Environmental Assessment

SR0080 Section 365

I-80 Canoe Creek Bridges Project

Beaver Township, Clarion County

April 2022

Prepared by:
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pennsylvania
DEPARTMENT OF TRANSPORTATION

U.S. Department of Transportation
Federal Highway Administration

ENVIRONMENTAL ASSESSMENT

for the

SR 0080 SECTION 365 CLARION COUNTY

INTERSTATE 80 CANOE CREEK BRIDGES PROJECT

MPMS #90021

Prepared by:
US Department of Transportation
Federal Highway Administration
and
Pennsylvania Department of Transportation
Engineering District 10-0

Pursuant to 42 U.S.C. 4332(2)(c)and, as applicable:
Executive Order 11990, Protection of Wetlands; Executive Order 11988, Floodplain Management; Executive Order 12898, Environmental Justice; and 49 U.S.C. Section 303(c), Section 4(f)

Approved by: Camille A. Otto Date: 4/13/2022

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You can also visit the project web page:
https://www.penndot.pa.gov/RegionalOffices/district-10/ConstructionsProjectsAndRoadwork/Pages/I-80-Canoe-Creek.aspx

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ACRONYMS AND ABBREVIATIONS

ALPP	Agricultural Land Preservation Policy
AOC	Areas of Concern
APE	Area of Potential Effects
ATON	Aids to Navigation
BMPs	Best Management Practices
CCCD	Clarion Country Conservation District
CE	Categorical Exclusion
CFR	Code of Federal Regulations
CRPs	Cultural Resource Professionals
CWF	Cold Water Fishery
DCNR	Department of Conservation & Natural Resources
DEP	Department of Environmental Protection
DHS	Department of Human Services
E&S	Erosion & Sedimentation
EA	Environmental Assessment
EB	Eastbound
ECMTS	Environmental Commitments & Mitigation Tracking System
EDD	Environmental Due Diligence
ESA	Environmental Site Assessment
ESF	Environmental Stewardship Fund Act
EV	Exceptional Value
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
GFS	Girder–Floorbeam-Stringer
GG2	Growing Greener Bond Fund
H&H	Hydrology and Hydraulics
HOV	High Occupancy Vehicle
HQ	High Quality

HQ-CWF	High Quality-Cold Water Fishes
I-79	Interstate 79
I-80	Interstate 80
I-99	Interstate 99
Key 93	Keystone Recreation, Park and Conservation Fund
LIHEAP	Low Income Home Energy Assistance Program
LOD	Limits-of-Disturbance
LWCF	Land and Water Conservation Fund
MF	Migratory Fishery
MIT	Massachusetts Institute of Technology
MPMS IQ	Multimodal Project Management System Intelligent Query
MPO	Metropolitan Planning Organization
MSATs	Mobile Source Air Toxics
NAC	Noise Abatement Criteria
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	The National Register of Historic Places
OSHA	Occupational Safety and Health Administration
P3	Public Private Partnership
PA	Pennsylvania
PADEP	Pennsylvania Department of Environmental Protection
PAGWIS	Pennsylvania Groundwater Information System
PASPGP	Pennsylvania State Programmatic General Permit
PCSM	Post Construction Stormwater Management
PEL	Alternative Funding Planning and Environmental Linkages Study
PEM	Palustrine Emergent
PennDOT	Pennsylvania Department of Transportation

PFBC	Pennsylvania Fish and Boat Commission
PFO	Palustrine forested
PNDI	Pennsylvania Natural Diversity Inventory
PSA	Project Study Area
RFFAs	Reasonably Foreseeable Future Actions
RIRA	Recreational Improvement and Rehabilitation Act
ROW	Right-of-Way
SB	Southbound
SNAP	Supplemental Nutrition Assistance Program
SR	State Route
TCE	Temporary Construction Easements
TIP	Traffic Improvement Program
TMC	Traffic Management Center
TNM	Traffic Noise Model
TOYRs	Time-of-Year Restrictions
TSF	Trout Stock Fishery
UE	United Electric REA
USACE	US Army Corps of Engineers
USDA	United States Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USTs	Underground Storage Tanks
UNT	Unnamed Tributary
VMT	Vehicle Miles Traveled
WB	Westbound
WSE	Water Surface Evaluation
WWF	Warm Water Fishery

1.0 INTRODUCTION

Supporting documentation for Chapter 1 includes:

- *Alternative Funding: Planning and Environmental Linkages Study* (September 2021)

The Pennsylvania Department of Transportation (PennDOT) has an $8.1 billion (and growing) funding gap between its current funding levels and what it needs to provide a system of highways and bridges in a state of good repair. To fill this funding gap, PennDOT developed an alternative funding program called PennDOT Pathways and prepared an **Alternative Funding Planning and Environmental Linkages (PEL) Study** to identify potential near- and long-term solutions for highway and bridge funding.

A PEL Study is a flexible tool that can be used to connect the planning process with the environmental process required by the National Environmental Policy Act (NEPA). The analyses conducted for the PEL Study can be incorporated by reference into the subsequent NEPA process, which can facilitate completion of the NEPA process.

In the case of the Alternative Funding PEL Study, PennDOT used the PEL Study to:

- Establish the purpose and needs for additional highway and bridge funding.
- Identify potential funding sources and analyze them for meeting the near-term and longer-term funding needs.
- Develop a plan for implementation, which identified alternative bridge funding as an immediately needed priority and bridge tolling as the reasonable means for financing priority bridge improvements. The Major Bridge Public-Private Partnership (P3) Initiative resulted from this conclusion.

PennDOT developed the Alternative Funding PEL Study with input and oversight from Federal Highway Administration (FHWA) and undertook an extensive public and agency outreach program via the PennDOT website, social media, e-newsletters, and public meetings. PennDOT provided opportunities for public input on the PEL Study via a public engagement platform on the Pathway Program's website which ran between November 17 and December 17, 2020. In addition, comments were solicited during a virtual public meeting held from February 19 to March 23, 2021, when the nine candidate bridges for major bridge tolling were announced. Finally, the Draft PEL Study was made available for formal public comment from April 29 to June 1, 2021. The PEL Study contains details on the outreach activities and the comments received.

1.1 Purpose and Need for Bridge Tolling

The PEL Study documents the purpose and needs for alternative sources of highway and bridge funding. The results are summarized below and the full results from the PEL Study are incorporated herein by reference.

As discussed in the PEL Study, highways and bridges represent the largest PennDOT transportation expenditure. Moreover, maintaining and improving highways and bridges in Pennsylvania is highly dependent (approximately 75% of funding) on gas taxes for funding—the funding source that is at greatest risk of decline. In recent years, gas taxes have become a less predictable source of revenue for transportation agencies across the country. As passenger vehicles become more fuel-efficient, and all-electric vehicle technology continues to evolve, gas tax revenues are being reduced. The continued trend toward more electric vehicles, both for personal and commercial transportation, will further reduce gas consumption and revenue from gas taxes.

The result is that the gap between available transportation revenue and the projected funding required to adequately maintain and improve reliable highways and bridges in the Commonwealth is substantial. Available

budgeted funding for highways and bridges is currently $6.9 billion per year, while the identified current (2020-2021) funding need is $15 billion, resulting in a current funding gap of $8.1 billion. This funding gap is projected to increase by about $400 million per year to $12.6 billion in 2030.

Subsequent to the completion of the PEL Study, the new 2021 federal transportation act (Infrastructure Investment and Jobs Act), the largest federal infrastructure investment in decades, was passed and is expected to bring $4 billion in new federal highway and bridge funds to Pennsylvania spread over 5 years. Because federally funded projects usually require a 20 percent state match, PennDOT will need approximately $1 billion in additional state funds to be able to fully leverage the new federal funds. With roughly $2.2 billion in construction value, if federal funds were committed to the nine candidate bridge projects in the Major Bridge P3 Initiative, those projects would take up more than half of the new federal funding. This means that these much-needed funds will only benefit a handful of projects, minimizing the bill's overall effect for Pennsylvania. While the Infrastructure Investment and Jobs Act investment is a huge step in the right direction, it does not fully address Pennsylvania's highway and bridge funding challenges, and therefore PennDOT is continuing to advance the Major Bridge P3 Initiative.

Insufficient funding for critical maintenance work and for expanding the capacity of roadways in the Commonwealth places a burden on taxpayers and drivers. Inadequate timely maintenance results in more extensive and more expensive repairs in the long run, increasing the overall cost to taxpayers. Poor asset conditions and congestion translate into additional costs to roadway users, including more time spent driving in congested conditions, higher vehicle maintenance costs, and increased emissions. Additional delay experienced by freight transportation can also translate to higher prices to consumers.

1.2 Summary of Potential Bridge Financing Alternatives

PennDOT evaluated a number of potential funding options to fill their highway and bridge funding gap as summarized below. The full analysis of highway and bridge funding alternatives is contained in the PEL Study and is incorporated herein by reference.

PennDOT evaluated the following mechanisms to fill their highway and bridge funding gap: sales taxes, personal income taxes, real estate and property taxes, fuel tax increases, road user charges, other taxes and fees, and various forms of tolling. Based on the analysis in the PEL Study, each of the potential funding options has some merit and could be considered as part of PennDOT's long-term strategy in securing sustainable and dedicated revenue for highways and bridges. However, without action by the legislature and/or others, PennDOT only has the ability to implement the following potential solutions: (1) Bridge Tolling and (2) Managed Lanes. To support bridge improvement needs, like those evaluated in the accompanying NEPA document, PennDOT identified bridge tolling as the reasonable near-term financing mechanism for the following reasons:

- Those that use the bridge will pay for it.
- It provides dedicated funding that is used to construct and maintain the bridge from which the toll was collected.
- It helps keep the regional transportation funding program from being diverted to the interstate program.
- Toll collection systems already exist in Pennsylvania, thereby lowering the cost of collection.
- PennDOT has mechanisms in place to implement and collect bridge tolls.

Today, PennDOT must divert funding away from regional projects across the state to fund critical interstate and bridge needs. Moving forward with bridge tolling will allow critical bridges to pay for themselves through tolls,

keeping funds available for other regional projects to also move forward. Bridge tolling is also being considered as a solution due to the proven success of toll collections throughout the country as a funding strategy for the replacement or rehabilitation of bridges.

1.3 How were bridges selected for the initial tolling program?

To meet critical bridge funding needs, PennDOT created the first initiative of the **PennDOT Pathways Alternative Funding Program – The Major Bridge P3 Initiative**. The Major Bridge P3 Initiative is designed to raise revenue through tolling to address the state's growing backlog of replacement and rehabilitation needs for major bridges that are approaching the end of their useful lives. At the end of a bridge's useful life, substantial repairs and emergency lane closures become more frequent.

PennDOT is considering nine candidate bridges across the state of Pennsylvania for tolling through the Major Bridge P3 Initiative. These candidate bridges are being considered because they meet the following criteria:

- Located on the interstate or expressway
- Structures of significance based on size, location, and cost to replace or rehabilitate
- Structural conditions that warrant timely attention to enhance safety and avoid disruption and community impacts if closure or weight restrictions were imposed
- Geographic balance across the state
- Can begin construction in two to four years for near-term benefit
- The ability for the project to be financially viable with a reasonable toll rate

Table 1 identifies the initial list of candidate bridge projects meeting these criteria.

Table 1
Candidate Bridge Projects

PennDOT District	Bridge Project	Year(s) Built
4	I-81 Susquehanna Bridges Project	1961
4	I-80 Nescopeck Creek Bridges	1965
5	I-78 Lenhartsville Bridge Replacement Project	1955
5	I-80 Over Lehigh River Bridges Project	1965
6	I-95 Girard Point Bridge Improvement Project	Late 1960s-1970s
8	I-83 South Bridge Project	1960
10	I-80 Canoe Creek Bridges	1966
10	I-80 North Fork Bridges Project	1962
11	I-79 Widening, Bridges and Bridgeville Interchange Reconfiguration	1965

Each candidate bridge project is undergoing environmental studies in accordance with the NEPA and other applicable environmental laws and regulations. This includes an assessment of the potential effects of tolling on low-income and minority populations in accordance with Presidential Executive Order 12898 on Environmental Justice. This Environmental Assessment (EA) is the NEPA documentation for the I-80 Canoe Creek Bridges Project. Effects on communities due to traffic choosing to avoid the toll are considered in the I-80 Canoe Creek Environmental Justice Analysis Technical Memorandum, February 2022, which is summarized in Chapter 6 of this EA.

2.0 I-80 CANOE CREEK BRIDGES PROJECT OVERVIEW

2.1 Project Bridges

The I-80 Canoe Creek bridges are dual multi-span structures, one eastbound (EB) and one westbound (WB), that were built in 1966, were extended in 1985 and underwent multiple retrofits for fatigue-induced cracking since 2013. These bridges cross over Canoe Creek and SR (State Route) 4005 (Tippecanoe Road) in Beaver Township, Clarion County. Combined, they will carry an estimated average of 30,075 vehicles per day by 2025. About 44 percent of the traffic on the bridges is truck traffic.

2.2 Project Purpose and Needs

Purpose: The purpose of the project is to provide a safe, reliable, and efficient crossing of I-80 over SR 4005 (Tippecanoe Road) and Canoe Creek that addresses the project needs and meets applicable design requirements along with appropriate upgrades to the surrounding roadway network.

Needs: The EB and WB Canoe Creek bridges were originally constructed in 1966. In 1985, additional spans were added to each end of the bridges. The bridges are functionally obsolete due to their curb-to-curb width and are considered -nonredundant critical elements based on the original Girder-Floorbeam-Stringer (GFS) superstructure limits. Both structures possess problematic fatigue details which have received multiple retrofits during the service lives of the structures. Standard inspection frequency for bridge structures is 24 months. Recent bridge inspection data indicates the EB bridge to be in fair condition and is on a 12-month inspection frequency schedule. The WB bridge is listed as poor condition and on a 6-month inspection frequency schedule. The existing structure type, fatigue details and frequency of inspection further underline the urgency to address these issues.

The Purpose and Need for tolling these bridges is discussed in Chapter 1.1 of this EA.

2.3 Project Setting and Distinct Project Features

The general site topography is forested rural woodlands with rolling hills. The bridge structures are located along a horizontal tangent bound by reverse horizontal curves. The western curvature is substandard by current design criteria. The EB and WB alignments are vertically bifurcated with elevation differences in excess of 20 feet and exhibit varying vertical curvatures and grades. The variable geometry presents significant design challenges with respect to balancing cuts and fills and resolution of the proposed geometry within design criteria for both final design and maintenance of traffic. The Tippecanoe Furnace is a documented cultural resource located along the northwest corner of the WB structure. The design approach will prioritize avoidance as the primary means of minimizing impacts to the resource. In addition, Canoe Creek has a High-Quality, Cold Water Fishery designation and is listed as both stocked and wild trout waters.

Describe the involvement with utilities with this project:

Minor involvement with utilities, public and private, is anticipated in the immediate vicinity of the bridge structures and the proximity of SR 4005 beneath the I-80 structure.

Describe the involvement with any railroad (active or inactive) including all rail lines, crossings, bridges, or signals:

There would be no involvement with active or inactive railroads.

Describe changes to access control:

No changes to access control are needed.

3.0 ALTERNATIVES

Supporting documentation for Chapter 3 includes:

- *I-80 Canoe Creek Bridges CE 1b Evaluation* (Approved April 2020)
- *I-80 Canoe Creek Bridges Diversion Traffic Evaluation Report* (February 2022)

3.1 No-Build Alternative

Under the no-build alternative, regular maintenance would be assumed to occur. This alternative would fail to address other project needs such as fixing the nonredundant critical elements of the bridge and addressing the identified bridge and roadway deficiencies. The I-80 Canoe Creek Bridges are nearing the end of their useful life. Currently, the EB bridge is in fair condition, and the WB bridge is in poor condition, and both require more frequent inspections than the standard 24-month schedule. Without replacement, these bridge structures will need more frequent maintenance and repairs. However, such maintenance can only extend the service life of these bridges for so long before they are at risk of failure.

I-80 is the longest east-west interstate in the Commonwealth of Pennsylvania. Within Pennsylvania, I-80 extends 311 miles across the northern tier of Pennsylvania, providing access to Ohio and Midwestern states to the west and New Jersey, the New York City Metropolitan Area and New England to the east. In the project area, the I-80 corridor is the only interstate serving the local area. Interstate 79 (I-79) is about a 45-minute drive west and Interstate 99 (I-99) is about an hour and half drive east of the project area. As a critical link in daily travel and the regional and national highway network, allowing the deterioration of these bridges to reach a level of failure is not reasonable; therefore, due to the project needs, the no-build alternative would not be a reasonable alternative.

The no-build alternative is presented in this EA as a baseline for comparison purposes only.

3.2 Proposed Action

3.2.1. Bridge Replacement

The project will consist of the replacement of the I-80 Canoe Creek Bridges EB & WB (SR 0080 Section 365) in Beaver Township, Clarion County over SR 4005 (Tippecanoe Rd) and Canoe Creek. During the replacement of the bridges, two lanes of traffic EB and WB must be maintained at all times. The anticipated limit of project is approximately three miles along Interstate 80 bound between the Knox interchange and the weigh stations (mile marker 53.5 to mile marker 56.5) featuring the two parallel structures (~1,160’ each) that carry the interstate over SR 4005 (Tippecanoe Road) and Canoe Creek.

The proposed bridges will include two parallel 5-span steel girder structures having a length of 1,160 feet each measured between centerline of bearings for each abutment. The proposed structures will have a 59’-4 ½” out to out width and 56’-0” curb-to-curb width including two 12-foot traffic lanes, a 24-foot right shoulder and an 8-foot left shoulder. Both structures will have a total clear span width of 1153’-0” measured between faces of each substructure units. The WB structure will be placed at the same location as existing. The EB structure will be moved approximately 40 feet upstream with respect to the existing structure. The proposed I-80 roadway typical section is comprised of two 12-foot lanes, a 12-foot outside shoulder and an 8-foot inside shoulder (4 feet paved, 4 feet graded).

The proposed project will also include the rehabilitation of an existing 17’x10’ reinforced concrete arch culvert that carries an Unnamed Tributary to Canoe Creek under I-80. The existing wingwalls at the inlet and outlet of

the culvert will be replaced with new reinforced cast-in-place wingwalls and permanent soldier piles, respectively.

Additional information is provided in **Table 2**, Appendix A – Engineering Information, Appendix B – Project Design Exhibit, and Appendix C – Design Plans.

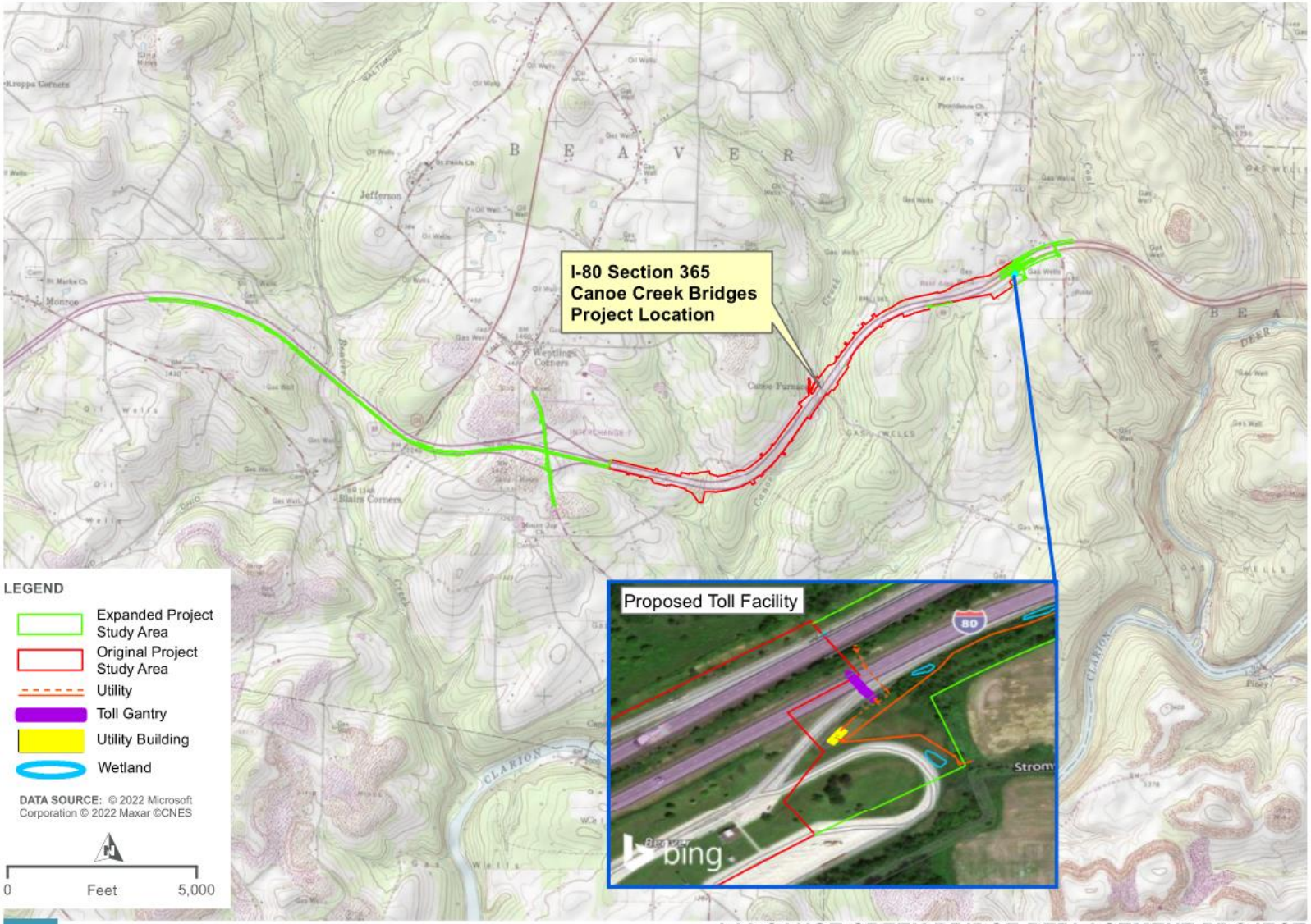
Table 2
Construction Station and Length

Limits of Work (Segment/Offset)		**Construction Stations**	
Start:	**End:**	**Start:**	**End:**
0534/2517	0570/1477	221+00 (EB)	356+58 (EB)
0541/0578	0565/1556	220+00 (WB)	355+07 (WB)
Total Length:			
13,558 feet (EB); 13,507 feet (WB)			

3.2.2. Tolling Facility

The Categorical Exclusion (CE) for I-80 Canoe Creek Bridges project was approved in April 2020. After the CE for the project was approved, the project was identified as a candidate for bridge tolling through PennDOT Pathways Program: The Major Bridge P3 Initiative. With the addition of tolling, the Project Study Area (PSA) was expanded for construction of toll gantries and the associated utility shed, utility connections, and advance "toll ahead" signs. **Figure 1 – Project Location Map** shows the Original PSA for the bridge replacement/roadway improvement project and the Expanded PSA that includes the toll facility. The tolling facility (gantry, utility building, and utility connections) will be constructed east of the bridge replacements with the toll gantry spanning across I-80 EB roadway only in the area of the existing weigh station. The utility building along the I-80 EB shoulder includes installation of a small driveway/parking area for maintenance pull-out and access. In addition, advanced tolling signs will be placed about 2 miles prior to the tolling facility along the approaching EB direction of I-80 to inform drivers about the toll bridge, as well as at the nearest interchange for Exit 53, Knox, and its respective local roadway network (along SR 338). All work associated with the tolling facility will occur within existing Commonwealth-owned ROW. Design plans for the toll facility are in Appendix D.

Based on feedback received from the public and at stakeholder workshops, and because of the close proximity of the two candidate bridges on the western end of the I-80 and the two on the eastern end, PennDOT has decided to pursue one-way tolling on four bridge projects: Canoe Creek, North Fork, Nescopeck, and Lehigh River bridges. Traffic would be tolled EB at Canoe Creek, WB at North Fork, and EB at Lehigh River, WB at Nescopeck. The one-way tolling will reduce the number of tolls drivers would have to pay on I-80, as well as overall diversions and the need for additional tolling infrastructure.



I-80 CANOE CREEK BRIDGE REPLACEMENT PROJECT

PROJECT LOCATION MAP

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FIGURE 1

3.2.3. Transportation and Travel Patterns

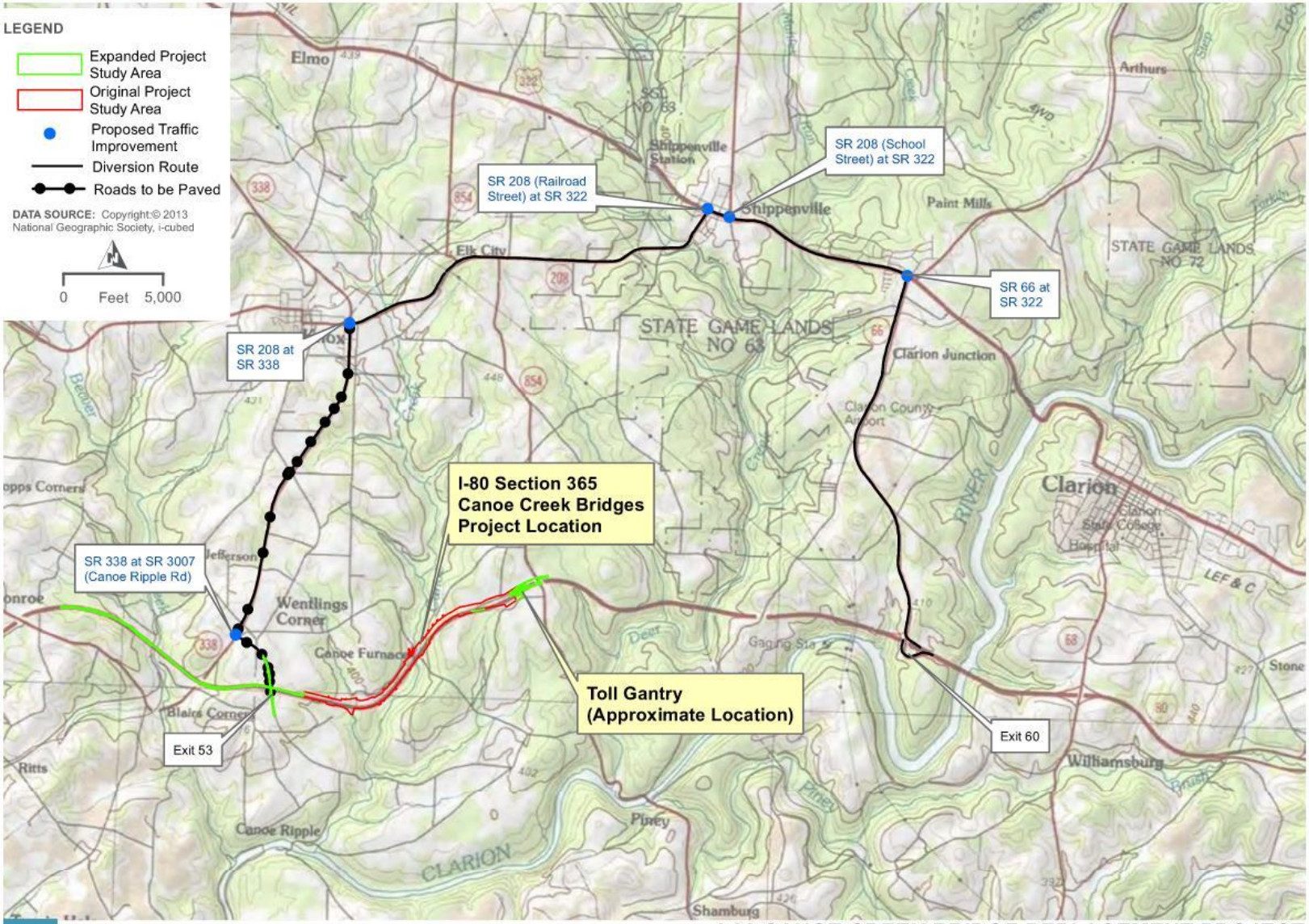
A primary diversion route consisting of SR 66, SR 322, SR 208, SR 338, and SR 3007 was identified. Traffic modeling indicated that with bi-directional tolling, approximately 615 vehicles EB and 644 vehicles WB would divert from I-80 onto this primary diversion route. However, a subsequent decision was made to implement tolling only in the EB direction. Traffic modeling indicated that with currently proposed EB-only tolling, between 750 and 820 vehicles, 5% of I-80 EB traffic, would divert daily onto the primary diversion route. Highway capacity analysis and crash analysis was conducted to identify areas of existing and anticipated concern. A stakeholder workshop was conducted on July 26, 2021 to gather additional information on potential issues along the diversion routes. From this, a matrix of issues was identified, and further analysis was conducted to determine the impact of toll diversion traffic, and to identify mitigation measures if appropriate.

Based upon this evaluation, the following improvements along the diversion route are proposed to accommodate the effects of tolling diversion:

- Construct safety improvements at the SR 66/SR 322 intersection, potentially including signal upgrades, geometric improvements, or a roundabout, with improvements to be determined following additional study. See **Figure 3** for more details.
- Signalize intersection of SR 208/Railroad Street and SR 322 in Shippenville Borough to reduce delays caused by turning trucks.
- Upgrade traffic signals at three signalized intersections (SR 208/SR 338, SR 208 (School Street)/SR 322, and SR 66/SR 322), including installation of emergency vehicles signal preemption to improve response times.
- Repave SR 3007 and SR 338 from I-80 to SR 208 to accommodate increased truck traffic.
- Remove vegetation at SR 338/SR 3007 intersection to improve sight distance issues at stop sign. See **Figure 4** for more details.

The locations of these proposed traffic improvements are shown on **Figure 2 – Proposed Traffic Improvements**.

Additionally, a before/after study to evaluate actual toll diversion volumes and roadway performance was recommended and will be conducted to evaluate actual volumes, including truck traffic, and compare it to the projections in this study.



I-80 CANOE CREEK BRIDGE REPLACEMENT PROJECT

PROPOSED TRAFFIC IMPROVEMENTS

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FIGURE 2

Of the six proposed traffic improvements, four involve traffic signal work and roadway paving within Commonwealth-owned existing legal Right-of-Way (ROW). It is anticipated that due to the limited scope of work, these four improvements will not have a “design footprint” (or limit of disturbances) with potential to impact environmental resources.

The remaining two proposed traffic improvements, while anticipated to be constructed within PennDOT’s existing legal ROW, have potential to encroach on undisturbed land that is not already incorporated into the existing roadway/shoulder. These proposed improvement areas are shown below in **Figure 3 - SR 66/SR 322 Intersection** and **Figure 4 - SR 338/SR 3007 (Canoe Ripple Road) Intersection**.

Based on conceptual design, it is anticipated that these improvements could be implemented within Commonwealth-owned existing legal ROW. The P3 development entity will be responsible for final design of the traffic improvements. If area is required outside of Commonwealth-owned existing legal ROW for construction of the traffic improvements, the P3 development entity is required to coordinate with PennDOT to determine necessary NEPA Reevaluation studies and documentation (Chapter 7, Environmental Commitments and Mitigation).

The I-80 Canoe Creek Bridges Diversion Route Traffic Evaluation report, February 2022, is included in the project technical files and is incorporated by reference to this EA.

In summary, as a result of the addition of tolling per the Major Bridge P3 Initiative, the I-80 Canoe Creek Bridges Project encompasses the bridge replacements, the tolling facility and associated infrastructure, and the diversion route improvements, as identified in the sections above.

Figure 3 - SR 66/SR 322 Intersection

Figure 4 – SR 338/SR 3007 (Canoe Ripple Road) Intersection

3.3 Impact Summary Table

Table 3
Impact Summary Table

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
Aquatic Resources			
Streams, Rivers, & Watercourses	No Impact	Streams: HQ-CWF, stocked trout, wild trout 1,954 linear feet permanent impact 2,182 linear feet temporary impact	Proposed stream mitigation will be accomplished both on-site and off-site. Stream banking credits have been purchased.
Wild & Scenic Rivers and Streams	Not Present	Not Present	None
Navigable Waterways	Not Present	Not Present	None
Groundwater	No Impact	No Impact	None
Wetlands	No Impact	Wetlands: 0.085 acre permanent impact 0.36 acre temporary impact	For permanent impact, credits debited from PennDOT's Clarion County Wetland Bank Site. All temporarily impacted wetlands will be restored and reseeded.
Floodplains	No Impact	No significant floodplain encroachment would occur.	None
Soil Erosion and Sedimentation	No Impact	Erosion and Sediment (E&S) Control Plan will be implemented during construction.	All disturbed areas will be stabilized upon completion of the project.

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
			The E&S Control Plan and Post Construction Stormwater Management (PCSM) Plan will be incorporated into the construction contract.
Land Use			
Agricultural Resources	No Impact	No Impact	None
Vegetation	No Impact	Minor impacts to herbaceous rangeland, deciduous forest land and roadside vegetation.	Care will be taken not to transplant roots or seeds of noted invasive, non-native plants during earth moving operations. All disturbed areas will be restored and revegetated with non-invasive vegetation species as part of construction.
Geologic Resources	Not Present	Not Present	None
Parks and Recreation Facilities	Not Present	Not Present	None
State Forest and Gamelands	Not Present	Not Present	None
Wilderness, Natural, & Wild Areas	Not Present	Not Present	None

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
Hazardous or Residual Waste Sites	No Impact	No Impact	None
Wildlife			
Wildlife Refuges & Critical Habitat	Not Present	Not Present	None
Threatened & Endangered Species	Not Present	Not Present	None
Cultural Resources			
Archaeological Resources	No Historic Properties Affected	No Historic Properties Affected	Tippecanoe Furnace site remains will be fenced off and avoided. The portion of the Edenburg Well site beyond the APE will be fenced off and avoided.
Historic Resources	No Historic Properties Affected	No Historic Properties Affected	None
Section 4(f) Resources	Not Present	Not Present	None
Air Quality and Noise			
Air Quality	No Impact	Exempt; no impact	None

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
Noise	No Impact	Type III Project; Noise analysis not required	None
Socioeconomic Areas			
Regional & Community Growth	No Impact	No Impact	None
Public Facilities & Services	No Impact	Positive Impacts: Access for public facilities and services will be improved due to design improvements resulting from the project.	Proposed traffic improvements along the toll diversion route are intended to enhance the existing transportation system. Emergency services vehicles will be exempt from paying toll. Emergency responders when traveling to an incident in their own vehicles will be reimbursed for tolling.
Community Cohesion	No Impact	No impact	None
Right-of-Way Acquisitions	No Impact	4 parcels: sliver takes for Temporary Construction Easements (TCEs)	None
Displacements	No Impact	No relocation of people, businesses, or farms	None
Aesthetics	No Impact	No impact	None

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
Energy	Higher energy usage	Reduced energy usage	None
Cumulative Impacts	No Impact	No adverse cumulative effects	None
Environmental Justice	No Impact	No disproportionately high and adverse effects on low-income or minority populations have been identified	PennDOT will implement toll-free bridge access to low-income persons and reassess program 5 years after completion of project.

Footnote:

[1] While the No-Build Alternative would not directly affect resources, should the bridge deteriorate to the point where it would have to be weight-posted, closed, or should it experience a partial collapse, there would be impacts to the resources below the bridge. A full or partial closure would have a profound effect on commerce reliant on I-80 and would detour vehicles onto the toll diversion route. With the No-Build Alternative, the traffic improvements proposed to enhance safety and mobility along the toll diversion route would not be completed.

4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1 Aquatic Resources

	PRESENCE	IMPACTS
STREAMS, RIVERS & WATERCOURSES	○ Not Present ◉ Present	
Intermittent (streams only)	○ Not Present ◉ Present	○ No ◉ Yes
Perennial	○ Not Present ◉ Present	○ No ◉ Yes
Wild trout streams	○ Not Present ◉ Present	○ No ◉ Yes
Stocked trout streams	○ Not Present ◉ Present	○ No ◉ Yes

Identify all streams and their classifications per Chapter 93 of 25 PA Code (e.g. CWF, WWF, HQ, EV)

Field investigations conducted September 24, September 26, 2019, April 6, 2021, and April 7, 2021 identified twenty jurisdictional watercourses within the project study area. These streams included Canoe Creek and unnamed tributaries to Canoe Creek.

The Pennsylvania Code Title 25, Chapter 93 Water Quality Standards, identifies the management designation for Canoe Creek is High Quality-Cold Water Fishes (HQ-CWF). All unnamed tributaries to Canoe Creek will also carry the same management designation as Canoe Creek (HQ-CWF).

Supporting documentation for Chapter 4.1 includes:

- *I-80 Canoe Creek Bridges Aquatic Resource Report* (May 2021)
- *I-80 Canoe Creek Bridges Wetlands and Watercourses Presence/Absence Survey* (May 2021)
- *I-80 Canoe Creek Bridges H&H report* (August 2020)
- *I-80 Canoe Creek Bridges ESC Plan* (December 2021)

Linear feet of Streams permanently impacted: 1,954

Describe Any Permanent Impacts

Approximately 160 linear feet of permanent impacts to Canoe Creek are anticipated due to I-80 bridges spanning over Canoe Creek. Approximately 1,794 linear feet of permanent impacts to unnamed tributaries to Canoe Creek are anticipated due to fill placement, pier placement, and culvert extensions.

Describe Any Temporary Impacts

Approximately 2,182 linear feet of temporary impacts to streams are anticipated. These impacts will include temporary roads/stream crossings for construction access, installation of temporary erosion and sediment controls, construction activities associated with the I-80 bridge structures, temporary stream relocations, roadway drainage updates under I-80, and construction activities associated with replacement of existing pipe structures.

Is mitigation incorporated? ○ No ◉ Yes

Proposed Project Specific Restoration/Enhancement: 670 *linear feet*

Advanced Compensation/Banking: 95 *linear feet*

Mitigation Remarks

Proposed stream mitigation will be accomplished both on-site and off-site. On-site mitigation will include channel relocation with stream improvements such as streambank stabilization, enhanced floodplain connectivity, riparian buffer improvements, and flow diversity. In addition to the on-site stream mitigation, stream banking credits will be purchased from an accredited stream mitigation bank to account for impacts that could not be made up on-site due to the location and available reclamation space within the project boundaries.

Stream mitigation plans are included in the waterway permit application for the project. The details of mitigation have been determined through consultation with permitting agencies.

Canoe Creek is identified by the Pennsylvania Fish and Boat Commission (PFBC) as both a "Stocked Trout Water" and a "Wild Trout Water" (naturally reproducing) within the project area. As a result, no work will be permitted in the stream from February 15th to June 1st (for stocked trout) and October 1st to December 31st (for wild trout).

	PRESENCE	IMPACTS
FEDERAL WILD & SCENIC RIVERS & STREAMS	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

Review of the USGS Quadrangle and Federal Wild and Scenic Rivers System website has confirmed there are no Federal Wild and Scenic Rivers and Streams within the project area.

	PRESENCE	IMPACTS
STATE SCENIC RIVERS & STREAMS	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

Review of the USGS Quadrangle and Department of Conservation & Natural Resources (DCNR) Scenic Rivers website has confirmed there are no State Wild and Scenic Rivers and Streams within the project area.

	PRESENCE	IMPACTS
NAVIGABLE WATERWAYS	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

Review of the PFBC website confirmed that there are no water trails located within the project study area. There are no navigable watercourses which require U.S. Coast Guard Coordination within the project area. PFBC has confirmed that Aids to Navigation (ATON) Plan is not required.

	PRESENCE	IMPACTS
OTHER SURFACE WATERS	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

Review of google earth aerial mapping and a field investigation conducted on February 28, 2018 confirmed that there are no other surface waters within the project area.

	PRESENCE	IMPACTS
GROUNDWATER RESOURCES	○ Not Present ◉ Present	
State, County, Municipal, or Local Public Supply Wells	◉ Not Present ○ Present	◉ No ○ Yes
Residential Well	○ Not Present ◉ Present	◉ No ○ Yes
Well Head Protection Area	◉ Not Present ○ Present	◉ No ○ Yes
Springs, Seeps	◉ Not Present ○ Present	◉ No ○ Yes
Potable Water Source	◉ Not Present ○ Present	◉ No ○ Yes
Sole Source and/or Exceptional Value Aquifers	◉ Not Present ○ Present	◉ No ○ Yes

Describe Any Permanent and Temporary Impacts

None anticipated

Is mitigation incorporated? ◉ No ○ Yes

Remarks

Review of the PaGWIS website has confirmed that three private residential wells are located within close proximity of the project area. All three wells are located on the north side of Interstate 80. However, due to the project scope associated with the project, the residential wells are not expected be impacted by the proposed project. The three wells are located at the following coordinates: (41.18361 -79.5275) (41.1975 -79.5014) (41.19 -79.5167)

	PRESENCE	IMPACTS
WETLANDS	○ Not Present ◉ Present	
Open Water	◉ Not Present ○ Present	◉ No ○ Yes
Vegetated		
Emergent	○ Not Present ◉ Present	○ No ◉ Yes
Scrub Shrub	◉ Not Present ○ Present	◉ No ○ Yes
Forested	◉ Not Present ○ Present	◉ No ○ Yes
Exceptional Value	○ Not Present ◉ Present	○ No ◉ Yes

Documentation

☒Data Forms

☒Wetland Identification and Delineation Report

☐Conceptual Mitigation Plan

☐404 (b)(1) Alternative Analysis

☐Jurisdictional Determination Functional

☐Assessment Analysis

Methodology

Field investigations conducted September 24, 2019, September 26, 2019, April 6, 2021, and April 7, 2021 identified and delineated eighteen wetlands within the project study area. All wetlands were classified as palustrine emergent (PEM) wetlands. Field investigations were conducted in accordance with the methodology described in the US Army Corps of Engineers (USACE Corp of Engineers Wetland Delineation Manual (Technical Report Y-81-1) and the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0), Pennsylvania Department of Environmental Protection (PADEP), Chapter 105 regulations, Section 404 of the Federal Clean Water Act, and the Pennsylvania Department of Transportation (PennDOT) Publication No. 325.

Number of Wetlands permanently impacted: 5

Acreage of Wetlands permanently impacted: 0.085

Describe Any Permanent Impacts

Overall, the proposed project will result in approximately 0.085 acres of permanent wetland impacts. Generally, the impact is due to fill material encroachments associated with I-80 roadwork, Thompson Hill culvert extension, and new ROW fence.

Describe Any Temporary Impacts

Overall, the proposed project will result in approximately 0.36 acres of temporary wetland impacts. Temporary impacts will occur due to the necessity of temporary access through wetland boundaries, implementation of E&S controls within wetlands, and roadway cut slopes and drainage activities. These impacts will be minimized to the greatest extent possible through the implementation of an approved E&S control plan.

Is mitigation incorporated? ○ No ◉ Yes

Banking: 0.085 *acre*

Bank to be Debited: PennDOT's Clarion County Wetland Bank Site (Appendix E)

Mitigation Remarks

- Permanent impacts to wetlands will be mitigated by utilizing credits from PennDOT's Clarion County Wetland Bank Site.
- Wetlands within the project study area not impacted by the project will be delineated with protective orange construction fence.
- Upon completion of construction, all temporarily impacted wetlands will be restored and reseeded.

Executive Order 11990 Compliance

Compliance requires the determination that there is no practicable alternative to the proposed construction in wetlands and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

Options/design modifications were investigated to avoid impacts to wetlands: ◉ Yes ○ No ○ N/A

There are no practicable alternatives to construction within the wetlands: ◉ Yes ○ No ○ N/A

Alternative chosen (proposed project) includes all practicable measures to minimize harm to wetlands:

◉ Yes ○ No ○ N/A

	PRESENCE	IMPACTS
COASTAL ZONE	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

There are no coastal zones located within the project area.

	PRESENCE	IMPACTS
FLOODPLAINS	○ Not Present ◉ Present	◉ No ○ Yes

☒ No significant floodplain encroachment would occur.

Describe Any Permanent and Temporary Impacts

Review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the project determined that a FEMA 100-year floodplain (Zone A) has been established for Canoe Creek and an unnamed tributary to Canoe Creek within the project area.

Based on the Hydrology and Hydraulics (H&H) analysis conducted for the project, the project will have no significant floodplain encroachment, as defined in 23 CFR Part 650, Subpart A, Section 650.105(q), since the project will not: (1) Have a significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route, (2) Have a significant risk, (3) Have a significant adverse impact on natural and beneficial flood plain values. The H&H report is in the project technical files.

Is mitigation incorporated? ◉ No ○ Yes

SOIL EROSION & SEDIMENTATION

Are there activities that could cause erosion or sedimentation and would require E&S Controls?

◉ Yes ○ No ○ N/A

Documentation

☒Coordination w/County Conservation
☒District E&S Control Plan
☒NPDES Stormwater Construction Permit

Is mitigation incorporated? ◉ No ○ Yes

Remarks

A NPDES permit application was developed and submitted to the Clarion County Conservation District (CCCD) for review and approval. The Erosion and Sedimentation (E&S) Control Plan and Post Construction Stormwater Management (PCSM) Plan will be incorporated into the construction contract. PCSM controls will be evaluated in final design and included in the NPDES permit application, if required.

4.2 Land

	PRESENCE	IMPACTS
AGRICULTURAL RESOURCES	○ Not Present ◉ Present	
Productive Agricultural Land	◉ Not Present ○ Present	◉ No ○ Yes
Agricultural Security Areas	◉ Not Present ○ Present	◉ No ○ Yes
Prime Agricultural Land	◉ Not Present ○ Present	◉ No ○ Yes
Agricultural Conservation Easements	◉ Not Present ○ Present	◉ No ○ Yes
Farmland Enrolled in Preferential Tax Assessments	◉ Not Present ○ Present	◉ No ○ Yes
Agricultural Zoning	◉ Not Present ○ Present	◉ No ○ Yes
Soil Capability Classes I, II, III, IV	◉ Not Present ○ Present	◉ No ○ Yes
Prime or Unique Soil	○ Not Present ◉ Present	○ No ◉ Yes
Statewide or Locally Important Soils	○ Not Present ◉ Present	○ No ◉ Yes

Describe Any Permanent and Temporary Impacts

None anticipated

Is mitigation incorporated? ◉ No ○ Yes

Remarks

Examination of USDA NRCS web soil survey mapping for the project study area identified four (4) Prime Farmland soil types and eight Farmland of Statewide Importance soil types that will be impacted. These soil classifications are protected under the Farmland Protection Policy Act (FPPA). However, bridge replacements on alignment are exempt from FPPA provisions as per Farmland Protection Policy Manual, 523.11, C. Activities Not

Subject to Provisions of FPPA, (10) Restoration, maintenance, renovation, or replacement of existing structures prior to the time of Federal Assistance.

Site visits have confirmed that no active agricultural land is present within the project study area; therefore, there will be no impact to Agricultural Land Preservation Policy (ALPP) Prime Agricultural Land. This project is in conformance with 4 Pa Code Chapter7, Section 7.301 et seq., ALPP. Additionally, this project is an upgrade of existing transportation facility and is exempt from Acts 43 and 100 per the Pennsylvania Agricultural Resources Handbook, Publication 324, Table 2.

	PRESENCE	IMPACTS
VEGETATION	○ Not Present ◉ Present	
Landscaped	◉ Not Present ○ Present	◉ No ○ Yes
Agricultural	◉ Not Present ○ Present	◉ No ○ Yes
Forest Land	○ Not Present ◉ Present	○ No ◉ Yes
Rangeland	○ Not Present ◉ Present	○ No ◉ Yes
Other (describe in remarks)	○ Not Present ◉ Present	○ No ◉ Yes

Describe Any Permanent and Temporary Impacts

Vegetation within the project corridor primarily consists of herbaceous rangeland, deciduous forest land and roadside vegetation along Interstate 80. Permanent and Temporary impacts will occur to the project corridor vegetation to construct project improvements. This includes roadside vegetation as well as land below and adjacent to the I-80 bridges for crane placement and other construction vehicle access.

☒ Invasive Non-Native Plants are Present

Mitigation:

Are measures being taken to minimize movement of invasive plant parts (roots, tubers, seeds)? ◉ Yes ○ No

Will native plants be used in project landscaping or mitigation? ◉ Yes ○ No

Other? ○ Yes ◉ No

Describe Mitigation

In accordance with PennDOT's invasive species guidance (Publication 756, 2014), care will be taken not to transplant roots or seeds of noted invasive, non-native plants during earth moving operations. Re-vegetation of impacted areas will be implemented through the E&S plan. Prior to completion of construction, all remaining areas of earth disturbance will be restored by re-seeding with standard PennDOT seed formulas. These seed formulas may contain native plant species; but per Executive Order 13112, will avoid those plant species that are listed on the Noxious Weed Control List.

Remarks

Herbaceous rangeland, deciduous forest land, and roadside vegetation are present along the project corridor. Invasive species were noted during field delineation of wetlands and streams. The following invasive species were observed: Multiflora Rose (*Rosa multiflora*), Autumn Olive (*Elaeagnus umbellate*), Canada Thistle (*Cirsium arvense*), Reed Canarygrass (*Phalaris arundinacea*), and Common reed (*Phragmites australis*).

	PRESENCE	IMPACTS
GEOLOGIC RESOURCES	◉ Not Present ○ Present	

Remarks

According to the DCNR Heritage Geology Sites website, there are no Heritage Geology Sites in the project area. Additionally, the project area is not located near an Outstanding Scenic Geological Feature according to review of the Outstanding Scenic Geological Features of Pennsylvania Part 2.

	PRESENCE	IMPACTS
PARKS & RECREATION FACILITIES	◉ Not Present ○ Present	

Remarks

There are no properties within the project area afforded protection under one or more federal and/or state recreation grants.

	PRESENCE	IMPACTS
FOREST & GAMELANDS	◉ Not Present ○ Present	

Remarks

A review of Google Maps, the PA Gazetteer (DeLorme 2012), aerial imagery, PennDOT One Map (formerly MPMS IQ), and the results of the field reconnaissance did not identify any State Forests or State Gamelands within the PSA.

	PRESENCE	IMPACTS
WILDERNESS, NATURAL & WILD AREAS	◉ Not Present ○ Present	

Remarks

Review of USGS mapping, PADEP eMap, and site investigations confirmed there are no Federal and/or State Wilderness, Natural or Wild Areas within the project area.

	PRESENCE	IMPACTS
NATIONAL NATURAL LANDMARKS	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

There are no national natural landmarks present within the project area.

	PRESENCE	IMPACTS
HAZARDOUS OR RESIDUAL WASTE SITES	○ Not Present ◉ Present	◉ No ○ Yes

Documentation

☒Phase I
☐Phase II
☐Phase III
☐Other
☐No Documentation Required

Supporting documentation for Chapter 4.2 includes:

- *I-80 Canoe Creek Bridges Phase I Waste Site Investigation* (November 2019)
- *I-80 Canoe Creek Bridges Phase I ESA Addendum Report for Toll Facility* (November 2021)

Describe Any Permanent and Temporary Impacts

None anticipated

Is remediation/mitigation incorporated? ◉ No ○ Yes ○ Unknown at this time

Remarks

A Phase I Environmental Site Assessment (ESA) was conducted in accordance with PennDOT Publication 281, "Waste Site Evaluation Procedures for the Highway Development Process" to determine if hazardous, residual, or municipal waste sites exist within the study area. Three potential Areas of Concern (AOC) that were identified in the Alternatives Analysis phase of the project were investigated. The Phase I ESA included site reconnaissance on September 27, 2019, environmental database review, historical data review, and personal interviews. The Phase I ESA findings and conclusions resulted in recommendations of no further action required at this time.

RECOMMENDATION 1: AOC-1 (north of I-80 WB between STA 239+00 and STA 242+00)

The site conditions at the two private properties located within the AOC indicate a significant likelihood of contamination exists outside the proposed ROW that may impact soil or groundwater within the ROW. However, no excavations are planned for the area and application of fill will be limited to the ROW. Therefore, no further action is required at this time. However, if future design includes excavations within the ROW, a Phase II will be required to investigate any impacts from the adjacent properties prior to construction activities.

RECOMMENDATION 2: AOC-2 (Canoe Creek valley under I-80 EB bridge between STA 287+00 and STA 289+00)

No indications of contamination were present within the AOC that would necessitate any further investigation. Therefore, no further action is required.

RECOMMENDATION 3: AOC-3 (north of I-80 WB between STA 309+00 and STA 310+50)

The orange-stained water within the perennial stream is indicative of acid mine drainage. As required in Section 6.0 of Pub. 281, the district environmental manager should notify the district geotechnical manager of the field observations. Other than the orange-stained water within the stream, there are no indications of contamination within the ROW. Therefore, no further action is required at this time.

A Phase I ESA was completed for the expanded PSA for the toll facility and documented in an addendum to the Phase I report for the bridge replacement project. Based on the findings and conclusions of the Phase I ESA for the toll facility, the following additional recommendations were included in the addendum report:

RECOMMENDATION 1: JIFFY MINI MART

The site conditions at the Jiffy Mini Mart located on Paint Boulevard north of I-80 interchange indicate that contamination exists impacting soil and groundwater within the ROW. At this time there is no anticipated intrusive work for this area. Therefore, no further action is required at this time. If future design includes excavations within the ROW adjacent to the property, HDR recommends a Soil Management Plan be created to provide documentation during design for proper management of impacted soil and groundwater. This could be created and included as part of the contract documents or as a Special Provision.

RECOMMENDATION 2: WENTLINGS CORNERS

The orange-stained water within the culvert and channel west of Canoe Ripple Road is indicative of AMD. As required in Section 6.0 of Pub. 281, the District Environmental Manager should notify the District Geotechnical Manager of the field observations. Other than the orange-stained water within the culvert, there are no indications of contamination within the ROW. Therefore, no further action is required at this time. If AMD is encountered, follow up with the project environmental lead should be conducted to ensure proper management of AMD.

RECOMMENDATION 3: DON HARTZELL MOTORS

The site conditions at the Don Hartzell Motors site (former BP Oil Station No. 07279) located along Canoe Ripple

Road north of I-80 interchange indicate a significant likelihood of contamination within the proposed ROW that may impact soil or groundwater. However, no excavations are planned for the area. Therefore, no further action is required at this time. If future design includes excavations within the ROW adjacent to the property, a Phase II ESA will be required to investigate any impacts from the adjacent properties prior to construction activities.

4.3 Wildlife

	PRESENCE	IMPACTS
WILDLIFE & HABITAT	◉ Not Present ○ Present	

Remarks

The results of the field reconnaissance and review of the Pennsylvania Gazetteer (DeLorme 2015), US Fish and Wildlife Service and Nature Conservancy Map Portals did not identify any wildlife sanctuaries, wildlife refuges, unique or critical habitat, or wildlife preserves in the vicinity of the PSA.

	PRESENCE	IMPACTS
THREATENED & ENDANGERED PLANTS & ANIMALS	◉ Not Present ○ Present ○ No Coordination Needed	☒ No Potential Impacts ☐ Potential Impacts with Avoidance Measures ☐ Potential Impacts with Conservation Measures ☐ Potential Impacts

Documentation

☒ PNDI ER Receipt

The Pennsylvania Natural Diversity Inventory (PNDI) reviews for the bridge/roadway project PSA and two proposed traffic improvements determined that there are no known impacts anticipated to threatened and endangered species and/or special concern species and resources within the project area. No further review is required at this time. The PNDI receipts are valid for two years. PNDI receipts are included in Appendix F.

- PNDI 739742, 8/4/2021. I-80 Canoe Creek Bridges Project (including expanded PSA for toll facility)
- PNDI 748777, 12/20/2021. SR 3007/SR 338 Intersection Improvement
- PNDI 744257, 10/12/2021. SR 322/SR 66 Intersection Improvement

4.4 Cultural Resources

Were Cultural Resource Professionals (CRPs) needed for project scoping? ◉ Yes ○ No

CRP Scoping Field View Date: 07/26/17

CRP Architectural Historian in Attendance: CRP Architectural Historian was not present at scoping field view.

CRP Archaeologist in Attendance: Susanne Haney

Was a Project Early Notification / Scoping Results Form completed? ○ Yes ◉ No

Is the project exempted from review by the District Designee or CRP as per Appendix C of the Statewide Section 106 Programmatic Agreement? ○ Yes ◉ No

Is the project exempted from review by the District Designee or CRP as per Stipulation III of the Emergency Relief Projects Programmatic Agreement (2005)? ○ Yes ◉ No

	PRESENCE				LEVEL OF EFFECTS		
	Not Present	Potentially Eligible Resource Present	Eligible Resource Present	Listed Resource Present	No Historic Properties Affected	No Adverse Effect	Adverse Effect
CULTURAL RESOURCES	☐	☑	☐	☐	☑	☐	☐
Archaeology							
Pre-Contact:	☑	☐	☐	☐	☑	☐	☐
Contact Native American:	☑	☐	☐	☐	☑	☐	☐
Historic:	☐	☑	☐	☐	☑	☐	☐
Above-Ground Historic Properties							
Structure/Building:	☑	☐	☐	☐	☑	☐	☐
District:	☑	☐	☐	☐	☑	☐	☐

Documentation

For projects *not having a known adverse effect*, one from *each* column:

Above-Ground Historic Properties

- ☑ Above-Ground Historic Properties Field Assessment and Finding
- ☐ Above-Ground Historic Properties Finding Letter
- ☐ Section 106 (Above-Ground Historic Properties) Effect Concurrence Letter
- ☐ TE Project Field Assessment and Finding Checklist

Archaeology

- ☑ Archaeology Field Assessment and Finding
- ☐ Archaeology Finding Letter
- ☐ Section 106 (Archaeology) Effect Concurrence Letter
- ☐ TE Project Field Assessment and Finding Checklist
- ☐ Deferred Archaeological Testing Form
- ☐ Project Specific Programmatic Agreement

Supplemental documentation should be completed as warranted:

- ☐ Historic Structures Survey / Determination of Eligibility Report
- ☐ Phase IA Archaeological Sensitivity Report
- ☐ Geomorphological Survey Report
- ☐ Archaeological Disturbance Report
- ☒ Archaeology Identification (Phase I) Report
- ☐ Archaeology Negative Survey Form
- ☐ Archaeology Evaluation (Phase II) Report
- ☐ Combined Archaeology Identification/Evaluation Report
- ☐ Determination of Effects Report
- ☐ (Bridge) Feasibility Report
- ☐ Other

Are mitigation and/or standard treatments required? ○ No ◉ Yes

Describe Mitigation / Standard Treatments

One previous recorded historic industrial site, 36CL0198 Tippecanoe Furnace was re-located via pedestrian survey. The 36CL0198 Tippecanoe Furnace site is located almost entirely within Commonwealth-owned existing ROW; however, during construction the furnace remains will be fenced off and avoided. Any intact soils at the site or in the immediate vicinity will either be fenced off and avoided or protected using geotextile and the appropriate amount of fill.

Of the areas with intact soils, there are two areas, designated Area A and Area B, that are going to be impacted and were deemed to contain intact soils with archaeological potential. A Phase I survey consisting of sub-surface excavation was conducted within these areas. One previously unrecorded site with pre-contact and historic components, 36CL0211 Edenburg Well site identified. However, the portion of the site within the Area of Potential Effects (APE) does not contribute to the site's overall eligibility. During construction, in order to prevent inadvertent disturbance, the portion of the site beyond the APE will be fenced off and avoided.

Remarks, Footnotes, Supplemental Data

Section 106 cultural resource documentation is located in Project Path at https://path.penndot.gov/ProjectDetails.aspx?ProjectID=51252. The combined findings document was posted to Project Path on 4/10/2020. Cultural resources findings addendums were posted 1/26/2022 for the toll facility and proposed traffic improvements along the diversion route.

4.5 Section 4(f) Resources

	PRESENCE	USE
SECTION 4(f) RESOURCES	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

Review of on-line resources Pennsylvania Department of Environmental Protection (PADEP) EMapPA website, PADCNR website, PGC website) and field investigations conducted on February 28, 2018 confirmed there are no resources protected under Section 4(f)/Section 2002 within the project area.

4.6 Air Quality and Noise

AIR QUALITY

Is the project exempt from regional ozone conformity analysis and a CO, PM10 & PM2.5 Hot- Spot analysis? ◉ Yes ○ No

Mobile Source Air Toxics (MSATs)

Is the project exempt from an analysis for MSATs based on Pub #321? ◉ Yes ○ No

Remarks

The project is a bridge replacement with safety improvements including bridge and shoulder widening. The project will not add travel lanes and will not result in changes in traffic volumes, vehicle mix, location of existing facility or other factor that would cause an increase in emissions relative to existing conditions.

The cashless tolling facility will not require drivers to stop or slow to pay a toll at the tolling gantry. The tolling system will record vehicles as they pass under the gantry sensor.

NOISE

Is the project a:

A. **Type I Project?** ○ Yes ◉ No
B. **Type II Project?** ○ Yes ◉ No
C. **Type III Project?** ◉ Yes ○ No

Supporting documentation for Chapter 4.6 includes:

- *I-80 Canoe Creek Toll Diversion Noise Analysis Report* (January 2022)

The project meets the criteria for a Type III project established in 23 CFR 772. Therefore, the project requires no analysis for highway traffic noise impacts. Type III projects do not involve added capacity, construction of new through lanes or auxiliary lanes, changes in the horizontal or vertical alignment of the roadway or exposure of noise sensitive land uses to a new or existing highway noise source. PennDOT acknowledges that a noise analysis is required if changes to the proposed project result in reclassification to a Type I project.

Noise Remarks

In accordance with the Federal Noise regulations in 23 CFR 772 and PennDOT Publication #24, this project is a Type III noise project, and therefore, noise analysis is not required and abatement is not eligible for federal funding. As a result of proposed tolling, traffic studies suggest that portions of the local traveling public would seek alternate travel routes to reach destinations in order to avoid toll facilities. In response to the unusual circumstance of likely increases in diversion route traffic volumes due to traffic diversion, PennDOT and FHWA agreed to perform a qualitative assessment of noise to inform the public of the potential effects. This diversion route runs north of the I-80 mainline and uses the following roadways: Canoe Ripple Road, SR 0338, SR 0208, US 0322, and SR 0066. Noise modeling of peak-hour, worst-case noise levels on the local roadway network indicates that noise levels are anticipated to exceed PennDOT/FHWA Noise Abatement Criteria (NAC) at 82 receptors in the existing condition. In the future no-toll condition, those same 82 receptors are anticipated to exceed the NAC. In the future toll condition, the same 82 receptors are anticipated to exceed the NAC. Differences in traffic noise levels between the future no-toll and future toll conditions are predicted to be no greater than 1 dBA.

The I-80 Canoe Creek Toll Diversion Noise Analysis Report, January 2022, is included in the project technical files and incorporated by reference to this EA.

4.7 Socioeconomic Areas

REGIONAL & COMMUNITY GROWTH

Will the project induce impacts (positive and negative) on planned growth, land use, or development patterns for the area? ○ Yes ◉ No

Is the project consistent with planned growth? ◉ Yes ○ No

Basis of this determination:

The project is listed on the Interstate TIP program years 2021, 2022, 2023, 2024, and 2nd 4 years.

Will the project induce secondary growth? ○ Yes ◉ No

PUBLIC FACILITIES & SERVICES

Will the project induce negative impacts on health and educational facilities; public utilities; fire, police, and emergency services; civil defense; religious institutions; or public transportation? ○ Yes ◉ No

Emergency medical services (EMS) representatives were at the traffic diversion workshops. Emergency services vehicles will be exempt from paying toll. EMS dispatchers are accustomed to assigning response teams based on current roadway conditions and other factors. Traffic modeling projects that only 5% of traffic will divert and that the primary diversion route is capable of absorbing the additional traffic. Improvements proposed along the diversion route would also mitigate for increased traffic due to diversion. Emergency response vehicles, such as ambulances and fire trucks, will be exempt from paying the toll. Emergency responders traveling to an incident in their own vehicle will be reimbursed for tolling.

Does the project incorporate bicycle or pedestrian facilities into the overall design or operations (including construction)? ○ Yes ◉ No

A review of the PA Gazetteer (DeLorme 2015), aerial imagery, PennDOT OneMap, and the results of the field reconnaissance did not identify any bicycle or pedestrian facilities within or adjacent to the Project Study Area. Increased traffic diverting to avoid the tolls is not anticipated to interfere or impact the safety or mobility of bicyclists and pedestrians along these routes. The I-80 Canoe Creek Bridges Diversion Route Traffic Evaluation report, February 2022, is included in the project technical files and is incorporated by reference to this EA.

Will the project have a positive impact to the public facilities and services listed above? ◉ Yes ○ No

The proposed bridge replacement project will maintain a reliable crossing over SR 4005 and Canoe Creek, while also widening bridge curb- to-curb width and roadway shoulders, having a positive impact to public facilities and services.

COMMUNITY COHESION

Will the project induce impacts to community cohesion? ○ Yes ◉ No

Will the project induce impacts to the local tax base or property values? ○ Yes ◉ No

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ENVIRONMENTAL JUSTICE (*See Chapter 6 of this EA)*

RIGHT-OF-WAY ACQUISITIONS OR DISPLACEMENTS OF PEOPLE, BUSINESSES OR FARMS

How many parcels require right-of-way acquisition, either partial or total? 4 parcels

The P3 development entity will be responsible for final design of the diversion route traffic improvements. If area is required outside of Commonwealth-owned existing legal ROW for construction of the traffic improvements, the P3 development entity is required to coordinate with PennDOT to determine necessary NEPA Reevaluation studies and documentation (Chapter 7, Environmental Commitments and Mitigation).

Describe the extent and locations of acquisitions. Indicate for each acquisition whether it is temporary or permanent.

All ROW acquisition is expected to be sliver takes or for purposes of Temporary Construction Easements (TCE) except one take (0.28 acre) near the southeast quadrant of the EB bridge – no relocation or displacements.

Will the project require the relocation of people, businesses, or farms? ○ Yes ◉ No

Will the project induce impacts to economic activity, including employment gains and losses? ○ Yes ◉ No

Mitigation

Property acquisitions conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended; Title VI of the Civil Rights Act of 1964; and the Pennsylvania Eminent Domain Code of 1964.

- While no residential relocations are anticipated, any individual or family displaced by the project would be offered the full extent of benefits and payments.
- Provisions would be made to ensure that any person with a disability who is displaced is offered replacement housing that meets any special needs. Based on current design plans, no displacements are anticipated

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MAINTENANCE AND OPERATING COSTS OF THE PROJECT AND RELATED FACILITIES

Will the project induce increases of operating or maintenance costs? ○ Yes ◉ No

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AESTHETIC AND OTHER VALUES

Will the project be visually intrusive to the surrounding environment? ○ Yes ◉ No

Will the project include "multiple use" opportunities? ○ Yes ◉ No

Will the project involve "joint development" activities? ○ Yes ◉ No

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4.8 Energy

Energy usage is generally a function of vehicle miles traveled (VMT) (volume x distance traveled), speed, vehicle mix, and congestion. Vehicles consume greater amounts of energy in congested, stop and go, and idling conditions. Additional energy use is associated with lighting, and operations and maintenance activities. Indirect energy use can be attributable to out-of-direction travel associated with toll diversion or detours for incidents, bridge inspections, maintenance, and repairs. A Transportation Research Board study found that traffic congestion typically led to an increase of fuel consumption on the order of 80 percent, and a study by Massachusetts Institute of Technology (MIT) indicates that for congested traffic conditions, fuel consumption is up to 3.5 times higher than in free-flowing traffic.

Absent traffic incidents, construction, or closing of lanes for maintenance activities and repairs, the interstate is typically free flowing and relatively energy-efficient.

Under the no build alternative, more frequent inspections and more frequent maintenance and repairs would result in lane closures and associated detours and congested conditions leading to higher energy expenditures. Should the bridge have to be weight-posted or closed, the associated detours would result in longer travel routes, congestion, and higher expenditures of energy.

