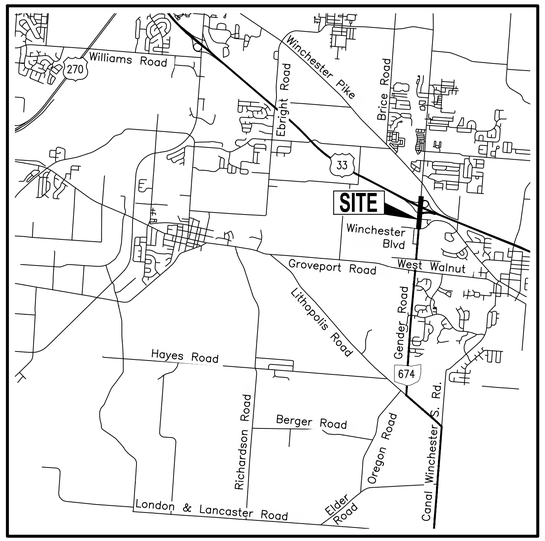
CITY OF CANAL WINCHESTER, OHIO

FRA-674-2.22



LOCATION MAP

LATITUDE: 39°51'24"N LONGITUDE: 82°49'41"W

SCALE: 1" = 1 MILE

0 1 2 3 4

N

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

DESIGN DESIGNATION

	Gender Rd. South of Ramp B	Gender Rd. North of Ramp B
Opening Year ADT (2025)	41470	36690
Design Year ADT (2045)	52530	45710
Design Hourly Volume (2045)	5253	4571
Trucks (24 Hour B&C)	4%	3%
Legal Speed	35 MPH	35 MPH
Design Speed	35 MPH	35 MPH
ODOT Design Functional Classification:	Minor Arterial	Principal Arterial

INDEX OF SHEETS:

Has FHWA approved the use of the Canal Winchester spec book?

REVIEW COMPLETE

PM	
OVERALL	
ENVIRO	Janice Gartner 2/2/24
REAL ESTATE	Dale Mead 02/27/2024 No Comments
UTILITIES	
STRUCTURES	
GEOTECH	
HYDRAULICS	Jon Adams 02/29/2024 4:46:38 PM
MOT	
PAVEMENT	
GEOMETRICS	Katie Montoya 02/22/2024
TRAFFIC	
ITS	
RAILROAD	
CONST.	
OTHER	

Disclaimer:
Nothing in these comments should be construed as authorization to perform extra work. Do not perform extra work until/unless a modification has been approved.

PROJECT DESCRIPTION

Project consists of widening of Gender Road to provide northbound right turn lanes at US–33 Eastbound Ramps and US–33 Westbound Ramps with a signal replacement at the intersection of Gender Road and US–33 Eastbound Ramps. The project also includes reconfiguration of Ramp E (US–33 Westbound Entrance Ramp) as well as reconstruction of bridge parapets to extend pedestrian facilities along Gender Road over US–33. Improvements include asphalt pavement, asphalt path, sidewalk, curbs, concrete barrier, storm sewer, street lighting, traffic control, and traffic signal.

NOTICE OF INTENT ACREAGE

Project Earth Disturbed Area:	2.35 ACRES
Estimated Contractor Earth Disturbed Area:	0.25 ACRES
Notice Of Intent Earth Disturbed Area:	2.60 ACRES

SPECIFICATIONS

The Regulations and Construction Standards of the City of Canal Winchester, together with the Construction and Material Specifications of the City of Columbus, 2018 edition and the Ohio Department of Transportation, 2023 edition, including all supplements thereto, shall govern all construction items that are a part of this plan unless otherwise noted.

APPROVAL

Signatures below signify only concurrence with the general purpose and general location of the project. All technical details remain the responsibility of the design engineer preparing the plans.

FOR THE CITY OF CANAL WINCHESTER

Mayor, City of Canal Winchester — *Date*

City Administrator — *Date*

Asst. Director of Public Service – Utilities — *Date*

Asst. Director of Public Service – Streets/Buildings — *Date*

FEDERAL PROJECT NO. E230164
PID NO. 118367
CONSTRUCTION PROJECT NO. 00000
RAILROAD INVOLVEMENT NONE

FRA-674-2.22
GENDER ROAD - PHASE 6

1
96

811 Know what's below. Call before you dig.

OHIO Utilities Protection SERVICE 811 or 1-800-362-2764 Call Before You Dig

PREPARED BY:

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

ENGINEERS SEAL:

SIGNED: _____
DATE: _____

STANDARD CONSTRUCTION DRAWINGS

CITY OF CANAL WINCHESTER		ODOT								CITY OF COLUMBUS		SUPPLEMENTAL SPECIFICATIONS		
												ODOT		COLUMBUS
ADA–02–15–01	11/01	BR–2–15	01/22	HL–30.22	01/21	MT–95.30	07/19	RM–4.3	01/22	TC–74.10	07/23	MIS–54	07/23			
ADA–04–15–01	11/01			HL–30.31	01/24	MT–95.31	07/19	RM–4.6	07/19	TC–81.22	07/23	MIS–201	01/18	800	01/24	2319 07/22
		BP–3.1	01/22	HL–30.41	01/22	MT–95.32	04/19			TC–83.10	01/20	MIS–305	12/23	809	01/24	4022 07/20
RD–07–01	11/01			HL–50.21	07/22	MT–95.40	07/23	TC–9.11	01/24	TC–83.20	01/24	MIS–404	01/24	813	07/23	4023 07/20
		CB–2–2B	01/23	HL–60.11	07/23	MT–95.41	07/23	TC–21.21	01/23	TC–85.10	01/24	MIS–501	12/23	815	04/21	
SAN–01–01	11/01	CB–3A	07/21					TC–22.20	01/14					816	10/19	
SAN–09–02	07/02			ITS–14.11	01/24	MT–95.45	07/23	TC–41.20	10/13	TC–85.20	04/23	MIS–700	08/23	821	04/12	
		DM–1.2	07/21	ITS–15.11	01/23	MT–97.10	04/19	TC–41.40	10/13	TC–85.21	01/24	MIS–701	01/24	906	10/10	
ST–03–01	11/01	DM–4.2	07/12			MT–99.20	04/19			TC–85.22	04/23	MIS–801	12/23	907	10/19	
ST–04–01	11/01	DM–4.4	01/16	MH–3	01/24	MT–101.60	04/23	TC–41.41	07/19					909	01/24	SPECIAL PROVISIONS
ST–05–02	07/02					MT–101.70	04/23	TC–41.50	10/13			SBR–1–20	07/23	913	04/21	
		EXJ–4–87	01/24	MSG–1.1	07/21			TC–42.20	10/13					921	04/12	
				MSG–2.1	01/18	MT–101.75	07/23	TC–51.11	01/16							
		GSD–1–19	01/21	MSG–3.1	01/18	MT–101.90	07/20	TC–52.10	10/13							
				MSG–3.2	01/13	MT–105.10	01/20									
		HL–10.11	07/23	MSG–4.1	01/17	MT–110.10	07/13	TC–52.20	01/21							
		HL–10.12	07/23					TC–61.30	07/19							
		HL–21.14	04/20	MSG–4.2	07/13	PCB–91	07/20	TC–65.10	01/14							
		HL–30.11	07/23	MSG–4.3	01/13			TC–65.11	01/24							
		HL–30.21	04/20					TC–71.10	04/23							

City Officials

Joseph Steager, Mayor
Matthew C. Peoples, City Administrator
Amanda Jackson, Finance Director
William E. Sims, Construction Services Director
Lucas M. Haire, Development Director

City Council Members

Will Bennett, President
Laurie Arnick, Vice President
Jill Amos
Steve Buskirk
Alec McLaughlin
Richard Moore
Patrick Shea

REV. NO.	REVISION DESCRIPTION	SHEET(S)	INITIAL	DATE

STAGE 3 PLANS – NOT FOR CONSTRUCTION

Horizontal Datum

The coordinates shown on this map are based on the Ohio State Plane Coordinate System, South Zone, NAD 83 (1986). Said coordinates originated from a field traverse which was tied (referenced) to said coordinate system by observations of The Village of Canal Winchester monuments CW1006, and CW1010. The grid to ground combined scale factor is (1.000061494) at the location of point #300 (CW1006).

Point	Northing (Ground)	Easting (Ground)	Elevation	Description	Gender Road Station	Offset
1	676787.9163	1876478.4362	777.52	Iron Pin with Cap	131+59.78	43.05 Rt.
2	674614.582	1876317.777	752.87	Iron Pin with Cap	109+81.03	53.85 Rt.
3	675109.5369	1876356.4162	758.48	Iron Pin with Cap	114+77.15	51.35 Rt.
4	675478.5601	1876385.2248	758.72	Iron Pin with Cap	118+47.29	49.54 Rt.
5	676171.0073	1876324.7903	764.38	Iron Pin with Cap	125+33.58	62.80 Lt.

Basis of Bearings

The Bearings shown hereon are based on the Ohio State Plane Coordinate System, South Zone, as per NAD83 (1986 Adjustment). Control for bearings was from coordinates of monuments "CW1006" and "CW1010", having a bearing of North 05° 00' 26" East, as set by ADR and Associates, Ltd. for the Village of Canal Winchester.

The elevation established by the Village of Canal Winchester, at monument CW1005 is as follows:

North American Vertical Datum of 1988 is 772.66 feet in elevation. National Geodetic Vertical Datum of 1929 is 773.26 feet in elevation, as calculated using Corpscon v6.0.1 software.

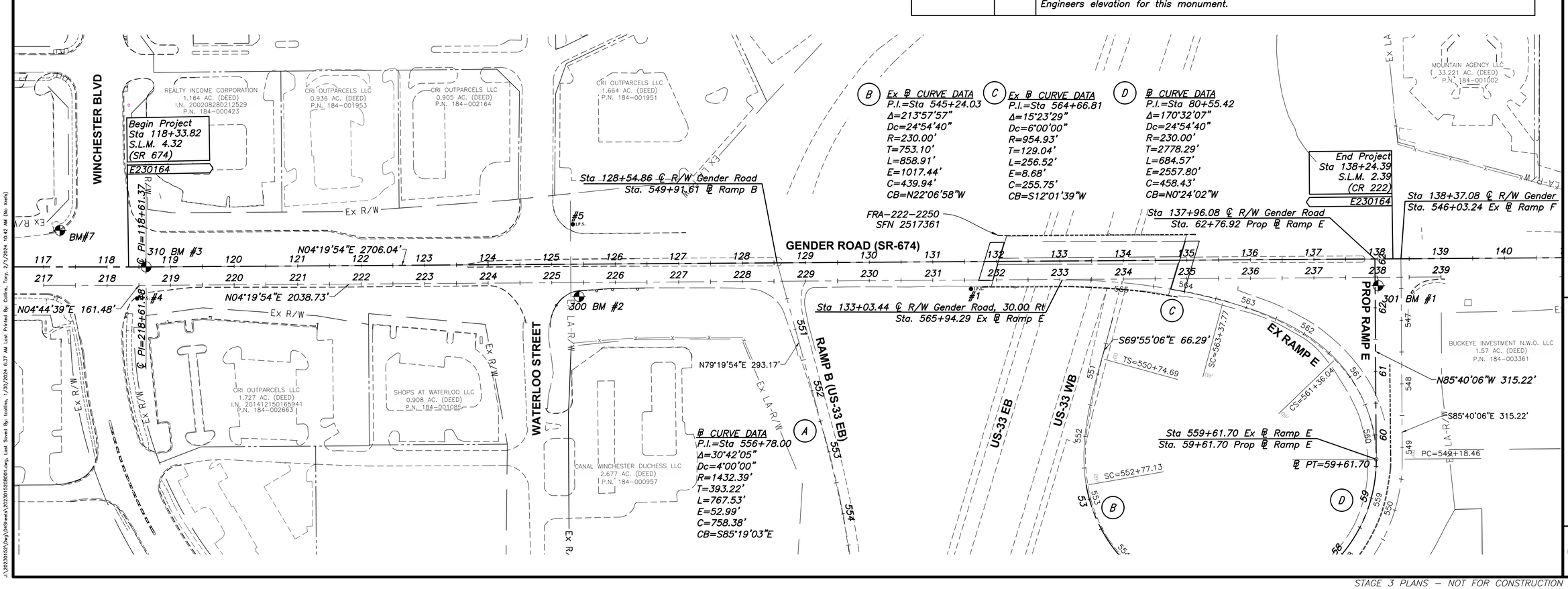
772.66 feet (NAVD88) + 0.60 feet = 773.26 feet (NGVD 29)

Vertical Datum

The Vertical Datum is based on the elevations established by The Village of Canal Winchester, at monument CW1005, being 772.66 feet in elevation, at monument CW1006, being 764.80 feet in elevation, and at monument CW1010, being 756.67 feet in elevation. The said elevations were transferred from said Village of Canal Winchester monuments using differential leveling procedures to the site. The said monuments being source bench marks with elevations that are based on the North American Vertical Datum of 1988.

VERTICAL CONTROL

BM #	Elev.	Description
BM #1 CW1005	772.66	Village of Canal Winchester Monument "CW1005" Top of aluminum disk set in top of prefabricated concrete post poured in place, in the southeast corner of Gender Road and the exist ramp from U.S. 33 West, 34 feet south of the center of the exit ramp, 42 feet east of the centerline of Gender Road, 9 feet south of a roadway sign, 63 feet northwest of a catch basin, flush with the ground. monument is stamped "CW 1005", and was set as a control monument for the City of Canal Winchester by ADR & Associates, LTD. in 2002
BM #2 CW1006	764.80	Village of Canal Winchester Monument "CW1006" Top of aluminum disk set in top of prefabricated concrete post poured in place, on the east side of Gender Road north of West Waterloo Street in Canal Winchester, 49 feet east of the centerline of Gender Road, 68.5 feet north of the centerline of West Waterloo Street, 2 feet east of the south end of a guardrail, 19 feet north of a traffic pole, 32 feet northwest of a sanitary manhole, 78 feet west of power pole #11828, flush with the ground. Monument is stamped "CW 1006", and was set as a control monument for The Village of Canal Winchester by ADR & Associates, LTD. in 2002.
BM #3 FCGS2270RESET	758.97	Franklin County Monument "FCGS2270RESET" Top of aluminum disk in concrete monument set over found stone, at an angle point in the centerline of Gender Road, just north of Winchester boulevard, on a P/L east and west, access through F.C. Road Monument box. Monument is the south 1/4 corner section 25 T11N R21W Congress Lands east of the Scioto. Disk is stamped as per BLM Manual.
BM #7 FCGS5377	756.19	Top of aluminum cap in PVC encased concrete monument, at the centerline of right of way intersection of Gender Road and Groveport Road, access through F.C. Road monument box. Note: The elevation shown is the observed elevation measured by differential leveling procedures from the source benchmark "CW1005." Said "CW1005" values differ from the published Franklin County Engineers elevation for this monument.



B Ex ℄ CURVE DATA
P.I.=Sta 545+24.03
Δ=213°57'57"
Dc=24°54'40"
R=230.00'
T=753.10'
L=858.91'
E=1017.44'
C=439.94'
CB=N22°06'58"W

C Ex ℄ CURVE DATA
P.I.=Sta 564+66.81
Δ=15°23'29"
Dc=6°00'00"
R=954.93'
T=129.04'
L=256.52'
E=8.68'
C=255.75'
CB=S12°01'39"W

D ℄ CURVE DATA
P.I.=Sta 80+55.42
Δ=170°32'07"
Dc=24°54'40"
R=230.00'
T=2778.29'
L=684.57'
E=2557.80'
C=458.43'
CB=N0°24'02"W

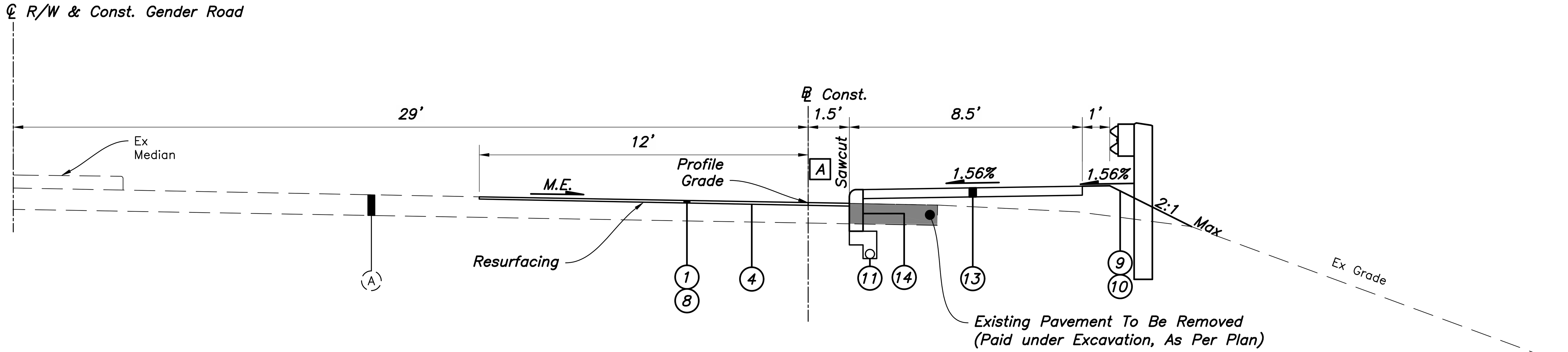
GRAPHIC SCALE 0 40 80 160 — 1 inch = 80 feet

CALCULATED WAC CHECKED JAG

SCHEMATIC PLAN

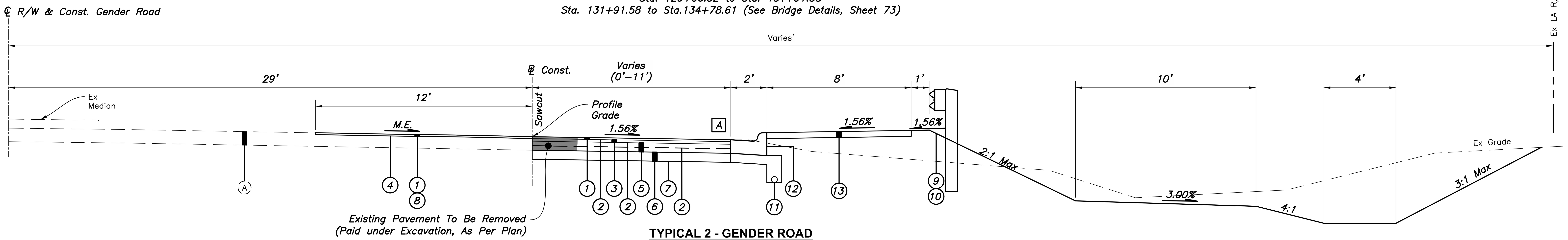
FRA-674-2.22
GENDER ROAD - PHASE 6

2
96



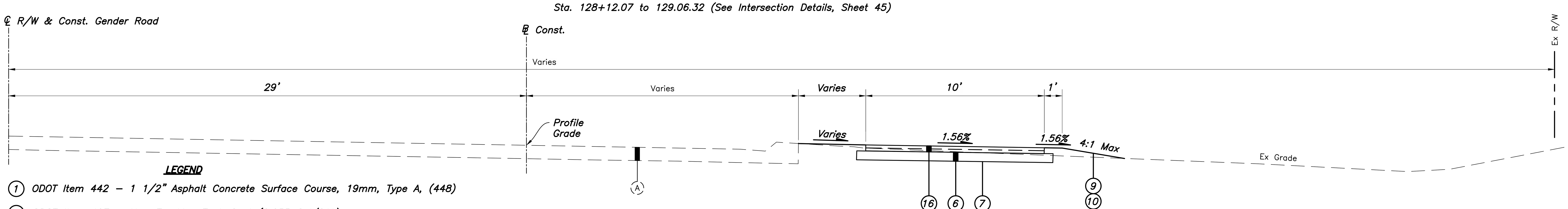
TYPICAL 3 - GENDER ROAD

Sta. 129+06.32 to Sta. 131+91.58
Sta. 131+91.58 to Sta.134+78.61 (See Bridge Details, Sheet 73)



TYPICAL 2 - GENDER ROAD

Sta. 125+32.84 to Sta. 128+12.07
Sta. 128+12.07 to 129.06.32 (See Intersection Details, Sheet 45)



LEGEND

1. ODOT Item 442 – 1 1/2" Asphalt Concrete Surface Course, 19mm, Type A, (448)
2. ODOT Item 407 – Non–Tracking Tack Coat (0.055 Gal/S.Y.)
3. ODOT Item 442 – 2 1/4" Asphalt Concrete Intermediate Course, 19mm, Type A, (448)
4. ODOT Item 407 – Non–Tracking Tack Coat (0.085 Gal/S.Y.)
5. ODOT Item 301 – 8" Asphalt Concrete Base, PG64–22 (2 Lifts)(449)
6. ODOT Item 304 – 6" Aggregate Base
7. ODOT Item 204 – Subgrade Compaction and Proof Rolling
8. ODOT Item 254 – Pavement Planing, Asphalt Concrete (T=1.5")
9. ODOT Item 653 – Topsoil Furnished and Placed (T=3") E
10. ODOT Item 659 – Seeding & Mulching, Class 1
11. ODOT Item 605 – 4" Base Pipe Underdrains
12. ODOT Item 609 – Combination Curb & Gutter, As Per Plan
13. ODOT Item 608 – 4" Concrete Walk
14. ODOT Item 609 – Curb, Type Straight 18", As Per Plan (CW RD–07–01)
15. ODOT Item 562 – Reinforced Concrete Approach Slab (T=13")
16. ODOT Item 823 – 2 1/2" Asphalt Concrete Surface Course, Type 1, (448)(2 Lifts)
17. Item 609 – Concrete Median (T=4")

(A) Existing Asphalt Pavement (±12")

TYPICAL 1 - GENDER ROAD

Sta. 118+66.00 to Sta. 124+11.82
Sta. 124.11.82 to Sta.125+32.84 (See Intersection Details, Sheet 44)

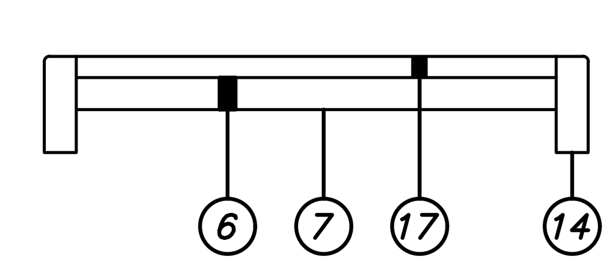
A – Any pavement repair required to construct the curb or curb and gutter adjacent to existing pavement shall be included in the unit price bid for the curb and gutter.

B – Guardrail placed from Sta. 134+78.62 to Sta. 135+54.60

C – Roadway begins superelevation transition at Sta. 61+00.00

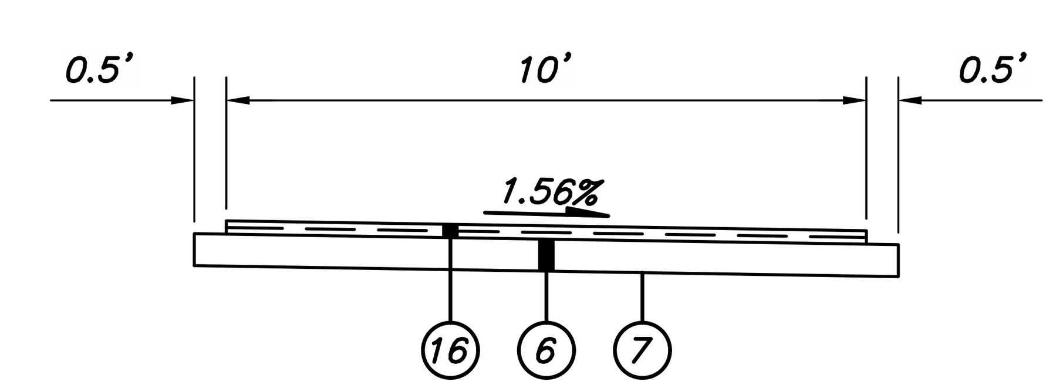
D – Paved shoulder matches cross slope of traveled lane

E – Apply 4 inches of topsoil in Vegetated Biofilters



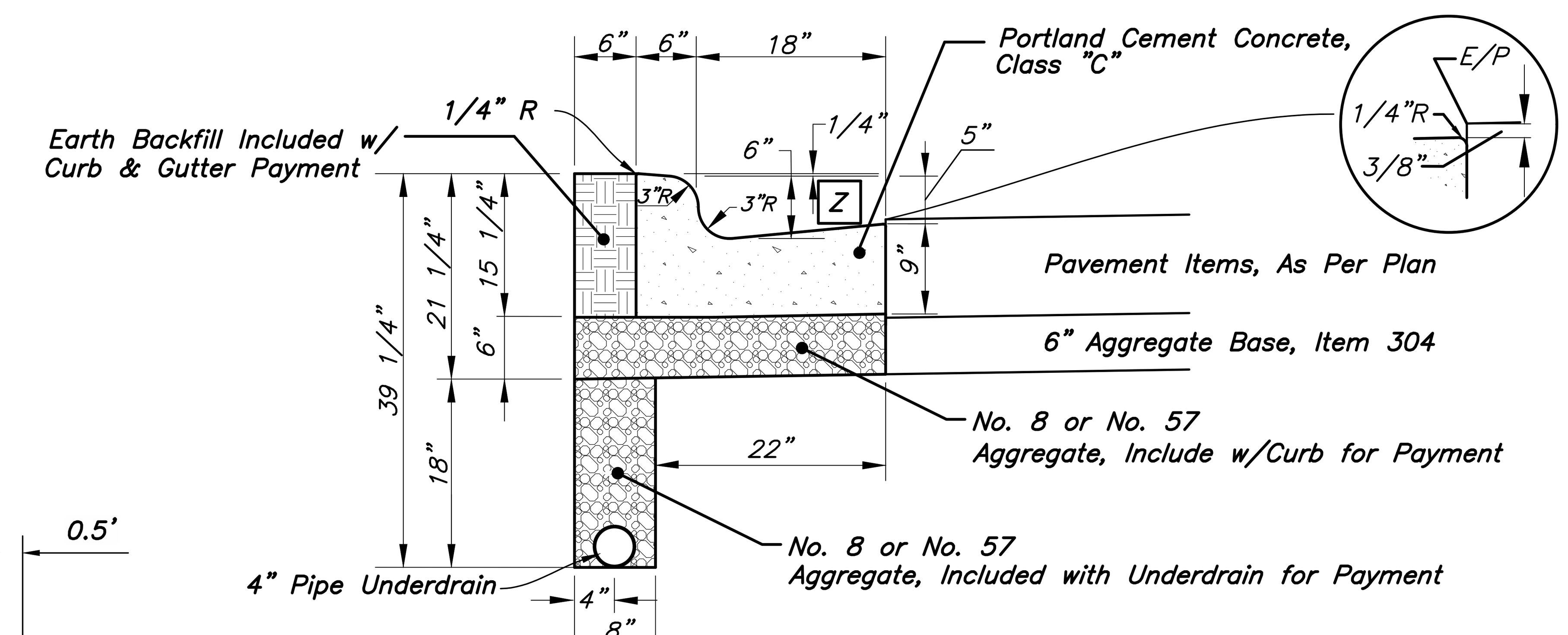
DETAIL: CONCRETE MEDIAN

Not to Scale



DETAIL: ASPHALT PATH

Not to Scale



DETAIL: COMBINATION CURB & GUTTER, AS PER PLAN

Not to scale

Z – Gutters shall be 5% max across width of curb ramps. Transition Std curb & gutter to 5% in a minimum of 10 Ft on each side of curb ramp to maintain positive drainage. The pavement shall be flush at the gutter in front of curb ramps. Curb ramps shall be built as per Columbus Std Dwg 2319.

CALCULATED WAC
CHECKED JAG

TYPICAL SECTIONS

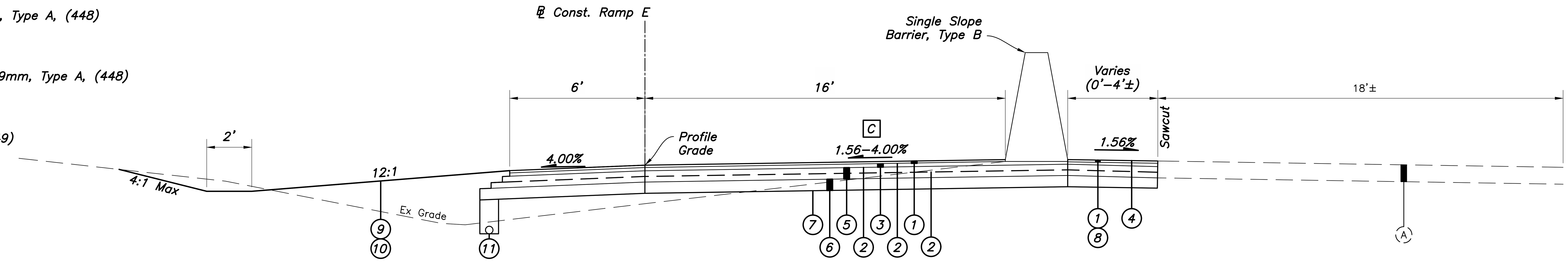
FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

LEGEND

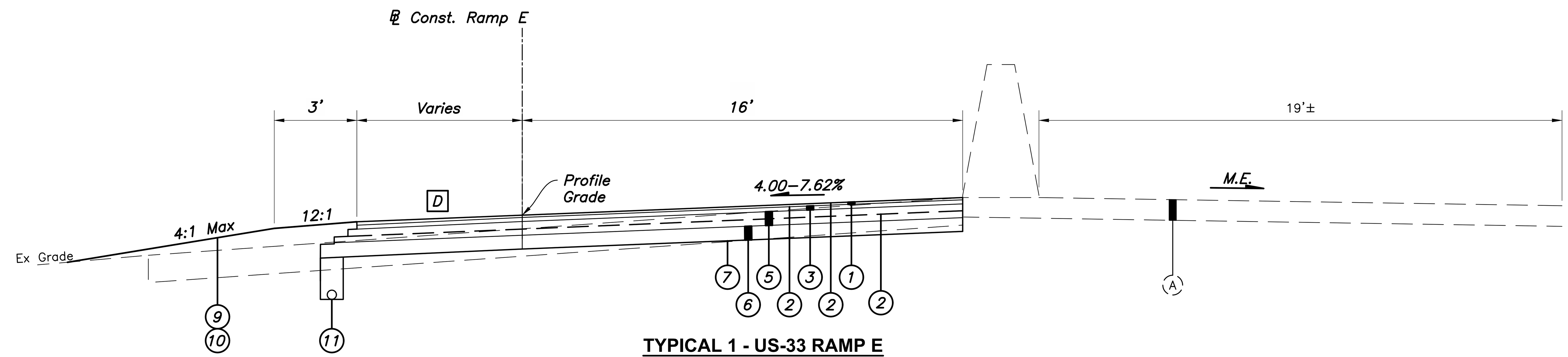
1. ODOT Item 442 – 1 1/2" Asphalt Concrete Surface Course, 19mm, Type A, (448)
2. ODOT Item 407 – Non-Tracking Tack Coat (0.055 Gal/S.Y.)
3. ODOT Item 442 – 2 1/4" Asphalt Concrete Intermediate Course, 19mm, Type A, (448)
4. ODOT Item 407 – Non-Tracking Tack Coat (0.085 Gal/S.Y.)
5. ODOT Item 301 – 8" Asphalt Concrete Base, PG64-22 (2 Lifts)(449)
6. ODOT Item 304 – 6" Aggregate Base
7. ODOT Item 204 – Subgrade Compaction and Proof Rolling
8. ODOT Item 254 – Pavement Planing, Asphalt Concrete (T=1.5")
9. ODOT Item 653 – Topsoil Furnished and Placed (T=3") [E]
10. ODOT Item 659 – Seeding & Mulching, Class 1
11. ODOT Item 605 – 4" Base Pipe Underdrains
12. ODOT Item 609 – Combination Curb & Gutter, As Per Plan
13. ODOT Item 608 – 4" Concrete Walk
14. ODOT Item 609 – Curb, Type Straight 18", As Per Plan (CW RD-07-01)
15. ODOT Item 562 – Reinforced Concrete Approach Slab (T=13")
16. ODOT Item 823 – 2 1/2" Asphalt Concrete Surface Course, Type 1, (448)(2 Lifts)
17. Item 609 – Concrete Median (T=4")

(A) Existing Asphalt Pavement (±12")



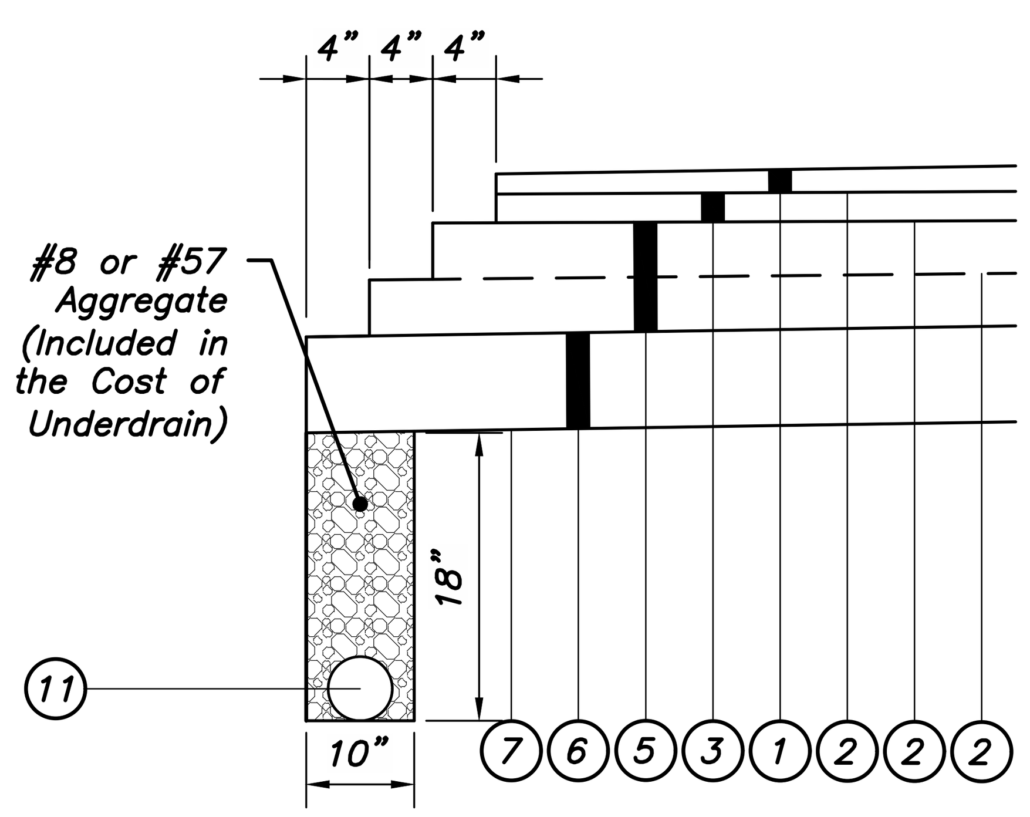
TYPICAL 2 - US-33 RAMP E

Sta. 60+44.50 to Sta. 61+93.10 (See Intersection Details, Sheet 46)



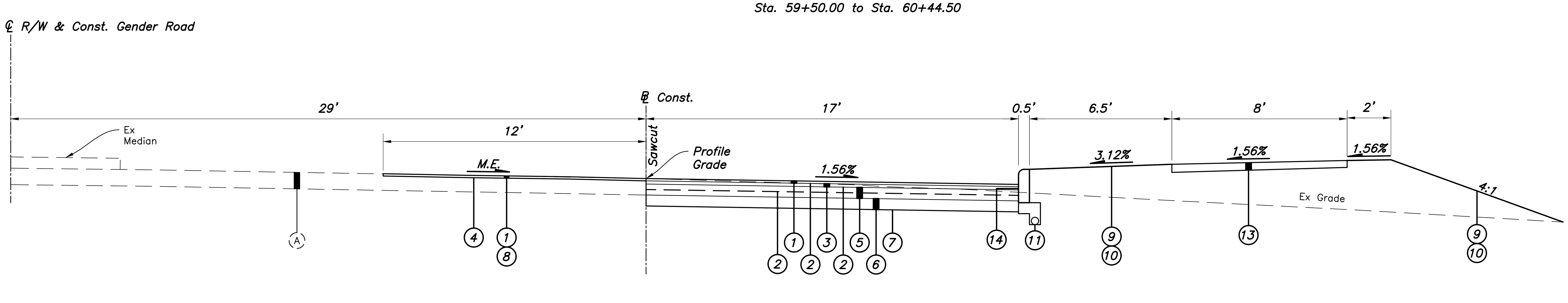
TYPICAL 1 - US-33 RAMP E

Sta. 59+50.00 to Sta. 60+44.50



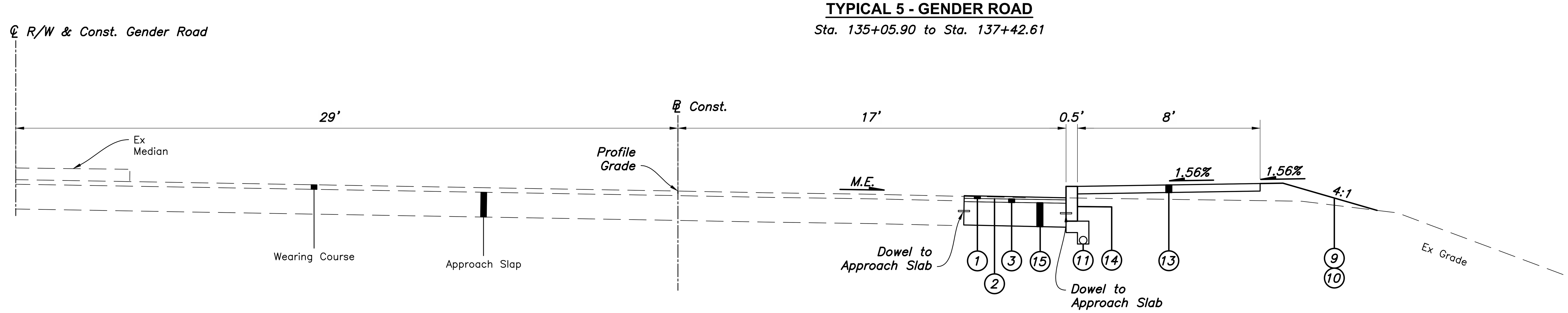
DETAIL: EDGE COURSE & UNDERDRAIN

Not to Scale



TYPICAL 5 - GENDER ROAD

Sta. 135+05.90 to Sta. 137+42.61



TYPICAL 4 - GENDER ROAD

Sta. 134+78.61 to Sta. 135+05.90

[A] Any pavement repair required to construct the curb or curb and gutter adjacent to existing pavement shall be included in the unit price bid for the curb and gutter.

[B] Guardrail placed from Sta. 134+78.62 to Sta. 135+54.60

[C] Roadway begins superelevation transition at Sta. 61+00.00

[D] Paved shoulder matches cross slope of traveled lane

[E] Apply 4 inches of topsoil in Vegetated Biofilters

CALCULATED WAC
CHECKED JAG

TYPICAL SECTIONS

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

CALCULATED JAG CHECKED MRB

CANAL WINCHESTER STANDARD GENERAL NOTES

1. The Canal Winchester requirements, together with the latest edition of the City of Columbus Construction and Material Specifications (2018 CMSC) and ODOT specifications (2023 CMS), shall govern all construction items that are a part of the plans, unless otherwise noted. If there are any discrepancies, the Canal Winchester requirements shall govern.

2. The Contractor shall contact the municipal Construction Services Administrator, 614–834–5109, at least three working days prior to the commencement of any construction.

3. The Contractor and subcontractor shall be solely responsible for complying with all federal, state and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also the sole responsibility of the Contractor and subcontractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work.

4. Any modification to the specifications or changes to the work as shown on the drawings must have prior written approval of the Municipal Engineer and, when applicable, the Urban Forester

5. The Contractor shall obtain all necessary permits prior to construction.

6. Existing utilities shown are from best available records and field investigation, and are not necessarily complete or exact. The Contractor is responsible for the investigation, location, support, protection and restoration of all existing utilities and appurtenances whether shown on these plans or not. The Contractor shall expose all utilities or structures prior to construction to verify the vertical and horizontal effect on the proposed construction, and shall make adjustments in elevations as directed by the Municipal Engineer to provide sufficient clearance between the proposed and existing utilities. The Contractor shall call the Ohio Utilities Protection Service OHIO 811 at 1–800–362–2764 three (3) working days prior to work in the vicinity of their underground lines.

7. The following public utilities (614–834–5111) are located within the work limits of this project:
   - Canal Winchester Division of Water
   - Canal Winchester Division of Water Reclamation
   - Canal Winchester Division of Street
   - Canal Winchester Division of Storm Water

8. NOT USED.

9. MOD – Any property corner pins or permanent survey markings disturbed during construction shall be reset by a registered surveyor at the Contractor's expense unless otherwise quantified in the plans.

10. The tracking of spillage of mud, dirt or debris upon municipal streets is prohibited and any such occurrence shall be cleaned up immediately by the Contractor.

11. No nonrubber tire vehicle shall be moved on municipal streets. Exceptions may be granted by an authorized municipal official where short distances and special circumstances are involved. Granting of exceptions must be in writing and any resulting damage must be repaired to the satisfaction of the municipality.

12. The Contractor shall be responsible for maintaining mail service in the construction area including any temporary mailboxes.

13. All items of work called for on the plans for which no specific method of payment is provided shall be performed by the Contractor and the cost of same shall be included in the price bid for the various related items.

14. The Contractor shall exercise extreme caution when excavating in the vicinity of existing trees, taking all measures possible to protect and preserve them. The Contractor shall be governed by the provisions of Chapter 1191 of the Canal Winchester Zoning Code.

15. All field tile broken during excavation shall be replaced to its original condition or connected to the storm sewer system as directed by the Municipal Engineer.

16. NOT USED.

17. All traffic control devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the Ohio Manual of Traffic Control Services for Construction and Maintenance Operations (current edition), copies of which are available from the Ohio Department of Transportation, Bureau of Traffic. LEO's shall be used in lieu of flaggers on Arterial and collector streets.

18. Steady burning Type "C" lights shall be required on all barricades, drums and similar traffic devices in use at night. Cones are not permitted to be used for night work.

19. NOT USED – See Maintenance of Traffic Plan.

20. All trenches in the roadway shall be backfilled or securely plated during nonworking hours.

21. Access to all adjoining properties shall be maintained at all times, unless otherwise shown on the drawings.

22. NOT USED.

23. All areas within the public right–of–way that are disturbed by this project shall be restored to the original or better condition per Item CW 205, topsoil and CW 210, seeding or other applicable specifications.

24. At all utility crossings, the backfill shall consist of compacted granular material in accordance with Canal Winchester Item 164 or CMSC Item 912 between the deeper and shallower pipe. Where proposed utilities or services cross proposed or existing pavement areas, backfill shall be compacted granular material in accordance with Canal Winchester Item 164 or CMSC Item 912 extending at least three (3) feet beyond the back of curb or edge of pavement and at a 1:1 line of influence from this point and compacted to a min. of 98% max. density. CMSC Item 613 LSM may be substituted. The cost is to be included in the price bid for related pipe.

25. In the event excavation for the street is from zero (0) inches to twelve (12) inches below what is called for on the plans the Contractor shall replace this excess excavated material as directed by the Municipality's Geotechnical Engineer.

26. NOT USED.

27. NOT USED.

28. Where necessary to disturb existing pavement or drives, the pavement shall be saw cut in neat, straight lines. The depth of saw cut shall be the full depth of the pavement.

29. In the event that it becomes necessary, Canal Winchester shall perform work of an immediate nature required of the Contractor by this contract because of the failure or refusal of the Contractor to perform such work, the Contractor shall reimburse Canal Winchester at the rate of 2.5 times the actual cost of labor, materials and equipment necessary to perform such work. Canal Winchester shall be required to notify or attempt to notify the designated representative of the Contractor of the necessity to perform such work. In the event of an emergency, no notification is required. If the Contractor refuses or fails, within a reasonable time, to perform or cause the performance of such work, Canal Winchester shall be reimbursed by the Contractor in the amount provided herein. Reasonable time for all streets involved on this contract is one (1) hour from the time of notification by Canal Winchester.

30. Prior to the construction of the streets, soil tests shall be made on all trenches which cross the proposed pavements or which lie such that the proposed pavements are located within any part of the influence line of said trench. Where said results indicated that the trench backfill does not meet the compaction requirements of 912.03 of the CMSC, all backfill material shall be removed, replaced and retested until compaction meets requirements of 912.03.

31. Erosion control measures in accordance with the requirements of the Soil Conservation handbook Water Management and Sediment Control for Urbanizing Areas are required. All sites shall comply with the OEPA General Permit.

32. All sidewalks, and curb ramps, and curbs and gutters shall meet A.D.A. (Americans with Disabilities Act) requirements, latest edition.

33. MOD – Any existing pavement removed for utility, sanitary sewer, storm sewer or waterline placement repair shall be backfilled with low strength mortar backfill reference CMSC Item 912 or 613.

34. Any tunneling or boring of any pipelines shall be in accordance with plans reviewed and approved by the Municipality.

35. MOD – The Canal Winchester Standard Drawings shall govern all work unless otherwise noted. See Title Sheet for list of Standard Construction Drawings to be referenced for the improvement.

36. NOT USED.

CANAL WINCHESTER SANITARY SEWER NOTES

1. NOT USED
2. NOT USED.
3. NOT USED.
4. NOT USED.
5. NOT USED
6. NOT USED
7. NOT USED.
8. NOT USED.
9. NOT USED.
10. NOT USED.
11. Manhole covers for sanitary sewers shall conform to standard drawings SAN–01–01 and SAN–09–02.
12. Manhole tops shall be built or subsequently adjusted to meet surface grades established for the project. Cost of this work is to be included in the price bid for various sewer items.
13. NOT USED.
14. All new sanitary sewer manholes installed and existing sanitary manholes adjusted to grade shall be constructed with chimney seals in accordance with Canal Winchester Supplemental Specifications and Standard Drawing SAN–01–01.
15. All new and adjusted to grade manholes located in pavement shall have concrete collars. See Standard Drawing No. SAN–01–01.
16. NOT USED.
17. NOT USED.
18. NOT USED.
19. NOT USED.
20. NOT USED.
21. The Contractor shall submit to the Construction Services Administrator for review, five copies of shop drawings for all materials, structures, gradation certifications and equipment before any of the said materials, structures and equipment are ordered. The owner bears no responsibility to accept any of the above–mentioned items without a completed review of said shop drawings.

CANAL WINCHESTER STORM SEWER NOTES

1. Roof drains, foundation drains and other clean water connections to the sanitary sewer system are prohibited on this project.
2. NOT USED.
3. Manhole tops shall be built or subsequently adjusted to meet surface grades established for the Project. Cost of this work is to be included in the price bid for the various sewer items.
4. All new storm drain manholes installed in the Canal Winchester Storm Drain Systems shall be as follows:
   - A. Pre–cast concrete
   - B. Four (4) foot diameter, minimum
   - C. Installed with formed channels
5. MOD – All storm sewers constructed under this plan shall meet the requirements of Canal Winchester, unless otherwise noted. The Canal Winchester Standard Drawings shall govern all projects unless otherwise noted. The Canal Winchester supplemental specifications shall take precedence when applicable.
6. Curb inlets, manholes and catch basins shall be channeled.
7. Frames and covers for storm sewer structures shall conform to standard drawings ST–01–01, ST–02–01, ST–03–01, ST–03A–01, ST–04–01, ST–05–01, and ST–05–02.
8. MOD – Manhole and curb inlet frames shall be adjusted to final grade using HDPE adjusting rings by Ladtech, Inc., EJ Prescott, or equal.
9. All new and adjusted to grade manholes located in pavement shall have concrete collars. See Standard Drawing No. ST–01–01.
10. All storm sewer lines installed using flexible pipe will be subject to deflection testing by pulling an approved mandrel equal in diameter to 95% of the pipe diameter through the pipe no less than thirty (30) days after the pipe is final backfilled.
11. The maximum trench width shall not be greater than the outside diameter of the pipe plus two (2) feet.
12. The Contractor shall submit to the Construction Services Administrator for review, five copies of shop drawings for all materials, structures, gradation certifications and equipment before any of the said materials, structures and equipment are ordered. The Owner bears no responsibility to accept any of the above–mentioned items without a completed review of said shop drawings.

PROJECT–SPECIFIC PLAN NOTES

ROUNDING

Two foot rounding of slope breakpoints apply to all cross sections even though otherwise shown.

ELEVATION DATUM

Elevations are based on North American Vertical Datum 1988 (NAVD 88).

COORDINATION WITH UTILITIES

The identity and location of existing underground utilities located in and around the construction area have been shown and labeled on the plans by using information provided by the respective utility owners. The City of Canal Winchester or the Consulting Engineer will not assume responsibility for the accuracy of location or depth of existing underground utilities as shown on the plan.

Support and protection of all utilities and appurtenances shall be the responsibility of the Contractor. Costs for the repair and restoration of existing utilities damaged by the Contractor shall be the responsibility of the Contractor. The City of Canal Winchester utilities will only locate and mark main line facilities. The Contractor is responsible for locating all service lateral and lines. Costs associated with the above work and responsibilities shall be included in the price bid for various items.

Prior to excavation, the Contractor shall give a 48–hour notice to the Ohio Utilities Protection Service (OUPS) by calling (800) 362–2764. A 48–hour notice shall be given to the owners of underground utilities shown on the plans who are not members of a registered underground protection service.

Listed below are utility companies that have facilities located within the work limits of this project and subscribe to OUPS.

City of Canal Winchester
Division of Water
Division of Water Reclamation
Division of Streets
City Administrator
Matthew Peoples
36 S. High Street
Canal Winchester, OH 43110
Office: (614) 834–5111

Columbia Gas of Ohio
Rob Caldwell
Leader Field Engineering
3550 Johnny Appleseed Ct.
Columbus, OH 43231
Office (614) 818–2104
Customer Service: (800)344–4077
Damage Prevention: (866) 632–6243
columbiagas_columbuseng@nisource.com
rcaldwell@nisource.com

South Central Power
Mike Chalfan
2780 Coonpath Road NE
Lancaster, OH 43130
Office: (740) 689–6168
Chalfan@southcentralpower.com

Verizon Business (aaka MCI/XO)
Al Guest
Outside Plant Engineer
120 Ravine Street
Akron, OH 44303
Office: (330) 253–8267
Cell: (330) 535–9056
Fax: (330) 329–5456

Spectrum Communications
(aka Time Warner, Charter)
Joseph Vlock
Construction Supervisor
3760 Interchange Road
Columbus, OH 43204
Cell: (614) 402–1979
DL–MOH–CONSTRUCTION–FRELO–TEAM@charter.com

ACD.net
Katelyn Barlas
OSP–Transport
1800 N. Grand River Ave.
Lansing, MI 48906
Office: (517) 999–9999
barlas.katelyn@acd.net

AT&T (fka SBC)
Donald G. Marshall, Jr.
Manager OSPE Planning
111 North 4th Street
Columbus, OH 43215
Cell: (614) 216–2396
AT&T Repair Service: (888) 611–4466
Damage Prevention: (937) 296–3929

ODOT (ITS)
1606 W Broad Street
Columbus, Ohio 43223
Office: (614) 387–4113
CEN.ITS.LAB@DOT.OHIO.GOV

Steve Connell
111 North 4th Street
Columbus, OH 43215
Office: (614) 312–2095
sc2732@att.com

TCEnergy
Paul Jurovcik
700 Louisiana Street, Ste 1300
Houston, TX 77002
Office: (800) 862–8931
us_crossings@tcenergy.com

The location of the underground utilities shown on the plans are as obtained from the owners as required by section 153.64 O.R.C.

ABANDONED UTILITIES

The Contractor shall be responsible for the removal and disposal of any abandoned utility facility that may conflict with any facility or construction activity proposed in these plans, including the installation of proposed conduit, underdrain, storm sewer, structure, waterline, sanitary sewer line, subgrade stabilization, foundations, etc. The Contractor is advised to verify that a utility facility has been abandoned before proceeding with removing it. If it is determined that the utility facility is active and in conflict, then the Contractor shall notify the Municipal Engineer prior to proceeding with any affected proposed work.

The cost of the operations necessary to remove and dispose of conflicting abandoned utilities shall be included with the price of the affected item for payment. No separate payment shall be made.

PROJECT–SPECIFIC PLAN NOTES (CONTINUED)

CONTRACTOR SITE VISIT
The Contractor is required to visit the site and fully become aware of all conditions affecting the scope of the work presented in the contract documents. Failure of the Contractor to visit the site shall not relieve the Contractor of any responsibility in the performance of this Contract.

WORK LIMITS
The work limits shown on these plans are for physical construction only. The Contractor shall provide the installation and operation of all work zone traffic control and work zone traffic control devices required by these plans whether inside or outside these work limits.

BENCHING OF FOUNDATION SLOPES
Although cross–sections indicate specific dimensions for proposed benching of the embankment foundations in certain areas, no waiver of the specifications is intended. Bench all other sloped embankment areas as set forth in Section 203.05 of the ODOT Construction and Material Specifications (C&MS). No additional payment will be made for benching required under the provisions of Section 203.05

CHANNEL EMBANKMENTS
Fill and slope portions of the existing channel to drain as shown in these plans. In channel embankment areas which will not support any portion of the new road bed or structural embankments, the Contractor may utilize embankment methods meeting the following requirements:

Clear all weeds and brush in areas where channel embankments are to be placed. The requirements for moisture, density control, benching and suitable materials is waived. Place the material in 8–inch loose lifts. The Engineer may increase the lift thickness in order to bridge the soft or wet foundations depending on the stability of the foundation. The Engineer may increase the lift thickness up to 24 inches to obtain stability at the top of the lift.

Payment for all of the above shall be included in the contract price for Item 203, Embankment.

PROTECTION OF EXISTING LANDSCAPING
The Contractor shall constrain all construction activities, equipment storage and staging to stay within defined construction limits or designated construction staging areas. Where not otherwise identified in the plans or proposal, the construction limits are identified as being 30 feet from edge of pavement. The use of these areas for disposal of waste material and construction debris, excavation of borrow material and placement of portable plants is prohibited unless the Contractor obtains permission in writing to use these areas for these purposes.

Prior to beginning work, the Contractor Superintendent or representative, the Municipal Engineer, and a representative of the maintaining agency shall review and record all landscaping items adjacent to the project area (both within and outside the construction limits). A record of this review will be kept in the Municipal Engineer's files. Prior to final acceptance, a final review of landscaping items shall be made. Any items damaged beyond the construction limits as defined above will be replaced by the Contractor at the Contractor's expense or as approved by the Municipal Engineer.

BENCHMARKS AND SURVEY MONUMENTS
Do not disturb any Franklin County certified benchmarks (vertical and/or horizontal) located within the working limits of the project. The Contractor shall contact the Franklin County Survey Department at (614) 525–3026, prior to construction to coordinate the proper procedures for the resetting, relocation, or replacement of any Franklin County certified benchmark or survey monument.

SEEDING AND MULCHING
The following quantities are provided to promote growth and care of permanent seeded areas:

Item 653 – Topsoil Furnished and Placed (T=3")	610	Cu. Yd.
Item 659 – Topsoil (T=4") (For Vegetated Biofilter)	30	Cu. Yd.
Item 659 – Seeding & Mulching, Class 1	7,300	Sq. Yd.
Item 659 – Commercial Fertilizer	0.99	Ton
Item 659 – Water	40	M. Gal.
Item 670 – Slope Erosion Protection	1,870	Sq. Yd.
Item 670 – Ditch Erosion Protection	250	Sq. Yd.

Seeding and mulching shall be applied to all areas of exposed soil between the right–of–way lines, and within the construction limits for areas outside the right–of–way lines. Quantity calculations for seeding and mulching are based on these limits.

Slope erosion protection shall be applied to all areas where slopes are steeper than 3:1 within the construction limits. Quantity calculations for slope erosion protection are based on these limits.

Payment under this Item shall be limited to final permanent installations. Temporary installations shall be in accordance with 107.11. However, the same material and size limitations as for permanent installations shall apply.

UNRECORDED STORM WATER DRAINAGE
Furnish a continuance for all unrecorded storm water drainage, such as roof drains, footer drains, or yard drains, disturbed by the work. Furnish either an open continuance or an unobstructed continuance by connecting a conduit through the curb or into a drainage structure. The location, type, size and grade of the needed conduit to replace or extend an existing drain will be determined by the municipal engineer. All such continuance requires a right of way use permit. The following conduit types may be used: 707.33, 707.41 non–perforated, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 sdr35. the following estimated quantities have been included in the general summary for use as directed by the municipal engineer for the work noted above:

ODOT Item 611 – 6" Conduit, Type B, for Drainage Connection 50 FT.

ODOT Item 611 – 8" Conduit, Type B, for Drainage Connection 50 FT.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES
Where the plans provide for a proposed conduit to be connected to, or cross over or under an existing sewer or underground utility, the Contractor shall locate the existing pipes or utilities both as to line and grade before starting to lay the proposed conduit.

If it is determined that the elevation of the existing conduit, or existing appurtenance to be connected differs from the plan elevation or results in a change in the plan conduit slope, the Municipal Engineer shall be notified before starting construction of any portion of the proposed conduit which will be affected by the variance in the existing elevations.

If it is determined that the proposed conduit will intersect an existing sewer or underground utility if constructed as shown on these plans, the Municipal Engineer shall be notified before starting construction of any portion of the proposed conduit which would be affected by the interference with an existing facility.

Payment for all the operations described above shall be included in the contract price for the pertinent conduit item. Any rework associated with the Contractor's failure to comply with the operations described above will be at the expense of the Contractor.

REVIEW OF DRAINAGE FACILITIES
Prior to the start of work and again before final acceptance, the Contractor shall perform an inspection with representatives of the Department and City of all existing drainage facilities that are to remain in service which may be affected by the work. The condition of the existing conduits and their appurtenances is determined from field observations. Records of the inspection are maintained by the Department.

Confirm all existing sewers inspected initially by the above–mentioned parties are maintained and left in a condition comparable to that determined by the original inspection. The Contractor is responsible to correct any change in the condition resulting from their operations as directed and approved by the Engineer.

Payment for all operations described above is included in the contract price for the pertinent 611 Conduit Items.

CONDUIT END TREATMENT
Immediately after placement of any conduits, the Contractor shall construct the end treatments required by the plans at both the outlet and inlet ends. This shall include headwalls, concrete riprap, rock channel protection, sodding, etceteras.

PLACING FEATHERED AREAS
Items, such as wearing course removal or asphalt cement coating, that are necessary to construction butt joint or taper edge type feathered areas per ODOT Standard Construction Drawing BP–3.1 are to be considered incidental to construction and are to be included with associated pavement items for payment.

PART–WIDTH CONSTRUCTION
Because of the necessity to build this project under traffic and to construct the full pavement width in stages, exercise care to prevent the construction of a butt joint in the base courses. Lap longitudinal joints as shown on standard construction drawing BP–3.1

PROCEDURE FOR CONSTRUCTING AND STABILIZING SUBGRADE
Construct the subgrade as follows and in the following sequence.

1. After clearing and grubbing, strip topsoil within the limits of grading.
2. Following site stripping, excavate the subgrade to within 0.2 of a foot of the plan subgrade elevation.
3. Remove any remaining vegetation, topsoil, organic material, existing asphalt and granular base, and any other unsuitable materials (e.g., A–4B, A–2–5, A–5, A–7–5, coal, shale, rock) as determined by the Engineer from the proposed pavement areas. These materials are to be removed prior to proof rolling. Areas of over excavation for removed unsuitable materials shall be filled in a controlled manner as per plan.
4. Once the subgrade is exposed and prior to the placement of any pavement materials or new fill in embankment areas, the entire exposed subgrade is to be compacted and proof rolled per ODOT Item 204 and Item 204 of the ODOT Construction Inspection Manual of Procedures (Current Edition), in order to detect any soft, wet or weak zones.
5. If any soft, wet or weak zones are present, as determined by the Engineer, the materials in these zones are to be either scarified, dried, and thoroughly recompacted in place in accordance with ODOT Item 204, or be removed and the over excavation filled in a controlled manner as per plan as directed by the Engineer.
6. Construct embankment per ODOT Item 203 to plan grades and compact the subgrade according to ODOT 204.03.
7. Proof roll the compacted subgrade according to ODOT 204.06 to verify the uniformity of the subgrade compaction. Based on the proof rolling results, the Engineer will identify the actual location and limits of any soft soils.
8. After the soft soil areas have been determined, the Engineer will adjust the plan width and depth by utilizing test pits according to the ODOT Construction Inspection Manual.
9. As directed by the Engineer, chemically stabilize, or undercut the Engineer–identified soft soil areas. Replace undercut areas with the specified materials and in accordance with ODOT 204.07. Undercuts are to extend 18 inches beyond the edge of the surface of the pavement, paved shoulders, or paved medians.
10. Proof roll the undercut areas according to ODOT 204.06 to verify stability of the undercut areas.

REMOVAL AND REPLACEMENT OR STABILIZATION OF SOFT OR UNSUITABLE MATERIAL
Areas requiring over excavation or undercut, as determined by the Engineer, shall be excavated in accordance with ODOT Item 204 Excavation of Subgrade. The over excavated or undercut areas are to be filled as directed by the Engineer in a controlled manner in accordance with ODOT 204.07 and as follows.

Prior to placement of any new fill or pavement construction, areas of over excavation or undercut are to be replaced with fill comprised of Item 204 Granular Material, Type B or C; or with properly compacted new fill meeting the requirements of Item 204 Embankment; or with excavations scarified to permit drying and recompacted to the appropriate design unit weight and sufficient moisture content to meet Item 203 compaction requirements, at the discretion of the Engineer.

The Contractor may propose an alternate means of stabilizing the subgrade provided that the recommendation is made by a qualified geotechnical professional and that the material used in the over excavated area can be tested to verify compaction and moisture content.

The following estimated contingency quantities are carried to the General Summary for use as directed by the Engineer for removal and replacement or chemical stabilization of soft or unsuitable materials as described above:

Item 204 – Excavation of Subgrade	980	Cu. Yd.
Item 204 – Granular Material, Type B	980	Cu. Yd.
Item 204 – Geotextile Fabric, Type D	2,340	Sq. Yd.
Item 204 – Geogrid	2,340	Sq. Yd.

ITEM 201 – CLEARING AND GRUBBING
All trees, fence posts, rocks, brush, stumps and fence within the construction limits of this project shall be removed unless marked "Do Not Disturb." Unless itemized separately, all of these items shall be removed under the lump sum price bid for ODOT Item 201, Clearing and Grubbing, As Per Plan. Items within the construction limits that are marked "Do Not Disturb" or "DND" shall not be removed or damaged.

ODOT ITEM 203 – EMBANKMENT
ODOT ITEM 203 – EXCAVATION, AS PER PLAN
The excavation of asphalt pavement, concrete pavement, asphalt curb, brick materials, topsoil or unsuitable materials not otherwise itemized on this project are included within ODOT Item 203–Excavation, As Per Plan quantities for payment. The Contractor may reuse or stockpile topsoil on site for future work at the Contractor's expense where topsoil excavations are not otherwise accounted for. All material excavated for construction including topsoil and debris shall be removed from the site and disposed of at the expense of the Contractor unless otherwise instructed by the Engineer. No materials excavated are to be reused without prior written permission by the Engineer.

All soil stockpiles, including trench excavation stockpiles shall be protected from erosion by perimeter control devices such as straw bale dikes or silt fences. These perimeter control devices shall be maintained throughout the life of the project. Excavated materials shall not be stored on existing public roadway pavements. This includes excess or unusable excavated soil.

ITEM 204 – PROOF ROLLING
The following quantity is provided in the General Summary to address locations requiring proof rolling:

Item 204 – Proof Rolling	2	Hour

CMSC ITEM 604 – MANHOLE ADJUSTED TO GRADE, AS PER PLAN
All work associated to adjust sanitary sewer manholes to grade within pavement shall conform to the requirements of CMSC Item 604 as well as City of Canal Winchester Standard Sanitary Sewer Notes 14 and 15.

All labor, material, equipment, and incidentals shall be paid for under CMSC Item 604 – Manhole Adjusted to Grade, As Per Plan.

ITEM 616 – DUST CONTROL, AS PER PLAN
The Contractor shall be responsible for providing Dust Control measures in accordance with ODOT Item 616. Dust Control operations shall be performed on a periodic basis and/or as directed by the City to alleviate or prevent the dust nuisance originating within the project work limits. The cost for all dust control measures including but not limited to water and calcium chloride and clean–up shall be included in the following Lump Sum Item within the Project Limits:

Item 616 – Dust Control, As Per Plan	1 Lump Sum

GEOTECHNICAL REPORT
Reference is made to Geotechnical Investigation Report prepared by (Resource International, Inc.) dated (February 2024). Recommendations presented are provided as a part of the specifications for the improvement work. The recommendations serve as the project guidelines and are not intended to limit the design or the work product. Copies of the report are provided as a part of the project documents.

POST CONSTRUCTION STORM WATER TREATMENT
This plan utilizes structural Best Management Practices (BMP's) for post construction storm water treatment.

VEGETATED BIOFILTER
This plan utilizes vegetated biofilter(s) for post construction storm water treatment. Place either Item 660 Sodding or Item 659 Seeding and Mulching with a 4–inch lift of Topsoil as shown in the plans to any disturbed area on the shoulder and foreslope draining to a vegetated biofilter. The ditch for each vegetated biofilter is trapezoidal, as shown in the plan cross sections. Provide Item 670 as specified in the plans.

PETROLEUM CONTAMINATED SOILS
Environmental studies indicated that petroleum contaminated soil (PCS) may be encountered during excavations within the project limits from Sta. 124+75 to Sta. 227+00. The Contractor must determine appropriate personal protective equipment for those who conduct work within the limits of the PCS.

All excavated PCS that cannot be reused as project fill per CMS 203.03(J)., shall be managed and disposed of at a licensed landfill. The Engineer may permit the Contractor to direct load the excavated PCS into trucks for transport and disposal. As an alternate, the Engineer may permit the Contractor to temporarily stockpile the excavated PCS on an impermeable membrane, in an area provide by the Contractor and approved by the Engineer. The stockpile should be surrounded by straw bales to reduce runoff. The Contractor will provide completed log forms and manifests for transport and disposal to the Engineer for signature. The Contractor is responsible for any additional testing that the landfill may require for disposal.

If excavations within the PCS require dewatering for construction purposes, the Contractor shall dewater, containerize and dispose of waters by method approved by the Engineer. The Contractor shall obtain all the necessary permits needed to store, transport and dispose of water in accordance with applicable local, state and federal regulations. The Contractor is responsible for any additional testing required for disposal. All excavated areas shall be backfilled with suitable material in accordance with project plans, applicable ODOT specifications or as directed by the Engineer. The Contractor shall furnish all the labor, equipment and materials necessary to properly manage, store (if necessary), test for disposal, transport and dispose of regulated materials, including any required permits or fees within the identified limits. Payment for this work shall be made at the contract price bid. The following estimated quantity has been included in the General Summary for use as directed.

Item Special – Work Involving Non–Regulated Material	50	Ton
Item Special – Work Involving PCS	18	Ton
Item Special – Non–Regulated Water	1,000	Gal
Item Special – Regulated Water	3,000	Gal

ODOT ITEM 611 – MANHOLE, NO. 3, AS PER PLAN
In addition to the requirements of ODOT Item 611 and ODOT SCD MH–3, this work shall include all equipment, material, labor, and incidentals necessary to provide Canal Winchester Standard lid per standard construction drawing ST–05–01 with frame sized accordingly.

ODOT ITEM 611 – CATCH BASIN, AS PER PLAN (CW ST– –01)
In addition to the requirements of ODOT Item 611, catch basins shall conform to the Canal Winchester Standard Drawings, as referenced.

ODOT ITEM 601 – TIED CONCRETE BLOCK MAT, AS PER PLAN
Tied concrete block mat shall be used for erosion protection of slopes at the end of curbed pavement. The Contractor shall use Flexamat, Shoreflex, or Approved Equal where proposed. All work, equipment, labor, and incidentals necessary for installation shall be per ODOT Item 601.

