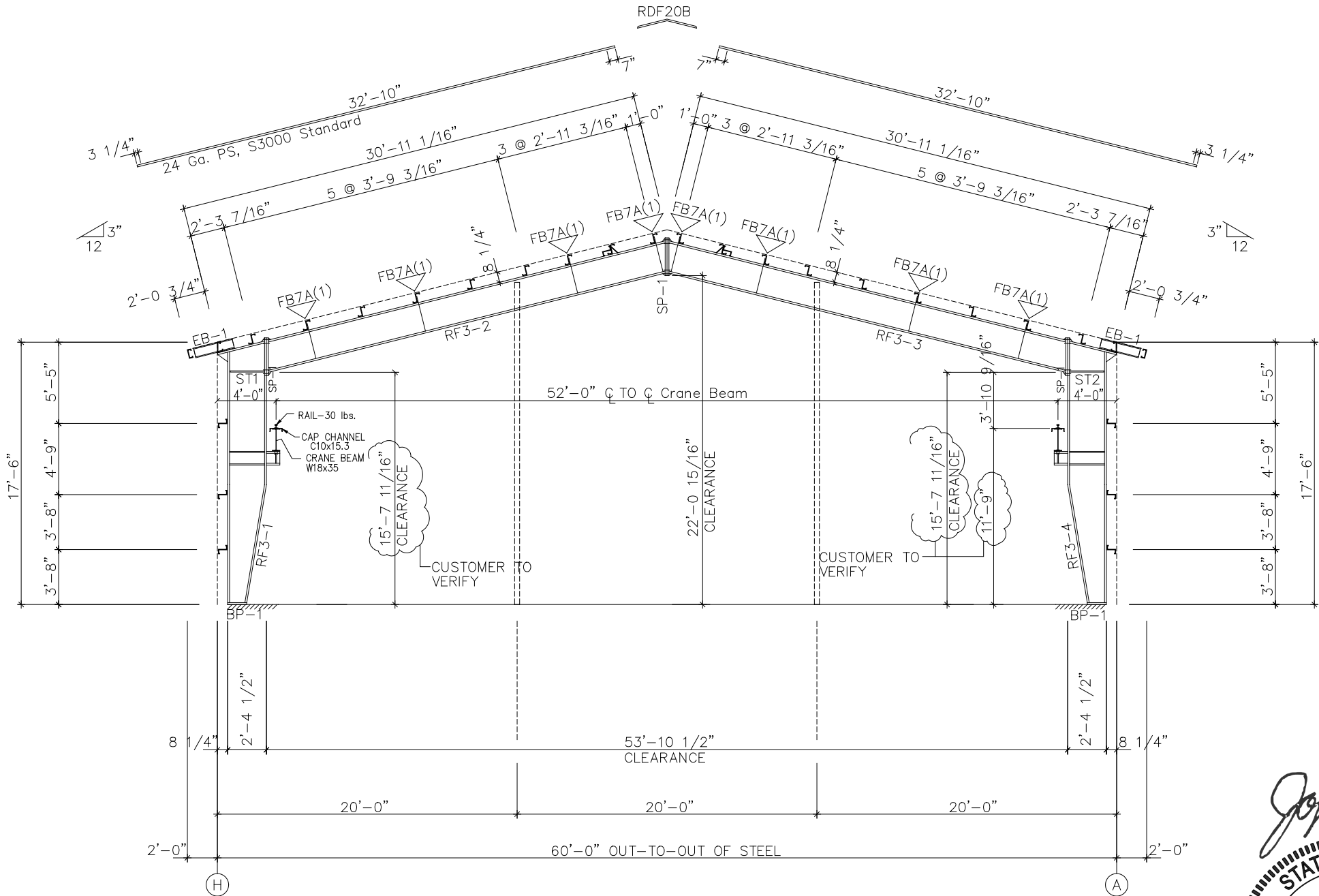
SPLICE PLATE & BOLT TABLE											
Mark	Qty		Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0			A325	0.625	2.00	6"	1/2"	2'-5 15/16"

STIFFENER TABLE				
Mark	Stiff Mark	Plate Size		
		Width	Thick	Length
RF3-1	ST1	2.500	0.250	19.75
RF3-1	ST2	2.500	0.250	28.00
RF3-1	ST3	2.500	0.250	28.00
RF3-1	ST4	2.500	0.250	27.50
RF3-2	ST5	3.500	0.375	17.01
RF3-3	ST6	3.500	0.375	17.01
RF3-4	ST7	2.500	0.250	27.50
RF3-4	ST8	2.500	0.250	28.00
RF3-4	ST9	2.500	0.250	28.00
RF3-4	ST10	2.500	0.250	19.75

BASE PLATE TABLE				
Col Mark	Plate Size			
	Width	Thick	Length	
BP-1	8"	1/2"	1'-1 1/2"	

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
FBXXA(2)=FLANGE BRACE AT BOTH SIDES
A - L2x2x14

MEMBER TABLE					
Mark	Web Depth		Web Plate		Outside Flange W x Thk x Length
	Start/End	Thick	Length		
RF3-1	12.0/28.0	0.188	95.5		6 x 1/4" x 202.8
	28.0/28.0	0.188	114.4		6 x 1/4" x 37.6
RF3-2	22.0/22.0	0.135	240.0		5 x 1/4" x 331.8
	22.0/22.0	0.135	97.4		
RF3-3	22.0/22.0	0.135	97.4		5 x 1/4" x 331.8
	22.0/22.0	0.135	240.0		
RF3-4	28.0/28.0	0.188	114.4		6 x 1/4" x 37.6
	28.0/12.0	0.188	95.5		6 x 1/4" x 202.8
EB-1	W8x10				



GENERAL NOTES:

- CONSTRUCTION NOTES FOR THE RIGID FRAMES.
1. ALL PRIMARY STRUCTURAL STEEL SHALL BE FABRICATED FROM 50 OR 55 KSI STEEL.
 2. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED WITH A325 H. S. BOLTS.
 3. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
 4. WELDING PROCESSES USED BY MANUFACTURER ARE IN ACCORDANCE WITH SEC. 1.3 OF AWS D 1.1.
 5. A325 High Strength bolt shall be tightened with one washer. Refer to General Notes 1.5 and 1.6 on cover sheet for tightening methods and installation inspections.

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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL

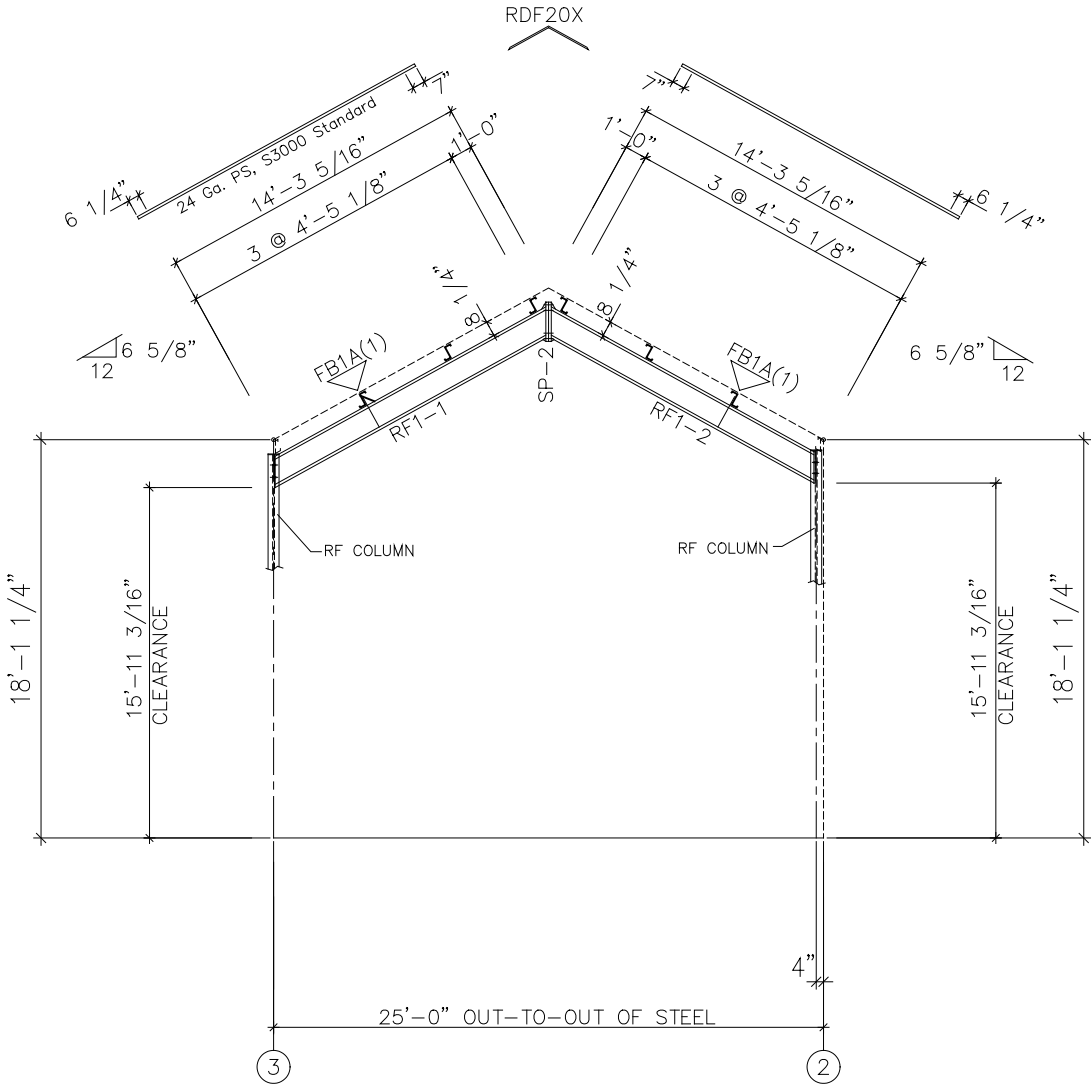


DESCRIPTION	RIGID FRAME ELEVATION		
CUSTOMER	STEEL NATION BUILDINGS, INC.		
END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)		
END USE	UTILITY BUILDING	BUILDING	A (Utility Building)
STREET	1336 RIDGEVIEW ROAD		
CITY ST ZIP	UPPER ARLINGTON, OH 43221		
SALES NO.	82361	JOB NO.	173424
SCALE	1/4"	DWG. NO.	E12 OF 25
ISSUE	A		

SPLICE PLATE & BOLT TABLE										
Mark	Qty Top	Qty Bot	Int	Type	Dia	Length	Width	Thick	Length	
SP-1	2	2	0	A325	0.625	1.00	"	"	1'-1 11/16"	
SP-2	4	4	0	A325	0.625	2.00	6"	1/2"	1'-10"	

MEMBER TABLE						
Mark	Web Depth		Web Plate		Outside Flange	
	Start/End		Thick	Length	W x Thk x Length	Inside Flange W x Thk x Length
RF1-1	12.0/12.0		0.135	177.4	6 x 1/4" x 170.6	6 x 1/4" x 170.6
RF1-2	12.0/12.0		0.135	177.4	6 x 1/4" x 170.6	6 x 1/4" x 170.6

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
 FBXXA(2)=FLANGE BRACE AT BOTH SIDES
 A - L2x2x14



RIGID FRAME ELEVATION: FRAME LINE H A

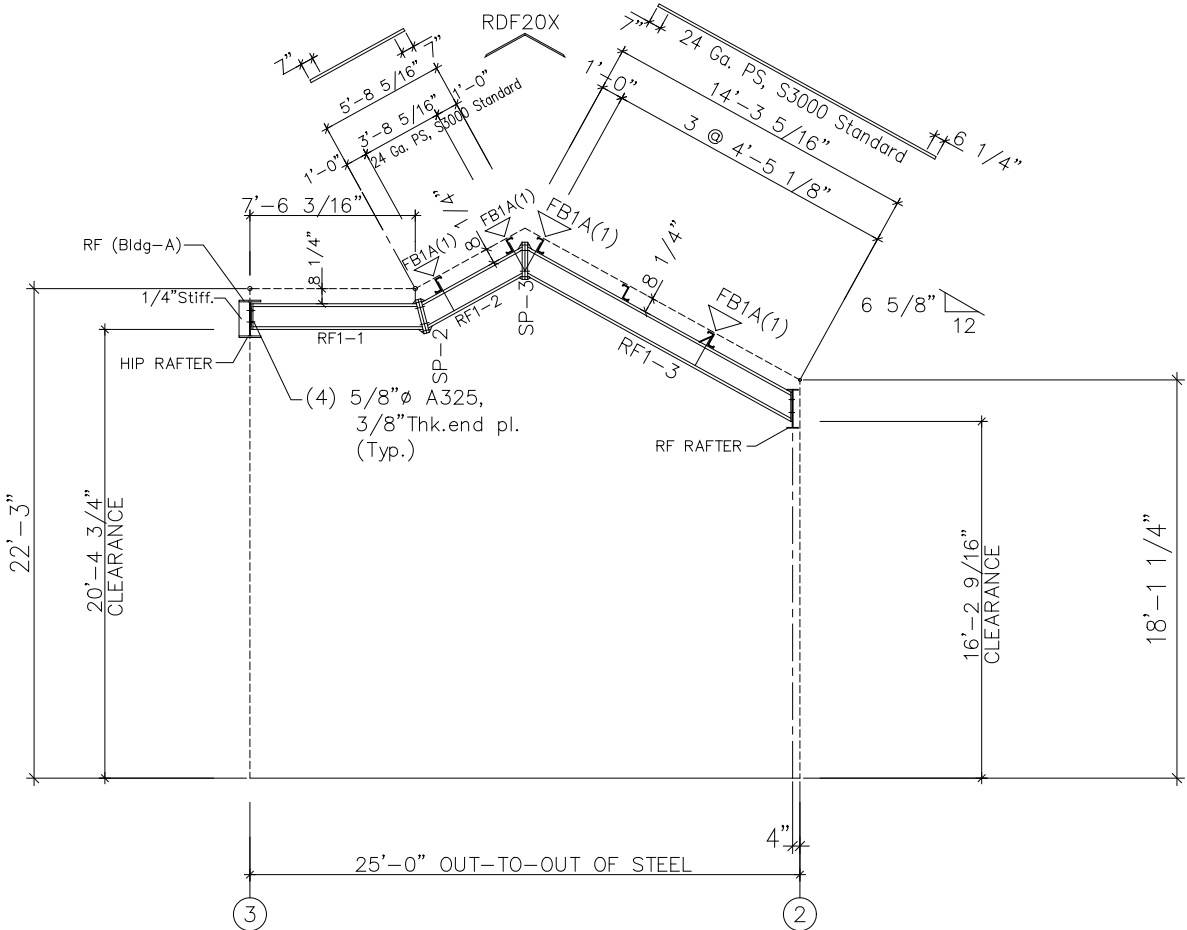
GENERAL NOTES:

- CONSTRUCTION NOTES FOR THE RIGID FRAMES.
1. ALL PRIMARY STRUCTURAL STEEL SHALL BE FABRICATED FROM 50 OR 55 KSI STEEL.
 2. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED WITH A325 H. S. BOLTS.
 3. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
 4. WELDING PROCESSES USED BY MANUFACTURER ARE IN ACCORDANCE WITH SEC. 1.3 OF AWS D 1.1.
 5. A325 High Strength bolt shall be tightened with one washer. Refer to General Notes 1.5 and 1.6 on cover sheet for tightening methods and installation inspections.

SPLICE PLATE & BOLT TABLE										
Mark	Qty Top	Qty Bot	Int	Type	Dia	Length	Width	Thick	Length	
SP-1	4	2	0	A325	0.625	1.00	"	"	1'-1 11/16"	
SP-2	4	4	0	A325	0.625	2.00	6"	1/2"	1'-10"	

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
 FBXXA(2)=FLANGE BRACE AT BOTH SIDES
 A - L2x2x14

MEMBER TABLE						
Mark	Web Depth		Web Plate		Outside Flange	
	Start/End		Thick	Length	W x Thk x Length	Inside Flange W x Thk x Length
RF1-1	12.0/12.0		0.135	177.4	6 x 1/4" x 170.6	6 x 1/4" x 170.6
RF1-2	12.0/12.0		0.135	177.4	6 x 1/4" x 170.6	6 x 1/4" x 170.6



RIGID FRAME ELEVATION: FRAME LINE G B

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5/29/2025

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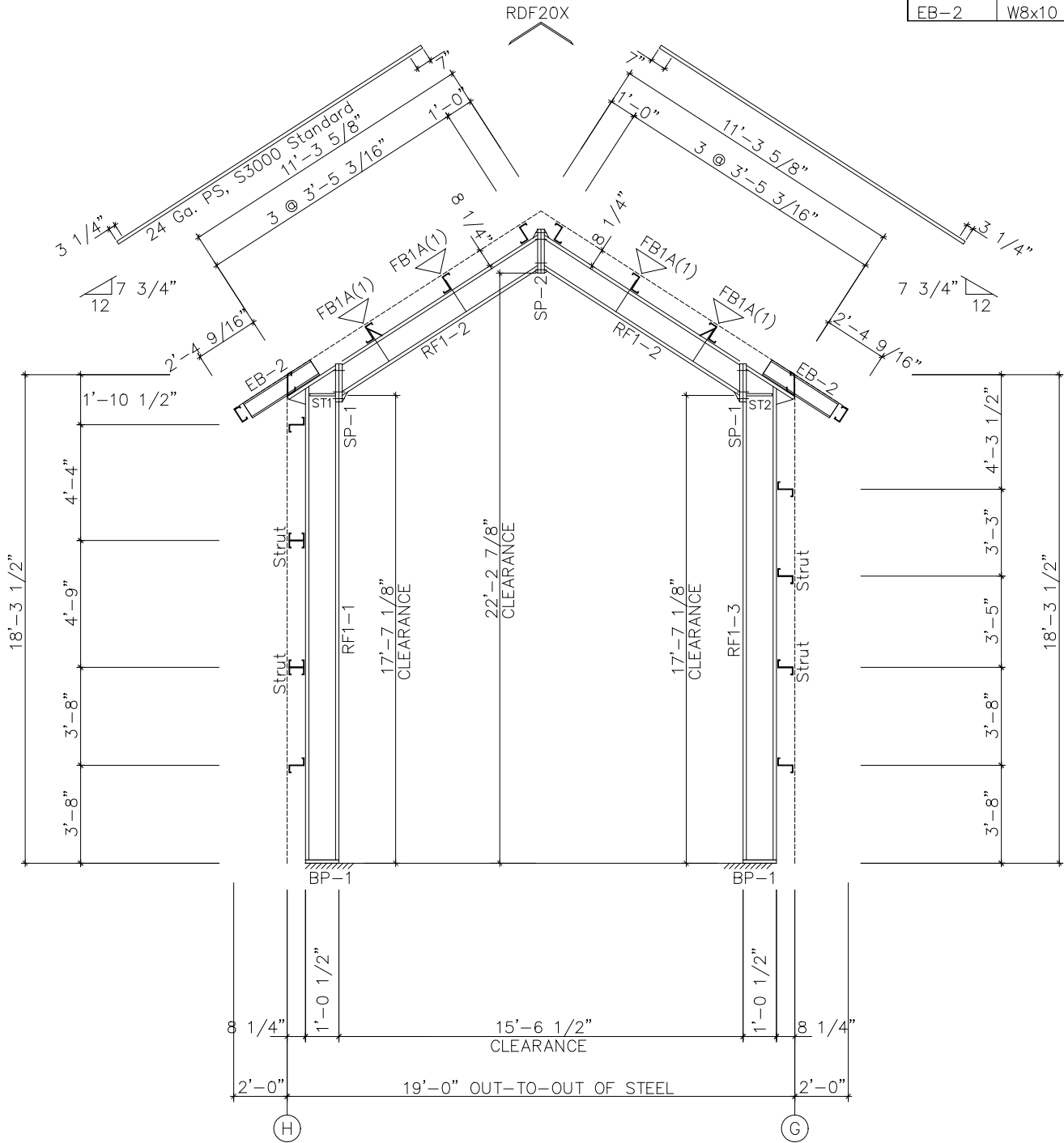
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	RIGID FRAME ELEVATION FRAME LINE-H A & G B/3-2								
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.								
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)								
						END USE	UTILITY BUILDING	BUILDING	A (Utility Building)						
						STREET	1336 RIDGEVIEW ROAD								
						CITY ST ZIP	UPPER ARLINGTON, OH 43221								
						SALES NO.	82361	DWG NO.	173424	SCALE	1/4"	DWG. NO.	E13 OF 25	ISSUED	A

SPLICE PLATE & BOLT TABLE									
Mark	Qty		Int	Type	Dia	Length	Width	Thick	Length
	Top	Bot							
SP-1	2	4	0	A325	0.625	2.00	6"	1/2"	1'-5 3/16"
SP-2	4	4	0	A325	0.625	2.00	6"	1/2"	1'-8 3/16"

STIFFENER TABLE				
Mark	Stiff Mark	Plate Size		
		Width	Thick	Length
RF1-1	ST1	2.410	0.313	11.50
RF1-3	ST2	2.410	0.313	11.50

BASE PLATE TABLE			
Col Mark	Plate Size		
	Width	Thick	Length
BP-1	8"	1/2"	1'-1 1/2"

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
FBXXA(2)=FLANGE BRACE AT BOTH SIDES
A - L2x2x14



RIGID FRAME ELEVATION: FRAME LINE 1

MEMBER TABLE					
Mark	Web Depth		Web Plate		Outside Flange W x Thk x Length
	Start/End	Thick	Length		
RF1-1	12.0/12.0	0.135	222.1		5 x 1/4" x 214.2 6 x 1/4" x 24.2 5 x 1/4" x 109.3
RF1-2	10.0/10.0	0.135	115.9		5 x 1/4" x 109.3
RF1-3	12.0/12.0	0.135	222.1		6 x 1/4" x 24.2 5 x 1/4" x 214.2
EB-2	W8x10				

GENERAL NOTES:

- CONSTRUCTION NOTES FOR THE RIGID FRAMES.
1. ALL PRIMARY STRUCTURAL STEEL SHALL BE FABRICATED FROM 50 OR 55 KSI STEEL.
 2. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED WITH A325 H. S. BOLTS.
 3. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
 4. WELDING PROCESSES USED BY MANUFACTURER ARE IN ACCORDANCE WITH SEC. 1.3 OF AWS D 1.1.
 5. A325 High Strength bolt shall be tightened with one washer. Refer to General Notes 1.5 and 1.6 on cover sheet for tightening methods and installation inspections.

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5/29/2025

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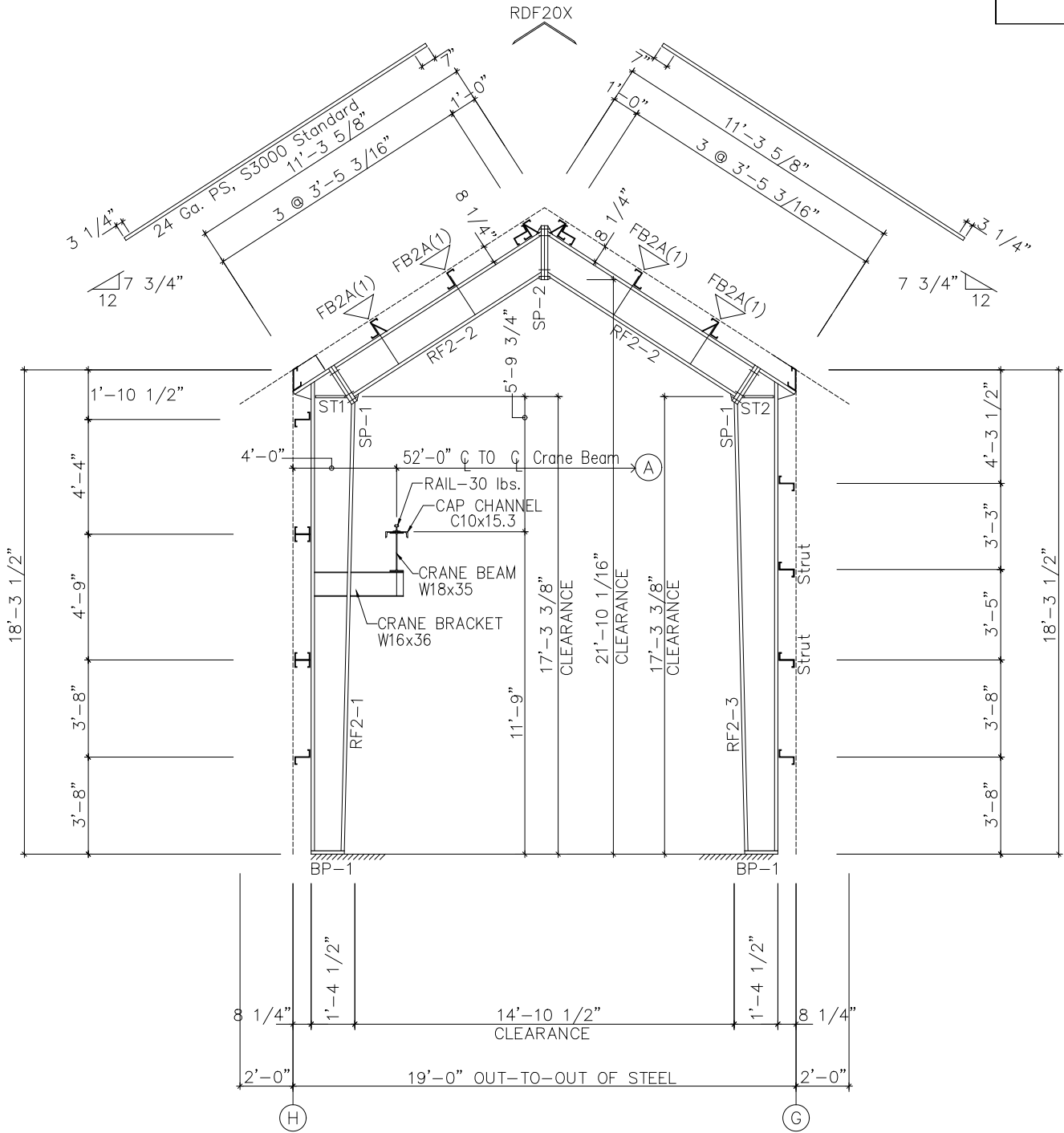
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	 100 SOUTHPOINTE SQUARE LANE • CANONSBURG, PA 15107 PH: 724.225.2200 • INFO@STEELNATION.COM	DESCRIPTION	RIGID FRAME ELEVATION: FRAME LINE-H G /1								
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL		CUSTOMER	STEEL NATION BUILDINGS, INC.								
							END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)								
							END USE	UTILITY BUILDING	BUILDING	A (Utility Building)						
							STREET	1336 RIDGEVIEW ROAD								
							CITY ST ZIP	UPPER ARLINGTON, OH 43221								
							SALES NO.	82361	JOB NO.	173424	SCALE	3/8"	DWG. NO.	E14 OF 25	ISSUES	A

SPLICE PLATE & BOLT TABLE									
Mark	Qty		Int	Type	Dia	Length	Width	Thick	Length
	Top	Bot							
SP-1	2	4	0	A325	0.625	2.00	6"	1/2"	1'-6 7/8"
SP-2	4	4	0	A325	0.625	2.00	6"	1/2"	2'-0 15/16"

STIFFENER TABLE				
Mark	Stiff Mark	Plate Size		
		Width	Thick	Length
RF2-1	ST1	2.500	0.250	13.33
RF2-1	ST2	2.500	0.250	14.18
RF2-1	ST3	2.500	0.250	14.53
RF2-1	ST4	2.500	0.250	14.27
RF2-3	ST5	2.500	0.250	14.27
RF2-3	ST6	2.500	0.250	13.33

BASE PLATE TABLE			
Col Mark	Plate Size		
	Width	Thick	Length
BP-1	8"	1/2"	1'-1 1/2"

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
FBXXA(2)=FLANGE BRACE AT BOTH SIDES
A - L2x2x14



RIGID FRAME ELEVATION: FRAME LINE 2

GENERAL NOTES:

- CONSTRUCTION NOTES FOR THE RIGID FRAMES.
1. ALL PRIMARY STRUCTURAL STEEL SHALL BE FABRICATED FROM 50 OR 55 KSI STEEL.
 2. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED WITH A325 H. S. BOLTS.
 3. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
 4. WELDING PROCESSES USED BY MANUFACTURER ARE IN ACCORDANCE WITH SEC. 1.3 OF AWS D 1.1.
 5. A325 High Strength bolt shall be tightened with one washer. Refer to General Notes 1.5 and 1.6 on cover sheet for tightening methods and installation inspections.

MEMBER TABLE					
Mark	Web Depth		Web Plate		Outside Flange W x Thk x Length
	Start/End	Thick	Length		
RF2-1	12.0/16.0	0.188	218.3		6 x 1/4" x 214.2 6 x 1/4" x 17.3 5 x 1/4" x 116.6 6 x 1/4" x 17.3 6 x 1/4" x 214.2
RF2-2	14.0/14.0	0.135	116.6		5 x 1/4" x 107.4
RF2-3	16.0/12.0	0.188	218.3		6 x 1/4" x 203.1

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PERMIT**



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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL	CUSTOMER	RIGID FRAME ELEVATION
						STEEL NATION BUILDINGS, INC.	
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
						END USE	UTILITY BUILDING
						STREET	1336 RIDGEVIEW ROAD
						CITY ST ZIP	UPPER ARLINGTON, OH 43221
						SALES NO.	82361
						JOB NO.	173424
						SCALE	3/8"
						DWG. NO.	E15 OF 25
						ISSUES	A

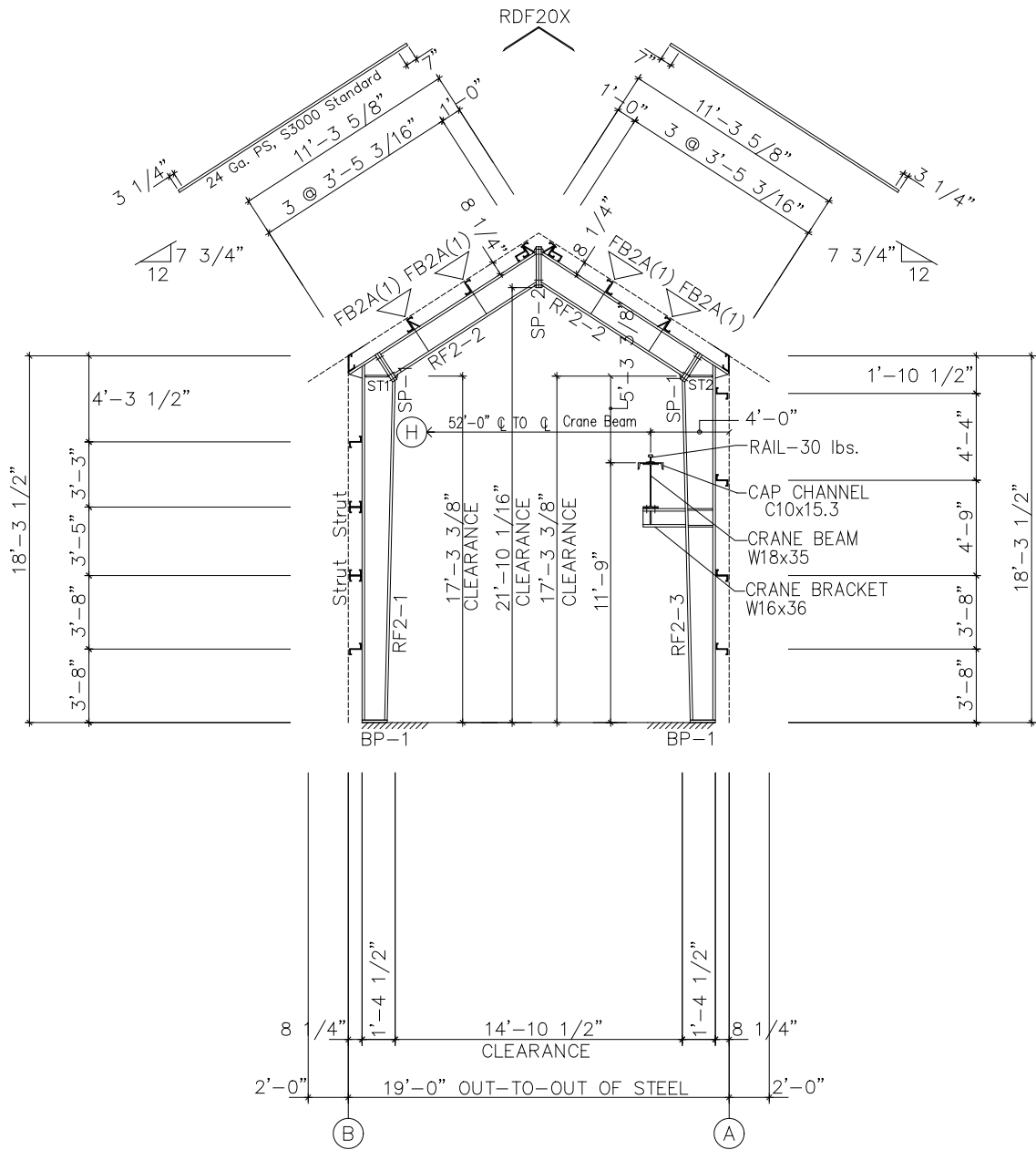


SPLICE PLATE & BOLT TABLE									
Mark	Qty			Int	Type	Dia	Length	Width	Thick
	Top	Bot							
SP-1	2	4	0	A325		0.625	2.00	6"	1/2"
SP-2	4	4	0	A325		0.625	2.00	6"	1/2"

STIFFENER TABLE				
Mark	Stiff Mark	Plate Size		
		Width	Thick	Length
RF2-1	ST1	2.500	0.250	13.33
RF2-1	ST2	2.500	0.250	14.27
RF2-3	ST3	2.500	0.250	14.27
RF2-3	ST4	2.500	0.250	14.53
RF2-3	ST5	2.500	0.250	14.18
RF2-3	ST6	2.500	0.250	13.33

BASE PLATE TABLE			
Col Mark	Plate Size		
	Width	Thick	Length
BP-1	8"	1/2"	1'-1 1/2"

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
FBXXA(2)=FLANGE BRACE AT BOTH SIDES
A - L2x2x14



RIGID FRAME ELEVATION: FRAME LINE 2

GENERAL NOTES:

- CONSTRUCTION NOTES FOR THE RIGID FRAMES.
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MEMBER TABLE					
Mark	Web Depth		Web Plate		Outside Flange W x Thk x Length
	Start/End	Thick	Length		
RF2-1	12.0/16.0	0.188	218.3		6 x 1/4" x 214.2 6 x 1/4" x 17.3 5 x 1/4" x 116.6
RF2-2	14.0/14.0	0.135	116.6		5 x 1/4" x 107.4
RF2-3	16.0/12.0	0.188	218.3		6 x 1/4" x 17.3 6 x 1/4" x 214.2
EB-2	W8x10				

FOR
PERMIT



5/29/2025

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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	STEELNATION 100 SOUTHPOINTE SQUARE LANE CANONSBURG, PA 15107 PH: 724.225.2202 • INFO@STEELNATION.COM	DESCRIPTION	RIGID FRAME ELEVATION : FRAME LINE- B A / 2								
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL		CUSTOMER	STEEL NATION BUILDINGS, INC.								
							END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)								
							END USE	UTILITY BUILDING	BUILDING	A (Utility Building)						
							STREET	1336 RIDGEVIEW ROAD								
							CITY ST ZIP	UPPER ARLINGTON, OH 43221								
							SALES NO:	82361	JOB NO:	173424	SCALE:	1/4"	DWG. NO:	E17 OF 25	ISSUES:	A

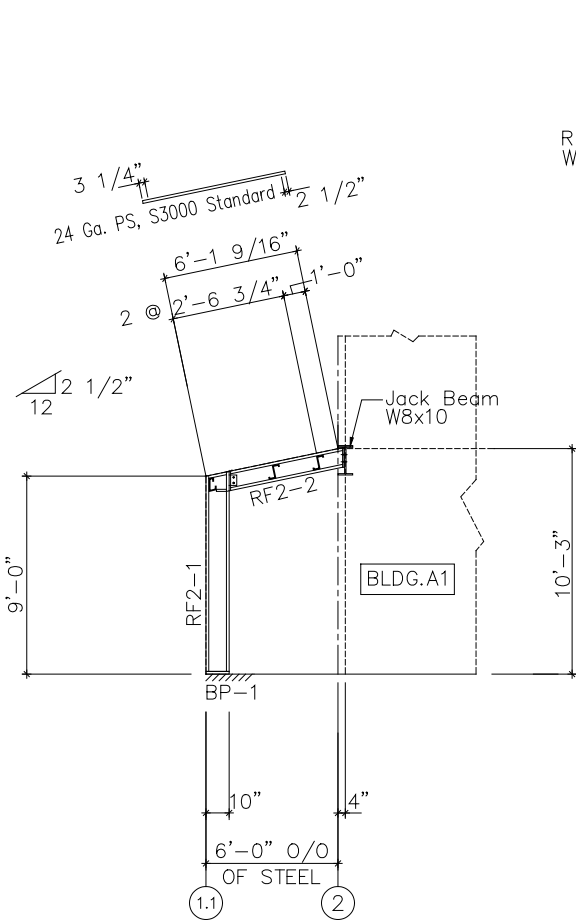
STIFFENER TABLE				
Mark	Stiff Mark	Plate Size		
		Width	Thick	Length
RF2-1	ST1	4.880	0.313	9.152

BASE PLATE TABLE			
Col Mark	Plate Size		
	Width	Thick	Length
BP-1	1'-2"	1/2"	1'-5"

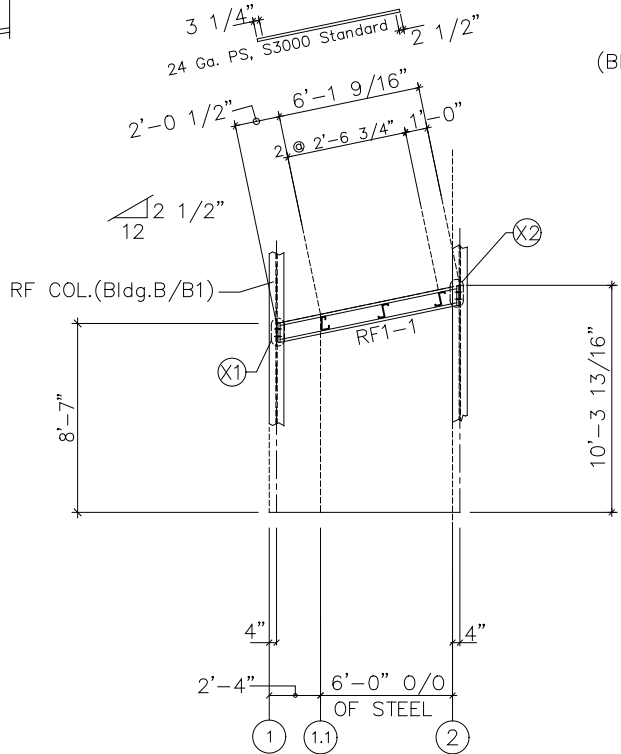
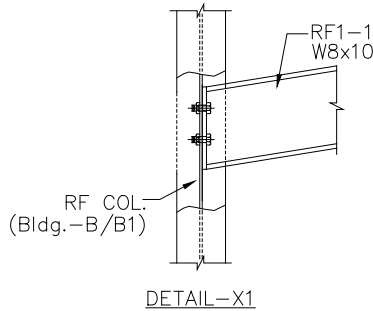
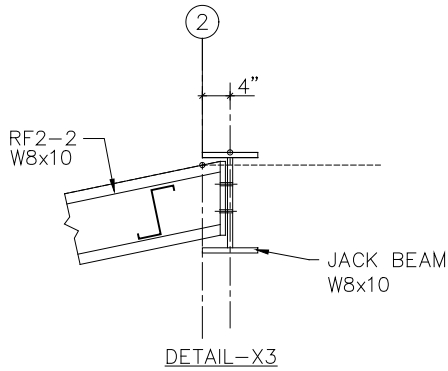
MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
RF2-1	HSS10x10x316	9'-0"
RF2-2	W8x10	5'-2 13/16"

SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	2	0	A325	0.625	1.00	"	"	7 5/8"

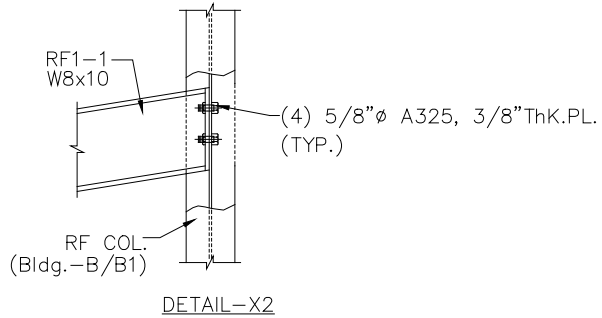
MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
RF1-1	W8x10	6'-1 9/16"



RIGID FRAME ELEVATION: FRAME LINE D _ E



RIGID FRAME ELEVATION: FRAME LINE B _ G



GENERAL NOTES:

- CONSTRUCTION NOTES FOR THE RIGID FRAMES.
1. ALL PRIMARY STRUCTURAL STEEL SHALL BE FABRICATED FROM 50 OR 55 KSI STEEL.
 2. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED WITH A325 H. S. BOLTS.
 3. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
 4. WELDING PROCESSES USED BY MANUFACTURER ARE IN ACCORDANCE WITH SEC. 1.3 OF AWS D 1.1.
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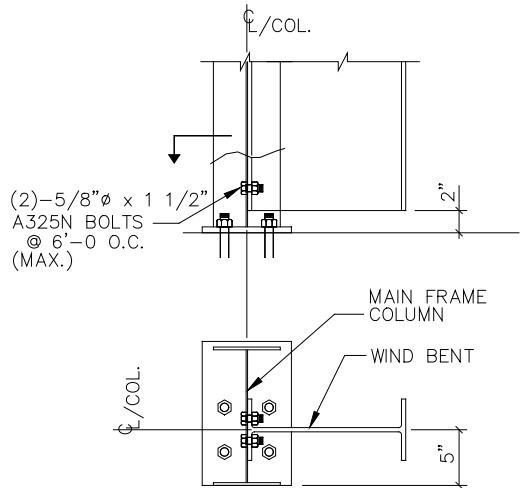
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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	RIGID FRAME ELEVATION : FRAME LINE- D E / 1.1-2								
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.								
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)								
						END USE	UTILITY BUILDING	BUILDING	A (Utility Building)						
						STREET	1336 RIDGEVIEW ROAD								
						CITY ST ZIP	UPPER ARLINGTON, OH 43221								
						SALES NO.	82361	JOB NO.	173424	SCALE	1/4"	DWG. NO.	E18 OF 25	ISSUES	A

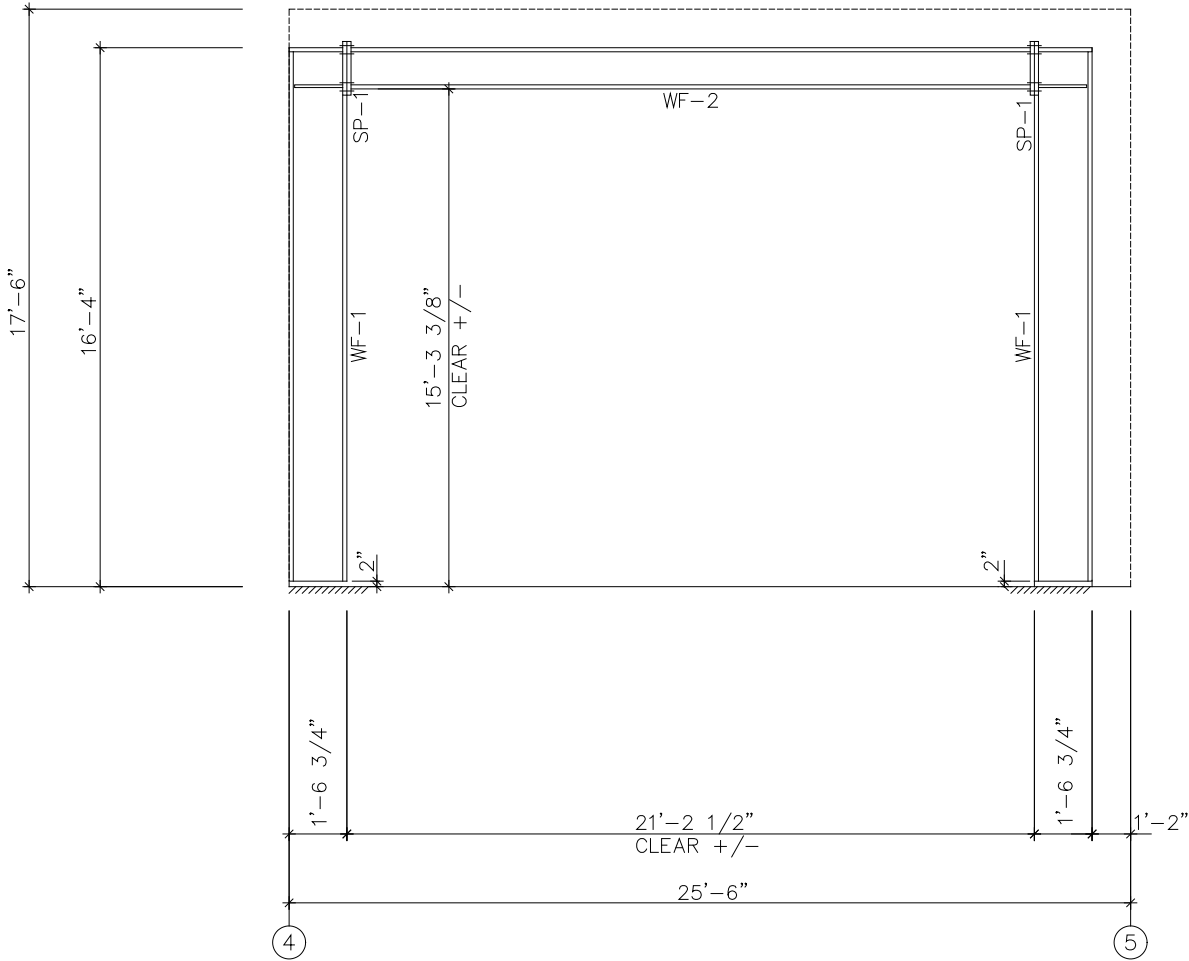


SPLICE BOLTS					
Splice Mark	Quan	Top/Bot	Type	Bolt Dia	Length
SP- 1	4	4	A325	0.625	2.00

MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
WF-2	W12652	21'-2 1/4"
WF-1	W18662	16'-2"



H9 WIND BENT TO MAIN FRAME COLUMN



WIND BENT ELEVATION: FRAME LINE A H

GENERAL NOTES:

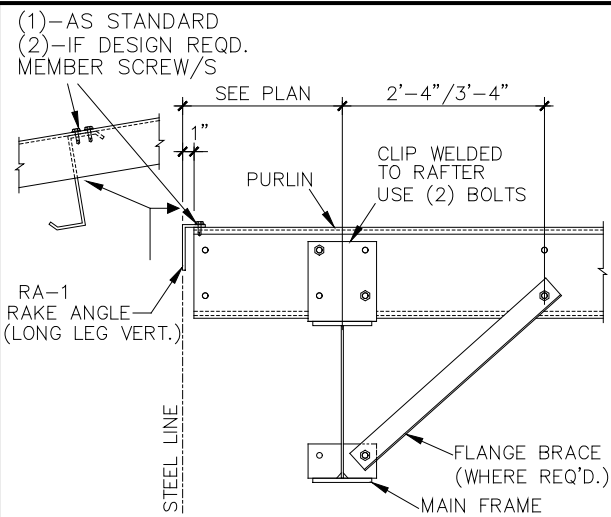
- CONSTRUCTION NOTES FOR THE RIGID FRAMES.
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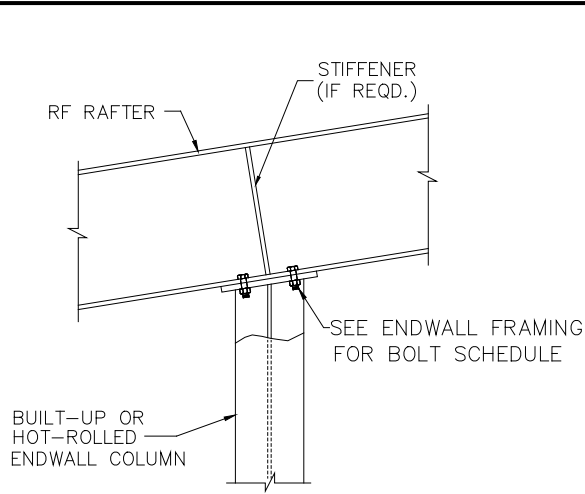
5/29/2025

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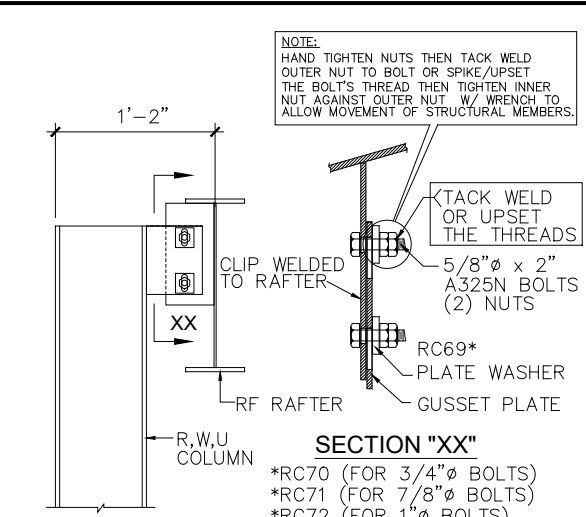
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A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL	100 SOUTH POINTE SQUARE LANE PH: 724.225.2202 HNF@STEELNATION.COM		CUSTOMER	STEEL NATION BUILDINGS, INC.
								END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
								END USE	UTILITY BUILDING BUILDING A (Utility Building)
								STREET	1336 RIDGEVIEW ROAD
								CITY ST ZIP	UPPER ARLINGTON, OH 43221
								SALES NO:	82361
								JOB NO:	173424
								SCALE:	1/4"
								DWG. NO:	E19 OF 25
								ISSUES:	A



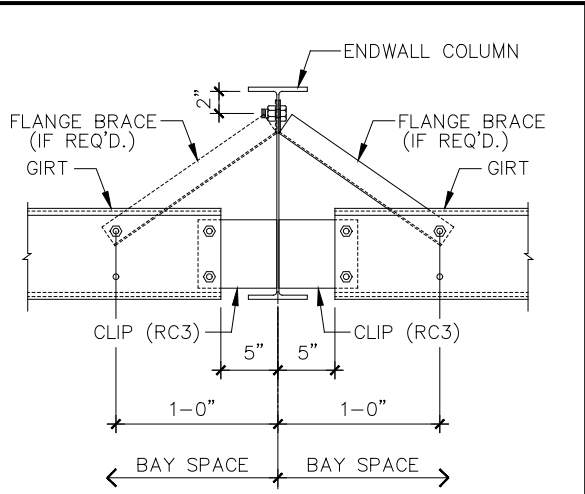
A10 MAIN FRAME ENDWALL
ALL BOLTS ARE 1/2"Ø x 1" A307 U.N.



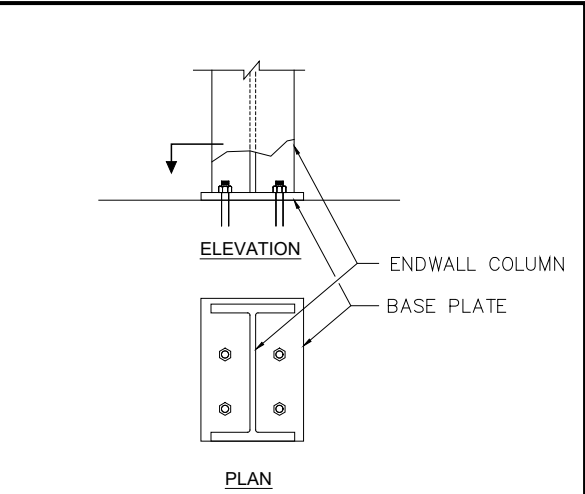
B20 RF RAFTER TO EW COLUMN



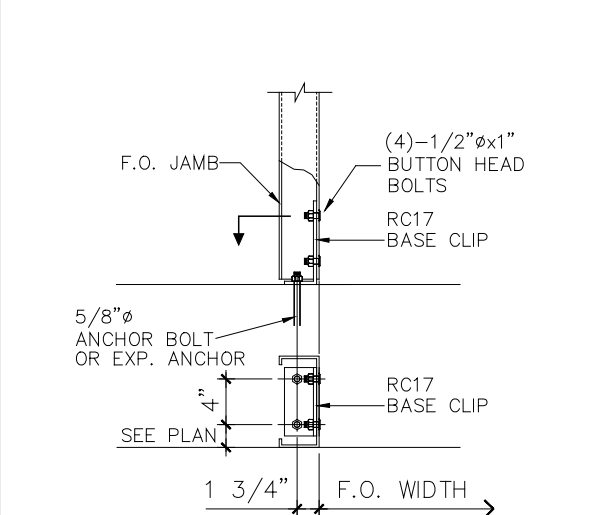
B35 ENDWALL COLUMN TO RF RAFTER
ALL BOLTS ARE 1/2"Ø x 1 1/2" A325 U.N.



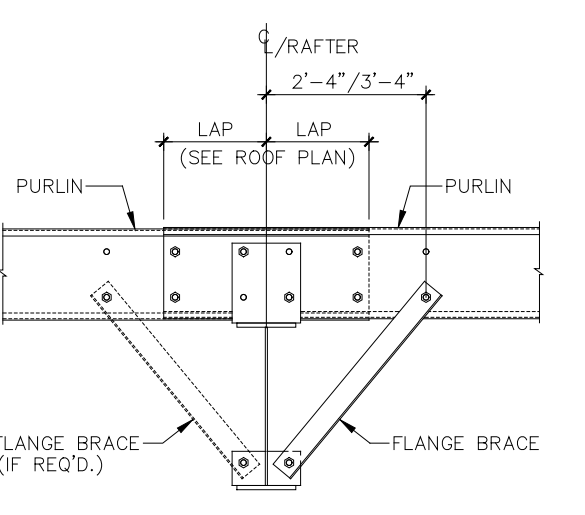
C6 FLUSH GIRTS TO ENDWALL COLUMN WITH WELDED CLIP
ALL BOLTS ARE 1/2"Ø x 1" A307 U.N.



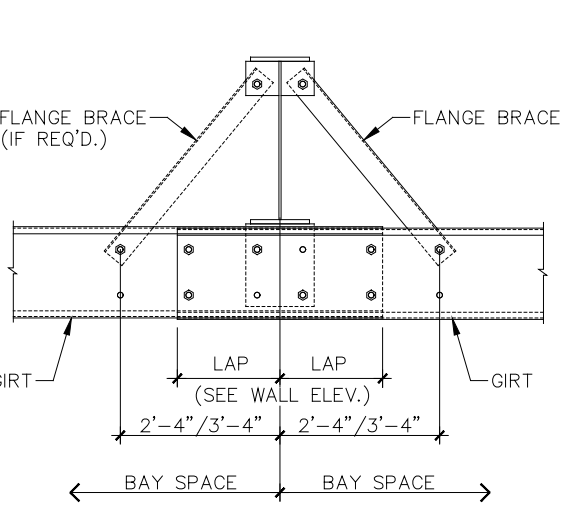
E3 BASE PLATE FOR ENDWALL COLUMN
SEE ANCHOR BOLT PLAN & DETAILS



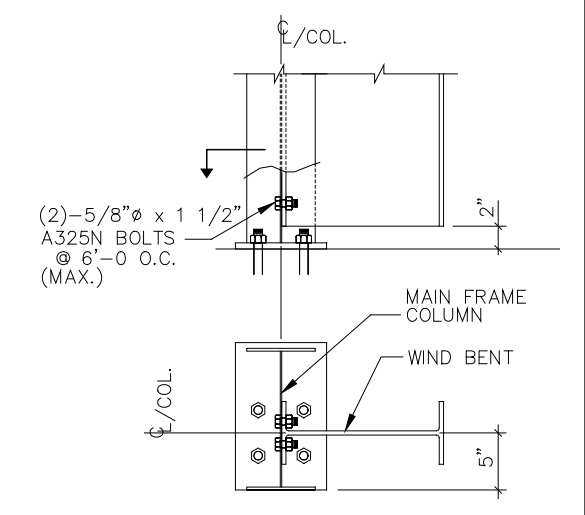
E6 "FO" JAMB BASE DETAIL WITH BOLTED BASE CLIP



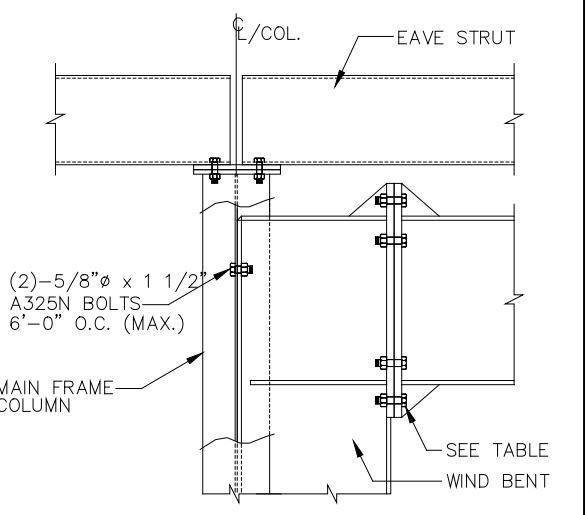
G2 BY-PASS PURLIN TO RAFTER DETAIL
ALL BOLTS ARE 1/2"Ø x 1" A307 U.N.



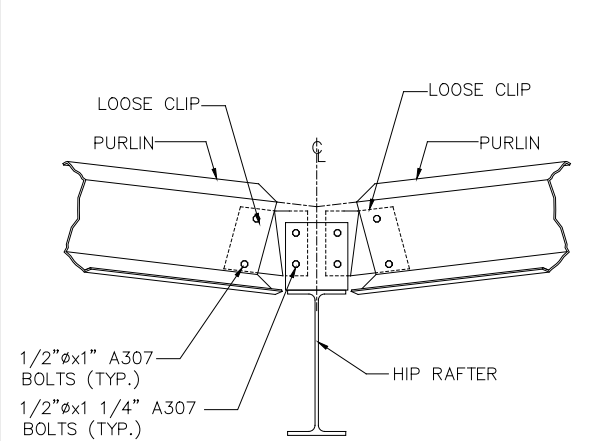
H2 WALL GIRTS TO RF COLUMN
ALL BOLTS ARE 1/2"Ø x 1" A307 U.N.