The build alternative would require expenditures of energy for the construction of the project but would result in a new bridge requiring less frequent inspections and maintenance/repairs. The cashless tolling facility will record vehicles as they pass under the gantry sensor and will not require drivers to stop or slow to pay a toll, and therefore would not result in increased energy expenditure. Proposed tolls assessed on the bridge would cause some traffic to divert, which would increase the VMT for those diverting drivers and increase energy use. However, traffic

modeling conducted for the bridge project predicts that only 5% of traffic is anticipated to divert, a relatively small percentage of the overall traffic.

4.9 Cumulative Effects

Cumulative effects include "the proposed project's direct and indirect effects in combination with the effects due to past, present, and reasonably foreseeable future activities or actions of Federal, non-federal, public, and private entities" (PennDOT 2008). This analysis was conducted in accordance with Pennsylvania Department of Transportation (PennDOT) Publication 640 Indirect and Cumulative Effects (ICE) Desk Reference (PennDOT, March 2008). No significant cumulative effects resulting from this project together with past, present, and reasonably foreseeable future actions were identified.

The first step in performing the cumulative effects analysis is to identify which resources to consider in the analysis. The no-build alternative would not contribute to cumulative effects and is not discussed. Cumulative effects are considered only for resources with a direct or indirect effect from the I-80 Canoe Creek Bridges Replacement Project. Resources not evaluated within this EA are not included in this cumulative effects analysis because they are not present. Similarly, resources that are present, but not affected either directly or indirectly by the proposed project, are also not included in the cumulative effects analysis. Because of the potential for direct or indirect effects that could contribute to cumulative impacts, the following resources are evaluated: streams, wetlands, vegetation, cultural resources, environmental justice, and indirect traffic effects.

4.9.1. Boundaries and Time Frame

Cumulative effects are considered within geographic boundaries that provide context to help understand the health of the resource. The following summarizes the areas used in assessing cumulative effects on resources impacted by the project:

- Aquatic Resources (streams, wetlands) – Canoe Creek watershed
- Vegetation – Project area municipalities
- Cultural Resources – Tippecanoe Furnace site
- Environmental Justice - A one-hour drive time from the bridge
- Indirect Traffic Impacts – Traffic Diversion Route Area

The time frame for analysis goes back to 1958, prior to the construction of the Canoe Creek bridges in 1966. The following subsections provide information on the past, present, and reasonably foreseeable future conditions and provides context for understanding the potential cumulative effects.

4.9.2. Past

The Clarion County Association of Townships provides information for understanding the context of past development in the area in which the project is located. The following is a synopsis of the pertinent history. According to the book *History of Clarion County, Pennsylvania* (1887), provided on the Clarion County website:

> *Originally the land was covered with a heavy growth of oak timber. The principal part of the township has been cleared, though a number of good tracts of timber yet remain. Much of the present standing timber, however, is of second growth; the original forests having been cut off for charcoal.*
>
> *The lands lying west of Canoe Creek produce fine crops of wheat, corn, and oats. This more than ordinary yield of grain is not due to the natural fertility of the soil, but rather to the energy of the thrifty land owners, who have made a special effort to fertilize their farms. East of this creek are*

some good farms; the enterprising land owners on that side having many more difficulties to contend with in procuring fertilizers than their more favored neighbors to the west of them.

The principal productions of Beaver are the usual farm products, petroleum, coal, ore, limestone, and lumber. In early days when the iron industry was the principal industry of the county, large quantities of iron ore were mined. When the iron excitement died away the people generally gave their attention to farming, but little progress was marked for a number of years. In 1865 the production of oil at Deer Creek introduced a new element into the commerce of the township. But as the field was soon abandoned, this element had little influence on the wealth or progress of the people, till the developments in the western part of the township, which began in 1872. The excitement ran high for about six years; probably being at its zenith in 1877. The production was large. Many land owners became wealthy from the oil produced on their farms. At present the yield of oil is somewhat limited. Since the oil excitement has subsided the farmers seem to vie with each other in the improvement of their lands.

Furnaces. – There were four furnaces in the township – Jefferson, Eagle, Beaver, and Tippecanoe. Beaver was the first. It was erected in 1837 by Leonard & Sample. Jefferson was erected in 1839 by Plummer & Co. Eagle was erected by Curll, Kribbs & Co., and Tippecanoe by Black & Maxwell. Jefferson was called the "Quaking Asp Furnace." Being in a hurry to get the furnace in blast the stack was surrounded by a temporary wall of quaking asp poles filled in with clay. The iron from these furnaces was boated to Pittsburgh on the Clarion and Allegheny Rivers.

The aerial photograph from 1958 (**Figure 5 – 1958 Aerial Photograph of the Project Area**) shows the project area before the I-80, and therefore the bridges, were constructed. As can be seen in the photo, the area around Canoe Creek bridges where the bridge replacements would occur, is rural and relatively undeveloped. Similarly, the diversion route through Elk City, Knox, and Wentlings Corners is largely undeveloped. Tippecanoe Road, which is located north of the Canoe Creek bridges and is part of the diversion route, is present at this time.

The aerial photograph from 1968 (**Figure 6 – 1968 Aerial Photograph of the Project Area**) depicts I-80 2 years after construction, with the Canoe Creek bridges in the lower left corner of the photo. The areas adjacent to I-80 are not fully vegetated. The surrounding area continues to be shown as rural, with large tracks of woodland intermixed with some agricultural land use.

By 1994, additional streets are shown in the area of Knox, there is a smaller tract of woodland (although a significant amount still exists), and there continues to be a large amount of agricultural land use in the vicinity (**Figure 7 – 1994 Aerial Photograph of the Project Area**). Wentlings Corners has now been developed adjacent to the I-80/Canoe Ripple Road Interchange, including the Wolf's Camping Resort, northeast of the interchange.

The current aerial photograph of the area, taken in 2019 (**Figure 8 – 2019 Aerial Photograph of the Project Area**), is largely the same as in 1994. An exact account of what resources were impacted over the study timeframe to the present is not easily discernible from aerial photography. However, it does appear that the river itself (and associated floodplains) is largely similar from the 1958 aerial to the current (2019) aerial.

Figure 5 – 1958 Aerial Photograph of the Project Area

Source: Pennsylvania Imagery Navigator, Pennsylvania Imagery Navigator and Download Tool (psu.edu), accessed March 2021

Figure 6 – 1968 Aerial Photograph of the Project Area

Source: Pennsylvania Imagery Navigator, Pennsylvania Imagery Navigator and Download Tool (psu.edu), accessed March 2021

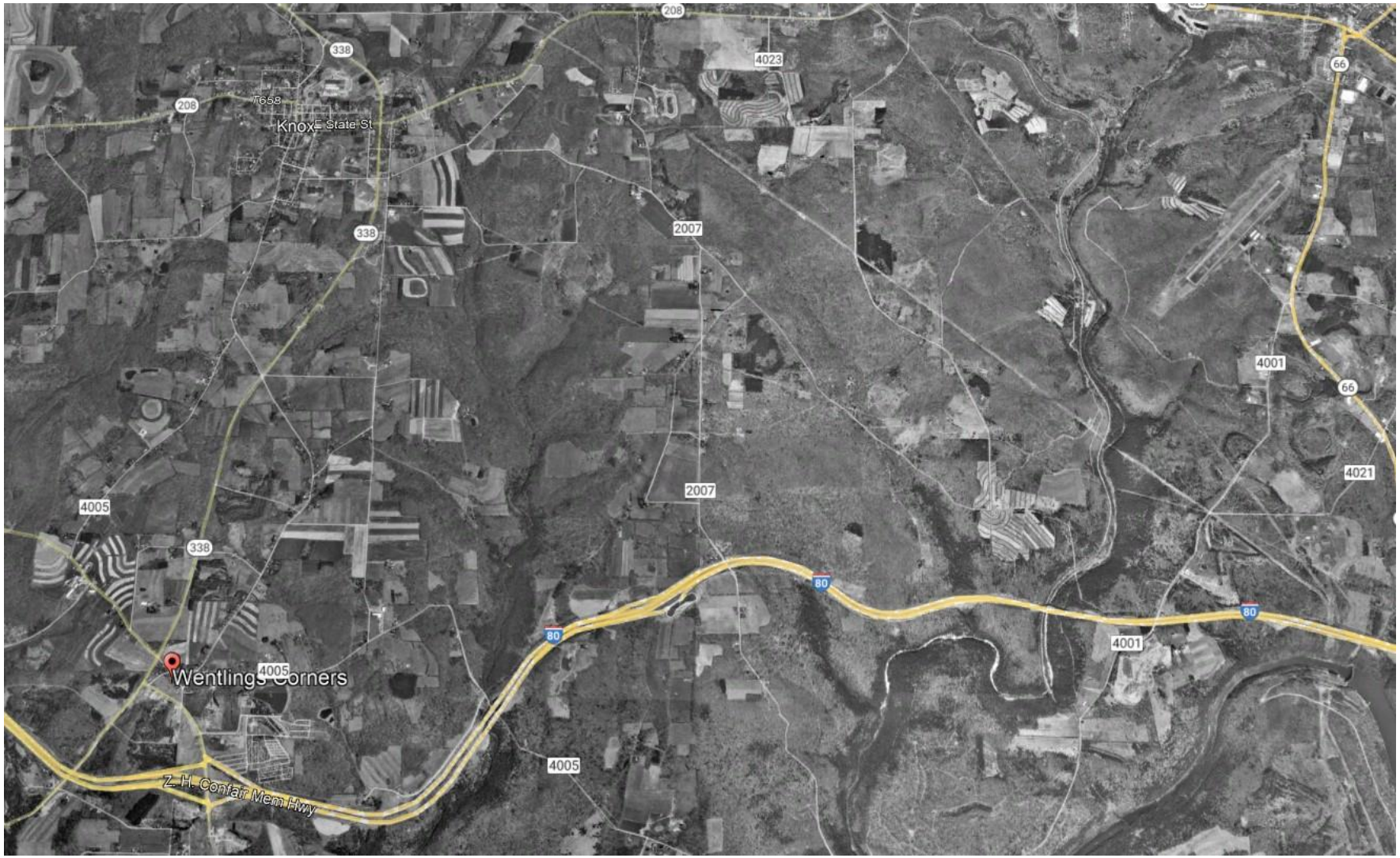


Figure 7 – 1994 Aerial Photograph of the Project Area

Source: Pennsylvania Imagery Navigator, Pennsylvania Imagery Navigator and Download Tool (psu.edu), accessed March 2021

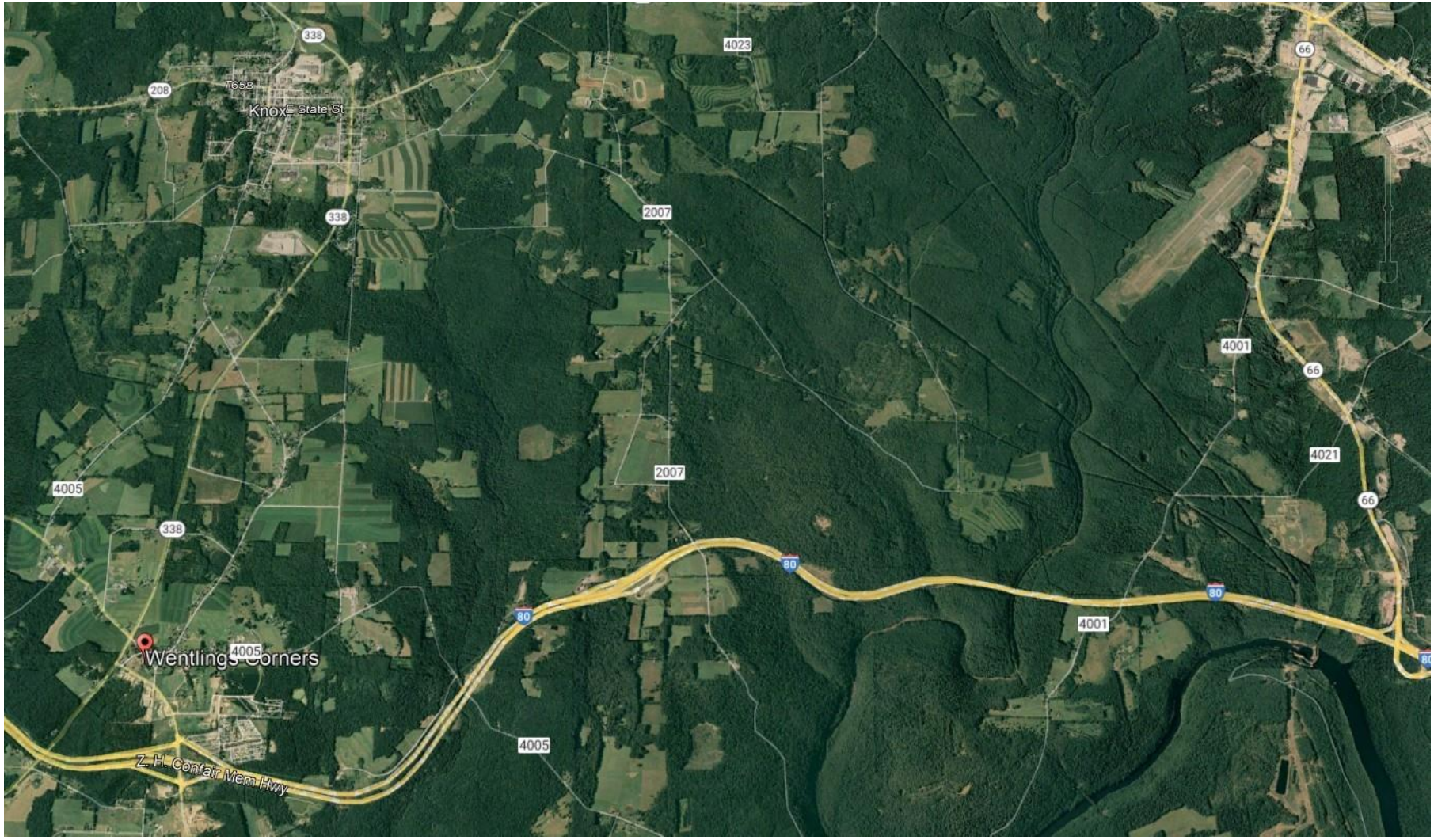


Figure 8 – 2019 Aerial Photograph of the Project Area

Source: Pennsylvania Imagery Navigator, Pennsylvania Imagery Navigator and Download Tool (psu.edu), accessed March 2021

4.9.3. Present

Current conditions of each resource are summarized below. Details are described in the corresponding affected environment sections in Chapter 4 of this EA and in technical reports cited in those sections—details are not repeated here

Streams, Rivers, and Watercourses: Field investigations conducted on September 24, 2019; September 26, 2019; April 6, 2021; and April 7, 2021, identified 20 jurisdictional watercourses within the project study area. These streams included Canoe Creek and unnamed tributaries to Canoe Creek. The Pennsylvania Code Title 25, Chapter 93 Water Quality Standards, identifies that the management designation for Canoe Creek is High Quality-Cold Water Fishes (HQ-CWF). All unnamed tributaries to Canoe Creek also carry the same management designation as Canoe Creek.

Wetlands: Field investigations conducted on September 24, 2019; September 26, 2019; April 6, 2021; and April 7, 2021, identified and delineated 18 wetlands within the project study area. All wetlands were classified as PEM wetlands. Field investigations were conducted in accordance with the methodology described in the USACE Corps of Engineers Wetland Delineation Manual (Technical Report Y-81-1) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0), the PADEP Chapter 105 regulations, Section 404 of the Federal Clean Water Act, and PennDOT Publication No. 325.

Vegetation: Vegetation within the project corridor consists primarily of herbaceous rangeland, deciduous forest land, and roadside vegetation along I-80. Permanent and temporary impacts will occur to the project corridor vegetation from construction of project improvements. This includes roadside vegetation as well as land below and adjacent to the I-80 bridges for crane placement and other construction vehicle access.

Cultural Resources: One previously recorded historic industrial site, 36CL0198 Tippecanoe Furnace, was identified in the field via pedestrian survey. The 36CL0198 Tippecanoe Furnace site is located almost entirely within existing PennDOT ROW; however, during construction, the furnace remains will be fenced off and avoided. Any intact soils at the site or in the immediate vicinity will either be fenced off and avoided or protected using geotextile and the appropriate amount of fill.

Of the areas with intact soils, there are two areas, designated Area A and Area B, that will be impacted and were deemed to contain intact soils with archaeological potential. A Phase I survey consisting of sub-surface excavation was conducted within these areas. One previously unrecorded site with pre-contact and historic components, 36CL0211 Edenburg Well, was identified. However, the portion of the site within the APE does not contribute to the site's overall eligibility. During construction, in order to prevent inadvertent disturbance, the portion of the site beyond the APE will be fenced off and avoided.

Environmental Justice: The minority population within a one-hour drive of the bridge is 7.4 percent, well below that of Ohio's at 21.1 percent and Pennsylvania's at 23.6 percent. Those persons living below the poverty level are 13 percent, higher than that of Pennsylvania at 12 percent but lower than that of Ohio at 13.6 percent.

Indirect Traffic Impacts: With the introduction of tolls on the Canoe Creek Bridge, there is potential for traffic to divert off I-80 to avoid paying the tolls. A primary diversion route consisting of SR 66, SR 322, SR 208, SR 338, and SR 3007 was identified. Traffic modeling indicated that with bi-directional tolling, approximately 615 EB vehicles and 644 WB vehicles would divert from I-80 onto this primary diversion route daily.

4.9.4. Future

This section identifies reasonably foreseeable future actions anticipated to occur over a 30-year period (the anticipated length that tolls will be in place).

Growth Trends: The project is not anticipated to result in substantial project-related growth, so no substantial indirect effects or induced growth are expected. Growth or land use changes in the project area are mostly related to preservation of existing infrastructure and would not be caused by the project.

Reasonably Foreseeable Future Actions (RFFAs): Two transportation projects that are programmed to be completed within the indirect study area of the Canoe Creek bridges were evaluated for potential contributions to cumulative impacts. Notable improvements from the PennDOT 12-year Transportation Improvement Program include the projects listed in **Table 4**.

Table 4
Reasonably Foreseeable Transportation Projects

Locale	Name	Land Use	Description
Route 79 in Cranberry Township	District 10 Interstate Guiderail	Guiderail Improvement	Upgrade of Guiderail End Treatments to *Manual for Assessing Safety Hardware* compliance along I-79 from 0.2 mile south of Exit 76 north to 0.3 mile north of Exit 88 in Cranberry and Jackson Townships, Butler Co, and I-80 from 0.3 mile west of Exit 42 west to 0.2 mile west of Exit 105.
I-80	Clarion County Bridge Preservation	Bridge Preservation	Bridge preservation project including epoxy overlay of bridge decks and the repair of the approaches on the I-80 Beaver Creek Structure EB and the WB far approach to the I-80 Clarion River Structure.

The project team coordinated with Clarion County and Beaver Township to identify anticipated land development projects in the project area vicinity that could contribute to cumulative impacts. No potential future developments were identified.

As previously mentioned, the traffic modeling completed for the project was based on the approved traffic model, which incorporates approved land uses and zoning densities. This means that the anticipated traffic generated by potential development is already accounted for in the traffic forecast for the project area. Therefore, the noise, air quality, and other traffic-related cumulative impacts are incorporated into the traffic model and are described in the respective sections of this EA if applicable.

4.9.5. Cumulative Effects Summary

This section presents the cumulative effects analysis of the project on each evaluated resource when added to other past, present, and reasonably foreseeable future actions. The analysis identifies whether the cumulative impacts would be significant. Table 2, at the end of this section, shows the effects of past actions combined with present conditions, the proposed action, and reasonably foreseeable projects/actions in the cumulative effects study area. The final column presents the cumulative impacts of this project and a finding of significance related to the cumulative effects for each examined resource category. No significant cumulative effects resulting from this project are identified.

Waterways: The project will cause approximately 1,954 linear feet of permanent stream impacts. Of the total permanent impacts, 160 linear feet will be to Canoe Creek, while the remaining impacts are to unnamed tributaries. The impacts would be mitigated for on-site through streambank stabilization, enhanced floodplain

connectivity, riparian buffer improvements, and flow diversity. Stream banking credits would also be purchased to mitigate for the permanent stream impacts to account for the impacts that would not be able to be mitigated on-site due to available space within the project boundaries. There are no other known projects that would have an effect on Canoe Creek. Significant cumulative effects to waterways are not anticipated.

Wetlands: Field investigations identified 18 wetlands within the project study area. All wetlands were classified as PEM wetlands. There will be approximately 0.085 acre of permanent wetland impacts and 0.36 acre of temporary wetland impacts. Mitigation would occur through the purchase of credits at the PennDOT Clarion County Wetland Bank Site. There are no other known projects that would impact wetlands within the vicinity. There are sufficient credits available from wetland banks and/or areas where wetland replacement sites can be constructed to mitigate any potential effects. Significant cumulative effects to wetlands are not anticipated.

Vegetation: Vegetation within the project corridor consists primarily of herbaceous rangeland, deciduous forest land, and roadside vegetation along I-80. Invasive species were noted during field delineation of wetlands and streams. The following invasive species were observed: multiflora rose (*Rosa multiflora*), autumn olive (*Elaeagnus umbellate*), Canada thistle (*Cirsium arvense*), reed canary grass (*Phalaris arundinacea*), and common reed (*Phragmites australis*). Permanent and temporary impacts will occur to the project corridor vegetation to construct project improvements. This includes roadside vegetation as well as land below and adjacent to the I-80 bridges for crane placement and other construction vehicle access. Revegetation of impacted areas will be implemented through the erosion and sediment control plan. Prior to completion of construction, all remaining areas of earth disturbance will be restored by reseeding with standard PennDOT seed formulas. These seed formulas may contain native plant species but will avoid those plant species that are listed on the Noxious Weed Control List. Significant cumulative impacts are not expected, as there are no other known projects that would have an impact on vegetation.

Cultural Resources: One previous recorded historic industrial site, 36CL0198 Tippecanoe Furnace, was relocated via pedestrian survey. The 36CL0198 Tippecanoe Furnace site is located almost entirely within existing PennDOT ROW; however, during construction, the furnace remains will be fenced off and avoided. Any intact soils at the site or in the immediate vicinity will be either fenced off and avoided or protected using geotextile and the appropriate amount of fill.

Of the areas with intact soils, there are two areas, designated Area A and Area B, that will be impacted and were deemed to contain intact soils with archaeological potential. A Phase I survey consisting of sub-surface excavation was conducted within these areas. One previously unrecorded site with pre-contact and historic components, 36CL0211 Edenburg Well, identified. However, the portion of the site within the APE does not contribute to the site's overall eligibility. During construction, in order to prevent inadvertent disturbance, the portion of the site beyond the APE will be fenced off and avoided. The Tippecanoe Furnace is located almost entirely within the PennDOT ROW and therefore is unlikely to be disturbed by any known projects. Significant cumulative effects to cultural resources are not anticipated.

Environmental Justice: Potential implementation of a toll would affect all bridge users regardless of income and minority status. Because tolls would comprise a larger percentage of a low-income bridge user's income, tolls would have a greater effect on these users, particularly if they depend on the bridge for daily travel to work or other destinations. Due to the availability of the diversion route and the discount program offered under the PennDOT tolling policy, the effects on low-income travel patterns would be minimal and would not constitute an

adverse impact on low-income or minority populations. Significant cumulative effects to environmental justice populations are not anticipated.

Indirect Traffic Impacts: Based upon the field investigation, stakeholder input, and traffic analysis, potential traffic and roadway issues were identified along the primary diversion route, including one congested intersection, pedestrian and bike safety, truck turning and speeds, and potential crashes. To address the issues at select locations, PennDOT will construct intersection safety and signal improvements, repave, and conduct additional "before and after" traffic studies as part of the project. Projects identified in Table 1 would not contribute to cumulative effects. Significant cumulative from indirect traffic diversion are not anticipated.

Table 5
Potential Cumulative Impacts

Topic	Past Actions/Impacts	Present Conditions	RFFA Impacts	Summary
Waterways	Canoe Creek has been bridged since 1966. Past construction activities impacted the creek.	Canoe Creek and tributaries are HQ-CWF and are identified as both a "Stocked Trout Water" and a "Wild Trout Water" by the PFBC. Permanent impacts from the project will be mitigated through on-site enhancement and the purchase of stream mitigation credits.	Identified RFFAs are not anticipated to affect the creek and its tributaries.	On-site mitigation will minimize the impacts to Canoe Creek from the project. RFFAs are not expected to contribute to cumulative impacts.
Wetlands	Past wetland impacts from the highway development occurred during construction. Impacts from farming date to prior to construction of the bridge in 1966.	Little development pressure occurs, and few if any recent wetland impacts have occurred because development pressure is so low.	Identified RFFAs are not anticipated to affect wetlands.	Project wetland impacts will be mitigated by debit from PennDOT's Clarion County Wetland Bank Site. RFFAs are not expected to contribute to cumulative impacts.
Vegetation	Invasive plant species have likely been present within the area since European settlement. Impacts likely increased as development increased.	Herbaceous rangeland, deciduous forest land, and roadside vegetation are present along the project corridor. Invasive species were noted during field delineation of wetlands and streams. The following invasive species were observed: multiflora rose (*Rosa multiflora*), autumn olive (*Elaeagnus umbellate*), Canada thistle (*Cirsium arvense*), reed canary grass (*Phalaris arundinacea*), and common reed (*Phragmites australis*).	Identified RFFAs are not anticipated to affect vegetation.	Impacted areas will be revegetated with non-invasive vegetation, per the erosion and sediment control plan. Prior to completion of construction, all remaining areas of earth disturbance will be restored by reseeding. RFFAs are not expected to contribute to cumulative impacts.

Topic	Past Actions/Impacts	Present Conditions	RFFA Impacts	Summary
Cultural Resources	The original construction of I-80 and the Canoe Creek Bridges likely was within the vicinity of the Tippecanoe Furnace.	One previously recorded historic industrial site, 36CL0198 Tippecanoe Furnace, was relocated via pedestrian survey. The site is located almost entirely within existing PennDOT ROW; however, during construction, the furnace remains will be fenced off and avoided.	Identified RFFAs are not anticipated to affect cultural resources.	The Tippecanoe Furnace is located almost entirely within the PennDOT ROW and therefore is unlikely to be disturbed by any RFFA projects. During construction, the furnace remains will be fenced off and avoided.
Environmental Justice	Past settlement patterns have resulted in a study area population with 7.4% minorities and 13 percent living below the poverty level compared to statewide statistics of 23.6% and 12%, respectively.	The I-80 Canoe Creek Bridges Project would not result in disproportionately high and adverse effects on low-income and minority populations because no adverse effects would result from project implementation.	Identified RFFAs are not anticipated to contribute to environmental justice effects.	The project is not expected to result in disproportionately high and adverse effects on low-income and minority populations. RFFA's are not anticipated to contribute to environmental justice effects.
Indirect Traffic Impacts	Bypass routes have been in place since I-80 was built. Traffic generally has been local and low-volume on diversion routes in the past.	Traffic on potential bypass routes has been low. Diversion traffic could contribute to some congestion and safety issues, but improvements are proposed as part of the project to minimize these effects.	RFFAs do not contribute to indirect traffic impacts.	The project diversion route improvements will minimize adverse effects of diversion route traffic and RFFAs do not contribute to cumulative effects.

In summary, no significant cumulative effects resulting from this project together with past, present, and reasonably foreseeable future actions were identified.

4.10 Permits Checklist

☐ **No Permits Required**

☒ **United States Army Corps of Engineers Section 404 and/or Section 10 Permit**

☐ Individual ☐ Nationwide ☒ PASPGP

☒ **DEP Waterway Encroachment (105) Permit**

☒ Standard ☐ Small Project ☐ General ☐ Other

☒ **DEP 401 Water Quality Certification**

☐ **Coast Guard Permit**

☒ **NPDES Permit**

☐ General ☑ Individual ☐ Exempt

☐ Other Permits

Remarks, Footnotes, Supplemental Data

Permit applications have been submitted to permitting agencies. Permit applications did not include the toll facility. The P3 Development Entity will be required to amend the permits as appropriate to include additional impacted areas and/or aquatic resources due to the addition of the toll facility.

Permit conditions will be added to ECMTS as mitigation commitments.

5.0 PUBLIC INVOLVEMENT

	#	Comments
☒ Plans Display	2	See Remarks
☒ Public Officials Meetings	2	See Remarks
☒ Public Meetings	2	See Remarks
☒ Public Hearing		A Hearing will be held.
☒ Special Purpose Meetings (specify)	1	Diversion Route Workshop 11/1/2021, see Remarks
☐ Section 106 Public Involvement / Consulting Parties (specify)		
☐ Section 106 Tribal Consultation (specify Tribe(s) contacted and Tribal response)		
☒ Environmental Justice Community Involvement		Knowledgeable Parties emails and flyers, see Remarks
☐ Other information dissemination activities (specify)		
☒ Commitment for Further Public Involvement		The contractor will continue to coordinate with local municipalities and the public.

Supporting documentation for Chapter 5 includes:

- *I-80 Canoe Creek Bridges Project Public Meeting Summary (September 2019)*
- *I-80 Canoe Creek Bridges Project Virtual Public Meeting* (November 1 to December 1, 2021)
- *I-80 Canoe Creek Public Meeting Summary* (January 2022)

Remarks

A Public Officials /Public Plans Display meeting was held September 5, 2019 at the Knox Volunteer Fire Company, Knox, PA. The Public Officials Meeting was held from 4:00-5:00 PM, followed by the general public meeting from 5:30-7:30 PM. The project team was available to describe the project including scope of work, construction sequence, traffic control, and bridge construction techniques, and answer questions. Display boards were provided, and comments requested.

Public outreach activities were conducted beginning in November 2020 for the PennDOT Pathways program under an Alternative Funding PEL Study. After the CE for the I-80 Canoe Creek Bridges project was approved, the project was identified as a candidate for bridge tolling through PennDOT Pathways Program: The Major Bridge P3 Initiative in February 2021. Additional public outreach effort was conducted for the I-80 Canoe Creek Bridges project.

- Project information was posted on a project-specific website in February 2021 at https://www.penndot.pa.gov/RegionalOffices/district-10/ConstructionsProjectsAndRoadwork/Pages/I-80-Canoe-Creek.aspx
- A diversion route workshop was conducted on July 26, 2021 to gather additional information regarding potential issues along the diversion routes.
- The diversion route workshop attendees were invited to attend a follow-up briefing on November 1, 2021, to review the proposed diversion route improvements included in the public meeting materials.
- A project-specific virtual public meeting was held from November 1, 2021 to December 1, 2021. The online meeting was comprised of text, graphics and videos that provided a project overview and explained the project purpose and need, project design, proposed funding, traffic studies and associated diversion route improvements, environmental studies, comment process and next steps. The online meeting website provided a comment form that allowed individuals to submit their comments directly within the virtual public meeting. The website also noted other ways in which comments could be submitted, including the comment form on the general project website, project phone number, project email and a physical mailing address.
- An in-person public open house was held on Monday November 8, 2021 at Keystone Elementary School in Knox, PA. At the in-person public open house display boards were provided for project purpose and need, project design, proposed funding, traffic studies and associated diversion route improvements, environmental studies, and schedule. Comment forms were provided for individuals to submit their comment while in attendance or at their convenience. While the comment period for the public meeting has closed, the online meeting materials are available for reference via the project website. In-person meeting materials were printed versions of the online content. Public involvement documentation is located in the project's technical file.

Prior to and during the public comment period for the second public meeting, the project team executed several outreach strategies to maximize public participation at the public meeting or online consultation of the Virtual Public Meeting on project website. The outreach activities are listed in **Table 6**.

Table 6
Public Outreach Activities for Public Meeting

Outreach Type	Number of Recipients	Type of Recipients	Date Sent
Virtual Public Meeting Website	N/A	-General Public via https://www.penndot.pa.gov/RegionalOffices/district-10/ConstructionsProjectsAndRoadwork/Pages/I-80-North-Fork-Bridges-VPM.aspx	Launched 11/1/21
Postcard	4,438	- General Public - Mailed via Every Door Direct Mail Service - Sent to all postal routes within the direct project area and along the diversion route.	Mailed week of 10/25/21
Legal Ad	Print circulation approx. 6,800	- General Public - Placed in *The Clarion News*	Ran 10/21/21
Stakeholder & Public Mailing List Email	148	- Key stakeholders, legislators and those who requested to be put on the project's mailing list. - Email with information about the virtual public meeting and in-person open house.	11/1/21
Knowledgeable Parties Email & Flyer	8	- Knowledgeable parties identified in environmental justice analysis - Email with information about virtual and in-person meetings, along with a flyer to be distributed in the community and copies of social media art for sharing	11/1/21
News Release	N/A	- Sent to area media to distribute via news stories and calendars of events for the general public.	11/1/21
Public Officials Briefing	N/A	- Invited public officials to a pre-launch briefing to get a first look at the materials to launch in the virtual public meeting	11/1/21 at 9:30 a.m.
Social Media Posts	23,516 people reached	- Social media posts on PennDOT social media regarding how to participate in the public meeting and comment period - 257 engagements across three posts	11/1/21, 11/8/21, 11/29/21

The I-80 Canoe Creek Environmental Justice Analysis, February 2022, and the I-80 Canoe Creek Bridges Diversion Route Traffic Evaluation, February 2022, are included in the project technical files and incorporated by reference to this EA. Public involvement documentation is located in the project technical files.

6.0 ENVIRONMENTAL JUSTICE

Supporting documentation for Chapter 6 includes:

- *I-80 Canoe Creek Environmental Justice Analysis* (February 2022)

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations* (February 11, 1994), directs federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority and low-income populations. To achieve effective and equitable decision-making, the U.S. Department of Transportation (USDOT) identifies three fundamental principles of environmental justice to consider in all USDOT programs, policies, and activities:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on environmental justice communities of concern.
- To ensure the opportunity for full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or substantial delay in the receipt of benefits by any environmental justice community of concern.

The I-80 Canoe Creek Environmental Justice Analysis, February 2022, is included in the project technical files and is incorporated by reference to this summary.

The Environmental Justice analysis for the project was performed by completing the following process:

- **Step 1: Define the Study Area.** Consistent with NEPA practices, identify the reasonable and logical boundaries by considering the potential for direct and indirect impacts related to the implementation of the toll and increased traffic on routes that may be used to avoid the toll.
- **Step 2: Identify Low-income and Minority Populations.** Collect recent data on race, color, national origin, income, tribal governments, and seasonal and migrant workers in the study area, and apply FHWA and PennDOT methodology to identify low-income and minority populations.
- **Step 3: Solicit Input from Low-income and Minority Populations.** Using PennDOT's *Public Involvement Handbook* and other environmental justice outreach guidance, identify appropriate outreach techniques. Through targeted outreach to potentially affected low-income and minority populations, identify transportation needs and concerns about the project to inform Steps 4, 5, and 6.
- **Step 4: Evaluate Adverse and Beneficial Effects.** Analyze whether the project would create impacts to communities or populations in the near, medium, or long term. Then, with input from the community, assess whether the impacts are adverse, beneficial, or both.
- **Step 5: Identify Disproportionately High and Adverse Effects.** Determine whether adverse effects are predominately borne by low-income persons and minorities, and if these effects are more or greater than those effects borne by the general population.
- **Step 6. Evaluate Mitigation Measures.** If adverse effects would be predominately borne by low-income and minority populations and are more or greater in magnitude than the adverse effect that would be suffered by the general population, consult with the community to identify measures to avoid, minimize, or mitigate the impacts. Determine whether the mitigation measures are practical. Practical mitigation measures are those that are: effective and do not create other adverse effects that

are more severe; feasible in terms of implementation and operation; and cost effective, while maintaining the financial viability of the project.

- **Step 7: Re-evaluate Disproportionately High and Adverse Effects and Document Decision.** If practical mitigation measures have been identified, re-evaluate whether adverse effects borne by low-income and minority populations are appreciably more severe or greater than those effects borne by non-environmental justice populations.

As a result of the PEL Study, PennDOT developed a plan for implementation, which identified alternative bridge funding as an immediately needed priority and bridge tolling as the reasonable means for financing priority bridge improvements. PennDOT began engaging the community, stakeholders, and legislators in the Pathways Program's Major Bridge P3 Initiative, which included announcing nine interstate bridges as candidates for tolling in February 2021, including the I-80 Canoe Creek Bridges. Early outreach activities for the I-80 Canoe Creek Bridges project included: a public engagement program conducted throughout the PEL process; targeted outreach to knowledgeable parties; a traffic diversion route workshop; targeted outreach to low-income and minority populations in the Canoe Creek Regional Study Area; on-demand public meetings (virtual) over a 30-day period between November 1 and December 1, 2021; and an in-person meeting held on November 8, 2021 at Keystone Elementary School.

Potential implementation of a toll would affect all bridge users regardless of income and minority status. Because tolls would comprise a larger percentage of a low-income bridge user's income, tolls would have a greater effect on these users, particularly if they depend on the bridge for daily travel to work or other destinations. As a result, and in keeping with other Department of Human Services (DHS) financial assistance programs offered in Pennsylvania (Supplemental Nutrition Assistance Program (SNAP), Medicaid, Low Income Home Energy Assistance Program (LIHEAP)), PennDOT is proposing to offer toll-free bridge access to low-income persons qualifying for one or more of these DHS programs. The DHS financial assistance programs use a progressive income limit based on the number of people in a household (equivalent to approximately $35,000 for a family of four, but it varies slightly by DHS program). Individuals who qualify for toll-free bridge access would be able to select one toll bridge from the Major Bridge P3 Initiative to apply these benefits. Because of their proximity, the Canoe Creek and North Fork bridges could be selected as "one bridge." PennDOT's tolling policy would also include toll-free bridge access for emergency vehicles and emergency medical service volunteers when responding to emergencies.

As a result of this analysis and associated outreach effort, no disproportionately high and adverse effects on low-income or minority populations have been identified for the I-80 Canoe Creek Bridges Project since adverse effects to these populations are not anticipated as a result of the project and/or tolling implementation. Considering the availability of acceptable options for toll avoidance, PennDOT's toll policy that offers a toll-free ride for low-income drivers and others who meet the eligibility criteria, and a diversion route that has the capacity to accommodate projected traffic increases, with minor improvements proposed, adverse socioeconomic effects on low-income and minority populations would be minimized.

Additionally, PennDOT commits to:

- Reassess the low-income toll program 5 years after substantial completion of the project. The purpose of this reassessment will be to determine the effectiveness of the low-income toll program for reducing the burden of tolls on low-income households and, depending upon the outcome of the reassessment, identify alternative solutions for reducing the burden on low-income households.

- Perform a before and after study on the primary diversion route to identify if additional traffic and/or safety improvements are needed to mitigate the effects of the toll.

As a result, evaluation of additional mitigation measures to off-set adverse effects and the re-evaluation of disproportionately high and adverse effects on low-income and minority populations is not warranted.

7.0 ENVIRONMENTAL COMMITMENTS AND MITIGATION

The mitigation measures summarized in this section shall be incorporated into the project's design documents. In order to track and transfer mitigation commitments through the project development process, Environmental Commitments & Mitigation Tracking System (ECMTS) documentation shall be prepared and submitted through the appropriate channels as the project moves through Final Design and Construction.

Impacts and mitigation commitments are based on Preliminary Design and may change as the project moves through Final Design and Construction. Final design information and final mitigation commitments will be included in the ECMTS documentation.

STREAMS

Permanent Stream Impacts: 1,954 *linear feet*

Proposed Project Specific Restoration/Enhancement: 670 *linear feet*

Advanced Compensation/Banking: 95 *linear feet*

Mitigation Remarks:

Proposed stream mitigation will be accomplished both on-site and off-site. On-site mitigation will include channel relocation with stream improvements such as streambank stabilization, enhanced floodplain connectivity, riparian buffer improvements, and flow diversity. In addition to the on-site stream mitigation, stream banking credits have been purchased from an accredited stream mitigation bank to account for impacts that could not be made up on-site due to the location and available reclamation space within the project boundaries.

Stream mitigation plans are included in the waterway permit application for the project. The details of mitigation have been determined through consultation with permitting agencies.

WETLANDS

Permanent Wetland Impacts: 0.085 *acre*

Project Specific Replacement/Construction: 0 *acres*

Banking: 0.085 *acre*

Bank to be Debited: PennDOT's Clarion County Wetland Bank Site

Mitigation Remarks:

- Permanent impacts to wetlands will be mitigated by utilizing credits from PennDOT's Clarion County Wetland Bank Site.
- Wetlands within the project study area not impacted by the project will be delineated with protective orange construction fence.
- Upon completion of construction, all temporarily impacted wetlands will be restored and reseeded.

COMMITMENTS FOR FURTHER PUBLIC INVOLVEMENT

The contractor will continue to coordinate with local municipalities and the public.

VEGETATION

In accordance with PennDOT's invasive species guidance (Publication 756, 2014), care will be taken not to transplant roots or seeds of noted invasive, non-native plants during earth moving operations. Re-vegetation of impacted areas will be implemented through the E&S plan. Prior to completion of construction, all

remaining areas of earth disturbance will be restored by re-seeding with standard PennDOT seed formulas. These seed formulas may contain native plant species; but per Executive Order 13112, will avoid those plant species that are listed on the Noxious Weed Control List.

CULTURAL RESOURCES

One previous recorded historic industrial site, 36CL0198 Tippecanoe Furnace was re-located via pedestrian survey. The 36CL0198 Tippecanoe Furnace site is located almost entirely within Commonwealth-owned existing ROW; however, during construction the furnace remains will be fenced off and avoided. Any intact soils at the site or in the immediate vicinity will either be fenced off and avoided or protected using geotextile and the appropriate amount of fill.

Of the areas with intact soils, there are two areas, designated Area A and Area B, that are going to be impacted and were deemed to contain intact soils with archaeological potential. A Phase I survey consisting of sub-surface excavation was conducted within these areas. One previously unrecorded site with pre-contact and historic components, 36CL0211 Edenburg Well site identified.

However, the portion of the site within the APE does not contribute to the site's overall eligibility. During construction, in order to prevent inadvertent disturbance, the portion of the site beyond the APE will be fenced off and avoided.

NON-RESOURCE SPECIFIC MITIGATION COMMITMENTS

- PennDOT will offer toll-free bridge access to low-income persons qualifying for one or more DHS financial assistance programs. Individuals who qualify for toll-free bridge access would be able to select one toll bridge from the Major Bridge P3 Initiative to apply these benefits. PennDOT's tolling policy would also include a toll-free bridge access for emergency vehicles and emergency medical service volunteers when responding to emergencies; and a High Occupancy Vehicle (HOV) discount program.
- PennDOT will reassess the low-income toll program 5 years after substantial completion of the project. The purpose of this reassessment will be to determine the effectiveness of the low-income toll program for reducing the burden of tolls on low-income households and, depending upon the outcome of the reassessment, identify alternative solutions for reducing the burden on low-income households.
- PennDOT will conduct a before/after traffic study to evaluate actual toll diversion volumes and roadway performance to evaluate actual volumes, including truck traffic, compare it to the projections in the I-80 Canoe Creek Bridges Diversion Route Traffic Evaluation, if appropriate, identify and evaluate additional mitigation measures. This study will identify if additional traffic and/or safety improvements are needed to mitigate the effects of the toll.
- NPDES and Joint Permit Applications did not include the toll facility. The P3 Development Entity will be required to amend the permits as appropriate to include additional impacted areas and/or aquatic resources due to the addition of the toll facility.
- When approved, the permit conditions will be added to ECMTS as mitigation commitments.
- If the P3 Development Entity requires area outside of the Project PSA delineated in this EA, including the Original PSA and Expanded PSA which includes the areas delineated for the proposed diversion route improvements, the P3 Development Entity is required to coordinate with PennDOT to determine necessary NEPA Reevaluation studies and documentation.

This NEPA Reevaluation may include but not be limited to:

- Delineation of aquatic resources in accordance with USACE protocol;
- Phase I ESA or Environmental Due Diligence (EDD) statement;
- PNDI review and coordination with resource protection agencies;
- Section 106 Consultation; and
- Public outreach.

Appendix A
Engineering Information

Project Identification

Originating Office: District 10-0 **Date:** 04/17/20

Federal Project Number: N/A

Township/Municipality: Beaver Township

Local Name: I-80 Canoe Creek Bridges

Limits of Work (Segment/Offset)		**Construction Stations**	
Start:	**End:**	**Start:**	**End:**
0534/2517	0570/1477	221+00 EB	356+58 EB
0541/0578	0565/1556	220+00 WB	355+07 WB

Total Length: 13,558 EB; 13,507 WB ft

Date of First Federal Authorization for Preliminary Engineering: 12/28/2016

Date of Federal Authorization Time Extension(s) for Preliminary Engineering (if applicable): N/A

Design Criteria

Roadway Description: SR 0080

Functional Classification: Freeways/Interstates ☐ Urban ☑ Rural

Current ADT: 30,075 (2025)

Design Year No-Build ADT: N/A **Current LOS:** N/A

Design Year Build ADT: 44,254 (2045) **Design Year Build LOS:** N/A

DHV: 3133 **Truck %:** 44 **D (Directional Distribution) %:** 53

Design Speed: 75 mi/h **Posted Speed:** 70 mi/h

Required Minimum Widths

Lane Width: 12 ft **Shoulder Width:** 12 RT / 8 LT ft **Bridge Curb-to-Curb:** 56 ft

Design Exception Required? ○ Yes ◉ No

Typology: Limited Access Freeway – Rural Interstate

Topography: ○ Level ◉ Rolling ○ Mountainous

Proposed Design Criteria: New and Reconstruction

Traffic Control Measures

The following traffic control measures will be implemented:

- ☐ Temporary Bridge(s)
- ☐ Temporary Roadway
- ☑ Detour
- ☐ Ramp Closure
- ☑ Other (specify)
- ☐ None

Other Description: Use of Crossovers

Provisions for access by local traffic will be made and so posted. ◉ True ○ False

Through-traffic dependent business will not be adversely affected. ◉ True ○ False

There will be no interference with any local special event or festival. ◉ True ○ False

There will be no substantial environmental consequences associated with the traffic control measure(s). ◉ True ○ False

There is no substantial controversy associated with the traffic control measure(s). ◉ True ○ False

There are no substantial impacts to bicycle or pedestrian routes. ◉ True ○ False

Approximate length of planned detour: 13.5 ☑ Detour Map

Make the selection that best describes the planned detour:

- ○ Detour will use local roads with no improvements.
- ○ Detour will involve improvements to local roads with no resulting impacts on safety or the environment.
- ○ Detour will involve improvements to local roads and will impact safety and/or the environment.
- ◉ Detour will use only state owned roads.

Describe impacts

Detour is for SR 4005 and will only be short-term events as required for Structure removal and erection.

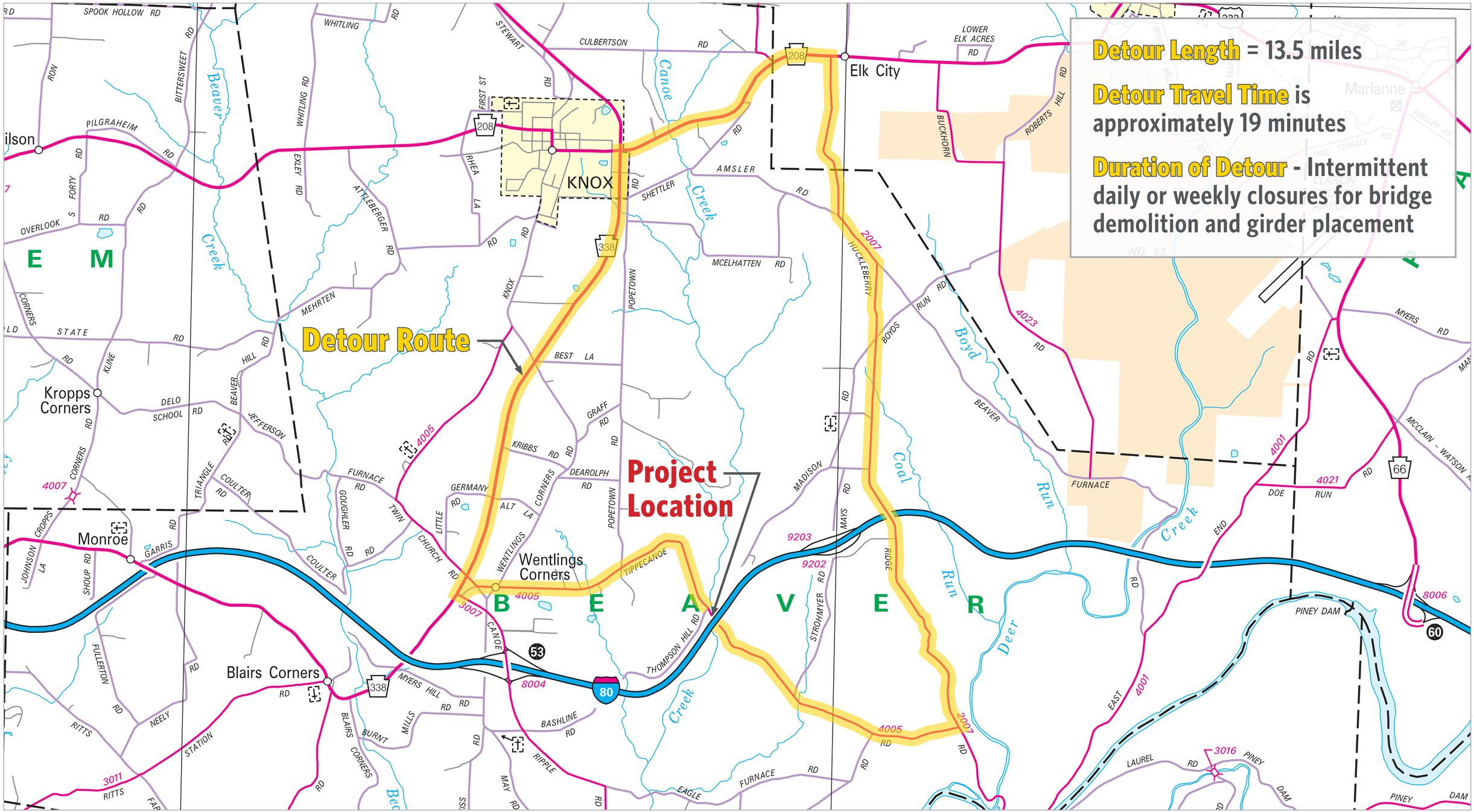
Estimated Costs

Engineering: $ 7,592,000 **Right-of-Way: $** 90,000 **Construction: $** 123,807,000 **Utilities: $** 200,000

I-80 Canoe Creek Bridges Eastbound and Westbound Replacement

SR 0080 over Canoe Creek and Tippecanoe Road

Tippecanoe Road (SR 4005) Detour



Roadway

Roadway Description
Interstate 80

	Existing	Proposed
Number of Lanes:	2	2
Lane Width:	12 ft	12 ft
Shoulder Width:	8 RT / 4 LT ft	12 RT / 8 LT ft
Median Width:	varies ft	varies ft
Sidewalk Width:	0 ft	0 ft
Bicycle Lane Width:	0 ft	0 ft
Clear Zone Width:	32 ft	32 ft

Structure

BMS Number: 16-0080-0550-0825 **BRKEY:** 10944

Description:
Structure crosses SR 4005 (Tippecanoe Road) and Canoe Creek

	Existing	Proposed
Structure Type:	Girder-Floorbeam-Stringer	Multi-Girder
Weight Restrictions:	n/a ton	n/a ton
Height Restrictions:	n/a ft	n/a ft
Curb to Curb Width:	32 ft	56 ft
Lane Width:	12 ft	12 ft
Shoulder Width:	4 ft	24/8 ft
Sidewalk Width:	n/a ft	n/a ft
Total Bridge Width*:	36.5 ft	59.4 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	100 ft	99.5 ft
Lateral Clearance:	52 ft	56.2 ft
Sufficiency Rating:	83.9	
Structure Length:	1156 ft	1160 ft

BMS Number: 16-0080-0551-0910 **BRKEY:** 10945

Description:
Structure crosses SR 4005 (Tippecanoe Road) and Canoe Creek

	Existing	Proposed
Structure Type:	Girder-Floorbeam-Stringer	Multi-Girder
Weight Restrictions:	n/a ton	n/a ton
Height Restrictions:	n/a ft	n/a ft
Curb to Curb Width:	32 ft	56 ft
Lane Width:	12 ft	12 ft
Shoulder Width:	4 ft	24/8 ft
Sidewalk Width:	n/a ft	n/a ft
Total Bridge Width*:	36.5 ft	59.4 ft

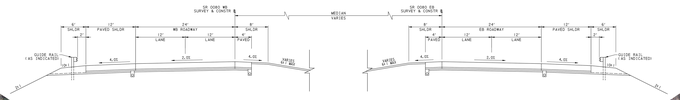
***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	100 ft	98.4 ft
Lateral Clearance:	27 ft	55.6 ft
Sufficiency Rating:	55	
Structure Length:	1090 ft	1160 ft

Appendix B
Project Design Exhibit

I-80 Canoe Creek Bridges Eastbound and Westbound Replacement

SR 0080 over Canoe Creek and Tippecanoe Road



SR 0080 Typical Roadway Section

PennDOT Maintenance Facility

Weigh Station

Weigh Station

Tippecanoe Furnace Site

Thompson Hill Road

Tippecanoe Road - SR 4005

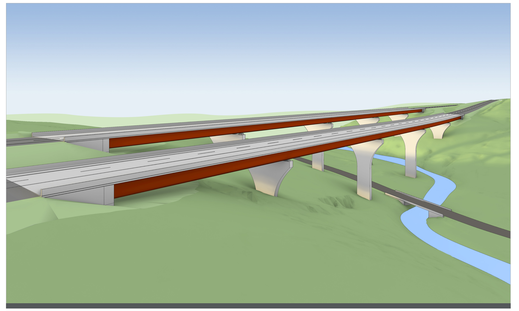
I-80 WESTBOUND

Thompson Hill Road Culvert Rehabilitation

I-80 EASTBOUND

Canoe Creek

Conceptual Rendering



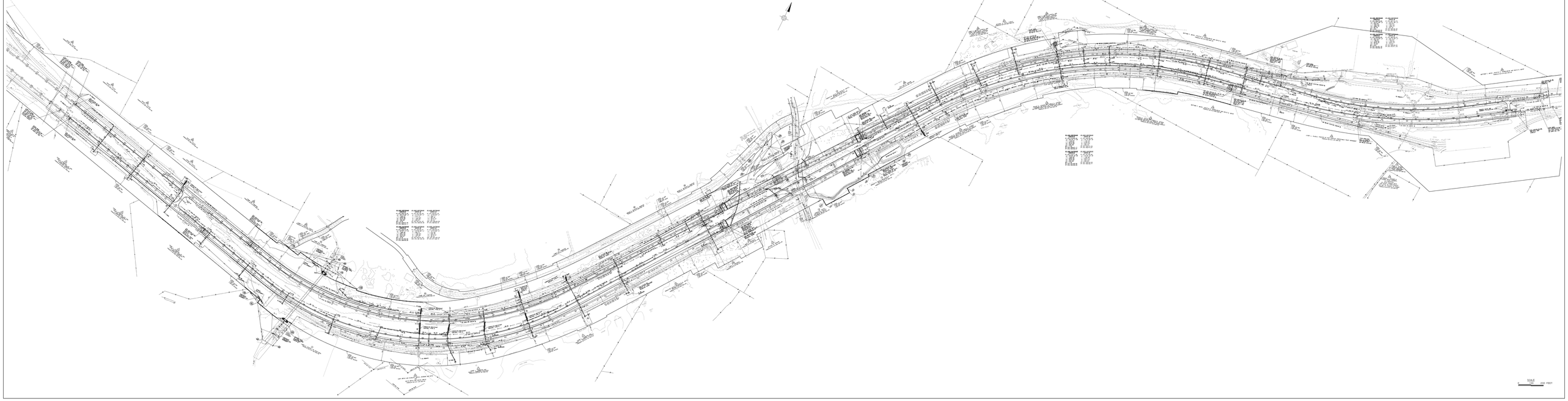
Legend

- Proposed Pavement Edge
- Proposed Shoulder Edge
- Property Line
- Cut Line
- Fill Line
- Wetland Boundary
- Proposed Structure

pennsylvania
DEPARTMENT OF TRANSPORTATION

HDR

Appendix C
Design Plans


SCALE
0 100 200 FEET

Appendix D
Toll Facility Design Plans

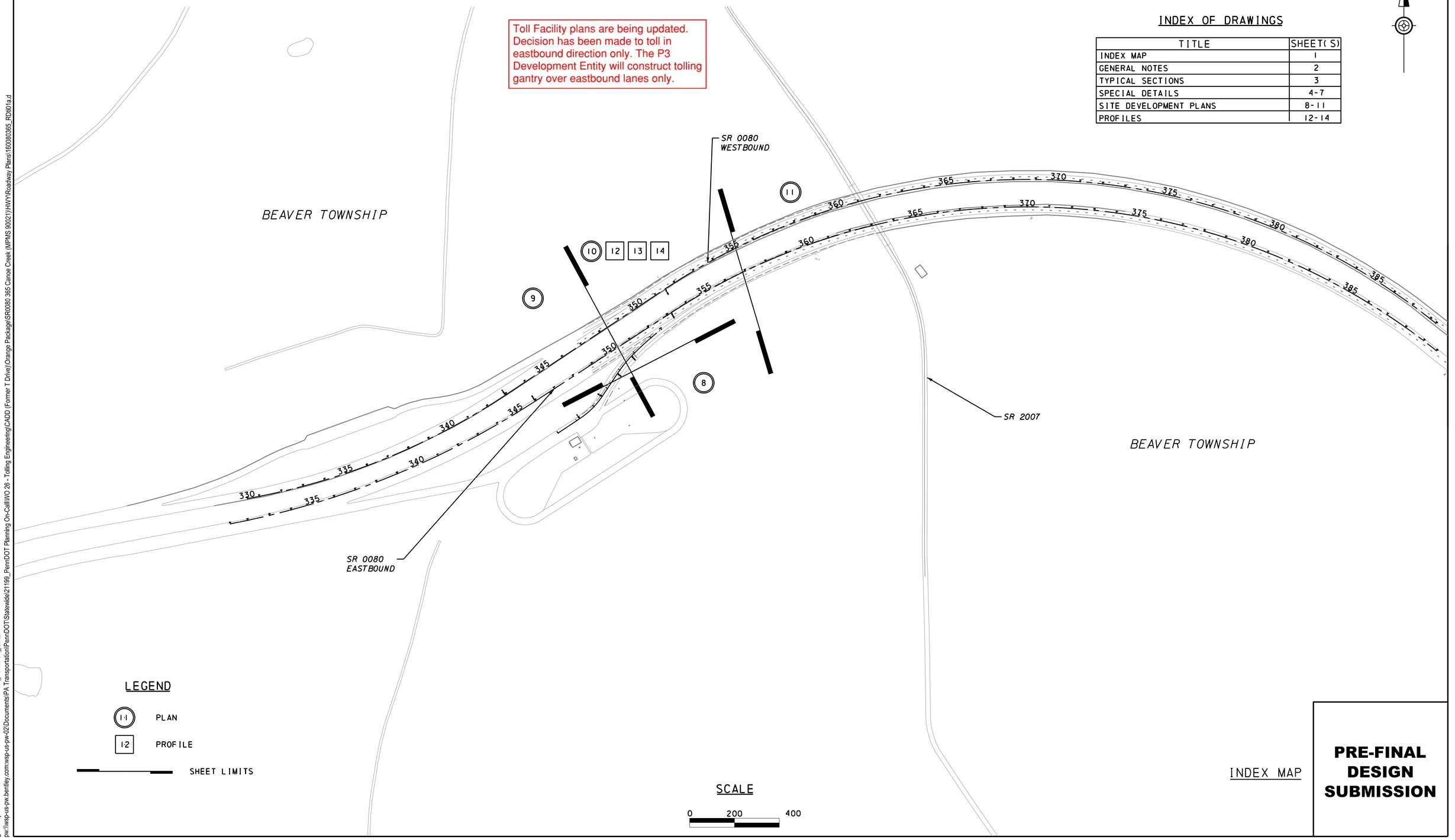
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	1 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

BRIDGE OPEN ROAD TOLLING
SITE DEVELOPMENT

Toll Facility plans are being updated. Decision has been made to toll in eastbound direction only. The P3 Development Entity will construct tolling gantry over eastbound lanes only.

INDEX OF DRAWINGS



LEGEND

- (11) PLAN
- [12] PROFILE
- SHEET LIMITS

SCALE

0 200 400

INDEX MAP

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	2 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SUMMARY OF PROJECT COORDINATES

THE HORIZONTAL CONTROL FOR THIS PROJECT IS BASED ON THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM NORTH ZONE (SPCS 83)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
SR 0080 EASTBOUND MAINLINE	331+21.16	PC	379919.82	1486006.73	N 79°07'53" E
	338+69.65	PI	380060.95	1486741.79	
	345+99.40	PT	380469.06	1487369.22	
	345+99.40	PT	380469.06	1487369.22	N 56°57'28" E
	353+21.73	PC	380862.92	1487974.73	
	353+21.73	PC	380862.92	1487974.73	N 56°57'28" E
	374+31.12	PI	382013.08	1489742.97	
	389+73.21	PT	380692.18	1491387.59	
SR 0080 ENTRANCE RAMP	0+118.49	PC	380390.382	1487566.876	N 56°14'47" E
	0+190.13	PI	380430.192	1487626.448	
	0+259.94	PT	380489.764	1487366.256	
	0+259.94	PT	380489.764	1487666.256	N 33°45'07" E
	0+382.57	PC	380591.725	1487734.390	
	0+382.57	PC	380591.725	1487734.390	N 33°45'07" E
	0+433.08	PI	380633.719	1487762.451	
	0+483.30	PCC	380669.891	1487797.701	
	0+483.30	PCC	380669.891	1487797.701	N 44°15'37" E
	0+572.14	PI	380733.514	1487859.703	
	0+660.70	PT	380788.092	1487929.799	
SR 0080 WESTBOUND MAINLINE	330+45.29	PC	380032.44	1486083.00	N 79°50'08" E
	336+79.79	PI	380144.41	1486707.55	
	342+96.52	PT	380495.77	1487235.89	
	342+96.52	PT	380495.77	1487235.89	N 56°22'30" E
	351+51.12	PC	380969.01	1487947.50	
	351+51.12	PC	380969.01	1487947.50	N 56°22'30" E
	372+83.18	PI	382149.65	1489722.82	
	388+32.24	PT	380814.56	1491385.11	

GENERAL NOTES

THE LEGAL RIGHT-OF-WAY LINES FOR LIMITED ACCESS, AS SHOWN ON THE SITE DEVELOPMENT PLANS, ARE FOR "INFORMATIONAL PURPOSES ONLY" AND HAVE NOT BEEN VERIFIED.

DETAILS, OTHER THAN THOSE INDICATED, ARE ON THE FOLLOWING STANDARD DRAWINGS:

RC-10M JUN 01, 2010
RC-11M JUN 01, 2010
RC-12M FEB 08, 2019
RC-13M JUN 01, 2010
RC-22M FEB 08, 2019
RC-25M FEB 08, 2019
RC-30M DEC 17, 2019
RC-50M FEB 19, 2021
RC-51M FEB 19, 2021
RC-54M DEC 17, 2019
RC-58M AUG 04, 2017
RC-81M JUN 01, 2010
RC-82M JUN 01, 2010
RC-84M JUN 01, 2010
ITS-1201 MAR 01, 2013

THREE WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR MUST CONTACT THE PA ONE CALL SYSTEM, INC., PHONE 1-800-242-1776,
SERIAL NO. ---------- FOR BEAVER TOWNSHIP,
SERIAL NO. ---------- FOR PAINT TOWNSHIP,
SERIAL NO. ---------- FOR MONROE TOWNSHIP.

HORIZONTAL CONTROL IS TIED TO PA STATE PLANE COORDINATE SYSTEM (NORTH ZONE), NORTH AMERICAN DATUM (NAD) 1983 (2011) ESTABLISHED BY GPS (OBSERVATION). AVERAGE COMBINED SCALE FACTOR: 1.000.

VERTICAL CONTROL IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) (GEOID 12B).

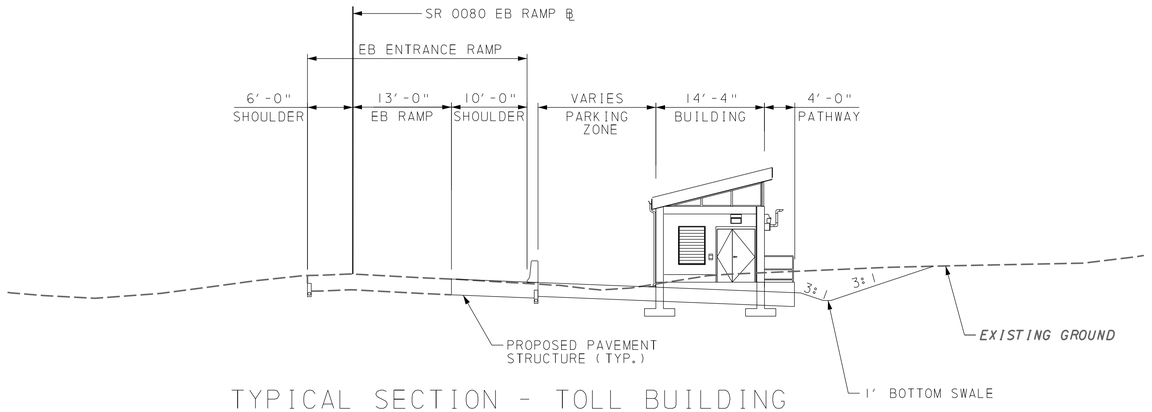
ALL CURVE DATA IS BASED ON THE ARC DEFINITION UNLESS OTHERWISE INDICATED.

BEARINGS ARE BASED ON GRID NORTH.