CALCULATED JAG
CHECKED MRB

GENERAL NOTES

FRA-674-2.22
GENDER ROAD - PHASE 6

PROJECT–SPECIFIC PLAN NOTES (CONTINUED)

ODOT ITEM 609 – COMBINATION CURB AND GUTTER, AS PER PLAN

In addition to the requirements of ODOT Item 609, curb and gutter installed in locations proposed in these plans shall conform to the detail reflected on Sheet 3 Typical Sections of these plans.

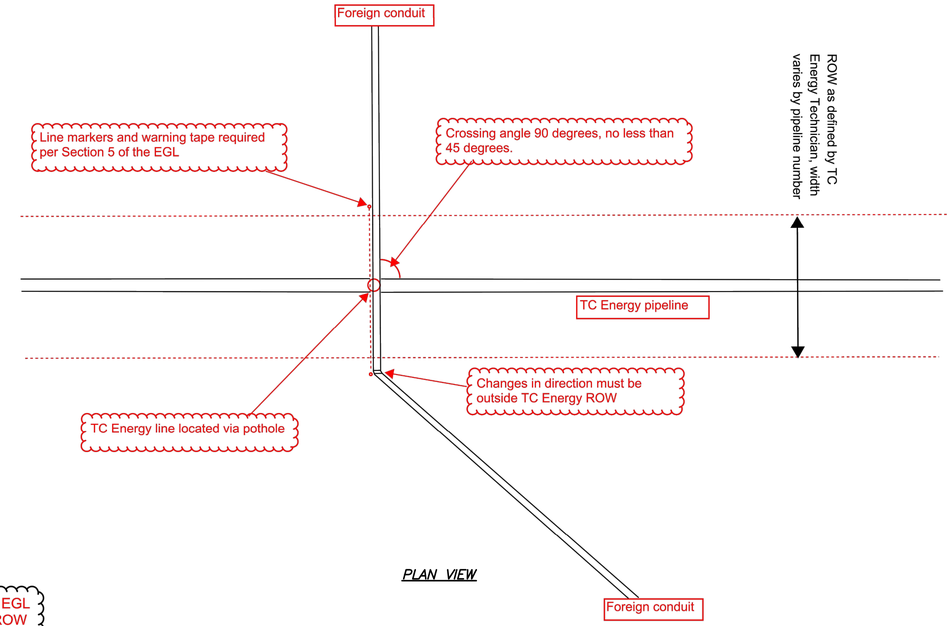
ODOT ITEM 609 – CURB, TYPE STRAIGHT 18", AS PER PLAN (CW RD–07–03)

In addition to the requirements of ODOT Item 609, straight curb installed in locations proposed in these plans shall conform to the Canal Winchester Standard Drawing RD–07–01.

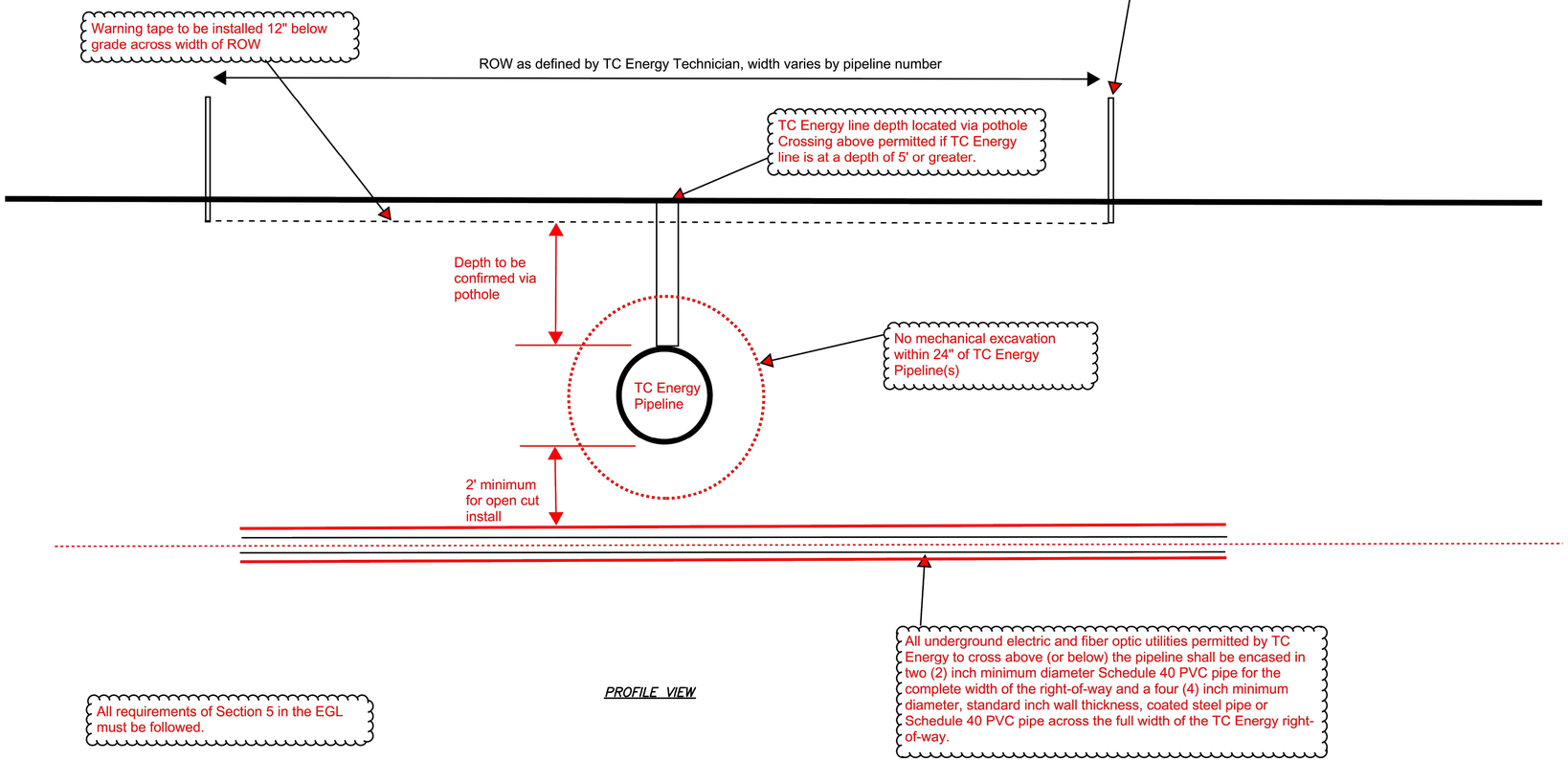
WORK IN PROCIMITY TO TCENERGY UTILITIES

The Contractor shall be responsible to contact TCEnergy two weeks prior to work over or under existing TCEnergy facilities. The Contractor shall expose the existing pipeline in locations of lighting conduit crossing to meet the clearance requirements as detailed by TCEnergy below.

Add the attached note.



PLAN VIEW



PROFILE VIEW

CALCULATED JAG CHECKED MRB

GENERAL NOTES

FRA-674-2.22
GENDER ROAD - PHASE 6

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

The following estimated quantities are to be placed by the Contractor with the Engineer's concurrence for temporary erosion and sediment control measures:

207, Construction Seeding and Mulching	3,700	SQ. YD.
207, Perimeter Filter Fabric Fence	1,140	FT.
207, Inlet Protection (Beaver Dam or Approved Equal)	17	EACH
207, Rock Ditch Check	11	EACH
Spec, Concrete Washout Area	1	EACH

EROSION AND SEDIMENT CONTROL MEASURES:
Temporary and permanent seeding will be utilized to prevent erosion. Rock Check Dams will be installed in roadway ditches. Inlet protection will be provided at all storm sewer structures.

PERMANENT STABILIZATION:
The site will be stabilized by the establishment of grass.

SOIL STABILIZATION:
Stabilization of disturbed areas shall, at a minimum, be initiated in accordance with the time frames specified in the following tables.

Table 1: Permanent Stabilization

Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any Areas within 50 feet of a surface water of the state and at final grade	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade within that area

Table 2: Temporary Stabilization

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed areas within 50 feet of a surface water of the state and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 14 days
For all construction activities, any disturbed areas that will be dormant for more than 14 days, but less than one year, and not within 50 feet of a surface water of the state	Within seven days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed.

MAINTENANCE:
It is the Contractor's responsibility to maintain the sediment control features used on this project. All erosion control devices are to be inspected by the construction superintendent once every seven days and within 24 hours of a 0.5" or greater rainfall over a 24 hour period. Records of these inspections shall be kept and made available to jurisdictional agencies if requested. Any damaged facilities are to be replaced or repaired immediately as necessary at no additional cost to the Owner. Any sediment or debris which has reduced the efficiency of a structure shall be removed immediately.

The Contractor at a minimum will be required to clean the roads at least twice a week for the duration of the project, or as deemed necessary by the City. This includes sweeping, power cleaning and manual (if necessary) removal of dirt or mud in the street gutters.

CONSTRUCTION SEQUENCE:
1. Establish a concrete washout area.

2. Install storm sewer inlet protection and temporary rock check dams along existing ditches and catch basins.

3. Box out areas for proposed widening, place fill, and bring site to grade. Stabilize disturbed areas utilizing temporary and permanent seeding procedures.

4. Construct storm sewers, ditches, culverts, and other utilities. Install inlet protection on proposed structures where indicated. Install rock check dams and stabilize ditches with temporary and permanent seeding.

5. Construct curbs, place base material and commence paving.

6. Backfill curbs, construct the proposed walks and paths.

7. Fine grade the disturbed areas in preparation of permanent seeding and planting and remove the check dams.

8. Permanently seed and plant the disturbed areas. Install all permanent erosion control features.

9. Remove temporary sediment control structures upon approval from the City.

SCHEDULE:
The Contractor shall provide a schedule of operations to the City of Canal Winchester. Sedimentation and erosion control features shall be placed in accordance with this schedule.

CONTRACTOR RESPONSIBILITY:
The Contractor is responsible for providing erosion and sediment controls as detailed herein and for providing proper maintenance and inspection of such controls. Details shown on the plan shall be considered a minimum. Deviations from the plan are acceptable upon approval by the City of Canal Winchester. Additional or alternative details may be found in the ODNR manual "Rainwater And Land Development." All erosion and sediment control practices are subject to field modification at the discretion of the City of Canal Winchester and/or the Ohio EPA.

Direct discharge of sediment laden water to the City's sewer system or a receiving stream is a violation of Ohio EPA and City of Canal Winchester regulations. The Contractor will be held liable for the violation and subsequent fines.

Prior to Construction Operations in a particular area, all sedimentation and erosion control features shall be in place. Field adjustments with respect to locations and dimensions may be made by the Engineer.

It may become necessary to remove portions of the barrier during construction to facilitate the grading operations in certain areas. However, the barrier shall be in place in the evening or during any inclement weather.

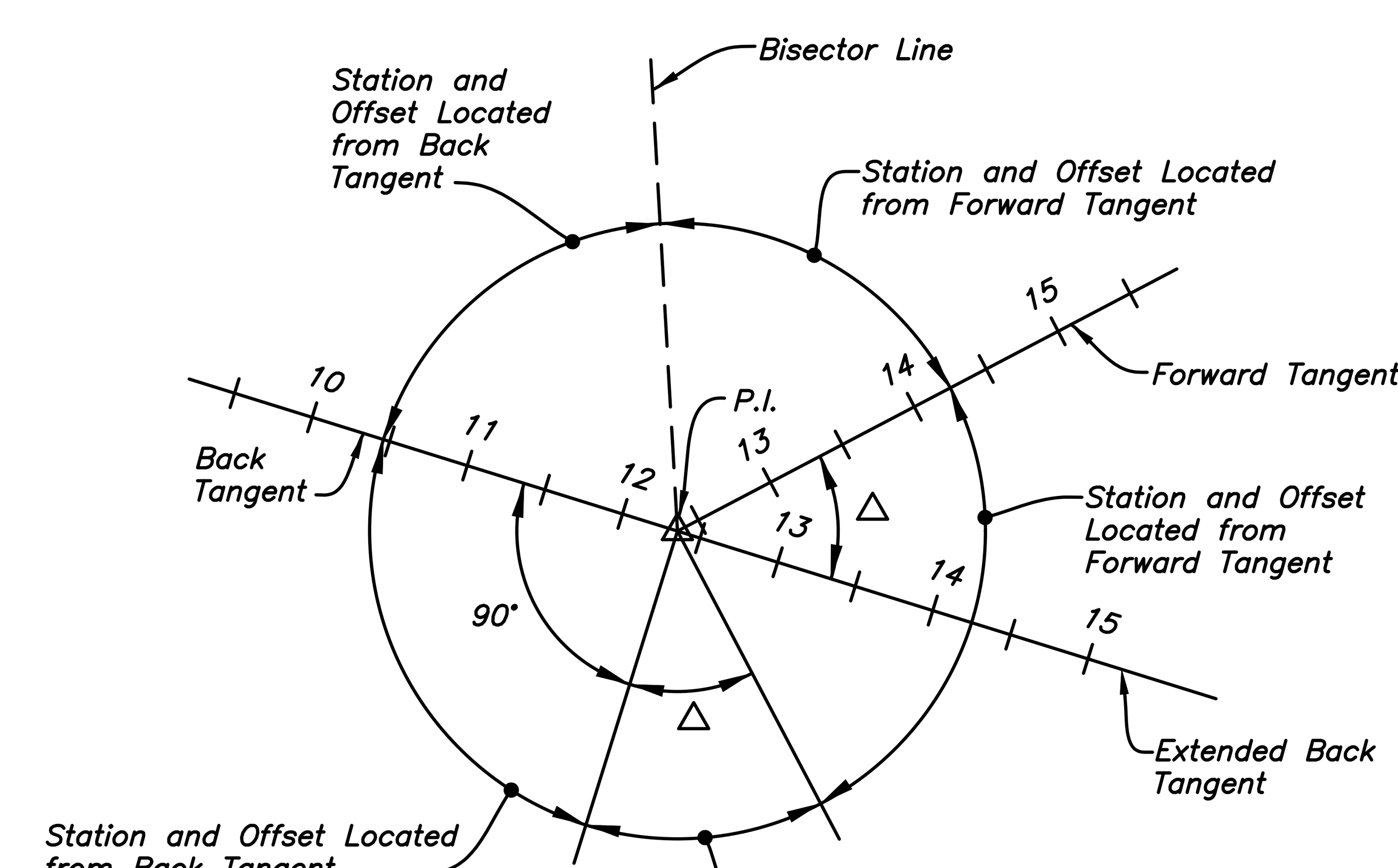
Seeding has been assumed to be 5'-0" outside the work limits or the right-of-way, whichever is greater. All areas not designated to be seeded shall remain under natural ground cover. Those areas disturbed outside the seeding limits shall be seeded and mulched at the Contractor's expense.

Temporary Seeding: Any area which will be left dormant (undisturbed) for more than 21 days shall be seeded within 7 days of terminated work. If permanent seeding is not applied at this time, temporary seeding shall be done which shall consist of fertilizing, watering and seeding at the rates indicated under Item 659. Seed shall be perennial ryegrass from December 1 to June 1 and annual rye from June 1 to December 1.

Permanent seeding shall be done between March 15 and September 15. If seeding is done between September 15 and March 15, it shall be classified as "Temporary Seeding." Permanent seed shall be 40% Titan Tall Fescue, 40% Tarheel Tall Fescue, 10% Denim Kentucky Bluegrass, and 10% Renaissance Perennial Rye Grass. Permanent seeding shall consist of fertilizing, watering and seeding rates indicated under Item 659.

Rates of application of Seeding:

Seed:	8 lbs./1,000 Sq.Ft.
Fertilizer:	20 lbs./1,000 Sq.Ft.
Mulch: (Straw or Hay)	2 tons/acre



Δ = Deflection Angle
P.I. = Point of Intersection (Deflection Angle)

DETAIL SHOWING LOCATIONS OF STATION AND OFFSET POINTS AT DEFLECTION POINTS

LEGEND

ABBREVIATIONS

EXISTING		PROPOSED	
WS	WATER SERVICE	(DND)	DO NOT DISTURB
SS	SANITARY SERVICE	(TBA)	TO BE ABANDONED
GS	GAS SERVICE	(TBR)	TO BE REMOVED
RD	ROOF DRAIN	(TBRL)	TO BE RELOCATED BY THIS PROJECT
OHE	OVERHEAD ELECTRIC	(TBRO)	TO BE RELOCATED (BY OTHERS)
OHT	OVERHEAD TELEPHONE	(APP)	AS PER PLAN
TEL	UNDERGROUND TELEPHONE	(ATG)	ADJUST TO GRADE
CATV	CABLE TELEVISION	(RTG)	RECONSTRUCT TO GRADE
E/TW	EDGE OF TRAVELED WAY	E/P	EDGE OF PAVEMENT
E/S	EDGE OF SHOULDER	B.P.U.D	BASE PIPE UNDERDRAIN
R/W	RIGHT OF WAY		

EXISTING CONDITIONS

CENTERLINE SURVEY
CENTERLINE EXIST. DRIVE
EDGE OF PAVEMENT
CURB
SHOULDER
DRIVEWAY
PARKING LOT
CONC. WALK
FENCE
GUARDRAIL
EX. R/W — RIGHT OF WAY
PROPERTY LINE
PROPERTY LINE EXTENDED
LOT LINE (SAME OWNER BOTH SIDES)
RAILROAD RIGHT OF WAY
EX. 12" STM — STORM
EX. 12" SAN — SANITARY
EX. 12"W — WATER
EX. 12"G — GAS
TELEPHONE (UNDERGROUND)
ELECTRIC
CATV
DITCH
CHAIN LINK/WIRE WOVEN FENCE
WOOD FENCE
CONC. WALL
ROCK
TREELINE
TREES
BUSHES
HEDGE/SHRUB
STUMP
CONC. PAD
WOOD POST
POST/BOLLARD
MAILBOX
FLAGPOLE
PARKING BLOCK
PARKING BLOCK
BUILDING

EXISTING UTILITY SYMBOLS

STM. MH
STM. MH (OPEN GRATE)
CURB & GUTTER INLET
CURB INLET
SAN. MH
CATCH BASIN
WATER VALVE
FIRE HYDRANT
GAS METER
GAS VALVE
LIGHT POLE
TELEPHONE POLE
TELEPHONE LIGHT POLE
TELEPHONE ELECTRIC LIGHT POLE
TELEPHONE ELECTRIC POLE
ELECTRIC POLE
LIGHT POLE
GUY ANCHOR
TEL. BOOTH
ELEC. PULLBOX
TEL. PEDESTAL
TEL. MH
LIGHTING CONTROLLER
SIGNAL POLE MOUNT
SIGNAL CONTROLER
PEDESTRIAN PUSH BUTTON
SIGNS

EXISTING SURVEY SYMBOLS

I.P.F. — IRON PIN FND./METAL BAR FND.
P.K.F. — PK NAIL FND.
RIGHT-OF-WAY MON. FND.
I.P.F. — IRON ROD FND./RR SPIKE FND.
BENCHMARK
I.P.S. — IRON PIN SET/MAG NAIL SET/PK NAIL SET/RR SPIKE SET/TRAVERSE DRILL HOLE

PROPOSED LAYOUT

CENTERLINE CONSTRUCTION
CENTERLINE PROP. DRIVE
EDGE OF PAVEMENT
BACK OF CURB
FACE OF CURB
CONC. WALK/ASPH. BIKEPATH
RIGHT-OF-WAY
GUARDRAIL
CONSTRUCTION LIMITS
PROPERTY LINE
TMP — TEMPORARY EASEMENT
UTILITY EASEMENT
SLOPE EASEMENT
STORM EASEMENT
12" — STORM
SAN — SANITARY
DITCH
CHAIN LINK / WIRE WOVEN FENCE
WOOD FENCE

PROPOSED UTILITY SYMBOLS

STM. MH
CURB & GUTTER INLET
CURB INLET
SAN. MH
CATCH BASIN
WATER VALVE
FIRE HYDRANT
LIGHT POLE
TELEPHONE POLE
LIGHTING CONTROLLER
SIGNAL CONTROLLER
SIGNAL POLE MOUNT
PEDESTRIAN PUSH BUTTON
SIGNS

CALCULATED JAG
CHECKED MRB

GENERAL NOTES

FRA-674-2.22
GENDER ROAD - PHASE 6

ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN

SEQUENCE OF CONSTRUCTION

PHASE 1 shall construct the proposed improvements on the east side of Gender Road. The Northbound right lane of Gender Rd may be closed for the duration of this phase to construct the proposed roadway widening, sidewalk/shared use paths, and bridge upgrades. This work has been broken up into multiple sub-phases in the plan details to illustrate how to maintain access to Waterloo St and the US 33 WB On-Ramp as Phase 1 progresses. The total duration of Phase 1 (including sub-phases 1A, 1B, and 1C) is limited to 75 days.

PRE-PHASE 1 (Detailed MOT not shown in plan) shall construct the temporary pavement along the US 33 WB On-Ramp utilizing ODOT Standard Construction Drawing MT-95.45 to close the shoulder.

PHASE 1A shall construct the proposed improvements on the east side of Gender Road, south of Station 125+37. This includes the installation of the shared use path along Gender Road between Winchester Boulevard and Waterloo Street as well as the pavement installation within the Gender Rd/Waterloo St intersection. Waterloo St and the Northbound right lane on Gender Rd as detailed on the Phase 1A sheets may be closed for a maximum duration of 10 days. Lane closures south of Winchester Pike and on the west leg of the Gender Road/Winchester Pike intersection may only be implemented in Phase 1A.

PHASE 1B illustrates the adjusted merge location to be used for the remaining Phase 1 work to the US 33 EB Ramps intersection. When work in Phase 1b is complete, the eastern, northbound lane shall be opened from Winchester Pike to the US 33 Ramps intersection, where it may terminate as a right turn lane. Lane control signs shall be installed when this condition is active.

Phase 1C shall remove the existing pavement and the temporary pavement on the US-33 WB On-Ramp per plan details. The US-33 WB On-Ramp shall be maintained utilizing the proposed pavement at the Gender Rd/US 33 WB Ramps intersection. The proposed signal modifications illustrated on Sheet 65 shall be implemented and fully active before this phase of work.

PHASE 2 shall construct the proposed improvements on the west side of Gender Road. The Southbound right lane of Gender Rd may be closed for the duration of this phase to construct the proposed bridge upgrades. The total duration of Phase 2 is limited to 60 days.

PHASE 3 shall repair the existing concrete median on Gender Rd. Left lane closures for both Northbound and Southbound Gender Rd may be implemented for the duration of this phase. The total duration of Phase 3 is limited to 14 days.

LANE CLOSURES ON US 33 (Detailed MOT not shown in plan) may be needed for Bridge parapet removal and any painting work taking place on the underside of the Gender Rd bridge. See the Lane Value Contract Table on Sheet 10 for lane closure restrictions. Contractor shall utilize ODOT Standard Construction Drawings MT-95.30 and MT-95.45.

GENERAL

All traffic control devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the "Ohio Manual Of Uniform Traffic Control Devices" (Current Edition), copies of which are available from the Ohio Department of Transportation, Office of Traffic Engineering, 1980 West Broad Street, Columbus, Ohio 43223.

The roadway shall not be opened to traffic until permanent traffic controls are in place, or until temporary traffic controls, approved by the Engineer, are installed. The Contractor assumes all liability for the premature removal of temporary traffic controls.

The Contractor shall be responsible for the reinstallation and/or replacement of all permanent traffic control devices damaged or removed during the construction. Permanent traffic control that is no longer in conflict with temporary traffic control shall be replaced immediately. The Contractor shall assume all liability for missing, damaged and improperly placed traffic control devices.

The contractor shall provide a 24 hour contact who will be responsible for maintenance of traffic for the duration of the project.

Construction operations shall not begin until all temporary traffic control devices are in place and approved by the Engineer and the City.

Access to all adjoining properties shall be maintained at all times. Access for mail delivery, emergency and service vehicles shall not be disrupted. The Contractor shall coordinate construction activities with the Engineer and the owners of the abutting properties in advance (10 Days) of any operations which affect access.

Maintenance of all traffic control devices including drums, signs, barricades, sign boards, detour signage, etc., shall be the Contractor's responsibility.

Drums shall be placed as follows: 40' c/c on tangents, 20' c/c on tapers, and 8' c/c in radii.

A flashing arrow panel (48"x96" - Type "C") shall be used in lane closures in accordance with the Ohio Manual. Arrows Boards shall be LED and be clearly visible at a minimum distance of 800 feet during both day and night time conditions.

All trenches shall be backfilled or securely plated during all nighttime and non-working hours.

Flashing yellow type "B" lights shall be required on all barricades in use at night. All advance signing shall be equipped with type "A" flashing lights. Cones are not approved for use at night. Lights are not required on signs in place during daylight hours.

The Contractor shall be responsible for the protection and safe movement of pedestrians through, around, or detoured away from the construction site. Traffic control for pedestrian movements shall be as per figures TA-28 and TA-29 of Part VI of the Ohio Manual of Uniform Traffic Control Devices.

The safety of pedestrian traffic shall be considered at all times in the provision of traffic control devices required by these plans and notes. It shall be the Contractor's responsibility to provide lights, signs, barricades, and other warnings to physically separate the pedestrian from hazards incidental to the construction operations such as anchor bolts, open excavations, etc.

The Contractor shall submit in writing (a minimum of 14 days prior to construction) a plan to maintain pedestrian traffic for the duration of the project to the City and the Engineer for approval.

For areas adjacent to vehicular traffic, open trench shall be adequately maintained and protected with the proper traffic control devices at all times. Placement of subbase and base material shall follow closely as possible behind excavation operations. The length of trench which is open at any one time shall be held to a length that can be backfilled for nighttime and non-working hours. Drop offs within the work zone shall conform to the requirements set forth on ODOT Standard Construction Drawing MT-101.90.

Length and duration of lane closures and restrictions shall be at the approval of the Engineer. It is the intent to minimize the impact to the traveling public. Lane closures or restrictions over segments of the project in which no work is anticipated within a reasonable time frame, as determined by the Engineer, shall not be permitted. The level of utilization of maintenance of traffic devices shall be commensurate with the work in progress.

All work and traffic control devices shall be in accordance with C&MS 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices. Payment for all labor, equipment and materials shall be included in the lump sum contract price for Item 614, Maintaining Traffic, unless separately itemized in the plan.

The following quantities have been included in the general summary for Maintenance of Traffic:

Item 614, Maintaining Traffic, As Per Plan Lump Sum

Payment

Payment for any labor or materials related to maintaining traffic shall be incidental to Item 614 Maintaining Traffic, unless separately itemized in this plan.

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

Use of Law Enforcement Officers (LEOs) by contractors other than the uses specified below will not be permitted at project cost. LEOs should not be used where the OMUTCD intends that flaggers be used.

In addition to the requirements of C&MS 614 and the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) shall be provided for the following traffic control tasks:

-During the entire advance preparation and closure sequence where complete blockage of traffic is required.

-During a traffic signal installation when impacting the normal function of the signal or the flow of traffic, or when traffic needs to be directed through an energized traffic signal contrary to the signal display (e.g., directing motorists through a red light).

In addition to the requirement of C&MS 614 and the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) should be provided for the following traffic control tasks as approved by the Engineer:

For lane closures: during initial set-up periods, tear down periods, substantial shifts of a closure point or when new lane closure arrangements are initiated for long-term lane closures/shifts (for the first and last day of major changes in traffic control setup).

In general, LEOs should be positioned in advance of and on the same side as the lane restriction or at the point of road closure, and to manually control traffic movements through signalized intersections in work zones.

LEOs should not forgo their traffic control responsibilities to apprehend motorists for routine traffic violations. However, if a motorist's actions are considered to be reckless, then pursuit of the motorist is appropriate.

The LEOs work at the direction of the Contractor. The Contractor is responsible for securing the services of the LEOs with the appropriate agencies and communicating the intentions of the plans with respect to duties of the LEOs. The Engineer shall have final control over the LEOs' duties and placement, and will resolve any issues that may arise between the two parties.

The LEO shall report in to the Contractor prior to the start of the shift, in order to receive instructions regarding specific work assignments during his/her shift. The LEO is expected to stay at the project site for the entire duration of his/her shift. The LEO shall report to the Contractor at the end of his/her shift. Once the LEO has completed the duties described above and still has time remaining on his/her shift, the LEO may be asked to patrol through the work zone (with flashing lights off) or be placed at a location to deter motorists from speeding. Should it be necessary to leave the project site, the LEO shall notify the Engineer. The Contractor shall provide the LEO with a two-way communication device which shall be returned to the Contractor at the end of his/her shift.

LEOs (with patrol car) required by the traffic maintenance tasks above shall be paid for on a unit price (hourly) basis under Item 614, Law Enforcement Officer (With Patrol Car) for Assistance. The following estimated quantities have been carried to the General Summary.

The hours paid shall include any minimum show-up time required by the law enforcement agency involved.

Any additional costs (administrative or otherwise) incurred by the Contractor to obtain the services of an LEO are included with the bid unit price for Item 614, Law Enforcement Officer With Patrol Car for Assistance.

NOTIFICATION OF TRAFFIC RESTRICTIONS

Throughout the duration of the project, the Contractor shall notify the project engineer in writing of all traffic restrictions and upcoming maintenance of traffic changes. The Contractor shall ensure the written notification is submitted in a timely manner to allow the project engineer to meet the required time frames set forth in the table below to inform the Special Hauling Permits Section (Hauling.Permits@dot.ohio.gov) and the District Public Information Office (PIO). This notification shall be received by the project engineer prior to the physical setup of any applicable signs or message boards.

The Contractor shall give advance notification (written and verbally) to the Columbus Paving the Way Program Coordinator at 645-7283 or 645-6016, or pavingtheway@columbus.gov informing them of all upcoming maintenance of traffic changes on a weekly basis. Notification shall include, but not be limited to what, where, when, and how pedestrian and vehicular traffic will be affected, and the temporary traffic control procedures the Contractor is planning to use.

Information should include, but is not limited to, all construction activities that impact or interfere with traffic and shall list the specific location, type of work, road status, date and time of restriction, duration of restriction, number of lanes maintained, number of lanes closed, minimum vertical clearance, minimum width of drivable pavement, detour routes, if applicable, and any other information requested by the project engineer.

Notification Time Table

Item	Duration of Closure	Notice Due to Office of Communications
Ramp & Road Closures	>= 2 weeks	21 calendar days prior to closure
	> 12 hours	14 calendar days prior to closure
	< 12 hours	4 business days prior to closure
Lane Closures & Restrictions	>= 2 weeks	14 calendar days prior to closure
	< 2 weeks	5 business days prior to closure
Start of Construction & Traffic Pattern Changes	NA	14 calendar days prior to implementation

The Contractor shall give an additional 48-hour prior confirmation notice before any detour is put into action.

Any unforeseen conditions not specified in the plans requiring traffic restrictions shall also be reported to the project engineer using the Notice to Office of Communications Time Table.

DETECTION

Vehicular detection shall be maintained at all times and during all phases of construction using: existing loop or video detectors, temporary/proposed video detection as needed.

When temporary video detection is used, the video detection zones shall be established to emulate the proposed, existing or detection requirements need for each phase of construction. When video detection is used, equipment shall meet the requirements specified for the permanent traffic signal installation. All devices, wiring, and cabinet modifications required to make the video vehicle detection system fully operational shall be provided, installed, and subsequently removed (if needed) under this item of work.

All labor, equipment and materials necessary to furnish, install, modify, remove, store, erect, relocate, adjust and repair the temporary traffic signals items as described above shall be incidental to Item 614, Maintaining Traffic, As Per Plan.

TRAFFIC SIGNAL TIMING ADJUSTMENTS

Due to the planned lane closures, increased vehicle delay and queuing is anticipated. As a result, and under Item 614 Maintaining Traffic, As Per plan, the following shall apply:

-The Contractor shall document/record all existing signal timing and phasing.

-The Contractor shall make temporary signal timing adjustments as directed by the Engineer or the City of Canal Winchester throughout the duration of the project.

-Timing shall be restored to pre-construction conditions at the completion of the project, unless otherwise specified in the traffic signal improvement plans.

Payment for this work shall be considered incidental to Item 614, Maintaining Traffic, As Per Plan.

HOLIDAYS/SPECIAL EVENTS

No work shall be performed and all existing lanes shall be open to traffic during the following designated holidays or special events:

New Year's (observed)
General/Regular Election Day (Nov)
Total Solar Eclipse (4/8/24)
Thanksgiving
Memorial Day
Christmas (observed)
Fourth of July (observed)
Labor Day
Blues & Ribs Fest (Last Fri. & Sat. in July)
Labor Day Fest (Fri. through Sun. Labor Day Weekend)
Brewdog Investor's Meeting (Coordinate with Canal Winchester for dates)
Fireworks (Sat. of Fourth of July weekend)

The period of time that the lanes are to be open depends on the day of the week on which the holiday or special event falls. The following schedule shall be used to determine this period:

Sunday	12:00N Friday through 6:00 AM Monday
Monday	12:00N Friday through 6:00 AM Tuesday
Monday (Total Solar Eclipse)	12:00N Friday through 6:00 AM Wednesday
Tuesday	12:00N Monday through 6:00 AM Wednesday
Tuesday (Gen./Reg. Election) Wednesday	5:00 AM Tuesday through 12:00 AM Wed. 12:00N Tues. through 6:00 AM Thurs.
Thursday	12:00N Wednesday through 6:00 AM Friday
Thursday (Thanksgiving only)	6:00 AM Wednesday through 6:00 AM Mon.
Friday	12:00N Thursday through 6:00 AM Monday
Saturday	12:00N Friday through 6:00 AM Monday

During the same periods, maintain pedestrian access if pedestrian access was present prior to construction.

Should the Contractor fail to meet any of these requirements, the Contractor shall be assessed a disincentive per the lane value contract (PN 127).

CALCULATED EMH
CHECKED KRB/JDS

MAINTENANCE OF TRAFFIC NOTES

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS - NOT FOR CONSTRUCTION

ITEM 622 – PORTABLE BARRIER, 32", AS PER PLAN

All portable barrier furnished and installed shall comply, for condition and location, with the current edition of the NCHRP 350 Crash Testing Guidelines.

Barrier reflectors and/or object markers shall be installed on all portable barrier used for traffic control. Barrier reflectors/object markers shall conform to CMS 626, except that they shall be triple stack and spaced at 50 feet. Barrier reflectors and object markers shall be incidental to this item of work.

Barrier may be unanchored.

Payment shall be as per Item 622 Portable Barrier, 32", As Per Plan.

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

This item shall consist of furnishing and installing a non–gating impact attenuator. Furnish an impact attenuator from the Office of Roadway Engineering's approved list for Work Zone Impact Attenuators, from the Roadway Standards Approved Products web page.

Installation shall be at the locations specified in the plans in accordance with the manufacturer's specifications.

The Contractor shall repair or replace a damaged unit within 24 hours of a damaging impact.

When gating impact attenuators are desired, the Contractor shall submit documentation to the Engineer for acceptance.

The cost for the additional barrier required for a gating impact attenuator shall be included in the cost of the gating impact attenuator.

Payment for the above work shall be made at the unit price bid and shall include all labor, tools, equipment and materials necessary to construct and maintain a complete and functional impact attenuator system, including all related backups, transitions, leveling pads, hardware and grading, not separately specified, as required by the manufacturer.

LANE VALUE CONTRACT TABLE

The Contractor shall be assessed a disincentive as designated in the lane value contract table for each unit of time a lane/shoulder/ramp is closed by the Contractor's action while not otherwise permitted by the lane value contract table.

LANE VALUE CONTRACT TABLE						
FRA-33						
Section (SLM)	Existing Number of Lanes per Direction	Lane closures are NOT permitted:				Disincentive Amounts per minute per lane
		Lane Reduction	Mon to Fri	Sat	Sun	
I-270 (24.75) to Fairfield County Line (31.23) Eastbound	2	2 to 1	5AM-9PM	8AM-9PM	9AM-8PM	$355
I-270 (24.75) to Fairfield County Line (31.23) Westbound	2	2 to 1	5AM-7PM	8AM-8PM	9AM-8PM	$355
Short term shoulder closures are NOT permitted 5AM-9AM and 3PM-6PM Monday-Friday.						

Ramp Closure Restrictions
US Route 33 in Franklin County

Secondary Route: State Route 674 SLM along 33:					
Ramp	Movement	No Closures Allowed		Detour Routes	
		Mon to Fri	Sat to Sun	Primary Route	Secondary Route
A	US-33 EB to SR 674	5AM-9PM	8AM-8PM	US-33 E to Diley Rd N (Ramp C) to US-33 W (Ramp A) to SR-674 (Ramp F)	US-33 to High St. to Waterloo ST. to SR-674*
B	SR 674 to US-33 EB	5AM-8PM	8AM-8PM	SR-674 to US-33 W (Ramp E for 674 N Ramp D for 674S) to SR-317 S (Ramp B)to US-33 EB (Ramp E)	SR-674 to Waterloo St. to Hill Rd. to Diley Rd. to US-33 E (Ramp A)*
D	SR 674 SB to US-33 WB	5AM-9AM & 3PM-7PM	No Restriction	SR-674 S to US-33 E (Ramp B) to Diley Rd N (Ramp C) to US-33 W	Gender Rd. to Winchester Pike to SR-317 S to US-33*
E	SR 674 NB to US-33 WB	5AM-7PM	8AM-8PM	SR-674 N to US-33 E(Ramp B) to Diley Rd N (Ramp C) to US-33 W	Gender Rd. to Winchester Pike to SR-317 S to US-33*
F	US-33 WB to SR 674	5AM-7PM	8AM-8PM	US-33 W to SR-317 S (Ramp B)to US-33 EB (Ramp E) to SR-674 (Ramp A)	US-33 W to Bixby Rd. to Winchester Pike to SR-674*

MAINTENANCE OF TRAFFIC ESTIMATE OF QUANTITIES

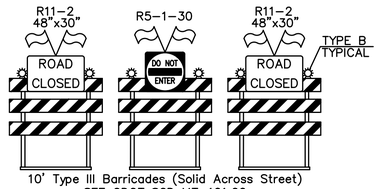
Quantity	Item No.	Unit	Description
1	ODOT 614	Lump	Maintaining Traffic, As Per Plan
32	ODOT 614	Hours	Law Enforcement Officer (With Patrol Car) For Assistance
3	ODOT 614	Each	Work Zone Impact Attenuator, 24" Wide Hazards, (Unidirectional)
514	ODOT 615	Sq Yd	Pavement for Maintaining Traffic, Class A
1	ODOT 615	Lump	Roads for Maintaining Traffic
1520	ODOT 622	Lin Ft	Portable Barrier, 32", As Per Plan

CALCULATED EMH
CHECKED KRB/JDS

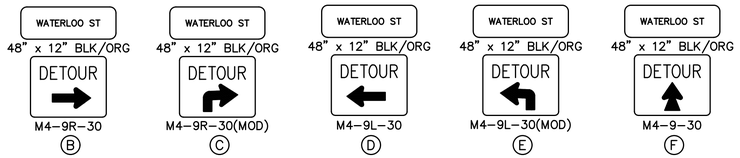
MAINTENANCE OF TRAFFIC NOTES

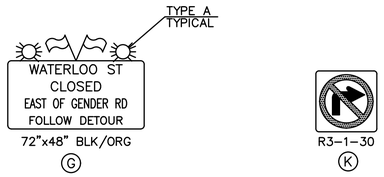
FRA-674-2.22
GENDER ROAD - PHASE 6

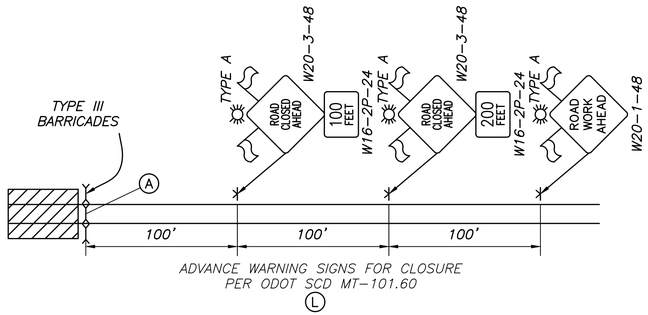
SIGN LEGEND



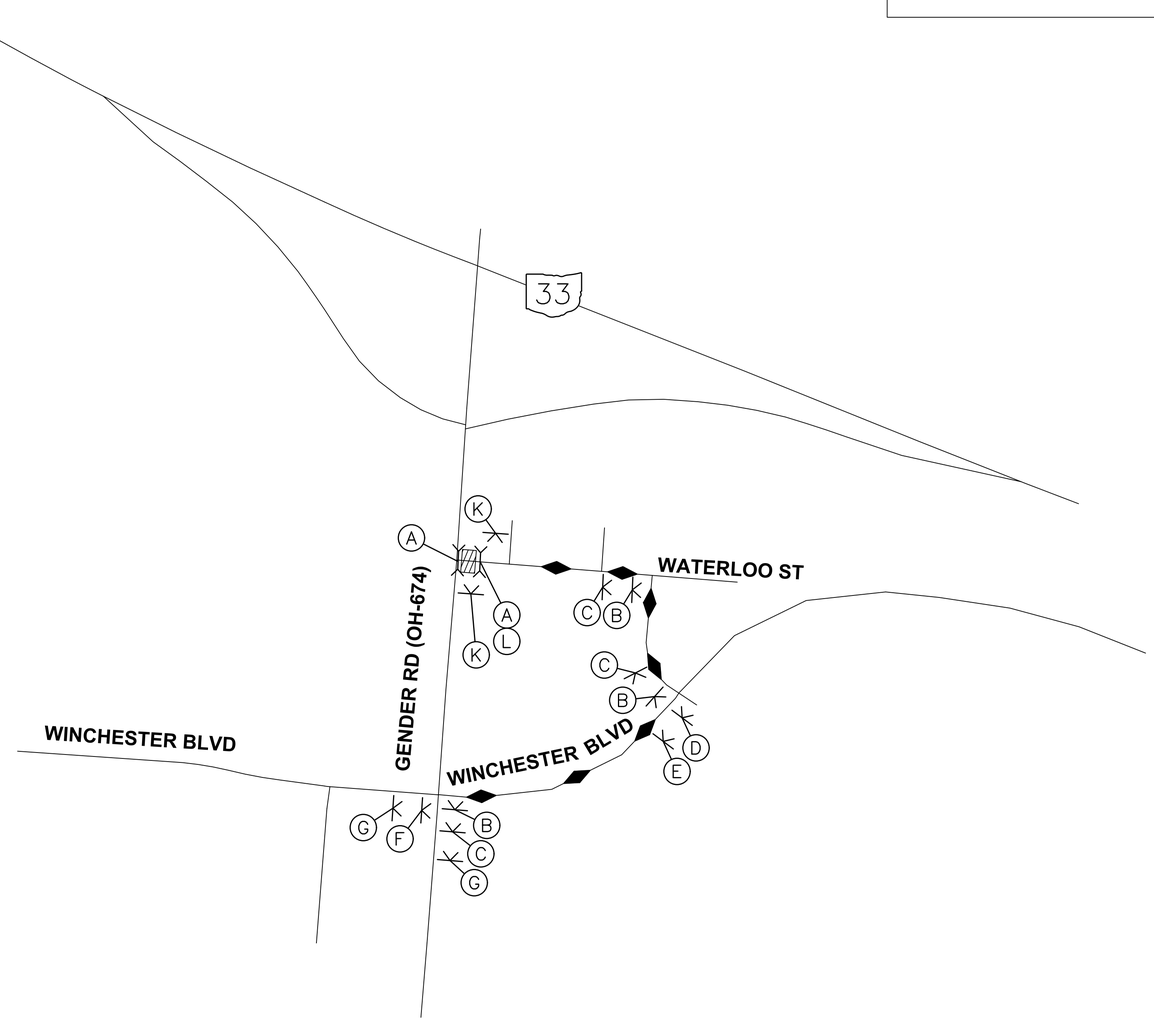
10' Type III Barricades (Solid Across Street)
SEE ODOT SCD MT-101.60
(A)







ADVANCE WARNING SIGNS FOR CLOSURE
PER ODOT SCD MT-101.60
(L)



DETOUR PLAN

NOTE:

1. THIS CLOSURE OF WATERLOO STREET SHALL BE LIMITED TO A DURATION OF TEN DAYS.

NOT TO SCALE

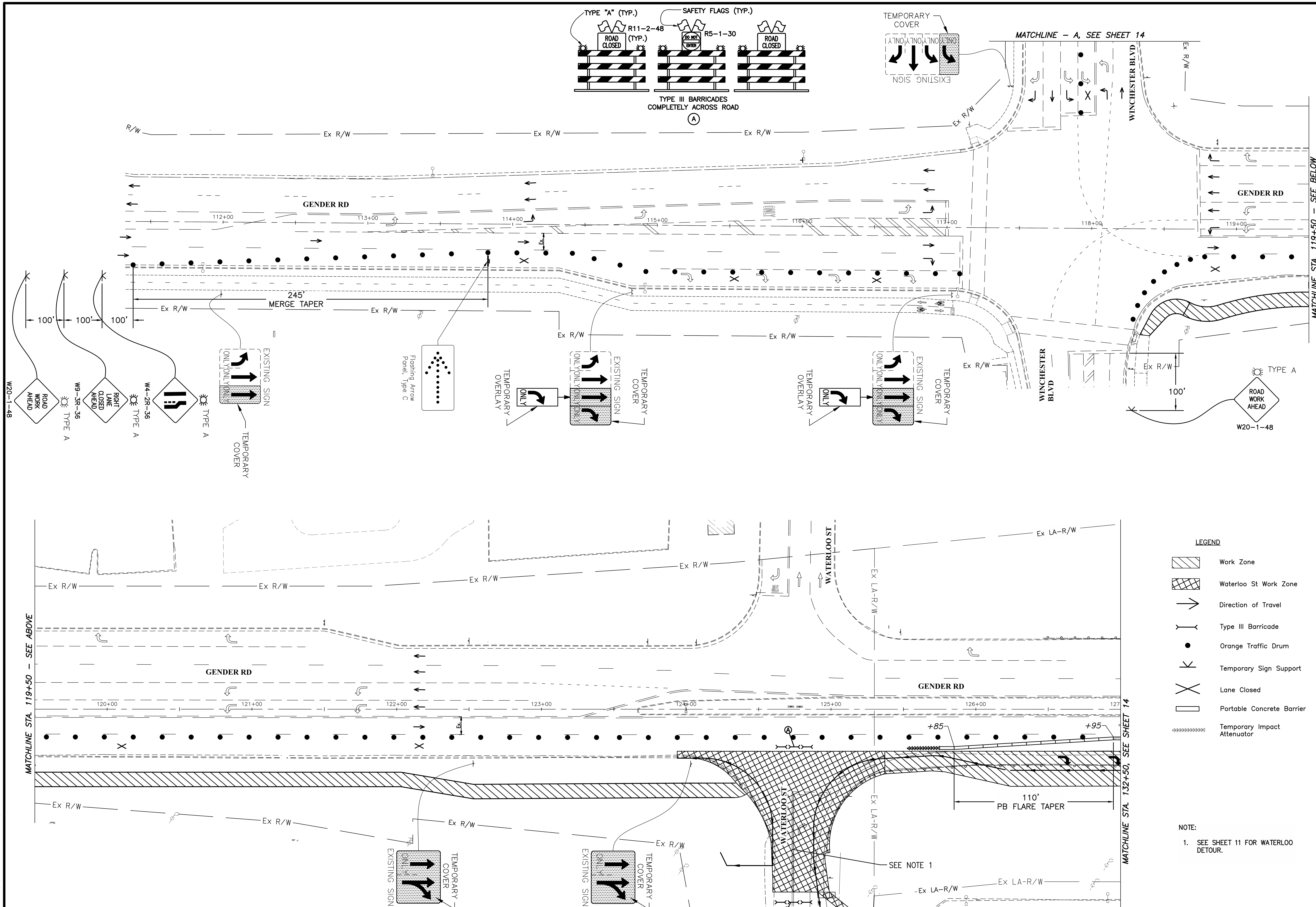
CALCULATED EMH
CHECKED KRB/JDS

MAINTENANCE OF TRAFFIC DETOUR PLAN -
WATERLOO STREET CLOSURE

FRA-674-2.22
GENDER ROAD - PHASE 6

11
96

STAGE 3 PLANS – NOT FOR CONSTRUCTION


TYPE "A" (TYP.)
SAFETY FLAGS (TYP.)
R11-2-48 (TYP.)
R5-1-30
ROAD CLOSED
DO NOT ENTER
TYPE III BARRICADES COMPLETELY ACROSS ROAD
A
TEMPORARY COVER
EXISTING SIGN
MATCHLINE – A, SEE SHEET 14
WINCHESTER BLVD
GENDER RD
Ex R/W
R/W
112+00
113+00
114+00
115+00
116+00
117+00
118+00
119+00
245'
MERGE TAPER
100'
W20-1-48
ROAD WORK AHEAD
TYPE A
W9-3R-36
RIGHT LANE CLOSED AHEAD
W4-2R-36
Flashing Arrow Panel, Type C
TEMPORARY OVERLAY
ONLY
MATCHLINE STA. 119+50 – SEE BELOW
MATCHLINE STA. 119+50 – SEE ABOVE
WATERLOO ST
Ex LA-R/W
120+00
121+00
122+00
123+00
124+00
125+00
126+00
127
+85
+95
110'
PB FLARE TAPER
SEE NOTE 1
MATCHLINE STA. 132+50, SEE SHEET 14
LEGEND
Work Zone
Waterloo St Work Zone
Direction of Travel
Type III Barricade
Orange Traffic Drum
Temporary Sign Support
Lane Closed
Portable Concrete Barrier
Temporary Impact Attenuator
NOTE:
1. SEE SHEET 11 FOR WATERLOO DETOUR.

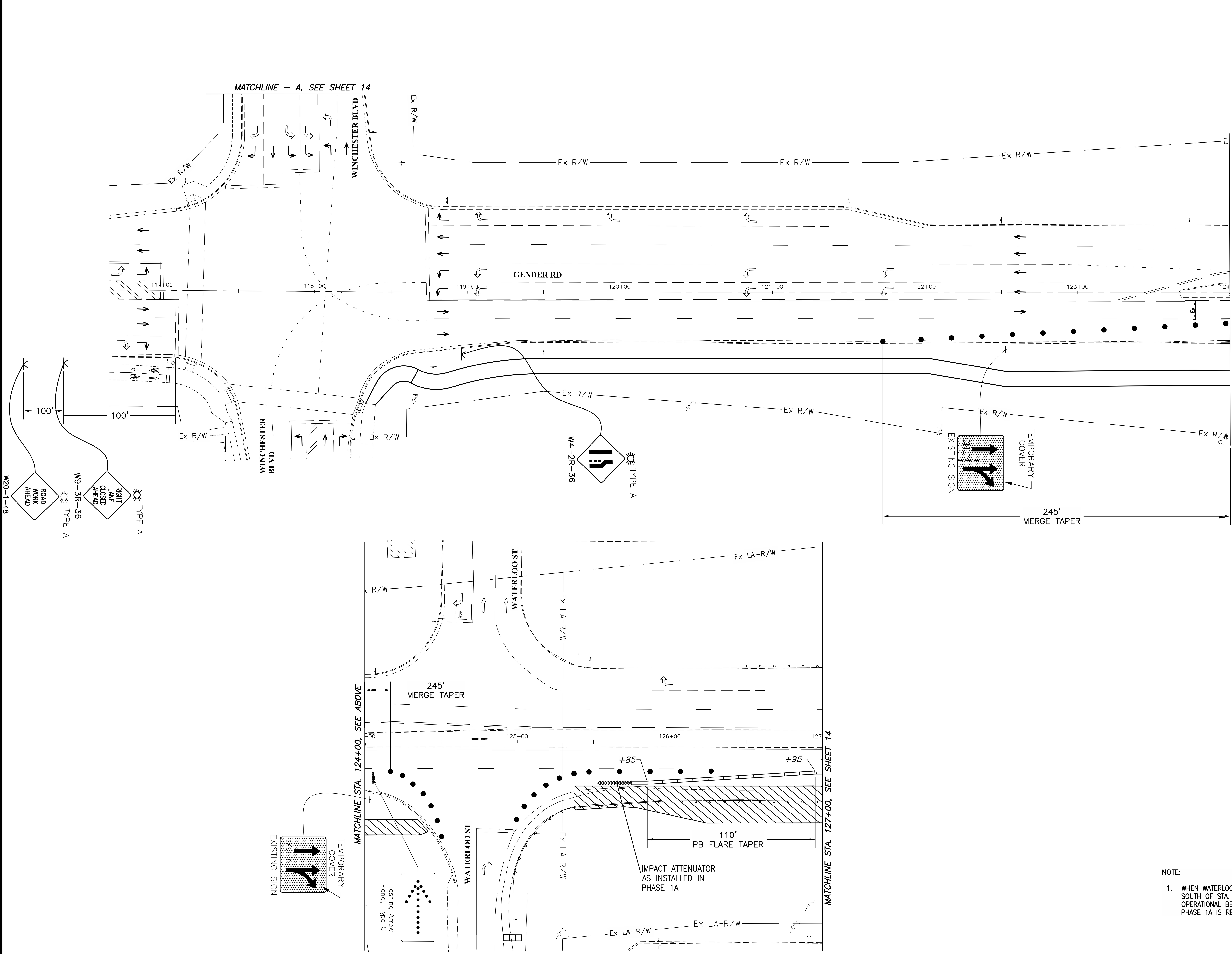
1 inch = 30 feet

CALCULATED EMH
CHECKED KRB/JDS

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



LEGEND

- Work Zone
- Direction of Travel
- Type III Barricade
- Orange Traffic Drum
- Temporary Sign Support
- Lane Closed
- Portable Concrete Barrier
- Temporary Impact Attenuator

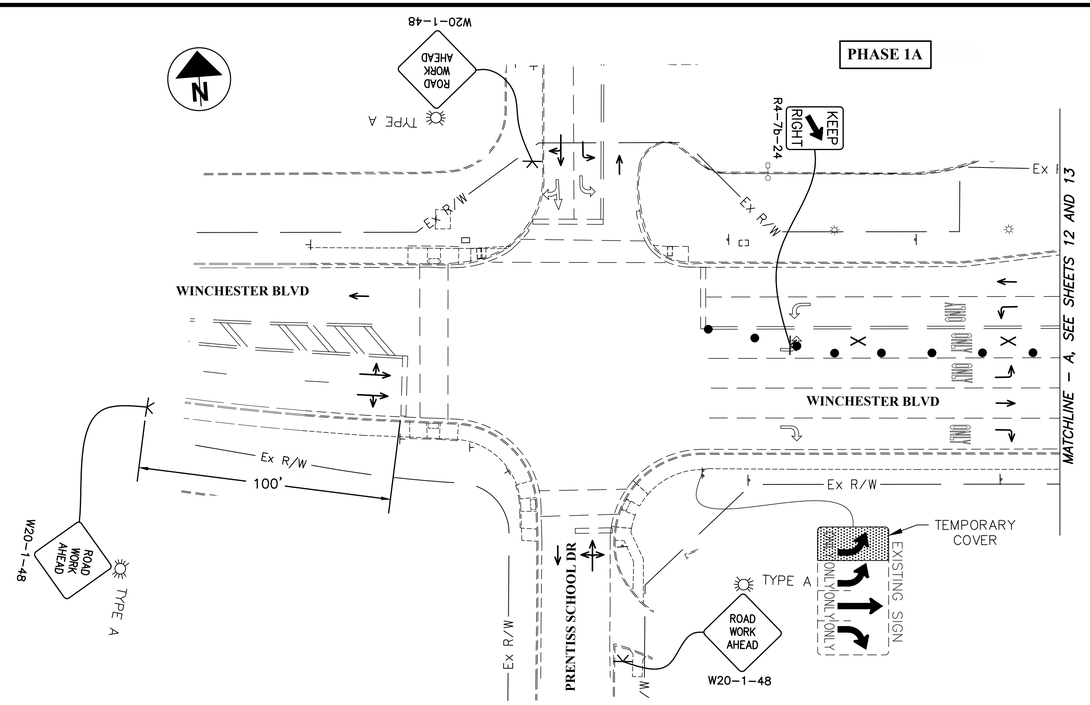
NOTE:

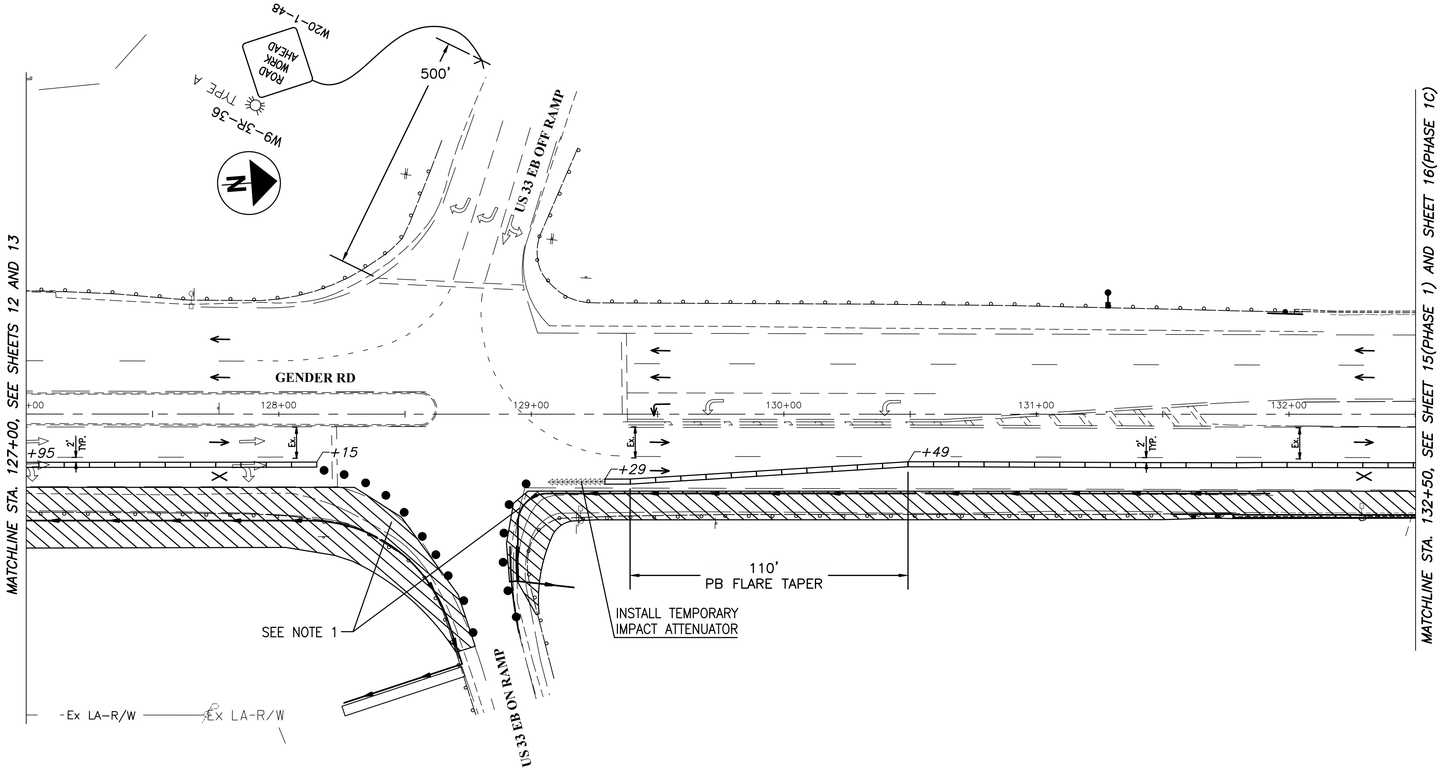
1. WHEN WATERLOO STREET IS OPENED, ALL GUARDRAIL SOUTH OF STA. 125+75 SHALL BE IN PLACE AND OPERATIONAL BEFORE THE ADDITIONAL PCB SHOWN IN PHASE 1A IS REMOVED.

CALCULATED EMH
CHECKED KRB/JDS

MAINTENANCE OF TRAFFIC PLAN - PHASE 1B

FRA-674-2.22
GENDER ROAD - PHASE 6





LEGEND

- Work Zone
- Direction of Travel
- Type III Barricade
- Orange Traffic Drum
- Temporary Sign Support
- Lane Closed
- Portable Concrete Barrier
- Temporary Impact Attenuator

1 inch = 30 feet

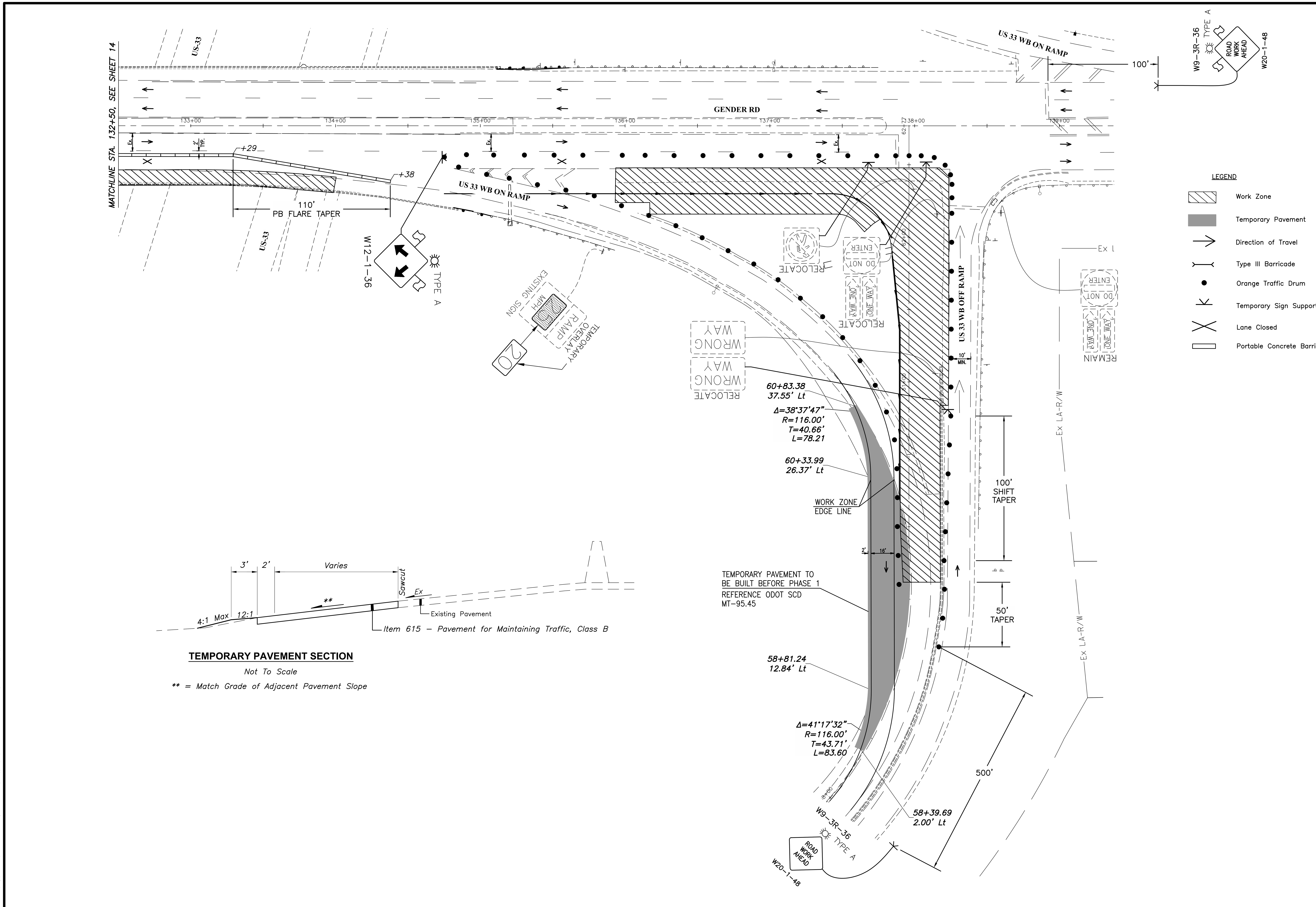
CALCULATED EMH
CHECKED KRB/JDS

MAINTENANCE OF TRAFFIC PLAN - PHASE 1

FRA-674-2.22
GENDER ROAD - PHASE 6

NOTE:

1. THE CONTRACTOR SHALL NOT WORK ON THE NORTH SIDE AND SOUTH SIDE OF THE US 33 EB RAMP CONCURRENTLY.

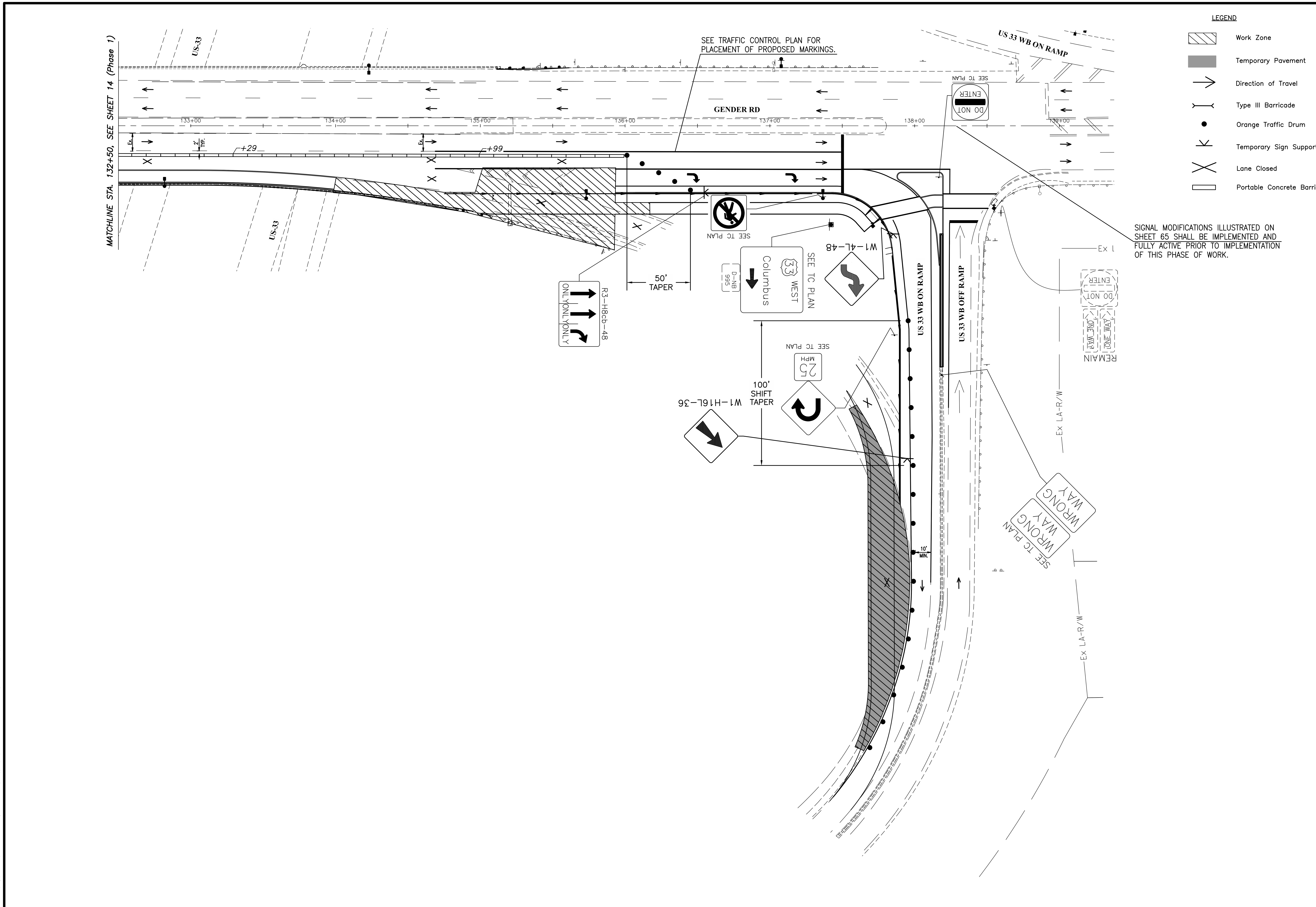


CALCULATED EMH
CHECKED KRB/JDS

MAINTENANCE OF TRAFFIC PLAN - PHASE 1

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



1 inch = 30 feet

CALCULATED EMH
CHECKED KRB/JDS

MAINTENANCE OF TRAFFIC PLAN - PHASE 1C

FRA-674-2.22
GENDER ROAD - PHASE 6

LEGEND

- Work Zone
- Direction of Travel
- Type III Barricade
- Orange Traffic Drum
- Temporary Sign Support
- Lane Closed
- Portable Concrete Barrier
- Temporary Impact Attenuator

N

1 inch = 30 feet

CALCULATED EMH | CHECKED KRB/JDS

MAINTENANCE OF TRAFFIC PLAN - PHASE 2

50' TAPER

US-33

110' PB FLARE TAPER

245' MERGE TAPER

100'

100'

TYPE A
W4-2R-36
RIGHT LANE CLOSED AHEAD

TYPE A
W9-3R-36
ROAD WORK AHEAD

TYPE A
W20-1-48

Flashing Arrow Panel, Type C

INSTALL TEMPORARY IMPACT ATTENUATOR

2' TYP.