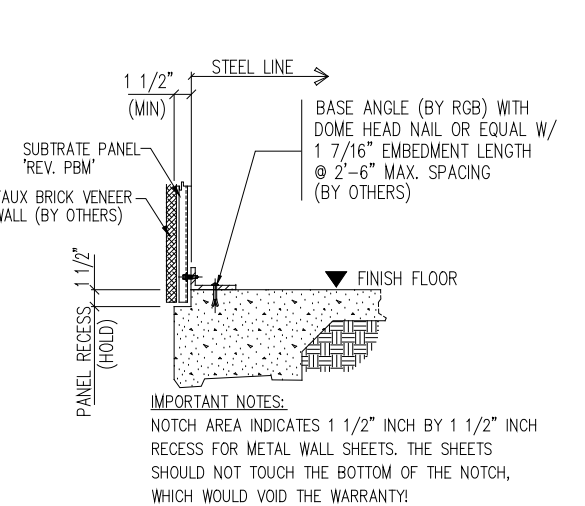
H9 WIND BENT TO MAIN FRAME COLUMN



H10 WIND BENT SPLICE DETAIL



2 PURLIN TO VALLEY RAFTER CONNECTION
SF41



T2 DETAIL BASE w/ NOTCH

FOR PERMIT

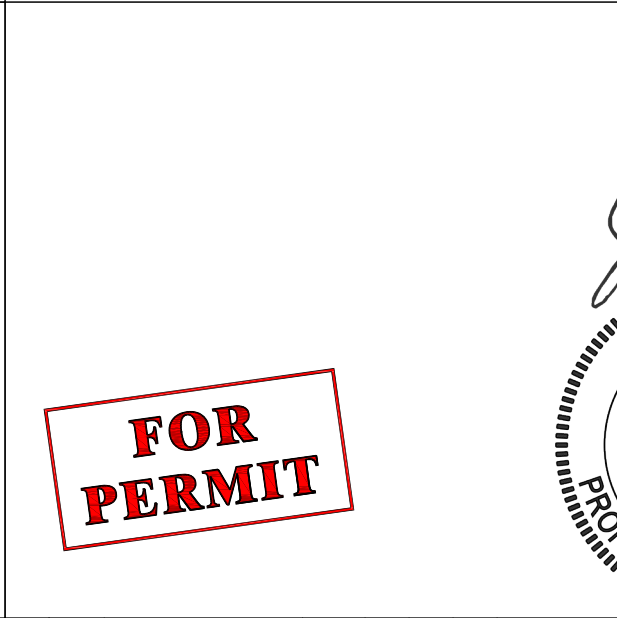
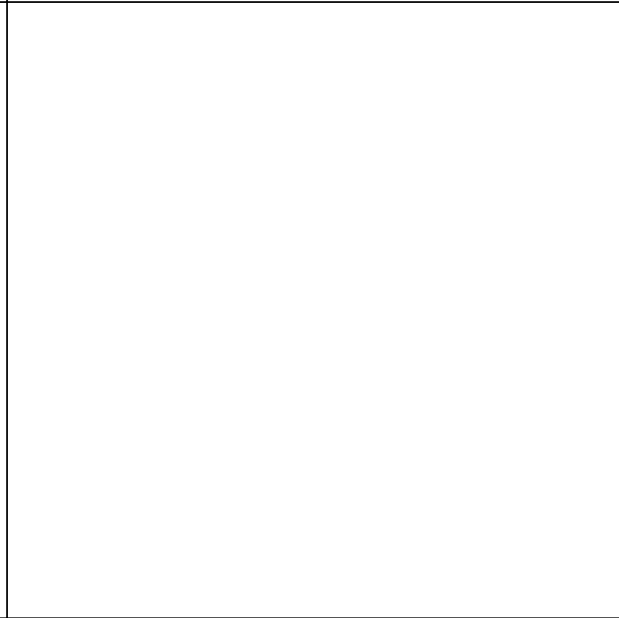
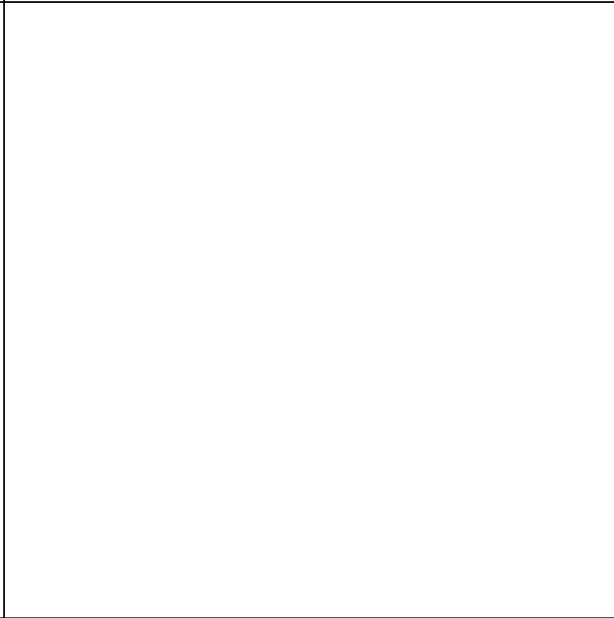
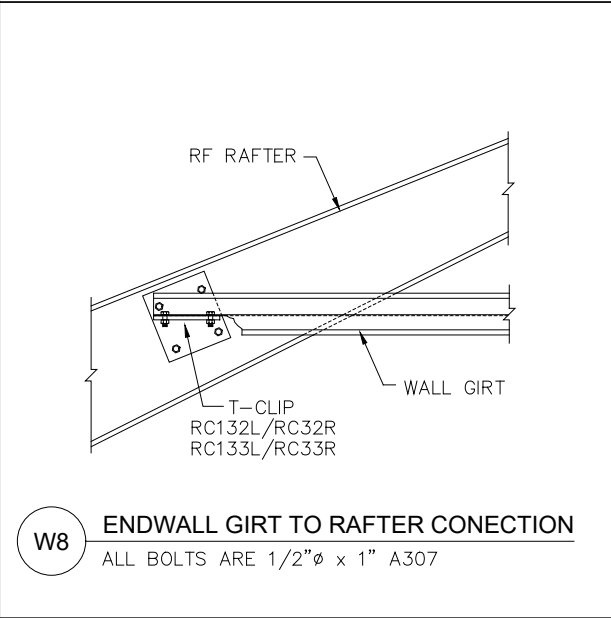
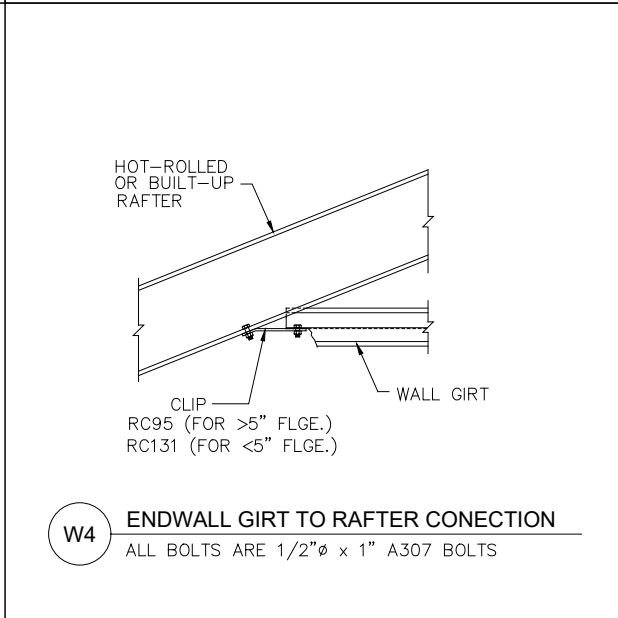
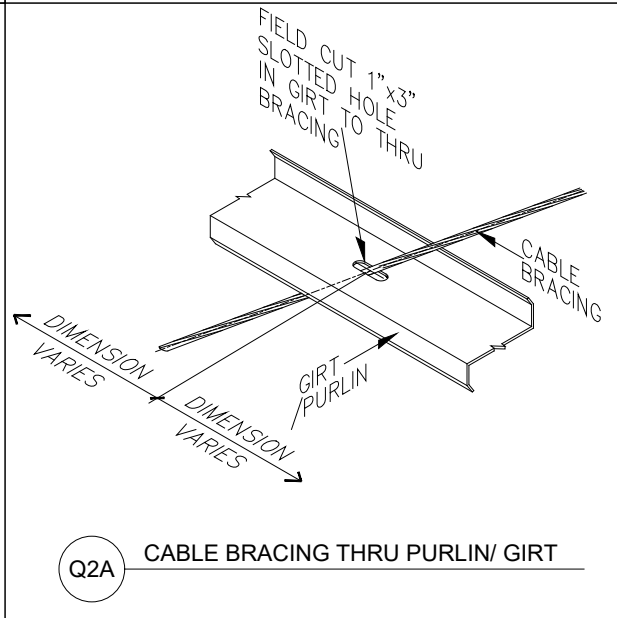
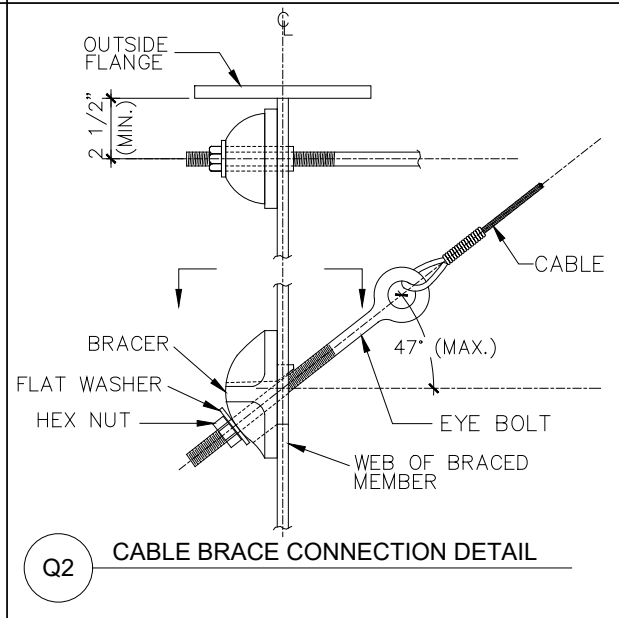
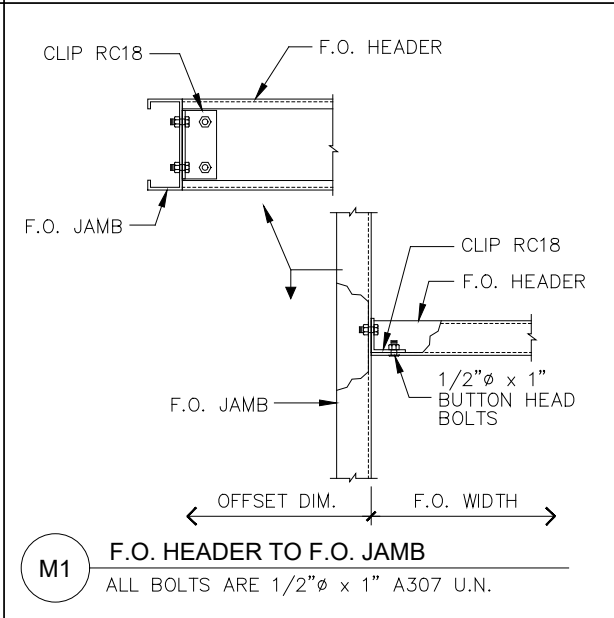
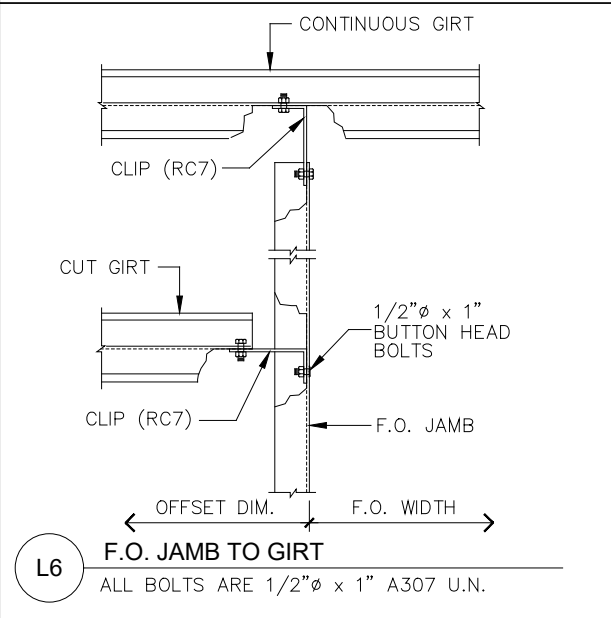
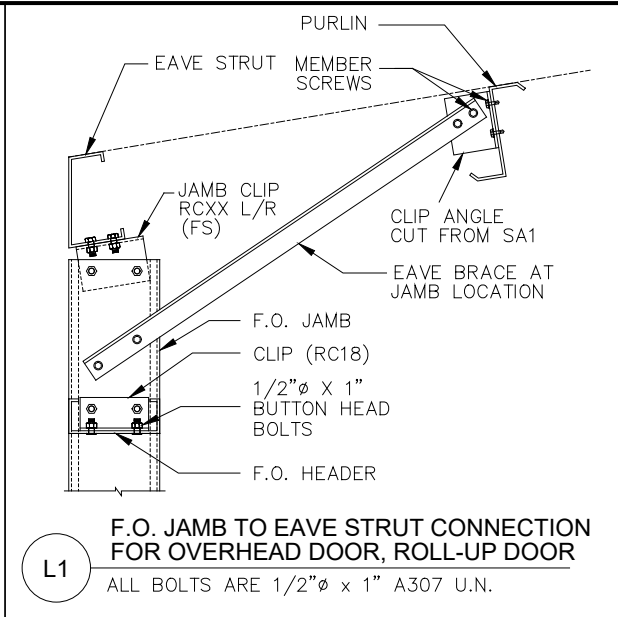
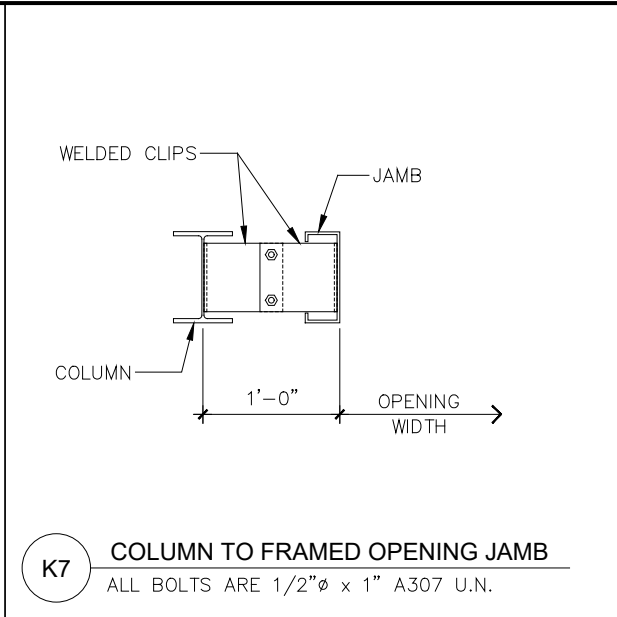
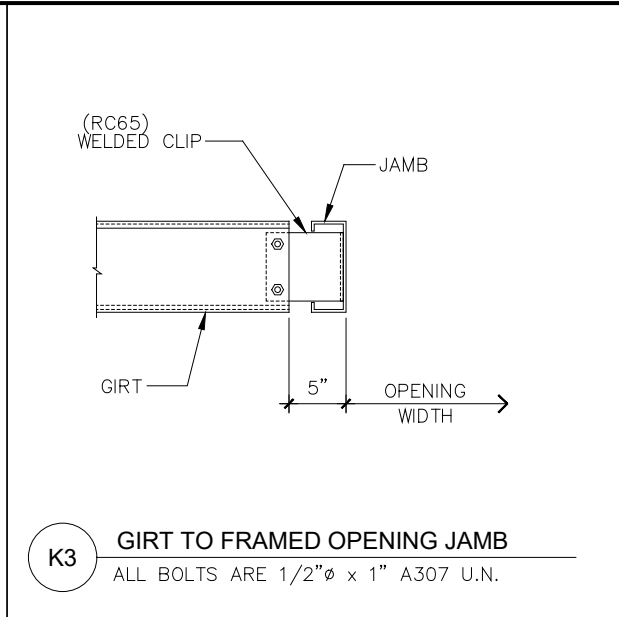
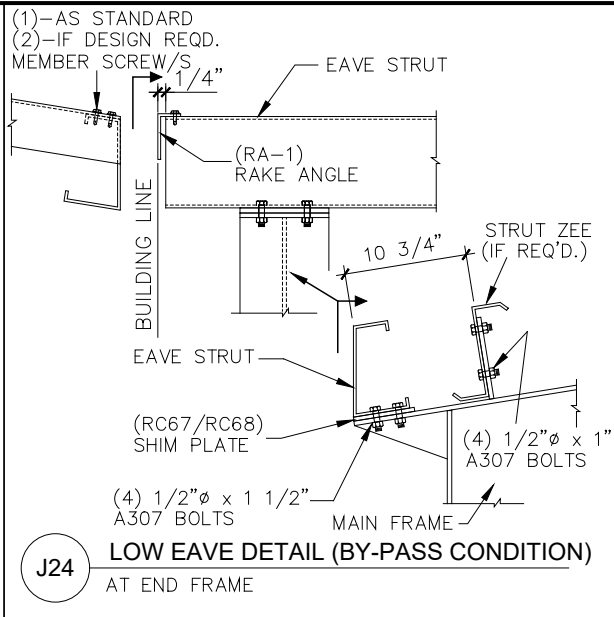
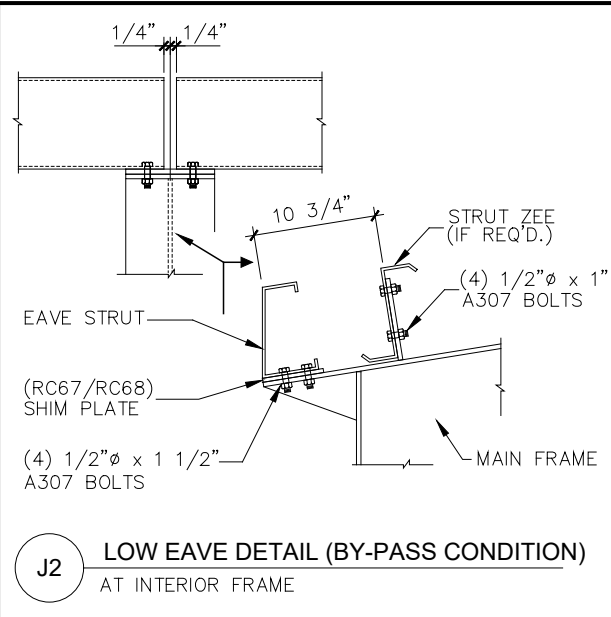
John Long
STATE OF OHIO
JOHN A. LONG
E-51396
REGISTERED PROFESSIONAL ENGINEER

5/29/2025

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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	DETAIL DRAWINGS
A	APPROVAL/PERMIT	05/30/25	LNT	FFF	RDL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	COLUMBIA GAS (NISOURCE UTILITY BUILDING)
						END USE	UTILITY BUILDING BUILDING A (Utility Building)
						STREET	1336 RIDGEVIEW ROAD
						CITY ST ZIP	UPPER ARLINGTON, OH 43221
						SALES NO.	82361
						JOB NO.	173424
						SCALE	N.T.S.
						DATE	E020 OF 25
						ISSUES	A

STEELNATION
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PH: 724.225.2200 • INFO@STEELNATION.COM



FOR PERMIT

STATE OF OHIO

JOHN A. LONG

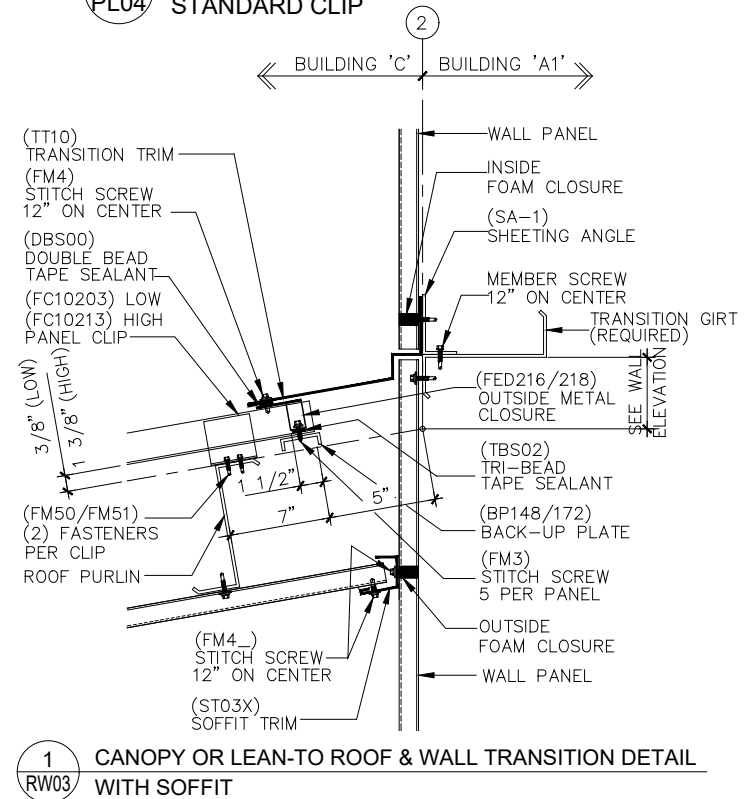
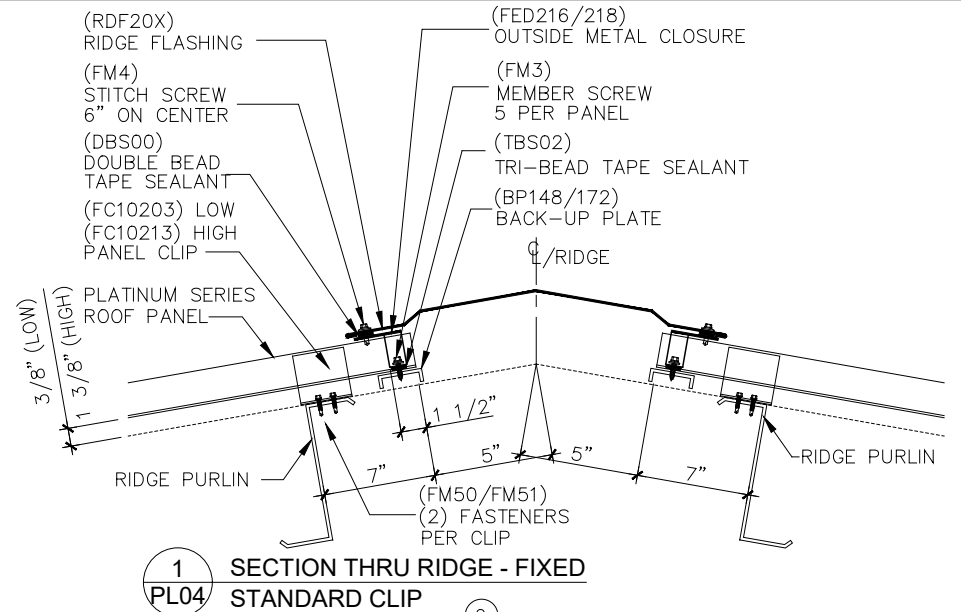
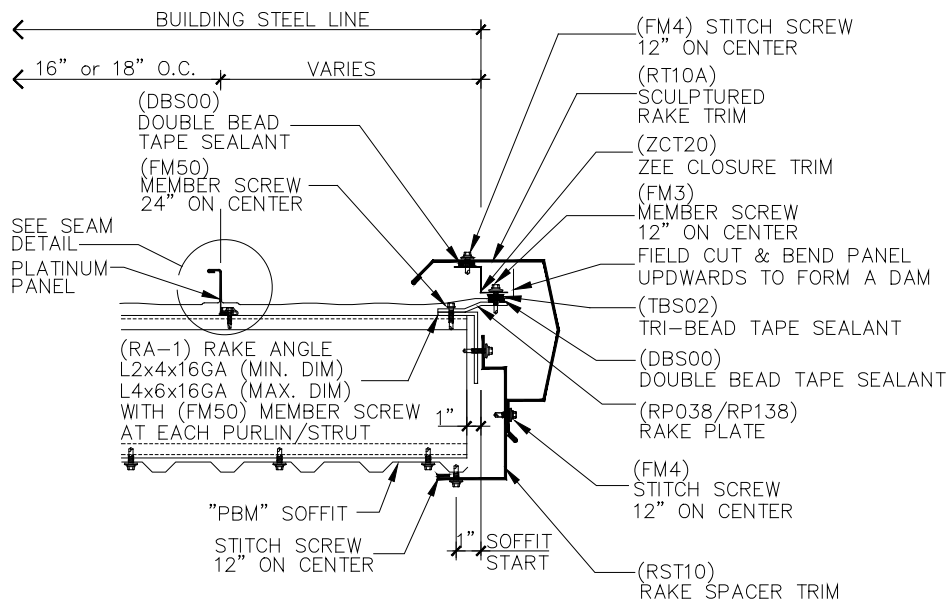
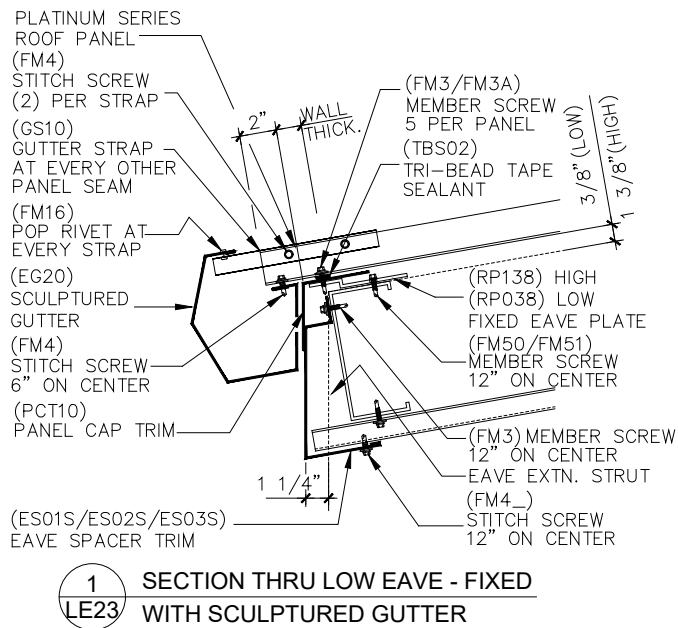
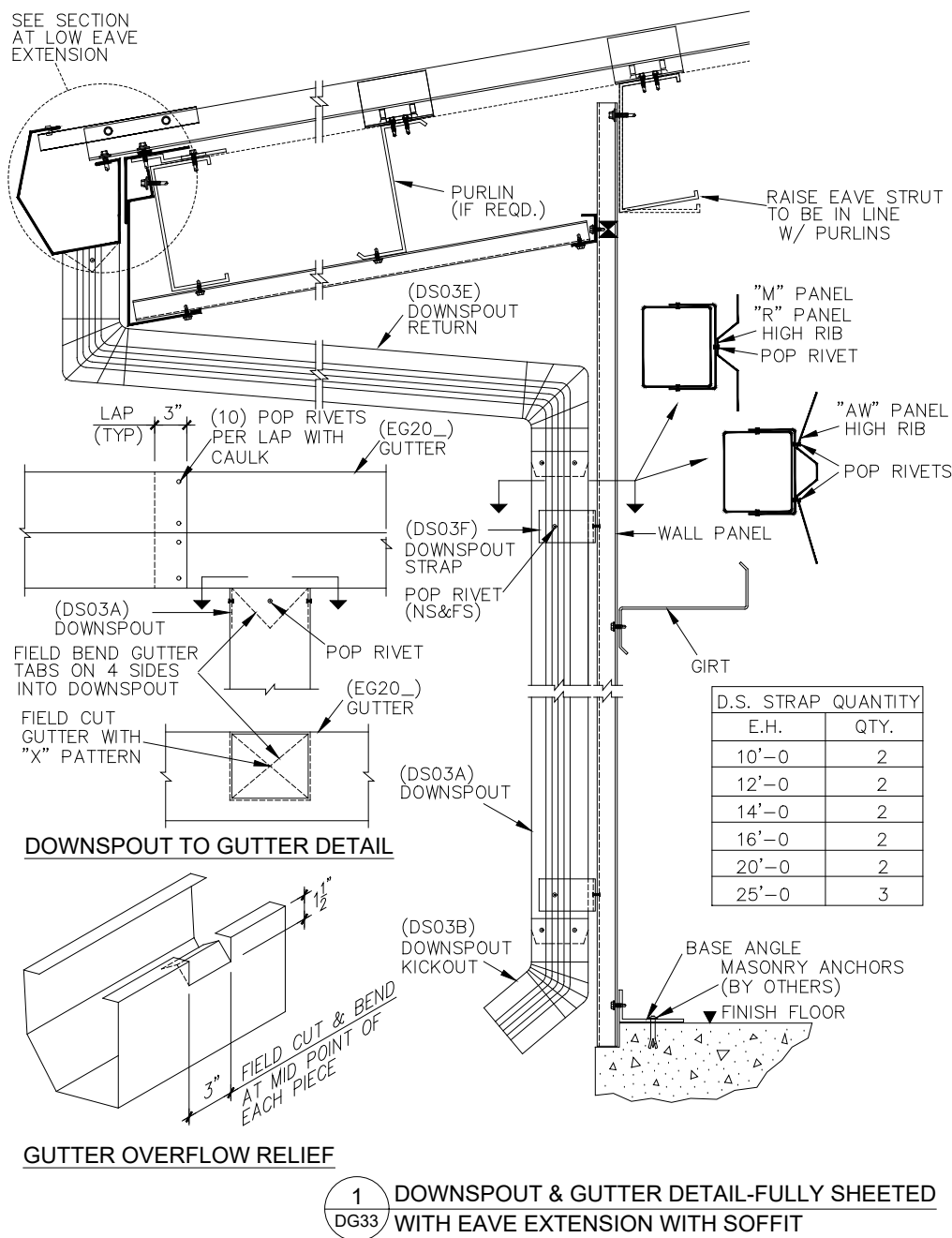
E-51396

REGISTERED PROFESSIONAL ENGINEER

5/29/2025

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							ISSUES	A		



FOR PERMIT



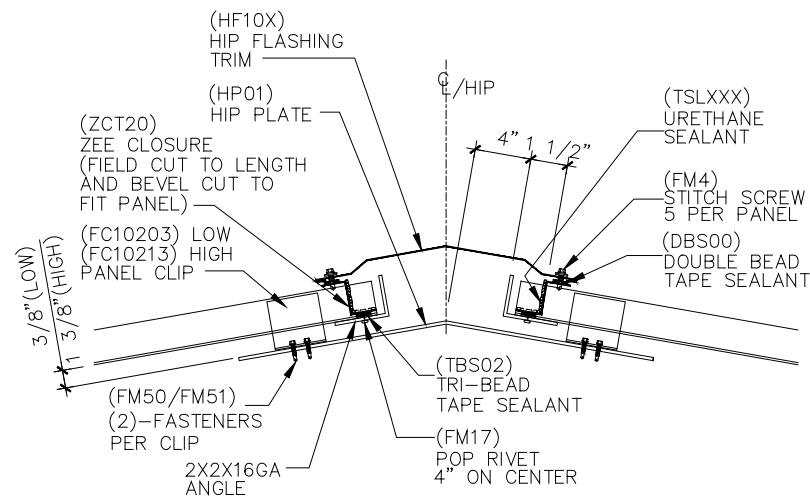
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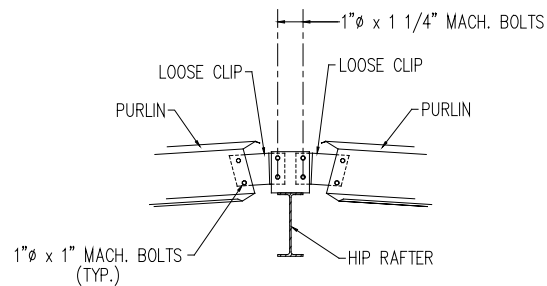
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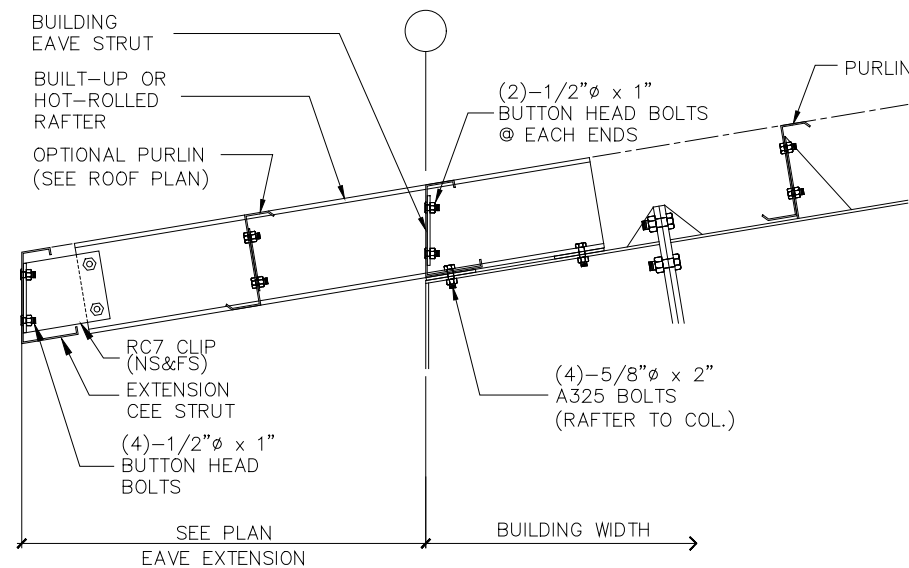
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CITY ST ZIP	UPPER ARLINGTON, OH 43221
SALES NO.	82361
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SCALE	N.T.S.
PAGE NO.	E022 OF 25
ISSUE	A



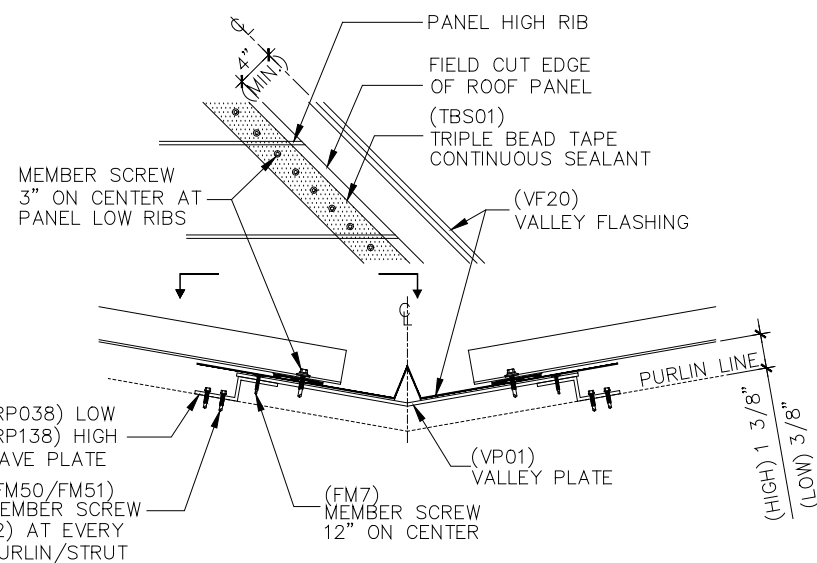
2 SECTION THRU HIP - FIXED
HV01



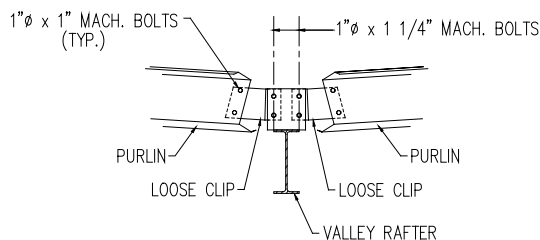
SECTION THRU HIP RAFTER



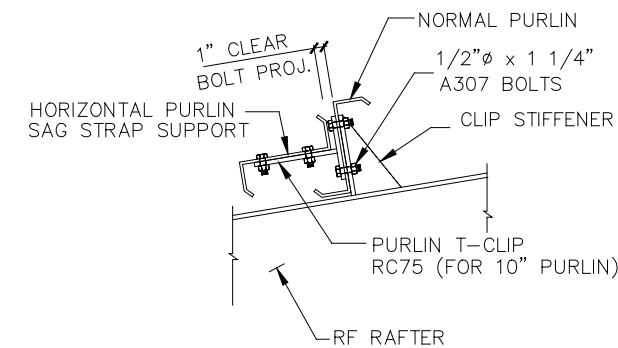
BUILT-UP/HOT-ROLLED EAVE EXTENSION DETAIL
ALL BOLTS ARE 1/2" x 1" A307 U.N.



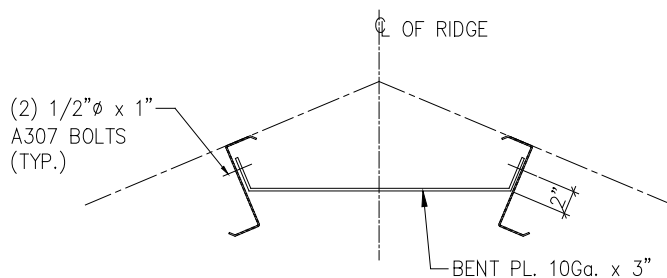
1 SECTION THRU VALLEY - STANDARD
HV02



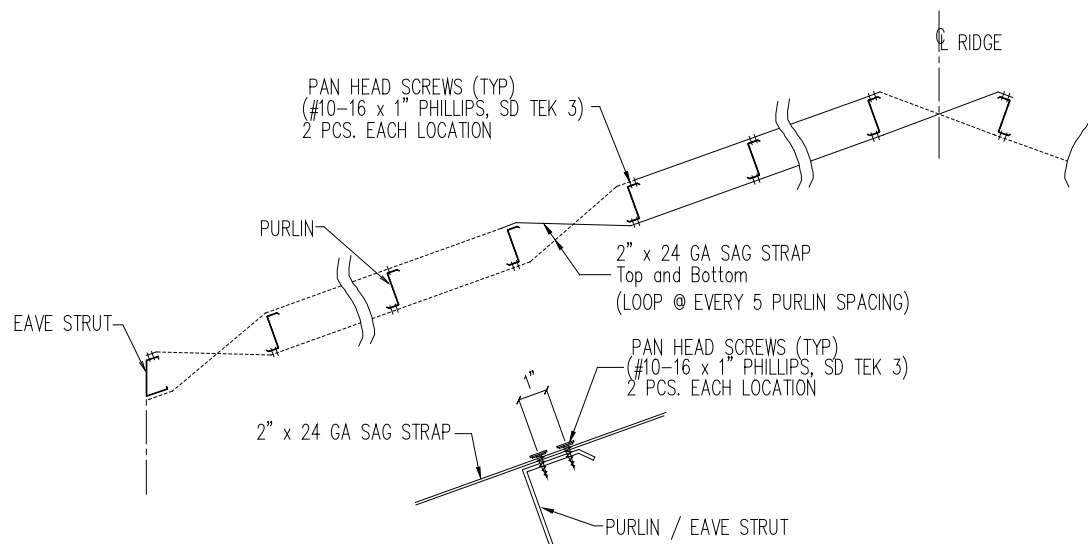
SECTION THRU VALLEY RAFTER



HORIZONTAL PURLIN CONNECTION TO RF RAFTER
ALL BOLTS ARE 1/2" x 1" A307 U.N.



TYPICAL RIDGE TIE DETAIL



TYPICAL SAG STRAP CONNECTION DETAIL
(BRACED AT TOP & BOTTOM OF PURLINS / SIDE BY SIDE)

FOR PERMIT

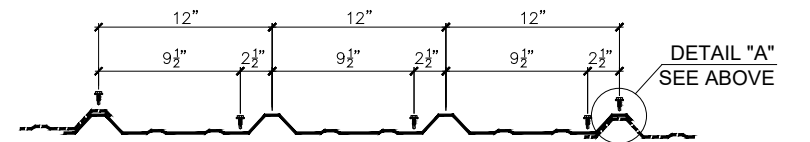


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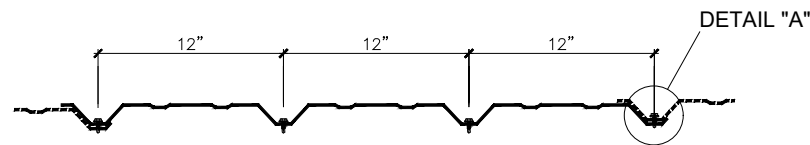
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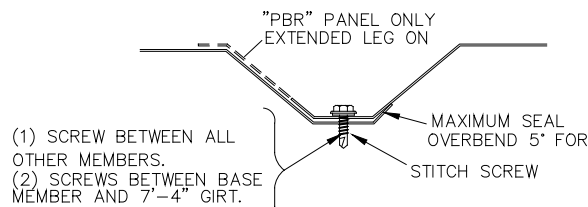




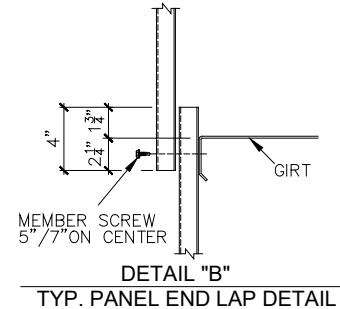
MEMBER SCREW LOCATION
FOR ALL MEMBERS UNLESS NOTED OTHERWISE
"PBR" BACK PANEL SCREW LAYOUT



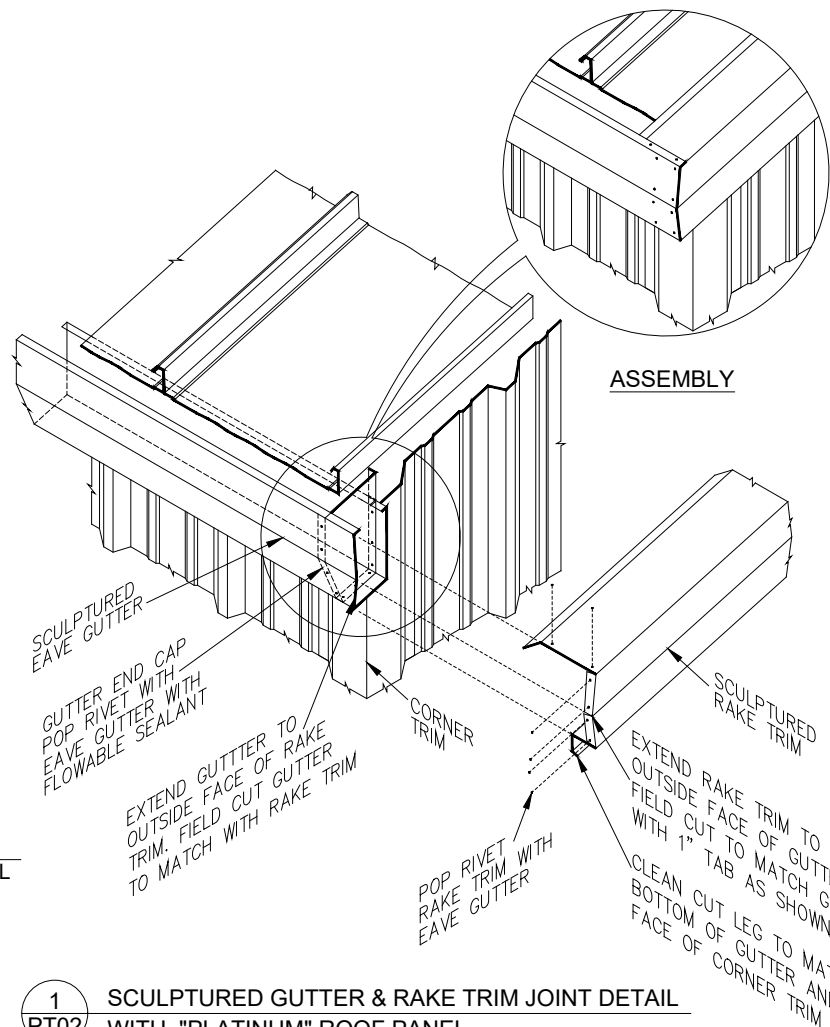
MEMBER SCREW LOCATION
ALL MEMBERS



DETAIL "A"
TYP. SIDE LAP DETAIL



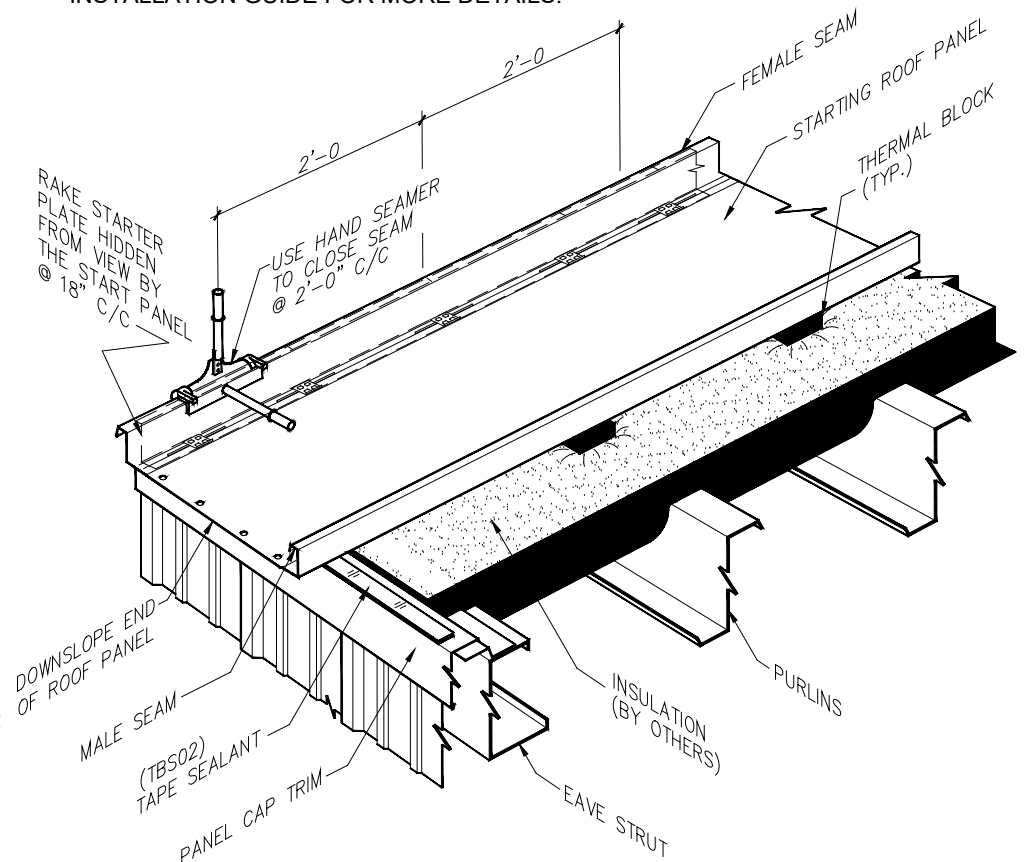
REVERSE "PBR" WALL PANEL SCREW LAYOUT



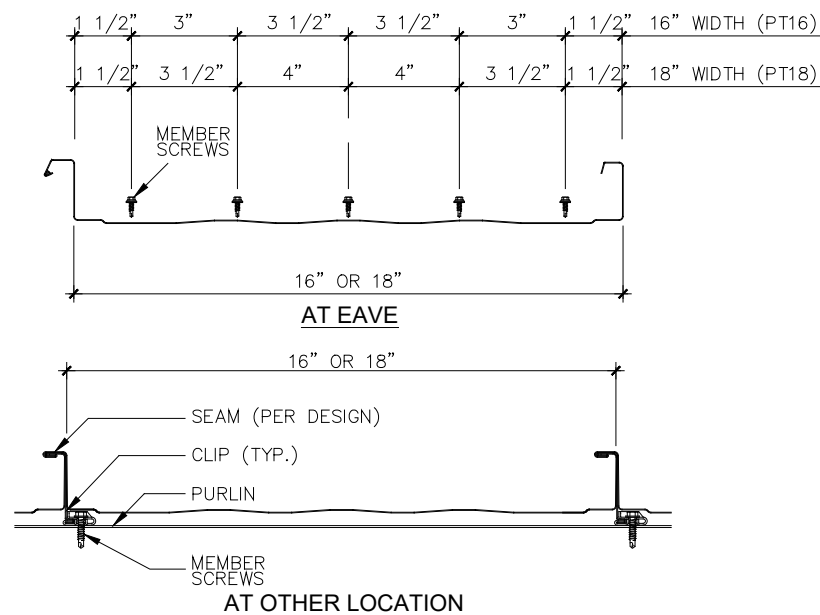
1 PT02 SCULPTURED GUTTER & RAKE TRIM JOINT DETAIL
WITH "PLATINUM" ROOF PANEL

NOTE:
SEAM STARTING ROOF PANEL WITH MANUAL SEAMING TOOL AT
RAKE STARTER PLATE (2'-0" C/C).

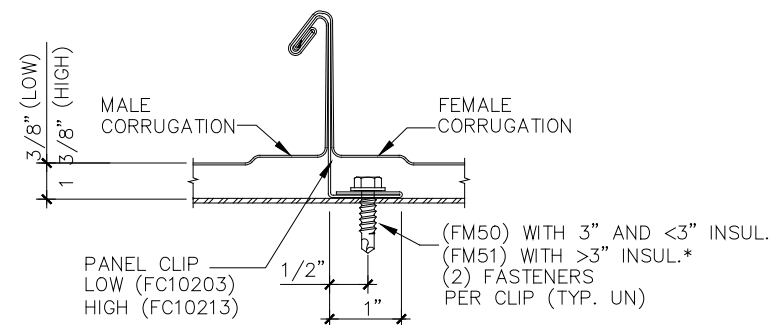
* REFER TO SECTION 9.3.4 OF THE PLATINUM ROOF SYSTEM
INSTALLATION GUIDE FOR MORE DETAILS.



1 PT06 SEAMING DETAIL (HC) @ RAKE START
WITH "PLATINUM" STARTING ROOF PANEL



1 PT01 PLATINUM PANEL FASTENER LOCATION



2 SL01 QUAD-LOK SEAM WITH FIXED CLIP
* SUPPLY SPECIAL LENGHT FASTENER FOR >6" THICK INSULATION

FOR PERMIT

John Long
STATE OF OHIO
JOHN A. LONG
E-51396
REGISTERED PROFESSIONAL ENGINEER

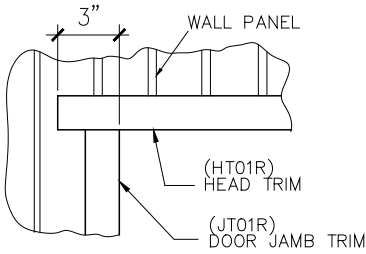
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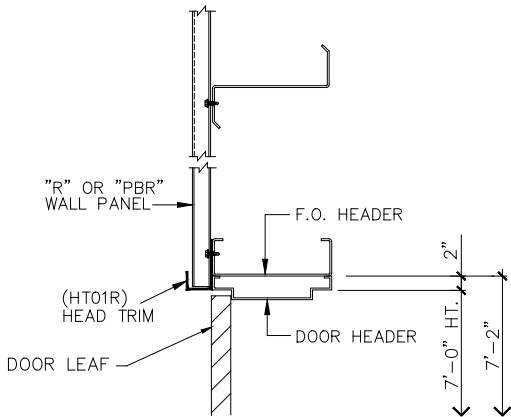
- NOTES:
- 1. FOR 3070, 4070, 6070 WALK DOORS ONLY
 - 2. ALL DOORS ARE FIELD LOCATED UNLESS SHOWN IN A.B. PLAN
 - 3. ★ - DIMENSION VARIES. SEE WALL ELEVATION IF REQUIRED.



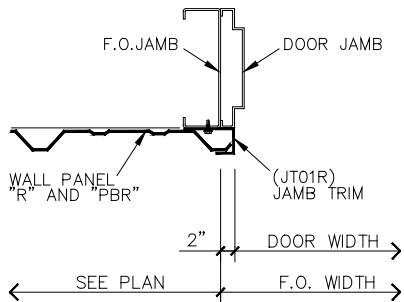
DETAIL "E"
HEAD/JAMB TRIMS CORNER DETAIL

- INSTALLATION PROCEDURE
1. Place head section and jambs on flat surface (floor) with door side up. Install bolts and nuts connecting head to jambs. Be sure that head is tight to jambs so that the proper door opening is obtained.
 2. Install door leaf in frame, check for 1/8" clearance at head and 3/32" clearance at striker jamb.
 3. Tilt up the entire assembly and anchor hinge jamb to floor. Plumb hinge jamb and assembly. Field cut girts if required.
 4. Anchor head and striker jamb to building structure, floor and entire frame to panel skins (field cut). Install optional threshold anchor if desired. Install jamb extensions (if req'd).
 5. Install lockset. Install (optional) weatherstrip, head member first. Adjust so that vinyl just contacts door when in the closed position. Do not force vinyl against door as this will interfere with the latching and will not improve the weather seal.
 6. Refer also to Door Manufacturer Installation Manual for more details.

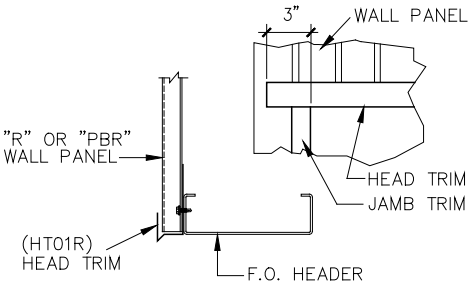
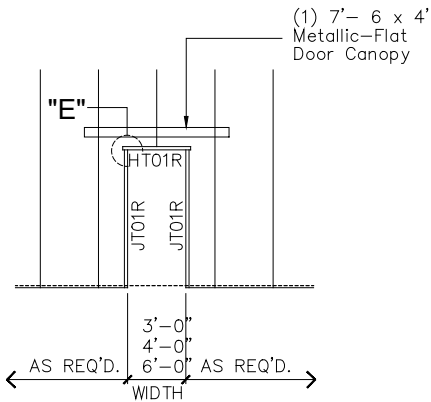
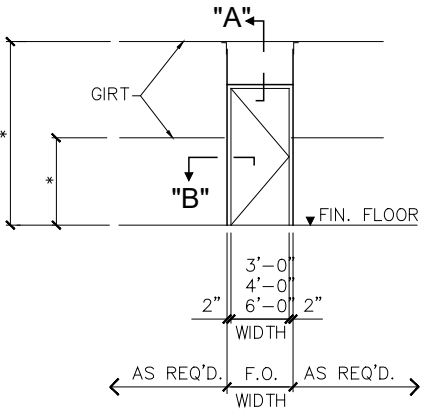
DOOR TRIM TABLE		
SIZE	HT01R	JT01R
3070	3'-6"	7'-5"
4070	4'-6"	7'-5"
6070	6'-6"	7'-5"



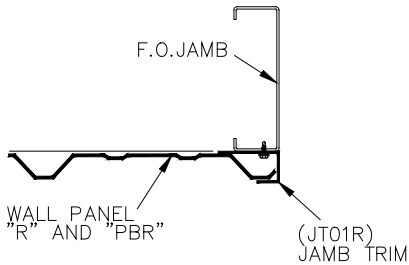
SECTION "A"



SECTION "B"



4 F.O. HEADER TRIM DETAIL



5 F.O. JAMB TRIM DETAIL

TYPICAL WALK DOOR DETAIL WITH FRAMED OPENING : REQUIRED QUANTITY = 0

FOR PERMIT



5/29/2025

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						ISSUE	A



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GENERAL NOTES

- 1.1

Fabrication shall be in accordance with S.N. standard practices in compliance with the applicable sections, relating to design requirements and allowable stresses of the latest edition of the "AWS Structural Welding Code D1.1 and D1.3". S.N. manufacturing procedures are certified by:
- Reference

Certification numbers
- Houston

S.N. #456
- 1.2

MATERIALS

Hot Rolled Steel Shapes (W, S, C & L)
Hot Rolled Steel Shapes (W)
Round Structural Tubing (HSS)
Square/Rect. Structural Tubing (HSS)
Structural Steel Web Plate
Structural Steel Flange Plates/Bars
Cold Formed Light Gage
Roof and Wall Sheets
Cable Brace
Rod Brace

ASTM DESIGNATION

A572/A529
A992
A500
A500
A572/A1011
A529/A572
A653/A1011
A792/A653
A475
A36

MIN. YIELD STRENGTH

Fy = 50 KSI
Fy = 50 KSI
Fy = 42 KSI
Fy = 46 KSI
Fy = 55 KSI
Fy = 55 KSI
Fy = 55 KSI
Fy = 50, 80 KSI
Extra High Strength
Fy = 36 KSI
- Machine Bolts & Nuts
High Strength Bolts (1"Ø and less)
High Strength Bolts (>1"Ø to 1 1/2"Ø)
Anchor Bolts (If supplied)

A307
F3125/Gr. A325-TYPE 1
F3125/Gr. A325-TYPE 1
A36/A307/F1554 Gr.36

Fu = 60 KSI
Fu = 120 KSI
Fu = 105 KSI
Fu = 58-80 KSI
- 1.3

PRIMER

Shop primer paint is a rust inhibitive primer which meets the end performance of Federal Specification SSPC No. 15 and is S.N. Red or Gray Oxide color. This paint is not intended for long term exposure to the elements. S.N. is not responsible for any deterioration of the shop primer paint as a result of improper handling and/or jobsite storage. S.N. shall not be responsible for any field applied paint and/or coatings. (Section 6.5 AISC Code of Standard Practice, 16th Edition). Nominal thickness of primer will be 1 mil unless otherwise specified in contract documents.
- 1.4

GALVANIZED OR SPECIAL COATINGS:

See Contract Documents
- 1.5

ALL BOLTS ARE 1/2"Ø x 0'-1" A307 (snug-tightened) EXCEPT :

a) Eave strut connection - 1/2"Ø x 0'-1 1/4" A307 without washer (unless noted otherwise)
b) Endwall rafter splice - 5/8"Ø x 0'-1 3/4" F3125/Gr. A325-N with washer
c) Endwall column to rafter connection - 1/2"Ø x 0'-1 1/4" F3125/Gr. A325-N without washer
d) Main frame moment splice connections - F3125/Gr. A325-N with washer, SEE CROSS SECTION for dimensions.
NOTE: One (01) washer is supplied on main frame moment splice and to A325 bolts unless noted otherwise on drawing
- 1.6

F3125/Gr. A325 BOLT TIGHTENING REQUIREMENTS

All high strength bolts are F3125/Gr. A325-N unless specifically noted otherwise. Structural bolts shall be tightened by the turn-of-the-nut or calibrated wrench methods in accordance with the 16th Edition AISC/RCSC "Specification For Structural Joints using ASTM F3125/Gr. A325 or A490 Bolts". Washers are supplied separately from High Strength Bolts, however, assembly with washers are required before erection. Installation inspection is recommended and be based on Section 9.1 and 9.2 of AISC/RCSC.

Snug-tight is permitted EXCEPT for the following conditions:
a) Building located in high seismic areas; Seismic Design Categories D, E, F
b) Building supporting cranes
c) Building supporting machinery that creates vibration, impact or stress reversal
d) Connections using ASTM A490
e) Connections using slip-critical condition
f) or as prohibited in the contracts/specifications
- 1.7

CLOSURE STRIPS ARE FURNISHED FOR APPLICATION:

INSIDE- Under roof panels at eave
OUTSIDE - Between endwall panels and rake trim
- Under continuous ridge vent skirts
- 1.8

ERECTION NOTE:

All bracing, strapping, & bridging shown and provided by S.N. for this building is required and shall be installed by the erector as a permanent part of the structure. If additional bracing is required for stability during erection, it shall be the erector's responsibility to determine the amount of such bracing and to procure and install as needed.
- 1.9

ERECTION AND UNLOADING NOT BY S.N.
- 1.10

SHORTAGES

Any claims or shortages by buyer must be made to S.N. within five (5) working days after delivery, or such claims will be considered to have been waived by the customer and disallowed.
- 1.11

CORRECTIONS OF ERRORS AND REPAIRS (MBMA 6.10)

Claims for correction of alleged misfits will be disallowed unless S.N. shall have received prior notice thereof and allowed reasonable inspection of such misfits. The correction of minor misfits by the use of drift pins to draw the components into line, moderate amounts of reaming, chipping and cutting, and the replacement of minor shortages of material are a normal part of erection and are not subject to claim. No part of the Building may be returned for alleged misfits without the prior approval of S.N.
- BUYER/END USE CUSTOMER RESPONSIBILITIES
- 2.1

It is the responsibility of the BUYER/END USE CUSTOMER to obtain appropriate approvals and secure necessary permits from City, County, State, or Federal Agencies as required, and to advise/release S.N. to fabricate upon receiving such.
- 2.2

Steel Nation (hereafter referred to as S.N.) standard specifications apply unless stipulated otherwise in the Contract Documents. S.N. design, fabrication, quality criteria, standards, practice, methods and tolerances shall govern the work with any other interpretations to the contrary notwithstanding. It is understood by both Parties that the BUYER/END USE CUSTOMER is responsible for clarification of inclusions or exclusions from the architectural plans and/or specifications.
- 2.3

In case of discrepancies between S.N. structural steel plans and plans for other trades, S.N. plans shall govern. (Section. 3 AISC Code of Standard Practices, 16th Edition)
- 2.4

Approval of S.N. drawings and calculations indicates that S.N. has correctly interpreted and applied the Contract Documents. This approval constitutes the contractor/owners acceptance of the S.N. design concepts, assumptions, and loading. (Section 4 AISC Code 16th Edition and MBMA 3.3.3)
- 2.5

Once the BUYER/END USE CUSTOMER has signed S.N. Approval Package and the project is released for fabrication, changes shall be billed to the BUYER/ END USE CUSTOMER including material, engineering and other costs. An additional fee may be charged if the project must be moved from the fabrication and shipping schedule.



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PH: 724.225.2202 ♦ INFO@STEELNATION.COM

SN # 1472 Ridgeview Station Garage (NiSource CG Garage Building)					
SALES NO.	82397	JOB NO.	173430	BUILDING	A
CUSTOMER	Steel Nation Buildings, Inc.				
END USER	Columbia Gas (NiSource CG Utility Building)				
END USE	Garage Building				
STREET	1336 Ridgeview Road (40.014367, -83.048681)				
CITY ST ZIP	Upper Arlington, OH 43221				
COUNTY	Franklin				

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING AS INDICATED:

DESIGN LOADS:

Design Code	: IBC 21
Dead Load (psf)	: Metal building structure only by Steel Nation
Collateral Load (psf)	: 5.00
Wind Load	
Basic Design Wind Speed	: Vult (3 sec. gust) = 115 mph
Allowable Stress Design Wind Speed	: Vasd (3 sec. gust) = 89.08 mph
Risk Category	: II - Normal
Wind Exposure	: C
Internal Pressure Coefficient, GCPI	: 0.18 /-0.18
Design Wind Pressure For Wall	: Based on Allowable Stress Design Wind Speed
Components Wind Pressure (psf) asd	: 13.61
Components Wind Suction (psf) asd	: -15.04
Claddings Wind Pressure (psf) asd	: 16.89
Claddings Wind Suction (psf) asd	: -18.33
Enclosure	: Enclosed
Live Load	
Primary Framing (psf)	: 20.00
Trib. Area Reduction	: Yes
Secondary Framing (psf)	: 20.00
Snow Load	
Ground Snow Load, Pg (psf)	: 20.00
Roof Snow Load, Pf (psf)	: 20.00
Sloped Roof Snow Load, Ps (psf)	: 20.00
Snow Exposure Factor, Ce	: 1.00
Snow Importance Factor, Is	: 1.00
Thermal Factor, Ct	: 1.00
Sloped Factor, Cs	: 1.00
Seismic Load	
Seismic Importance Factor, Ie	: 1.00
Seismic Occupancy Category	: II - Normal
Site Class	: D
Mapped Spectral Response Acceleration	: Ss = 0.1200 :S1 = 0.0620
Spectral Response Coefficients	: Sds = 0.1280 :Sd1 = 0.0992
Seismic Design Category	: B
Basic Force Resisting Systems Used	: Steel System Not Specifically Detailed For Seismic Resistance

Total Design Base Shear, V (kips)	: Longitudinal= 3.09	Transverse=3.42
Response Modification Factors, R	: Rigid Frames = 3.00	
	: SW X-Bracing = 3.00	
Seismic Response Coefficient, Cs	: Rigid Frames = 0.043	
	: SW X-Bracing = 0.043	
Analysis Procedure Used	: Equivalent Lateral Force Procedure	
Rainfall Intensity (in/hr)	: 6.0600	

BUILDING DESCRIPTION:

Width (ft)	: 24
Length (ft)	: 42
Eave Ht. at BSW (ft)	: 14
Eave Ht. at FSW (ft)	: 14
Roof Slope at BSW	: 3.0:12
Roof Slope at FSW	: 3.0:12
Bay Spacing (ft)	: 1 at 22
	: 1 at 20

COVERING AND TRIMS:

Roof Panels & Trims

Panel Type	: 24 Ga. Platinum (16" Wide)¼+ SSR
Pan Type	: Striated
Clips Type	: 3 3/8" High Floating
Thermal Blocks	: 3/8" Thk.
Lok Seam	: Quad-Lok
Panel Color	: S3000 Standard (KYNAR)
Trim Colors	
Eave Trim	: S3000 Standard
Eave Gutter	: S3000 Standard
Gable Trim	: S3000 Standard

Wall Panel & Trims

Panel Type	: 26 Ga. Rev. PBM (36" Wide) Screw Down
Panel Color	: Glvm.Plus
Trim Colors	
Corner Trims	: Glvm.Plus
Opening Trims	: S3000 Standard
Box Downspouts	: S3000 Standard
Base Trim	: --
Mas. Flash	: --
Special Requirements	: NONE

Before erecting your building, please see the Rigid Erection & Safety Manual at rigidbuilding.com/document-library

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- 2.6

The BUYER/END USE CUSTOMER is responsible for overall project coordination. All interface, compatibility, and design considerations concerning any materials not furnished by S.N. and S.N. steel system are to be considered and coordinated by the BUYER/END USE CUSTOMER. Specific design criteria concerning this interface between materials must be furnished before release for fabrication or S.N. assumptions will govern (Section 4 and Commentary, AISC Code of Standard Practice, 16th Edition)
- 2.7

It is the responsibility of the BUYER/END USE CUSTOMER to ensure that S.N. plans comply with the applicable requirements of any governing building authorities. The supplying of sealed engineering data and drawings for the metal building system does not imply or constitute an agreement that S.N. or its design engineers are acting as the engineer of record or design professional for a construction project. These drawings are sealed only to certify the design of the structural components furnished by S.N.
- 2.8

The BUYER/END USE CUSTOMER is responsible for setting of anchor bolts and erection of steel in accordance with S.N. "For Construction" drawings only. Temporary supports such as guys, braces, falsework, cribbing or other elements required for the erection operation shall be determined furnished and installed by the erector. No items should be purchased from a preliminary set of drawings, including anchor bolts. Use only final "FOR CONSTRUCTION DRAWINGS" for this use. (Section 7 AISC Code of Standard Practice, 16th Edition.)
- 2.9

Steel Nation is responsible for the design of the anchor bolt to permit the transfer of forces between the base plate and the anchor bolt in shear, bearing and tension, but is not responsible for the transfer of anchor bolt forces to the concrete, anchor bolt embedment or the adequacy of the anchor bolt in relation to the concrete. Unless otherwise provided in the Order Documents, S.N. does not design and is not responsible for the design, material and construction of the foundation or foundation embedments. The END USE CUSTOMER should assure himself that adequate provisions are made in the foundation design for loads imposed by column reactions of the building, other imposed loads, and bearing capacity of the soil and other conditions of the building site. It is recommended that the anchorage/anchor bolt embedment and foundation of the building be designed by a Registered Professional Engineer experienced in the design of such structures. (Chapter IV Section 3.2.2 Metal Building Systems Manual 2018 Edition)
- 2.10

Normal erection operations include the corrections of minor misfits by moderate amounts of reaming, chipping, welding or cutting, and the drawing of elements into line through the use of drift pins. Errors which cannot be corrected by the foregoing means or which require major changes in member configuration are to be reported immediately to S.N. by the BUYER/END USE CUSTOMER, to enable whoever is responsible either to correct the error or to approve the most efficient and economic method of correction to be used by others. (Section 7 AISC Code of Standard Practice, 16th Edition)
- 2.11

Neither the fabricator nor the BUYER/END USE CUSTOMER will cut, drill or otherwise alter his work, or the work of other trades, to accommodate other trades, unless such work is clearly specified in the contract documents. Whenever such work is specified, the BUYER/END USE CUSTOMER is responsible for furnishing complete information as to materials, size, location and number of alterations prior to preparation of shop drawings. (Section 7 AISC Code of Standard Practice, 16th Edition)
- 2.12

WARNING

In no case should Galvalume steel panels be used in conjunction with lead or copper. Both lead and copper have harmful corrosive effects on the Galvalume alloy coating when they are in contact with Galvalume steel panels. Even run-off from copper flashing, wiring, or tubing onto Galvalume should be avoided.
- 2.13

SAFETY COMMITMENT

Steel Nation has a commitment to manufacture quality building components that can be safely erected. However, the safety commitment and job site practices of the erector are beyond the control of S.N. It is strongly recommended that safe working conditions and accident prevention practices be the top priority of any job site. Local, State, and Federal safety and health standards should always be followed to help insure workers safety. Make certain all employees know the safest and most productive way of erecting a building. Emergency procedures should be known to all employees. Daily meetings highlighting safety procedures are also recommended. The use of hard hats, rubber sole shoes for roof work, proper equipment for handling material, and safety nets where applicable, are recommended.
- 2.14

Roof drainage systems (gutter, downspouts, etc.) must be free of any obstruction to ensure smooth operation at any given time.
- 2.15

It is recommended by Factory Mutual (Reference: B2.44) that roofs be cleared of snow when half of the maximum snow depth is reached. The maximum snow depth can be estimated based on the design snow load and the density of snow and/or ice buildup. See Chart below.