PRE-FINAL DESIGN SUBMISSION

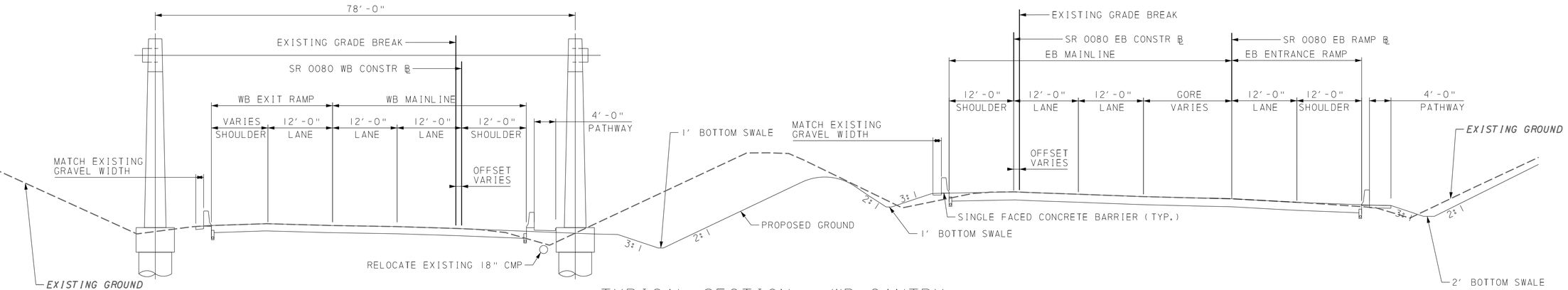
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



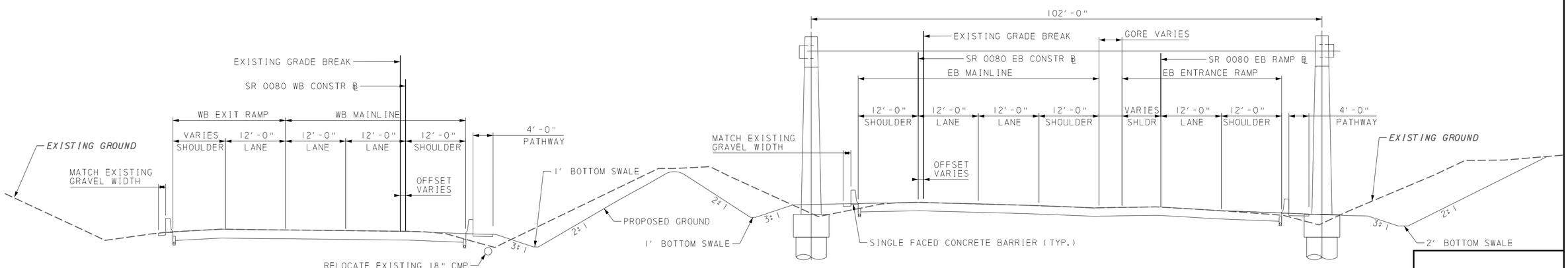
TYPICAL SECTION - TOLL BUILDING

NTS
EB RAMP STA 03+12 TO STA 04+59



TYPICAL SECTION - WB GANTRY

NTS
WB STA 349+37 TO STA 350+87



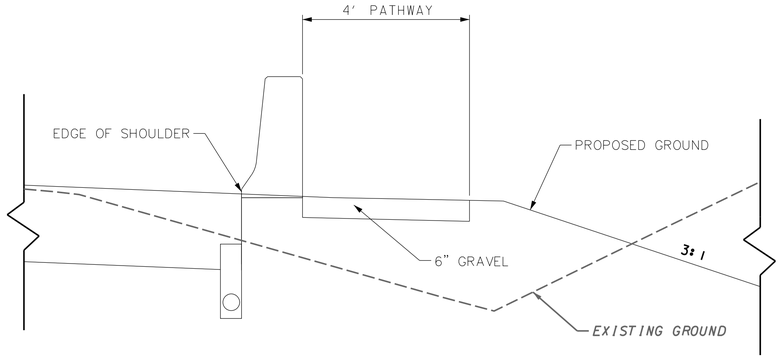
TYPICAL SECTION - EB GANTRY

NTS
EB STA 350+88 TO STA 352+38

PRE-FINAL DESIGN SUBMISSION

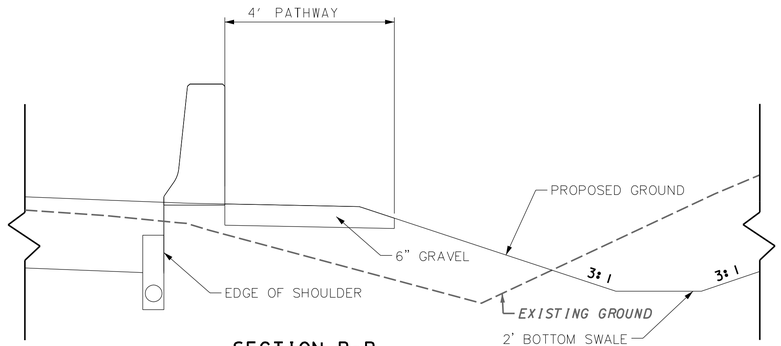
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	4 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



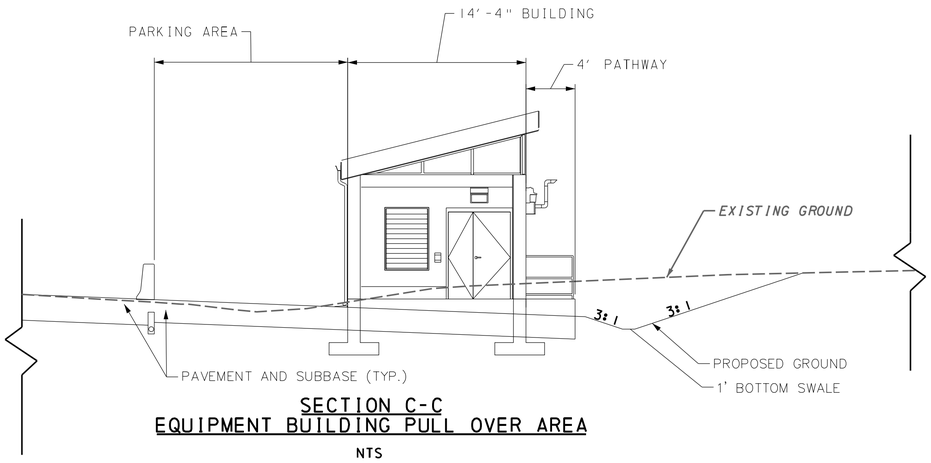
SECTION A-A
4' PATHWAY ADJACENT TO SR 0080 WB

NTS



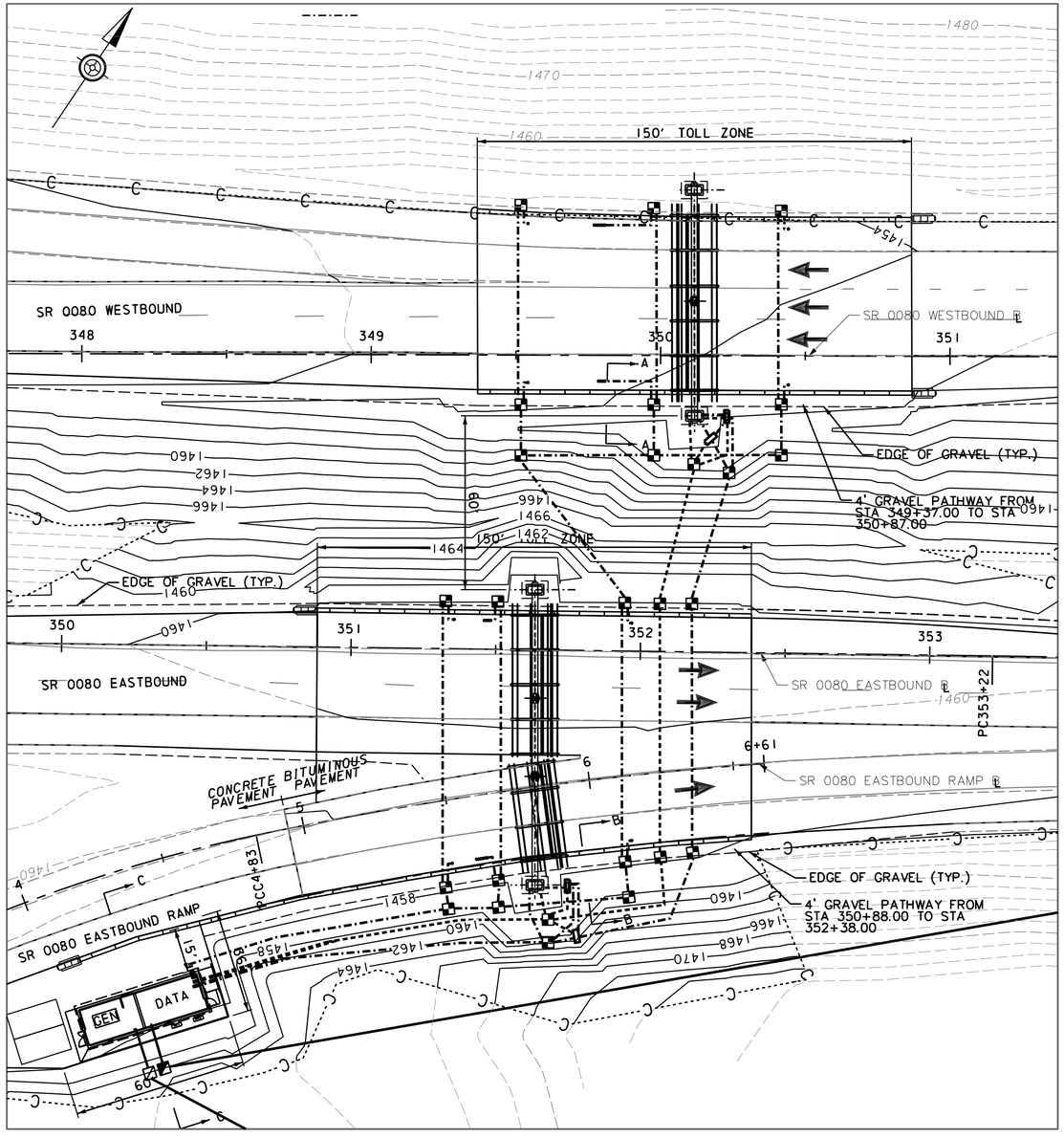
SECTION B-B
4' PATHWAY ADJACENT TO SR 0080 EB

NTS



SECTION C-C
EQUIPMENT BUILDING PULL OVER AREA

NTS



PLAN
NTS

SPECIAL DETAILS

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	5 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

D

DATA

SR 0080 EASTBOUND ON RAMP

SR 0080 EASTBOUND

SR 0080 WESTBOUND

(8) 3"
(6) 3"
(6) 3"
(1) 3"
(5) 3"
(1) 3"
(6) 1 1/2" STUB-UPS
(1) 1 1/2" STUB-UP
(4) 1 1/2" STUB-UPS
(1) 3"
(4) 3"
(2) 3"
(4) 3"
(1) 3"
(4) 3"
(2) 3"
(2) 3"
(1) 3"
(4) 3"
(4) 3"
(4) 3"
(1) 1 1/2" STUB-UP
(3) 3"
(1) 1 1/2" STUB-UP
(3) 3"
(4) 3"
(4) 3"
(1) 3"
(1) 3"
(1) 1 1/2" STUB-UP
(2) 3"
(4) 1 1/2" STUB-UPS
(3) 3"

5
351
6
352
349

1462 1458 1460 1464 1466 1468 1470 1460 1450 1460 1462 1464 1466 1460 1458 1456 1454 1452 1456

LEGEND

- JUNCTION BOX JB-II (MODIFIED)
- JUNCTION BOX JB-I (MODIFIED)
- JUNCTION BOX JB-2 (MODIFIED)
- READER PAD
- NETWORK APPLIANCE CABINET
- CONDUIT STUB-UP
- TOLL/GANTRY POWER CONDUIT
- TOLL/GANTRY COMMUNICATIONS CONDUIT
- ELECTRICAL/FIBER CONDUIT (PROPOSED)

NOTES:
1. GANTRY COLUMN HEIGHT ASSUMED TO BE APPROXIAMETLY 25 FEET.

SCALE
0 10 20 FEET

SPECIAL DETAILS
CONDUIT PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	6 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

D

SR 0080 EASTBOUND

SR 0080 WESTBOUND

(1) 3"

(1) 1 1/2" STUB-UP

(4) 1 1/2" STUB-UPS

(3) 3"

(2) 3"

(4) 3"

(6) 1 1/2" STUB-UPS

PW-16A FROM (GIS-HDR)

PW-16A FROM (AERIAL)

352

353

350

351

LEGEND

- JUNCTION BOX JB-II (MODIFIED)
- JUNCTION BOX JB-I (MODIFIED)
- JUNCTION BOX JB-2 (MODIFIED)
- READER PAD
- NETWORK APPLIANCE CABINET
- CONDUIT STUB-UP
- TOLL/GANTRY POWER CONDUIT
- TOLL/GANTRY COMMUNICATIONS CONDUIT
- ELECTRICAL/FIBER CONDUIT (PROPOSED)

NOTES:
1. GANTRY COLUMN HEIGHT ASSUMED TO BE APPROXIAMETLY 25 FEET.

SCALE

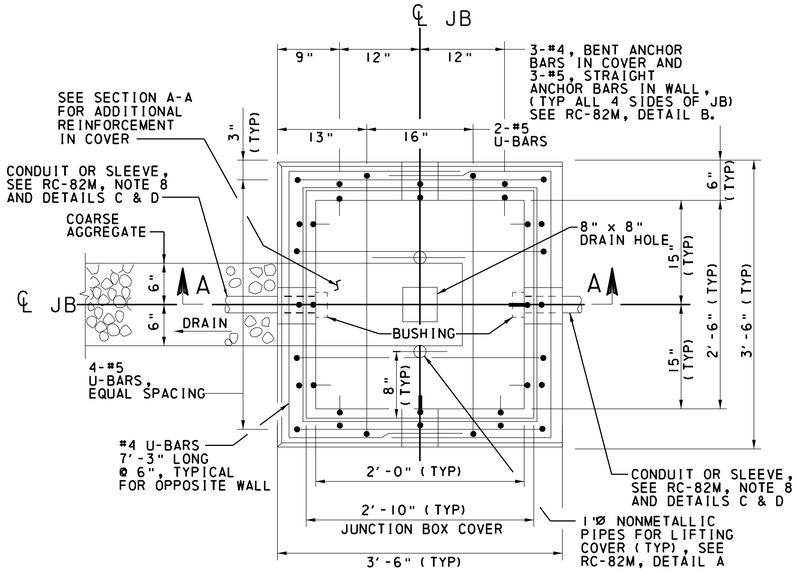
0 10 20 FEET

SPECIAL DETAILS
CONDUIT PLAN

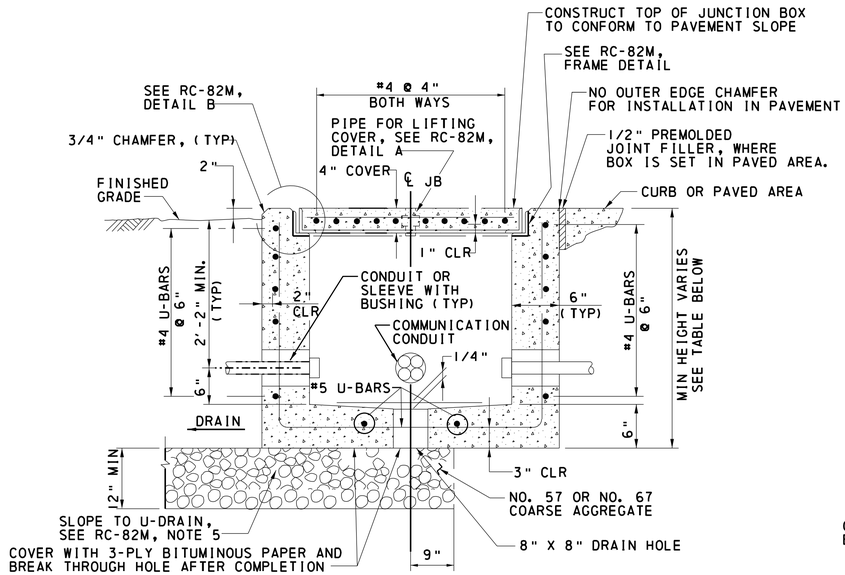
PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	7 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

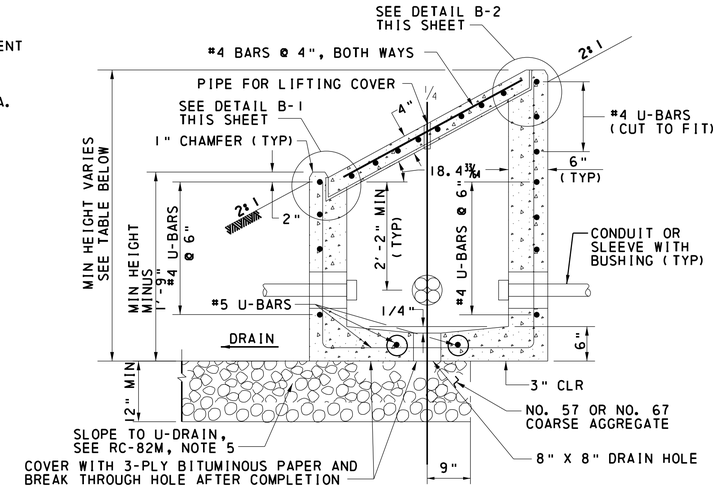
REVISION NUMBER	REVISIONS	DATE	BY



PLAN (BOTH CONDITIONS)



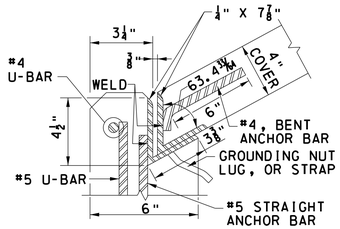
SECTION A-A (FLAT CONDITION)



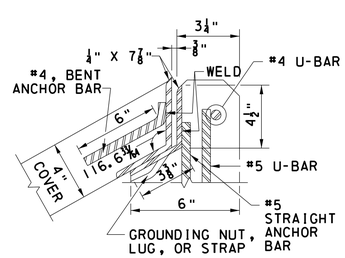
SECTION A-A (SLOPED CONDITION)

JUNCTION BOXES JB-11, FLAT CONDITION

NTS



DETAIL B-1
COVER FRAME AND SUPPORTING FRAME



DETAIL B-2
COVER FRAME AND SUPPORTING FRAME

JUNCTION BOXES JB-11, SLOPED CONDITION

NTS

JUNCTION BOX NOTES (BOTH CONDITIONS):

IF CONDITIONS ARE NOT CONDUCIVE FOR OUTLETTING THE DRAIN, THEN CONSTRUCT A 1' DEEP BY 2' SQUARE SUMP (SIDES CAN BE CONICAL), CENTERED ABOUT THE DRAIN HOLE AND FILL WITH COMPACTED NO. 57 OR NO. 67 COARSE AGGREGATE.

DRAIN LOCATION TO BE DETERMINED BY FIELD CONDITIONS.

CONDUIT SLEEVE (5"), SIZE OF OPENING TO BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION; NUMBER AND POSITION OF OPENING TO MATCH THE PLAN LOCATIONS. SEE RC-82M, NOTE 8.

PROVIDE STEPS WHEN THE DEPTH BETWEEN THE TOP CENTER ELEVATION OF THE JUNCTION BOX AND THE TOP OF THE BOTTOM SLAB ELEVATION IS GREATER THAN 5'-0". PROVIDE STEPS IN ACCORDANCE WITH RC-46M, SHEET 1 OF 34, GENERAL NOTE 14.

SEE RC-82M FOR DETAILS & NOTES NOT SHOWN.

SPECIAL DETAILS

PRE-FINAL DESIGN SUBMISSION

CONSTRUCTION NOTES

1. NOT USED
2. INSTALL ELECTRICAL CABLE IN NEW CONDUIT.
3. INSTALL NEW ELECTRICAL/COMMUNICATIONS CONDUIT IN UNPAVED AREA.
4. INSTALL 240/480V ELECTRICAL SERVICE.
5. 240/480V UTILITY SERVICE.
6. PROPOSED AT&T COMMUNICATION SERVICE.
7. INSTALL STEP DOWN TRANSFORMER

CONDUIT

(A) 2" DIRECT BURIAL CONDUIT HDPE

(B) 3" DIRECT BURIAL CONDUIT HDPE

SYMBOL LEGEND

- ELECTRICAL/FIBER CONDUIT (PROPOSED)
- JB-1 (PROPOSED)
- JB-2 (PROPOSED)
- POWER SUPPLY (PROPOSED)
- UTILITY POLE (PROPOSED)
- TOLL/GANTRY POWER CONDUIT
- TOLL/GANTRY COMMUNICATIONS CONDUIT

CABLE

1. 2-#2/0 AWG
2. CABLE PROVIDED AND INSTALLED BY AT&T

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	8 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

PC 2+60

PC 1+18

GEN

DATA

LEGAL R/W LINE FOR LIMITED ACCESS

LEGAL R/W LINE

LEGAL R/W LINE FOR LIMITED ACCESS

LEGAL RIGHT LINE LIMIT

PENNDOT WEIGH STATION FACILITY

MCCOY JASON ET AL
PARCEL# 02-010-057-000-00
DBV 629 PG 1135

EXISTING CENTRAL ELECTRIC UTILITY POLE

SCALE

0 25 50 FEET

SITE DEVELOPMENT PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	9 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

CONSTRUCTION NOTES

1. NOT USED
2. INSTALL ELECTRICAL CABLE IN NEW CONDUIT.
3. INSTALL NEW ELECTRICAL/COMMUNICATIONS CONDUIT IN UNPAVED AREA.
4. INSTALL 240/480V ELECTRICAL SERVICE.
5. 240/480V UTILITY SERVICE.
6. PROPOSED AT&T COMMUNICATION SERVICE.
7. INSTALL STEP DOWN TRANSFORMER

CONDUIT

- (A) 2" DIRECT BURIAL CONDUIT HDPE
- (B) 3" DIRECT BURIAL CONDUIT HDPE

SYMBOL LEGEND

- ELECTRICAL/FIBER CONDUIT (PROPOSED)
- JB-1 (PROPOSED)
- JB-2 (PROPOSED)
- POWER SUPPLY (PROPOSED)
- UTILITY POLE (PROPOSED)
- TOLL/GANTRY POWER CONDUIT
- TOLL/GANTRY COMMUNICATIONS CONDUIT

CABLE

1. 2-#2/0 AWG
2. CABLE PROVIDED AND INSTALLED BY AT&T

FENCE LINE

BEGIN FULL DEPTH ASPHALT SHOULDER PAVEMENT STA 345+17.00

REPLACE EXISTING SHOULDER PAVMENT WITH FULL DEPTH ASPHALT PAVEMENT FROM STA 345+17.00 TO STA 349+37.00

TREE LINE

DEL

EDGE OF PAVE

NO TRESPASSING

EDGE OF GRAVEL

SR0080 WESTBOUND OFF RAMP TO WEIGH STATION

TRAV #35

WEIGH STATION REFLECTORS

SR0080 WESTBOUND

340 341 342 PT 342+97 343 344 345 346 347

CONSTRUCTION ℄ SR 0080 WESTBOUND

EDGE OF GRAVEL (TYP.)

BEGIN FULL DEPTH ASPHALT SHOULDER PAVEMENT STA 346+68.00

CONSTRUCTION ℄ SR 0080 EASTBOUND

TOG 1455.7+
INV 1452.7' N
INV 1452.6' S

18" RCP

SR0080 EASTBOUND

342 343 344 345 BVT 345+99 346 347 348 349

TRAV #27

MERGING LANES

REPLACE EXISTING SHOULDER PAVEMENT WITH FULL DEPTH ASPHALT PAVEMENT FROM STA 346+68.00 TO STA 350+88.00

INV 1451.8'

NO PARK

BEGIN FULL DEPTH ASPHALT SHOULDER PAVEMENT

TRAV #124

PI 0+90

SR0080 EASTBOUND ON RAMP FROM WEIGH STATION

TO I-80

PCI 1+18

EB RAMP
CONSTR ℄
PI STA 0+433.08
DELTA = 10°30'30"RT
L = 100.73'
T = 50.51'
R = 549.23'
E = 2.32'
PC STA 0+382.57
PCC STA 0+483.30

TOG 1458.6
INV 1459.9

SCALE

0 25 50 FEET

SITE DEVELOPMENT PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	10 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

CONSTRUCTION NOTES

1. NOT USED
2. INSTALL ELECTRICAL CABLE IN NEW CONDUIT.
3. INSTALL NEW ELECTRICAL/COMMUNICATIONS CONDUIT IN UNPAVED AREA.
4. INSTALL 240/480V ELECTRICAL SERVICE.
5. 240/480V UTILITY SERVICE.
6. PROPOSED AT&T COMMUNICATION SERVICE.
7. INSTALL STEP DOWN TRANSFORMER

CONDUIT

A. 2" DIRECT BURIAL CONDUIT HDPE
B. 3" DIRECT BURIAL CONDUIT HDPE

SYMBOL LEGEND

- ELECTRICAL/FIBER CONDUIT (PROPOSED)
- JB-1 (PROPOSED)
- JB-2 (PROPOSED)
- POWER SUPPLY (PROPOSED)
- UTILITY POLE (PROPOSED)
- TOLL/GANTRY POWER CONDUIT
- TOLL/GANTRY COMMUNICATIONS CONDUIT

CABLE

1. 2-#2/0 AWG
2. CABLE PROVIDED AND INSTALLED BY AT&T

REPLACE EXISTING SHOULDER PAVMENT WITH FULL DEPTH ASPHALT PAVEMENT FROM STA 345+17.00 TO STA 349+37.00

REPLACE EXISTING SHOULDER PAVMENT WITH FULL DEPTH ASPHALT PAVEMENT FROM STA 347+47.00 TO STA 349+37.00

SINGLE FACE CONCRETE BARRIER END TRANSITION NORTHING: 1487741.6635 EASTING: 380890.9803

2" MILLING AND INLAY FROM STA 348+87.00 TO 349+37.00 SEE NOTE 1.

SINGLE FACE CONCRETE BARRIER END TRANSITION NORTHING: 1487775.5548 EASTING: 380840.6164

SR0080/WESTBOUND OFF RAMP TO WEIGH STATION

SR0080 WESTBOUND

REPLACE CB AND RAISE TOG ELEVATION TO 1453.5

INSTALL PERMANENT SINGLE FACE CONCRETE BARRIER FROM STA 349+37.00 TO STA 350+87.00

REPLACE FULL DEPTH ASPHALT PAVEMENT FROM STA 349+37.00 TO STA 350+87.00

150' TOLL ZONE

INSTALL GANTRY 90° FROM BASELINE

PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, TANGENT (MASH) MODIFIED NORTHING: 1487867.8977 EASTING: 380971.9443

2" MILLING AND INLAY FROM STA 350+87.00 TO STA 351+37.00. SEE NOTE 1.

PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, TANGENT (MASH) MODIFIED NORTHING: 1487900.5857 EASTING: 380923.6575

WEIGH STATION NEXT RIGHT

SR80 561

280' SHOULDER TAPER

CONSTRUCTION ℄ SR 0080 WESTBOUND

EDGE OF GRAVEL (TYP.)

PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, TANGENT (MASH) MODIFIED NORTHING: 1487772.3108 EASTING: 380745.8094

RELOCATE EXISTING 18" CMP

4' GRAVEL PATHWAY FROM STA 349+37.00 TO STA 350+87.00

INSTALL PERMANENT SINGLE FACE CONCRETE BARRIER FROM STA 350+88.00 TO STA 352+38.00

REPLACE EXISTING SHOULDER PAVEMENT WITH FULL DEPTH ASPHALT PAVEMENT FROM STA 350+87.00 TO STA 355+07.00

CONSTRUCTION ℄ SR 0080 EASTBOUND

INSTALL GANTRY 90° FROM BASELINE

150' TOLL ZONE

SINGLE FACE CONCRETE BARRIER END TRANSITION NORTHING: 1487898.1065 EASTING: 380827.5960

REPLACE EXISTING SHOULDER PAVEMENT WITH FULL DEPTH ASPHALT PAVEMENT FROM STA 352+38.00 TO STA 356+58.00

280' SHOULDER TAPER

2" MILLING AND INLAY FROM STA 350+88.00 TO STA 350+38.00. SEE NOTE 1.

70' SHOULDER TAPER

REPLACE EXISTING SHOULDER PAVEMENT WITH FULL DEPTH ASPHALT PAVEMENT FROM STA 346+68.00 TO STA 350+88.00

REPLACE CB AND RAISE TOG ELEVATION TO 1457.5

PERMANENT SINGLE FACE CONCRETE BARRIER NORTHING: 1487797.9454 EASTING: 380634.1350

CONCRETE BITUMINOUS PAVEMENT

SR0080 EASTBOUND ON RAMP FROM WEIGH STATION

SR0080 EASTBOUND

PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, TANGENT (MASH) MODIFIED NORTHING: 1487770.994 EASTING: 380600.364

BEGIN FULL DEPTH ASPHALT SHOULDER PAVEMENT STA 3+11.00

2" MILLING AND INLAY FROM STA 352+38.00 TO STA 352+88.00 SEE NOTE 1.

SINGLE FACE CONCRETE BARRIER END TRANSITION NORTHING: 1487941.871 EASTING: 380762.472

END FULL DEPTH ASPHALT SHOULDER PAVEMENT STA 355+30.00

4' GRAVEL PATHWAY FROM STA 350+88.00 TO STA 352+38.00

REPLACE FULL DEPTH ASPHALT PAVEMENT FROM STA 350+88.00 TO STA 352+38.00

INSTALL GANTRY 90° FROM EB BASELINE

RELOCATE EXISTING LIGHT POLE AS NEEDED

NORTHING: 1487824.7405 EASTING: 380612.4858 SEE UTILITY BUILDING ELECTRICAL PLANS

18X9 PARKING SPACES

18X9 PARKING SPACES

NORTHING: 1487787.0733 EASTING: 380565.8651

EB RAMP
CONSTR ℄
PI STA 0+433.08
DELTA = 10°30'30"RT
L = 100.73'
T = 50.51'
R = 549.23'
E = 2.32'
PC STA 0+382.57
PCC STA 0+483.30

EB RAMP
CONSTR ℄
PI STA 0+572.14
DELTA = 7°50'03"RT
L = 177.40'
T = 88.84'
R = 1297.40'
E = 3.04'
PCC STA 0+483.30
PT STA 0+660.70

SCALE

0 25 50 FEET

FOR SR 0080 PROFILES, SEE SHEETS 12, 13 AND 14

NOTE

1. MILL AND INLAY 50' TO PROVIDE TRANSITION INTO AND FROM TOLL ZONE. INLAY WEARING COURSE SHALL BE SAME AS TOLL ZONE WEARING COURSE. TACK COAT SHALL BE PLACED BETWEEN WEARING COURSE AND MILLED SURFACE.

SITE DEVELOPMENT PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	11 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SR 0080 WESTBOUND

SR 0080 EASTBOUND

SR 2007

END FULL DEPTH ASPHALT SHOULDER PAVEMENT STA 355+07.00

END FULL DEPTH ASPHALT SHOULDER PAVEMENT STA 356+58.00

LEGAL RIGHT-OF-WAY LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

LEGAL RIGHT-OF-WAY LINE

CONSTRUCTION NOTES

1. NOT USED.
2. INSTALL ELECTRICAL CABLE IN NEW CONDUIT.
3. INSTALL NEW ELECTRICAL/COMMUNICATIONS CONDUIT IN UNPAVED AREA.
4. INSTALL 240/480V ELECTRICAL SERVICE.
5. 240/480V UTILITY SERVICE.
6. PROPOSED AT&T COMMUNICATION SERVICE.
7. INSTALL STEP DOWN TRANSFORMER.

CONDUIT

- (A) 2" DIRECT BURIAL CONDUIT HDPE
- (B) 3" DIRECT BURIAL CONDUIT HDPE

SYMBOL LEGEND

- ELECTRICAL/FIBER CONDUIT (PROPOSED)
- JB-1 (PROPOSED)
- JB-2 (PROPOSED)
- POWER SUPPLY (PROPOSED)
- UTILITY POLE (PROPOSED)
- TOLL/GANTRY POWER CONDUIT
- TOLL/GANTRY COMMUNICATIONS CONDUIT

CABLE

1. 2-#2/0 AWG
2. CABLE PROVIDED AND INSTALLED BY AT&T

SCALE

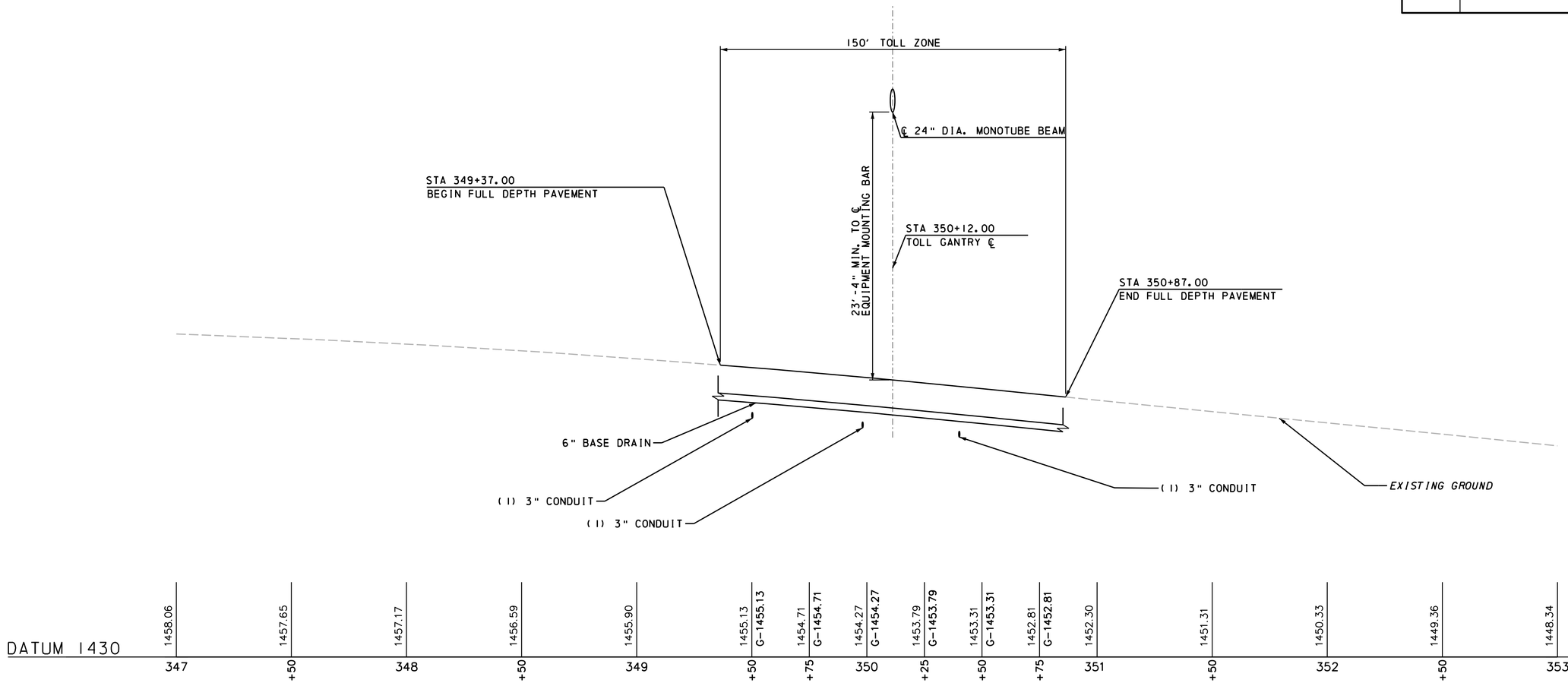
0 25 50 FEET

SITE DEVELOPMENT PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	12 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



CONSTR ℄ PROFILE - SR 0080 WB

SCALE

HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

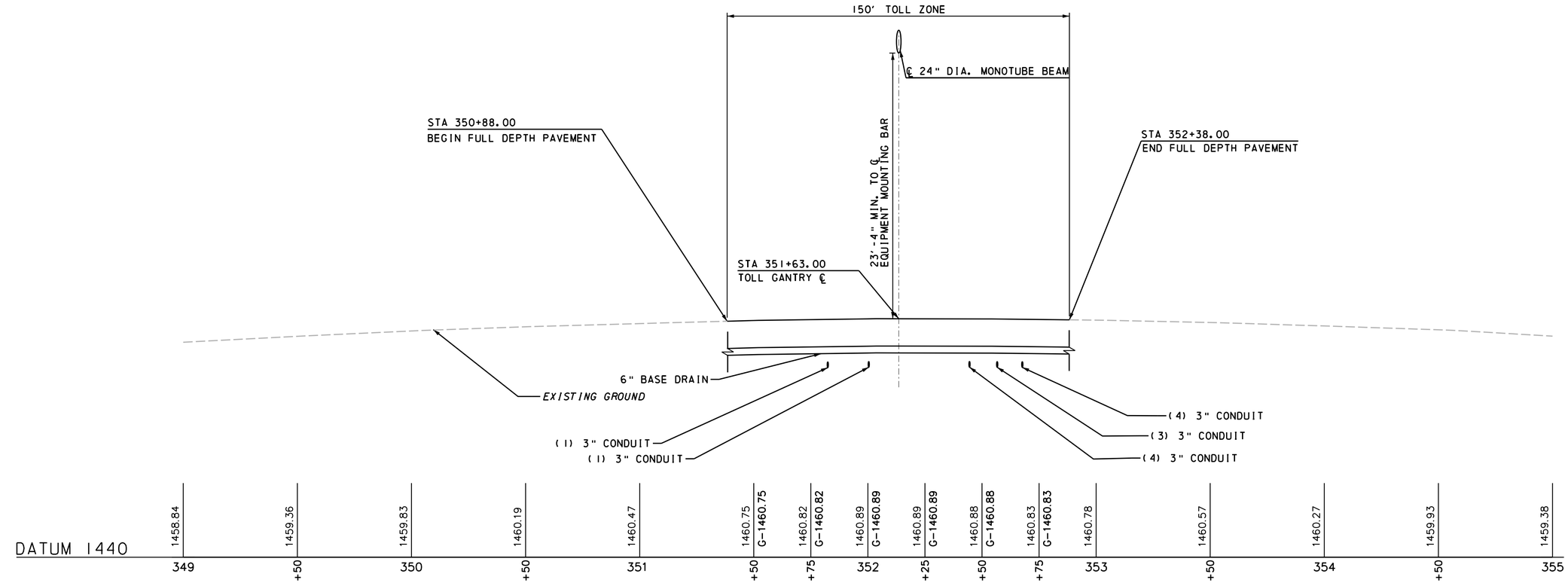
PROFILE - WB

FOR SR 0080 PLAN, SEE SHEET 10

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	13 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



CONSTR ℄ PROFILE - SR 0080 EB

SCALE

HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

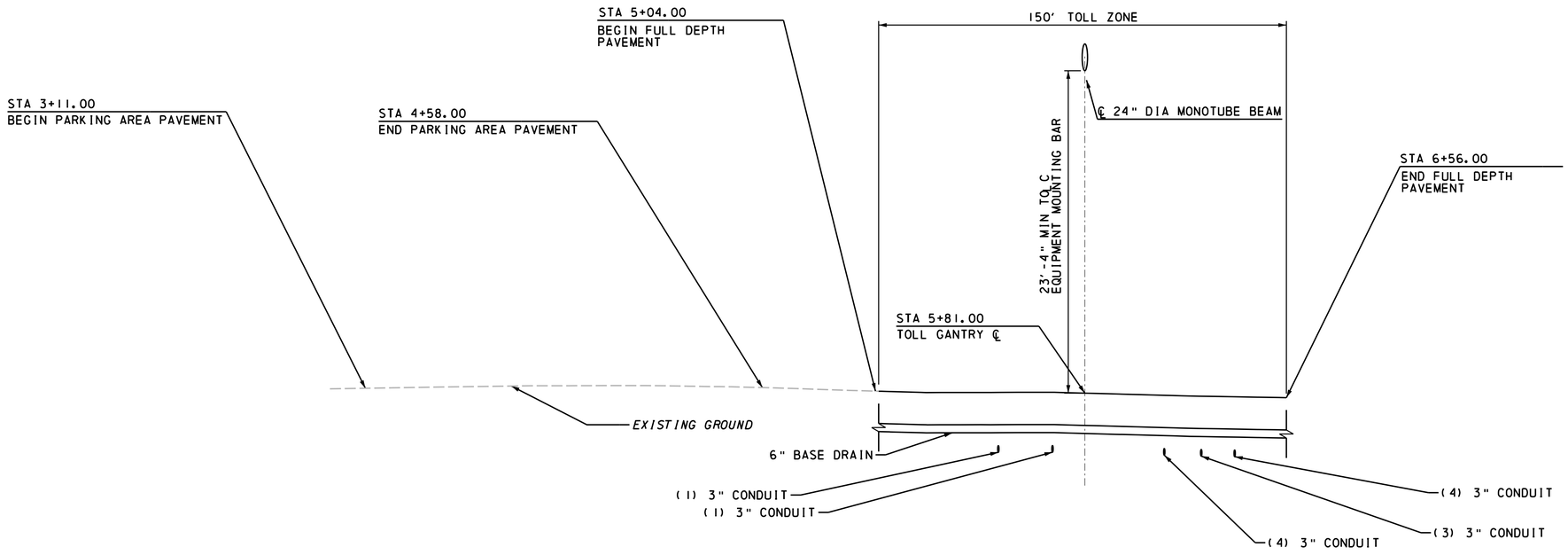
PROFILE - EB

FOR SR 0080 PLAN, SEE SHEET 10

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	14 OF 14
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



CONSTR ℄ PROFILE - SR 0080 EB RAMP

SCALE

HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

PROFILE - EB RAMP

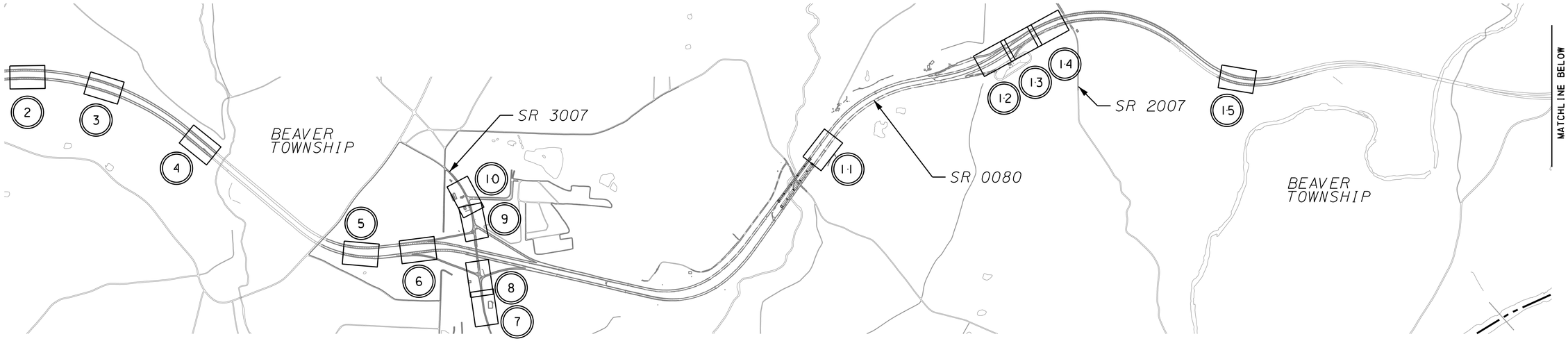
FOR SR 0080 PLAN, SEE SHEET 10

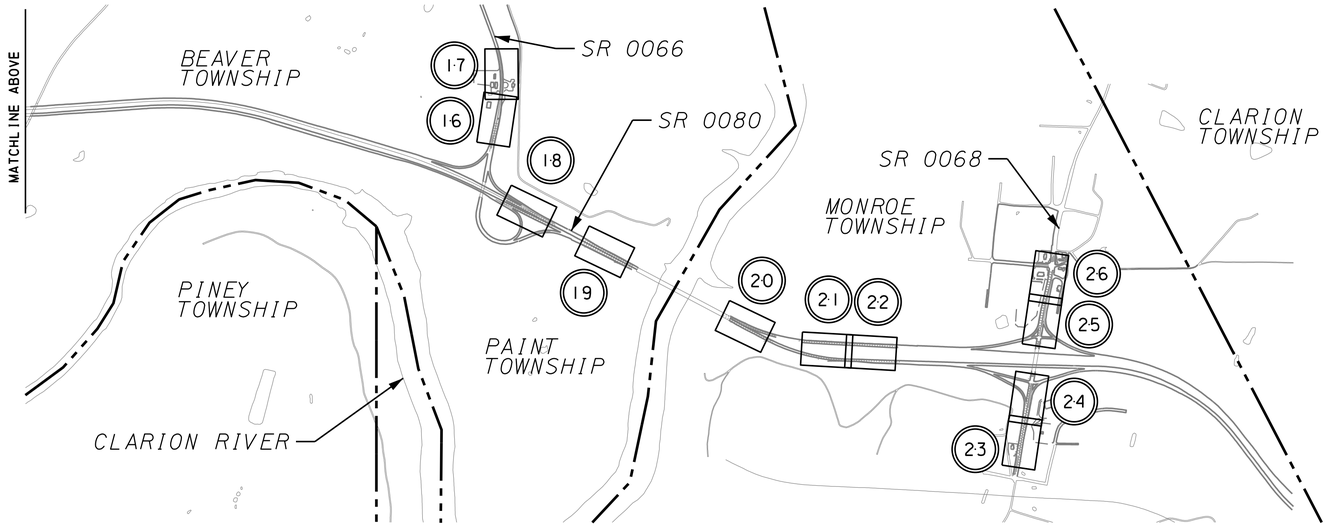
PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	1 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

BRIDGE OPEN ROAD TOLLING
SIGNING AND PAVEMENT MARKING





Toll Facility plans are being updated. Decision has been made to toll in eastbound direction only. The P3 Development Entity will construct tolling gantry over eastbound lanes only.

DETAILS, OTHER THAN THOSE INDICATED, ARE ON THE FOLLOWING STANDARD DRAWINGS:

BD-641M	AUG. 4, 2017
BD-643M	AUG. 4, 2017
BD-644M	AUG. 4, 2017
BD-645M	AUG. 4, 2017
BD-647M	AUG. 4, 2017
RC-51M	FEB. 19, 2021
RC-53M	FEB. 19, 2021
RC-57M	JUNE 1, 2010
RC-58M	AUG. 4, 2017
TC-8600	JUNE 13, 2013
TC-8604	AUG. 17, 2021
TC-8700C	JUNE 13, 2013
TC-8701A	JUNE 13, 2013
TC-8701D	JUNE 13, 2013
TC-8701E	JUNE 13, 2013
TC-8701S	JUNE 13, 2013
TC-8702A	JUNE 13, 2013
TC-8702B	JUNE 13, 2013
TC-8702C	JUNE 13, 2013
TC-8702D	JUNE 13, 2013
TC-8702E	JUNE 13, 2013

GENERAL NOTES

PERFORM CLEARING AND GRUBBING OF VEGETATION, AS REQUIRED, FOR PROPOSED SIGN INSTALLATIONS AND TO PROVIDE CLEAR LINES OF SIGHT TO ALL SIGNS.

VERIFY EXISTING SIGN DIMENSIONS PRIOR TO FABRICATION OF PROPOSED PLAQUES. VERIFY ALL SIGNS AND SIGN POST TYPES. DESIGN ALL NEW SIGNS AND POSTINGS IN ACCORDANCE WITH PUBLICATION 111.

VERIFY RIGHT-OF-WAY LINES PRIOR TO PLACEMENT OF SIGNS.

DESIGN ALL PROPOSED SIGNS PER THE SIGN FABRICATION DETAILS PRESENTED IN THIS PLAN SET UNLESS REVISED/ DIRECTED BY PENNDOT.

FOR PROPOSED SIGN PLAQUE ADDITIONS TO EXISTING OVERHEAD SIGN STRUCTURES, VERIFY THE DESIGN IS IN ACCORDANCE WITH BD-600M AND, IF NOT, MODIFY ACCORDINGLY.

THESE PLANS DEPICT THE SIGNING AND PAVEMENT MARKINGS NECESSARY FOR THE INITIAL TOLL FACILITY SETUP. INCORPORATE THE RELOCATION OF SIGNS DURING BRIDGE CONSTRUCTION AND AFTER BRIDGE CONSTRUCTION IS COMPLETE WITH THE FINAL TRAFFIC CONTROL DESIGN AND FINAL SIGNING PLAN DESIGN.

UTILITY NOTES

EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CORRECTNESS AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED.

THE CONTRACTOR SHALL VERIFY THE INFORMATION AND TAKE ALL PRECAUTIONS TO FULLY PROTECT THE UTILITY AND SERVICE.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL OVERHEAD LINES, NOTIFY THE UTILITY COMPANY AND COMPLY WITH THE APPLICABLE FACILITY OWNER'S SAFETY CLEARANCE REQUIREMENTS WHEN WORKING IN THE AREA OF THEIR FACILITIES/UTILITIES.

SHEET INDEX

SCALE

0 1200 2400 FEET

INDEX MAP AND GENERAL NOTES

RECOMMENDED _____ 20 ____

_____
DISTRICT TRAFFIC ENGINEER

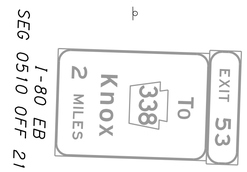
PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	2 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

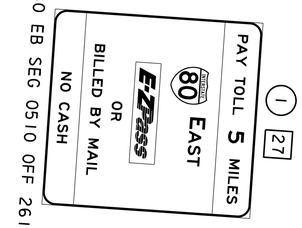
REVISION NUMBER	REVISIONS	DATE	BY

SR 0080 WESTBOUND

SR 0080 EASTBOUND



I-80 EB
SEG 0510 OFF 2115



I-80 EB SEG 0510 OFF 2618

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	3 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SR 0080 WESTBOUND

SR 0080 EASTBOUND

MILEPOST 51.8 SIGN

CAMPING EXIT 53 SIGN

I-80 EB SEG 0514 OFF 1285

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	4 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

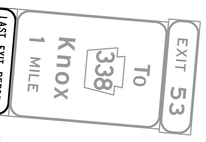
REVISION NUMBER	REVISIONS	DATE	BY

SR 0080 WESTBOUND

SR 0080 EASTBOUND

SEG 0520 OFF I418
ADD PLAQUE TO
EXISTING SIGN

I-80 EB



3
27

LEGEND

(2)	SIGN NUMBER
[2]	PLAN SHEET NUMBER - SIGN DETAIL
	EXISTING GROUND MOUNTED SIGN
	PROPOSED GROUND MOUNTED SIGN
	EXISTING OVERHEAD SIGN
	PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	5 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SR 0080 WESTBOUND

SR 0080 EASTBOUND

I-80 EB
SEG 0530 OFF 0667
ADD PLAQUE TO
EXISTING SIGN

LAST EXIT BEFORE BRIDGE TOLL

Knox

To 338

EXIT 53

4

27

LEGAL RIGHT-OF-WAY LINE

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	6 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SR 8004 RAMP B

SR 0080 WESTBOUND

SR 0080 EASTBOUND

I-80 EB SEG 0530 OFF 1676

EXIT 53

SR 8004 RAMP A

LEGAL RIGHT-OF-WAY LINE

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	7 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

DEVELOPMENT ENTITY TO VERIFY EXISTING WINDSTREAM COPPER EARTHLINK FIBER UTILITY LINE, AND DESIGN ACCORDINGLY

SR 3007

SR 3007
SEG 0080
OFF 1864

JCT 80

SR 3007
SEG 0080 OFF 2006

(15) 30

80 EAST TOLL BRIDGE

E-ZPass

OR
BILLED BY MAIL
NO CASH

SR 3007
SEG 0080
OFF 2133
ADD PLAQUE
TO EXISTING
SIGNS

80 WEST TOLL BRIDGE 80 EAST TOLL BRIDGE

SP-1
24"X18"

SR 3007
SEG 0080 OFF 2327

(16) 30

80 EAST TOLL BRIDGE

PASSENGER CARS

E-ZPass $X.XX

BILLED BY MAIL $X.XX
HIGHER TOLL FOR
OTHER CLASSES

SEE SHEET 8 OF 30

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	8 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 7 OF 30

LEGAL RIGHT-OF-WAY LINE

LEGAL RIGHT-OF-WAY LINE

SR 8004 RAMP A

LEGAL RIGHT-OF-WAY LINE

SR 3007

SR 3007
SEG 0090
OFF 0288
ADD PLAQUE
TO EXISTING
SIGNS

SP-1
24"X18"

LEGAL
RIGHT-OF-WAY
LINE

LEGAL RIGHT-OF-WAY LINE

SR 8004 RAMP D

M3-2-1
24X12
M1-1
24X24
M6-1-1
21X15

SP-1
24"X18"

SR 3007
SEG 0090
OFF 0437
REPLACE
EXISTING SIGNS
ADD PLAQUE

SP-1
24"X18"

SR 3007
SEG 0090
OFF 0631
RECONFIGURE
EXISTING SIGNS
ADD PLAQUE

LEGAL RIGHT-OF-WAY LINE

LEGAL RIGHT-OF-WAY LINE

LEGAL RIGHT-OF-WAY LINE

LEGAL

(2)	SIGN NUMBER
[2]	PLAN SHEET NUMBER - SIGN DETAIL
	EXISTING GROUND MOUNTED SIGN
	PROPOSED GROUND MOUNTED SIGN
	EXISTING OVERHEAD SIGN
	PROPOSED OVERHEAD SIGN

SCALE

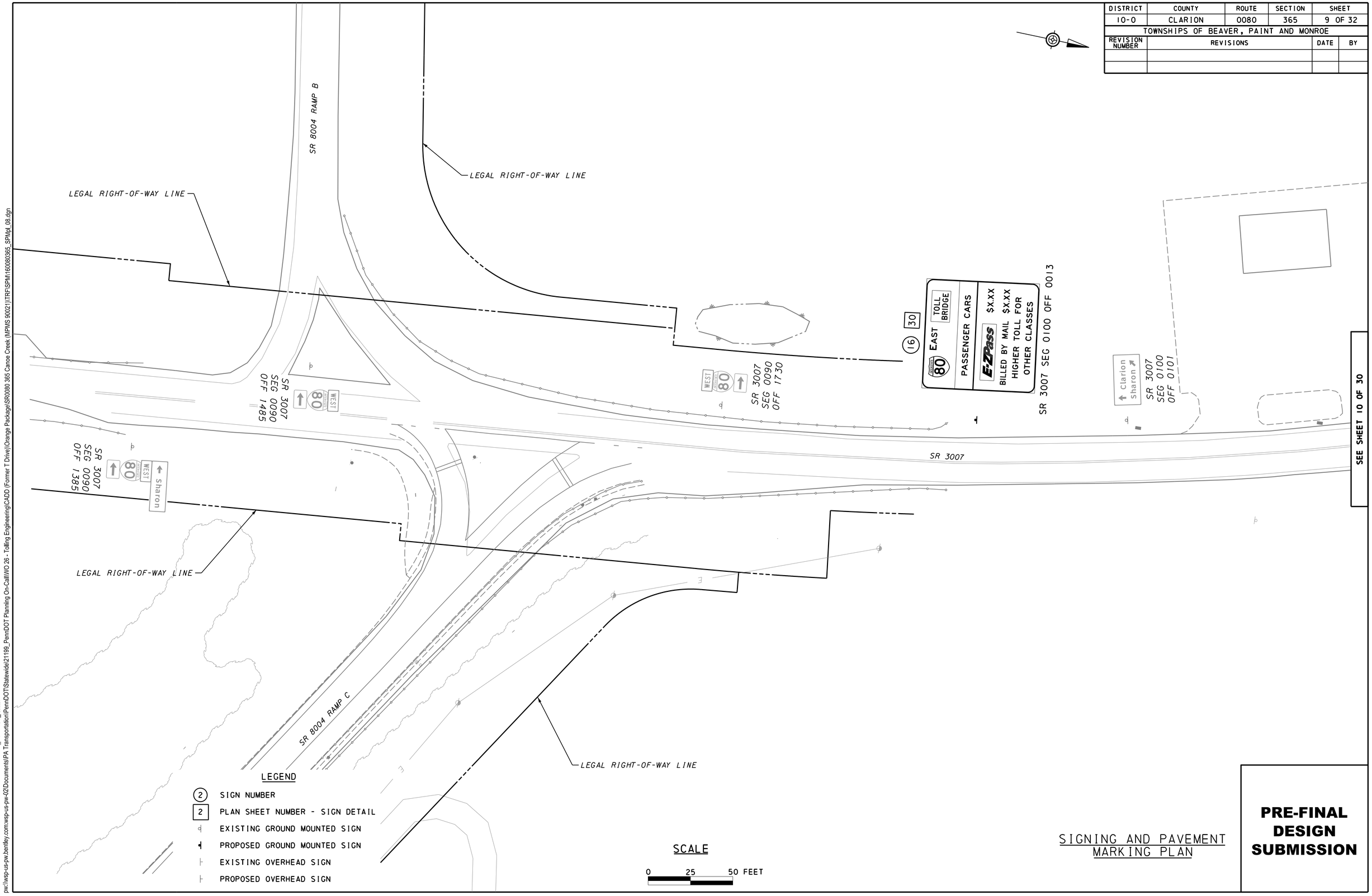
0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	9 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

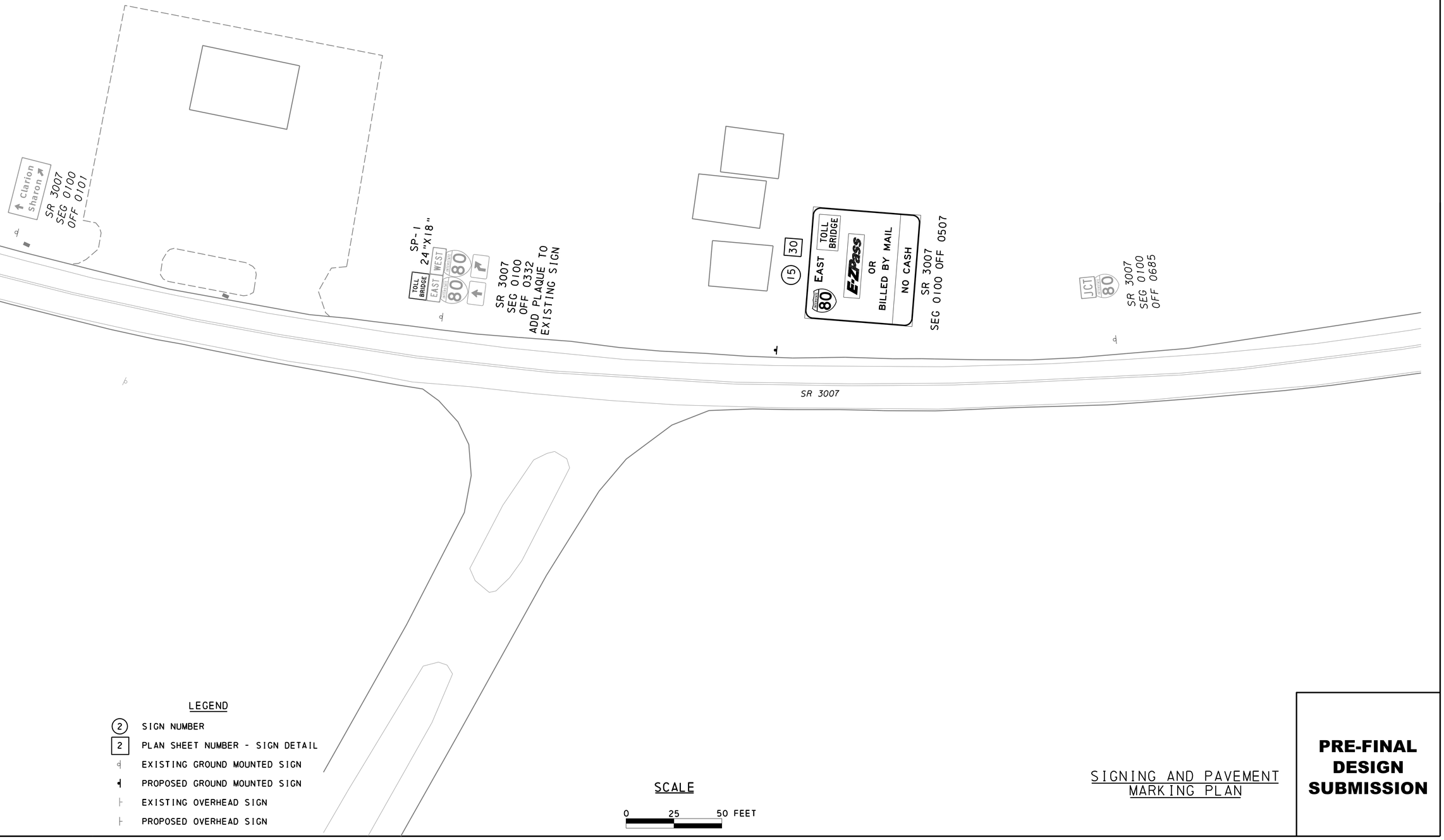
SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	10 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 9 OF 30



LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	11 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

LEGAL RIGHT-OF-RIGHT LINE

18" CMP
TOP=1291.76

18" PIPE

DENSE WOODS

PIPE

STEEP SLOPE

GRAVEL SHOULDER

18" CMP
TOP=1329.48

GRASS

INLET
TG=13
INV I
INV O

18" RCP

APPROACH

CONC

CRP

ASPHALT

SR 0080 WESTBOUND

INTERSTATE 80

ASPHALT

GRAVEL SHOULDER

INLET
TG=1337.62
INV IN=1335.47
INV OUT=1334.52

SR 0080 WESTBOUND
WIDENING
(BY OTHERS)

INLET
TG=134
INV IN
INV OU

18" RCP

INLET
TG=1323.34
INV =1320.26

SR 0080 EASTBOUND
FUTURE RELOCATION
(BY OTHERS)

FENCE AROUND
ANTENNA AND
ELECTRIC VAULT

GRASS

INLET
TG=1348.29
INV IN=1343.42
INV OUT=1342.82

18" RCP

GRAVEL SHOULDER

SR 0080 EASTBOUND

INTERSTATE 80

ASPHALT

ASPHALT

18" RCP

18" PIPE

GRAVEL SHOULDER

GRASS

INLET
TG=1347.74
INV IN=1345.39
INV OUT=1343.79

NO PARKING SIGN

INLET
TG=1354.86
INV OUT=1350.76

WEIGH STATION SIGN

MILEPOST 55.4 SIGN

WEIGH STATION SIGN

GRASS

I-80 EB SEG 0550 OFF 2318

PAY TOLL 1 MILE
80 EAST
E-ZPass
OR
BILLED BY MAIL
NO CASH

5
28

BRUSH/WOOD LINE

LEGAL RIGHT-OF-RIGHT LINE

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	12 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

RIP RAP

LEGAL RIGHT-OF-WAY LINE

ELECTRIC CABLE MARKER

LP

LP

CONCRETE PAD WITH TRANSFORMER

TRIC BOXES

GRASS

MATCH EXISTING PAV'T MARKINGS
BEGIN W/6", Y/6"
STA 345+17.00
SR 0080 WB

MATCH EXISTING PAV'T MARKINGS
BEGIN W/6"
STA 345+64.00
SR 0080 WB

W/6"

W/6"

Y/6"

12'

12'

SR 0080 WESTBOUND

PT 342+97

339 340 341 342 343 344 345 346

SR 0080 WESTBOUND
SURVEY AND CONSTR ℄

BRUSH/WOOD LINE

GRASS

SR 0080 EASTBOUND
SURVEY AND CONSTR ℄

MATCH EXISTING PAV'T MARKINGS
BEGIN Y/6"
STA 346+68.00
SR 0080 EB

BT 345+99

341 342 343 344 345 346 347 348

SR 0080 EASTBOUND

12' 12'

MERGE AHEAD SIGN

MATCH EXISTING PAV'T MARKINGS
BEGIN W/6"
STA 346+68.00
SR 0080 EB

GRASS

BRUSH/HIGH VEGETATION

BRUSH/HIGH VEGETATION

LEGAL RIGHT-OF-WAY LINE

PC 1+18

0 1 2

SEE SHEET 13 OF 32

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	13 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 12 OF 32

SEE SHEET 14 OF 32

LEGAL RIGHT-OF-WAY LINE

NO PARKING SIGN
(RELOCATE TO SR 0080 WB
SEG 0561 OFF 2157)

7 28 — 9 28 — 80 MP 56 W — TOLL PROCESSED / DO NOT STOP — I-80 WB SEG 0561 OFF 2295 MOUNT TO OUTSIDE TOLL GANTRY SUPPORT

7 28 — TOLL PROCESSED / DO NOT STOP — I-80 WB SEG 0561 OFF 2295 MOUNT TO MEDIAN TOLL GANTRY SUPPORT

28 — 6 — ALL LANES — E-ZPass OR BILLED BY MAIL — NO CASH — I-80 WB SEG 0561 OFF 2335

WEIGH STATION SIGN
(RELOCATE TO SR 0080 WB
SEG 0565 OFF 0059)

MATCH EXISTING PAV'T MARKINGS
END AW/6", BW/6"
STA 351+37.00
SR 0080 WB

MATCH EXISTING PAV'T MARKINGS
BEGIN W/6"
STA 345+64.00
SR 0080 WB

NO PARKING SIGN

SR 9203

MATCH EXISTING PAV'T MARKINGS
BEGIN W/6"
STA 347+48.00
SR 0080 WB

150' TOLL ZONE

SR 0080 WESTBOUND

SR 9203 WEIGH STATION WEST ROAD

STATION

W/6" — 14' — W/6" — W/6" — 12' — 12' — 12' — AW/6" — BW/6" — W/6" — Y/6"

346 — 347 — 348 — 349 — 350 — 351 — 352 — 353

PC351+81

WHITE TYPE O AND P SINGLE FACE CONCRETE BARRIER DELINEATORS (40' SPACING)

MATCH EXISTING PAV'T MARKINGS
END W/6", Y/6", AW/6", BW/6"
STA 350+86.57
SR 0080 WB

SR 0080 WESTBOUND
SURVEY AND CONSTR ℄

MATCH EXISTING PAV'T MARKINGS
BEGIN BW/6"
STA 348+87.00
SR 0080 WB

END W/6", BEGIN AW/6"
STA 349+74.00
SR 0080 WB

YELLOW TYPE O AND P
SINGLE FACE CONCRETE BARRIER
DELINEATORS (40' SPACING)

60'

MATCH EXISTING PAV'T MARKINGS
END W/6", Y/6", BW/6"
STA 352+88.00
SR 0080 EB

SR 0080 EASTBOUND
SURVEY AND CONSTR ℄

MATCH EXISTING PAV'T MARKINGS
BEGIN W/6", Y/6", BW/6"
STA 350+38.00
SR 0080 EB

YELLOW TYPE O AND P
SINGLE FACE CONCRETE BARRIER
DELINEATORS (40' SPACING)

150' TOLL ZONE

BRUSH/WOOD LINE

348 — 349 — 350 — 351 — 352 — 353 — 354 — 355

PT353+22

SR 0080 EASTBOUND

Y/6" — BW/6" — W/6" — 12' — 12' — 12' — 12' — W/6" — W/6" — 12'

6+61

28 — 6 — ALL LANES — E-ZPass OR BILLED BY MAIL — NO CASH — I-80 EB SEG 0560 OFF 2161

NO PARKING SIGN

5 — W/6" — W/6" — 12'

PC348+83

PC348+83

4

SR 9202 WEIGH STATION EAST ROAD

PT12+60

15' — 8' — 9'

GEN — DATA

NO PARKING SIGN
(RELOCATE TO SR
9202 STA 3+00
RIGHT)

MATCH EXISTING PAV'T MARKINGS
BEGIN W/6"
STA 4+95.00
SR 9202

WHITE TYPE O AND P SINGLE FACE CONCRETE BARRIER DELINEATORS (40' SPACING)

NO PARKING SIGN
(RELOCATE TO SR 0080 EB
SEG 0560 OFF 2515)

7 28 — TOLL PROCESSED / DO NOT STOP — I-80 EB SEG 0560 OFF 2311 MOUNT TO MEDIAN TOLL GANTRY SUPPORT

LEGAL RIGHT-OF-WAY LINE

60'

85'

LEGAL RIGHT-OF-WAY LINE

MATCH EXISTING PAV'T MARKINGS
BEGIN W/6"
STA 3+11.00
SR 9202

8 28 — 80 MP 56 E — 7 28 — TOLL PROCESSED / DO NOT STOP — I-80 EB SEG 0560 OFF 2311 MOUNT TO OUTSIDE TOLL GANTRY SUPPORT

LEGEND

(2)	SIGN NUMBER
[2]	PLAN SHEET NUMBER - SIGN DETAIL
	ELECTRICAL/FIBER CONDUIT (PROPOSED)
	JB-1 (PROPOSED)
	JB-2 (PROPOSED)
	JUNCTION BOX JB-11 (MODIFIED)
	JUNCTION BOX JB-12 (MODIFIED)
	READER PAD
	CONDUIT STUB-UP
	POWER CONDUIT
	COMMUNICATIONS CONDUIT
AW/6"	AUXILIARY WHITE LINE/WIDTH
BW/6"	BROKEN WHITE LINE/WIDTH
W/6"	SOLID WHITE LINE/WIDTH
Y/6"	SOLID YELLOW LINE/WIDTH
	POWER SUPPLY (PROPOSED)
	UTILITY POLE (PROPOSED)