1' TYP.

+63

+43

+63

Ex.

Ex.

131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00

62+77

72+00

GENDER RD

US-33

SEE TC PLAN

DO NOT ENTER

SEE TC PLAN

RELOCATED D-NB 995

ONLY ONLY ONLY

R3-H8cb-48

33 WEST Columbus

SEE TC PLAN

ONLY ONLY ONLY

SEE TC PLAN

US 33 WB ON RAMP

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FRA-674-2.22
GENDER ROAD - PHASE 6

17
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STAGE 3 PLANS – NOT FOR CONSTRUCTION

MAINTENANCE OF TRAFFIC PLAN - PHASE 3

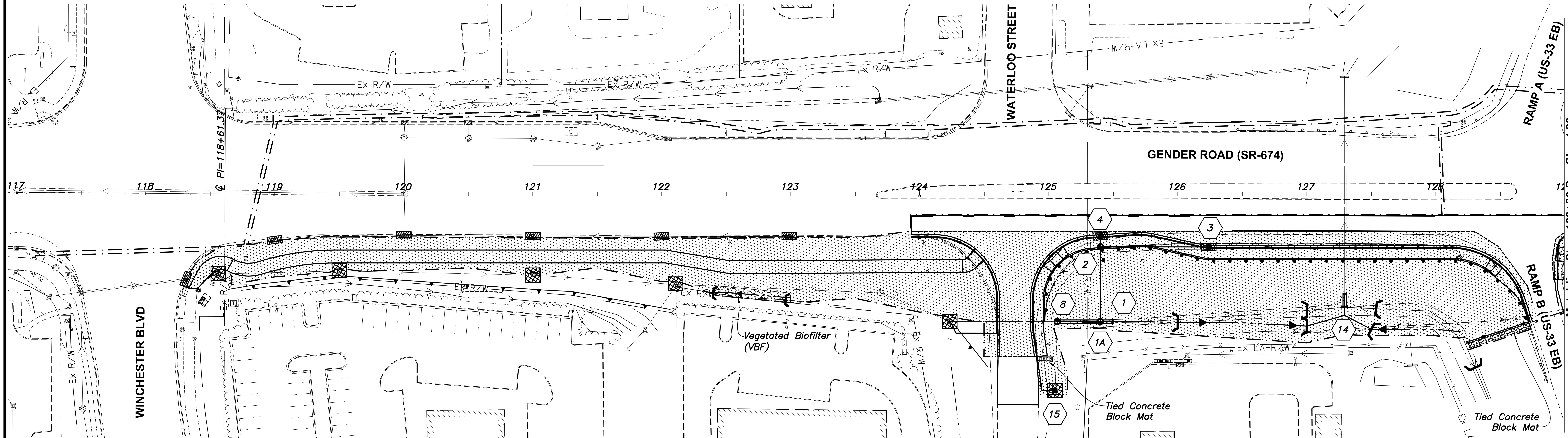
FRA-674-2.22
GENDER ROAD - PHASE 6

CALCULATED EPP
CHECKED KRB/JDS

1 inch = 30 feet

LEGEND

- Work Zone
- Direction of Travel
- Type III Barricade
- Orange Traffic Drum
- Temporary Sign Support
- Lane Closed
- Portable Concrete Barrier
- Temporary Impact Attenuator

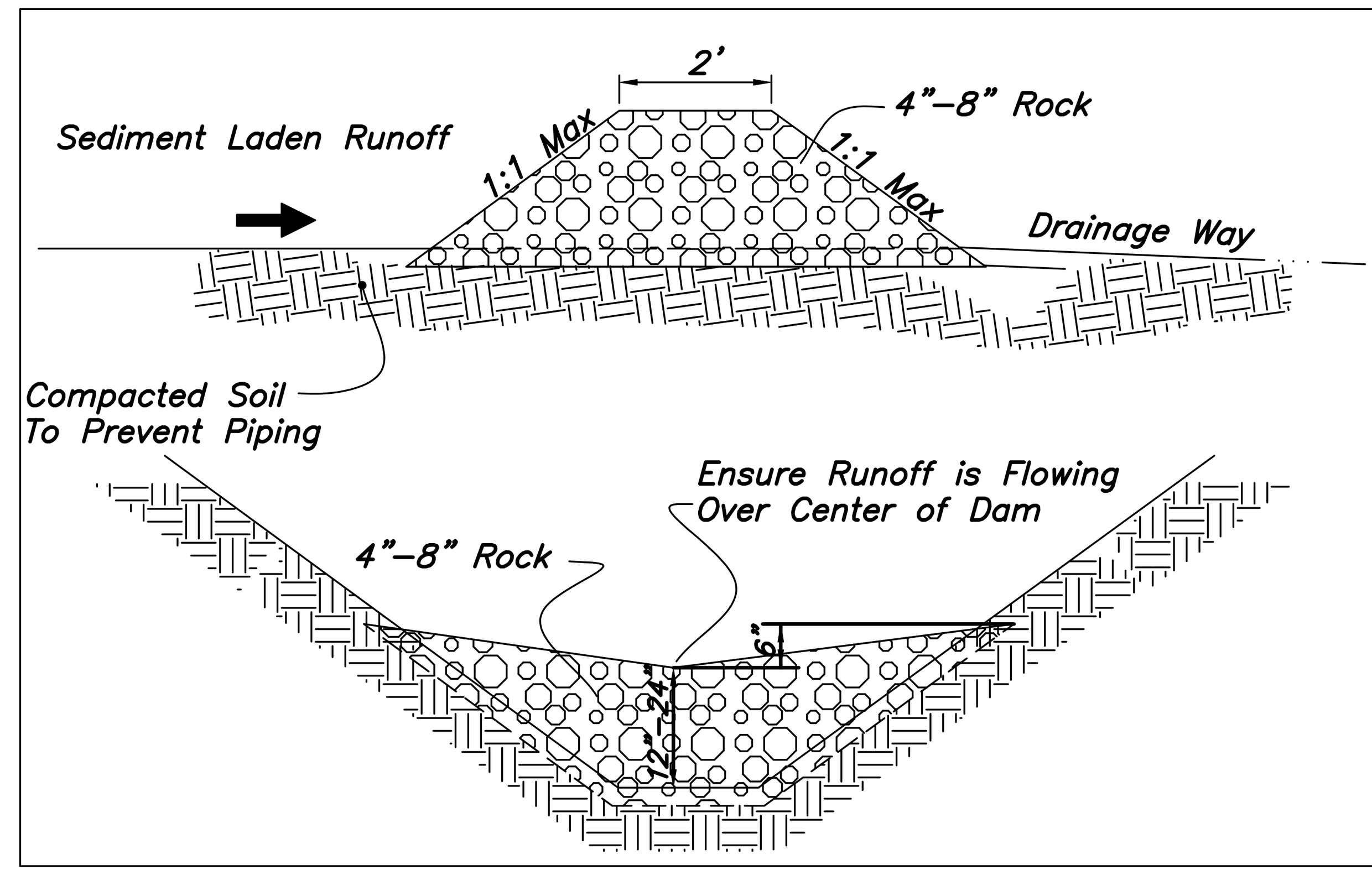


PROJECT DATA			
Total Area (Project Limits):	3.04 Acres	Runoff Coefficient for Pre–Construction Site:	0.62
Project Earth Disturbed Area:	2.35 Acres		
Estimated Contractor Earth Disturbed Area:	0.25 Acres	Runoff Coefficient for Post–Construction Site:	0.65
Notice of Intent Earth Disturbed Area:	2.60 Acres	Immediate Receiving Waters:	George Creek
Impervious (Paved) Area for Pre–Construction Site:	0.73 Acres	Subsequent Receiving Waters:	Little Walnut Creek
Impervious (Paved) Area for Post–Construction Site:	0.86 Acres	Post Construction BMP:	Vegetated Biofilters

LEGEND

- Project Limits
- Filtered Fabric Fence
- Rock Ditch Check
- Storm Sewer Inlet Protection (Catch Basin)
- Storm Sewer Inlet Protection (Curb & Gutter Inlet)
- Limits of Disturbance
- Tied Concrete Block Mat, as Per Plan
- Vegetated Biofilter (Includes Item 670 – Ditch Erosion Protection and Item 659 – Topsoil (T=4"))
- Storm Sewer Structure #

Who is responsible for the SWPP and who performs the weekly erosion control inspections per the general construction permit?



Maintenance

Rock ditch checks shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.

Close attention shall be paid to the repair of damaged check dams, end runs and undercutting beneath dams.

Necessary repairs to check dams shall be accomplished promptly.

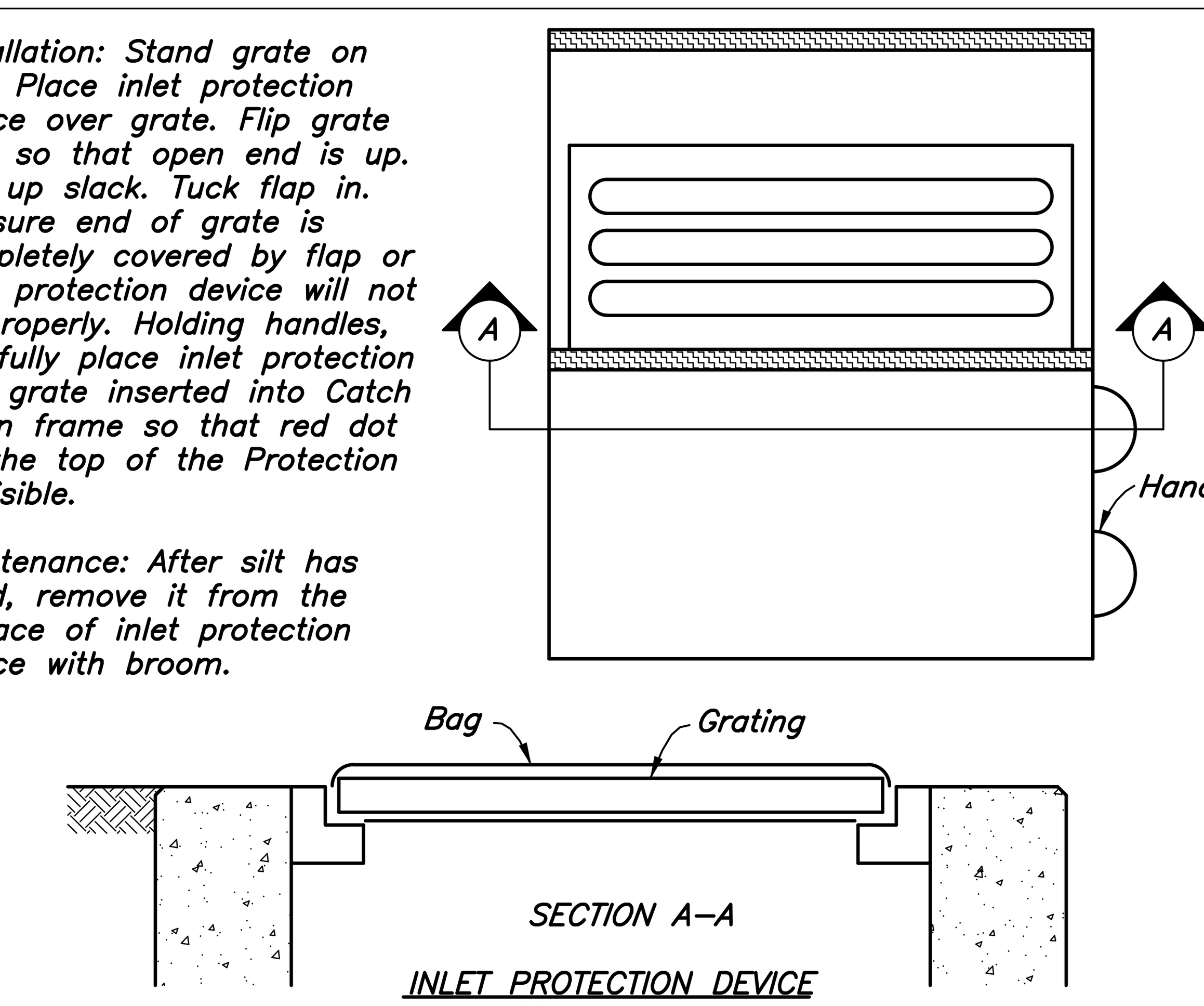
Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one–half the height of the barrier.

Any sediment deposits remaining in place after the aggregate is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

ROCK DITCH CHECK
SCALE: NONE

Installation: Stand grate on end. Place inlet protection device over grate. Flip grate over so that open end is up. Pull up slack. Tuck flap in. Be sure end of grate is completely covered by flap or inlet protection device will not fit properly. Holding handles, carefully place inlet protection with grate inserted into Catch Basin frame so that red dot on the top of the Protection is visible.

Maintenance: After silt has dried, remove it from the surface of inlet protection device with broom.



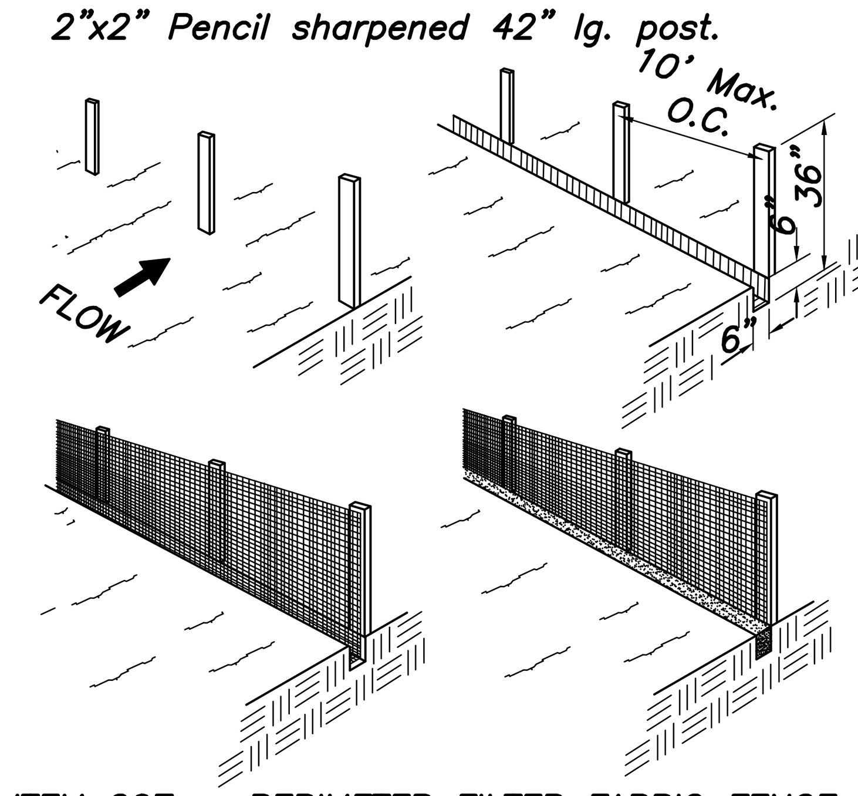
INLET PROTECTION DEVICE
SCALE: NONE

Note: Direct discharge of sediment laden water to the City's sewer system or a receiving stream is a violation of Ohio EPA and City of Canal Winchester regulations. The Contractor will be held liable for the violation and subsequent fines.

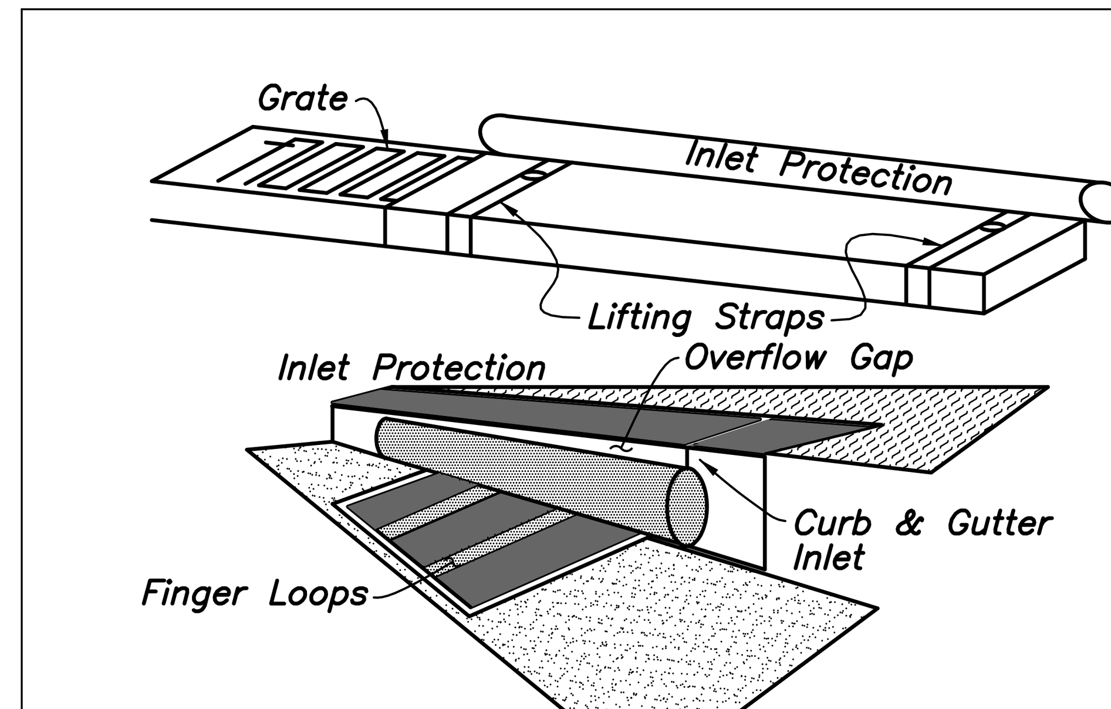
Note: Street cleaning (on an as–needed basis) is required through the duration of this construction project. This includes sweeping, power cleaning and (if necessary) manual removal of dirt or mud in the street gutters.

Note: All erosion and sediment control practices are subject to field modification at the discretion of the City of Canal Winchester and/or the Ohio EPA.

2"x2" Pencil sharpened 42" lg. post.



ITEM 207 – PERIMETER FILTER FABRIC FENCE
SCALE: NONE



ITEM 207 – INLET PROTECTION
SCALE: NONE

Installation: Stand grate on end. Slide the inlet protection bag on with Dam on top of the grate. Pull all excess down. Lay unit on its side. Carefully tuck flap in. Press Velcro strips together. Install the unit making sure front edge of grate is inserted in frame first then lower back into place. Press Velcro dots together which are located under lifting straps. This insures straps remain flush with gutter.

Maintenance: With a stiff bristle broom sweep silt and other debris off surface after each event.

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

CALCULATED WAC
CHECKED JAG

STORMWATER POLLUTION PREVENTION PLAN

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

GENDER ROAD (CR-222)

RAMP D (US-33 WB)

RAMP B (US-33 EB)

US-33 EB

US-33 WB

Matchline Stsa. 129+00 See Sheet 19

Tied Concrete Block Mat

Vegetated Biofilter (VBF)

EX RAMP E (US-33 WB)

PROP RAMP E (US-33 WB)

EX RAMP F (US-33 WB)

Ex LA-R/W

℄ PT=59+61.70

LEGEND

- Project Limits
- Filtered Fabric Fence
- Rock Ditch Check
- Storm Sewer Inlet Protection (Catch Basin)
- Storm Sewer Inlet Protection (Curb & Gutter Inlet)
- Limits of Disturbance
- Tied Concrete Block Mat, As Per Plan
- Vegetated Biofilter (Includes Item 670 – Ditch Erosion Protection and Item 659 – Topsoil (T=4"))
- Storm Sewer Structure #

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

CALCULATED WAC
CHECKED JAG

STORMWATER POLLUTION PREVENTION PLAN

FRA-674-2.22
GENDER ROAD - PHASE 6

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STAGE 3 PLANS – NOT FOR CONSTRUCTION

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SHEET NUM.														PART.			SPEC.	ITEM	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
6	8	10	31	32	42	52	60	67	69	76		OFFICE CALC		01/SAF/21	02/ENH/44		USED					
																					ROADWAY	
1														1			ODOT	201	1	LUMP	CLEARING AND GRUBBING	6
				2										2			ODOT	202	2	EACH	CATCH BASIN REMOVED	
				2										2			ODOT	202	2	EACH	REMOVAL MISC.: HEADWALL REMOVED	
				948										948			ODOT	202	948	FT	GUARDRAIL REMOVED	
				25										25			ODOT	202	25	FT	PIPE REMOVED, 24" AND UNDER	
				29										29			ODOT	202	29	FT	PIPE REMOVED, 30"	
				98										98			ODOT	202	98	FT	CURB AND GUTTER REMOVED	
				1										1			ODOT	202	1	EACH	CONCRETE OUTLET REMOVED	
					2681									2681			ODOT	203	2681	CY	EXCAVATION, AS PER PLAN	6
					3386									3386			ODOT	203	3386	CY	EMBANKMENT	6
				755								2,590		3345			ODOT	204	3345	SY	SUBGRADE COMPACTION	
2														2			ODOT	204	2	HOUR	PROOF ROLLING	6
980														980			ODOT	204*	980	CY	EXCAVATION OF SUBGRADE	6
980														980			ODOT	204*	980	CY	GRANULAR MATERIAL, TYPE B	6
2,340														2340			ODOT	204*	2340	SY	GEOTEXTILE FABRIC TYPE D	6
2,340														2340			ODOT	204*	2340	SY	GEOGRID	6
				860										860			ODOT	606	860	FT	GUARDRAIL, TYPE MGS	
				2										2			ODOT	606	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
				2										2			ODOT	606	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
				1										1			ODOT	606	1	EACH	ANCHOR ASSEMBLY, MGS TYPE A	
				1										1			ODOT	606	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
				8088										8088			ODOT	608	8088	SF	CONCRETE WALK (T=4")	
				1003										1003			ODOT	608	1003	SF	CONCRETE WALK (T=8")	
				6										6			ODOT	608	6	EACH	CURB RAMP	
				72										72			ODOT	608	72	SF	DETECTABLE WARNING	
				92										92			ODOT	622	92	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B (RM-4.3)	
50														50			ODOT	SPECIAL	50	TON	WORK INVOLVING NON-REGULATED MATERIAL	6
18														18			ODOT	SPECIAL	18	TON	WORK INVOLVING PCS	6
1000														1000			ODOT	SPECIAL	1000	GAL	NON-REGULATED WATER	6
3000														3000			ODOT	SPECIAL	3000	GAL	REGULATED WATER	6
																					PAVEMENT	
												1,420		1420			ODOT	252	1420	FT	FULL DEPTH PAVEMENT SAWING	
												2,000		2000			ODOT	254	2000	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T=1.5")	
												520		520			ODOT	301	520	CY	ASPHALT CONCRETE BASE, PG64-22 (449)	
				127								390		517			ODOT	304	517	CY	AGGREGATE BASE	
												550		550			ODOT	407	550	GAL	NON-TRACKING TACK COAT	
												150		150			ODOT	442	150	CY	ASPHALT CONCRETE, INTERMEDIATE COURSE, 19MM, TYPE A, (448)	
												170		170			ODOT	442	170	CY	ASPHALT CONCRETE, SURFACE COURSE, 19MM, TYPE A (448)	
				636										636			ODOT	609	636	FT	COMBINATION CURB AND GUTTER, AS PER PLAN	3, 7
				877										877			ODOT	609	877	FT	CURB, TYPE STRAIGHT 18", AS PER PLAN (CW RD-07-01)	7
				58										58			ODOT	609	58	SY	CONCRETE MEDIAN (T=4")	
				44										44			ODOT	823	44	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448)	
																					MAINTENANCE OF TRAFFIC	
		1												1			ODOT	614	1	LUMP	MAINTAINING TRAFFIC, AS PER PLAN	9
		32												32			ODOT	614	32	HOUR	LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE	9
		3												3			ODOT	614	3	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	10
		514												514			ODOT	615	514	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
		1												1			ODOT	615	1	LUMP	ROADS FOR MAINTAINING TRAFFIC	
1														1			ODOT	616	1	LUMP	DUST CONTROL, AS PER PLAN	6
		1520												1520			ODOT	622	1520	LF	PORTABLE BARRIER, 32", AS PER PLAN	10
																					DRAINAGE	
			2.78											2.78			ODOT	601	2.78	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
			440											440			ODOT	601	440	SY	TIED CONCRETE BLOCK MAT, AS PER PLAN	6
			1.32											1.32			ODOT	602	1.32	CY	CONCRETE MASONRY	
			1442											1442			ODOT	605	1442	FT	4" BASE PIPE UNDERDRAIN	
			1											1			ODOT	611	1	EACH	MANHOLE ADJUSTED TO GRADE	
			177											177			ODOT	611	177	FT	4 INCH CONDUIT, TYPE F	
			58											58			ODOT	611	58	FT	6 INCH CONDUIT, TYPE B	
50														50			ODOT	611*	50	FT	6 INCH CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	
50														50			ODOT	611*	50	FT	8 INCH CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	
			151											151			ODOT	611	151	FT	12 INCH CONDUIT, TYPE B	
			99											99			ODOT	611	99	FT	12 INCH CONDUIT, TYPE C	
			40											40			ODOT	611	40	FT	12 INCH CONDUIT, TYPE F	
			15											15			ODOT	611	15	FT	15 INCH CONDUIT, TYPE C	
			64											64			ODOT	611	64	FT	30 INCH CONDUIT, TYPE C	
			2											2			ODOT	611	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	
			4											4			ODOT	611	4	EACH	MANHOLE, NO. 3, AS PER PLAN	6
			4											4			ODOT	611	4	EACH	CATCH BASIN, AS PER PLAN (CW ST-04-01)	6
			2											2			ODOT	611	2	EACH	CATCH BASIN, AS PER PLAN (CW ST-03-01)	6

CMSC = City of Columbus Construction and Material Specifications, 2018 Edition
ODOT = Ohio Department of Transportation Construction and Material Specifications, 2023 Edition
* Denotes contingency quantity to be used as directed

CALCULATED WAC CHECKED JAG

GENERAL SUMMARY

FRA-674-2.22 GENDER ROAD - PHASE 6

STAGE 3 PLANS - NOT FOR CONSTRUCTION

SHEET NUM.														PART.			SPEC.	ITEM	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
6	8	10	31	32	42	52	60	67	69	76		OFFICE CALC		01/SAF/21	02/ENH/44		USED					
																					SANITARY SEWER	
			2											2			CMSC	604	2	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	6
																					SEDIMENT & EROSION CONTROL	
	3,700													3700			CMSC	207	3700	SY	CONSTRUCTION SEEDING AND MULCHING	8
	1,140													1140			CMSC	207	1140	FT	PERIMETER FILTER FABRIC FENCE	8, 19
	17													17			CMSC	207	17	EACH	INLET PROTECTION	8, 19
	11													11			CMSC	207	11	EACH	ROCK DITCH CHECK	8, 19
610														610			ODOT	653	610	CY	TOPSOIL FURNISHED AND PLACED (T=3")	6
30														30			ODOT	659	30	CY	TOPSOIL (T=4") (FOR VEGETATED BIOFILTER)	6
0.99														0.99			ODOT	659	0.99	TON	COMMERCIAL FERTILIZER	6
7,300														7300			ODOT	659	7300	SY	SEEDING & MULCHING, CLASS 1	6
40														40			ODOT	659	40	MGAL	WATER	6
1,870														1870			ODOT	670	1870	SY	SLOPE EROSION PROTECTION	6
250														250			ODOT	670	250	SY	DITCH EROSION PROTECTION	6
	1													1			CMSC	SPECIAL	1	EACH	CONCRETE WASHOUT AREA	8
																					TRAFFIC CONTROL	
						54								54			ODOT	621	54	EACH	RPM	
						34								34			ODOT	621	34	EACH	RAISED PAVMEMENT MARKER REMOVED	
						18								18			ODOT	626	18	EACH	BARRIER REFLECTOR	
						126								126			ODOT	630	126	LF	GROUND MOUNTED SIGN, NO. 3 POST, AS PER PLAN	52
						10								10			ODOT	630	10	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN	52
						1								1			ODOT	630	1	EACH	SIGN SUPPORT ASSEMBLY, BARIER MOUNTED	
						130								130			ODOT	630	130	SF	SIGN, FLAT SHEET, AS PER PLAN	52
						3								3			ODOT	630	3	EACH	REMOVAL OF POLE MOUNTED SIGN AND STORAGE, AS PER PLAN	52
						14								14			ODOT	630	14	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN	52
						13								13			ODOT	630	13	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						3								3			ODOT	630	3	EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION	
						5								5			ODOT	630	5	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
						1								1			ODOT	630	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-9.11, DESIGN 3, AS PER PLAN	
						63								63			ODOT	630	63	SF	SIGN, OVERHEAD EXTRUSHEET	
						1								1			ODOT	630	1	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
						1								1			ODOT	630	1	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
						1								1			ODOT	630	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	
						1								1			ODOT	630	1	EACH	SIGNING, MISC.: REMOVAL OF OVERHEAD SIGN SUPPORT FOUNDATION	
						0.1								0.1			ODOT	644	0.1	MILE	EDGE LINE, 4"	
						0.2								0.2			ODOT	644	0.2	MILE	EDGE LINE, 6"	
						0.1								0.1			ODOT	644	0.1	MILE	CENTER LINE (DY)	
						948								948			ODOT	644	948	LF	CHANNELIZING LINE, 8"	
						0.1								0.1			ODOT	644	0.1	MILE	LANE LINE, 4"	
						115								115			ODOT	644	115	LF	STOP LINE	
						336								336			ODOT	644	336	LF	CROSSWALK LINE	
						8								8			ODOT	644	8	EACH	LANE ARROW	
						100								100			ODOT	644	100	LF	REMOVAL OF PAVEMENT MARKING	
																					TRAFFIC SIGNAL & ITS	
							1							1			ODOT	625	1	EACH	BRACKET ARM, AS PER PLAN	57
							288							288			ODOT	625	288	LF	CONDUIT, 2", 725.051	
							18							18			ODOT	625	18	LF	CONDUIT, 3", 725.051	
							199							199			ODOT	625	199	LF	CONDUIT, 2", 725.04, JACKED OR DRILLED, AS PER PLAN	56
							818							818			ODOT	625	818	LF	CONDUIT, 3", 725.04, JACKED OR DRILLED, AS PER PLAN	56
							18							18			ODOT	625	18	LF	CONDUIT, ENCASED, 2", 725.051	
							3							3			ODOT	625	3	EACH	PULL BOX, 725.08, 18"	
							4							4			ODOT	625	4	EACH	PULL BOX, 725.08, 27" (COC STD 4022), AS PER PLAN	59
							1							1			ODOT	625	1	EACH	PULL BOX, 725.08, 32" (COC STD 4023), AS PER PLAN	59
							162							162			ODOT	625	162	LF	TRENCH	
							162							162			ODOT	625	162	LF	UNDERGROUND WARNING/MARKING TAPE	
							9							9			ODOT	625	9	EACH	GROUND ROD	
							4							4			ODOT	625	4	EACH	CONNECTION, FUSED PULL-APART, TYPE II	
							4							4			ODOT	625	4	EACH	CONNECTION, FUSED PULL-APART, TYPE III	
							1078							1078			ODOT	625	1078	EACH	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE (COMBINATION LIGHTING)	
							776							776			ODOT	625	776	EACH	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE, AS PER PLAN (GROUNDING AND BONDING)	56
							407							407			ODOT	625	407	EACH	POLE AND BRACKET CABLE	
							36							36			ODOT	630	36	SF	SIGN, FLAT SHEET, AS PER PLAN	57
							4							4			ODOT	630	4	EACH	SIGN HANGER ASSEMBLY, MAST ARM MOUNTED, AS PER PLAN	57
							2							2			ODOT	630	2	LUMP	SIGNS, AS PER PLAN	57
							1							1			ODOT	632	1	EACH	REUSE OF VEHICULAR SIGNAL HEAD	
							10							10			ODOT	632	10	EACH	VEHICULAR SIGNAL HEAD, LED, POLYCARBONATE, 3-SECTION, 12" LENS, WITH BACKPLATE (BLACK) AS PER PLAN	57
							2							2			ODOT	632	2	EACH	VEHICULAR SIGNAL HEAD, LED, POLYCARBONATE, 5-SECTION, 12" LENS, WITH BACKPLATE (BLACK) AS PER PLAN	57
							4							4			ODOT	632	4	EACH	PEDESTRIAN SIGNAL HEAD, AS PER PLAN	57
							13							13			ODOT	632	13	EACH	COVERING VEHICULAR SIGNAL HEAD, AS PER PLAN	57
							4							4			ODOT	632	4	EACH	COVERING PEDESTRIAN SIGNAL HEAD	
							2							2			ODOT	632	2	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	57
							2							2			ODOT	632	2	EACH	COVERING PEDESTRIAN PUSHBUTTON	
							1461							1461			ODOT	632	1461	LF	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
							763							763			ODOT	632	763	LF	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	

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CALCULATED WAC
CHECKED JAG

GENERAL SUMMARY

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

SHEET NUM.														PART.			SPEC.	ITEM	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
6	8	10	31	32	42	52	60	67	69	76		OFFICE CALC		01/SAF/21	02/ENH/44		USED					
																					TRAFFIC SIGNAL & ITS	
							296							296			ODOT	632	296	LF	LOOP DETECTOR LEAD-IN CABLE	
							1							1			ODOT	632	1	EACH	POWER SERVICE, AS PER PLAN	57
							258							258			ODOT	632	258	LF	POWER CABLE, 2 CONDUCTOR, NO. 4 AWG, AS PER PLAN	57
							1							1			ODOT	632	1	EACH	WOOD POLE	
							1							1			ODOT	632	1	EACH	DOWN GUY	
							1							1			ODOT	632	1	EACH	CONDUIT RISER, 2" DIAMETER, SCH 80	
							2							2			ODOT	632	2	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN	57
							1							1			ODOT	632	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN	57
							3							3			ODOT	632	3	EACH	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	57
							4							4			ODOT	632	4	EACH	PEDESTAL, 11', AS PER PLAN	57
							4							4			ODOT	632	4	EACH	PEDESTAL FOUNDATION, AS PER PLAN	57
							2							2			ODOT	632	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	57
							133							133			ODOT	632	133	LF	SIGNALIZATION, MISC.: UNLASH AND RELASH MESSENGER WIRE	58
							1							1			ODOT	633	1	EACH	CONTROLLER ITEM, MISC.: CONTROLLER MODIFICATION	59
							1							1			ODOT	816	1	EACH	REUSE OF VIDEO DETECTION SYSTEM, AS PER PLAN	59
							1							1			ODOT	633	1	EACH	CONTROLLER, MISC.: REUSE OF EMERGENCY VEHICLE PREEMPTION	58
							1							1			ODOT	815	1	EACH	REUSE OF SPREAD SPECTION RADIO INTERCONNECT SYSTEM, AS PER PLAN	58
							1							1			ODOT	816	1	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN	59
							1							1			ODOT	633	1	EACH	CABINET FOUNDATION, AS PER PLAN	58
							1							1			ODOT	633	1	EACH	CONTROLLER WORK PAD, AS PER PLAN	58
							3							3			ODOT	SPECIAL	3	EACH	DUPLEX RECEPTACLES, GFCI TYPE, 120V, AS PER PLAN	59
								240						240			ODOT	625	240	LF	CONDUIT JACKED OR DRILLED, 2", 725.052	
								2						2			ODOT	625	2	EACH	PULL BOX REMOVED, AS PER PLAN	67
								2						2			ODOT	625	2	EACH	PULL BOX, 725.08, 18"	
								1						1			ODOT	632	1	EACH	POWER SERVICE, AS PER PLAN	67
								1						1			ODOT	632	1	LUMP	POWER CABLE, MISC.: REUSE OF POWER CABLE CONDUCTORS	67
																					LIGHTING	
									12					12			CMSC	1001	12	EACH	STREET LIGHT FOUNDATION, 6' (MIS-201)	
									4420					4420			CMSC	1001	4420	CKT FT	CIRCUIT CABLE, TWO #4 AWG, CU, 5KV, TWO #4 AWG, CU 600V, AS PER PLAN	68
									1533					1533			CMSC	1001	1533	LF	CONDUIT, 2", IN OPEN AREAS, AS PER PLAN	68
									2092					2092			CMSC	1001	2092	LF	CONDUIT, 2", JACKING, DRILLING, OR PUSHING (MIS-701)	
									620					620			ODOT	625	620	LF	CONDUIT, 2", 725.051, AS PER PLAN	68
									17					17			CMSC	1001	17	EACH	PULL BOX, MEDIUM DUTY, 13"X24" (MIS-54)	
									6					6			ODOT	625	6	EACH	BARRIER JUNCTION BOX	
									1					1			ODOT	625	1	EACH	STRUCTURE GROUNDING SYSTEM	
									15					15			CMSC	1001	15	EACH	POLE TO BE WIRED, 4-WIRE, AS PER PLAN (MIS-501)	69
									1					1			ODOT	202	1	EACH	DISCONNECT EXISTING CIRCUIT	
									6					6			ODOT	625	6	EACH	LIGHT POLE FOUNDATION REMOVED	
									8					8			ODOT	625	8	EACH	CONNECTION, UNFUSED PERMANENT	
									1					1			ODOT	625	1	EACH	PULL BOX, 725.08, 18"	
									303					303			ODOT	625	303	LF	1-1/2" DUCT CABLE WITH TWO NO. 4 AWG 2400 VOLT CABLES	
									303					303			ODOT	625	303	LF	TRENCH	
									303					303			ODOT	625	303	LF	UNDERGROUND WARNING/MARKING TAPE	
									1					1			ODOT	625	1	LUMP	LIGHTING, MISC.: RELOCATE PHOTOCELL	68
									1					1			ODOT	625	1	LUMP	LIGHTING, MISC.: REMOVAL OF EXISTING UNDERGROUND LIGHTING SYSTEM	68
																					STRUCTURES	
										1				1			ODOT	202	1	LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	74
										4				4			ODOT	202	4	SY	APPROACH SLAB REMOVED	
										1				1			ODOT	503	1	LUMP	UNCLASSIFIED EXCAVATION	
										26193				26193			ODOT	509	26193	LB	EPOXY COATED STEEL REINFORCEMENT	
										3432				3432			ODOT	509	3432	FT	NO. 4 DEFORMED GFRP REINFORCEMENT	
										1241				1241			ODOT	510	1241	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
										2				2			ODOT	511	2	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK	
										7				7			ODOT	511	7	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	
										90				90			ODOT	511	90	CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK	
										1031				1031			ODOT	512	1031	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
										4261					4261		ODOT	514	4261	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
										4261					4261		ODOT	514	4261	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
										4261					4261		ODOT	514	4261	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	75
										20				20			ODOT	516	20	FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT	75
										18				18			ODOT	516	18	SF	1" PREFORMED EXPANSION JOINT FILLER	
										9				9			ODOT	518	9	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN	75
										12				12			ODOT	518	12	EACH	SCUPPER, MODIFICATION, AS PER PLAN	75
										137				137			ODOT	519	137	SF	PATCHING CONCRETE STRUCTURE	
										4				4			ODOT	526	4	SY	REINFORCED CONCRETE APPROACH SLABS (T=13")	
																					INCIDENTALS	
												1		1			ODOT	108	1	LUMP	CPM PROGRESS SCHEDULE	
												8		8			ODOT	619	8	MONTH	FIELD OFFICE	
												1		1			ODOT	623	1	LUMP	CONSTRUCTION LAYOUT STAKES	
												1		1			ODOT	624	1	LUMP	MOBILIZATION	

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CHECKED JAG

GENERAL SUMMARY

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

SHEET NUM.														PART.			SPEC.					
6	8	10	31	32	42	52	60	67	69	76		OFFICE CALC		01/SAF/21	02/ENH/44		USED	ITEM	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																					ALTERNATE 1 – TRAFFIC SIGNAL	
							7							7			ODOT	625	7	EACH	LUMINAIRE, LED, 120V, TEAR DROP, AS PER PLAN (ALTERNATE 1)	56
							1							1			ODOT	633	1	EACH	CONTROLLER UNIT, TS2/A2, WITH CABINET, TYPE TS–2, AS PER PLAN (ALTERNATE 1)	58
							1							1			ODOT	633	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN (ALTERNATE 1)	58
																					ALTERNATE 2 – TRAFFIC SIGNAL	
							7								7		ODOT	625	7	EACH	LUMINAIRE, 73W LED, 120V, TEAR DROP, AS PER PLAN (ALTERNATE 2)	56
							1								1		ODOT	633	1	EACH	CONTROLLER UNIT, TS2/A2, WITH CABINET, TYPE TS–2, AS PER PLAN (ALTERNATE 2)	58
							1								1		ODOT	633	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN (ALTERNATE 2)	58
																					ALTERNATE 3 – STREET LIGHTING	
									12					12			CMSC	1001	12	EACH	POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, AS PER PLAN (ALTERNATE 3)	68
									2					2			CMSC	1001	2	EACH	POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, (BRIDGE MTD.), AS PER PLAN (ALTERNATE 3)	68
									14					14			CMSC	1001	14	EACH	LUMINAIRE, 240V, TEAR DROP, AS PER PLAN (ALTERNATE 3)	68
									2					2			CMSC	1001	2	EACH	POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, (FURNISH ONLY), AS PER PLAN (ALTERNATE 3)	68
									2					2			CMSC	1001	2	EACH	LUMINAIRE, 240V, TEAR DROP, (FURNISH ONLY), AS PER PLAN (ALTERNATE 3)	68
																					ALTERNATE 4 – STREET LIGHTING	
									12						12		CMSC	1001	12	EACH	POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, AS PER PLAN (ALTERNATE 4)	68
									2						2		CMSC	1001	2	EACH	POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, (BRIDGE MTD.), AS PER PLAN (ALTERNATE 4)	68
									14						14		CMSC	1001	14	EACH	LUMINAIRE, 132W LED, 240V, TEAR DROP, AS PER PLAN (ALTERNATE 4)	68
									2						2		CMSC	1001	2	EACH	POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, (FURNISH ONLY), AS PER PLAN (ALTERNATE 4)	68
									2						2		CMSC	1001	2	EACH	LUMINAIRE, 132W LED, 240V, TEAR DROP, (FURNISH ONLY), AS PER PLAN (ALTERNATE 4)	68
																					ALTERNATE 5 – STRUCTURES	
										90				90			ODOT	511	90	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	74
										544				544			ODOT	607	544	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN	75
																					ALTERNATE 6 – STRUCTURES	
										101					101		ODOT	511	101	CY	CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	74
										544					544		ODOT	607	544	FT	SPECIAL – VANDAL PROTECTION FENCE	75

<u>Note to Reviewers:</u>
Alternates 1, 3, and 5 represent standard items and Alternates 2, 4, and 6 represent aesthetic upgrades. The intent of these alternate bid items is to quantify the cost difference associated with aesthetic upgrade items.

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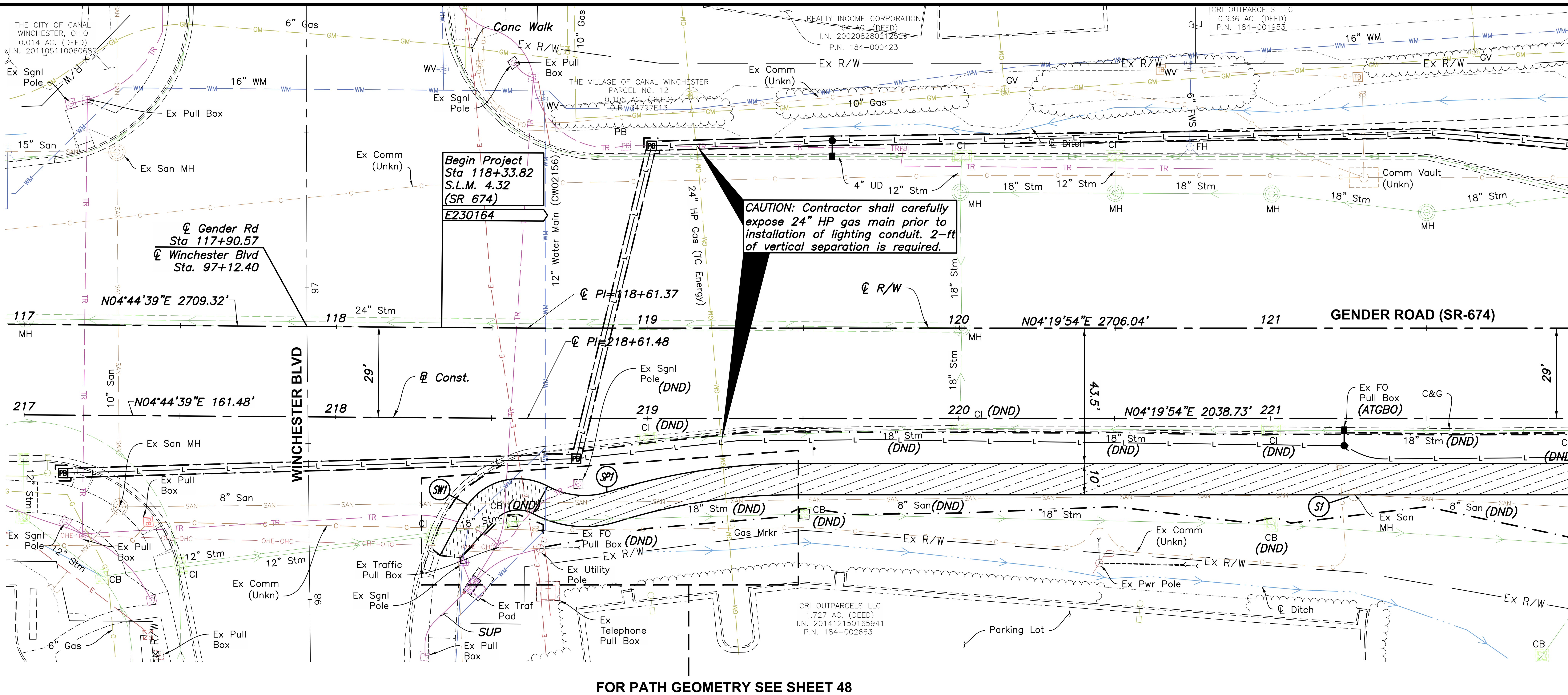
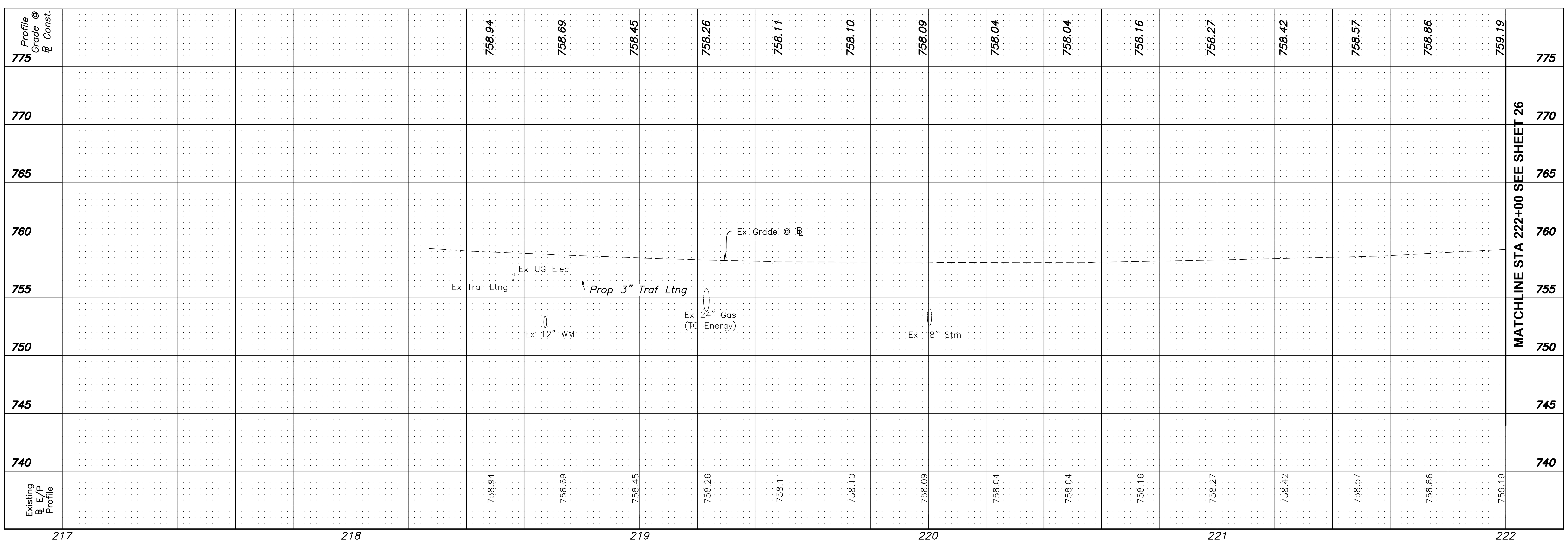
CALCULATED WAC
CHECKED JAG

GENERAL SUMMARY

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION





Legend

- 8" Concrete Walk
- Asphalt Path

ATG = Adjust to Grade

ATGBO = Adjust to Grade by Other

DND = Do Not Disturb

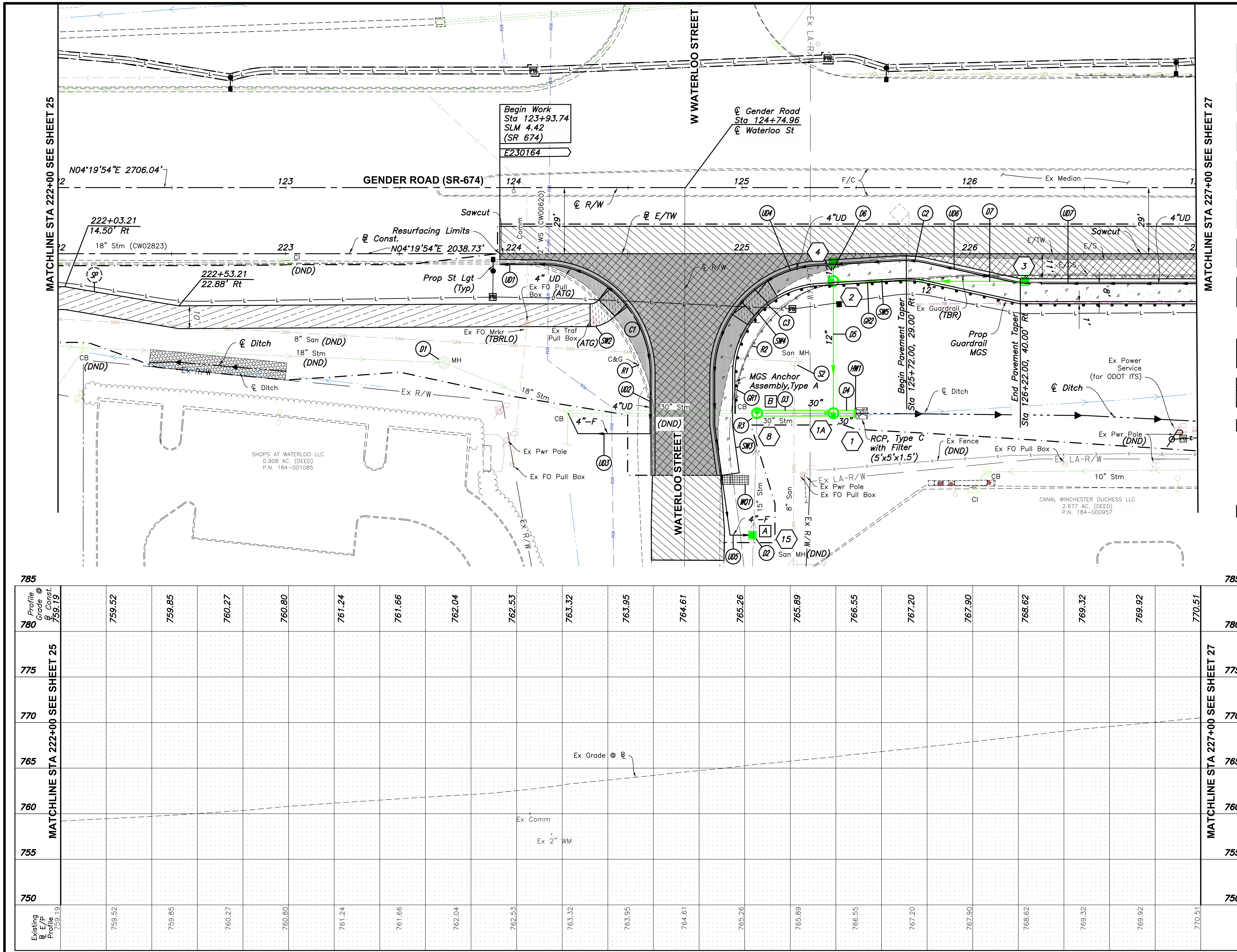
NOTE:
For disposition of existing street lighting, traffic signal, interconnect, and ITS see Street Lighting Plan, Traffic Signal Plan, and Surveillance Plan, respectively.

CALCULATED WAC
CHECKED JAG

PLAN & PROFILE - GENDER ROAD
STA 117+00 TO STA 122+00

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



Legend

- Full Depth Pavement
- Resurfacing
- 4" Concrete Walk
- 8" Concrete Walk
- Asphalt Path
- Pavement Removed (Paid under Excavation)
- Vegetated Biofilter (Includes Item 670 – Ditch Erosion Protection and Item 659 – Topsoil (T=4"))
- Tied Concrete Block Mat, As Per Plan
- RCP

A. Contractor to remove 5ft of existing 15" conduit on each side of proposed catch basin. Connect proposed 15" conduit from structure to existing conduits using masonry collar per DM–1.1

B. Existing catch basin to be removed and replaced with a new manhole (#8). Existing pipe connections to be reestablished to South and East with 5 feet of corresponding pipe and masonry collar per DM–1.1.

ATG = Adjust to Grade

DND = Do Not Disturb

TBR = To Be Removed

TBRLO = To Be Relocated By Other

NOTE:
For disposition of existing street lighting, traffic signal, interconnect, and ITS see Street Lighting Plan, Traffic Signal Plan, and Surveillance Plan, respectively.

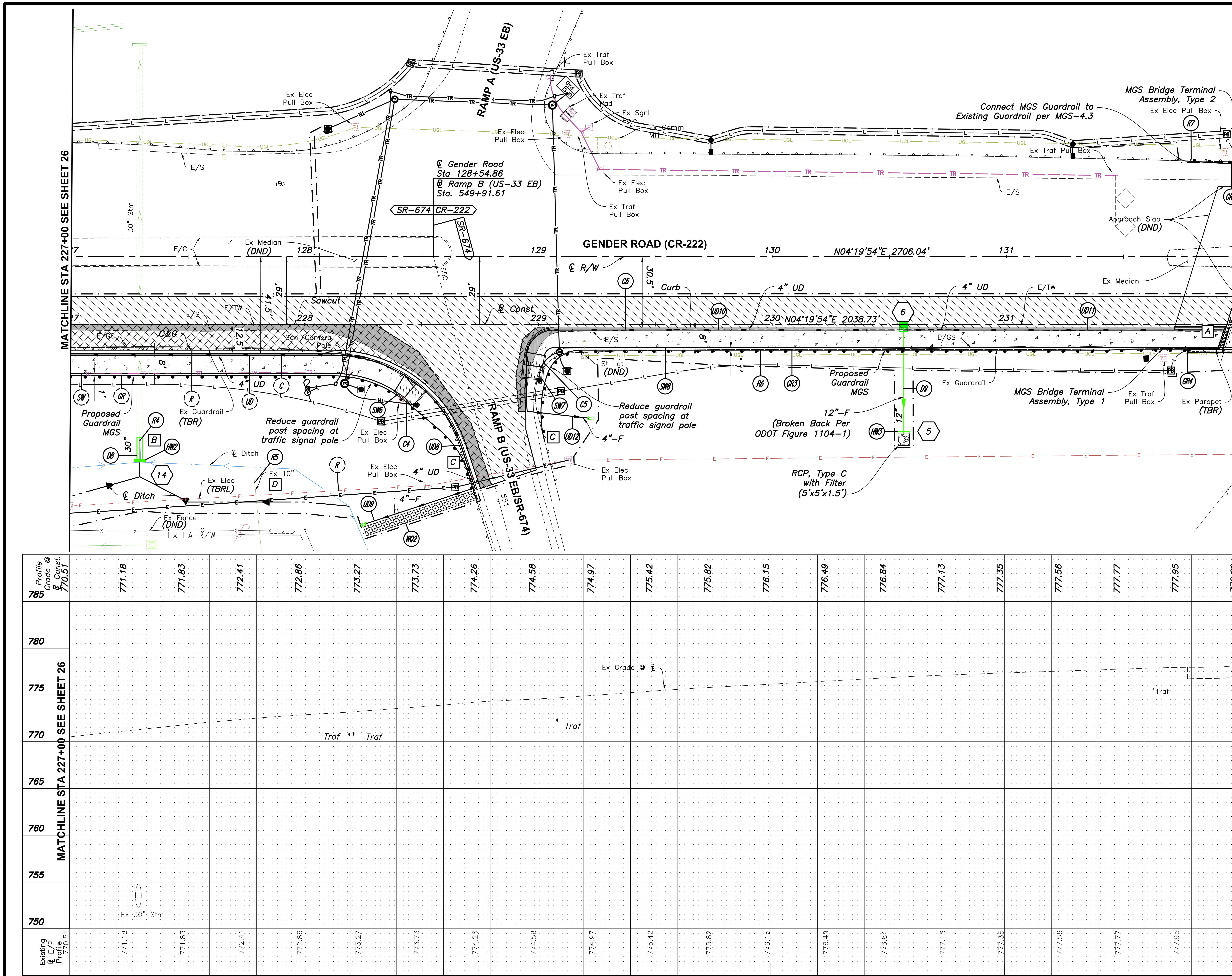
HORIZ 1 inch = 20 Feet | VERT 1 inch = 5 Feet

CALCULATED WAC | CHECKED JAG

PLAN & PROFILE - GENDER ROAD
STA 122+00 TO STA 127+00

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



Legend

- Full Depth Pavement
- Resurfacing
- 4" Concrete Walk
- 8" Concrete Walk
- Concrete Walk on Bridge (See Structure Sheets)
- Pavement Removed (Paid under Excavation)
- Tied Concrete Block Mat, As Per Plan
- RCP

A. Approach slab to be widened to face of proposed curb. Sidewalk and curb to be constructed integrally with slab.

B. Existing headwall to be removed with 5-ft of existing 30" pipe. Connect proposed 30" conduit to existing 30" conduit with a masonry collar per DM-1.1.

C. Connect proposed guardrail to existing guardrail.

D. Ex 10" conduit to be removed to backslope of proposed ditch providing new outlet

DND = Do not Disturb

E/GS = Edge of Gravel Shoulder

E/TW = Edge of Traveled Way

E/S = Edge of Shoulder

TBR = To be Removed

TBRR = To Be Removed and Replaced

TBRLO= To Be Relocated by Other

NOTE:
For disposition of existing street lighting, traffic signal, interconnect, and ITS see Street Lighting Plan, Traffic Signal Plan, and Surveillance Plan, respectively.

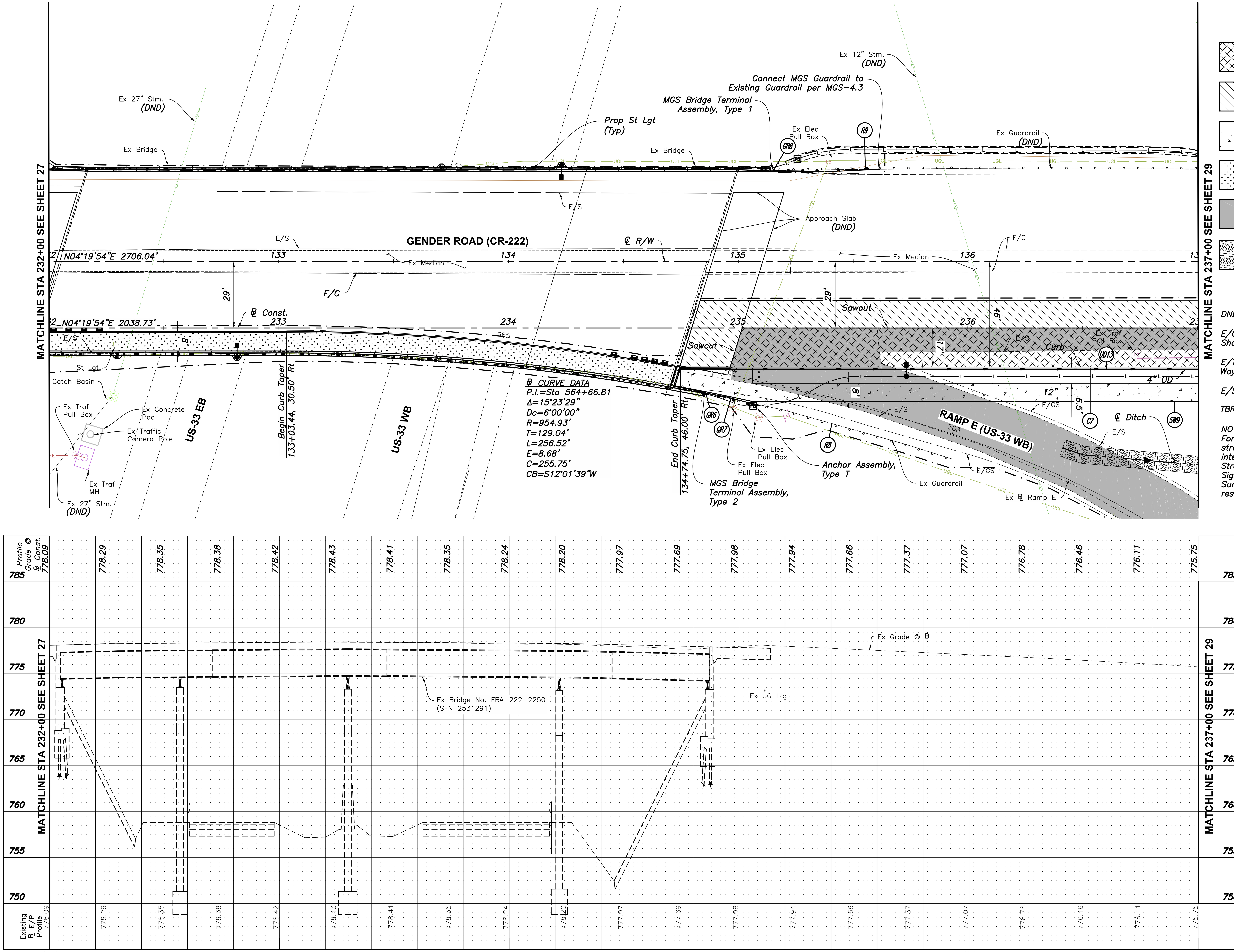
HORIZ 1 inch = 20 Feet
VERT 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

PLAN & PROFILE - GENDER ROAD STA 127+00 TO STA 132+00

FRA-674-2.22 GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



Legend

- Full Depth Pavement
- Resurfacing
- 4" Concrete Walk
- Concrete Walk on Bridge (See Structure Sheets)
- Pavement Removed (Paid under Excavation)
- Vegetated Biofilter (Includes Item 670 – Ditch Erosion Protection and Item 659 – Topsoil (T=4")

DND = Do Not Disturb

E/GS = Edge of Gravel Shoulder

E/TW = Edge of Traveled Way

E/S = Edge of Shoulder

TBR = To Be Removed

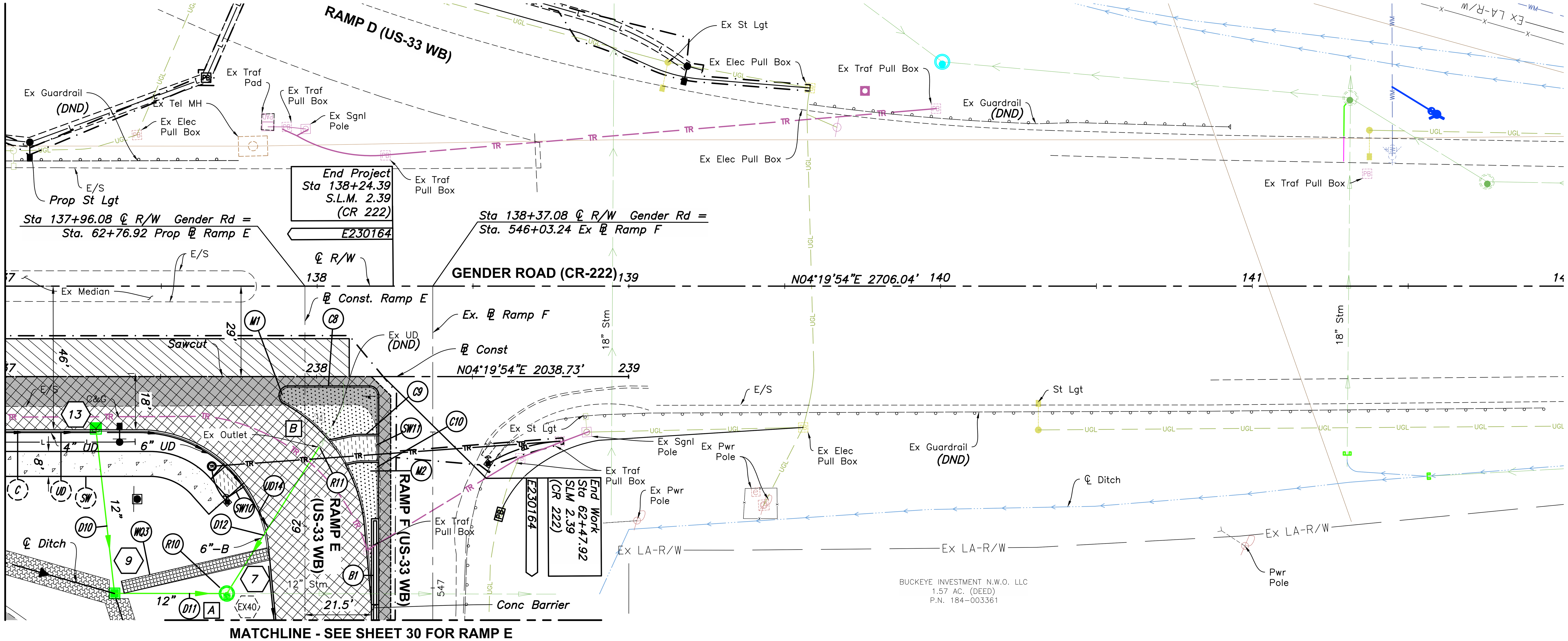
NOTE:
For disposition of existing street lighting, traffic signal, interconnect, and ITS see Street Lighting Plan, Traffic Signal Plan, and Surveillance Plan, respectively.