ROOF SNOW LOAD (IN PSF)	EQUIVALENT SNOW HEIGHT AT ROOF (IN INCHES)	RECOMMENDED SNOW HEIGHT WHEN SNOW REMOVAL SHOULD START (IN INCHES)
20	16.60	8.30
30	17.90	8.95
40	19.20	9.60
50	20.50	10.25
60	21.80	10.90
70	23.10	11.55
80	24.40	12.20

NOTE: For Snow/Ice Removal Procedure, Refer to Metal Building System Manual 2018 Edition, Section A9.4

CUSTOMER: STEEL NATION BUILDINGS, INC.					
SALES NO:	82397	JOB NO:	173430	BUILDING:	A
				DWG. NO.:	C001
				ISSUE:	A

5/15/2025



UNLOADING, HANDLING AND STORING OF MATERIALS

FOR
PERMIT

STRUCTURAL

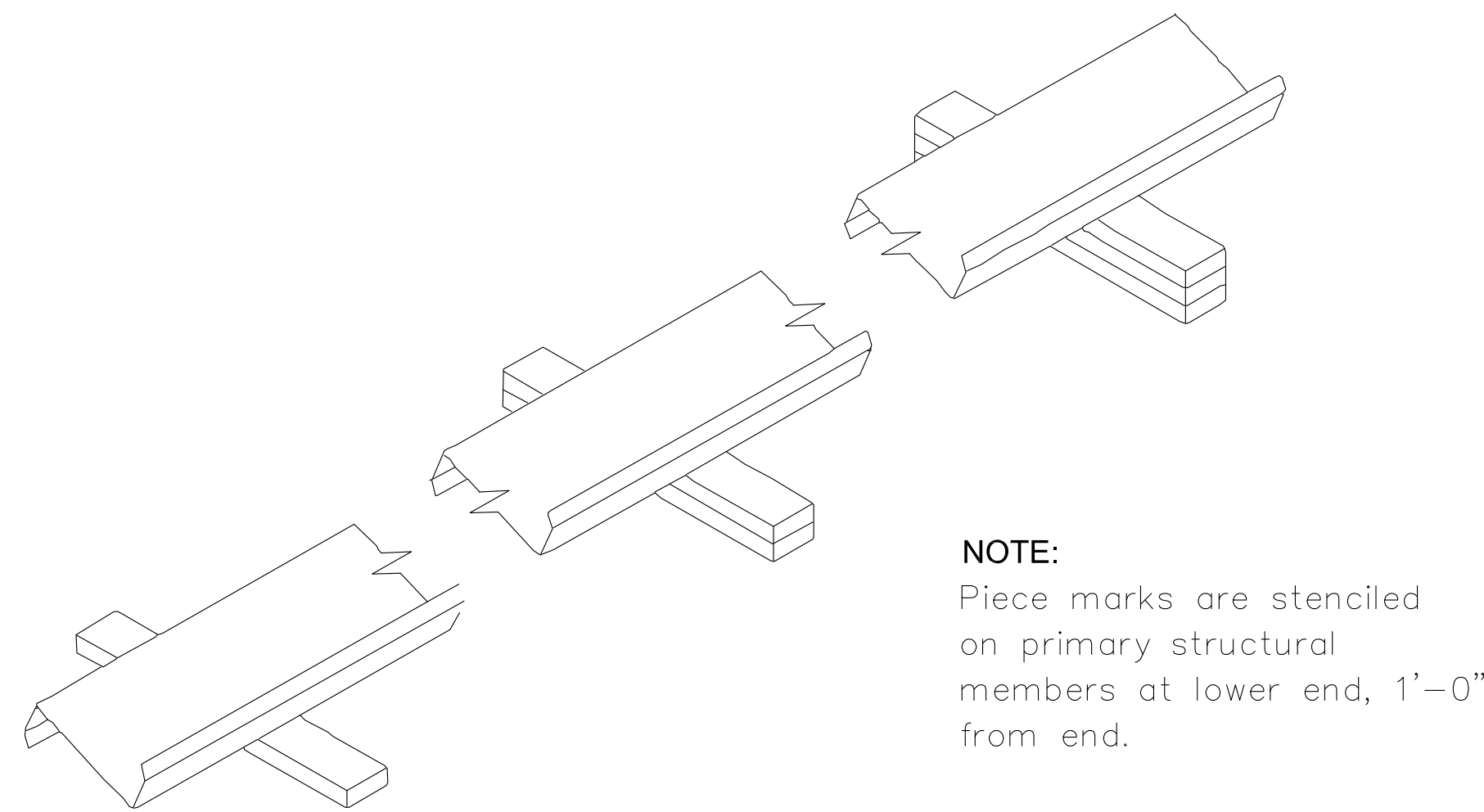
A great amount of time and trouble can be saved if the building site is according to a pre–arranged plan. Proper location and handling of components will eliminate unnecessary handling.

Inspect all shipments prior to releasing the tie–downs for loads that may have shifted during transit, **REMEMBER, SAFETY FIRST!**

Blocking under the columns and rafters protects the splice plates and the slab from damage during the unloading process. It also facilitates the placing of slings or cables around the members for later lifting and allows members to be bolted together into sub–assemblies while on the ground. Extra care should always be exercised in the unloading operations to prevent injuries from handling the steel and to prevent damage to materials and the concrete slabs.

If water is allowed to remain for extended periods in bundles of primed parts such as girts, purlins etc., the pigment will fade and the paint will gradually soften, reducing the bond to the steel. Therefore, upon receipt of a job, all bundles of primed parts should be stored at an angle to allow any trapped water to drain away and permit air circulation for drying. Puddles of water should not be allowed to collect and remain on columns, rafters or beams for the same reason.

All Primer should be touched up as required before erection!



NOTE:
Piece marks are stenciled on primary structural members at lower end, 1’–0” from end.

WALLS AND ROOF PANELS

RIGID’s wall and roof panels including color coated, galvolume and galvanized, provide excellent service under widely varied conditions. All unloading and erection personnel should fully understand that these panels are quality merchandise which merit cautious care in handling.

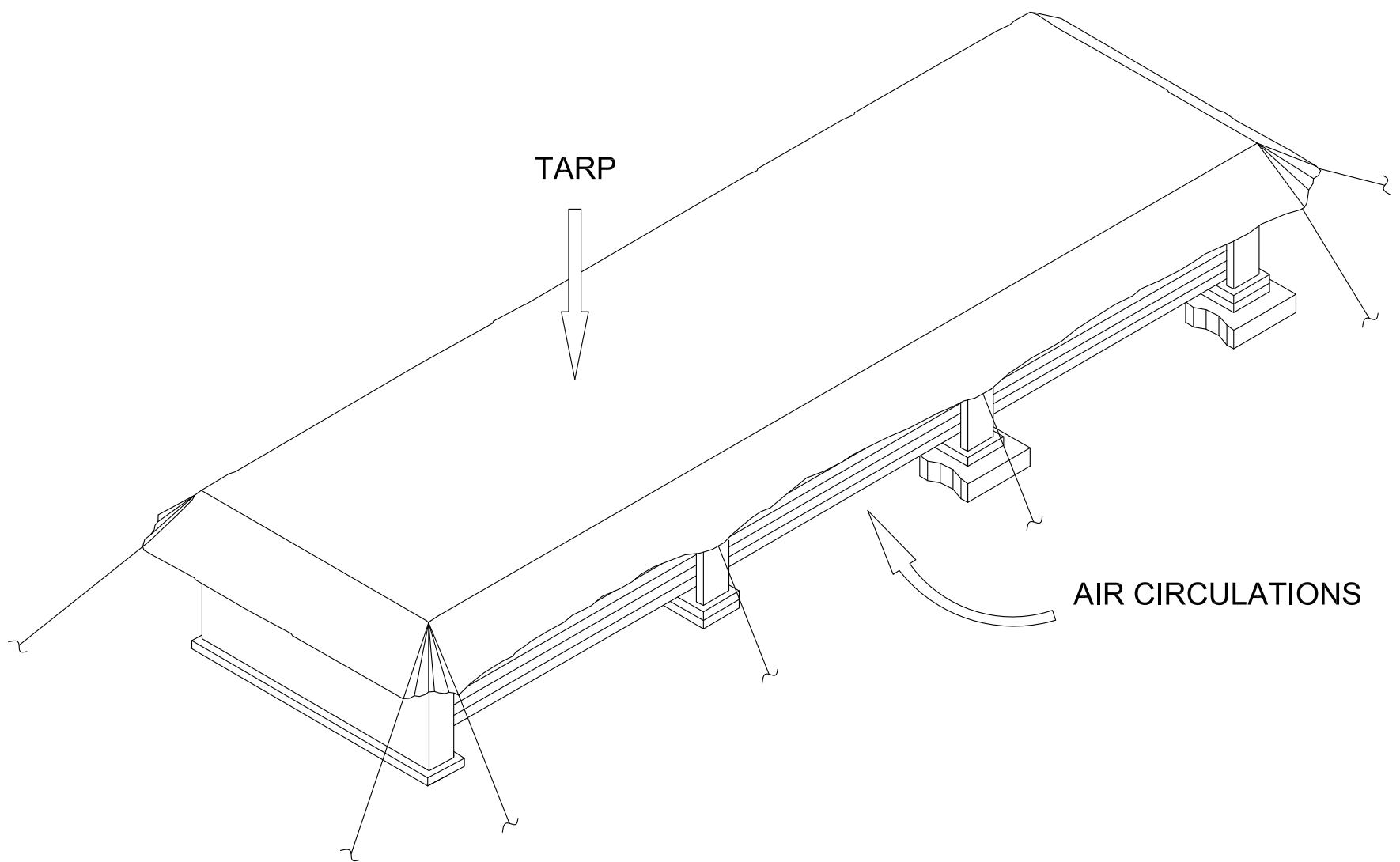
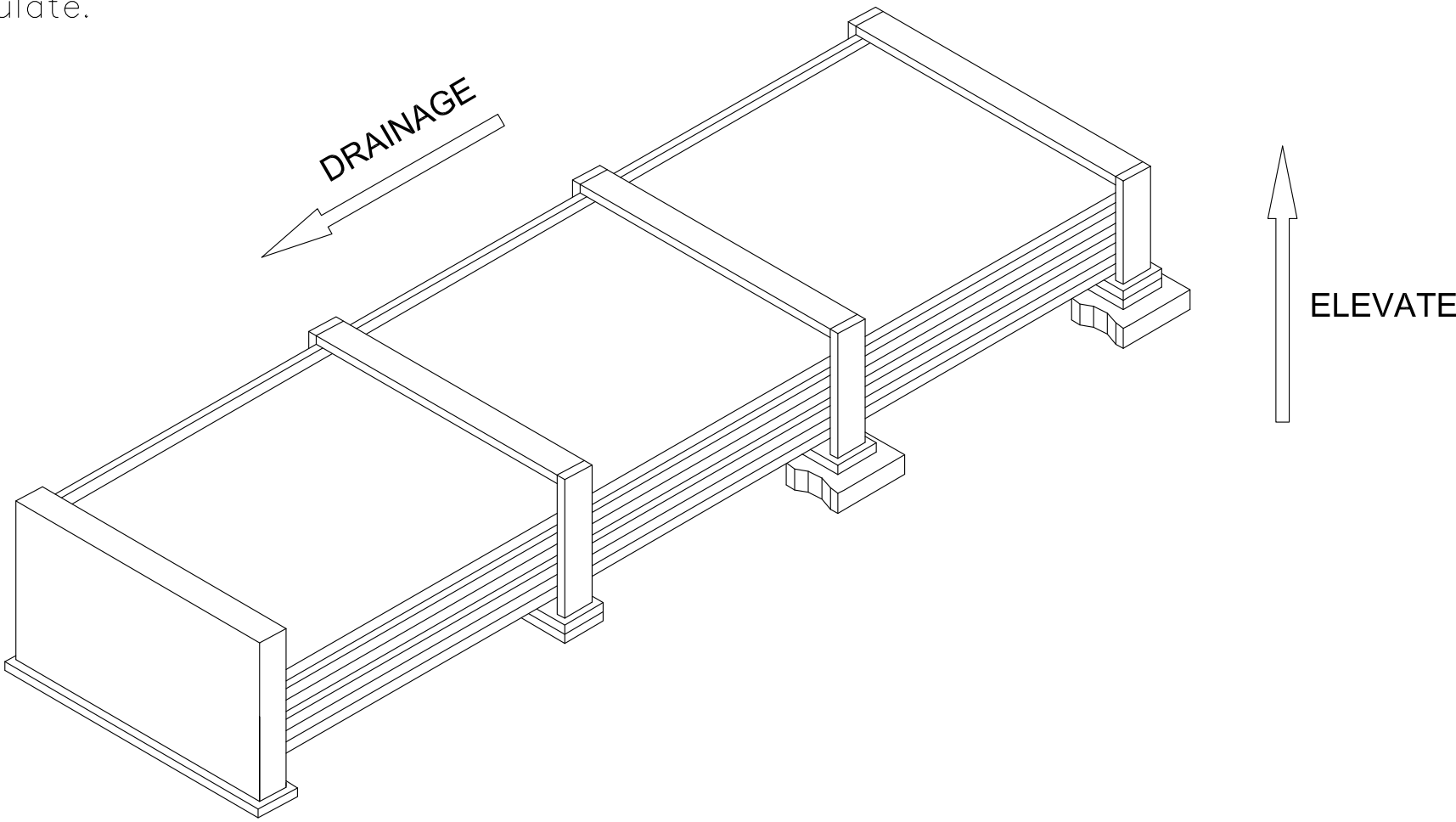
Under no circumstances should panels be handled roughly. Packages of sheets should be lifted off the truck with extreme care taken to insure that no damage occurs to ends of the sheets or to side ribs. The packages should be stored off the ground sufficiently high to allow air circulation underneath the packages. This avoids ground moisture and deters people from walking on the packages. One end of the package should always be elevated to encourage drainage in case of rain.

All stacked metal panels are subject, to some degree, to localized discoloration or stain when water is trapped between their closely nested surfaces. RGB exercises extreme caution during fabricating and shipping operations to insure that all panel stock is kept dry. However, due to climatic conditions, water formed by condensation of humid air can be trapped between stacked sheets. Water can also be trapped between stacked sheets when exposed to rain. This discoloration caused by trapped moisture is often called wet storage stain.

The stain is usually superficial and has little effect on the apperance or service life of the panels as long as it is not permitted to remain on the panels. However, moisture in contact with the surface of the panels over an extended period can severely attack the finish and reduce the effective service life. Therefore, it is imperative that all panels be inspected for moisture upon receipt of the order. If moisture is present, dry the panels at once and store in a dry, warm place.

CAUTION: Care should always be taken when walking on panels. Use saftey lines and nets when necessary! Panels are slippery. Oil or wax applied to the roof and wall panels for protection against weather damage will make them a very slippery surface. Wipe dry any oil that has puddled from bundles stored on a slope. Dew, frost, or other forms of moisture greatly increase the slipperiness of the panels. Always assume panel surface is slippery and act accordingly. **Think safety!!**

Use wood blocking to elevate and slope the panels in a manner that will allow moisture to drain. Wood blocking placed between bundles will provide additional air circulation. Cover the stacked bundles with a tarp or plastic cover leaving enough opening at the bottom for air to circulate.

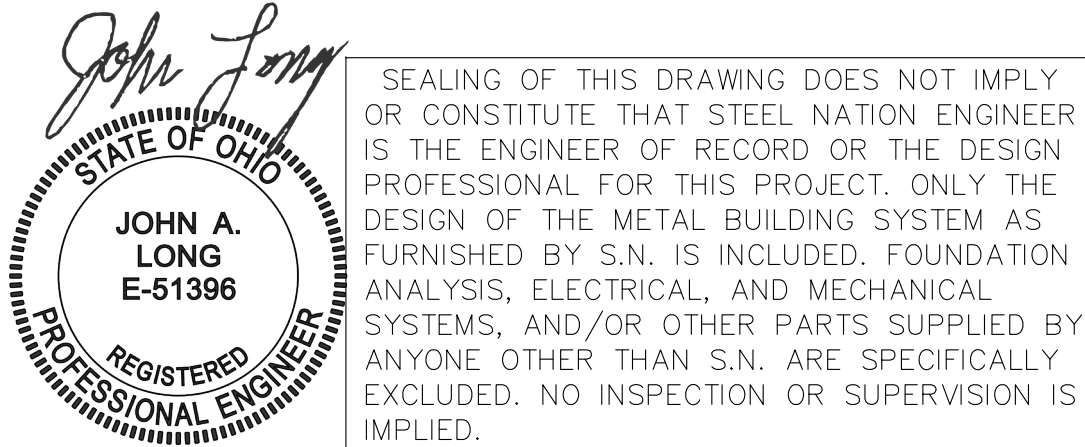


When handling or uncrating the panels, lift, rather than slide, them apart. Burred edges may scratch the coated surfaces when sheets are slid over one another. Never allow panels to be walked on while on the ground.

Rough and improper handling of a panel is inexcusable and a prime example of poor job supervision.

NOTE:
Use gloves when handling metal panels to prevent hand injuries. Be aware, of the dangers of handling panels on a windy day. A large panel can catch enough wind to knock a worker off his feet, even at ground level!! **Safety first!**

GENERAL NOTE:
1. OIL CANNING OF PANELS IS NOT A CAUSE OF REJECTION.
2. EXTREME CARE MUST BE EXERCISED DURING THE ERECTION OF ROOF PANELS AND TRIMS. FOOT TRAFFIC MAY RESULT IN PERMANENT PANEL DISTORTION AND FINISH ABRASION.



ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	STEELNATION 188 SOUTHMONTE SQUARE LANE ♦ CANONBURG, PA 15117 PH: 724.225.2200 ♦ INFO@STEELNATION.COM	DESCRIPTION	UNLOADING, HANDLING AND STORING OF MATERIALS								
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.								
							END USER	Columbia Gas (NiSource CG Utility Building)								
							END USE	Garage Building	BUILDING	A						
							STREET	1336 Ridgeview Road (40.014367, -83.048681)								
							CITY ST ZIP	Upper Arlington, OH 43221								
							SALES NO.	82397	JOB NO.	173430	SCALE	N.T.S.	DWG. NO.	C002	ISSUE	A

LEGENDS & ABBREVIATIONS



DESIGN:

Accel.	Acceleration
Coeff.	Coefficient
CL, Collat	Collateral Load
DL, Dead	Dead Load
H, Horz, Horiz	Horizontal
L	Left
LL, Live	Live Load
LnWnd, LnWind, LWIND	Longitudinal Wind Load
Min, min	Minimum
Max, max	Maximum
R	Right
SL	Snow Load
Slide	Sliding Snow Load
SEIS, Seis	Seismic Load
U_Snow	Unbalance Snow Load
V, Vert	Vertical
WL, Wind_L	Wind Load Left
WR, Wind_R	Wind Load Right
WP, Wind_P	Wind Pressure
WS, Wind_S	Wind Suction

ENGLISH UNITS

Acre	Acres
FT, ft	Feet
GA, Ga, ga	Gage
Gal	Gallons
IN, in	Inches
K, k	Kips
KSI, ksi	Kips Per Square-Inches
lb, #	Pounds
MPH, mph	Miles Per Hour
PLF, plf, lb/ft	Pounds Per Linear-Foot
PSF, psf, lb/ft²	Pounds Per Square-Feet
TON, ton	Tons
Yd	Yard

METRIC UNITS

cm	Centimeters
Hec	Hectares
liter	Liters
m	Meters
mm	Millimeters
N	Newtons
km	Kilometers
kN	Kilonewtons
kN/m²	Kilonewtons Per Square-meter
kPa	Kilopascals
kph	Kilometers Per Hour
Pa	Pascals

USEFUL CONVERSION

English	To	English	Metric	To	Metric
1 mile		1760 Yd	1 km		1000 m
1 Yd		3 Ft	1 m		100 cm
1 Ft		12 in	1 cm		10 mm
1 in		16/16 in	1 kN		1000 N
1 Ton (English)		2 Kips	1 kg		9.8066 N
1 Kip		1000 lb	1 Ton (Metric)		1000 kg
1 lb		16 ounces	1 Hec		10,000 m²
1 Acre		43560 Ft²	1 m³		1000 liter
1 Ft³		7.4805 Gal	1 kPa		1 kN/m²

English	To	Metric	Metric	To	English
1 in		2.54 cm	1 cm		0.3937 in
1 ft		0.3048 m	1 m		3.2808 ft
1 lb		0.4536 kg	1 kg		2.2046 lb
1 Ton (English)		907.18 kg	1 Ton (Metric)		2204.6 lb
1 Kip		4.4482 kN	1 kN		0.2248 kip
1 mile		1.6093 km	1 km		0.6213 mile
1 Acre		0.4046 Hec	1 Hec		2.4715 Acres
1 lb/ft²		0.0478 kPa	1 kPa		20.8854 lb/ft²

Fraction	To	Decimal	Fraction	To	Decimal
1/16		0.0625	9/16		0.5625
1/8		0.1250	5/8		0.6250
3/16		0.1875	11/16		0.6875
1/4		0.2500	3/4		0.7500
5/16		0.3125	13/16		0.8125
3/8		0.3750	7/8		0.8750
7/16		0.4375	15/16		0.9375
1/2		0.5000	16/16		1.0000

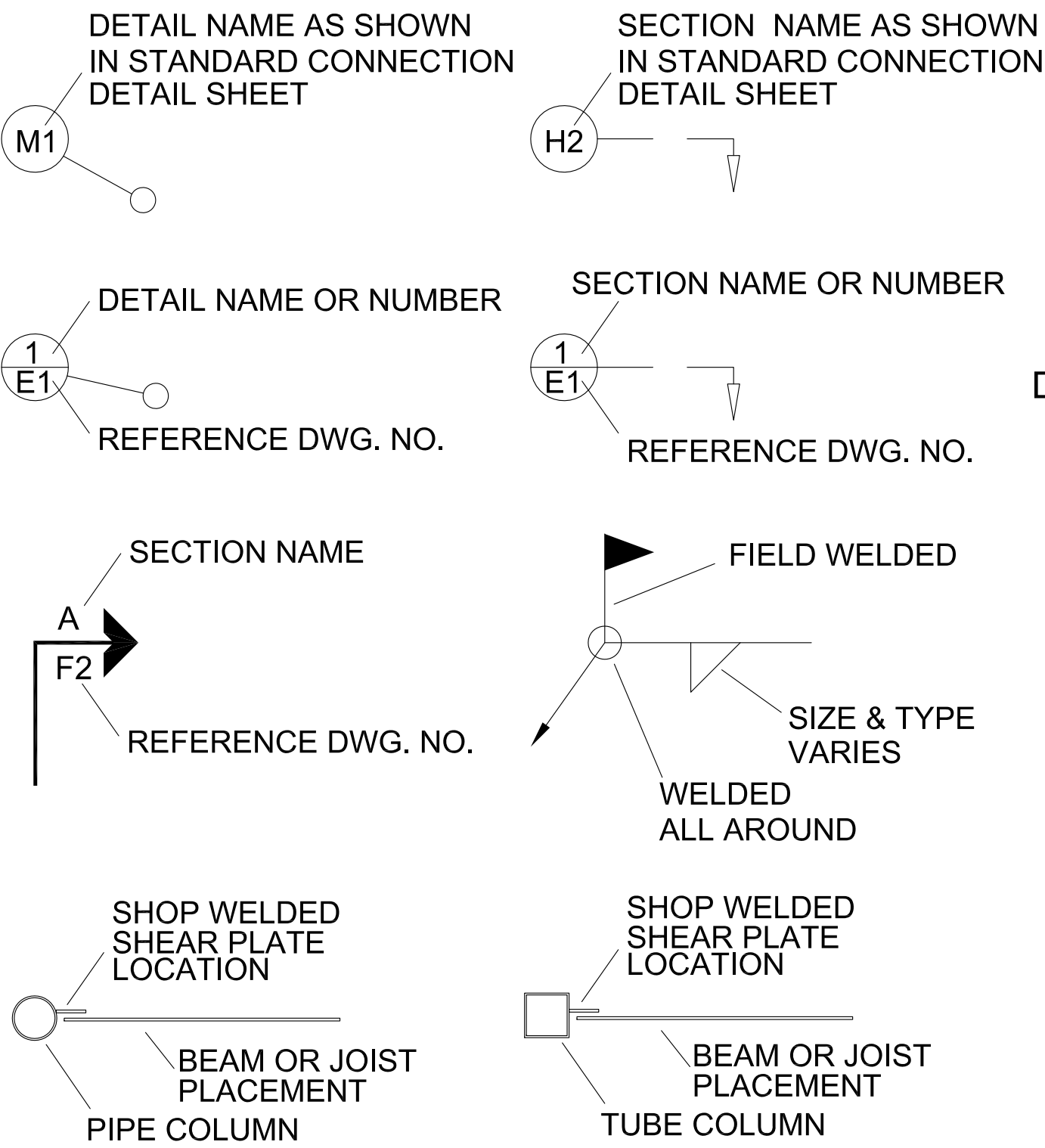
DRAWINGS:

AB, A.B.	Anchor Bolt
AS, As Shown	As Shown
Aux.	Auxiliary
BLDG., Bldg.	Building
B.P., Base PL	Base Plate
BOTT., Bott.	Bottom
Bott. Base PL, B.O.B.P	Bottom Of Base Plate
B.O.S.	Bottom Of Steel
BSW	Back Sidewall
BY OTHERS	By Other Supplier or Not By Rigid
C/C	Center to Center
C.I.P.	Cast-In-Place
CL, $\overline{C}$	Center Line
CLR.	Clear, Clearance
CMU	Concrete Masonry Unit
COL., Col.	Column
CONC., Conc.	Concrete
CONT.	Continuous, Continuation
DET.	Detail
DIA., Dia., $\varnothing$	Diameter
DIM., Dim.	Dimension
DWG., Dwg.	Drawing
EH, E.H.	Eave Height
EJ, Exp. Jt.	Expansion Joint
EL, Elev.	Elevation
EP	End Plate
ES, E.S.	Eave Strut
EW	Endwall
EW COL., EC	Endwall Column
EW RAF	Endwall Rafter
Exp. Bolt	Expansion Bolt
FFL, Fin. Flr.	Finish Floor Line
FLG., FLGE., Flg., Flge.	Flange
FNB, F.N.B.	Fin Neck Bolt
FO, F.O.	Framed Opening
FRM., Frm.	Frame
FSW	Front Sidewall
GA, Ga.	Gage
GALV., Galv.	Galvanized
G.O.L.	Gage of Outstanding Leg
H, Ht.	Height
HED, HEDS	High Eave Double Slope
HES, HESS	High Eave Single Slope
Horz, Horiz	Horizontal
HSB, H.S.B.	High Strength Bolt
HSS	Hollow Structural Section
INT., Int.	Interior, Intermediate
I/S	Inside
LED, LEDS	Low Eave Double Slope
LES, LESS	Low Eave Single Slope
LEW	Left Endwall
LHI	Left Hand In
LHO	Left Hand Out
LL	Long Life
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LT	Lean-To
LT COL	Lean-To Column
LT RAF	Lean-To Rafter
LG., Lg.	Long
L, Lt.	Length
L x W x H	Length x Width x Height
MAX., max.	Maximum
MIN., min.	Minimum
MKD., MK'D.	Marked
MB, M.B.	Machine Bolt
MEZZ., Mezz.	Mezzanine
N.A., N/A	Not Applicable
NO., No.	Number
NS/FS, NS&FS	Near Side and Far Side
O.C.	On Center
O/S	Outside
OH, Opp Hand	Opposite Hand (Mirror Image)
OHD, O.H.D.	Over-Head Door
O/O	Out to Out
PF COL	Portal Frame Column (Wind Bent Column)
PF RAF	Portal Frame Rafter (Wind Bent Rafter)
PL, $\overline{P}$	Plate
QTY., Qty.	Quantity
REF., Ref.	Refer, Reference
REW	Right Endwall

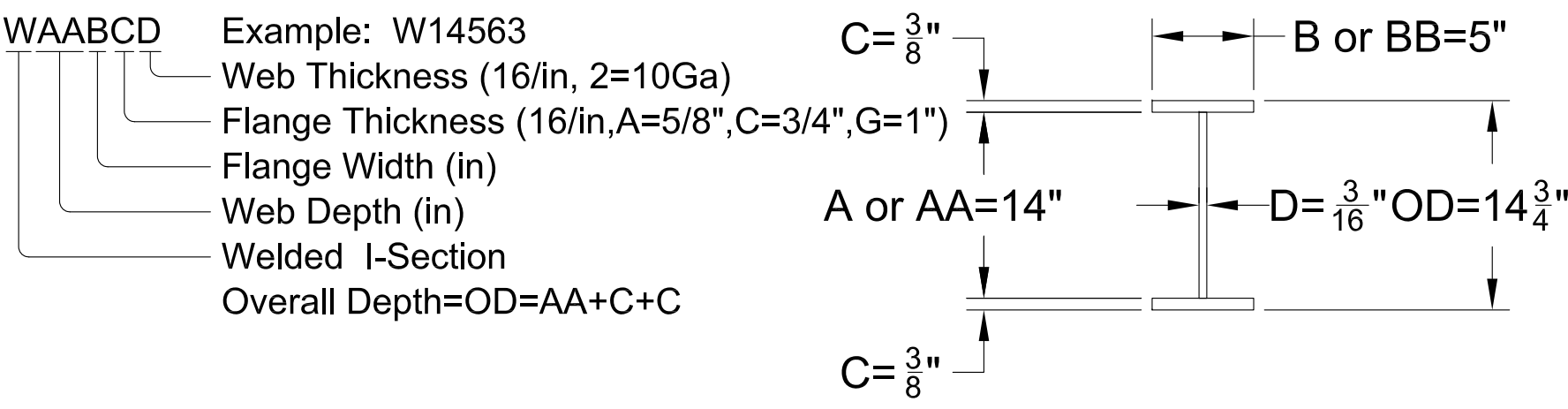
DRAWINGS:

RHB	Round Head Bolt
RHI	Right Hand In
RHO	Right Hand Out
REINF.	Reinforced
REQ'D., REQD.,	Required
REV., Rev.	Revised, Revision
RF, R.F.	Rigid Frame
RF COL	Rigid Frame Column
RF RAF	Rigid Frame Rafter
RUD, R.U.D.	Roll-Up Door
SC	Slip Critical
SDS	Self-Drilling Screws
SECT., Sect.	Section
SHTG., Shtg.	Sheeting
Sol Col	Soldier Column
SP	Splice Plate
SSR	Standing Seam Roof
SST	Stainless Steel
ST COL	Straight Column
STIFF.	Stiffener
STD.	Standard
STS	Self-Tapping Screws
SW	Sidewall
SYM., Sym., SYMM., Symm.	Symmetry, Symmetrical
TBE	To Be Established
TBD	To Be Determined
TC	Tension Control
THK., Thk.	Thick
TOC, T.O.C.	Top Of Concrete
TOS, T.O.S.	Top Of Steel
T & B, TOP & BOTT	Top and Bottom
TYP., Typ., typ.	Typical
UN, U.N.O.	Unless Noted, Unless Noted Otherwise
Vert.	Vertical
WD	Walk Door
W, Wd.	Width
W.P.	Work Point, Working Point

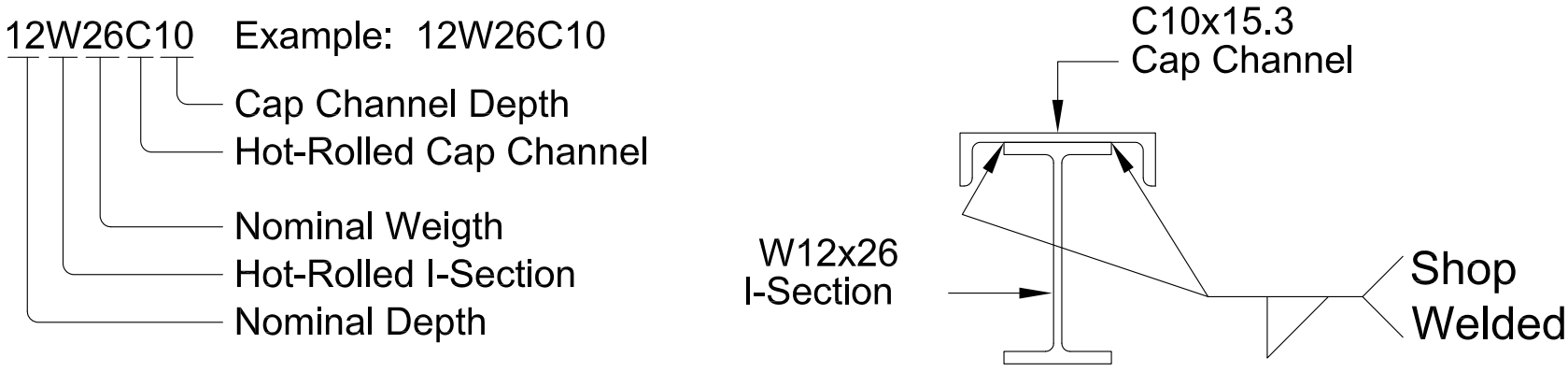
SECTIONS AND DETAILS:



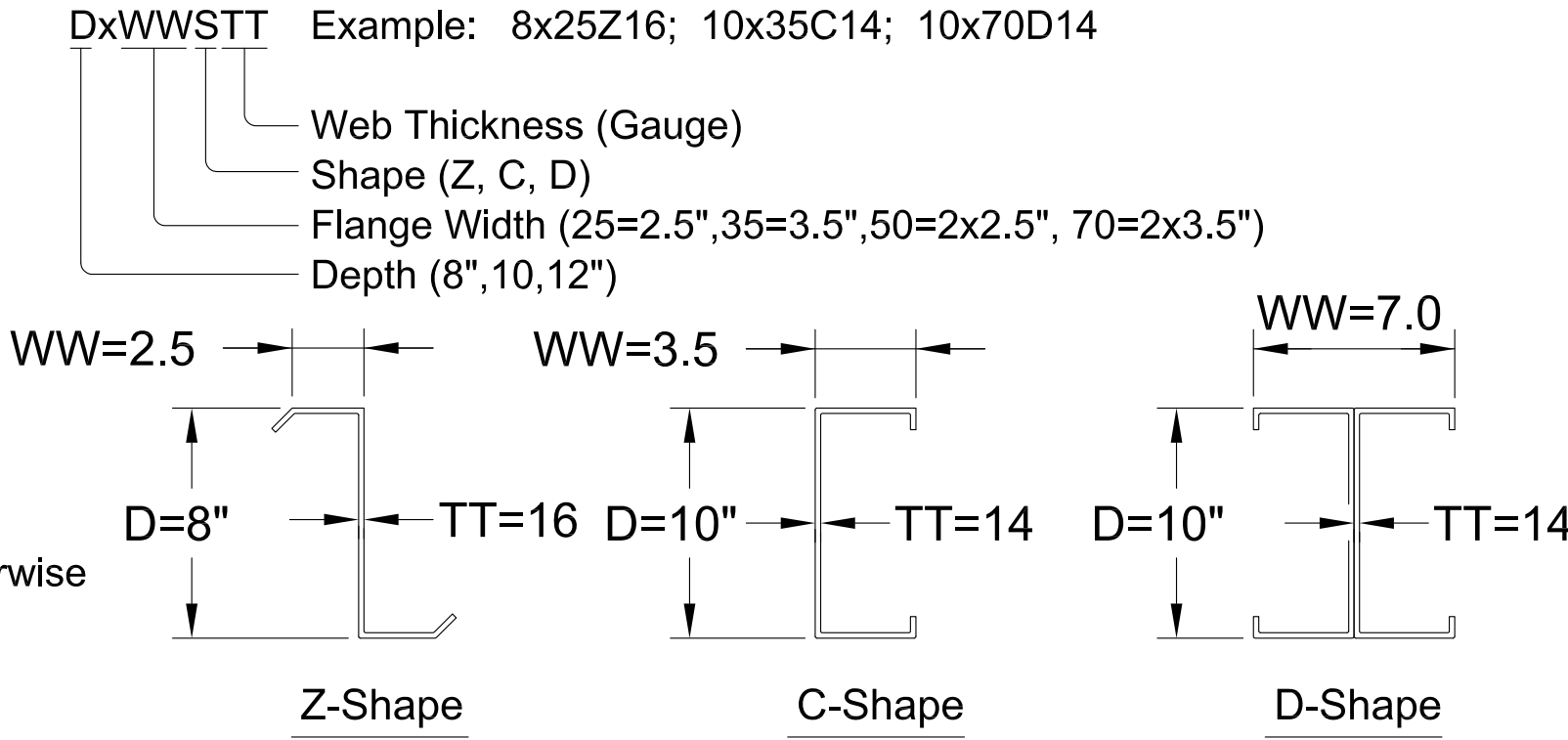
BUILT-UP SECTIONS: USED FOR FRAMES, BEAMS, COLUMNS



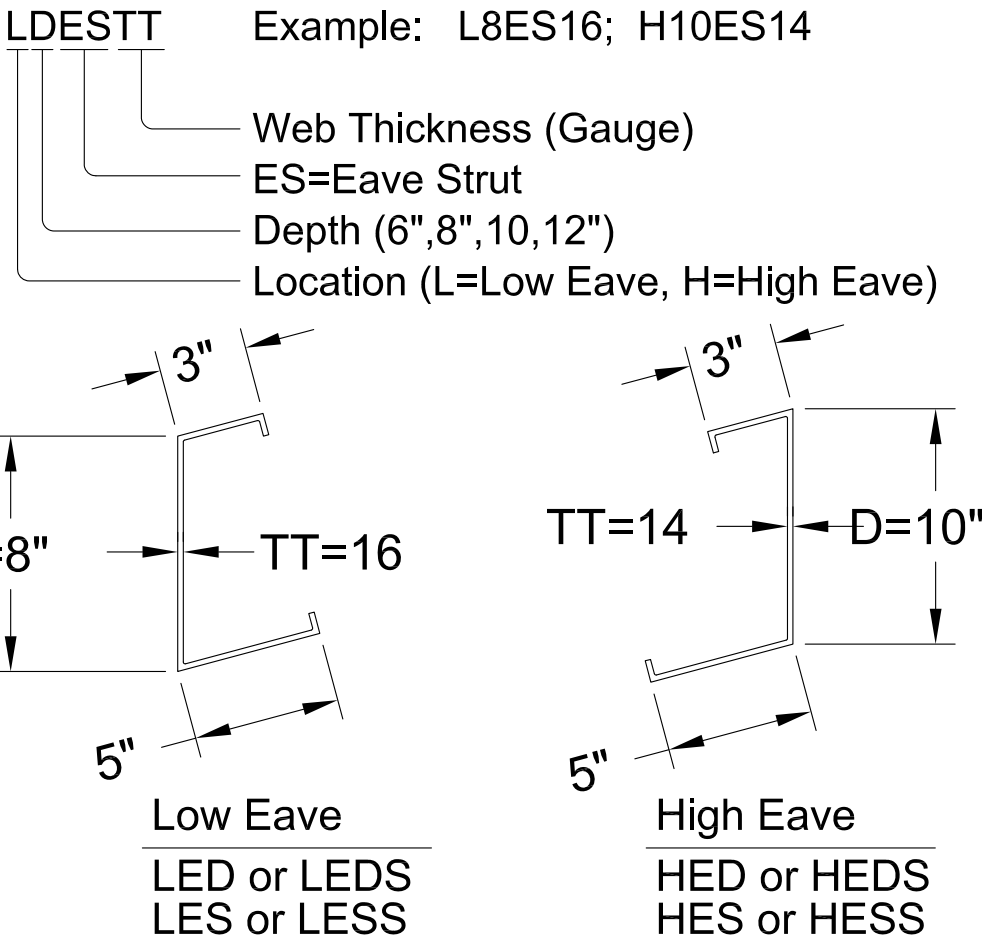
CRANE BEAM SECTIONS: USED FOR RUNWAY BEAMS, MONORAILS



COLD-FORMED SECTIONS Z,C,D: USED FOR PURLINS,GIRTS,JAMBS,JOISTS



COLD-FORMED SECTION ES: USED FOR EAVE STRUTS



5/15/2025

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.		DESCRIPTION	LEGENDS & ABBREVIATIONS
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.
							END USER	Columbia Gas (NiSource CG Utility Building)
							END USE	Garage Building BUILDING A
							STREET	1336 Ridgeview Road (40.014367, -83.048681)
							CITY ST ZIP	Upper Arlington, OH 43221
							SALES NO:	82397
							JOB NO.:	173430
							SCALE:	N.T.S.
							DWG. NO.:	C003
							ISSUE:	A



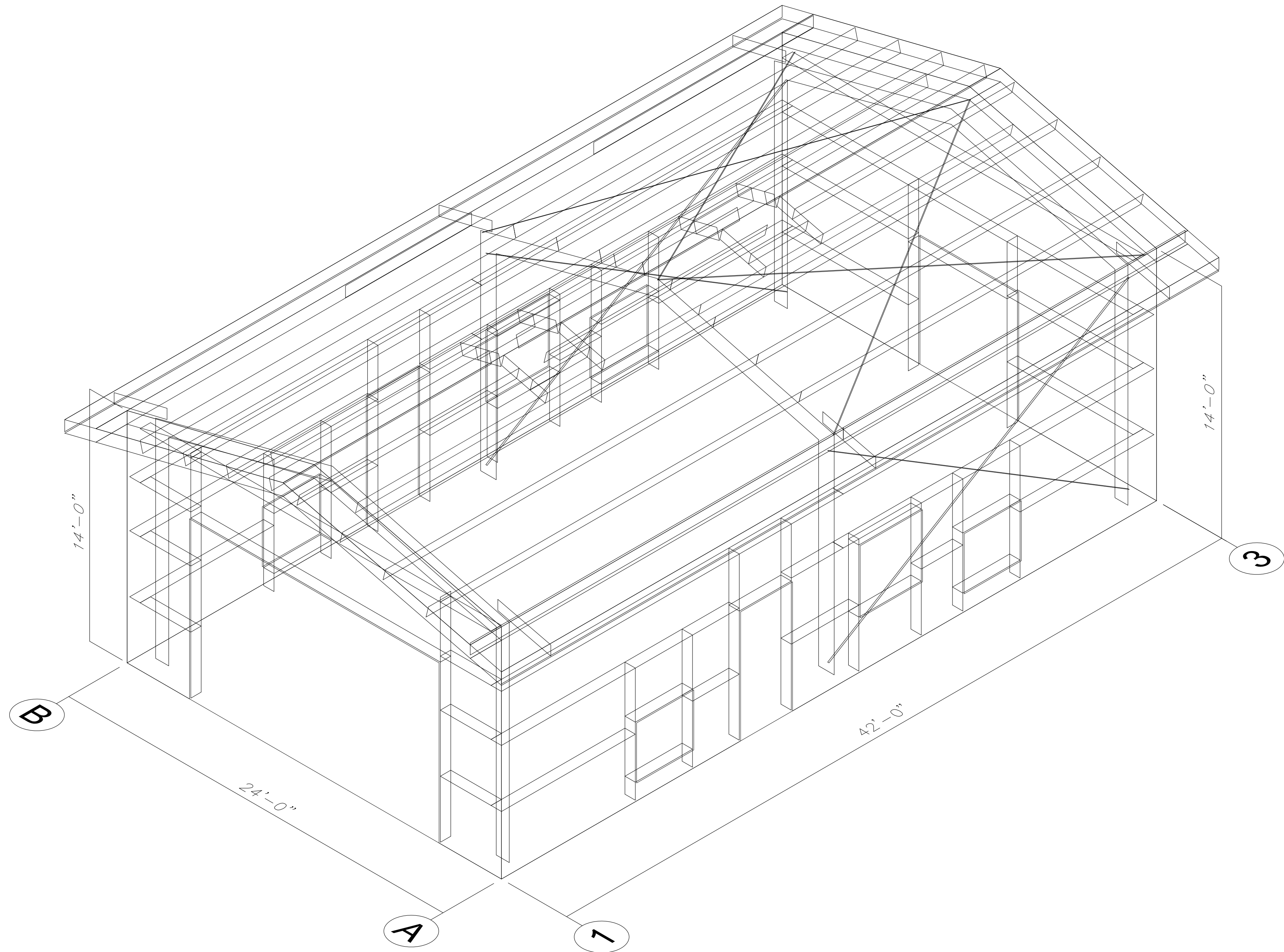
SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT STEEL NATION ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY S.N. IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN S.N. ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.

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FOR PERMIT



BUILDING ISOMETRIC VIEW
FOR GENERAL OVERVIEW ONLY
SEE ROOF FRAMING, WALL ELEVATION, AND RIGID FRAME CROSS SECTION FOR DETAILS



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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	STEELNATION 188 SOUTHPOINTE SQUARE LANE ♦ CANONSBURG, PA 15117 PH: 724.225.2200 ♦ INFO@STEELNATION.COM	DESCRIPTION	BUILDING ISOMETRIC VIEW							
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.							
							END USER	Columbia Gas (NiSource CG Utility Building)							
							END USE	Garage Building	BUILDING	A					
							STREET	1336 Ridgeview Road (40.014367, -83.048681)							
							CITY ST ZIP	Upper Arlington, OH 43221							
							SALES NO.	82397	JOB NO.	173430	SCALE	N.T.S.	DRWG. NO.	C005	ISSUE

High R-value roof insulation systems require two layers of insulation. The sag straps that prevent purlin roll may conflict with faced roof insulation between purlins. Rigid Global Buildings recommends an unfaced layer between the purlins that can be cut around the required framing.

FOR PERMIT

MEMBER TABLE	
ROOF PLAN	
MARK	PART
EB-1	8x35C14
EB-2	W8x10
EB-3	W8x10
EB-4	8x35C14
RO-1	8x35C14
RO-2	8x35C14
RO-3	8x35C14
RO-4	8x35C14
RO-5	8x25C16
P-1	8x25Z16
P-2A	8x25Z16
P-2B	8x25Z16
P-2C	8x25Z16
P-2D	8x25Z16
P-3	8x25Z16
P-4	8x25Z16
P-5	8x25Z16
P-6	8x25Z16
P-7	8x25Z16
P-8	8x25Z16
P-9	8x25Z16
P-10	8x35Z14
P-11	8x35Z14
P-12	8x35Z14
P-13	8x35Z14
HP-1	8x25Z16
HP-2	8x25Z16
HP-3	8x25Z16
HP-4	8x25Z16
E-1	L8ES16
E-2	L8ES16
E-3	8x35C16
E-4	8x35C16
E-5	8x35C16
E-6	8x35C16
E-7	L8ES16
CB-2	CB0250
CB-3	CB0250
CB-4	CB0250

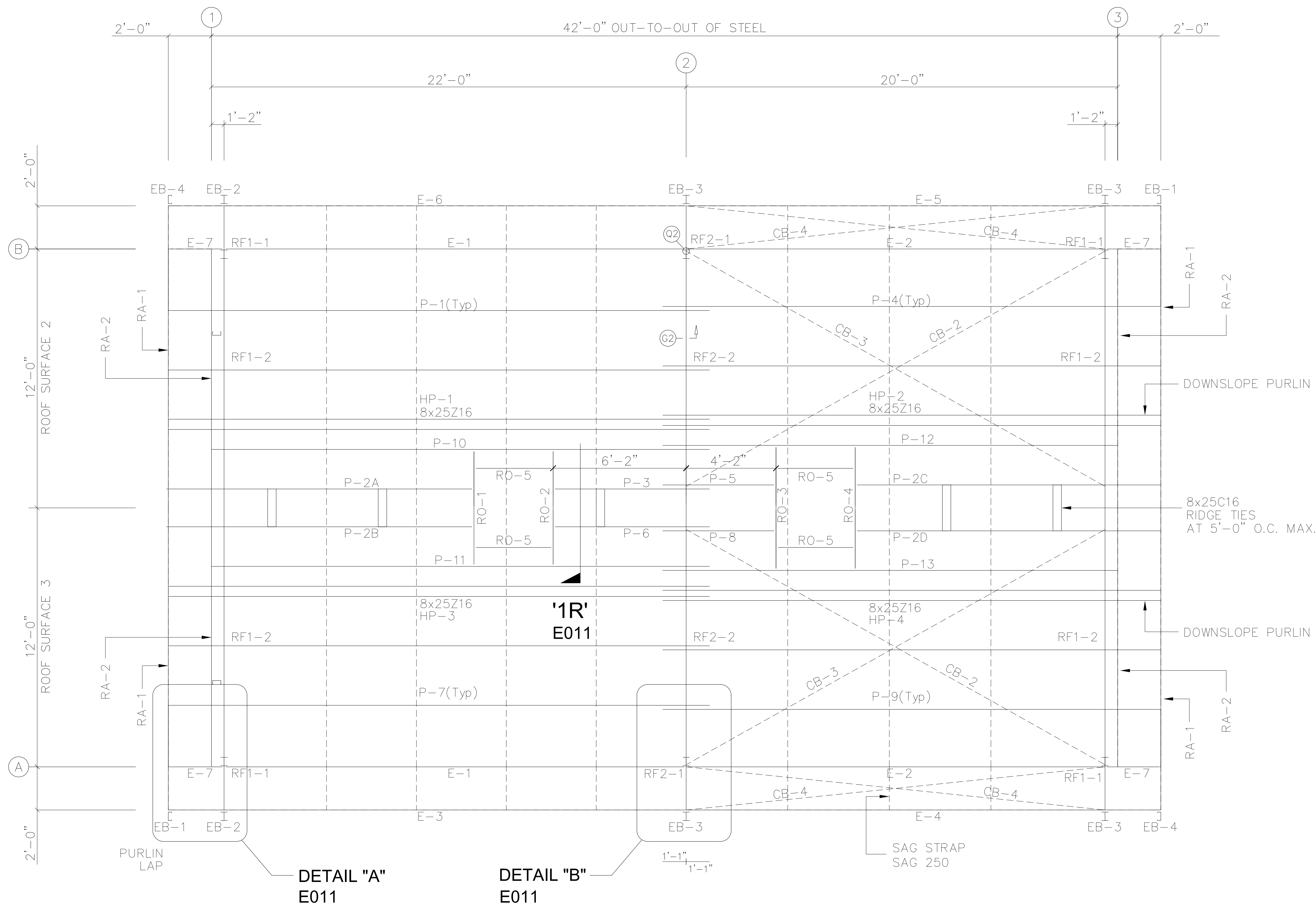


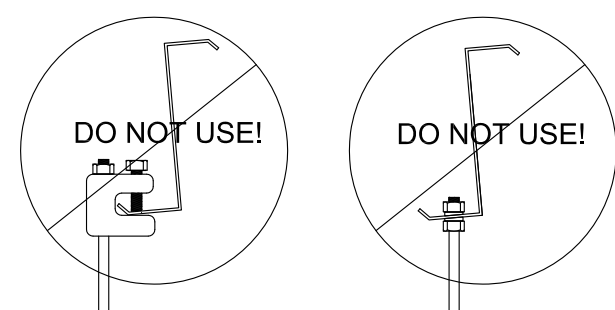
Diagram illustrating three methods of attaching hangers to CEE or ZEE purlins:

- (1) Hanger attached directly to CEE or ZEE purlin.
- (2) Hanger attached to a plate or angle, which is then attached to the purlin using connection bolts or member screws (not by rigid).
- (3) Hanger attached to a plate or angle, which is then attached to the purlin using hangers (not by rigid).

Labels in the diagram include: CEE OR PURLIN, ZEE, PLATE OR ANGLE (NOT BY RIGID), CONNECTION BOLTS OR MEMBER SCREWS (NOT BY RIGID), HANGERS (NOT BY RIGID), and 1" (Max.).

HANGERS ON CEE OR ZEE PURLINS MUST ATTACH TO THE WEB ONLY. HANGERS MUST BE LOCATED SO THAT THE SUPPORTED LOAD DOES NOT EXCEED THAT SPECIFIED IN THE CONTRACT DOCUMENTS. SUGGESTED DETAILS ARE AS SHOWN ABOVE.

(1) HANGERS ON CEE OR ZEE PURLINS MUST ATTACH TO THE WEB ONLY.
(2) HANGERS MUST BE LOCATED SO THAT THE SUPPORTED LOAD DOES
(3) NOT EXCEED THAT SPECIFIED IN THE CONTRACT DOCUMENTS.
SUGGESTED DETAILS ARE AS SHOWN ABOVE.



DO NOT USE C-CLAMPS OR ANY OTHER HANGER ATTACHED TO THE FLANGE OF THE PURLIN. IT REDUCES THE CAPACITY OF THE PURLIN AND PRODUCE SECONDARY STRESSES.

1 TYP. COLLATERAL LOAD CONNECTION DETAIL

5/15/2025



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT STEEL NATION ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY S.N. IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN S.N. ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION		ROOF FRAMING PLAN								
A	APPROVAL /PERMIT	05/15/25	ZGL	MDL	YHL	CUSTOMER		STEEL NATION BUILDINGS, INC.								
						END USER		Columbia Gas (NiSource CG Utility Building)								
						END USE		Garage Building	BUILDING	A						
						STREET		1336 Ridgeview Road (40.014367, -83.048681)								
						CITY ST ZIP		Upper Arlington, OH 43221								
						SALES NO.		82397	JOB NO.	173430	SCALE	N.T.S.	DWS. NO.	E001	ISSUE	A

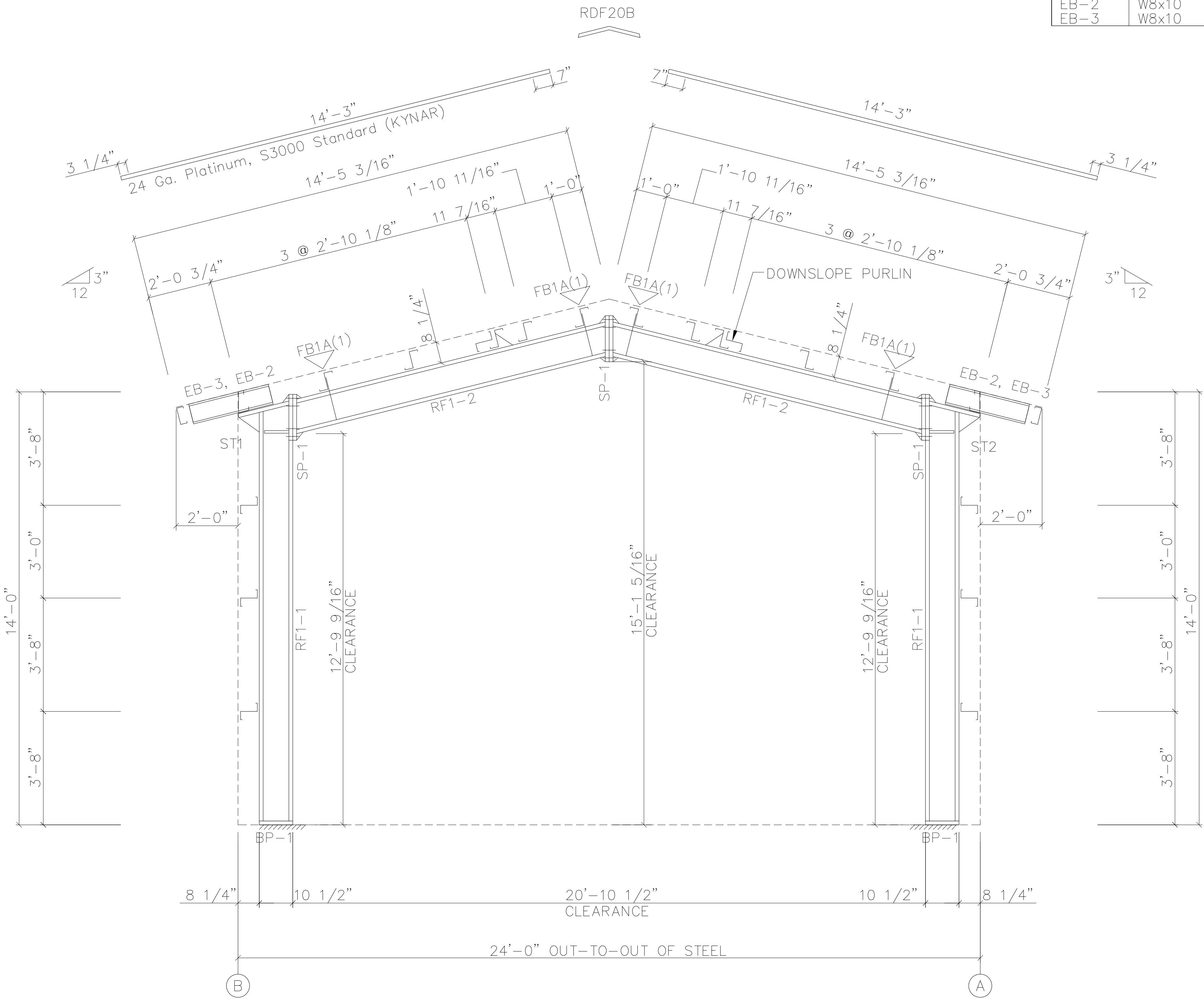
SPLICE PLATE & BOLT TABLE									
Mark	Qty		Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	0.625	2.00	6"	1/2"	1'-5 9/16"

STIFFENER TABLE				
Mark	Stiff Mark	Plate Size		
		Width	Thick	Length
RF1-1	ST1	2.500	0.250	9.500

BASE PLATE TABLE			
Col Mark	Plate Size		
	Width	Thick	Length
BP-1	8"	1/2"	11 1/2"

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
FBXXA(2)=FLANGE BRACE AT BOTH SIDES
A - L2x2x14

MEMBER TABLE					
Mark	Web	Depth	Web Plate		Outside Flange
	Start/End		Thick	Length	W x Thk x Length
RF1-1	10.0/10.0		0.135	163.4	6 x 1/4" x 160.8
RF1-2	10.0/10.0		0.135	130.3	6 x 1/4" x 19.0
EB-2	W8x10				6 x 1/4" x 127.8
EB-3	W8x10				



FOR
PERMIT

RIGID FRAME ELEVATION: FRAME LINE 1-3

NOTE: REFER TO ROOF FRAMING PLAN FOR COLUMN & RAFTER PC. MARKS.

GENERAL NOTES:

CONSTRUCTION NOTES FOR THE RIGID FRAMES.

1. ALL PRIMARY STRUCTURAL STEEL SHALL BE FABRICATED FROM 50 OR 55 KSI STEEL.
2. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED WITH A325 H. S. BOLTS.
3. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
4. WELDING PROCESSES USED BY MANUFACTURER ARE IN ACCORDANCE WITH SEC. 1.3 OF AWS D 1.1.
5. A325 High Strength bolt shall be tightened with one washer. Refer to General Notes 1.5 and 1.6 on cover sheet for tightening methods and installation inspections.



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT STEEL NATION ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY S.N. IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN S.N. ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.

5/15/2025

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	 166 SOUTHMONTE SQUARE LANE ♦ CANNONBURG, PA 15117 PH: 724.225.2202 ♦ INFO@STEELNATION.COM	DESCRIPTION	RIGID FRAME ELEVATION								
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.								
							END USER	Columbia Gas (NiSource CG Utility Building)								
							END USE	Garage Building	BUILDING		A					
							STREET	1336 Ridgeview Road (40.014367, -83.048681)								
							CITY ST ZIP	Upper Arlington, OH 43221								
							SALES NO.	82397	JOB NO.	173430	SCALE	N.T.S.	DWG. NO.	E003	ISSUE	A

SPLICE PLATE & BOLT TABLE									
Mark	Qty		Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	0.625	2.00	6"	1/2"	1'-7 5/8"

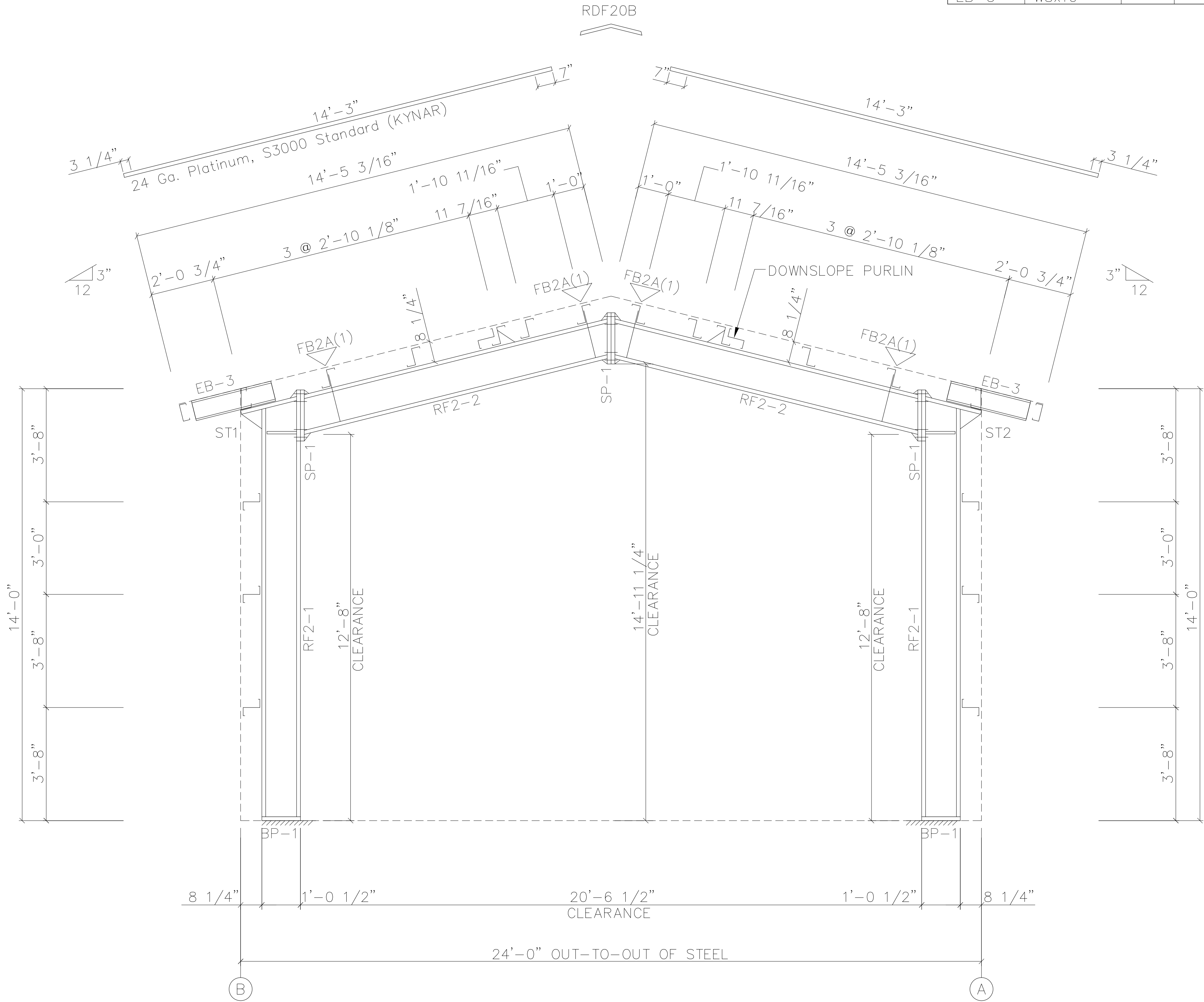
STIFFENER TABLE				
Mark	Stiff Mark	Plate Size		
		Width	Thick	Length
RF2-1	ST1	2.500	0.250	11.50

BASE PLATE TABLE			
Col Mark	Plate Size		
	Width	Thick	Length
BP-1	8"	1/2"	1'-1 1/2"

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
FBXXA(2)=FLANGE BRACE AT BOTH SIDES
A - L2x2x14

MEMBER TABLE					
Mark	Web	Depth	Web Plate		Outside Flange
	Start/End		Thick	Length	W x Thk x Length
RF2-1	12.0/12.0		0.135	163.9	6 x 1/4" x 160.8
RF2-2	12.0/12.0		0.135	128.8	6 x 1/4" x 21.1
EB-3	W8x10				6 x 1/4" x 125.7

FOR PERMIT



RIGID FRAME ELEVATION: FRAME LINE 2

NOTE: REFER TO ROOF FRAMING PLAN FOR COLUMN & RAFTER PC. MARKS.

GENERAL NOTES:

- CONSTRUCTION NOTES FOR THE RIGID FRAMES.
1. ALL PRIMARY STRUCTURAL STEEL SHALL BE FABRICATED FROM 50 OR 55 KSI STEEL.
 2. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED WITH A325 H. S. BOLTS.
 3. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
 4. WELDING PROCESSES USED BY MANUFACTURER ARE IN ACCORDANCE WITH SEC. 1.3 OF AWS D 1.1.
 5. A325 High Strength bolt shall be tightened with one washer. Refer to General Notes 1.5 and 1.6 on cover sheet for tightening methods and installation inspections.



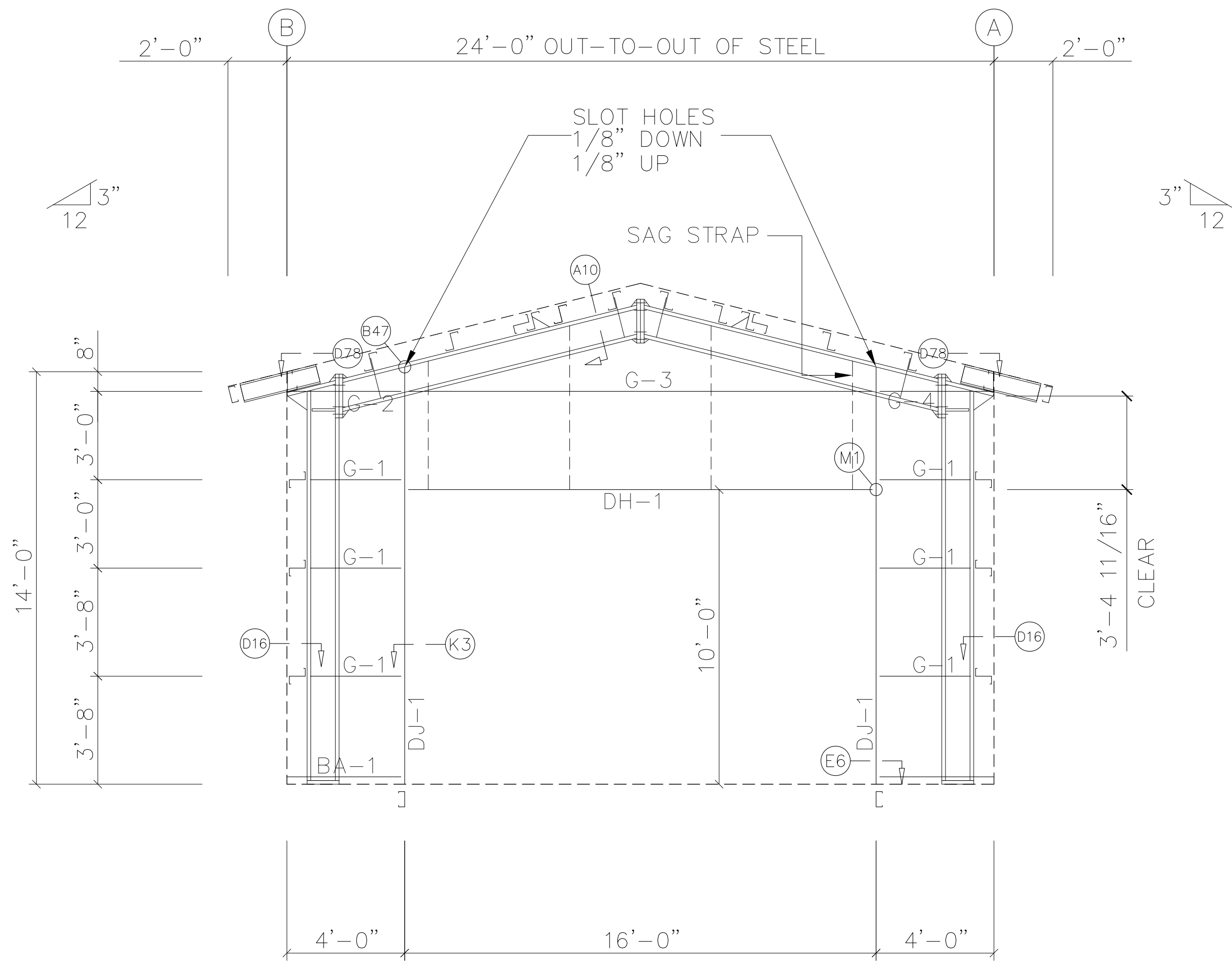
SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT STEEL NATION ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY S.N. IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN S.N. ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.