(2)	SIGN NUMBER
[2]	PLAN SHEET NUMBER - SIGN DETAIL
	EXISTING GROUND MOUNTED SIGN
	PROPOSED GROUND MOUNTED SIGN
	EXISTING OVERHEAD SIGN
	PROPOSED OVERHEAD SIGN

SCALE

0 — 25 — 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	14 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

LEGAL RIGHT-OF-WAY LINE

MATCH EXISTING PAV'T MARKINGS
END W/6", Y/6"
STA 355+07.00
SR 0080 WB

W/6" 12'
Y/6" 12'

SR 0080 WESTBOUND

353 354 355 356 357 358 359 360

NO PARKING SIGN

SR 0080 WESTBOUND
SURVEY AND CONSTR ℄

MATCH EXISTING PAV'T MARKINGS
END Y/6"
STA 356+58.00
SR 0080 EB

355 356 357 358 359 360 361 362

SR 0080 EASTBOUND

SR 0080 EASTBOUND
SURVEY AND CONSTR ℄

Y/6" 12'
W/6" 12'
W/6" 12'

SEE SHEET 13 OF 32

MATCH EXISTING PAV'T MARKINGS
END W/6"
STA 355+30.00
SR 0080 EB

LEGAL RIGHT-OF-WAY LINE

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- ELECTRICAL/FIBER CONDUIT (PROPOSED)
- JB-1 (PROPOSED)
- JB-2 (PROPOSED)
- JUNCTION BOX JB-11 (MODIFIED)
- JUNCTION BOX JB-12 (MODIFIED)
- READER PAD
- CONDUIT STUB-UP
- POWER CONDUIT
- COMMUNICATIONS CONDUIT
- W/6" SOLID WHITE LINE/WIDTH
- Y/6" SOLID YELLOW LINE/WIDTH

SCALE

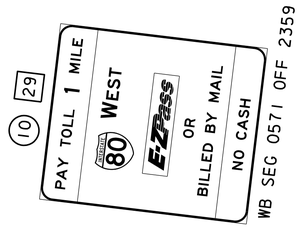
0 25 50 FEET

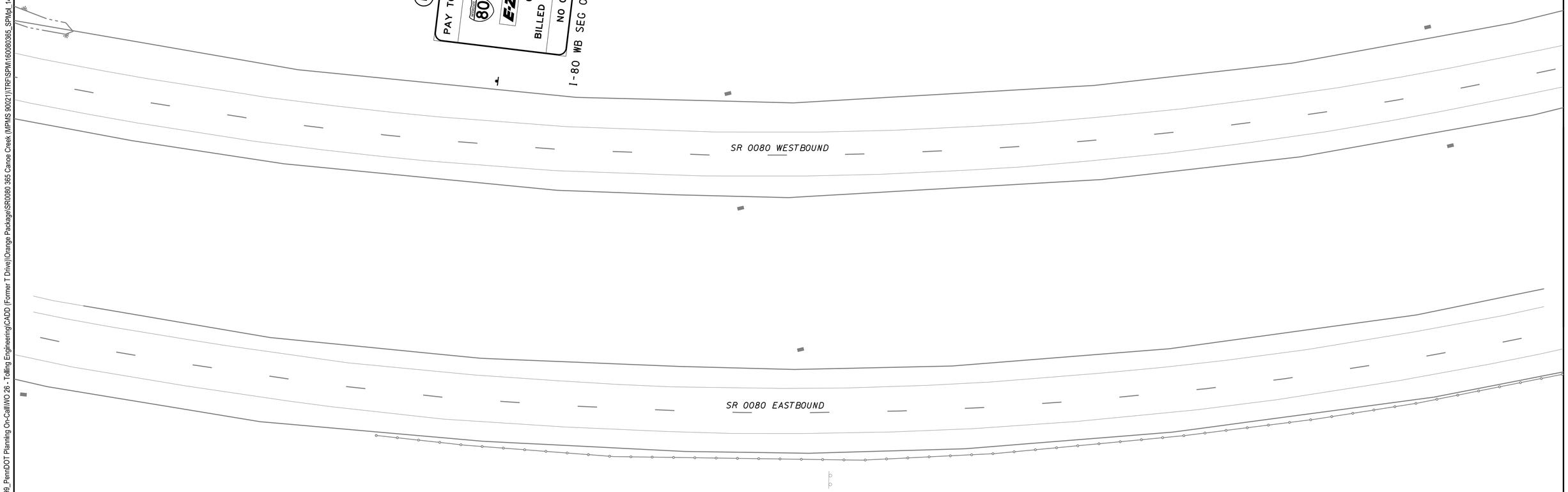
SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	15 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY





LEGEND

(2)	SIGN NUMBER
[2]	PLAN SHEET NUMBER - SIGN DETAIL
	EXISTING GROUND MOUNTED SIGN
	PROPOSED GROUND MOUNTED SIGN
	EXISTING OVERHEAD SIGN
	PROPOSED OVERHEAD SIGN

SCALE

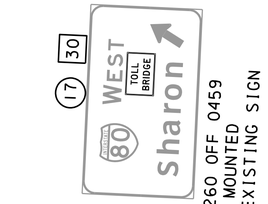
0 25 50 FEET

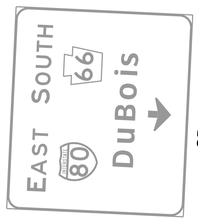
SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

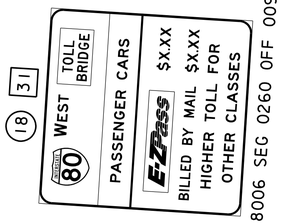
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	16 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY





SR 8006 SEG 0260 OFF 0459
STRUCTURE MOUNTED
ADD PLAQUE TO EXISTING SIGN



SR 8006 SEG 0260 OFF 0097

SR 0066

MOTOR VEHICLES ONLY SIGN

SEE SHEET 17 OF 32

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	17 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 16 OF 32

SP-1
24"X18"

TOLL BRIDGE
EAST WEST
8080

SR 66
SEG 0330
OFF 0262
ADD PLAQUE TO
EXISTING SIGN

SR 0066

19 31

TOLL BRIDGE
WEST
80
E-ZPass
OR
BILLED BY MAIL
NO CASH

SR 66
SEG 0330 OFF 0714

JCT
80

SR 66
SEG 0330
OFF 0962

DEVELOPMENT ENTITY TO VERIFY EXISTING PENNSYLVANIA ELECTRIC COMPANY UTILITY LINE, AND DESIGN ACCORDINGLY

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

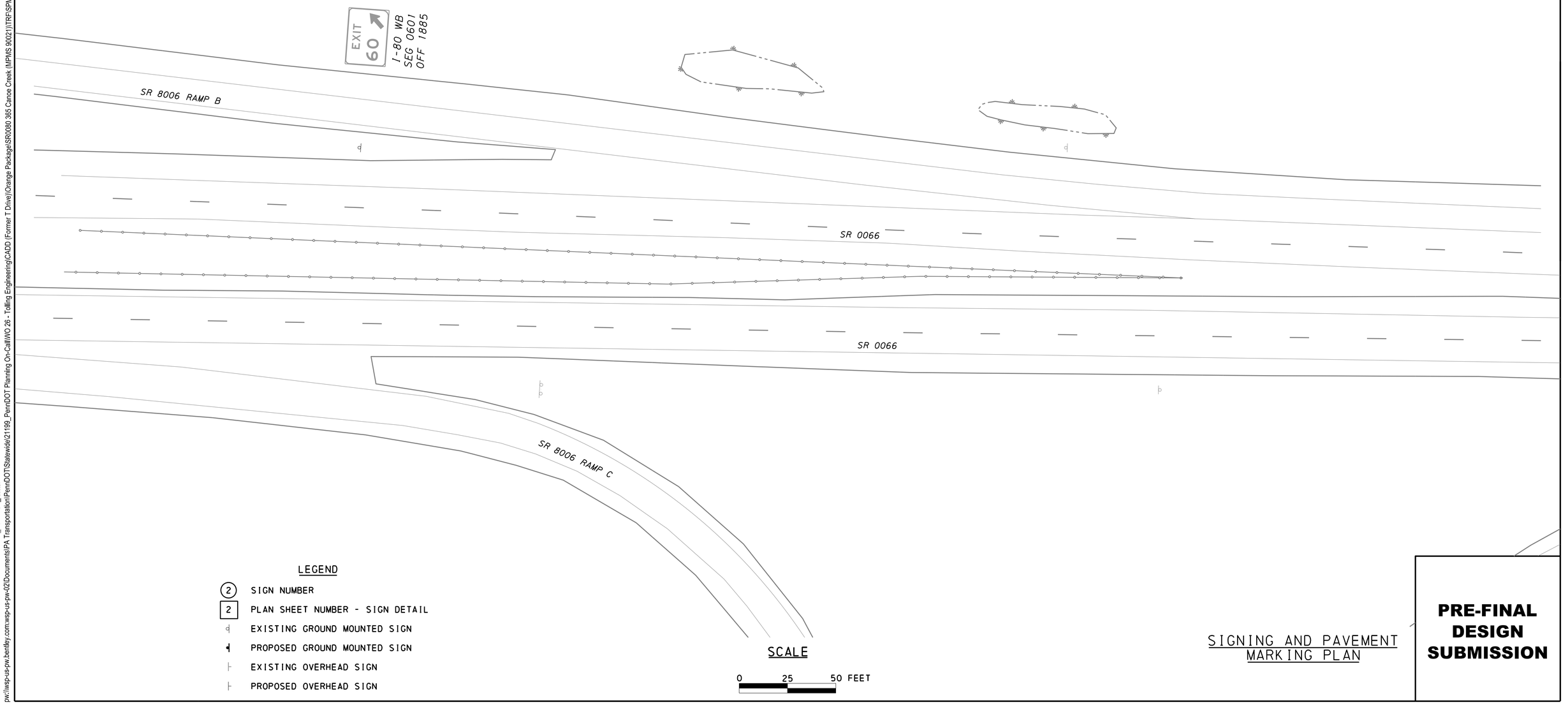
0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	18 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

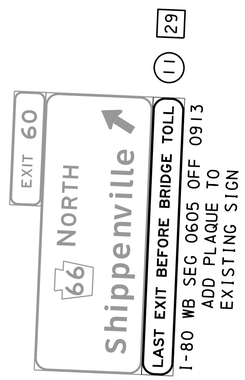
0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	19 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0080 WESTBOUND

SR 0080 EASTBOUND

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

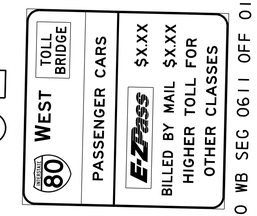
0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	20 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



I-80 WB SEG 0611 OFF 0119

MILEPOST SIGN
SEG/OFF PLAQUE
NO STOPPING ON BRIDGE SIGN

GAS EXIT 60 SIGN

BRIDGE MAY
BE ICY SIGN

SR 0080 WESTBOUND

SR 0080 EASTBOUND

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

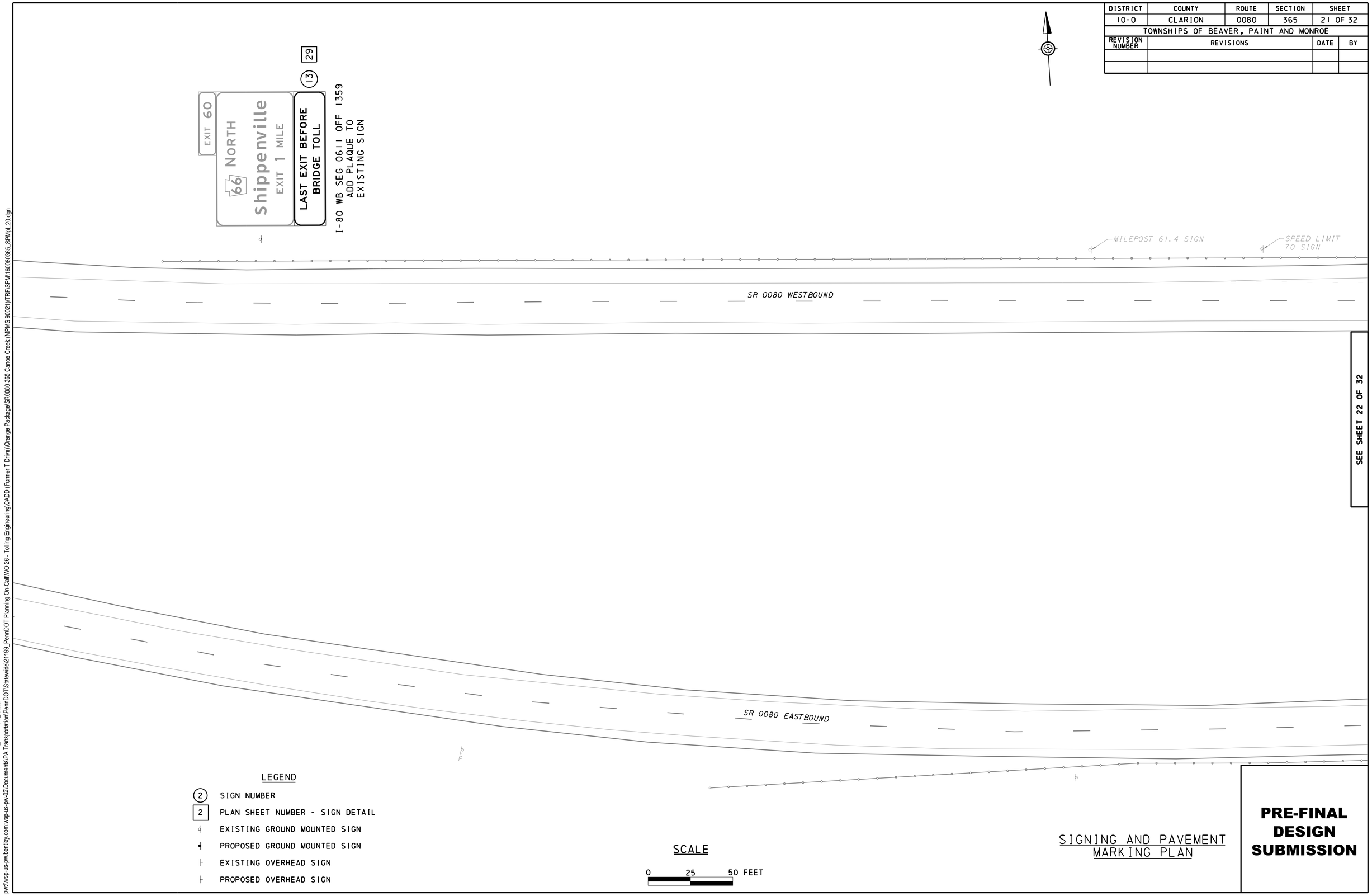
0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	21 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 22 OF 32

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

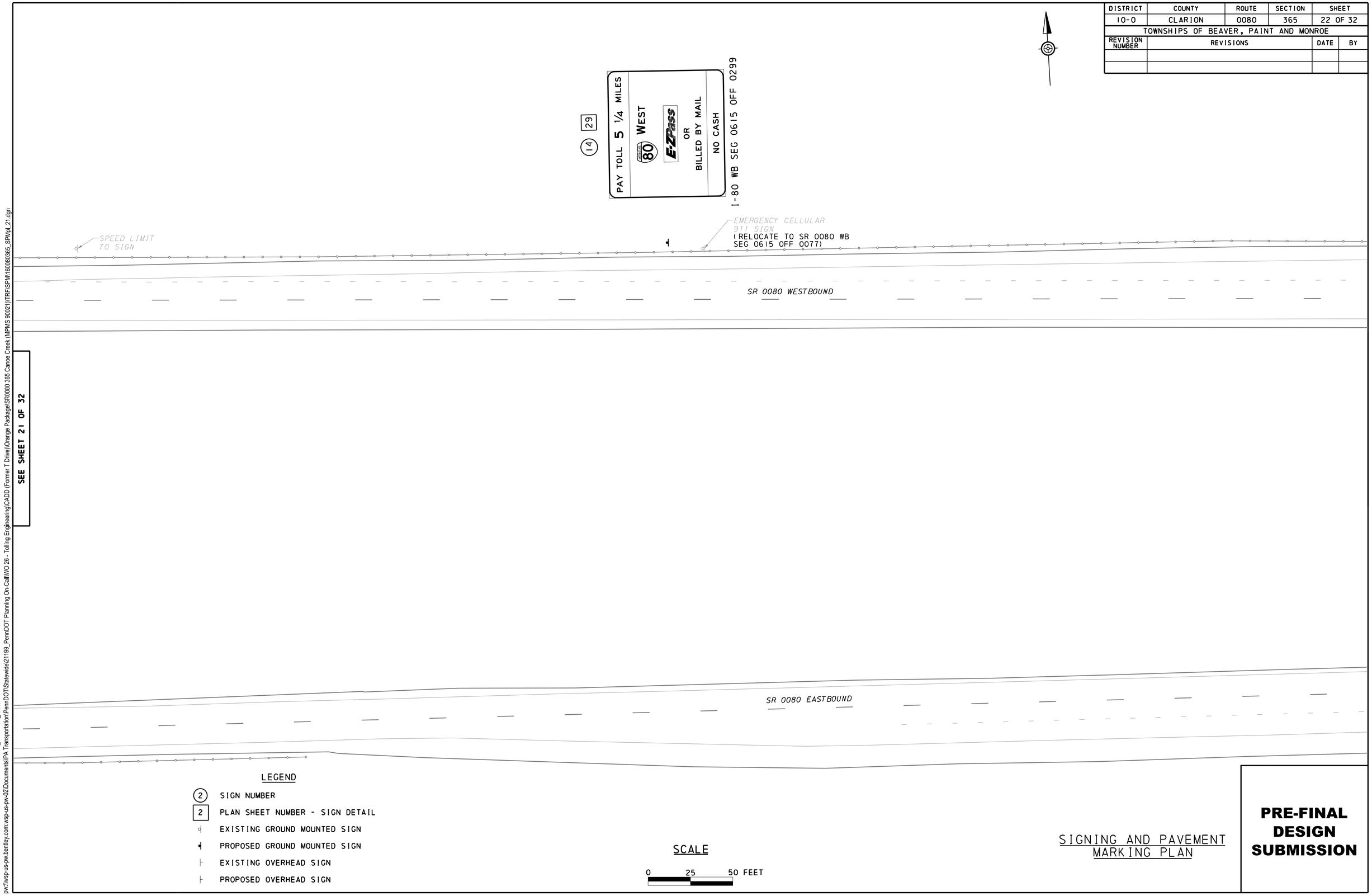
0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	22 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	23 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SR 0068

SEE SHEET 24 OF 32

SR 68
SEG 0550
OFF 0669

JCT 80 DuBois
NEXT RIGHT
Sharon
NEXT LEFT

SR 68
SEG 0550
OFF 0755

JCT 66

SR 68
SEG 0550 OFF 0863

80 WEST TOLL BRIDGE
E-ZPass
OR
BILLED BY MAIL
NO CASH

20
31

SR 68
SEG 0550
OFF 1048

URGENT MESSAGE
WHEN FLASHING
80
TRAVELER INFO
TUNE RADIO TO
1640 AM

SR 68 NB
SEG 0560
OFF 0186

80 EAST
DuBois

DEVELOPMENT ENTITY TO VERIFY EXISTING WEST PENN POWER UTILITY LINE, AND DESIGN ACCORDINGLY

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	24 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 23 OF 32

SR 8006 RAMP D

SR 8008 RAMP D CONN

SR 0068

SR 68 NB
SEG 0560
OFF 0750

SR 68 SB
SEG 0561
OFF 0833

SR 68 NB
SEG 0560
OFF 0819
ADD SIGNS

SR 68
SEG 0560
OFF 0572

SR 68 NB
SEG 0560
OFF 0686

SR 68 NB
SEG 0560 OFF 0380

SR 68 NB
SEG 0560
OFF 0186

STOP HERE ON RED SIGN

BRIDGE ICES BEFORE ROAD SIGN
NO PEDESTRIAN SIGN

SPEED LIMIT SIGN
ENTER HERE SIGN (FACING RAMP)

SP-1
24"X18"
M3-4-1
24"X12"
M1-1
24"X24"
M6-3-1
21"X15"

SR 8008 RAMP C

22
32

DEVELOPMENT ENTITY TO VERIFY EXISTING WEST PENN POWER UTILITY LINE, AND DESIGN ACCORDINGLY

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	25 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SR 8008 RAMP A

DEVELOPMENT ENTITY TO VERIFY EXISTING WEST PENN POWER UTILITY LINE, AND DESIGN ACCORDINGLY

EAST 80 DuBois SOUTH 66 NEXT LEFT

SR 68 SB
SEG 0561
OFF 1443

EXIT

SR 68 SB
SEG 0561
OFF 1612

SP-1
24"X18"
TOLL BRIDGE
WEST 80

SR 68 SB
SEG 0561
OFF 1612
ADD PLAQUE TO
EXISTING SIGN

NORTH 66

SR 68 SB
SEG 0561
OFF 1612

22 32

WEST 80 TOLL BRIDGE
PASSENGER CARS
E-ZPass $X.XX
BILLED BY MAIL $X.XX
HIGHER TOLL FOR OTHER CLASSES

SR 68 SB
SEG 0561 OFF 1732

SP-1
24"X18"
TOLL BRIDGE
WEST 80
SOUTH 66
EAST 80
NORTH 66

SR 68 SB
SEG 0561 OFF 1832
ADD PLAQUE TO
EXISTING SIGN

23 32

WEST 80 TOLL BRIDGE Sharon

SR 68 SB
SEG 0561
OFF 1986
ADD PLAQUE TO
EXISTING SIGN

M3-1
24X12
M1-5
24X24
M5-2R
21X15

NORTH 66

SP-1
24"X18"
TOLL BRIDGE
WEST 80
M3-4-1
24X12
M1-1
24X24
M5-2-1R
21X15

SR 68 SB
SEG 0561
OFF 2148

SR 0068

SR 0068

SR 68 SB
SEG 0561
OFF 1541
ADD PLAQUE TO
EXISTING SIGN

TOLL BRIDGE WEST 80

21 32

NORTH 66

WEST 80 TOLL BRIDGE Sharon

TOLL BRIDGE WEST 80 NORTH 66

SR 8008 RAMP B

SR 8008 RAMP B CONN

SR 68 NB
SEG 0560 OFF 1468
ADD PLAQUE TO EXISTING SIGN

SR 68 NB
SEG 0560 OFF 1426
ADD PLAQUE TO
EXISTING SIGN

LEGEND

- (2) SIGN NUMBER
- [2] PLAN SHEET NUMBER - SIGN DETAIL
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- EXISTING OVERHEAD SIGN
- PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

SEE SHEET 26 OF 32

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	26 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 25 OF 32

M3-1
24X12
M1-5
24X24
M5-2R
21X15

NORTH 66

TOLL BRIDGE WEST ALTERNATE 80

SP-1
24"X18"
M3-4-1
24X12
M1-1
24X24
M5-2-1R
21X15

SR 68 SB
SEG 0561
OFF 2148

DEVELOPMENT ENTITY TO VERIFY EXISTING WEST PENN POWER UTILITY LINE, AND DESIGN ACCORDINGLY

20 31

WEST TOLL BRIDGE
E-ZPass
OR
BILLED BY MAIL
NO CASH
ALTOONA 80

SR 68 SB
SEG 0561 OFF 2329

NO PARKING
YELLOW DETOUR

JCT 66

JCT ALTERNATE 80

SR 68 SB
SEG 0561
OFF 2516

URGENT MESSAGE
WHEN FLASHING

ALTOONA 80
TRAVELER INFO
TUNE RADIO TO
1640 AM

SR 68 SB
SEG 0561
OFF 2602

SR 0068

SR 0068

30'

LEGEND

(2)	SIGN NUMBER
[2]	PLAN SHEET NUMBER - SIGN DETAIL
	EXISTING GROUND MOUNTED SIGN
	PROPOSED GROUND MOUNTED SIGN
	EXISTING OVERHEAD SIGN
	PROPOSED OVERHEAD SIGN

SCALE

0 25 50 FEET

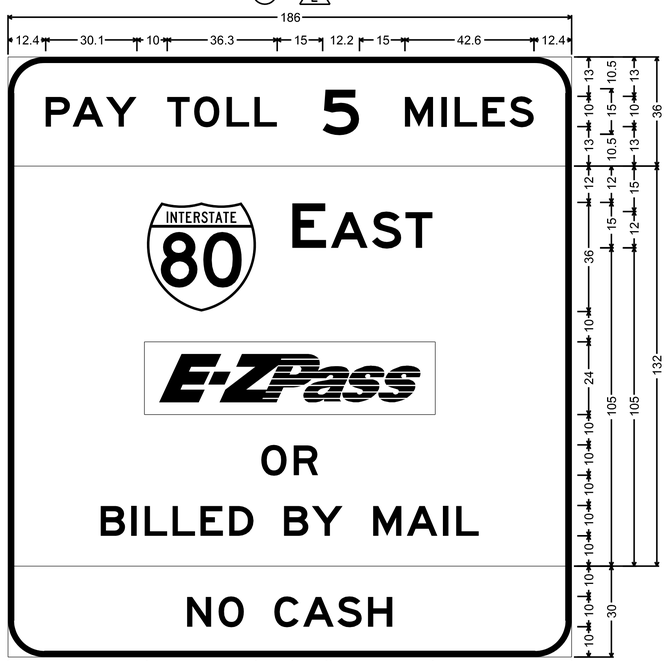
SIGNING AND PAVEMENT MARKING PLAN

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	27 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

① ⚠2

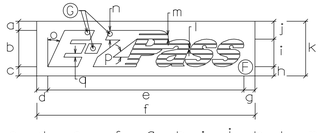


12.0" Radius, 2.0" Border, Black on, Yellow;
"PAY TOLL 5 MILES", E 2K;

12.0" Radius, 2.0" Border, White on, Green;
"EAST", E 2K; "OR", E 2K; "BILLED BY MAIL", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"NO CASH", E 2K;
Table of letter and object lefts

P 12.4	A 21.3	Y 32.3	T 52.5	O 61.4	L 72.1	L 81.3	5 103.8	M 131.0	I 143.0	L 147.4	E 156.6	S 165.5	
45.8	E 93.8	A 106.6	S 120.1	T 131.2									
45.0													
O 83.6	R 94.3												
B 30.6	I 40.7	L 45.1	L 54.3	E 63.5	D 73.0	B 91.1	Y 100.3	M 120.5	A 131.6	I 143.5	L 147.9		
N 59.1	O 69.5	C 87.9	A 97.4	S 108.7	H 118.8								



	a	b	c	d	e	f	g	h	i	j	K	l	m	n	o	p
12"	2.2	8	1.8	2.2	43.8	48.0	2.2	1.8	6	4.2	12	0.2	0.9	2.2	25°	37°
18"	3.3	12	2.7	3.3	65.4	72.0	3.3	2.6	9	6.4	18	0.29	1.4	3.2	25°	37°
24"	4.4	16	3.6	4.4	87.2	96.0	4.4	3.5	12	8.5	24	0.39	1.8	4.3	25°	37°
36"	6.6	24	5.4	6.6	130.8	144	6.6	5.3	18	12.7	36	0.59	2.7	6.5	25°	37°

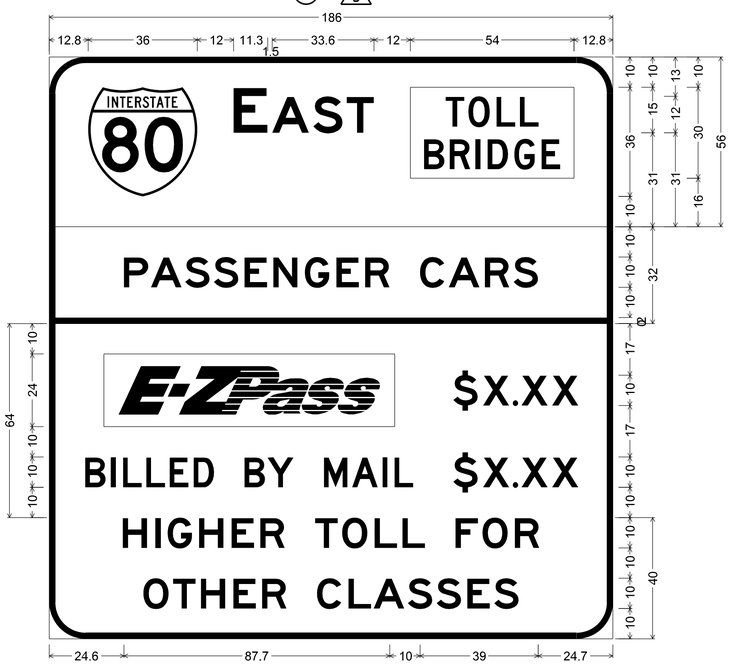
Ⓕ PURPLE TYPE XI REFLECTORIZED BACKGROUND, PANTATONE 259
Ⓒ WHITE TYPE XI REFLECTORIZED LEGEND.

E-Z PASS DETAIL

No border, White on, Yellow;
"TOLL" Black, D 2K;
"BRIDGE" Black, D 2K;
Table of letter and object lefts

T 11.6	O 19.1	L 28.4	L 36.1
B 4.5	R 13.0	I 21.5	D 25.5	G 34.3	E 43.3

② ⚠3



12.0" Radius, 2.0" Border, White on, Green;
"EAST", E 2K; Rectangle Yellow;

12.0" Radius, 2.0" Border, Black on, White;
"PASSENGER CARS", E 2K;

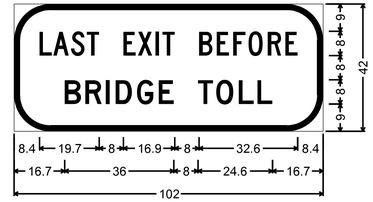
12.0" Radius, 2.0" Border, Black on, White;
Rectangle White; "BILLED BY MAIL", D 2K;

12.0" Radius, 2.0" Border, Black on, White;
"$X.XX", E 2K; "$X.XX", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"HIGHER TOLL FOR", E 2K; "OTHER CLASSES", E 2K;
Table of letter and object lefts

45.8	E 60.8	A 73.6	S 87.1	T 98.2	45.0	119.2							
P 24.6	A 33.5	S 44.8	S 54.3	E 64.4	N 73.9	G 84.3	E 94.7	R 104.2	C 122.3	A 131.8	R 143.7	S 153.2	
0.0													
18.0													
B 11.9	I 20.4	L 24.4	L 32.1	E 39.8	D 47.7	B 64.5	Y 72.1	M 90.7	A 100.0	I 110.0	L 114.0		
$ 1.4	X 11.2	. 21.0	X 23.9	X 34.0									
$ 1.4	X 11.2	. 21.0	X 23.9	X 34.0									
H 24.3	I 35.0	G 39.0	H 49.4	E 60.1	R 69.7	T 87.8	O 96.7	L 107.3	L 116.6	F 134.1	O 143.0	R 153.6	
O 31.0	T 40.8	H 50.0	E 60.7	R 70.2	C 88.3	L 98.7	A 107.0	S 118.3	S 127.8	E 137.9	S 146.8		

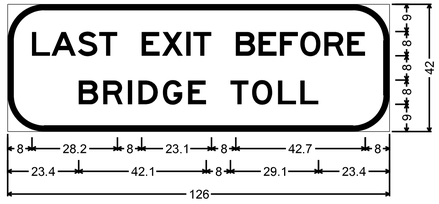
③ ⚠4



12.0" Radius, 2.0" Border, Black on, Yellow;
"LAST EXIT BEFORE", C 2K;
"BRIDGE TOLL", D 2K;
Table of letter and object lefts

L 8.4	A 13.0	S 18.8	T 24.0	E 36.1	X 40.9	I 46.7	T 49.0
B 61.0	E 66.9	F 72.3	O 77.4	R 83.7	E 89.5		
B 16.7	R 23.5	I 30.3	D 33.5	G 40.6	E 47.8		
T 60.7	O 66.7	L 74.2	L 80.3				

④ ⚠5



12.0" Radius, 2.0" Border, Black on, Yellow;
"LAST EXIT BEFORE", E 2K specified length;
"BRIDGE TOLL", E 2K;
Table of letter and object lefts

L 8.0	A 14.4	S 23.2	T 30.2	E 44.2	X 50.9	I 58.9	T 61.3
B 75.3	E 82.8	F 89.8	O 96.6	R 104.5	E 112.0		
B 23.4	R 31.5	I 39.6	D 43.1	G 51.2	E 59.5	T 73.5	O 80.6	L 89.2	L 96.6

LEGEND

(2) SIGN NUMBER

⚠2 PLAN SHEET NUMBER - SIGN LOCATION

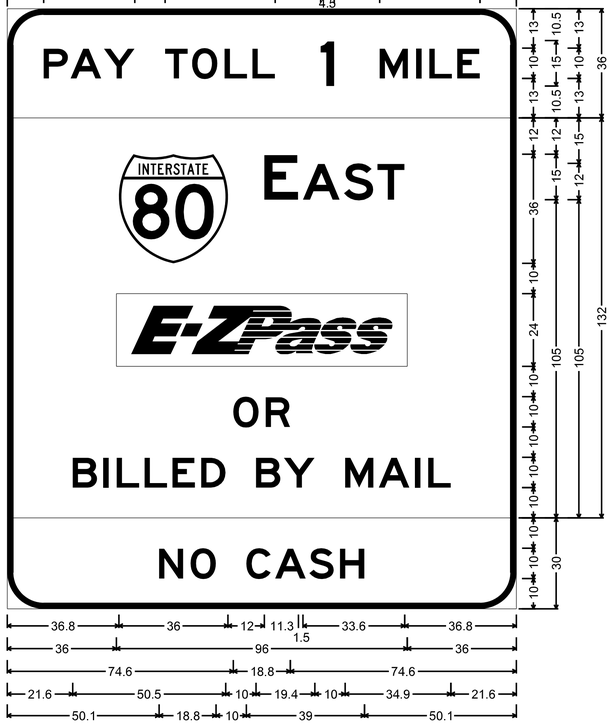
PRE-FINAL DESIGN SUBMISSION

SIGN DETAILS

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	28 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

(5) (11)



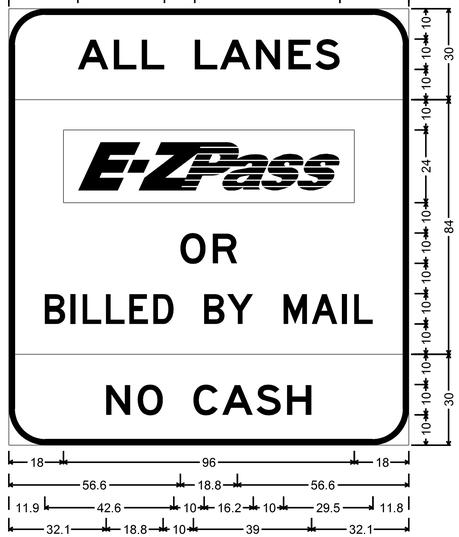
12.0" Radius, 2.0" Border, Black on, Yellow;
"PAY TOLL 1 MILE", E 2K;

12.0" Radius, 2.0" Border, White on, Green;
"EAST", E 2K; "OR", E 2K; "BILLED BY MAIL", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"NO CASH", E 2K;
Table of letter and object lefts

P 12.0	A 20.9	Y 31.9	T 52.1	O 61.0	L 71.7	L 80.9	1 103.4	M 122.9	I 134.9	L 139.3	E 148.5	
36.8	E 84.8	A 97.6	S 111.1	T 122.2								
36.0												
O 74.6	R 85.3											
B 21.6	I 31.7	L 36.1	L 45.3	E 54.5	D 64.0	B 82.1	Y 91.3	M 111.5	A 122.6	I 134.5	L 138.9	
N 50.1	O 60.5	C 78.9	A 88.4	S 99.7	H 109.8							

(6) (13) (13)

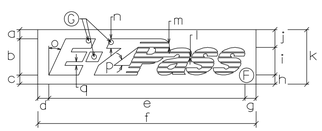


12.0" Radius, 2.0" Border, Black on, Yellow;
"ALL LANES", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
Rectangle White; "OR", E 2K; "BILLED BY MAIL", D 2K;

12.0" Radius, 2.0" Border, Black on, Yellow;
"NO CASH", E 2K;
Table of letter and object lefts

A 22.8	L 34.7	L 43.8	L 61.3	A 69.7	N 81.6	E 92.3	S 101.2
18.0							
O 56.6	R 67.3						
B 11.9	I 20.4	L 24.4	L 32.1	E 39.8	D 47.7	B 64.5	Y 72.1
M 90.7	A 100.0	I 110.0	L 114.0				
N 32.1	O 42.5	C 60.9	A 70.4	S 81.7	H 91.8		

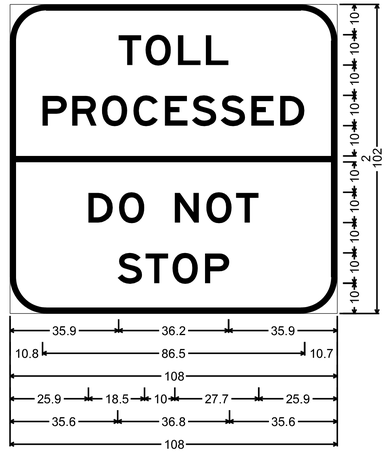


	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
12"	2.2	8	1.8	2.2	43.8	48.0	2.2	1.8	6	4.2	12	0.2	0.9	2.2	25°	37°	0.8
18"	3.3	12	2.7	3.3	65.4	72.0	3.3	2.6	9	6.4	18	0.29	1.4	3.2	25°	37°	1.2
24"	4.4	16	3.6	4.4	87.2	96.0	4.4	3.5	12	8.5	24	0.39	1.8	4.3	25°	37°	1.6
36"	6.6	24	5.4	6.6	130.8	144	6.6	5.3	18	12.7	36	0.59	2.7	6.5	25°	37°	2.4

Ⓕ PURPLE TYPE XI REFLECTORIZED BACKGROUND, PANTATONE 259C.
Ⓖ WHITE TYPE XI REFLECTORIZED LEGEND.

E-Z PASS DETAIL

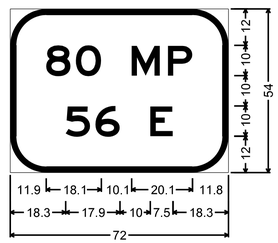
(7) (13) (13) (13) (13)



12.0" Radius, 2.0" Border, Black on, White;
"TOLL", E 2K; "PROCESSED", E 2K;
"DO NOT", E 2K; "STOP", E 2K;
Table of letter and object lefts

T 35.8	O 44.8	L 55.4	L 64.7						
P 10.8	R 20.5	O 30.4	C 40.8	E 51.2	S 60.0	S 69.6	E 79.7	D 89.2	
0.0									
D 25.9	O 36.0	N 54.4	O 64.8	T 74.6					
S 35.6	T 44.8	O 53.7	P 64.3						

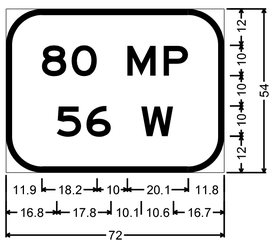
(8) (13)



12.0" Radius, 2.0" Border, Black on, White;
"80 MP", E 2K; "56 E", E 2K;
Table of letter and object lefts

8 11.9	O 21.6	M 40.1	P 52.0
5 18.3	6 28.1	E 46.2	

(9) (13)



12.0" Radius, 2.0" Border, Black on, White;
"80 MP", E 2K; "56 W", E 2K;
Table of letter and object lefts

8 11.9	O 21.7	M 40.1	P 52.1
5 16.8	6 26.5	W 44.7	

LEGEND

(2) SIGN NUMBER

(2/2) PLAN SHEET NUMBER - SIGN LOCATION

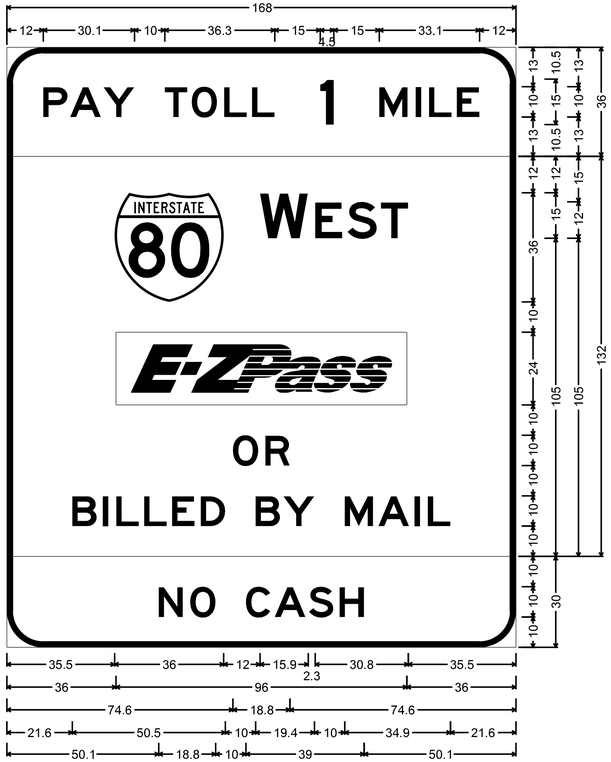
SIGN DETAILS

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	29 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

(10) ⚠15



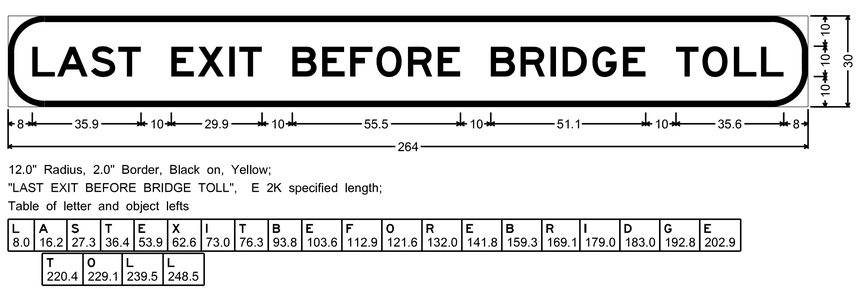
12.0" Radius, 2.0" Border, Black on, Yellow;
"PAY TOLL 1 MILE", E 2K;

12.0" Radius, 2.0" Border, White on, Green;
"WEST", E 2K; "OR", E 2K; "BILLED BY MAIL", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"NO CASH", E 2K;
Table of letter and object lefts

P 12.0	A 20.9	Y 31.9	T 52.1	O 61.0	L 71.7	L 80.9	1 103.4	M 122.9	I 134.9	L 139.3	E 148.5	
W 35.5	E 101.7	S 112.4	T 123.5									
36.0												
O 74.6	R 85.3											
B 21.6	I 31.7	L 36.1	L 45.3	E 54.5	D 64.0	B 82.1	Y 91.3	M 111.5	A 122.6	I 134.5	L 138.9	
N 50.1	O 60.5	C 78.9	A 88.4	S 99.7	H 109.8							

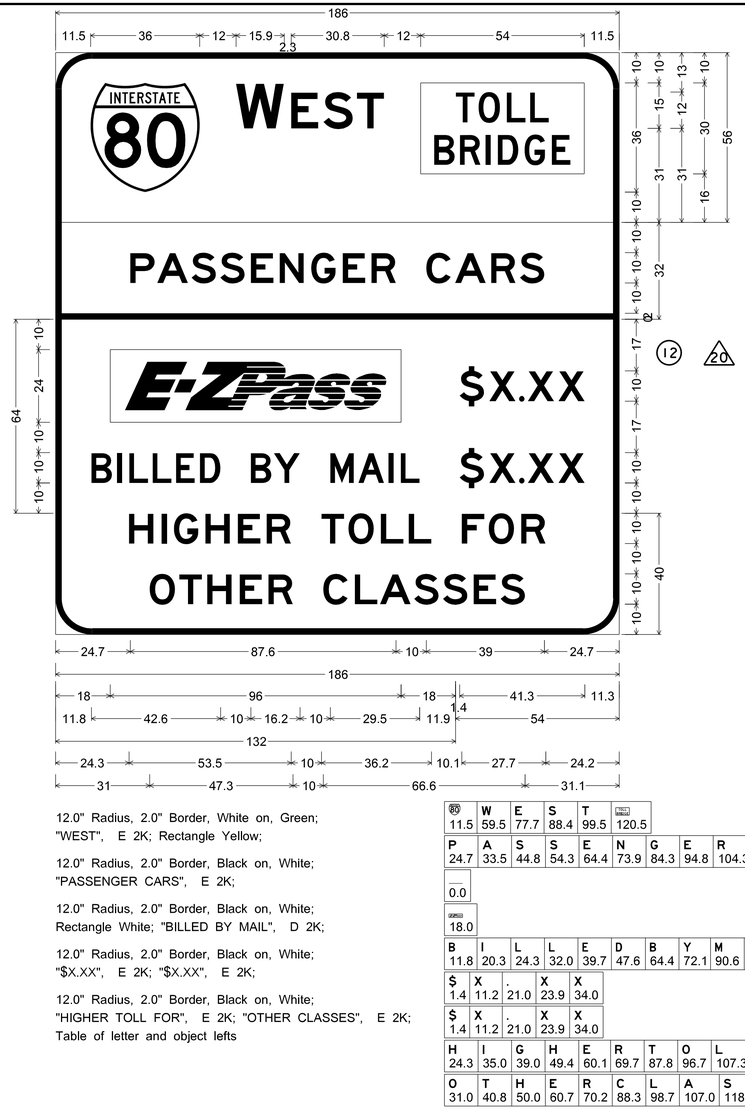
(11) ⚠19



12.0" Radius, 2.0" Border, Black on, Yellow;
"LAST EXIT BEFORE BRIDGE TOLL", E 2K specified length;
Table of letter and object lefts

L 8.0	A 16.2	S 27.3	T 36.4	E 53.9	X 62.6	I 73.0	T 76.3	B 93.8	E 103.6	F 112.9	O 121.6	R 132.0	E 141.8	B 159.3	R 169.1	I 179.0	D 183.0	G 192.8	E 202.9
T 220.4	O 229.1	L 239.5	L 248.5																

(12) ⚠20



12.0" Radius, 2.0" Border, White on, Green;
"WEST", E 2K; Rectangle Yellow;

12.0" Radius, 2.0" Border, Black on, White;
"PASSENGER CARS", E 2K;

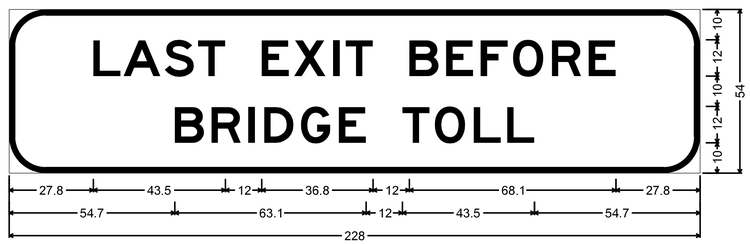
12.0" Radius, 2.0" Border, Black on, White;
Rectangle White; "BILLED BY MAIL", D 2K;

12.0" Radius, 2.0" Border, Black on, White;
"$X.XX", E 2K; "$X.XX", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"HIGHER TOLL FOR", E 2K; "OTHER CLASSES", E 2K;
Table of letter and object lefts

W 11.5	E 59.5	S 77.7	T 88.4	99.5	120.5														
P 24.7	A 33.5	S 44.8	S 54.3	E 64.4	N 73.9	G 84.3	E 94.8	R 104.3	C 122.3	A 131.8	R 143.8	S 153.3							
0.0																			
18.0																			
B 11.8	I 20.3	L 24.3	L 32.0	E 39.7	D 47.6	B 64.4	Y 72.1	M 90.6	A 99.9	I 109.9	L 114.0								
$ 1.4	X 11.2	. 21.0	X 23.9	X 34.0															
$ 1.4	X 11.2	. 21.0	X 23.9	X 34.0															
H 24.3	I 35.0	G 39.0	H 49.4	E 60.1	R 69.7	T 87.8	O 96.7	L 107.3	L 116.6	F 134.1	O 143.0	R 153.6							
O 31.0	T 40.8	H 50.0	E 60.7	R 70.2	C 88.3	L 98.7	A 107.0	S 118.3	S 127.9	E 138.0	S 146.9								

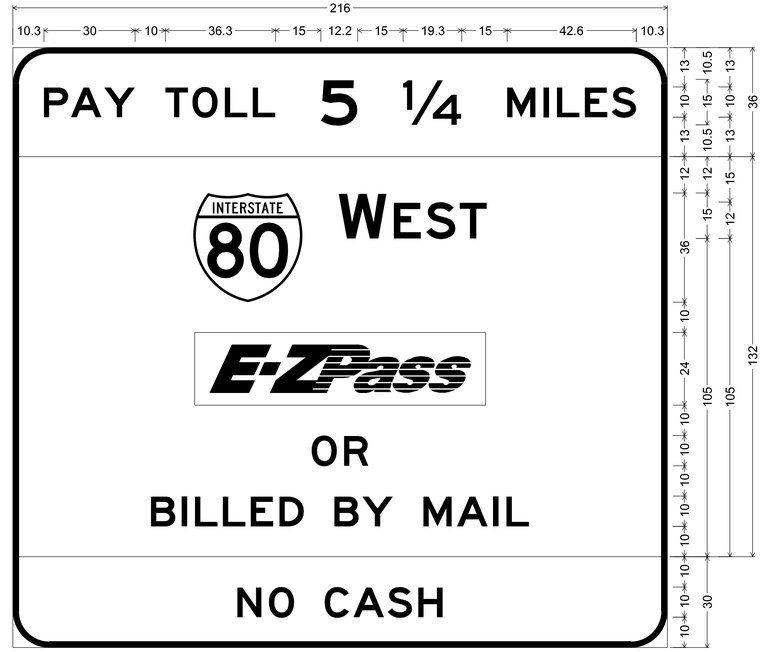
(13) ⚠21



12.0" Radius, 2.0" Border, Black on, Yellow;
"LAST EXIT BEFORE", E 2K; "BRIDGE TOLL", E 2K;
Table of letter and object lefts

L 27.8	A 37.7	S 51.3	T 62.3	E 83.3	X 94.0	I 106.9	T 111.1	B 132.1	E 144.2	F 155.6	O 166.3	R 179.1	E 191.2		
B 54.7	R 66.8	I 78.9	D 84.2	G 96.3	E 108.8	T 129.8	O 140.5	L 153.3	L 164.3						

(14) ⚠22

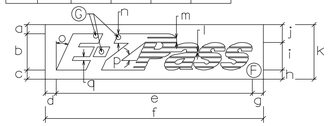


12.0" Radius, 2.0" Border, Black on, Yellow;
"PAY TOLL 5 ¼ MILES", E 2K;

12.0" Radius, 2.0" Border, White on, Green;
"WEST", E 2K; "OR", E 2K; "BILLED BY MAIL", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"NO CASH", E 2K;
Table of letter and object lefts

P 10.3	A 19.1	Y 30.1	T 50.3	O 59.3	L 70.0	L 79.2	5 101.6	¼ 128.8	M 163.1	I 175.1	L 179.5	E 188.8	S 197.6						
W 59.5	E 107.5	S 125.7	T 136.4	147.5															
60.0																			
O 98.6	R 109.3																		
B 45.6	I 55.7	L 60.1	L 69.3	E 78.5	D 88.0	B 106.1	Y 115.3	M 135.5	A 146.6	I 158.5	L 162.9								
N 74.1	O 84.5	C 102.9	A 112.4	S 123.7	H 133.8														



	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
12"	2.2	8	1.8	2.2	43.8	48.0	2.2	1.8	6	4.2	12	0.2	0.9	2.2	25°	37°
18"	3.3	12	2.7	3.3	65.4	72.0	3.3	2.6	9	6.4	18	0.2	91.4	3.2	25°	37°
24"	4.4	16	3.6	4.4	87.2	96.0	4.4	3.5	12	8.5	24	0.3	91.8	4.3	25°	37°
36"	6.6	24	5.4	6.6	130.8	144	6.6	5.3	18	12.7	36	0.5	92.7	6.5	25°	37°

Ⓕ PURPLE TYPE XI REFLECTORIZED BACKGROUND, PANTATONE 259
Ⓒ WHITE TYPE XI REFLECTORIZED LEGEND.

E-Z PASS DETAIL

LEGEND

(2) SIGN NUMBER

⚠2 PLAN SHEET NUMBER - SIGN LOCATION

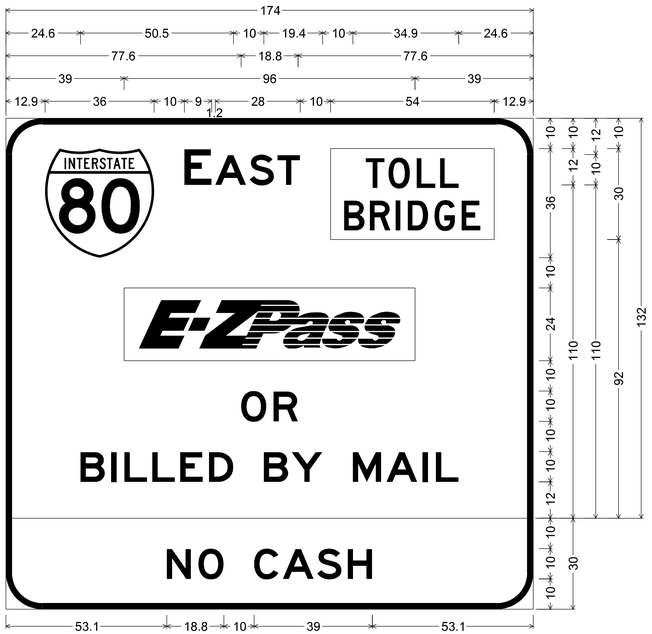
SIGN DETAILS

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	30 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

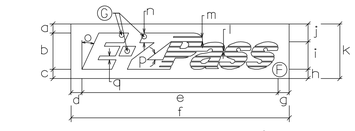
(15) 7 10



12.0" Radius, 2.0" Border, White on, Green;
"EAST", E 2K; Rectangle Yellow;
"OR", E 2K; "BILLED BY MAIL", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"NO CASH", E 2K;
Table of letter and object lefts

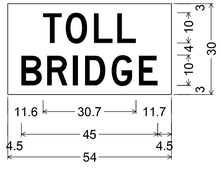
80 12.9	E 58.9	A 69.1	S 80.4	T 89.6	107.1								
39.0													
O 77.6	R 88.3												
B 24.6	I 34.7	L 39.1	L 48.3	E 57.5	D 67.0	B 85.1	Y 94.3	M 114.5	A 125.6	I 137.5	L 141.9		
N 53.1	O 63.5	C 81.9	A 91.4	S 102.7	H 112.8								



	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
12"	2.2	8	1.8	2.2	43.8	48.0	2.2	1.8	6	4.2	12	0.2	0.9	2.2	25°3	7°0
18"	3.3	12	2.7	3.3	65.4	72.0	3.3	2.6	9	6.4	18	0.2	9	1.4	3.2	25°3	7°1
24"	4.4	16	3.6	4.4	87.2	96.0	4.4	3.5	12	8.5	24	0.3	9	1.8	4.3	25°3	7°1
36"	6.6	24	5.4	6.6	130.8	144	6.6	5.3	18	12.7	36	0.5	9	2.7	6.5	25°3	7°2

Ⓕ PURPLE TYPE XI REFLECTORIZED BACKGROUND, PANTATONE 259
Ⓒ WHITE TYPE XI REFLECTORIZED LEGEND.

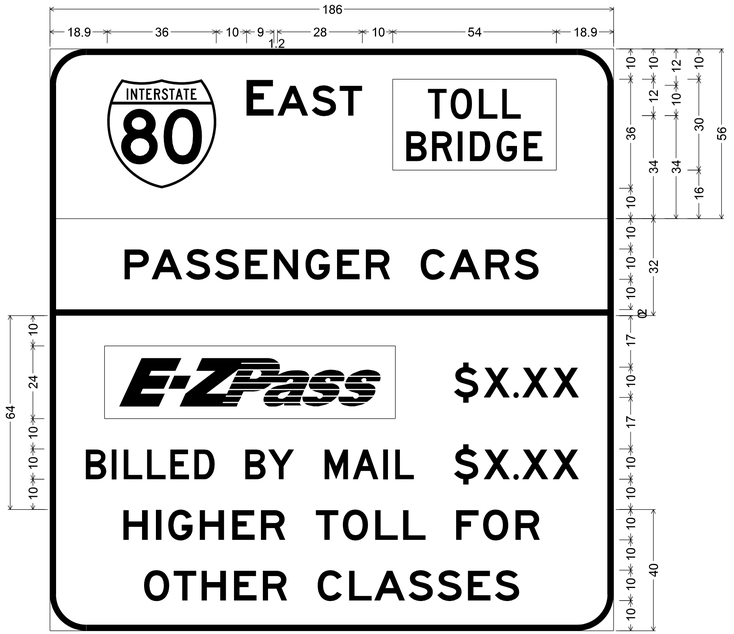
E-Z PASS DETAIL



No border, White on, Yellow;
"TOLL" Black, D 2K;
"BRIDGE" Black, D 2K;
Table of letter and object lefts

T 11.6	O 19.1	L 28.4	L 36.1
B 4.5	R 13.0	I 21.5	D 25.5	G 34.3	E 43.3

(16) 7 9



12.0" Radius, 2.0" Border, White on, Green;
"EAST", E 2K; Rectangle Yellow;

12.0" Radius, 2.0" Border, Black on, White;
"PASSENGER CARS", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
Rectangle White; "BILLED BY MAIL", D 2K;

12.0" Radius, 2.0" Border, Black on, White;
"$X.XX", E 2K; "$X.XX", E 2K;

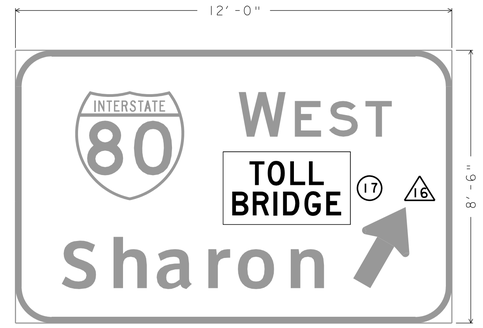
12.0" Radius, 2.0" Border, Black on, White;
"HIGHER TOLL FOR", E 2K; "OTHER CLASSES", E 2K;
Table of letter and object lefts

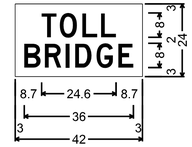
80 18.9	E 64.9	A 75.1	S 86.4	T 95.6	113.1																									
P 24.7	A 33.5	S 44.8	S 54.3	E 64.4	N 73.9	G 84.3	E 94.8	R 104.3	C 122.3	A 131.8	R 143.8	S 153.3																		
— 0.0																														
18.0																														
B 11.8	I 20.3	L 24.3	L 32.0	E 39.7	D 47.6	B 64.4	Y 72.1	M 90.6	A 99.9	I 109.9	L 114.0																			
$ 1.4	X 11.2	. 21.0	X 23.9	X 34.0																										
$ 1.4	X 11.2	. 21.0	X 23.9	X 34.0																										
H 24.3	I 35.0	G 39.0	H 49.4	E 60.1	R 69.7	T 87.8	O 96.7	L 107.3	L 116.6	F 134.1	O 143.0	R 153.6																		
O 31.0	T 40.8	H 50.0	E 60.7	R 70.2	C 88.3	L 98.7	A 107.0	S 118.3	S 127.9	E 138.0	S 146.9																			

LEGEND

(2) SIGN NUMBER

2 PLAN SHEET NUMBER - SIGN LOCATION





No border, White on, Yellow;
"TOLL" Black, D 2K;
"BRIDGE" Black, D 2K;
Table of letter and object lefts

T 8.7	O 14.7	L 22.2	L 28.3
B 3.0	R 9.8	I 16.6	D 19.8	G 26.8	E 34.0

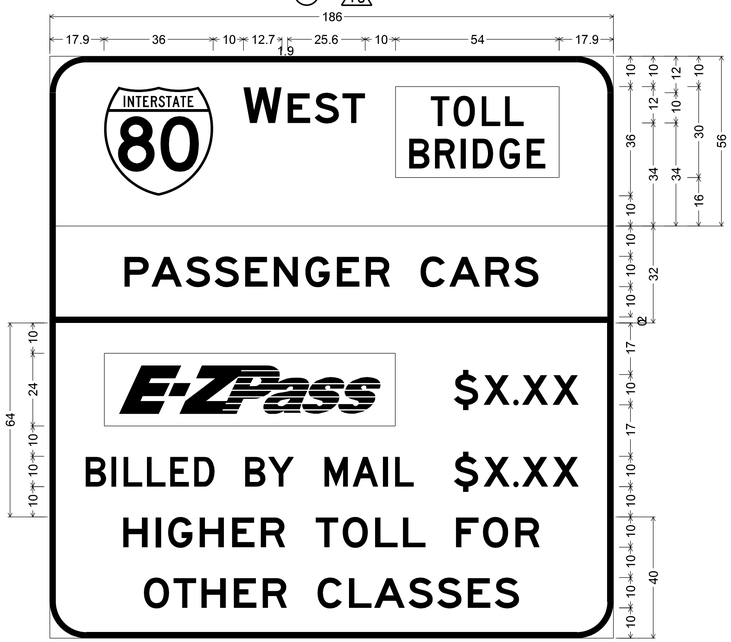
PRE-FINAL DESIGN SUBMISSION

SIGN DETAILS

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	31 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

(18) △16



12.0" Radius, 2.0" Border, White on, Green;
"WEST", E 2K; Rectangle Yellow;

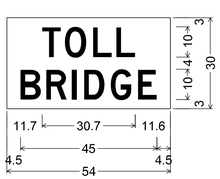
12.0" Radius, 2.0" Border, Black on, White;
"PASSENGER CARS", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
Rectangle White; "BILLED BY MAIL", D 2K;

12.0" Radius, 2.0" Border, Black on, White;
"$X.XX", E 2K; "$X.XX", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"HIGHER TOLL FOR", E 2K; "OTHER CLASSES", E 2K;
Table of letter and object lefts

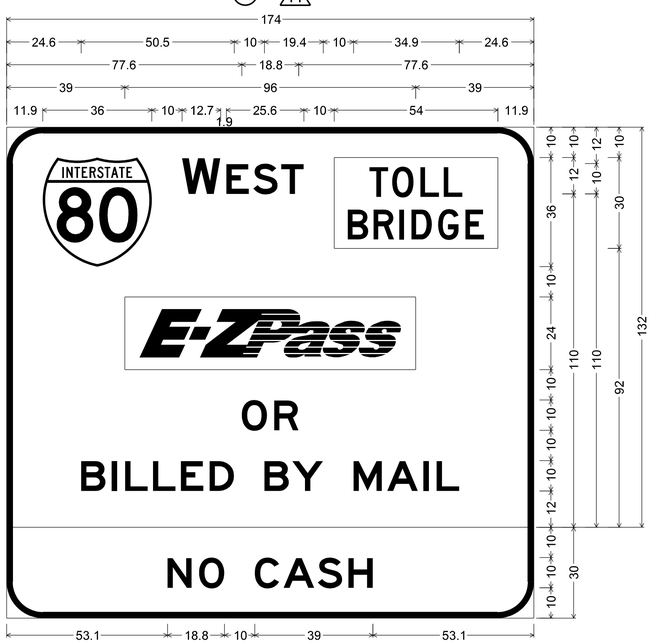
17.9	W 63.9	E 78.5	S 87.4	T 96.6	114.1									
P 24.7	A 33.5	S 44.8	S 54.3	E 64.4	N 73.9	G 84.3	E 94.8	R 104.3	C 122.3	A 131.8	R 143.8	S 153.3		
. 0.0														
18.0														
B 11.8	I 20.3	L 24.3	L 32.0	E 39.7	D 47.6	B 64.4	Y 72.1	M 90.6	A 99.9	I 109.9	L 114.0			
$ 1.3	X 11.1	. 21.0	X 23.8	X 33.9										
$ 1.3	X 11.1	. 21.0	X 23.8	X 33.9										
H 24.3	I 35.0	G 39.0	H 49.4	E 60.1	R 69.7	T 87.8	O 96.7	L 107.3	L 116.6	F 134.1	O 143.0	R 153.6		
O 31.0	T 40.8	H 50.0	E 60.7	R 70.2	C 88.3	L 98.7	A 107.0	S 118.3	S 127.9	E 138.0	S 146.9			



No border, White on, Yellow;
"TOLL" Black, D 2K;
"BRIDGE" Black, D 2K;
Table of letter and object lefts

T 11.7	O 19.2	L 28.5	L 36.2		
B 4.5	R 13.0	I 21.5	D 25.5	G 34.3	E 43.3

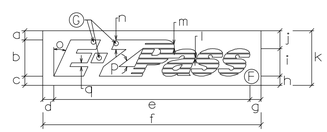
(19) △17



12.0" Radius, 2.0" Border, White on, Green;
"WEST", E 2K; Rectangle Yellow;
"OR", E 2K; "BILLED BY MAIL", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"NO CASH", E 2K;
Table of letter and object lefts

11.9	W 57.9	E 72.5	S 81.4	T 90.6	108.1	
39.0						
O 77.6	R 88.3					
B 24.6	I 34.7	L 39.1	L 48.3	E 57.5	D 67.0	B 85.1	Y 94.3	M 114.5	A 125.6	I 137.5	L 141.9	
N 53.1	O 63.5	C 81.9	A 91.4	S 102.7	H 112.8							

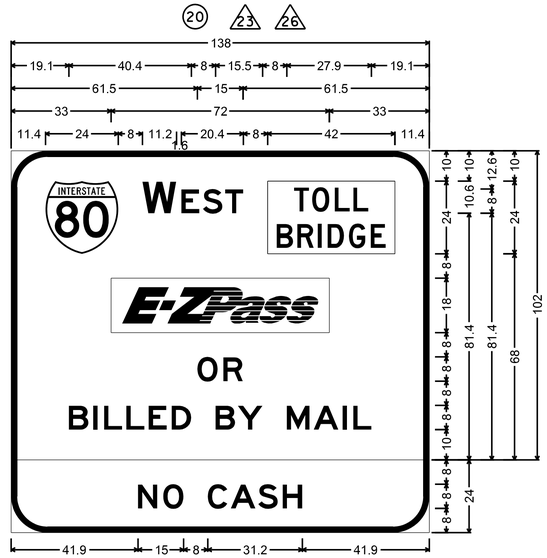


	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
12"	2.2	8	1.8	2.2	43.8	48.0	2.2	1.8	6.4	2.1	20.2	0.9	2.2	25°	37°	0.
18"	3.3	12	2.7	3.3	65.4	72.0	3.3	2.6	9.6	4.1	80.2	9.1	4.3	25°	37°	1.
24"	4.4	16	3.6	4.4	87.2	96.0	4.4	3.5	12.8	5.2	40.3	9.1	8.4	25°	37°	1.
36"	6.6	24	5.4	6.6	130.8	144	6.6	5.3	18	12.7	36	0.59	2.7	6.5	25°	37°	2.

Ⓕ PURPLE TYPE XI REFLECTORIZED BACKGROUND, PANTATONE 259
Ⓒ WHITE TYPE XI REFLECTORIZED LEGEND.