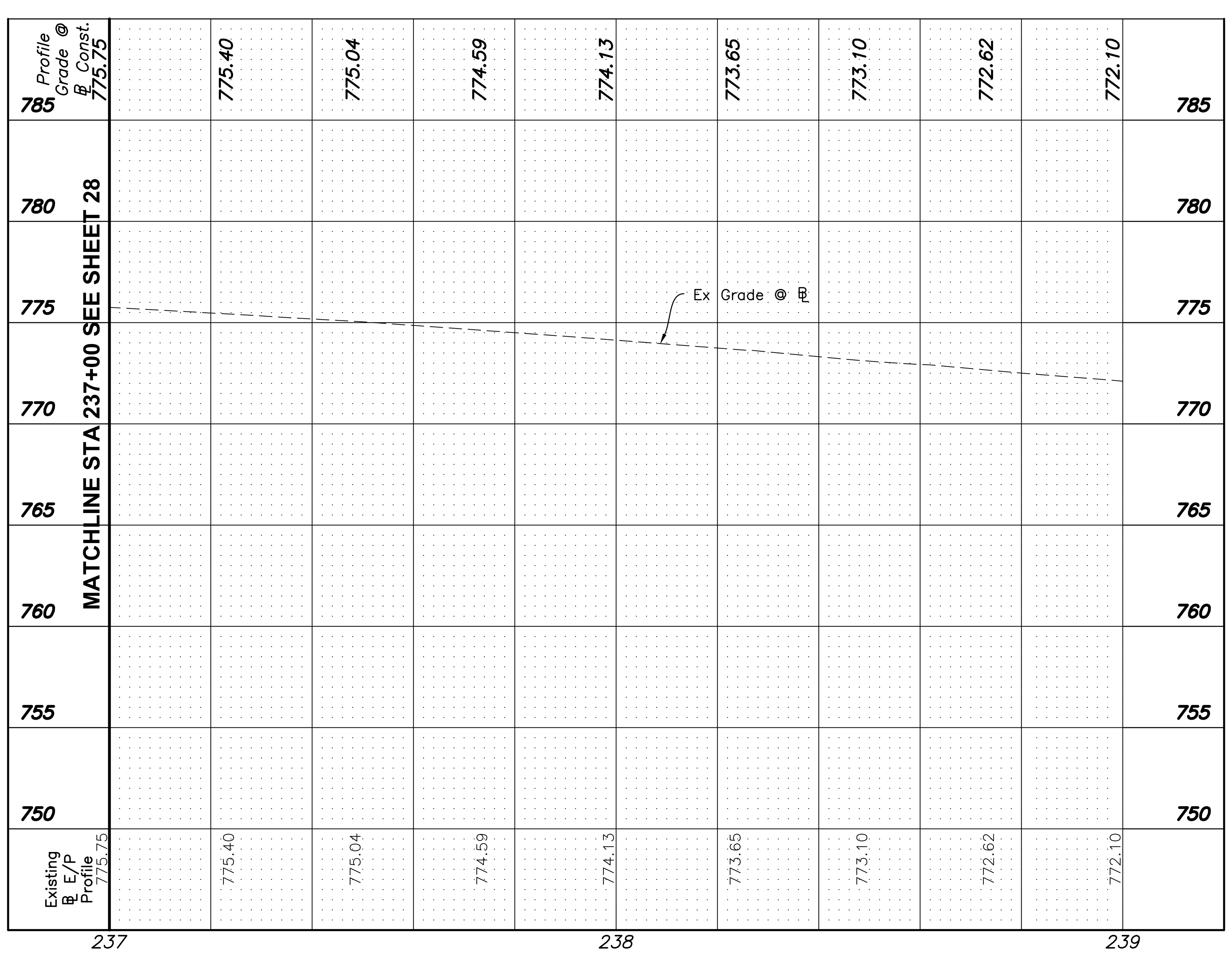
HORIZ. 1 inch = 20 Feet; VERT. 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

PLAN & PROFILE - GENDER ROAD
STA 132+00 TO STA 137+00

FRA-674-2.22
GENDER ROAD - PHASE 6





Legend

- Full Depth Pavement
- Resurfacing
- 4" Concrete Walk
- 8" Concrete Walk
- Pavement Removed (Paid under Excavation)
- Vegetated Biofilter (Includes Item 670 – Ditch Erosion Protection and Item 659 – Topsoil (T=4"))
- Concrete Median
- Tied Concrete Block Mat, As Per Plan

DND = Do not disturb

E/GS = Edge of Gravel Shoulder

E/TW = Edge of Traveled Way

E/S = Edge of Shoulder

TBR = To be Removed

[A] Existing catch basin to be removed with 5–ft of existing 12" pipe. Connect proposed 12" conduit to existing 12" conduit with a masonry collar per DM–1.1.

[B] Existing 6" conduit to be connected to the proposed 6"–B conduit with a masonry collar per DM–1.1.

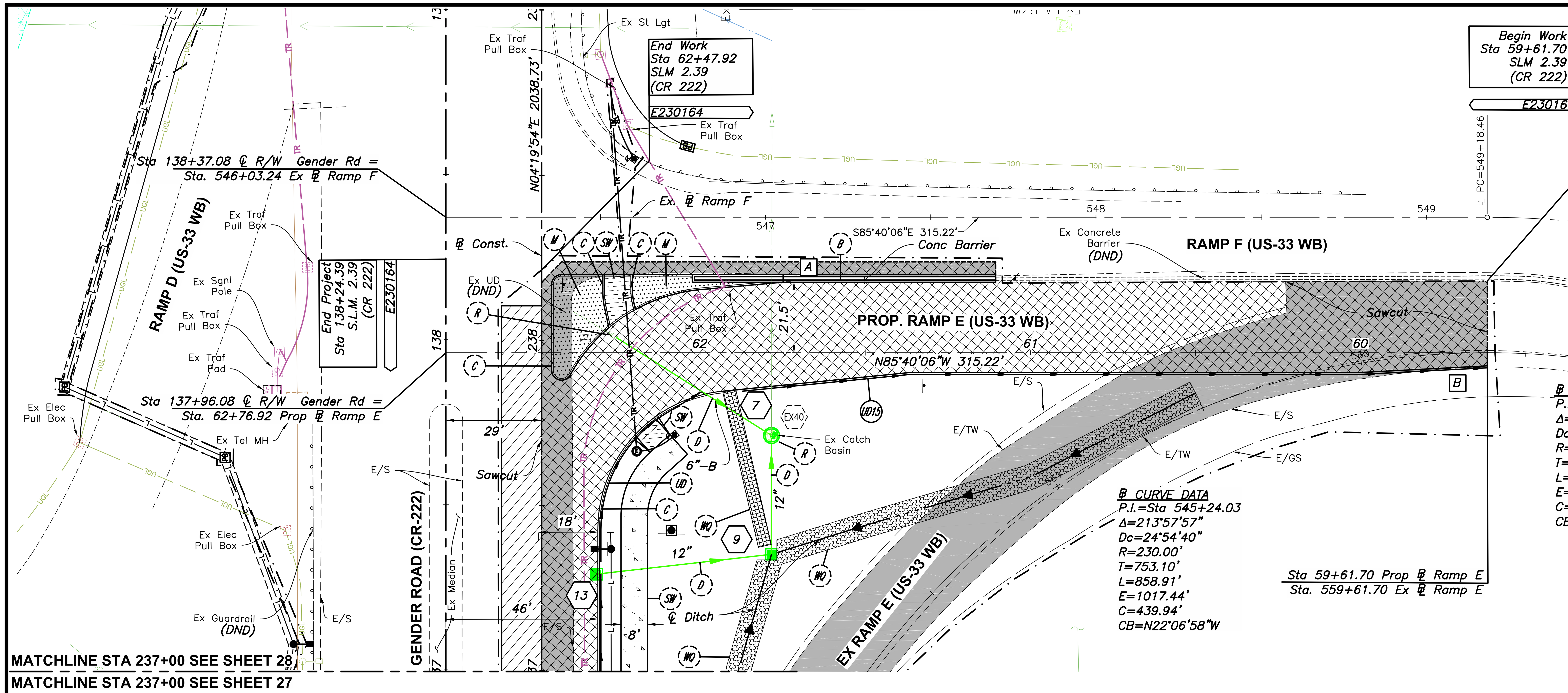
NOTE:
For disposition of existing street lighting, traffic signal, interconnect, and ITS see Street Lighting Plan, Traffic Signal Plan, and Surveillance Plan, respectively.

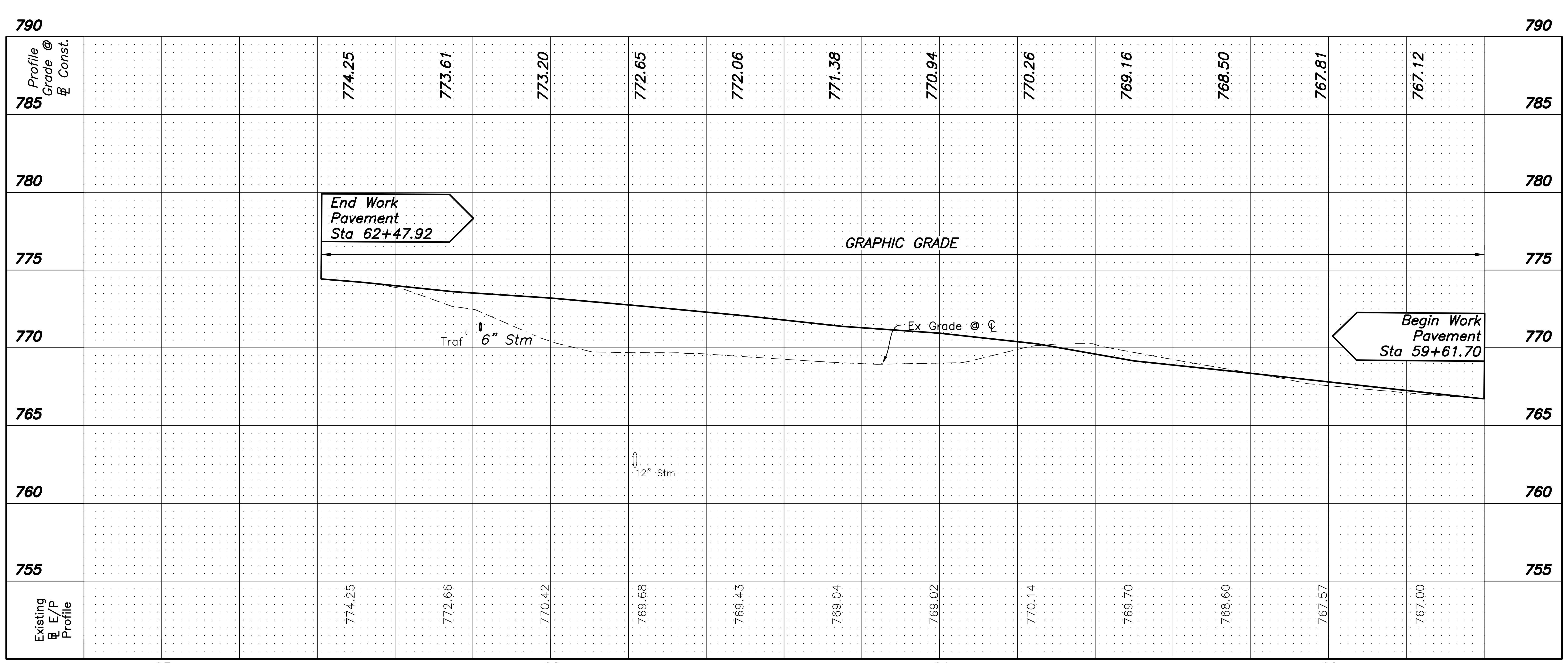
HORIZ 1 inch = 20 Feet; VERT 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

PLAN & PROFILE - GENDER ROAD STA 137+00 TO STA 142+00

FRA-674-2.22
GENDER ROAD - PHASE 6





Legend

- Full Depth Pavement
- Resurfacing
- 4" Concrete Walk
- 8" Concrete Walk
- Pavement Removed (Paid under Excavation)
- Vegetated Biofilter (Includes Item 670 – Ditch Erosion Protection and Item 659 – Topsoil (T=4"))
- Concrete Median
- Tied Concrete Block Mat, As Per Plan

A Single Slope Barrier, Type B (RM-4.3)

B Connect proposed underdrain to existing underdrain.

E/GS = Edge of Gravel Shoulder

E/TW = Edge of Traveled Way

E/S = Edge of Shoulder

NOTE:
For disposition of existing street lighting, traffic signal, interconnect, and ITS see Street Lighting Plan, Traffic Signal Plan, and Surveillance Plan, respectively.

HORIZ 1 inch = 20 Feet; VERT 1 inch = 5 Feet

CALCULATED WAC | CHECKED JAG

PLAN & PROFILE - RAMP E
STA 59+61.70 TO STA 62+76.92

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

DRAINAGE

SHEET NO.	REF. NO.	STATION FROM	STATION TO	SIDE	CENTERLINE ROADWAY REFERENCE	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (CY)	601 TIED CONCRETE BLOCK MAT, AS PER PLAN (SY)	602 CONCRETE MASONRY (CY)	605 4" BASE PIPE UNDERDRAIN (FT)	611 MANHOLE ADJUSTED TO GRADE (EACH)	611 4 INCH CONDUIT, TYPE F (FT)	611 6 INCH CONDUIT, TYPE B (FT)	611 12 INCH CONDUIT, TYPE B (FT)	611 12 INCH CONDUIT, TYPE C (FT)	611 12 INCH CONDUIT, TYPE F (FT)	611 15 INCH CONDUIT, TYPE C (FT)	611 30 INCH CONDUIT, TYPE C (FT)	611 PRECAST REINFORCED CONCRETE OUTLET (EACH)	611 MANHOLE, NO. 3, AS PER PLAN (EACH)	611 CATCH BASIN, AS PER PLAN (CW ST-04-01) (EACH)	611 CATCH BASIN, AS PER PLAN (CW ST-03-01) (EACH)	604 MANHOLE ADJUSTED TO GRADE, AS PER PLAN (EACH)
26	D1	123+69		RT	GENDER					1												
26	D2	125+04	125+06	RT	GENDER											10					1	
26	D3	125+01	125+40	RT	GENDER											5	39		1			
26	D4	125+40	125+50	RT	GENDER												10		1			
26	D5	125+40		RT	GENDER									58					1			
26	D6	125+40		RT	GENDER								8							1		
26	D7	125+40	126+24	RT	GENDER								84							1		
27	D8	127+29		RT	GENDER												15					
27	D9	130+56		RT	GENDER								6		40					1		
29 – 30	D10	137+29	137+35	RT	GENDER								53							1		
29 – 30	D11	137+35	137+76	RT	GENDER									41							1	
29 – 30	D12	137+71	138+00	RT	GENDER							58							1			
26	HW1	125+50		RT	GENDER	1.39		0.56														
27	HW2	127+29		RT	GENDER			0.56														
27	HW3	130+56		RT	GENDER	1.39		0.20														
26	UD1	123+94	124+52	RT	GENDER				65													
26	UD2	124+52	124+60	RT	GENDER				53													
26	UD3	124+24	124+60	RT	GENDER						42											
26	UD4	124+88	126+20	RT	GENDER				98													
26	UD5	124+95	125+03	RT	GENDER						59											
26	UD6	125+40	126+22	RT	GENDER				81													
26 – 27	UD7	126+22	128+39	RT	GENDER				216													
27	UD8	128+41	128+73	RT	GENDER				61													
27	UD9	128+26	128+73	RT	GENDER						49							1				
27	UD10	128+95	130+52	RT	GENDER				187													
27	UD11	130+56	131+92	RT	GENDER				136													
27	UD12	128+95	129+21	RT	GENDER						27							1				
28 – 29	UD13	134+75	137+29	RT	GENDER				254													
29 – 30	UD14	137+33	137+84	RT	GENDER				65													
30	UD15	59+61	61+93	LT	RAMP E				226													
26	WQ1	124+90	124+02	RT	GENDER		48															
27	WQ2	128+25	128+74	RT	GENDER		200															
29 – 30	WQ3	137+37	137+84	RT	GENDER		192															
25	S1	121+27		RT	GENDER																	1
26	S2	125+23		RT	GENDER																	1
	TOTALS CARRIED TO GENERAL SUMMARY					2.78	440	1.32	1,442	1	177	58	151	99	40	15	64	2	4	4	2	2

CALCULATED WAC
CHECKED JAG

PLAN & PROFILE - SUBSUMMARY

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

ROADWAY & PAVEMENT

SHEET NO.	REF. NO.	STATION FROM	STATION TO	SIDE	CENTERLINE ROADWAY REFERENCE	204 SUBGRADE COMPACTION (SY)	606 GUARDRAIL, TYPE MGS (FT)	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 (EACH)	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 (EACH)	606 ANCHOR ASSEMBLY, MGS TYPE A (EACH)	606 ANCHOR ASSEMBLY, MGS TYPE T (EACH)	608 CONCRETE WALK (T=4") (SF)	608 CONCRETE WALK (T=8") (SF)	608 CURB RAMP (EACH)	608 DETECTABLE WARNING (SF)	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B (RM-4.3) (FT)	304 AGGREGATE BASE (CY)	609 COMBINATION CURB AND GUTTER, AS PER PLAN (FT)	609 CURB, TYPE STRAIGHT 18", AS PER PLAN (CW RD-07-01) (FT)	609 CONCRETE MEDIAN (T=4") (SY)	823 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) (CY)
	B1	61+10	62+02	RT	GENDER											92					
26	C1	123+94	124+62	RT	GENDER													141			
26 – 27	C2	124+87	128+74	RT	GENDER													495			
26	C3	125+02	125+16	RT	GENDER														18		
27	C4	128+38	128+52	RT	GENDER														19		
27	C5	128+93	129+03	RT	GENDER														19		
27	C6	128+93	131+92	RT	GENDER														317		
28 – 29	C7	134+75	137+84	RT	GENDER														330		
29 – 30	C8	137+88	138+20	RT	GENDER														147		
29 – 30	C9	138+04	138+20	RT	GENDER														16		
29 – 30	C10	138+09	138+20	RT	GENDER														11		
26	GR1	124+97	124+97	RT	GENDER					1											
26 – 27	GR2	124+97	128+74	RT	GENDER		443														
27	GR3	129+01	131+78	RT	GENDER		311														
27	GR4	131+53	131+80	RT	GENDER			1													
27	GR5	131+75	132+05	LT	GENDER		30		1												
28	GR6	134+82	134+85	RT	GENDER				1												
28	GR7	134+85	135+07	RT	GENDER		26				1										
28	GR8	135+11	135+61	LT	GENDER		50	1													
29 – 30	M1	137+88	138+19	RT	GENDER	43											7			43	
29 – 30	M2	138+09	138+19	RT	GENDER	15											3			15	
25 – 26	SP1	118+63	124+33	RT	GENDER	697											117				44
25	SW1	118+33	118+68	RT	GENDER								349								
26	SW2	124+33	124+50	RT	GENDER								161	1	20						
26	SW3	124+88	125+03	RT	GENDER							554									
26	SW4	124+96	125+15	RT	GENDER								159	1	16						
26 – 27	SW5	125+11	128+43	RT	GENDER							2,639									
27	SW6	128+38	128+51	RT	GENDER								85	1	10						
27	SW7	128+93	129+02	RT	GENDER								83	1	10						
27	SW8	128+92	131+94	RT	GENDER							2,385									
28 – 29	SW9	134+71	137+71	RT	GENDER							2,510									
29 – 30	SW10	137+66	137+76	RT	GENDER								59	1	16						
29 – 30	SW11	138+04	138+20	RT	GENDER								107	1							
	TOTALS CARRIED TO GENERAL SUMMARY					755	860	2	2	1	1	8,088	1,003	6	72	92	127	636	877	58	44

REMOVALS

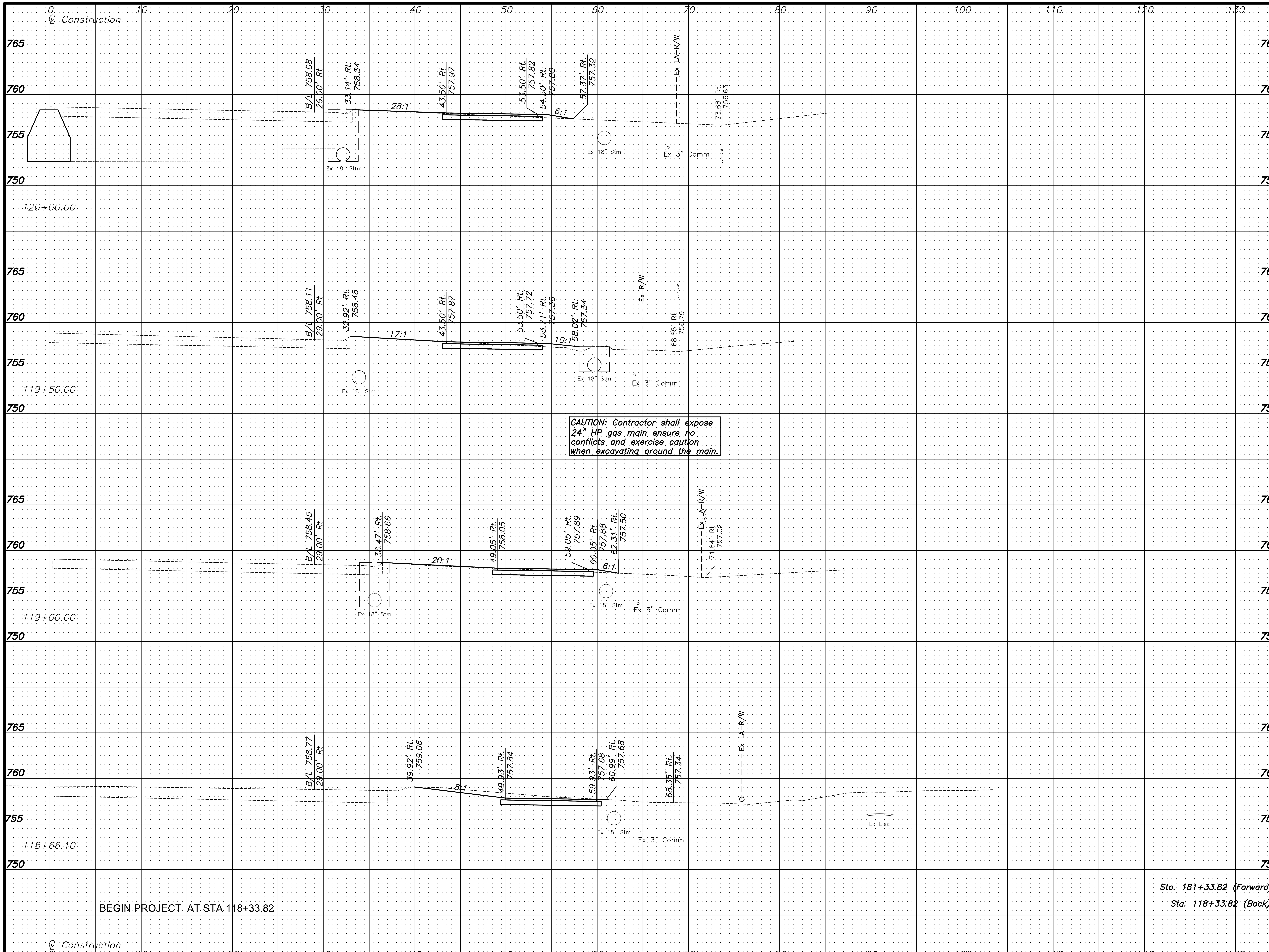
SHEET NO.	REF. NO.	STATION FROM	STATION TO	SIDE	CENTERLINE ROADWAY REFERENCE	202 CATCH BASIN REMOVED (EACH)	202 REMOVAL MISC.: HEADWALL REMOVED (EACH)	202 GUARDRAIL REMOVED (FT)	202 PIPE REMOVED, 24" AND UNDER (FT)	202 PIPE REMOVED, 30" (FT)	202 CURB AND GUTTER REMOVED (FT)	202 CONCRETE OUTLET REMOVED (EACH)
26	R1	123+94	124+60	RT	GENDER						98	
26 – 27	R2	124+97	128+74	RT	GENDER			445				
26	R3	125+01	125+26	RT	GENDER	1	1		5	24		
27	R4	127+29		RT	GENDER		1			5		
27	R5	127+75		RT	GENDER				15			
27	R6	128+99	131+77	RT	GENDER			311				
27	R7	131+76	132+05	LT	GENDER			30				
28	R8	134+85	135+93	RT	GENDER			112				
28	R9	135+11	135+61	LT	GENDER			50				
29 – 30	R10	137+71	137+76	RT	GENDER	1			5			
29 – 30	R11	138+01		RT	GENDER							1
	TOTALS CARRIED TO GENERAL SUMMARY					2	2	948	25	29	98	1

CALCULATED WAC
CHECKED JAG

PLAN & PROFILE - SUBSUMMARY

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



Station	End Area Cut (Sq.Ft.)	End Area Fill (Sq.Ft.)	Volume Cut (Cu.Yd.)	Volume Fill (Cu.Yd.)
120+00.00	6	1		
			11	3
119+50.00	6	2		
			12	3
119+00.00	6	1		
			12	1
118+66.10	14	0		
			17	2
Sta. 181+33.82 (Forward)	13	2		
Sta. 118+33.82 (Back)	0	0		
Sheet Total			52	9

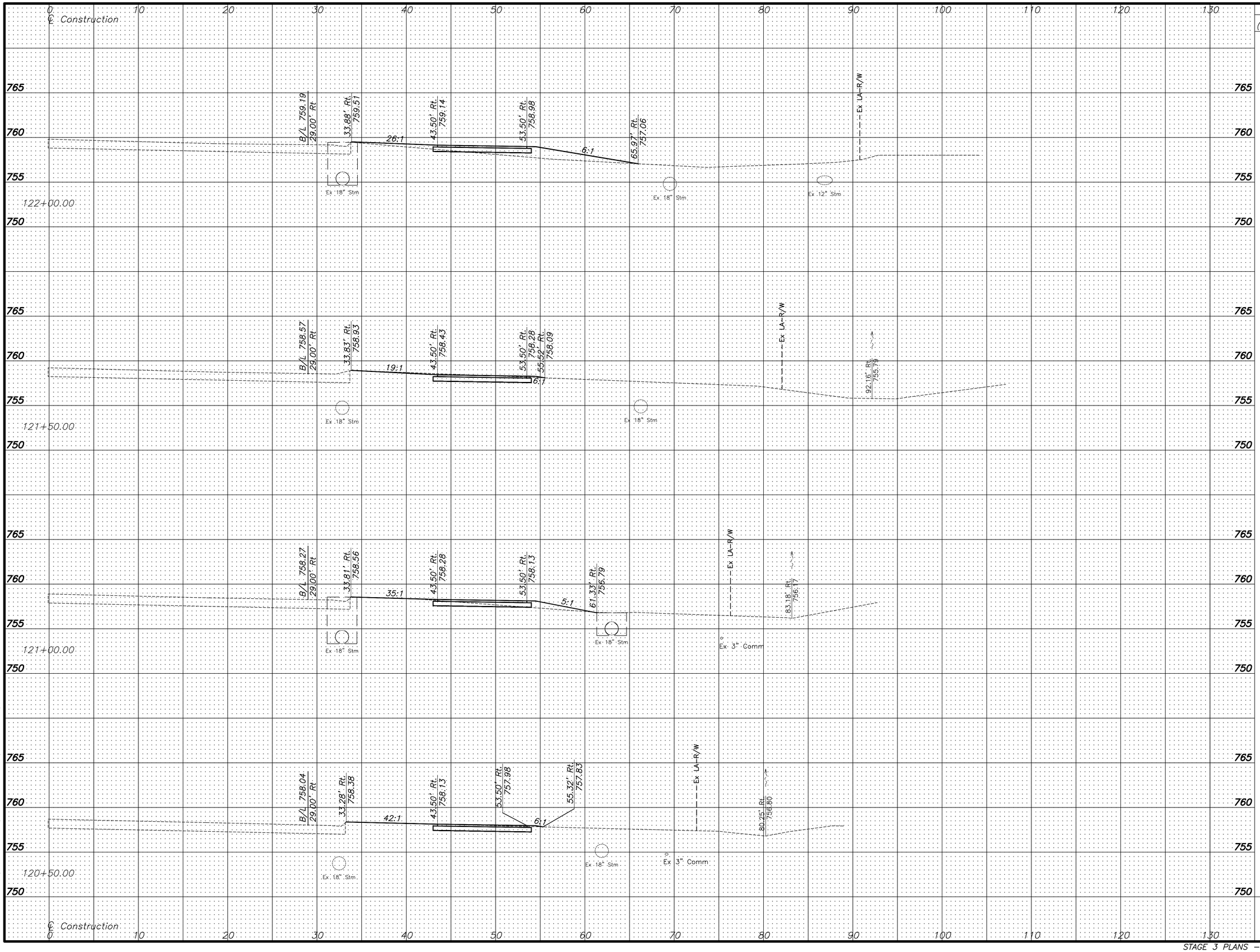
CALCULATED WAC
CHECKED JAG

HORZ 1 inch = 5 Feet; VERT 1 inch = 5 Feet

CROSS SECTIONS - GENDER ROAD
STA 119+00 TO STA 120+00

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



End Area		Volume	
Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
0	12		
		8	12
8	0		
		11	3
3	3		
		10	3
7	0		
		12	1
Sheet Total		41	19

HORIZ 1 Inch = 5 Feet
VERT 1 Inch = 5 Feet

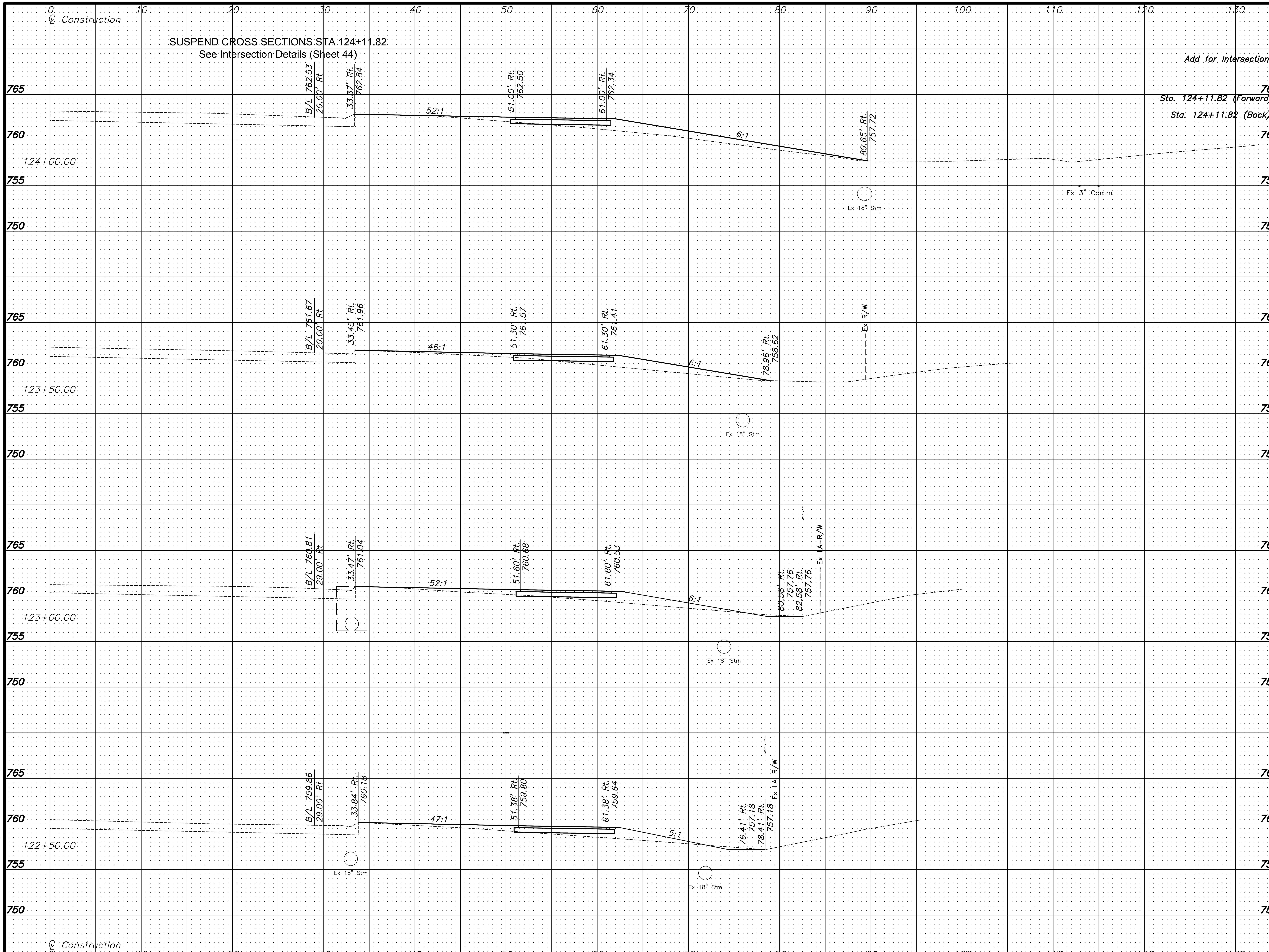
CALCULATED WAC
CHECKED JAG

CROSS SECTIONS - GENDER ROAD STA 120+50 TO STA 122+00

FRA-674-2.22
GENDER ROAD - PHASE 6

34
96

SUSPEND CROSS SECTIONS STA 124+11.82
See Intersection Details (Sheet 44)



℄ Construction
124+00.00
B/L 762.53 29.00' Rt
33.37' Rt. 762.84
52:1
51.00' Rt. 762.50
61.00' Rt. 762.34
6:1
89.65' Rt. 757.72
Ex 18" Stm
Ex 3" Comm
123+50.00
B/L 761.67 29.00' Rt
33.45' Rt. 761.96
46:1
51.30' Rt. 761.57
61.30' Rt. 761.41
6:1
78.96' Rt. 758.62
Ex R/W
Ex 18" Stm
123+00.00
B/L 760.81 29.00' Rt
33.47' Rt. 761.04
52:1
51.60' Rt. 760.68
61.60' Rt. 760.53
6:1
80.58' Rt. 757.76
82.58' Rt. 757.76
Ex LA-R/W
Ex 18" Stm
122+50.00
B/L 759.86 29.00' Rt
33.84' Rt. 760.18
47:1
51.38' Rt. 759.80
61.38' Rt. 759.64
5:1
76.41' Rt. 757.18
78.41' Rt. 757.18
Ex LA-R/W
Ex 18" Stm
℄ Construction

Station	End Area Cut (Sq.Ft.)	End Area Fill (Sq.Ft.)	Volume Cut (Cu.Yd.)	Volume Fill (Cu.Yd.)
Add for Intersection			282	227
Sta. 124+11.82 (Forward)	0	0		
Sta. 124+11.82 (Back)	0	24		
			0	11
124+00.00	0	22		
			1	36
123+50.00	1	17		
			1	30
123+00.00	1	16		
			2	27
122+50.00	1	14		
			1	24
Sheet Total			287	355

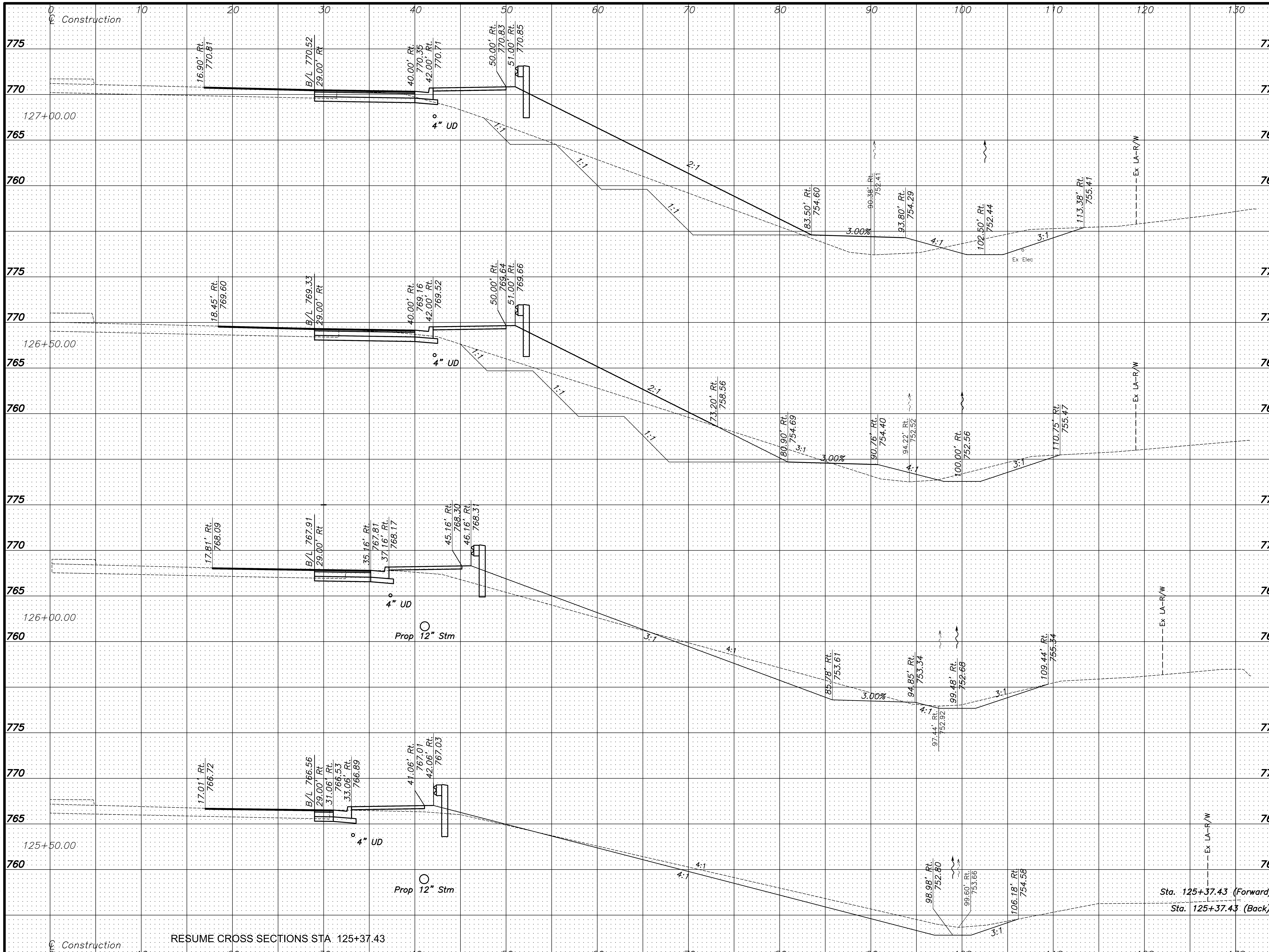
HORIZ 1 inch = 5 Feet; VERT 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

CROSS SECTIONS - GENDER ROAD
STA 122+50 TO 124+00

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



End Area Cut (Sq.Ft.)	End Area Fill (Sq.Ft.)	Volume Cut (Cu.Yd.)	Volume Fill (Cu.Yd.)
99	193		
		209	332
127	166		
		158	178
44	26		
		78	29
40	5		
		19	3
38	6		
0	0		
Sheet Total		464	542

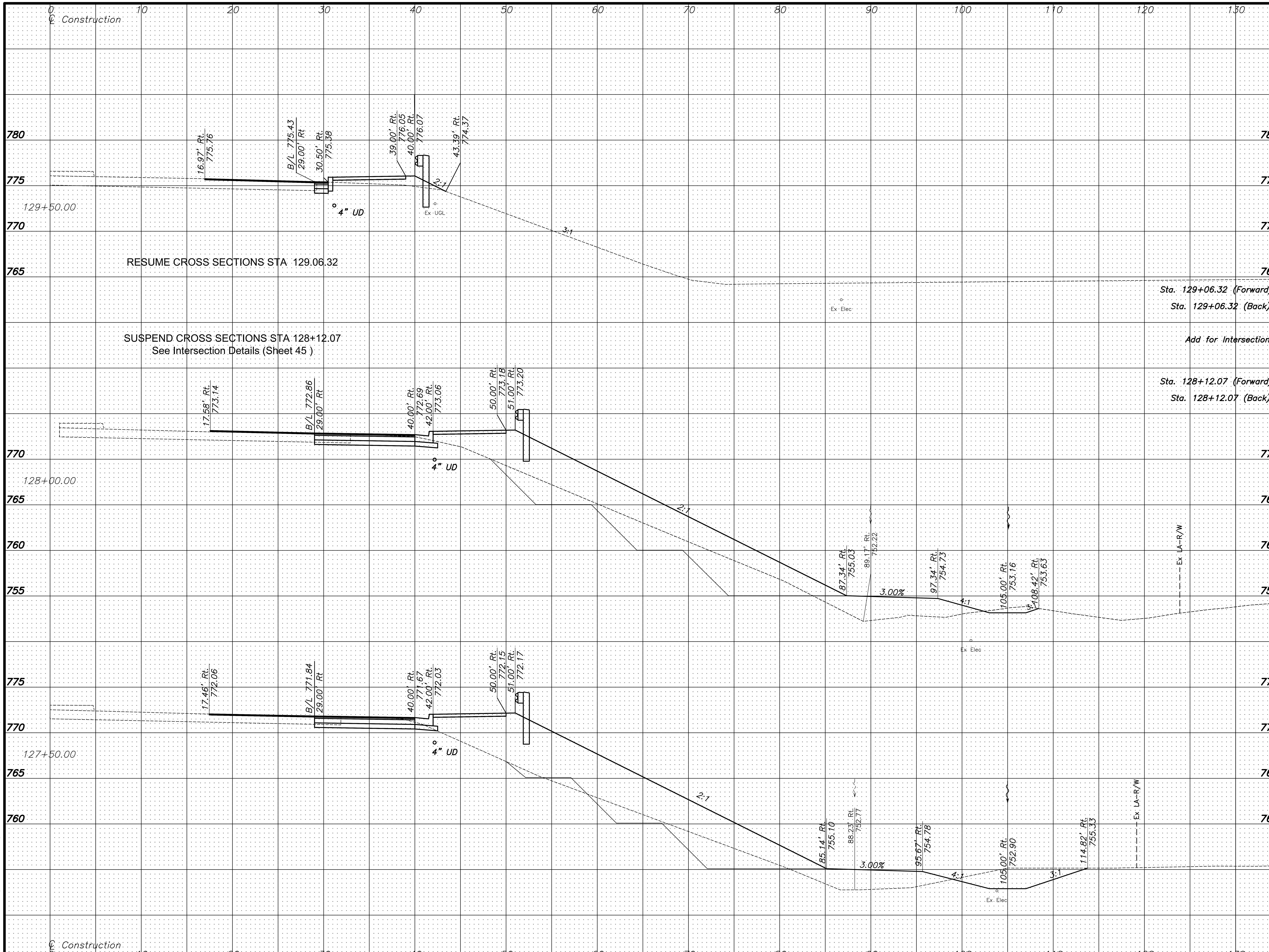
HORIZ 1 inch = 5 Feet
VERT 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

CROSS SECTIONS - GENDER ROAD
STA 125+50 TO STA 127+00

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



	End Area Cut (Sq.Ft.)	End Area Fill (Sq.Ft.)	Volume Cut (Cu.Yd.)	Volume Fill (Cu.Yd.)
	2	6		
			4	9
Sta. 129+06.32 (Forward)	2	5		
Sta. 129+06.32 (Back)	0	0		
Add for Intersection			251	557
Sta. 128+12.07 (Forward)	0	0		
Sta. 128+12.07 (Back)	72	210		
			36	97
	88	222		
			144	406
	67	216		
			154	378
Sheet Total			589	1447

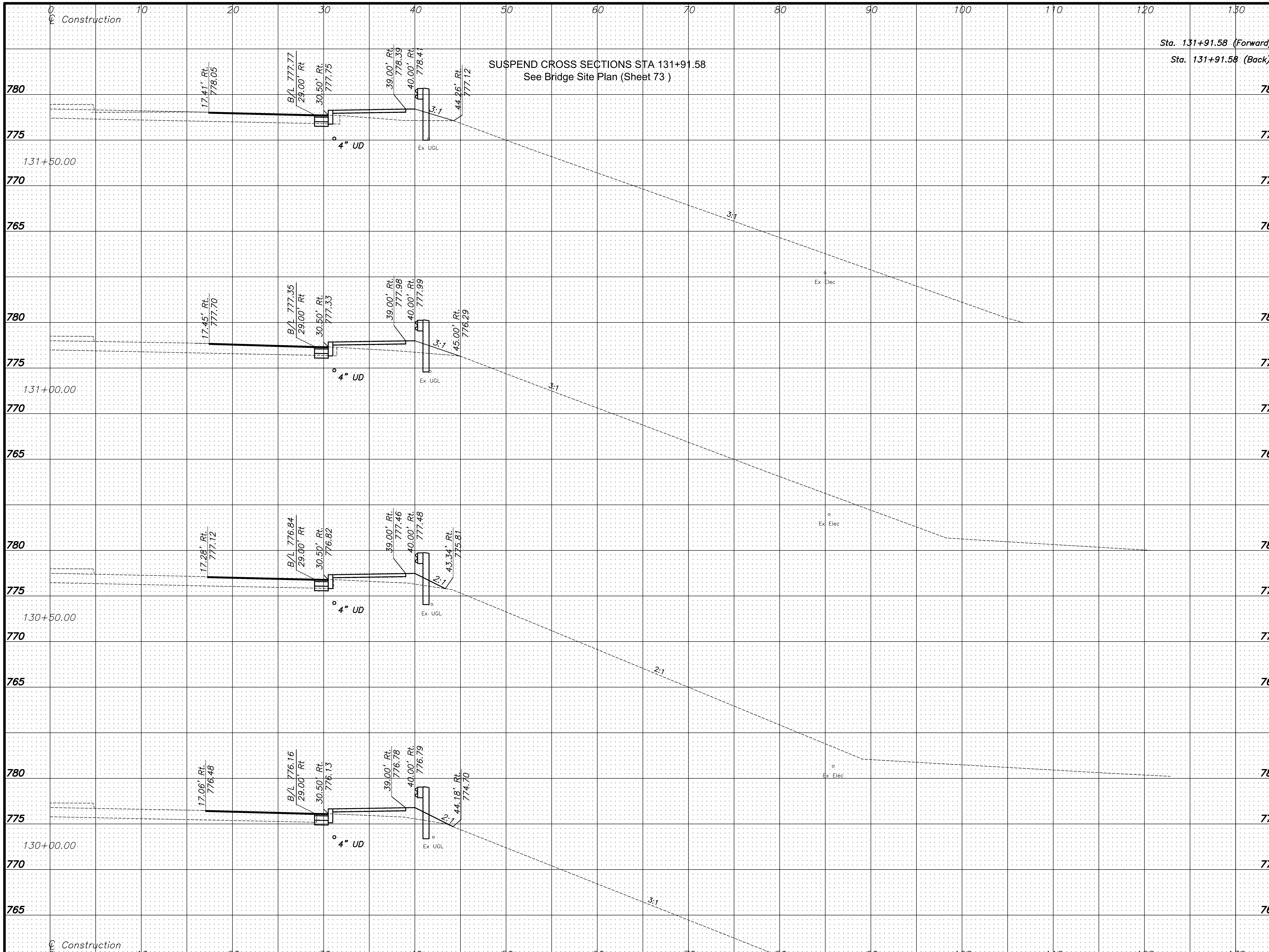
HORIZ 1 inch = 5 Feet
VERT 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

CROSS SECTIONS - GENDER ROAD
STA 127+50 TO STA 130+50

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



Station	End Area Cut (Sq.Ft.)	End Area Fill (Sq.Ft.)	Volume Cut (Cu.Yd.)	Volume Fill (Cu.Yd.)
Sta. 131+91.58 (Forward)	0	0		
Sta. 131+91.58 (Back)	3	9		
			5	14
131+50.00	3	9		
			5	17
131+00.00	3	9		
			5	15
130+50.00	2	7		
			4	13
130+00.00	2	7		
			4	12
Sheet Total			23	71

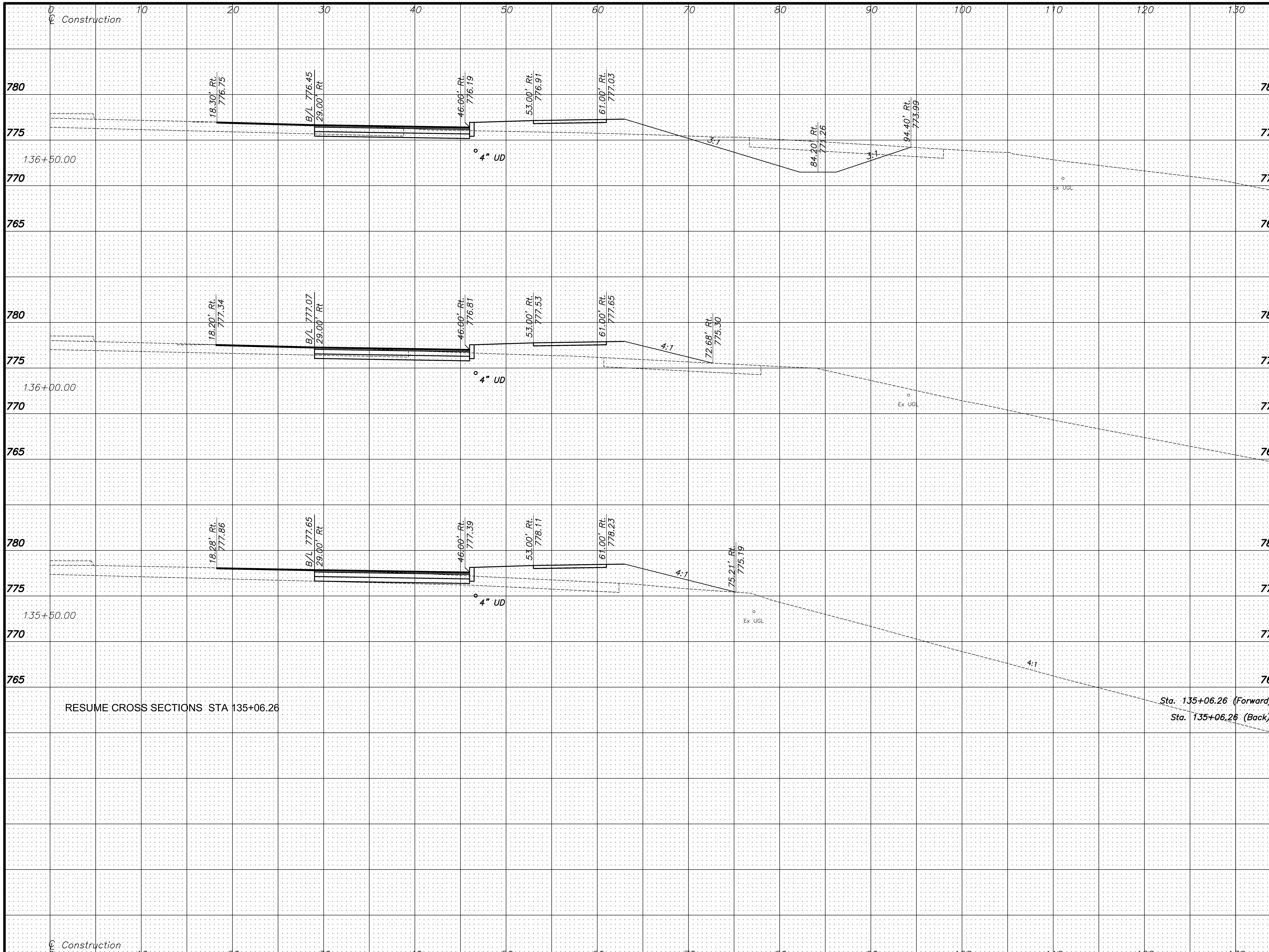
HORIZ. 1 inch = 5 Feet; VERT. 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

CROSS SECTIONS - GENDER ROAD
STA 131+00 TO STA 135+50

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



End Area Cut (Sq.Ft.)	End Area Fill (Sq.Ft.)	Volume Cut (Cu.Yd.)	Volume Fill (Cu.Yd.)
73	28		
		100	70
36	47		
		66	94
36	54		
		56	93
33	60		
0	0		
Sheet Total		222	257

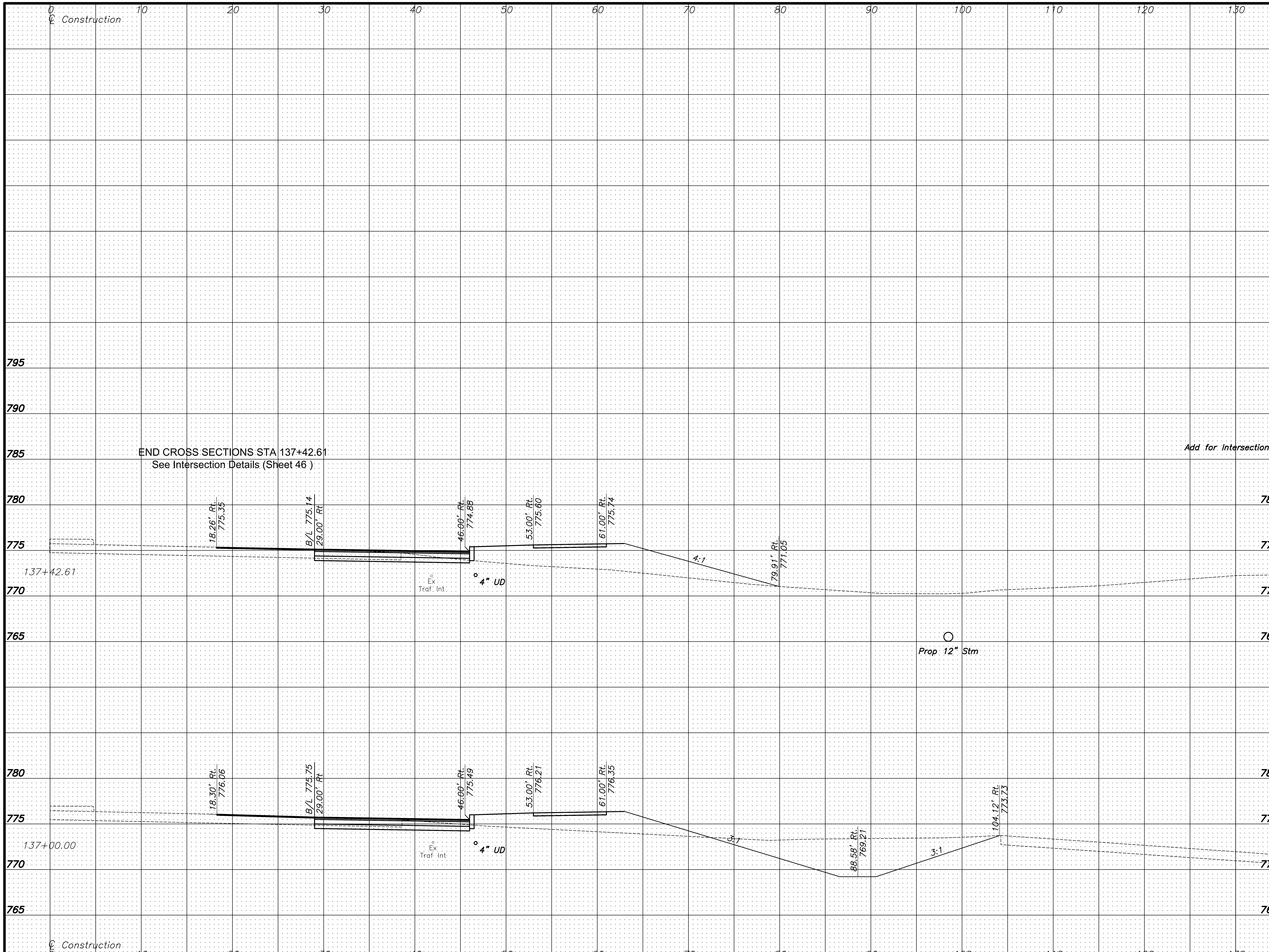
HORIZ 1 inch = 5 Feet; VERT 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

CROSS SECTIONS - GENDER ROAD
STA 136+00 TO STA137+00

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



Station	End Area Cut (Sq.Ft.)	End Area Fill (Sq.Ft.)	Volume Cut (Cu.Yd.)	Volume Fill (Cu.Yd.)
Add for Intersection			106	186
137+42.61	15	62		
			109	79
137+00.00	123	38		
			181	62
Sheet Total			396	327

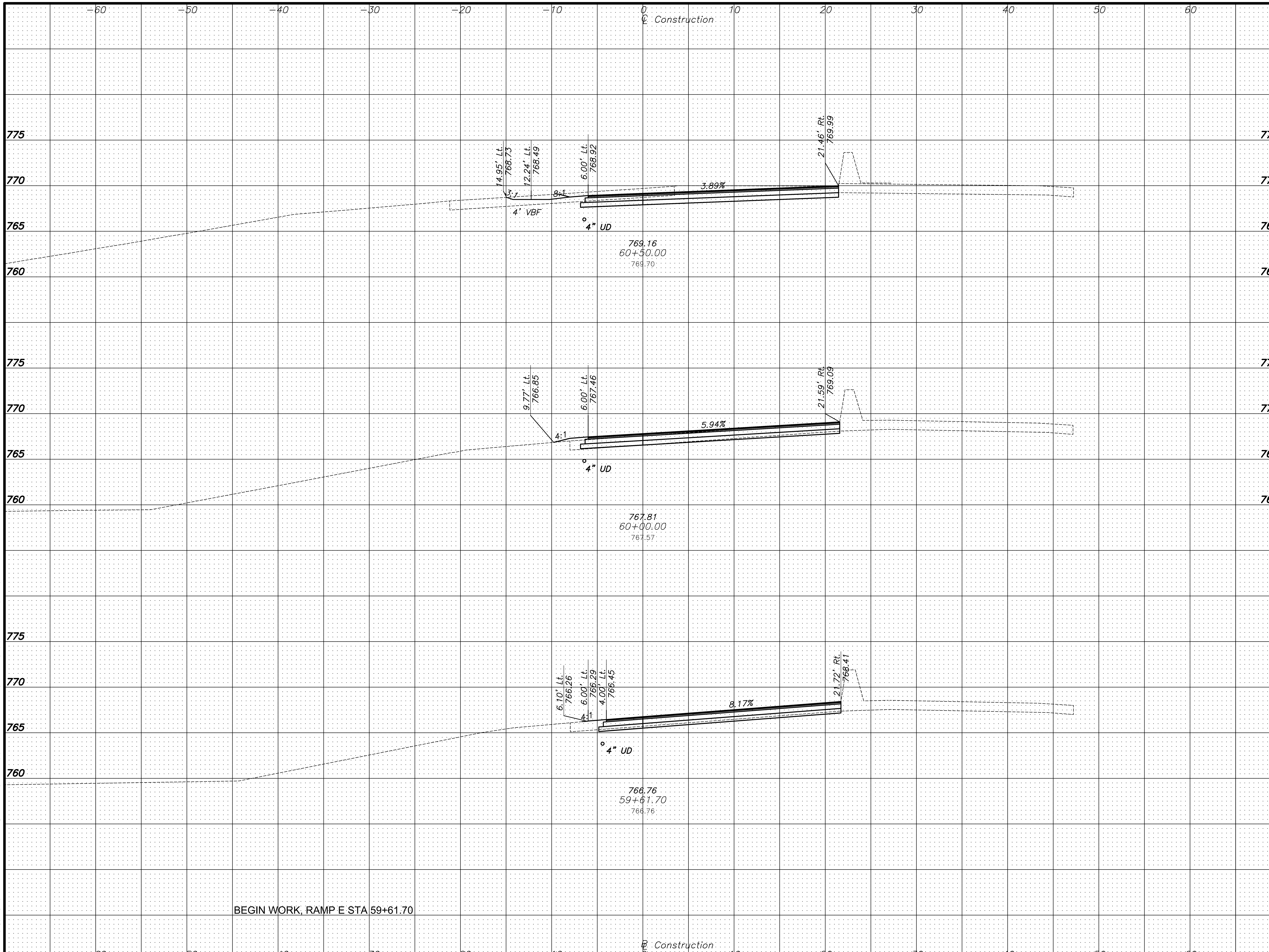
HORIZ 1 inch = 5 Feet (0, 2.5, 5, 10)
VERT 1 inch = 5 Feet (0, 2.5, 5, 10)

CALCULATED WAC
CHECKED JAG

CROSS SECTIONS - GENDER ROAD
STA 137+00 TO STA 137.42.61

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



End Area Cut (Sq.Ft.)	End Area Fill (Sq.Ft.)	Volume Cut (Cu.Yd.)	Volume Fill (Cu.Yd.)
61	11		
		86	13
32	2		
		49	4
36	4		
Sheet Total		135	17

HORIZ 1 inch = 5 Feet
VERT 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

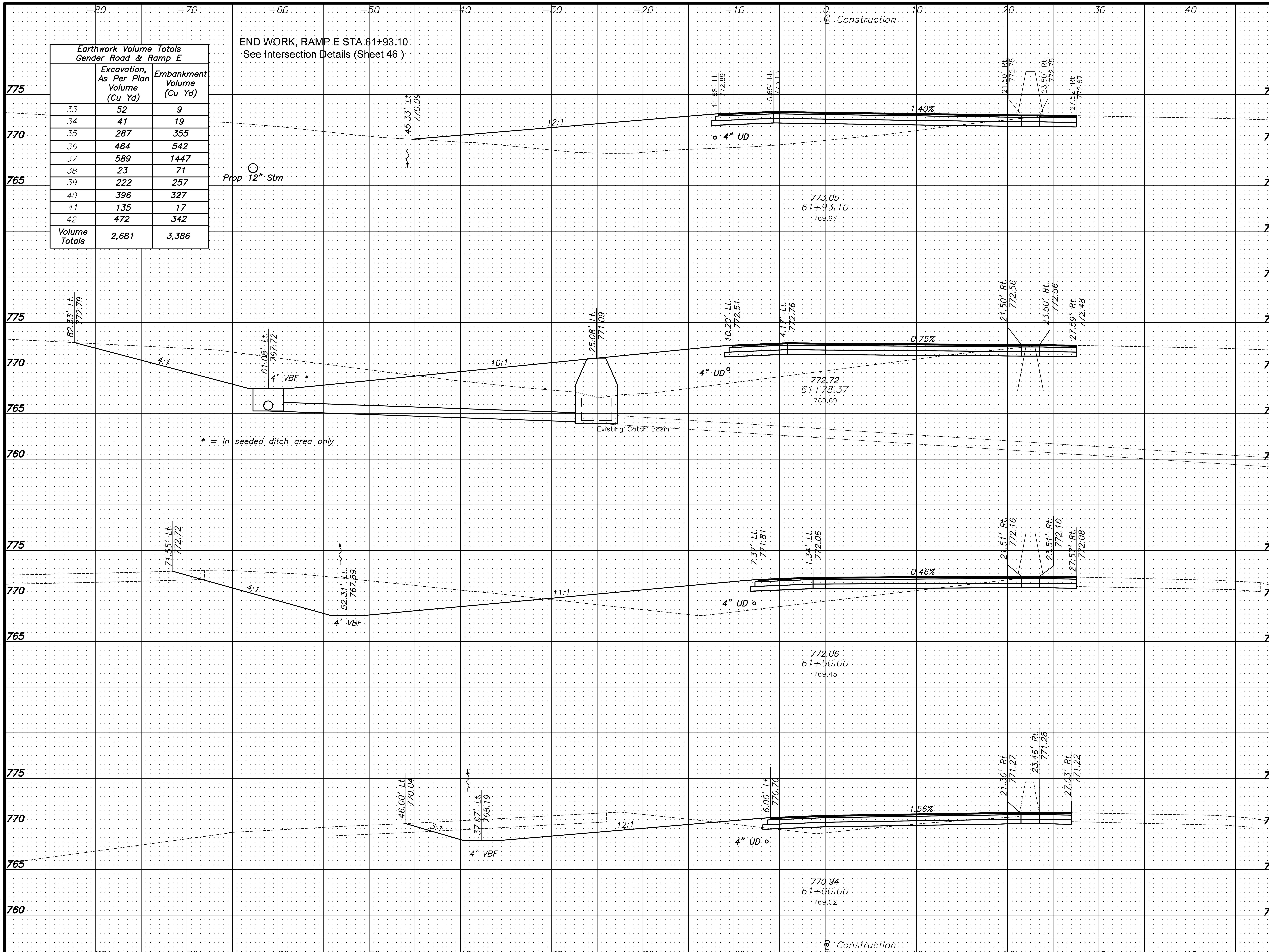
CROSS SECTIONS - US-33 RAMP E STA 59+50 TO STA 60+50.00

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

END WORK, RAMP E STA 61+93.10
See Intersection Details (Sheet 46)

Earthwork Volume Totals Gender Road & Ramp E	Excavation, As Per Plan Volume (Cu Yd)	Embankment Volume (Cu Yd)
33	52	9
34	41	19
35	287	355
36	464	542
37	589	1447
38	23	71
39	222	257
40	396	327
41	135	17
42	472	342
Volume Totals	2,681	3,386



End Area Cut (Sq.Ft.)	End Area Fill (Sq.Ft.)	Volume Cut (Cu.Yd.)	Volume Fill (Cu.Yd.)
10	120		
		26	71
87	140		
		120	130
142	108		
		200	115
75	17		
		126	26
Sheet Total		472	342

HORIZ 1 inch = 5 Feet · VERT 1 inch = 5 Feet

CALCULATED WAC
CHECKED JAG

CROSS SECTIONS - US-33 RAMP E
STA 61+00 TO STA 61+50

FRA-674-2.22
GENDER ROAD - PHASE 6

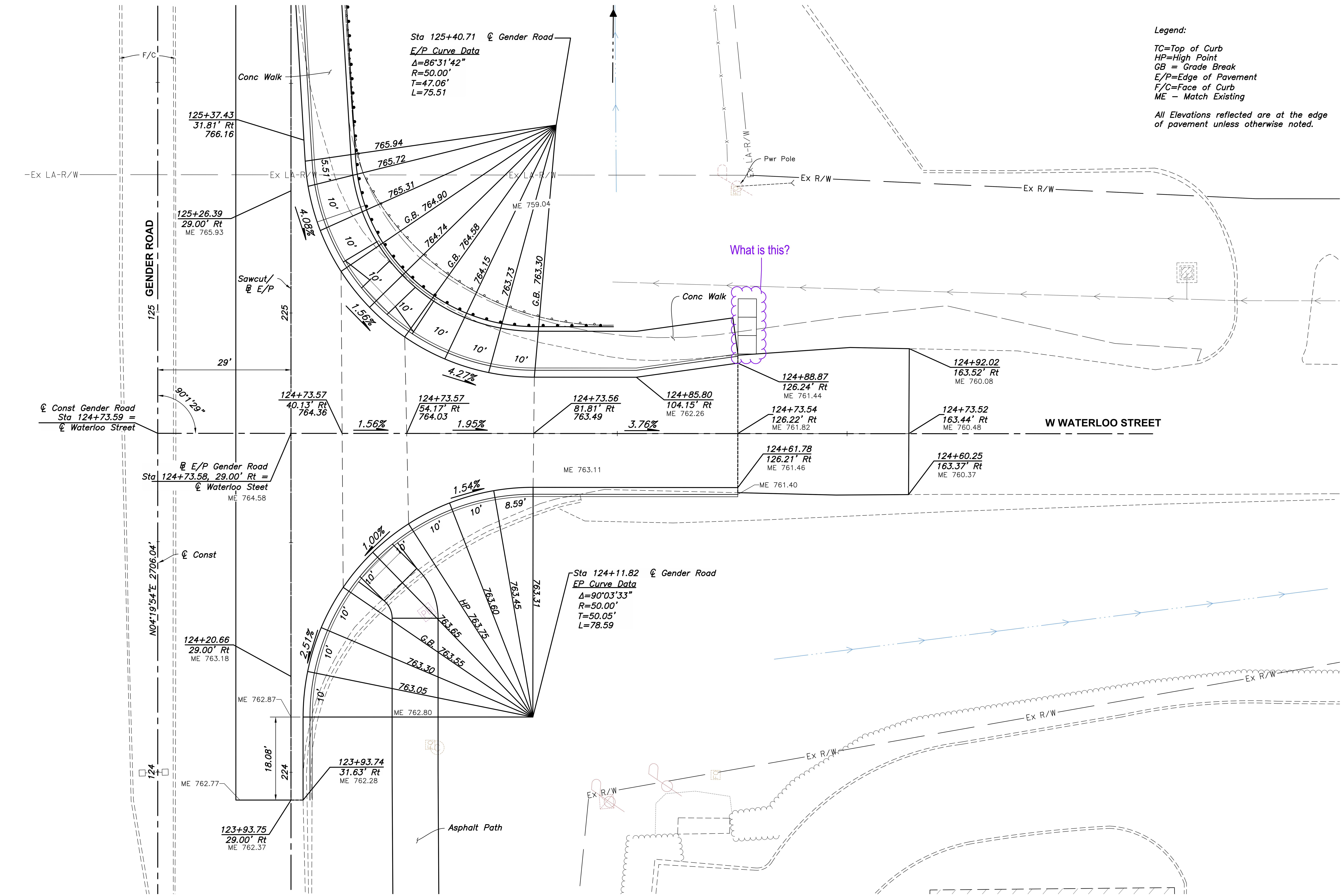
STAGE 3 PLANS – NOT FOR CONSTRUCTION

RAMP E SUPERELEVATION TABLE												
LEFT SIDE					BASELINE CONTROLS		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
766.26					59+50	766.56	16	−0.075	0.00		767.76	
766.45					59+62	766.76	16	−0.077	0.00	143:1	767.99	Begin Transition/ PT
766.79					59+75	767.12	16	−0.071	0.00		768.26	
767.46					60+00	767.81	16	−0.059	0.00		768.76	
768.03					60+19	768.33	16	−0.051	0.00		769.15	
768.21					60+25	768.50	16	−0.049	0.00		769.278	
768.78					60+45	769.02	16	−0.041	0.00		769.67	
768.92					60+50	769.16	16	−0.039	0.00		769.78	
770.02					60+75	770.26	16	−0.026	0.00		770.68	
770.70					61+00	770.94	16	−0.016	0.00	143:1	771.19	End Transition
770.89					61+11	771.13	16	−0.016	0.00		771.38	
771.14	143:1	0.00	0.040	6.00	61+25	771.38	16	−0.016	0.00	143:1	771.64	Begin Transition/Begin Taper
772.05		0.00	0.007	1.35	61+50	772.06	16	−0.004	0.00		772.13	PI
772.68		0.00	−0.008	3.84	61+75	772.65	16	0.006	0.00		772.55	
773.13		0.00	−0.014	5.65	61+93	773.05	16	0.014	0.00		772.82	
773.29	143:1	0.00	−0.013	6.67	62+00	773.2	16	0.018	0	143:1	772.91	End Transition/End Taper

CALCULATED WAC
CHECKED JAG

SUPERELEVATION TABLE

FRA-674-2.22
GENDER ROAD - PHASE 6



Sta 125+40.71 ℄ Gender Road
E/P Curve Data
Δ=86°31'42"
R=50.00'
T=47.06'
L=75.51
F/C
Conc Walk
125+37.43
31.81' Rt
766.16
Ex LA-R/W
125+26.39
29.00' Rt
ME 765.93
GENDER ROAD
125
225
765.94
765.72
765.31
G.B. 764.90
764.74
G.B. 764.58
764.15
763.73
G.B. 763.30
ME 759.04
5.51'
4.08%
1.56%
4.27%
10'
Sawcut/ ℄ E/P
Pwr Pole
Ex R/W
What is this?
Conc Walk
29'
90°1'29"
℄ Const Gender Road
Sta 124+73.59 =
℄ Waterloo Street
124+73.57
40.13' Rt
764.36
124+73.57
54.17' Rt
764.03
124+73.56
81.81' Rt
763.49
124+85.80
104.15' Rt
ME 762.26
124+88.87
126.24' Rt
ME 761.44
124+92.02
163.52' Rt
ME 760.08
1.56%
1.95%
3.76%
124+73.54
126.22' Rt
ME 761.82
124+73.52
163.44' Rt
ME 760.48
W WATERLOO STREET
℄ E/P Gender Road
Sta 124+73.58, 29.00' Rt =
℄ Waterloo Steet
ME 764.58
ME 763.11
124+61.78
126.21' Rt
ME 761.46
ME 761.40
124+60.25
163.37' Rt
ME 760.37
1.54%
8.59'
1.00%
2.51%
N04°19'54"E 2706.04'
℄ Const
Sta 124+11.82 ℄ Gender Road
EP Curve Data
Δ=90°03'33"
R=50.00'
T=50.05'
L=78.59
763.31
763.45
763.60
HP 763.75
763.65
G.B. 763.55
763.30
763.05
124+20.66
29.00' Rt
ME 763.18
ME 762.87
ME 762.80
18.08'
224
124
ME 762.77
123+93.74
31.63' Rt
ME 762.28
123+93.75
29.00' Rt
ME 762.37
Asphalt Path
Ex R/W

Legend:

TC=Top of Curb
HP=High Point
GB = Grade Break
E/P=Edge of Pavement
F/C=Face of Curb
ME – Match Existing

All Elevations reflected are at the edge of pavement unless otherwise noted.