5/15/2025

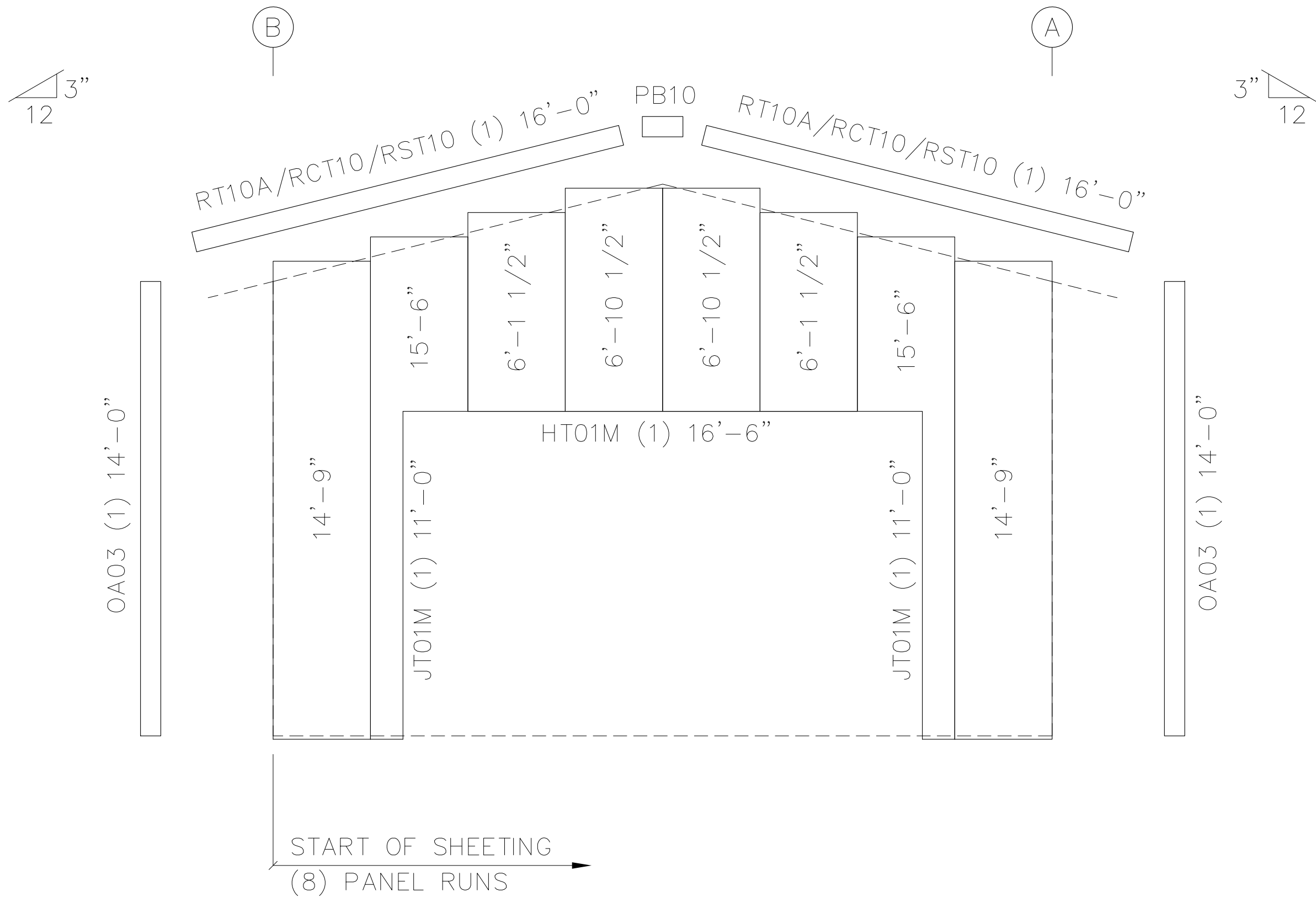
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	 188 SOUTHMONTE SQUARE LANE ♦ CANONBURG, PA 15117 PH: 724.225.2202 ♦ INFO@STEELNATION.COM	DESCRIPTION	RIGID FRAME ELEVATION		
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.		
							END USER	Columbia Gas (NiSource CG Utility Building)		
							END USE	Garage Building	BUILDING	A
							STREET	1336 Ridgeview Road (40.014367, -83.048681)		
							CITY ST ZIP	Upper Arlington, OH 43221		
							SALES NO.	82397	JOB NO.	173430
							SCALE	N.T.S.	DWG. NO.	E004
							ISSUE	A		

MEMBER TABLE	
FRAME LINE 1	
MARK	PART
DJ-1	8x25C16
DH-1	8x25C16
G-1	8x25Z16
G-2	8x25Z16
G-3	8x25Z16
G-4	8x25Z16

FOR PERMIT



ENDWALL FRAMING: FRAME LINE 1



ENDWALL SHEETING & TRIM: FRAME LINE 1

PANELS: 26 Ga. Rev. PBM — Glvm.Plus

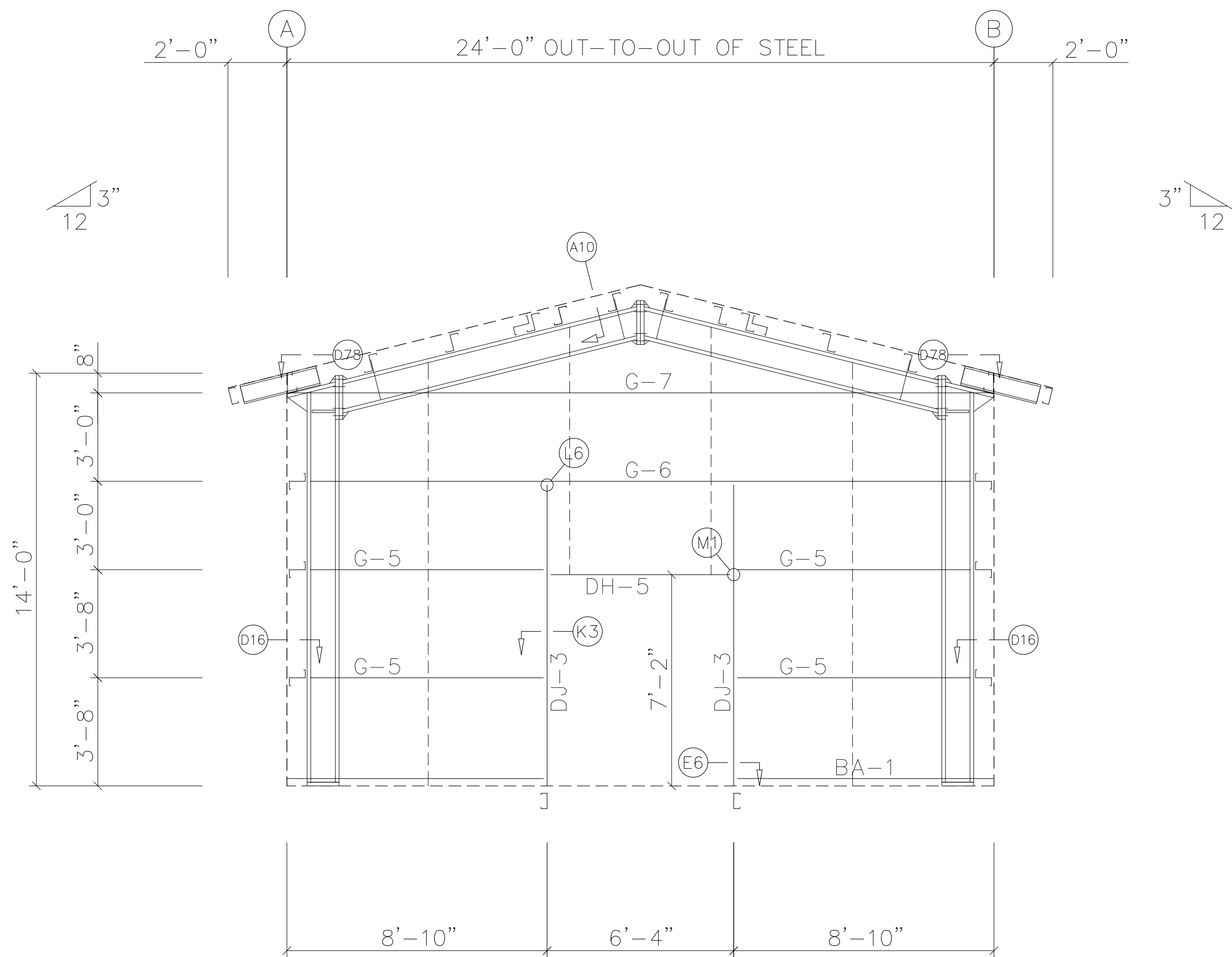


SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT STEEL NATION ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY S.N. IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN S.N. ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.

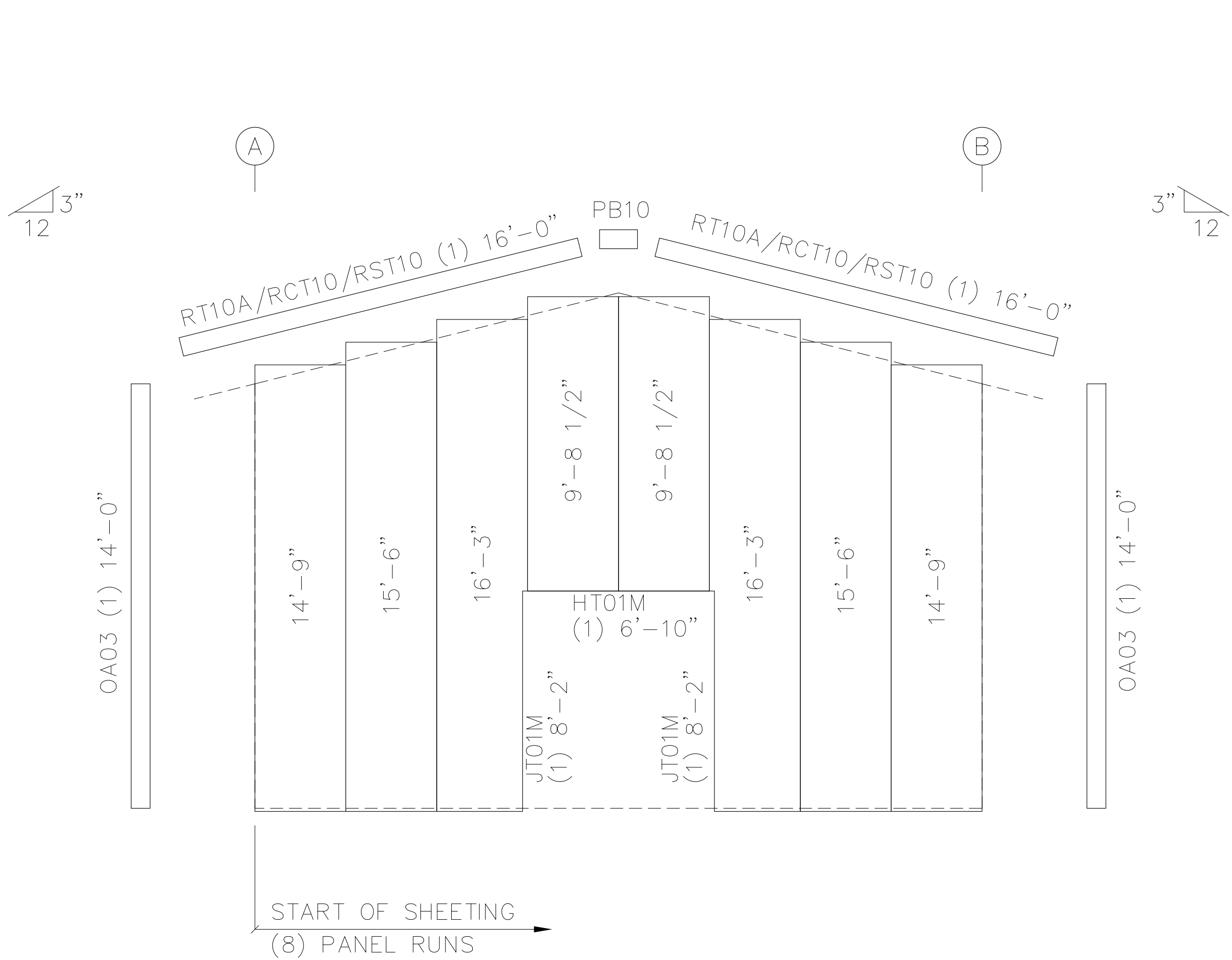
5/15/2025

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	 STEELNATION 166 SOUTHPOINTE SQUARE LANE ♦ CANONSBURG, PA 15117 PH: 724.225.2202 ♦ INFO@STEELNATION.COM	DESCRIPTION	ENDWALL FRAMING & SHEETING ELEVATION								
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.								
							END USER	Columbia Gas (NiSource CG Utility Building)								
							END USE	Garage Building	BUILDING	A						
							STREET	1336 Ridgeview Road (40.014367, -83.048681)								
							CITY ST ZIP	Upper Arlington, OH 43221								
							SALES NO.	82397	JOB NO.	173430	SCALE	N.T.S.	DWG. NO.	E005	ISSUE	A

MEMBER TABLE	
FRAME LINE 3	
MARK	PART
DJ-3	8x25C16
DH-5	8x25C16
G-5	8x25Z16
G-6	8x25Z26
G-7	8x35Z16



ENDWALL FRAMING: FRAME LINE 3



ENDWALL SHEETING & TRIM: FRAME LINE 3

PANELS: 26 Ga. Rev. PBM — Glvm.Plus

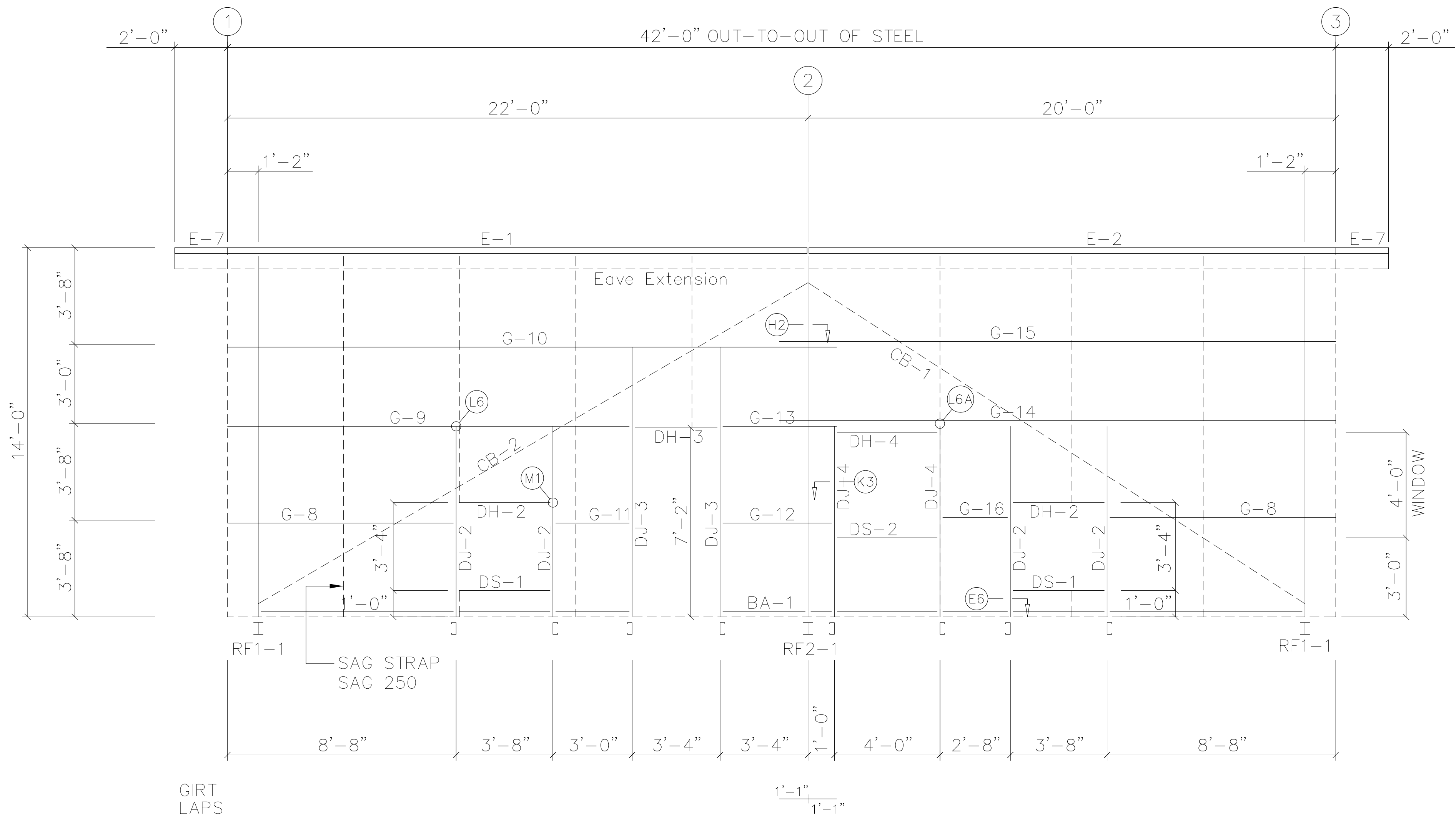
FOR PERMIT



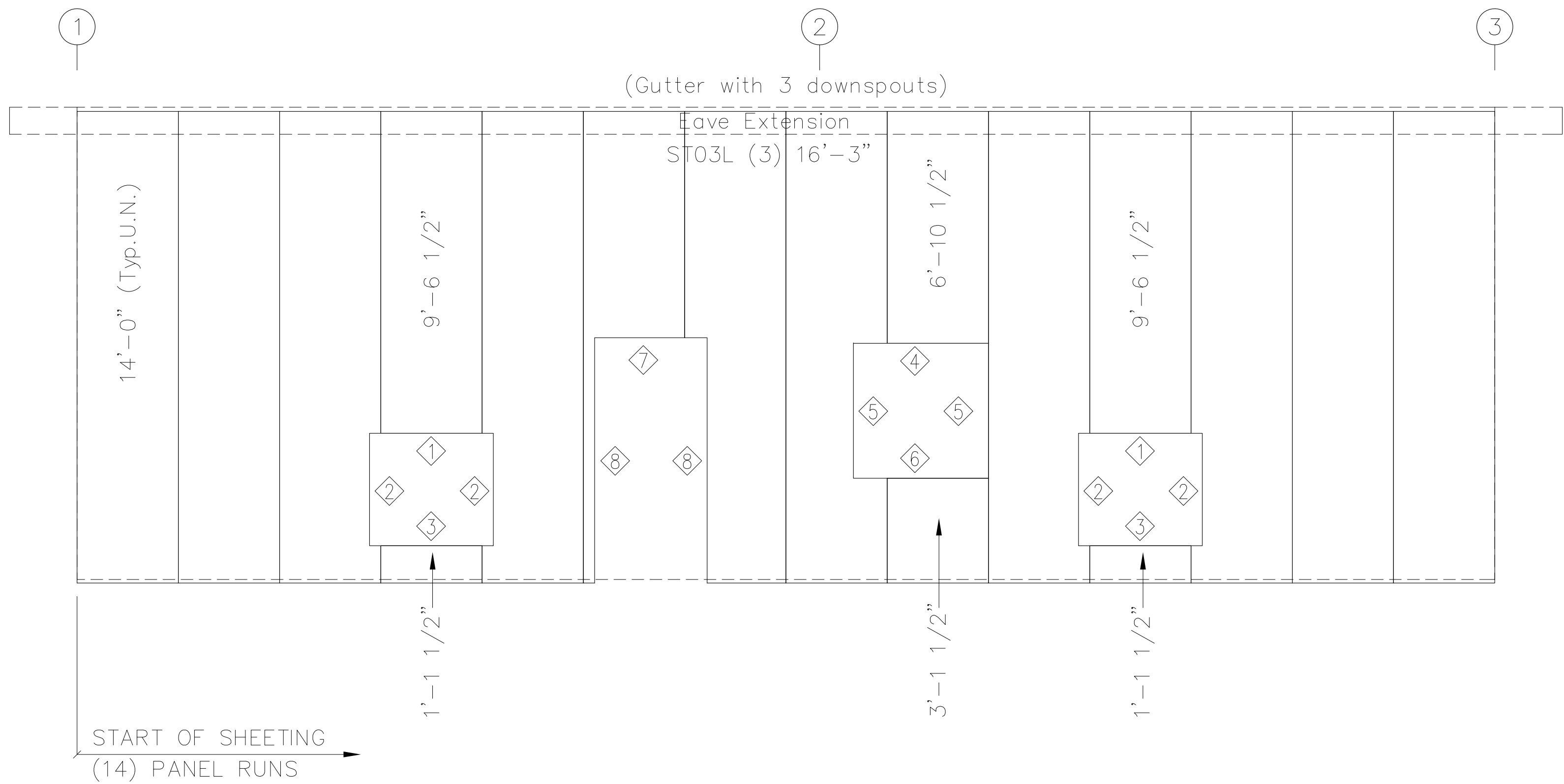
5/15/2025

SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT STEEL NATION ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY S.N. IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN S.N. ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	 STEELNATION 188 SOUTHMONTE SQUARE LANE ♦ CANONSBURG, PA 15317 PH: 724.225.2202 ♦ INFO@STEELNATION.COM	DESCRIPTION	ENDWALL FRAMING & SHEETING ELEVATION								
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.								
							END USER	Columbia Gas (NiSource CG Utility Building)								
							END USE	Garage Building	BUILDING		A					
							STREET	1336 Ridgeview Road (40.014367, -83.048681)								
							CITY ST ZIP	Upper Arlington, OH 43221								
							SALES NO.	82397	JOB NO.	173430	SCALE	N.T.S.	DWG. NO.	E006	ISSUE	A



SIDEWALL FRAMING: FRAME LINE A



SIDEWALL SHEETING & TRIM: FRAME LINE A
PANELS: 26 Ga. Rev. PBM - Glvm.Plus

FOR
PERMIT

MEMBER TABLE	
FRAME	LINE A
MARK	PART
DJ-2	8x25C16
DJ-3	8x25C16
DJ-4	8x25C16
DH-2	8x25C16
DH-3	8x25C16
DH-4	8x4C16
OPEN CEE	
DS-1	8x25C16
DS-2	8x25C16
E-1	L8ES16
E-2	L8ES16
E-7	L8ES16
G-8	8x25Z16
G-9	8x25Z16
G-10	8x25Z16
G-11	8x25Z16
G-12	8x25Z16
G-13	8x25Z16
G-14	8x25Z16
G-15	8x25Z16
G-16	8x25Z16
CB-1	CB0313
CB-2	CB0313

TRIM TABLE		
FRAME	LINE A	
ID	MARK	LENGTH
1	HT01M	4'-2"
2	JT01M	3'-7"
3	WS01	3'-11"
4	HT01M	4'-2"
5	JT01M	3'-7"
6	WS01	3'-11"
7	HT01M	3'-10"
8	JT01M	7'-5"



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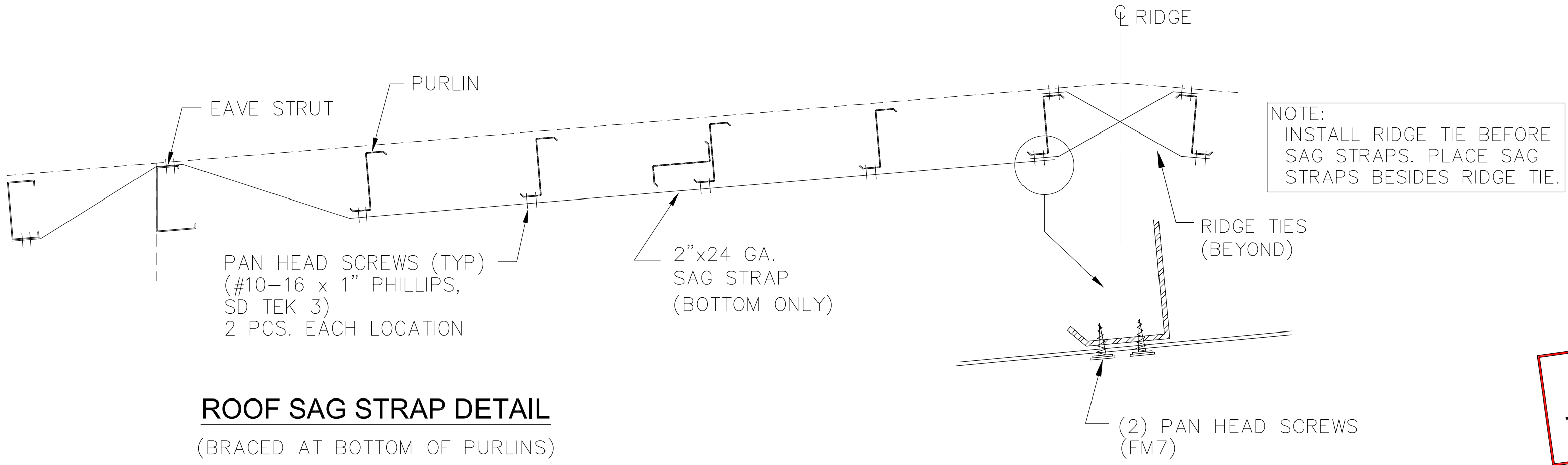
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	 188 SOUTHPOINTE SQUARE LANE ♦ CANONSBURG, PA 15317 PH: 724.225.2292 ♦ INFO@STEELNATION.COM	DESCRIPTION	SIDEWALL FRAMING & SHEETING ELEVATION								
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.								
							END USER	Columbia Gas (NiSource CG Utility Building)								
							END USE	Garage Building	BUILDING	A						
							STREET	1336 Ridgeview Road (40.014367, -83.048681)								
							CITY ST ZIP	Upper Arlington, OH 43221								
							SALES NO.	82397	JOB NO.	173430	SCALE	N.T.S.	DWG. NO.	E007	ISSUE	A

A circular professional engineer seal for the State of Ohio. The outer ring contains the text "STATE OF OHIO" at the top and "REGISTERED PROFESSIONAL ENGINEER" at the bottom. The inner circle contains the name "JOHN A. LONG" and the license number "E-51396". A handwritten signature "John Long" is written over the top of the seal.

5/15/2025

STEELNATION

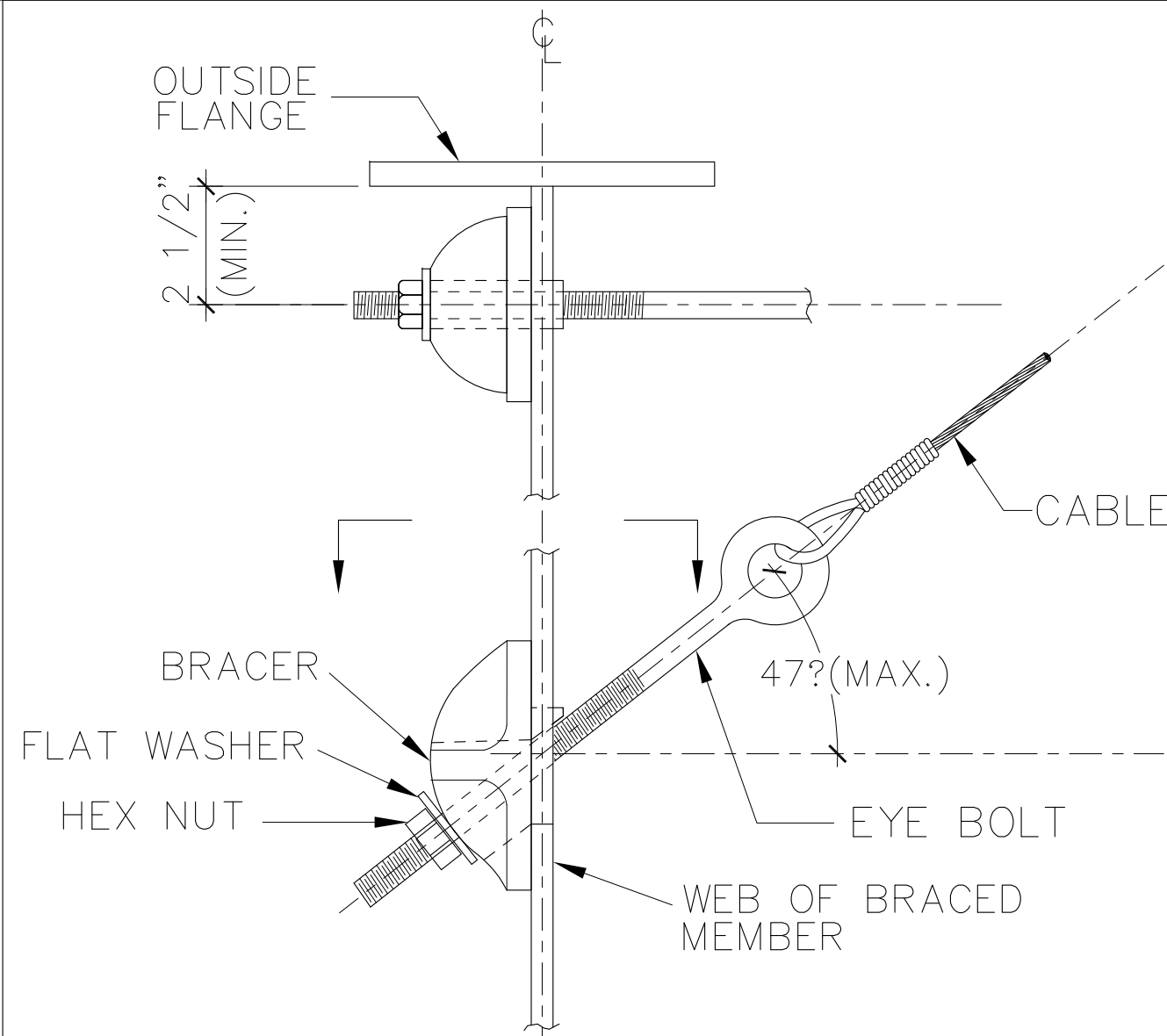
100 SOUTHPOINTE SQUARE LANE ♦ CANONSBURG, PA 15317
PH: 724.225.2202 ♦ INFO@STEELNATION.COM



ROOF SAG STRAP DETAIL

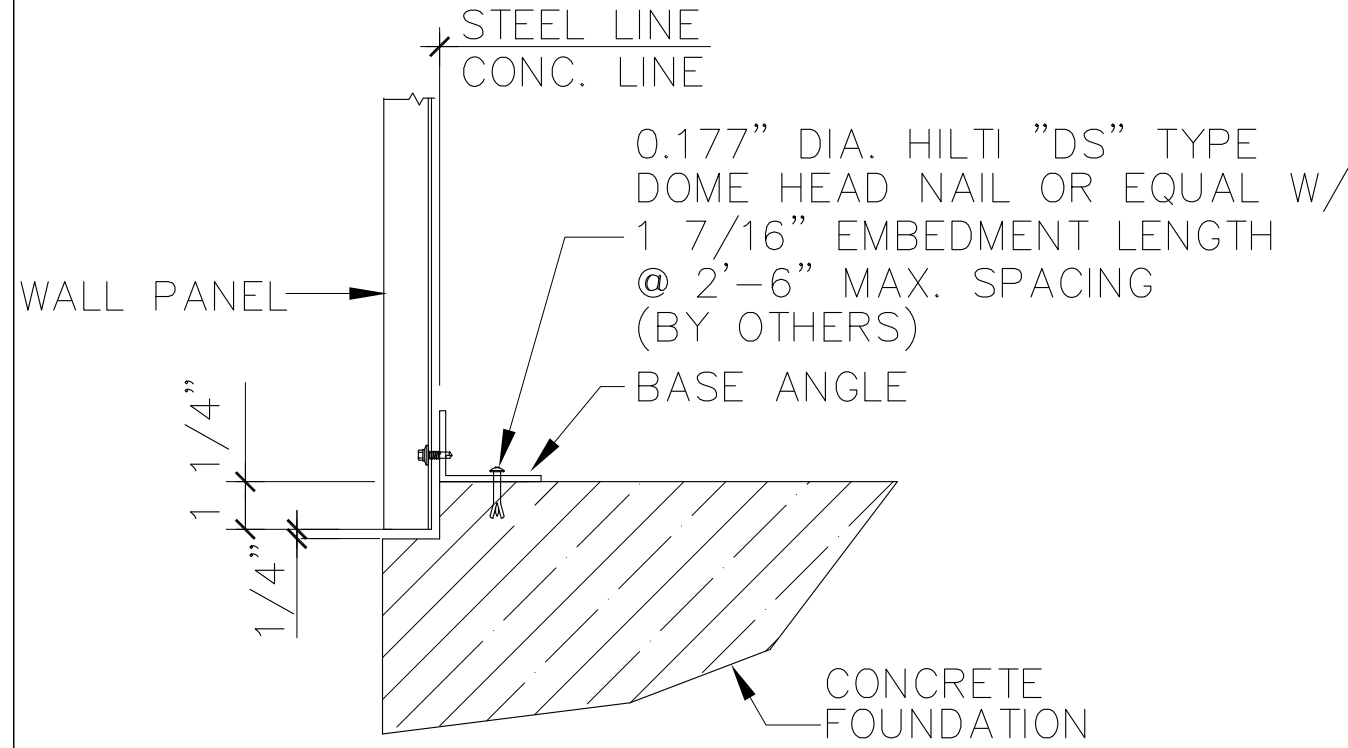
(BRACED AT BOTTOM OF PURLINS)

FOR
PERMIT



Q2

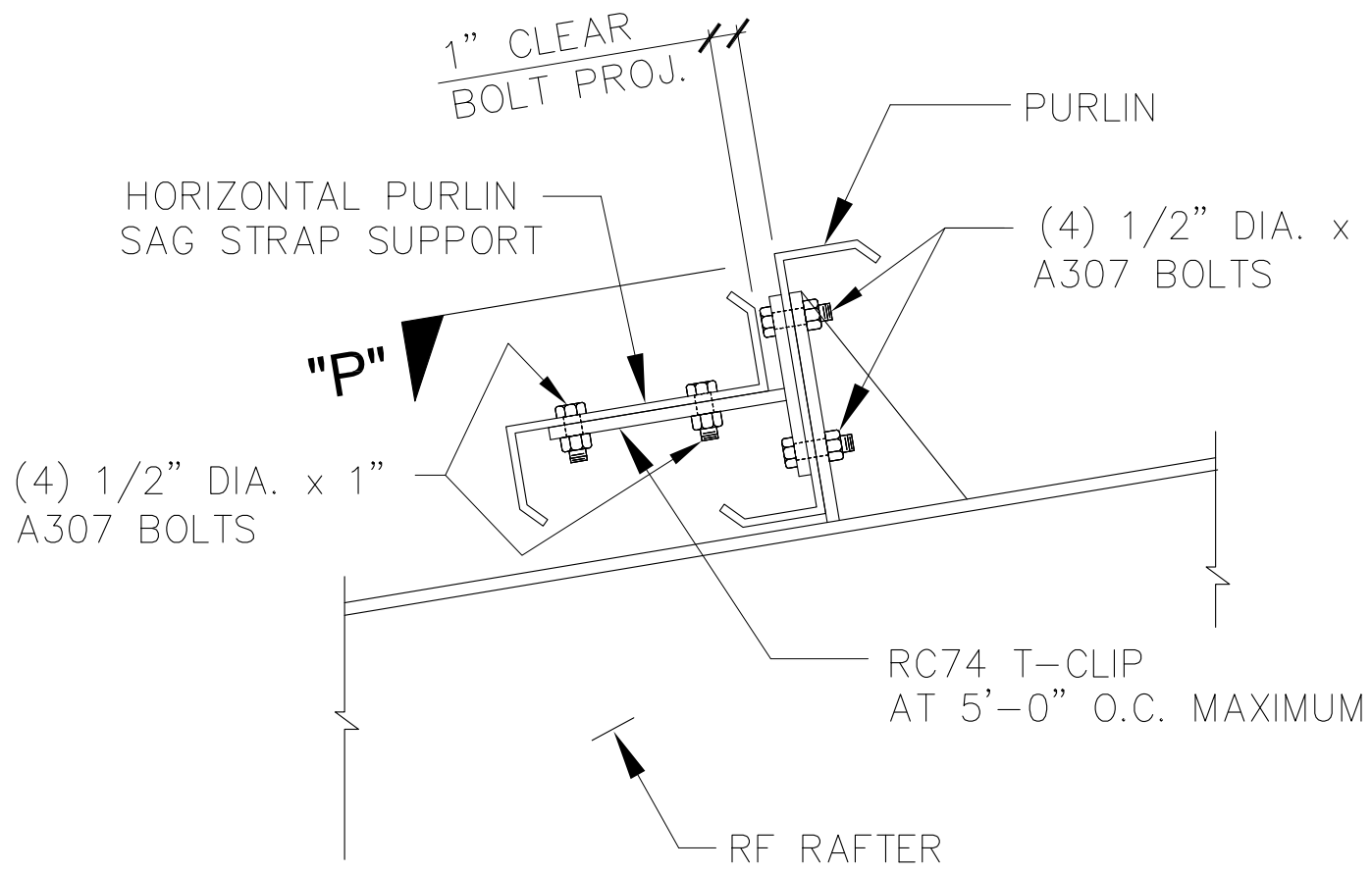
CABLE BRACE CONNECTION DETAIL



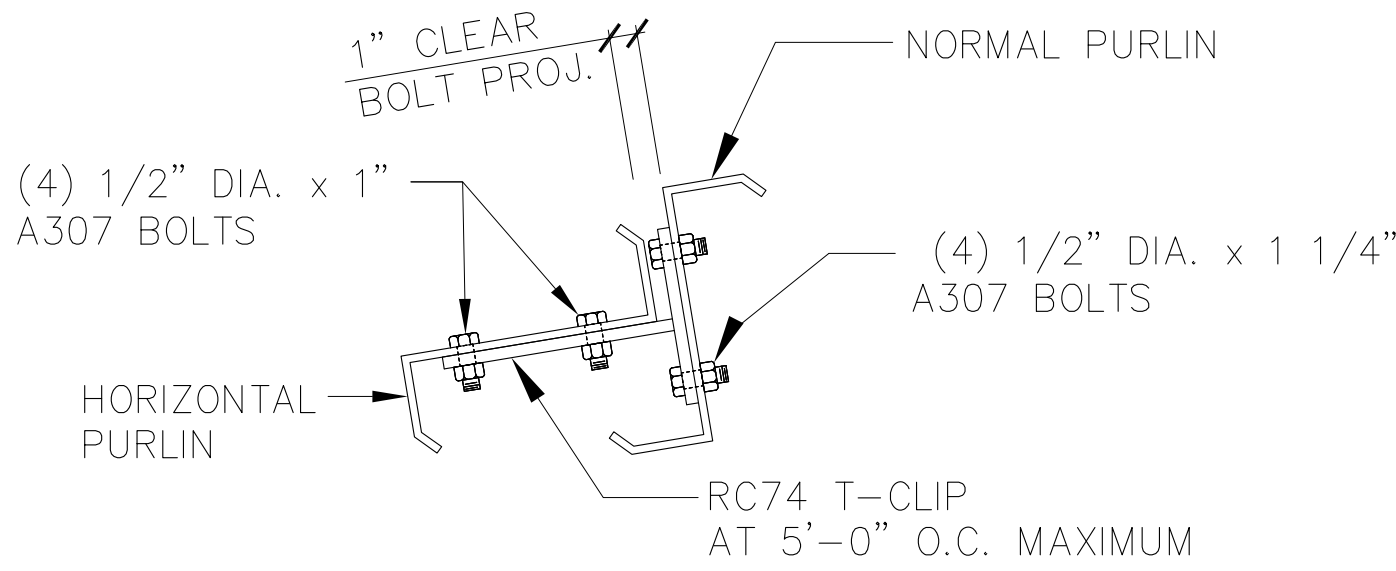
NOTE:
METAL WALL SHEETS SHALL BE SET 1/4" ABOVE
CONC. NOTCH. METAL SHEETS SHOULD NOT TOUCH
THE CONC. NOTCH, WHICH WOULD VOID THE WARRANTY.

DETAIL BASE w/ NOTCH

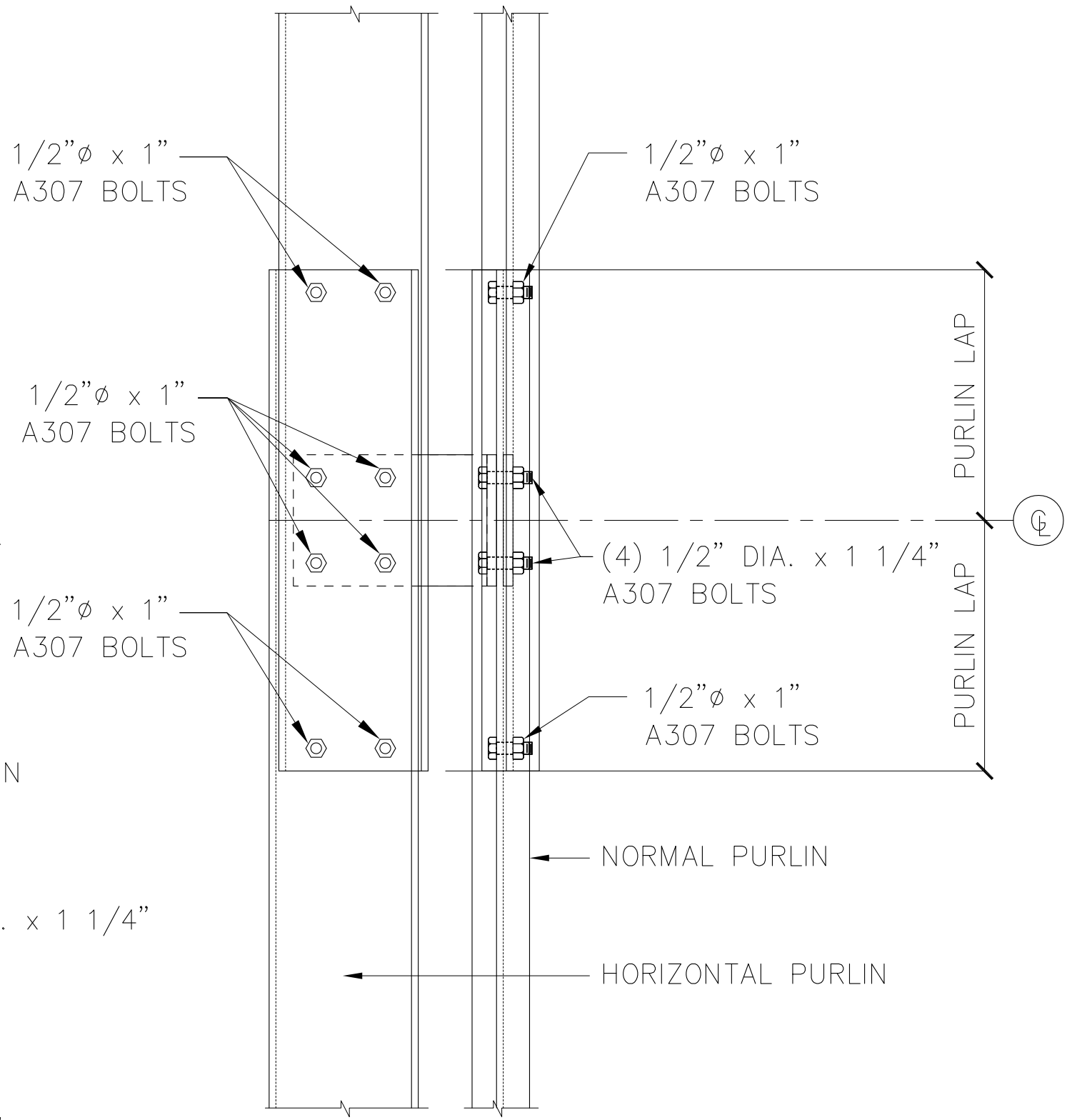
ID 1303-R0; T3_NOTCH; NO TRIM-ANGLE-NOTCH



HORIZONTAL PURLIN CONNECTION
TO RF RAFTER



HORIZONTAL PURLIN CONNECTION
BETWEEN BAYS



SECTION "P"

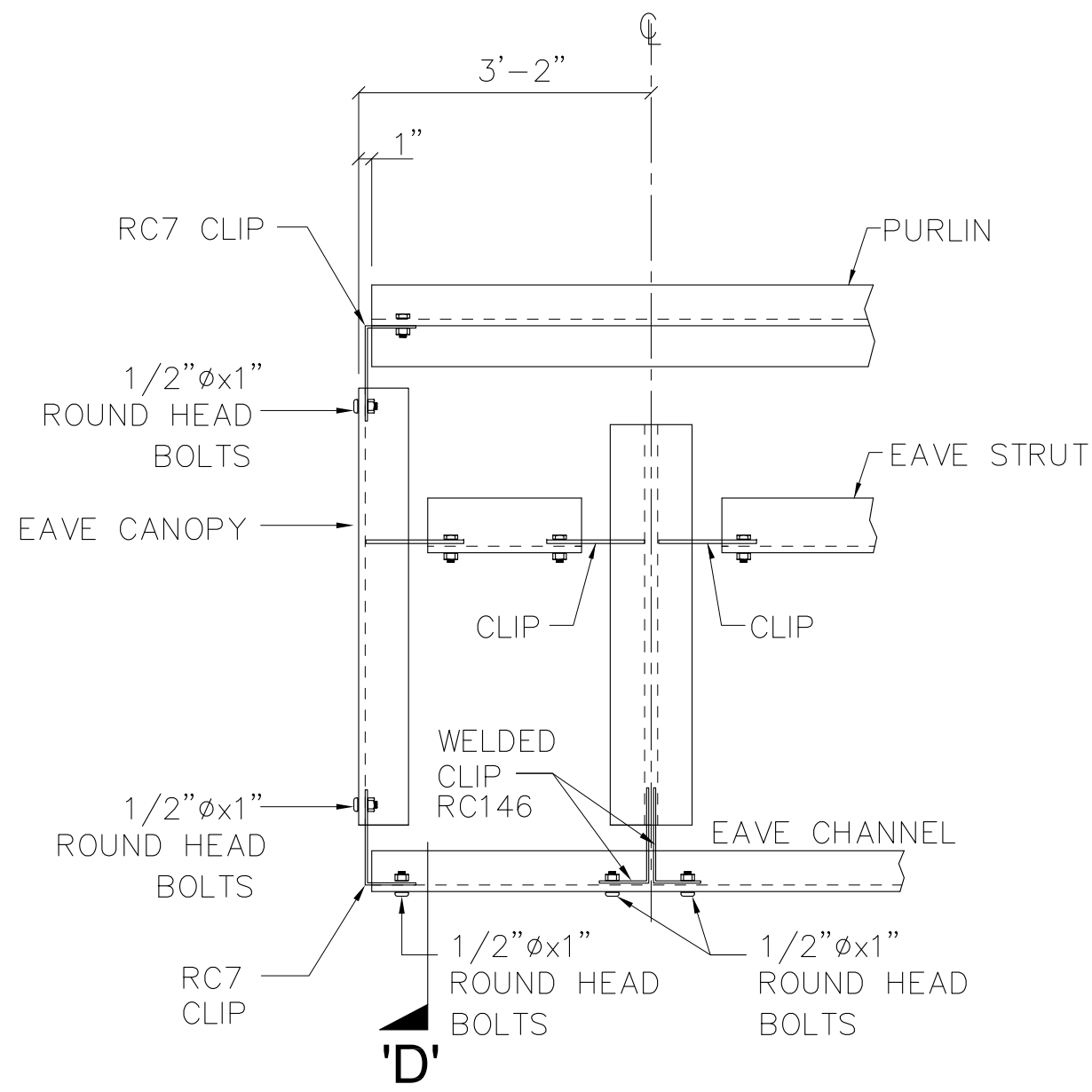


5/15/2025

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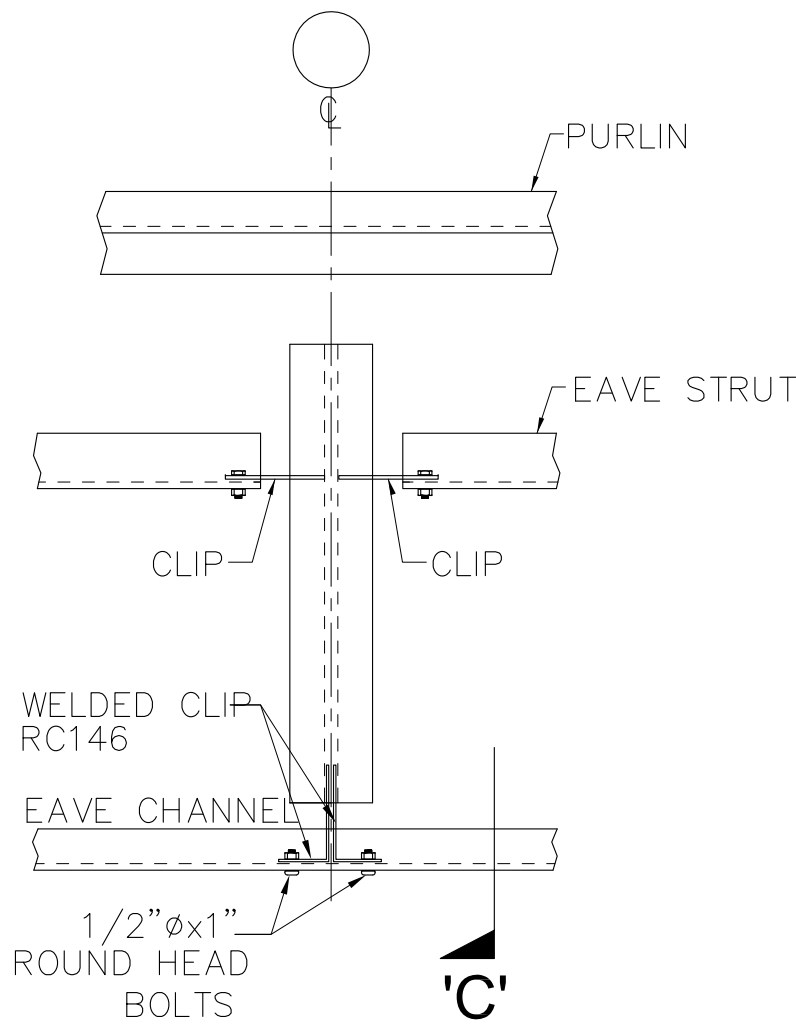
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	DETAIL DRAWINGS
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	Columbia Gas (NiSource CG Utility Building)
						END USE	Garage Building BUILDING A
						STREET	1336 Ridgeview Road (40.014367, -83.048681)
						CITY ST ZIP	Upper Arlington, OH 43221
						SALES NO.	82397
						JOB NO.	173430
						SCALE	N.T.S.
						DWG. NO.	E010
						ISSUE	A





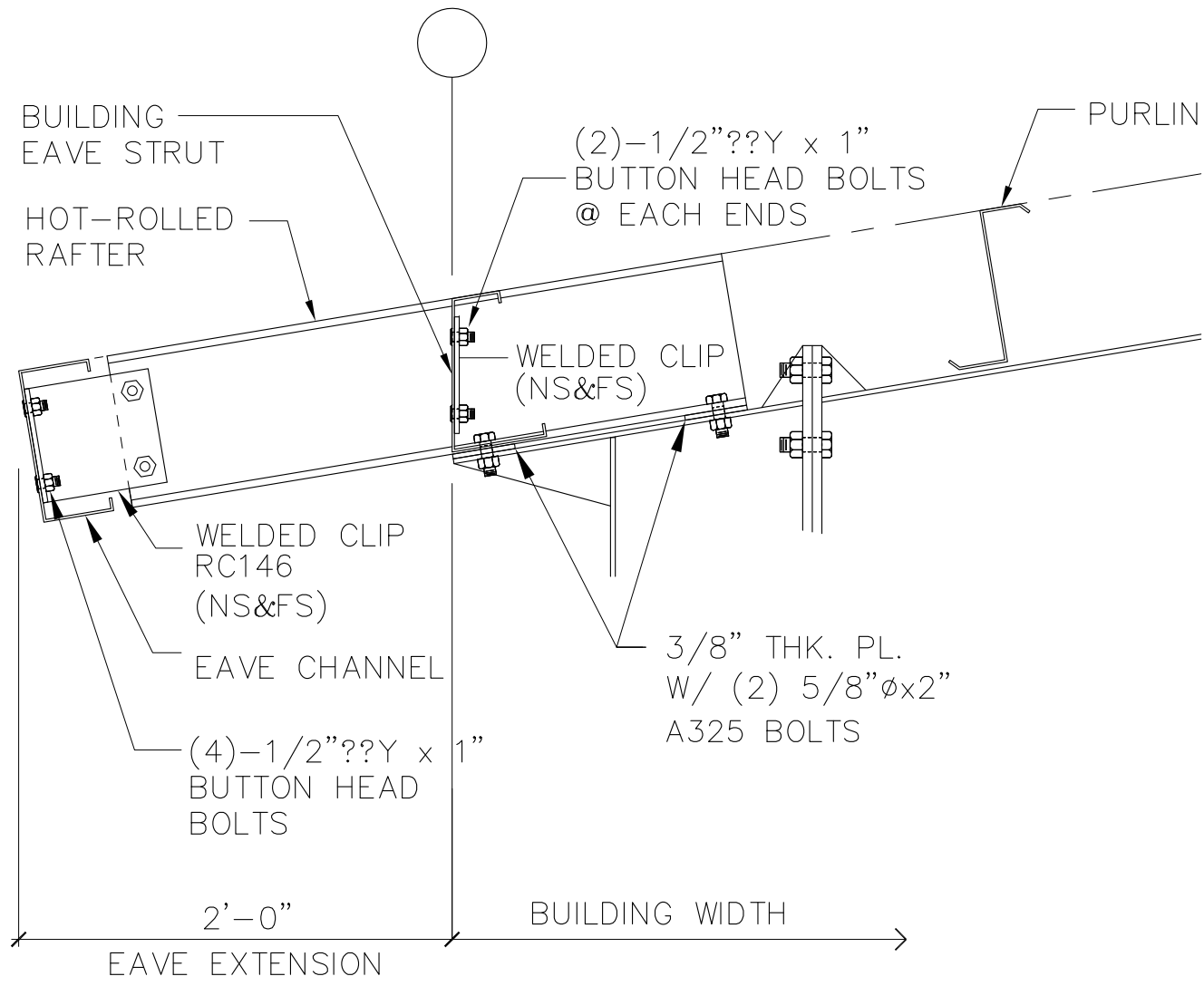
DETAIL 'A'

* ALL BOLTS ARE 1/2"φx1" ROUND HEAD BOLTS U.N.

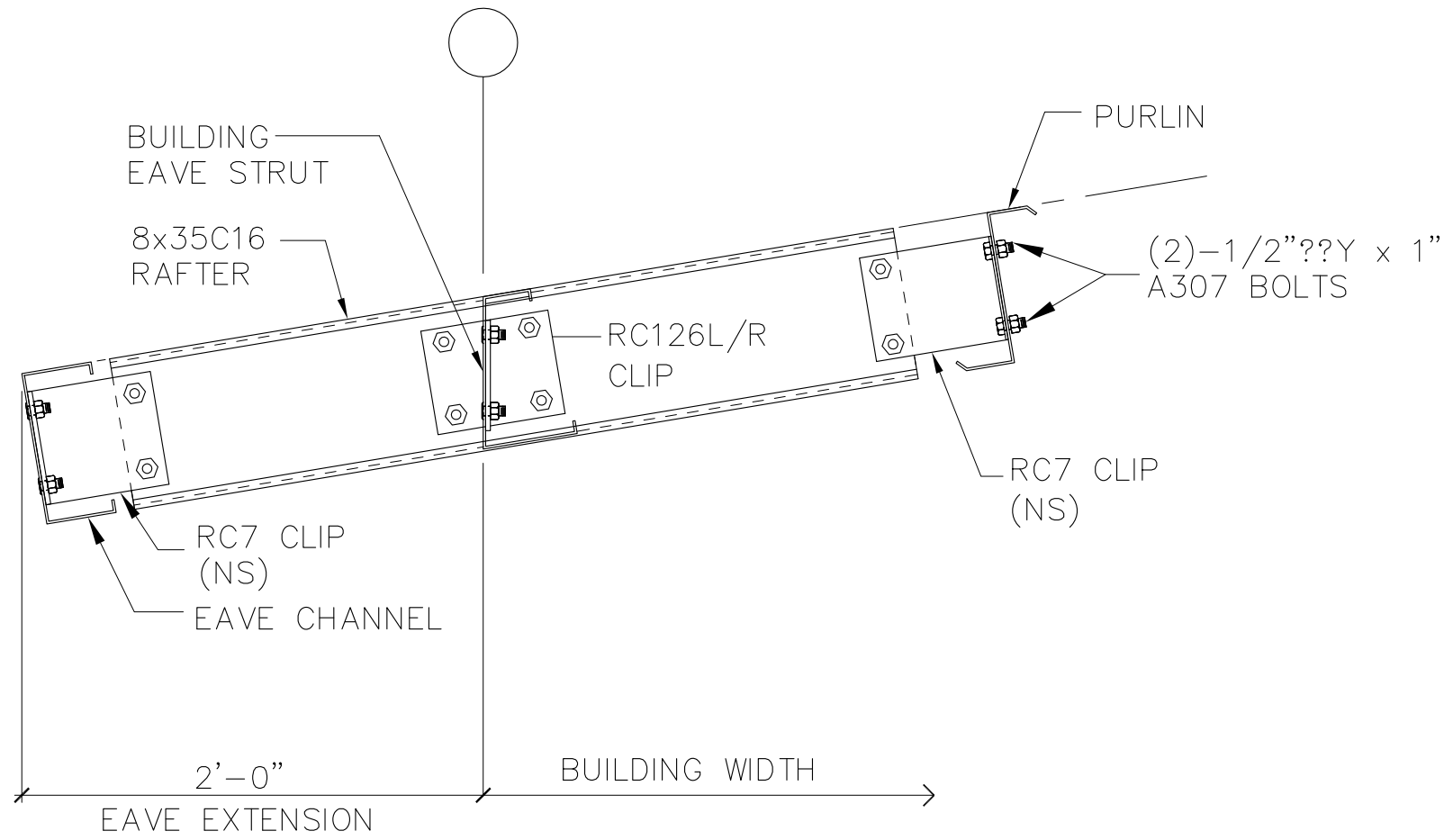


DETAIL 'B'

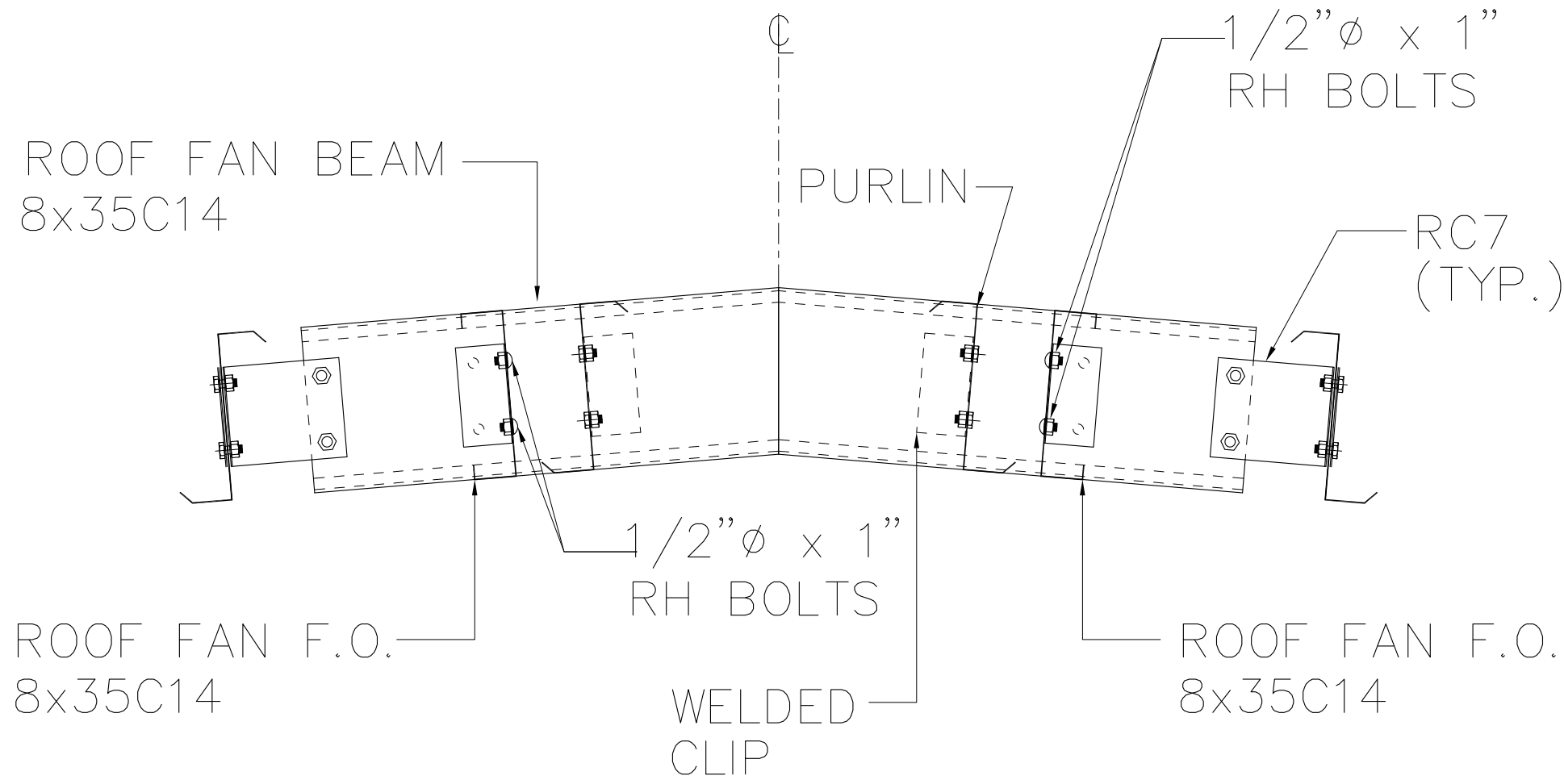
* ALL BOLTS ARE 1/2"φx1" A307 BOLTS U.N.



SECTION 'C'
HOT-ROLLED EAVE EXTENSION DETAIL
ALL BOLTS ARE 1/2"φ x 1" A307 U.N.



SECTION 'D'
EAVE CANOPY DETAIL
ALL BOLTS ARE 1/2"φ x 1" ROUND HEAD BOLTS U.N.