E-Z PASS DETAIL

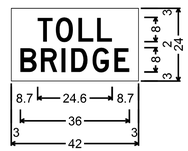
(20) △23 △26



12.0" Radius, 2.0" Border, White on, Green;
"WEST", E 2K; Toll Bridge 8"; "OR", E 2K;
"BILLED BY MAIL", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"NO CASH", E 2K;
Table of letter and object lefts

11.4	W 43.4	E 56.2	S 63.3	T 70.6	84.6	
33.0						
O 61.5	R 70.0					
B 19.1	I 27.2	L 30.7	L 38.0	E 45.4	D 53.0	B 67.5	Y 74.8	M 91.0	A 99.9	I 109.4	L 112.9	
N 41.9	O 50.2	C 64.9	A 72.5	S 81.6	H 89.6							



No border, White on, Yellow;
"TOLL" Black, D 2K;
"BRIDGE" Black, D 2K;
Table of letter and object lefts

T 8.7	O 14.7	L 22.2	L 28.3	
B 3.0	R 9.8	I 16.6	D 19.8	G 26.8	E 34.0

LEGEND

(2) SIGN NUMBER

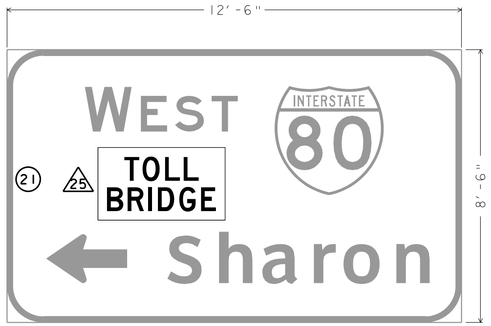
△2 PLAN SHEET NUMBER - SIGN LOCATION

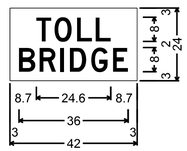
PRE-FINAL DESIGN SUBMISSION

SIGN DETAILS

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	32 OF 32
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

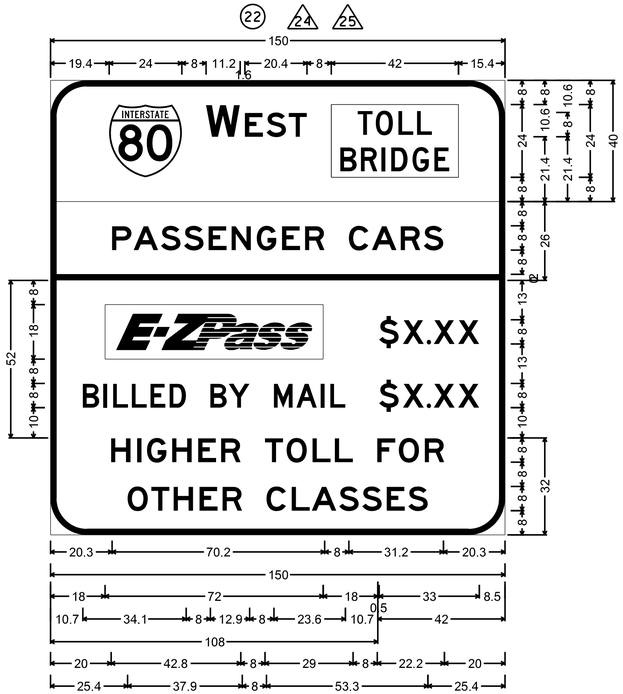




No border, White on, Yellow;
"TOLL" Black, D 2K;
"BRIDGE" Black, D 2K;
Table of letter and object lefts

T 8.7	O 14.7	L 22.2	L 28.3

B 3.0	R 9.8	I 16.6	D 19.8	G 26.8	E 34.0



12.0" Radius, 2.0" Border, White on, Green;
"WEST", E 2K; Toll Bridge 8";

12.0" Radius, 2.0" Border, Black on, White;
"PASSENGER CARS", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
Rectangle White; "BILLED BY MAIL", D 2K;

12.0" Radius, 2.0" Border, Black on, White;
"$X.XX", E 2K; "$X.XX", E 2K;

12.0" Radius, 2.0" Border, Black on, White;
"HIGHER TOLL FOR", E 2K; "OTHER CLASSES", E 2K;
Table of letter and object lefts

19.4	W 51.4	E 64.2	S 71.3	T 78.6	92.6

P 20.3	A 27.4	S 36.5	S 44.1	E 52.2	N 59.8	G 68.1	E 76.4	R 84.0	C 98.5	A 106.1	R 115.6	S 123.2

. 0.0	

18.0

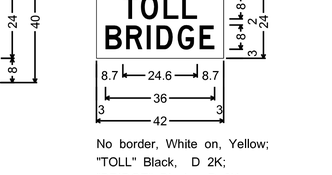
B 10.7	I 17.5	L 20.7	L 26.8	E 33.0	D 39.3	B 52.8	Y 58.8	M 73.7	A 81.2	I 89.2	L 92.4	

$ 0.5	X 8.3	. 16.2	X 18.5	X 26.6

$ 0.5	X 8.3	. 16.2	X 18.5	X 26.6

H 20.0	I 28.6	G 31.8	H 40.2	E 48.7	R 56.3	T 70.8	O 77.9	L 86.5	L 93.8	F 107.8	O 115.0	R 123.5

O 25.4	T 33.3	H 40.6	E 49.2	R 56.8	C 71.3	L 79.6	A 86.2	S 95.3	S 102.9	E 111.0	S 118.1



No border, White on, Yellow;
"TOLL" Black, D 2K;
"BRIDGE" Black, D 2K;
Table of letter and object lefts

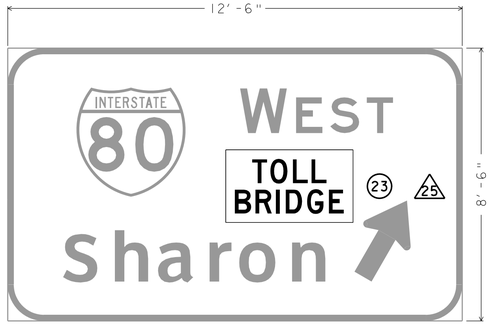
T 8.7	O 14.7	L 22.2	L 28.3

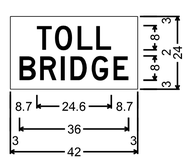
B 3.0	R 9.8	I 16.6	D 19.8	G 26.8	E 34.0

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
12"	2.2	8	1.8	2.2	43.8	48.0	2.2	1.8	6	4.2	12	0.2	0.9	2.2	25°	37°
18"	3.3	12	2.7	3.3	65.4	72.0	3.3	2.6	9	6.4	18	0.29	1.4	3.2	25°	37°
24"	4.4	16	3.6	4.4	87.2	96.0	4.4	3.5	12	8.5	24	0.39	1.8	4.3	25°	37°
36"	6.6	24	5.4	6.6	130.8	144	6.6	5.3	18	12.7	36	0.59	2.7	6.5	25°	37°

Ⓕ PURPLE TYPE XI REFLECTORIZED BACKGROUND, PANTATONE 259
Ⓒ WHITE TYPE XI REFLECTORIZED LEGEND.

E-Z PASS DETAIL



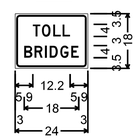


No border, White on, Yellow;
"TOLL" Black, D 2K;
"BRIDGE" Black, D 2K;
Table of letter and object lefts

T 8.7	O 14.7	L 22.2	L 28.3

B 3.0	R 9.8	I 16.6	D 19.8	G 26.8	E 34.0

SP-1



1.5" Radius, 0.6" Border, 0.4" Indent, Black on, Yellow;
"TOLL", D 2K;
"BRIDGE", D 2K;
Table of letter and object lefts

T 5.9	O 8.9	L 12.6	L 15.7

B 3.0	R 6.4	I 9.8	D 11.4	G 14.9	E 18.5

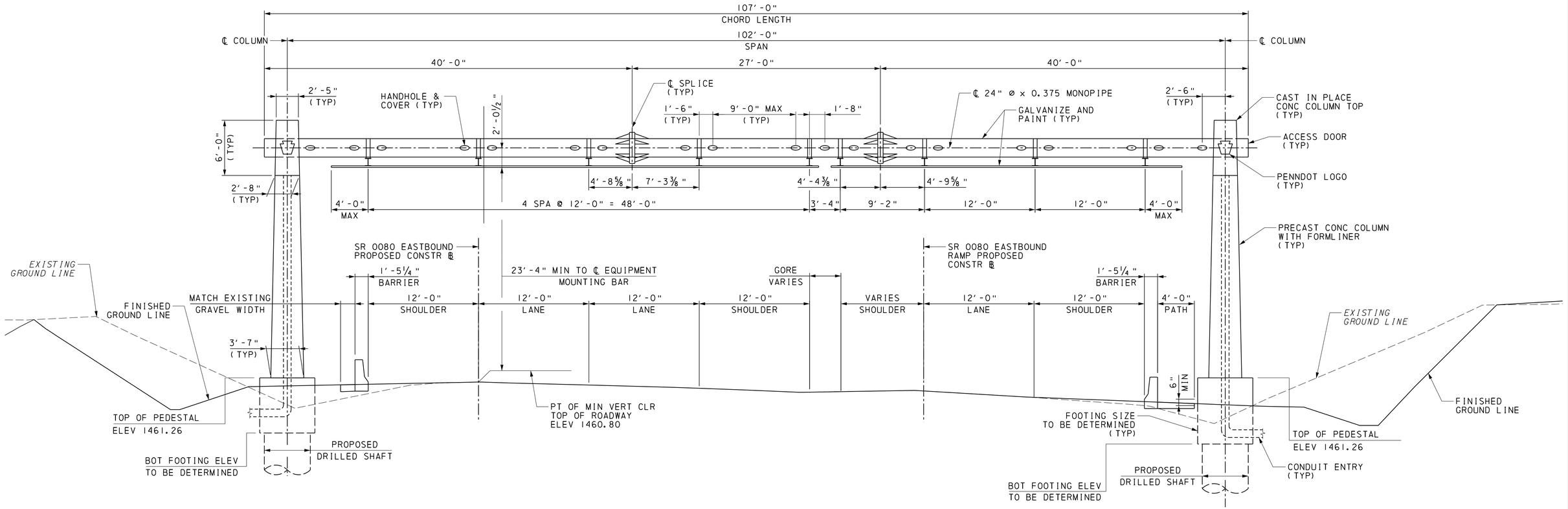
LEGEND

(2) SIGN NUMBER

2 / 2 PLAN SHEET NUMBER - SIGN LOCATION

PRE-FINAL DESIGN SUBMISSION

SIGN DETAILS



DATUM: 1445

NOTE: WESTBOUND ORT GANTRY NOT SHOWN FOR CLARITY.

FRONT ELEVATION

2 0 2 4 6 FEET

SCALE: ⅜" = 1'-0"

Toll Facility plans are being updated. Decision has been made to toll in eastbound direction only. The P3 Development Entity will construct tolling gantry over eastbound lanes only.

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 5.
2. FOR EASTBOUND GANTRY PLAN, SEE SHEET 2.
3. CONDUIT ENTRY TO BE DETERMINED PER TOLL VENDOR REQUIREMENTS.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

REINFORCEMENT BAR FABRICATION DETAILS	BC-736M	01-31-2019
OVERHEAD SIGN STRUCTURES	BC-743M	08-04-2017
MONOPIPE SIGN STRUCTURES	BC-747M	08-04-2017
CLASSIFICATION OF EARTHWORK	RC-10M	06-01-2010
CLASSIFICATION OF EARTHWORK FOR STRUCTURES	RC-11M	06-01-2010
DESCRIPTION	DWG. NO.	RECM'D DATE

SUPPLEMENTAL DRAWINGS

PROFESSIONAL ENGINEER

DATE: _____

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

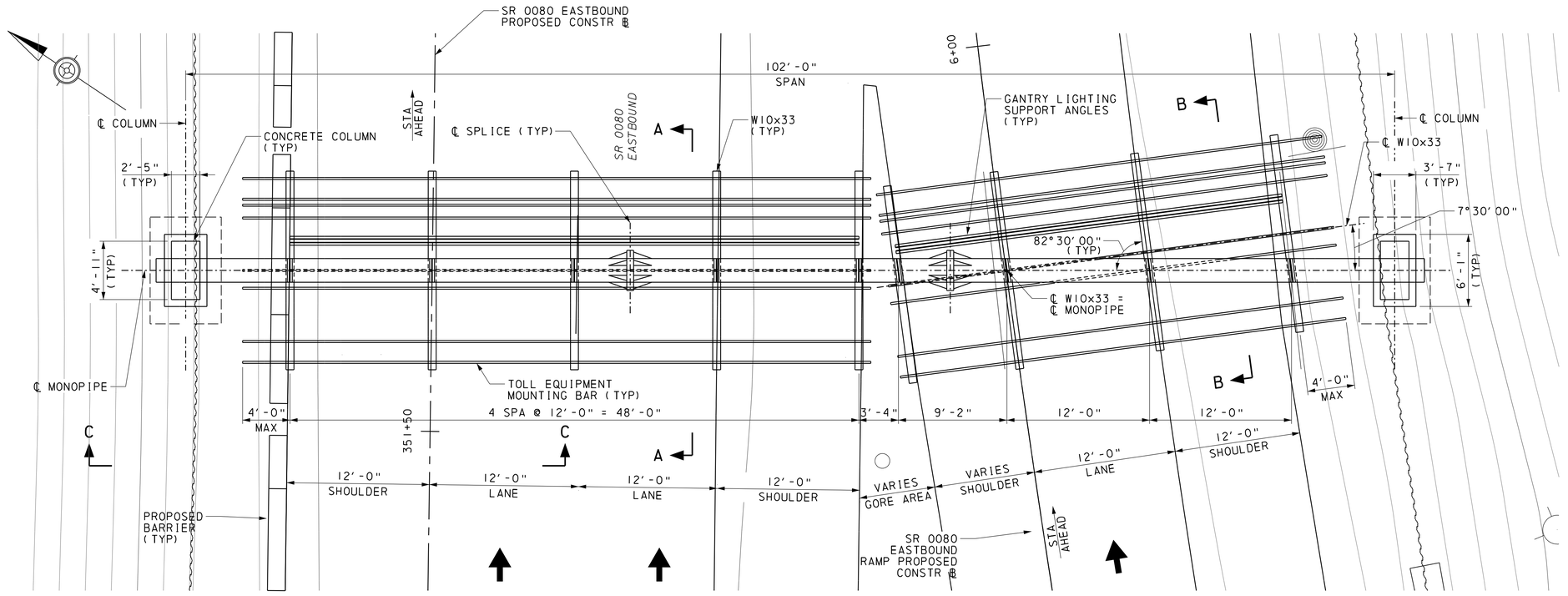
CLARION COUNTY
SR 0080 SECTION 365
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

EASTBOUND GANTRY ELEVATION

RECOMMENDED _____

SHEET 1 OF 15

S-XXXXX



NOTE: WESTBOUND ORT GANTRY NOT SHOWN FOR CLARITY.

PLAN VIEW

2 0 2 4 6 FEET

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

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 5.
2. FOR EASTBOUND GANTRY ELEVATION, SEE SHEET 1.
3. FOR SECTION A-A, SEE SHEET 8, FOR SECTION C-C, SEE SHEET 13.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

CLARION COUNTY
SR 0080 SECTION 365
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

EASTBOUND GANTRY PLAN

PROFESSIONAL ENGINEER

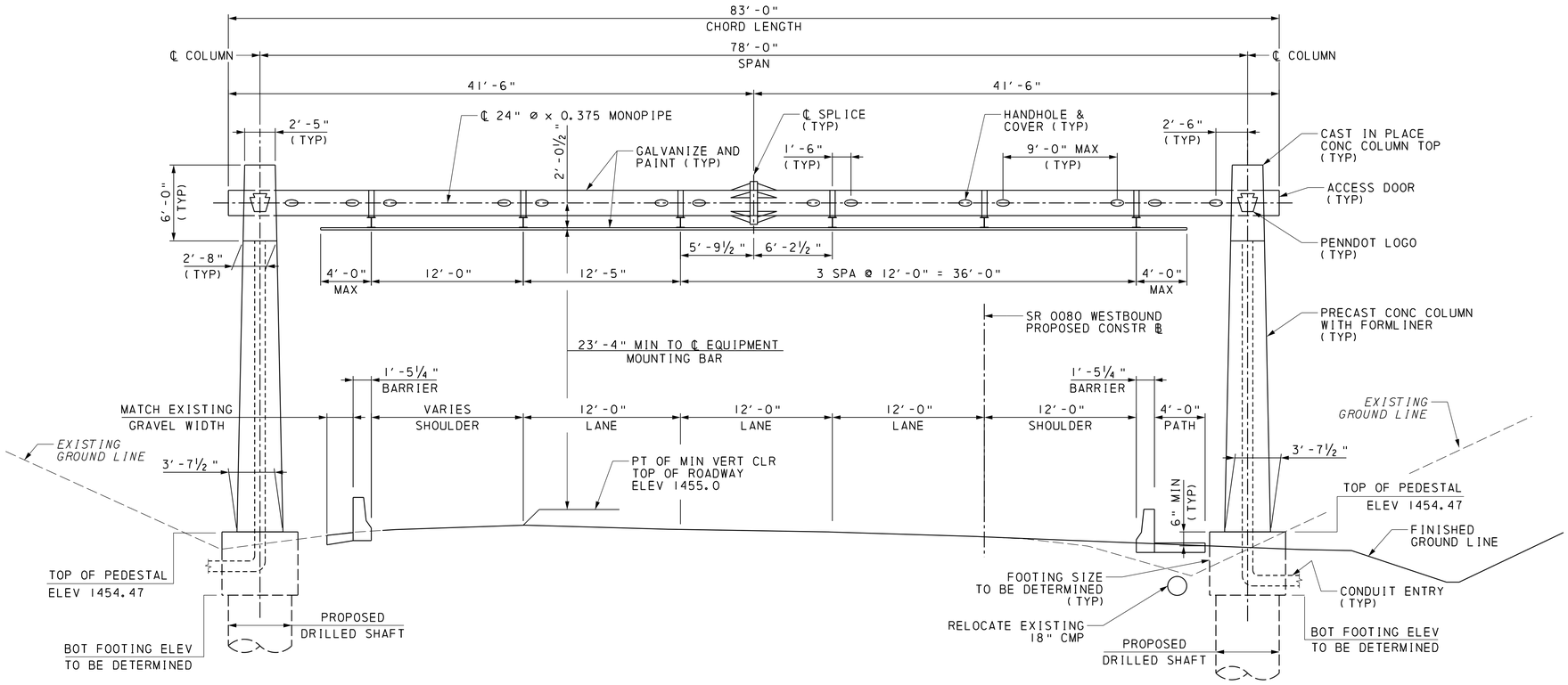
DATE:

RECOMMENDED

SHEET 2 OF 15

S-XXXXX

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED



DATUM: 1440

FRONT ELEVATION

2 0 2 4 6 FEET

SCALE: ⅜" = 1'-0"

NOTE: EASTBOUND ORT GANTRY NOT SHOWN FOR CLARITY.

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 5.
2. FOR WESTBOUND GANTRY PLAN, SEE SHEET 4.
3. CONDUIT ENTRY TO BE DETERMINED PER TOLL VENDOR REQUIREMENTS.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

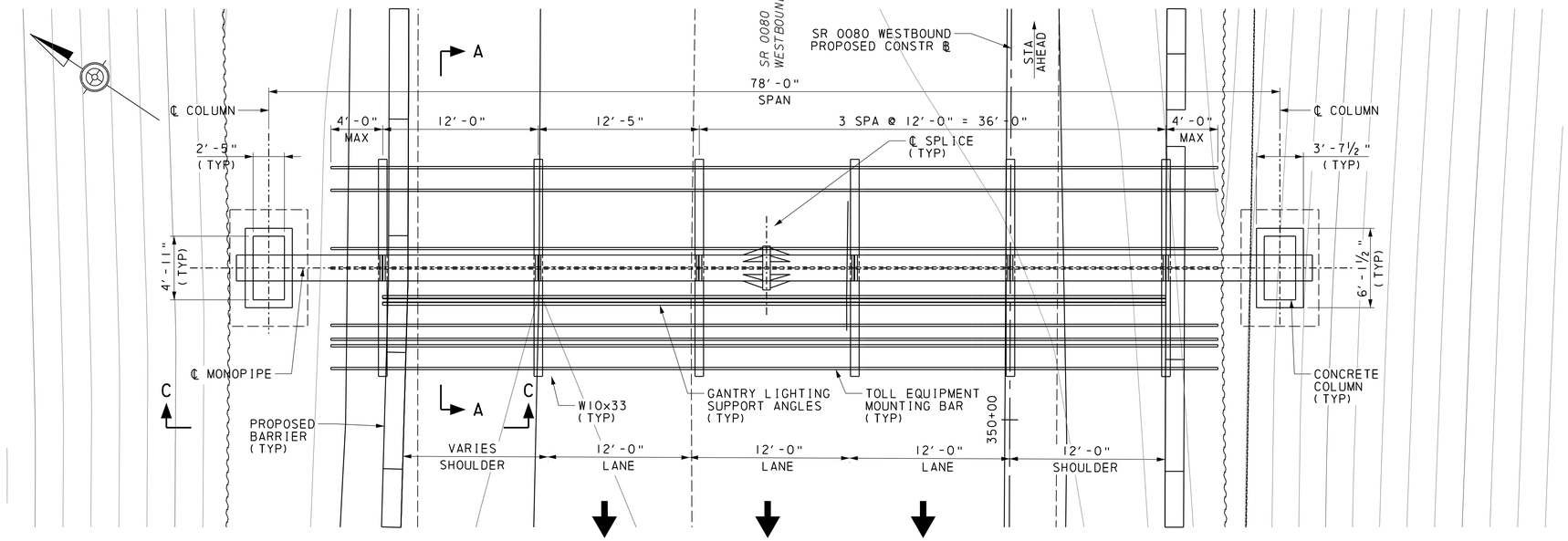
CLARION COUNTY
SR 0080 SECTION 365
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

WESTBOUND GANTRY ELEVATION

RECOMMENDED _____

SHEET 3 OF 15

S-XXXXX



NOTE: EASTBOUND ORT GANTRY NOT SHOWN FOR CLARITY.

PLAN VIEW

2 0 2 4 6 FEET

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

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 5.
2. FOR WESTBOUND GANTRY ELEVATION, SEE SHEET 3.
3. FOR SECTION A-A, SEE SHEET 8, FOR SECTION C-C, SEE SHEET 13.

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

CLARION COUNTY
SR 0080 SECTION 365
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

WESTBOUND GANTRY PLAN

RECOMMENDED _____

SHEET 4 OF 15

S-XXXXX

GENERAL NOTES:

DESIGN SPECIFICATIONS:

1. DESIGN SPECIFICATIONS
   * AASHTO 1ST EDITION LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (2015).
   * AASHTO 8TH EDITION LRFD BRIDGE DESIGN SPECIFICATION (2017).
   * PENNDOT PUBLICATION 15M, DM-4, DECEMBER 2019 EDITION.
2. DESIGN IS IN ACCORDANCE WITH THE LRFD METHOD.

DESIGN LIVE LOADS:

1. WIND LOADS
   * BASIC WIND SPEED = 115 MPH (3 SECOND GUST)
   * FATIGUE IMPORTANCE FACTOR = 1.0 FOR NATURAL WIND GUSTS.
   * FATIGUE IMPORTANCE FACTOR = 1.0 FOR TRUCK-INDUCED GUSTS.
2. ANTICIPATED MAXIMUM DEFLECTION DUE TO NATURAL WIND GUST:
   EASTBOUND GANTRY - 0.281" WESTBOUND GANTRY - 0.103".
3. ANTICIPATED MAXIMUM DEFLECTION DUE TO TRUCK INDUCED GUST:
   EASTBOUND GANTRY - 0.320" WESTBOUND GANTRY - 0.158".

DEAD LOADS:

1. INCLUDES SUPERIMPOSED DEAD LOADS OF
   * TOLL EQUIPMENT + TRAPEZE = 40 PLF
   * CABLING + CABLE TRAY = 40 PLF

GENERAL:

1. PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS, PUBLICATION 408/2020, AASHTO/AWS D1.5M/D1.5-2015 BRIDGE WELDING CODE (USE AASHTO/AWS D1.1/D1.1M-2015 FOR WELDING NOT COVERED IN AASHTO IN AASHTO D1.5M/D1.1-2015), AND CONTRACT SPECIAL PROVISIONS.
2. PROVIDE STRUCTURAL STEEL, OTHER THAN PIPES, CONFORMING TO AASHTO M270, GRADE 36 (ASTM A709, GRADE 36) DESIGNATION EXCEPT WHEN NOTED OTHERWISE.
3. PROVIDE WELDED OR SEAMLESS STEEL PIPE CONFORMING TO PUBLICATION 408, SECTION 948.2(a) 1.
4. TOLL SYSTEM EQUIPMENT MOUNTING BARS SHALL BE 2" NOMINAL PIPE, SCHEDULE 40 AND SHALL CONFORM TO ASTM A53 GRADE B.
5. PROVIDE HIGH-STRENGTH BOLTS CONFORMING TO ASTM F3125, GRADE A325 AND ANCHOR BOLTS CONFORMING TO ASTM F1554, GRADE 55. NUTS SHALL BE ASTM A563, AND WASHERS SHALL BE ASTM F436, TYPE 1. U-BOLTS SHALL CONFORM TO ASTM A449. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT DIP GALVANIZED PER ASTM A153.
6. PROVIDE WELDED ANCHOR STUD SHEAR CONNECTORS MANUFACTURED FROM STEEL CONFORMING TO AASHTO M169 (ASTM A108).
7. USE CLASS AA CEMENT CONCRETE MODIFIED TO 5000 PSI IN THE CAST-IN-PLACE COLUMN TOP.
8. USE 5000 PSI CEMENT CONCRETE FOR PRECAST COLUMN PER PUBLICATION 408, SECTION 714.
9. A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST, IF APPROVED BY THE DEPARTMENT.
10. PROVIDE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM A615/A615M, A996/A996M OR A706/A706M. DO NOT WELD GRADE 60 REINFORCING STEEL BARS UNLESS SPECIFIED. REINFORCEMENT BARS SHALL BE EPOXY COATED PER ASTM A775.
11. RAKE-FINISH ALL HORIZONTAL CONSTRUCTION JOINTS, EXCEPT AS INDICATED.
12. CHAMFER EXPOSED CONCRETE EDGES ¾ INCH BY ¾ INCH, EXCEPT AS NOTED.
13. ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.
14. ALL STRUCTURAL STEEL TO BE GALVANIZED AND PAINTED IN GREY COLOR.
15. CHARPY V-NOTCH TESTING IS REQUIRED ON ALL STEEL PLATES AND PIPES GREATER THAN ½" THICK. PROVIDE STEEL CONFORMING TO THE CHARPY V-NOTCH REQUIREMENTS FOR ZONE 2, NON FRACTURE CRITICAL AS GIVEN IN THE AASHTO MATERIAL SPECIFICATIONS.
16. ALL BOLTED SUB-ASSEMBLY TO BE MADE AFTER GALVANIZING.
17. ANY DAMAGE TO THE GALVANIZED FINISH DURING HANDLING, TRANSPORTATION, INSTALLATION OR ANY FIELD WORK SHALL BE REPAIRED, IN ACCORDANCE WITH ASTM A780 - A2 USING AN APPROVED ZINC RICH PRODUCT PER THE MANUFACTURERS SPECIFICATIONS.
18. REAM SUBDRILLED OR SUBPUNCHED HOLES FOR FIELD SPLICES IN THE FABRICATION SHOP. PROVIDE A CLASS C SURFACE CONDITION ON ALL BOLTED PARTS. ALL CONTACTING SURFACES SHALL HAVE FULL BEARING AND SHALL BE THOROUGHLY CLEANED BY HAND TO REMOVE ANY LOOSE OR FOREIGN MATERIAL AS APPROVED BY THE REPRESENTATIVE. ALL MATING SURFACES BETWEEN SPLICE PLATES SHALL BE MACHINED AFTER FABRICATION AND PRIOR TO GALVANIZATION TO ENSURE 100% CONTACT BETWEEN THE SPLICE PLATES.
19. BOLT HOLES IN THE FIELD AND SHOP SHALL BE MADE BY DRILLING PERPENDICULAR TO METAL SURFACES. FLAME CUTTING HOLES OR ENLARGING HOLES BY BURNING IN THE FIELD SHALL NOT BE PERMITTED.
20. THE LENGTH OF BOLTS SHALL BE SUCH THAT THE THREADED END OF THE BOLT WILL PROJECT A MINIMUM OF 1/4" FROM THE OUTSIDE FACE OF THE NUT WHEN COMPLETELY INSTALLED. SUFFICIENT THREAD MUST BE PROVIDED TO PREVENT THE NUT FROM REACHING THE THREAD RUN-OUT. THREADS SHALL BE EXCLUDED FROM SHEAR PLANE.
21. HIGH STRENGTH BOLTS, NUTS AND WASHERS SHALL BE TESTED IN ACCORDANCE WITH SECTION 1105.02(d)7. HIGH STRENGTH BOLT ASSEMBLIES SHALL BE INSTALLED, TESTED AND INSPECTED PER SECTION 1050.3(c)7, PTM NO. 427, AND PTM NO. 429.
22. DO NOT MAKE WELDS BY MANUAL SHIELDED METAL ARC PROCESS.
23. FIELD WELDING IS NOT PERMITTED EXCEPT WHERE SHOWN ON THE DRAWINGS.
24. DO NOT FIELD WELD OR BURN WHEN THE TEMPERATURE IS BELOW 0°F. PREHEAT AND MAINTAIN THE TEMPERATURE OF THE METAL TO AT LEAST 70°F WHEN THE TEMPERATURE OF THE METAL IS BETWEEN 0°F AND 32°F DURING WELDING.

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

GENERAL:

25. DO NOT WELD WHEN SURFACES TO BE WELDED ARE MOIST OR EXPOSED TO RAIN, SNOW, OR WIND, OR WHEN WELDERS ARE EXPOSED TO INCLEMENT CONDITIONS THAT WILL ADVERSELY AFFECT THE QUALITY OF WORK.
26. PREHEAT THE STEEL TO THE SPECIFIED MINIMUM TEMPERATURE FOR A DISTANCE EQUAL TO THE THICKNESS OF THE PART BEING WELDED, BUT NOT LESS THAN 3 INCHES IN ALL DIRECTIONS FROM THE POINT OF WELDING.
27 REMOVE BY APPLICATION OF HEAT ANY MOISTURE PRESENT AT POINT OF WELD. PROVIDE WINDBREAKS FOR PROTECTION FROM DIRECT WIND.
28. PRIOR TO PLACING THE WELD, THOROUGHLY CLEAN ALL SURFACES TO RECEIVE WELDS OF ALL FOREIGN MATTER FOR A DISTANCE OF 2 INCHES FROM EACH SIDE OF THE OUTSIDE LINES OF THE WELD.
29. WELDS SHALL BE TESTED IN ACCORDANCE WITH SECTION 948.2(d) AND AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS. CJP WELDS CONNECTING THE MONOPIPES TO SPLICE PLATES SHALL BE ULTRASONICALLY INSPECTED ALONG THEIR ENTIRE LENGTH FOR TOE CRACKS AFTER GALVANIZING. THIS INSPECTION IS IN ADDITION TO THE VOLUMETRIC INSPECTION REQUIRED AFTER FABRICATION.
30. GRIND ALL AREAS TO BE WELDED TO BRIGHT METAL. BUTT WELD SPLICES ARE NOT PERMITTED UNLESS SHOWN ON THE PLANS. COMPLETE ALL WELDING AND REQUIRED TESTING BEFORE ANY MATERIAL IS GALVANIZED. NON-DESTRUCTIVELY TEST ALL CIRCUMFERENTIAL WELDS USING THE METHODS AND PROCEDURES IN ACCORDANCE WITH THESE NOTES AND PLANS. THE ACCEPTABLE CRITERIA ARE STATED IN TABLE 6.1 OF ANSI/AWS D1.1/D1.1M. PROVIDE FULL PENETRATION GROOVE WELDS FOR ALL LONGITUDINAL WELDS WITHIN 6" OF A FULL PENETRATION CIRCUMFERENTIAL GROOVE WELD AND INSPECT AS SPECIFIED ABOVE. UNDERCUT GREATER THAN 0.01" IS NOT PERMITTED.
31. ALL CUT EDGES OF STEEL SHALL BE GROUND SMOOTH.
32. THREADED COUPLERS CONFORMING TO ASTM A865 SHALL BE USED TO SPLICE EQUIPMENT MOUNTING PIPES. COUPLERS SHALL BE LOCATED TO AVOID INTERFERENCE WITH OTHER COMPONENTS OF THE TOLL SUPPORT SYSTEM.
33. PROVIDE A MINIMUM OF 3 INCHES OF CONCRETE COVER ON REINFORCEMENT BARS, UNLESS OTHERWISE NOTED.
34. PROVIDE MINIMUM EMBEDMENT AND SPLICE LENGTHS IN ACCORDANCE WITH PENNDOT STANDARD DRAWING BC-736M, UNLESS OTHERWISE INDICATED.
35. WELDING OF REINFORCEMENT BARS DURING FABRICATION OR CONSTRUCTION IS NOT PERMITTED, UNLESS SPECIFIED.
36. SPACING FOR REINFORCEMENT IS A MAXIMUM, UNLESS OTHERWISE NOTED.
37. FOR GROUTED COUPLERS USE ONLY PRE-APPROVED BULLETIN 15 COUPLERS. COUPLERS SHALL BE GALVANIZED.
38. FORMLINER PATTERN ON THE COLUMN TO BE RANDOM FIELD STONE.
39. ALL ACCESS DOORS AND HANDHOLES TO BE DETAILED PER CONSTRUCTION STANDARDS FOR OVERHEAD SIGN STRUCTURES (BC-743M).
40. THESE DRAWINGS ARE INTENDED FOR THE SOLE PURPOSE OF SUPPORTING THE ELECTRONIC TOLLING EQUIPMENT, CAMERAS, AND OTHER MISCELLANEOUS APPURTENANCES. NO ADDITIONAL SIGN AREA, EQUIPMENT OR APPURTENANCES MAY BE MOUNTED ON THIS STRUCTURE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE REPRESENTATIVE.
41. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD AS NECESSARY AND REQUIRED FOR THE COMPLETION OF THE WORK UNDER THE CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY AND FOR THE CORRECT FIT OF ALL CONSTRUCTION.
42. IMMEDIATELY REPORT ANY DEVIATIONS OF THE ACTUAL CONDITIONS FROM THOSE DEPICTED ON THE DRAWINGS TO THE REPRESENTATIVE. THE REPRESENTATIVE SHALL REVIEW THE CONTRACTOR RECOMMENDED CORRECTIVE ACTIONS TO BE TAKEN.

CONSTRUCTION:

1. SUBMIT DETAILED WORKING DRAWINGS AND CALCULATIONS OF GANTRY ERECTION, INCLUDING GANTRY LIFTING LOCATIONS AND PROCEDURES. DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER FOR THE REVIEW AND APPROVAL BY THE REPRESENTATIVE AND THE DEPARTMENT.
2. GANTRY SHALL BE LIFTED WITH W10 SUPPORT BEAMS, MOUNTING BARS AND LIGHT ANGLES ATTACHED. THE CONTRACTOR SHALL MAINTAIN LATERAL STABILITY OF THE GANTRY DURING LIFTING AND ALL STAGES OF ERECTION. CAST-IN-PLACE PORTION OF COLUMN MUST BE PLACED AFTER MONOPIPE, SUPPORT BEAMS, PIPES, AND ANGLES ARE IN PLACE. TOLL EQUIPMENT AND TRAPEZE SYSTEM MAY BE INSTALLED EITHER BEFORE OR AFTER THE CAST-IN-PLACE PORTION OF THE CONCRETE COLUMN HAS BEEN POURED AND CURED. THE LENGTH OF TIME BETWEEN SETTING OF THE MONOPIPE AND PLACEMENT OF THE CAST-IN-PLACE COLUMN PORTION SHALL NOT EXCEED 2 DAYS.
3. GANTRY STRUCTURES SHALL BE CONSTRUCTED TRUE TO THE SPECIFIED DIMENSIONS, SHALL BE FREE FROM KINKS, TWISTS, OR BENDS, AND SHALL BE UNIFORM IN APPEARANCE. THE COMPLETED SECTIONS SHALL BE ASSEMBLED IN THE SHOP AND SHALL BE CHECKED FOR STRAIGHTNESS, ALIGNMENT, AND DIMENSIONAL ACCURACY. ANY VARIATIONS SHALL BE CORRECTED TO THE SATISFACTION OF THE REPRESENTATIVE.
4. CLIPS, EYES, OR REMOVABLE BRACKETS SHALL BE AFFIXED TO ALL GANTRY SECTIONS, AS NECESSARY, TO SECURE THE STRUCTURE DURING SHIPPING AND FOR LIFTING AND MOVING DURING ERECTION. THIS IS TO PREVENT DAMAGE TO THE FINISHED SURFACES. BRACKETS ON TUBULAR STRUCTURES SHALL BE REMOVED AFTER ERECTION. DETAILS OF SUCH DEVICES SHALL BE SHOWN ON THE SHOP DRAWINGS.
5. TEMPORARILY SUPPORT PIPE SEGMENTS TO RELIEVE LOAD FROM THE SPLICES WHILE HIGH-STRENGTH BOLTS ARE BEING TIGHTENED IN ORDER TO FIRMLY SEAT THE CONNECTION PLATES.
6. GANTRY SHALL BE ASSEMBLED IN THE SHOP PRIOR TO SHIPMENT TO SITE TO VERIFY CAMBER AND OVERALL FIT AND FINISH. ELEVATIONS AND GANTRY END PIPE LOCATIONS SHALL BE VERIFIED BY A LICENCED LAND SURVEYOR. GANTRY SHALL BE DISASSEMBLED FOR SHIPMENT.
7. IT IS EXPECTED THAT THE GANTRY PIPE WILL BE USED TO ROUTE CABLING FOR TOLLING EQUIPMENT COMMUNICATION AND POWER.
8. ALL DIMENSIONS ARE IN US CUSTOMARY UNITS. SHOP DRAWINGS AND ERECTION DRAWINGS SUBMITTED FOR THIS PROJECT MUST BE IN ENGLISH UNITS.
9. CONFORM TO ALL OSHA REGULATIONS PERTAINING TO WORKER SAFETY AND SPECIFICALLY TO 29 CFR PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.

GROUNDING AND BONDING NOTES:

1. PROVIDE GROUNDING OF THE GANTRY STRUCTURE AND ALL COMPONENTS PER THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE. COORDINATE THE EXACT GROUNDING AND BONDING PROCEDURES WITH THE EQUIPMENT VENDOR PRIOR TO INSTALLING ANY EQUIPMENT OR COMPONENTS.
2. PROVIDE A UL LISTED LIGHTNING PROTECTION SYSTEM FOR THE GANTRY STRUCTURE CONSISTING OF GROUNDING TO THE EARTH AND ALL REQUIRED CONDUCTORS AND AIR TERMINALS FOR A FULL FUNCTIONING SYSTEM. BOND ALL METALLIC COMPONENTS OF THE GANTRY STRUCTURE TO THIS SYSTEM. THE CONTRACTOR'S REGISTERED UL MASTER LABEL DESIGNER AND INSTALLER SHALL COORDINATE THE EXACT REQUIREMENTS WITH THE EQUIPMENT VENDOR AND THE REPRESENTATIVE.

INDEX OF DRAWINGS

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

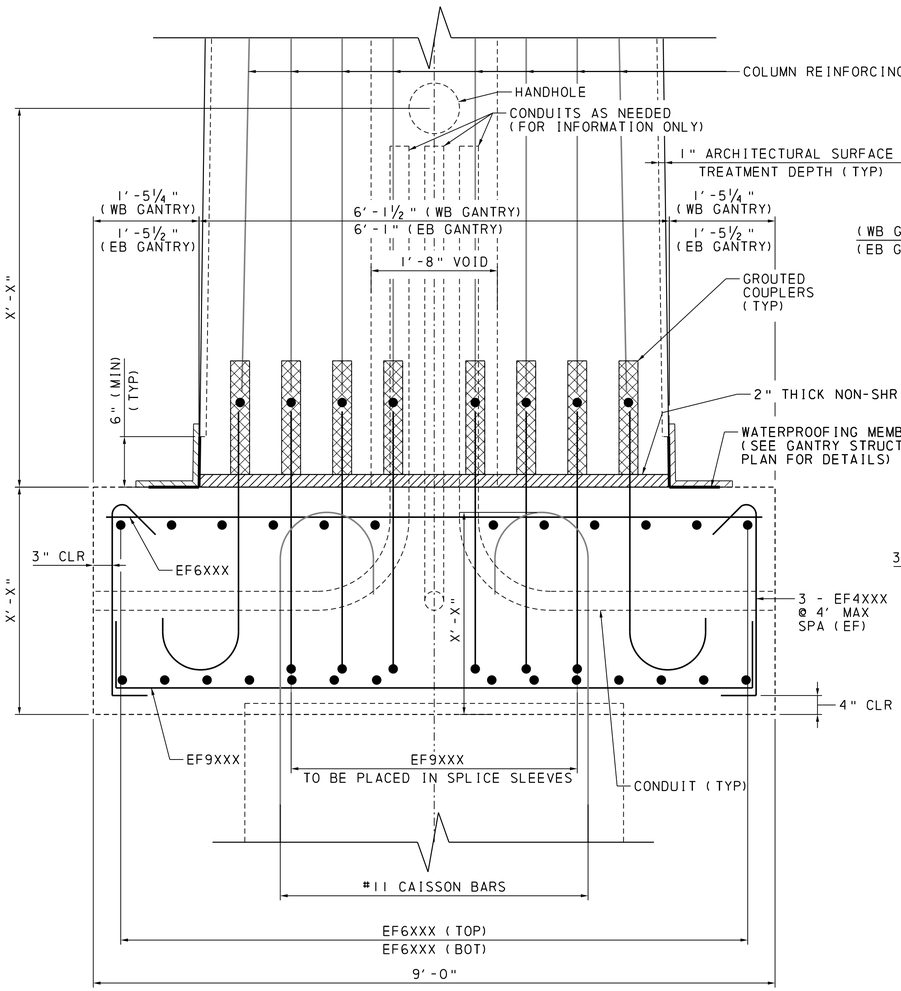
CLARION COUNTY
SR 0080 SECTION 365
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

GENERAL NOTES - GANTRY STRUCTURES

RECOMMENDED _____

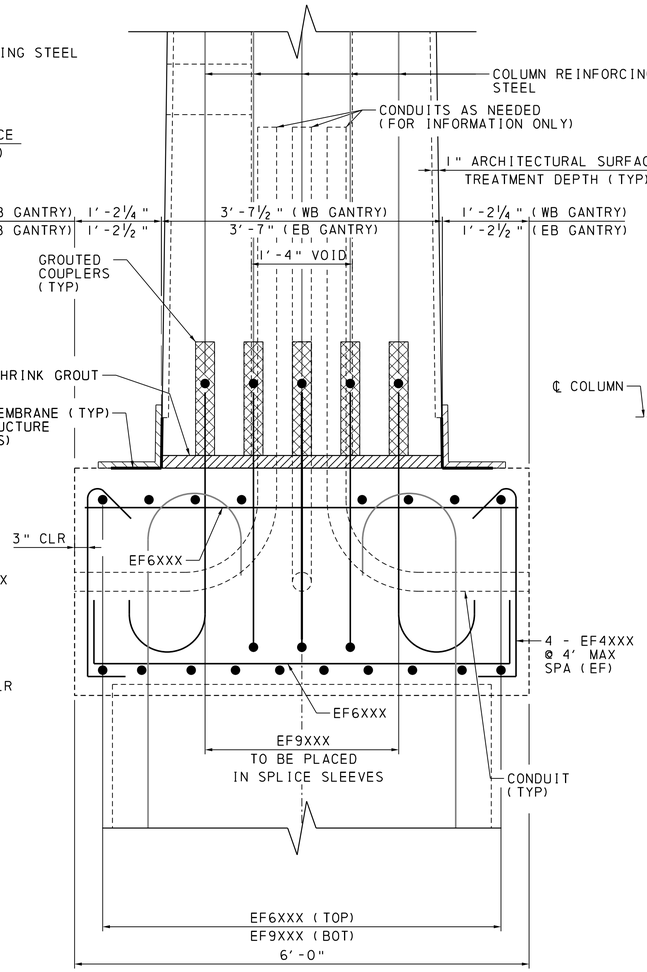
SHEET 5 OF 15

S-XXXXX



PROFILE

6 0 6 12 INCHES



ELEVATION

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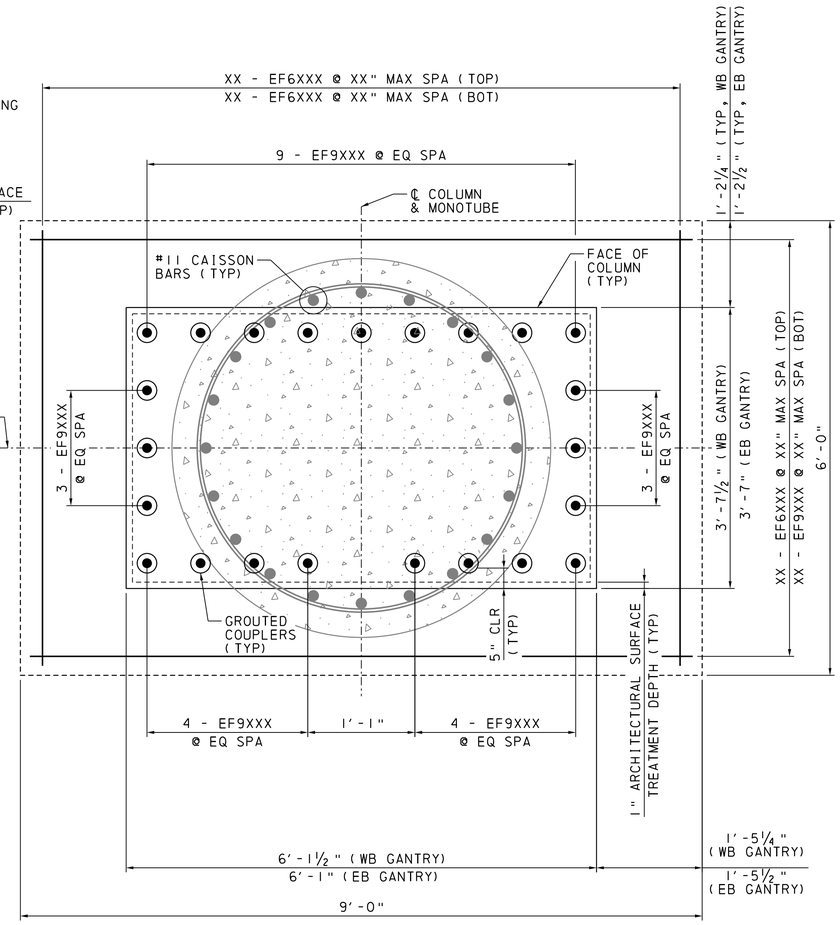

PLAN

6 0 6 12 INCHES

PRECAST COLUMN - FOOTING DETAIL

NOTES:

1. FOR TOP OF FOUNDATION ELEVATIONS, SEE SHEETS 1 AND 3.
2. CONDUITS AND COLUMN VOID ARE NOT SHOWN IN PLAN VIEW FOR CLARITY.

LEGEND:

GROUT FOR COUPLER, SEE SPECIAL PROVISION FXX.XX "GROUTED COUPLERS (FOR #9 BARS)"

NON-SHRINK GROUT

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

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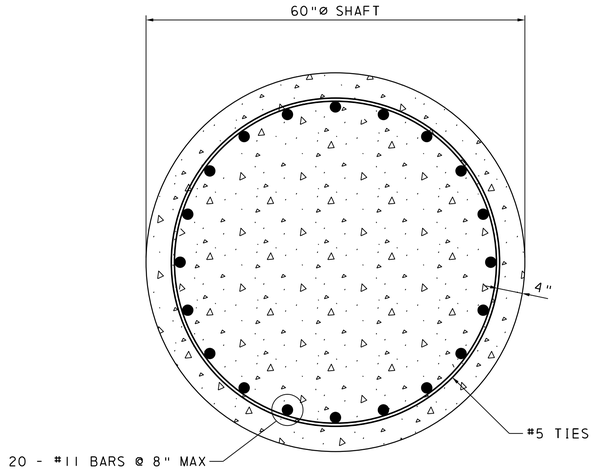
ORT GANTRY STRUCTURE

FOUNDATION PLAN & ELEVATION

RECOMMENDED _____

SHEET 6 OF 15

S-XXXXX



SECTION A-A

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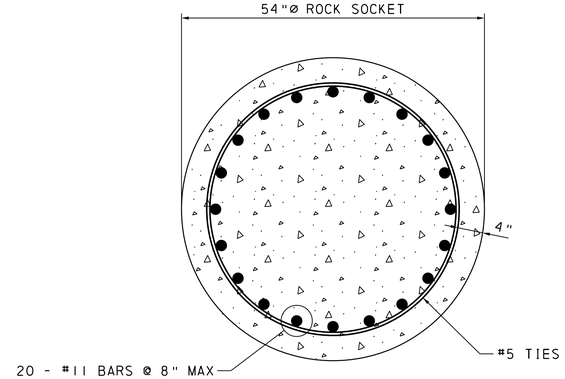
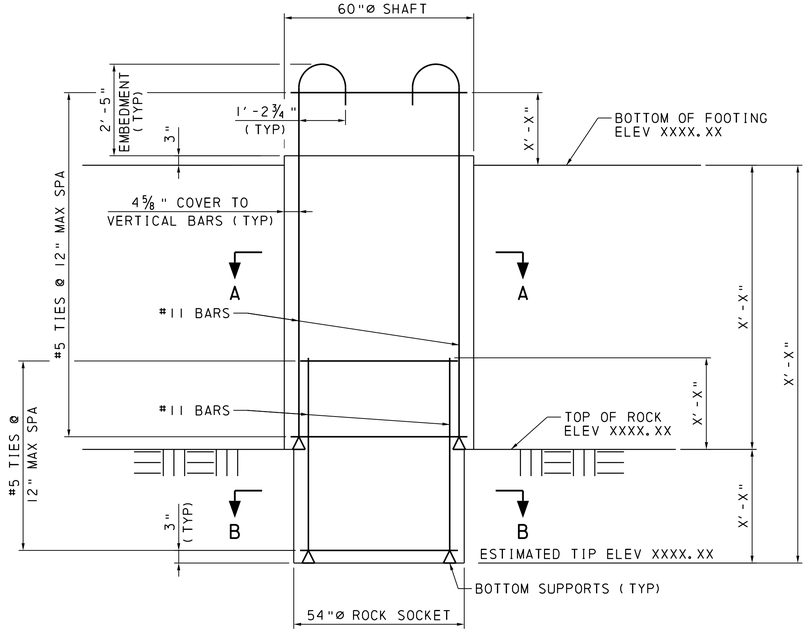


SECTION B-B

6 0 6 12 INCHES



DRILLED SHAFT CAISSON ELEVATION

1 0 1 2 FEET

NOTES:

1. LAP SPIRALS FOR ONE FULL TURN WHEN REQUIRED.
2. FOR CAISSON FOUNDATION NOTES, SEE SHEET 5.

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SR 0080 SECTION 365
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ORT GANTRY STRUCTURE

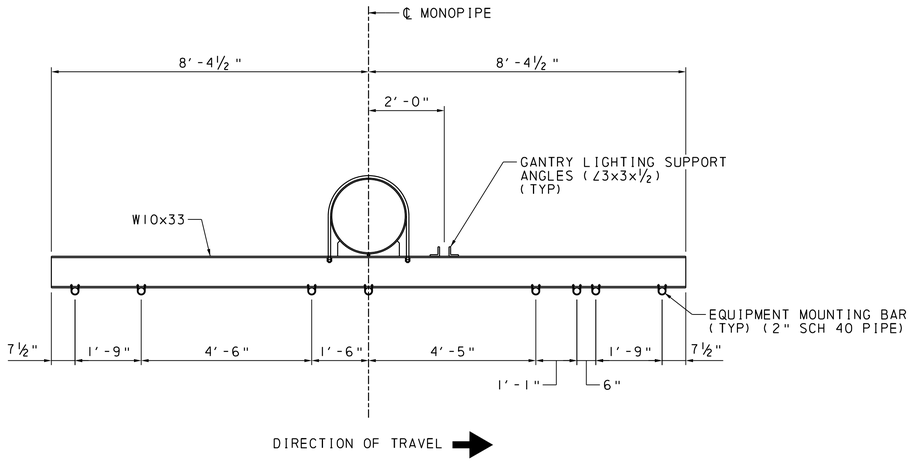
FOUNDATION DETAILS

RECOMMENDED _____

SHEET 7 OF 15

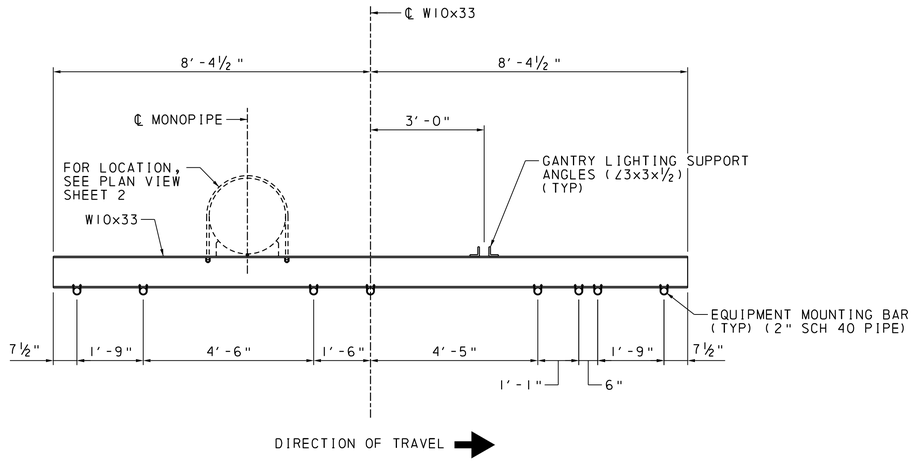
S-XXXXX

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED



SECTION A-A - EQUIPMENT SUPPORT BEAM

0 1 2 FEET



SECTION B-B - EQUIPMENT SUPPORT BEAM

0 1 2 FEET

NOTES:

1. TOLL EQUIPMENT AND ASSOCIATED TRAPEZE PIPES SHALL BE PROVIDED BY OTHERS.
2. FOR LOCATION OF SECTION A-A, SEE SHEETS 2 AND 4.
3. FOR LOCATION OF SECTION B-B, SEE SHEET 2.

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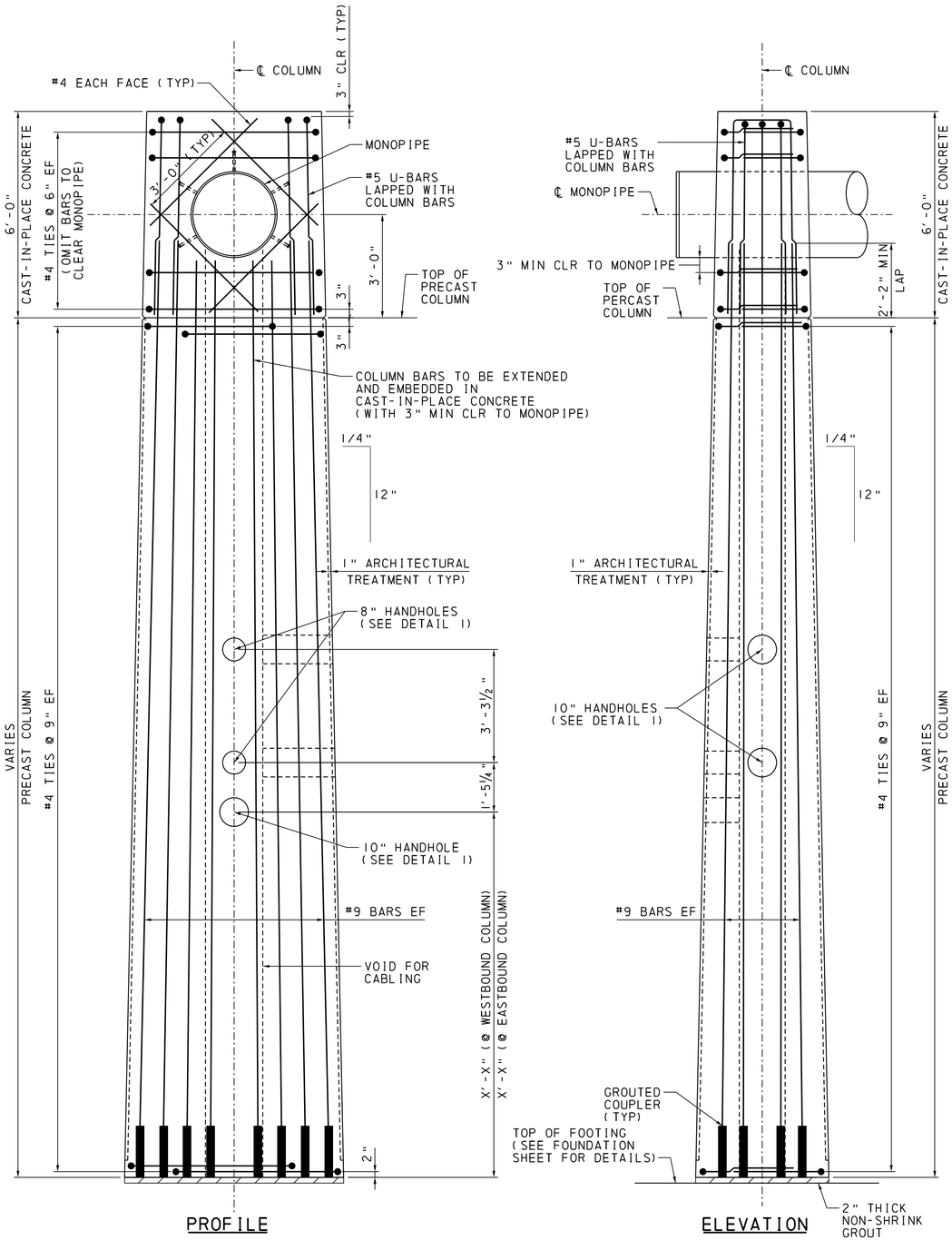
ORT GANTRY STRUCTURE
EQUIPMENT SUPPORT BEAM
CROSS SECTIONS

RECOMMENDED _____

SHEET 8 OF 15

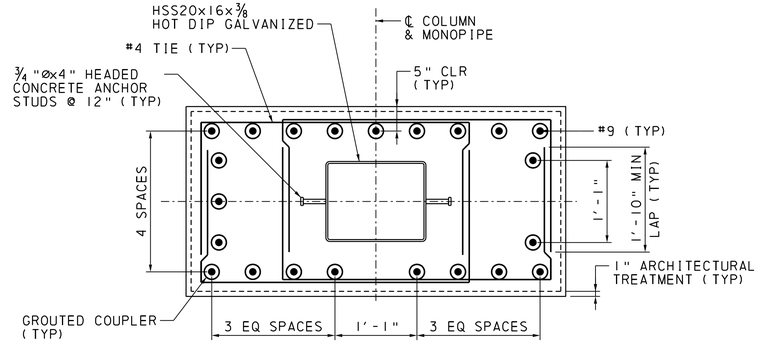
S-XXXXX

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED



GANTRY COLUMN GEOMETRY

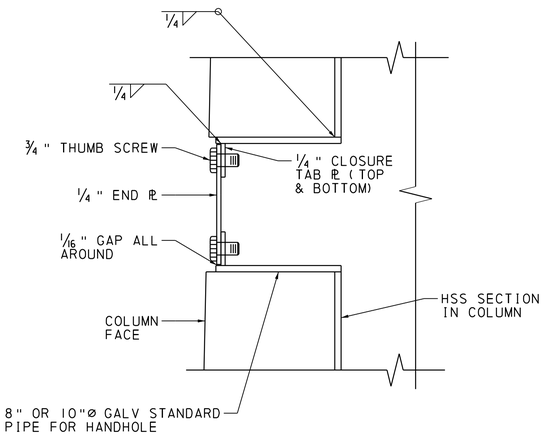
1 0 1 2 FEET



COLUMN PLAN (BOTTOM OF COLUMN)

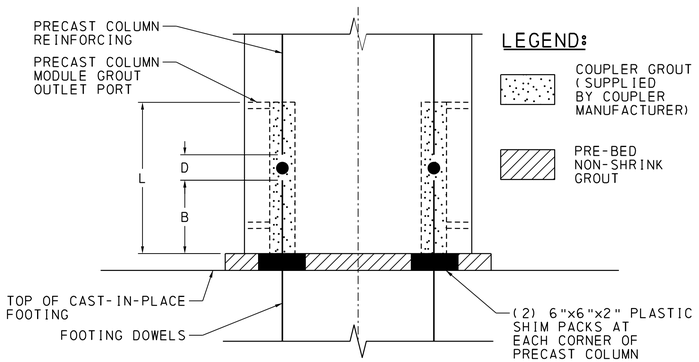
6 0 6 12 INCHES

NOTE: DETAILS FOR CONDUIT NOT SHOWN, NUMBER OF CONDUITS TO BE DETERMINED PER TOLL VENDOR REQUIREMENTS.



DETAIL 1

8" HANDHOLE SHOWN, 10" HANDHOLE SIMILAR
NOT TO SCALE



GROUTED COUPLER DETAILS

6 0 6 12 INCHES

NOTES:

1. USE MATCHING TEMPLATES FOR THE LOCATION OF FOOTING REINFORCMENT DOWELS AND COLUMN GROUTED COUPLER PLACEMENT.
2. CONSULT MANUFACTURER OF THE GROUTED COUPLER FOR PROPER DIMENSIONS "B", "D" AND "L" AND FOR TOLERANCE ON THESE DIMENSIONS.
3. BEFORE EXECUTING GROUTED COUPLER ASSEMBLIES, ALWAYS SEEK INSTALLATION RECOMMENDATIONS FROM THE MANUFACTURER OF THE GROUTED COUPLER USED.
4. THIS CONNECTION BEHAVES AS A HINGE DURING INSTALLATION AND WILL REQUIRE LATERAL BRACING. THE BRACING SHOULD REMAIN IN PLACE UNTIL ALL CONNECTIONS HAVE BEEN COMPLETED, AND NON-SHRINK AND COUPLER GROUT HAVE BEEN CURED.
5. FILL ENTIRE 2" JOINT WITH NON-SHRINK GROUT. BE SURE NO GROUT ENTERS GROUTED COUPLER DURING THIS OPERATION.
6. FILL GROUTED COUPLER IN ITS ENTIRETY WITH GROUT (SUPPLIED BY COUPLER MANUFACTURER).
7. REINFORCEMENT SHALL BE EPOXY COATED, GROUTED COUPLERS SHALL BE GALVANIZED.
8. FOR COLUMN DIMENSIONS, SEE SHEET 10.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

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ORT GANTRY STRUCTURE

COLUMN PLAN & ELEVATION

RECOMMENDED _____

SHEET 9 OF 15

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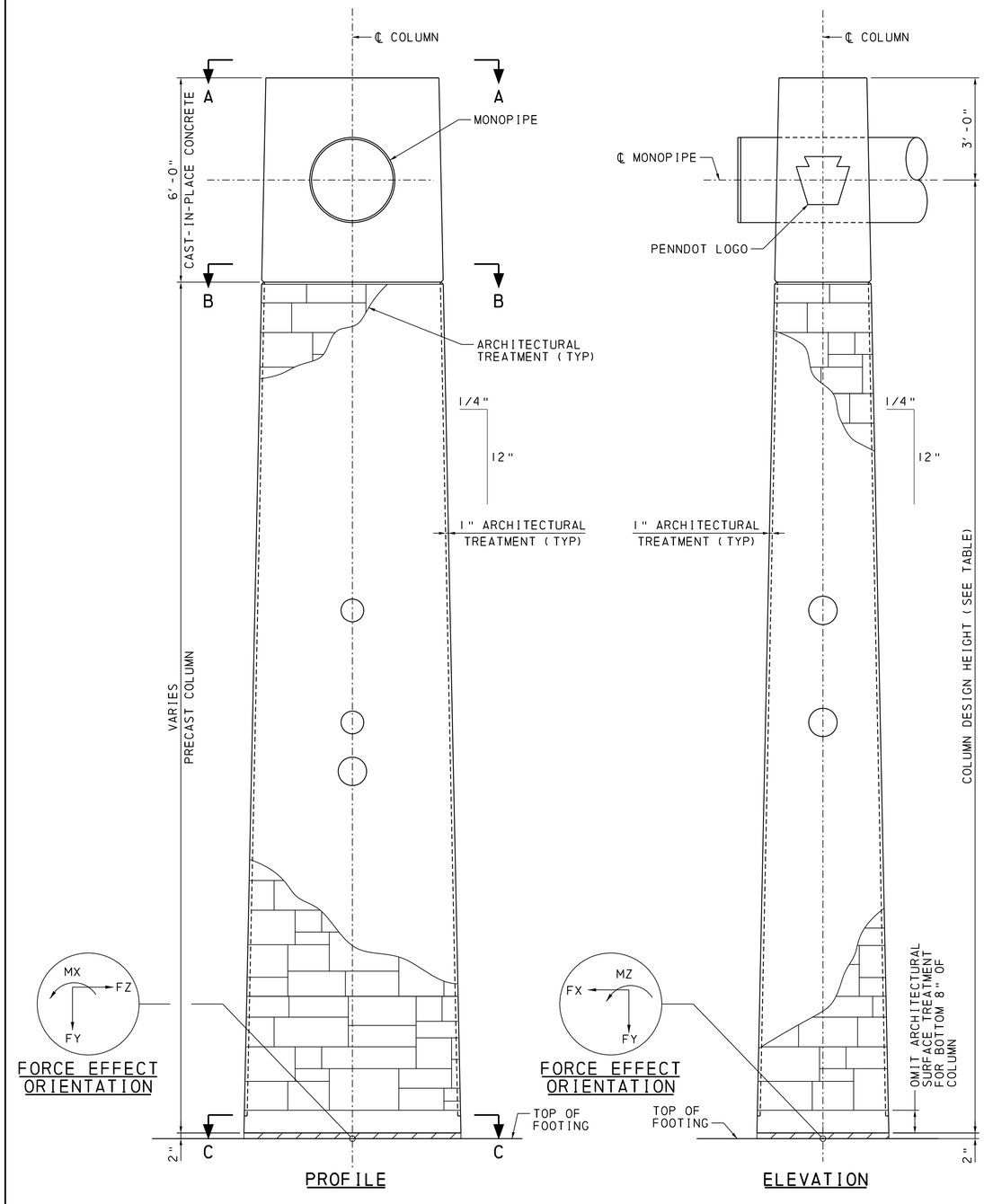


GANTRY COLUMN GEOMETRY

1 0 1 2 FEET

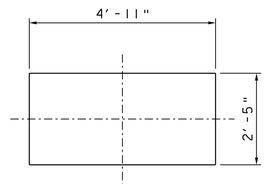
NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

UNFACTORED FORCE EFFECTS AT CENTERLINE OF COLUMN AT TOP OF FOOTING

SPAN (FT)	COLUMN DESIGN HEIGHT (FT)	DEAD LOAD					TEMPERATURE					WIND				
		FX (K)	FY (K)	FZ (K)	MX (K-FT)	MZ (K-FT)	FX (K)	FY (K)	FZ (K)	MX (K-FT)	MZ (K-FT)	FX (K)	FY (K)	FZ (K)	MX (K-FT)	MZ (K-FT)
EASTBOUND 102'-0"	25'-0"	10	86	0	0	-5	20	0	0	0	495	13	0	12	-225	204
	25'-0"	10	87	0	0	-3	20	0	0	0	495	13	0	12	-226	208
WESTBOUND 78'-0"	26'-0"	6	82	0	0	-4	15	0	0	0	376	12	0	10	-182	171
	26'-0"	6	82	0	0	-4	15	0	0	0	376	12	0	10	-182	171

* NOTE: FORCES ARE PROVIDED FOR INFORMATION ONLY

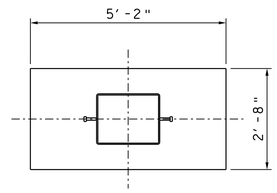
COLUMN DESIGN HEIGHT (FT)	DIMENSION A	DIMENSION B
25'-0"	6'-1"	3'-7"
25'-0"	6'-1"	3'-7"
26'-0"	6'-1 1/2"	3'-7 1/2"
26'-0"	6'-1 1/2"	3'-7 1/2"



SECTION A-A

1 0 1 2 FEET

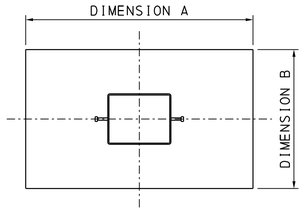
(TOP OF COLUMN)



SECTION B-B

1 0 1 2 FEET

(TOP OF PRE-CAST COLUMN)

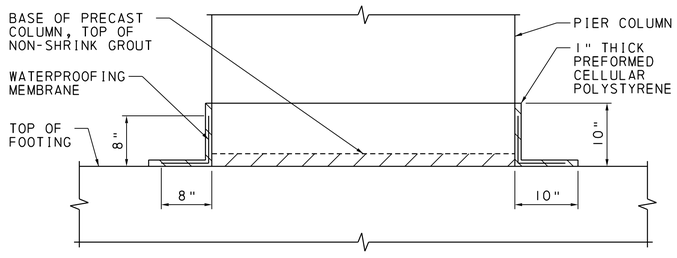


SECTION C-C

1 0 1 2 FEET

(BASE OF PRE-CAST COLUMN)

NOTE: DETAILS FOR CONDUIT NOT SHOWN, NUMBER OF CONDUITS TO BE DETERMINED PER TOLL VENDOR REQUIREMENTS.