N

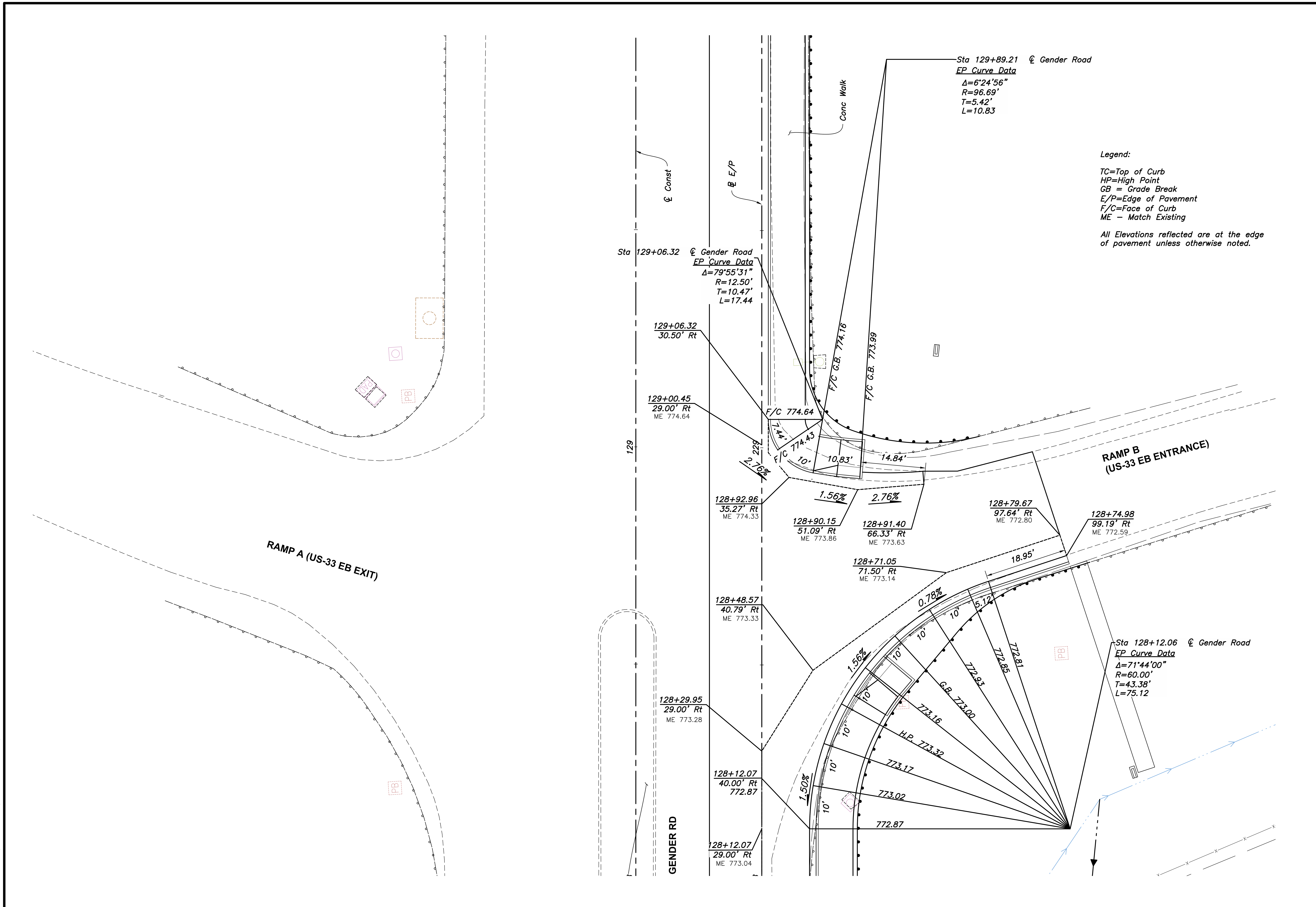
GRAPHIC SCALE 0 5 10 20
1 inch = 10 feet

CALCULATED WAC
CHECKED JAG

INTERSECTION DETAILS

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



N

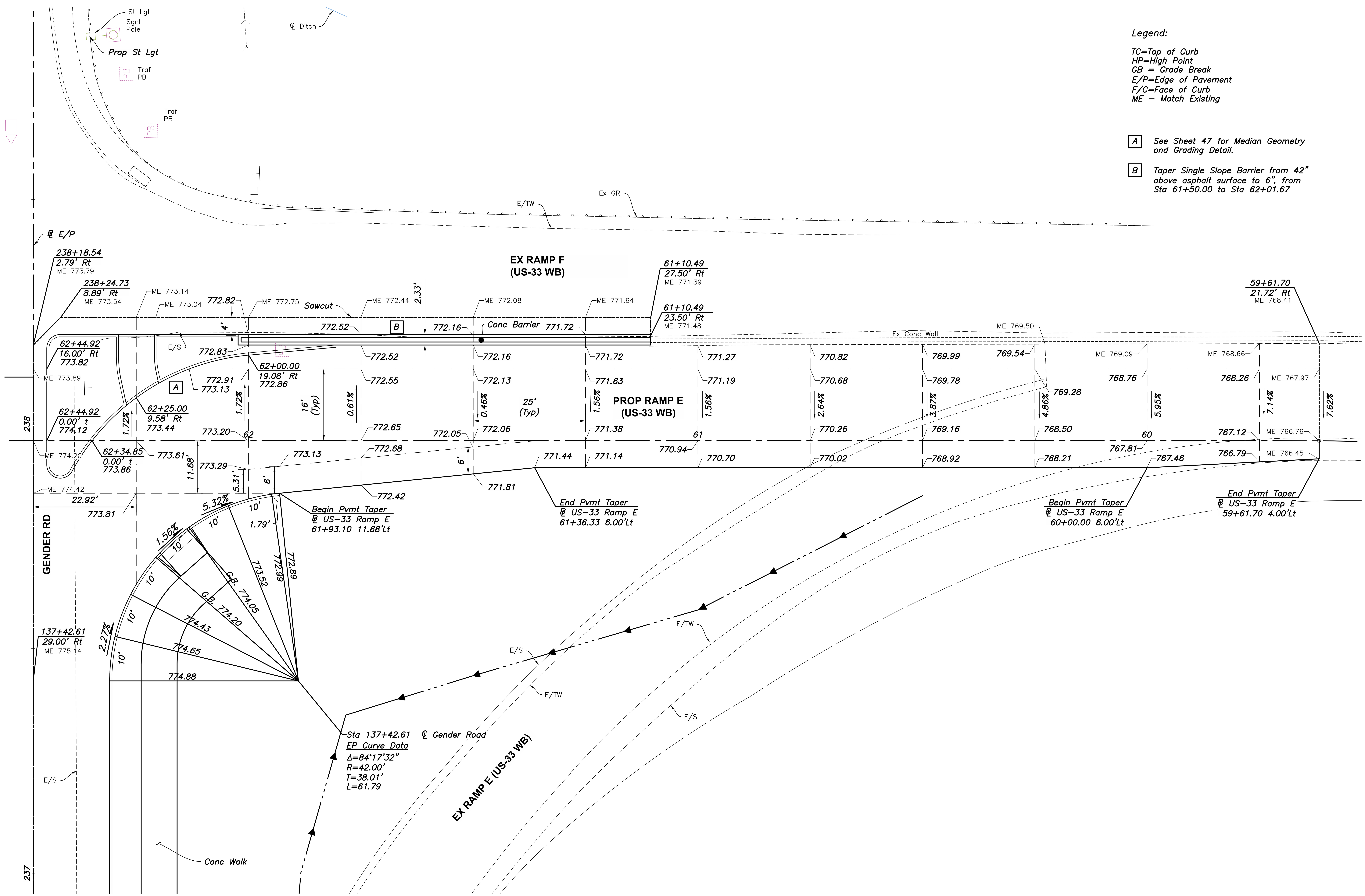
GRAPHIC SCALE
0 5 10 20
1 inch = 10 feet

CALCULATED WAC
CHECKED JAG

INTERSECTION DETAILS

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



Legend:

TC=Top of Curb
HP=High Point
GB = Grade Break
E/P=Edge of Pavement
F/C=Face of Curb
ME – Match Existing

[A] See Sheet 47 for Median Geometry and Grading Detail.

[B] Taper Single Slope Barrier from 42" above asphalt surface to 6", from Sta 61+50.00 to Sta 62+01.67

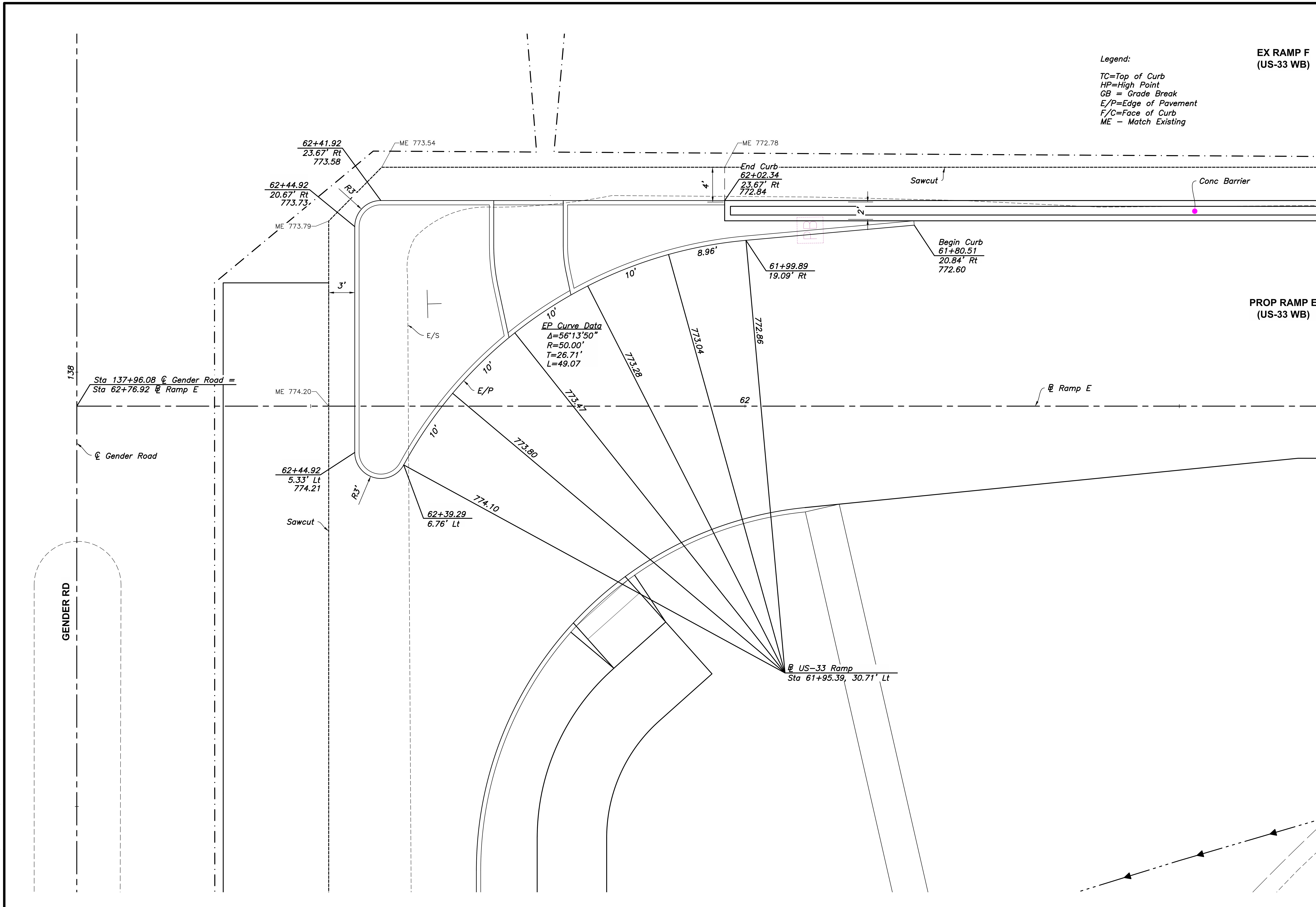
GRAPHIC SCALE 0 5 10 20 — 1 inch = 10 feet

CALCULATED WAC
CHECKED JAG

INTERSECTION DETAILS

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



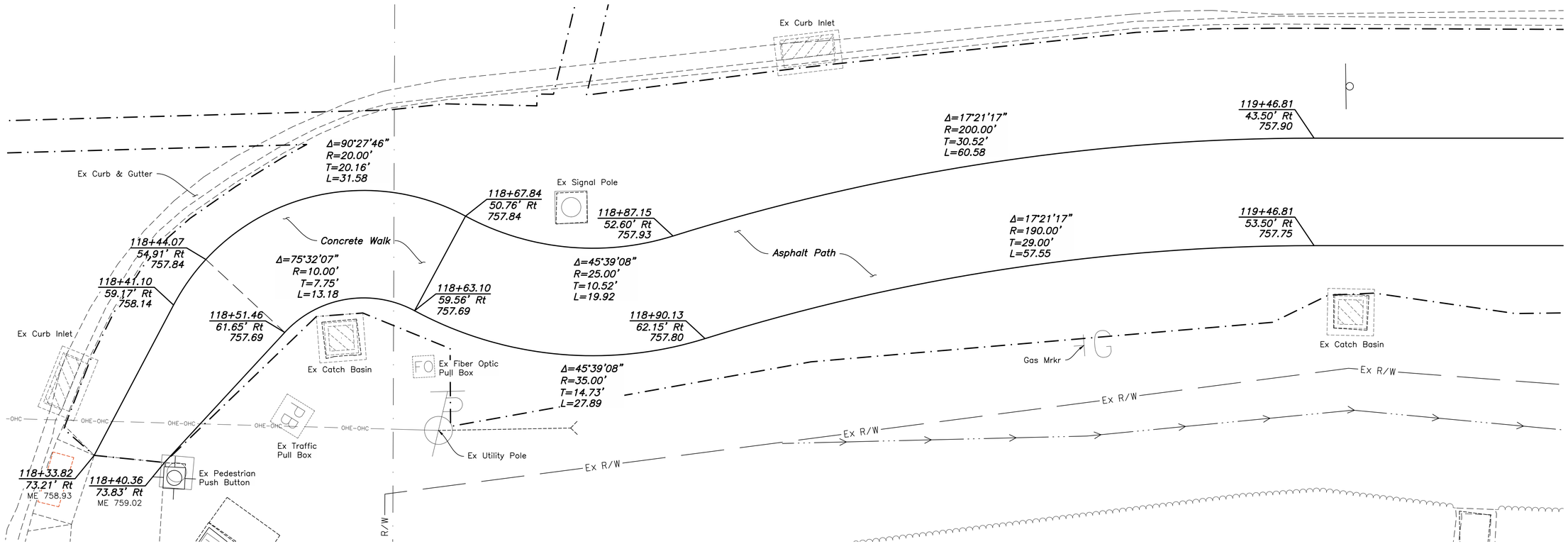
GRAPHIC SCALE
0 5 10 20
1 inch = 10 feet

CALCULATED WAC
CHECKED JAG

RAMP MEDIAN DETAIL

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



GRAPHIC SCALE
0 2.5 5 10
1 inch = 5 feet

CALCULATED WAC
CHECKED JAG

PATH GEOMETRY DETAIL

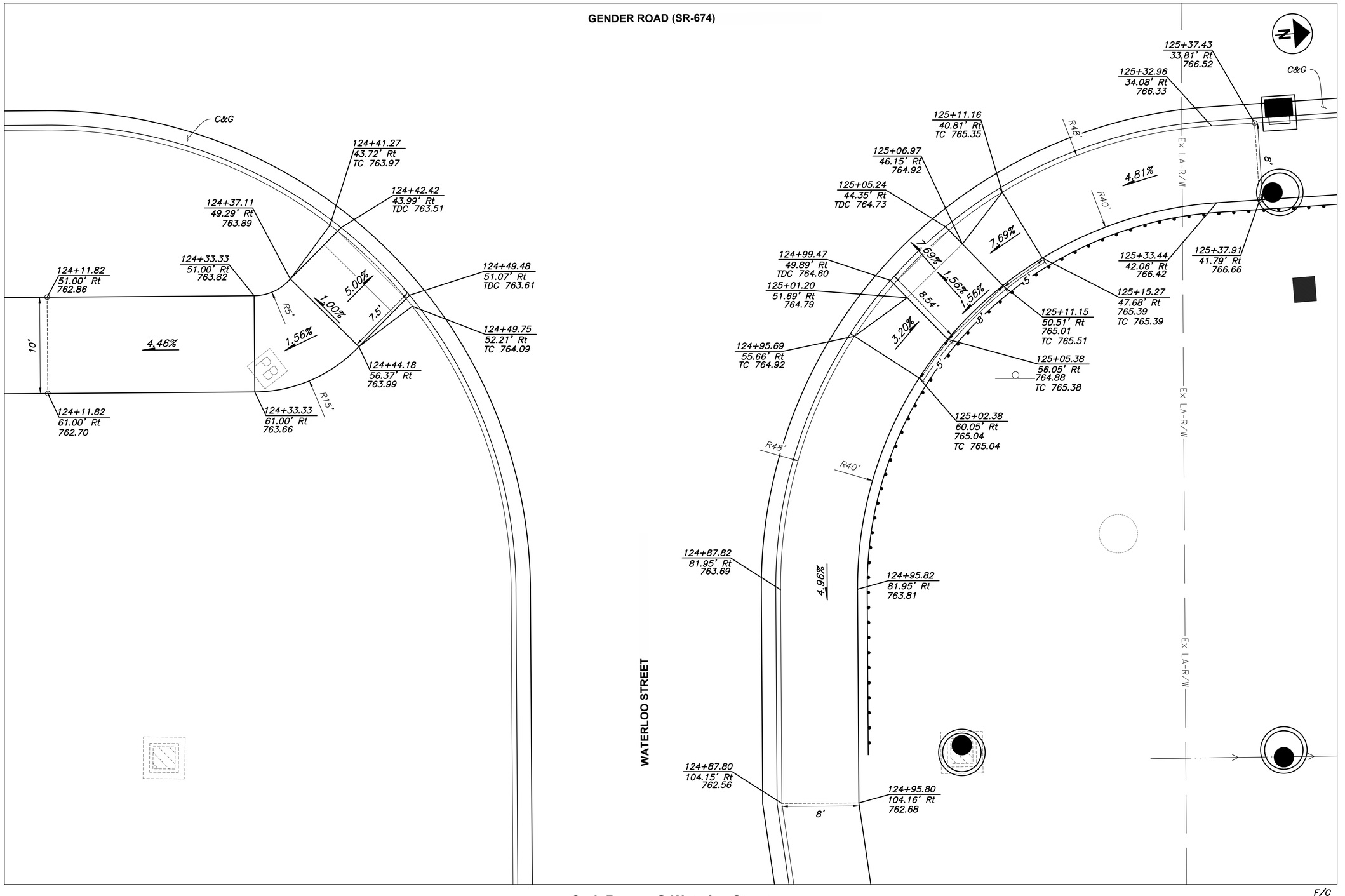
FRA-674-2.22
GENDER ROAD - PHASE 6

48
96

STAGE 3 PLANS – NOT FOR CONSTRUCTION

S:\2023\2023152\Dwg\04Sheets\20230152003.dwg, Last Saved By: jgilmett, 11/8/2023 3:00 PM Last Printed By: Collins, Tony, 2/1/2024 10:47 AM
Sheets: 20230152-GS-REFR-E, 20230152-CU-REFR-E, 20230152-CP-REFR-E, 20230152-CP-REFR-ROAD-N

GENDER ROAD (SR-674)



Curb Ramps @ Waterloo Street

LEGEND

F/C	Face of Curb
C&G	Curb & Gutter
EP	Edge of Pavement
TC	Top of Curb
TDC	Top of Depressed Curb

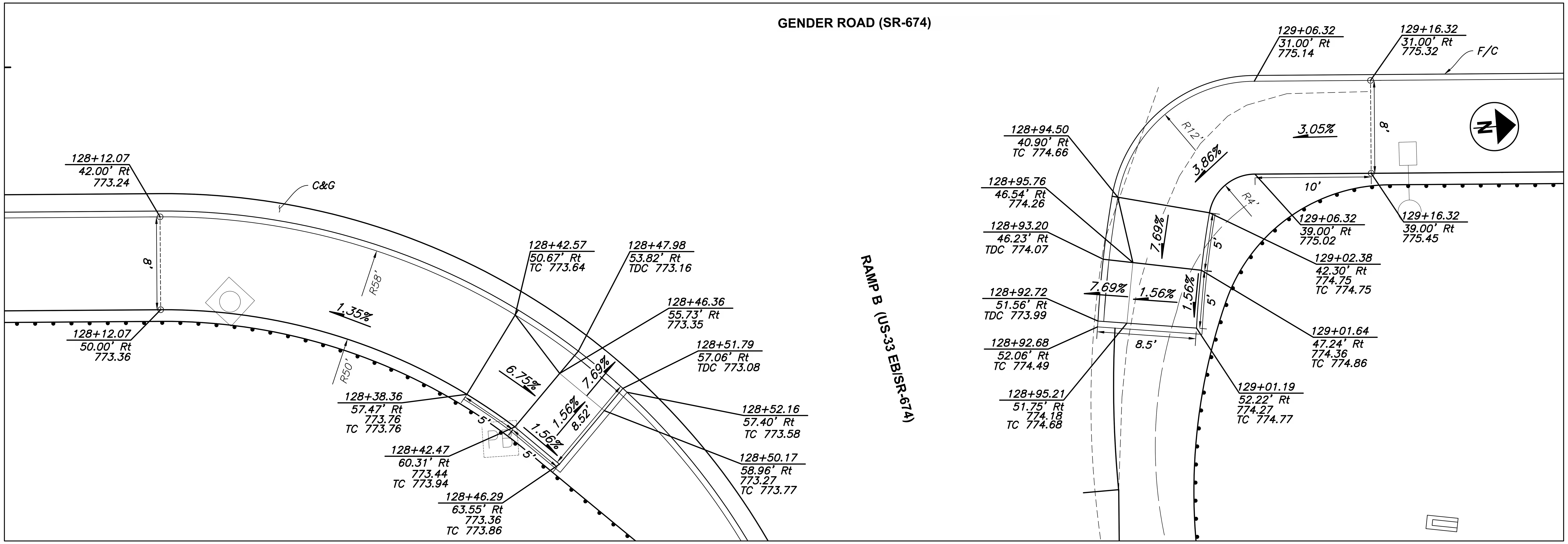
Note: All Elevations are to Edge of Pavement Unless Otherwise Noted.

GRAPHIC SCALE
0 2.5 5 10
1 inch = 5 feet

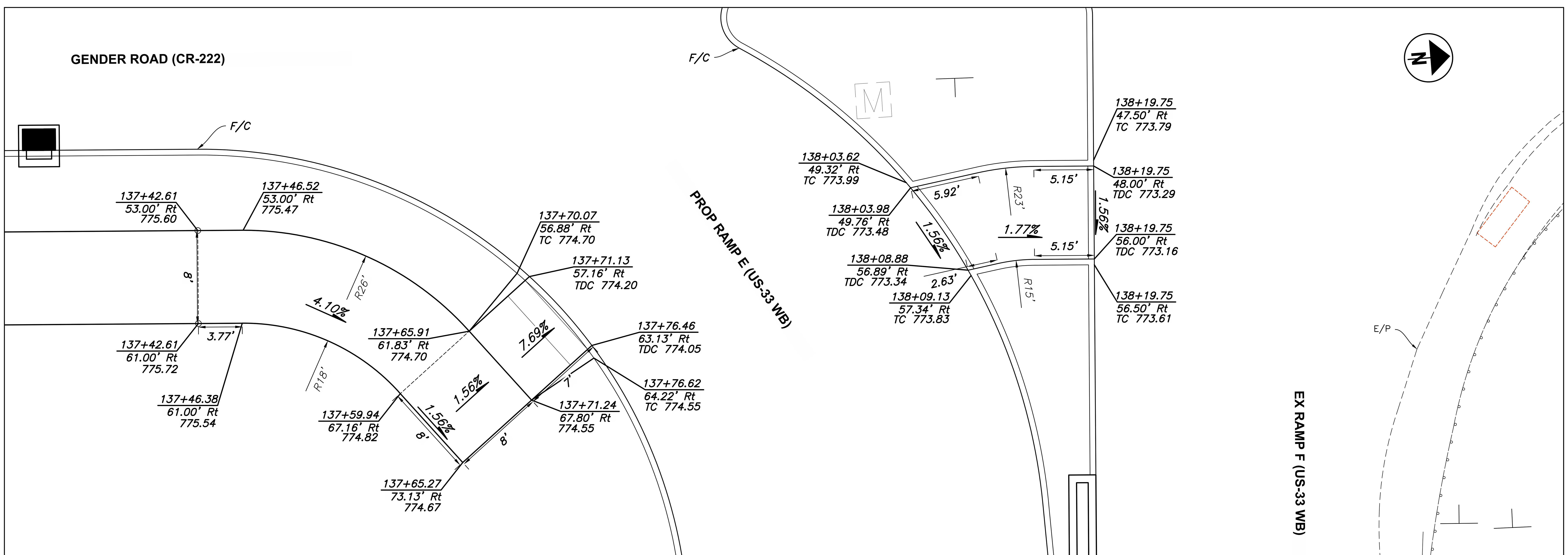
CALCULATED WAC
CHECKED JAG

CURB RAMP DETAIL

FRA-674-2.22
GENDER ROAD - PHASE 6



Curb Ramps @ US-33 Eastbound Entrance Ramp



Curb Ramps @ US-33 Westbound Entrance/Exit Ramp

LEGEND

F/C	Face of Curb
C&G	Curb & Gutter
EP	Edge of Pavement
TC	Top of Curb
TDC	Top of Depressed Curb

Note: All Elevations are to Edge of Pavement Unless Otherwise Noted.

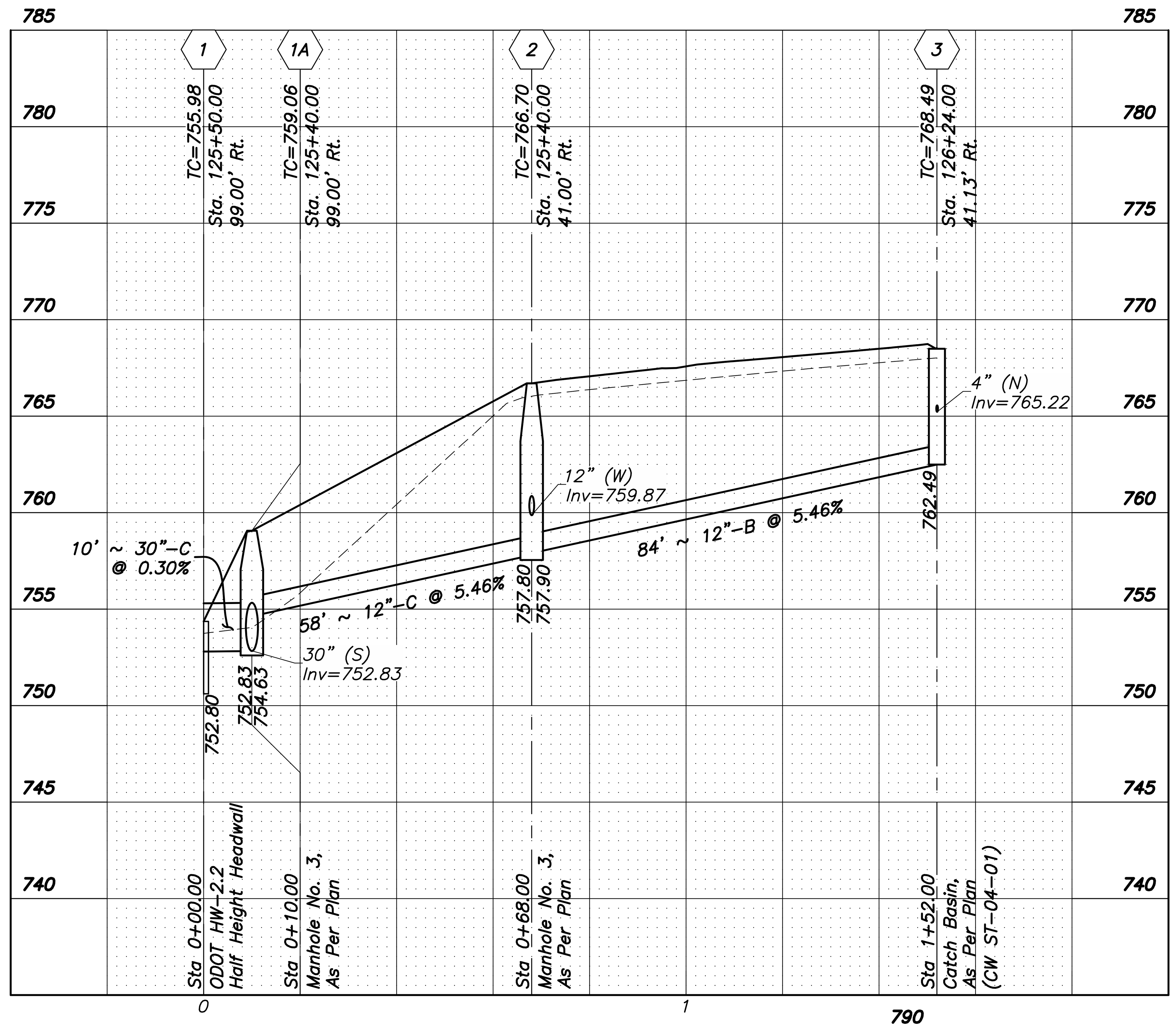
GRAPHIC SCALE
0 2.5 5 10
1 inch = 5 feet

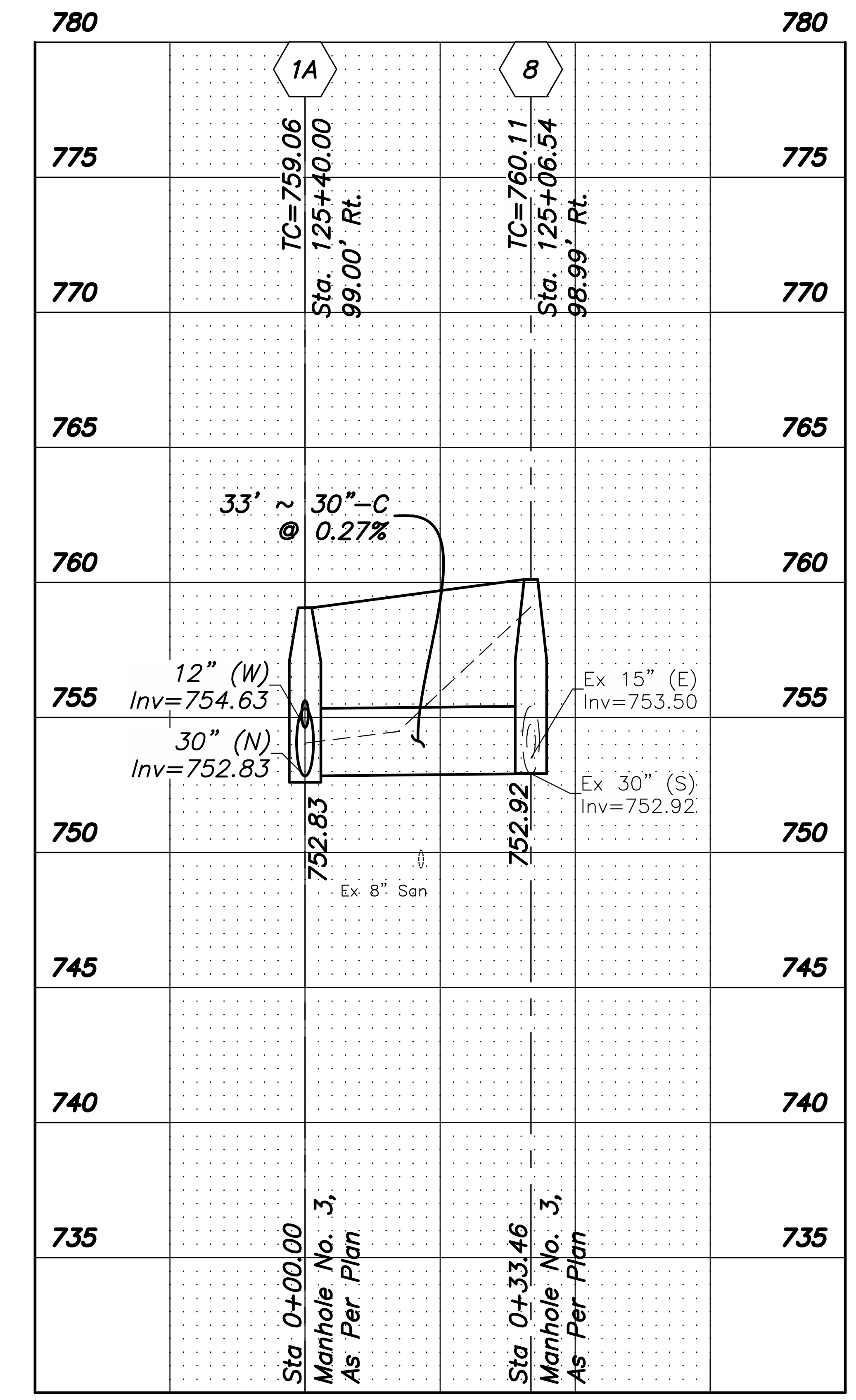
CALCULATED WAC
CHECKED JAG

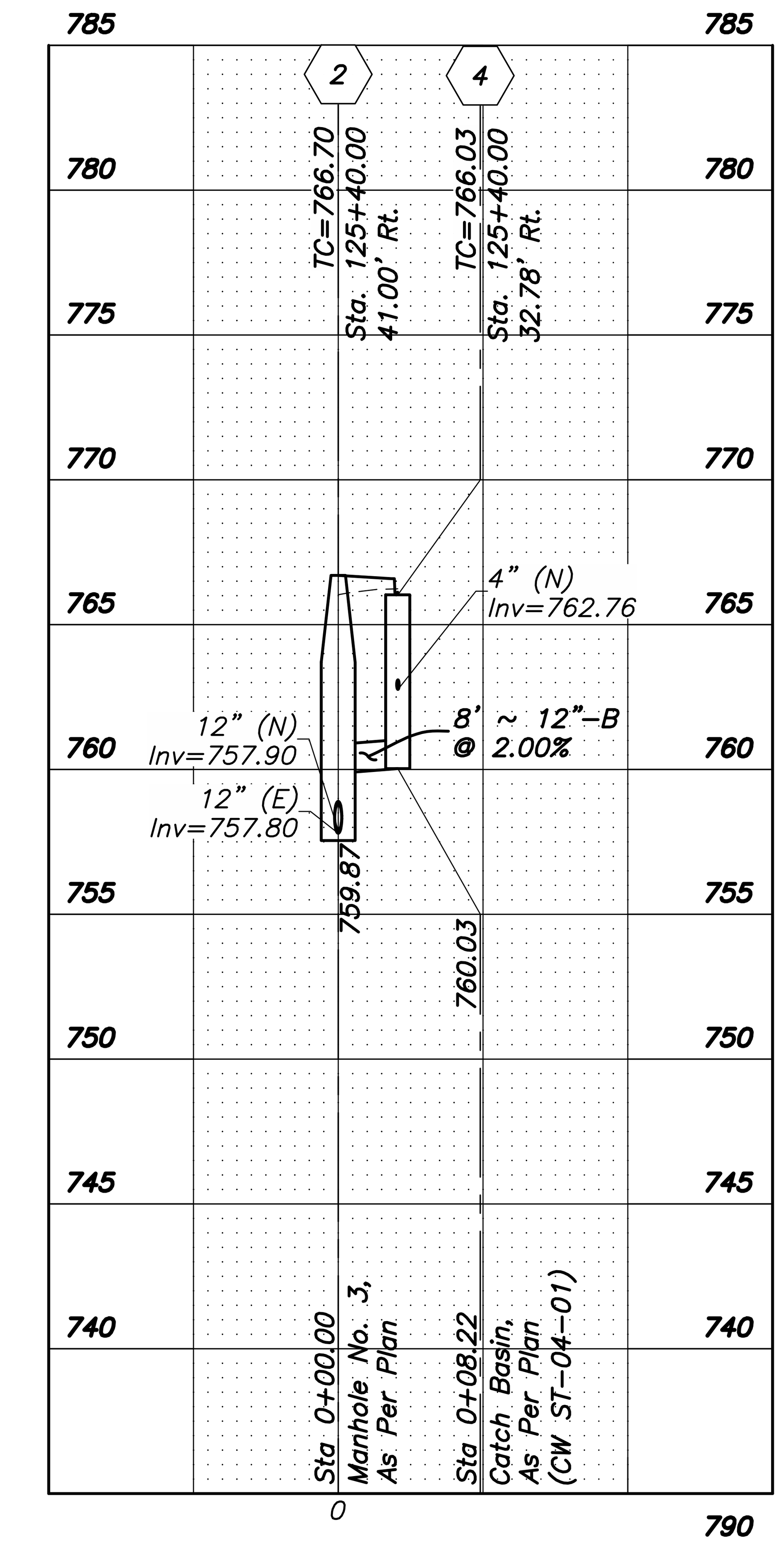
CURB RAMP DETAIL

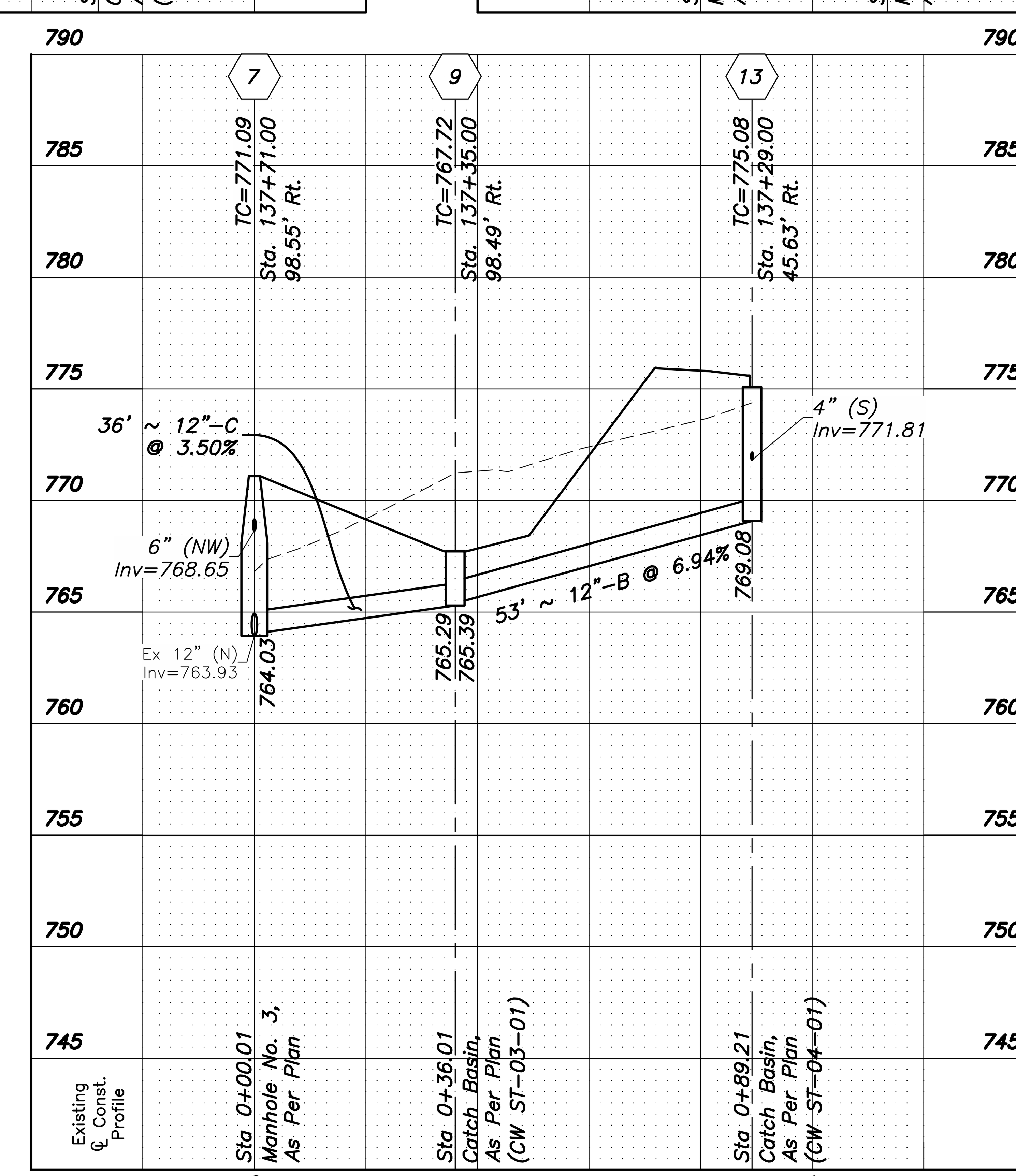
FRA-674-2.22
GENDER ROAD - PHASE 6

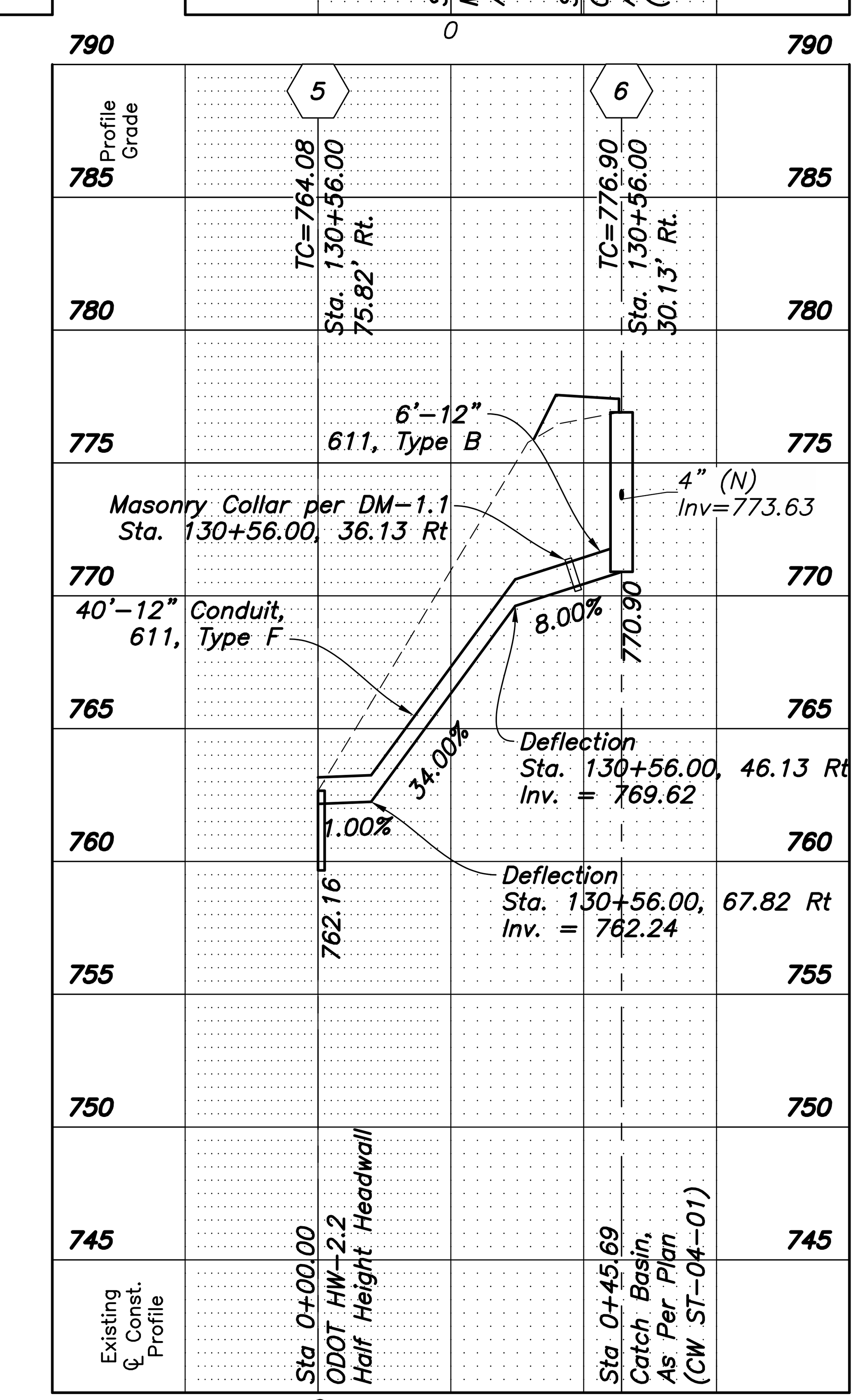
STAGE 3 PLANS – NOT FOR CONSTRUCTION











Legend

Notes:

1. All Station/Offsets are from ℄ R/W of Gender Road, Unless Otherwise Noted.

2. Station/Offset for Curb & Gutter Inlets reflect center of Structure.

3. Contractor shall take care to orient manhole lids as shown on the plan sheets.

TC = Top of Casting

CALCULATED WAC
CHECKED JAG

HORIZ. 1 inch = 20 Feet
VERT. 1 inch = 5 Feet

STORM SEWER PROFILES

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

GENERAL

These specifications, together with the accompanying plans are intended to describe the type, size and location of the products and materials to be provided and installed under the various bid items related to traffic control. The Contractor shall furnish and install traffic control devices and related materials in compliance with these plans and specifications, as well as the 2023 Ohio Department of Transportation Construction and Material Specifications, the Ohio Manual of Uniform Traffic Control Devices and the Standard Construction Drawings issued by the Ohio Department of Transportation. These specifications set forth the minimum performance and operating requirements of the traffic control items referred to herein.

ITEM 630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN

The back of all signs, mounting hardware, and support assemblies mounted on either signal supports or pedestal supports shall be coated to match its respective support. Finish requirements shall be in accordance with that listed for the support, pedestal, or light pole used for attachment.

ITEM 630 REMOVAL OF POLE MOUNTED SIGN AND STORAGE, AS PER PLAN
ITEM 630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN

All removed signs shall remain the property of the City of Canal Winchester, unless otherwise instructed by the Engineer. Removed signs shall be delivered to a location specified by the City. The Contractor shall notify the Engineer when all or significant portions of the removed items are available for delivery.

ITEM 630 OVERHEAD SIGN SUPPORT, TYPE TC-9.11, DESIGN 3, AS PER PLAN

All visible elements of the support shall be painted similar to Federal Specification 595B Color #27040 (Black). Paint samples shall be submitted to Canal Winchester for review.

Painting shall be incidental to this item. Payment shall be as per Item 630.

ITEM 630 GROUND MOUNTED SIGN, NO. 3 POST, AS PER PLAN
ITEM 630 SIGN, FLAT SHEET, AS PER PLAN

Ground mounted supports shall be Type S per ODOT Standard Drawing TC-41.20.

All visible elements of the sign mounting systems, e.g. sign backing assemblies, support posts, stainless steel banding, back of all signs, etc., shall be painted similar to Federal Specification 595B Color #27040 (Black). Nuts and bolts need not be painted. Paint samples shall be submitted to Canal Winchester for review.

Painting shall be incidental to this item. Payment shall be as per Item 630.

	LINE SPECIFICATIONS
WE	Edge Line, 4" White
YE	Edge Line, 4" Yellow
WE2	Edge Line, 6" White
YE2	Edge Line, 6" Yellow
DY	Center Line, 4" Solid Double Yellow (4")
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 24" White
LL	Lane Line, 4" White
LA	Lane Arrow
WT	Transverse Line, 24" White
DL	Dotted Line, 4" White
WOP	Word on Pavement
R	Removal of Pavement Marking

SIGN LEGEND

Existing Signs

Proposed Signs

Existing Sign To Be Removed

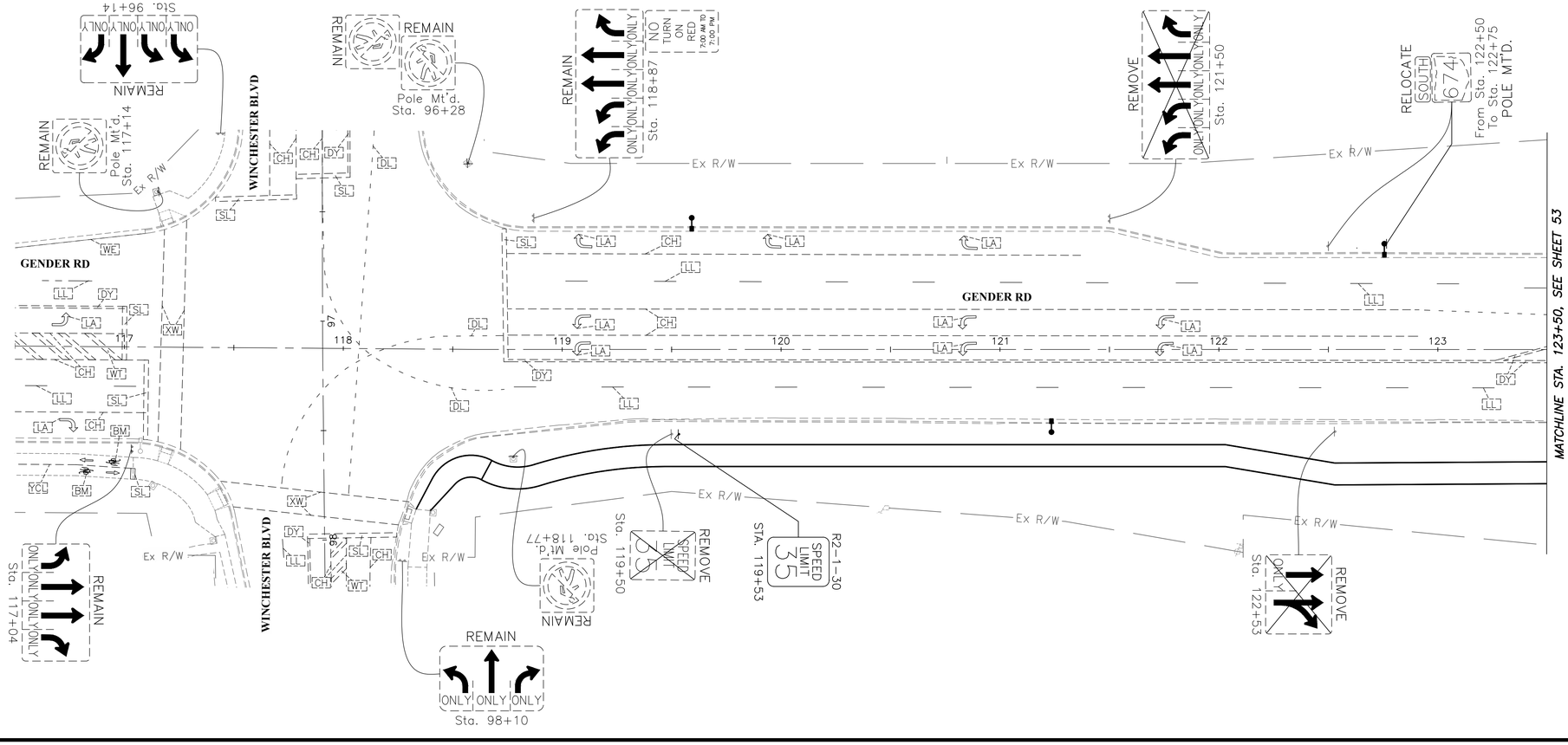
PAVEMENT MARKING LEGEND

(DY) Proposed Marking (644)

[DY] Existing Marking

TRAFFIC CONTROL ESTIMATE OF QUANTITIES

Quantity	Item No.	Unit	Description
54	ODOT 621	Each	RPM
34	ODOT 621	Each	Raised Pavmement Marker Removed
18	ODOT 626	Each	Barrier Reflector
126	ODOT 630	Lin Ft	Ground Mounted Sign, No. 3 Post, As Per Plan
10	ODOT 630	Each	Sign Support Assembly, Pole Mounted, As Per Plan
1	ODOT 630	Each	Sign Support Assembly, Barier Mounted
130	ODOT 630	Sq Ft	Sign, Flat Sheet, As Per Plan
3	ODOT 630	Each	Removal of Pole Mounted Sign and Storage, As Per Plan
14	ODOT 630	Each	Removal of Ground Mounted Sign and Storage, As Per Plan
13	ODOT 630	Each	Removal of Ground Mounted Post Support and Disposal
3	ODOT 630	Each	Removal of Pole Mounted Sign and Reerection
5	ODOT 630	Each	Removal of Ground Mounted Sign and Reerection
1	ODOT 630	Each	Overhead Sign Support, Type TC-9.11, Design 3, As Per Plan
63	ODOT 630	Sq Ft	Sign, Overhead Extrusheet
1	ODOT 630	Each	Rigid Overhead Sign Support Foundation
1	ODOT 630	Each	Removal of Overhead Mounted Sign and Disposal
1	ODOT 630	Each	Removal of Overhead Sign Support and Disposal, Type TC-12.30
1	ODOT 630	Each	Signing, Misc.: Removal of Overhead Sign Support Foundation
0.1	ODOT 644	Mile	Edge Line, 4"
0.2	ODOT 644	Mile	Edge Line, 6"
0.1	ODOT 644	Mile	Center Line (DY)
948	ODOT 644	Lin Ft	Channelizing Line, 8"
0.1	ODOT 644	Mile	Lane Line, 4"
115	ODOT 644	Lin Ft	Stop Line
336	ODOT 644	Lin Ft	Crosswalk Line
8	ODOT 644	Each	Lane Arrow
100	ODOT 644	Ln Ft	Removal of Pavement Marking



Note:
1. For clarity, underground utilities have not been shown on this sheet. The Contractor shall reference the appropriate plan and profile sheet for utility locations prior to placing sheets.

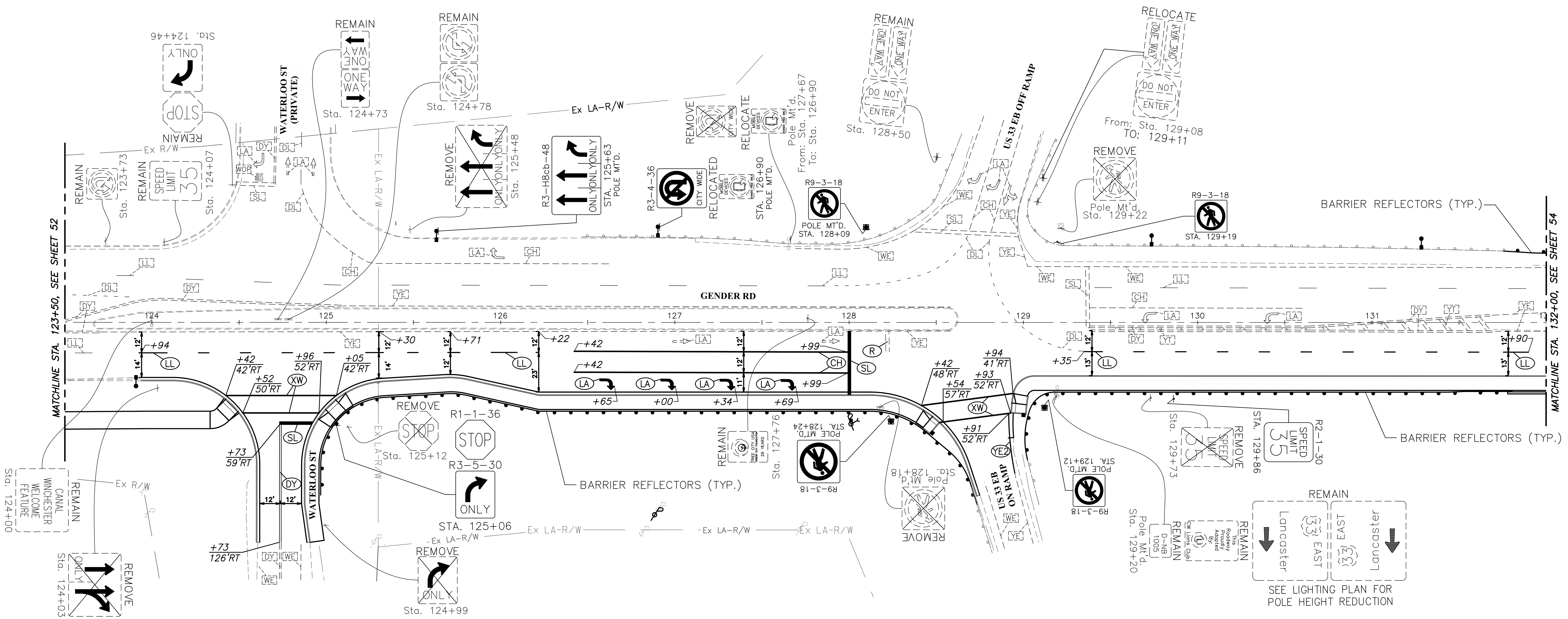
CALCULATED EMH CHECKED KRB/JDS

TRAFFIC CONTROL PLAN

FRA-674-2.22
GENDER ROAD - PHASE 6

52
96

STAGE 3 PLANS – NOT FOR CONSTRUCTION



Note:
1. For clarity, underground utilities have not been shown on this sheet. The Contractor shall reference the appropriate plan and profile sheet for utility locations prior to placing sheets.
2. All removed signs shall remain the property of the City of Canal Winchester, unless otherwise instructed by the Engineer. Removed signs shall be delivered to a location specified by the City. The Contractor shall notify the Engineer when all or significant portions of the removed items are available for delivery.

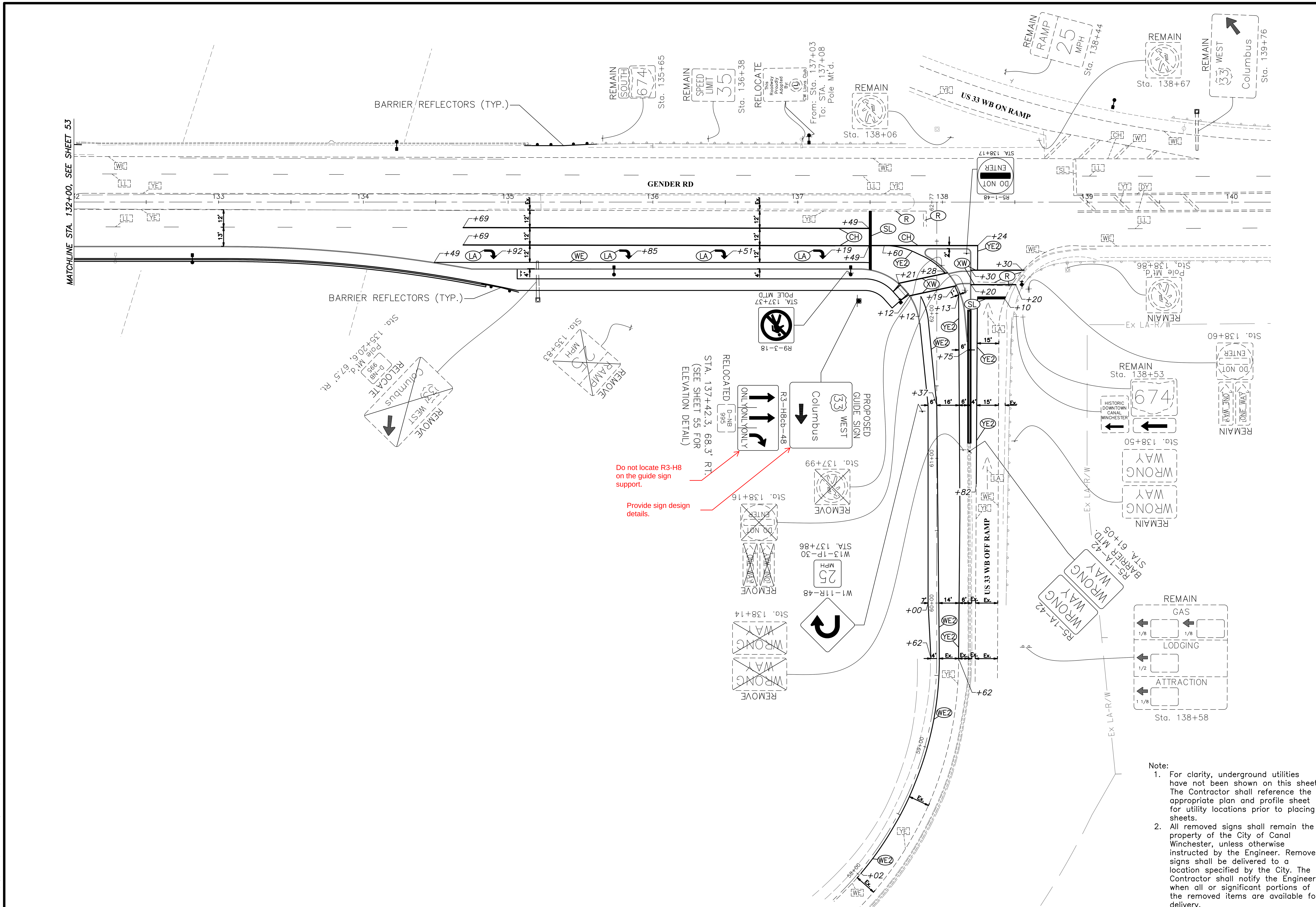
1 inch = 30 feet

CALCULATED EMH
CHECKED KRB/JDS

TRAFFIC CONTROL PLAN - GENDER ROAD

FRA-674-2.22 GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION



Note:

1. For clarity, underground utilities have not been shown on this sheet. The Contractor shall reference the appropriate plan and profile sheet for utility locations prior to placing sheets.
2. All removed signs shall remain the property of the City of Canal Winchester, unless otherwise instructed by the Engineer. Removed signs shall be delivered to a location specified by the City. The Contractor shall notify the Engineer when all or significant portions of the removed items are available for delivery.