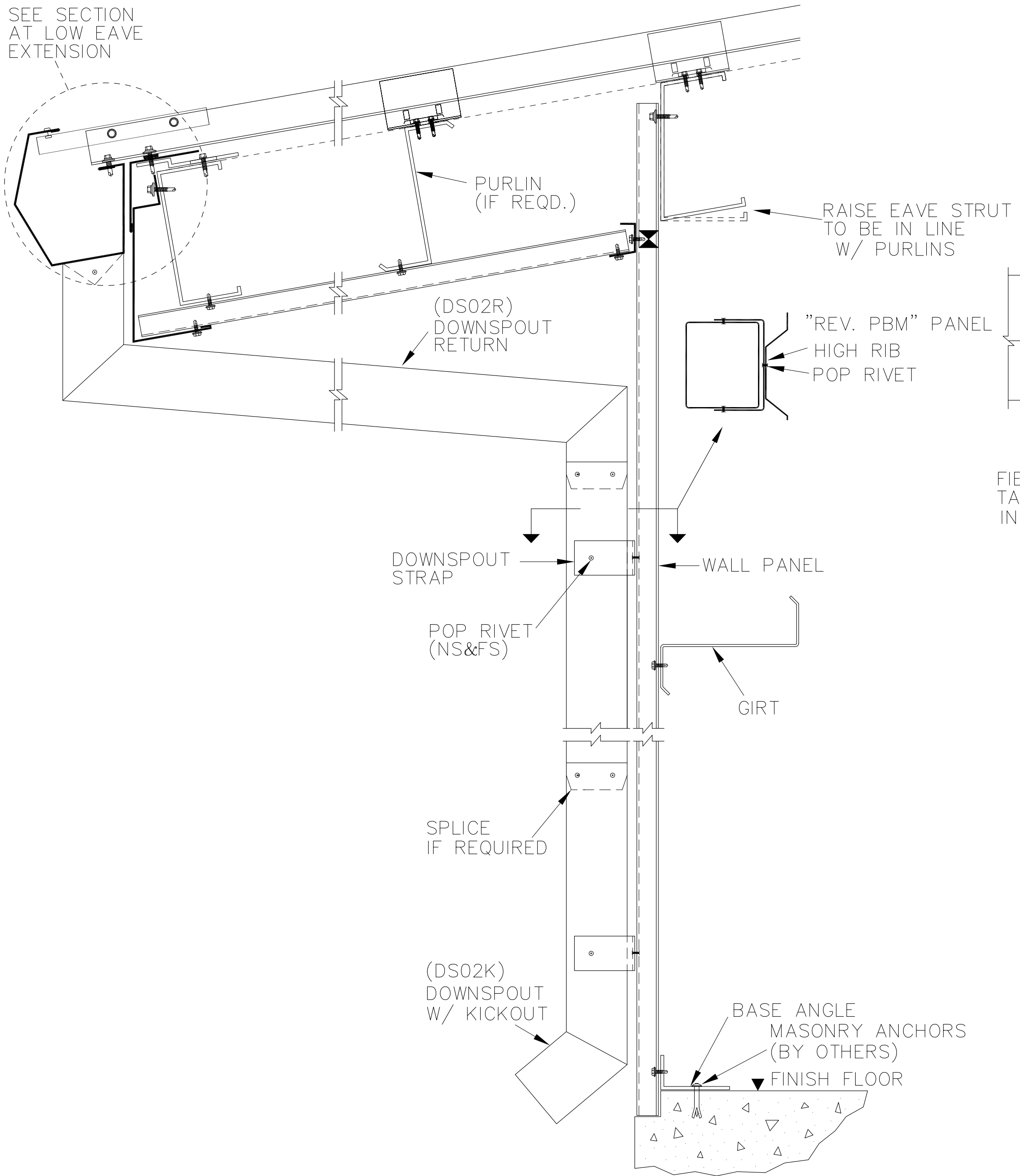
SECTION "1R"

FOR PERMIT

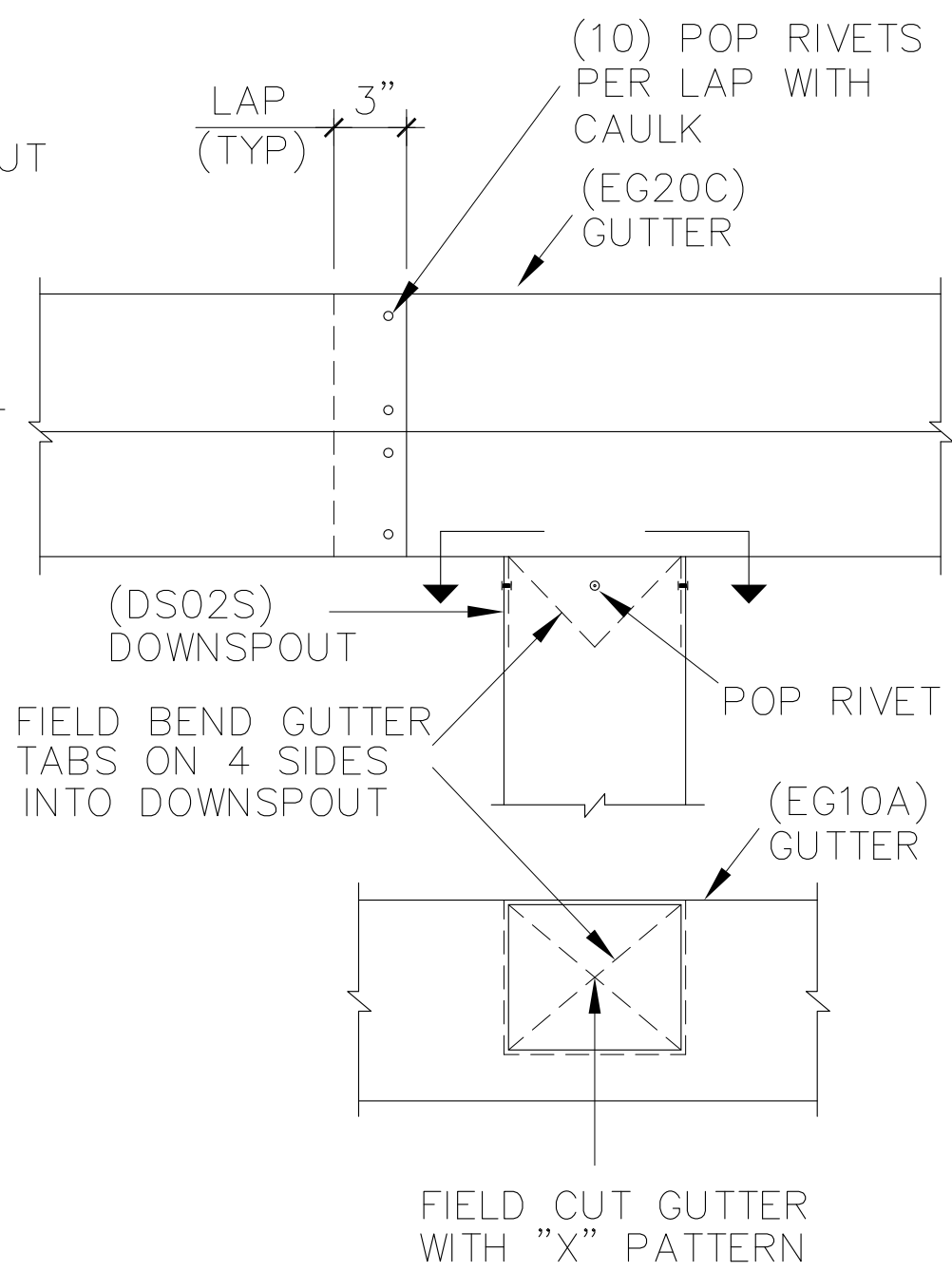


5/15/2025

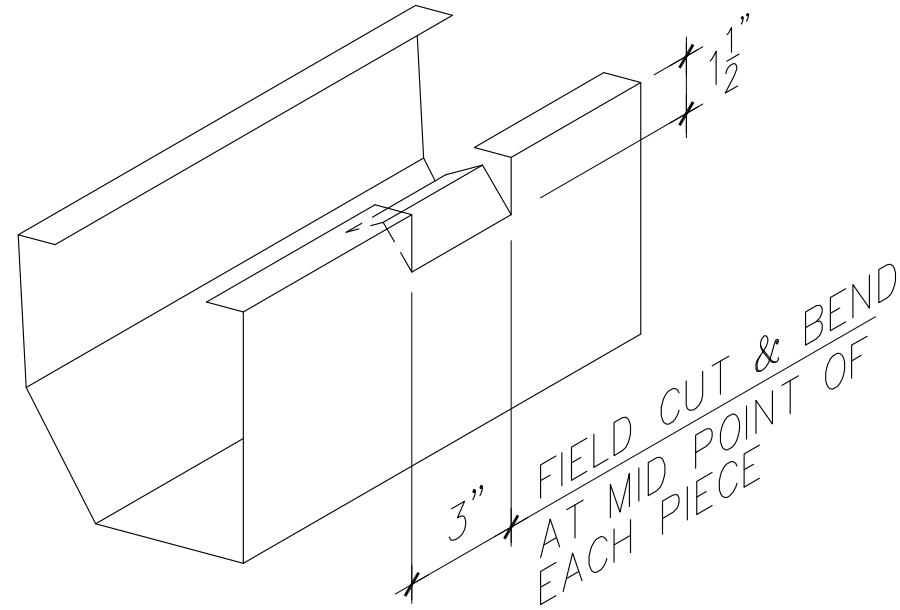
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	STEELNATION 100 SOUTHMONTE SQUARE LANE ♦ CANONSBURG, PA 15117 PH: 724.225.2200 ♦ INFO@STEELNATION.COM	DESCRIPTION	DETAIL DRAWINGS		
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.		
							END USER	Columbia Gas (NiSource CG Utility Building)		
							END USE	Garage Building	BUILDING	A
							STREET	1336 Ridgeview Road (40.014367, -83.048681)		
							CITY ST ZIP	Upper Arlington, OH 43221		
							SALES NO.	82397	JOB NO.	173430
							SCALE	N.T.S.	DWG. NO.	E011
									ISSUE	A



1 DOWNSPOUT & GUTTER DETAIL-FULLY SHEETED WITH EAVE EXTENSION WITH SOFFIT

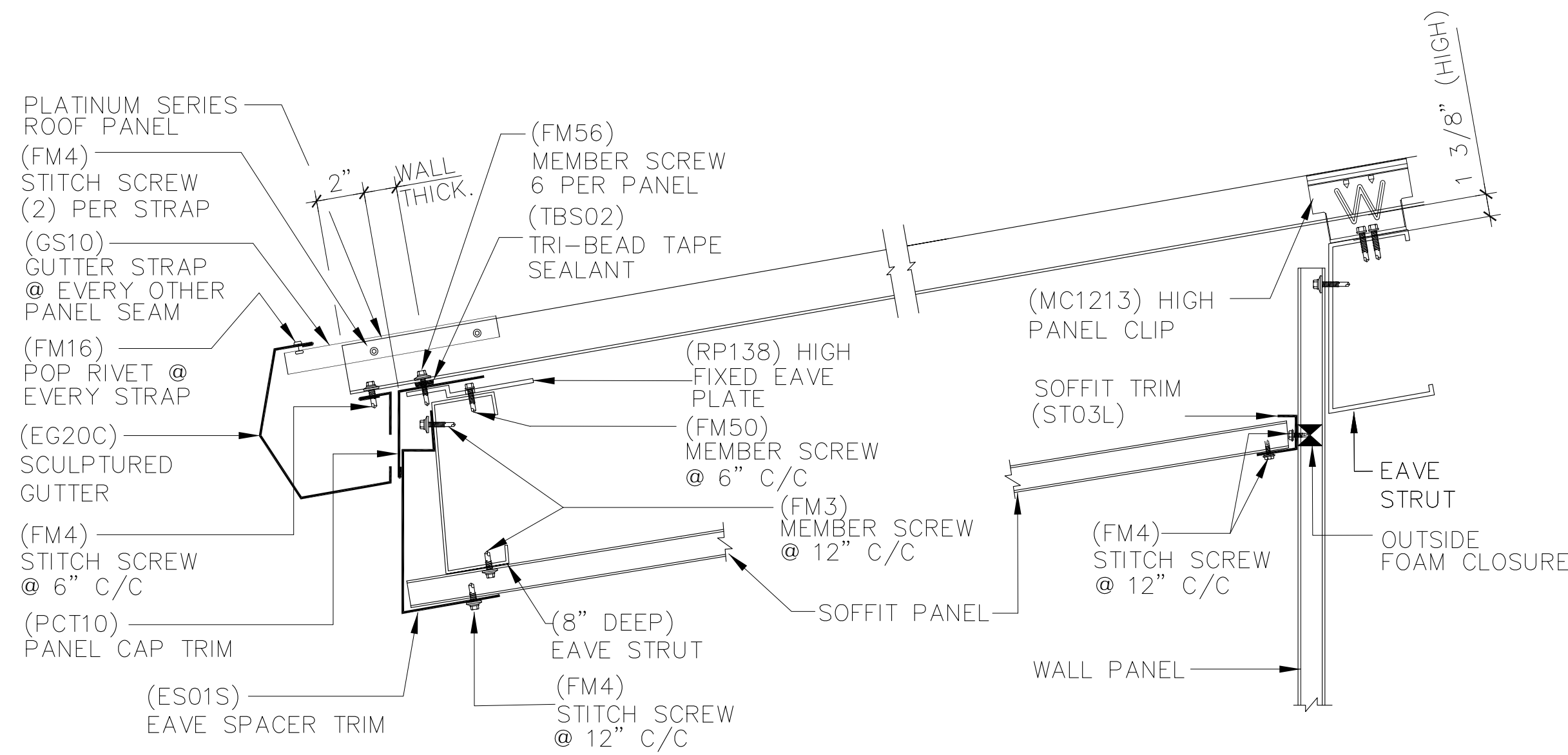


DOWNSPOUT TO GUTTER DETAIL



GUTTER OVERFLOW RELIEF

D.S. STRAP QUANTITY	
E.H.	QTY.
14'-0	2



2 DETAIL LOW EAVE EXT. w/ GUTTER w/ "PLATINUM" ROOF
ID 4872_HF_SF-R1; ST/LG-8-HF-3 (LOW EAVE EXT w/ GUTTER)

FOR PERMIT



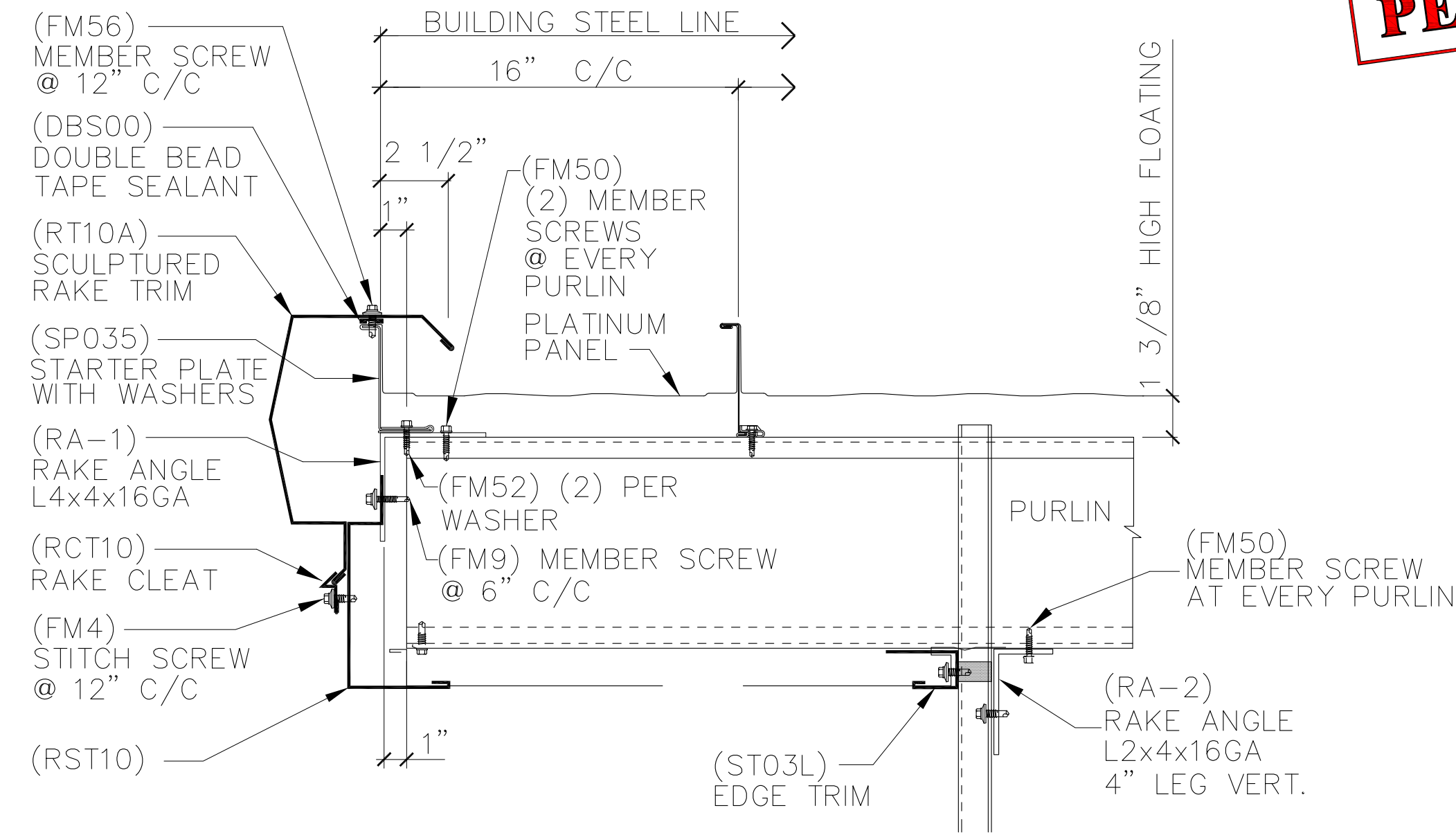
5/15/2025

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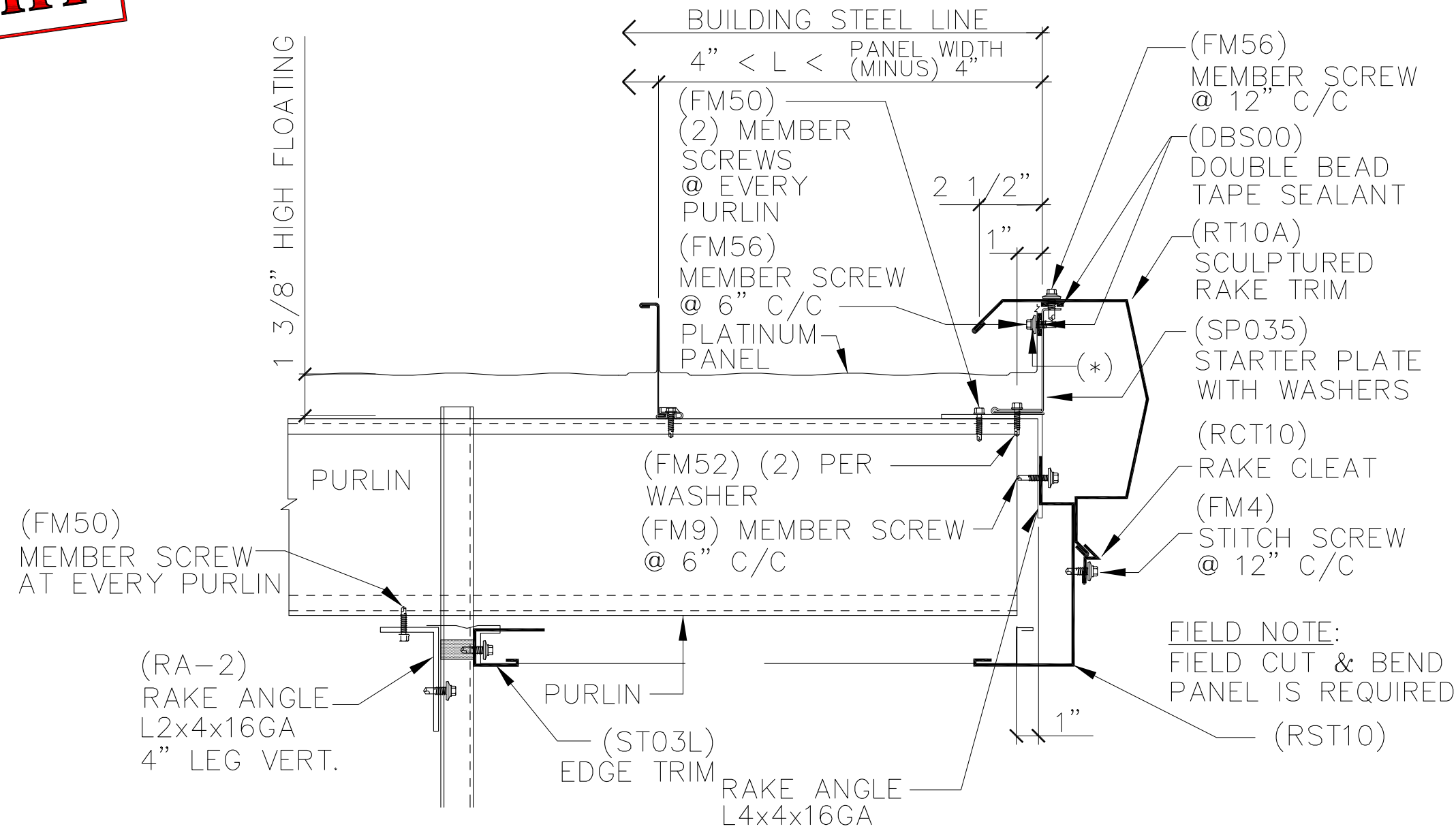
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	DETAIL DRAWINGS
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	Columbia Gas (NiSource CG Utility Building)
						END USE	Garage Building BUILDING A
						STREET	1336 Ridgeview Road (40.014367, -83.048681)
						CITY ST ZIP	Upper Arlington, OH 43221
						SALES NO.	82397
						JOB NO.	173430
						SCALE	N.T.S.
						DWG. NO.	E012
						ISSUE	A



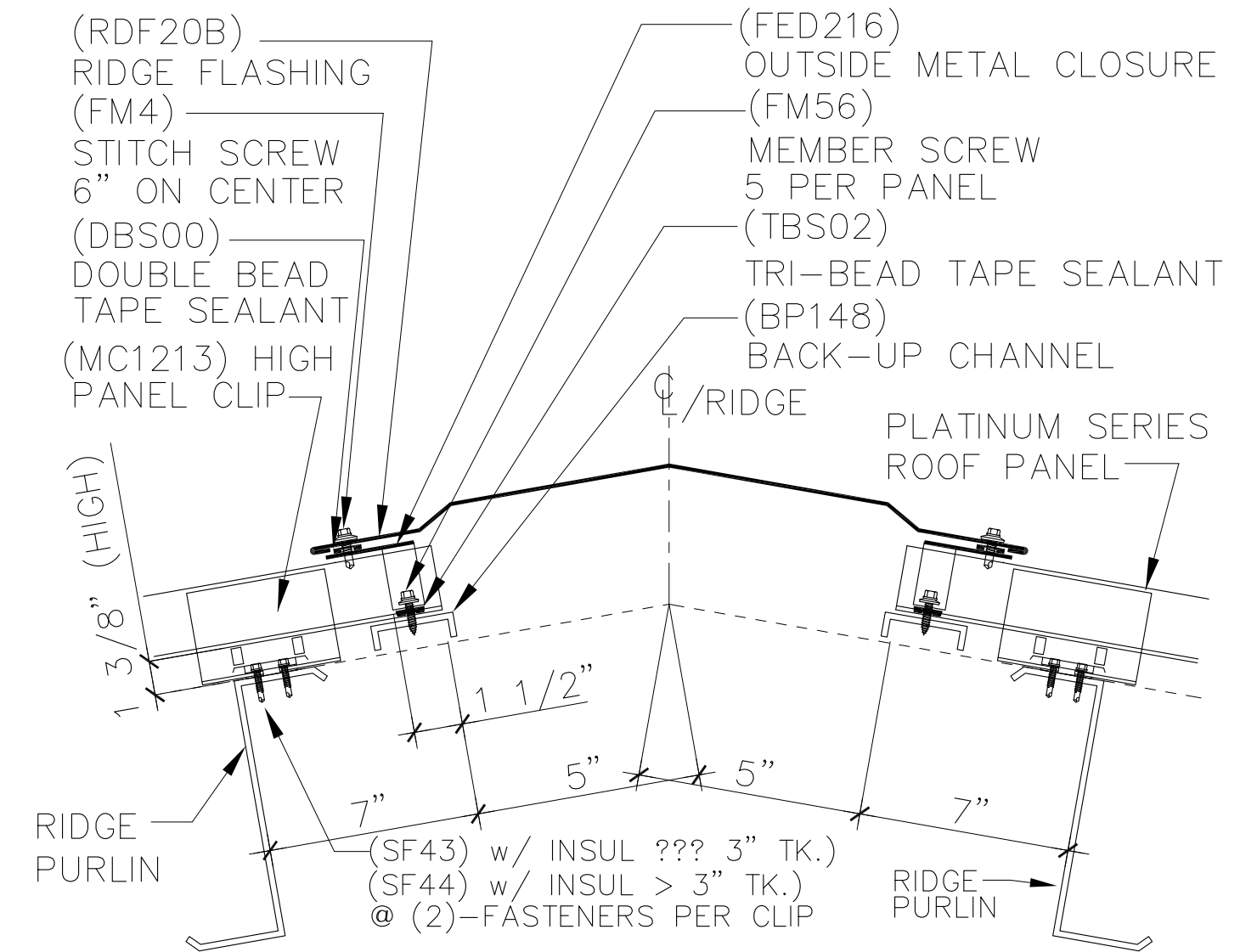
FOR PERMIT



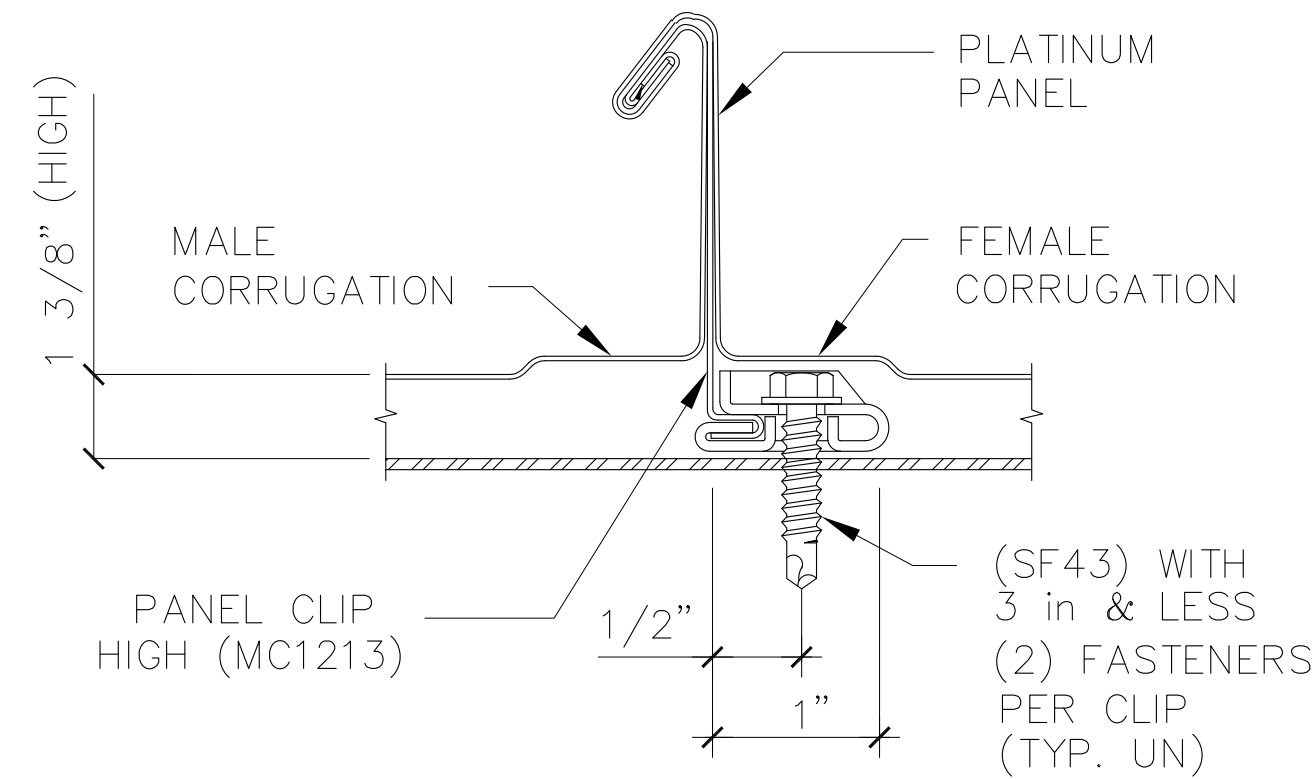
4 DETAIL RAKE START w/ "PLATINUM" ROOF
ID 6845-R0; PT-ST-HF_0 (HC) (ON MODULE)



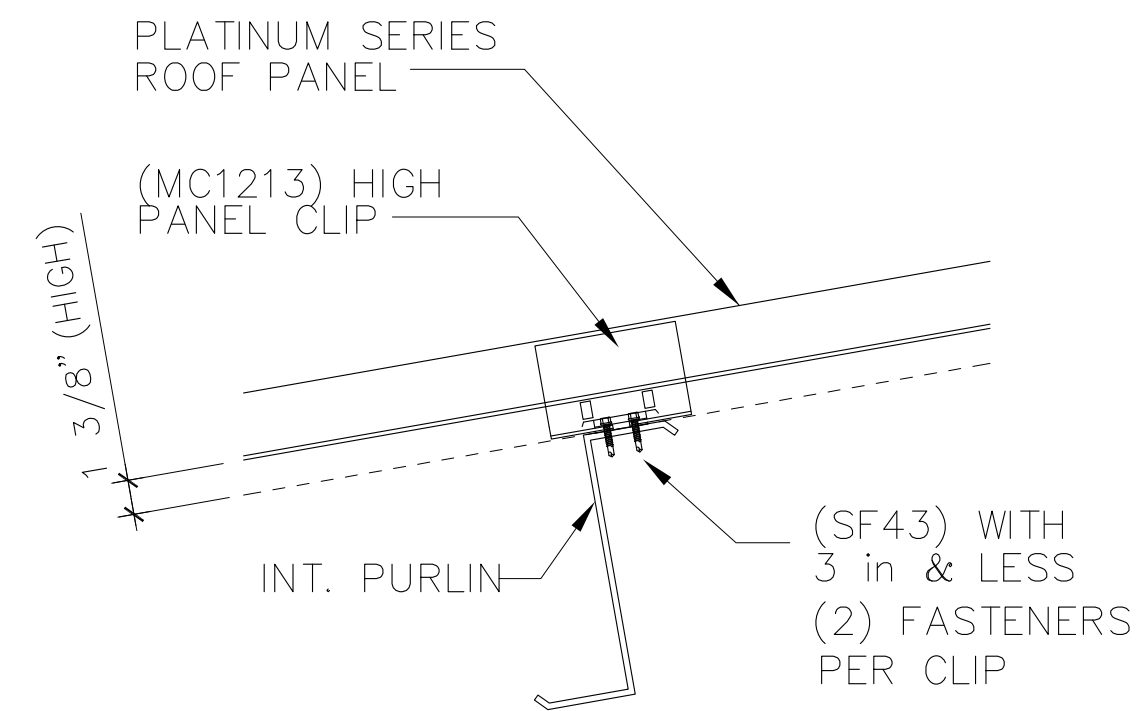
5 DETAIL RAKE END w/ "PLATINUM" ROOF
ID 7835_HF_FC-R0; PT-ST-HF_FC (HC) (OFF MODULE)
(*) - OFFSET SCREW FROM RAKE TRIM SCREW LINE



3 DETAIL PEAK w/ "PLATINUM" ROOF
ID 2906_HF-R0; PS-HF-6 (RIDGE OUT FOR GABLE)



QUAD-LOK SEAM WITH FLOATING CLIP



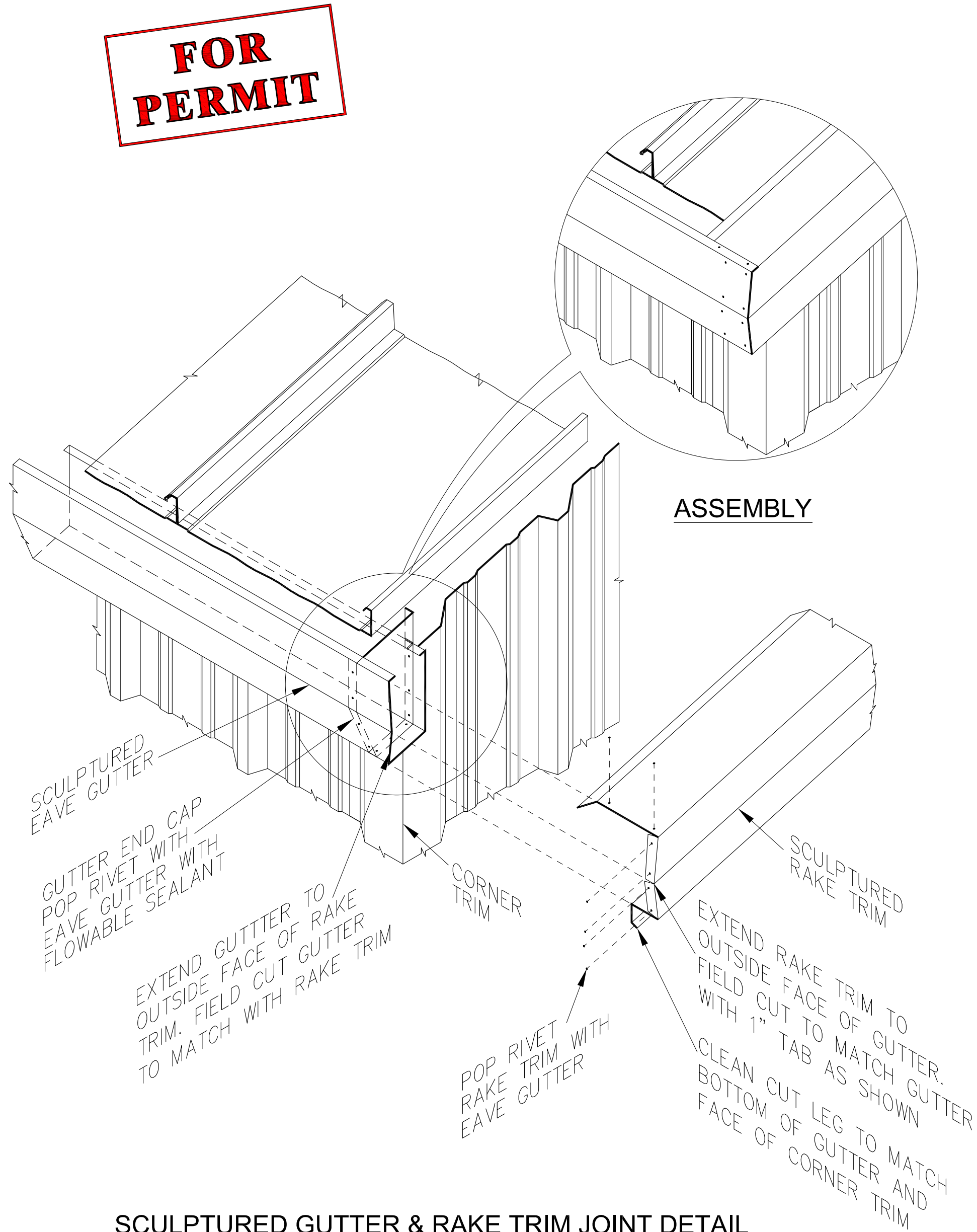
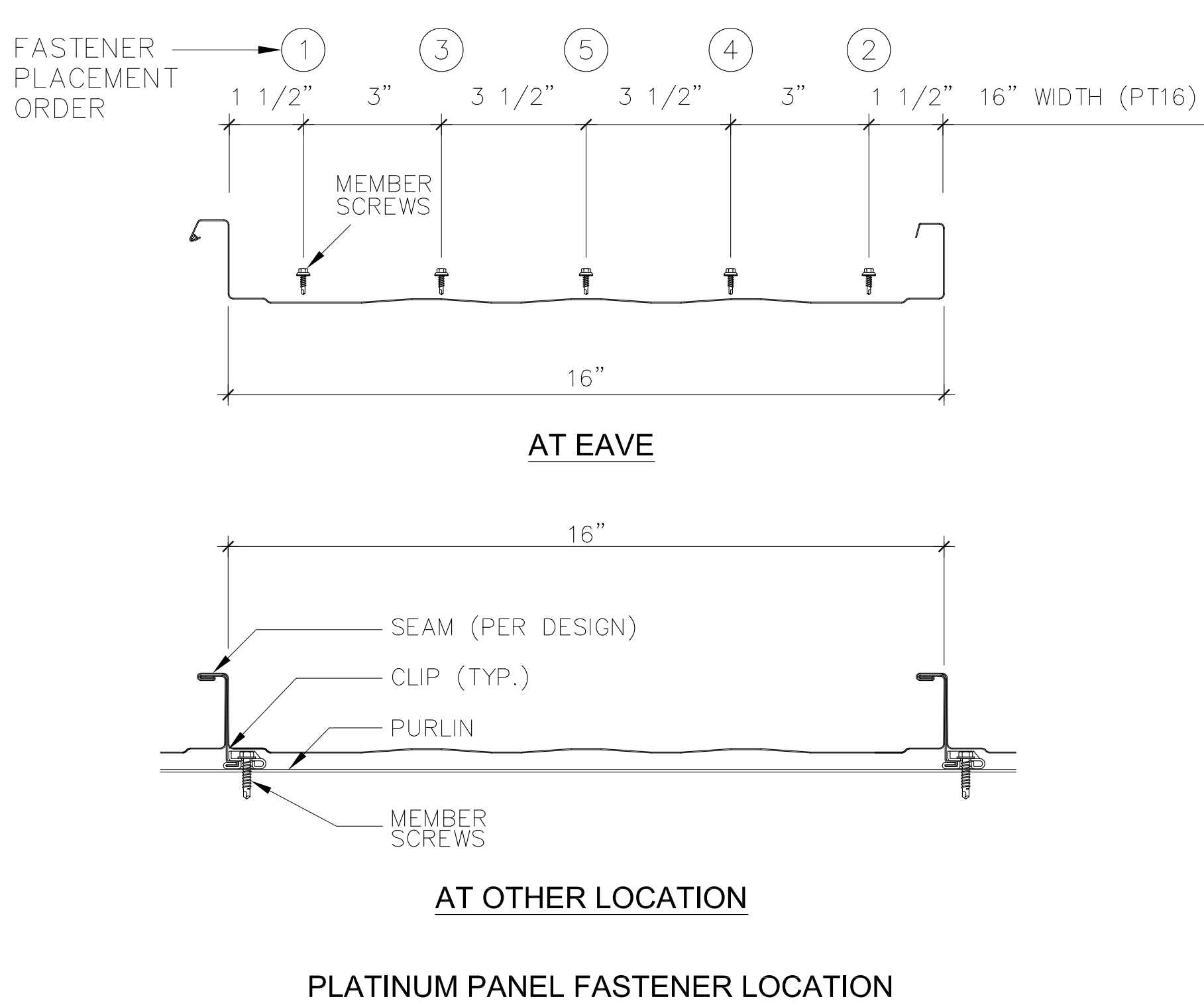
SECTION THRU INTERIOR PURLIN - FLOATING STANDARD CLIP



5/15/2025

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	DETAIL DRAWINGS
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	Columbia Gas (NiSource CG Utility Building)
						END USE	Garage Building BUILDING A
						STREET	1336 Ridgeview Road (40.014367, -83.048681)
						CITY ST ZIP	Upper Arlington, OH 43221
						SALES NO.	82397
						JOB NO.	173430
						SCALE	N.T.S.
						DWG. NO.	E013
						ISSUE	A

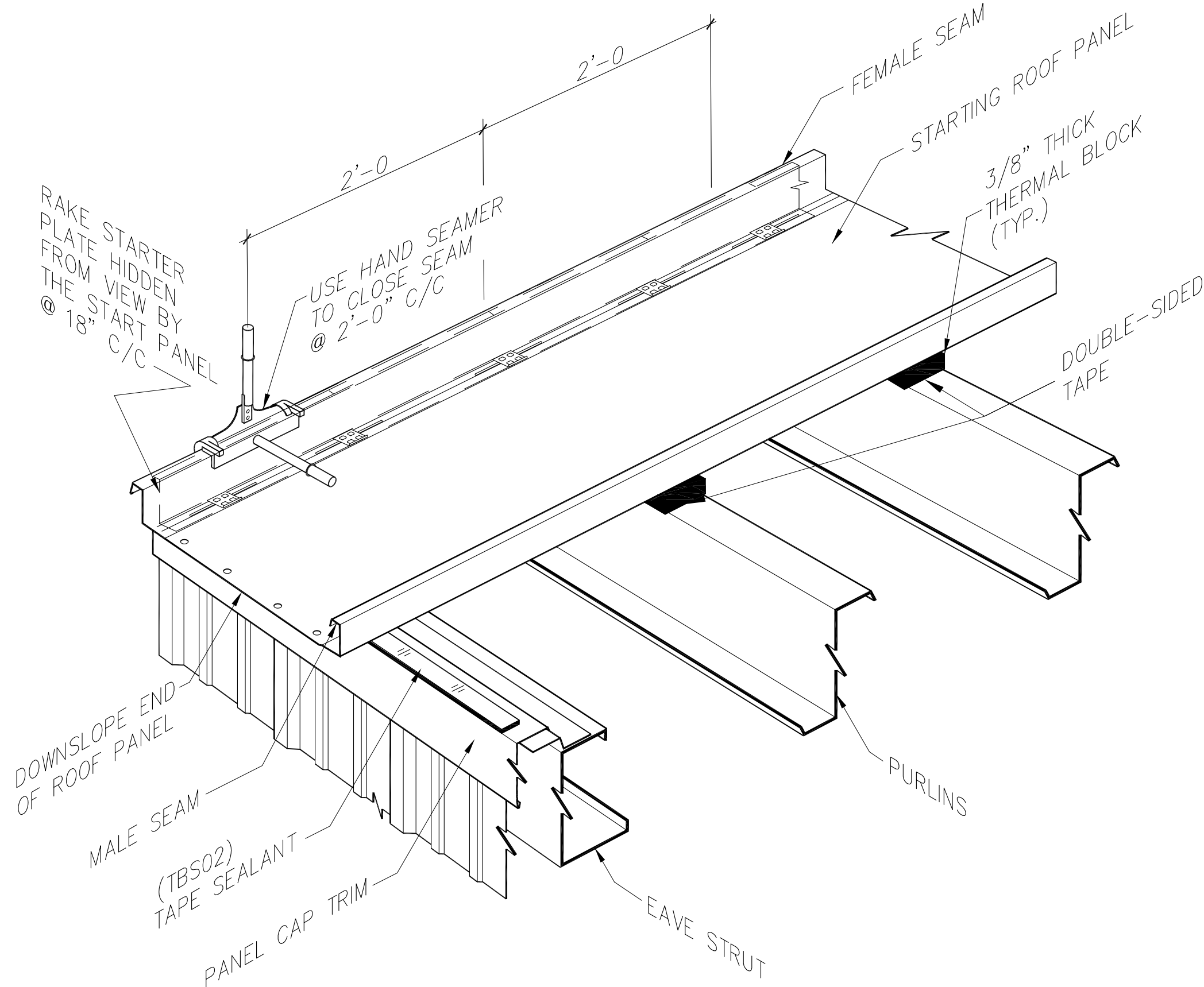




SCULPTURED GUTTER & RAKE TRIM JOINT DETAIL WITH "PLATINUM" ROOF PANEL

NOTE:
SEAM STARTING ROOF PANEL WITH MANUAL SEAMING TOOL AT RAKE STARTER PLATE (2'-0" C/C).

* REFER TO SECTION 9.3.4 OF THE PLATINUM ROOF SYSTEM INSTALLATION GUIDE FOR MORE DETAILS.



SEAMING DETAIL (HC) AT RAKE START WITH "PLATINUM" STARTING ROOF PANEL



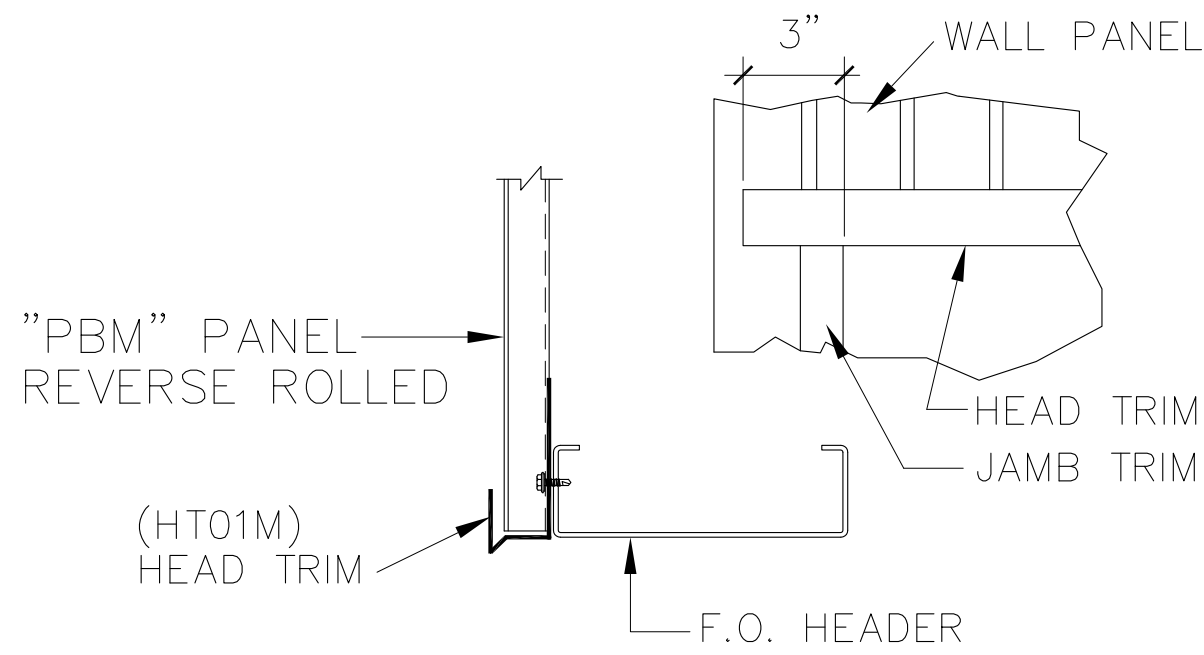
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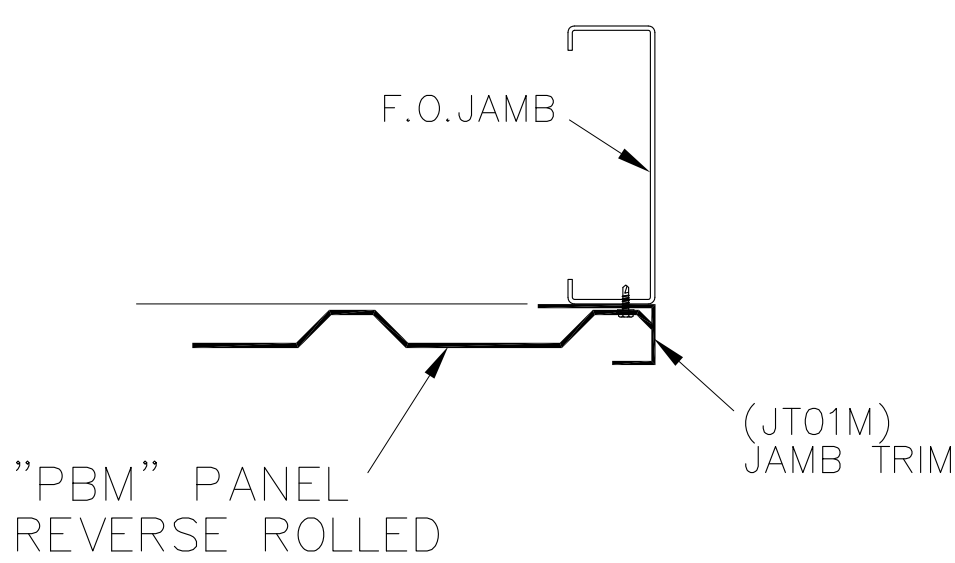
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	DESCRIPTION	DETAIL DRAWINGS
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL	CUSTOMER	STEEL NATION BUILDINGS, INC.
						END USER	Columbia Gas (NiSource CG Utility Building)
						END USE	Garage Building BUILDING A
						STREET	1336 Ridgeview Road (40.014367, -83.048681)
						CITY ST ZIP	Upper Arlington, OH 43221
						SALES NO.	82397
						JOB NO.	173430
						SCALE	N.T.S.
						DWG. NO.	E014
						ISSUE	A



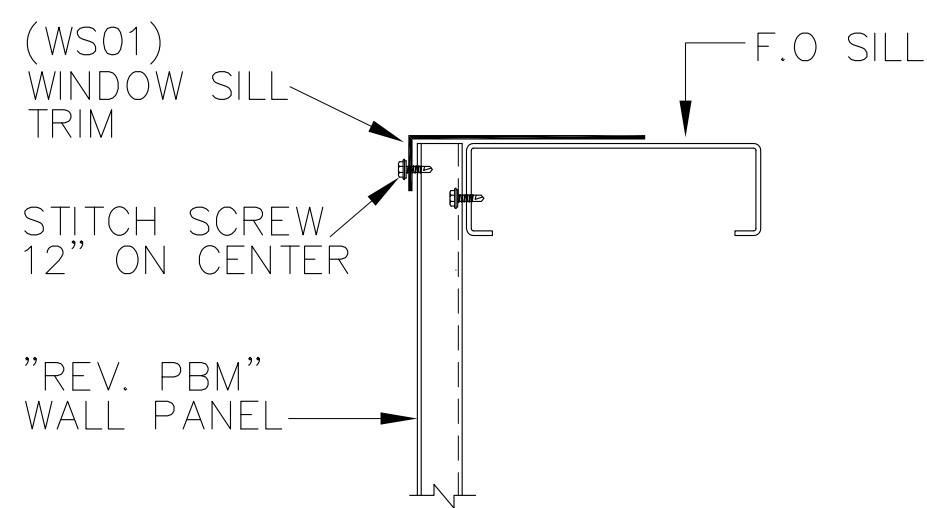
FOR PERMIT



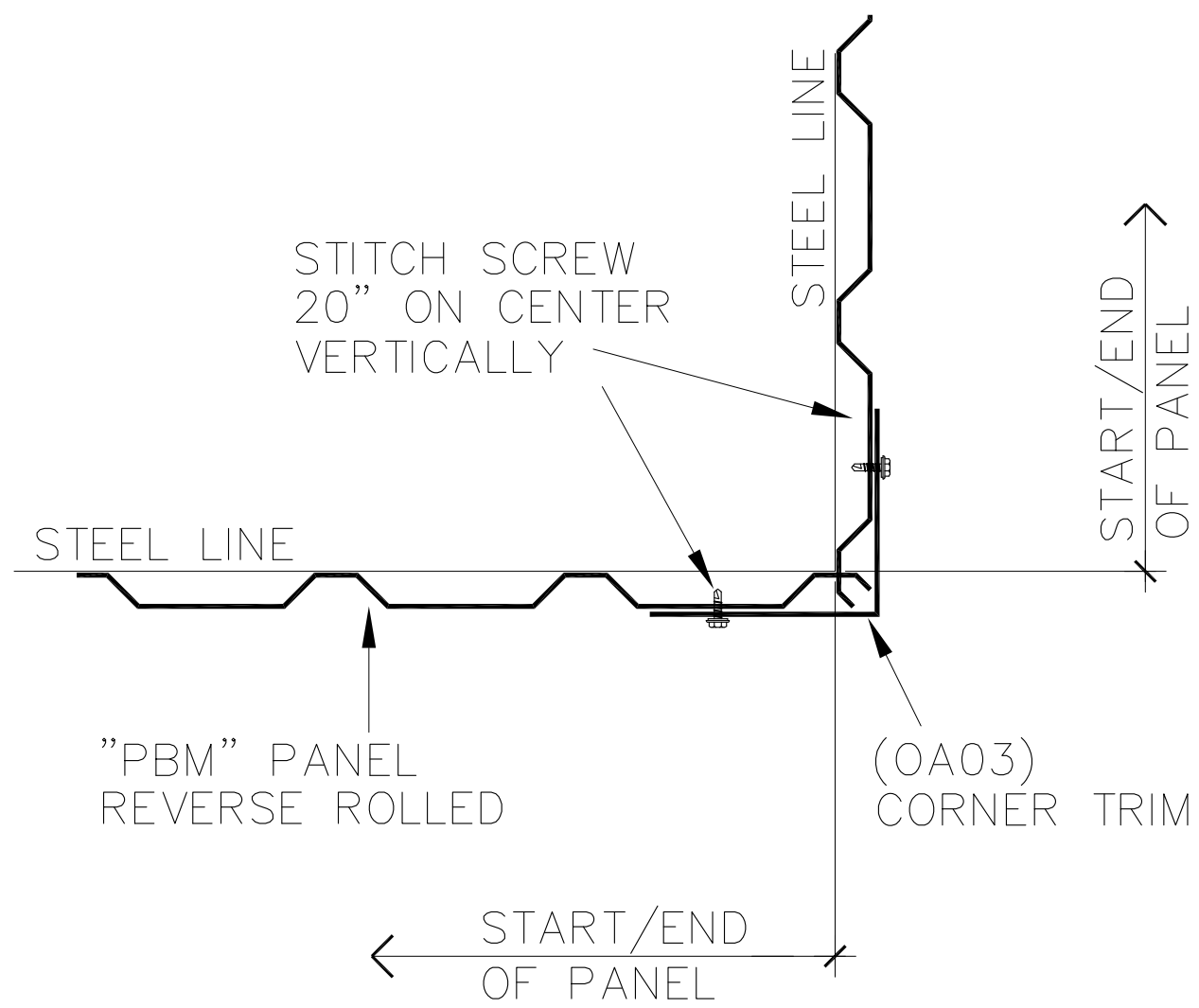
F.O. Header Trim Detail



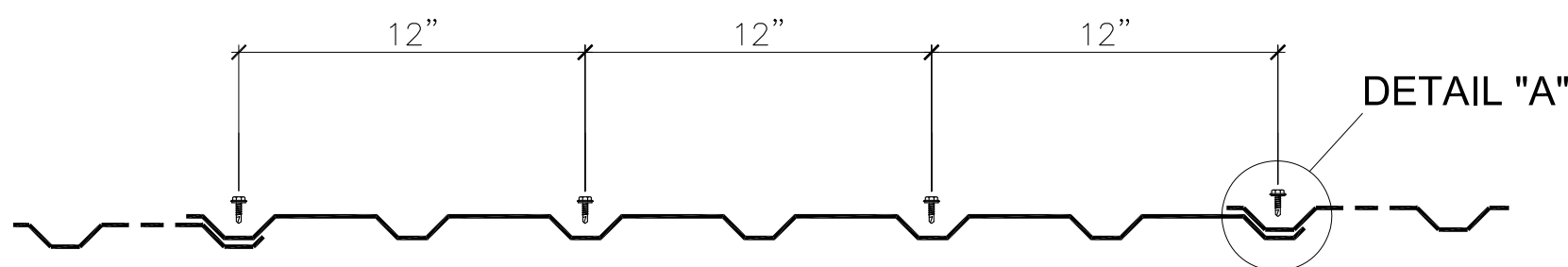
F.O. Jamb Trim Detail



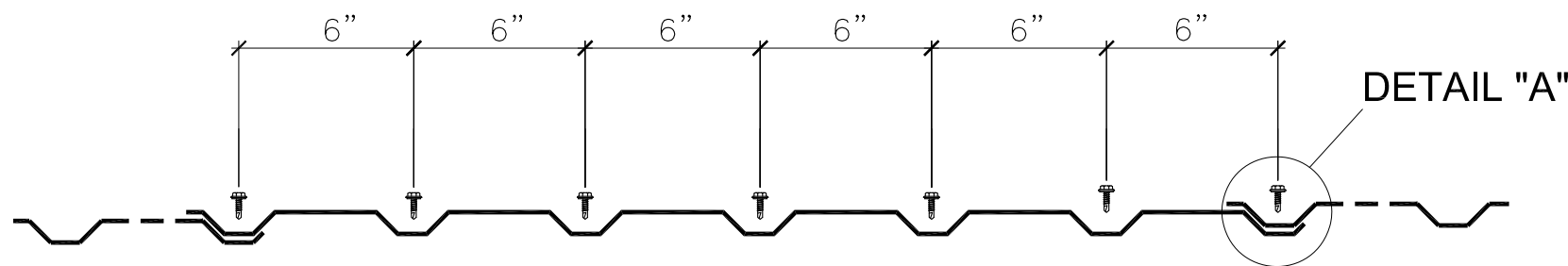
F.O. Sill Trim Detail



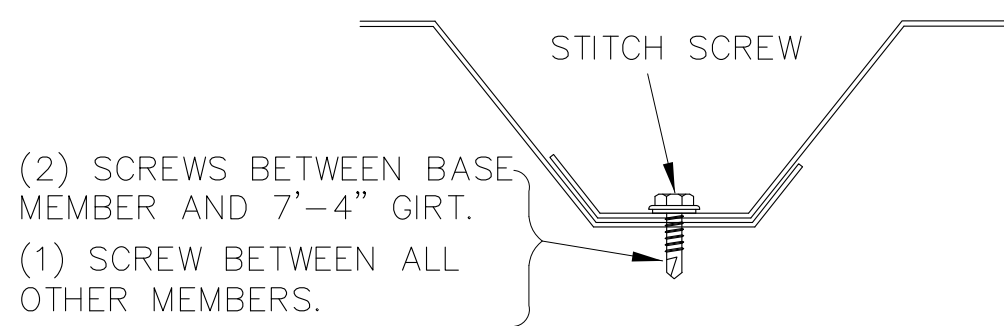
Outside Corner Detail on Module



Member Screw Location for all members unless noted otherwise

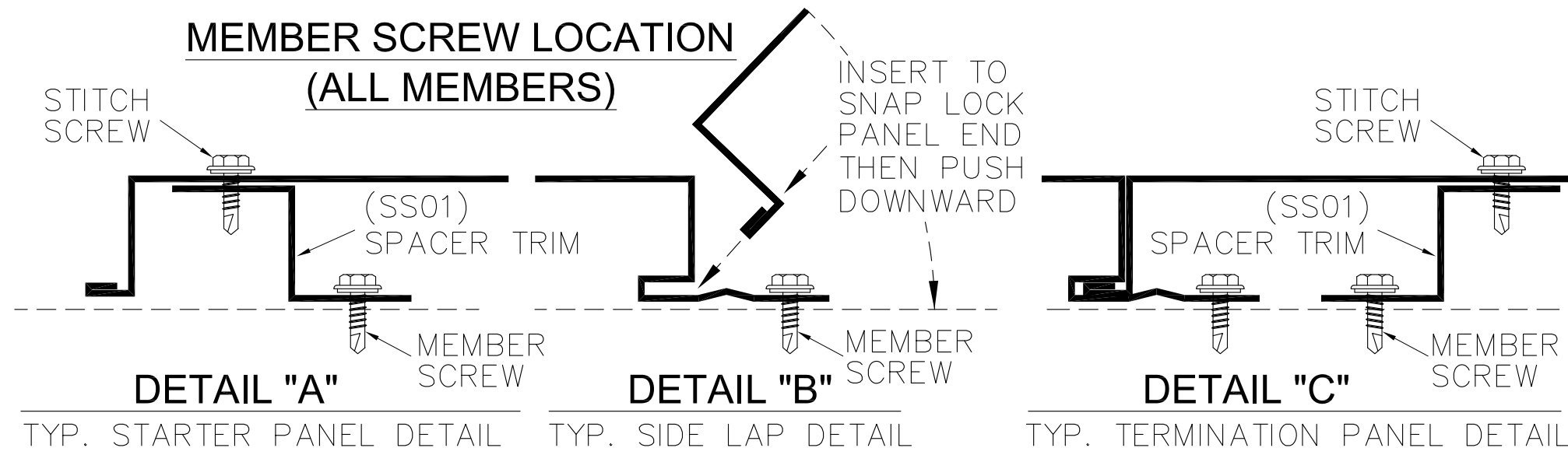
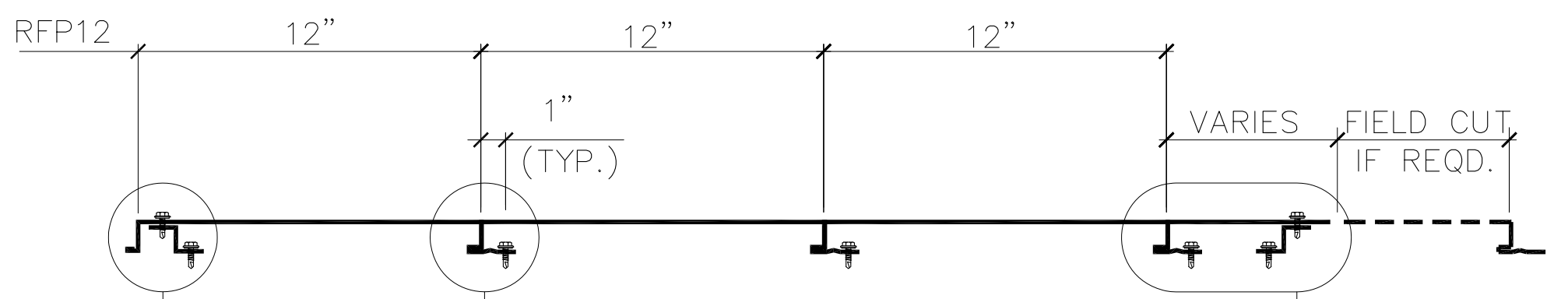


Member Screw Location for base, eave, rake, and panel end laps only



Detail "A" TYP. Side Lap Detail

"M" and "PBM" Wall Panel Screw Layout Reverse Rolled



"RFP12" Rigid Flat Panel (Soffit) Screw Layout

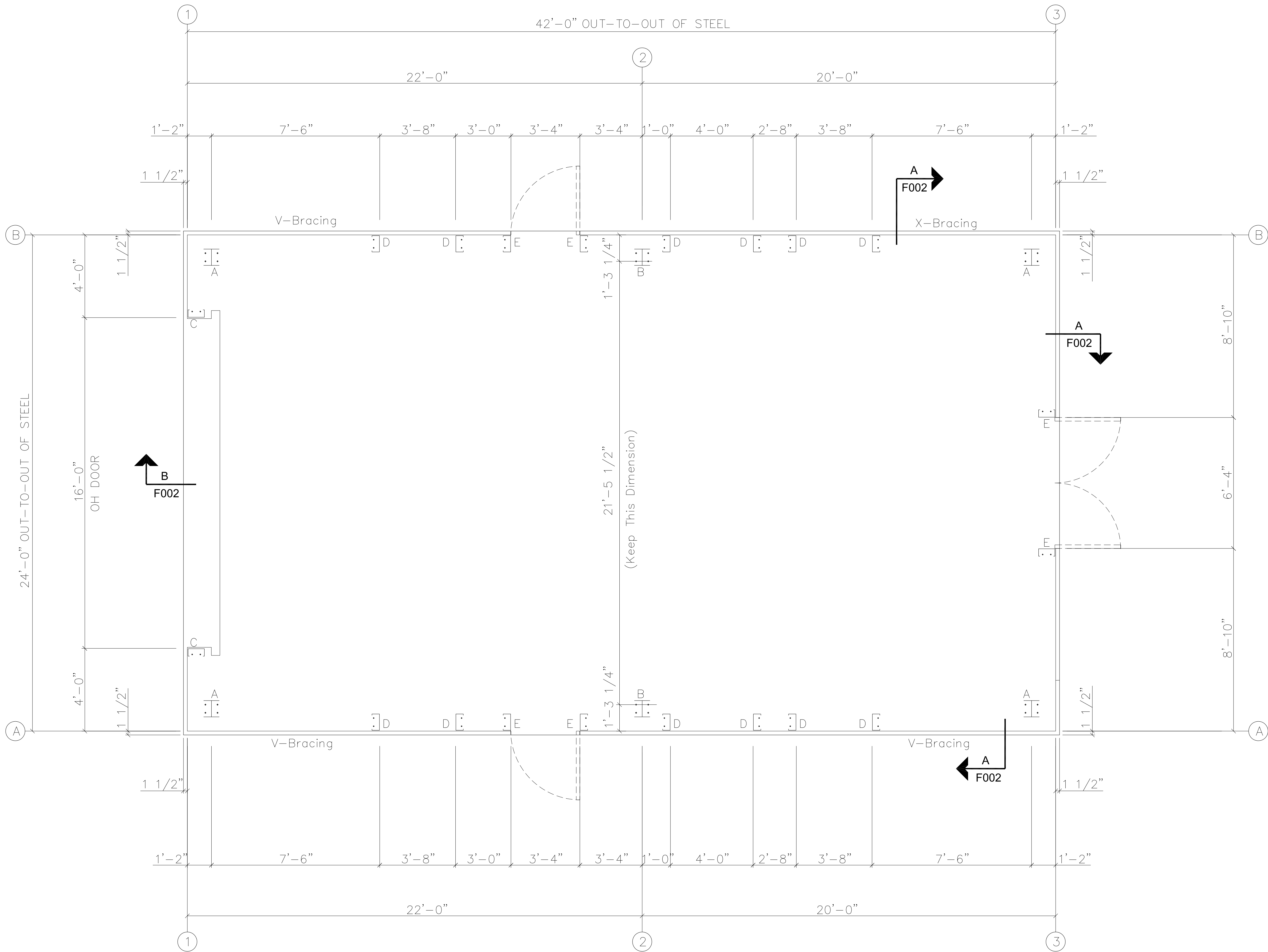


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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	STEELNATION 100 SOUTHPICTE SQUARE LANE ♦ CANONSBURG, PA 15317 PH: 724.225.2252 ♦ INFO@STEELNATION.COM	DESCRIPTION	DETAIL DRAWINGS		
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.		
							END USER	Columbia Gas (NiSource CG Utility Building)		
							END USE	Garage Building	BUILDING	A
							STREET	1336 Ridgeview Road (40.014367, -83.048681)		
							CITY ST ZIP	Upper Arlington, OH 43221		
							SALES NO:	82397	JOB NO:	173430
							SCALE:	N.T.S.	DWG. NO:	E015
									ISSUE	A

FOR PERMIT



COLUMN LAYOUT PLAN

NOTE: All Base Plates @ 100'-0" (U.N.)



5/15/2025

SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT STEEL NATION ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY S.N. IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN S.N. ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.