PIER WATERPROOFING DETAILS

NOT TO SCALE

PIER WATERPROOFING NOTE:

INSTALL 1'-4" WIDE WATERPROOFING MEMBRANE TO FIT COLUMN AND TOP OF FOOTING AS SHOWN, RUN MEMBRANE CONTINUOUS ALONG APPLICABLE FACE OF COLUMN. USE AN ADHESIVE BACKED, PREFORMED WATERPROOFING MEMBRANE PER SECTION 680.2 (b). PROVIDE 10" MINIMUM PREFORMED CELLULAR POLYSTYRENE IN EACH DIRECTION OVER WATERPROOFING MEMBRANE AS PROTECTION.

NOTES:

1. FORCE EFFECTS ARE GIVEN AT THE CENTERLINE OF THE COLUMN, AT THE TOP OF FOOTING.
2. FORCE EFFECT ORIENTATION IS SHOWN ON THIS SHEET. ARROWS POINT IN THE DIRECTION OF POSITIVE FORCES.
3. TEMPERATURE LOADS WERE CALCULATED ASSUMING A 120°F TEMPERATURE DIFFERENTIAL.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

CLARION COUNTY
SR 0080 SECTION 365

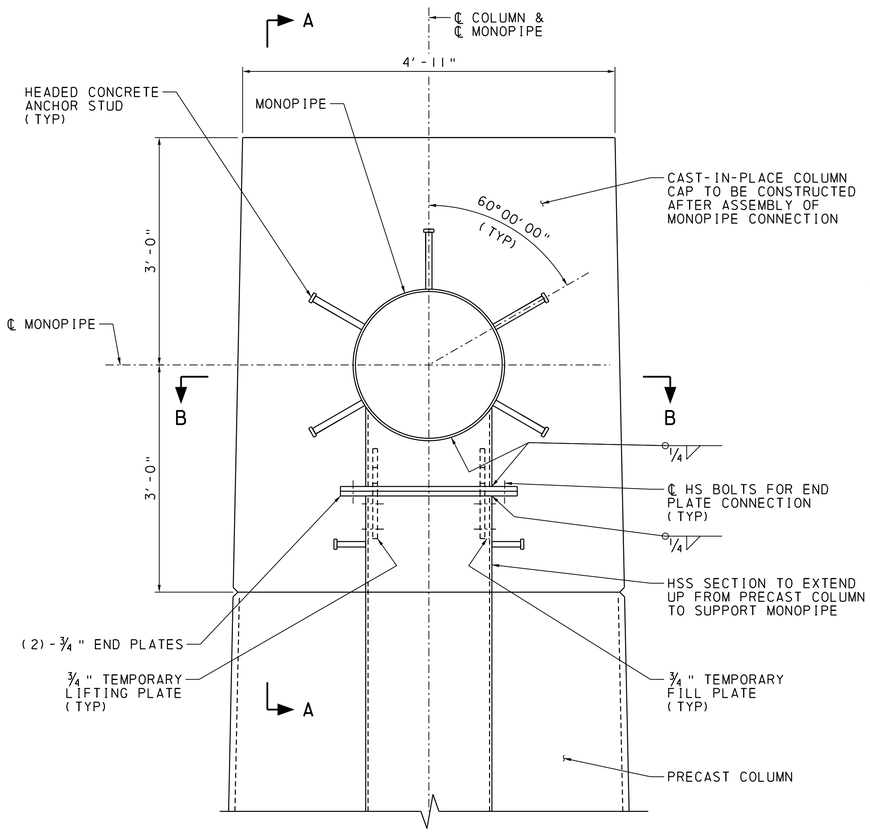
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

COLUMN GEOMETRY AND LOADS

RECOMMENDED _____

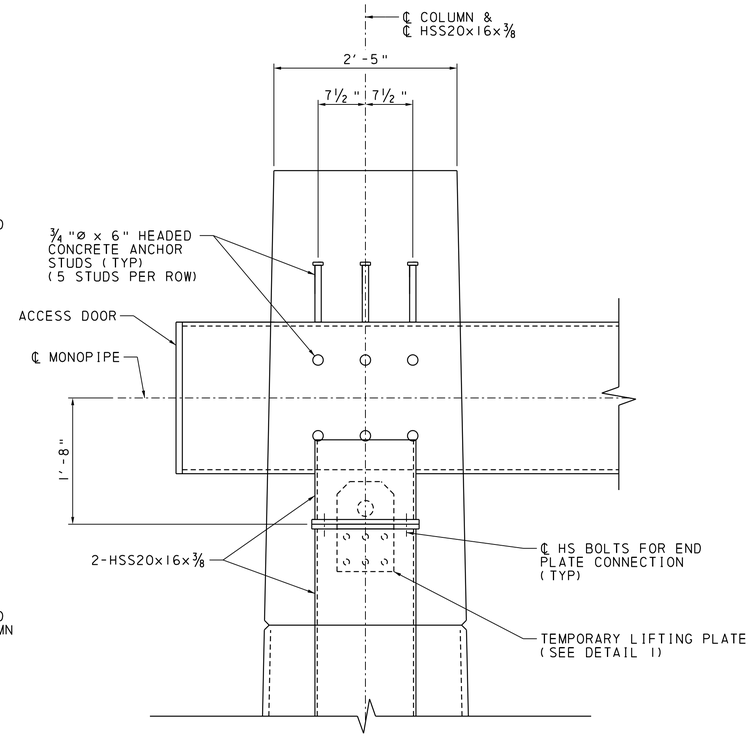
SHEET 10 OF 15

S-XXXXX



MONOPIPE CONNECTION ELEVATION

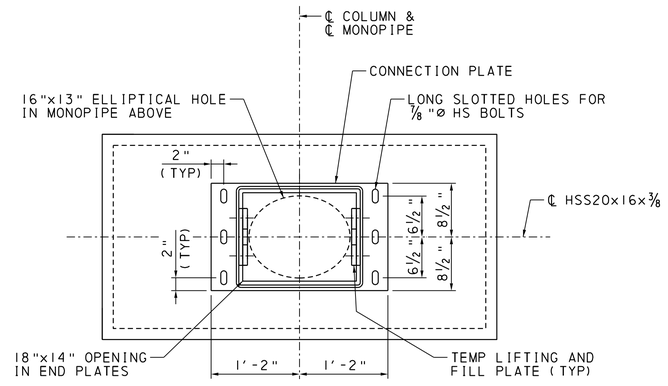
6 0 6 12 INCHES



SECTION A-A

6 0 6 12 INCHES

NOTE: DETAILS FOR CABLE TRAY AND CONDUIT SUPPORT WILL BE DETERMINED PER TOLL VENDOR REQUIREMENTS.

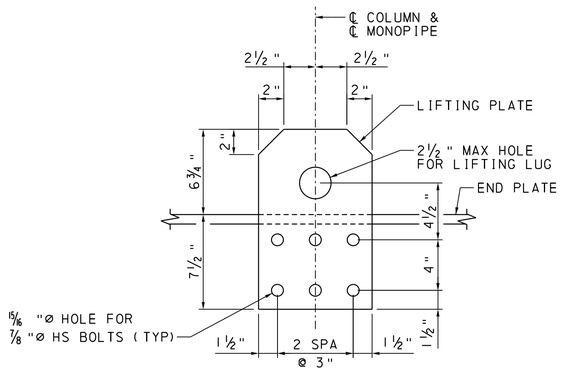


SECTION B-B

6 0 6 12 INCHES

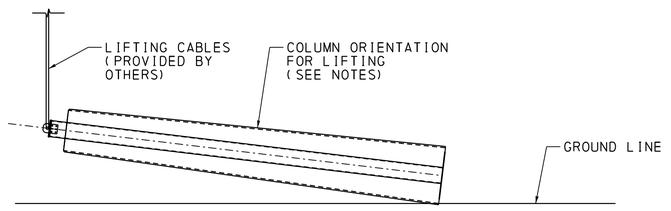
NOTES:

1. AFTER COLUMN IS LIFTED AND SET IN PLACE. LIFTING AND FILL PLATES SHALL BE REMOVED. THE HOLES IN THE HSS SECTION SHALL THEN BE FILLED WITH HIGH STRENGTH BOLTS. THE THREADS SHALL BE ORIENTED SO THAT THEY ARE CAST INTO THE CONCRETE TO AVOID CONFLICT WITH THE CABLING IN THE HSS.



DETAIL 1

3 0 3 6 INCHES



COLUMN LIFTING SCHEME

NOT TO SCALE

COLUMN LIFTING NOTES:

COLUMN SHALL BE LIFTED FROM TRUCK BED TO THE GROUND IN A HORIZONTAL POSITION USING TWO STRAPS. CONTRACTOR TO DETERMINE CENTER OF GRAVITY FOR CORRECT PLACEMENT OF STRAPS. COLUMN SHALL BE ORIENTED SO THAT THE LONG SIDE LAYS ON THE GROUND.

COLUMN SHALL BE TILTED INTO POSITION USING BOTH LIFTING LUGS SIMULTANEOUSLY.

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE COLUMN'S AESTHETIC COATING DURING ALL STEPS OF THE LIFTING OPERATION.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

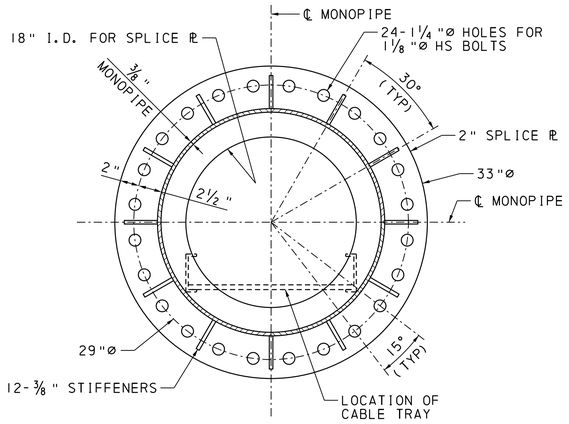
CLARION COUNTY
SR 0080 SECTION 365
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

MONOPIPE SUPPORT DETAILS

RECOMMENDED _____

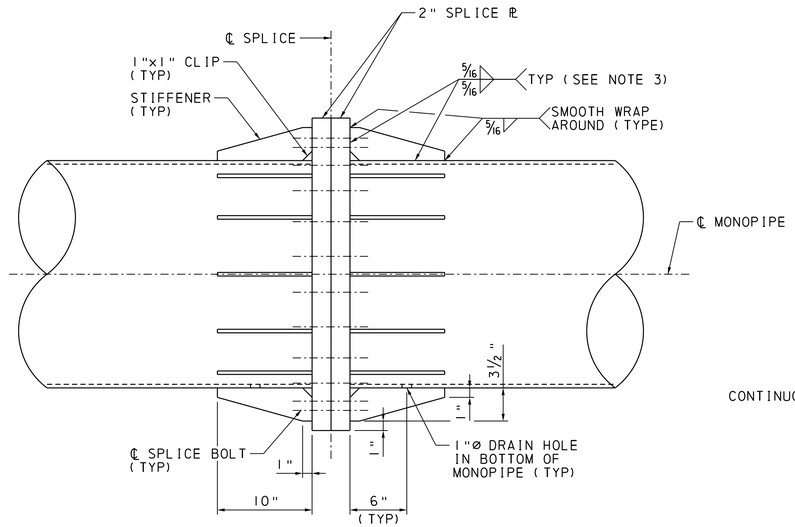
SHEET 11 OF 15

S-XXXXX



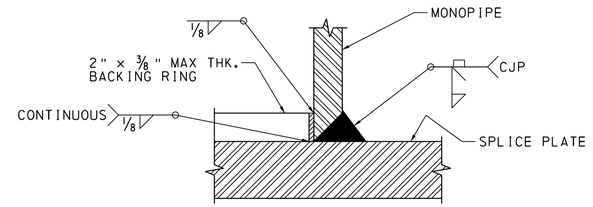
SPLICE PLATE FOR 24" MONOPIPE

6 0 6 INCHES



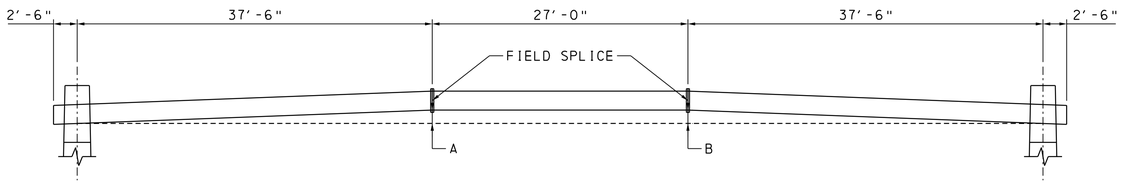
SPLICE ASSEMBLY DETAIL

6 0 6 INCHES



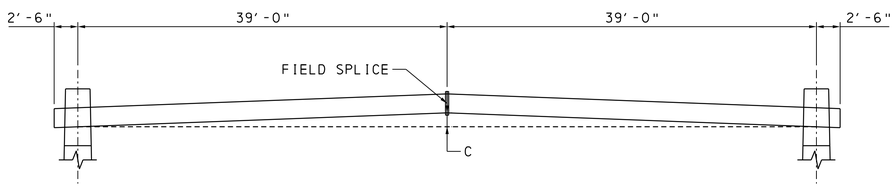
SPLICE PLATE WELD DETAIL

NOT TO SCALE



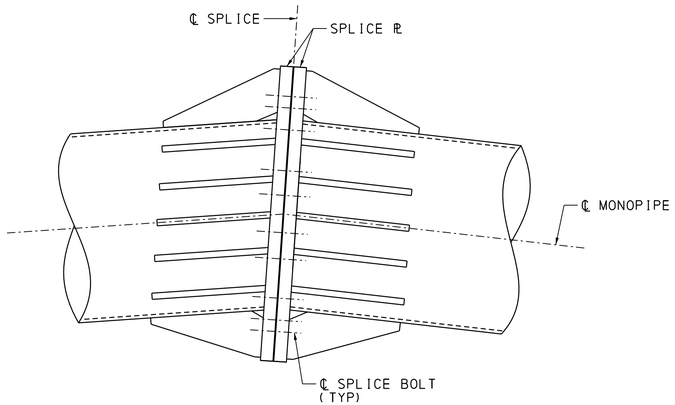
CAMBER DIAGRAM FOR 24" MONOPIPE - EASTBOUND

NOT TO SCALE



CAMBER DIAGRAM FOR 24" MONOPIPE - WESTBOUND

NOT TO SCALE



SPLICE ELEVATION (SHOWN IN CAMBERED POSITION)

NOT TO SCALE

DEAD LOADS	CAMBER		
	A	B	C
24" MONOPIPE	4⅛"	4⅛"	1½"
W10s + SCH 40 PIPES + LIGHT ANGLES	4⅜"	4⅜"	1½"
EQUIPMENT + CABLES + TRAPEZE	3⅛"	3⅛"	1⅛"
TOTAL	11⅝"	11⅝"	4⅛"

NOTES:

1. CABLE TRAY IS ASSUMED TO BE 18" WIDE AND SHALL BE PROVIDED WITH THE MONOPIPE.
2. MONOPIPE ENDS SHALL BE CUT TO ACCOUNT FOR ANGLE REQUIRED BY CAMBER VALUES GIVEN IN THE TABLE.
3. TERMINATE WELDS ¼" SHORT OF STIFFENER CHAMFER.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

DESIGNED	CHECKED	DRAWN	CHECKED
MM	NP	NAL	NP

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

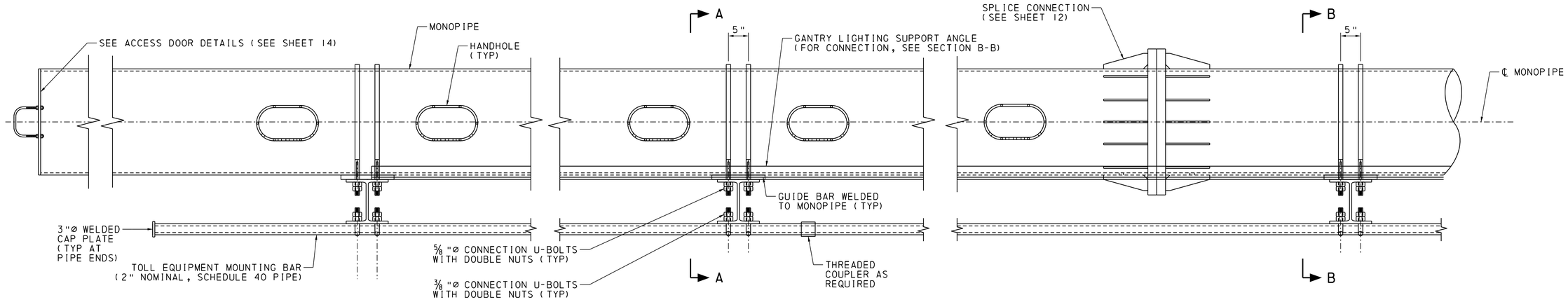
CLARION COUNTY
SR 0080 SECTION 365
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

SPLICE CONNECTION DETAILS & CAMBER TABLES

RECOMMENDED _____

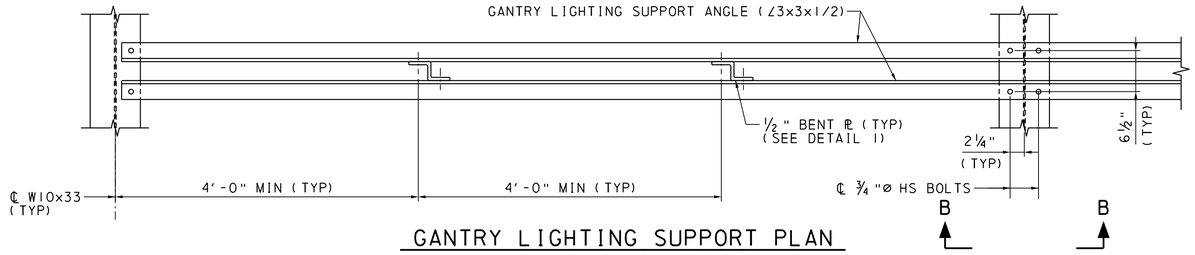
SHEET 12 OF 15

S-XXXXX



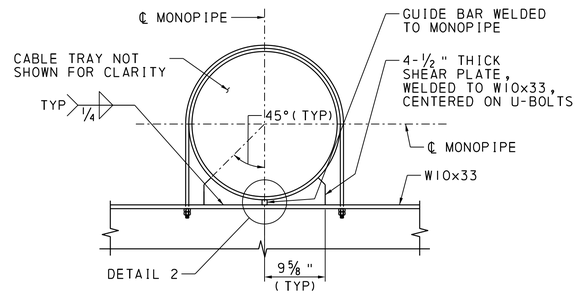
SECTION C-C MONOPIPE UTILITY SUPPORT ELEVATION

6 0 6 12 INCHES



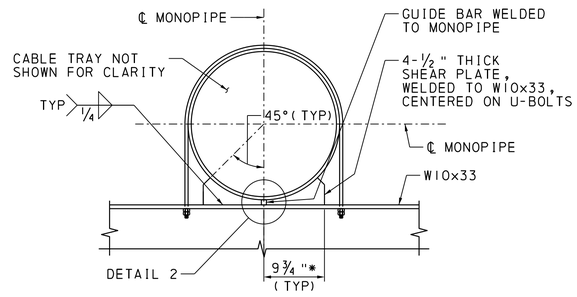
GANTRY LIGHTING SUPPORT PLAN

6 0 6 12 INCHES



SECTION A-A

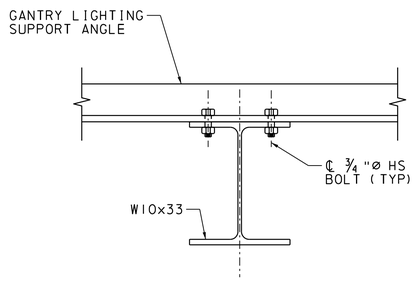
6 0 6 12 INCHES



SECTION B-B

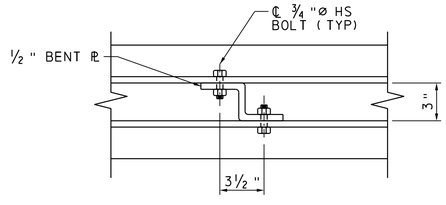
6 0 6 12 INCHES

* SKEWED CONNECTION, MEASURED ALONG W10x33



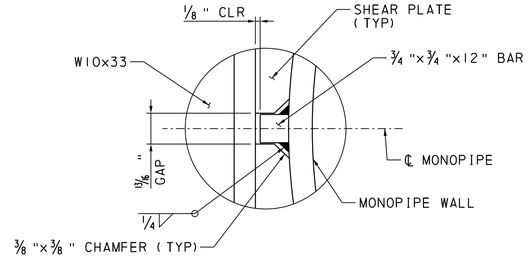
SECTION B-B

3 0 3 6 INCHES



DETAIL 1

3 0 3 6 INCHES



DETAIL 2

NOT TO SCALE

NOTES:

1. FOR SPLICE LOCATIONS, SEE SHEET 12.
2. FOR LOCATION AND NUMBER OF W10x33 SUPPORT BEAMS, SEE SHEETS 1 AND 3.
3. FOR HANDHOLE LOCATIONS, SEE SHEETS 1 AND 3.
4. FOR LOCATION OF SECTION C-C, SEE SHEETS 2 AND 4.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

CLARION COUNTY
SR 0080 SECTION 365

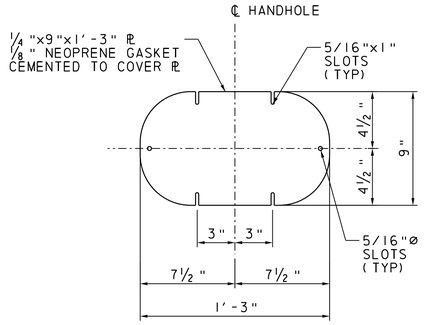
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

TOLL EQUIPMENT SUPPORT DETAILS

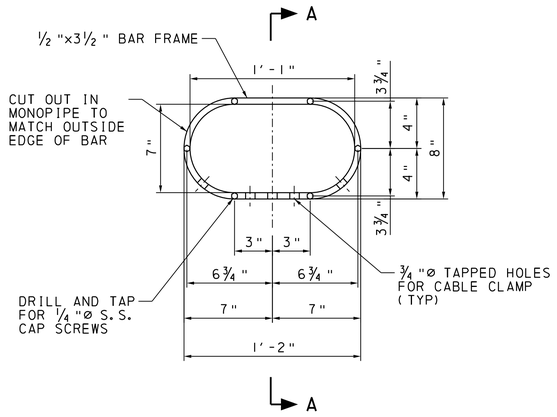
RECOMMENDED _____

SHEET 13 OF 15

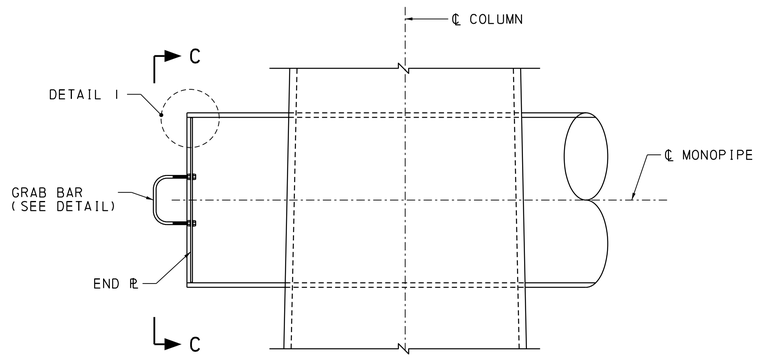
S-XXXXX



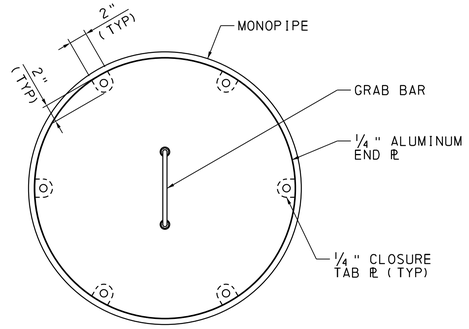
MONOPIPE HANDHOLE COVER PLATE DETAIL
NOT TO SCALE



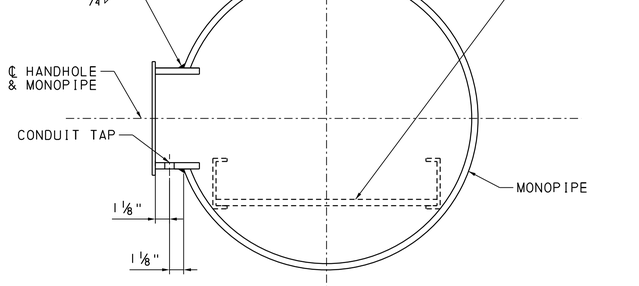
MONOPIPE HANDHOLE DETAIL
NOT TO SCALE



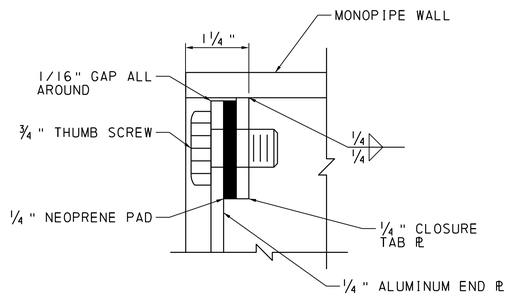
PARTIAL ELEVATION
NOT TO SCALE



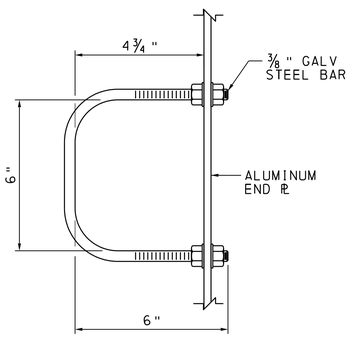
SECTION C-C
NOT TO SCALE



SECTION A-A - HANDHOLE
NOT TO SCALE



DETAIL I
NOT TO SCALE



GRAB BAR DETAIL
NOT TO SCALE

NOTES:
1. THE GRAB BAR SHALL BE ATTACHED USING GALVANIZED STEEL NUTS AND WASHERS.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

NP	MM	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

CLARION COUNTY
SR 0080 SECTION 365
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

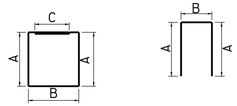
HANDHOLE AND ACCESS DOOR DETAILS

RECOMMENDED _____

SHEET 14 OF 15

S-XXXXX

MARK	BAR SIZE	BAR TYPE	NUMBER OF BARS	LENGTH	A	B	C	D	E	F	R	COMMENTS
CIP CONCRETE COLUMN TOPS												
EC401	4	1	12	14'-6"	4'-5"	1'-11"	1'-10"					
				TO 15'-6"	TO 4'-8"	TO 2'-2"						
EC402	4	STR	16	4'-1"								
EC501	5	12	8	12'-8"	5'-6"	1'-8"						
EC502	5	12	6	15'-5"	5'-6"	4'-5"						
DRILLED CAISSONS												
TBD												
CIP FOOTING												
TBD												



TYPE 1

TYPE 12

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

BMS 04-0080-XXXX-XXXX | MPMS XXXXX | BRKEY XXXXX

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

CLARION COUNTY
SR 0080 SECTION 365
SR 0080 WB STA 350+11.71 EB EB STA 351+63.57
WB SEGMENT 0561 OFFSET 2746
EB SEGMENT 0560 OFFSET 2322
ORT GANTRY STRUCTURE

REINFORCEMENT SCHEDULE

RECOMMENDED _____

SHEET 15 OF 15

S-XXXXX

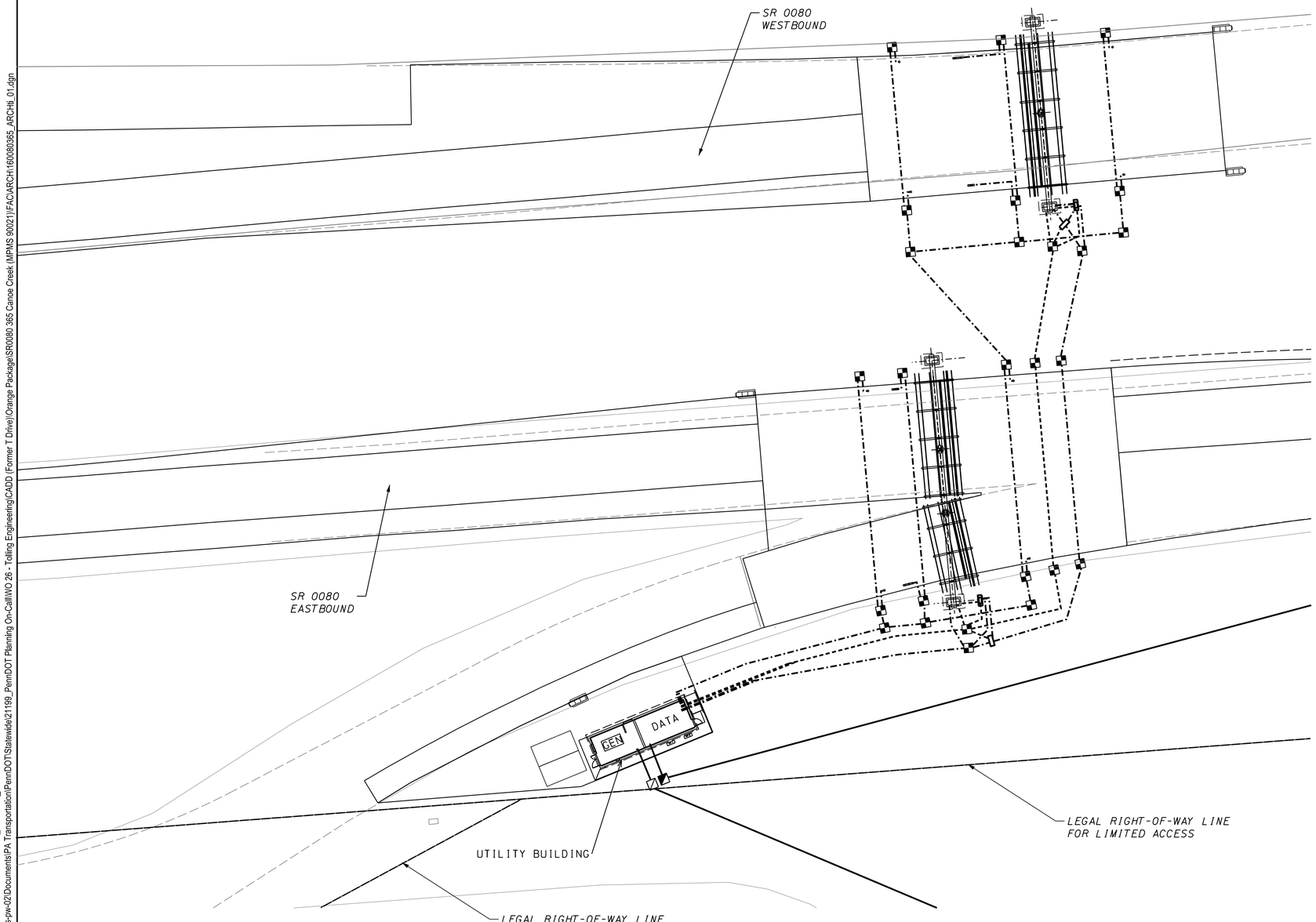
MM	NP	NAL	NP
DESIGNED	CHECKED	DRAWN	CHECKED

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	1 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

BRIDGE OPEN ROAD TOLLING
UTILITY BUILDING

Toll Facility plans are being updated. Decision has been made to toll in eastbound direction only. The P3 Development Entity will construct tolling gantry over eastbound lanes only.



SHEET INDEX	
DESCRIPTION	SHEET(S)
TITLE SHEET	1
ARCHITECTURAL	2-6
MECHANICAL	7-8
ELECTRICAL	9-15

SCALE

0 25 50

TITLE SHEET

PRE-FINAL DESIGN SUBMISSION

PLOTTED: $DATE$

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR
ACT	ACOUSTICAL CEILING TILE
ALUM	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
L	ANGLE
ARCH	ARCHITECTURAL, ARCHITECT
BL	BASE LINE
BM	BEAM
BRG	BEARING
BD	BOARD
BOT	BOTTOM
BLDG	BUILDING
BUR	BUILT UP ROOF
CLG	CEILING
CLG HT	CEILING HEIGHT
CTR	CENTER
CL	CENTER LINE
CLR	CLEAR
CLO	CLOSET
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CON	CONNECT
CONSTR	CONSTRUCTION
CONT	CONTINUE
CONTR	CONTRACT, CONTRACTOR
CJ	CONTROL JOINT
D	DEEP. DEPTH
DEMO	DEMOLISH, DEMOLITION
DET	DETAIL
DEC	DETENTION EQUIPMENT CONTRACTOR
DIAG	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DR	DOOR
DWG	DRAWING
EA	EACH
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
ELEC	ELECTRIC, ELECTRICAL
EL	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EJ	EXPANSION JOINT
EXP	EXPANSION, EXPOSED
EXT	EXTERIOR
EIFS	EXTERIOR INSULATION FINISH SYSTEM
FRP	FIBER REINFORCED PLASTIC/ POLYMER
FIN	FINISH
FIN FLR	FINISH FLOOR
FF EL	FINISH FLOOR ELEVATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
FR	FIRE RATING
FD	FLOOR DRAIN
FLR	FLOOR, FILLER
FTG	FOOTING
FDTN	FOUNDATION
GALV	GALVANIZED
GA	GAUGE
GC	GENERAL CONTRACTOR
GYP BD	GYPSUM BOARD
HC	HANDICAP
HCP	HANDICAPPED
HDW	HARDWARE
HVAC	HEATING VENTILATION AND AIR CONDITIONING
HT	HEIGHT
HDPE	HIGH DENSITY POLYETHYLENE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
IBC	INTERNATIONAL BUILDING CODE
LT	LIGHT
LPT	LOW POINT
MFD	MANUFACTURED
MFR	MANUFACTURER
MAS	MASONRY
MO	MASONRY OPENING
MECH	MECHANICAL
MTL	METAL
MT	METAL THRESHOLD
MIN	MINIMUM
MR	MOISTURE RESISTANT
MTD	MOUNTED
MJ	MOVEMENT JOINT
NCOMBL	NON- COMBUSTIBLE
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
OPH	OPPOSITE HAND
OD	OUTSIDE DIAMETER, OUTSIDE
PT	PAINT,PAINTED, PRESSURE TREATED
PR	PAIR
PLYWD	PLYWOOD
POL	POLISHED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PREFIN	PREFINISHED
PROJ	PROJECT, PROJECTED
R	RADIUS
RWC	RAIN WATER CONDUCTOR
RWL	RAIN WATER LEADER
REF	REFERENCE
RCP	REFLECTED CEILING PLAN
REINF	REINFORCING
REQD	REQUIRED
REV	REVERSE, REVISED, REVISION
RHR	RIGHT HAND REVERSE
RD	ROOF DRAIN
RL	ROOF LADDER
RTU	ROOF TOP UNIT
RM	ROOM
RO	ROUGH OPENING
SCHED	SCHEDULED
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SGL	SINGLE
SPEC	SPECIFICATION
SF	SQUARE FOOT/FEET
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUC	STRUCTURAL
SUSP	SUSPENDED
SYMM	SYMMETRICAL
SYS	SYSTEM
TEMP	TEMPORARY
TPO	THERMOPLASTIC POLYOLEFIN
THK	THICK, THICKNESS
THRES	THRESHOLD
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
VTR	VENT THROUGH ROOF
VERT	VERTICAL
VEST	VESTIBULE
WSCT	WAINSCOT
WT	WEIGHT
W/	WITH
WD	WOOD
WKPT	WORKING POINT

SYMBOLS LEGEND

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
DRAWING BLOCK TITLE MARK	ITEM NUMBER/LETTER; ITEM TITLE/DESCRIPTION; XX DRAWING BLOCK TITLE; 1' = 1'-0"; ITEM SCALE	ROOM NAME INDICATOR	ROOM NAME LINE 2; ROOM NAME; XXXX; ROOM NUMBER
WALL SECTION MARK	SECTION IDENTIFIER; SHEET NUMBER; A101	COLUMN GRID IDENTIFICATION	1; A; GRID LINE IDENTIFICATION; COLUMN GRID LINE
BUILDING SECTION MARK	1; A101; SECTION IDENTIFIER; SHEET NUMBER	DOOR IDENTIFICATION	A101; A; DOOR NUMBER
DETAIL INDICATOR	1; A101	WINDOW IDENTIFICATION	XX; EXTERIOR WINDOW/ CURTAIN WALL TYPE; INTERIOR WINDOW TYPE; XX XX; INTERIOR GLAZING TYPE
EXTERIOR ELEVATION MARK	1; A101; ELEVATION IDENTIFIER; SHEET NUMBER	WALL TYPE IDENTIFICATION	1; WALL TYPE INDICATOR; WALL
EXTERIOR ELEVATION MARK(W/ MULTIPLE VIEWS SHOWN)	4; 3; A101; 1; 2; ELEVATION IDENTIFIER; SHEET NUMBER	KEYNOTE IDENTIFICATION	03.01; KEYNOTE NUMBER
DATUM POINT IDENTIFICATION	10'-0"; ELEVATION RELATIVE TO FIRST FLOOR TOP OF SLAB	REVISION IDENTIFICATION	REVISION CLOUD; 1; REVISION NUMBER

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GENERAL NOTES

1. UTILITY BUILDING: CONCRETE STRUCTURE TO BE CAST-IN-PLACE: 8" CONCRETE W/ 3 1/2" STUD INTERIOR FURRING, MINERAL WOOL CAVITY INSULATION & 3/4" PAINTED PLYWOOD INTERIOR FINISH. FINAL WALL DESIGN DELEGATED TO CONTRACTOR.
2. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF COLD REFORMED METAL FRAMING CLERESTORY & ROOF FRAMING, ACM FASCIA & SOFFIT, STANDING STEAM ROOF SYSTEM, GUTTERS, DOWNSPOUTS, SIGNAGE, AND ALL ASSOCIATED SYSTEM - STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, AND EQUIPMENT.
3. REFER TO STRUCTURAL DRAWINGS FOR FOUNDATIONS AND EQUIPMENT PADS.
4. ALL DIMENSIONS ARE TO THE OUTER SURFACE OF ALL MATERIALS UNLESS OTHERWISE NOTED.
5. COORDINATE ALL THRU FLOOR AND WALL PENETRATIONS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND COMMUNICATIONS CONDUIT. COORDINATE WITH TOLL SYSTEM INTEGRATOR.
6. COORDINATE ALL LOCATIONS AND SIZES OF LOUVERS AND OPENINGS WITH MECHANICAL DRAWINGS.
7. EXAMPLE EQUIPMENT SHOWN FOR INFORMATION PURPOSES ONLY, FINAL EQUIPMENT AND LAYOUT TO BE DETERMINED AND COORDINATED WITH TOLL SYSTEM INTEGRATOR

BUILDING CODE REQUIREMENTS

THE BUILDING SHALL COMPLY TO THE LATEST EDITION OF THE FOLLOWING CODES, STANDARDS, AND REGULATIONS ADOPTED BY THE STATE OF PENNSYLVANIA

CODE	CURRENT	ADOPTED CODE	EDITION
BUILDING	BUILDING CODE 2015 OF PENNSYLVANIA	INTERNATIONAL BUILDING CODE	2015 EDITION (W/ AMENDMENTS)
ENERGY CONSERVATION	ENERGY CONSERVATION CODE 2015 OF PA	INTERNATIONAL ENERGY CONSERVATION CODE	2015 EDITION (W/ AMENDMENTS)
PLUMBING	PLUMBING CODE 2015 OF PENNSYLVANIA	INTERNATIONAL PLUMBING CODE	2015 EDITION (W/O AMENDMENTS)
MECHANICAL	MECHANICAL CODE 2015 OF PENNSYLVANIA	INTERNATIONAL MECHANICAL CODE	2015 EDITION (W/O AMENDMENTS)
FUEL GAS	FUEL GAS CODE 2015 OF PENNSYLVANIA	INTERNATIONAL FUEL GAS CODE	2015 EDITION (W/ AMENDMENTS)
FIRE	FIRE CODE 2015 OF PENNSYLVANIA	INTERNATIONAL FIRE CODE	2015 EDITION (W/ AMENDMENTS)
ELECTRICAL	NATIONAL ELECTRIC CODE	NATIONAL ELECTRIC CODE	2020 EDITION
STRUCTURAL CONCRETE	BUILDING CODE REQUIREMENTS FOR	ACI 318	2014 EDITION (W/AMENDMENTS)
OTHER	STRUCTURAL CONCRETE OF PENNSYLVANIA ACCESSIBLE AND USABLE BUILDINGS AND	A117.1	2009 EDITION (W/O AMENDMENTS)
OTHER	FACILITIES 2009 OF PENNSYLVANIA AMERICANS WITH DISABILITIES ACT STANDARDS	ADA STANDARDS FOR ACCESSIBLE DESIGN	2010 EDITION (W/O AMENDMENTS)
OTHER	PERFORMANCE CODE FOR BUILDINGS AND FACILITIES 2009 OF PENNSYLVANIA	ICC PERFORMANCE CODE	2009 EDITION (W/O AMENDMENTS)
OSHA	RECORD KEEPING	OSHA 1904 RECORD KEEPING	CURRENT EDITION
OSHA	GENERAL INDUSTRY	OSHA 1910 GENERAL INDUSTRY	CURRENT EDITION
OSHA	CONSTRUCTION	OSHA 1926 CONSTRUCTION	CURRENT EDITION

MATERIAL LEGEND

PLYWOOD; RIGID INSULATION; BATT INSULATION; STEEL; SAND, GROUT, LIMESTONE; COURSE AGGREGATE; CONCRETE; WOOD - FRAMING THROUGH MEMBER; EARTH - COMPACTED FILL; GYPSUM BOARD, PLASTER

BUILDING INFORMATION

BUILDING TYPE	CONSTRUCTION	AREA	SECTION
UTILITY BUILDING	NEW BUILDING	630.52 SF	N/A

OCCUPANCY CLASSIFICATION (IBC 302)

OCCUPANCY	CLASSIFICATION	NOTES	SECTION
UTILITY BUILDING	U - UTILITY	DATA & EMERGENCY GENERATOR	312.1

GENERAL BUILDING HEIGHT AND AREA (IBC 503)

OCCUPANCY CLASSIFICATION	FOOTNOTES	TYPE OF CONSTRUCTION	SECTION
UTILITY BUILDING	NOT REQUIRED - EXCEPTION- SECTION 903.2	TYPE 2-B NON SPRINKLERED	TABLE 504.3

TYPES OF CONSTRUCTION -II B- NONCOMBUSTIBLE (IBC 601)

ELEMENT	RATING	NOTES	SECTION
PRIMARY STRUCTURE	0 HRS	--	TABLE 601
BEARING WALLS	0 HRS	--	TABLE 601
NON-BEARING WALLS-INTERIOR	0 HRS	--	TABLE 601
FLOOR CONSTRUCTION	0 HRS	--	TABLE 601
ROOF CONSTRUCTION	0 HRS	--	TABLE 601

EXTERIOR WALL OPENINGS (IBC 705)

FIRE SEPARATION DISTANCE	% OF ALLOWABLE AREAS PROTECTED OPENINGS	SECTION
0-3 FEET	NONE PERMITTED	TABLE 705.8
3-5 FEET	15%	TABLE 705.8
5-10 FEET	25%	TABLE 705.8
10-15 FEET	45%	TABLE 705.8
15-20 FEET	75%	TABLE 705.8
20-25 FEET	NO LIMIT	TABLE 705.8
25-30 FEET	NO LIMIT	TABLE 705.8
>30 FEET	NO LIMIT	TABLE 705.8

INTERIOR FINISHES (IBC 803)

NON-SPRINKLERED BUILDINGS

USE GROUP	INTERIOR EXIT STAIRWAYS, RAMPS & EXIT PASSAGEWAYS	CORRIDORS & ENCLOSURES FOR EXIT ACCESS STAIRWAYS & RAMPS	SECTION
U	0 HRS	--	TABLE 803.11

OCCUPANT LOAD (IBC 10)

NON-SPRINKLERED BUILDINGS

USE GROUP	FUNCTION OF SPACE	OCCUPANT LOAD FACTOR	SECTION
U	DATA AND EMERGENCY GENERATOR	300 GROSS SF/OCCUPANT	TABLE 1006.3.1

COMMON PATH OF EGRESS TRAVEL REQUIRED (IBC 10)

NON -SPRINKLERED BUILDINGS

USE GROUP	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE	SECTION
U	49 OCCUPANTS	100 FEET	TABLE 1006.2.1

GENERAL NOTES, ABBREVIATIONS, SYMBOLS & LEGENDS
A-001

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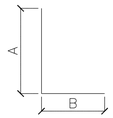
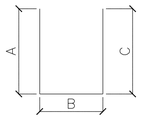
NOTES

1. "E" IN BAR MARKS INDICATES EPOXY COATED BARS.
2. "F" IN BAR MARKS INDICATES FOOTING BARS.
3. "S" IN BAR MARKS INDICATES SLAB BARS.
4. FOR REINFORCEMENT BAR FABRICATION DETAILS, SEE STANDARD DRAWINGS BC-736M.



TYPE 1



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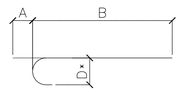
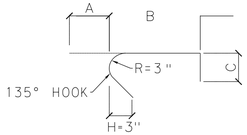


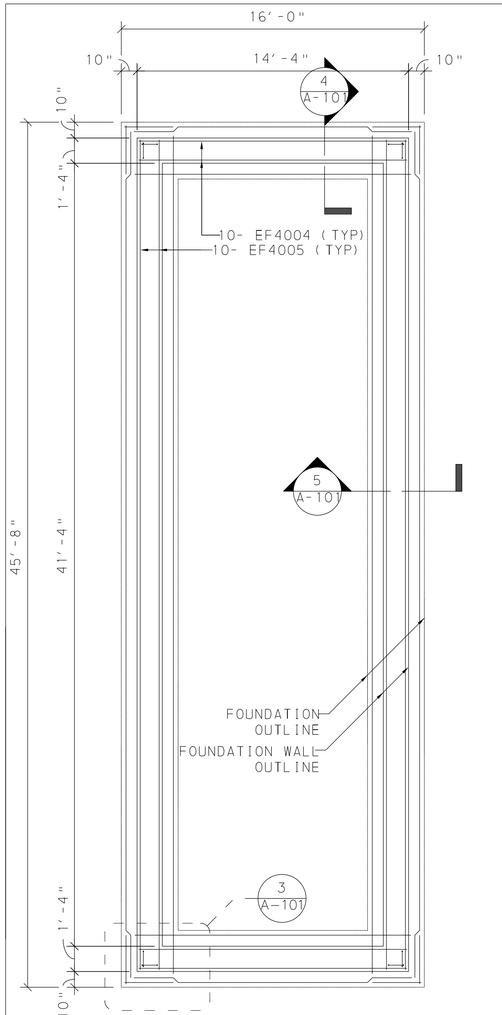
TYPE 14



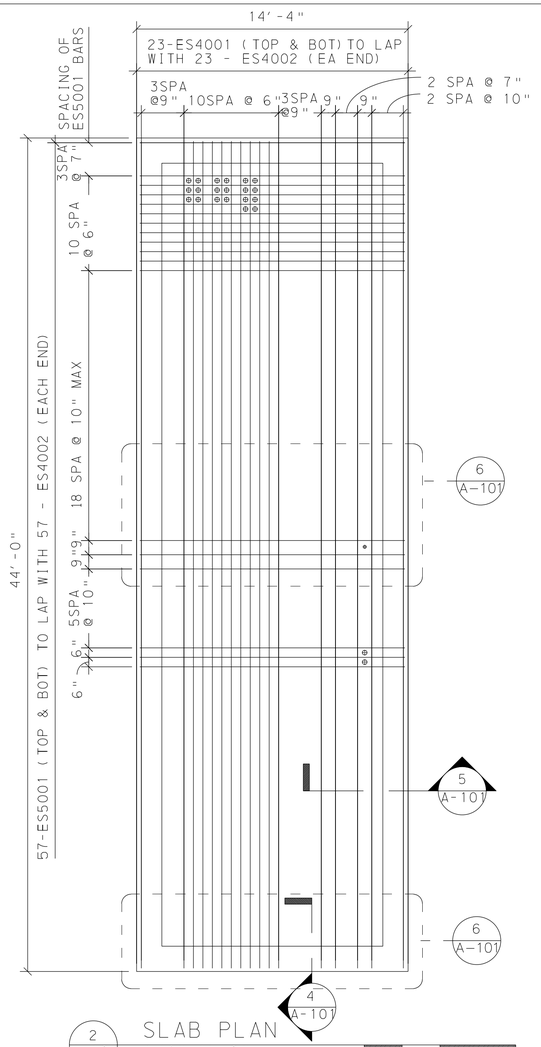
TYPE 28

BUILDING SLAB, FOUNDATION, AND WALL

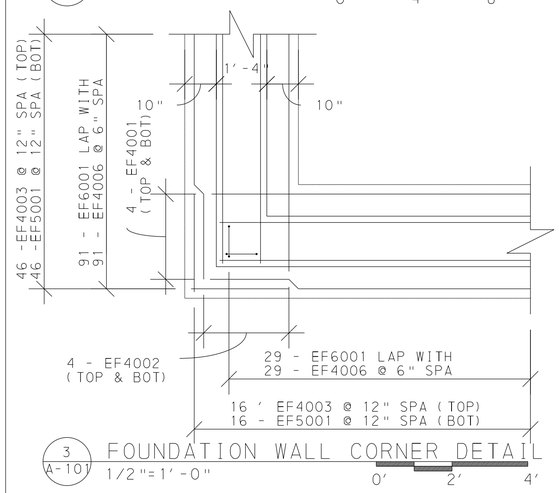
MARK	SIZE	NO.	LENGTH	TYPE	DIMENSION				REMARKS
					A	B	C	D	
EF4001	4	16	15'-4"	STR					
EF4002	4	16	45'-0"	STR					
EF4003	4	124	2'-6"	STR					
EF4004	4	20	14'-0"	STR					
EF4005	4	20	43'-8"	STR					
EF4006	4	240	2'-10"	4	1'-0"	10"	1'-0"		
EF5001	5	124	2'-6"	STR					
EF5003	5	120	2'-4"	14	7"	1'-9"		3 3/4"	
EF6001	6	240	9'-6"	4	4'-4"	10"	4'-4"		
ES4001	4	46	43'-8"	STR					
ES4002	4	160	2'-4"	4	1'-0"	4"	1'-0		
ES5001	5	114	14'-0"	STR					
EW5001	5	116	3'-10"	1	3'-0"	10"			
EW5002	5	116	9'-8"	STR					
EW5003	5	22	13'-10"	STR					
EW5004	5	22	43'-6"	STR					
EW5005	5	44	5'-0"	1	2'-6"	2'-6"			



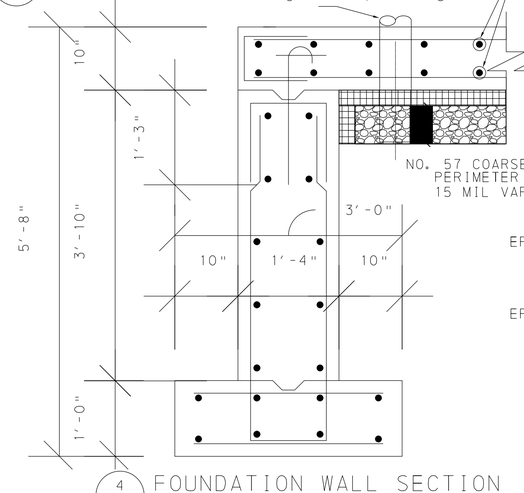
1 A-101 FOUNDATION WALL PLAN
1/4"=1'-0"
0' 4' 8'



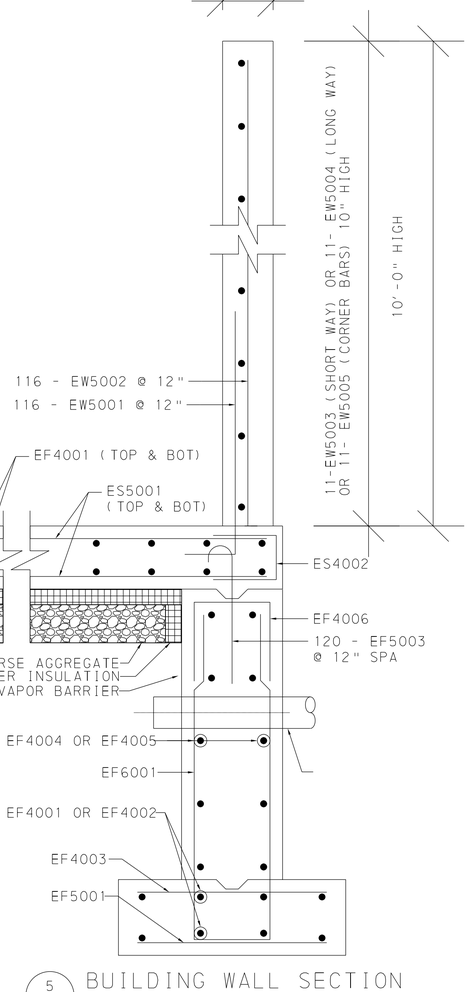
2 A-101 SLAB PLAN
1/4"=1'-0"
0' 4' 8'



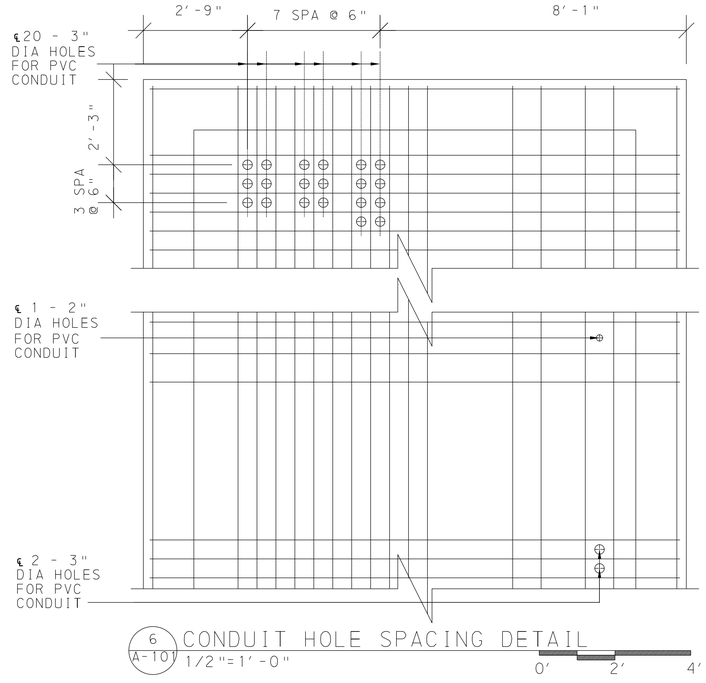
3 A-101 FOUNDATION WALL CORNER DETAIL
1/2"=1'-0"
0' 2' 4'



4 A-101 FOUNDATION WALL SECTION
1"=1'-0"
0' 1' 2'



5 A-101 BUILDING WALL SECTION
1"=1'-0"
0' 1' 2'



6 A-101 CONDUIT HOLE SPACING DETAIL
1/2"=1'-0"
0' 2' 4'

N

BUILDING FOUNDATION AND SLAB DETAIL

A-101

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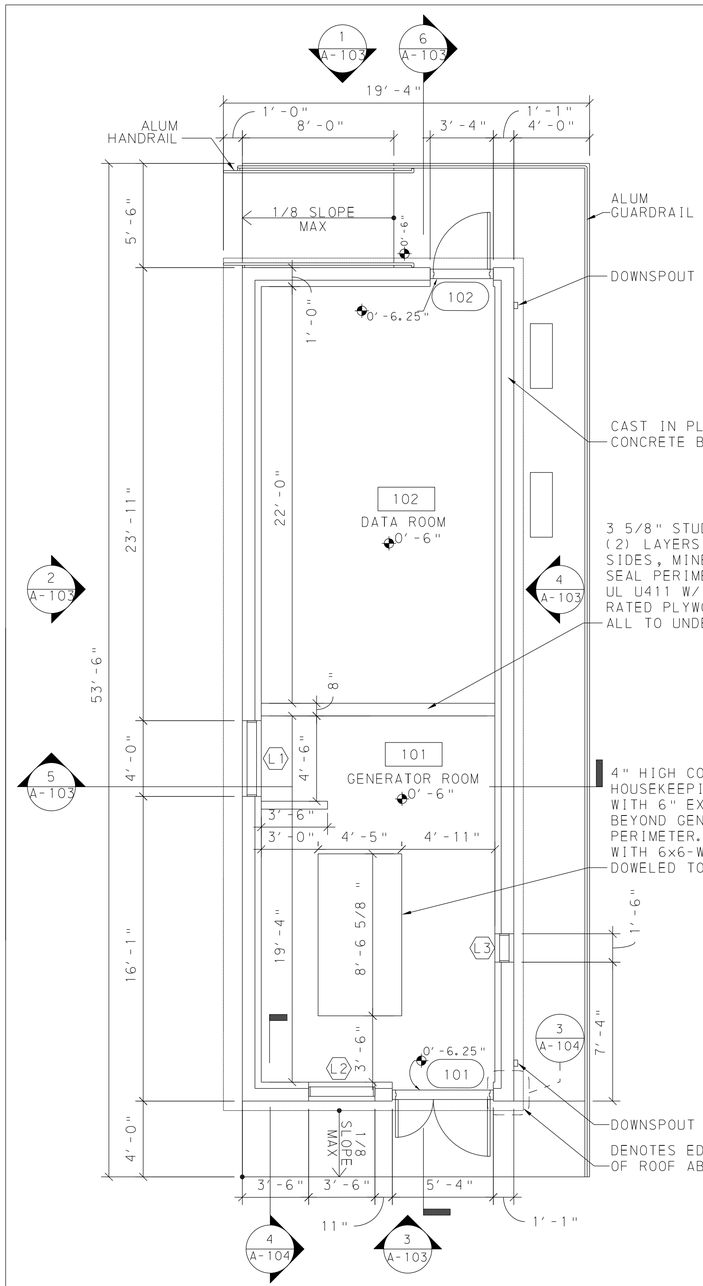
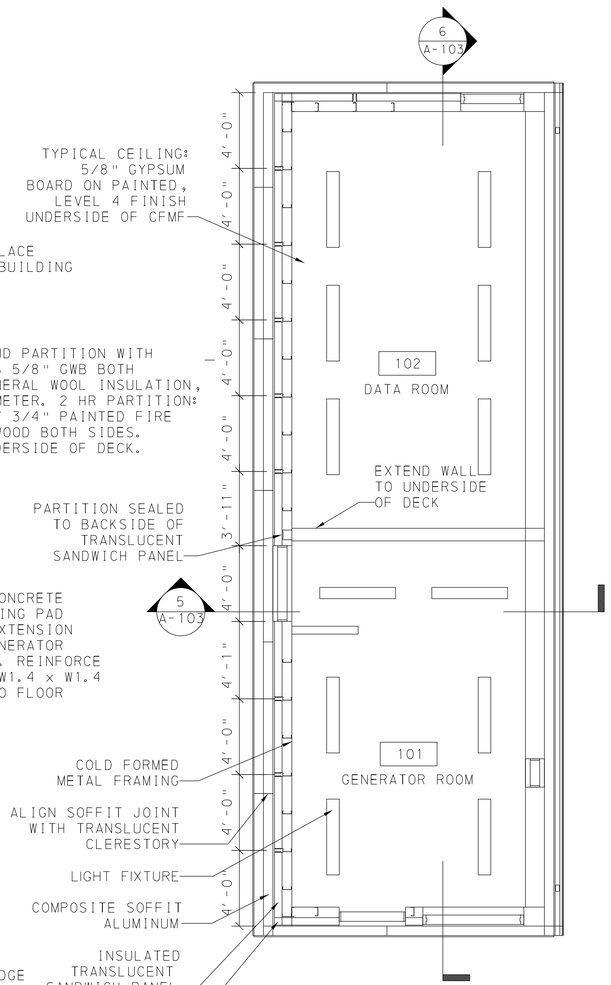
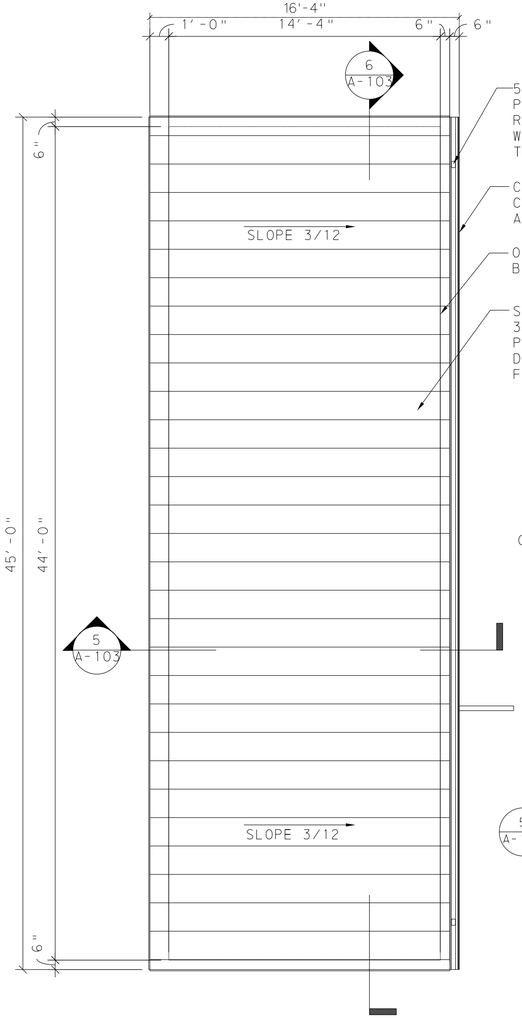


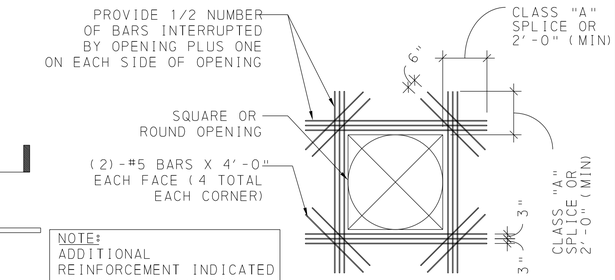
1 A-102 FIRST FLOOR PLAN
1/4"=1'-0"
0' 4' 8'



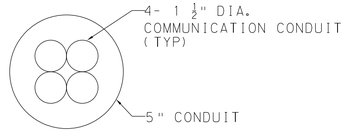
2 A-102 REFLECTED CEILING PLAN
1/4"=1'-0"
0' 4' 8'



3 A-102 ROOF PLAN
1/4"=1'-0"
0' 4' 8'



5 A-102 TYPICAL STRUCTURAL WALL OPENING
NOT DRAWN TO SCALE



4 A-102 5" PREFORMED OPENING DETAIL
NOT DRAWN TO SCALE

N

BUILDING FLOOR PLANS & DETAILS

A-102

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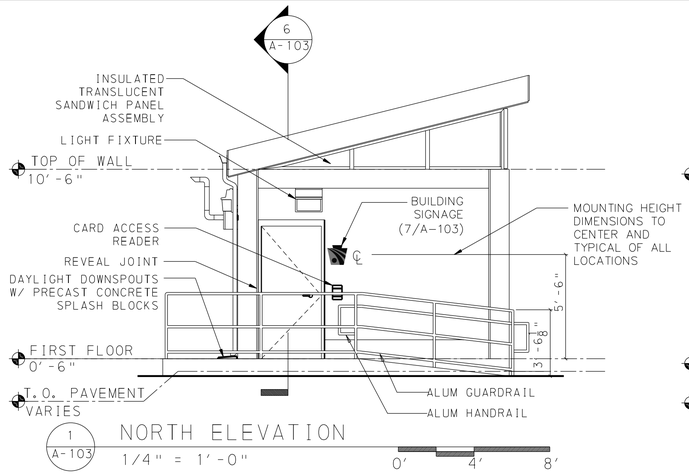
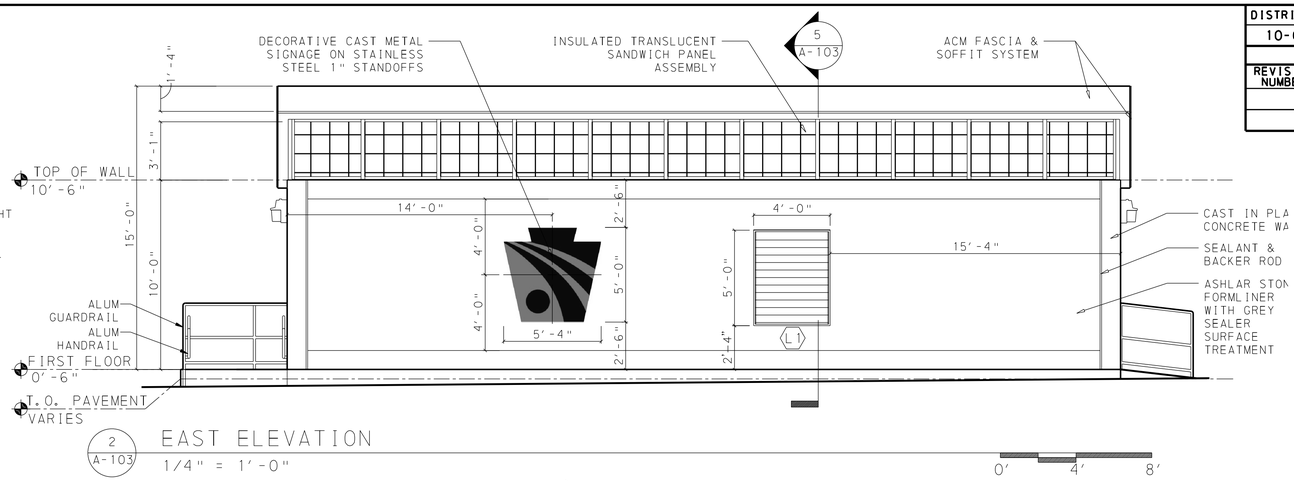


1 A-103 NORTH ELEVATION

1/4" = 1'-0"