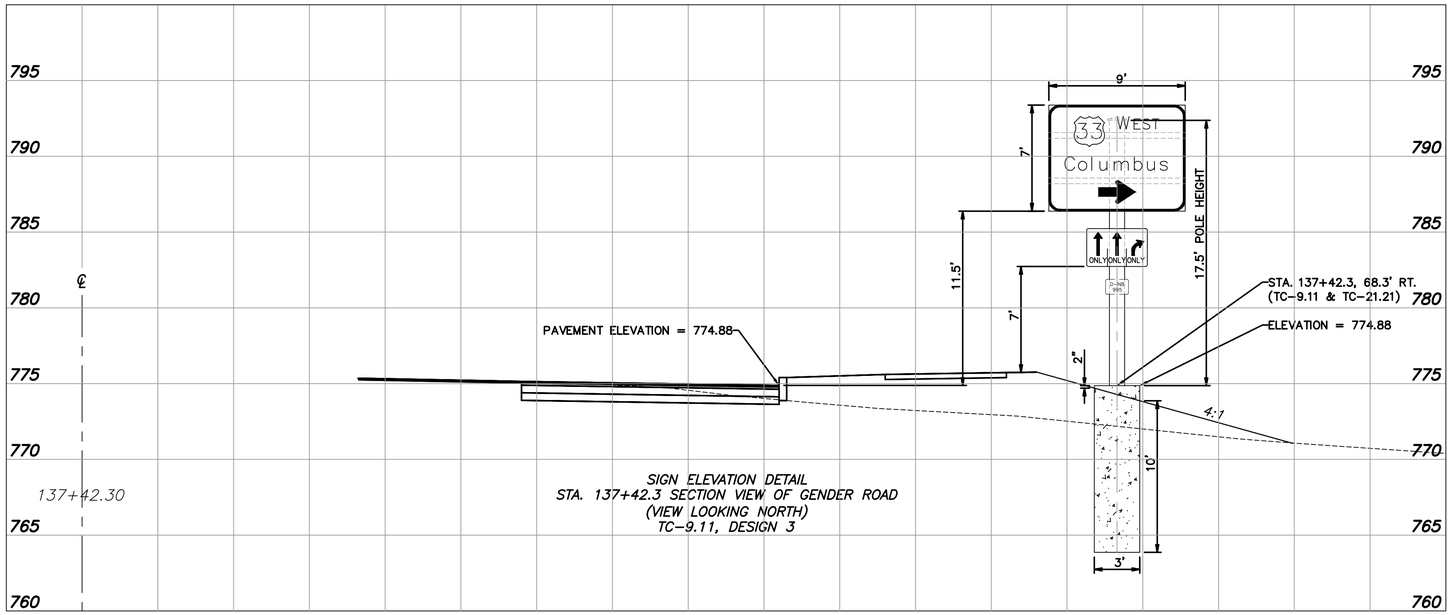
CALCULATED EMH
CHECKED KRB/JDS

1 inch = 30 feet

TRAFFIC CONTROL PLAN - GENDER ROAD

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS — NOT FOR CONSTRUCTION



SIGN ELEVATION DETAIL
STA. 137+42.3 SECTION VIEW OF GENDER ROAD
(VIEW LOOKING NORTH)
TC-9.11, DESIGN 3

HORIZ 1 Inch = 5 Feet
VERT 1 Inch = 5 Feet

CALCULATED EPP
CHECKED KRB/JDS

SIGN ELEVATION DETAIL

FRA-674-2.22
GENDER ROAD - PHASE 6

55
96

GENERAL

These specifications, together with the accompanying plans are intended to describe the type, size and location of the products and materials to be provided and installed under the various bid items related to traffic control. The Contractor shall furnish and install traffic control devices and related materials in compliance with these plans and specifications, as well as the 2023 Ohio Department of Transportation Construction and Material Specifications, the Ohio Manual of Uniform Traffic Control Devices and the Standard Construction Drawings issued by the Ohio Department of Transportation. These specifications set forth the minimum performance and operating requirements of the traffic control items referred to herein.

All incidental work items called for in these plans for which no specific method of payment is provided shall be performed by the Contractor and the total cost of said items shall be included in the price of its associated bid item.

UNDERGROUND UTILITIES

The location of the underground utilities shown on these plans are as obtained from the owners of the utility as required by Ohio Revised Code section 153.64.

The City of Canal Winchester and the Engineer assume no responsibility for the accuracy of the location or the depths of the underground facilities shown on these plans. Support, protection, and restoration of all existing utilities and appurtenances shall be the Contractor's responsibility. The cost of this work shall be included in the bid price for the various items of work. It shall be the Contractor's responsibility to notify the Ohio Utilities Protection Service (OUPS) so existing facilities can be marked prior to construction.

PLAN AND SPECIFICATION COMPLIANCE

The Contractor shall furnish and install traffic signal devices in compliance with these plans and specifications, the 2023 ODOT Construction and Material Specifications including all supplemental specifications, the Ohio Manual of Uniform Traffic Control Devices and the "TC" and "HL" standard construction drawings issued by ODOT. These specifications set forth the minimum design and operating requirements for traffic signal equipment.

Traffic signal control equipment shall meet or exceed the standards specified in the following documents:

(a) Specifications listed in this plan

(b) NEMA Standards Publication No. TS1–1989 and/or TS2–2003 (or current NEMA issue).

(c) 2023 ODOT Construction and Material Specifications and any supplemental specifications listed herein.

In case of a conflicting specification statement, the specification document hierarchy shall be in the order listed from (a), highest, to (c), lowest.

GUARANTEE

The Contractor shall guarantee that the traffic control system installed as part of this contract shall operate satisfactorily for a period of 90 days following completion of the 10–day performance test. In the event of unsatisfactory operation the Contractor shall correct faulty installations, make repairs and replace defective parts with new parts of equal or better quality. Equipment, material and labor costs incurred in correcting an unsatisfactory operation shall be borne by the Contractor. The guarantee shall cover the following items of the traffic control system: controllers and associated equipment, detector units, interconnection items and master control equipment.

Customary manufacturer's guarantees for the foregoing items shall be turned over to the state or the maintaining agency following acceptance of the equipment.

The cost of guaranteeing the traffic control system will be incidental to and included in the contract unit price of the various items making up the system.

DETECTION MAINTENANCE

If vehicle detection becomes unexpectedly disabled, requires modification, or is scheduled to be temporarily removed during the construction project, the Contractor shall immediately notify the Project Engineer.

If the loss of vehicle detection is known prior to the start of construction, it shall be discussed at the preconstruction meeting. At such time, the Engineer shall advise the Contractor on the appropriate action to rectify any loss of vehicle detection. This may include placing the traffic signal on minimum or maximum recall, modifying the minimum green times, and removing the malfunctioning detection from service. Where nonintrusive detection (i.e. video, radar) already exists or is proposed, the Contractor shall insure that detection is operating and maintained by configuring the detection units accordingly during all construction phases.

Locations where non–intrusive detection is proposed and the existing vehicle detection is to be abandoned, the non–intrusive vehicle detection shall be installed, (in temporary locations if needed) configured and made fully functional prior to the existing detection being disabled. The Contractor shall continue to maintain and modify the detection until final acceptance of the traffic signal.

All costs resulting from the above requirements shall be considered to be included in the lump sum price bid for Item 614 Maintaining Traffic, As Per Plan.

CONTRACTOR ACCESS TO EXISTING CONTROL CABINET

The signals within the Gender Road corridor as modified or replaced by this project are operated and maintained by the City of Canal Winchester. The Contractor shall coordinate with the City to determine if a representative from the City must be present anytime the Contractor requires entry into the existing controller cabinet. The Contractor shall contact 614–834–5100 to make arrangements. A three workday notice shall be given. The representative shall act in a supervisory and/or informational capacity only unless otherwise stated in these plans. All Contractor installed cable shall be connected by the Contractor but overseen by the City's representative if required by the City.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS

The Contractor shall be responsible for maintaining traffic signal installations within the project under the following conditions:

1. The Contractor shall be responsible for existing signal installations which the plan requires the Contractor to adjust, modify, add on to, or remove, or which the Contractor actually adjusts, modifies, or otherwise disturbs, from the time his operations first disturb the installation until the time the installation has subsequently been removed or modified and the work has been accepted.

2. The Contractor shall be responsible for maintenance of new signal installations or devices, installed by the Contractor, from the time of installation until the work is accepted.

The Contractor shall correct as quickly as possible all outages or malfunctions. The Contractor shall dispatch maintenance personnel to correct the problem. The Contractor shall provide one or more contact persons who can receive all device out–of–service calls that fall under the Contractor's responsibility. The Contractor shall provide the Engineer and Canal Winchester with addresses and phone numbers of these contact persons. Maintenance personnel may be used to perform other duties as long as prompt attention is given to these calls and a person is continuously available twenty–four (24) hours a day and seven (7) days a week. The Contractor shall provide maintenance service entirely with his personnel. All lamp outages, cable outages, electrical failures, equipment malfunctions and misaligned signal heads shall be corrected to the satisfaction of the Engineer with the signal back to service within four hours after the Contractor has been notified of the outage.

In the event new signals are damaged prior to acceptance all damaged equipment except poles and control equipment shall be replaced by the Contractor to the satisfaction of the Engineer with the signal back in service within 8 hours after the Contractor's notification of the outage.

If poles and/or control equipment are damaged and must be replaced, the Contractor shall make temporary repairs as necessary to bring the signal back into full operation within the allowed 8–hour period, and shall make permanent repairs or replacement as soon thereafter as possible.

None of the above shall be construed as collective or consecutive outage time periods at any one location. That is, where more than one outage occurs at any one location, then the allotted time limit shall be for the worst single outage.

Where outages are the direct result of a vehicular accident, the response of the Contractor shall be as outlined above. The Contractor shall be responsible for collection of any compensation for this work from those parties responsible for the damage.

Where the Contractor has failed to or cannot respond to an outage or signal equipment malfunction, at these locations within his responsibility, within periods as specified above, the Engineer may invoke the provisions of Section 105.15 and any subsequent costs to Canal Winchester for Police Services and Maintenance Services shall be deducted from monies due or to become due the Contractor in accordance with provisions of Section 105.15.

Any signalized intersection, where the signal is out of service due to construction procedures, or due to an outage or malfunction of equipment as described above, shall be protected, by the Contractor, by the installation of temporary "stop" signs on all approaches.

Any vehicular traffic signal head which will be out of operation shall be covered in the manner described in 632.25. No covered head shall block the view of an operating head. A minimum of two (2) vehicular signal heads per traveled direction (spaced 8' apart minimum and 12' maximum) shall be operating at all times.

Any non–operating vehicular or pedestrian signal head or pushbutton shall be covered per ODOT 632.25. All signal heads while covered shall be dark either by removing, unscrewing or disconnecting the power to the bulbs.

All costs resulting from the above requirements shall be considered to be included in the lump sum price bid for Item 614 Maintaining Traffic, As Per Plan.

PAINT CHIP SUBMITTAL

Prior to any painting, the Contractor shall submit paint samples to the Engineer and Canal Winchester officials. Paint samples shall be representative of the color, type and manufacture that will be used for finishing the various items. The Engineer and Canal Winchester officials shall review the paint samples prior to the commencement of the finishing process.

Paint samples shall be submitted for all proposed traffic signal items called for in this plan set, including, signal supports, signal heads, pedestals, pedestrian heads, pushbuttons, luminaires, and signs. Any cost associated with providing paint samples shall be incidental to the individual items to be painted.

GROUNDING AND BONDING

The requirements of the Construction and Material Specifications (C&MS) and the TC series of Standard Construction Drawings are modified as follows:

1. All metallic parts containing electrical conductors shall be permanently joined to form an Effective Ground Fault Current Path back to the grounded conductor in the power service disconnect switch.
   - a. Provide an equipment grounding conductor in metallic conduits (725.04) in addition to the conductors specified and bond the conduit to this grounding conductor.
   - b. When an equipment grounding conductor is required in plastic conduit (725.05), the installation shall include a separate equipment grounding conductor in addition to the conductors specified.
   - c. Metallic conduit carrying the loop wires from in the pavement to the pull box splice location will only be bonded at the pull box end, and will not contain an equipment grounding conductor.
   - d. If multiple conduit runs begin and end at the same points, only one equipment grounding conductor is required.
   - e. If an equipment grounding conductor is needed in conduit between signalized intersections for underground interconnect cable, the grounding system for each signalized intersection will be separated about midway between the intersections.
   - f. The messenger wire at signalized intersections will be used as the conductive path from corner to corner if conduit is not provided under the roadway. When conduit connects the corners of an intersection, an equipment grounding conductor shall be used in the conduit.

2. Conduits.
   - a. The 725.04 conduit shall have grounding bushings installed at all termination points. The bushing material shall be compatible with galvanized steel conduit and the grounding lug material shall be compatible for use with copper wire. Threaded or compression type bushings may be used.
   - b. The 725.05 conduit shall have the inside and outside diameters of the conduit deburred at all termination points.
   - c. Both ends of metallic conduit shall be bonded to the equipment grounding conductor.
   - d. Metallic conduit may be bonded to metallic boxes through the use of conduit fittings UL approved for this type of connection, with the box bonded to the equipment grounding conductor.

3. Wire for grounding and bonding.
   - a. Use insulated, copper wire for the equipment grounding conductor. Bonding jumpers in boxes and enclosures may be bare or insulated copper wire. Wire size shall be as follows:
     - i. Use 4 AWG between the power service and supports, poles, pedestals, controller or flasher cabinets.
     - ii. Use a minimum 8 AWG between loop detector pull boxes and the first conduit that requires a larger size as specified in 3.a.i above.
     - iii. Use a minimum 8 AWG between the "Prepare to Stop When Flashing" installation (including support) and the first conduit that requires a larger size as specified in 3.a.i above.
     - iv. The insulation shall be green or green with yellow stripe(s). For 4 AWG or larger, insulation may also be black with green tape/labels installed at all access points.
   - b. In a highway lighting system, the equipment grounding conductor shall be the same wire size as the duct cable or distribution cable circuit conductors, with the minimum conductor size of 4 AWG. Bonding jumpers will be minimum size 4 AWG.

4. Ground rod.
   - a. A 3/4 inch Schedule 40 PVC conduit will be used in foundations and concrete walls for the grounding conductor (ground wire) raceway to the ground rod. Should metallic conduit be used, both ends of the conduit shall be bonded to the grounding conductor.
   - b. The typical grounding conductor (ground wire) shall be 4 AWG insulated, copper.

5. The green conductor in signal cables (conductor #4) shall not be used to supply power to a signal indication. It will be connected to the signal body as an equipment ground in aluminum heads and it will be unused in plastic heads. Unused conductors shall be grounded in the cabinet. Typical use of conductors is as follows:

Cond. no.	Color	Vehicle signal	Pedestrian signal
1	Black	green ball	#1 Walk
2	White	AC neutral	AC neutral
3	Red	red ball	#1 DW/FDW
4	Green	equipment ground	equipment ground
5	Orange	yellow ball	#2 DW/FDW
6	Blue	green arrow	#2 Walk
7	White/ black stripe	yellow arrow	not used

6. Power Service and Disconnect Switch.
   - a. At the power service location, the grounding conductor (ground wire) from the disconnect switch neutral (AC–) bar to the ground rod shall be a continuous, un–spliced conductor. If spliced, it shall be an exothermic weld butt splice.
   - b. The service neutral (AC–) shall only be connected to ground at the main power service disconnect switch.
     - i. NEMA controller cabinets: If a power service disconnect switch is located before the controller cabinet, the neutral (AC–) and the grounding bars in the controller cabinet shall not be connected together as shown in NEMA TS–2, Figure 5–4.
     - ii. If secondary disconnect switches are connected after the main disconnect switch, the neutral (AC–) shall only be grounded at the main switch. Equipment grounding conductors shall be brought to the main switch, but shall be grounded at both secondary and main switches.

7. Payment for the above work shall be incidental to: ITEM 625, NO. 4 AWG, 600 VOLT DISTRIBUTION CABLE, AS PER PLAN.

ITEM 625 NO. 4 AWG, 600 VOLT DISTRIBUTION CABLE, AS PER PLAN

A green colored or green tape/labels, insulated, cable shall be used for the ground wire (GND) where indicated. This GND cable shall be separate from the ground rod wire, but shall be connected to the same grounding bolt used for the ground rod wire attachment at the pole. The GND cable shall be tagged as "GND SYS" at all pole locations, pull boxes, control cabinets, contactor, disconnect switch, and meter.

Payment shall be as per Item 625.

ITEM 625 CONDUIT, (BY SIZE), 725.04, JACKED OR DRILLED, AS PER PLAN

Conduit placed under proposed roadways shall have a minimum overall depth of 24 inches and or a minimum depth of 12 inches under the final pavement subgrade whichever is deeper. This item of work shall include exposing all water line and gas line crossings and restoration of disturbed areas to original condition.

Payment shall be as Item 625.

ITEM 625 LUMINAIRE, LED, 120 VOLT, TEAR DROP, AS PER PLAN (ALTERNATE 1)

Luminaire shall be Teardrop style, 120 volt, LED, 2700k. Luminaire shall be as manufactured by one of the following:

Holophane Esplanade ESL3–P20S–27K–MVOLT–TG4 QSM–BK
Sternberg Libertyville 1914LED–1L–27–T3–MDL16–G–BKT
Spring City Columbia ALMCLU–LE–LE100–EVX–2G2–27–CR3–GR14–BLACK

Luminaires shall be as per item 625 except that the luminaires at each intersection shall run off a single photoelectric cell. The luminaire and all mounting hardware shall be painted to match the signal support. Paint samples shall be submitted with the luminaire drawings for review.

The luminaire shall be installed on the poles shown on the drawings and indicated in the field by the Engineer. Orientation and leveling of the units shall be as shown in signal orientation sheets or so as to provide for uniform appearance, maximum lighting efficiency and ease of maintenance, as directed by the Engineer.

Measurement and payment shall be as per item 625.

ITEM 625 LUMINAIRE, 73W LED, 120 VOLT, TEAR DROP, AS PER PLAN (ALTERNATE 2)

Luminaire shall be Teardrop style, 120 volt, 73 watt, LED 2700k. Luminaire shall be manufactured by Holophane, Esplanade Series ESL3–P20S–27K–MVOLT–TG4–QSM–BK or approved equal. Luminaires shall be as per item 625 except that the luminaires at each intersection shall run off a single photoelectric cell. The luminaire and all mounting hardware shall be painted to match the signal support. Paint samples shall be submitted with the luminaire drawings for review.

The luminaire shall be installed on the poles shown on the drawings and indicated in the field by the Engineer. Orientation and leveling of the units shall be as shown in signal orientation sheets or so as to provide for uniform appearance, maximum lighting efficiency and ease of maintenance, as directed by the Engineer.

Measurement and payment shall be as per item 625.

CALCULATED EPP
CHECKED KRB/JDS

TRAFFIC SIGNAL GENERAL NOTES

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ITEM 625 BRACKET ARM, AS PER PLAN

Under this item of work, the Contractor installs a new bracket arm of the type and size indicated within these plans (See Sheet 66) on the existing traffic signal support N/E-1 at the Gender Rd/US-33 WB Ramps intersection. Bracket arms and all mounting hardware shall be coated to match the color of the existing traffic signal support.

Payment shall be per each bracket arm installed. Any additional painting, hardware, materials, labor required to install the bracket arm shall be incidental to this item.

ITEM 630 SIGN, FLAT SHEET, AS PER PLAN
ITEM 630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN

The back of all signs, mounting hardware, and support assemblies mounted on either signal supports or pedestal supports shall be coated to match its respective support. Finish requirements shall be in accordance with that listed for the support, pedestal, or light pole used for attachment.

ITEM 630 SIGNS, AS PER PLAN

The Contractor shall install W3-H10-30 "Signal Operation Changed" signs just prior to activating the change in signal operation. The "Signal Operation Changed" sign shall be covered until the signal operation change is in effect at which time the Contractor shall uncover it. In order to install the "Signal Operation Changed" signs as shown in the plans, the Contractor shall shift an adjacent permanent sign, when necessary, to create enough space to install the "Signal Operation Changed" sign in the location shown in the plans.

The Contractor shall remove these items 3 weeks after they are uncovered. At the same time, the Contractor shall return any permanent sign, which has been temporarily shifted in order to accommodate the "Signal Operation Changed" sign, to the location specified in the plans. Failure to remove these items and relocate permanent signs shall result in the City removing them, along with relocating permanent signs, and billing the Contractor for all costs involved. All removed material shall be considered forfeited to the City.

Payment shall be lump sum for all signs installed and removed at one intersection.

ITEM 632 VEHICULAR SIGNAL HEAD, (LED), (BY TYPE), (BY SIZE), WITH BACKPLATE (BLACK), AS PER PLAN

Vehicular signal heads shall conform to the Equipment and Material Standards of the ITE as published by the Institute of Transportation Engineers and all signal indications shall use a light emitting diode (LED) light source conforming therewith. LED's shall meet the requirements of the Ohio Department of Transportation's supplemental specification 872.0 Vehicular signal heads shall be rigidly mounted to the signal support. All bolts and washers for securing sections together, all mounting hardware for the lens, all door latching bolts, and all hinge pins shall be stainless steel.

872? Is this a Local spec?

Vehicular signal heads shall be polycarbonate and the top and bottom of the housing shall have an opening to accommodate standard 1-1/2" pipe brackets. Mounting hardware shall attach to the signal head housing with tri-stud type connections.

Vehicular signal heads shall be furnished with louvered aluminum backplates providing a 5 inch border around the signal faces. The aluminum backplates shall have factory applied black powder coat finish, to match the signal supports.

The vehicular signal heads at the US 33 EB Ramps intersection shall have a fluorescent yellow reflective border. The heads at the US 33 WB Ramps intersection shall NOT have a fluorescent yellow reflective border to match the existing heads to remain.

All signal exterior surfaces, including the signal face, door and visor, shall be painted using an approved liquid or thermoset powder material process. All visible elements of the signal mounting hardware shall be properly prepared, primed and painted according to this specification. All painting shall be performed under controlled environmental conditions, and in accordance with all manufacturers' recommendations pertaining to surface preparation, material handling and application.

(a) The back of the signal head housing, the exterior surface of the visor and the signal face, including the door, shall be black.
(b) The interior surface of the visor shall be black in accordance with item 632.

Prior to painting, the Contractor shall submit paint samples to the Engineer and Canal Winchester officials for review and comment.

Payment shall be as per Item 632.

ITEM 632 PEDESTRIAN SIGNAL HEAD, AS PER PLAN

Pedestrian signal heads shall display international symbols in lieu of the words "WALK" and "DON'T WALK" and shall be supplemented by a clearance interval countdown timer. The international symbols and the countdown display shall be housed in a single enclosure. The display shall utilize an LED light source that complies with applicable standards promulgated by the Ohio Department of Transportation and the Institute of Transportation Engineers.

Countdown timer requirements:

1. The countdown feature shall automatically adjust to the programmed intervals of the traffic controller per the requirements of 732.05
2. The countdown timer shall be to the right of the international symbols.
3. Countdown numbers shall be created using two rows of L.E.D.'s and be 9 inches high.

The Contractor shall supply all brackets and all other necessary mounting hardware. A clear, shatterproof, lens shall cover the face of the signal head and be of sufficient strength to protect the components from roadside hazards and vandalism.

Conduit bracket arms shall be used to mount the pedestrian signal heads to the signal supports. 1-1/2 inch blind half couplings shall be factory installed and used to mount the brackets arms to the signal supports. The blind half couplings shall be installed prior to the galvanizing process and as detailed on the signal support orientation and fabrication data sheet. Standard Drawing TC-85.10 is hereby modified to prohibit the use of hub plates and stainless steel banding to mount the blind half couplings. The distance between the vertical signal support and the signal head housing shall be 3 to 4 inches. All mounting hardware shall be coated to match the signal supports.

The signal housings shall be black polycarbonate to match the signal supports.

Payment shall be as per Item 632.

ITEM 632 PEDESTRIAN PUSHBUTTON, AS PER PLAN

The exterior of the pushbutton housing shall be coated to match the signal support. The center of the pushbutton shall be mounted at 42" above the pedestrian pathway surface. Pushbuttons shall be rated for heavy duty usage and have a barrier type lug terminal for attachment of the field cable. Use of micro switches or leaf switches is not acceptable.

One aluminum sign shall be mounted directly above the pushbutton and shall be supplied as part of this item. The back of the sign shall be coated to match the signal support.

Payment shall be per Item 632.

ITEM 632 COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN

Cover vehicular signal heads if erected at intersections where traffic is maintained before energizing the signals. Use a sturdy opaque covering material specifically made for use with traffic signals, and ensure that the color of the cover is different than the signal head, tan or beige, so that it is clear to drivers the heads are covered, not dark. Use a method of covering to cover attachment and materials, including backplates, as approved by the Engineer. Covers are to be free of text, pictures, or any type of advertising. Maintain covers, and remove them when directed by the Engineer.

ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

The existing signal installation at the intersection of Gender Road/US 33 EB Ramps shall be removed by the Contractor. Only Portions of the existing signal installation at the intersection of Gender Road/US 33 WB Ramps shall be removed, as specified in this plan. Alternate methods of traffic control shall be approved by the Engineer and in place and operating prior to the deactivation and removal of any existing equipment. Reference is made to the requirements of Item 614.

The Contractor shall coordinate with the City to determine what removed items shall remain the property of Canal Winchester. These items shall be delivered to a location specified by the City. All other items shall be properly disposed of by the Contractor. The Contractor shall notify the Engineer when all, or significant portions of the removed items are available for delivery.

Signal support foundations shall be removed to a depth of two feet or to avoid conflict with the proposed improvement, whichever is deeper. All existing signal cable shall be removed from underground conduits. Existing detector loops may be abandoned in place.

Payment shall be as per Item 632.

ITEM 632 POWER SERVICE, AS PER PLAN
ITEM 632 POWER CABLE, 2 CONDUCTOR, NO. 4 AWG, AS PER PLAN

Power cable shall be provided as per 632.23 between the control cabinet and the tap-in location noted in the plan. The 120/240 VAC single phase power service shall be metered. When the power cable is in place and 4 weeks prior to the time that electrical power will be required, the Contractor shall contact the Power Company, which will make the electrical service connection. Under no circumstances shall the contractor connect power cable into the power company's circuits. Power and service cable conductors shall be copper. The neutral of the power cable shall only be grounded in the main power service disconnect switch.

A two pole fused, NEMA 4, stainless steel, disconnect switch as per 732.21 for 120/240 volt, 3 wire, power service shall be housed in one enclosure. The disconnect switch shall be coated to match the traffic signal control cabinet.

A photo electric relay and contactor with HAND/OFF/AUTO switch shall control combination lighting. Photo electric relay shall be located on the adjacent signal pole. The voltage supplied shall be 120/240 volts, 120 volts per circuit with one circuit for traffic signals and one circuit for combination lighting.

Provide an available fault current sign on the outside of the front door of the main power service disconnect switch at the controller cabinet in accordance with the current National Electrical Code paragraph 110.24.

Provide an arc flash hazard waring sign on the outside of the front door of the controller cabinet in accordance with current National Electrical Code paragraph 110.16.

Measurement and payment shall be as per Item 632.

ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, (BY TYPE), AS PER PLAN

Traffic signal supports shall be as per Item 632 and be provided with a fluted (16 sharp flutes) vertical shaft, curved mast arm, finial, luminaire bracket arms and decorative base as detailed within. The decorative, clam shell base shall be as detailed within. Mast arms and pole shafts shall have a true and continuous taper. Poles having a tapered effect accomplished with the use of reducers will not be accepted. The mast arm pole assembly, and the mast arm assembly shall be made by the same manufacturer and designed and sold as a unit.

Decorative Base:

The decorative base shall be 40 inches high. A decorative base of 42 inches will not be accepted. Decorative bases shall be similar to:

- Valmont: Huntington Series or Union Metal: Columbian Family, or approved equal.

Finial

The finial shall be:

- Valmont: Ball Top, FCA-BL Series or Union Metal: 100-J, or approved equal.

Bracket Arms

Two luminaire bracket arms shall be supplied with each signal support and shall have a 1-1/2" NPT threaded pipe tenon. It shall be the Contractors responsibility to ensure that the connection provided by the luminaire bracket arms conform to the requirements necessary to mount the luminaires. Luminaires shall hang below the bracket arms as detailed on the pole orientation sheet. Bracket arms shall be incidental to this item of work. Bracket Arms shall be similar to:

- Valmont: Lancaster PTA-LC Series, or Union Metal: Style 1075, or approved equal.

Arms 40 feet or less shall be of one piece construction. Arms greater than 40 feet can be of two piece construction.

All signal cables shall be run inside the poles. Standard Drawing TC-83.10 is hereby modified to prohibit the use of external conduit risers for signal cabling, or any other use.

1-1/2 inch bind half couplings shall be provided at the orientation and height specified on the signal support, orientation and fabrication data sheet for pedestrian signal head mounting.

Anchor bolts shall be as oriented as required by the plans, however the formed top of the pole foundation shall be flush and square to the adjacent sidewalk where applicable.

The Contractor shall provide all necessary attachments or connections to the poles. Additional wiring holes in the pole shall be drilled, reamed, or hole-sawed. Flame cutting (oxyacetylene or electrical arc) will not be accepted. All cut edges or other defects in the zinc coating shall be cleaned and covered with two coats of zinc rich repair paint matching the factory finish. Brackets and appurtenances shall be securely attached with stainless steel screws of sufficient size for the intended loading. Stainless steel banding shall NOT be used unless specifically authorized by these plans and specifications or directed by the Engineer. All banding, where used, shall be factory painted to match the signal supports.

DESIGN CRITERIA

In addition to the requirements of Item 632, signal support structures shall be designed and constructed by the supplier to support the loads caused by the signs, signals, and other equipment that the plan requires the Contractor to install. The use of standard ODOT design designations such as those described on Standard Drawing TC-81.22, and any details provided in this plan, are intended to promote uniformity of design and are not warranted to be structurally adequate. To the maximum extent practicable, the Contractor and Supplier shall provide a structurally adequate support that utilizes standard ODOT anchor bolt sizing and spacing.

The signal support manufacture/designer shall provide drawings of the signal supports with structural aspects of the design and materials in compliance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals that follow the guidelines of ODOT TC-81.22 when applicable. Submit, to Canal Winchester and the Engineer prior to incorporation: signal support shop drawings, which identify and describe each manufactured signal support which is being incorporated into the construction. The signal support shop drawings shall be reviewed, sealed, stamped, and dated by an Ohio Registered Professional Engineers.

Finish

Poles, arms, flange plates, bolt covers, BHC'c, handholes, couplings, and wire entrances, shall be hot dipped galvanized after fabrication in accordance with 711.02. All visible elements of the signal support, and any other parts required to be coated, shall be galvanized and then powder-coated. All painting shall be performed under controlled environmental conditions, and in accordance with the paint manufacturer's recommendations pertaining to surface preparation, material handling, and application. The top finish coat of paint shall be Black, similar to Federal specification 595B, Color #27040. Paint samples shall be submitted with the signal support shop drawings for review.

All exterior surfaces of the signal support pole shaft assembly, mast arm assembly, decorative clam shell type base, all clamps, clevis-to-clevis universal, wire entrance, all handhole covers, pedestrian brackets, BHC's, pole and arm caps, signal head hangers and weatherheads shall have a coating properly applied to them. Exterior surfaces of all fastener bolts/screws, washers, nuts, and other attachment hardware shall have a coating applied to them. Fastener threads shall not be clogged with coating material.

Each coating layer shall be properly cured before the application of the next coat. The application procedure shall be such to guarantee a finish that will not scale, flake or peel, and will retain its color brightness and fresh, attractive appearance for 5 years without dulling or fading.

This item of work shall be measured as each complete signal support, in place in essentially a vertical position under full plan loading. All labor, equipment, and materials necessary to furnish, pickup, transport, store, erect, adjust, and repair the signal support and anchor bolts shall be included for payment in the bid item.

Payment

Payment shall be as per item 632 and shall be measured as each complete combination signal support, in place in essentially a vertical position under full plan loading. All labor, equipment and materials necessary to pick up, transport, store, erect, adjust and repair the support and anchor bolts shall be included for payment under this item of work.

ITEM 632 PEDESTAL, 11', AS PER PLAN

Pedestals shall be as per the details in this plan. All exterior surfaces shall be coated in accordance with the finish section requirements of Item 632 Combination Signal Support, Type TC-81.21 (BY TYPE), As Per Plan. Pedestals shall be fluted (16 sharp flutes).

All signal cables shall be run inside the poles. Standard Drawing TC-83.10 is hereby modified to prohibit the use of external conduit risers for signal cabling, or any other use.

Payment shall be as per Item 632.

ITEM 632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN

The formed top of the anchor base pole foundation shall be oriented parallel to the sidewalk or back-of-curb or edge-of-pavement as shown on the signal plans. The top of the foundation shall be flush with any adjacent sidewalk or concrete area except where the ground rises steeply behind the sidewalk or concrete area. Then the foundation shall match the back side of the slope and the street side of the foundation shall be above the sidewalk or concrete area and completely out of the sidewalk or concrete area. A minimum of two conduit ells, used or unused, shall be installed in each pole foundation.

Contractor shall vacuum excavate proposed foundation locations prior to installation. The signal support foundations shall be excavated or vacuum excavated to test for conflicts prior to shop drawings approval. Foundation voids shall be temporary backfilled, securely covered, or the foundations installed while signal supports are manufactured. If utility conflicts are encountered during excavation, the Engineer shall be notified. Modifications to the foundation location may be required. Vacuum excavation, and foundation location adjustments shall be incidental to this item of work.

Payment shall be as per Item 632.

ITEM 632 PEDESTAL FOUNDATION, AS PER PLAN

The formed top of the pole foundation shall be oriented parallel to the sidewalk or back-of-curb or edge-of-pavement as shown on the signal plans. The top of the foundation shall be flush with any adjacent sidewalk or concrete area. A minimum of two conduit ells, used or unused, shall be installed in each pedestal foundation.

Breakaway anchor bolts shall be used for pedestal foundations.

Payment shall be as per Item 632 and will be at the contract unit price and will be full compensation for all labor, materials, tools, equipment and other incidentals necessary for each support foundation furnished, in place, complete and accepted.

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TRAFFIC SIGNAL GENERAL NOTES

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS - NOT FOR CONSTRUCTION

ITEM 632, SIGNALIZATION, MISC.: UNLASH AND RELASH MESSENGER WIRE

The Contractor shall remove existing messenger wire lashing rods and reinstall them as necessary for the installation of any new cables on the existing intersection signal spans. The cables shall enter the existing strain pole through the pole cable entrance fitting and use the existing conduit system to get to the controller cabinet. The new cables shall be supported by a new cable support assembly at the top of the strain pole.

The new signal cables shall be bid by separate bid items.

Payment for Item 632 "Signalization Misc.: Unlash and Relash Messenger Wire" shall be made at the contract unit price per foot and shall include all labor, materials, cable support assemblies and equipment to install new cables on existing signal span wire installations.

ODOT controllers all listed in 809 spec now, with 809 item/TAP reference.

Cabinets are still bid separately with 633 item.

ITEM 633 CONTROLLER UNIT, TS2/A2, WITH CABINET, TYPE TS-2, AS PER PLAN (ALTERNATE 1)

In addition to the requirements of item 633, this item of work shall include furnishing and installing one controller as listed in the ODOT Approved Products list. The controller shall be installed in a ground mounted 8 phase cabinet with all accessories in accordance with these plans and specifications. The controller unit shall provide telemetry features for inclusion in the existing closed loop radio interconnect environment.

The ground mounted control cabinet shall be configured for 8 phase operation and shall be provided with a black powder coated finish to match the signal support. Cabinets shall be properly insulated to prevent solid state equipment from overheating. Operating temperatures shall conform to that specified in ODOT 733.03. In addition to the requirements of Item 633, the controller and cabinet shall provide the following features:

- A slide-out laptop shelf
- Interior, undershelf LED cabinet lighting, including a minimum of 2 panels of 6 high-intensity LED's each and a door-activated switch. The LED panels shall be mounted in locations to maximize light on the cabinet equipment.
- A gooseneck/adjustable light fixture with an LED lamp. The adjustable light fixture shall be mounted on the lower right side of the controller cabinet.
- A minimum of two (2) GFCI protected receptacles
- A minimum of six (6) surge protected (NON-GFCI)receptacles
- 12" cabinet riser
- Extended monitoring
- Manual control and pushbutton
- Automatic/Manual transfer switch
- Coordinated/free switch
- Detector test switches

Each conduit entrance to the cabinet shall be sealed with a rubber pipe/conduit seal gasket. The seal shall be of a material and type tightly fitting and able to seal out water, insects, rodents, and dirt. The seal shall be easily removed for service installations or cable replacements.

Provide an arc flash hazard warning sign on the outside of the front door of the controller cabinet in accordance with the current National Electrical Code paragraph 110.16.

Payment for Item 633 Controller Unit, Type TS-A2 With Cabinet, Type TS-2, As Per Plan shall be at the contract bid price per each, complete and in place, including all connections, tested and accepted.

ITEM 633 CONTROLLER UNIT, TS2/A2, WITH CABINET, TYPE TS-2, AS PER PLAN (ALTERNATE 2)

In addition to the requirements of item 633, this item of work shall include furnishing and installing a m60 ATC actuated controller as manufactured by Yunex Traffic. The controller shall be installed in a ground mounted 8 phase cabinet with all accessories in accordance with these plans and specifications. The controller unit shall provide telemetry features for inclusion in the existing closed loop radio interconnect environment.

The ground mounted control cabinet shall be configured for 8 phase operation and shall be provided with a black powder coated finish to match the signal support. Cabinets shall be properly insulated to prevent solid state equipment from overheating. Operating temperatures shall conform to that specified in ODOT 733.03. In addition to the requirements of Item 633, the controller and cabinet shall provide the following features:

- A slide-out laptop shelf
- Interior, undershelf LED cabinet lighting, including a minimum of 2 panels of 6 high-intensity LED's each and a door-activated switch. The LED panels shall be mounted in locations to maximize light on the cabinet equipment.
- A gooseneck/adjustable light fixture with an LED lamp. The adjustable light fixture shall be mounted on the lower right side of the controller cabinet.
- A minimum of two (2) GFCI protected receptacles
- A minimum of six (6) surge protected (NON-GFCI)receptacles
- 12" cabinet riser
- Extended monitoring
- Manual control and pushbutton
- Automatic/Manual transfer switch
- Coordinated/free switch
- Detector test switches

Each conduit entrance to the cabinet shall be sealed with a rubber pipe/conduit seal gasket. The seal shall be of a material and type tightly fitting and able to seal out water, insects, rodents, and dirt. The seal shall be easily removed for service installations or cable replacements.

Provide an arc flash hazard warning sign on the outside of the front door of the controller cabinet in accordance with the current National Electrical Code paragraph 110.16.

Payment for Item 633 Controller Unit, Type TS-A2 With Cabinet, Type TS-2, As Per Plan shall be at the contract bid price per each, complete and in place, including all connections, tested and accepted.

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN (ALTERNATE 1)

In addition to the requirements of CMS 633 and 733, the UPS cabinet shall include a generator power panel with a heavy duty power relay versus the line voltage generator switch. The generator inlet shall be a recessed panel with a door that is flush with the external side of the UPS cabinet. It shall include a recessed plug, manual transfer switch and a door that securely closes over the power cord. The Contractor must test the generator hookup with a generator. Proper operation is required before payment.

The controller and battery back-up cabinet shall appear as one cabinet from the outside with two internal compartments accessed by separate doors (P-UPS).

The Uninterruptible Power Supply shall be one listed in the ODOT Approved Products List. A network compatible, battery charging management system shall be furnished and installed under this item of work.

The UPS output notifications for on battery, battery 2 hour timer, off battery and low battery shall be wired into the traffic signal cabinet back panel to provide special status alarms for each output into the signal controller.

This item shall include a red L.E.D. status indicator lamp to allow maintenance personnel and law enforcement to quickly assess whether a traffic signal cabinet is being powered by an uninterruptible power supply (UPS). The LED housing shall be NEMA 4X or IP 66 rated for outdoor use and be tamper/shatter resistant. It shall be domed red LED lens, visible from 100ft minimum. The enclosure and LED lamp unit should be placed on the side of the cabinet most visible to traffic and sealed from water intrusion. It should be wired using minimum 20 AWG stranded, insulated hookup wire to the status relay outputs of the UPS. The wires shall be terminated by lugs at the display end and permanently labeled "backup power status display," with wire polarity indicated. The red LED shall only illuminate to indicate the cabinet is operating under UPS backup power (the "backup" operating condition). This item also includes programming the UPS status relay outputs to produce the lamp status displays. These status displays will be solid 100% duty cycle (not flashing) displays. The operating voltage of the LED lamp shall be 120V AC unless otherwise indicated.

The cabinet's exterior finish shall match the color of the main traffic signal controller cabinet. This item of work shall also include furnishing and installing a foundation and work pad of appropriate size to accommodate the UPS cabinet. Reference is made to the work pad details presented herein. A cabinet riser shall only be included if the existing traffic signal cabinet uses a cabinet riser.

All connections, wiring, attachment hardware and miscellaneous materials for both attaching the cabinets and for full operation of the UPS system shall be included in the unit price bid for this item. Payment shall be per item 633 and shall be made at the unit price bid per each, complete, in place, tested and accepted.

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN (ALTERNATE 2)

In addition to the requirements of CMS 633 and 733, the UPS cabinet shall include a generator power panel with a heavy duty power relay versus the line voltage generator switch. The generator inlet shall be a recessed panel with a door that is flush with the external side of the UPS cabinet. It shall include a recessed plug, manual transfer switch and a door that securely closes over the power cord. The Contractor must test the generator hookup with a generator. Proper operation is required before payment.

The controller and battery back-up cabinet shall appear as one cabinet from the outside with two internal compartments accessed by separate doors (P-UPS).

The Uninterruptible Power Supply shall be manufactured by The Alpha Group. Additionally, an Alphaguard, network compatible, battery charging management system shall be furnished and installed under this item of work.

The UPS output notifications for on battery, battery 2 hour timer, off battery and low battery shall be wired into the traffic signal cabinet back panel to provide special status alarms for each output into the signal controller.

This item shall include a red L.E.D. status indicator lamp to allow maintenance personnel and law enforcement to quickly assess whether a traffic signal cabinet is being powered by an uninterruptible power supply (UPS). The LED housing shall be NEMA 4X or IP 66 rated for outdoor use and be tamper/shatter resistant. It shall be domed red LED lens, visible from 100ft minimum. The enclosure and LED lamp unit should be placed on the side of the cabinet most visible to traffic and sealed from water intrusion. It should be wired using minimum 20 AWG stranded, insulated hookup wire to the status relay outputs of the UPS. The wires shall be terminated by lugs at the display end and permanently labeled "backup power status display," with wire polarity indicated. The red LED shall only illuminate to indicate the cabinet is operating under UPS backup power (the "backup" operating condition). This item also includes programming the UPS status relay outputs to produce the lamp status displays. These status displays will be solid 100% duty cycle (not flashing) displays. The operating voltage of the LED lamp shall be 120V AC unless otherwise indicated.

The cabinet's exterior finish shall match the color of the main traffic signal controller cabinet. This item of work shall also include furnishing and installing a foundation and work pad of appropriate size to accommodate the UPS cabinet. Reference is made to the work pad details presented herein. A cabinet riser shall only be included if the existing traffic signal cabinet uses a cabinet riser.

All connections, wiring, attachment hardware and miscellaneous materials for both attaching the cabinets and for full operation of the UPS system shall be included in the unit price bid for this item. Payment shall be per item 633 and shall be made at the unit price bid per each, complete, in place, tested and accepted.

ITEM 633, CONTROLLER, MISC.: REUSE OF EMERGENCY VEHICLE PREEMPTION SYSTEMS

Under this item of work, the Contractor shall relocate the existing infrared (IR) emergency vehicle detectors/confirmation lights and the GPS based emergency vehicle preemption systems from the existing signal installation to the proposed installation.

Wiring, couplers, modifications of the cabinet facilities, and all other devices, whether or not specifically itemized on the plan or in these notes shall be provided and installed as required to render both emergency vehicle preemption systems completely operational and in compliance with the Ohio Department of Transportation standards and the manufacturers recommendations.

Prior to deactivation and removal or modification of existing emergency vehicle preemption devices, the Contractor and the Engineer shall inspect the devices prior to relocation for the purpose of documenting any existing damage. Any damage identified after relocation and not documented in the pre-relocation inspection report will be presumed to have been caused by the Contractor. The Contractor will be required to repair or replace the damaged equipment at the option of the Engineer.

Any new wiring needed to facilitate the relocation process shall be considered incidental to this item of work.

Payment for this item of work shall be at the Contract bid price for Item 633, Controller, Misc.: Reuse of Emergency Vehicle Preemption Systems, and shall include labor and material for relocating, tuning, field testing, and acceptance of both IR/Confirmation Light and GPS Based systems at the intersection. Successful communication between the intersection and emergency vehicles must be achieved utilizing both systems prior to acceptance.

ITEM 633 CABINET FOUNDATION, AS PER PLAN
ITEM 633 CONTROLLER WORK PAD, AS PER PLAN

The cabinet foundation and controller work pad shall be as detailed within and sized to accommodate the UPS cabinet.

Payment shall be per Item 633.

ITEM 815 REUSE OF SPREAD SPECTRUM RADIO INTERCONNECT SYSTEM, AS PER PLAN

Under this item of work, the Contractor shall relocate the existing spread spectrum radio interconnect system from the existing signal installation to the proposed installation.

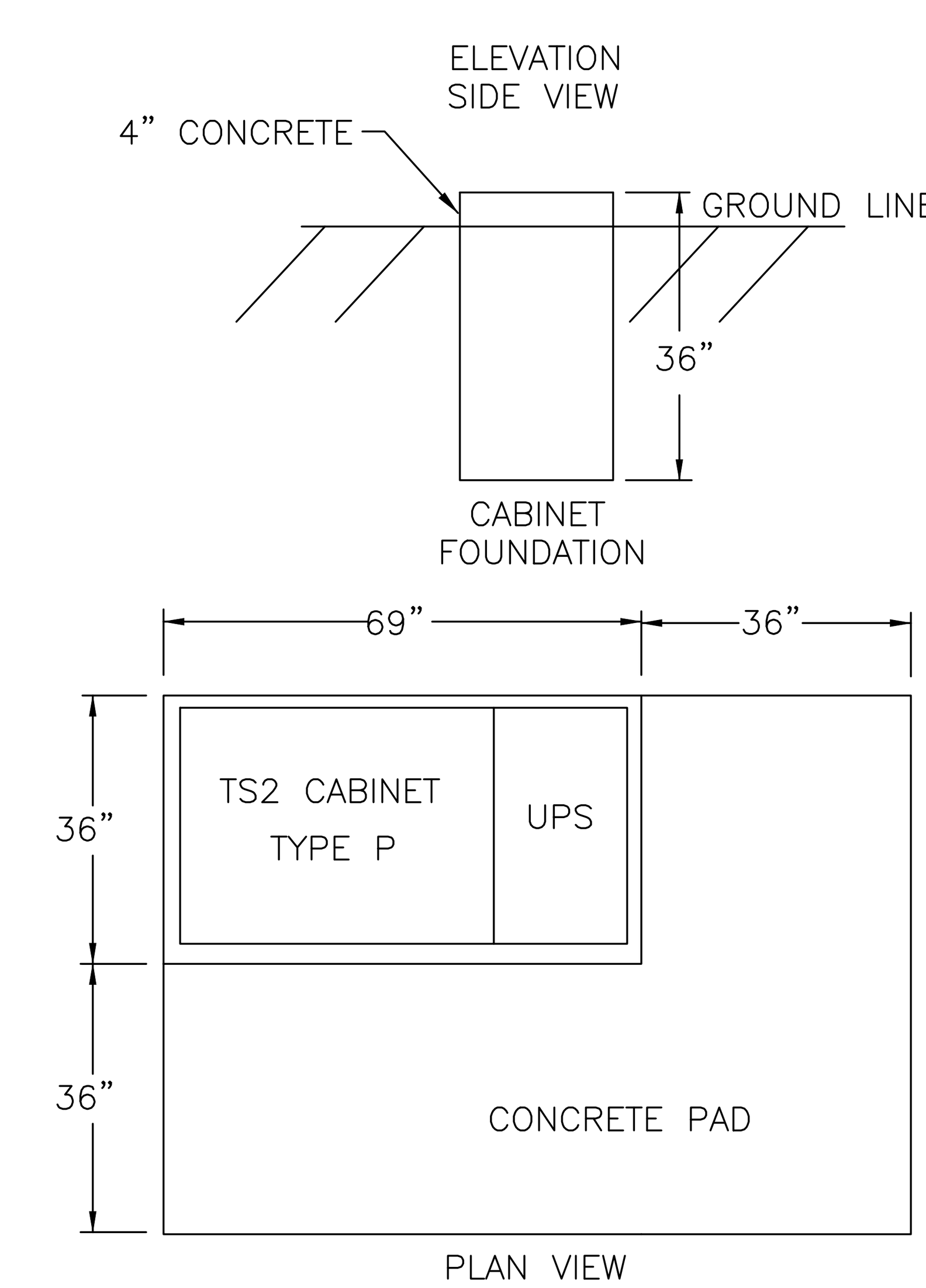
It shall be the Contractor's responsibility to locate the antenna in a location that achieves optimal signal strength for communication with the system wide controllers, while maintaining applicable clearance requirements from adjacent overhead utilities. The antenna discharge unit shall be properly grounded to the ground bus in the traffic control cabinet.

Wiring, couplers, modifications of the cabinet facilities, and all other devices, whether or not specifically itemized on the plan or in these notes shall be provided and installed as required to render the relocated spread spectrum radio interconnect system completely operational and in compliance with the Ohio Department of Transportation standards, supplemental specifications 815 and 906 and the manufacturers recommendations.

Prior to deactivation and removal or modification of existing radio IC devices, the Contractor and the Engineer shall inspect the devices prior to relocation for the purpose of documenting any existing damage. Any damage identified after relocation and not documented in the pre-relocation inspection report will be presumed to have been caused by the Contractor. The Contractor will be required to repair or replace the damaged equipment at the option of the Engineer.

Any new wiring needed to facilitate the relocation process shall be considered incidental to this item of work.

Payment for this item of work shall be at the Contract bid price for Item 815 Reuse of Spread Spectrum Radio Interconnect System, As Per Plan and shall include labor and material for relocating, tuning, field testing, and acceptance of the system. A "system" shall be considered the equipment installed at one intersection. Successful communication between intersections must be achieved prior to acceptance.



ITEM 633 CABINET FOUNDATION, AS PER PLAN
ITEM 633 CONTROLLER WORK PAD, AS PER PLAN
NOT TO SCALE

CALCULATED EPP
CHECKED KRB/JDS

TRAFFIC SIGNAL GENERAL NOTES

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS - NOT FOR CONSTRUCTION

ITEM 816 REUSE OF VIDEO DETECTION SYSTEM, AS PER PLAN

Under this item of work, the Contractor shall relocate the video detection system from the existing signal installation to the proposed installation.

Wiring, couplers, modifications of the cabinet facilities, and all other devices, whether or not specifically itemized on the plan or in these notes shall be provided and installed as required to render the relocated video detection system completely operational and in compliance with the Ohio Department of Transportation standards, supplemental specifications 816 and 907 and the manufacturers recommendations.

Prior to deactivation and removal or modification of existing video detection devices, the Contractor and the Engineer shall inspect the devices prior to relocation for the purpose of documenting any existing damage. Any damage identified after relocation and not documented in the pre-relocation inspection report will be presumed to have been caused by the Contractor. The Contractor will be required to repair or replace the damaged equipment at the option of the Engineer.

Any new wiring needed to facilitate the relocation process shall be considered incidental to this item of work.

Payment for this item of work shall be at the Contract bid price for Item 816 Reuse of Video Detection System, As Per Plan and shall include labor and material for relocating, tuning, field testing, and acceptance of the system. A "system" shall be considered the equipment installed at one intersection. Successful detection calls must be achieved prior to acceptance.

ITEM 816 VIDEO DETECTION SYSTEM, AS PER PLAN

Under this item of work, the Contractor shall furnish and install a complete video vehicle detection system. The video vehicle detection system shall monitor vehicles on two approaches to the intersection via processing of video images and provide standard detector outputs to the existing traffic signal controller. The system shall include image sensors (cameras) for each approach (per plan), one communications hub for the intersection and all necessary mating cables. Wiring, couplers, modification of the cabinet facilities, and all other devices, whether or not specifically itemized on the plan sheets, shall be provided and installed as required to render the video system completely operational in compliance with the Ohio Department of Transportation Standards, Supplemental Specifications 816 and 907 and the Manufacturers recommendations. All major components of the video vehicle detection system shall be supplied by the same manufacturer as a complete system, ready to operate.

All video devices, except the image sensors, shall be housed in the controller cabinet. All devices shall be mounted so all cable connections are accessible and all device doors can be fully opened for servicing. The video vehicle detection system shall be capable of being controlled via a remote supervisor computer, either on-line or off-line. The user shall be able to create edit, store and delete detection zones from either the supervisor computer or at the remote intersection location.

The image sensor shall be equipped with an adjustable focal length, auto-iris lens. The image sensor shall be housed in an environmental enclosure that is waterproof and dust tight to NEMA-4 specifications.

The enclosure shall be heated to prevent the accumulation of ice and condensation on the lens. All exposed exterior surfaces of the video image sensor, mounting hardware, and related items shall be painted to match the signal supports.

All devices, wiring, and cabinet modifications required to make the video vehicle detection system fully operational shall be provided, installed and paid for under this item of work.

Payment for all of the above will be made at the contract unit price bid, including all labor, materials, and appurtenances for each complete video vehicle detection system at one intersection, installed, tested, and accepted.

ITEM 633 CONTROLLER ITEM, MISC.: CONTROLLER MODIFICATION

The existing traffic signal cabinet and controller located at the Gender Rd/US-33 WB Ramps intersection shall be modified to accommodate the proposed intersection improvements. All wiring, programming, accessories, controller/cabinet equipment and modifications needed to accommodate the planned improvements shall be considered incidental to this item of work.

Prior to deactivation or modification of any signal equipment, alternate means of traffic control shall be in place and approved by the Engineer. The intersection shall operate under full signalized control between the hours of 7:00 AM to 9:00 AM and 3:30 PM to 6:00 PM Monday through Friday. Reference is made to the requirements of Item 614 Maintaining Traffic, As Per Plan and Maintenance of Traffic Signal Installation requirements.

This item of work shall be measured per intersection and include all the material and work needed to accommodate the planned improvements.

ITEM SPECIAL - DUPLEX RECEPTACLES, GFCI TYPE, 120V, AS PER PLAN

1. This item shall consist of furnishing the materials, wiring, labor and equipment necessary to supply and install one 120-volt duplex receptacle (GFCI-type) in each of the traffic signal support poles at the Gender Rd/US 33 EB Ramps intersection per the detail and table on sheets 63 & 64.

2. Each receptacle shall be weatherproof, whether or not the attachment plug cap is inserted, in accordance with the 2017 NEC 406.9(B).

3. Payment for this item shall be at the lump sum amount bid and shall include all the items necessary to install receptacles as described above at the specified intersections.

LIGHTING, MISC.: RELOCATE PHOTOCELL

Under this item of work, the Contractor shall relocate the existing photocell mounted on the existing signal support N/E-1 at the Gender Rd/US-33 WB Ramps intersection to the top of the ODOT lighting controller.

Wiring, couplers, modification to cabinet facilities, and all other devices, whether or not specifically itemized on the plan or in these notes shall be provided and installed as required to render the relocated photocell completely operational and in compliance with the ODOT standards.

Payment shall be per each photocell relocated. All new photocell wiring, mounting hardware, and any other materials/labor required to relocate the photocell shall be incidental to this item.

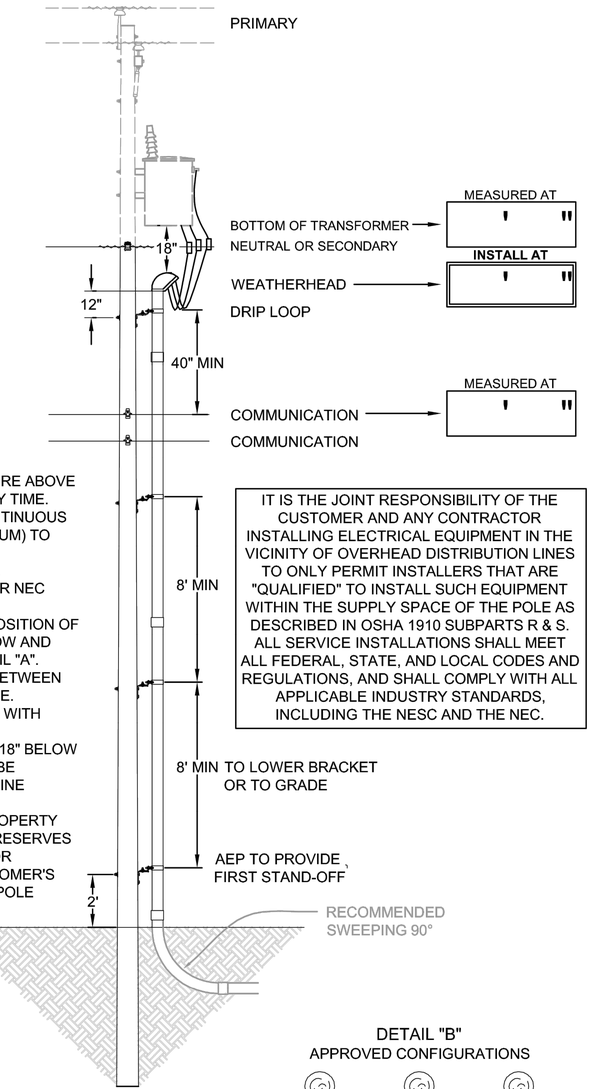
ITEM 625 PULL BOX, 725.08, 27" (COC STD 4022), AS PER PLAN
ITEM 625 PULL BOX, 725.08, 32" (COC STD 4023), AS PER PLAN

In addition to the requirements of Item 625, pull boxes furnished under this item of work shall be per the requirements of the City of Columbus Standard Construction Drawings 4022 and 4023.

Payment shall be per Item 625.

DANGER - HIGH VOLTAGE
DO NOT CLIMB OR EXTEND CONDUIT ABOVE BOTTOM OF TRANSFORMER

CAUTION
UNQUALIFIED PERSONNEL MUST REMAIN 10 FEET BELOW THE WEATHERHEAD ELEVATION

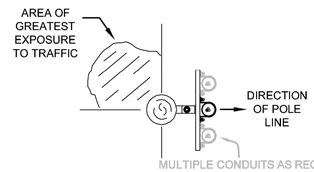


NOTES:

1. DO NOT EXTEND CONDUIT OR SERVICE WIRE ABOVE THE BOTTOM OF THE TRANSFORMER AT ANY TIME.
2. CUSTOMER TO PROVIDE ADDITIONAL CONTINUOUS CABLE WITH SUFFICIENT LENGTH (18" MINIMUM) TO CONNECT WITH OVERHEAD SOURCE.
3. AEP TO MAKE CONNECTIONS TO SOURCE.
4. CONDUIT ASSEMBLY TO BE INSTALLED PER NEC AND STATE/LOCAL REQUIREMENTS.
5. AEP SHALL DETERMINE THE LOCATION/ POSITION OF RISER ON THE POLE BASED ON TRAFFIC FLOW AND COMMUNICATION ATTACHMENTS. SEE DETAIL "A".
6. MAINTAIN A MINIMUM OF THREE INCHES BETWEEN RISER CONDUIT AND COMMUNICATION CABLE.
7. MULTIPLE CONDUITS REQUIRE STANDOFF WITH T-SLOT FOR SUPPORT. SEE DETAIL "B".
8. WHERE 40" ABOVE COMMUNICATION AND 18" BELOW BOTTOM OF TRANSFORMER CANNOT BOTH BE OBTAINED, AEP ENGINEERING WILL DETERMINE NECESSARY REMEDY
9. THE SERVICE RISER WILL REMAIN THE PROPERTY AND RESPONSIBILITY OF CUSTOMER. AEP RESERVES THE RIGHT TO REQUIRE RELOCATION AND/OR TRANSFER OF SERVICE RISER AT THE CUSTOMER'S EXPENSE, DUE TO FUTURE ATTACHEES OR POLE REPLACEMENT

IT IS THE JOINT RESPONSIBILITY OF THE CUSTOMER AND ANY CONTRACTOR INSTALLING ELECTRICAL EQUIPMENT IN THE VICINITY OF OVERHEAD DISTRIBUTION LINES TO ONLY PERMIT INSTALLERS THAT ARE "QUALIFIED" TO INSTALL SUCH EQUIPMENT WITHIN THE SUPPLY SPACE OF THE POLE AS DESCRIBED IN OSHA 1910 SUBPARTS R & S. ALL SERVICE INSTALLATIONS SHALL MEET ALL FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS, AND SHALL COMPLY WITH ALL APPLICABLE INDUSTRY STANDARDS, INCLUDING THE NESC AND THE NEC.

DETAIL "A"
PREFERRED ORIENTATION



DETAIL "B"
APPROVED CONFIGURATIONS

AEP OHIO
A unit of American Electric Power

SPECIFICATION FOR PRIVATE RISER INSTALLED ON AEP POLE

CREATED: 6/11/12
REF: DS2007-B, DS2007-C

CALCULATED EMH
CHECKED KRB/JDS

POWER SERVICE DETAILS

FRA-674-2.22
GENDER ROAD - PHASE 6

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

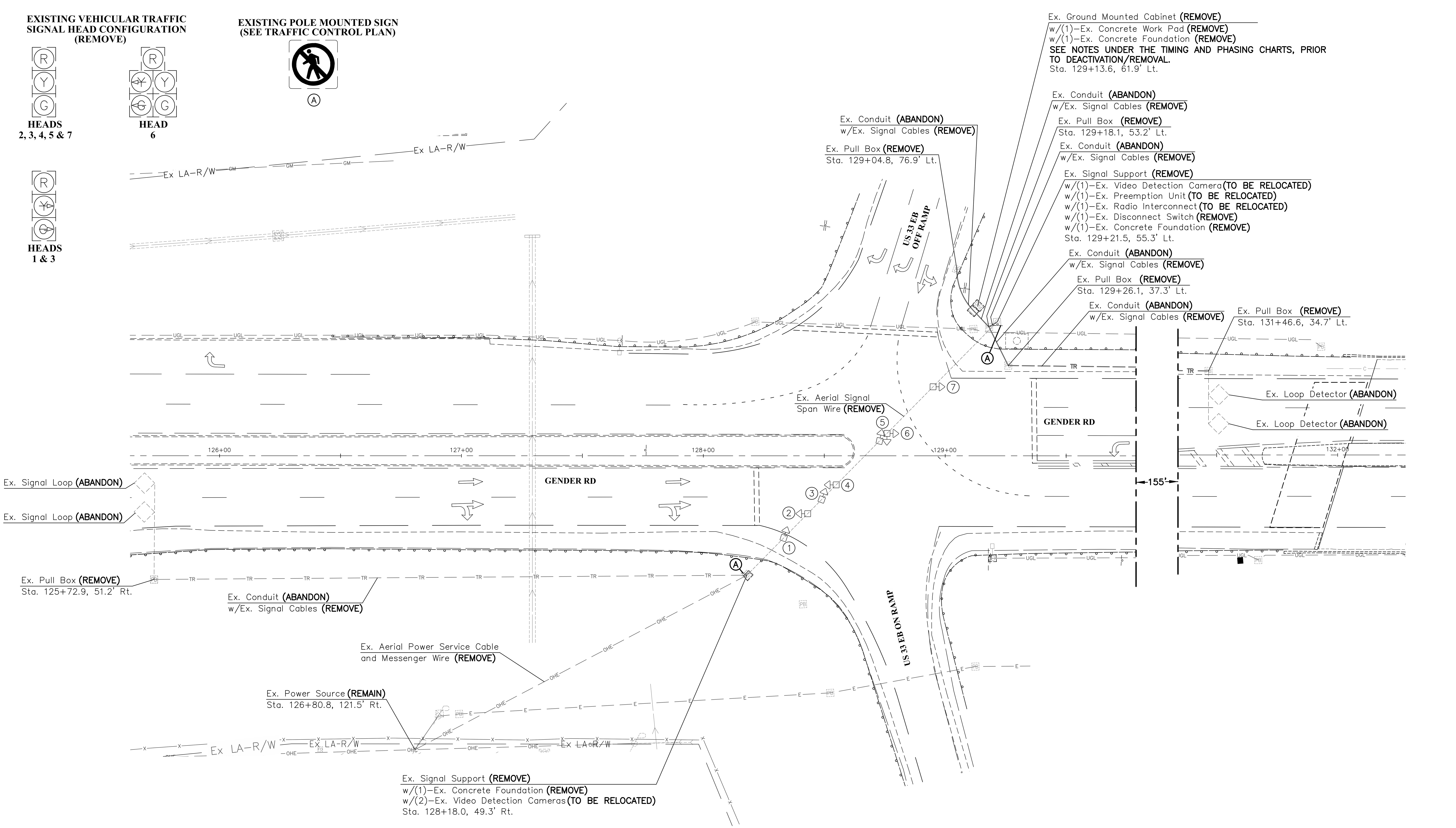
Gender Road at US-33 EB Ramps Quantities	Gender Road at US-33 WB Ramps Quantities	Total	Item No.	Unit	Description
0	1	1	ODOT 625	Each	Bracket Arm, As Per Plan
214	74	288	ODOT 625	Lin Ft	Conduit, 2", 725.051
18	0	18	ODOT 625	Lin Ft	Conduit, 3", 725.051
199	0	199	ODOT 625	Lin Ft	Conduit, 2", 725.04, Jacked or Drilled, As Per Plan
594	224	818	ODOT 625	Lin Ft	Conduit, 3", 725.04, Jacked or Drilled, As Per Plan
18	0	18	ODOT 625	Lin Ft	Conduit, Encased, 2", 725.051
3	0	3	ODOT 625	Each	Pull Box, 725.08, 18"
3	1	4	ODOT 625	Each	Pull Box, 725.08, 27" (COC Std 4022), As Per Plan
1	0	1	ODOT 625	Each	Pull Box, 725.08, 32" (COC Std 4023), As Per Plan
125	37	162	ODOT 625	Lin Ft	Trench
125	37	162	ODOT 625	Lin Ft	Underground Warning/Marking Tape
7	2	9	ODOT 625	Each	Ground Rod
3	1	4	ODOT 625	Each	Connection, Fused Pull-Apart, Type II
3	1	4	ODOT 625	Each	Connection, Fused Pull-Apart, Type III
1078	0	1078	ODOT 625	Each	No. 8 AWG 600 Volt Distribution cable (Combination Lighting)
621	155	776	ODOT 625	Each	No. 4 AWG 600 Volt distribution Cable, As per Plan (Grounding and Bonding)
291	116	407	ODOT 625	Each	Pole and Bracket Cable
27	9	36	ODOT 630	Sq Ft	Sign, Flat Sheet, As Per Plan
3	1	4	ODOT 630	Each	Sign Hanger Assembly, Mast Arm Mounted, As Per Plan
1	1	2	ODOT 630	Lump	Signs, As Per Plan
0	1	1	ODOT 632	Each	Reuse of Vehicular Signal Head
10	0	10	ODOT 632	Each	Vehicular Signal Head, LED, Polycarbonate, 3-Section, 12" Lens, With Backplate (Black) As Per Plan
1	1	2	ODOT 632	Each	Vehicular Signal Head, LED, Polycarbonate, 5-Section, 12" Lens, With Backplate (Black) As Per Plan
2	2	4	ODOT 632	Each	Pedestrian Signal Head, As Per Plan
11	2	13	ODOT 632	Each	Covering Vehicular Signal Head, As Per Plan
2	2	4	ODOT 632	Each	Covering Pedestrian Signal Head
0	2	2	ODOT 632	Each	Pedestrian Pushbutton, As Per Plan
0	2	2	ODOT 632	Each	Covering Pedestrian Pushbutton
1237	224	1461	ODOT 632	Lin Ft	Signal Cable, 7 Conductor, No. 14 AWG
539	224	763	ODOT 632	Lin Ft	Signal Cable, 3 Conductor, No. 14 AWG
237	59	296	ODOT 632	Lin Ft	Loop Detector Lead-In Cable
1	0	1	ODOT 632	Each	Power Service, As Per Plan
258	0	258	ODOT 632	Lin Ft	Power Cable, 2 Conductor, No. 4 AWG, As Per Plan
1	0	1	ODOT 632	Each	Wood Pole
1	0	1	ODOT 632	Each	Down Guy
1	0	1	ODOT 632	Each	Conduit Riser, 2" Diameter, SCH 80
2	0	2	ODOT 632	Each	Combination Signal Support, Type TC-81.22, Design 12, As Per Plan
1	0	1	ODOT 632	Each	Combination Signal Support, Type TC-81.22, Design 13, As Per Plan
3	0	3	ODOT 632	Each	Signal Support Foundation, As Per Plan
2	2	4	ODOT 632	Each	Pedestal, 11', As Per Plan
2	2	4	ODOT 632	Each	Pedestal Foundation, As Per Plan
1	1	2	ODOT 632	Each	Removal of Traffic Signal Installation, As Per Plan
0	133	133	ODOT 632	Lin Ft	Signalization, Misc.: Unlash and Relash Messenger Wire
0	1	1	ODOT 633	Each	Controller Item, Misc.: Controller Modification
1	0	1	ODOT 816	Each	Reuse of Video Detection System, As Per Plan
1	0	1	ODOT 633	Each	Controller, Misc.: Reuse of Emergency Vehicle Preemption
1	0	1	ODOT 815	Each	Reuse of Spread Spection Radio Interconnect System, As Per Plan
0	1	1	ODOT 816	Each	Video Detection System, As Per Plan
1	0	1	ODOT 633	Each	Cabinet Foundation, As Per Plan
1	0	1	ODOT 633	Each	Controller Work Pad, As Per Plan
3	0	3	SPECIAL	Each	Duplex Receptacles, GFCI Type, 120V, As Per Plan

Gender Road at US-33 EB Ramps Quantities	Gender Road at US-33 WB Ramps Quantities	Total	Item No.	Unit	Description
ALTERNATE BID 1					
6	1	7	ODOT 625	Each	Luminaire, LED, 120V, Tear Drop, As Per Plan (Alternate 1)
1	0	1	ODOT 633	Each	Controller Unit, TS2/A2, With Cabinet, Type TS-2, As Per Plan (Alternate 1)
1	0	1	ODOT 633	Each	Uninterruptible Power Supply (UPS), 1000 Watt, As Per Plan (Alternate 1)
ALTERNATE BID 2					
6	1	7	ODOT 625	Each	Luminaire, 73W LED, 120V, Tear Drop, As Per Plan (Alternate 2)
1	0	1	ODOT 633	Each	Controller Unit, TS2/A2, With Cabinet, Type TS-2, As Per Plan (Alternate 2)
1	0	1	ODOT 633	Each	Uninterruptible Power Supply (UPS), 1000 Watt, As Per Plan (Alternate 2)

CALCULATED EPP
CHECKED KRB/JDS

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

FRA-674-2.22
GENDER ROAD - PHASE 6


EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (REMOVE)
HEADS 2, 3, 4, 5 & 7
HEAD 6
HEADS 1 & 3
EXISTING POLE MOUNTED SIGN (SEE TRAFFIC CONTROL PLAN)
Ex. Ground Mounted Cabinet (REMOVE)
w/(1)–Ex. Concrete Work Pad (REMOVE)
w/(1)–Ex. Concrete Foundation (REMOVE)
SEE NOTES UNDER THE TIMING AND PHASING CHARTS, PRIOR TO DEACTIVATION/REMOVAL.
Sta. 129+13.6, 61.9' Lt.
Ex. Conduit (ABANDON)
w/Ex. Signal Cables (REMOVE)
Ex. Pull Box (REMOVE)
Sta. 129+18.1, 53.2' Lt.
Ex. Conduit (ABANDON)
w/Ex. Signal Cables (REMOVE)
Ex. Signal Support (REMOVE)
w/(1)–Ex. Video Detection Camera (TO BE RELOCATED)
w/(1)–Ex. Preemption Unit (TO BE RELOCATED)
w/(1)–Ex. Radio Interconnect (TO BE RELOCATED)
w/(1)–Ex. Disconnect Switch (REMOVE)
w/(1)–Ex. Concrete Foundation (REMOVE)
Sta. 129+21.5, 55.3' Lt.
Ex. Conduit (ABANDON)
w/Ex. Signal Cables (REMOVE)
Ex. Pull Box (REMOVE)
Sta. 129+26.1, 37.3' Lt.
Ex. Conduit (ABANDON)
w/Ex. Signal Cables (REMOVE)
Ex. Pull Box (REMOVE)
Sta. 131+46.6, 34.7' Lt.
Ex. Conduit (ABANDON)
w/Ex. Signal Cables (REMOVE)
Ex. Pull Box (REMOVE)
Sta. 129+04.8, 76.9' Lt.
US 33 EB OFF RAMP
Ex LA-R/W
Ex. Aerial Signal Span Wire (REMOVE)
GENDER RD
Ex. Loop Detector (ABANDON)
Ex. Loop Detector (ABANDON)
126+00
127+00
128+00
129+00
132+00
155'
Ex. Signal Loop (ABANDON)
Ex. Signal Loop (ABANDON)
Ex. Pull Box (REMOVE)
Sta. 125+72.9, 51.2' Rt.
Ex. Conduit (ABANDON)
w/Ex. Signal Cables (REMOVE)
US 33 EB ON RAMP
Ex. Aerial Power Service Cable and Messenger Wire (REMOVE)
Ex. Power Source (REMAIN)
Sta. 126+80.8, 121.5' Rt.
Ex. Signal Support (REMOVE)
w/(1)–Ex. Concrete Foundation (REMOVE)
w/(2)–Ex. Video Detection Cameras (TO BE RELOCATED)
Sta. 128+18.0, 49.3' Rt.