GENERAL NOTES:

- THE ANCHOR BOLT DETAILS SHOWN ON THIS DRAWING LOCATE THE ANCHOR BOLTS IN REFERENCE TO BOTH THE BUILDING STEEL LINE AND THE OUTSIDE OF STEEL NATION'S SUGGESTED PANEL RECESS OF 1'-1/2"
- THE ANCHOR BOLT SETTING PLAN LOCATES ANCHOR BOLTS IN REFERENCE TO THE OUTSIDE OF THE PANEL RECESS SHOWN. IF THE ACTUAL PANEL RECESS IS DIFFERENT FROM WHAT IS SHOWN ON THE ANCHOR BOLT SETTING PLAN, THEN ALL REFERENCE DIMENSIONS FROM THE OUTSIDE OF THE PANEL RECESS MUST BE DETERMINED BY THE CUSTOMER.
- BOTTOM OF ALL BASE PLATES ARE AT THE SAME ELEVATION. (UNLESS NOTED)

NOTE:

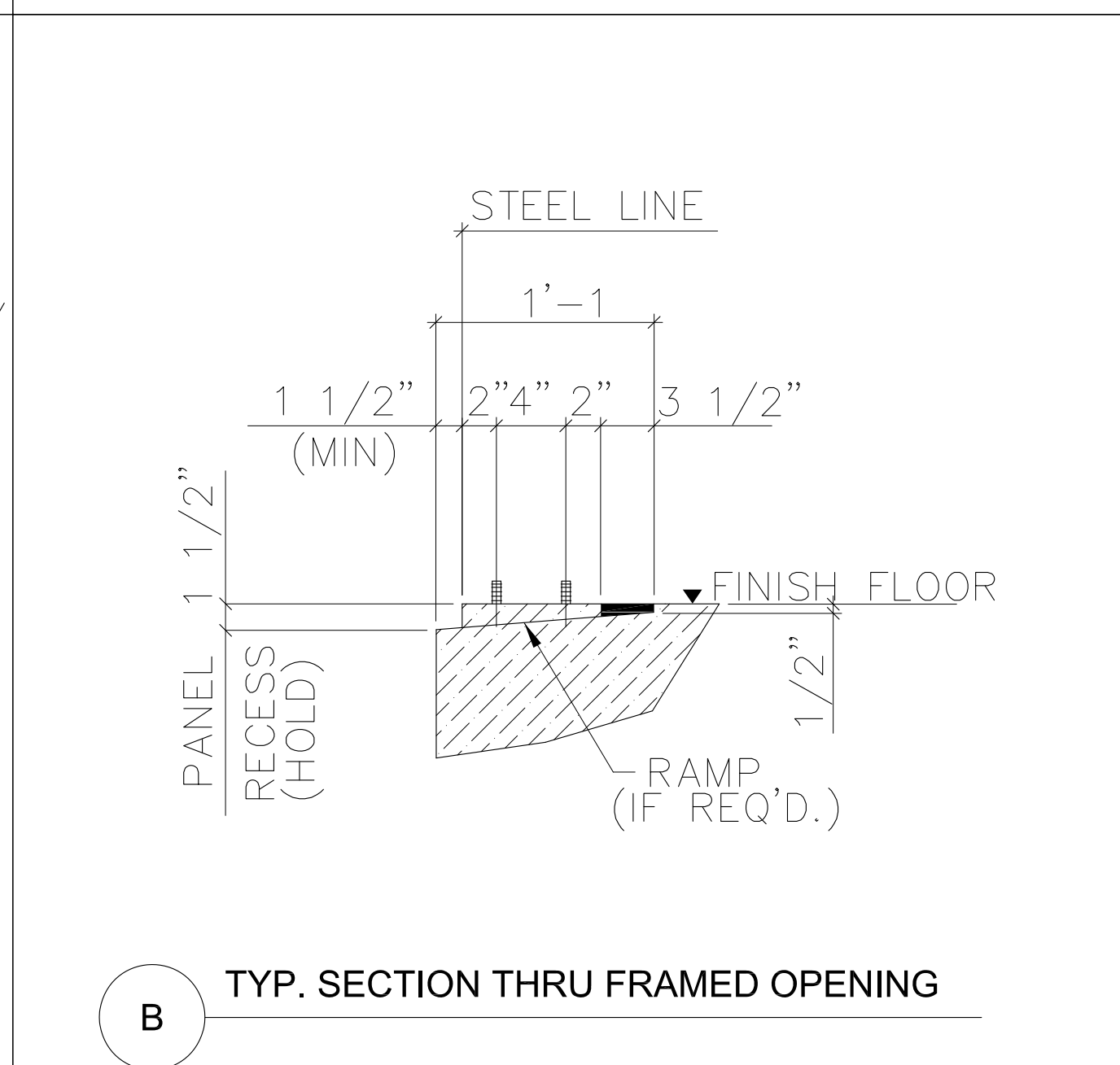
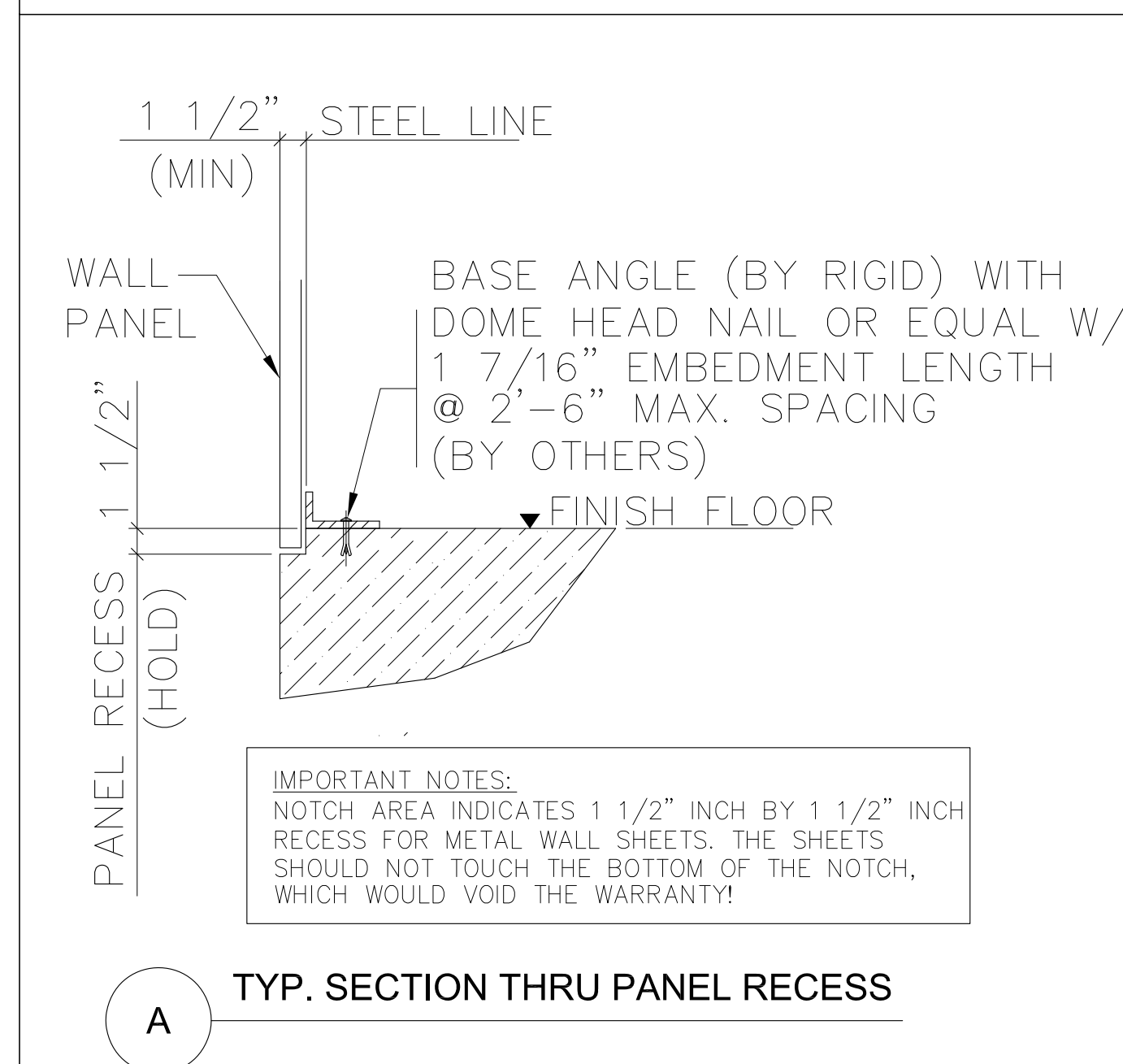
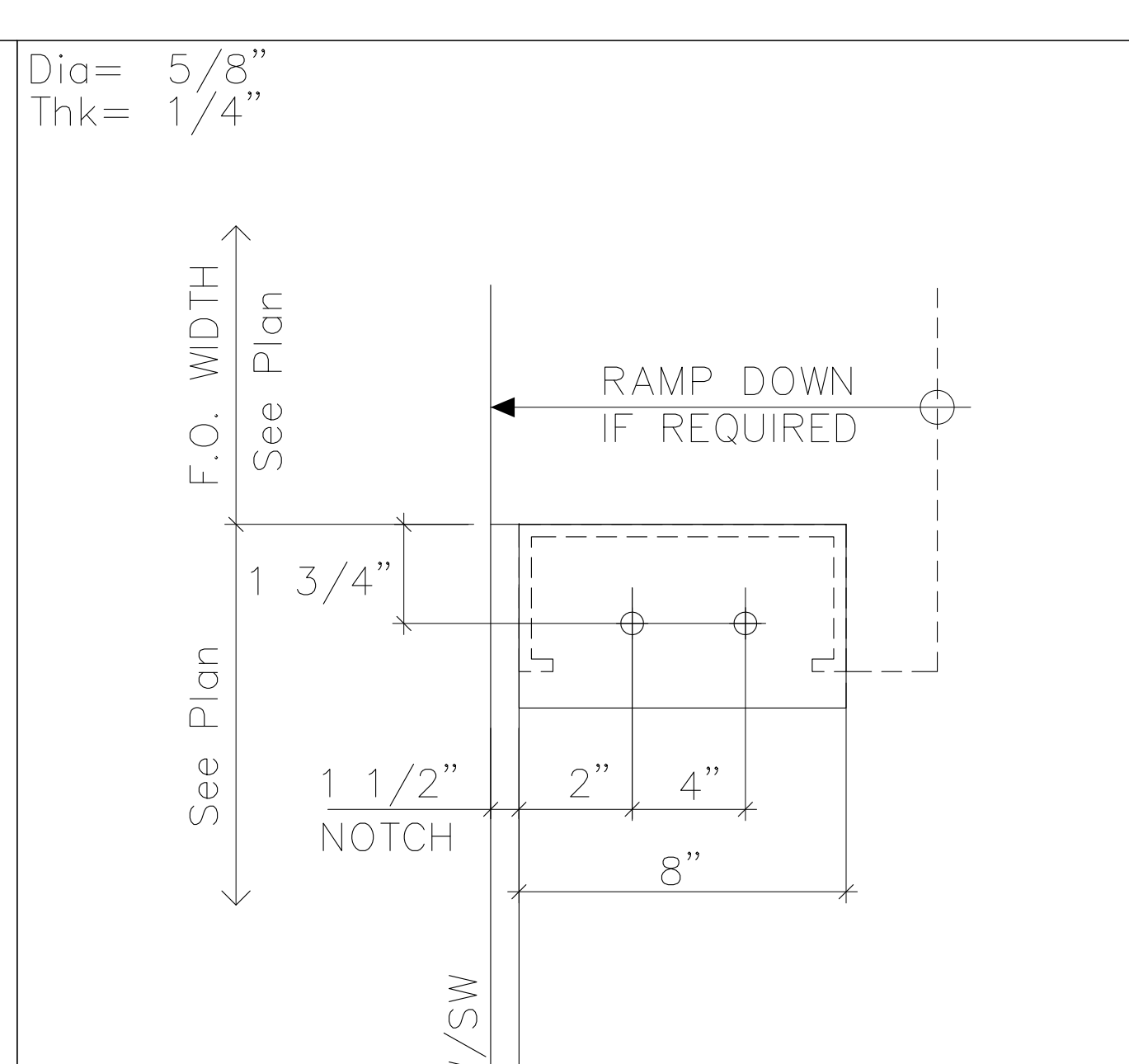
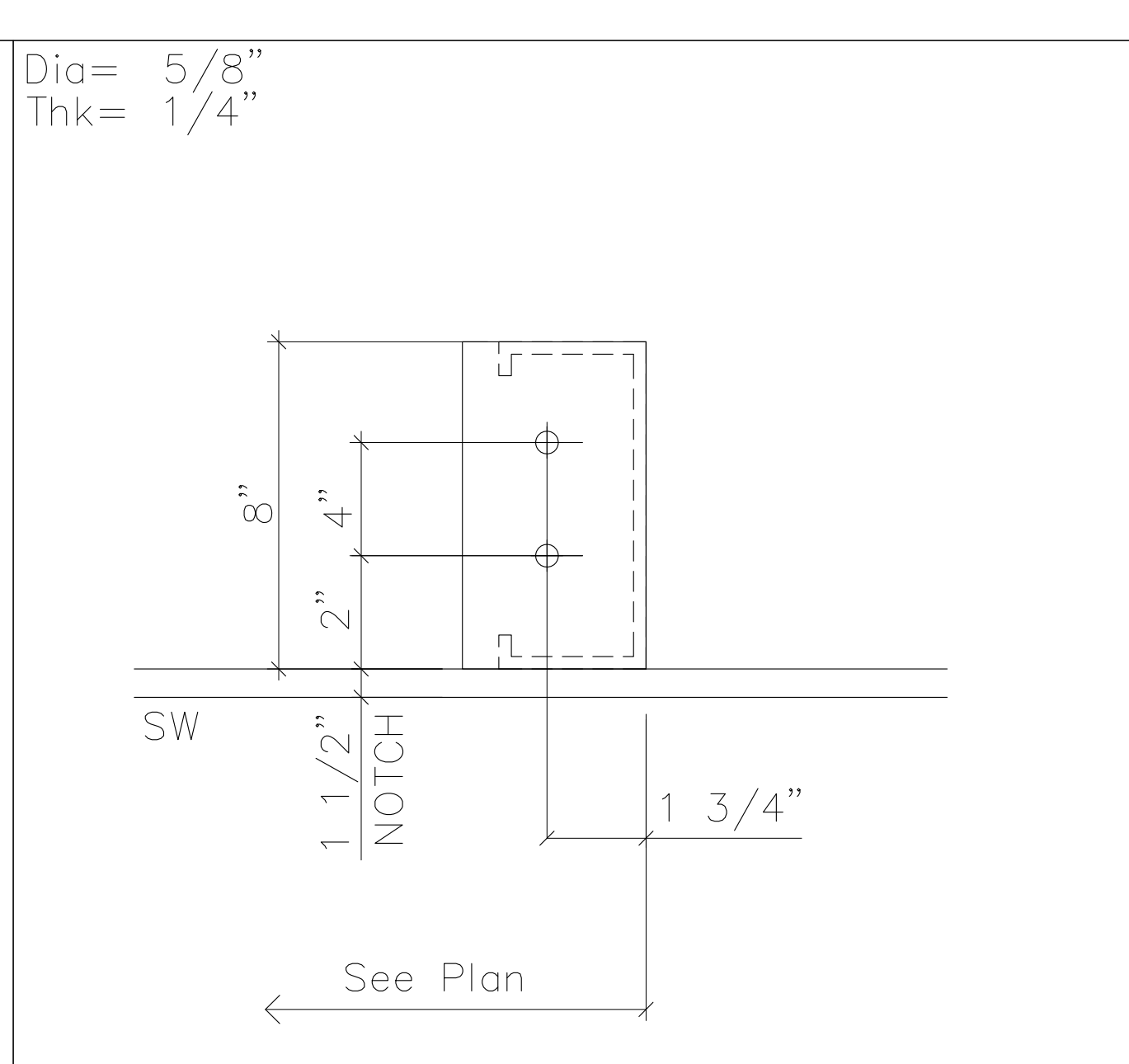
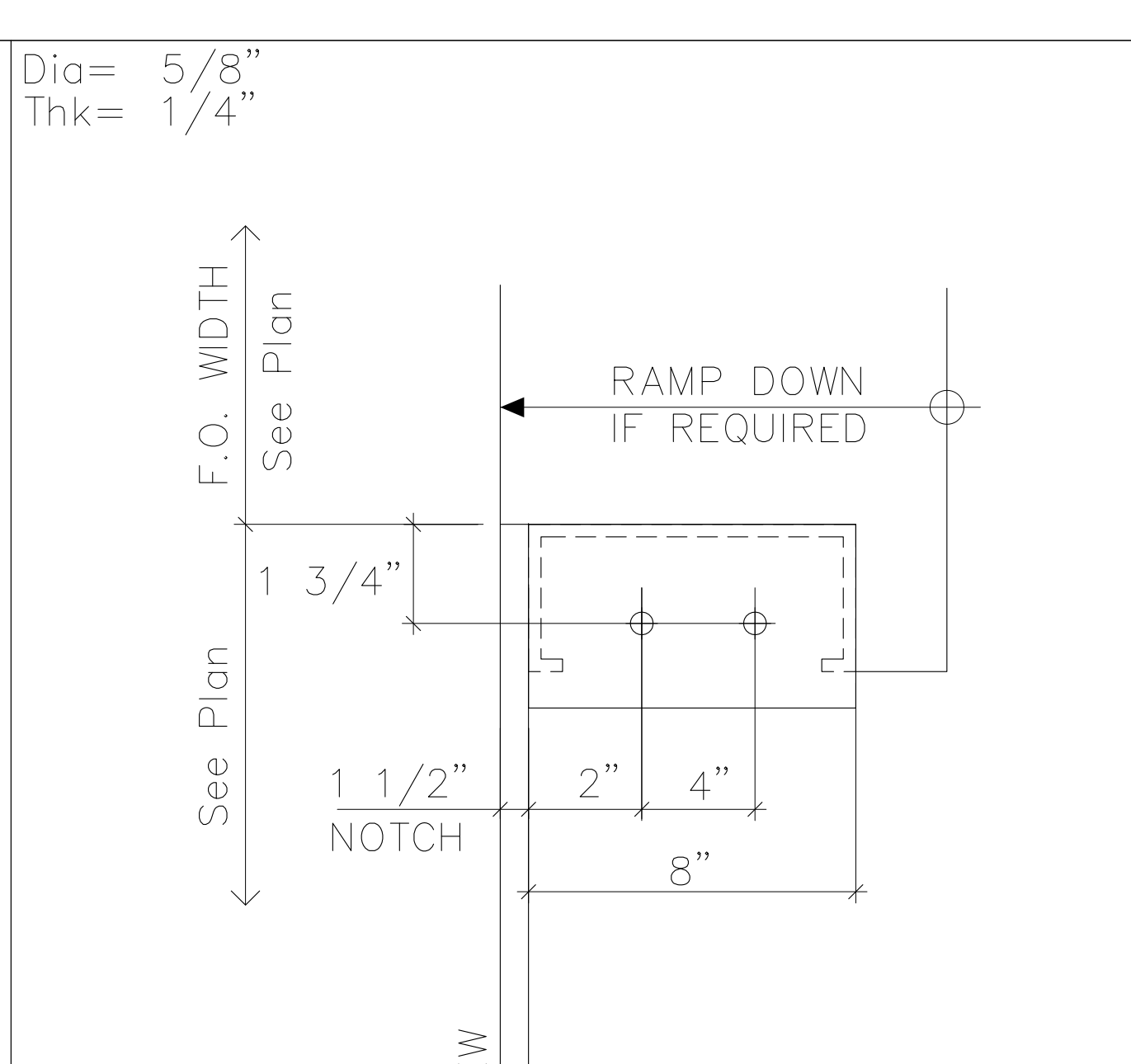
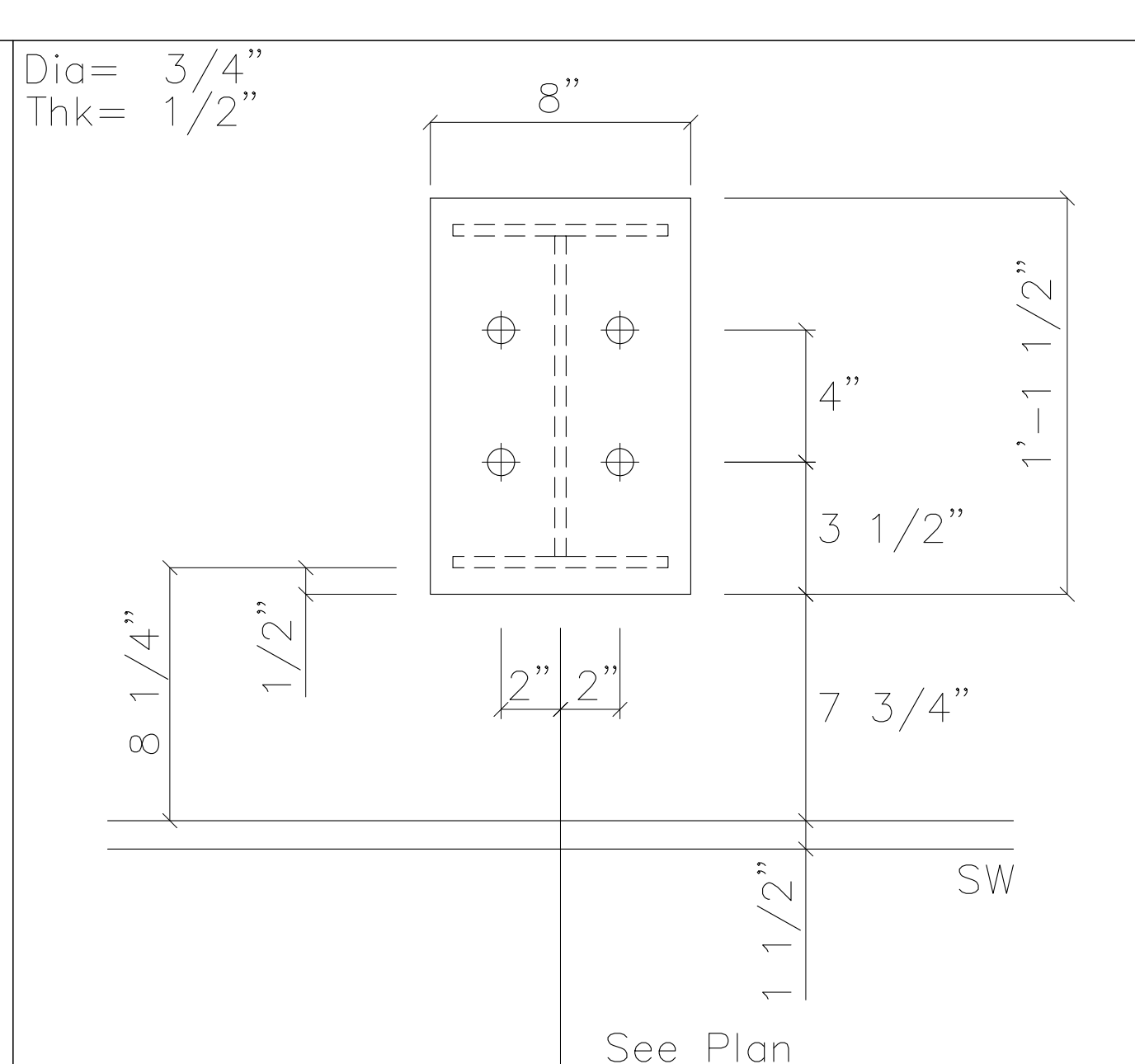
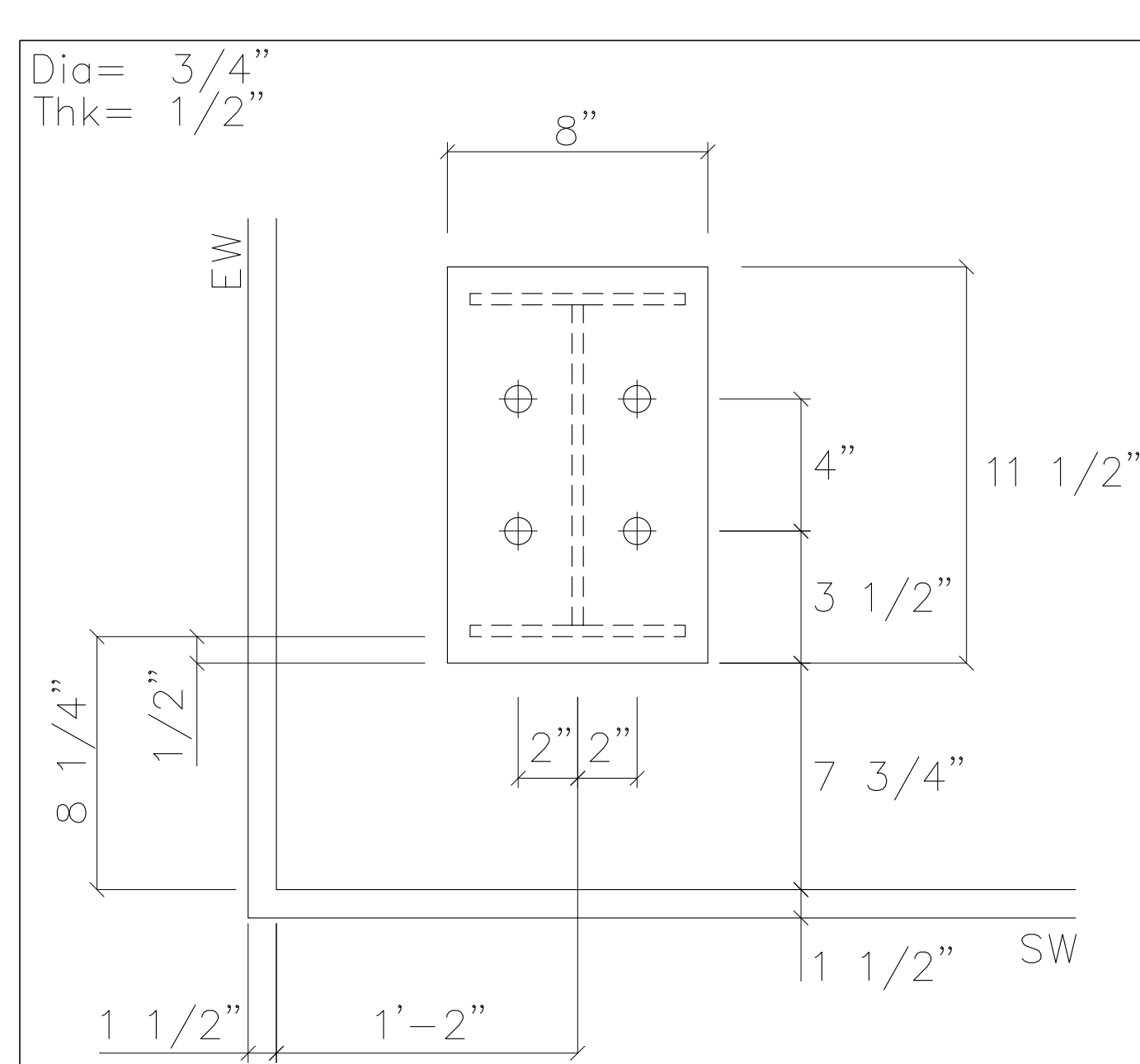
ONLY ANCHOR BOLTS SETTING PLAN ISSUED & STAMPED "FOR CONSTRUCTION" SHALL BE USED IN SETTING ANCHOR BOLTS. "STEEL NATION BUILDINGS" SHALL NOT BE RESPONSIBLE FOR ERROR OR DISCREPANCY IF THE DRAWING USED IS NOT VALID FOR CONSTRUCTION.

QTY.	SYMBOL	DIA.	PROJ.	ANCHOR BOLT DETAIL	
—	⊕	1/2"	1"	ANCHOR BOLT PROJECTION "PROJ." IS MEASURED FROM BOTTOM OF BASE PLATE	DETAIL OF ANCHOR BOLT AS PER THE SUPPLIER
40	⊕	5/8"	2"		
24	⊕	3/4"	2 1/2"		
—	⊕	7/8"	2 3/4"	LENGTH OF "PROJ." SHOWN IS FOR ONE NUT + ONE WASHER	NUTS & WASHERS BY SUPPLIER
—	⊕	1"	3"		
—	⊕	1 1/8"	3 1/2"		
—	⊕	1 1/2"	3 1/2"	ANCHOR BOLTS NOT BY STEEL NATION BUILDINGS, INC.	

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL



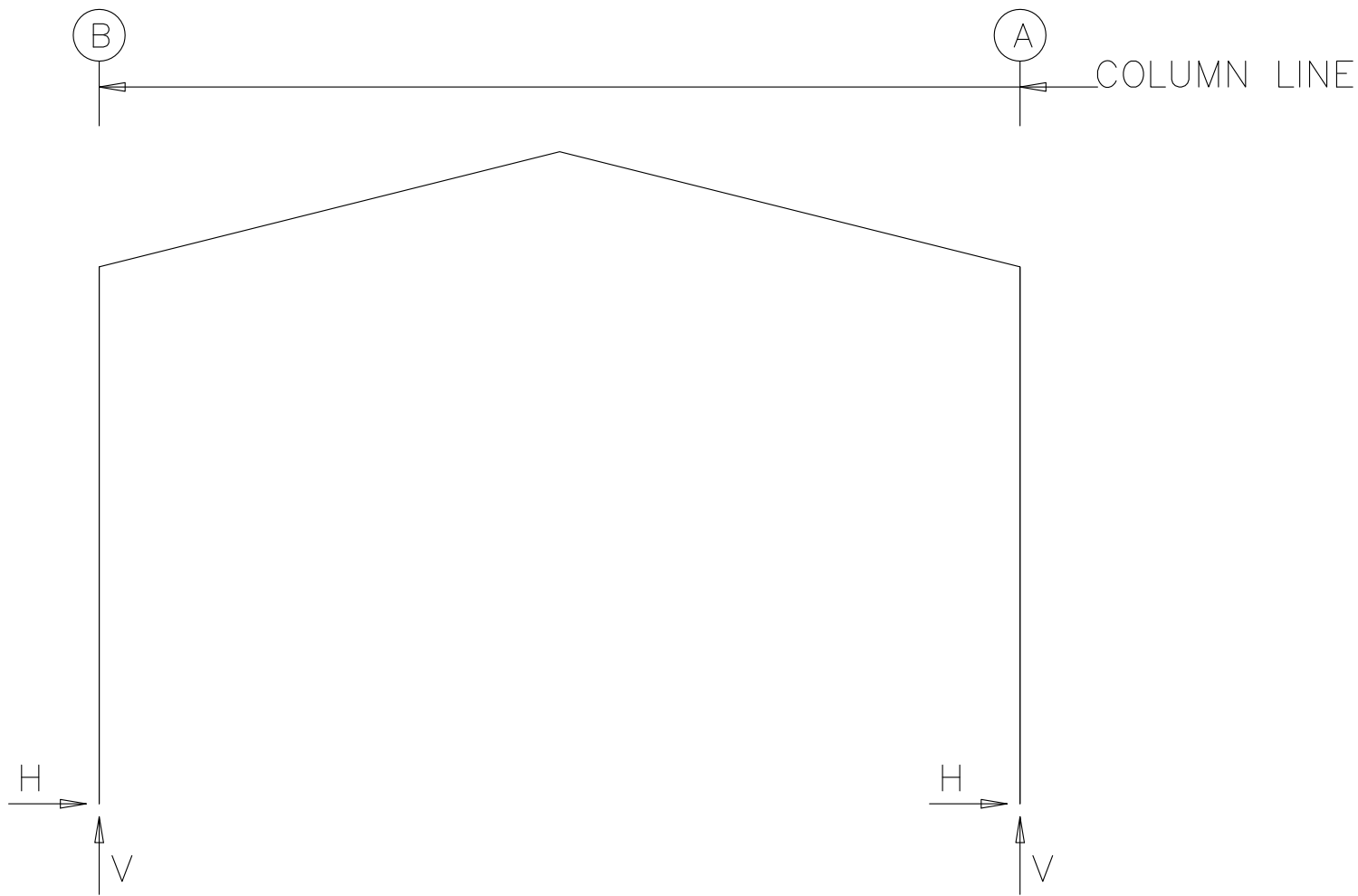
DESCRIPTION	COLUMN LAYOUT PLAN			
CUSTOMER	STEEL NATION BUILDINGS, INC.			
END USER	Columbia Gas (NiSource CG Utility Building)			
END USE	Garage Building	BUILDING	A	
STREET	1336 Ridgeview Road (40.014367, -83.048681)			
CITY ST ZIP	Upper Arlington, OH 43221			
SALES NO.	82397	JOB NO.	173430	SCALE
			N.T.S.	F001
				ISSUE
				A



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5/15/2025

[illegible]



RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Id	Col Line	Column_Reactions(k)						Bolt(in) Qty Dia		Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
1*	B	3	1.9	5.0	6	-1.8	-2.2	4	0.750	8.000	11.50	0.500	0.0
		1	1.1	7.4	4	-1.5	-3.1						
1*	A	7	1.8	-2.2	2	-1.9	5.0	4	0.750	8.000	11.50	0.500	0.0
		8	-1.1	7.2	5	1.5	-3.1						
1*	Frame lines: 1 3												

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Id	Col Line	Column_Reactions(k)						Bolt(in) Qty Dia		Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
2*	B	3	3.0	8.7	6	-2.5	-2.5	4	0.750	8.000	13.50	0.500	0.0
		1	2.0	12.5	4	-2.0	-4.1						
2*	A	7	2.5	-2.5	2	-3.0	8.7	4	0.750	8.000	13.50	0.500	0.0
		8	-1.9	12.1	5	2.0	-4.1						
2*	Frame lines: 2												

NOTES FOR REACTIONS

1. All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
2. Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
3. Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
4. Building reactions are based on the following building data:

Width

(ft)

= 24.0

Length

(ft)

= 42.0

Eave Height

(ft)

= 14.0/ 14.0

Roof Slope

(rise/12)

= 3.00/ 3.00

Roof Dead Load

(psf)

= 5.0

Wall Dead Load

Left Endwall

(psf)

= 55.0

Right Endwall

(psf)

= 55.0

Front Sidewall

(psf)

= 55.0

Back Sidewall

(psf)

= 55.0

Roof Live Load

(psf)

= 20.0

Frame Live Load

Min

(psf)

= 13.9

Max

(psf)

= 17.0

Collateral Load

(psf)

= 5.0

Snow Load

(psf)

= 20.0

Wind Speed

(mph)

=115.0

Wind Code

=

OBC 24 (IBC 21)

Exposure

=

C

Closure

=

Enclosed

Internal Wind Coeff

=

-0.18, +0.18

Risk Category

=

II - Normal

Importance - Wind

=

1.00

Importance - Seismic

=

1.00

Seismic Design Category

=

B

Seismic Coeff

(Sms)

= 0.19

5. Loading conditions are:

1

Dead+Collateral+Snow+Snow_Drift

2

Dead+Collateral+0.75Snow+0.45Wind_Left1+0.75Slide_Snow

3

Dead+Collateral+0.75Snow+0.45Wind_Right1+0.75Slide_Snow

4

0.6Dead+0.6Wind_Left1

5

0.6Dead+0.6Wind_Right1

6

0.6Dead+0.6Wind_Left2

7

0.6Dead+0.6Wind_Right2

8

Dead+Collateral+MIN_SNOW

RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Id	Column Line	-----Dead-----		-----Collateral-----		-----Live-----		-----Snow-----		-----Snow_Drift-----		--Wind_Left1--	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1*	B	0.2	1.6	0.4	1.6	0.5	3.5	0.6	3.9	0.0	0.3	-2.6	-6.7
1*	A	-0.2	1.6	-0.4	1.6	-0.5	3.5	-0.6	3.9	0.0	0.0	-2.0	-2.4
Frame Id	Column Line	-Wind_Right1-		--Wind_Left2-		-Wind_Right2-		--Wind_Long1-		--Wind_Long2-		-Seismic_Left	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1*	B	2.0	-2.4	-3.2	-5.2	1.4	-0.9	1.1	-4.8	0.6	-4.5	-0.6	-0.7
1*	A	2.6	-6.7	-1.4	-0.9	3.2	-5.2	-0.6	-4.5	-1.1	-4.8	-0.6	0.7
Frame Id	Column Line	Seismic_Right		-Seismic_Long		-MIN_SNOW--		F1UNB_SL_L-		F1UNB_SL_R-			
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert		
1*	B	0.6	0.7	0.0	-1.0	0.6	4.1	0.4	3.2	0.4	1.6		
1*	A	0.6	-0.7	0.0	-1.0	-0.6	4.1	-0.4	1.6	-0.4	3.2		
Frame Id	Column Line	-----Dead-----		-----Collateral-----		-----Live-----		-----Snow-----		-----Snow_Drift-----		--Wind_Left1--	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
2*	B	0.3	2.4	0.7	2.9	0.7	5.0	1.0	6.6	0.0	0.6	-3.5	-9.1
2*	A	-0.3	2.4	-0.7	2.9	-0.7	5.0	-1.0	6.6	0.0	0.0	-2.9	-3.3
Frame Id	Column Line	-Wind_Right1-		--Wind_Left2-		-Wind_Right2-		--Wind_Long1-		--Wind_Long2-		-Seismic_Left	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
2*	B	2.9	-3.3	-4.5	-6.6	1.9	-0.7	1.9	-6.4	1.3	-5.9	-0.6	-0.7
2*	A	3.5	-9.1	-1.9	-0.7	4.5	-6.6	-1.3	-5.9	-1.9	-6.4	-0.6	0.7
Frame Id	Column Line	Seismic_Right		-Seismic_Long		-MIN_SNOW--		F2UNB_SL_L-		F2UNB_SL_R-			
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert		
2*	B	0.6	0.7	0.0	-1.0	1.0	6.8	0.7	5.3	0.7	2.7		
2*	A	0.6	-0.7	0.0	-1.0	-1.0	6.8	-0.7	2.7	-0.7	5.3		
1*	Frame lines:			1	3								
2*	Frame lines:			2									

BUILDING BRACING REACTIONS

Loc	Wall Line	Col Line	± Reactions(k)				Panel_Shear (lb/ft)		Note
			Wind Horz	Wind Vert	Seismic Horz	Seismic Vert	Wind	Seis	
L_EW	1								(h)
F_SW	A	2,3	1.7	1.1	1.5	1.0			
R_EW	3								(h)
B_SW	B	3,2	1.7	1.1	1.5	1.0			
(h)Rigid frame at endwall									
Reactions for seismic represent shear force, Eh									
Reaction values shown are unfactored									

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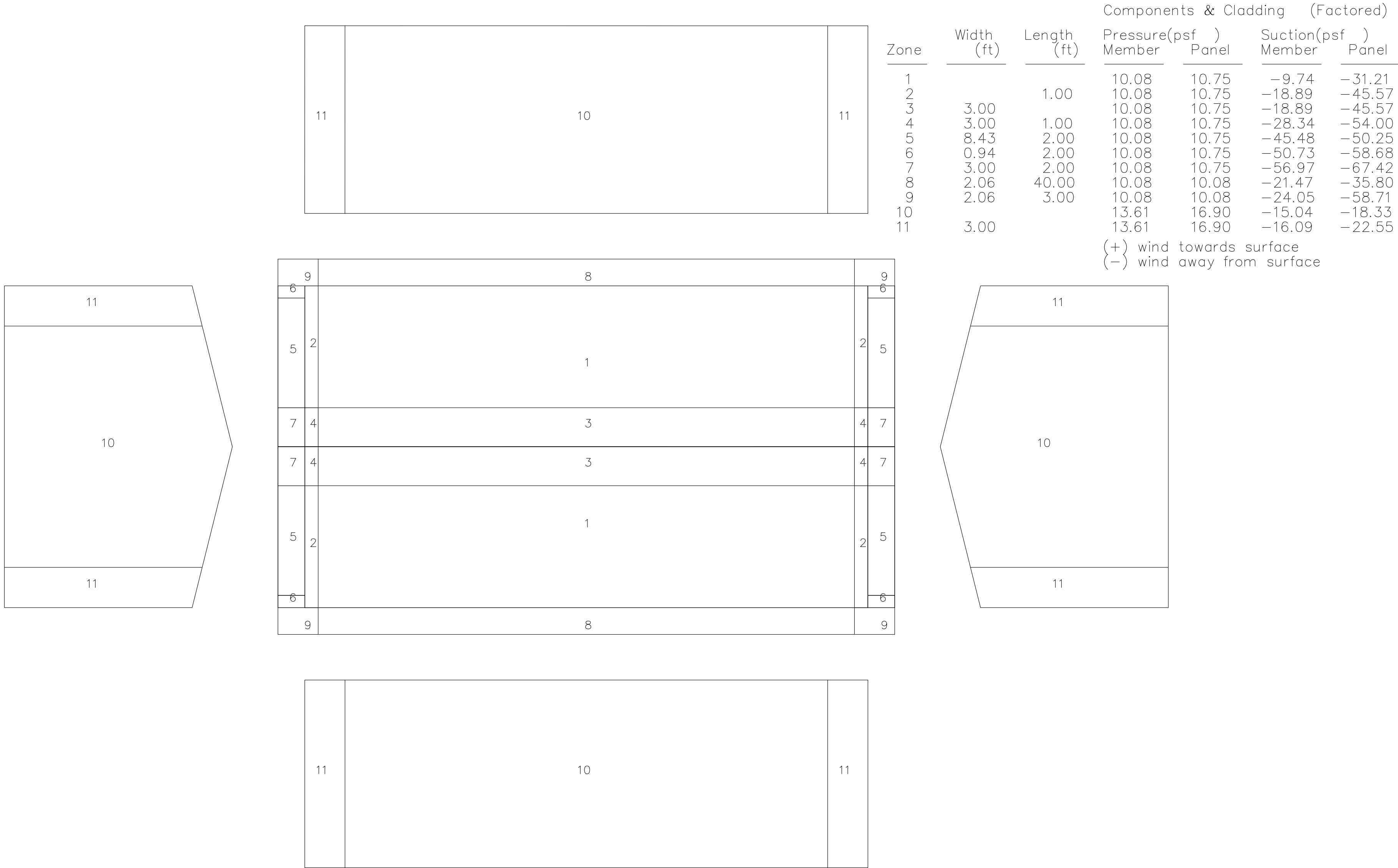
5/15/2025



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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.	STEELNATION 188 SOUTHMONTE SQUARE LANE ♦ CANNONBURG, PA 15117 PH: 724.225.2200 ♦ INFO@STEELNATION.COM	DESCRIPTION	ANCHOR BOLT REACTIONS							
A	APPROVAL/PERMIT	05/15/25	ZGL	MDL	YHL		CUSTOMER	STEEL NATION BUILDINGS, INC.							
							END USER	Columbia Gas (NiSource CG Utility Building)							
							END USE	Garage Building	BUILDING	A					
							STREET	1336 Ridgeview Road (40.014367, -83.048681)							
							CITY ST ZIP	Upper Arlington, OH 43221							
							SALES NO:	82397	JOB NO.:	173430	SCALE:	N.T.S.	DWG. NO.:	F003	ISSUE:

FOR PERMIT



METAL BUILDING FOUNDATION PLANS

RIDGEVIEW STATION

GENERAL NOTES

BUILDING CODE/STANDARDS:

1. BUILDING CODE: OBC 24 (IBC 2021)
2. CONCRETE: ACI 318-19
3. STEEL: AISC 360-16
4. WELDING: AWS D1.1D1.4M-2011
5. MASONRY: ACI 530-13

GENERAL:

1. ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. ALL DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND ENGINEER IMMEDIATELY FOR RESOLUTION BEFORE PROCEEDING.
2. JOB SITE SAFETY AND CONSTRUCTION SEQUENCING ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
3. DRAWINGS ARE NOT TO BE SCALED FOR CONSTRUCTION PURPOSES. DIMENSIONS NOTED TAKE PRECEDENCE OVER SCALE.
4. COMMENCEMENT OF WORK BY THE CONTRACTOR OR ANY SUBCONTRACTOR UNDER THESE PLANS SHALL INDICATE ACKNOWLEDGEMENT AND ACCEPTANCE OF ALL CONDITIONS DESCRIBED IN THESE CONSTRUCTION DOCUMENTS PERTAINING TO THE WORK BEING PERFORMED.
5. NO OPENING THROUGH ANY STRUCTURAL COMPONENT SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

FOUNDATIONS:

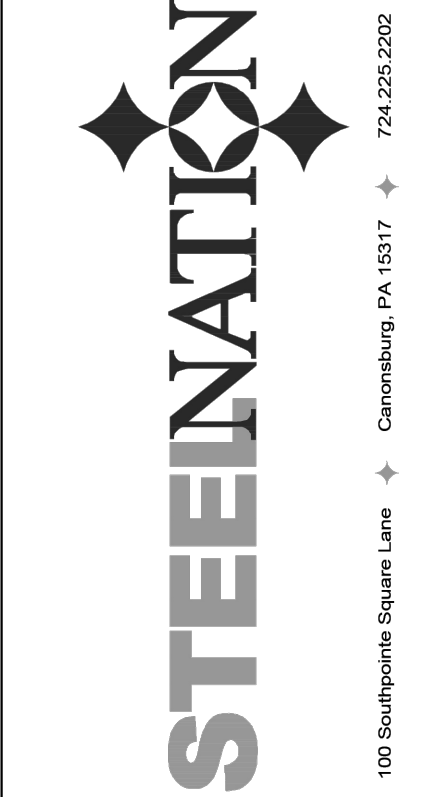
1. FOUNDATIONS ARE DESIGNED BASED ON AN ALLOWABLE SOIL BEARING CAPACITY OF 1,500 PSF (VALUE ASSUMED) NO GEOTECHNICAL REPORT WAS AVAILABLE AT THE TIME OF FOUNDATION DESIGN. A GEOTECHNICAL REPORT IS RECOMMENDED PRIOR TO FOUNDATION CONSTRUCTION TO CONFIRM ADEQUATE SOIL CONDITIONS.
2. ALL SUB GRADE FILL WITHIN THE PROPOSED BLDG. FOOTPRINT SHALL BE GRANULAR FILL MATERIAL PLACED IN MAX. 12" LIFTS AND COMPACTED TO A MIN. 95% COMPACTION.
3. ALL FOUNDATION WALL EXTERIOR BACK-FILL SHALL BE APPROVED GENERAL FILL MATERIAL.
4. ALL FOUNDATION WALL INTERIOR BACK-FILL SHALL BE APPROVED GRANULAR FILL MATERIAL.
5. CONTRACTOR IS TO VERIFY AND COORDINATE ALL DIMENSIONS AND LAYOUT BEFORE START OF CONSTRUCTION WITH PEMB ANCHOR BOLT LAYOUT.
6. ANY WATER IN FOUNDATIONS MUST BE REMOVED AND SOILS CHECKED FOR SUITABLE BEARING. IF SOILS ARE SOFT THEN REMOVE SOFT SOILS, EXCAVATE TO 12" BELOW, AND INSTALL A NEW 12" BASE STONE AND COMPACT 95%. DO NOT POUR ON WATER LOGGED SOILS
7. FOUNDATION DESIGN IS BASED ON ANCHOR BOLT PLAN AND REACTIONS PROVIDED BY PEMB SUPPLIER. ANY CHANGES TO ANCHOR BOLT LAYOUT OR REACTIONS SHOULD BE FORWARDED IMMEDIATELY TO THE FOUNDATION ENGINEER.

CAST-IN-PLACE CONCRETE:

1. ALL CONCRETE TO BE (4,000 P.S.I.) MINIMUM 28 DAY COMPRESSIVE STRENGTH
2. SLUMP: ALL CONCRETE SLUMP SHALL NOT EXCEED 4", UNLESS NOTED ON THE DRAWINGS.
3. AIR: ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED 6% ± 1 ½%. ENTRAINING ADMIXTURES SHALL COMPLY WITH C260.
4. WATER-CEMENT: ALL CONCRETE SHALL HAVE A MAXIMUM WATER-CEMENT RATIO OF 0.50
5. ALL REBAR TO BE ASTM GRADE #60 OR BETTER
6. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A185, GRADE 65. ALL W.W.F. SHALL BE SUPPORTED ON CHAIRS.
7. CONCRETE CLEAR COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS (U.N.O.):
 - CONCRETE CAST AGAINST EARTH: 3"
 - SLAB-ON-GRADE: 2"
 - FOOTINGS (SIDES FORMED): 3"
 - GRADE BEAMS: 1½" TOP & SIDES
 - WALLS 1½"
 - PIERS AND COLUMNS: 2"
8. LAP ALL REBAR (30 x BAR Ø), ROUND UP TO THE NEAREST WHOLE NUMBER.
TYPICAL ALL HORIZONTAL AND VERTICAL LAPS.
EXAMPLE:
 - #4 BAR - (30 x .5") = 15" LAP
 - #5 BAR - (30 x .625" = 19" LAP
 - #6 BAR - (30 x .75") = 23" LAP
 - #7 BAR - (30 x .875")= 26" LAP
9. DETAILING OF CONCRETE REINFORCEMENT SHALL CONFORM TO ACI 315
10. APPLY MEASURES AS SPECIFIED BY ACI 305 FOR "HOT WEATHER CONCRETING" AND ACI 306 FOR" COLD WEATHER CONCRETING" WHEN APPLICABLE
11. ALL CONSTRUCTION SHALL CONFORM TO ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FRAMEWORK"

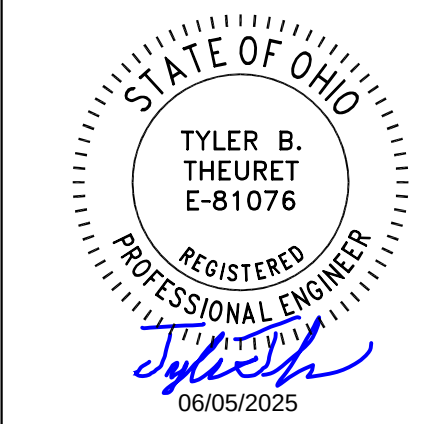
INDEX OF DRAWINGS:

- | | |
|-----|-------------------------------|
| S-0 | GENERAL NOTES |
| S-1 | FOUNDATION PLAN |
| S-2 | TYPICAL SECTIONS & DETAILS |
| S-3 | FOUNDATION SECTIONS & DETAILS |
| S-4 | FOUNDATION SECTIONS & DETAILS |
| S-5 | FOUNDATION SECTIONS & DETAILS |
| S-6 | FOUNDATION SECTIONS & DETAILS |
| S-7 | FOUNDATION SECTIONS & DETAILS |
| S-8 | FOUNDATION SECTIONS & DETAILS |



PROJECT: RIDGEVIEW STATION
NEW PEMB FOUNDATION PLANS

LOCATION: 1336 RIDGEVIEW RD.
UPPER ARLINGTON, OH 43221
(FRANKLIN COUNTY)



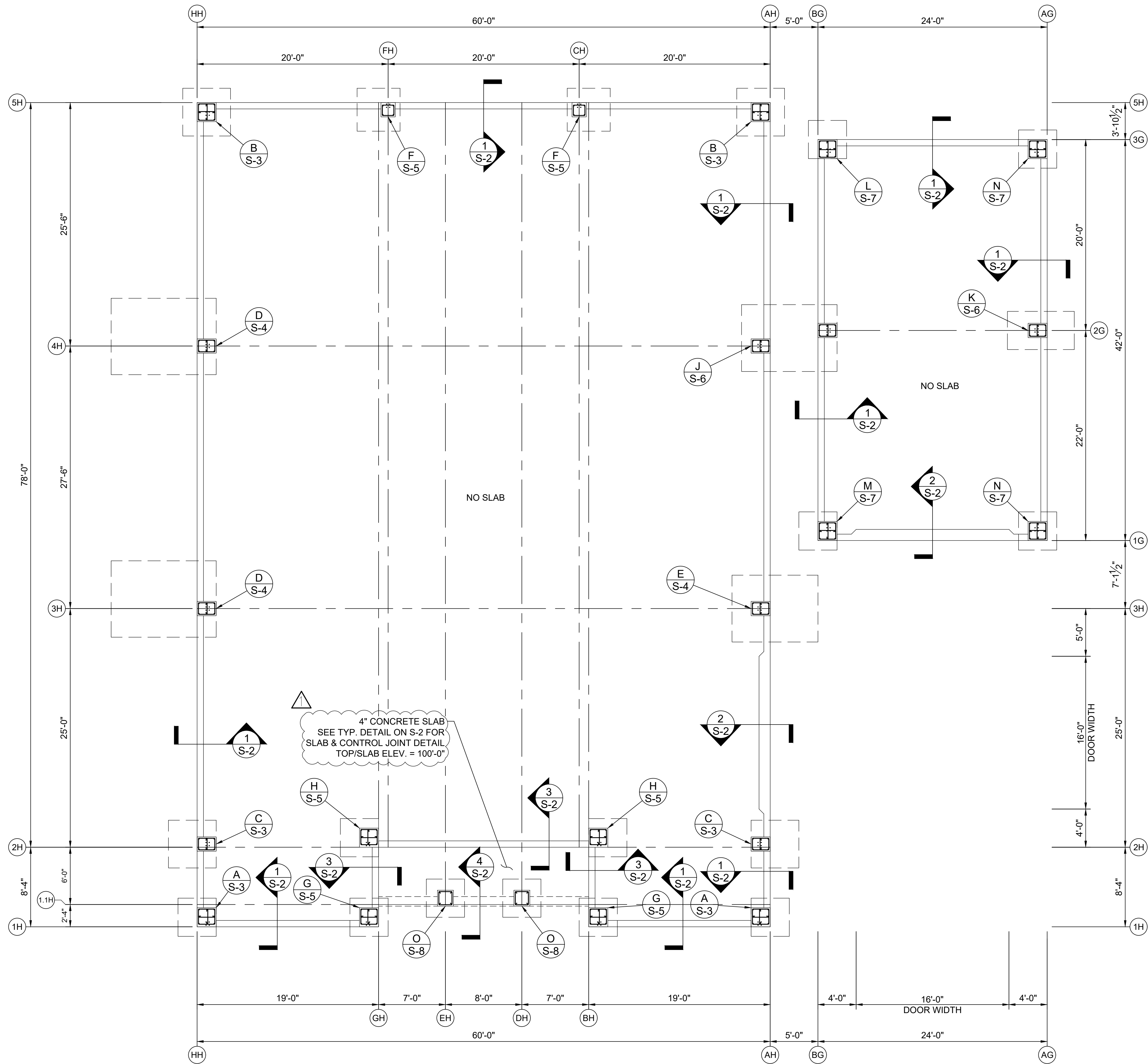
REVISIONS:	MARK	DESCRIPTION	ADDED PORCH SLAB & ADJUSTED FOOTINGS			
	△					

CONTRACTOR IS TO VERIFY AND CHECK ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BRING ANY DISCREPANCIES TO THE ENGINEER'S ATTENTION BEFORE INSTALLING ANY EQUIPMENT OR MATERIALS.

DWG TITLE:
GENERAL NOTES

DATE: 05/23/25
SCALE: AS NOTED
DRAWN BY: RLK
CHECKED BY: TBT
JOB NUMBER: 672-25

DWG NUMBER:
S-0



FOUNDATION PLAN
SCALE: 3/16"= 1'-0"

PROJECT: RIDGEVIEW STATION
NEW PEMB FOUNDATION PLANS
LOCATION: 1336 RIDGEVIEW RD.
UPPER ARLINGTON, OH 43221
(FRANKLIN COUNTY)



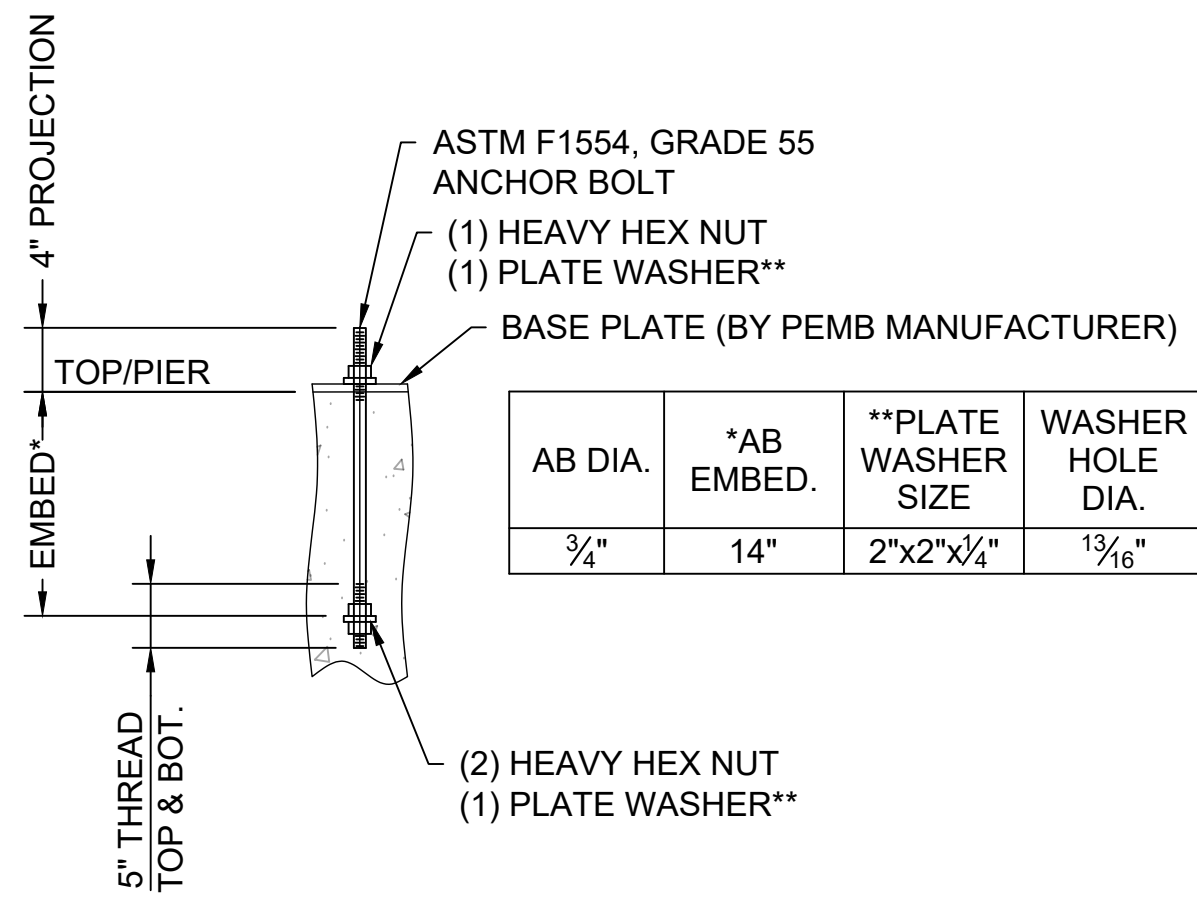
REVISIONS:	MARK	DESCRIPTION
	△	ADDED PORCH SLAB & ADJUSTED FOOTINGS

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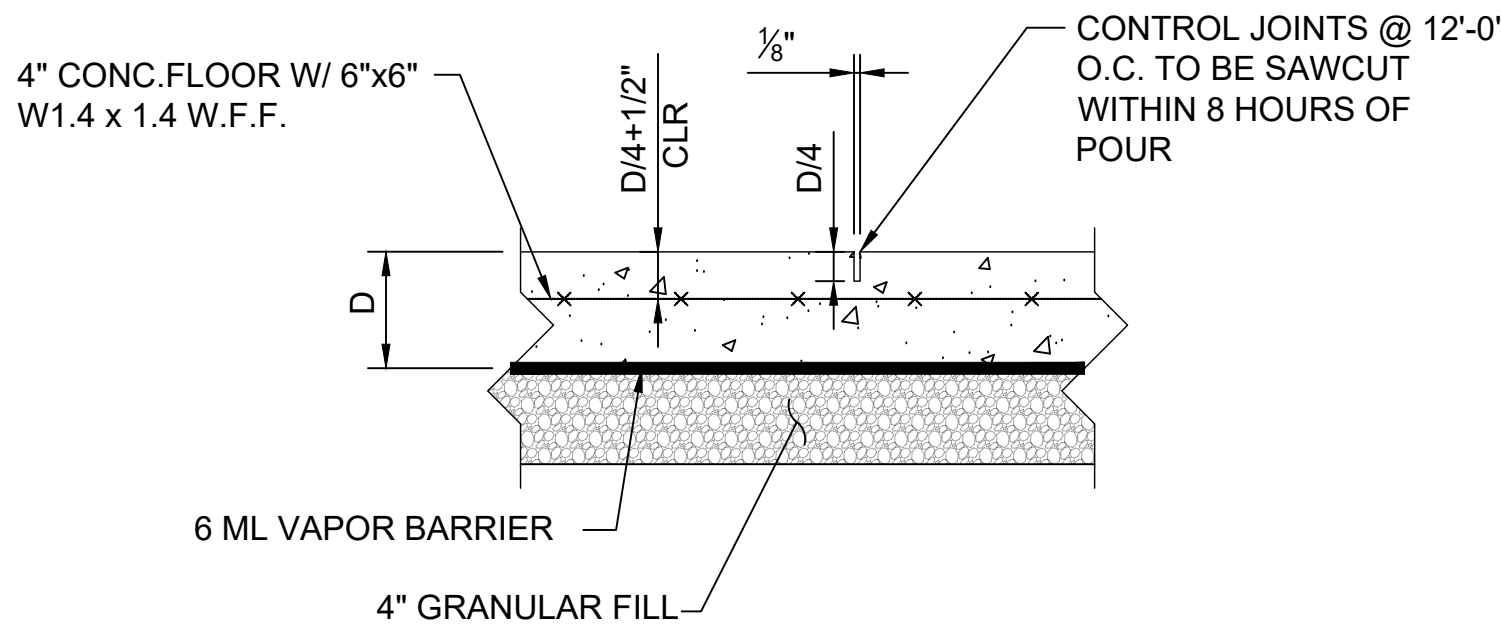
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FOUNDATION PLAN

DATE: 05/23/25
SCALE: AS NOTED
DRAWN BY: RLK
CHECKED BY: TBT
JOB NUMBER: 672-25

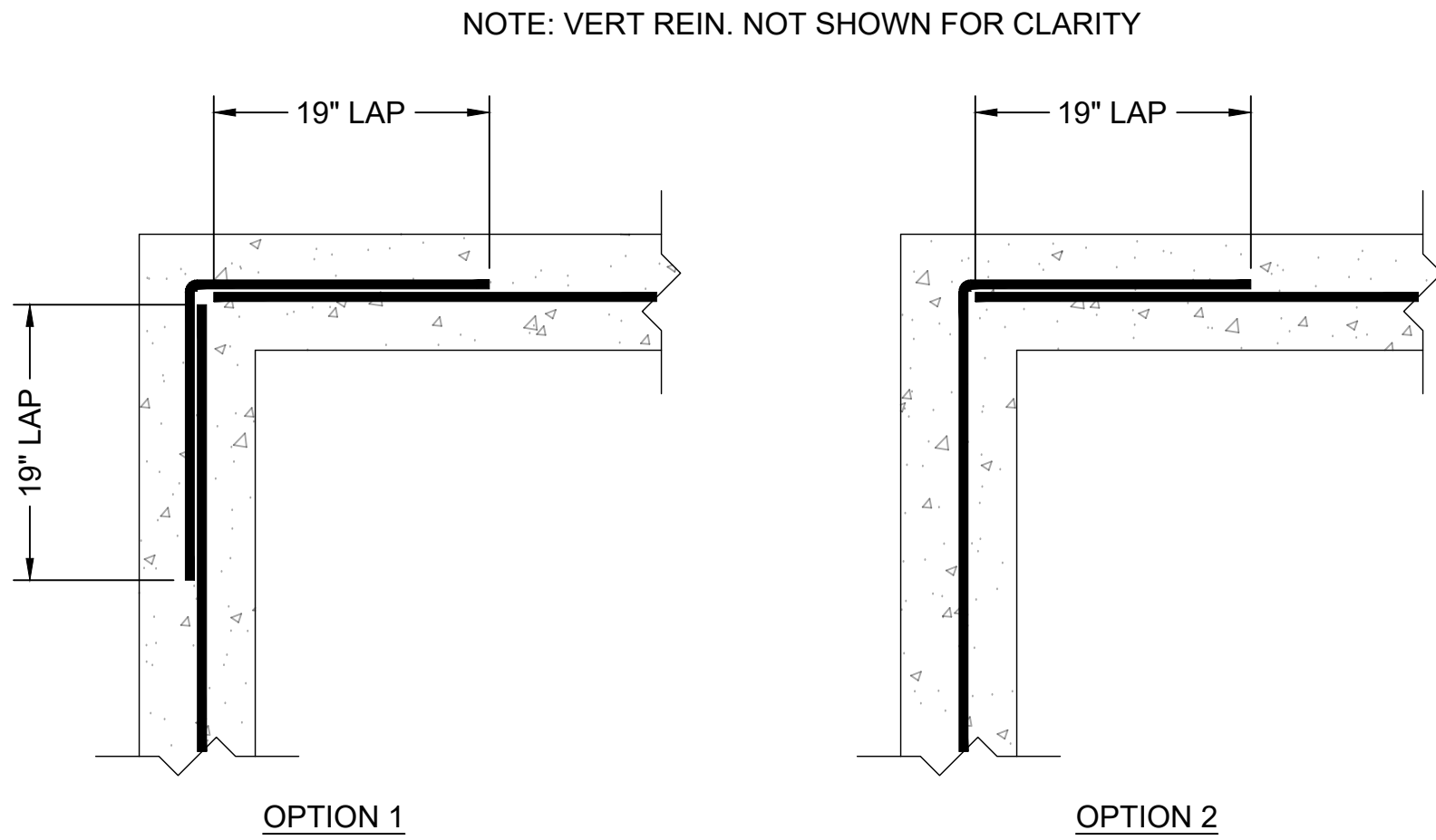
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S-1



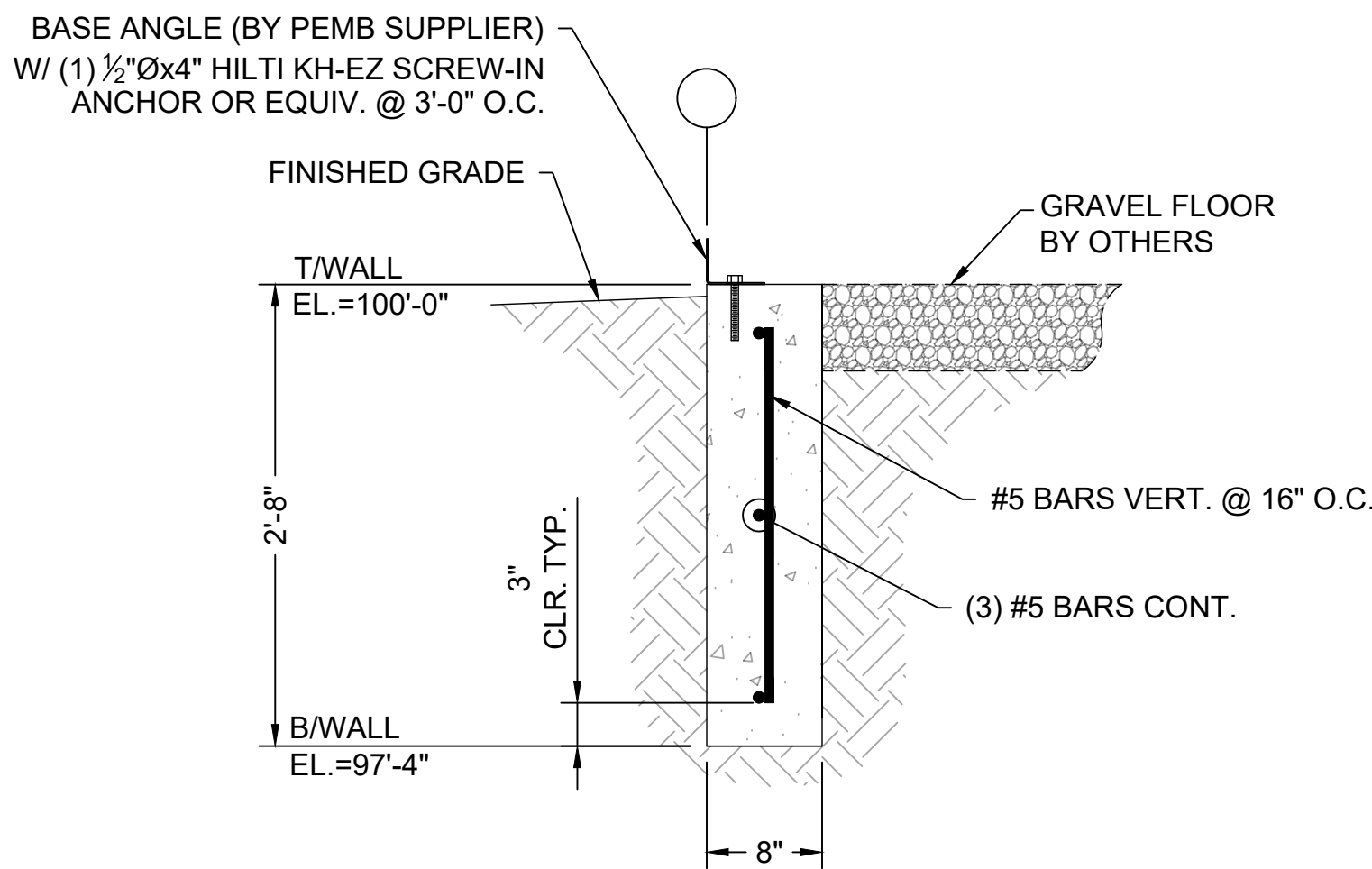
TYP. ANCHOR BOLT DETAIL
SCALE: N.T.S.