0' 4' 8'

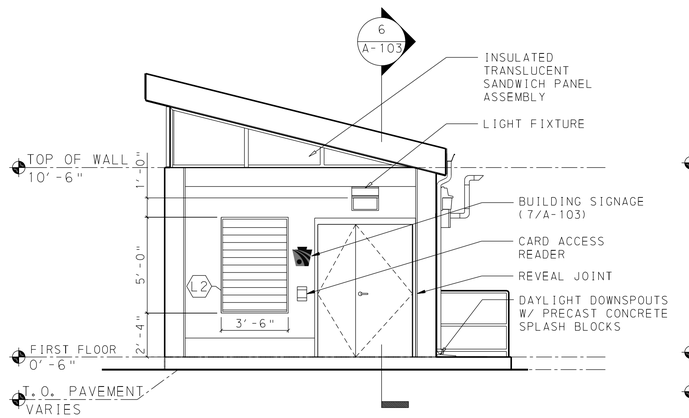


2 A-103 EAST ELEVATION

1/4" = 1'-0"

0' 4' 8'

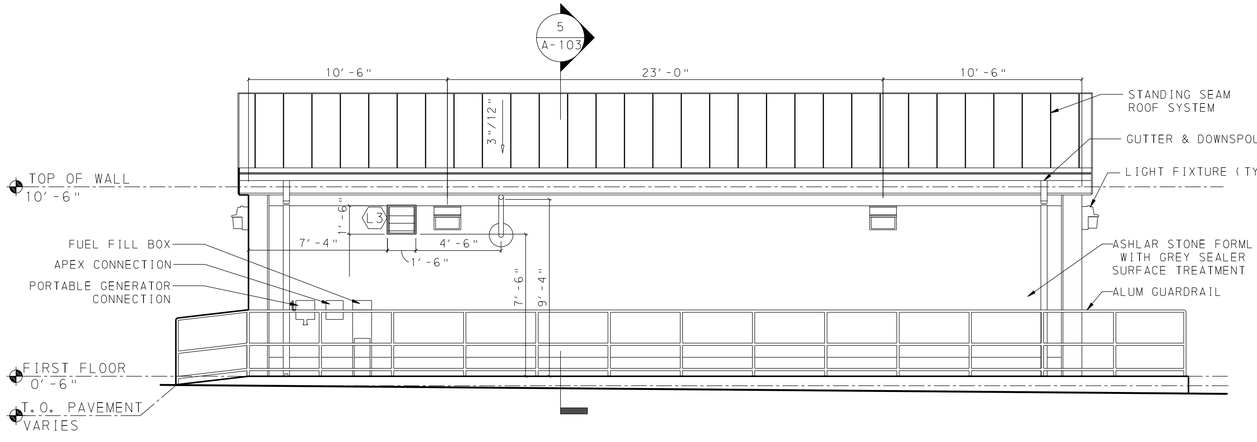
7 A-103 SIGNAGE



3 A-103 SOUTH ELEVATION

1/4" = 1'-0"

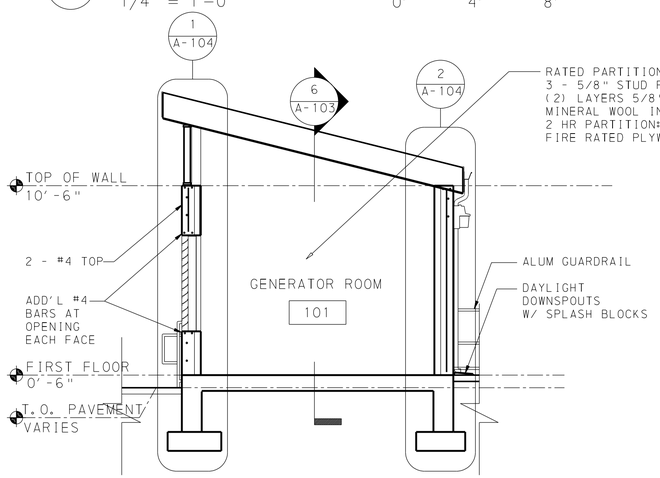
0' 4' 8'



4 A-102 WEST ELEVATION

1/4" = 1'-0"

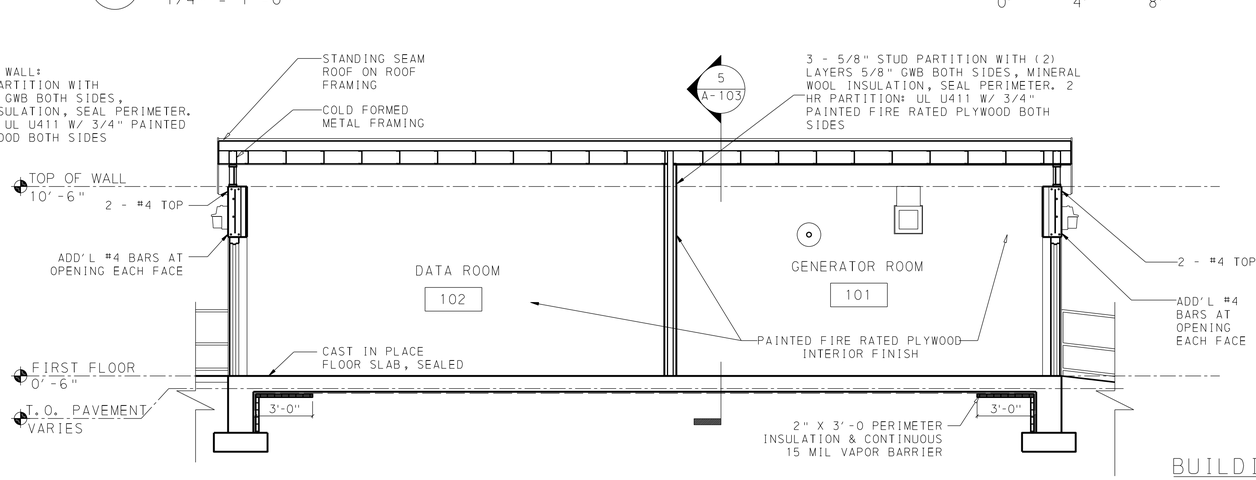
0' 4' 8'



5 A-103 CROSS SECTION

1/4" = 1'-0"

0' 4' 8'



6 A-103 LONGITUDINAL SECTION

1/4" = 1'-0"

0' 4' 8'

BUILDING ELEVATIONS & SECTIONS

A-103

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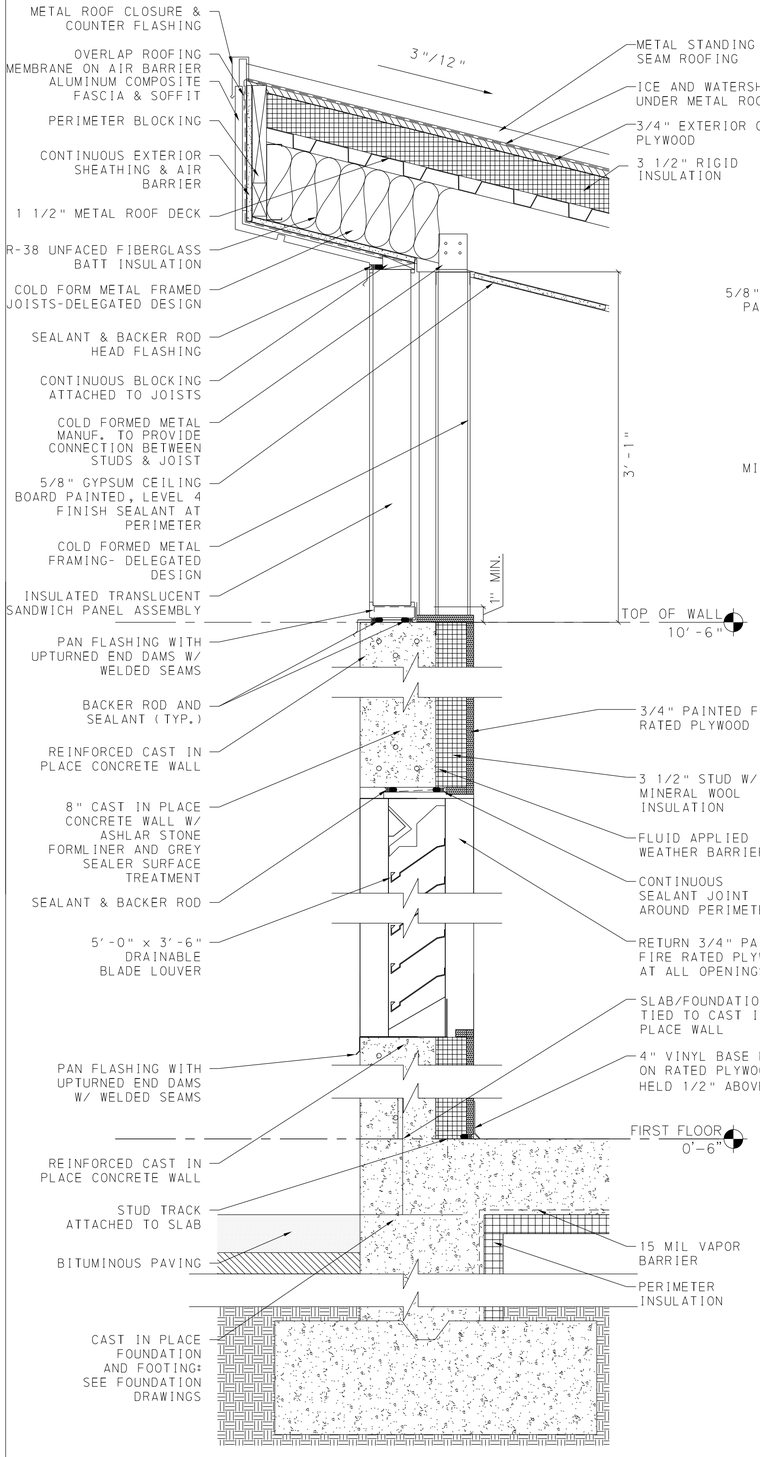
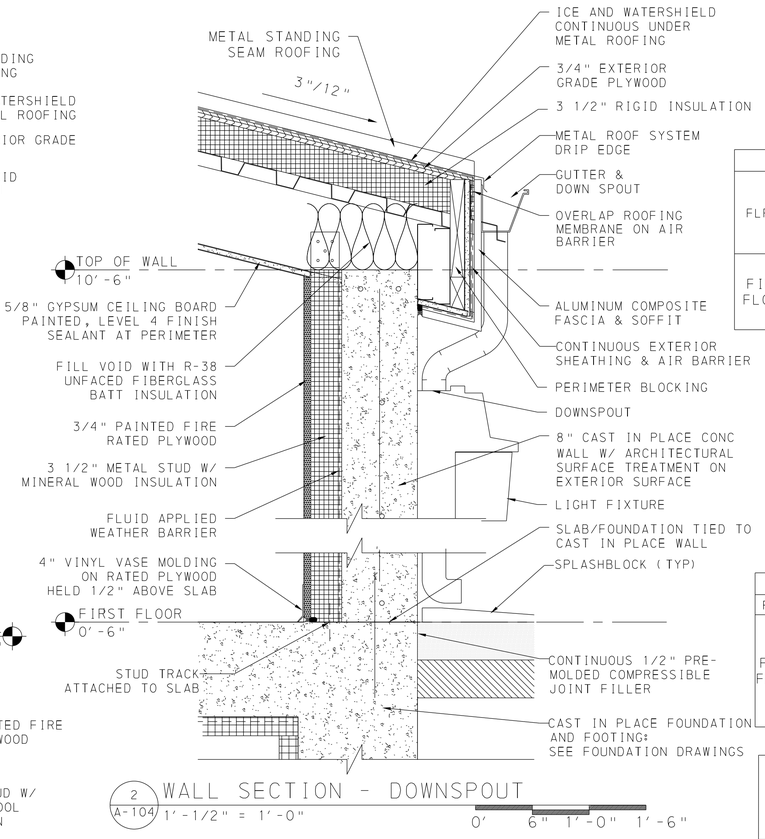
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	6 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

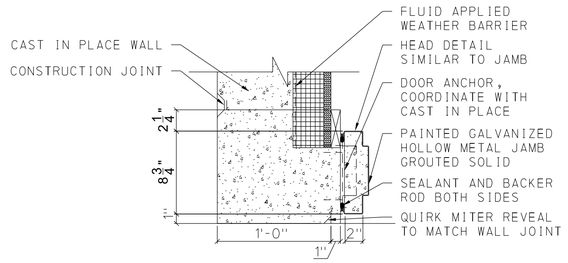
REVISION NUMBER	REVISIONS	DATE	BY



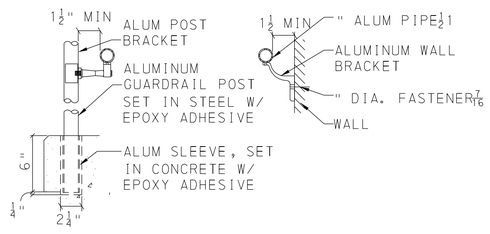
1 A-104 WALL SECTION - CLERESTORY
1'-1/2" = 1'-0" 0' 6" 1'-0" 1'-6"



2 A-104 WALL SECTION - DOWNSPOUT
1'-1/2" = 1'-0" 0' 6" 1'-0" 1'-6"



3 A-104 PLAN-CORNER DETAIL
1'-1/2" = 1'-0" 0' 6" 1'-0" 1'-6"

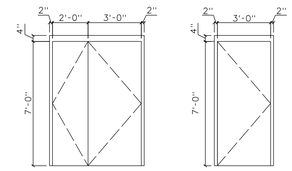


4 A-104 HANDRAIL DETAIL
1'-1/2" = 1'-0" 0' 6" 1'-0" 1'-6"

DOOR SCHEDULE

FLR.#	RM.#	ROOM NAME	DOOR							FRAME		COMMENTS
			CLEAR DIM.		NO. OF PANELS	PANEL WIDTH		THICKNESS	TYPE	MAT'L	TYPE	MAT'L	
			WIDTH	HEIGHT		PANEL 1 WIDTH	PANEL 2 WIDTH						
FIRST FLOOR	101	GENERATOR ROOM	5'-0"	7'-0"	2	2'-0"	3'-0"	1 3/4"	F	GALV. STEEL	2	GALV. STEEL	
	102	DATA ROOM	3'-0"	7'-0"	1	2'-0"	3'-0"	1 3/4"	F	GALV. STEEL	2	GALV. STEEL	

DOOR HARDWARE:
OPERATION: OMRON 3S4YR-HSR CARD READER BY OTHERS, RELEASES ELECTRIC STRIKE FOR ENTRY.
1 HES ELECTRIC STRIKE 310 SERIES (ACTIVE 3'-0" LEAF)
2 CONT. HINGE 780-224HD CLEAR ROTON
1 CYLINDER RIM 1E72 X PREMIUM 26D BEST LOCK CORP
1 EXIT DEVICE 9927
-NL X 07 LEVER 26D VON DUPRIN (ACTIVE 3'-0" LEAF)
1 DUSTPROOF STRIKE - DP2 IVES
2 OVERHEAD HO 90-H 32D GLYNN-JOHNSON
1 DOOR CLOSER 4111-EDA X ST-2730 ALUM LCN
2 KICK PLATE K1050 8" X 2" LDW 32D ROCKWOOD
1 THRESHOLD 2005AKT X SS/MS&ES25 X PEMKOTE AK PEMKO
1 GASKETING PK55D (HEAD & JAMBS) D PEMKO
1 RAIN DRIP 346C X FWMO C PEMKO



LOUVER SCHEDULE

FLR.#	NO.	WIDTH	HEIGHT	NOTES
FIRST FLOOR	L1	4'-0"	5'-0"	STATIONARY, DRAINABLE BLADE ALUMINUM LOUVER W/ INSECT SCREEN, MIN 50% FREE AREA, COLOR TO BE SELECTED FROM MANUFACTURER'S FULL COLOR RANGE
	L2	3'-6"	5'-0"	STATIONARY, DRAINABLE BLADE ALUMINUM LOUVER W/ BIRD SCREEN, MIN 50% FREE AREA, COLOR TO BE SELECTED FROM MANUFACTURER'S FULL COLOR RANGE
	L3	1'-6"	1'-6"	STATIONARY, DRAINABLE BLADE ALUMINUM LOUVER W/ BIRD SCREEN, MIN 50% FREE AREA, COLOR TO BE SELECTED FROM MANUFACTURER'S FULL COLOR RANGE

CONCRETE UTILITY BUILDING
ITEM NO. 4000-001 LUMP SUM
APPROXIMATE QUANTITIES FOR INFORMATION ONLY

1	EACH	14'-4" X 44'-0" CONCRETE UTILITY BUILDING	2	EACH	25KW UPS
1	EACH	CAST METAL PA PENNDOT LOGO	2	EACH	SECURITY CAMERAS
200	SF	INSULATED TRANSLUCENT SANDWICH PANEL SYSTEM	2	EACH	CARD READER
2	EACH	3.5 TON DUCTLESS SPLIT SYSTEM HEAT PUMP (AC UNIT AND HEAT PUMP UNIT)/THERMOSTAT	4	EACH	DOOR CONTACTS
			2	EACH	PUSH BUTTON DOOR RELEASE
1	EACH	GENERATOR ROOM EXHAUST FAN WITH THERMOSTAT	2	EACH	ELECTRIC STRIKE
2	EACH	ELECTRIC UNIT HEATER WITH THERMOSTAT	4	EACH	PHOTO CELL
7	EACH	VARIOUS MOTORIZED DAMPERS	5	EACH	VARIOUS DISCONNECTS
1	EACH	GENERATOR RADIATOR EXHAUST DUCTWORK	1	EACH	60A NEMA 3R NON-FUSED SAFETY SWITCH
1	EACH	DDC CONTROL SYSTEM (PENNDOT TO PROVIDE)	1	EACH	60KW DIESEL GENERATOR
660	SF	STANDING SEAM METAL ROOM SYSTEM	1	EACH	200A ISOLATION/BYPASS TYPE TRANSFER SWITCH
1,860	LF	COLD FORMED ROOF FRAMING	5	EACH	MOTOR CONTROLLER
1		5'X7' DOOR AND FRAME	1	EACH	UTILITY METER SOCKET
1		3'X7' DOOR AND FRAME	160	EACH	VARIOUS BREAKERS
3	EACH	VARIOUS LOUVERS (SEE DWGS FOR DETAILS)	56	FEET	20" X 4" CABLE TRAY
2,575	FEET	VARIOUS CONDUIT	16	EACH	VARIOUS LIGHTING FIXTURES
3,975	FEET	VARIOUS CONDUCTORS	1	EACH	UL LISTED LIGHTNING PROTECTION SYSTEM FOR THE GANTRY STRUCTURE AND CONCRETE UTILITY BUILDING (DESIGN AND INSTALL)
275	FEET	#4/0 ALUMINUM QUADRUPLEX CABLE W/ MESSENGER CABLE	870	SF	ARCHITECTURAL SURFACE TREATMENT
6	EACH	VARIOUS 120/240V, 1P, 3W PANELBOARDS			
30	FEET	BASE TANK FUEL FILL PIPING			
80	FEET	EMERGENCY AND NORMAL BASE TANK VENT PIPING			
22	FEET	DIESEL GENERATOR EXHAUST PIPING			
60	FEET	REFRIGERANT LINE PIPING (SUCTION AND LIQUID / RETURN SIDE-BOTH UNITS)			
3	EACH	FLEXIBLE CONNECTIONS (PIPING AND DUCTWORK)			

WALL SECTIONS AND DETAILS

A-104

PRE-FINAL DESIGN SUBMISSION

$FILES$

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	7 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

EXHAUST FAN SCHEDULE

ID	SERVICE	TYPE AND ARRANGEMENT	CFM	SP IN WG	FAN RPM	MOTOR			MANUFACTURER AND MODEL	APROX. DIMENSIONS (WxDxH)	APPROX. WEIGHT (lbs)	NOTES
						BHP	NAMEPLATE HP	V/PH/HZ				
EF 1	GENERATOR ROOM 101	INLINE CENTRIFUGAL	613	0.5	1833	0.26	0.26	120/1/60	GREENHECK BSQ-80	15"x21"x15"	79	1 2 3 4

1. PROVIDE WITH STARTER / DISCONNECT
2. FAN SHALL BE CONTROLLED BY THERMOSTAT
3. PROVIDE W/ INLET GUARD, FAN MOTOR COVER AND BELT GUARD
4. PROVIDE WITH VIBRATION ISOLATION HANGERS

ELECTRIC UNIT HEATER SCHEDULE

ID	SERVICE	CFM	TOTAL KW	NAME-PLATE HP	AMP	V/PH	MANUFACTURER AND MODEL	APROX. DIMENSIONS (WxDxH)	APPROX. WEIGHT (lbs)	NOTES
EUH 1	GENERATOR ROOM 101	350	5	1/100	21	240/1	Q-MARK MUH05-21	14"x7.5"x16"	27	1 2 3
EUH 2	DATA ROOM 102	350	5	1/100	21	240/1	Q-MARK MUH05-21	14"x7.5"x16"	27	1 2 3

1. PROVIDE WITH REMOTE THERMOSTAT
2. PROVIDE WITH DISCONNECT SWITCH
3. PROVIDE WITH MOUNTING BRACKET

SPLIT SYSTEM HEAT PUMP SCHEDULE (INDOOR UNITS)

ID	SERVICE	CFM	TOTAL CAPACITY (COOLING)	TOTAL CAPACITY (HEATING)	ELECTRIC		MANUFACTURER AND MODEL	APROX. DIMENSIONS (WxDxH)	APPROX. WEIGHT (lbs)	NOTES
					MCA	V/PH/HZ				
AC 1	DATA ROOM 102	955	42 MBH	45 MBH	2	240/1/60	MITSUBISHI PCA-A42KA7	63"x27"x9"	79	1 2 3 4 7
AC 2	DATA ROOM 102	955	42 MBH	45 MBH	2	240/1/60	MITSUBISHI PCA-A42KA7	63"x27"x9"	79	1 2 3 5 6 7

1. SUSPEND FROM CEILING STRUCTURE
2. PROVIDE REMOTE THERMOSTAT
3. PROVIDE 1" CONDENSATE DRAIN LINE
4. PAIRS WITH HP-1
5. REDUNDANT UNIT
6. PAIRS WITH HP-2
7. INDOOR UNIT SHALL RECEIVE POWER FROM THE OUTDOOR UNIT

SPLIT SYSTEM HEAT PUMP SCHEDULE (OUTDOOR UNITS)

ID	SERVICE	SEER	CONTROL STEPS	TOTAL MBH (MIN)	MCA/MOCP	V/PH/HZ	MANUFACTURER AND MODEL	REFRIGERANT PIPE SIZE		APROX. DIMENSIONS (WxDxH)	APPROX. WEIGHT (lbs)	NOTES
								GAS SIDE (RS)	LIQUID SIDE (RL)			
HP 1	DATA ROOM 102	17.6	1	42	25/31	240/1/60	MITSUBISHI PUZ-A42NKA7	5/8"	3/8"	41"x14"x54"	214	1 2 3 6
HP 2	DATA ROOM 102	17.6	1	42	25/31	240/1/60	MITSUBISHI PUZ-A42NKA7	5/8"	3/8"	41"x14"x54"	214	1 2 4 5 6

1. PROVIDE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION
2. PROVIDE FOR LOW AMBIENT OPERATION DOWN TO 0°F AMBIENT
3. PAIRS WITH HP-1
4. REDUNDANT UNIT
5. PAIRS WITH HP-2
6. PROVIDE UNITS ON A 4" THICK HOUSEKEEPING CONCRETE PAD

SYMBOLS:

- RISER DOWN
- CAP ON END OF PIPE
- M — MOTOR OPERATED DAMPER
- T — THERMOSTAT
- FLEXIBLE CONNECTION (DUCT)
- AD — ACCESS DOOR
- AIRFLOW DIRECTION
- GATE VALVE
- LONG SWEEP ELBOW
- ELECTRIC UNIT HEATER
- DAMPER
- LOUVER

MECHANICAL GENERAL NOTES

1. THE INTENT OF THE DRAWINGS IS TO ENSURE THAT THE WORK AND ALL PARTS THEREOF SHALL BE, WHEN FULLY COMPLETED, SUITABLE IN EVERY WAY FOR THE PURPOSES FOR WHICH IT IS INTENDED. PROVIDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR COMPLETE AND PROPERLY FUNCTIONING SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES, CONTRACT DRAWINGS, AND SPECIFICATIONS.
2. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATIVE OF THE WORK TO BE PERFORMED AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. THE DRAWINGS ARE INTENDED TO INDICATE CAPACITY, SIZE, LOCATION DIRECTION AND GENERAL ARRANGEMENT, BUT NOT EXACT DETAILS OF CONSTRUCTION. EXACT LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING ETC. SHALL BE DETERMINED AT THE SITE TO SUIT ACTUAL SITE CONDITIONS.
3. COORDINATE ALL WORK AND WORK SCHEDULES WITH THAT OF OTHER TRADES AFFECTED BY THE ENTIRE SCOPE OF THE PROJECT SO THAT ALL WORK MAY BE INSTALLED IN THE MOST DIRECT AND WORKMANLIKE MANNER AND SO THAT INTERFERENCE WITH DUCTWORK, PIPING, EQUIPMENT, ELECTRICAL, ARCHITECTURAL AND STRUCTURAL COMPONENTS AND OTHER WORKS IS AVOIDED. COORDINATION DRAWINGS MUST BE SUBMITTED AND REVIEWED AND ALL COMMENTS RESOLVED BEFORE ANY WORK WILL BE ALLOWED TO START.
4. INSTALLATIONS SHALL PERMIT ACCESSIBILITY FOR SERVICE OR REPLACEMENT. COORDINATE INSTALLATIONS OF ALL EQUIPMENT AND COMPONENTS FOR ACCESSIBILITY TO MEET MANUFACTURER SUGGESTED CLEARANCES AROUND EQUIPMENT FOR MAINTENANCE AND REPAIR. THE INSTALLATION OF BUILDING MATERIALS AND COMPONENTS SHALL ALLOW SUFFICIENT SPACE FOR MAINTENANCE AND SERVICE WITHOUT LIMITED RANGE OF MOTION THAT WOULD REQUIRE DECONSTRUCTION OF THE SPACE OR INSTALLATION TO PROVIDE REQUIRED SERVICE. CONTRACTOR SHALL DEMONSTRATE SAFE ACCESS TO ALL ITEMS REQUIRING FUTURE MAINTENANCE AND REPAIR. WHENEVER THERE IS A DISPUTE CONCERNING ACCESSIBILITY DURING CONSTRUCTION AND/OR THE TURNOVER PROCESS, THE ONUS SHALL BE ON THE CONTRACTOR TO DEMONSTRATE HOW THE FUTURE WORK WOULD NEED TO BE PERFORMED IN A MANNER THAT IS REASONABLE, SAFE AND AFFORDABLE.
5. WHEREVER THE REQUIREMENTS AND REGULATIONS OF FEDERAL OR STATE ARE MORE STRINGENT THAN THE REQUIREMENTS INDICATED ON THE DRAWINGS OR SPECIFICATIONS, THEY SHALL TAKE PRECEDENCE OVER THE DRAWINGS OR SPECIFICATIONS AND SHALL BE MADE PART OF THE CONTRACT AT NO ADDITIONAL COST TO THE OWNER. HOWEVER, WHERE THE DRAWINGS OR SPECIFICATIONS ARE MORE STRINGENT THAN FEDERAL OR STATE AUTHORITY REQUIREMENTS AND REGULATION, THE MORE STRINGENT SHALL APPLY.
6. DESIGN OF SYSTEMS, EQUIPMENT SIZES AND SPACE ALLOCATIONS FOR MECHANICAL EQUIPMENT ARE BASED ON INFORMATION FROM THE SCHEDULED MANUFACTURERS. THE CONTRACTOR SHALL VERIFY ACTUAL DESIGNS, MAINTENANCE REQUIREMENTS AND SIZES BASED ON EQUIPMENT SUPPLIER'S DESIGN REQUIREMENTS, MAINTENANCE REQUIREMENTS AND CERTIFIED DRAWINGS AND MODIFY WORK AS REQUIRED TO SUIT SIZES OF ACTUAL EQUIPMENT TO BE PROVIDED WITHOUT ANY ADDITIONAL COST TO THE OWNER.
7. HOUSEKEEPING PADS FOR MECHANICAL EQUIPMENT ARE BASED ON THE SCHEDULED MANUFACTURER'S EQUIPMENT SIZES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ACTUAL EQUIPMENT SIZES FROM CERTIFIED MANUFACTURER'S DRAWINGS AND SHALL MAKE MODIFICATIONS WITHOUT ANY ADDITIONAL COST TO THE OWNER. COORDINATE EQUIPMENT SIZES WITH STRUCTURAL.
8. ELECTRICAL POWER PROVISIONS FOR MECHANICAL EQUIPMENT ARE BASED ON PRELIMINARY INFORMATION FROM THE SCHEDULED MANUFACTURERS. THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF ANY PROPOSED CHANGES FOR ACCEPTANCE BY THE ENGINEER. ALL ACCEPTED CHANGES SHALL BE RECORDED ON "AS BUILT" DRAWINGS.
9. ALL DUCTWORK AND PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE AND AS CLOSE AS POSSIBLE TO CEILING/FLOOR STRUCTURES TO MAINTAIN MAXIMUM CEILING HEIGHTS, TO CONCEAL WORK AND TO KEEP OUT OF WAY. PIPING AND DUCTWORK SHALL BE CONCEALED IN ALL FINISHED AREAS.
10. PROVIDE SLEEVES FOR ALL PIPES PENETRATING WALLS AS PER SPECIFICATIONS. ALL OPENINGS AROUND PENETRATIONS SHALL BE SEALED (AIRTIGHT AND WATERTIGHT) AND/OR FIREPROOFED, AS APPLICABLE, WITH APPROVED MATERIALS.
11. LOCATIONS OF THERMOSTATS AND TEMPERATURE SENSORS ARE APPROXIMATE AND FINAL LOCATIONS SHALL BE COORDINATED IN THE FIELD.
12. PROVIDE VALVED AND CAPPED CONNECTIONS WHETHER SHOWN OR NOT SHOWN, AT ALL LOW POINTS OF ALL PIPING SYSTEMS AS REQUIRED FOR COMPLETE DRAINAGE OF THE SYSTEMS.
13. THE CONTRACTOR SHALL COORDINATE IN THE FIELD AND PROVIDE NECESSARY OFFSETS IN VERTICAL AND HORIZONTAL PIPING, FITTINGS AND VALVES AS REQUIRED WITHOUT ANY ADDITIONAL COST TO THE OWNER.
14. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH CURRENT SMACNA STANDARDS.
15. PROVIDE DDC SYSTEMS FOR THE CONTROL AND MONITORING OF EQUIPMENT FURNISHED UNDER THIS SECTION AS INDICATED ON THE AUTOMATIC TEMPERATURE CONTROLS DRAWINGS.
16. ALL WORK SHALL BE DESIGNED TO MEET SEISMIC RESTRAINT LOADINGS PER THE CRITERIA STATED IN THE GENERAL STRUCTURAL NOTES ON THE STRUCTURAL DRAWINGS.
17. PROVIDE UNIONS OR FLANGED CONNECTIONS AS REQUIRED TO FACILITATE FUTURE MAINTENANCE.
18. VALVES, GAUGES, THERMOMETERS AND OTHER SUCH DEVICES SHALL BE LOCATED WHERE THEY ARE ACCESSIBLE.
19. PROVIDE IDENTIFICATION TAGS/LABELS FOR ALL EQUIPMENT, TEMPERATURE SENSORS, THERMOSTATS, ALL SWITCHES AND SIMILAR COMPONENTS WITH IDENTIFICATION OF EQUIPMENT CONTROLLED OR FUNCTION.

ABBREVIATIONS:

A - AMPERES
AC - AIR CONDITIONER
AD - ACCESS DOOR
ADJ - ADJUSTABLE
AFF - ABOVE FINISHED FLOOR
AHJ - AUTHORITY HAVING JURISDICTION
BACNET - BUILDING AUTOMATION AND CONTROLS NETWORK
BAS - BUILDING AUTOMATION SYSTEM
BHP - BRAKE HORSEPOWER
BTU- BRITISH THERMAL UNIT
BOD - BOTTOM OF DUCT
BOP - BOTTOM OF PIPE
CAFP - COMPACT AUTOMATIC FUEL PORT
CD - CONDENSATE DRAIN
CFM - CUBIC FEET PER MINUTE
DDC - DIRECT DIGITAL CONTROL
DEG F - DEGREE FAHRENHEIT
DG - DIESEL GENERATOR
DIA - DIAMETER
EF - EXHAUST FAN
EUH - ELECTRIC UNIT HEATER
FC - FLEXIBLE CONNECTION
FT - FEET
HP - HORSEPOWER OR HEAT PUMP
HR - HOUR
HZ - HERTZ
IN WG - INCHES WATER GAGE
MBH - THOUSAND BTU PER HOUR
MCA- MINIMUM CIRCUIT AMPACITY
MIN - MINIMUM
MFR - MANUFACTURER
MOCP - MAXIMUM OVER CURRENT PROTECTION
MOD - MOTOR OPERATED DAMPER
NTS - NOT TO SCALE
OAI - OUTSIDE AIR INTAKE
OD - OUTSIDE DIAMETER
PH - PHASE
R - RADIUS
RL - REFRIGERATION LIQUID
RPM - REVOLUTIONS PER MINUTE
RS - REFRIGERATION SUCTION
SEER - SEASON ENERGY EFFICIENCY RATIO
SMACNA - SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION
SP - STATIC PRESSURE
SS - STAINLESS STEEL
SOO - SEQUENCE OF OPERATIONS
SQ.FT - SQUARE FEET
TYP - TYPICAL
V - VOLTS
WG - WATER GAUGE
TEMP - TEMPERATURE

GENERAL NOTES, ABBREVIATIONS, SYMBOLS & EQUIPMENT SCHEDULES
M-101

PRE-FINAL DESIGN SUBMISSION

PLOTTED: $DATE$

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	8 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

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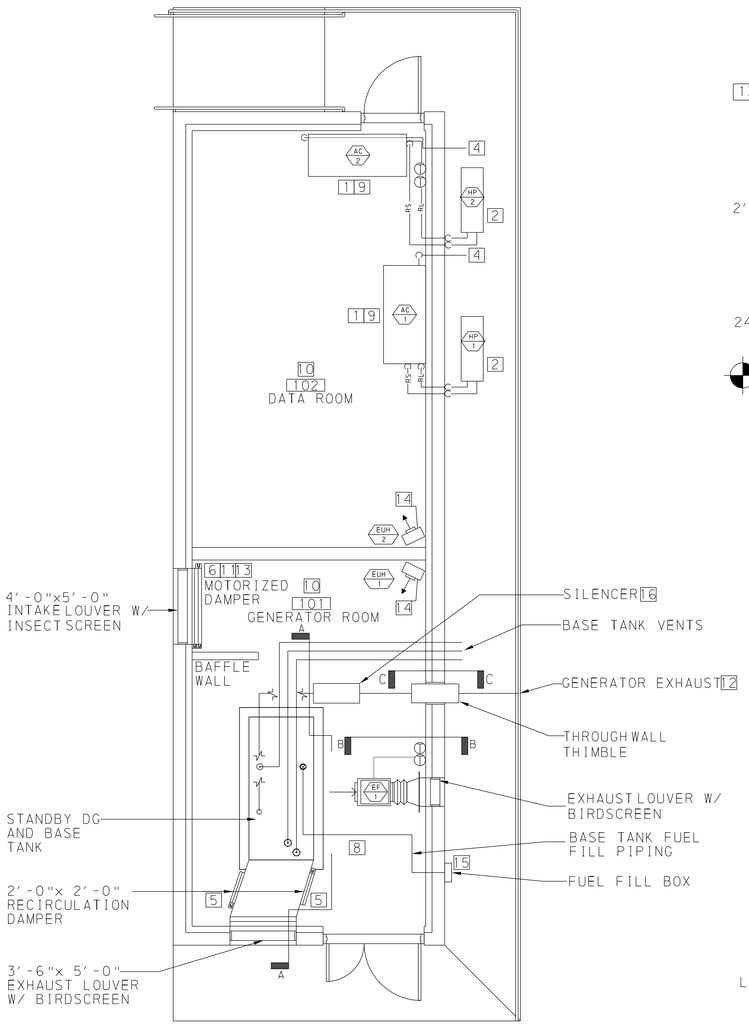
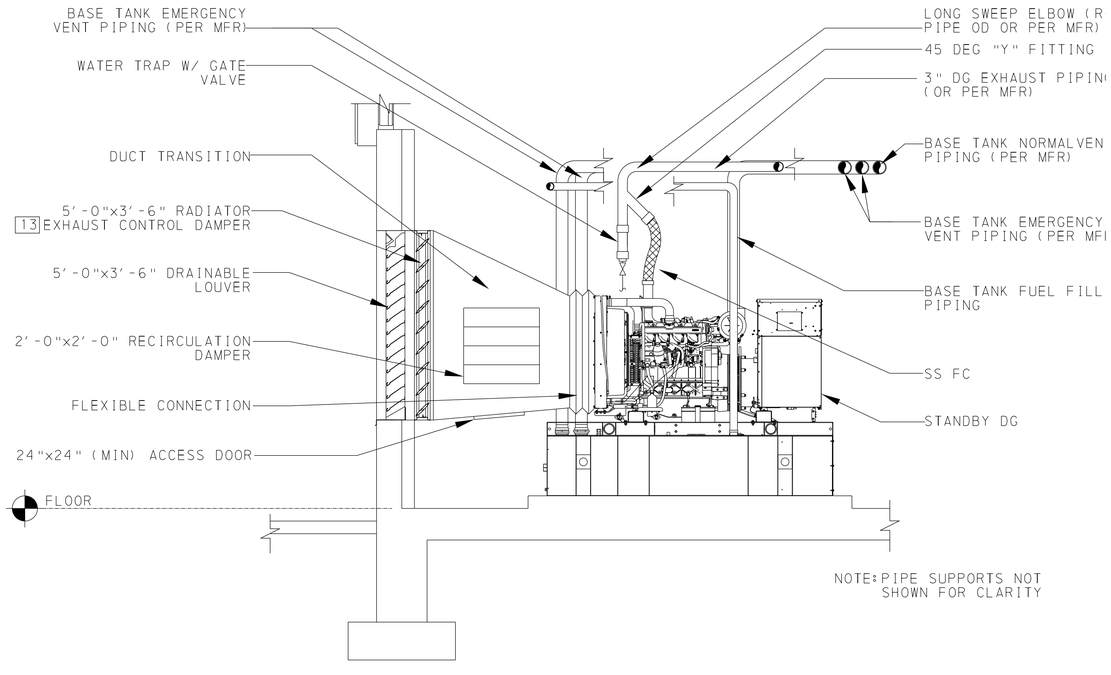
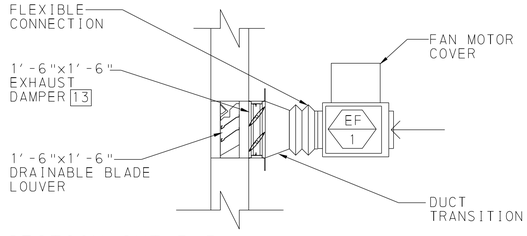


N

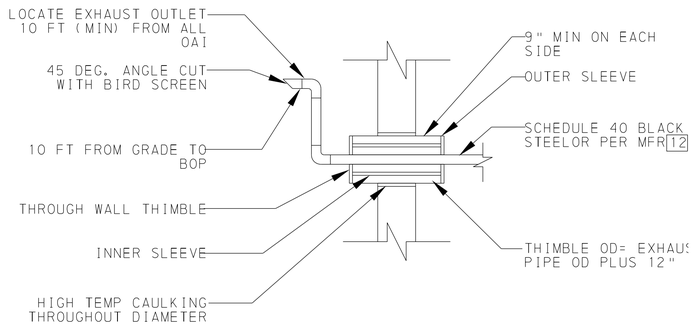
1 UTILITY BUILDING PLAN
1/4" = 1'-0"



2 SECTION CUT A-A
1/2" = 1'-0"



3 SECTION CUT B-B
1/2" = 1'-0"



4 SECTION CUT C-C
1/2" = 1'-0"

SEQUENCE OF OPERATIONS:

1. THE OUTSIDE AIR INTAKE DAMPER, COMBUSTION AIR INTAKE DAMPER, AND THE RADIATOR EXHAUST AIR DAMPER SHALL FULLY OPEN UPON RECEIVINGA DG START SIGNAL.
2. THE RECIRCULATIONDAMPERS, OUTSIDE AIR INTAKE DAMPER, AND RADIATOR EXHAUST AIR DAMPER SHALL MODULATE IN UNISON IN ORDER TO MAINTAINSPACE TEMPERATURE. THE COMBUSTION AIR DAMPER SHALL REMAIN OPEN WHILE THE DG IS RUNNING.
3. THE OUTSIDE AIR INTAKE DAMPER, COMBUSTION AIR DAMPER, AND RADIATOR EXHAUST AIR DAMPER SHALL CLOSE UPON THE DG STOPPING AND THE RECIRCULATION DAMPERS SHALL OPEN.
4. DG STATUS (DI) DG TEMP. (AI) DG FUEL LEVEL (AI), DG ROOM TEMP. (AI) SHALL BE MONITORED BY THE PENNDOT BUILDING DDC SYSTEM (SIEMENS OR APPROVED EQUAL).
5. ALARM AND MONITORINGOF THE DG FUEL TANK SHALL BE PERFORMED BY A VEEDER ROOT SYSTEM PROVIDED BY ELECTRICAL.THE DG FUEL TANK ALARM AND MONITORINGSHALL INCLUDEFUEL TANK FILLFULL, TANK LEAK ALARM , AND OVERFILL ALARM. A MODBUS/BACNET INTERFACESHALL BE PROVIDED WITH THE VEEDER ROOT SYSTEM FOR TIE-IN INTO THE PENNDOT BUILDINGDDC SYSTEM FOR MAPPING AND MONITORING OF VEEDER ROOT POINTS.
6. THE EXHAUST FAN EF-1 SHALL BE CONTROLLED BY A LINEVOLTAGE THERMOSTAT AND SHALL RUN WHEN THE ROOM TEMPERATURE RISES ABOVE THE SET POINT. WHEN THE FAN RECEIVESA START SIGNAL,THE EF-1 OUTSIDEAIR DAMPER AND THE EF-1 EXHAUST DAMPER SHALL OPEN. WHEN THE DAMPERS ARE CONFIRMED VIA END SWITCHES,THE EF MOTOR SHALL BE ENERGIZED. WHEN THE EF IS DE-ENERGIZED, THE MOTORIZED DAMPERS SHALL CLOSE.

KEYNOTES:

1. COORDINATE INSTALLATION OF AC UNIT IN FIELD AND WITH EQUIPMENT IN SPACE. INSTALL TOP OF AC UNIT 9'-6" AFF.
2. OUTDOOR UNITS' EXACT LOCATION TO BE COORDINATED W/ OWNER AND PER MFR'S INSTALLATION INSTRUCTIONS.
3. INSTALL REFRIGERANT PIPING PER EQUIPMENT MFR RECOMMENDATIONS. VERIFY PIPE SIZES AND COORDINATE ROUTING WITH EQUIPMENT / DATA RACK INSTALLATION,ELECTRICALEQUIPMENT AND CABLE TRAY.
4. EXTEND 1" CONDENSATE DRAIN TO OUTSIDE OF BUILDING.
5. PROVIDE FRAMED BIRD SCREEN ON OPEN END DUCT.
6. 4'-0"x4'-0'MOTORIZED DAMPER FOR DG INTAKE. 3'-0"x1'-0'MOTORIZED DAMPER FOR EF-1. 1'-0"x1'-0" MOTORIZED DAMPER FOR DG COMBUSTION AIR.
7. MONITOR SPACE TEMPERATURE OF DATA ROOM THROUGH EXISTINGPENNDOT DDC SYSTEM. PROVIDE ALARM FOR HIGH AND LOW TEMPERATURE IN SPACE. THERMOSTAT CONTROLS TO BE BACNET COMPATIBLE WITH CONNECTION TO OWNER PROVIDED DDC SYSTEM BY OTHERS.
8. ROUTE FUEL FILLPIPINGHIGH NEAR TO STRUCTURE AND SLOPE DOWNWARD TOWARDS TANK. CONFIRM SIZE OF FUEL FILL PIPE WITH DG MANUFACTURER.
9. ALTERNATE RUN TIMES 50/50 FOR AC-1 (PRIMARY UNIT) AND AC-2 (REDUNDANT). SET THERMOSTAT FOR BOTH UNITS TO 75 DEG. F (ADJ).
10. EXAMPLE EQUIPMENT SHOWN FOR INFORMATION PURPOSES ONLY. FINAL EQUIPMENT, SIZE AND LAYOUT TO BE DETERMINED AND COORDINATED WITH TOLL SYSTEM INTEGRATOR/OWNER.
11. DAMPERS SHALL BE NORMALLY OPEN AND POWER CLOSED.
12. EXHAUST PIPINGAND FITTINGSSHALL BE INSULATED PER THE SPECIFICATIONS AND COVERED WITH ALUMINUM JACKETING.
13. MOTORIZED DAMPERS SHALL BE RUSKIN CD60 LOW LEAKAGE CONTROL DAMPERS, HIGH PERFORMANCE AIRFOIL,CLASS 1A LEAKAGE RATED OR APPROVED EQUAL
14. INSTALL BOTTOM OF EUH 7'-6" AFF. ENSURE EUH DOES NOT INTERFERE WITH EQUIPMENT IN SPACE.
15. AUTOMATIC FUEL FILLINGPORT, SIMPLEX CAFP-2 OR EQUAL. FILL PORT SHALL INTERFACE WITH PENNDOT DDC SYSTEM.
16. COORDINATE GENERATOR EXHAUST AND PIPING SUPPORTS WITH BUILDING STRUCTURE.

MECHANICAL FLOOR PLAN AND SECTION VIEWS
M-102

PRE-FINAL DESIGN SUBMISSION

$FILES$

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	9 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

ELECTRICAL ABBREVIATIONS

THIS LIST OF ABBREVIATIONS & SYMBOLS IS PROVIDED FOR CONVENIENCE ONLY. ITEMS HERE MAY OR MAY NOT BE USED IN THIS PROJECT.

1/C	SINGLE CONDUCTOR
A/C	AIR CONDITIONING UNIT
A	AMPS
AC	ALTERNATING CURRENT
ACT	ABOVE CEILING TILE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDING UNIT
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
ADJ	ADJUSTABLE
ALT	ALTERNATE
ARCH	ARCHITECTURAL
AUTO	AUTOMATIC
AVG	AVERAGE
BC	BATTERY CHARGER
BKR	BREAKER
BLDG	BUILDING
BTM	BOTTOM
C	CONDUIT
CT	CURRENT TRANSFORMER
CKT	CIRCUIT
CLG	CEILING
CO	COMPANY
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CU	COPPER
CU	CONVENTION UNIT
DED	DEDICATED
DET	DETAIL
DIAM	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DIV	DIVISION
DN	DOWN
DPR	DAMPER
DWG	DRAWING
D.S.	DISCONNECT SWITCH
EA	EACH
EF	EXHAUST FAN
ELEC	ELECTRICAL
EM	EMERGENCY ONLY
EM GEN	EMERGENCY GENERATOR
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
ER	EXISTING RELOCATED
ETR	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EX	EXISTING
EXTER	EXTERIOR
F&I	FURNISHED AND INSTALLED
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FIN	FINISH
FIXT	FIXTURE
FLR	FLOOR
FLUOR	FLUORESCENT
FU	FUSE
GA	GAUGE
GAL	GALLONS
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
HV	HIGH VOLTAGE
HGT	HEIGHT
HORIZ	HORIZONTAL
HP	HORSEPOWER
HTG	HEATING
HZ	HERTZ
HP	HEAT PUMP
INCL	INCLUDE
INST	INSTANTANEOUS
INSU	INSULATION
JB	JUNCTION BOX
JH	JACKET HEATER
JT	JOINT
LV	LOW VOLTAGE
LTG	LIGHTING
LTS	LIGHTS
LVR	LOUVER
MCB	MAIN CIRCUIT BREAKER
MH	MANHOLE
MAX	MAXIMUM
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MAIN GROUNDING BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUG ONLY
MTD	MOUNTED
MTG	MOUNTING
N	NEUTRAL
N. C	NORMALLY CLOSE
NE	NORMAL/ EMERGENCY
NFSS	NON-FUSED SAFETY SWITCH
N. O	NORMALLY OPEN
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVER HEAD
OPNG	OPENING
PE	PROTECTIVE EARTH
PEND	PENDANT
PH	PENTHOUSE
PS	PULL SWITCH
PLBG	PLUMBING
PNL	PANEL
PRESS SW	PRESSURE SWITCH
RA	RETURN AIR
REC	RECESSED
RECEPT	RECEPTACLE
REQD	REQUIRED
RM	ROOM
SECT	SECTION
SIM	SIMILAR
SQ FT	SQUARE FOOT
STAT	THERMOSTAT
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SURF	SURFACE
SUSP	SUSPENDED
SW	SWITCH
T-STAT	THERMOSTAT
TEMP	TEMPERATURE
TERM	TERMINAL
THK	THICK
TYP	TYPICAL
TMGB	TELECOM MAIN GROUND BAR
UG	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
UV	UNIT VENTILATOR
VT	VAPOR TIGHT
VERT	VERTICAL
VOL	VOLUME
WP	WEATHERPROOF
WT	WEIGHT
XFMR	TRANSFORMER

ELECTRICAL SYMBOLS

GENERAL SYMBOLS

- KEY NOTE INDICATOR
- ELECTRICAL EQUIPMENT INDICATOR
- SCHEDULE ITEM INDICATOR
- DRAWING REVISION INDICATOR
- MECHANICAL EQUIPMENT INDICATOR - SEE MECHANICAL SHEETS FOR SCHEDULE INFORMATION

CONDUIT AND WIRING

- CIRCUIT BREAKER
- BRANCH CIRCUIT RUN CONCEALED
- UP — BRANCH CIRCUIT UP OR DOWN
- 2A- "3,5" — HOME RUN TO PANEL 2A CKTS 3 & 5
- NE — NORMAL & EMERGENCY BRANCH CIRCUIT
- EM — EMERGENCY ONLY BRANCH CIRCUIT
- NL — NIGHT LIGHT BRANCH CIRCUIT
- LV — LOW VOLTAGE CIRCUIT
- EX — EXISTING BRANCH CIRCUIT
- SMR — SURFACE METAL RACEWAY SIZED FOR NO. OF CONDUCTORS TO BE INSTALLED
- CT — CABLE TRAY
- INDICATES CONNECTION TO EXISTING

POWER SYSTEM AND DISTRIBUTION

- SURFACE MOUNTED PANELBOARD
- M — UTILITY METERING EQUIPMENT
- DISCONNECT SWITCH
- J — JUNCTION BOX
- DUPLEX RECEPTACLE
- G — GENERATOR
- M — DAMPER MOTOR

SECURITY

- CR — CARD READER
- ES — ELECTRIC STRIKE
- PS — SECURITY POWER SUPPLY
- DC — SURFACE MOUNTED DOOR CONTACTS
- AL — AUDIBLE DOOR ALARM
- PB — PUSH BUTTON DOOR RELEASE
- EML — ELECTROMAGNETIC DOOR LOCK
- RX — REQUEST FOR EXIT
- SECURITY CAMERA

LIGHTING

- $ — WALL BOX DUAL TECHNOLOGY OCCUPANCY SENSOR
- STRIP LIGHTING FIXTURE
- WALL MOUNTED LIGHTING FIXTURE

GROUNDING AND LIGHTNING PROTECTION

- GROUNDING CONNECTION
- GROUND ROD TRIODE

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE APPLICABLE EDITION OF THE N.E.C, N.E.S.C, ALL LOCAL CODES, AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORK.
2. ALL SYSTEMS SHALL BE INSTALLED AND WIRED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.
3. WORK SHALL MEET THE APPROVAL OF THE OWN REPRESENTATIVE.
4. MATERIAL AND EQUIPMENT SHALL BE NEW AND UL APPROVED AND SHALL MEET NEMA, ANSI, IEEE & N.E.C REQUIREMENTS FOR INTENDED SERVICE. MATERIAL AND INSTALLATION SHALL MEET REQUIREMENTS OF THE N.E.C
5. DUPLEX RECEPTACLES SHALL BE SURFACE MOUNTED ON MASONRY WALLS WITH SURFACE MOUNTED OUTLETS BOX AND SURFACE METAL RACEWAY WHERE DUPLEX RECEPTACLES ARE SHOWN AND CAN BE INSTALLED IN GYPSUM BOARD CONSTRUCTION, THEY SHALL BE RECESS MOUNTED.
6. LOCATE JUNCTION BOXES AS REQUIRED TO ALLOW ACCESS AFTER MECHANICAL EQUIPMENT AND DUCTWORK IS INSTALLED. COORDINATE EXACT LOCATIONS WITH THE MECHANICAL DRAWINGS.
7. ANY ADDITIONAL COST TO ENSURE DELIVERY OF PANELS, LIGHT FIXTURES, ETC. TO MEET THE CONSTRUCTION SCHEDULE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. PROVIDE GREEN GROUND WIRE FROM PANEL FOR ALL NEW CIRCUITS. PROVIDE A GREEN GROUND WIRE FOR EACH COMMON NEUTRAL TO POINT OF USE. PROVIDE GROUND BUS BARS IN EACH PANEL SHOWN ON DRAWINGS REGARDLESS IF WORK IS SHOWN IN THEM.
9. EXPOSED CONDUITS SHALL BE GALVANIZED RIGID STEEL, CONNECTION TO VIBRATING EQUIPMENT SHALL BE LIQUID-TIGHT FLEXIBLE METAL CONDUIT FOR ELECTRICAL RACEWAY INSIDE BUILDING.
10. CONDUCTORS SHALL BE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY, SOLID OR STRANDED FOR #10 AWG AND SMALLER, STRANDED FOR #8 AWG AND LARGER. CONDUCTORS SMALLER #12 AWG SHALL NOT BE USED FOR POWER OR LIGHTING CIRCUITS.
11. EACH DESIGNATED CIRCUIT HOME RUN SERVING RECEPTACLES SHALL HAVE ITS OWN INDIVIDUAL FULL SIZE NEUTRAL BACK TO PANEL.
12. WHERE CONDUITS TERMINATE AT ELECTRICAL ENCLOSURE IN OUTDOOR LOCATIONS AND IN WET INDOOR LOCATIONS, PROVIDE CABLE SEALS FOR CABLES IN THE CONDUIT TO PREVENT WATER FROM SEEPING INTO ELECTRICAL ENCLOSURES. CONDUIT TERMINATIONS AT ELECTRICAL ENCLOSURES IN OUTDOOR AND WET INDOOR AREAS SHALL BE MADE THROUGH THE BOTTOM OR SIDE OF THE ENCLOSURE.
13. COORDINATE ELEVATION AND LOCATION OF ELECTRICAL DEVICES WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
14. BALANCE PANEL PHASES ONCE USER EQUIPMENT IS INSTALLED AND OPERATIONAL.
15. WHERE NO SHORT CIRCUIT INTERRUPT/WITHSTAND RATING IS INDICATED, DEVICES OR EQUIPMENT SHALL BE RATED THE SAME AS THE NEAREST UPSTREAM DEVICE. SHORT CIRCUIT WITHSTAND RATINGS SHALL BE DETERMINED BY THE MANUFACTURER DURING THE SHORT CIRCUIT COORDINATION STUDY.
16. WIRE SIZES ARE BASED ON 75 AND 90 DEGREE C TEMPERATURE RATING FOR EQUIPMENT LUGS AS DETERMINED BY N.E.C. TABLE 310.15(B)(16).
17. ALL SWITCH LEGS SHALL HAVE A NEUTRAL AND GROUND CONDUCTOR INSTALLED IN ADDITION TO SWITCH LEGS.
18. WHERE UNGROUNDED CONDUCTORS ARE INCREASED IN SIZE, EQUIPMENT GROUNDING CONDUCTORS, WHERE INSTALLED SHALL BE INCREASED IN SIZE.
19. CONDUIT SHALL NOT BE USED AS GROUND. ALL CIRCUITS SHALL CONTAIN AN INDIVIDUAL NEUTRAL CONDUCTOR AND GROUND CONDUCTOR.
20. COLOR CODING OF CONDUCTORS SHALL BE AS FOLLOWS.

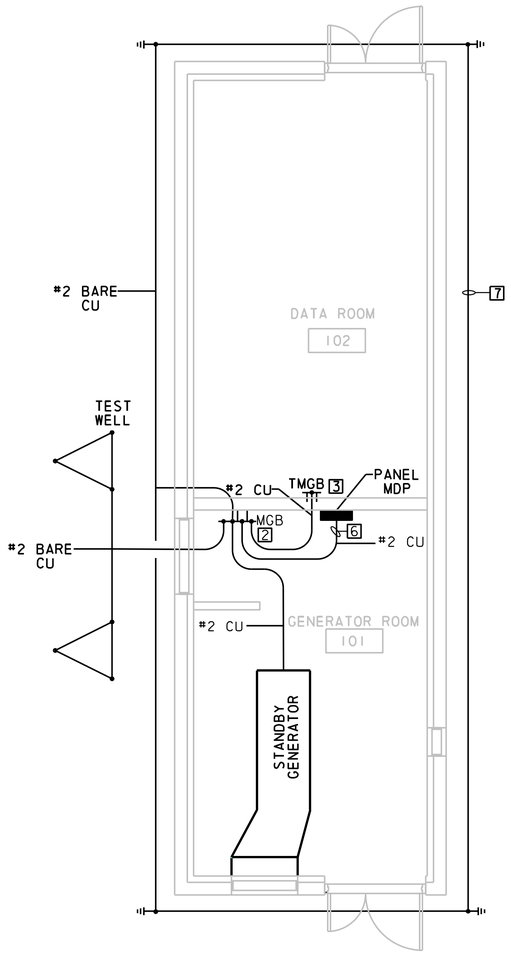
    120/240V SYSTEM
    PHASE A = BLACK
    PHASE B = RED
    NEUTRAL = WHITE
    GROUND = GREEN
21. CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERABLE WIRING SYSTEM.
22. CONTRACTOR TO SUPPLY AND INSTALL ADEQUATE APPROVED SERVICE ENTRANCE EQUIPMENT FOR 120/240V, 1 PHASE 400A UNDERGROUND SERVICE

ELECTRICAL SYMBOLS AND GENERAL NOTES
E-01

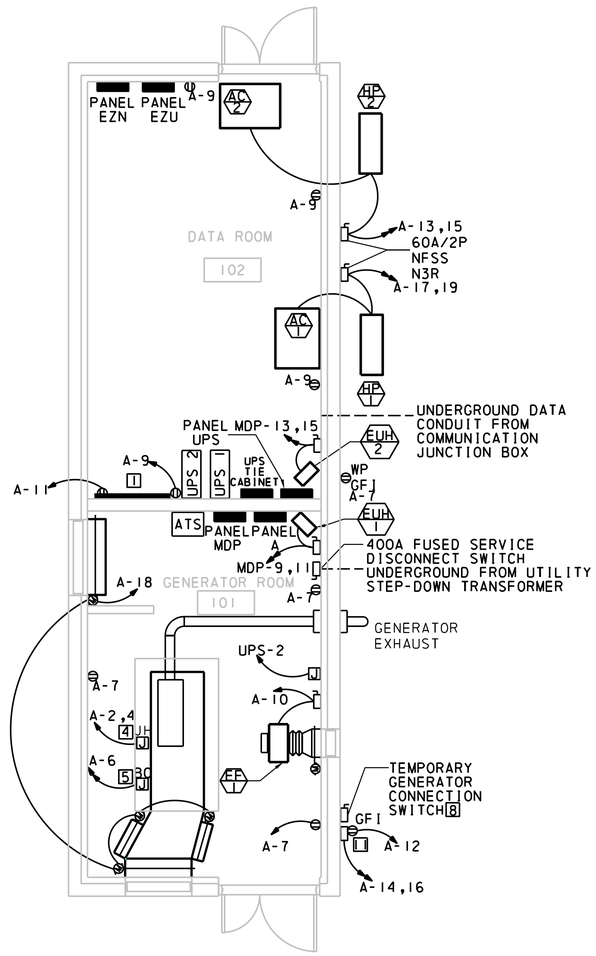
PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	10 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

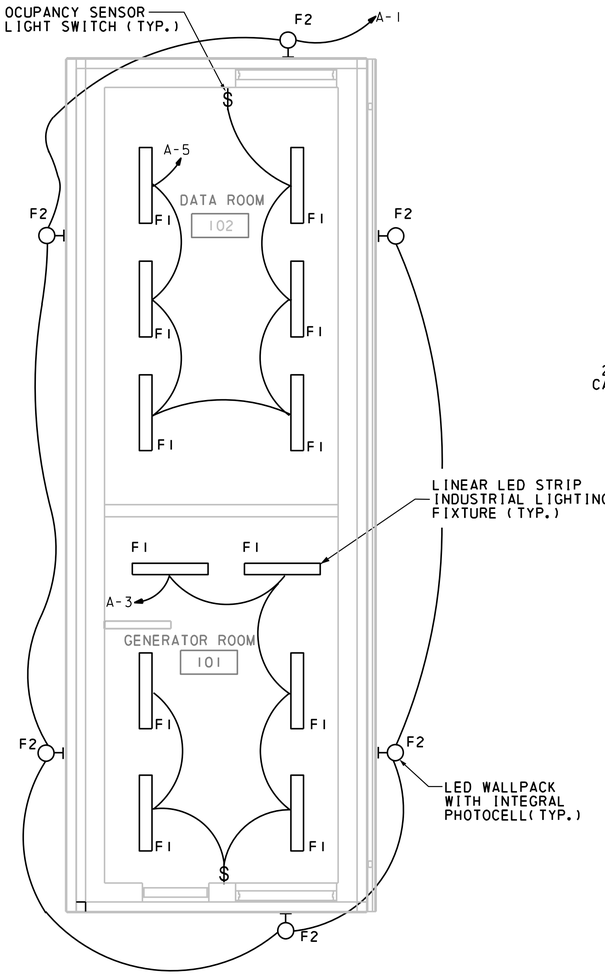
REVISION NUMBER	REVISIONS	DATE	BY



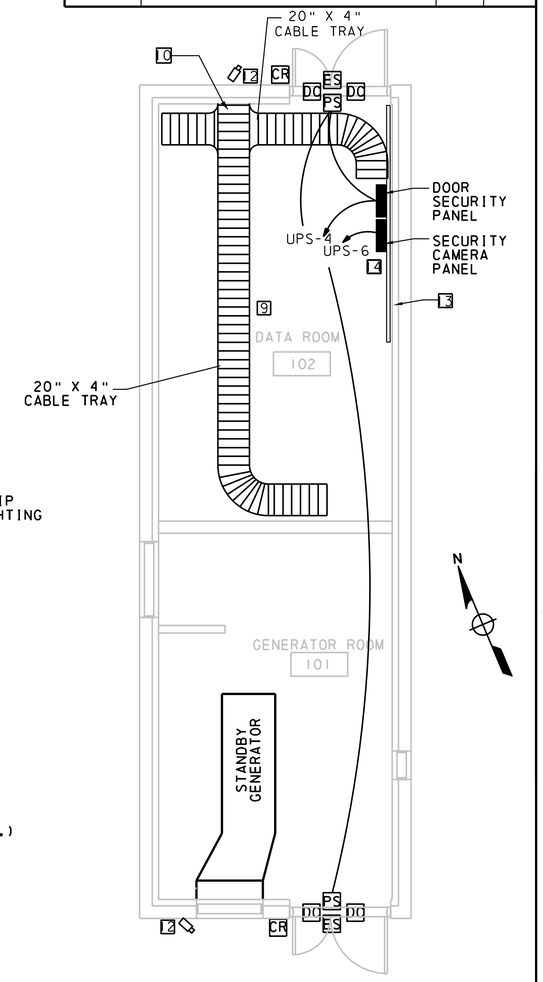
1 UTILITY BUILDING GROUNDING PLAN
NOT DRAWN TO SCALE



2 UTILITY BUILDING POWER AND SYSTEMS PLAN
NOT DRAWN TO SCALE



3 UTILITY BUILDING LIGHTING PLAN
NOT DRAWN TO SCALE



4 UTILITY BUILDING SECURITY PLAN
NOT DRAWN TO SCALE

DRAWING NOTES

1. SEE SHEET E-103 UNDERGROUND CONDUIT DETAILS. COORDINATE THE FINAL LOCATIONS OF GROUNDING ELECTRODES (GROUND RODS, GROUND RING, TEST WELLS ETC) IN FIELD PRIOR TO INSTALLATION. REFER TO E-106 FOR GROUND BAR DETAILS.
2. ABOVE EQUIPMENT PLAN SHOWN FOR INFORMATION PURPOSES ONLY, FINAL EQUIPMENT AND LAYOUT TO BE DETERMINED AND COORDINATED WITH TOLL SYSTEM INTEGRATOR.
3. SEE ROADWAY AND UNDERGROUND CONDUIT PLAN DRAWINGS FOR CONDUIT ROUTINGS. CONDUITS SHALL BE PROVIDED BY CONTRACTORS.
4. PROVIDE COMPLETE LIGHTNING PROTECTION SYSTEM FOR THIS BUILDING. THE COMPLETED INSTALLATION SHALL MEET THE REQUIREMENTS OF THE NFPA 780, AND "INSTALLATION REQUIREMENTS FOR LIGHTNING PROTECTION SYSTEMS, UL 96A" OF UNDERWRITERS LABORATORIES, INC. THE UL LIGHTNING CERTIFICATE SHALL BE FURNISHED UPON COMPLETION. ALL CABLING FOR THIS SYSTEM SHALL BE CONCEALED AS APPROVED BY THE REPRESENTATIVE. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. PROVIDE SURGE PROTECTION DEVICES (SPDs) FOR ALL NEW ELECTRICAL PANEL BOARDS. SURGE PROTECTION DEVICES SHALL BE BUS MOUNTED.
6. INSTALL EXTERIOR WALL PACKS CENTERED ABOVE DOOR. COORDINATE LOCATION IN THE FIELDS. MOUNT LIGHT FIXTURE SUCH THAT THE BOTTOM OF FIXTURE IS APPROX. 8'-0" ABOVE FINISHED FLOOR.
7. INSTALL INTERIOR LIGHT FIXTURE SUCH THAT THE BOTTOM OF FIXTURE IS APPROX. 9'-0" ABOVE FURNISHED FLOOR. SEE SHEET E-106 FOR DETAILS.