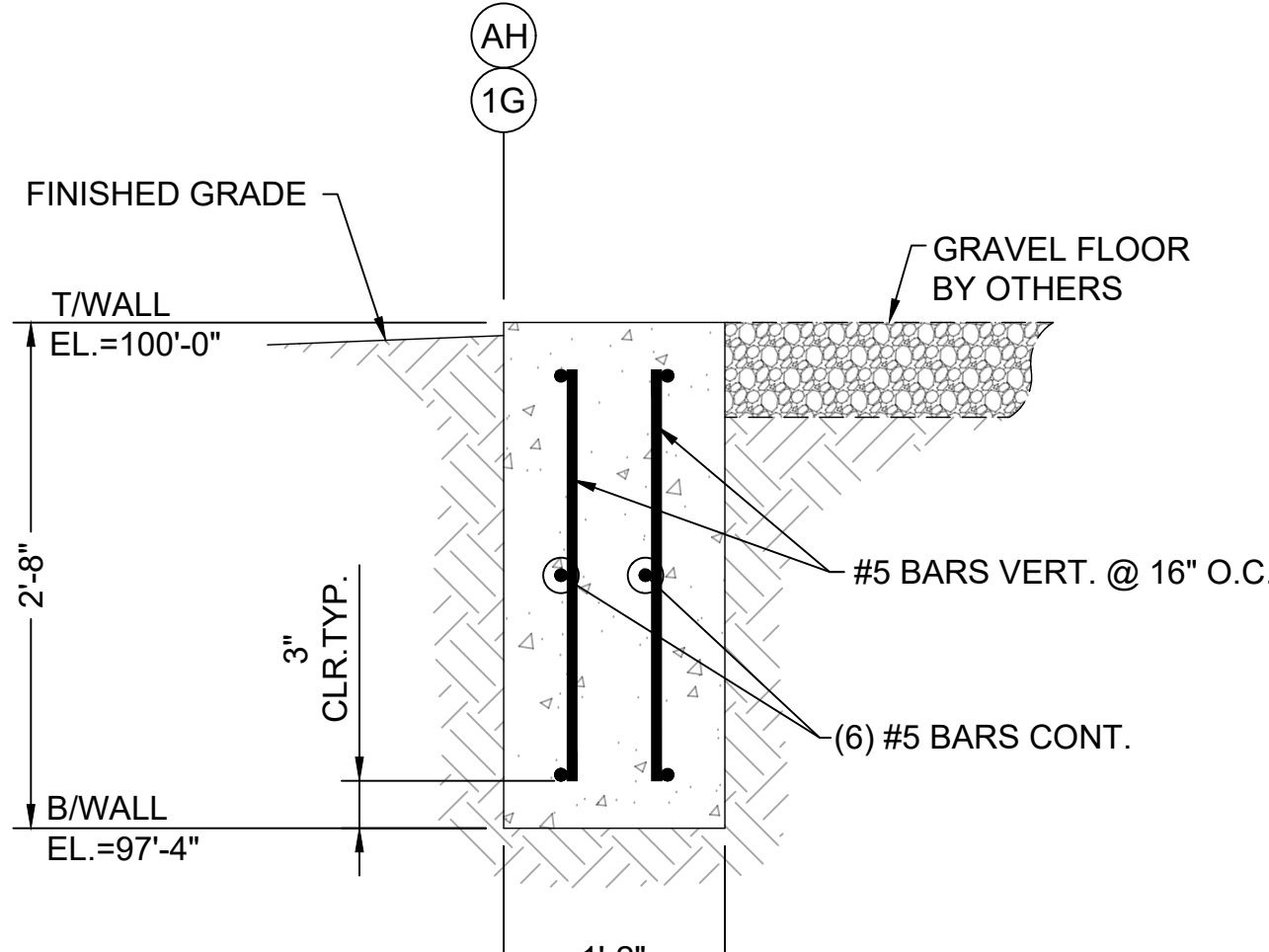
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SCALE: N.T.S.



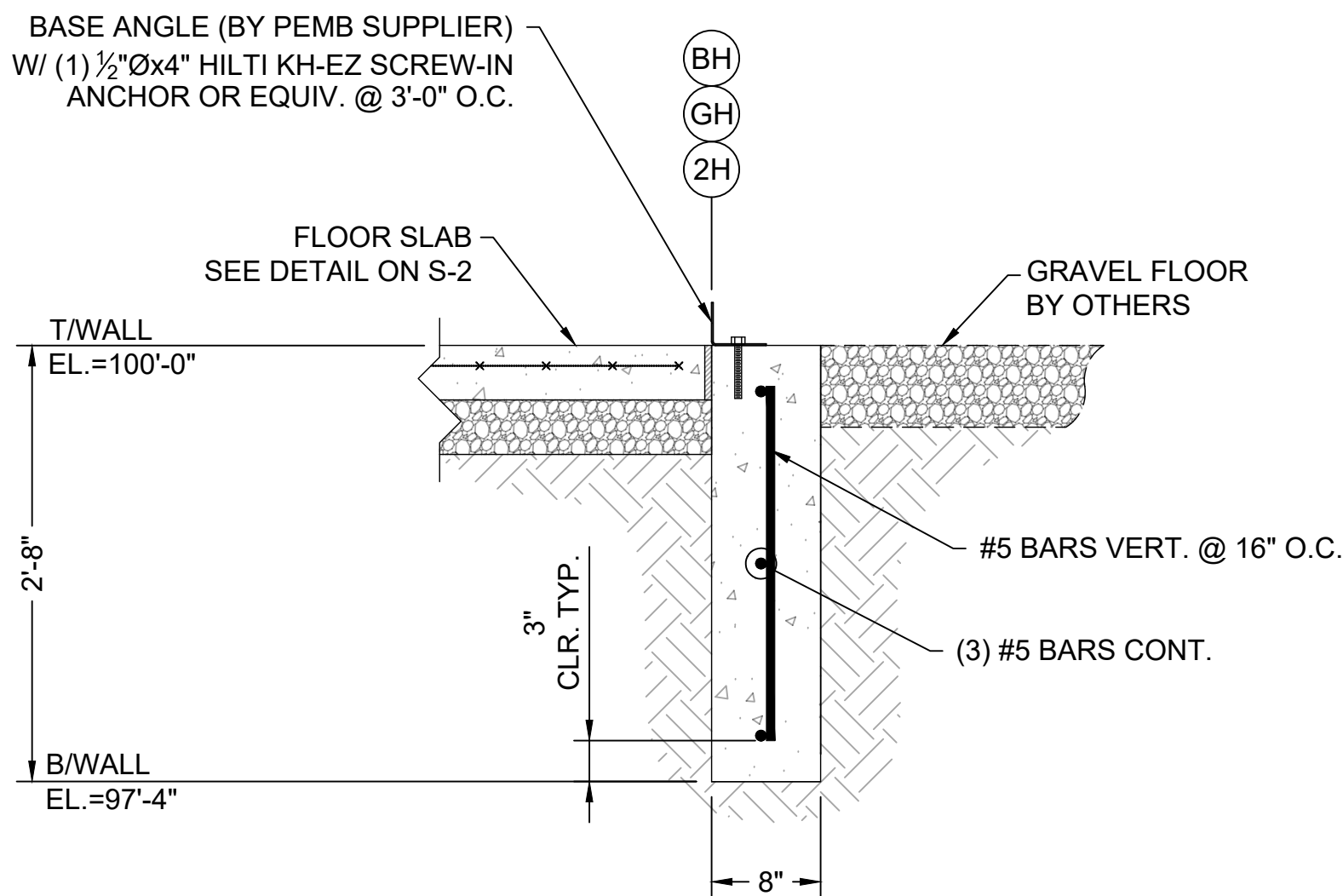
WALL CORNER LAP DETAIL
SCALE: N.T.S.



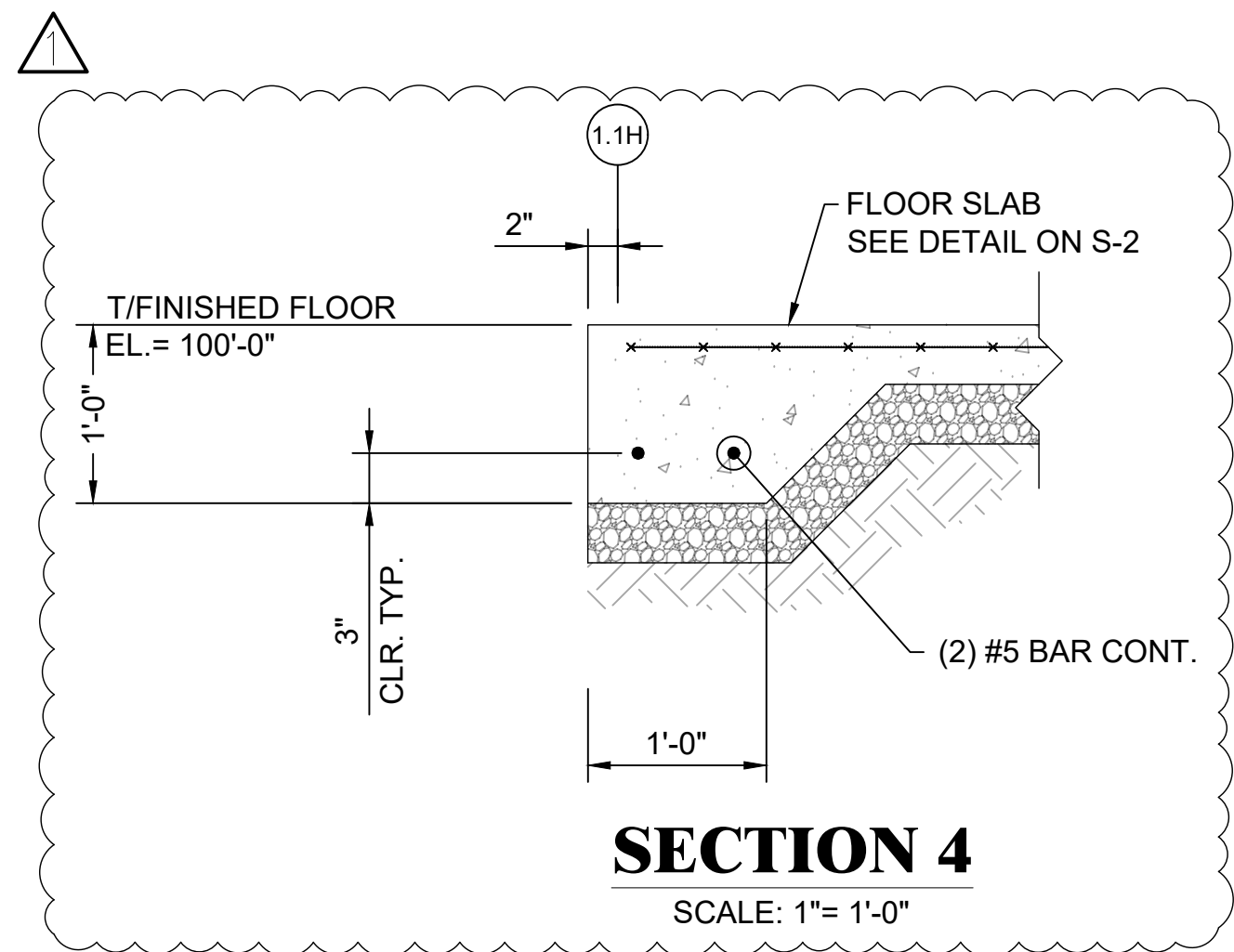
SECTION 1
SCALE: 1"= 1'-0"
(TYP. PERIMETER SECTION)



SECTION 3
SCALE: 1"= 1'-0"
(SECTION @ OVERHEAD DOORS)



SECTION 2
SCALE: 1"= 1'-0"
(TYP. PERIMETER SECTION)



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

REVISIONS:	MARK	DESCRIPTION
	△	ADDED PORCH SLAB & ADJUSTED FOOTINGS

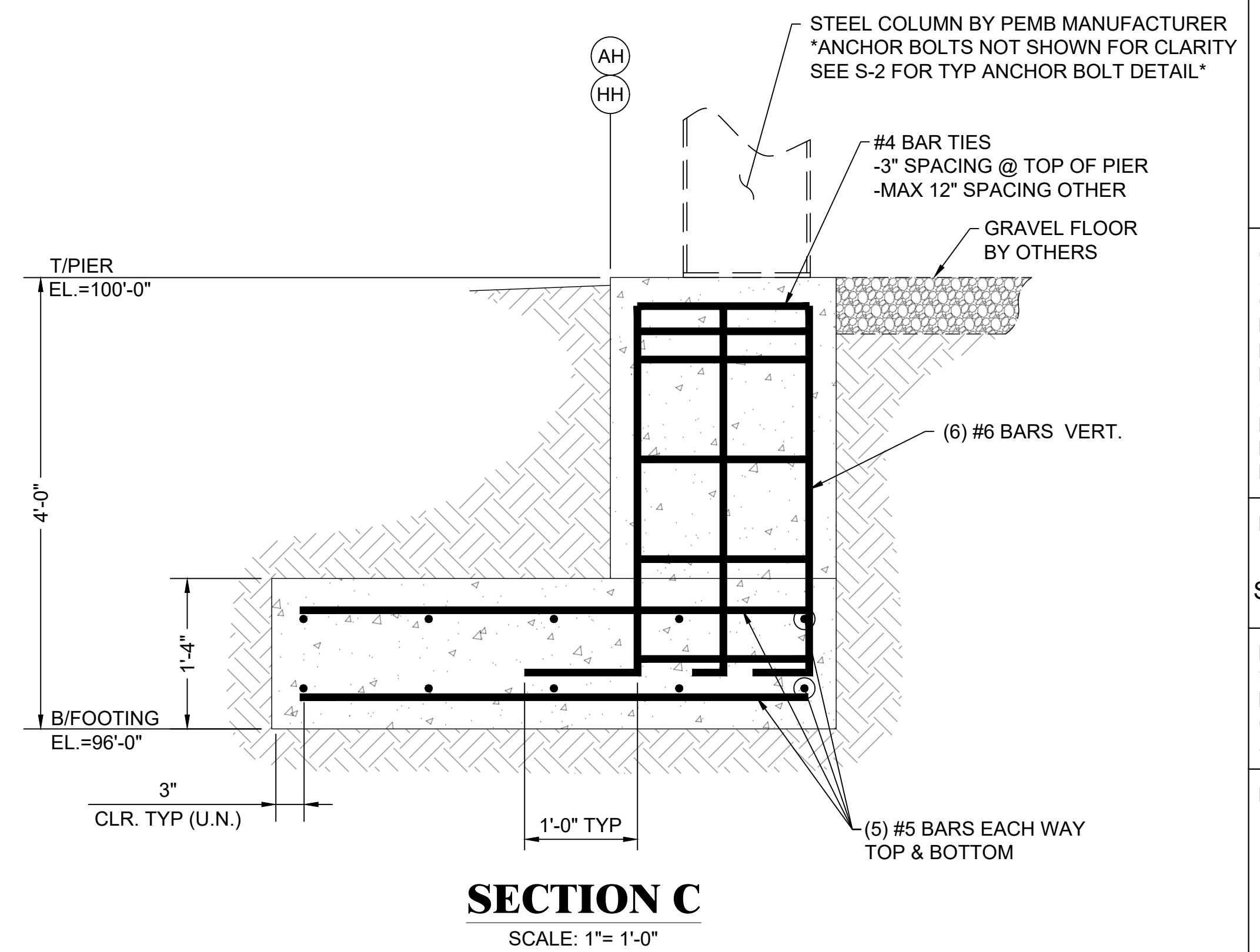
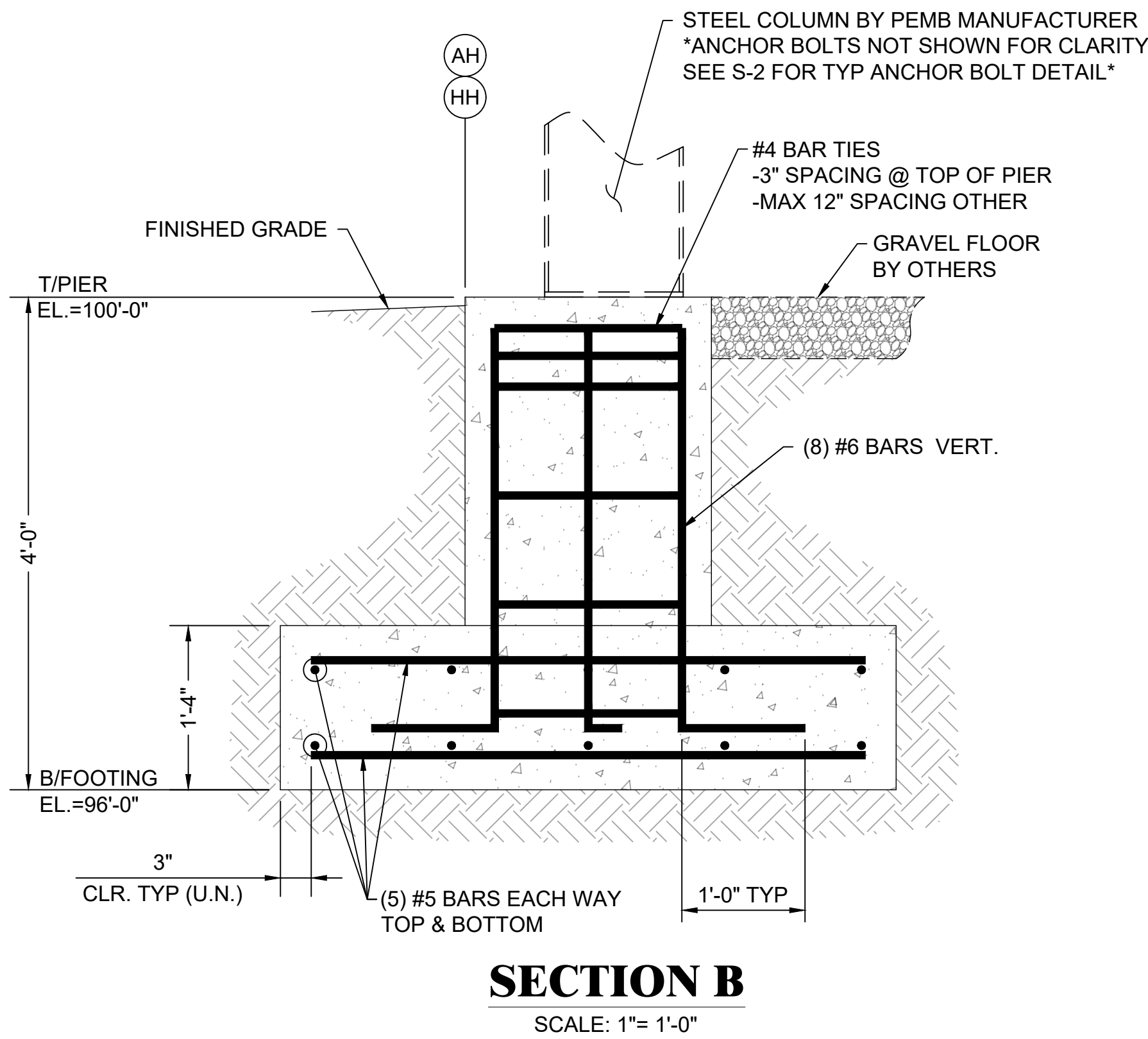
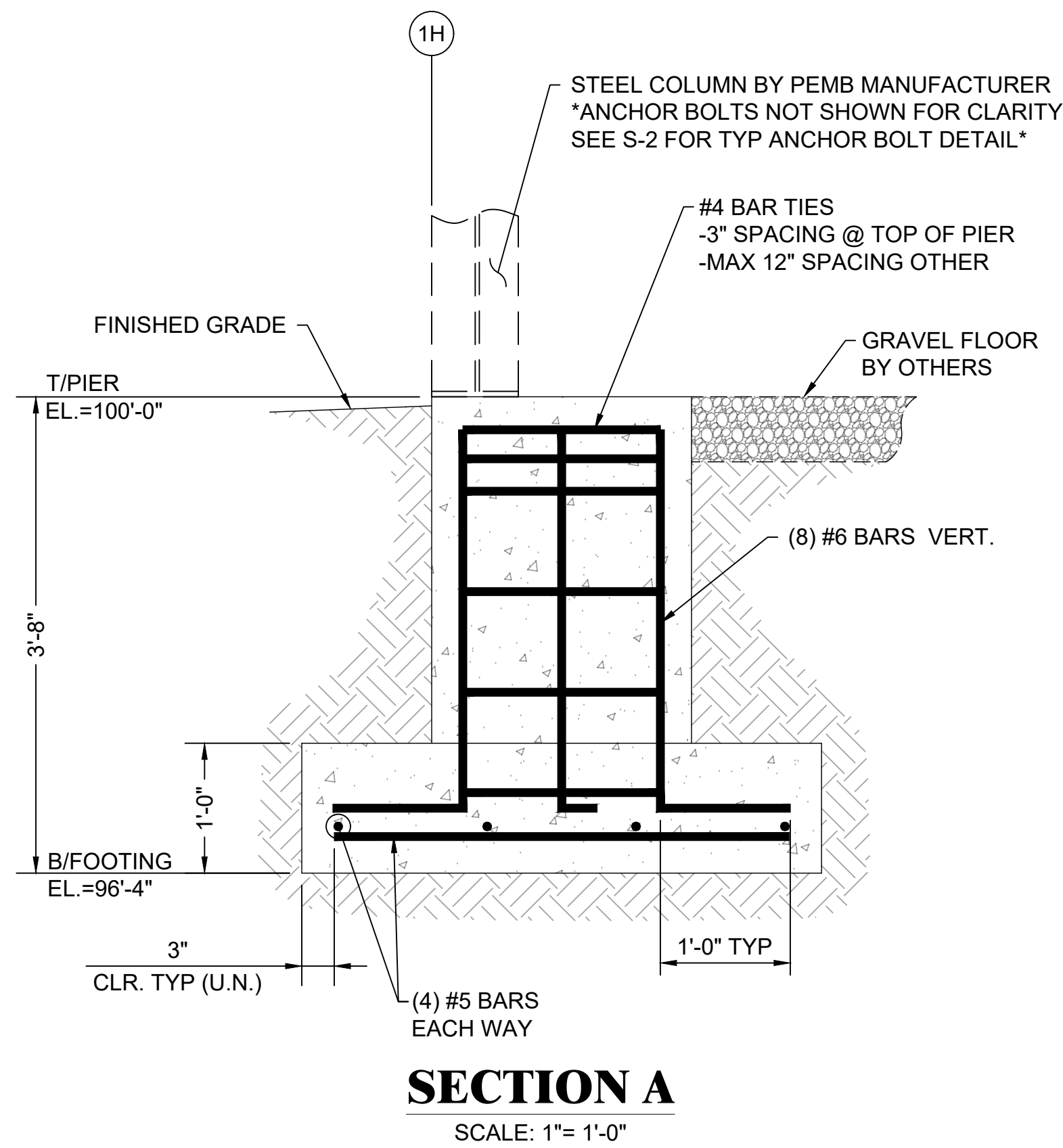
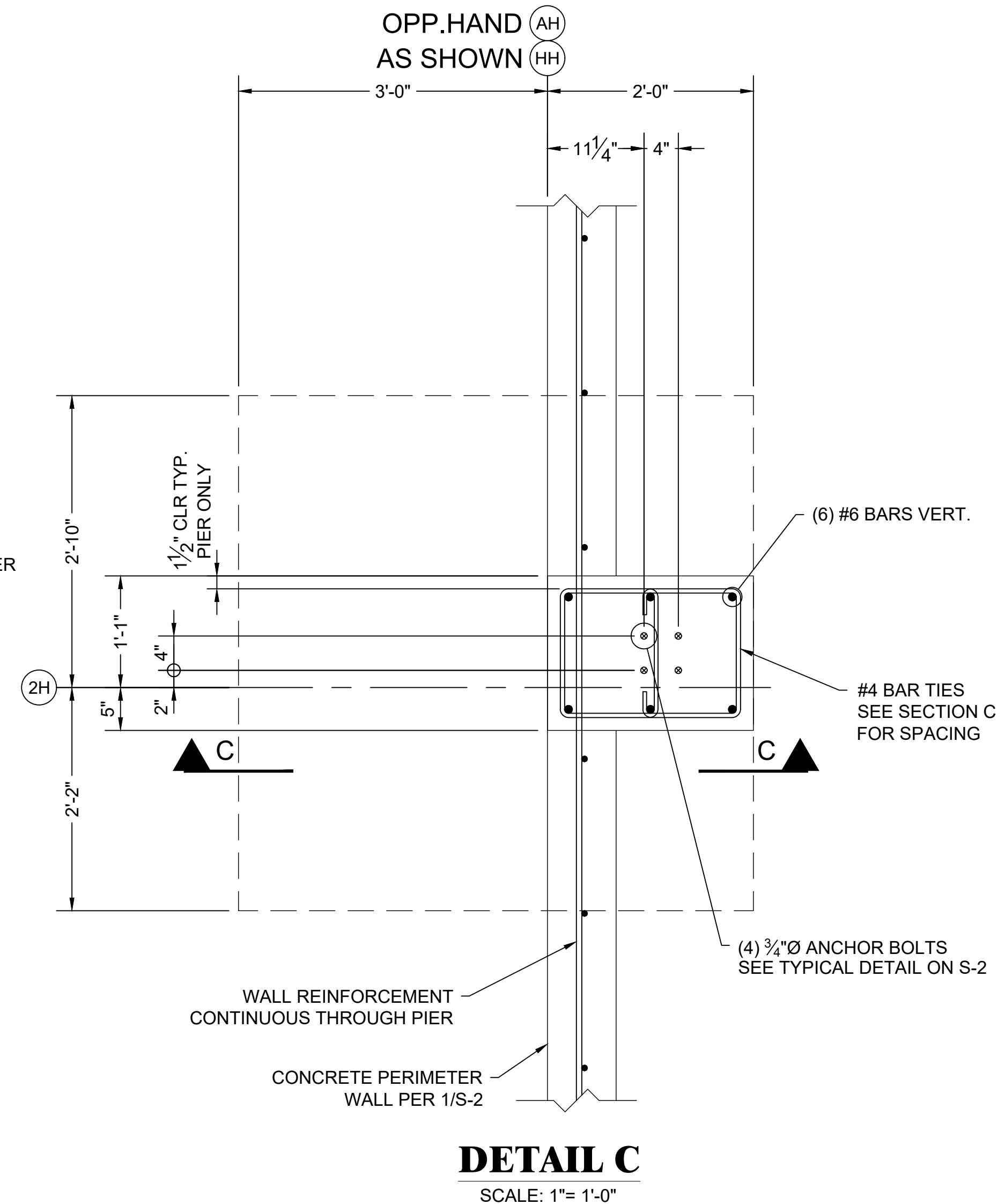
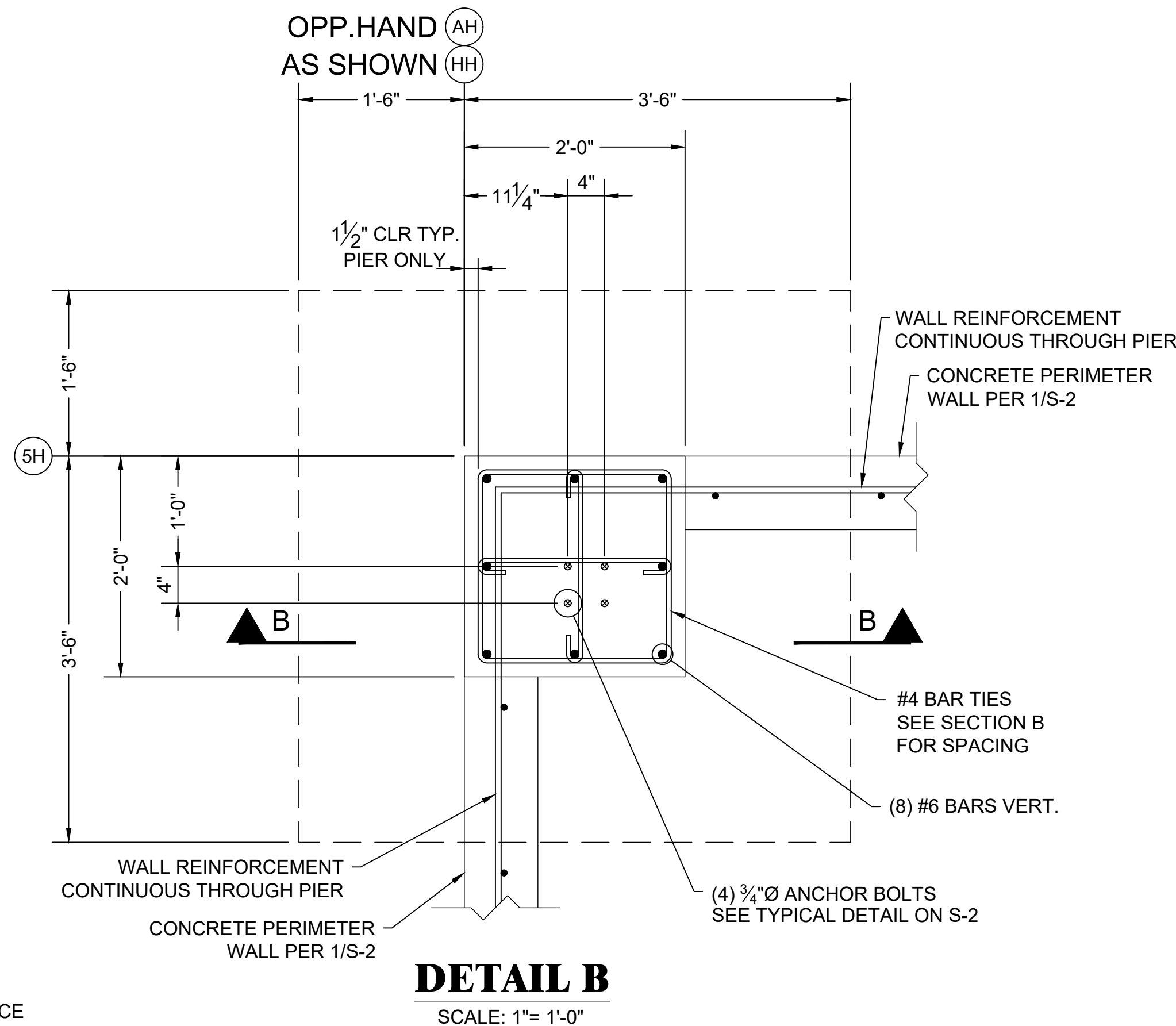
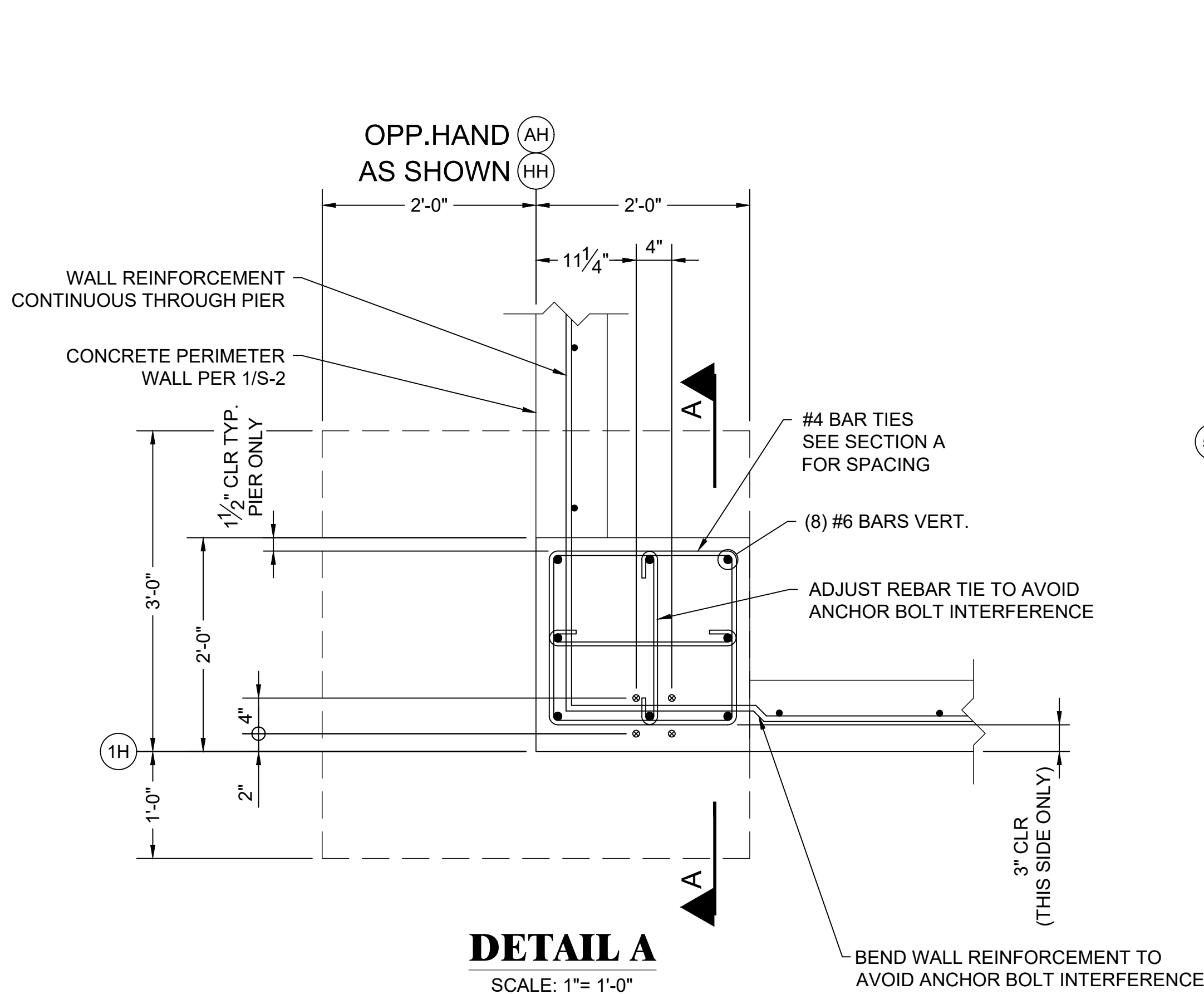
CONTRACTOR IS TO VERIFY AND CHECK ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BRING ANY DISCREPANCIES TO THE ENGINEER'S ATTENTION BEFORE INSTALLING ANY EQUIPMENT OR MATERIALS.

DWG TITLE:
TYPICAL SECTIONS & DETAILS

DATE: 05/23/25
SCALE: AS NOTED
DRAWN BY: RLK
CHECKED BY: TBT
JOB NUMBER: 672-25

DWG NUMBER:

S-2



PROJECT: RIDGEVIEW STATION
NEW PEMB FOUNDATION PLANS

LOCATION: 1336 RIDGEVIEW RD.
UPPER ARLINGTON, OH 43221
(FRANKLIN COUNTY)



REVISIONS:	MARK	DESCRIPTION
	△	ADDED PORCH SLAB & ADJUSTED FOOTINGS

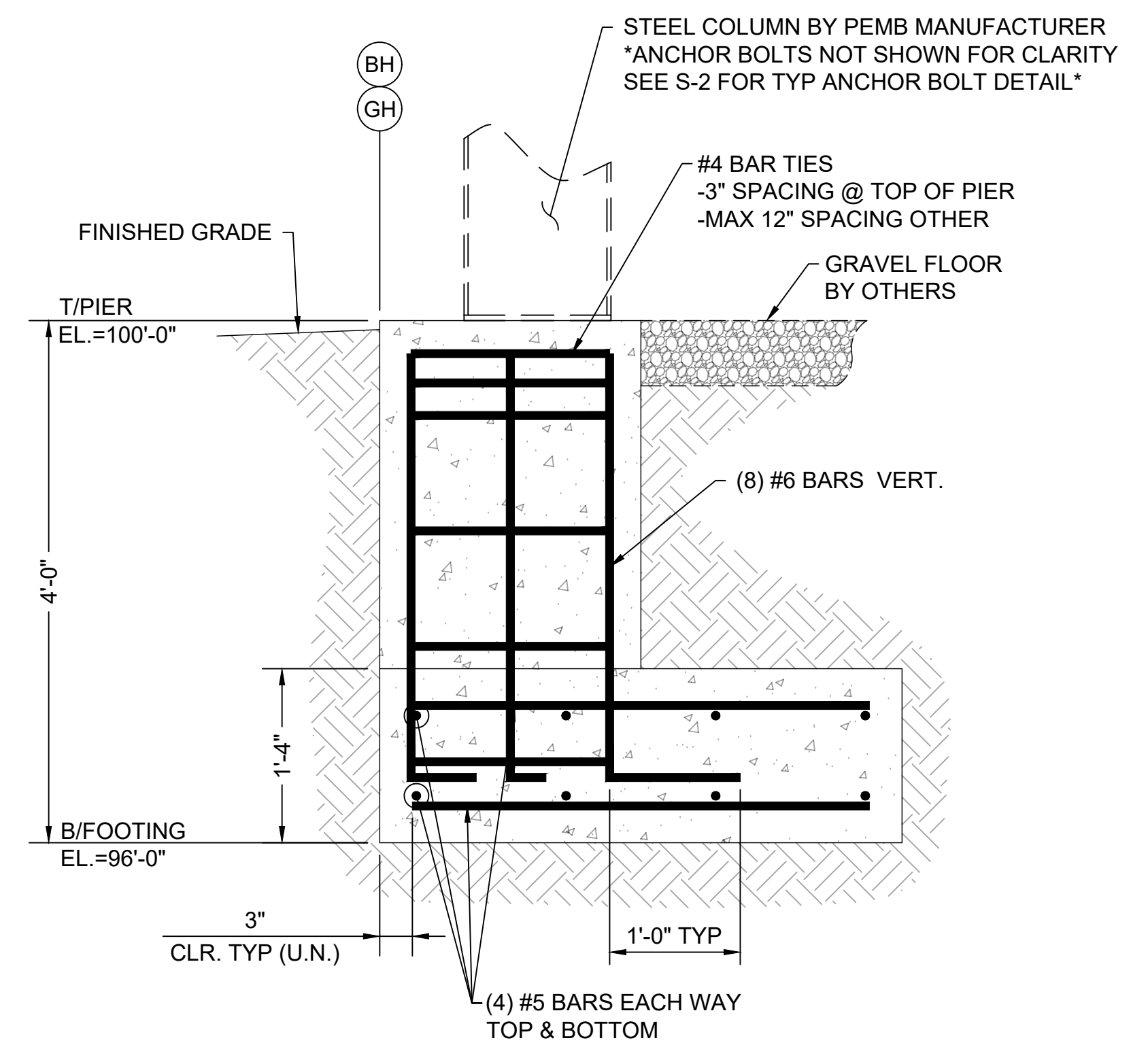
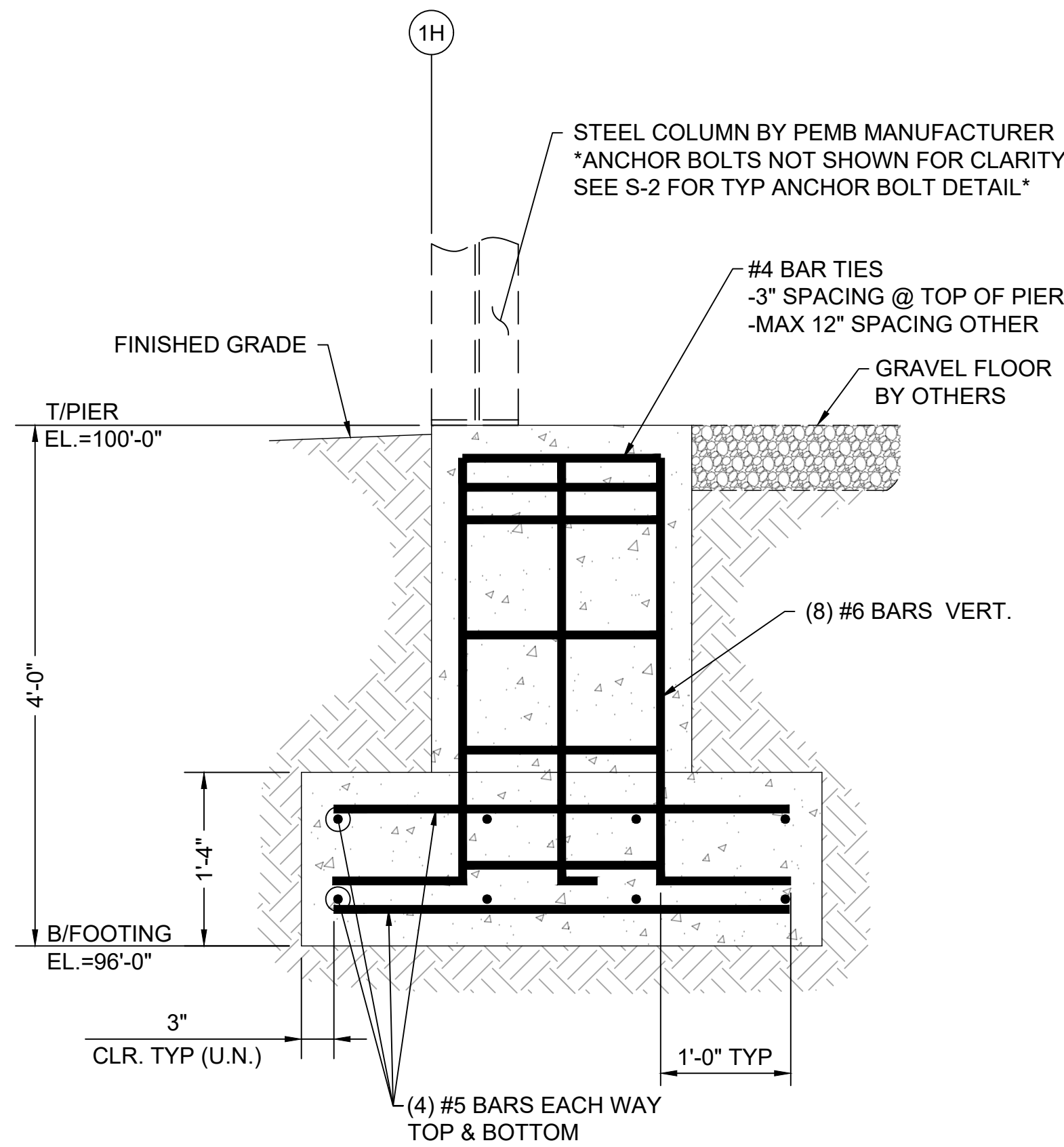
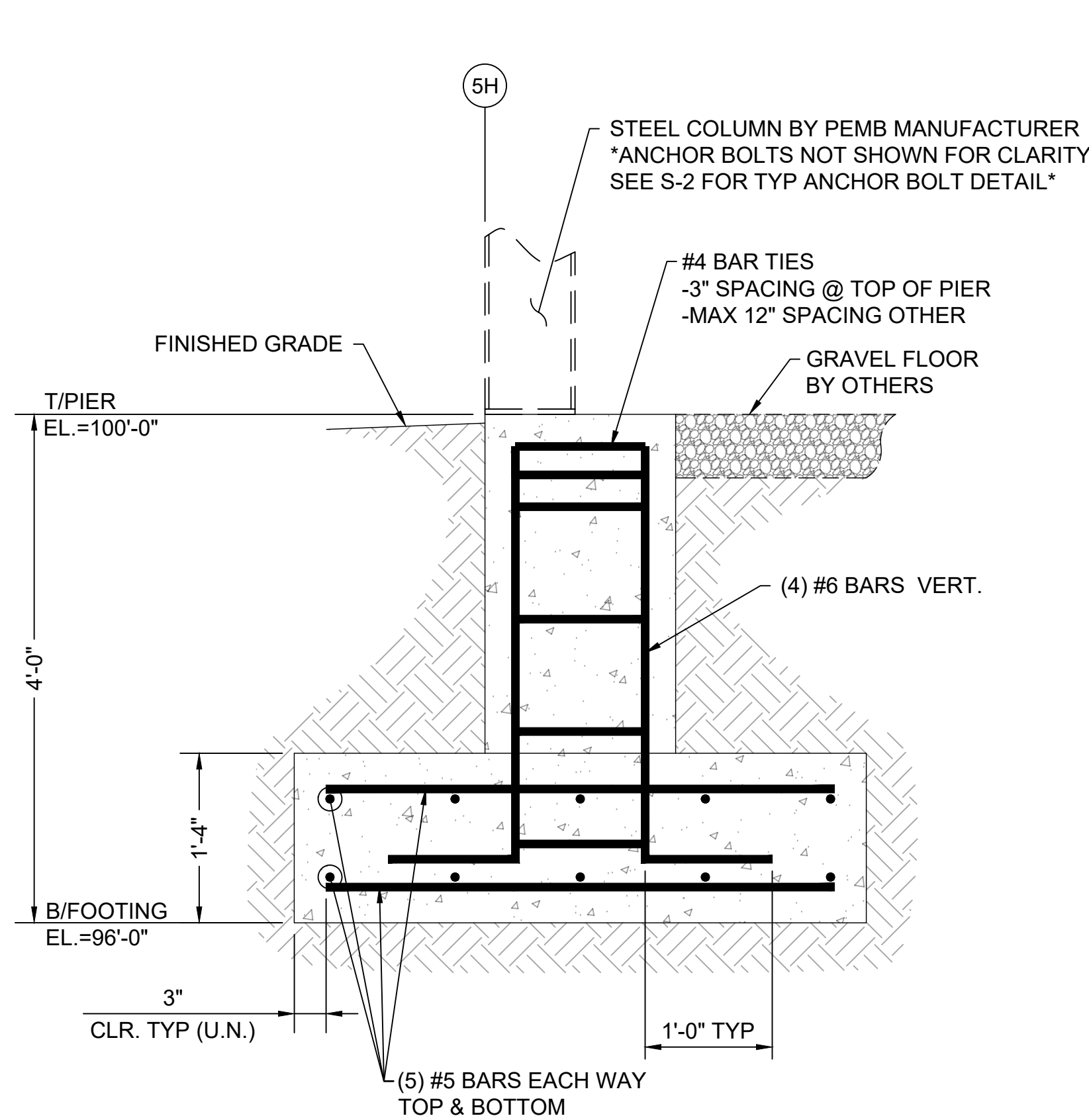
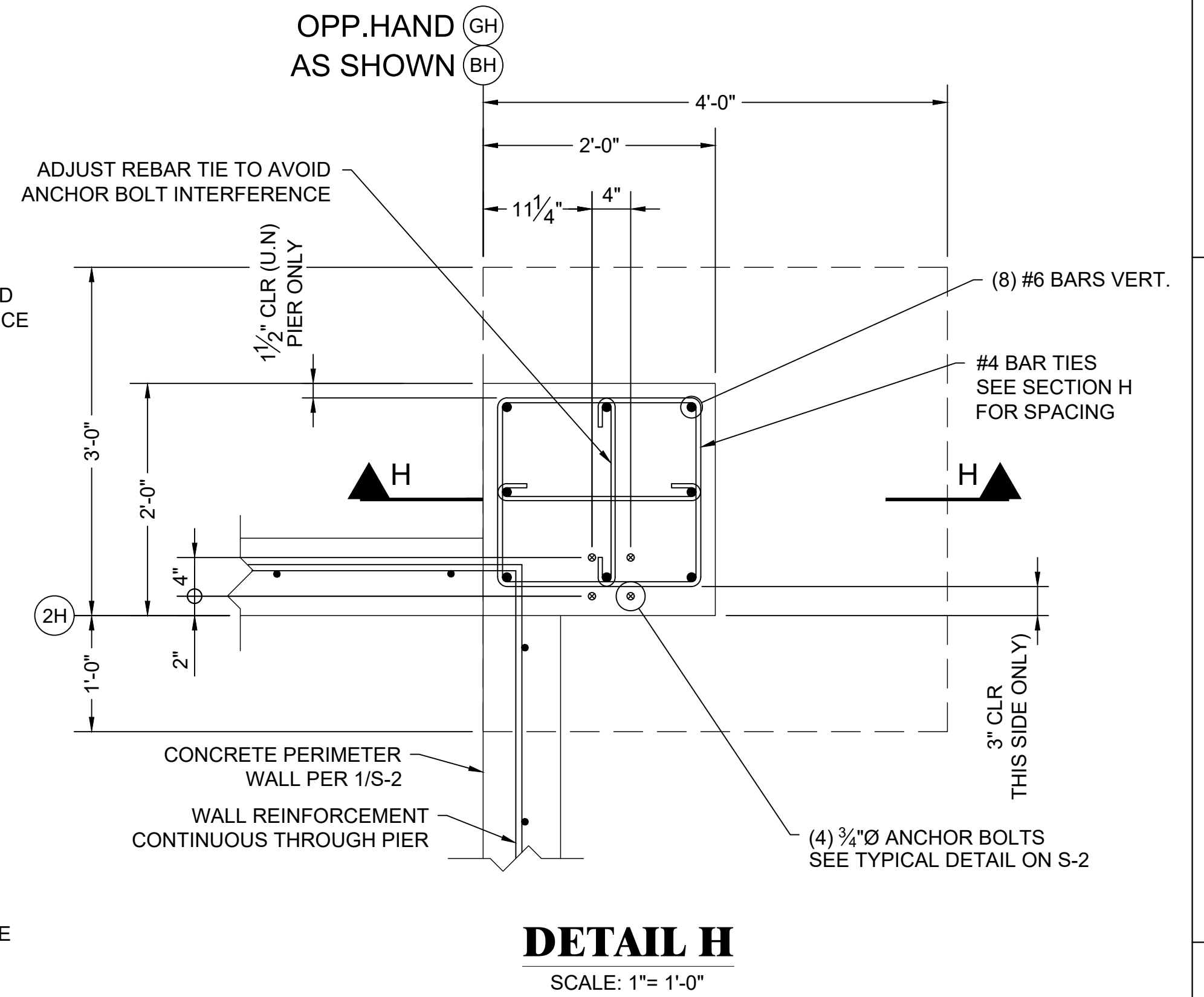
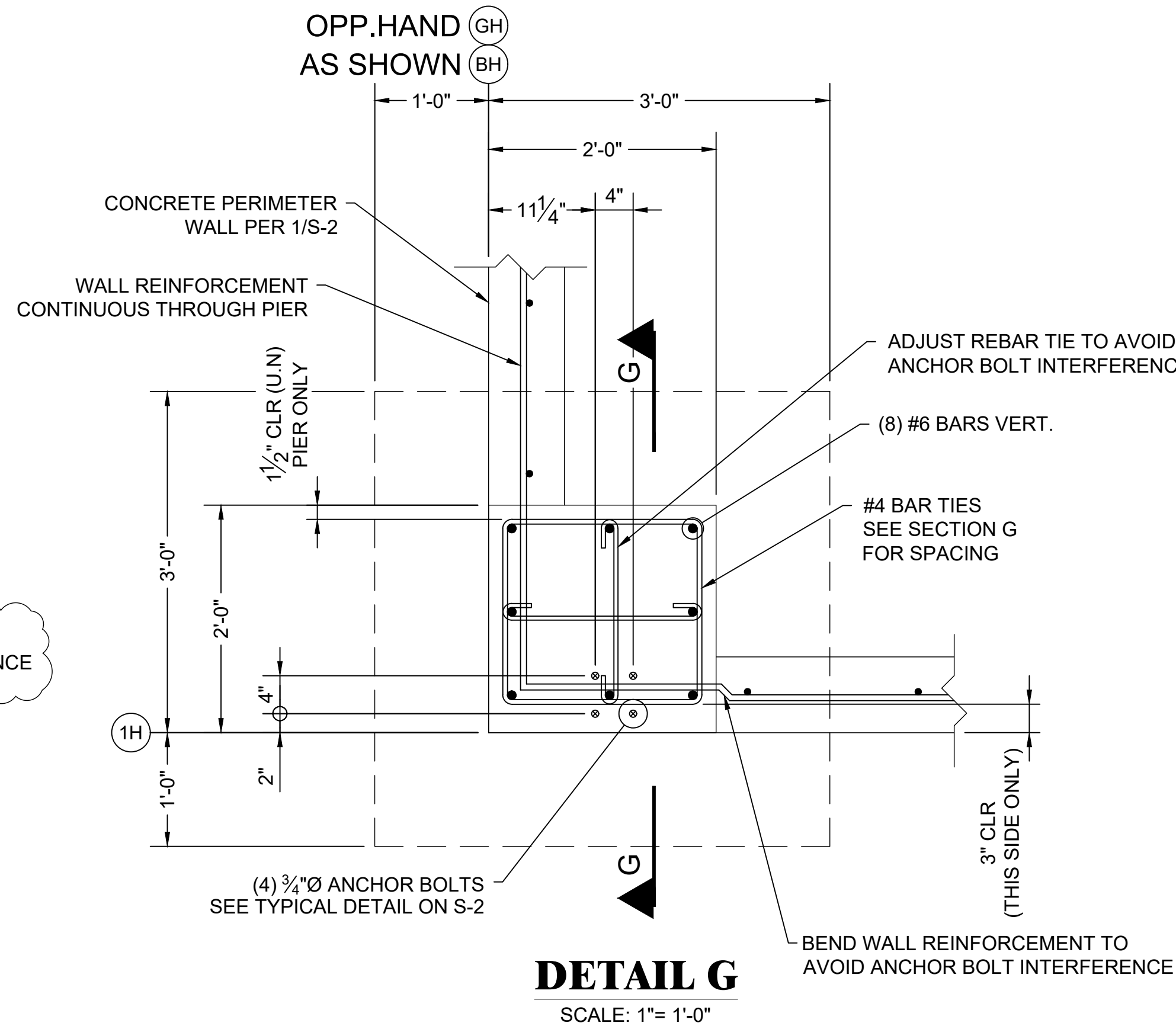
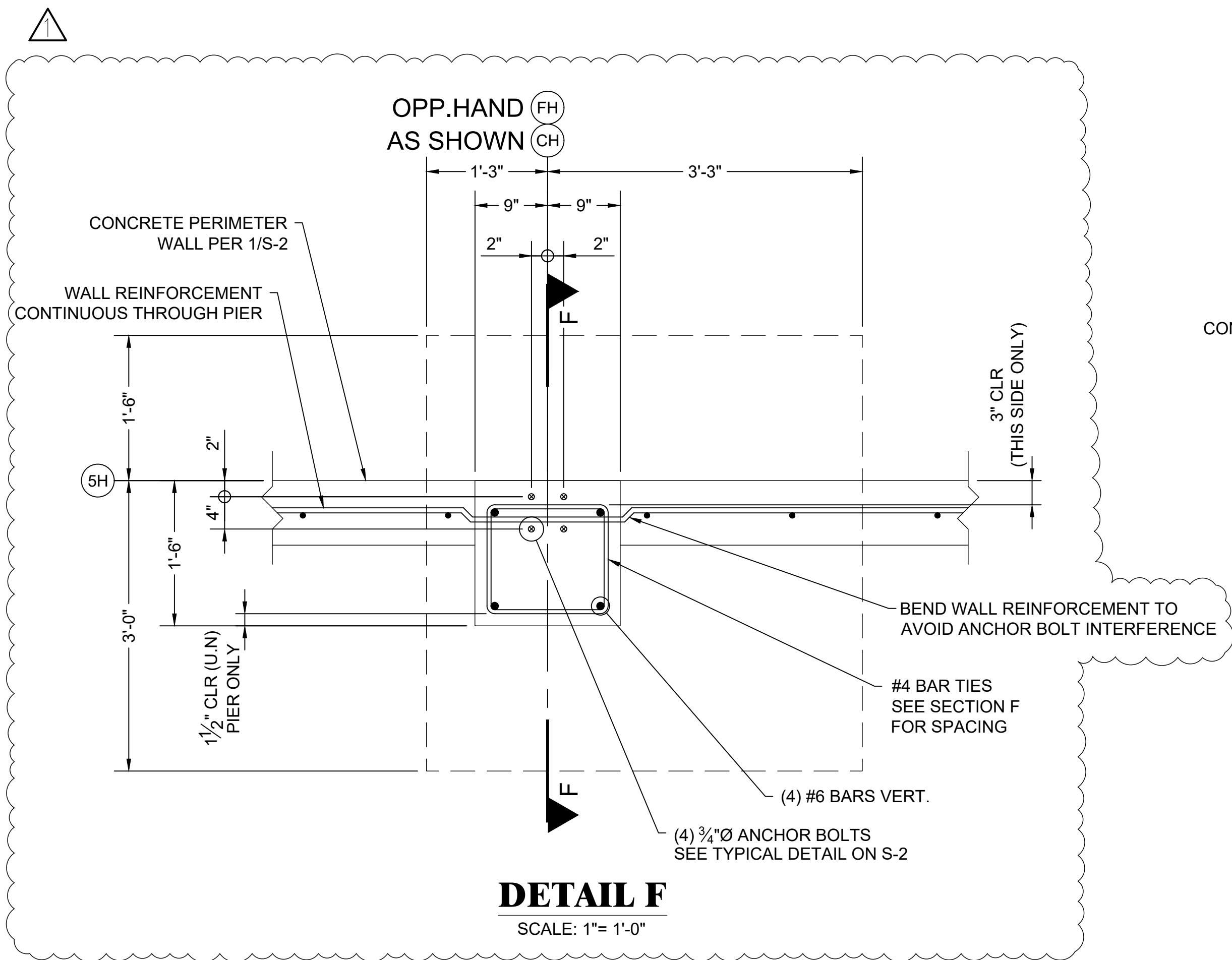
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DWG TITLE:
FOUNDATION SECTIONS & DETAILS

DATE: 05/23/25
SCALE: AS NOTED
DRAWN BY: RLK
CHECKED BY: TBT
JOB NUMBER: 672-25

DWG NUMBER:

S-3



PROJECT: RIDGEVIEW STATION
NEW PEMB FOUNDATION PLANS

LOCATION: 1336 RIDGEVIEW RD.
UPPER ARLINGTON, OH 43221
(FRANKLIN COUNTY)



REVISIONS:	MARK	DESCRIPTION
	△	ADDED PORCH SLAB & ADJUSTED FOOTINGS

CONTRACTOR IS TO VERIFY AND CHECK ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BRING ANY DISCREPANCIES TO THE ENGINEER'S ATTENTION BEFORE INSTALLING ANY EQUIPMENT OR MATERIALS.

DWG TITLE:
FOUNDATION SECTIONS & DETAILS

DATE: 05/23/25
SCALE: AS NOTED
DRAWN BY: RLK
CHECKED BY: TBT
JOB NUMBER: 672-25

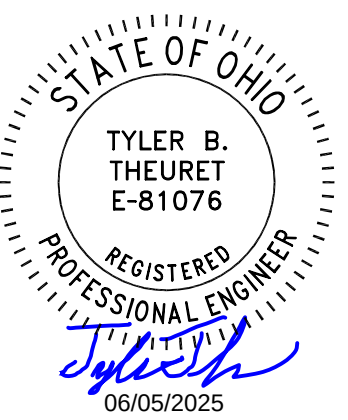
DWG NUMBER:

S-5



RIDGEVIEW STATION
NEW PEMB FOUNDATION PLANS

1336 RIDGEVIEW RD.
UPPER ARLINGTON, OH 43221
(FRANKLIN COUNTY)



MARK	DESCRIPTION
	ADDED PORCH SLAB & ADJUSTED FOOTINGS

TRACTOR IS TO VERIFY
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OR TO BEGINNING WORK.
S THE CONTRACTOR'S
PONSIBILITY TO BRING
DISCREPANCIES TO THE
ENGINEER'S ATTENTION
ORE INSTALLING ANY
EQUIPMENT OR MATERIALS.

TITLE:
FOUNDATION
CTIONS & DETAILS

E: 05/23/25
LE: AS NOTED
OWN BY: RLK
CHECKED BY: TBT
NUMBER: 672-25

NUMBER:

S-7



PROJECT:
RIDGEVIEW STATION
NEW PEMB FOUNDATION PLANS

LOCATION:
1336 RIDGEVIEW RD.
UPPER ARLINGTON, OH 43221
(FRANKLIN COUNTY)



REVISIONS:	MARK	DESCRIPTION
		ADDED PORCH SLAB & ADJUSTED FOOTINGS

CONTRACTOR IS TO VERIFY
AND CHECK ALL FIELD
CONDITIONS AND DIMENSIONS
PRIOR TO BEGINNING WORK.
IT IS THE CONTRACTOR'S
RESPONSIBILITY TO BRING
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ENGINEER'S ATTENTION
BEFORE INSTALLING ANY
EQUIPMENT OR MATERIALS.

DWG TITLE:

FOUNDATION
SECTIONS & DETAILS

DATE: 05/23/25
SCALE: AS NOTED
DRAWN BY: RLK
CHECKED BY: TBT
JOB NUMBER: 672-25

DWG NUMBER:

S-8

290 W. Nationwide Blvd.
Columbus, Ohio 43215
Direct: 614.285.2220
Fax: 614.460.8403
johnryan@nisource.com

November 26, 2024

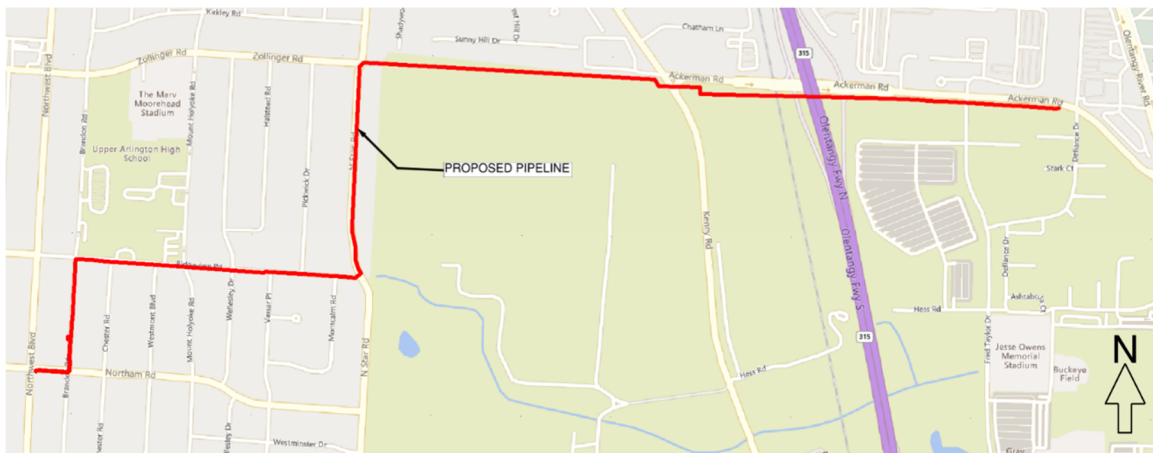
Ms. Tanowa Troupe
Secretary, Office of Administration
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

RE: *In the Matter of the Letter of Notification Application of Columbia Gas of Ohio, Inc. for a Certificate of Environmental Compatibility and Public Need for the West-Central NCHP Pipeline Project*
OPSB Case No. 24-0667-GA-BLN

Dear Ms. Troupe:

Columbia Gas of Ohio, Inc. ("Columbia") submits this Letter of Notification, pursuant to R.C. 4906.03(F)(3) and Adm.Code 4906-6, concerning a proposed pipeline project known as the West-Central NCHP Pipeline Project (the "Project").

Attachment A, Figure 1: West-Central NCHP Pipeline Project Route



As required by Adm.Code 4906-6-05, please be advised of the following:

(B) General Information

(1) The name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a letter of notification.

Columbia is proposing to construct a natural gas pipeline identified as the West-Central NCHP Pipeline Project (the "Project") in Columbus, Ohio and Upper Arlington, Ohio. The proposed Project will be approximately 12,780 feet (2.4 miles) in length and consist of construction of 463 feet of 12-inch diameter, 70 feet of 16-inch diameter, and 12,247 feet of 20-inch diameter high pressure gas transmission class pipeline. The Project will allow Columbia to continue reliably serving the central Ohio region, improve safety, and further Columbia's efforts to meet mandates of the Pipeline and Hazardous Materials Safety Administration's ("PHMSA") recently effective rule changes in 49 C.F.R. 191 and 192, commonly referred to as the "PHMSA Mega Rule."

Much of the 12-inch, 16-inch, and 20-inch natural gas main will be constructed within the public road right-of-way within the City of Upper Arlington as well as within permanent private pipeline easements from The Ohio State University (through the State of Ohio). Columbia plans to utilize a combination of conventional boring, horizontal directional drilling, and the open cut installation method to construct the Project. If any new information is discovered, or for commercially reasonable reasons, Columbia may utilize these methods interchangeably during construction of the Project.

This Project meets the requirements of the Letter of Notification as it is a replacement of gas pipelines or pipeline segments greater than one mile in length but not greater than five miles in length. See Appendix B of Adm.Code 4906-1-01.

(2) If the proposed letter of notification project is a gas pipeline, a statement explaining the need for the proposed facility.

PHMSA has recently begun implementing a comprehensive, three-part rule, aimed at increasing pipeline safety. These regulations are commonly known as the PHMSA Mega Rule. The portions of the Project that are 20-inch diameter are being installed to comply with the PHMSA Mega Rule.

Mega Rule Part 1, which went into effect in 2020, involves new regulations for reconfirming the maximum allowable operating pressure (“MAOP”) of pipelines and facilities installed before July 1, 2020, that are in certain class locations or high consequence areas (“HCAs”), and do not have available certain traceable, verifiable, and complete (“TVC”) records, such as material attributes and sufficient pressure test records. Operators have until 2035 to comply with these requirements, but 50% of the work in scope must be completed by July 2028. The Project is part of Columbia’s plan to comply with the PHMSA Mega Rule.¹

Moreover, replacing the existing pipeline increases the reliability of a critical piece of Columbia’s service to the Columbus area through the NCHP system, as well as provides safety benefits. The safety benefits include, but are not limited to, a lower ratio of operating stress to yield strength of the pipeline material and updated pipeline records.

(3) The location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the project area.

The map shown in Attachment A, Drawing Number WS-01: Overview Workspace illustrates the location of the Project in relation to existing transmission facilities in the Project area. The new pipeline is shown in red and the workspace for constructing the new pipeline is a black-dashed line. The existing NCHP pipeline that will be replaced is the blue line.

(4) The alternatives considered and reasons why the proposed location or route is best suited for the proposed facility, including, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

The proposed route was developed taking into consideration the current pipeline route, private property, the density of below-grade utilities, impact to the public, and environmental features. The proposed route minimizes the number of residential homes and businesses directly affected by the Project. Installation methods have been selected to further limit impact to high traffic

¹ See *In the Matter of the Application of Columbia Gas of Ohio, Inc. for Approval of an Alternative Rate Plan*, Case Nos. 23-0046-GA-ALT, *et al.*, Staff Report at 10 (July 7, 2023).

roads, other infrastructure such as railroads, environmental features, and trees. Tree clearing and trimming will occur along the pipeline route as needed for safe construction and pipeline operation purposes along the public right-of-way as well as for permanent and temporary easement areas. Columbia currently plans to HDD under the trees located on The Ohio State University property in order to minimize impacts to the mature trees along that portion of the Project. The HDD profile is shown on Attachment B. On The Ohio State University property, for a 5' wide path, Columbia will clear some brush as well as immature trees that are less than 10' tall or less than 2" in diameter. There are multiple cultural resources previously recorded within a 0.5-mile radius of the proposed alignment. The route directly impacts The Ohio State University property and crosses under one railroad bridge. The route has 1,034 structures within 1,000 feet of the centerline, five of which are schools or daycares, and one is a place of worship. Please see Attachment G for the Cultural Memorandum for the details of the cultural study.

(5) Describe the public information program to inform affected property owners and residents of the nature of the project and the proposed timeframe for project construction and restoration activities.

Columbia will provide the notices required by the OPSB rules, including notices to landowners, newspaper notice, a copy of this Letter of Notification (with attachments) posted in libraries, and notices to public officials. Columbia will also be hosting a website dedicated to this phase of its Mega Rule compliance. That website is www.columbiagasohio.com/west-central-nchp. Additionally, Columbia has communicated with The Ohio State University for the use of their private property, as well as the City of Upper Arlington regarding communications with residents surrounding the Project. Columbia hosted a community meeting on November 13, 2024 at 6:00pm at the City of Upper Arlington Public Library. Columbia will also have a dedicated e-mail address to receive inquiries from any interested stakeholder and will be responding to those inquiries.

(6) The anticipated construction schedule and proposed in-service date of project.

At the present time, Columbia anticipates installation of the proposed pipeline near and across The Ohio State University property to begin around April 2025 and to complete this work by December 31, 2025. Columbia expects construction to begin near and around Upper Arlington in the spring of 2026 and to complete this work by December 31, 2026. These timeframes and scope of work are subject to change based on evolving project planning and other variables, and Columbia will work with The Ohio State University, Upper Arlington, and affected residents throughout the construction process.

(7) An area map of not less than 1:24,000 scale clearly depicting the facility and proposed limits of disturbance with clearly marked streets, roads, and highways, and an aerial image.

Attachment B is comprised of the pipeline alignment drawings and the pipeline workspace drawings that contain area maps at a 1"= 40' scale. The maps and drawing depict the Project centerline, workspaces, railroads, and major street crossings. The Project centerline is shown as a dashed red line, and workspaces are shown as cyan-hatched areas bounded by dashed black lines for workspace within public right-of-way; grey-hatched areas bounded by dashed blue lines for permanent easement within private parcels; and pink-hatched areas bounded by dashed black lines for temporary easement within private parcels. Roads, streets, highways, and other crossings are clearly labeled throughout.

Attachment H contains the Management of Traffic (MOT) plans for the construction of the pipeline.

(8) A list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.

A list of all adjacent and impacted parcels and entities are listed in Attachment D.

As of the date of this filing, Columbia has been working to secure an easement with The Ohio State University (through the State of Ohio) for the use of its private property and will not begin construction until all easements have been secured.

(9) Technical features of the project.

(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

The Project will be tested such that it will have an MAOP of 720 pounds per square inch gauge ("psig"). Columbia will be installing 12-inch, 16-inch, and 20-inch main-line piping that is coated steel with a wall thickness of 0.375 inches.

The location of the workspaces, easements, and right-of-way are shown in the drawings included in Attachment B.

(b) For electric power transmission lines that are within 100 feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line, describe:

(i) Calculated electric and magnetic field strength levels at one meter above ground under the lowest conductors and at the edge of the right-of-way for: (a) Normal maximum loading, (b) Emergency line loading, (c) Winter normal conductor rating.

(ii) The applicant's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.

Not applicable to this Project as it does not relate to an electric power transmission line.

(c) The estimated capital cost of the project.

The estimated total cost of the proposed Project is \$ [REDACTED].

(10) Social and Ecological Impacts of the Project.

(a) A brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.

The Project is located within the Cities of Columbus and Upper Arlington, Franklin County, Ohio. The current land use along the route is comprised of residential and commercial properties, with approximately 0.46-mile-long section of the route traversing wooded and agricultural land associated with The Ohio State University. There are also transportation-related land use areas including one railroad crossing and several road crossings.

Currently, the route has 1,034 structures within 1,000 feet of the centerline. Five schools or daycares, and one place of worship were identified based on desktop analysis.

There are no new planned residential developments within the Project study corridor that were discovered as part of the survey. The Project is not expected to significantly impact existing or planned land use within the vicinity of the Project. There are no federal lands that will be crossed by the Project. There are state-owned lands crossed by this Project, which is the portion that crosses The Ohio State University.

The municipalities, townships, and counties affected include Franklin County, Clinton Township, Perry Township, the City of Upper Arlington, and the City of Columbus.

(b) The acreage and a general description of all agricultural land, and separately all agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.

No Agricultural District Land parcels are impacted by the Project.

(c) A description of the applicant's investigation concerning the presence or absence of significant archaeological or cultural resources that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

Colliers Engineering & Design (CED), on behalf of Columbia, conducted a Phase I intensive level cultural resource survey for the new construction of approximately 2.4 miles (3.9 kilometers [km]) of 12-inch, 16-inch, and 20-inch below ground high pressure natural gas pipeline for the Project. The purpose of the intensive cultural resource survey was to identify archaeological resources and/or historic structures that might be affected by the Project.

The investigation was performed for compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108). The Ohio State Historic Preservation Office (SHPO) is the official agency of the State of Ohio which was designated the Ohio History Connection (OHC) in 1967. This report conforms to the Ohio History Connection's Archaeology Guidelines (2022) and Guidelines for Conducting History/Architecture Surveys in Ohio (2014), the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 Federal Register 44716) and Ohio Revised Code Section 149.53, and Archaeological and Historic Survey and Salvage Work (2015). CED personnel who conducted the research and fieldwork meet or exceed the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 Federal Register 44716).

Prior to fieldwork, a background literature and records review was conducted. Then an intensive survey consisting of pedestrian survey with shovel testing and photographic documentation was performed.

The Area of Potential Effects (APE) is the geographic area within which the project may directly or indirectly alter the character or use of historic properties, including archaeological sites, above-ground historic resources, and properties listed or eligible for listing in the National Register of Historic Places (NRHP) ([per 36 CFR 800.4(d)(1)]). The Area of Potential Effects (Project APE) includes all areas directly and indirectly affected by the Project with the limit of ground disturbance. For the archaeological and architectural survey this includes all potential areas subject to ground disturbing activities (direct APE), and for the architectural survey this includes all potential historic structures within a 0.5-mile (0.8-km) radius of any ground disturbing activities.

As proposed, the direct APE consists of a combined total area of 15.2 acres (6.2 hectares). The background literature and records review completed by CED found that no archaeological or historic architectural resources were located within or immediately adjacent to the direct APE. Eighteen archaeological sites and ten above-ground historic resources were determined to be located within

0.5 mile (0.8 km) of the direct APE. The survey documented a heavily disturbed setting dominated by agricultural activity and urban construction fill. Based on the results of the survey and the extent of the Project activities, no intact, significant cultural resources will be affected by construction within the Project APE. In accordance with Section 106 of the NHPA, and the guidelines set forth by OHC, CED recommends a finding of “No Historic Properties Affected” [per 36 CFR 800.4(d)(1)] within the Project APE.

A copy of the Cultural Report, including the follow up Phase I cultural resources investigation, and correspondence with SHPO is included in Attachment G.

(d) A list of the local, state, and federal government agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.

A copy of this Letter of Notification has been sent to the following public officials concurrently with its submittal to the Ohio Power Siting Board.

City of Upper Arlington	
Ukeme Awakessien Jeter	Heidi Munc
City of Upper Arlington Council President / Mayor	City of Upper Arlington Council
3600 Tremont Rd	3600 Tremont Rd
Upper Arlington, OH 43221	Upper Arlington, OH 43221
614-583-5040	614-583-5040
Brian C. Close	John J Kulewicz
City of Upper Arlington Council Vice President	City of Upper Arlington Council
3600 Tremont Rd	3600 Tremont Rd
Upper Arlington, OH 43221	Upper Arlington, OH 43221
614-583-5040	614-583-5040
Kathy Adams	Jim Lynch
City of Upper Arlington Council	City of Upper Arlington Council
3600 Tremont Rd	3600 Tremont Rd
Upper Arlington, OH 43221	Upper Arlington, OH 43221
614-583-5040	614-583-5040
Todd Walter	Krystal Gonchar
City of Upper Arlington Council	City of Upper Arlington City Clerk
3600 Tremont Rd	3600 Tremont Rd
Upper Arlington, OH 43221	Upper Arlington, OH 43221
614-583-5040	614-583-5040
August Polen	Steven Schoeny
City of Upper Arlington Deputy Clerk of Courts	City of Upper Arlington City Manager
3600 Tremont Rd	3600 Tremont Rd
Upper Arlington, OH 43221	Upper Arlington, OH 43221
614-583-5060	614-583-5040
Chad Gibson	Aaron Scott
City of Upper Arlington Community Development	City of Upper Arlington Engineering Division
3600 Tremont Rd	4100 Roberts Rd
Upper Arlington, OH 43221	Upper Arlington, OH 43221
614-583-5074	614-583-5351

City of Columbus	
Hon. Andrew Ginther	Shannon G. Hardin
City of Columbus Mayor	City of Columbus Council President
90 W. Broad Street	90 W. Broad Street
Columbus, Ohio 43215	Columbus, Ohio 43215
614-645-7671	614-645-7671
Rob Dorans	Nicholas J. Bankston
City of Columbus, Council President	Columbus City Council
Pro Tempore	90 W. Broad Street
90 W. Broad Street	Columbus, Ohio 43215
Columbus, Ohio 43215	614-645-7671
Lourdes Barroso de Padilla	Nancy Day-Achauer
Columbus City Council	Columbus City Council
90 W. Broad Street	90 W. Broad Street
Columbus, Ohio 43215	Columbus, Ohio 43215
614-645-7671	614-645-7671
Shayla Favor	Melissa Green
Columbus City Council	Columbus City Council
90 W. Broad Street	90 W. Broad Street
Columbus, Ohio 43215	Columbus, Ohio 43215
614-645-7671	614-645-7671
Emmanuel V. Remy	Christopher L. Wyche
Columbus City Council	Columbus City Council
90 W. Broad Street	90 W. Broad Street
Columbus, Ohio 43215	Columbus, Ohio 43215
614-645-7671	614-645-7671
Andrea Blevins	Toya Johnson
City of Columbus City Clerk	City of Columbus Deputy City Clerk
90 W. Broad Street	90 W. Broad Street
Columbus, Ohio 43215	Columbus, Ohio 43215
614-645-7671	614-645-7671

Franklin County	
Kevin L. Boyce	Erica C. Crawley
Franklin County Commissioner	Franklin County Commissioner
President	373 S. High Street
373 S. High Street	Columbus, Ohio 43215
Columbus, Ohio 43215	614-525-3600
614-525-3600	
John O'Grady	Maryellen O'Shaughnessy
Franklin County Commissioner	Clerk of Courts
373 S. High Street	373 S. High Street
Columbus, Ohio 43215	Columbus, Ohio 43215
614-525-3600	614-525-3600
Brad Foster, P.E., P.S.	
Franklin County Engineer	
970 Dublin Road	
Columbus, Ohio 43215	
614-525-3600	

Clinton Township	
Jessica Jessberger	Rebecca Grimm
Clinton Township Trustee	Clinton Township Trustee
3820 Cleveland Avenue	3820 Cleveland Avenue
Columbus, Ohio 43224	Columbus, Ohio 43224
614-257-7433	614-361-2732
David Clark	
Clinton Township Trustee	
3820 Cleveland Avenue	
Columbus, Ohio 43224	
614-499-8803	

Perry Township	
Chet J. Chaney	Andy English
Perry Township Trustee	Perry Township Trustee
7125 Sawmill Road	7125 Sawmill Road
Dublin, OH 43016	Dublin, OH 43016
614-889-2669	614-889-2669
James Roper	
Perry Township Trustee	
7125 Sawmill Road	
Dublin, OH 43016	
614-889-2669	

In addition to submitting this Letter of Notification to the Ohio Power Siting Board, the Project is subject to the following federal, state, and local agency reviews and authorizations to be received prior to construction beginning:

- U.S. Army Corps of Engineers (USACE) Nationwide Permit 12 Evaluation;
- U.S. Fish & Wildlife Service (USFWS) Ohio Ecological Field Office Section 7 Threatened and Endangered Species Consultation;
- Ohio State Historic Preservation Office Section 106 Historic Resources Consultation;
- Ohio Department of Natural Resources (ODNR) State Threatened and Endangered Species Consultation;
- Ohio Environmental Protection Agency (OEPA) Section 402 National Pollutant Discharge Elimination System (NPDES) and Construction Stormwater Permit and Stormwater Pollution Prevention Plan (SWPPP) requirements;
- City of Columbus Department of Public Service ROW Excavation Permit;
- City of Upper Arlington ROW Permit;
- Ohio EPA Hydrostatic Test Water Discharge Permit;
- Ohio Department of Transportation Right-of-Way and Utility Permit;
- CSX Right of Entry Permit; and
- CSX Utility Permit.

(e) A description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

An Information for Planning and Consultation (IPaC) Official Species List was completed on May 26, 2023, on the USFWS website (<https://ipac.ecosphere.fws.gov/>). The USFWS Official Species Listed yielded three federally listed species, which include the Indiana bat (endangered), northern long-eared bat (endangered), and rayed bean (endangered). For the full Threatened and Endangered species memorandum, please see Attachment E.

A project review request letter was submitted to ODNR on May 26, 2023, seeking review of the potential impacts of the Project on federal and state listed species and their habitats within the Project area. A response was provided by ODNR on June 28, 2023, which identifies nine State-listed species that occur within one mile of the Project limits: Lark sparrow (*Chondestes grammacus*, Endangered), Yellow-crowned night-heron (*Nyctanassa violacea*, Special Interest), Purple wartyback (*Cyclonaias tuberculata*, Species of Concern), Elktote (*Alasmidonta marginata*, Species of Concern), Wavy-rayed lampmussel (*Lampsilis fasciola*, Species of Concern), Black sandshell (*Ligumia recta*, Species of Concern), Round pigtoe (*Pleurobema sintoxia*, Species of Concern), Kidneyshell (*Ptychobranhus fasciolaris*, Species of Concern), and Rayed bean (*Villosa fabalis*, Endangered, Federally Endangered). Note: these species are not specifically recorded within the Project area itself. Due to the ongoing nature of the Project, an updated list was requested on May 24, 2024 and a response was received on June 26, 2024. No additional species were identified in the updated list provided by the ODNR.

Due to the Project type, size, location, and proposed implementation of seasonal tree cutting to avoid impacts to the federally listed bat species, Columbia anticipates that the Project, as proposed, is not likely to adversely affect the Indiana bat or northern long-eared bat.

The habitat within the Project corridor is urban and primarily consists of residential and commercial areas with maintained lawn. Approximately 19% of forested habitat are also present within the Project area. During the wetland delineation study, an on-site habitat assessment was performed to identify potential habitat for federally and state protected species within the Project area. Common tree species observed within the Project area during the study include sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), red maple (*Acer rubrum*), and American beech (*Fagus grandifolia*). Please see the pipeline alignment and workspace drawings in Attachment B for impacted locations of forested habitat. In addition, Columbia will adhere to seasonal tree clearing timeframes recommended by both USFWS and ODNR. The Project will result in a brush and tree clearing and trimming in the immediate habitat surrounding the Project area. Therefore, habitat removal is unlikely to result in significant impacts to bat species. Based on this information and the minimization and avoidance measures planned to be implemented by Columbia, it is not likely that direct impacts to the Indiana bat or northern long-eared bat will occur.

The Project was also assessed for the presence of habitats that could potentially support other listed species. No suitable habitat for the listed species was identified within the Project area. In addition, two streams and one wetland feature have been delineated within the Project area that will be crossed by the proposed pipeline.

Section 7(a)(2) of the Endangered Species Act (ESA) directs all Federal agencies to ensure that any action they authorize, fund, or carry-out does not jeopardize the continued existence of an endangered or threatened species or designated or proposed critical habitat (collectively, referred to as protected resources). The crossing of jurisdictional streams by the proposed pipeline will be subject to a USACE Nationwide Permit 12 (reporting or non-reporting). This action creates a federal nexus for this Project; therefore, no tree clearing will occur on any portion of the Project area until consultation under Section 7 of the ESA is completed.

(f) A description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that may be located within the potential disturbance area of the project, a statement of the

findings of the investigation, and a copy of any document produced as a result of the investigation.

An environmental review of the Project area was conducted on behalf of Columbia by its contractor, Campos EPC, LLC. According to the USFWS, there are no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project area. Streams identified in the Project area are not part of a National or State wild and scenic river. For the full Wetland Delineation Report, please see Attachment C, and see the Inadvertent Release Plans for the horizontal directional drills (HDDs) in Attachment F. An excerpt of Attachment C is below:

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were reviewed to identify any flood hazard areas that have been mapped for the proposed pipeline route. Specifically, map numbers 39049C0164K, 39049C0168K, and 39049C0169K encompass the area of the Project and were reviewed. The FEMA FIRM identified a regulated floodplain west of the Project, associated with the Scioto River and a regulated floodplain east of the Project, associated with the Olentangy River. The Project does not cross any mapped floodplain areas. A copy of the aerial map with FEMA floodplain and floodway information for the Project area is included as Figure 4 in the Wetland Delineation Report located in Attachment C.

The Project Study Area is comprised of a 100-foot-wide survey corridor centered on the proposed pipeline alignment for 2.4 miles. The Project Study Area or “Survey Corridor” includes the proposed installation of 2.4 miles of 12-inch, 16-inch, and 20-inch pipeline and additional workspaces. The additional workspaces are located along the alignment in the central and eastern end of the alignment. The Survey Corridor was investigated to identify potential jurisdictional Waters of the U.S. (WOTUS) and wetlands subject to Federal or State regulatory jurisdiction. The delineation methodologies developed by the USACE and the USEPA, as described in the 1987 Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) and the subsequently issued USACE regulatory guidance regarding the identification of jurisdictional stream channels through the recognition of field indicators of an ordinary high-water mark within drainage features (Environmental Laboratory, 1987; USACE 2012; USACE 2005) were utilized during our investigation. The location and size of jurisdictional areas

delineated are shown on Figure 5, Delineation Results, in the Wetland Delineation Report located in Attachment C.

Based on the field investigations, two stream features and one wetland feature were delineated within the Survey Corridor by CED on March 2 and 3, 2022 and May 19, 2023. A total of 2,552 linear feet of perennial (R3) stream, 562 linear feet of intermittent (R4) stream, and 0.23 acres of palustrine emergent (PEM) wetland were delineated. It is CED's professional opinion that Stream Features "1" and "2", and the proximal wetland, are considered jurisdictional WOTUS since they drain into the Olentangy River and Scioto River. While disturbances to such features during construction will be kept to a minimum, a Pre-Construction Notification will be submitted to the U.S. Army Corps of Engineers Huntington District for verification of the eligibility of the proposed temporary disturbances to presumed jurisdictional WOTUS features under Nationwide Permit 12.

Impacts to vegetation along the proposed pipeline route will be minimal. Tree clearing and trimming will occur along the pipeline route as needed for safe construction and pipeline operation purposes along the public right-of-way as well as for permanent and temporary easement areas. Common tree species observed within the Project area include sweetgum, loblolly pine, red maple, and American beech. Maintained lawn habitat that will be impacted by the proposed Project includes common upland species such as white clover (*Trifolium repense*), tall fescue (*Schedonorus arundinaceus*), yellow sweet clover (*Melotius officinalis*), and dandelion (*Taraxacum officinale*).

(g) Any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

To the best of Columbia's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

Should staff of the Ohio Power Siting Board desire further information or discussion of this application, please do not hesitate to reach out to me at the information listed above.

Respectfully submitted,

/s/ John Ryan

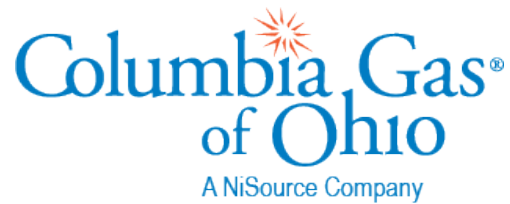
**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on**

11/26/2024 12:43:43 PM

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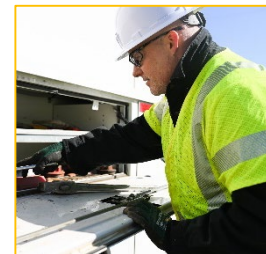
Case No(s). 24-0667-GA-BLN

Summary: Application of Columbia Gas of Ohio, Inc. electronically filed by Ms.
Melissa L. Thompson on behalf of Columbia Gas of Ohio, Inc..



West Central North Columbus High Pressure (NCHP) Project – Upper Arlington

Luka Papalko, Public Affairs Manager, Columbia Gas of Ohio



OUR VISION IS TO BE A

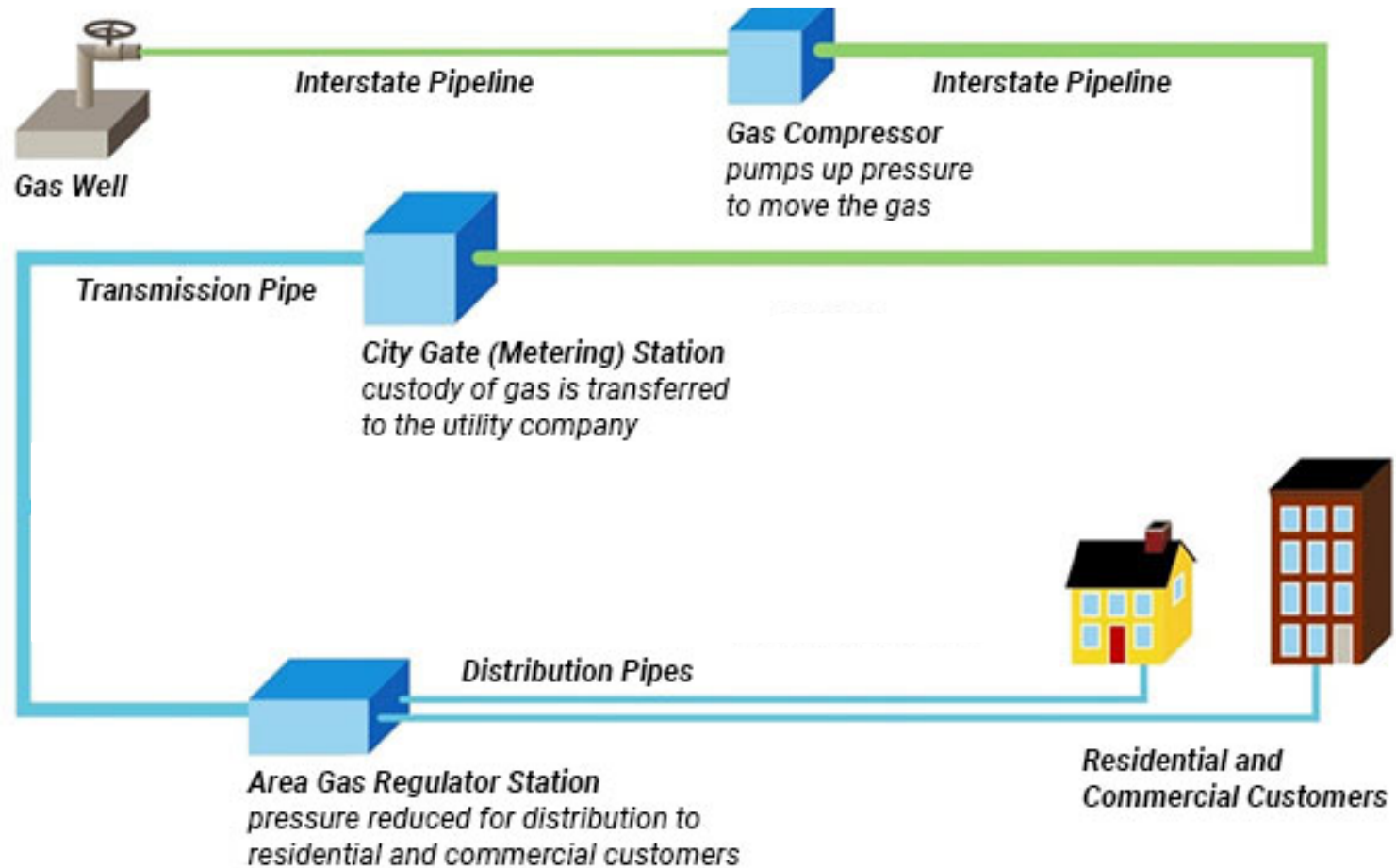
PREMIER, INNOVATIVE & TRUSTED
ENERGY PARTNER



Terms To Know

- **Transmission lines:** Pipes that carry natural gas from processing and storage facilities to distribution lines and customers, i.e., supply lines.
- **Distribution lines:** Pipes that carry natural gas from transmission pipelines to homes and businesses, i.e., delivery lines.
- **Regulator station:** A collection of pipes, valves and other measurements that reduce gas pressure to appropriate pressure connecting transmission lines and distribution lines. Regulator stations also act as monitoring and safety checkpoints.
- **PHMSA:** Department of Pipeline and Hazardous Materials Safety Administration. Federal component of gas line safety regulations.
- **PUCO:** Public Utilities Commission of Ohio. State regulator for Ohio utilities such as Columbia Gas.
- **OPSB:** Ohio Power Siting Board. Reviews gas pipeline projects based on size, length and pressure limits.
- **HCA:** High Consequence Area. Designated areas along pipeline corridor meeting specific population density, land use and pipeline specific requirements.
- **MAOP:** Maximum operating pressure. The extent of the system operating pressure.
- **NCHP:** North Columbus High Pressure. Name of Columbia Gas project.

Natural Gas System Overview



How Did We Get Here?



- PHMSA issued safety and environmental protections in response to safety incidents in other parts of the country.
- Multi-year, multi-phase project to comply with federal requirements.
- **2020:** 1st rule went into effect
- **2022:** 2nd rule went into effect
- **2023:** 3rd rule went into effect
- **What is the Mega Rule?**
 - Improves integrity management
 - Increases safety requirements
 - Expands erosion control
 - Mandates inspections
 - Updates repair criteria

Mega Rule Compliance



Perform additional maintenance and inspections within HCA



Create Pipeline Integrity program



Install in-line inspection functionality



Install automatic shut off valves



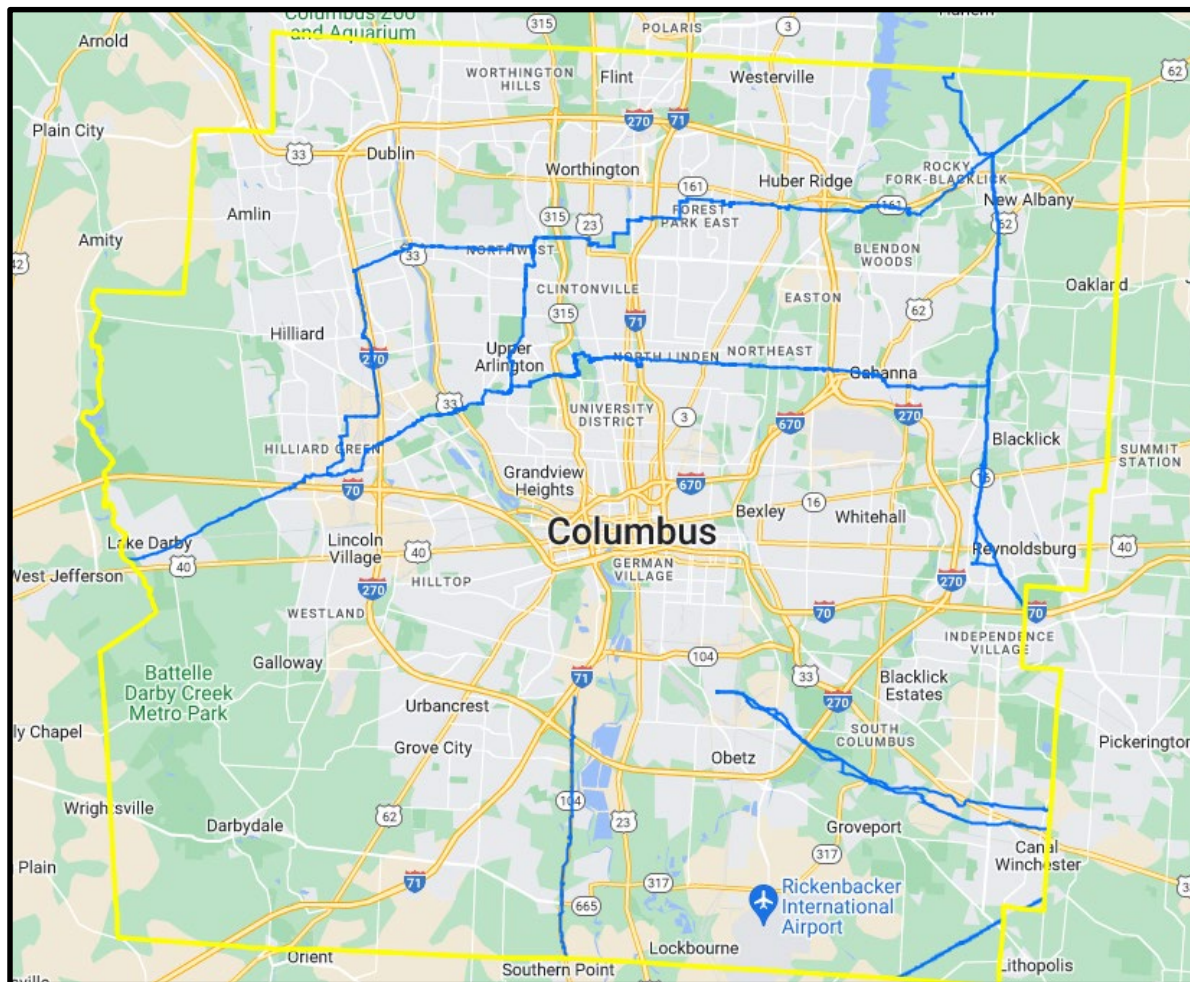
Install computerized monitoring and leak detection systems



Replacing pipeline segments with newer, thicker pipe

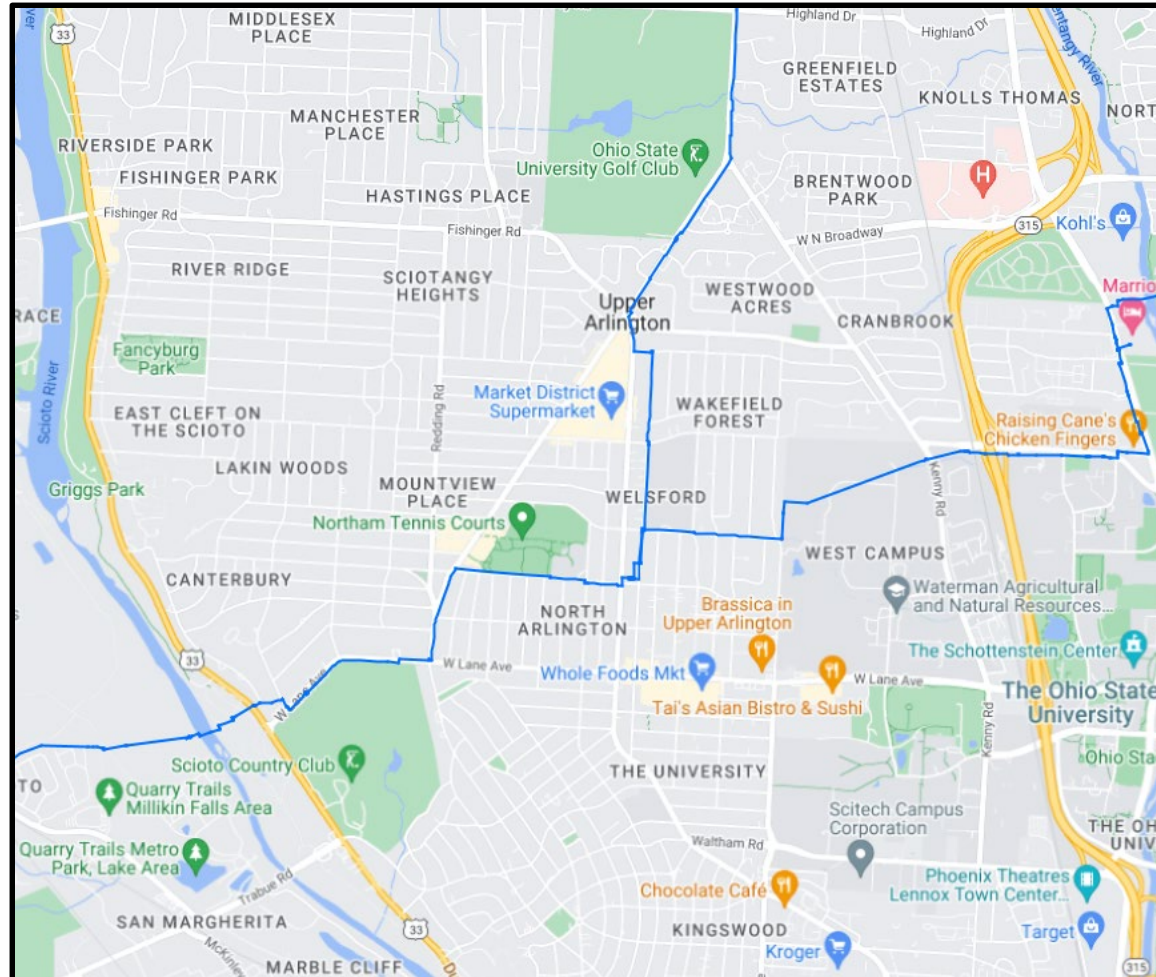
Columbia Gas North Columbus High Pressure System

Columbia Gas must be in 50% compliance by July 2028.



Columbia Gas North Columbus High Pressure System – Upper Arlington

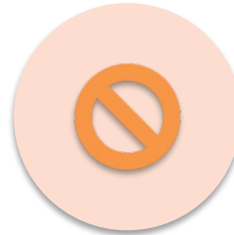
Upper Arlington will have multiple phases.



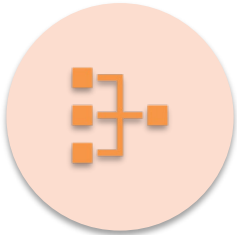
Important Notes



Columbia operates 52 miles of transmission pipeline in Ohio – there has never been an incident in 70+ years.



There is no leakage history on the pipeline in Upper Arlington.

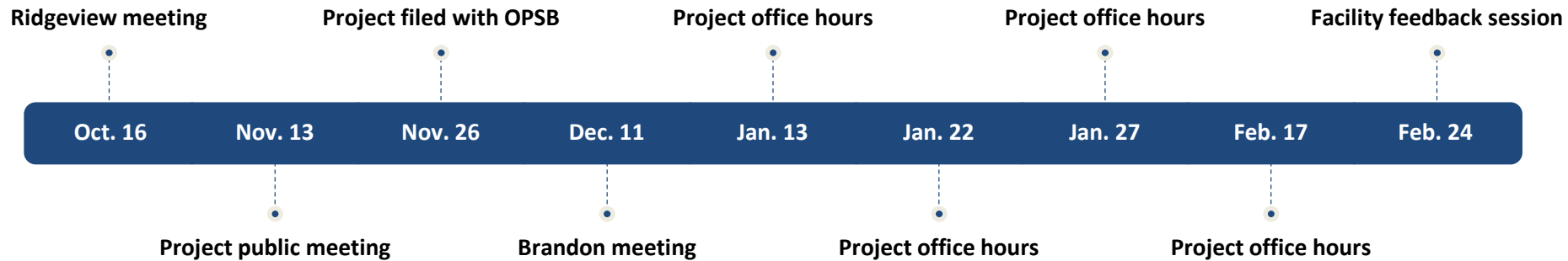


There is 300,000+ miles of transmission pipeline in US.



1 in every 7 miles is considered HCA.

Timeline Of Public Events



West Central Project Route



Green = existing pipeline

Red = new pipeline

Project Facts And Figures

- **Start date:** Spring 2025?
- **End Date:** TBD
- 2.4 miles of new pipeline installed
- In Upper Arlington, pipeline will be installed in public right-of-way
- Main impacts will be maintenance of traffic and construction disruption
- **Two facilities:** 1336 Ridgeview and 2723 Brandon Road
- **Construction to follow guidelines from:**
 - US EPA
 - Ohio PA
 - ODNR
 - Army Corps of Engineers
 - Upper Arlington
 - OPSB
- **Project planning steps taken:**
 - Integrity digs
 - Surveying
 - Cultural Resource Study
 - Endangered Species Review
 - Wetland Delineation Report
 - Coordination with impacted stakeholders

Safety Precautions During Construction

- Columbia personnel will oversee project execution contractor
- Columbia will follow right-of-way permit issued by Upper Arlington
- Upper Arlington will have inspection personnel and capabilities
- Columbia will follow maintenance of traffic plan submitted to and issued by Upper Arlington
- Columbia will have maintenance of traffic contractor
- Storage yard will be outside of Upper Arlington
- Pipeline safety components during construction:
 - Steel plant verifies and tests material
 - Welds are tested
 - Joints are sandblasted and coated
 - Pipe is x-rayed
 - Pipe is tested longitudinally and laterally
 - Cathodic protection is applied
 - Pipe is pressure tested (with water) before in service

Important Pipeline Notes



The current 20" pipeline will be replaced with a new 20" pipeline.



The operating pressure will remain the same.

This is a like for like project while improving system safety and reliability.

What Is A Regulator Station?

- Above ground facilities that reduce gas pressure to operating pressure appropriate for downstream section of the distribution system.
- Includes features such as:
 - Pressure reduction valves
 - Pressure monitoring
 - Metering
 - Automatic shut off valves
 - Emergency relief components
- 800+ regulator stations in Central Ohio
- 17 regulator stations in Upper Arlington



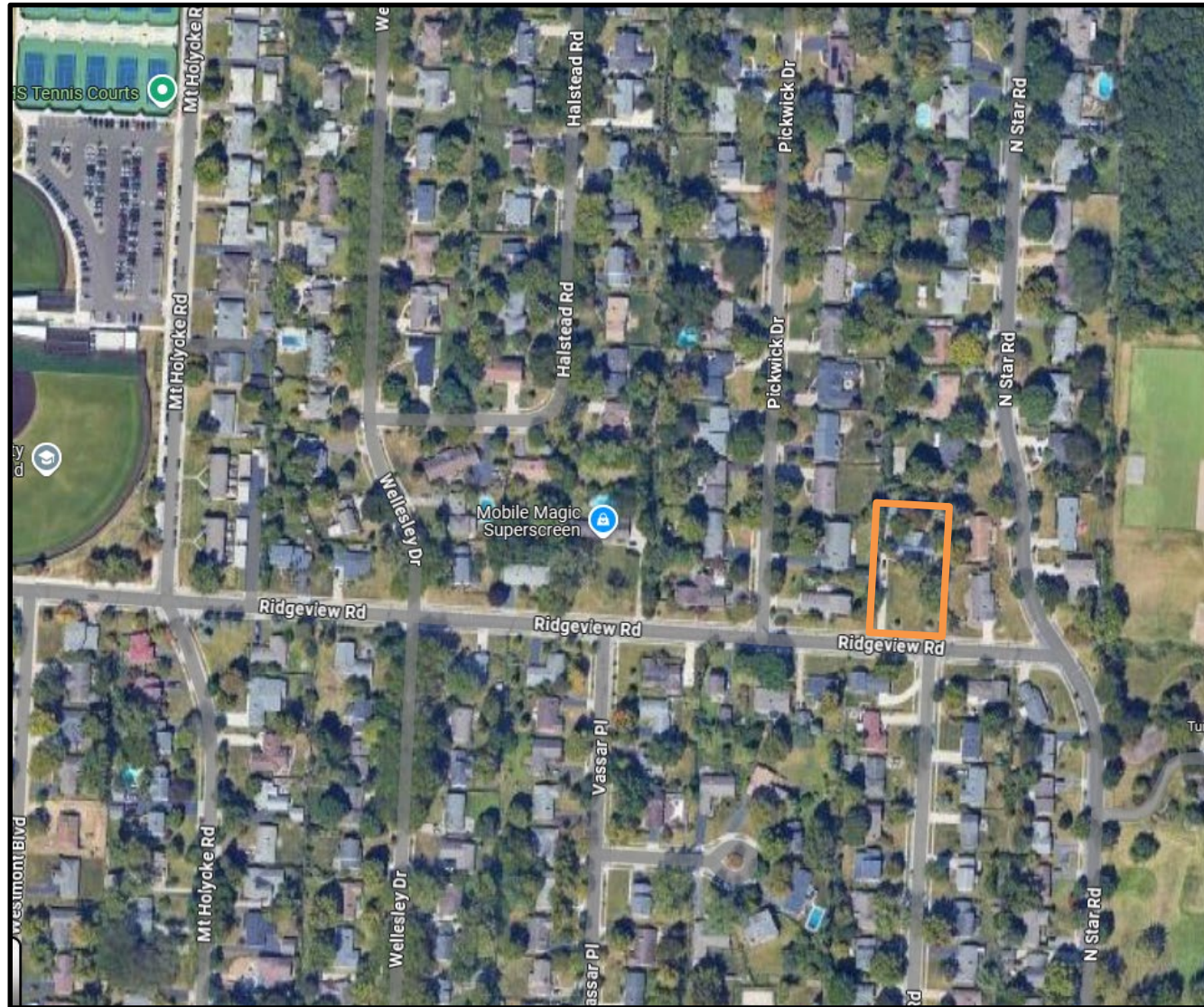
Regulator Stations In Ohio



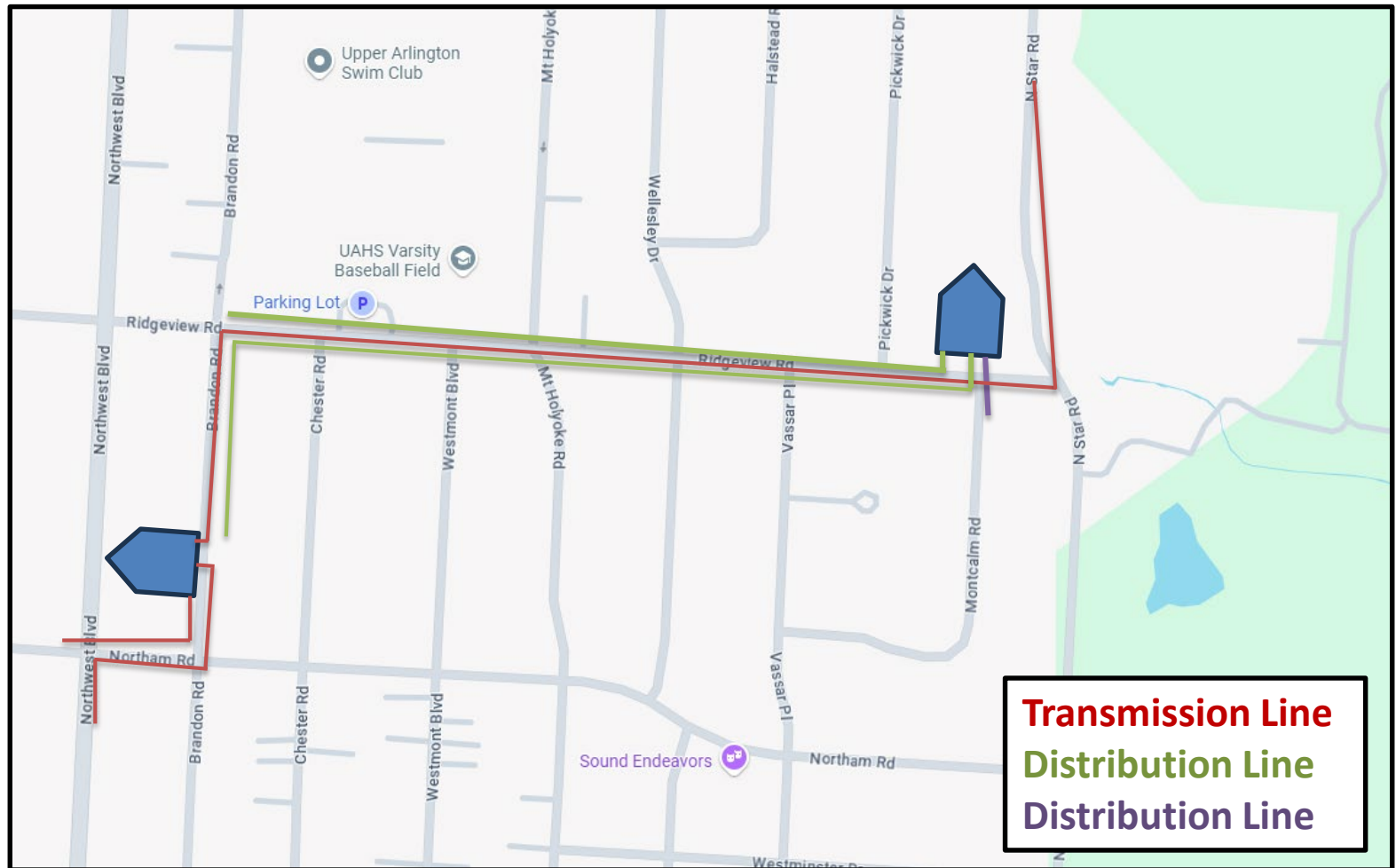
Brandon Road



Ridgeview Road

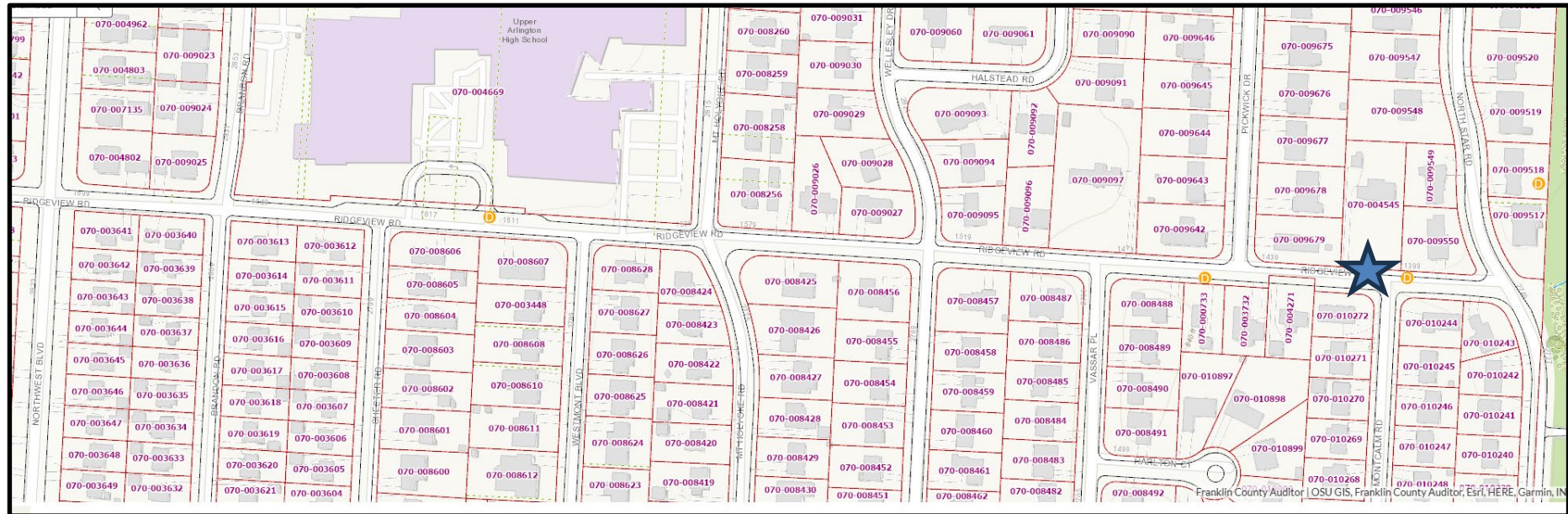


Why These Locations?



Connectivity

Why These Locations?



Lot Size

What Will Be At These Facilities?



Brandon

In-line inspection



Ridgeview

Automatic shutoff valve
(every 2.5 miles)

Inlet and outlet of gas
Monitoring safety checkpoint
Heater

Brandon Road



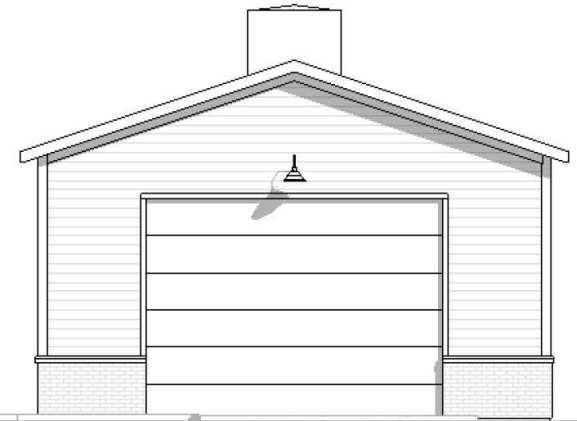
Brandon Road



Ridgeview Road



Ridgeview Road



COLUMBIA GAS STATION

1336 RIDGEVIEW RD. UPPER ARLINGTON, OHIO

01/24/2025

Ridgeview Road



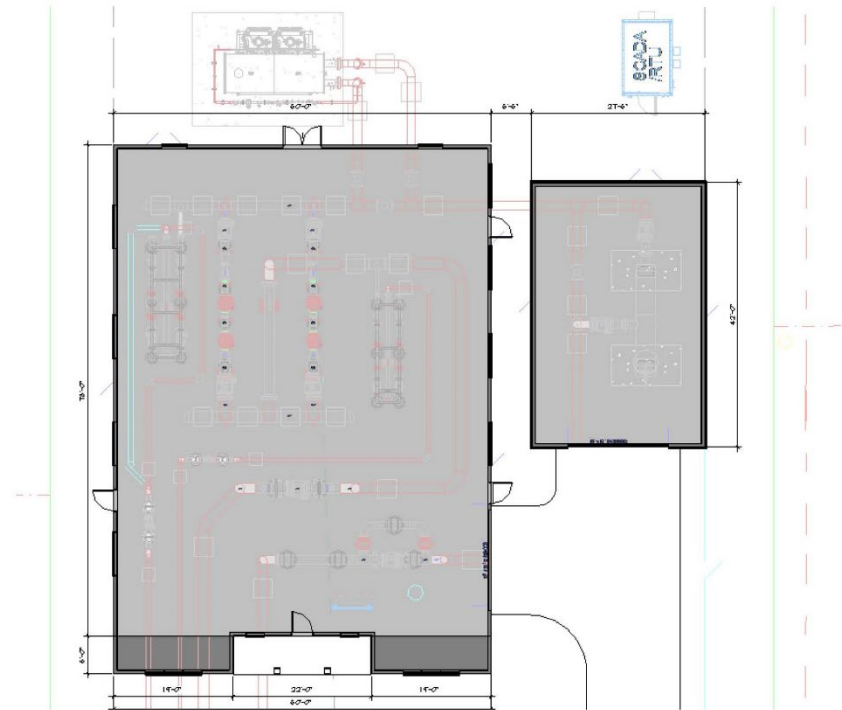
NEW AVENUE
architects • engineers

COLUMBIA GAS STATION

1336 RIDGEVIEW RD. UPPER ARLINGTON, OHIO
01/24/2025

Ridgeview Station Notes

- Maximum building height: 25'-6"
- Maximum garage height: 15'
- Zoning variance required: Fence height
- Current plans abide by zoning and setback requirements
- Looking for value add opportunities
- Will continue feedback loop with community



NEW AVENUE
architects • engineers

COLUMBIA GAS STATION

1336 RIDGEVIEW RD. UPPER ARLINGTON, OHIO
01/24/2025

Regulator Station FAQs

- **What are the sound measurements?**

Sound will be dampened by the containment of most of the site's equipment within the buildings as well as landscaping and fencing around the site. The original site design would provide a net decibel rating of 40 during peak operating times.

- **What noise level can neighbors expect during construction of the station?**

Like that of building a house. Columbia will abide by working days and hours as permitted by Upper Arlington.

- **Will residents be compensated for a reduction in property values?**

Columbia does not engage in property value compensation with neighboring property owners of Columbia owned sites. Columbia's experience has been that its projects do not devalue neighboring properties. Further, Columbia's development will be consistent with all local laws, rules, and regulations (including zoning regulations) to preserve neighboring aesthetics, characteristics, and value. Columbia's focus remains on collaborating with the community on site design to ensure the property blends in with the community.

- **Will this cause a change to their insurance rates?**

Columbia's experience has been that its projects do not cause changes to insurance rates. Columbia will follow all federal, state, and local requirements that will result in safe and reliable facilities, for all customers and residents including those living around the facilities.

- **Are there any emissions that this station will let off when operating?**

There will not be natural gas emissions during day-to-day operations. Carbon dioxide emissions when the heater runs will be on par with typical residential gas-fueled facilities.

- **Will there be an ongoing measurement for potential emissions?**

Columbia has identified all sensitive environmental and cultural areas in the vicinity and has designed this project in a manner that minimizes its impact. Construction will follow regulations from the U.S. EPA, Ohio EPA, Ohio Department of Natural Resources, Army Corps of Engineers, the OPSB and other agencies to protect the environment. As it stands, no natural gas emissions will occur during day-to-day operations.

- **Will there be any commercial sized lights or atypical installations?**

Lighting will be consistent with that on residential homes with lighting being near doors, along the building, around entry points. We plan to design the project with features such as lighting consistent to that of a residential neighborhood.

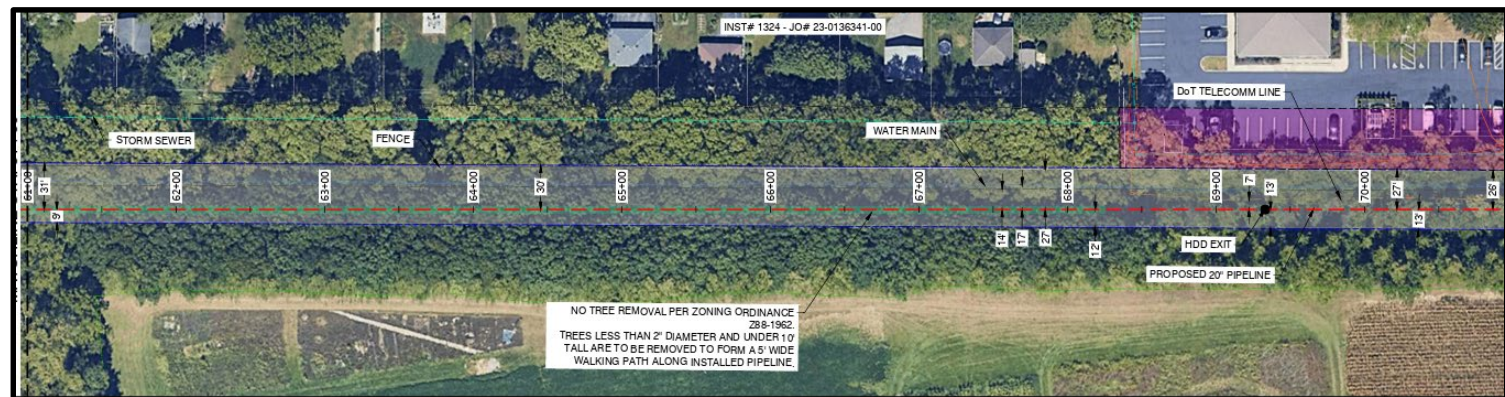
- **Will neighbors be limited by what they can install at their house?**

Neighbors will not have to alter home projects because of regulator station components being in the neighborhood.

Ohio State's Role

- Pipeline easement currently runs across Waterman Lab
- Worked with Ohio State to gain new easement on northernmost side of property
- Current pipeline will be retired in place
- Original project was titled "University" phase by Communications team to give project name unique landmark name; that has since been changed to avoid any confusion
- Original OPSB filing had the following language that caused confusion:

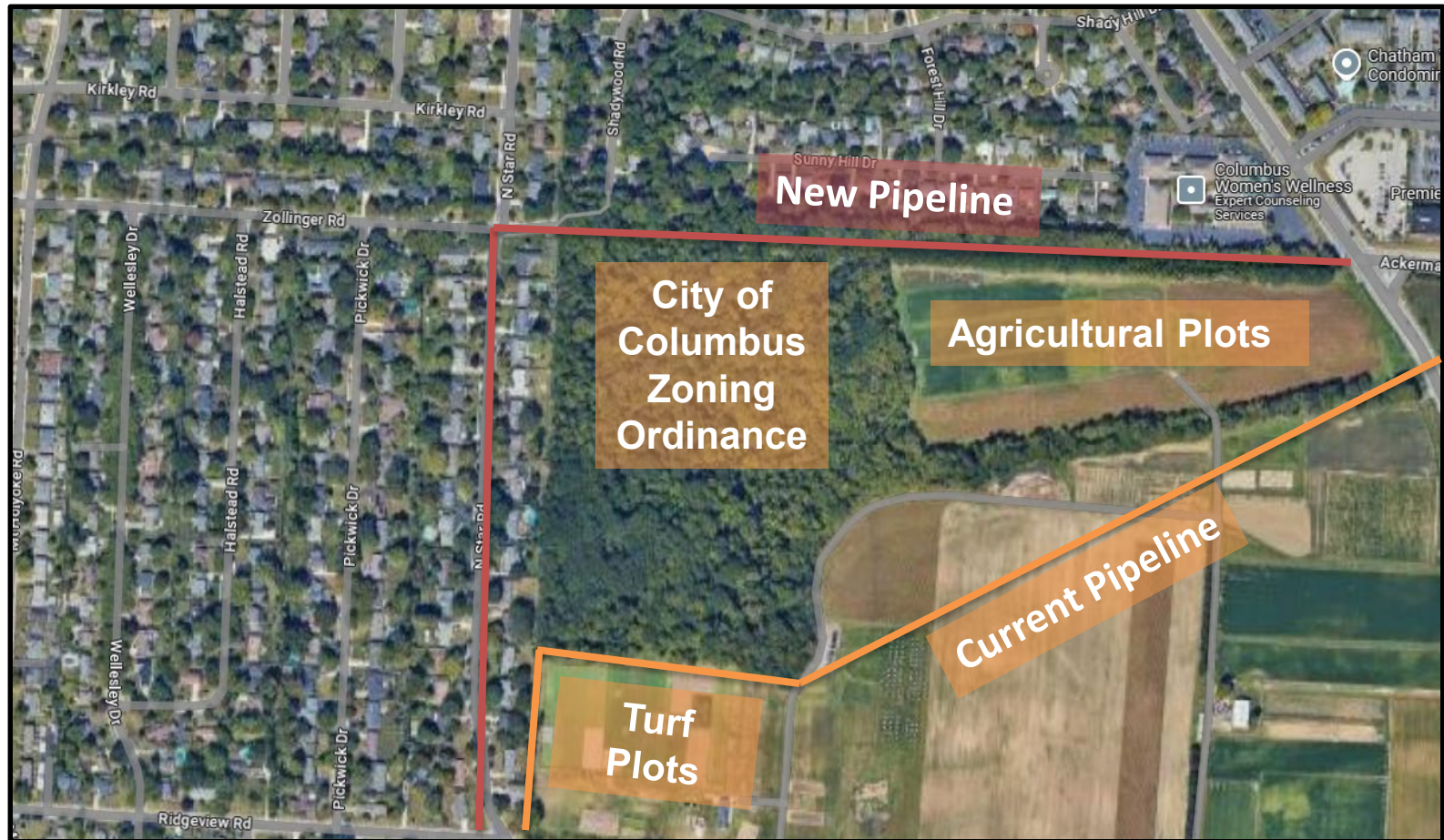
*The Project will begin on Brandon Road between Ridgeview Road and Northam Road. The Project will be constructed within the public road rights-of-way within the City of Upper Arlington **as well as within permanent private pipeline easements from State of Ohio for the use and benefit of The Ohio State University within the City of Columbus.** The Project ends at the intersection of Defiance Drive and Ackerman Road.*



This project is not exclusively serving or benefitting Ohio State and was not for or initiated by Ohio State in any manner.

Ohio State's Role

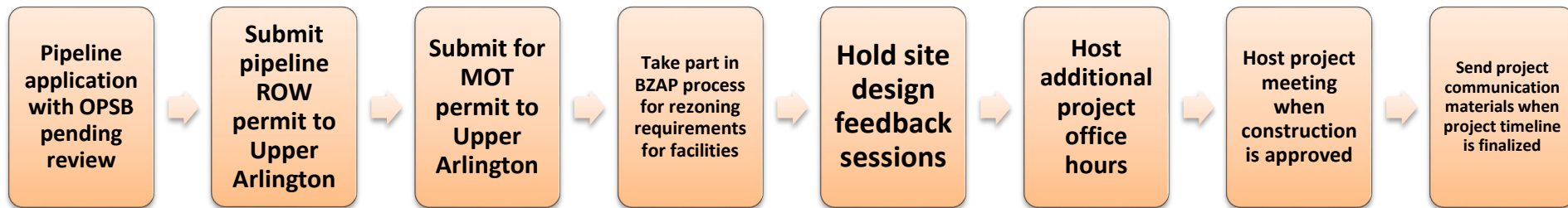
- Columbia cannot eminent domain Ohio State – see prior public use doctrine



Ohio State's Intervention

“The routing of the Project is of critical importance so as to not disturb the research and other activities occurring at Waterman Lab. For example, some of the current research plots include 40-year conservation areas, and it would be very difficult and perhaps impossible to relocate while preserving the research if the Project were routed through these areas of Waterman Lab. While OSU does not object to the location of the Project as currently proposed by Columbia in the Application, OSU has a real and substantial interest in ensuring that the Project is not modified in a manner that would negatively impact the Waterman Lab property, the ongoing education and research projects, and adjacent areas of the OSU campus.”

What's Next?



West Central NCHP Project



**COLUMBIAGASOHIO.COM/
WEST-CENTRAL-NCHP**



800-242-6227



NCHP@NISOURCE.COM