KEYNOTES

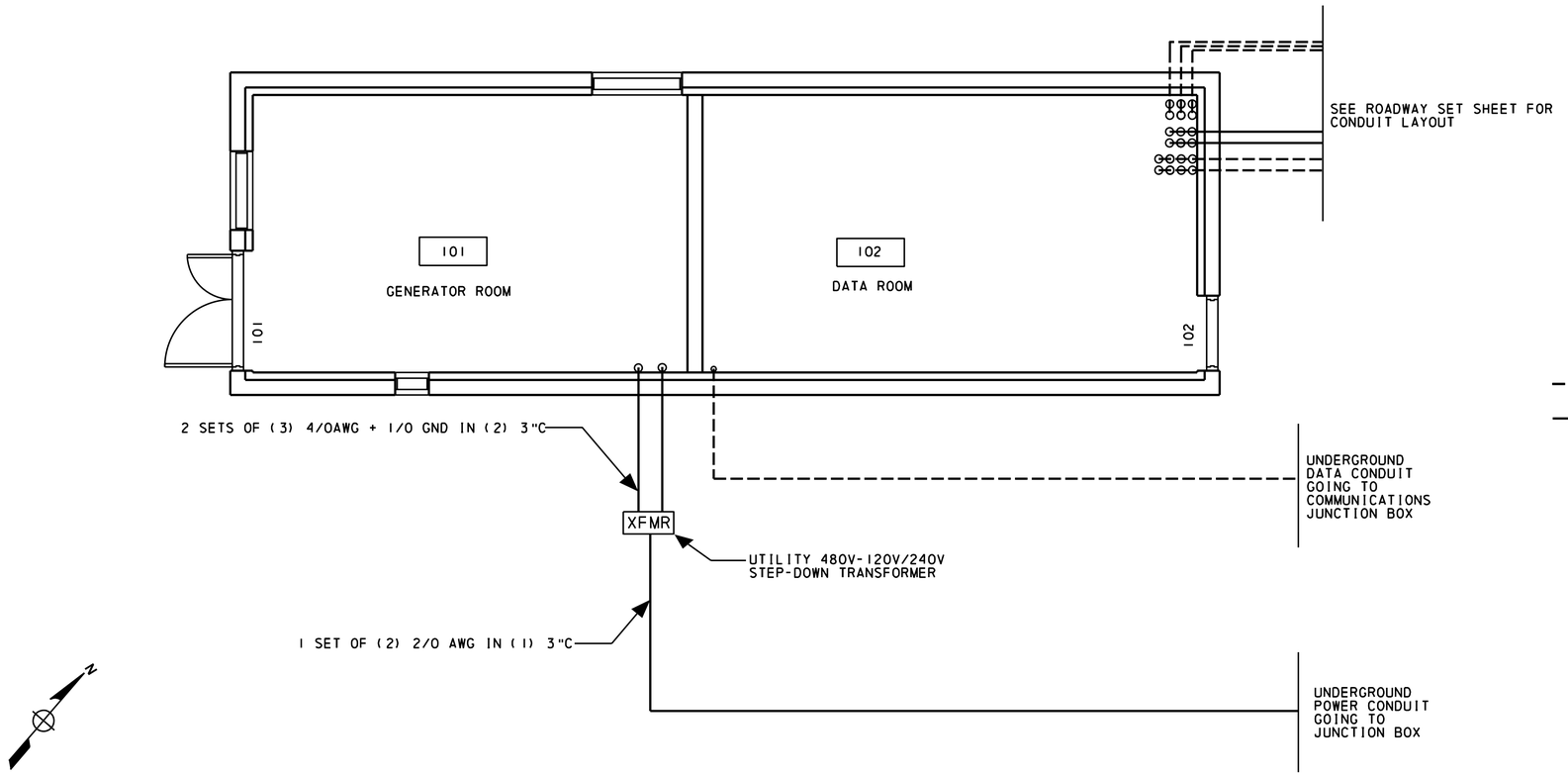
1. LOCATION OF TELEPHONE TERMINAL BOARD. PROVIDE 3/4" PLYWOOD, IN THIS AREA. PAINT PLYWOOD WHITE ON ALL SIDES.
2. PROVIDE A 12" LONG COPPER GROUND BAR WITH INSULATING STANDOFFS AND TWO BOLT CRIMP CONNECTORS ON ALL WIRES, IN THIS LOCATION. BOND ALL GROUNDING ELECTRODES TO THIS BAR.
3. PROVIDE A 12" LONG COPPER GROUND BAR WITH INSULATING STANDOFFS AND TWO BOLT CRIMP CONNECTORS ON ALL WIRES, IN THIS LOCATION. FOR ALL TELECOMMUNICATIONS GROUNDING.
4. POWER TO GENERATOR JACKET HEATER.
5. POWER TO GENERATOR BATTERY CHARGER.
6. INSTALL GROUND CONDUCTOR IN 1" PVC CONDUIT TO MDP.
7. INSTALL BARE GROUND WIRE AT THE TOP OF THE FOOTING. COORDINATE EXACT LOCATION WITH FIELD CONDITIONS.
8. LOCATION OF PORTABLE GENERATOR CONNECTION. PROVIDE DOUBLE THROW SWITCH WITH CAM LOCK CONNECTIONS INTEGRAL TO THE SWITCH PER THE RISER DIAGRAM.
9. PROVIDE 4" HIGH X 20" WIDE LADDER STYLE CABLE TRAY. COORDINATE EXACT LOCATION AND ROUTING WITH THE EQUIPMENT VENDOR PRIOR TO INSTALLATION.
10. EXTEND CABLE TRAY VERTICALLY DOWN WALL TO CONDUIT SLEEVES. COORDINATE EXACT LENGTH IN THE FIELD WITH EQUIPMENT VENDOR PRIOR TO INSTALLATION.
11. PROVIDE APEX CONNECTION BOX FOR TEMPORARY GENERATOR CONNECTION PER THE TURNPIKE COMMISSION REQUIREMENTS. PROVIDE (1) 1-1/4" CONDUIT FROM BOX TO ATS FOR CONTROLS. ADDITIONAL COMPONENTS SHALL BE (1) 20A GFI RECEPTACLE, AND (1) 30A, 240V BLOCK HEATER CONNECTION.
12. COORDINATE THE SECURITY CAMERA LOCATION WITH OWNER. VERIFY THE EXACT LOCATION IN THE FIELD.
13. PROVIDE 3/4" PLYWOOD IN THIS AREA. PAINT PLYWOOD WHITE ON ALL SIDES.
14. PROVIDE ALL CABLING FOR SECURITY DEVICES AS PER THE SPECIFICATION.

ELECTRICAL FLOOR PLAN
E-102

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	11 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



NOTES:

1. REFER TO ROADWAY SET FOR DETAILED CONDUIT LOCATION AND ADDITIONAL UNDERGROUND INFORMATION.

2. CONDUITS SHALL BE PLACED 6" ABOVE THE FLOOR.

3. CONDUITS IN DATA ROOM SHALL BE PLACED AS CLOSE AS POSSIBLE TO THE WALL.

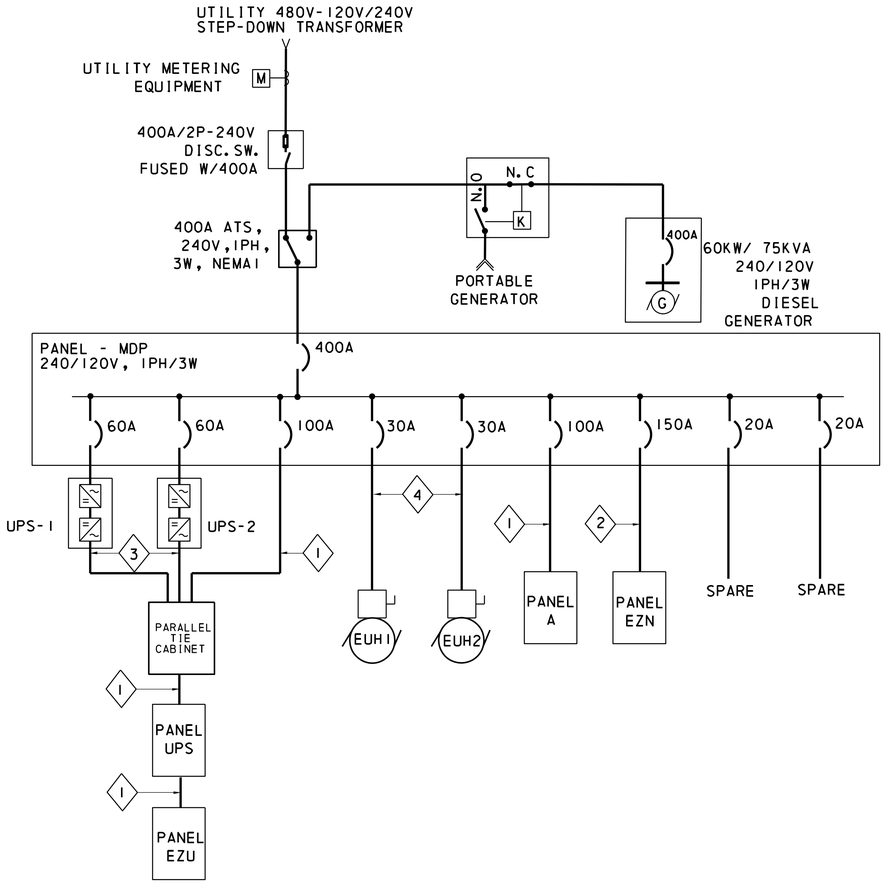
4. CONDUITS SHALL BE SPACED IN ACCORDANCE TO NFPA 70.

UNDERGROUND CONDUIT PLAN
E -103

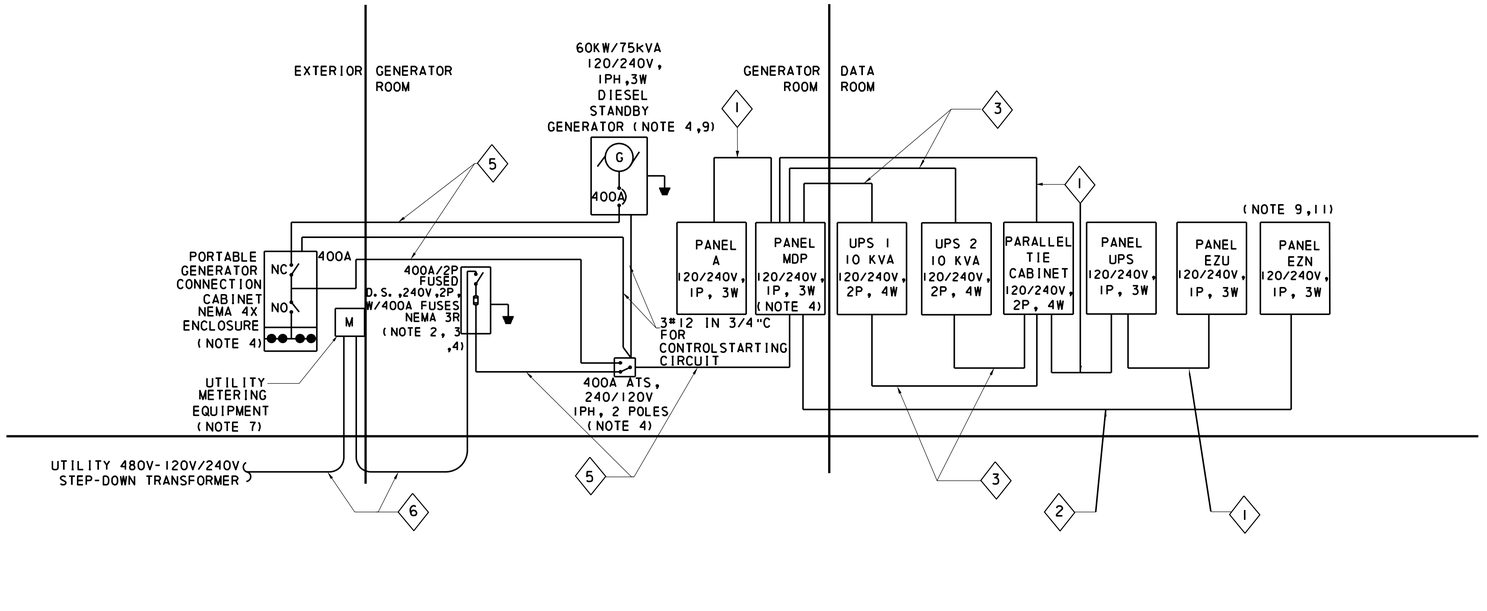
PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	12 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



1 SINGLE LINE DIAGRAM



2 POWER RISER DIAGRAM

NOTES:

1. COORDINATE LOCATION OF METERING EQUIPMENT WITH UTILITY REPRESENTATIVE. PROVIDE METERING EQUIPMENT PER UTILITY STANDARDS.
2. PROVIDE GROUNDING IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
3. FUSED DISCONNECT SHALL BE RATED FOR A SERVICE ENTRANCE.
4. NEUTRAL BUS AND GROUND BUS SHALL BE BONDED TO DERIVE SERVICE GROUND FOR ELECTRICAL SYSTEM.
5. SERVICE DISCONNECTING MEANS SIGN SHALL BE PROVIDED AT INDICATED LOCATIONS.
6. PROVIDE A #2 INSULATED COPPER GROUNDING ELECTRODE CONDUCTOR, IN 1"PVC CONDUIT TO WALL MOUNTED GROUND BUS. REFER TO THE GROUNDING PLAN FOR ADDITIONAL INFORMATION.
7. THESE DESIGN DRAWINGS ARE NOT FOR CONSTRUCTION, PRELIMINARY AND SUBJECT TO CHANGE WHEN MORE INFORMATION IS AVAILABLE.
8. PROVIDE SURGE PROTECTION DEVICES (SPDs) FOR ALL NEW ELECTRICAL PANEL BOARDS. SURGE PROTECTION DEVICES SHALL BE BUSS MOUNTED.
9. ALL PANELS, IN ADDITION TO MAIN BREAKER, SHALL BE 80% RATED.
10. MAIN BREAKER FOR GENERATOR SHALL ALSO BE 80% RATED.
11. ALL PANELS SHALL BE NEMA 3R RATED.

FEEDER SCHEDULE	
1	(3) # 1 + 1 # 6G IN 1-1/2 " RGS
2	(3) # 1 / 0 + 1 # 6G IN 1-1/2 " RGS
3	(3) # 6 + 1 # 8G IN 3/4 " RGS
4	(3) # 10 + 1 #8G IN 3/4" RGS
5	(2) SET OF (3) 4/0 + 1 # 1/0G IN (2) 3 " RGS
6	(2) SET OF (3) 4/0 + 1 # 1/0G IN (2) 3 " PVC SCH-80

POWER RISER AND SINGLE LINE DIAGRAM
E-104

PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	13 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

PANEL SCHEDULE

PANEL: MDP
(NEW)

LOCATION: GENERATOR ROOM
SERVICE: ATS
BUS: 400A
MOUNTING: SURFACE
INTERRUPTING CURRENT: TBD
MAIN TYPE: MCB
MCB RATING: 400A
VOLTAGE: 120/240V
PHASE: 1ø-4W

Wiring Size		Load Description	Load	Brkr		Ckt	KVA		Ckt	Brkr		Load	Load Description	Wiring Size	
Cond.	Wire		kVA	P	Trip	No	A	B	No	Trip	P	kVA		Wire	Cond.
1-1/2"	#1	PANEL A	8.53	2	100	1	8.5		2	100	2	20.00	BYPASS PARALLEL TIE	#1	1-1/2"
			8.25			3		8.2	4						
1-1/2"	#1/0	PANEL EZN	10.32	2	150	5	20.3		6	60	2	10.00	UPS - 1	#6	3/4"
			9.96			7		10.0	8						
3/4"	#10	EUH-1	2.78	2	30	9	12.8		10	60	2	10.00	UPS - 2	#6	3/4"
			2.78			11		2.8	12						
3/4"	#10	EUH-2	2.78	2	30	13	3.0		14	20	1	0.18	TEMP GENERATOR GFI	#12	3/4"
			2.78			15		2.8	16	30	2	0.00	TEMP GEN BLOCK HEATER	#10	3/4"
		SPARE		1	20	17			18						
		SPARE		1	20	19			20	1	20		SPARE		
		SPARE		1	20	21			22	1	20		SPARE		
		SPARE		1	20	23			24	1	20		SPARE		
		SPARE		1	20	25			26	1	20		SPARE		
		SPARE		1	20	27			28	1	20		SPARE		
		SPARE		1	20	29			30	1	20		SPARE		
		SPARE		1	20	31			32	1	20		SPARE		
		SPARE		1	20	33			34	1	20		SPARE		
		SPARE		1	20	35			36	1	20		SPARE		
		SPARE		1	20	37			38	1	20		SPARE		
		SPARE		1	20	39			40	1	20		SPARE		
Subtotal Load Per Phase, KVA							44.6	23.8							
Total connected load, KVA							68.4								
Total Connected Current, AMPS							284.8								

NOTES:
1 - MDP PANELBOARD MAIN BUS SHALL BE EQUIPPED WITH INTEGRAL VOLTAGE SURGE SUPPRESSOR.

PANEL SCHEDULE

PANEL: EZN
(NEW)

LOCATION: DATA ROOM
SERVICE: PANEL MDP
BUS: 225A
MOUNTING: SURFACE
INTERRUPTING CURRENT: TBD
MAIN TYPE: MLO
MCB RATING: N/A
VOLTAGE: 120/240V PHASE: 1ø-4W

Wiring Size		Load Description	Load	Brkr		Ckt No	KVA		Ckt No	Brkr		Load	Load Description	Wiring Size	
Cond.	Wire		kVA	P	Trip		A	B		Trip	P	kVA		Wire	Cond.
3/4"	#10	RACK #1 RECEPTACLE	0.67	2	30	1	1.3		2	30	2	0.67	RACK #1 RECEPTACLE	#10	3/4"
			0.67			3		1.3	4			0.67			
3/4"	#10	RACK #2 RECEPTACLE	0.67	2	30	5	1.3		6	30	2	0.67	RACK #2 RECEPTACLE	#10	3/4"
			0.67			7		1.3	8			0.67			
3/4"	#10	RACK #3 RECEPTACLE	0.67	2	30	9	1.3		10	30	2	0.67	RACK #3 RECEPTACLE	#10	3/4"
			0.67			11		1.3	12			0.67			
3/4"	#10	RACK #4 RECEPTACLE	0.67	2	30	13	1.3		14	30	2	0.67	RACK #4 RECEPTACLE	#10	3/4"
			0.67			15		1.3	16			0.67			
3/4"	#10	RACK #5 RECEPTACLE	0.67	2	30	17	1.3		18	30	2	0.67	RACK #5 RECEPTACLE	#10	3/4"
			0.67			19		1.3	20			0.67			
3/4"	#10	RACK #6 RECEPTACLE	0.67	2	30	21	1.3		22	30	2	0.67	RACK #6 RECEPTACLE	#10	3/4"
			0.67			23		1.3	24			0.67			
3/4"	#12	RACK #1 RECEPTACLE	0.18	1	20	25	0.4		26	20	1	0.18	RACK #4 RECEPTACLE	#12	3/4"
3/4"	#12	RACK #2 RECEPTACLE	0.18	1	20	27		0.4	28	20	1	0.18	RACK #5 RECEPTACLE	#12	3/4"
3/4"	#12	RACK #3 RECEPTACLE	0.18	1	20	29	0.4		30	20	1	0.18	RACK #6 RECEPTACLE	#12	3/4"
		SPARE		1	20	31		0.0	32	20	1		SPARE		
		SPARE		1	20	33	0.0		34	20	1		SPARE		
		SPARE		1	20	35		0.0	36	20	1		SPARE		
3/4"	#12	GANTRY LIGHTING	0.80	1	20	37	1.6		38	20	1	0.80	GANTRY LIGHTING	#12	3/4"
3/4"	#12	GANTRY LIGHTING	0.80	1	20	39		1.6	40	20	1	0.80	GANTRY LIGHTING	#12	3/4"
Subtotal Load Per Phase, KVA							10.32	9.96							
Total connected load, KVA							20.29								
Total connected current, Amps							84.53								

PANEL SCHEDULE

PANEL: UPS
(NEW)

LOCATION: GENERATOR ROOM
SERVICE: PANEL MDP
BUS: 100A
MOUNTING: SURFACE
INTERRUPTING CURRENT: TBD
MAIN TYPE: MLO
MCB RATING: N/A
VOLTAGE: 120/240V
PHASE: 1ø-4W

Wiring Size		Load Description	Load kVA	Brkr		Ckt No	KVA		Ckt No	Brkr		Load kVA	Load Description	Wiring Size	
Cond.	Wire			P	Trip		A	B		Trip	P			Wire	Cond.
1-1/2"	#1	PANEL EZU	8.00	2	100	1	8.3		2	20	1	0.25	GENERATOR FUEL CONTROL SYSTEM	#12	3/4"
			8.00			3		8.3	4	20	1	0.25	DOOR SECURITY PANEL	#12	3/4"
		SPARE		1	20	5	0.3		6	20	1	0.25	SECURITY CAMERAS PANEL	#12	3/4"
		SPARE		1	20	7		0.0	8	20	1		SPARE		
		SPARE		1	20	9	0.0		10	20	1		SPARE		
		SPARE		1	20	11		0.0	12	20	1		SPARE		
		SPARE		1	20	13	0.0		14	20	1		SPARE		
		SPARE		1	20	15		0.0	16	20	1		SPARE		
		SPARE		1	20	17	0.0		18	20	1		SPARE		
		SPARE		1	20	19		0.0	20	20	1		SPARE		
Subtotal Load Per Phase, KVA							8.5	8.3							
Total connected load, KVA							16.8								
Total connected current, Amps							69.8								

PANEL SCHEDULE

PANEL: A
(NEW)

LOCATION: GENERATOR ROOM
SERVICE: PANEL MDP
BUS: 100A
MOUNTING: SURFACE
INTERRUPTING CURRENT: `TBD
MAIN TYPE: MLO
MCB RATING: N/A
VOLTAGE: 120/240V
PHASE: 1ø-4W

Wiring Size		Load Description	Load	Brkr		Ckt No	KVA		Ckt No	Brkr		Load	Load Description	Wiring Size	
Cond.	Wire		kVA	P	Trip		A	B		Trip	P	kVA		Wire	Cond.
3/4"	#12	EXTERIOR LIGHTING	0.07	1	20	1	1.6		2	20	2	1.50	JACKET HEATER	#12	3/4"
3/4"	#12	INTERIOR LIGHTING	0.14	1	20	3		1.6	4			1.50			
3/4"	#12	INTERIOR LIGHTING	0.14	1	20	5	0.4		6	20	1	0.25	BATTERY CHARGER	#12	3/4"
3/4"	#12	RECEPTACLES	0.54	1	20	7		0.6	8	20	1	0.10	GENERATOR CONTROL SYSTEM	#12	3/4"
3/4"	#12	RECEPTACLES	0.72	1	20	9	0.9		10	20	1	0.14	EF-1	#12	3/4"
3/4"	#12	RECEPTACLES TELEPHONE	0.18	1	20	11		0.4	12	20	1	0.18	TEMP GENERATOR GFI	#12	3/4"
3/4"	#10	HP-1 (PRIME)	5.61	2	40	13	5.6		14	30	2	0.00	TEMP GEN BLOCK HEATER	#10	3/4"
			5.61			15		5.6	16	20		0.00			
3/4"	#10	HP-2 (BACKUP)	0.00	2	40	17	0.1		18	20	1	0.10	MOTORIZED DAMPERS	#12	3/4"
			0.00			19		0.0	20	20	1		SPARE		
		SPARE		1	20	21	0.0		22	20	1		SPARE		
		SPARE		1	20	23		0.0	24	20	1		SPARE		
		SPARE		1	20	25	0.0		26	20	1		SPARE		
		SPARE		1	20	27		0.0	28	20	1		SPARE		
		SPARE		1	20	29			30	20	1		SPARE		
		SPARE		1	20	31			32	20	1		SPARE		
		SPARE		1	20	33			34	20	1		SPARE		
		SPARE		1	20	35			36	20	1		SPARE		
		SPARE		1	20	37			38	20	1		SPARE		
		SPARE		1	20	39			40	20	1		SPARE		
Subtotal Load Per Phase, KVA							8.5	8.2							
Total connected load, KVA							16.8								
Total Connected Current, AMPS							69.92								

PANEL SCHEDULE

PANEL: EZU
(NEW)

LOCATION: DATA ROOM
SERVICE: PANEL UPS
BUS: 125A
MOUNTING: SURFACE
INTERRUPTING CURRENT: TBD
MAIN TYPE: MLO
MCB RATING: N/A
VOLTAGE:120/240V PHASE: 1ø-4W

Wiring Size		Load Description	Load	Brkr		Ckt No	KVA		Ckt No	Brkr		Load	Load Description	Wiring Size	
Cond.	Wire		kVA	P	Trip		A	B		Trip	P	kVA		Wire	Cond.
3/4"	#10	RACK #1 RECEPTACLE	0.67	2	30	1	1.3		2	30	2	0.67	RACK #1 RECEPTACLE	#12	3/4"
			0.67			3		1.3	4			0.67			
3/4"	#10	RACK #2 RECEPTACLE	0.67	2	30	5	1.3		6	30	2	0.67	RACK #2 RECEPTACLE	#12	3/4"
			0.67			7		1.3	8			0.67			
3/4"	#10	RACK #3 RECEPTACLE	0.67	2	30	9	1.3		10	30	2	0.67	RACK #3 RECEPTACLE	#12	3/4"
			0.67			11		1.3	12			0.67			
3/4"	#10	RACK #4 RECEPTACLE	0.67	2	30	13	1.3		14	30	2	0.67	RACK #4 RECEPTACLE	#12	3/4"
			0.67			15		1.3	16			0.67			
3/4"	#10	RACK #5 RECEPTACLE	0.67	2	30	17	1.3		18	30	2	0.67	RACK #5 RECEPTACLE	#12	3/4"
			0.67			19		1.3	20			0.67			
3/4"	#10	RACK #6 RECEPTACLE	0.67	2	30	21	1.3		22	30	2	0.67	RACK #6 RECEPTACLE	#12	3/4"
			0.67			23		1.3	24			0.67			
		SPARE		1	20	25			26	20	1		SPARE		
		SPARE		1	20	27			28	20	1		SPARE		
		SPARE		1	20	29			30	20	1		SPARE		
		SPARE		1	20	31			32	20	1		SPARE		
		SPARE		1	20	33			34	20	1		SPARE		
		SPARE		1	20	35			36	20	1		SPARE		
		SPARE		1	20	37			38	20	1		SPARE		
		SPARE		1	20	39			40	20	1		SPARE		
Subtotal Load Per Phase, KVA							8.0	8.0							
Total connected load, KVA							16.0								
Total connected current, Amps							66.7								

LIGHT FIXTURE SCHEDULE

FIXTURE TAG	DESCRIPTION	MOUNTING	LAMP QUANTITY/TYPE	WATTS	VOLTAGE	MANUFACTUREER	CATALOG NO. OR SERIES	NOTES
F1	LED LINEAR STRIP LIGHT	SURFACE	3000LM LED	23W	120V	LITHONIA	FEM L48-3000LM-IMAFL-MD-120V-GZ10-40K-80CRI	12
						PHILIPS	APPROVED EQUAL	
						EATON	APPROVED EQUAL	
F2	LED WALLPACK WITH INTEGRAL PHOTOCELL	SURFACE	1500LM LED	12W	120V	LITHONIA	WST LED-P1-50K-VW-120-PE	6
						PHILIPS	APPROVED EQUAL	
						EATON	APPROVED EQUAL	

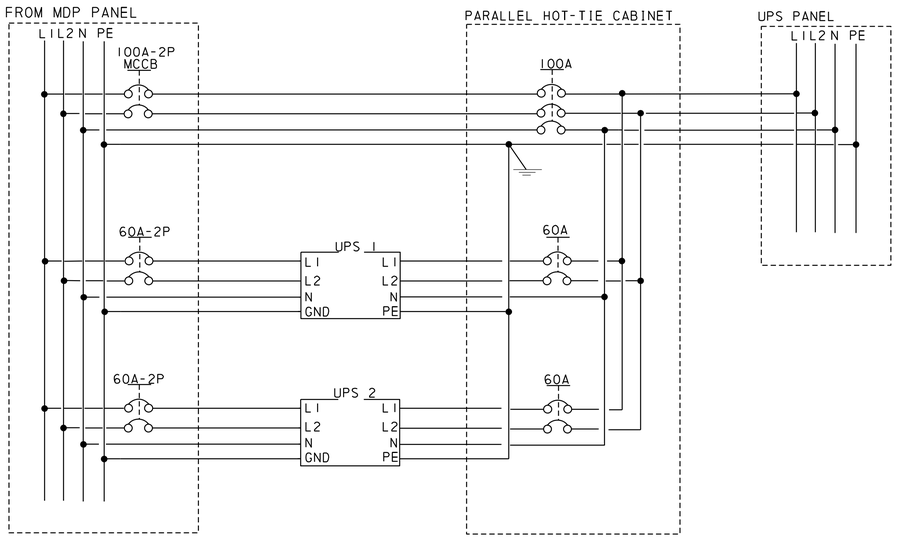
GENERAL NOTES
1. IF DISCREPANCY EXISTS BETWEEN FIXTURE CATALOG NUMBER AND FIXTURE DESCRIPTION, FIXTURE DESCRIPTION SHALL TAKE PRECEDENCE.
2. PROVIDE ALL LED FIXTURES WITH A MAZIMUM CCT OF 4100 DEGREES KELVIN AND A MINIMUM CRI OF 85.
3. INTALL FIXTURE SURFACE MOUNTED TO STRUCTURE.
4.INSTALL FIXTURES CENTERED ABOVE DOOR. COORDINATE LOCATION IN THE FIELD.

PANEL AND EQUIPMENT SCHEDULES
E-105

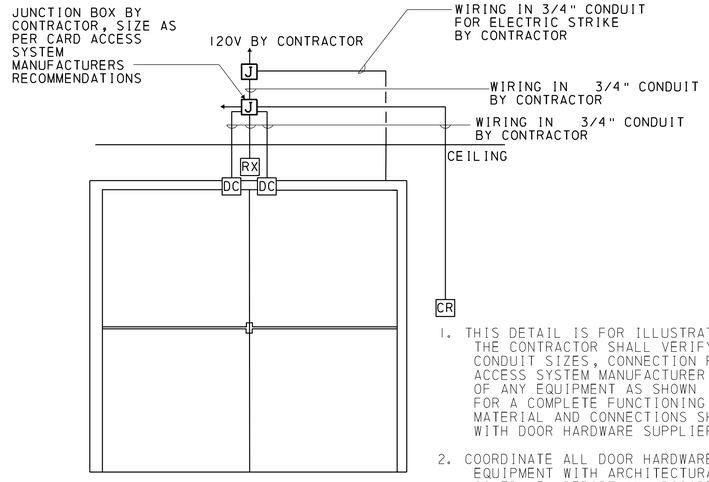
PRE-FINAL DESIGN SUBMISSION

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	14 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY

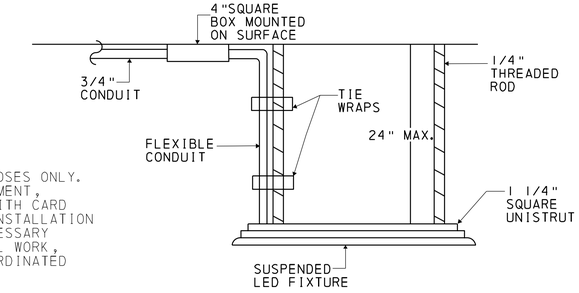


1 120/240V UPS PARALLEL TIE CABINET WIRING DIAGRAM

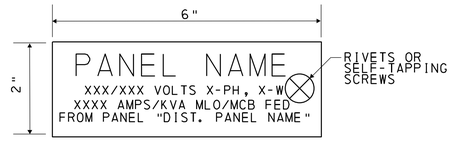


1. THIS DETAIL IS FOR ILLUSTRATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL EQUIPMENT, CONDUIT SIZES, CONNECTION POINT ETC WITH CARD ACCESS SYSTEM MANUFACTURER PRIOR TO INSTALLATION OF ANY EQUIPMENT AS SHOWN AND AS NECESSARY FOR A COMPLETE FUNCTIONING SYSTEM, ALL WORK, MATERIAL AND CONNECTIONS SHALL BE COORDINATED WITH DOOR HARDWARE SUPPLIER.
2. COORDINATE ALL DOOR HARDWARE AND CARE ACCESS EQUIPMENT WITH ARCHITECTURAL DOOR HARDWARE SCHEDULE. REPORT ANY DISCREPANCIES TO REPRESENTATIVE.

2 CARD ACCESS SYSTEM WIRING DETAIL

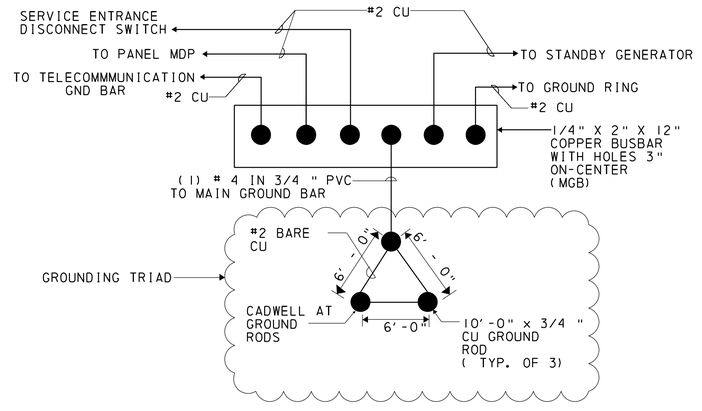


3 INTERIOR LED LIGHT FIXTURE MOUNTING DETAIL



1. PANEL NAME SHALL HAVE A MINIMUM LETTER HEIGHT OF 3/8". ALL OTHER TEXT SHALL HAVE A MINIMUM LETTER HEIGHT OF 1/4"
2. NAMEPLATE SHALL BE MACHINE ENGRAVED, LAMINATED PLASTIC WITH WHITE LETTERING, PANEL BOARD NAMEPLATE SCHEDULE FOR BACKGROUND COLOR SHALL BE BLACK.
3. "X" INDICATED FIELD TO BE FILLED IN PER ELECTRICAL PANEL BOARD SCHEDULES
4. PROVIDE NAMEPLATE FOR ALL ELECTRICAL EQUIPMENT AS INDICATED ON THE ELECTRICAL PANEL BOARD SCHEDULES.
5. NAMEPLATE SHALL BE ATTACHED WITH RIVETS OR SELF- TAPPING SCREWS.
6. DIMENSIONS INDICATED ARE MINIMUM DIMENSIONS. PROVIDE LARGER DIMENSIONED NAMEPLATE IF REQUIRED TO FIT ALL PERTINENT INFORMATION OF NAMEPLATE.

4 EQUIPMENT NAMEPLATE DETAIL



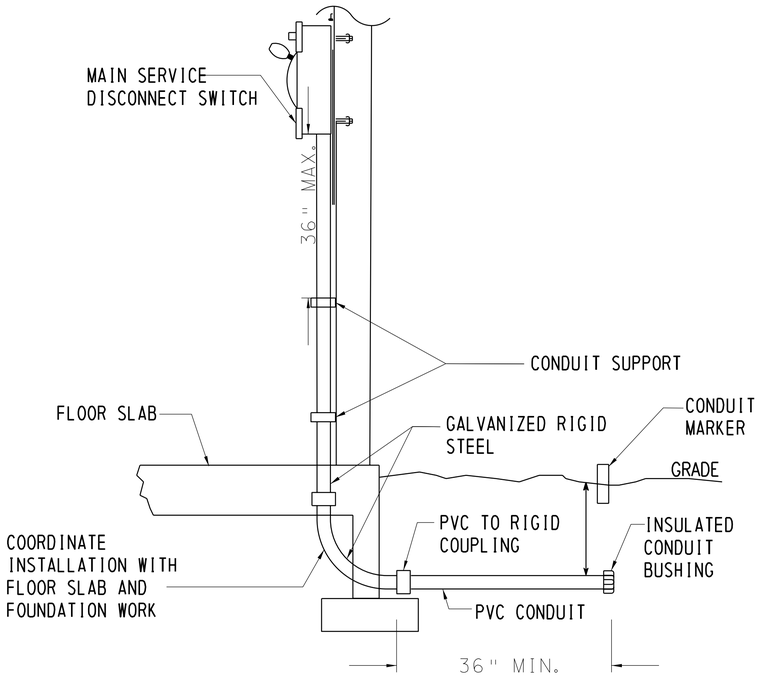
5 GROUNDING BAR WIRING DIAGRAM

ELECTRICAL DETAILS I
E-106

PRE-FINAL DESIGN SUBMISSION

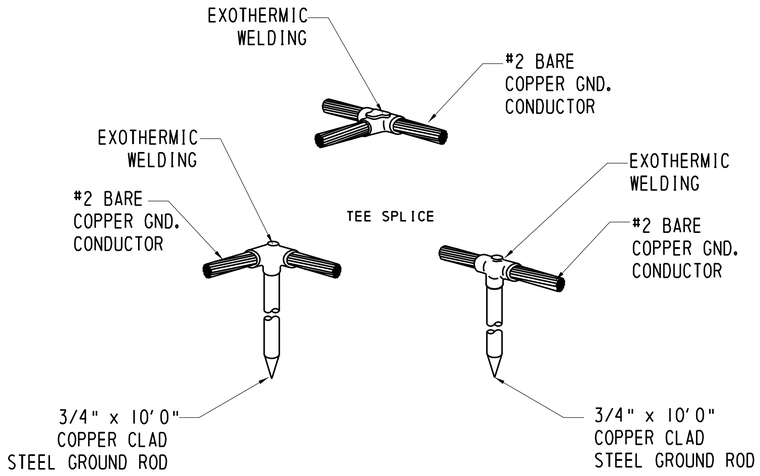
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	CLARION	0080	365	15 OF 15
TOWNSHIPS OF BEAVER, PAINT AND MONROE				

REVISION NUMBER	REVISIONS	DATE	BY



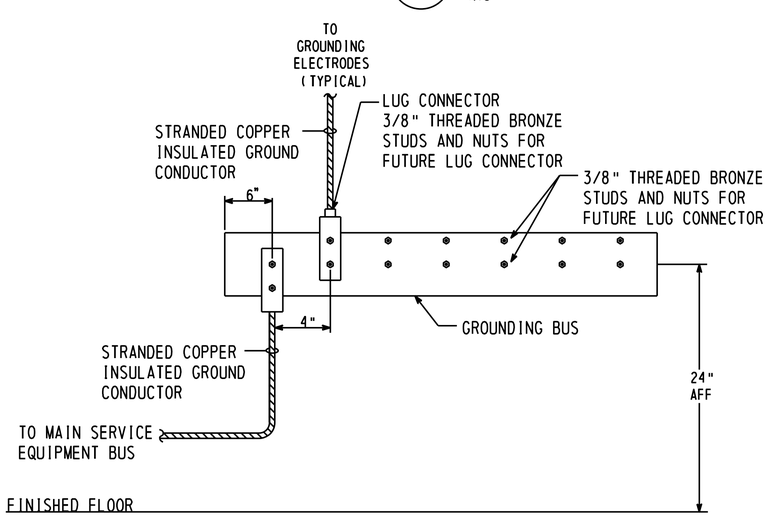
1 UTILITY CONDUIT TIE-IN TO FACILITY DETAIL

NTS



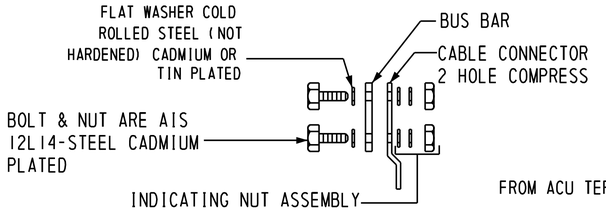
2 GROUND RODS CONNECTIONS AND BONDING DETAILS

NTS



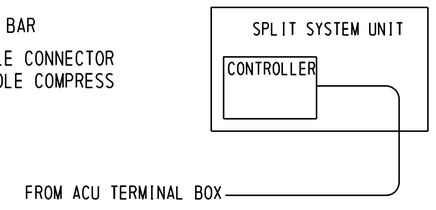
3 WALL MOUNTED EQUIPMENT GROUND BAR

NTS

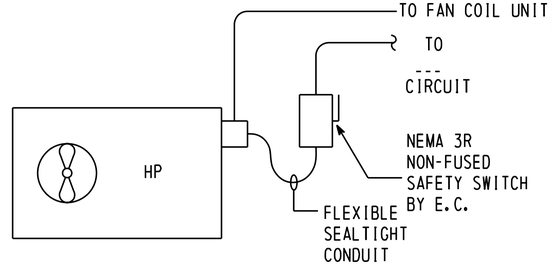


4 GROUND WIRE CONNECTION

NTS



INDOOR UNIT



OUTDOOR UNIT

5 HVAC CONNECTIONS - SPLIT SYSTEM HEAT PUMP

NTS

ELECTRICAL DETAILS 2
E-107

PRE-FINAL DESIGN SUBMISSION

Appendix E
Stream and Wetland Mitigation

Compensatory Mitigation Approach

Compensatory wetland mitigation is required as a result of unavoidable permanent impacts to jurisdictional streams associated with the I-80 Canoe Creek Bridge Replacement Project (Project) proposed by PennDOT District 10-0 (Applicant). The proposed Project and anticipated stream impacts are located in Clarion County, Pennsylvania, within the the Central Allegheny River Subbasin (Pennsylvania State Water Plan Watershed Subbasin 17). A summary of the anticipated impact types and amounts is provided below in Table 1.

Table 1: Estimated Mitigation Required for Permanent Stream Impacts

Resource Type	Impact Type	Impact Square Foot (or Linear Foot)	Impact Acres	Mitigation Ratio Applied [1,2]	Bank Credits Needed
Stream	Permanent/Fill	95.0	N/A	1:1	95.0
Totals		**95.0**	**N/A**	**-**	**95.0**

First Pennsylvania Resource, L.L.C. (FPR), a wholly owned subsidiary of Resource Environmental Solutions, L.L.C. (RES), will facilitate compensatory stream mitigation for the Project. FPR understands that based on the permanent stream impacts anticipated as a result of the Project, 95.0 wetland credits may be required to fulfill compensatory mitigation requirements related to stream loss.

Consistent with the *Compensatory Mitigation Final Rule* (33 CFR § 332.3(b)(2) 2008), which establishes mitigation credits as the preferred method of compensatory mitigation for impacts to waters of the United States, the Applicant first sought to purchase approved stream mitigation credits from a mitigation bank within the Central Allegheny River Subbasin. There are no stream mitigation banks or credits in the Central Allegheny River Subbasin, however the Project is located within the Secondary Service Area (SSA) of FPR's Robinson Fork Mitigation Bank Phase 1 (RFMB1 or Bank) (USACE Permit No.: LRP 2016-969, PA DEP File No. MB990563-003). As such, the Applicant is proposing the use of mitigation credits from the RFMB1 to meet the anticipated mitigation requirements as shown in Table 1 above. A figure of these subbasins and the Project is attached as Figure 1.

The 95.0 stream credits that are needed to meet offset requirements are available from the Bank, which was constructed in 2016 and 2017, and is currently in the latter stages of monitoring, and meeting all success criteria. As a component of the Joint Permit Application review, a request will be submitted to the USACE and PADEP permit reviewers to confirm the number of stream bank credits necessary for the Project, along with the use of credits within the Secondary Service Area of the Bank. After these two items are confirmed, RES will memorialize the use of stream credits in a Credit Commitment Letter, which will be necessary for compensatory mitigation component of the Chapter 105 and Section 404 authorizations for the Project.

CLARION COUNTY WETLAND BANK SITE

Clarion Service Area Accounting Information XXVII

					Unavoidable Wetland Impacts							
Project Name	**SR**	**Section**	**County**	**Permit Issuance Date**	**Permit No.**	**POW**	**PEM**	**PEM/PSS**	**PSS**	**PSS/PFO**	**PFO**	**Total**
Hawthorne Br.	28	350	Clarion	1/16/2009	GP111609601		0.044					0.044
East Sligo Br.	68	358	Clarion	11/10/2011	E16-140		0.08		0.02			0.1
I-80 Canoe Cree	80	365	Clarion	TBD	TBD		0.085					0.085
												0
												0
												0
												0
												0
												0
												0
												0
												0
												0
												0
												0
												0
												0
												0
												0
												0
												0
Total Debits							0.209		0.02			0.229
Remaining Acreage						0.1	0.917		0.98			1.997

NOTE: 1. PADEP Permit No. and Date will be entered upon issuance from PADEP. 2. The acreage in parentheses is the original estimated acreage by wetland type based on the water control structures and ground elevations. These numbers may change based on actual field conditions throughout the succession of the site and will be discussed at the bi-annual resource agency field views and in the monitoring reports submitted to PADEP and USACOE.

Appendix F
Threatened and Endangered Species

1. PROJECT INFORMATION

Project Name: **PennDOT - I-80 Canoe Creek; PAthways Program**
Date of Review: **8/4/2021 05:59:32 PM**
Project Category: **Transportation, Structures and Bridges, Bridge Replacement adjacent to existing alignment (within 100 feet up/down stream)**
Project Area: **186.57 acres**
County(s): **Clarion**
Township/Municipality(s): **BEAVER TOWNSHIP; MONROE TOWNSHIP; PAINT TOWNSHIP**
ZIP Code:
Quadrangle Name(s): **CLARION; KNOX**
Watersheds HUC 8: **Clarion**
Watersheds HUC 12: **Beaver Creek; Blyson Run-Clarion River; Canoe Creek; Deer Creek-Clarion River; Piney Creek-Clarion River; Turkey Run-Clarion River**
Decimal Degrees: **41.183273, -79.533421**
Degrees Minutes Seconds: **41° 10' 59.7835" N, 79° 32' 0.3161" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

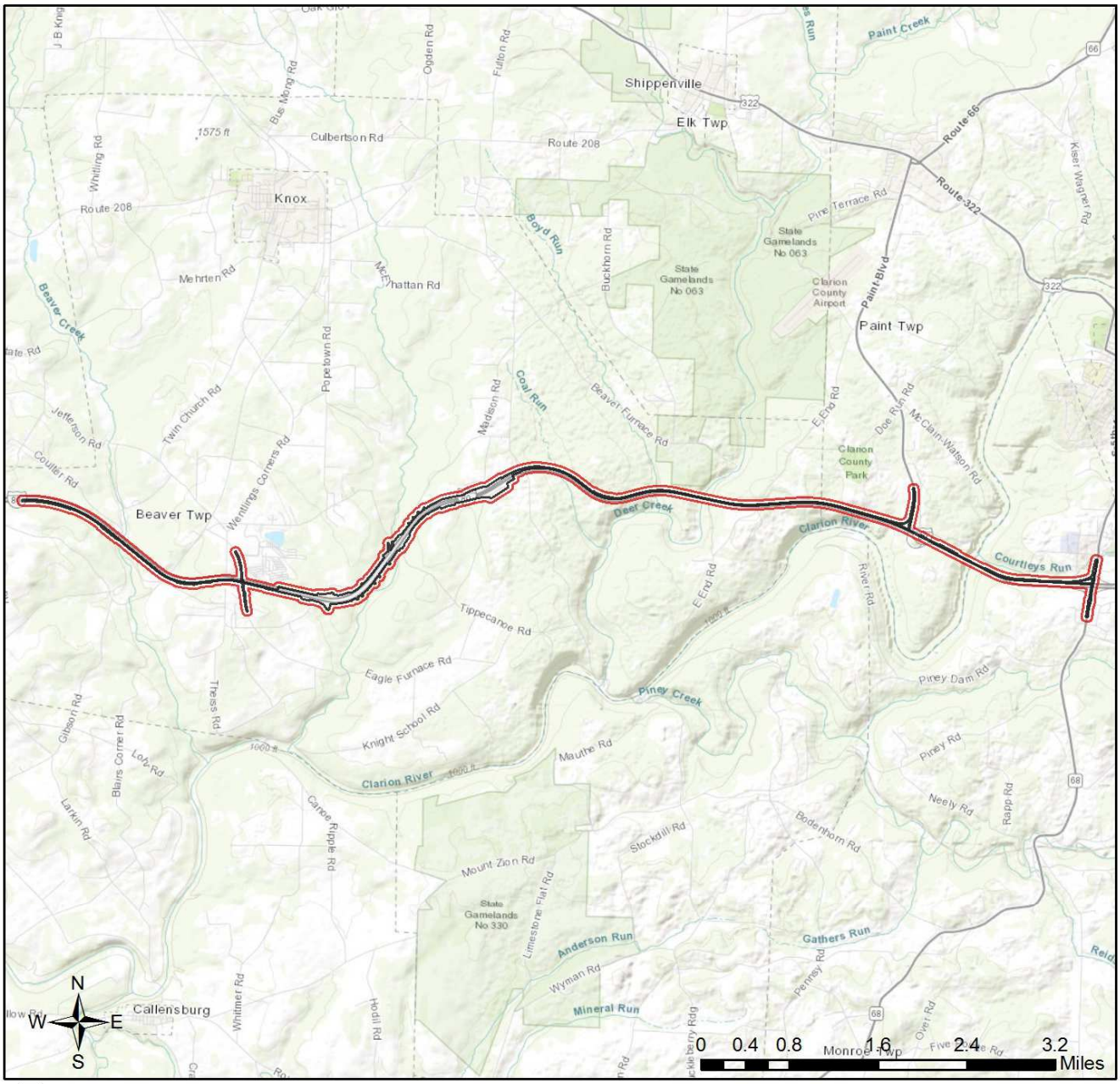
PennDOT - I-80 Canoe Creek; PAthways Program

Project Boundary

Buffered Project Boundary

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

PennDOT - I-80 Canoe Creek; PAthways Program



Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

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PA Game Commission
RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources
RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission
RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service
RESPONSE:

No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

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5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
Email: IR1_ESPenn@fws.gov
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Kathy Krommes
Company/Business Name: HDR Inc.
Address: 4900 Ritter Road, Suite 101
City, State, Zip: Mechanicsburg, PA 17055
Phone:(717) 516-3158 Fax:(717)516-3145
Email: kathy.krommes@hdrinc.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Kathy I Krommes
applicant/project proponent signature

12/23/2021
date

1. PROJECT INFORMATION

Project Name: **PennDOT Pathways - SR 3007/SR 338 Intersection Improvement**
Date of Review: **12/20/2021 12:24:32 PM**
Project Category: **Transportation, Roads, Other**
Project Area: **0.43 acres**
County(s): **Clarion**
Township/Municipality(s): **BEAVER TOWNSHIP**
ZIP Code:
Quadrangle Name(s): **KNOX**
Watersheds HUC 8: **Clarion**
Watersheds HUC 12: **Beaver Creek**
Decimal Degrees: **41.191988, -79.547864**
Degrees Minutes Seconds: **41° 11' 31.1558" N, 79° 32' 52.3098" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

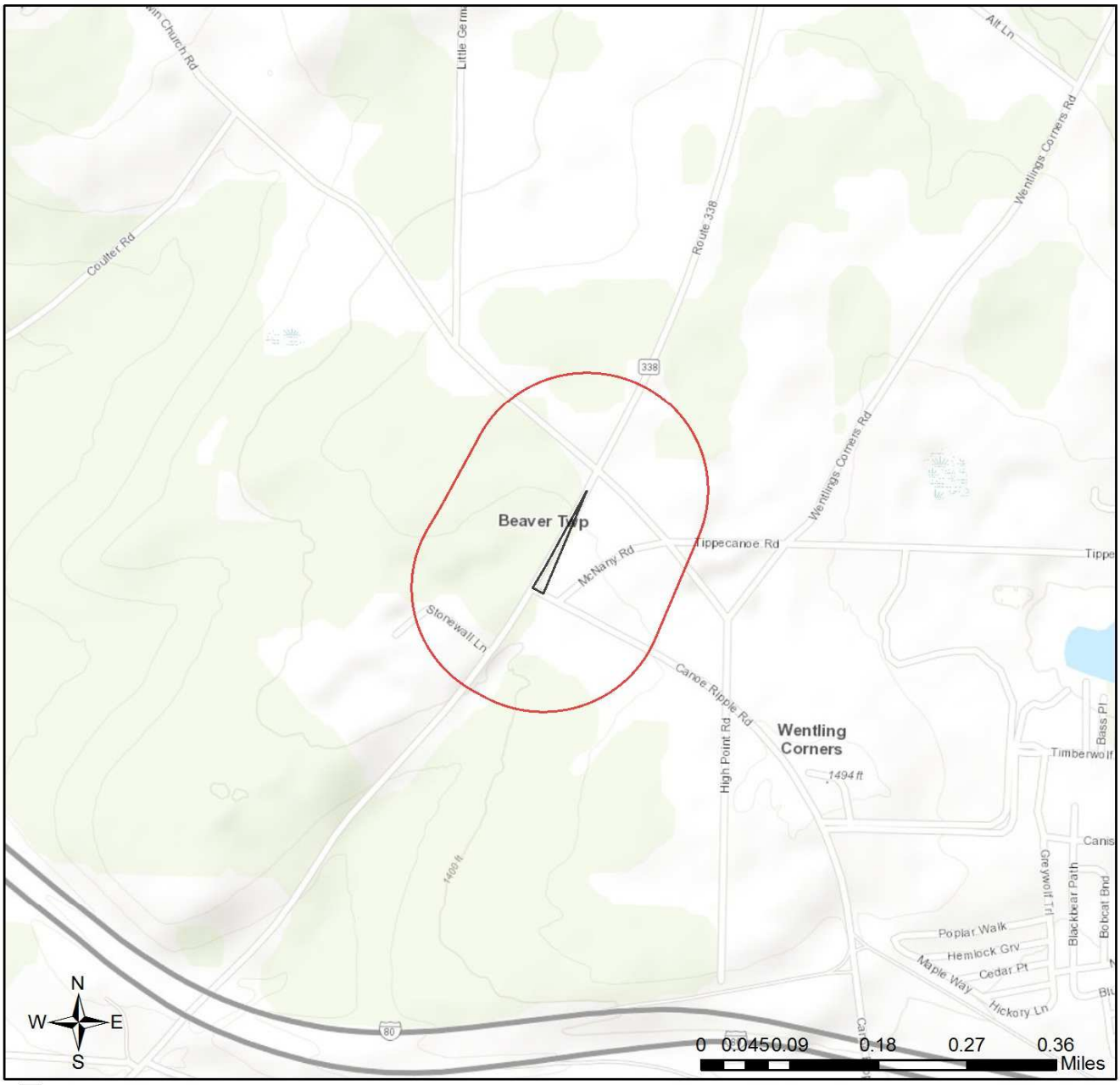
PennDOT Pathways - SR 3007/SR 338 Intersection Improvement

Project Boundary

Buffered Project Boundary

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

PennDOT Pathways - SR 3007/SR 338 Intersection Improvement



Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

RESPONSE TO QUESTION(S) ASKED

Q1: The proposed project is in the range of the Indiana bat. Describe how the project will affect bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this. Round acreages up to the nearest acre (e.g., 0.2 acres = 1 acre).
Your answer is: The project will affect 1 to 39 acres of forests, woodlots and trees.

Q2: Is tree removal, tree cutting or forest clearing of 40 acres or more necessary to implement all aspects of this project?
Your answer is: No

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service
RESPONSE:
No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
Email: IR1_ESPenn@fws.gov
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Kathy Krommes
Company/Business Name: HDR Inc.
Address: 4900 Ritter Road, Suite 101
City, State, Zip: Mechanicsburg, PA 17055
Phone: (717) 516-3158 Fax: (717) 516-3145
Email: kathy.krommes@hdrinc.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Kathy I Krommes
applicant/project proponent signature

12/23/2021
date

1. PROJECT INFORMATION

Project Name: **PennDOT - SR 322/SR 66 Intersection**
Date of Review: **10/12/2021 12:05:32 PM**
Project Category: **Transportation, Roads, Other**
Project Area: **4.49 acres**
County(s): **Clarion**
Township/Municipality(s): **PAINT TOWNSHIP**
ZIP Code:
Quadrangle Name(s): **CLARION**
Watersheds HUC 8: **Clarion**
Watersheds HUC 12: **Paint Creek**
Decimal Degrees: **41.242223, -79.426036**
Degrees Minutes Seconds: **41° 14' 32.36" N, 79° 25' 33.7295" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

PennDOT - SR 322/SR 66 Intersection

Project Boundary

Buffered Project Boundary

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
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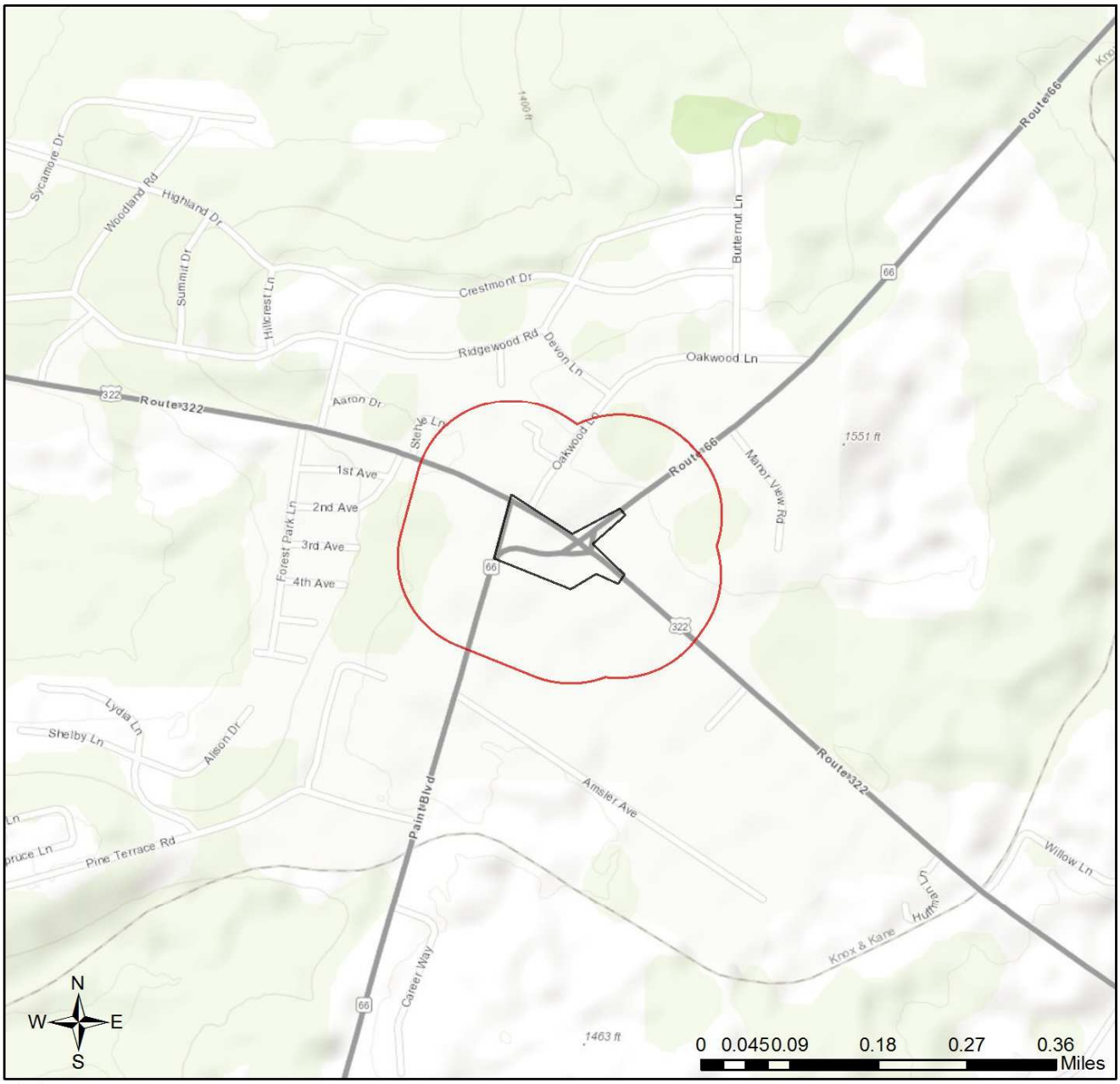
PennDOT - SR 322/SR 66 Intersection



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RESPONSE TO QUESTION(S) ASKED

Q1: The proposed project is in the range of the Indiana bat. Describe how the project will affect bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this. Round acreages up to the nearest acre (e.g., 0.2 acres = 1 acre).
Your answer is: No forests, woodlots or trees will be affected by the project.

Q2: Is tree removal, tree cutting or forest clearing of 40 acres or more necessary to implement all aspects of this project?
Your answer is: No

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

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Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
Email: IR1_ESPenn@fws.gov
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
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Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Kathy Krommes
Company/Business Name: HDR Inc.
Address: 4900 Ritter Road, Suite 101
City, State, Zip: Mechanicsburg, PA 17055
Phone: (717) 516-3158 Fax: (717) 516-3145
Email: kathy.krommes@hdrinc.com

8. CERTIFICATION

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Kathy I Krommes
applicant/project proponent signature

12/23/2021
date

Appendix G
Technical Support Data Index

I-80 CANOE CREEK BRIDGES TECHNICAL SUPPORT DATA INDEX

Technical reports and memos have been prepared for the subject areas within the I-80 North Fork Environmental Assessment and are included in the project file. Specific documentation for each chapter of the Environmental Assessment are referenced within the chapters and listed below:

Chapter 1: Introduction

- Alternative Funding: Planning and Environmental Linkages Study (September 2021)

Chapter 3: Alternatives

- CE 1b Evaluation (Approved April 2020)
- Diversion Traffic Evaluation Report (February 2022)

Chapter 4.1: Aquatic Resources

- Aquatic Resource Report (May 2021)
- Wetlands and Watercourses Presence/Absence Survey (May 2021)
- H&H Report (August 2020)
- ESC Plan (December 2021)

Chapter 4.2: Land

- Phase I ESA Addendum Report for Toll Facility (November 2021)
- Toll Facility Phase I ESA (January 2022)

Chapter 4.4: Cultural Resources

- Project Path (https://path.penndot.gov/ProjectDetails.aspx?ProjectID=51252)

Chapter 4.6: Noise

- Toll Diversion Noise Analysis Report (January 2022)

Chapter 5: Public Involvement

- Public Meeting Summary (September 2019)
- Virtual Public Meeting (November 1 to December 1, 2021)
- Public Meeting Summary (January 2022)

Chapter 6: Environmental Justice

- Environmental Justice Analysis (February 2022)

Appendix H
Distribution List

DISTRIBUTION LIST

Federal Agencies

Advisory Council on Historic Preservation
Eastern Office of Review
Attn: Preservation Specialist

Federal Emergency Management Agency
Attn: Mitigation Division

U.S. Army Corps of Engineers
Pittsburgh District
Attn: Chief, Natural & Cultural Resources Branch

U.S. Fish and Wildlife Service
Pennsylvania Field Office

U.S. Department of Health & Human Services
Centers for Disease Control & Prevention
Attn: Chief, Special Programs Group

U.S. Department of Housing & Urban Development
HUD Pittsburgh Field Office
Attn: Environmental Officer

U.S. Department of Interior
Office of Environmental Policy and Compliance
Attn: Director

U.S. Department of Transportation
Federal Transit Administration
Office of Planning and Program Development
Attn: Transportation Program Specialist

U.S. Environmental Protection Agency
Region III (3ES43)
Attn: Chief, Environmental Assessment and Protection Division

U.S. Department of Agriculture
National Resources Conservation Service
Attn: Water Resources Department

U.S. Environmental Protection Agency
Office of Federal Activities

State Agencies

PA Department of Agriculture
Bureau of Farmland Preservation
Attn: Director

PA Department of Community and Economic Development
Policy Office
Attn: Director

PA Department of Conservation and Natural Resources
Office of Policy
Attn: Director

PA Department of Environmental Protection
Office of Policy
Attn: Director

PA Department of Environmental Protection
Northwest Regional Office

PA Department of Health
Office of Policy
Attn: Executive Policy Assistant

PA Fish and Boat Commission
Environmental Services Division
Attn: Chief, Environmental Services Division

PA Game Commission
Environmental Planning and Habitat Protection
Attn: Chief, Environmental Planning and Habitat Protection Division

PA Game Commission
Northwest Region

PA Historical and Museum Commission
Bureau for Historic Preservation Commonwealth
Attn: Chief, Division of Archaeology and Protection

Public Utility Commission
Utility Office
Attn: Administrator

North Central PA Regional Planning and Development Commission
Attn: Transportation Planner

Native American Tribes

Absentee-Shawnee Tribe of Indians of Oklahoma

Delaware Nation, Oklahoma

Delaware Tribe of Indians

Eastern Shawnee Tribe of Oklahoma

Seneca Nation of Indians

Seneca-Cayuga Nation

Shawnee Tribe

Tonawanda Band of Seneca

Tuscarora Nation

Appendix I
List of Preparers

Name	Organization	EA Role	Education	Years
Camille Otto Director of Planning, Environment, and Finance	FHWA PA Division	FHWA Approver	B.S. Biology	25
Jon Crum Senior Environmental Specialist	FHWA PA Division	FHWA Environmental Reviewer	B.S. Biology M.S. Environmental Science and Management	17
James Peratino, PE Transportation Engineer	FHWA PA Division	FHWA Approver	AAS Engineering	17
Jason E. Layman, P.E. Consultant Design Project Manager	PennDOT District 10-0	Engineering Reviewer	B.S. Civil Engineering Technology	14
Jessica Schrecengost Senior Civil Engineer Supervisor	PennDOT District 10-0	Environmental Reviewer	B.S. Civil Engineering/Minor Environmental Engineering	10
Drew Ames Environmental Planning Manager	PennDOT Central Office	Environmental Reviewer	B.H Communications M.S. Community and Regional Planning	26
Kenda Gardner Deputy Chief Counsel	PennDOT Office of Chief Counsel	Legal Review	B.S. Chemistry J.D.	28
Neal Brofee Environmental Counsel	PennDOT Office of Chief Counsel	Legal Review	B.A. Mathematics J.D.	24
David Anthony Historic Preservation Specialist	PennDOT Central Office	Above Ground Cultural Resources	M.S. Historic Preservation	24
Susanne Haney Archaeologist District 10-0 and PennDOT Highway Archaeological Survey Team	PennDOT Central Office	Archaeology	B.A Social Science archaeology emphasis/M.A. Professional Growth (Applied Archaeology)	28
Jeff Bucher, PE Chief, Highway Design & Technology Division	PennDOT Central Office	Engineering Reviewer	B.S. Civil Engineer	33
Diane Nulton Environmental Project Manager	HDR	EA Project Manager	B.S. Biology/Ecology	35
Robert Schmidt, PE Project Manager	HDR	Bridge Replacement Project Manager	B.S Structural Engineering; Associates of Science, Architectural Design	28
Kathleen Krommes, ENV SP Environmental Project Manager	HDR	Environmental Lead, EA Technical Writer/Editor	B.S. Chemical Engineering	35
Katherine Markowitz Environmental Scientist	HDR	EA Technical Writer/Editor	B.S. Marine and Environmental Biology and Policy	8
Jennifer Nolan-Kremm Transportation Hydraulics Lead	HDR	H&H and Permitting Lead	BS Physics & MS Civil Engineering	16
John McPherson, AICP Environmental Services Director	HDR	EA, Cumulative Impacts	B.A. Math/Economics; M.U.P.	30

Name	Organization	EA Role	Education	Years
Lori Smith-Hall Geologist	HDR	Hazardous Materials, GIS Mapping	B.S. Geological & Related Sciences; Geographic Information Systems & Environmental Geography	18
Jenn Walsh, PE Traffic & Planning Section Manager	HDR	Traffic Diversion Analysis	B.S. Civil Engineering; M.S. Civil Engineering	28
Darryl Phillips, P.E, PTOE Senior Project Manager	HDR	Traffic Diversion Analysis	B.S. Civil Engineering; M.S. Engineering	34
Audrey Heffernan Senior Environmental Planner	HDR	Environmental Justice	B.A. Math; M.A. Math; M.S. City & Regional Planning	28
Connie Eskin Administrative Coordinator	HDR	Technical Editor	Pennsylvania State University	25
Tina Adair Technical Editor	HDR	Technical Editor	B.S. Communications	35
Frank Brilhante GIS Manager	HDR	GIS Analysis	B.S. Engineering; M.S Environmental Engineering	28
Andrea Cline, PWS, CPESC Senior Environmental Scientist	HDR	Cumulative	B.S. Biology; M.S. Conservation Biology and Sustainable Development	22
Terri Slack National Discipline Lead,Trans. Revenue Systems & Operations	CDM Smith	Traffic Forecasting	BA Economics; BA Political Science M.B.A Management	33
Tarannum Rima Travel Demand Modeler	CDM Smith	Traffic Forecasting	B.S. Civil Engineering M.S Transportation Engineering M.S. Computer Systems Engineering	16
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Appendix J
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