LEGEND

SIGNAL HEADS:	PROP. VEHICULAR / EX. VEHICULAR (REMOVE)
	PROP. PEDESTRIAN (W) / EX. PEDESTRIAN (W)
SIGNAL POLES:	PROP. ANCHOR/STRAIN POLE / EX. ANCHOR/STRAIN POLE
	EX. EMBEDDED POLE / EX. WOOD POLE / GUY ANCHOR
	PROP. PEDESTAL / EX. PEDESTAL / PUSHBUTTON
CONTROLLERS & CABINETS:	EX. CABINET W/PAD
PULL BOXES:	EX. PULL BOX
	PROP. PULL BOX
DETECTION:	VIDEO DETECTOR

Note:
1. Emergency vehicle preemption shall be reused and relocated to the proposed signal installation.

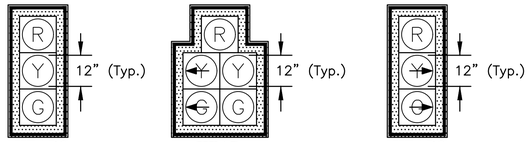
1 inch = 20 feet

CALCULATED EPP CHECKED KRB/JDS

TRAFFIC SIGNAL REMOVAL PLAN
GENDER RD AT US 33 EB RAMPS

FRA-674-2.22
GENDER ROAD - PHASE 6

PROPOSED VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION



HEADS 2, 3, 4, 5, 6 & 7 | HEAD 1 | HEADS 8, 9 & 10

PROPOSED PEDESTRIAN SIGNAL HEAD CONFIGURATION

(E)

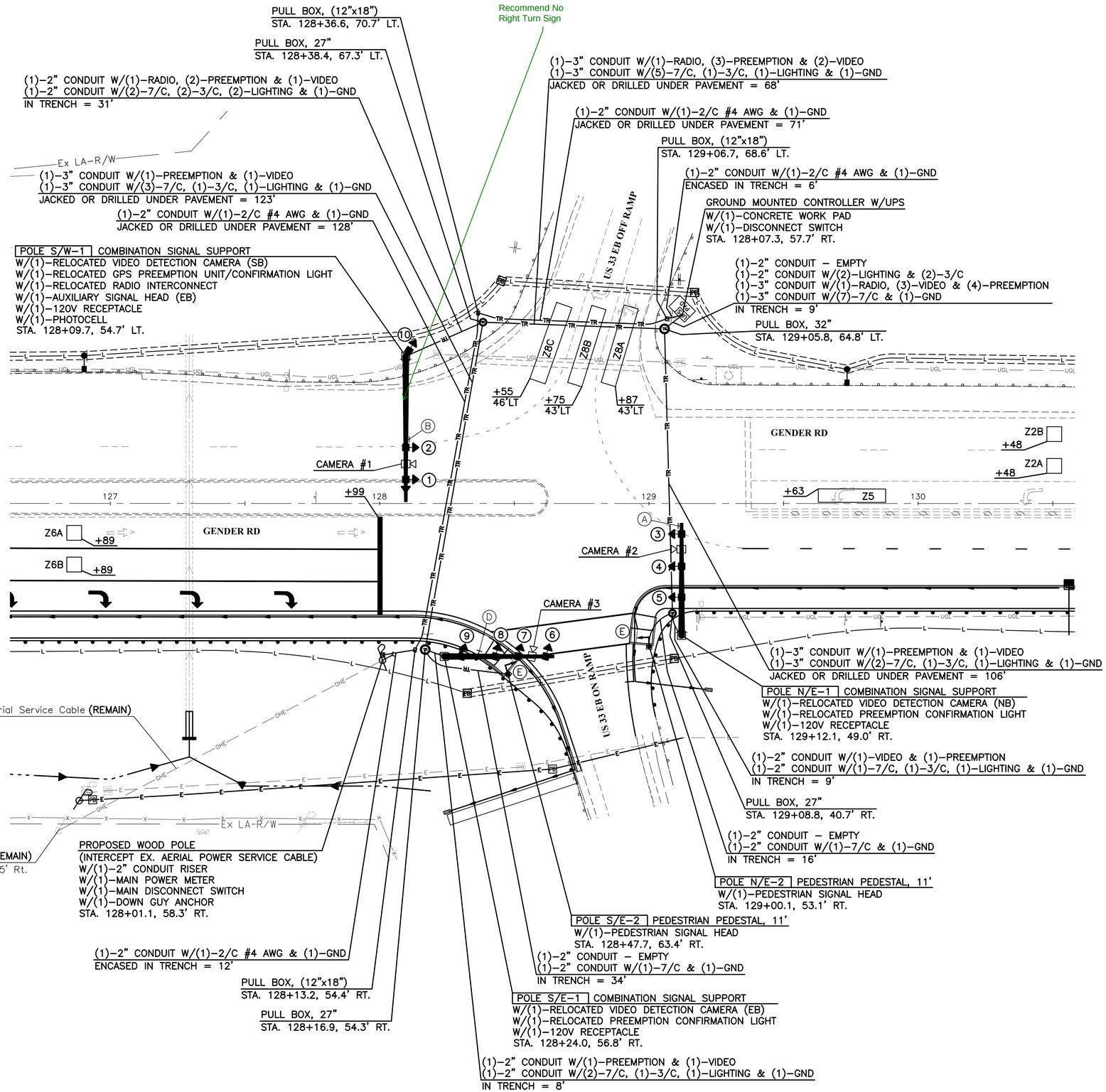
Ped accommodations or No Ped signs recommended.

PROPOSED SIGNS MASTER ARM MOUNTED

R6-2R-30 (A)

R6-2L-30 (B)

R10-11c-30 (D)



LEGEND

SIGNAL HEADS:	PROP. VEHICULAR	EX. VEHICULAR
	PROP. PEDESTRIAN	EX. PEDESTRIAN
SIGNAL POLES:	PROP. ANCHOR/STRAIN POLE	EX. ANCHOR/STRAIN POLE
	PROP. PEDESTAL	EX. PEDESTAL PUSHBUTTON
	PROP. MASTARM	
CONTROLLERS & CABINETS:	EX. CABINET W/PAD	PROP. CABINET W/PAD & UPS
PULL BOXES:	EX. PULL BOX	
	PROP. PULL BOX	
DETECTION:	VIDEO DETECTOR	

1 inch = 20 feet

CALCULATED EPP | CHECKED KRB/JDS

TRAFFIC SIGNAL PLAN GENDER RD AT US 33 EB RAMPS

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1 (SBLT)	R	ø2 R	R
	Y	ø2 Y	
	G	ø2 G	
	←Y	ø5 Y	
	←G	ø5 G	
2 (SB)	R	ø2 R	R
	Y	ø2 Y	
	G	ø2 G	
3, 4 & 5 (NB)	R	øOLB R	R
	Y	øOLB Y	
	G	øOLB G	
6 & 7 (EB)	R	ø8 R	R
	Y	ø8 Y	
	G	ø8 G	
8,9 & 10 (EBRT)	R	øOLA R	R
	→Y	øOLA Y	
	→G	øOLA G	

OLA=ø5+ø6+ø8 OLA=LS13
OLB=ø2+ø6 OLB=LS14

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
E	WALK	G OLB-W	OFF
	DON'T WALK	R OLB-DW	

TIMING CHART

PHASE	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
MOVEMENT	–	SB	–	–	SBLT	NB	–	EB
MIN INITIAL	–	20*	–	–	7*	10*	–	10*
WALK	–	–	–	–	–	7	–	–
PED CHG	–	–	–	–	–	9	–	–
PASS / EXT	–	3.3*	–	–	3.0*	3.5*	–	3.5*
YELLOW	–	4.2	–	–	3.3	4.2	–	3.8
RED CLR	–	1.0	–	–	1.8	1.0	–	1.0
MAX GRN 1	–	35*	–	–	20*	22*	–	25*
MAX GRN 2	–	35*	–	–	20*	22*	–	25*
PED RECALL	–	ON	–	–	OFF	ON	–	OFF
VEH RECALL	–	ON*	–	–	OFF*	OFF*	–	ON*
MEMORY	–	ON*	-	-	OFF*	ON*	-	OFF*

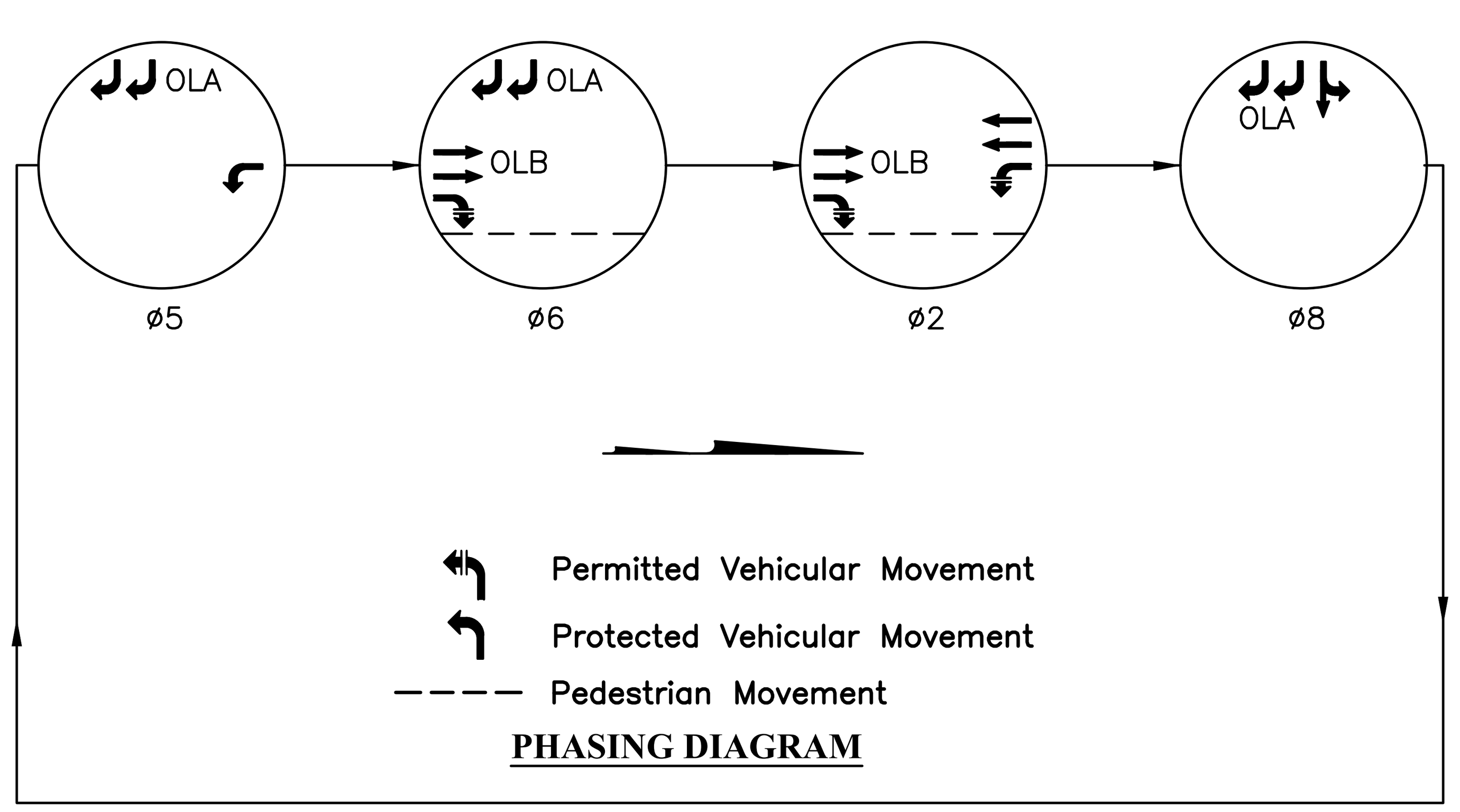
PLAN	CYCLE	OFFSET	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
AM*	110*	61*	–	40*	–	–	17*	35*	–	18*
MID*	110*	79*	–	46*	–	–	15*	29*	–	20*
MID PM*	120*	93*	–	60*	–	–	18*	20*	–	22*
PM*	120*	78*	–	49*	–	–	21*	25*	–	25*
WEEKEND*	110*	78*	–	46*	–	–	15*	29*	–	20*
HV–BALANCED*	150*	100*	–	76*	–	–	23*	19*	–	32*
HIGH VOL–SB*	150*	131*	–	76*	–	–	23*	19*	–	32*
HIGH VOL–NB*	150*	85*	–	76*	–	–	23*	19*	–	32*

* = Where the timing value noted above references an asterisk, the intent is to transfer the timing value from the existing four phase cabinet to the proposed eight phase cabinet. Because the phase numbers change, the timing values shall remain consistent with the cardinal directions, NB, EB, etc. Additionally, the values noted with an asterisk are based on record timing data. Prior to deactivation or removal of the existing controller, the Contractor shall record/document all existing timings and phasing data. The values listed above are furnished for guidance in transitioning from existing timing data and are provided for reference only. If the Contractor identifies discrepancies between the values noted above and existing timings, the Engineer shall be notified. Timing values listed above without an asterisk, shall take precedence and override existing values and notification is not required.

–Offsets are referenced from the end of green/beginning of yellow
–Coordinated phases: ø2 & ø6
–Splits are in seconds

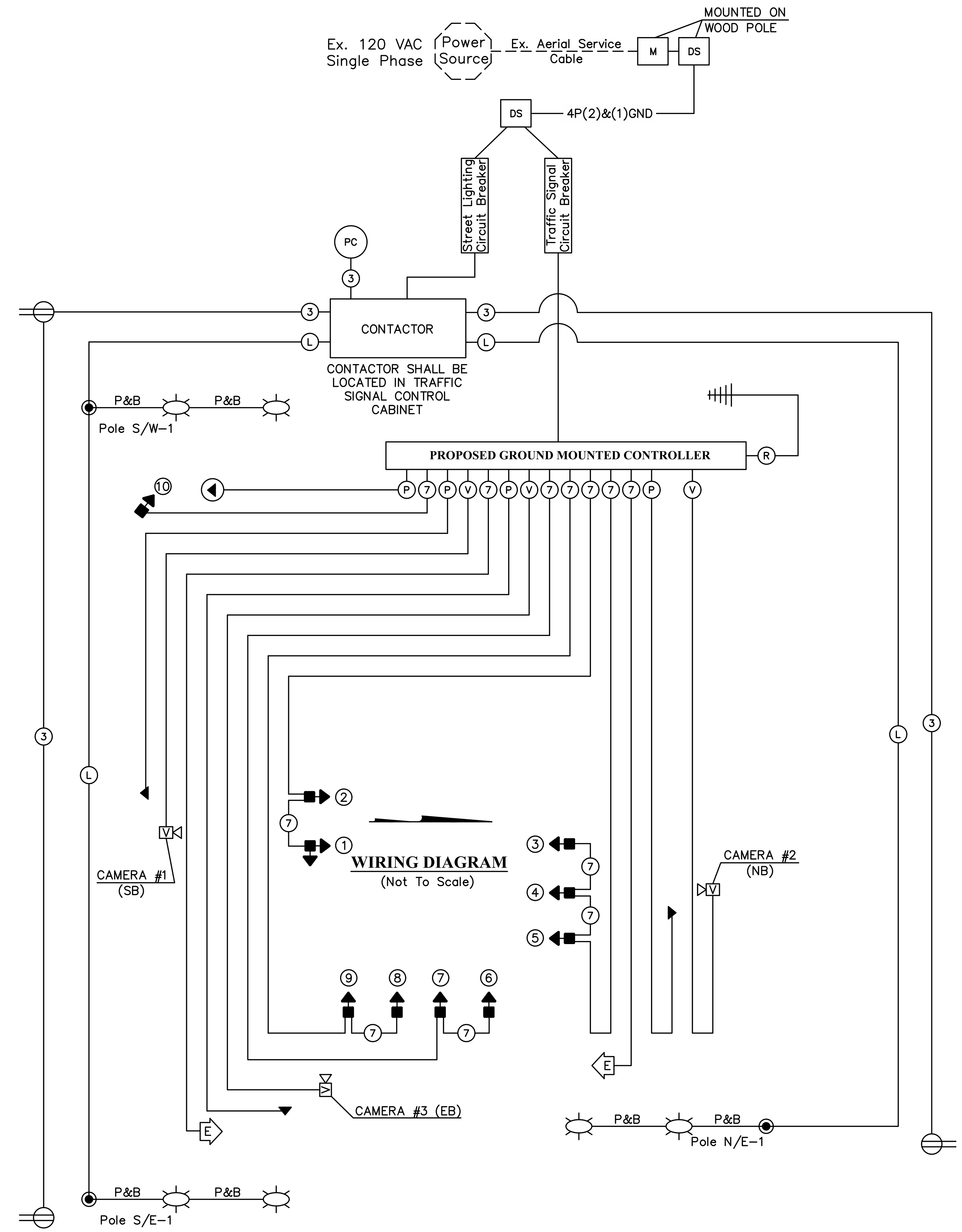
VIDEO DETECTION ASSIGNMENTS

DETECTOR	CAMERA	PHASE	SIZE	PULSE	PRESENCE	DELAY
Z2A	1	2	5.5'x5.5'	X		0 Sec.
Z2B	1	2	5.5'x5.5'	X		0 Sec.
Z5	1	5	5'x25'		X	3 Sec.
Z6A	2	6	5.5'x5.5'	X		0 Sec.
Z6B	2	6	5.5'x5.5'	X		0 Sec.
Z8A	3	8	5.5'x30'		X	0 Sec.
Z8B	3	8	5.5'x30'		X	0 Sec.
Z8C	3	8	6'x30'		X	5 Sec.



PHASING DIAGRAM

Note:
1. When individual movements are associated with concurrent phases, the clearance interval shall be omitted.
2. The phasing illustrated above has been developed to reflect existing conditions. The intent is to maintain existing phasing, but when switching from a 4 phase controller to an 8 phase controller, the phasing number will change. Comparison between existing and proposed conditions shall be consistent with the cardinal directions, NB, SB, EB, etc. The Contractor shall record/document all existing phasing data for future reference. If the Contractor identifies discrepancies between the phasing shown above and existing phasing, the Engineer shall be notified.

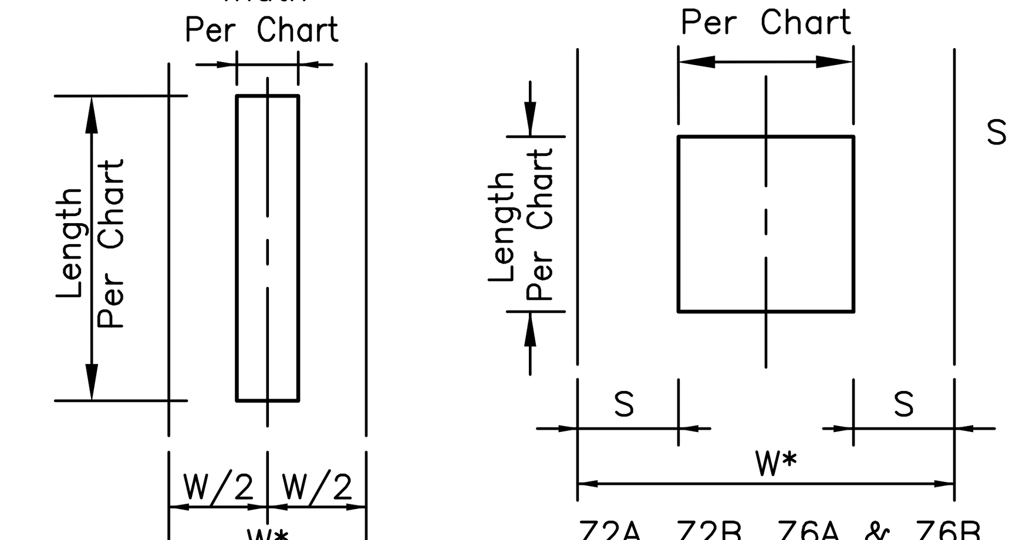


WIRING DIAGRAM LEGEND

- Vehicular Signal Head
- Pedestrian Signal Head
- Existing Power Source
- —4P(2)— 2/C #4 AWG (Power)
- P&B (2)–#10 AWG Pole and Bracket Cables
- Luminaire
- Connection of Distribution Cable to Pole and Bracket Arm Connector Kit Fused and Unfused.
- –(L)– Distribution Cable #8 AWG (2 Wire)
- Video Detection Camera
- –(V)– Video Detection Cable
- Relocated Radio Interconnect
- Relocated Preemption Confirmation Light
- Relocated Preemption Detector
- –(P)– Preemption Detector Cable
- 120V Duplex GFCI Recpetacle (Pole Mt'd.)
- GND Ground Wire
- PC Photocell
- M Meter
- DS Power Disconnect Switch
- –(7)– Signal Cable, 7–Conductor, No. 14 AWG
- –(2)– Signal Cable, 2–Conductor, Loop Detector Lead–In, No. 14 AWG
- –(3)– Signal Cable, 3–Conductor, No. 14 AWG
- –(R)– New Radio Interconnect Cable

VEHICLE DETECTOR DETAILS

(No Scale)



S = Space on each side of detector shall be equal.

* Lane Width. Does not include Width of Curb and Gutter.

CALCULATED EPP
CHECKED KRB/JDS

TRAFFIC SIGNAL DETAILS

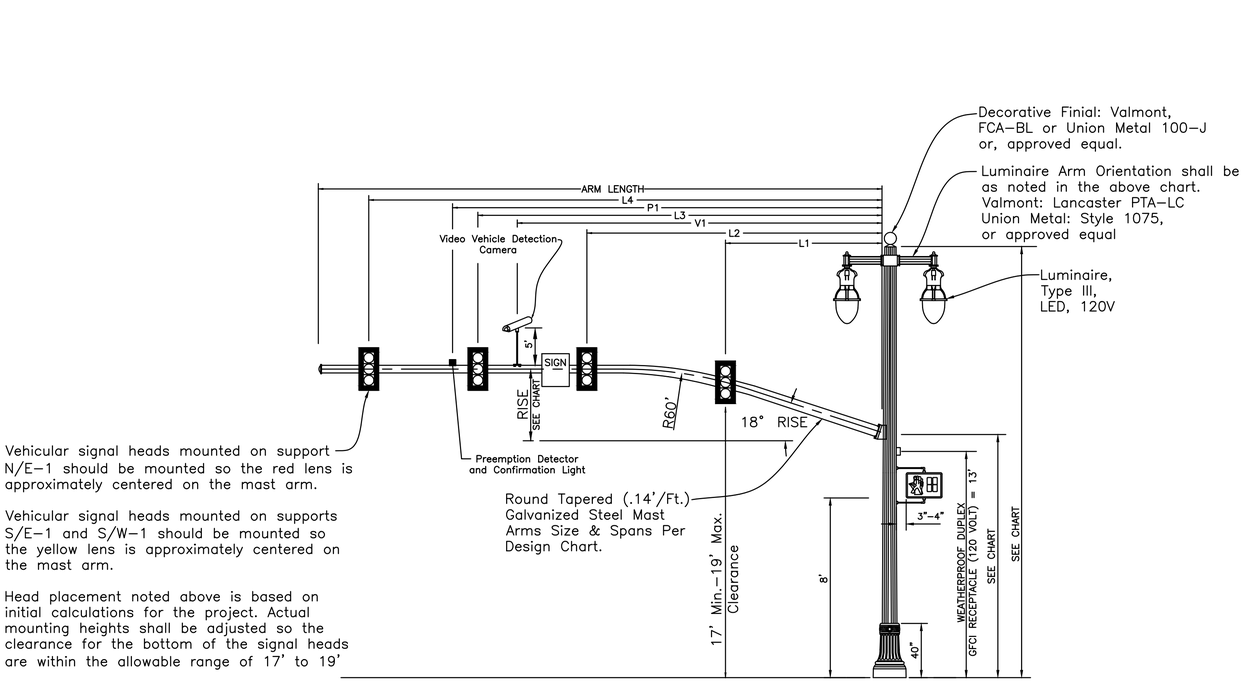
FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

INTERSECTION	SHEET NO	SUPPORT DESIGNATION	SIGNAL SUPPORT DETAILS													ORIENTATION ANGLES FROM MAST ARM					FIELD ORIENTATION		
			DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM ATTACHMENT HEIGHT	ARM RISE	MAST ARM LENGTH	DISTANCE FROM BUTT PLATE (FT.)							ANCHOR BOLT REFERENCE LINE	PEDESTRIAN SIGNAL (SEE NOTE 1)	LUMINAIRE BRACKET ARM	HANDHOLE	GFCI RECEPTACLE	INDEX LINE ANGLE	ANCHOR BOLT REF. LINE	TOP OF FOUNDATION ELEVATION
									L1	L2	L3	L4	V1	P1	S1								
					FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	DEG	DEG	DEG	DEG	DEG	DEG	DEG	
		N/E–1	TC–81.22	12	29.5	19.5	3	41	13.5	25	37	–	31	19	40	90°	–	45°/225°	180°	180°	0°	90°	773.83
		N/E–2	PEDESTAL	SEE DETAIL	11	–	–	–	–	–	–	–	–	–	–	90°	173°	–	0°	–	184°**	94°**	*
GENDER ROAD																							
AT	62	S/E–1	TC–81.22	12	29	19	4	40	6	18.5	27	37	32.5	9	23	90°	–	45°/225°	180°	180°	90°	0°	770.80
US–33 EB EXIT RAMP																							
		S/E–2	PEDESTAL	SEE DETAIL	11	–	–	–	–	–	–	–	–	–	–	90°	212°	–	0°	–	130°**	40°**	*
		S/W–1	TC–81.22	13	28	18	4	54	34	46	51 (FUTURE)	–	40	38	31	90°	–	45°/225°	180°	180°	0°	90°	771.51

* When adjacent to sidewalk, foundations shall be installed so foundation top is flush with walk.
** No mast arm. Index angle for reference only.

1. Two, 1 1/2" blind half couplings shall be used to mount pedestrian signal heads. The BHC's shall be factory installed at 8'–0" and 9'–9" above the pole base at the orientation noted in the above chart.

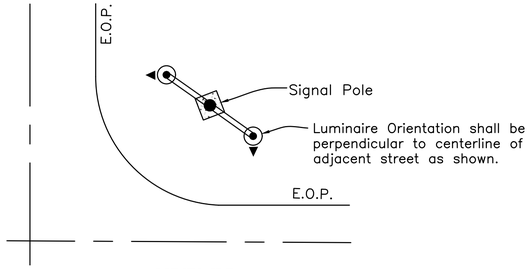


Vehicular signal heads mounted on support N/E–1 should be mounted so the red lens is approximately centered on the mast arm.

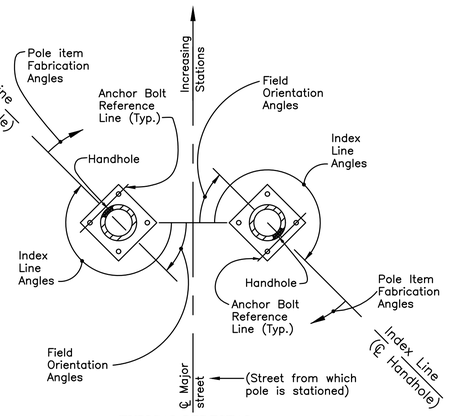
Vehicular signal heads mounted on supports S/E–1 and S/W–1 should be mounted so the yellow lens is approximately centered on the mast arm.

Head placement noted above is based on initial calculations for the project. Actual mounting heights shall be adjusted so the clearance for the bottom of the signal heads are within the allowable range of 17' to 19'

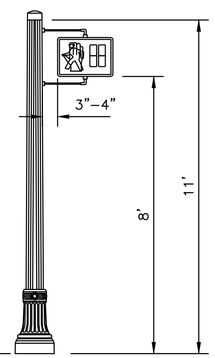
SIGNAL ELEVATION DETAIL
NOT TO SCALE



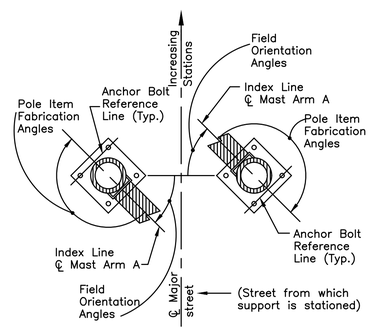
LUMINAIRE ORIENTATION DETAIL



TYPICAL PEDESTAL ORIENTATION DETAIL
NOT TO SCALE



PEDESTAL ELEVATION DETAIL
NOT TO SCALE



All angles measured clockwise.

Base plate is oriented square to Mast Arm A. Mast Arm A is the largest arm if the support has two mast arms.

TYPICAL SIGNAL SUPPORT ORIENTATION DETAIL

CALCULATED EPP
CHECKED KRB/JDS

POLE FABRICATION AND ORIENTAION DETAILS

FRA-674-2.22
GENDER ROAD - PHASE 6

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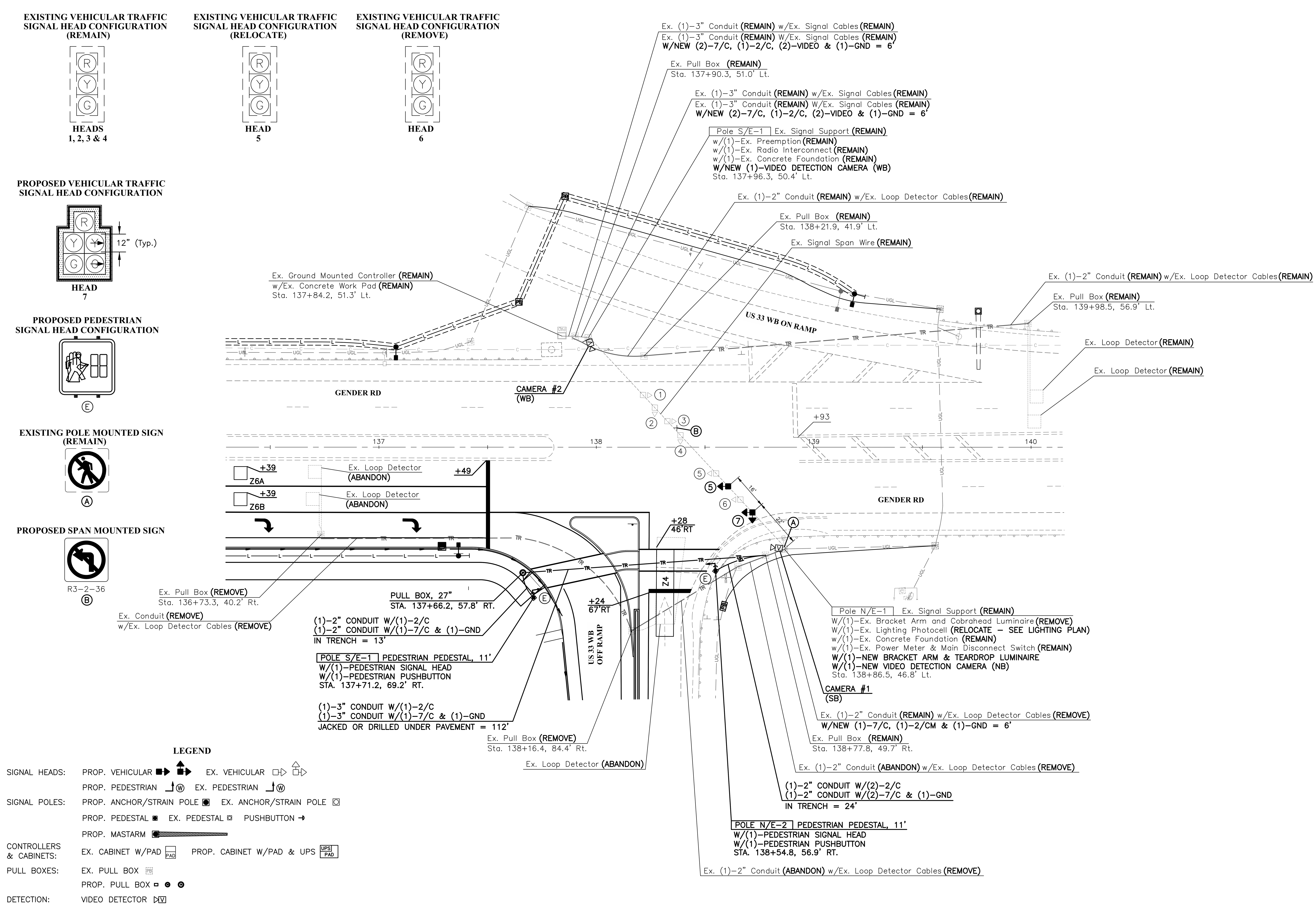

EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (REMAIN)
HEADS 1, 2, 3 & 4
EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (RELOCATE)
HEAD 5
EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (REMOVE)
HEAD 6
PROPOSED VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION
12" (Typ.)
HEAD 7
PROPOSED PEDESTRIAN SIGNAL HEAD CONFIGURATION
EXISTING POLE MOUNTED SIGN (REMAIN)
PROPOSED SPAN MOUNTED SIGN
R3-2-36
Ex. (1)-3" Conduit (REMAIN) w/Ex. Signal Cables (REMAIN)
Ex. (1)-3" Conduit (REMAIN) W/Ex. Signal Cables (REMAIN) W/NEW (2)-7/C, (1)-2/C, (2)-VIDEO & (1)-GND = 6'
Ex. Pull Box (REMAIN) Sta. 137+90.3, 51.0' Lt.
Ex. (1)-3" Conduit (REMAIN) w/Ex. Signal Cables (REMAIN)
Ex. (1)-3" Conduit (REMAIN) W/Ex. Signal Cables (REMAIN) W/NEW (2)-7/C, (1)-2/C, (2)-VIDEO & (1)-GND = 6'
Pole S/E-1 Ex. Signal Support (REMAIN)
w/(1)-Ex. Preemption (REMAIN)
w/(1)-Ex. Radio Interconnect (REMAIN)
w/(1)-Ex. Concrete Foundation (REMAIN)
W/NEW (1)-VIDEO DETECTION CAMERA (WB)
Sta. 137+96.3, 50.4' Lt.
Ex. (1)-2" Conduit (REMAIN) w/Ex. Loop Detector Cables (REMAIN)
Ex. Pull Box (REMAIN) Sta. 138+21.9, 41.9' Lt.
Ex. Signal Span Wire (REMAIN)
Ex. Ground Mounted Controller (REMAIN) w/Ex. Concrete Work Pad (REMAIN) Sta. 137+84.2, 51.3' Lt.
US 33 WB ON RAMP
Ex. (1)-2" Conduit (REMAIN) w/Ex. Loop Detector Cables (REMAIN)
Ex. Pull Box (REMAIN) Sta. 139+98.5, 56.9' Lt.
Ex. Loop Detector (REMAIN)
Ex. Loop Detector (REMAIN)
GENDER RD
CAMERA #2 (WB)
+93
137
138
139
140
Ex. Loop Detector (ABANDON)
Ex. Loop Detector (ABANDON)
+39 Z6A
+39 Z6B
+49
16'
GENDER RD
+28 46' RT
Z4
+24 67' RT
US 33 WB OFF RAMP
Ex. Pull Box (REMOVE) Sta. 136+73.3, 40.2' Rt.
Ex. Conduit (REMOVE) w/Ex. Loop Detector Cables (REMOVE)
PULL BOX, 27" STA. 137+66.2, 57.8' RT.
(1)-2" CONDUIT W/(1)-2/C
(1)-2" CONDUIT W/(1)-7/C & (1)-GND
IN TRENCH = 13'
POLE S/E-1 PEDESTRIAN PEDESTAL, 11'
W/(1)-PEDESTRIAN SIGNAL HEAD
W/(1)-PEDESTRIAN PUSHBUTTON
STA. 137+71.2, 69.2' RT.
(1)-3" CONDUIT W/(1)-2/C
(1)-3" CONDUIT W/(1)-7/C & (1)-GND
JACKED OR DRILLED UNDER PAVEMENT = 112'
Ex. Pull Box (REMOVE) Sta. 138+16.4, 84.4' Rt.
Ex. Loop Detector (ABANDON)
Pole N/E-1 Ex. Signal Support (REMAIN)
W/(1)-Ex. Bracket Arm and Cobrahead Luminaire (REMOVE)
W/(1)-Ex. Lighting Photocell (RELOCATE - SEE LIGHTING PLAN)
w/(1)-Ex. Concrete Foundation (REMAIN)
w/(1)-Ex. Power Meter & Main Disconnect Switch (REMAIN)
W/(1)-NEW BRACKET ARM & TEARDROP LUMINAIRE
W/(1)-NEW VIDEO DETECTION CAMERA (NB)
Sta. 138+86.5, 46.8' Lt.
CAMERA #1 (SB)
Ex. (1)-2" Conduit (REMAIN) w/Ex. Loop Detector Cables (REMOVE)
W/NEW (1)-7/C, (1)-2/CM & (1)-GND = 6'
Ex. Pull Box (REMAIN) Sta. 138+77.8, 49.7' Rt.
Ex. (1)-2" Conduit (ABANDON) w/Ex. Loop Detector Cables (REMOVE)
(1)-2" CONDUIT W/(2)-2/C
(1)-2" CONDUIT W/(2)-7/C & (1)-GND
IN TRENCH = 24'
POLE N/E-2 PEDESTRIAN PEDESTAL, 11'
W/(1)-PEDESTRIAN SIGNAL HEAD
W/(1)-PEDESTRIAN PUSHBUTTON
STA. 138+54.8, 56.9' RT.
Ex. (1)-2" Conduit (ABANDON) w/Ex. Loop Detector Cables (REMOVE)
LEGEND
SIGNAL HEADS: PROP. VEHICULAR EX. VEHICULAR
PROP. PEDESTRIAN EX. PEDESTRIAN
SIGNAL POLES: PROP. ANCHOR/STRAIN POLE EX. ANCHOR/STRAIN POLE
PROP. PEDESTAL EX. PEDESTAL PUSHBUTTON
PROP. MASTARM
CONTROLLERS & CABINETS: EX. CABINET W/PAD PROP. CABINET W/PAD & UPS
PULL BOXES: EX. PULL BOX
PROP. PULL BOX
DETECTION: VIDEO DETECTOR
0 10 20 40
1 inch = 20 feet

CALCULATED EPP
CHECKED KRB/JDS

TRAFFIC SIGNAL MODIFICATION PLAN
GENDER RD AT US 33 WB RAMPS

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

INTERSECTION	SHEET NO.	POLE SIZES & SPAN ATTACHMENT HEIGHT						POLE FABRICATION DATA CLOCKWISE FROM HANDHOLE AT 0 DEGREES				FIELD ORIENTATION		
		POLE DESIGNATION	POLE COLOR FEDERAL STANDARD 595B NO.	POLE DESIGN NO.	POLE HT. (FT.)	ATTACHMENT HT. (FT.) / SPAN @ HT. (FT.)	BRACKET ARM ATTACHMENT HT.	ANCHOR BOLT REF. LINE	PED. SIGNALS (SEE NOTE 1)	PEDESTRIAN PUSHBUTTON	BRACKET ARM	INDEX LINE ANGLE (HANDHOLE)	ANCHOR BOLT REF. LINE	FOUNDATION ELEVATION
	65	S/W–1	Existing	Ex. 10	Ex.	See Note 2	–	Existing	–	–	–	Existing	Existing	Existing
GENDER ROAD		N/E–1	Existing	Ex. 10	Ex.	See Note 2	33.0	Existing	–	–	220°	Ex. 140°	Existing	Existing
AT														
US–33 WB EXIT RAMP		N/E–2	27038 (Black)	SEE DETAIL	11.0	–		90°	138°	143°	–	217°	127°	*
		S/E–1	27038 (Black)	SEE DETAIL	11.0	–		90°	213°	209°	–	138°	48°	*

* Foundations shall be installed so foundation top is flush with walk.

1. Two–piece clamshell brackets shall be provided for each pedestrian signal head at the orientation noted in the table.
2. Existing vehicular signal head clearance shall be maintained. The Contractor shall measure existing vehicular signal head clearance prior to span modifications. If signal head modifications reduce clearance, the span attachment heights shall be adjusted to restore existing minimum clearance values.

TIMING CHART

PHASE	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
MOVEMENT	–	SB	–	WB	–	NB	–	–
MIN INITIAL	–	EX	–	EX	–	EX.	–	–
WALK	–	–	–	–	–	7	–	–
PED CHG	–	–	–	–	–	19	–	–
PASS / EXT	–	EX	–	EX	–	EX	–	–
YELLOW	–	4.2	–	3.0	–	4.2	–	–
RED CLR	–	1.2	–	2.6	–	1.2	–	–
MAX GRN 1	–	EX	–	EX	–	EX	–	–
MAX GRN 2	–	EX	–	EX	–	EX	–	–
PED RECALL	–	EX	–	EX	–	OFF	–	–
VEH RECALL	–	EX	–	EX	–	EX	–	–
MEMORY	-	EX	-	EX	-	EX	-	-

All timing, phasing and coordination data shall be remain as existing unless otherwise noted above.

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
5 (NB)	R	ø6 R	EX.
	Y	ø6 Y	
	G	ø6 G	
7 (NBRT)	R	ø6 R	EX.
	Y	ø6 Y	
	G	ø6 G	
	~~Y~~►	øOLA Y	
	~~G~~►	øOLA G	
OLA=ø4			OLA=LS13

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
E	WALK	G ø6–W	OFF
	DON'T WALK	R ø6–DW	

WIRING DIAGRAM LEGEND

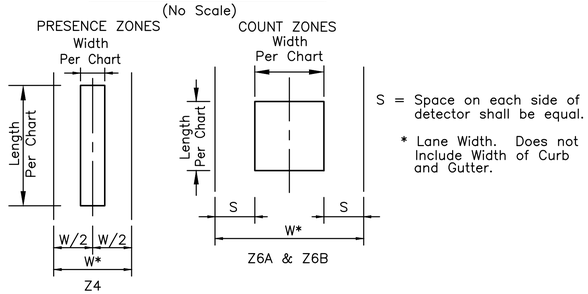
- Vehicular Signal Head
- E — Pedestrian Signal Head
- Power Source — Existing Power Source
- Luminaire
- L — Distribution Cable #8 AWG (2 Wire)
- V — Video Detection Camera
- V — Video Detection Cable
- GND — Ground Wire
- PC — Photocell
- Ex. M — Existing Meter
- Ex. DS — Existing Disconnect Switch
- 7 — Signal Cable, 7–Conductor, No. 14 AWG
- 2 — Signal Cable, 2–Conductor, Loop Detector Lead–In, No. 14 AWG
- 3 — Signal Cable, 3–Conductor, No. 14 AWG

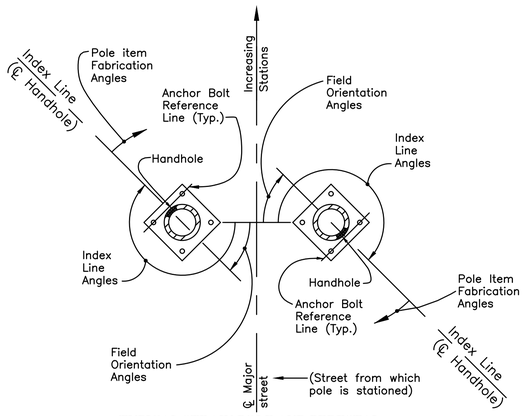
VIDEO DETECTION ASSIGNMENTS

DETECTOR	CAMERA	PHASE	SIZE	PULSE	PRESENCE	DELAY
Z4	2	4	8'x40'		X	0 Sec.
Z6A	1	6	6'x6'	X		0 Sec.
Z6B	1	6	6'x6'	X		0 Sec.

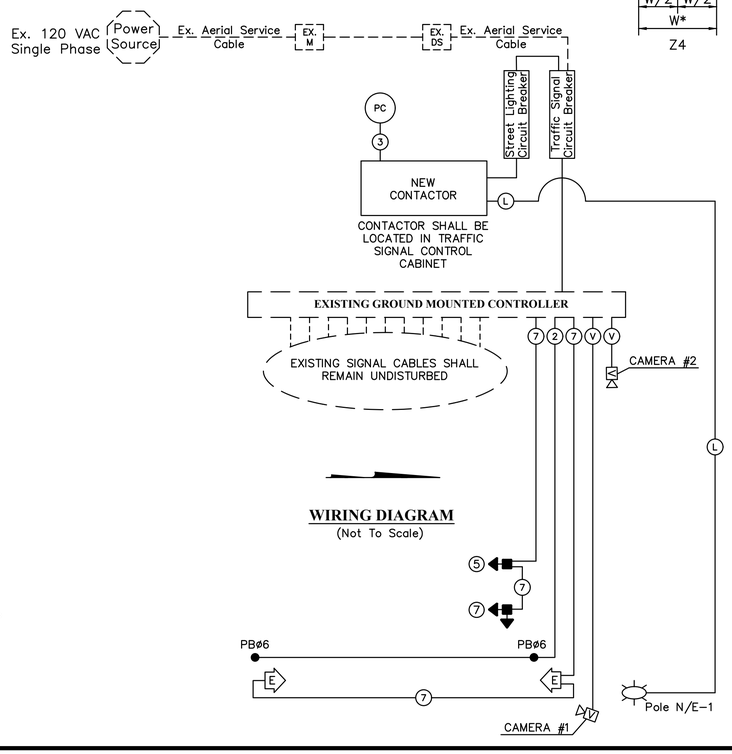
VEHICLE DETECTOR DETAILS

(No Scale)

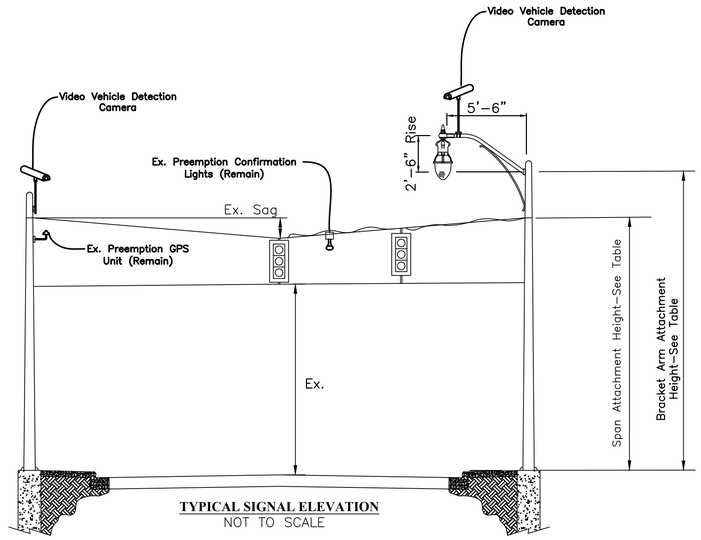




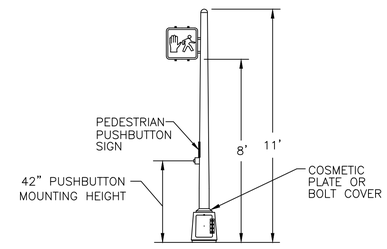
TYPICAL STRAIN POLE AND PEDESTAL ORIENTATION DETAIL
NOT TO SCALE



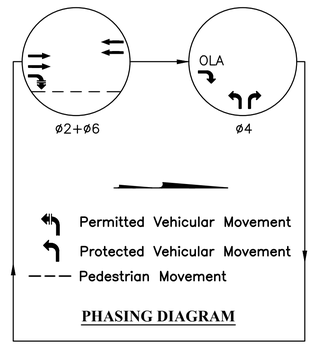
WIRING DIAGRAM
(Not To Scale)



TYPICAL SIGNAL ELEVATION
NOT TO SCALE



PEDESTAL ELEVATION DETAIL
NOT TO SCALE



PHASING DIAGRAM

N

1 inch = 20 feet

CALCULATED EPP
CHECKED KRB/JDS

TRAFFIC SIGNAL DETAILS

FRA-674-2.22
GENDER ROAD - PHASE 6

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GENERAL

These specifications, together with the accompanying plans are intended to describe the type, size and location of the products and materials to be provided and installed under the various bid items related to its. The contractor shall furnish and install its devices and related materials in compliance with these plans and specifications, as well as:

–2023 Ohio Department of Transportation Construction and Material Specifications and Supplemental Specifications

–Standard Construction Drawings issued by the Ohio Department of Transportation

–Standard Construction Drawings issued by the City of Columbus

These specifications set forth the minimum performance and operating requirements of the ITS items referred to herein.

MAINTAINING ITS DURING CONSTRUCTION

The Contractor shall maintain all preexisting or new installed permanent ITS/Traffic devices and infrastructure during construction according to ODOT Supplemental Specification 809.

Payment for this work shall be considered incidental to the items of work needed for power cable relocation. No separate payment shall be made.

ITEM 625 PULL BOX REMOVED, AS PER PLAN

The Contractor shall remove existing pull boxes as shown on the plans or at the direction of the Engineer under this item.

Removed pull boxes shall be turned over to the ODOT ITS Engineer unless otherwise specified in the plans. The Contractor shall securely store the equipment and contact the ODOT ITS Engineer (cen.its.lab@dot.ohio.gov) to schedule delivery. The ODOT ITS Engineer shall provide the Contractor with written documentation of any items that are to be disposed of by the Contractor.

Where applicable, the void left by the removed pull box shall be properly backfilled. Backfilling the void shall be considered incidental to the cost of this item.

Where applicable, caution shall be used to avoid damaging existing conduits and cables in the pull box. The Contactor shall be responsible for the replacement of any damaged conduit or cable, as determined by the Engineer.

The work as described will be measured as a single unit and will include all described items and incidental costs associated with removal, delivery or disposal of the pull box, and remediation of excavated areas if applicable.

ITEM 632 POWER SERVICE, AS PER PLAN

Power service for its devices shall be obtained from the existing power source at the locations as shown on the plans. The Contractor shall coordinate with South Central Power for the disconnect and reconnection. Power supplied shall match existing power voltage supplied, and shall be metered.

The power service for its equipment shall be per the details furnished in ODOT Standard Construction Drawing ITS–15.11. For 120/240V power service, ~~the disconnect switch and meter shall be mounted on the power service pole per ITS–15.10.~~

Remove this part. Should be 120/240V service per ITS-15.11.

The ODOT Contractor is required to contact South Central Power to schedule a field site visit prior to completing any field work for power service for ITS.

A minimum of 30 days prior to implementing power modifications. The Contractor is required to coordinate with South Central Power. The Contractor is required to follow all requirements and guidelines as outlined by South Central Power.

This item of work shall include furnishing and installing wood poles, down guy anchors and hardware as needed to receive power company circuits. Separate payment for wood poles will not be made.

The CCTV related power services shall be marked with "ITS". Disconnect switches and meter are existing and intended for reuse.

Payment for this item shall be at the unit price bid for each, complete and in place, after all connections have been tested and accepted.

ITEM 632 POWER CABLE, MISC.: REUSE OF POWER CABLE CONDUCTORS

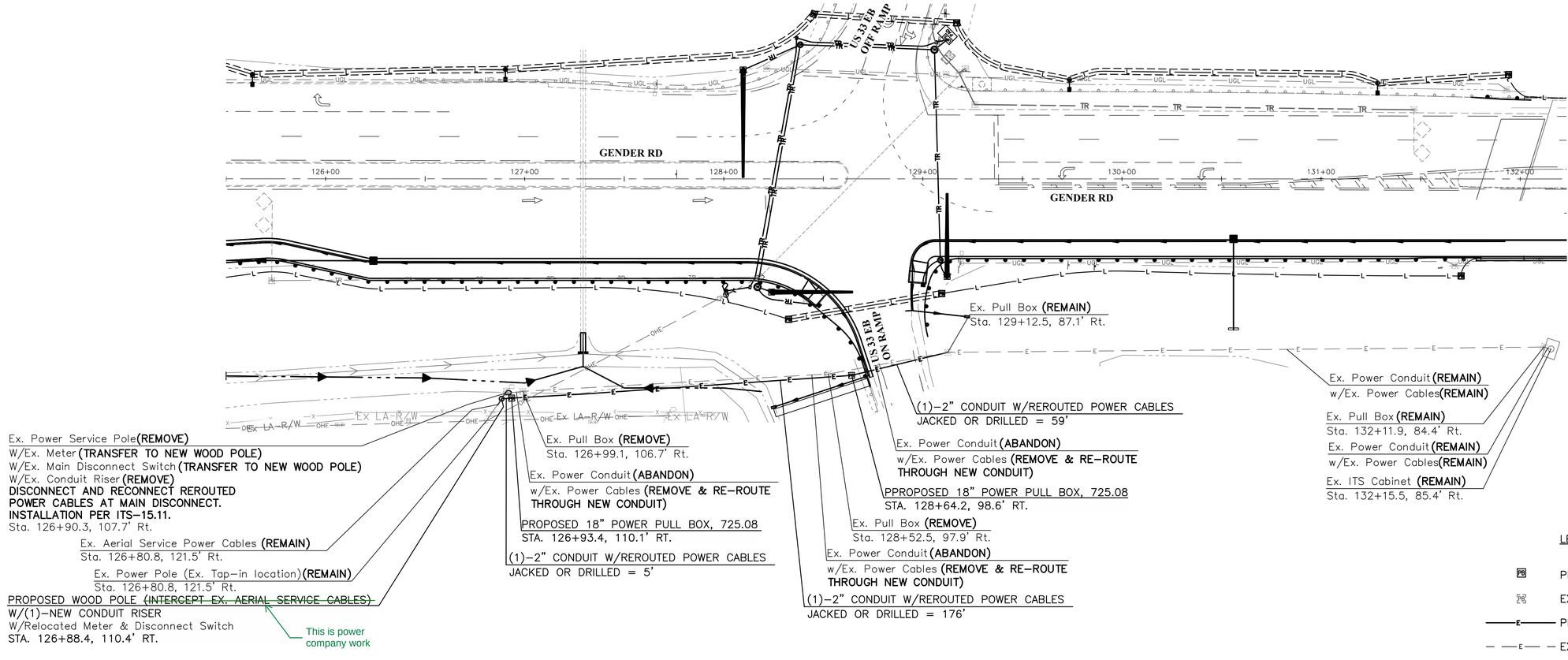
Existing power cables for the existing its site shall be disconnected at the main disconnect, pulled out of the existing conduit, and re–routed through new conduit and reconnected to the relocated main disconnect.

If the existing power cables or their insulation are damaged during the relocation process, the Contractor is responsible for replacing them with new power cables. If replaced, the new power cables need to match the wire size and number of conductors as the existing power cables.

wire type, size, and number

ITS Quantities

Quantity	Item No.	Unit	Description
240	ODOT 625	Lin Ft	Conduit Jacked or Drilled, 2", 725.052
2	ODOT 625	Each	Pull Box Removed, As Per Plan
2	ODOT 625	Each	Pull Box, 725.08, 18"
1	ODOT 632	Each	Power Service, As Per Plan
1	ODOT 632	Lump	Power Cable, Misc.: Reuse of Power Cable Conductors



0 15 30 60
1 inch = 30 feet

CALCULATED EMH
CHECKED KRB/JDS

TRAFFIC SURVEILLANCE
POWER SERVICE MODIFICATION

FRA-674-2.22
GENDER ROAD - PHASE 6

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LIGHTING GENERAL NOTES

1. The City street lighting shall be constructed in accordance with the Ohio Department of Transportation Construction and Material Specifications (Current Edition) or City of Columbus Construction and Material Specifications (Current Edition) as specified. This document shall govern all materials and workmanship involved in the improvements shown on these plans, except as such specifications are modified by the following specifications or by the construction details set forth herein.

2. No splices shall be made to circuit cables except at noted locations.

3. The plan details shall be considered supplemental to CMS Specifications.

4. Pull boxes shall be located approximately where shown on plans with exact location of each pull box to be determined after careful consideration has been given to the location of utilities, pavements, and grades. The quantity of pull boxes may vary depending upon the actual site conditions and location of utilities.

5. The Contractor is responsible to comply with all local codes and ordinances pertinent to the progression of the work described within the project plans. Any required permit shall be obtained and paid for by the Contractor. The Contractor and Sub–Contractor shall be responsible for complying with all Federal, State and Local safety requirements, together while exercising precautions at all times for the protection of persons (including employees) and property. It is also the sole responsibility of the Contractor and Sub–Contractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work. The Contractor shall restore all disturbed areas to an equal or better condition than existed prior to construction.

6. All underground lighting cables are to be placed in 2" PVC or 3" Steel conduit. The centerline of the trench shall be located in accordance with the plan details. Trench location may be deflected around obstacles as approved by the Engineer.

7. Light Standards – All light standards shall be aligned along the roadway, unless otherwise noted, with foundation centerlines located equal distance off edge of curb or as shown on the plans. Prior to placement of any foundation, the Contractor shall check and verify the location of existing utilities, and notify the Engineer of any conflict on plans. All proposed light standards and equipment locations shall be field verified by the Contractor in regards to proper clearances for existing overhead and underground utilities prior to performing any construction work.

8. As Built Record – The Contractor shall maintain a set of project record documents. These documents shall include reviewed shop drawings, change orders, equipment operating instructions, field test records, and as–built drawings. The as–built drawings shall be marked legibly in red, the actual location of equipment and conduits as constructed. All equipment and underground conduits installed shall have locations marked in distances off a landmark at least every 25 feet and as necessary at bends for location at a later date.

9. All items of work called for on the plans, for which no specific method of payment is provided, shall be performed by the Contractor and the cost of these shall be included in the unit prices bid for the various related items. This includes, but not limited to such incidental items, as relocation of mail boxes, saw cutting, and removal and/or relocation of signs, railroad ties, sprinklers, relocating roof or sump drains around light standard foundations, hand digging around underground utilities or other miscellaneous items.

GROUNDING AND BONDING

The requirements of the State of Ohio Department of Transportation Construction and Material Specifications (C&MS) and the HL series of Standard Construction Drawings are modified as follows:

1. All metallic parts containing electrical conductors shall be permanently joined to form an Effective Ground Fault Current Path back to the grounded conductor in the power service disconnect switch.
   a. Provide an equipment grounding conductor in metallic conduits (725.04) in addition to the conductors specified and bond the conduit to this grounding conductor.
   b. When an equipment grounding conductor is required in plastic conduit (725.05), the installation shall include a separate equipment grounding conductor in addition to the conductors specified.
   c. Metal pull box lids shall be bonded by attachment of the equipment grounding conductor to the frame diagonal as provided on HL–30.11.
2. Conduits
   a. The 725.04 conduit shall have grounding bushings installed at all termination points. The bushing material shall be compatible with galvanized steel conduit and the grounding lug material shall be compatible for use with copper wire. Threaded or compression type bushings may be used.
   b. The 725.05 conduit shall have the inside and outside diameters of the conduit deburred at all termination points
   c. Both ends of metallic conduit shall be bonded to the equipment grounding conductor.
   d. Metallic conduit may be bonded to metallic boxes through the use of conduit fittings UL approved for this type of connection, with the box bonded to the equipment grounding conductor.
3. Wire for Grounding and Bonding
   a. Use insulated, copper wire for the equipment grounding conductor. Bonding jumpers in boxes and enclosures may be bare or insulated copper wire. The insulation shall be green or green with yellow stripe(s). For 4 AWG or larger, insulation may also be black with green tape/labels installed at all access points.
   b. In a roadway lighting system, the equipment grounding conductor shall be the minimum conductor size of 4 AWG. Bonding jumpers will be minimum size 4 AWG.
4. Ground rod
   a. A 3/4 inch Schedule 40 PVC conduit will be used in foundations and concrete walls for the grounding conductor (ground wire) raceway to the ground rod. Should metallic conduit be used, both ends of the conduit shall be bonded to the grounding conductor.
   b. The typical grounding conductor (ground wire) shall be 4 AWG insulated, copper.
5. Power Service and Disconnect Switch
   a. At the power service location, the grounding conductor (ground wire) from the disconnect switch neutral (AC–) bar to the ground rod shall be a continuous, unspliced conductor. If spliced, it shall be an exothermic weld butt splice.
   b. The power service neutral shall only be connected to ground at the power service disconnect switch.

Payment

Payment for the above work shall be incidental to "ITEM 1001 CIRCUIT CABLE, TWO #4 AWG, CU, 5KV, TWO #4 AWG, CU, 600V, AS PER PLAN" and "ITEM 625 1–1/2" DUCT CABLE WITH TWO NO. 4 AWG 2400 VOLT CABLES".

ITEM 625, CONDUIT,2", 725.051, AS PER PLAN

In addition to the requirements of ODOT's Construction and Material Specifications, this item of work shall consist of furnishing and installing expansion fittings and placing the conduit in the bridge parapet.

Payment will be made at the unit price bid for FEET for CMS Item 625, Condiut, 2", 725.051, As Per Plan, which shall include all compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manor.

ITEM 625, LIGHTING, MISC.: REMOVAL OF EXISTING UNDERGROUND LIGHTING SYSTEM

Under this item of work, the Contractor shall remove elements of the existing lighting system as detailed in the plan.
Removed items from the Gender Road corridor; poles, luminaires, bracket arms, etc. shall remain the property of the City of Canal Winchester. These items shall be delivered to a location specified by the City. The Contractor shall notify the Engineer when all, or significant portions of the removed items are available for delivery. Other removed items like: conduit, cable, pull boxes and foundations shall be properly disposed of by the Contractor.

For removed lighting item on the US 33 Ramps, the Contractor shall contact ODOT District 6 to determine which items shall be salvaged. The Contractor is responsible for obtaining delivery instructions from ODOT. The Contractor shall be responsible for any damage to salvaged materials due to improper methods used or carelessness and shall replace such materials at no additional cost to the project.
When not in conflict with other plan items, existing conduit may be abandoned in place, but all wiring shall be removed.
The Contractor will be required to make connections to assure the continued operation of the adjacent streetlights not to be removed by this project.

Existing lighting is to be maintained until the proposed lighting is in place and operational.

The Existing combination light pole/guide sign support at Sta. 129+19.4 shall be modified to remove the existing luminaire, bracket arm, and reduce the pole height so that the top of pole is 12" above the top of the existing guide sign, which is to remain undisturbed. A custom sized pole cap shall be manufactured, furnished, and installed. All costs associated with removing the existing luminaire, bracket arm, and cutting/capping the pole shall be incidental to this item of work.

Payment for removal of all items listed above, including delivery to the City and ODOT, and general removal coordination with the City and ODOT shall be incidental to the Lump Sum Item 625, Lighting, Misc.: Removal of Existing Underground Lighting System.

ITEM 1001 CIRCUIT CABLE, TWO #4 AWG, CU, 5KV, TWO #4 AWG, CU, 600V, AS PER PLAN

In addition to the requirements of MIS–404 and MIS–501, circuit cable for street lighting circuit shall be two #4 AWG, 5 KV and two #4 AWG, 600V cables. Connections shall be made at the pole as shown on the detail sheet. Equipment grounding conductor #2 serves as an alternate path in the event that equipment grounding conductor #1 sustains a break. Connect equipment grounding conductor #1 and #2 in the pole base at the last pole in each circuit run.

ITEM 1001 CONDUIT, 2", IN OPEN AREAS, AS PER PLAN

Install all conduits at 36" below the finished grade and provide the following plastic caution tape: The location of the conduit in the trench shall be marked by the use of a continuous identifying tape buried in that trench above the line. The identifying tape shall be an inert material approximately 6" wide composed of polyethylene plastic and shall be highly resistant to alkalis, acids, and other chemical components likely to be encountered in soils. The tape shall be red with the words 'Electric Line Buried Below' printed in black letters on one side only. It shall be supplied in continuous rolls with the identifying lettering repeated for the full length of the tape. The Contractor shall bury the tape in the trench with one strip placed approximately down the centerline and 8" to 12" below the final grade. It shall be placed in the trench with the printed side up and shall be essentially parallel to the finished surface. The Contractor shall take any necessary precautions to insure that the tape is not pulled, distorted or otherwise misplaced in completing the trench backfilling.

All street lighting conduit located behind curb & gutter in open areas shall NOT be encased unless otherwise noted.

ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, AS PER PLAN (ALTERNATE 3)

Light Poles shall be Tapered Aluminum Standard or approved interchangeable equal. Light pole shall be in accordance with MIS Specification No. 305 except, the manufacturer is not limited to HAPCO. The pole shall be fluted (16 sharp flutes) and the top finish coat of paint shall be similar to Federal Specification 595B Color #27040 (Black). Paint samples shall be submitted with the light pole drawings for review. Bracket arm and scroll work shall be incidental to this item of work.

ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, AS PER PLAN (ALTERNATE 4)

Light Poles shall be Tapered Aluminum Standard or approved interchangeable equal. Light pole shall be HAPCO No. 74135–001 and in accordance with MIS Specification No. 305 except the pole shall be fluted (16 sharp flutes) and the top finish coat of paint shall be similar to Federal Specification 595B Color #27040 (Black). Paint samples shall be submitted with the light pole drawings for review. Bracket arm and scroll work shall be incidental to this item of work.

ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, (BRIDGE MTD.), AS PER PLAN (ALTERNATE 3)

Light Poles shall be Tapered Aluminum Standard or approved interchangeable equal. Light pole shall be in accordance with MIS Specification No. 305 except, the manufacturer is not limited to HAPCO. The pole shall be fluted (16 sharp flutes) and the top finish coat of paint shall be similar to Federal Specification 595B Color #27040 (Black). Paint samples shall be submitted with the light pole drawings for review. Bracket arm and scroll work shall be incidental to this item of work.

Light poles mounted on the bridge shall include Vibration Dampeners inside the pole, and a Vibration Isolating Truss Arm.

ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, (BRIDGE MTD.), AS PER PLAN (ALTERNATE 4)

Light Poles shall be Tapered Aluminum Standard or approved interchangeable equal. Light pole shall be HAPCO No. 74135–001 and in accordance with MIS Specification No. 305 except the pole shall be fluted (16 sharp flutes) and the top finish coat of paint shall be similar to Federal Specification 595B Color #27040 (Black). Paint samples shall be submitted with the light pole drawings for review. Bracket arm and scroll work shall be incidental to this item of work.

Light poles mounted on the bridge shall include Vibration Dampeners inside the pole, and a Vibration Isolating Truss Arm.

ITEM 1001 LUMINAIRE, 240V, TEAR DROP, AS PER PLAN (ALTERNATE 3)

Luminaire shall be Teardrop style, 240 volt, LED, 2700k. Luminaire shall be in accordance with MIS Specification No. 801 except the luminaire shall be furnished to operate on 240 volts and be coated to match its respective support pole (black). Paint samples shall be submitted with the luminaire drawings for review.

Provide a shorting cap for the photo–electric receptacle.

In addition, the luminaire shall be as manufactured by one of the following:

Holophane Esplanade ESL3–P40S–27K–MVOLT–TG4–QSM–BK
Sternberg Libertyville 1914LED–3L–27–T3–MDL08–G–BKT
Spring City Columbia ALMCLU–LE–LE185–EVX–2G2–27–CR3–GR14–BLACK

ITEM 1001 LUMINAIRE, 132W LED, 240V, TEAR DROP, AS PER PLAN (ALTERNATE 4)

Luminaire shall be Teardrop style, 240 volt, 132 watt, LED 2700k. Luminaire shall be in accordance with MIS Specification No. 801 except the luminaire shall be furnished to operate on 240 volts and be coated to match its respective support pole (black). Paint samples shall be submitted with the luminaire drawings for review.

Provide a shorting cap for the photo–electric receptacle.

In addition, the luminaire shall be Holophane ESL3–P40S–27K–MVOLT–TG4–QSM–BK or an approved equal.

ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, (FURNISH ONLY), AS PER PLAN (ALTERNATE 3)

Furnish one pole to the Canal Winchester Street Department.

Light Poles shall be as per ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, AS PER PLAN (ALTERNATIVE 3), except shall be delivered directly to Canal Winchester.

ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, (FURNISH ONLY), AS PER PLAN (ALTERNATE 4)

Furnish one pole to the Canal Winchester Street Department.

Light Poles shall be as per ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, AS PER PLAN (ALTERNATIVE 4), except shall be delivered directly to Canal Winchester.

ITEM 1001 LUMINAIRE, 240V, TEAR DROP, (FURNISH ONLY), AS PER PLAN (ALTERNATE 3)

Furnish one luminaire to the Canal Winchester Street Department.

Luminaire shall be as per ITEM 1001 LUMINAIRE, 240V, TEAR DROP, AS PER PLAN (ALTERNATE 3), except shall be delivered directly to Canal Winchester.

ITEM 1001 LUMINAIRE, 132W LED, 240V, TEAR DROP, (FURNISH ONLY), AS PER PLAN (ALTERNATE 4)

Furnish one luminaire to the Canal Winchester Street Department.

Luminaire shall be as per ITEM 1001 LUMINAIRE 132W LED, 240V, TEAR DROP, AS PER PLAN (ALTERNATE 4), except shall be delivered directly to Canal Winchester.

LIGHTING, MISC.: RELOCATE PHOTOCELL

Under this item of work, the Contractor shall relocate the existing photocell mounted on the existing signal support N/E–1 at the Gender Rd/US–33 WB Ramps intersection to the top of the ODOT lighting controller.
Wiring, couplers, modification to cabinet facilities, and all other devices, whether or not specifically itemized on the plan or in these notes shall be provided and installed as required to render the relocated photocell completely operational and in compliance with the ODOT standards.
Payment shall be per each photocell relocated. All new photocell wiring, mounting hardware, and any other materials/labor required to relocate the photocell shall be incidental to this item.

PAINT CHIP SUBMITTAL

Prior to any painting, the Contractor shall submit paint samples to the Engineer and Canal Winchester. Paint samples shall be representative of the color, type and manufacture that will be used for finishing the various items. The Engineer and Canal Winchester shall review the paint samples prior to the commencement of the finishing process.

Paint samples shall be submitted for all proposed street lighting items called for in this plan set, including, lighting controller, poles and luminaires.

CALCULATED EPP | CHECKED KRB/JDS

LIGHTING NOTES

FRA-674-2.22
GENDER ROAD - PHASE 6

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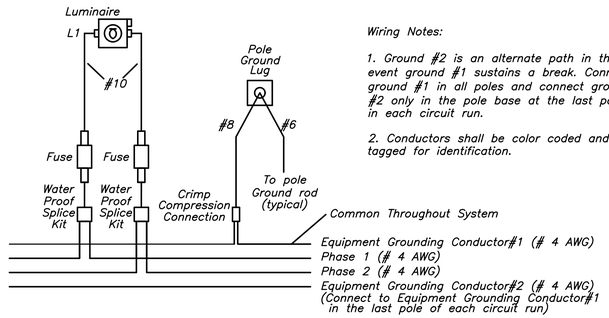


Wiring Notes:

1. Ground #2 is an alternate path in the event ground #1 sustains a break. Connect ground #1 in all poles and connect ground #2 only in the pole base at the last pole in each circuit run.

2. Conductors shall be color coded and tagged for identification.

POLE TO BE WIRED, 4–WIRE, AS PER PLAN
240 VOLT, 4–WIRE, WITH TWO GROUNDS
No Scale

CANAL WINCHESTER LIGHTING ESTIMATE OF QUANTITIES

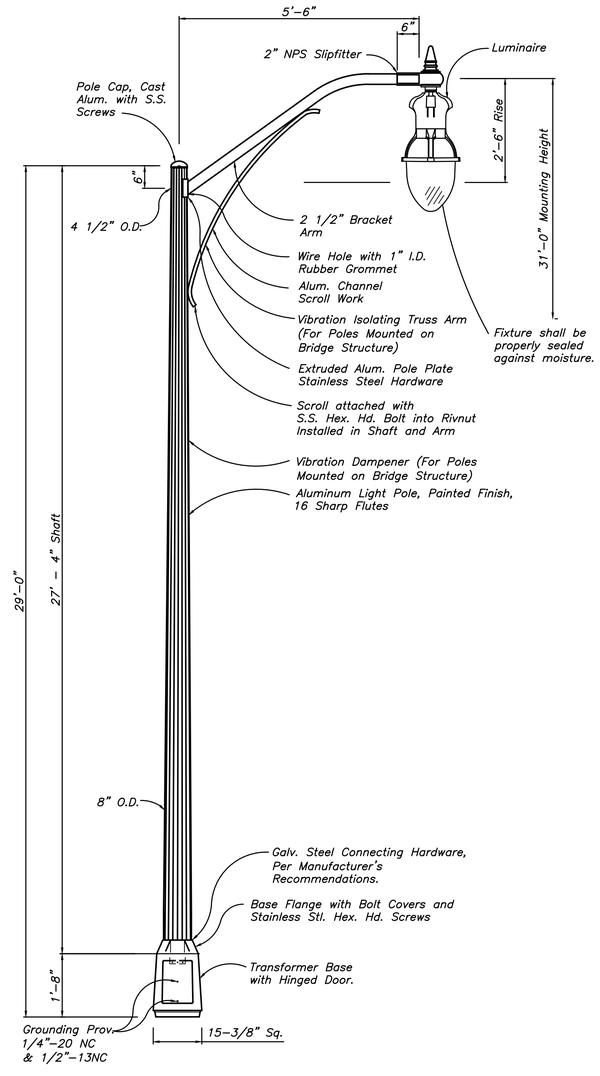
Quantity	Item No.	Unit	Description
12	CMSC 1001	Each	Street Light Foundation, 6' (MIS-201)
4420	CMSC 1001	Ckt Ft	Circuit Cable, Two #4 AWG, CU, 5KV, Two #4 AWG, CU 600V, As Per Plan
1533	CMSC 1001	Lin Ft	Conduit, 2", In Open Areas, As Per Plan
2092	CMSC 1001	Lin Ft	Conduit, 2", Jacking, Drilling, Or Pushing (MIS-701)
620	ODOT 625	Lin Ft	Conduit, 2", 725.051, As Per Plan
17	CMSC 1001	Each	Pull Box, Medium Duty, 13"x24" (MIS-54)
6	ODOT 625	Each	Barrier Junction Box
1	ODOT 625	Each	Structure Grounding System
15	CMSC 1001	Each	Pole to be Wired, 4-Wire, As Per Plan (MIS-501)

Quantity	Item No.	Unit	Description
ALTERNATE BID 3			
12	CMSC 1001	Each	Pole Aluminum with T-Base for Tear Drop Luminaire, As Per Plan (Alternate 3)
2	CMSC 1001	Each	Pole Aluminum with T-Base for Tear Drop Luminaire, (Bridge Mtd.), As Per Plan (Alternate 3)
14	CMSC 1001	Each	Luminaire, 240V, Tear Drop, As Per Plan (Alternate 3)
2	CMSC 1001	Each	Pole Aluminum with T-Base for Tear Drop Luminaire, (Furnish Only), As Per Plan (Alternate 3)
2	CMSC 1001	Each	Luminaire, 240V, Tear Drop, (Furnish Only), As Per Plan (Alternate 3)
ALTERNATE BID 4			
12	CMSC 1001	Each	Pole Aluminum with T-Base for Tear Drop Luminaire, As Per Plan (Alternate 4)
2	CMSC 1001	Each	Pole Aluminum with T-Base for Tear Drop Luminaire, (Bridge Mtd.), As Per Plan (Alternate 4)
14	CMSC 1001	Each	Luminaire, 132W LED, 240V, Tear Drop, As Per Plan (Alternate 4)
2	CMSC 1001	Each	Pole Aluminum with T-Base for Tear Drop Luminaire, (Furnish Only), As Per Plan (Alternate 4)
2	CMSC 1001	Each	Luminaire, 132W LED, 240V, Tear Drop, (Furnish Only), As Per Plan (Alternate 4)

Per the ORC all lighting in this project/interchange is owned and maintained by the city of Canal Winchester. The reference to ODOT infers that ODOT has some ownership of the lighting. Please remove the ODOT reference.

ODOT LIGHTING ESTIMATE OF QUANTITIES

Quantity	Item No.	Unit	Description
1	ODOT 202	Each	Disconnect Existing Circuit
6	ODOT 625	Each	Light Pole Foundation Removed
8	ODOT 625	Each	Connection, Unfused Permanent
1	ODOT 625	Each	Pull Box, 725.08, 18"
303	ODOT 625	Lin Ft	1-1/2" Duct Cable with Two No. 4 AWG 2400 Volt Cables
303	ODOT 625	Lin Ft	Trench
303	ODOT 625	Lin Ft	Underground Warning/Marking Tape
1	ODOT 625	Lump	Lighting, Misc.: Relocate Photocell
1	ODOT 625	Lump	Lighting, Misc.: Removal of Existing Underground Lighting System



ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, AS PER PLAN
ITEM 1001 POLE ALUMINUM WITH T–BASE FOR TEAR DROP LUMINAIRE, (BRIDGE MTD.), AS PER PLAN
ITEM 1001 LUMINAIRE, 240V, TEAR DROP, AS PER PLAN
(MIS–305/MIS–801)

CALCULATED EMH
CHECKED KRB/JDS

LIGHTING DETAILS

FRA-674-2.22
GENDER ROAD - PHASE 6

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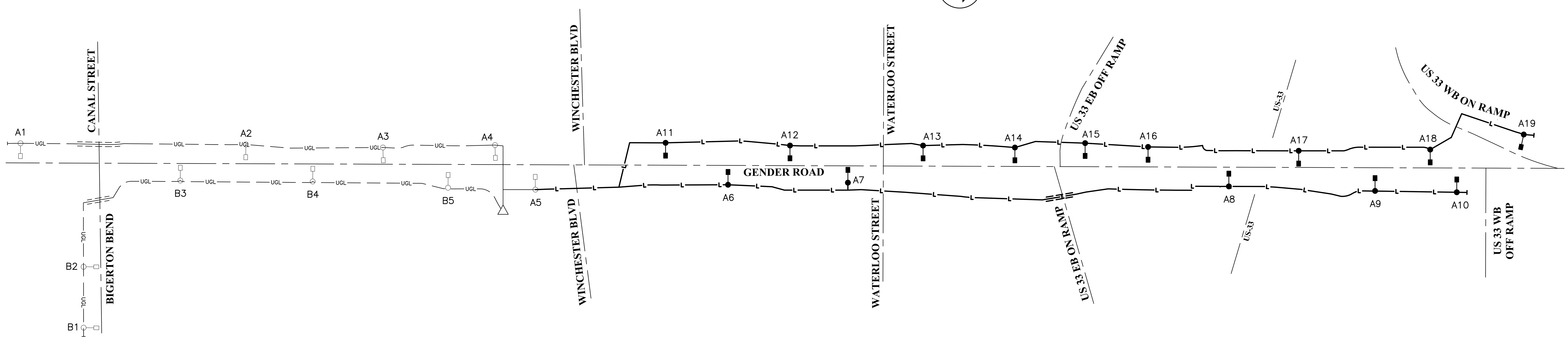
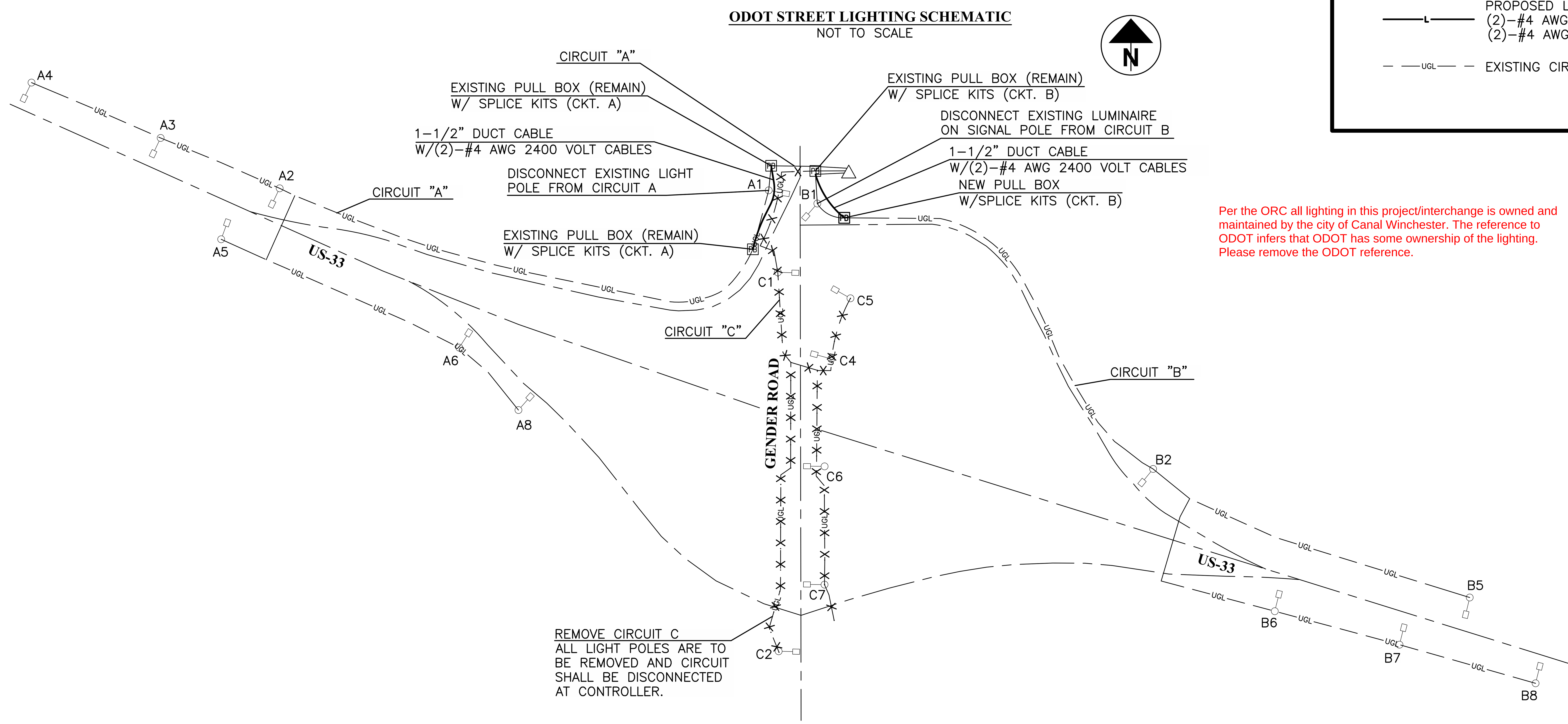
CANAL WINCHESTER STREET LIGHTING SCHEMATIC

NOT TO SCALE



ODOT STREET LIGHTING SCHEMATIC

NOT TO SCALE



Per the ORC all lighting in this project/interchange is owned and maintained by the city of Canal Winchester. The reference to ODOT infers that ODOT has some ownership of the lighting. Please remove the ODOT reference.

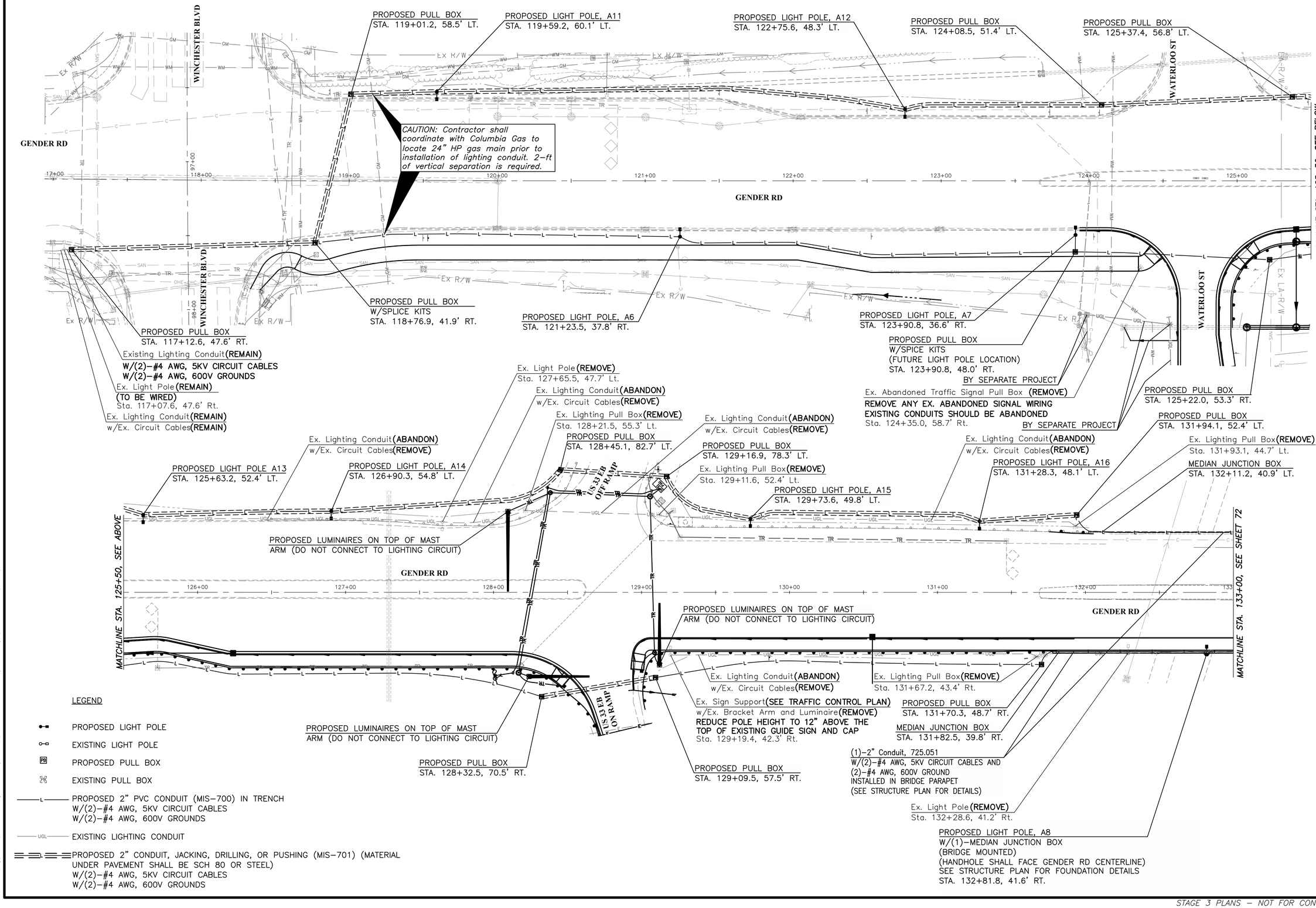
LEGEND

Symbol	Description
●–■	PROPOSED LIGHT POLE
○–□	EXISTING LIGHT POLE (REMAIN, UNLESS NOTED OTHERWISE)
△	EXISTING PAD MOUNTED STREET LIGHTING CONTROLLER
——L——	PROPOSED LIGHTING CABLES (2)-#4 AWG, 5KV CIRCUIT CABLES AND (2)-#4 AWG, 600V GROUNDS
— —UGL— —	EXISTING CIRCUIT CABLES

CALCULATED EMH
CHECKED KRB/JDS

LIGHTING SCHEMATIC

FRA-674-2.22
GENDER ROAD - PHASE 6


PROPOSED PULL BOX
STA. 119+01.2, 58.5' LT.
PROPOSED LIGHT POLE, A11
STA. 119+59.2, 60.1' LT.
PROPOSED LIGHT POLE, A12
STA. 122+75.6, 48.3' LT.
PROPOSED PULL BOX
STA. 124+08.5, 51.4' LT.
PROPOSED PULL BOX
STA. 125+37.4, 56.8' LT.
WINCHESTER BLVD
WATERLOO ST
GENDER RD
CAUTION: Contractor shall coordinate with Columbia Gas to locate 24" HP gas main prior to installation of lighting conduit. 2-ft of vertical separation is required.
MATCHLINE STA. 125+50, SEE BELOW
PROPOSED PULL BOX
W/SPLICE KITS
STA. 118+76.9, 41.9' RT.
PROPOSED LIGHT POLE, A6
STA. 121+23.5, 37.8' RT.
PROPOSED LIGHT POLE, A7
STA. 123+90.8, 36.6' RT.
PROPOSED PULL BOX
W/SPICE KITS
(FUTURE LIGHT POLE LOCATION)
STA. 123+90.8, 48.0' RT.
BY SEPARATE PROJECT
Ex. Abandoned Traffic Signal Pull Box (REMOVE)
REMOVE ANY EX. ABANDONED SIGNAL WIRING
EXISTING CONDUITS SHOULD BE ABANDONED
Sta. 124+35.0, 58.7' RT.
PROPOSED PULL BOX
STA. 125+22.0, 53.3' RT.
PROPOSED PULL BOX
STA. 117+12.6, 47.6' RT.
Existing Lighting Conduit(REMAIN)
W/(2)-#4 AWG, 5KV CIRCUIT CABLES
W/(2)-#4 AWG, 600V GROUNDS
Ex. Light Pole(REMAIN)
(TO BE WIRED)
Sta. 117+07.6, 47.6' Rt.
Ex. Lighting Conduit(REMAIN)
w/Ex. Circuit Cables(REMAIN)
Ex. Light Pole(REMOVE)
Sta. 127+65.5, 47.7' Lt.
Ex. Lighting Conduit(ABANDON)
w/Ex. Circuit Cables(REMOVE)
Ex. Lighting Pull Box(REMOVE)
Sta. 128+21.5, 55.3' Lt.
PROPOSED PULL BOX
STA. 128+45.1, 82.7' LT.
Ex. Lighting Conduit(ABANDON)
w/Ex. Circuit Cables(REMOVE)
PROPOSED PULL BOX
STA. 129+16.9, 78.3' LT.
Ex. Lighting Pull Box(REMOVE)
Sta. 129+11.6, 52.4' Lt.
PROPOSED LIGHT POLE, A15
STA. 129+73.6, 49.8' LT.
Ex. Lighting Conduit(ABANDON)
w/Ex. Circuit Cables(REMOVE)
PROPOSED PULL BOX
STA. 131+94.1, 52.4' LT.
Ex. Lighting Pull Box(REMOVE)
Sta. 131+93.1, 44.7' Lt.
MEDIAN JUNCTION BOX
STA. 132+11.2, 40.9' LT.
PROPOSED LIGHT POLE, A16
STA. 131+28.3, 48.1' LT.
Ex. Lighting Conduit(ABANDON)
w/Ex. Circuit Cables(REMOVE)
PROPOSED LIGHT POLE A13
STA. 125+63.2, 52.4' LT.
PROPOSED LIGHT POLE, A14
STA. 126+90.3, 54.8' LT.
Ex. Lighting Conduit(ABANDON)
w/Ex. Circuit Cables(REMOVE)
US 33 EB OFF RAMP
US 33 EB ON RAMP
PROPOSED LUMINAIRES ON TOP OF MAST
ARM (DO NOT CONNECT TO LIGHTING CIRCUIT)
MATCHLINE STA. 125+50, SEE ABOVE
MATCHLINE STA. 133+00, SEE SHEET 72
PROPOSED LUMINAIRES ON TOP OF MAST
ARM (DO NOT CONNECT TO LIGHTING CIRCUIT)
Ex. Lighting Conduit(ABANDON)
w/Ex. Circuit Cables(REMOVE)
Ex. Lighting Pull Box(REMOVE)
Sta. 131+67.2, 43.4' Rt.
Ex. Sign Support(SEE TRAFFIC CONTROL PLAN)
w/Ex. Bracket Arm and Luminaire(REMOVE)
REDUCE POLE HEIGHT TO 12" ABOVE THE
TOP OF EXISTING GUIDE SIGN AND CAP
Sta. 129+19.4, 42.3' Rt.
PROPOSED PULL BOX
STA. 131+70.3, 48.7' RT.
MEDIAN JUNCTION BOX
STA. 131+82.5, 39.8' RT.
PROPOSED PULL BOX
STA. 128+32.5, 70.5' RT.
PROPOSED PULL BOX
STA. 129+09.5, 57.5' RT.
(1)-2" Conduit, 725.051
W/(2)-#4 AWG, 5KV CIRCUIT CABLES AND
(2)-#4 AWG, 600V GROUND
INSTALLED IN BRIDGE PARAPET
(SEE STRUCTURE PLAN FOR DETAILS)
Ex. Light Pole(REMOVE)
Sta. 132+28.6, 41.2' Rt.
PROPOSED LIGHT POLE, A8
W/(1)-MEDIAN JUNCTION BOX
(BRIDGE MOUNTED)
(HANDHOLE SHALL FACE GENDER RD CENTERLINE)
SEE STRUCTURE PLAN FOR FOUNDATION DETAILS
STA. 132+81.8, 41.6' RT.
LEGEND
PROPOSED LIGHT POLE
EXISTING LIGHT POLE
PROPOSED PULL BOX
EXISTING PULL BOX
PROPOSED 2" PVC CONDUIT (MIS-700) IN TRENCH
W/(2)-#4 AWG, 5KV CIRCUIT CABLES
W/(2)-#4 AWG, 600V GROUNDS
EXISTING LIGHTING CONDUIT
PROPOSED 2" CONDUIT, JACKING, DRILLING, OR PUSHING (MIS-701) (MATERIAL UNDER PAVEMENT SHALL BE SCH 80 OR STEEL)
W/(2)-#4 AWG, 5KV CIRCUIT CABLES
W/(2)-#4 AWG, 600V GROUNDS
1 inch = 30 feet
CALCULATED EMH
CHECKED KRB/JDS
LIGHTING PLAN - GENDER ROAD
FRA-674-2.22
GENDER ROAD - PHASE 6
71
96
STAGE 3 PLANS – NOT FOR CONSTRUCTION
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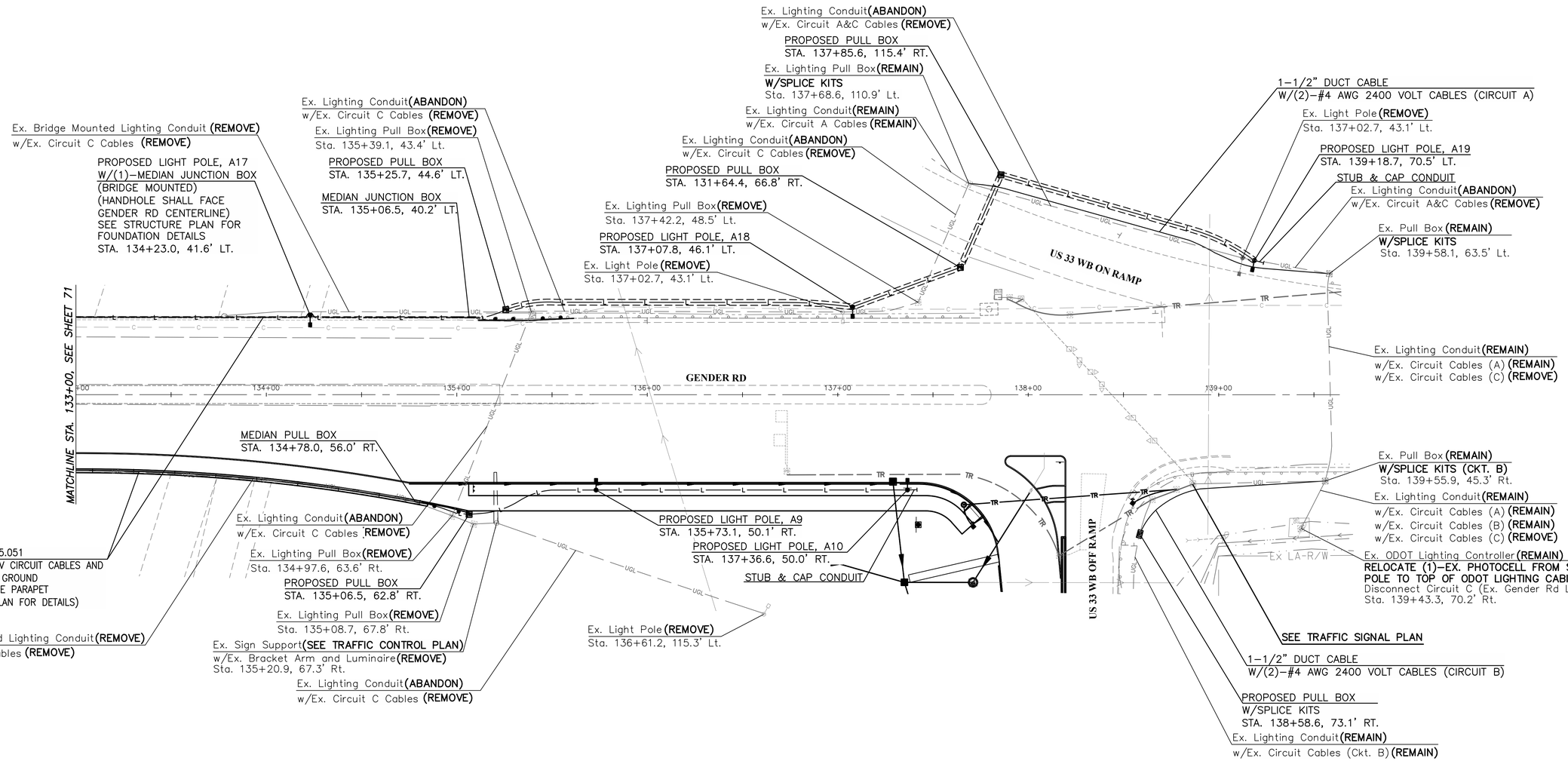


LEGEND

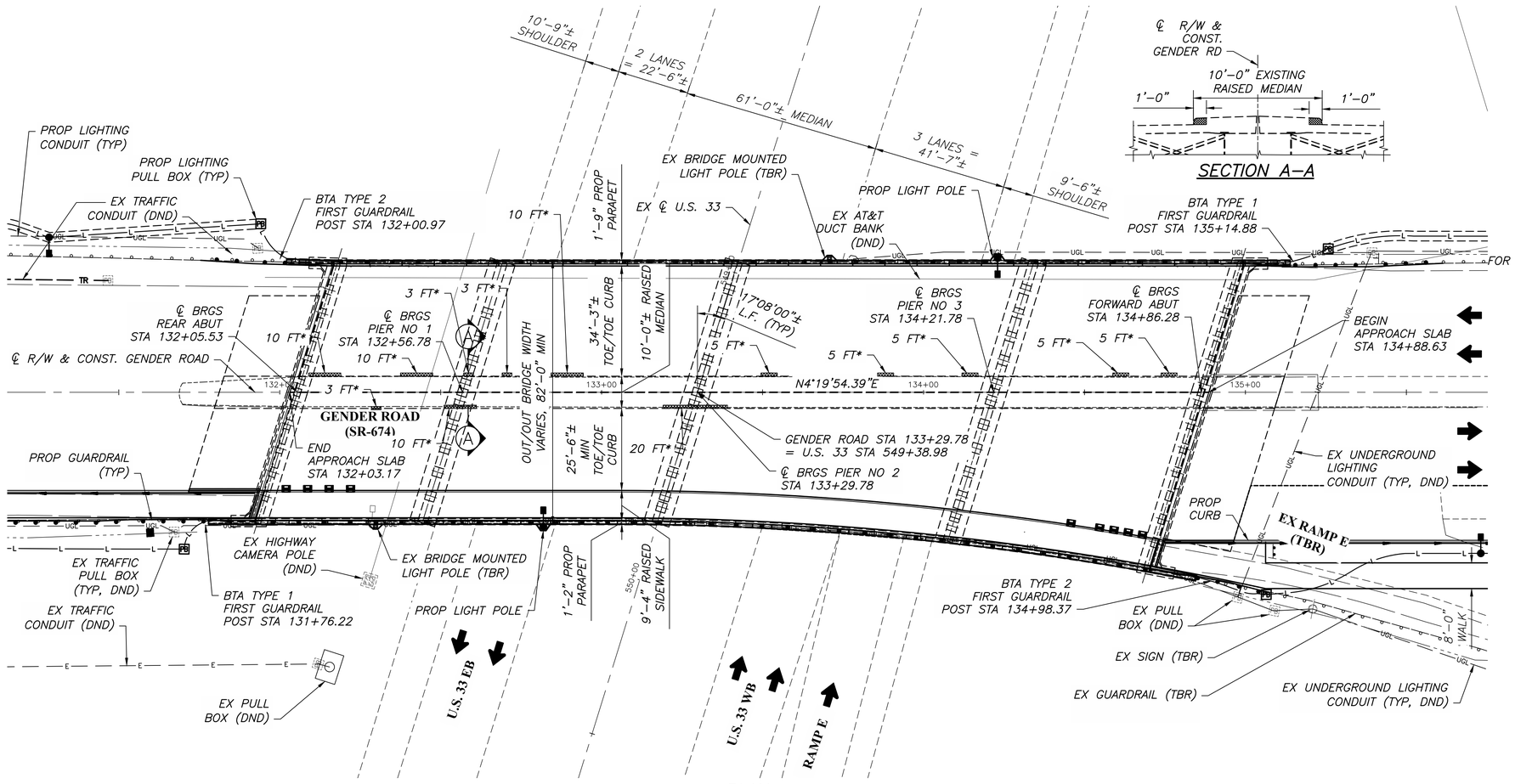
- PROPOSED LIGHT POLE
- EXISTING LIGHT POLE
- PROPOSED PULL BOX
- EXISTING PULL BOX
- PROPOSED 2" PVC CONDUIT (MIS–700) IN TRENCH
  W/(2)–#4 AWG, 5KV CIRCUIT CABLES
  W/(2)–#4 AWG, 600V GROUNDS
- EXISTING LIGHTING CONDUIT
- PROPOSED 2" CONDUIT, JACKING, DRILLING, OR PUSHING (MIS–701) (MATERIAL UNDER PAVEMENT SHALL BE SCH 80 OR STEEL)
  W/(2)–#4 AWG, 5KV CIRCUIT CABLES
  W/(2)–#4 AWG, 600V GROUNDS

1 inch = 30 feet

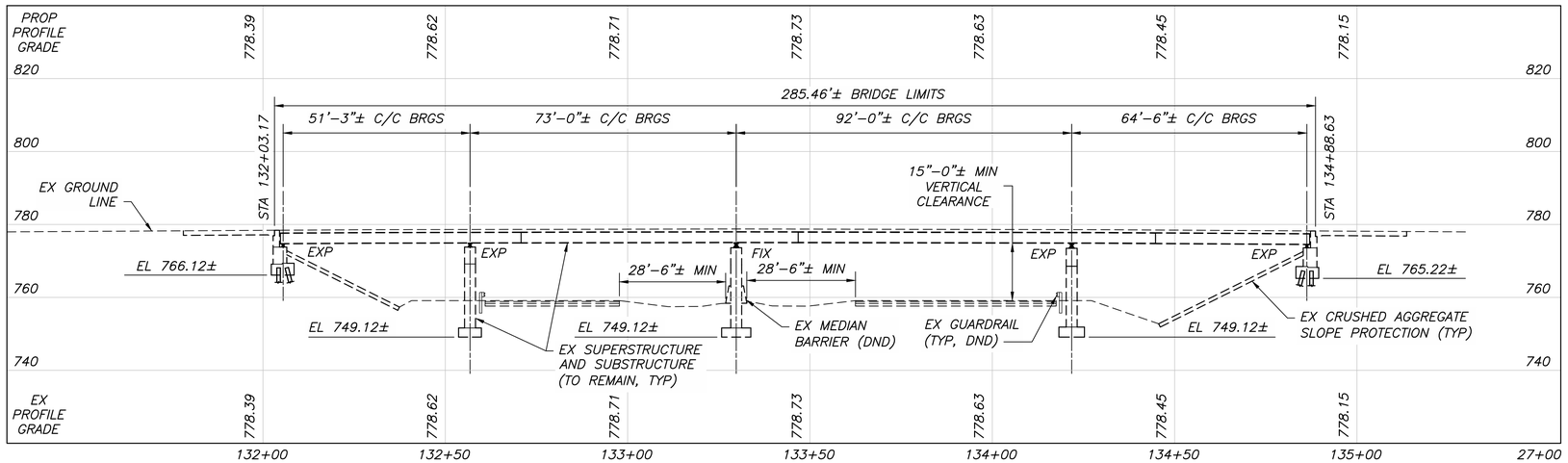
CALCULATED EMH
CHECKED KRB/JDS

LIGHTING PLAN - GENDER ROAD

FRA-674-2.22
GENDER ROAD - PHASE 6



PLAN



PROFILE ALONG CENTERLINE CONSTRUCTION GENDER ROAD

BENCHMARK DATA

BM #	DESCRIPTION
BM #1 CW1005	STA 125+42.71 (℄ GENDER ROAD), OFFSET 51.17' RT, EL 772.66 VILLAGE OF CANAL WINCHESTER MONUMENT "CW1005" TOP OF ALUMINUM DISK SET IN TOP OF PREFABRICATED CONCRETE POST POURED IN PLACE, IN THE SOUTHEAST CORNER OF GENDER ROAD AND THE EXIST RAMP FROM U.S. 33 WEST, 34 FEET SOUTH OF THE CENTER OF THE EXIT RAMP, 42 FEET EAST OF THE CENTERLINE OF GENDER ROAD, 9 FEET SOUTH OF A ROADWAY SIGN, 63 FEET NORTHWEST OF A CATCH BASIN, FLUSH WITH THE GROUND. MONUMENT IS STAMPED "CW 1005", AND WAS SET AS A CONTROL MONUMENT FOR THE CITY OF CANAL WINCHESTER BY ADR & ASSOCIATES, LTD. IN 2002

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEET 2/87

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. SEE TITLE SHEET FOR TRAFFIC DATA.

LEGEND

▨ – LIMITS OF PATCHING OF EXISTING RAISED MEDIAN PER ITEM 519 – PATCHING CONCRETE STRUCTURE

* – LENGTH OF PATCHING OF EXISTING RAISED MEDIAN

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM BRIDGE WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPAN: 51'–3"±, 73'–0"±, 92'–0"±, 64'–6"±

ROADWAY: VARIABLE F/F PARAPET WITH 10'–0" RAISED MEDIAN

VEHICULAR LIVE LOAD: HS 20–44

SKEW: 17°08'00" LEFT FORWARD

WEARING SURFACE: 1"± MONOLITHIC CONCRETE

APPROACH SLABS: 25'–0"± LONG (STD DWG AS–1–67)

ALIGNMENT: GENDER ROAD: TANGENT
RAMP E: 6°00'00" LEFT

CROWN: 3/16'/FOOT± OR VARIES

STRUCTURE FILE NUMBER: 2517361

DATE BUILT: 1971

COORDINATES: LATITUDE: N 39°51'27.99"
LONGITUDE: W 82°49'40.60"

DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM BRIDGE WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPAN: 51'–3"±, 73'–0"±, 92'–0"±, 64'–6"±

ROADWAY: VARIABLE F/F PARAPET WITH 10'–0" RAISED MEDIAN

VEHICULAR LIVE LOAD: HS 20–44

FUTURE WEARING SURFACE: 0 KIPS/FT²

SKEW: 17°08'00" LEFT FORWARD

APPROACH SLABS: 25'–0"± LONG (STD DWG AS–1–67)

ALIGNMENT: GENDER ROAD: TANGENT
RAMP E: 6°00'00" LEFT

CROWN: 3/16'/FOOT± OR VARIES

COORDINATES: LATITUDE: N 39°51'27.99"
LONGITUDE: W 82°49'40.60"

DECK AREA: 24,011 SF

PROPOSED WORK

1. REPLACE EXISTING PARAPET ALONG SOUTHBOUND (WEST) PORTION OF BRIDGE AND INSTALL VANDAL FENCE.
2. REMOVE EXISTING PARAPET AND INSTALL RAISED SIDEWALK AND PARAPET ALONG NORTHBOUND (EAST) PORTION OF BRIDGE WITH VANDAL FENCE.
3. REMOVE PORTIONS OF THE EXISTING DECK TO FACILITATE INSTALLATION OF NEW SCUPPERS ALONG TOE OF RAISED SIDEWALK ALONG NORTHBOUND (EAST) PORTION OF THE BRIDGE.
4. PATCH RAISED MEDIAN.
5. PREPARE AND PAINT BOTH FACIA BEAM LINES.

GRAPHIC SCALE 0 12.5 25 50 — 1 inch = 25 feet

Reviewed CAS 1/31/24 | Structure File Number 2517361
Drawn GB | Checked RJE
Designed GB

FRANKLIN COUNTY
Sta. 132+03.17
Sta. 134+88.63

SITE PLAN
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

1/24

73
96

STAGE 3 PLANS – NOT FOR CONSTRUCTION

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

BR-2-15	REVISED	1-21-2022
EXJ-4-87	REVISED	1-19-2024
GSD-1-19	REVISED	1-15-2021
PCB-91	REVISED	7-17-2020
SBR-1-20	REVISED	7-21-2023

REFER TO THE FOLLOWING CITY OF CANAL WINCHESTER STANDARD BRIDGE DRAWING:

RD-07-01 DATED 11-2001

DESIGN SPECIFICATIONS:

THIS STRUCTURE DESIGN CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING INCLUDES:

HS-20-44

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 (PARAPET, SIDEWALK, RAISED MEDIAN, APPROACH SLABS)

CONCRETE REINFORCEMENT:

EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI

EXISTING BRIDGE PLANS:

EXISTING BRIDGE PLANS ARE ON FILE AT ODOT DISTRICT 6, 400 E WILLIAM STREET, DELAWARE, OH 43015. EXISTING BRIDGE PLANS MAY BE INSPECTED, UPON REQUEST, AT THE OFFICE DURING NORMAL BUSINESS HOURS.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO ODOT CMS SECTIONS 102.05 AND 105.02. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE CITY WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

MAINTENANCE OF TRAFFIC:

TRAFFIC WILL BE MAINTAINED ON THE BRIDGE TO FACILITATE THE PROPOSED CONSTRUCTION USING UNANCHORED PORTABLE CONCRETE BARRIER AS DETAILED IN THE MAINTENANCE OF TRAFFIC PLANS. PORTABLE CONCRETE BARRIER PLACED ON THE BRIDGE DECK AND APPROACH SLABS SHALL MEET THE REQUIREMENTS OF STANDARD DRAWING PCB-91.

ITEM 202, PORTIONS OF STRUCTURE REMOVED AS PER PLAN:

THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING CONCRETE PARAPETS, ABUTMENT BACKWALL, AND PORTIONS OF EXISTING BRIDGE DECK. BRIDGE DECK REMOVAL SHALL INCLUDE A PORTION OF THE EDGES OF EXISTING BRIDGE DECK SHALL BE REMOVED TO FACILITATE INSTALLATION OF NEW LIGHT POLE PILASTERS. BRIDGE DECK REMOVAL SHALL ALSO INCLUDE THE REMOVAL OF PORTIONS OF THE EXISTING BRIDGE DECK CONCRETE AND TRIMMING OF REINFORCING STEEL TO FACILITATE THE INSTALLATION OF TWO NEW SCUPPERS IN THE EXISTING DECK. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM
WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING BEGINS, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES.
DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF CONCRETE REINFORCEMENT IN THE DECK SLAB. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL
MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STEEL BEAMS, THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO THE POSSIBLE PRESENCE OF
ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING CONCRETE
REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE,
OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-IN LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

ALTERNATE 6 -
ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

IN ADDITION TO THE WORK ITEMS REQUIRED IN 511, THIS ITEM INCLUDES THE DEVELOPMENT, DELIVERY AND PLACEMENT OF A CLASS QC2 SELF CONSOLIDATING CONCRETE MIX DESIGN AS DESCRIBED IN THE FOLLOWING NOTE:

PROVIDE A CONCRETE MIX WITH THE FOLLOWING PROPERTIES:

SELF-CONSOLIDATING CONCRETE (SCC): WHEN REQUIRED IN THE DESIGN PLANS OR APPROVED BY THE ENGINEER, PROVIDE AN SCC MIX WITH AGGREGATE GRADATIONS WITHIN ZONE II OF THE COARSENESS FACTOR CHART THAT IS FLOWABLE, NON-SEGREGATING CONCRETE THAT CAN SPREAD INTO PLACE, FILL THE FORMWORK, AND ENCAPSULATES THE REINFORCEMENT WITHOUT A MECHANICAL CONSOLIDATION. INCREASING THE AMOUNT OF AN APPROVED 705.12 (SCC) ADMIXTURE OF AN APPROVED JMF TO ACHIEVE THE DESIRED CONSISTENCY; RE-PROPORTIONING THE AGGREGATES WITHIN ZONE II; ADDING CEMENTITIOUS MATERIAL, AND INCLUDING A VISCOSITY MODIFYING ADMIXTURE (VMA) ARE ACCEPTABLE METHODS OF IMPROVING THE STABILITY OF THE MIX. A NEW MIX DESIGN IS NOT REQUIRED.

SLUMP REQUIREMENTS OF TABLE 499.04-1 DO NOT APPLY.

ESTABLISH QUALITY CONTROL PROCEDURES IN THE QUALITY CONTROL PLAN FOR SCC CONCRETE. SET THE TARGET SLUMP FLOW FOR THE MIX AND MAINTAIN THE FLOW WITHIN ±2 INCHES. VISUALLY INSPECT THE STABILITY OF THE MIX TO ENSURE THAT THERE IS NO AGGREGATE PILE IN THE MIDDLE OF, NOR MORTAR HALO IN EXCESS OF ½ INCH ON THE LEADING EDGE OF THE SLUMP FLOW TEST PILE. TEST THE SLUMP FLOW ACCORDING TO ASTM C1611.

GRADATION:

PROVIDE A WELL-GRADED CONCRETE MIX BY MAINTAINING THE GRADATION OF THE COMBINATION OF AGGREGATES WITHIN ZONE II (OPTIMAL) OF THE COURSENESS FACTOR CHART (FIGURE 1) AS DEFINED IN THE COMPASS OR EQUAL SOFTWARE. SE A 1 INCH NOMINAL MAXIMUM SIZE AGGREGATE. ENSURE THAT THE DESIGN YIELD IS 27.0 CU. FT.

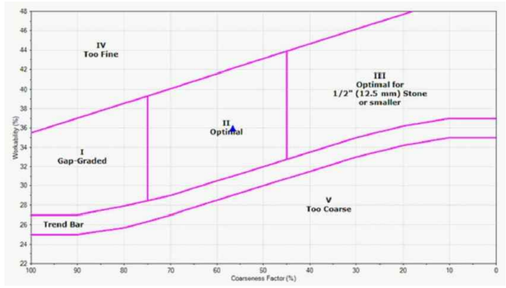


FIGURE 1 - COARSENESS FACTOR CHART

USE THE FOLLOWING SIEVE SIZES TO DETERMINE THE GRADATION OF THE AGGREGATES:

1 ½ INCH	#8
1 INCH	#16
¾ INCH	#30
½ INCH	#50
⅜ INCH	#100
#4	#200

IN THE CHART:
WORKABILITY FACTOR (%) REFERS TO THE PERCENT OF THE COMBINED AGGREGATE THAT IS RETAINED ON THE NO. 8 SIEVE THAT IS ALSO RETAINED ON THE ⅜ IN SIEVE. THE CHART IS BASED ON A CEMENT CONTENT OF 564 LB/CY. ADJUST TO WORKABILITY PROPORTIONATELY AND DIRECTLY BY 2.5% PER 94 LB OF CEMENT WHEN USING EITHER LESS OR MORE. ENSURE THAT THE CONCRETE MIX DESIGN IS WORKABLE AND FINISHABLE DURING THE TRIAL PROCESS. WHEN THE MIX IS DETERMINED TO HAVE ISSUES RELATING TO WORKABILITY OR FINISHABILITY IN THE FIELD, THE CITY MAY RESCIND THE MIX DESIGN ACCEPTANCE.

THIS SCC CONCRETE IS BEING UTILIZED TO BEST FILL THE FORMLINED CONCRETE POURS WHERE SPECIFIED IN THIS PLAN.

THE SURFACE FINISH SHALL BE ONE OF THE PATTERNS DESCRIBED BELOW IN THE ARCHITECTURAL SURFACE ELEVATION AND TABLE FROM AN APPROVED COMPANY MEETING THE DETAILS SHOWN ON THIS PAGE.

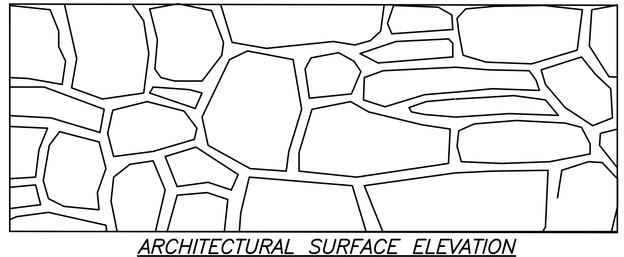
STAINING OF THE PATTERNED CONCRETE SURFACES SHALL BE DONE PRIOR TO APPLICATION OF ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY). THE STAIN COLORED CONCRETE, USING LITHOCROME TINTURA STAIN, SHALL BE COLOR 2626 LIGHT GRAY AS PROVIDED BY L.M. SCOFIELD COMPANY, DOUGLASVILLE, GEORGIA (800) 800-9900 OR APPROVED EQUAL. THE STAIN SHALL BE APPLIED BY AN EVEN AND CONTROLLED METHOD AS RECOMMENDED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER. THE CONTRACTOR WILL NOT ALLOW OVERSPRAY OR RUNS TO RUIN THE APPEARANCE OF THE ADJACENT CONCRETE, WHICH SHALL REMAIN UNSTAINED.

TWO FULL SCALE, DIFFERENTLY PATTERNED, STAINED AND SEALED, PRECONSTRUCTION TEST PANELS SHALL BE PROVIDED FOR APPROVAL BY THE CITY. IF THE TEST PANELS DO NOT MEET THE APPROVAL BY THE CITY, THE RESULTS MAY BE GROUNDS TO REJECT THE PROPOSED PANEL SURFACE CHOSEN. THE TEST PANELS WILL BE PROVIDED REPEATEDLY, AS NECESSARY, UNTIL APPROVAL IS GRANTED. FIVE FOOT LONG TEST PANELS SHALL BE PROVIDED FOR REVIEW AND SHALL BE CONSTRUCTED TO CLOSELY MATCH THE PROPOSED RAILING GEOMETRY INCLUDING BORDERS. THE MOCK-UPS SHALL HAVE THE SAME ARCHITECTURAL RELIEF, THICKNESS, PATTERN, AND COLOR/SEALANT INTENDED TO BE USED ON THE PROJECT. THE PANELS SHALL BE OF THE SAME CEMENT, AGGREGATE SOURCE, AND CONCRETE SEALANT THAT WILL BE USED TO CONSTRUCT THE PROJECT. AFTER APPROVAL, THE CONCRETE TEST PANELS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

CUSTOM LETTERING:
ALL ADDITIONAL COSTS ASSOCIATED WITH THE LETTERING, SYMBOLS, PROVIDING AND DIFFERING TYPES AND COLORS OF CONCRETE SEALING IS TO BE INCLUDED WITH ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN, FOR PAYMENT. LOCATION OF SAWCUT JOINTS SHALL BE SO AS TO AVOID INTERSECTING DEPRESSED LETTERING. LETTERS SHALL BE CAST INTO PARAPET CONCRETE AT AN EMBEDMENT DEPTH OF 2 INCHES. THE MATERIAL USED TO FORM THE LETTERS INTO THE CONCRETE SHALL BE APPROVED BY THE ENGINEER. THE SPECIFICATIONS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), SHALL BE USED TO APPLY FEDERAL COLOR NUMBER 11136 (INSIGNIA RED) TO THE DEPRESSED SURFACES OF THE LETTERS. LASTLY, ALL REMAINING PARAPET SURFACES SHALL BE SEALED, AS DETAILED IN THE PLAN, WITH 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY), CLEAR SEALER. THE CONTRACTOR SHALL CREATE A MOCKUP TEST POUR OF THE PROPOSED LETTERING AND SEALING PATTERN USING APPROVED FORMLINERS AND SEALING MATERIAL.

THE MOCKUP SHALL BE APPROVED BY CITY OF CANAL WINCHESTER. IF THE TEST PANELS DO NOT MEET THE APPROVAL OF THE CITY, THE RESULTS MAY BE GROUNDS TO REJECT THE PROPOSED PANEL SURFACE CHOSEN. THE MOCKUP WILL BE PROVIDED REPEATEDLY, AS NECESSARY, UNTIL APPROVAL IS GRANTED. A MINIMUM OF ONE FULL SCALE LETTER WITH FLUSH FRAMING MOCKUP SHALL BE PROVIDED. THE MOCK-UPS SHALL HAVE THE SAME ARCHITECTURAL RELIEF, THICKNESS, PATTERN, AND COLOR/SEALANT INTENDED TO BE USED ON THE PROJECT. THE MOCKUP SHALL BE OF THE SAME CEMENT, AGGREGATE SOURCE, AND CONCRETE SEALANT THAT WILL BE USED TO CONSTRUCT THE PROJECT. AFTER APPROVAL, THE CONCRETE MOCKUP SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

PAYMENT WILL INCLUDE DEVELOPMENT AND PLACEMENT OF THE SELF CONSOLIDATING CONCRETE MIX, ALL AESTHETIC TREATMENT INCLUDING THE CONCRETE, SURFACE FINISH, STAIN, TEST PANELS, AND ALL OTHER MATERIALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED WITH THE ITEMIZED PAYMENT FOR ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN.



ARCHITECTURAL SURFACE ELEVATION

COMPANY NAME	PANEL SURFACE TREATMENT	SPECIFICATIONS
CUSTOM ROCK INTERNATIONAL	NEW ENGLAND DRYSTACK #12003	MAX RELIEF 1 ⅜" LINER THICKNESS 2 ¼" STONE SIZE 3" TO 24"
SPEC FORMLINERS, INC.	WASHINGTON DRYSTACK #1581	MAX RELIEF 1 ½" LINER THICKNESS 2 ⅝" STONE SIZE 4" TO 24"
APPROVED EQUAL	APPROVED EQUAL	APPROVED EQUAL

ALTERNATE 5 BID ITEM -
ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

THIS ITEM WILL CONSTRUCT A SINGLE SLOPE PARAPET WITH ON THE LEFT/WEST SIDE OF THE BRIDGE PER ODOT STD DWG SBR-1-20. THE PARAPET ON THE RIGHT/EAST SIDE OF THE BRIDGE WILL BE A 1'-0" WIDE PARAPET PER ODOT STD DWG BR-2-15. DIMENSIONS FOR BOTH PARAPETS ARE SHOWN IN THE SECTION VIEW IN THE ITEM 607 - VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC NOTE ON SHEET 3/24. CONTRACTOR SHALL REINFORCE PARAPET AS DETAILED IN SBR-1-20 AND BR-2-15 REGARDING REINFORCING BAR SIZE AND SPACING, BUT SHALL ADJUST REINFORCING GEOMETRY TO ACCOMMODATE THE MODIFIED PARAPET GEOMETRIES.

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S Xrefs: 2021137-CS-HSFR-E, 2021137-CP-HSFR-ROAD-N, 2021137-BD001, 2021137-BD002, 2021137-CU-HSFR-E

NTS

Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

GENERAL NOTES
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-22-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

2/24

Replace this note with the attached note.

ASBESTOS CONTAINING MATERIAL ON BRIDGES:
A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR REHABILITATION; THE SURVEY DETERMINED THAT APPROXIMATELY 1 FT OF ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE FROM A PIECE OF LIGHTING CONDUIT LOCATED WITHIN THE BRIDGE AND APPROACH PARAPET JOINT ON THE NORTHEAST CORNER OF THE BRIDGE. THE MATERIAL IS ASBESTOS CONTAINING MATERIAL (ACM). ANY DISTURBANCE TO THE ACM SHOULD NOT INCLUDE SANDING, ABRADING, GRINDING, OR OTHER METHOD THAT BREAKS, CRUMBLES, OR DISINTEGRATES INTACT ACM. THE CONTRACTOR SHALL ENSURE THAT PROPER WETTING IS CONDUCTED DURING THE DEMOLITION PROCESS TO PREVENT THE MATERIAL FROM BECOMING AIRBORNE.

ITEM 514 – FIELD PANTING STRUCTURAL STEEL, FINISH COAT
CONTRACTOR SHALL UTILIZE AN OZEU PAINT SYSTEM FOR PROPOSED BEAM PAINTING AS DETAILED IN THE PLANS. FINAL FINISH COLOR AND LUSTER SHALL BE BLACK, CLOSELY MATCHING THE PROPOSED VANDAL FENCE.

ITEM 516 – VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN
THIS ITEM IS FOR THE VERTICAL EXTENSION OF THE SLIDING PLATE EXPANSION JOINTS UNDERNEATH THE PROPOSED SIDEWALK AND PARAPET ON THE RIGHT SIDE OF THE BRIDGE AS DETAILED ON SHEET 13/24.

ITEM 518 – SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN
THIS ITEM SHALL INCLUDE FABRICATION AND INSTALLATION OF SCUPPERS IN THE EXISTING BRIDGE DECK. THE ENTIRETY OF THE TRANSVERSE GRATE AND TROUGHED DECK CONCRETE REPLACEMENT DOES NOT ENCROACH ON THE TRAVELED LANE. SEE SHEET 16/24 FOR ADDITIONAL DETAILS. THE SCUPPER IS A TS18x6x3/8 ROTATED 90 DEGREES FROM WHAT IS SHOWN IN STANDARD DRAWING GSD–1–19. ATTACHMENT OF THE SCUPPER TO THE FACIA BEAM WEB SHALL BE AS SHOWN IN ODOT STANDARD DRAWING GSD–1–19, SHEET 4 OF 4.

ITEM 518 – SCUPPER MODIFICATION, AS PER PLAN
THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO MODIFY EXISTING SCUPPERS ON THE RIGHT SIDE OF THE BRIDGE AS SHOWN ON SHEET 5/24. WORK PERFORMED BELOW THE DECK SHALL INCLUDE REMOVAL OF THE VERTICAL PORTION OF THE SCUPPER TO WITHIN 6" FROM THE BOTTOM OF TOP BEAM FLANGE. REMAINING STEEL SURFACES ARE TO BE GROUND SMOOTH AND PAINTED TO MATCH EXISTING STRUCTURAL STEEL PAINT TYPE AND COLOR. SCUPPER OPENING IN DECK SHALL BE TEMPORARILY OR PERMANENTLY BLOCKED OFF FROM BELOW AND THE SCUPPER FILLED FROM ABOVE WITH CLASS QC2 CONCRETE TO THE LEVEL OF THE TOP OF DECK. UPON CURING OF FILL CONCRETE, TEMPORARY BLOCK OFF USED SHALL BE REMOVED.

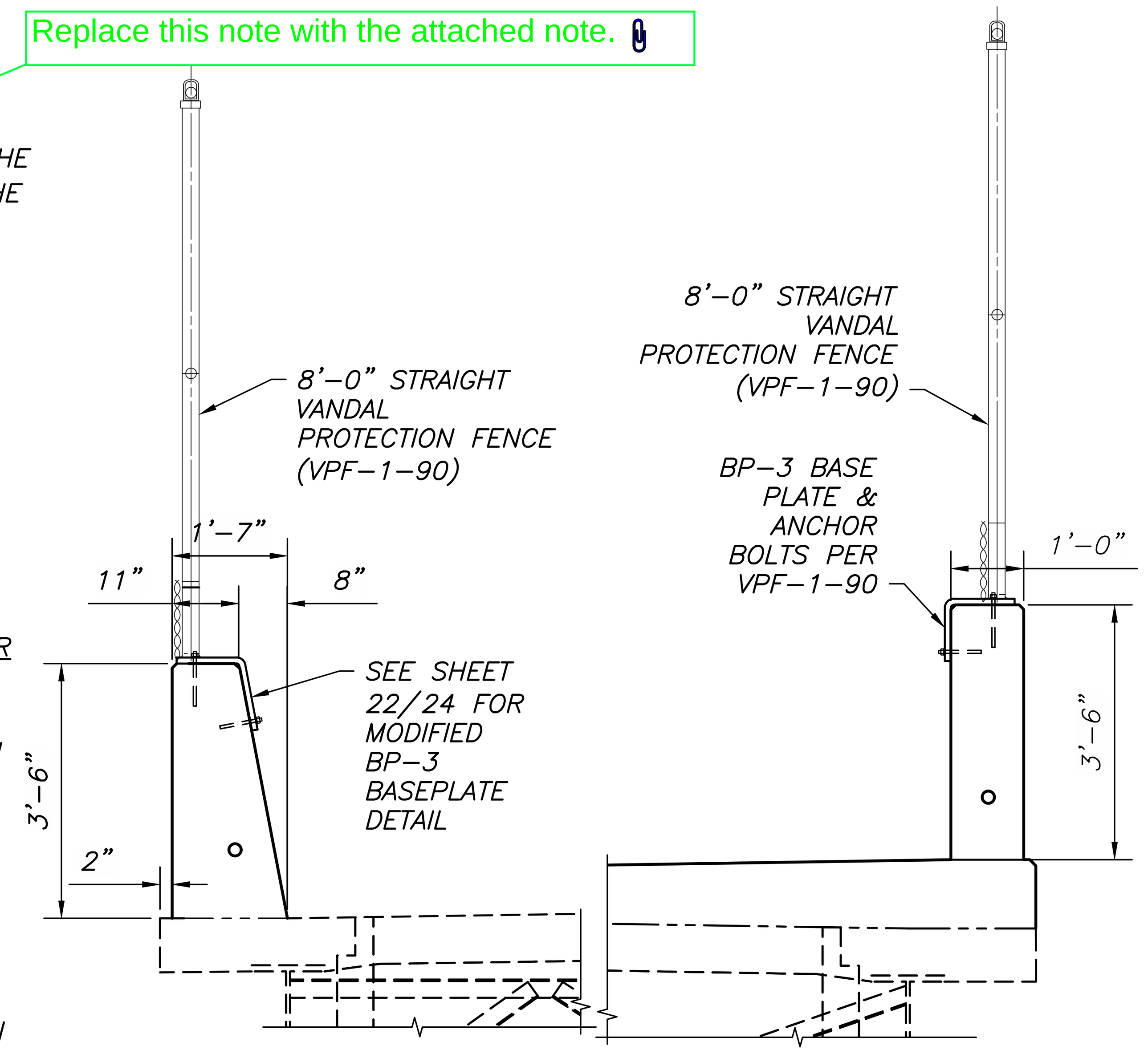
ALTERNATE BID ITEMS
THE PLANS PRESENT ALTERNATE BID ITEMS FOR THE FENCE AND BRIDGE PARAPETS ON EACH SIDE OF THE BRIDGE. THE CONTRACT WILL AUTHORIZE ONLY ONE OF THE PROPOSED FENCE AND PARAPET ITEMS/CONFIGURATIONS PRESENTED IN THE PLANS, EITHER ALTERNATE 5 OR ALTERNATE 6.

ALTERNATE 5 BID ITEM –
ITEM 607 – VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN
THIS BASE BID ITEM WILL CONSTRUCT A 8' STRAIGHT VINYL COATED VANDAL PROTECTION FENCE MEETING THE REQUIREMENTS OF POST SECTION PS–3 PER ODOT STANDARD DRAWING VPF–1–90. POST SPACINGS SHALL BE 8'–0" TO MATCH THE SPACINGS FOR THE ALTERNATE 2 FENCE DETAILED IN THE PLANS. ALL VINYL FABRIC COATINGS, SHOP PAINTING, AND FIELD PAINTING SHALL BE BLACK IN COLOR.

THE BASE PLATE AS DETAILED ON SHEET 22/24 SHALL BE PROVIDED ON THE VANDAL PROTECTION FENCE ON THE LEFT (WEST) SIDE OF THE BRIDGE. BASE PLATE BP–3 SHALL BE USED ON THE VANDAL PROTECTION FENCE ON THE RIGHT (EAST) SIDE OF THE BRIDGE AS DIRECTED IN THE VPF–1–90 ODOT STANDARD DRAWINGS. CONCRETE PARAPET JOINTS AS DETAILED IN THE PLANS SHALL BE MAINTAINED WITH FENCE POST LOCATIONS AS TO PROVIDE 1 FOOT CLEARANCE FROM ANCHORS TO NEAREST FACE OR CONTROL JOINT.

SUPPLEMENTAL FENCE DETAILS ARE PRESENTED ON THIS SHEET. FENCE LENGTH, ALIGNMENTS, AND POSITION ALONG THE CONCRETE PARAPET SHALL BE AS DETAILED ON SHEETS 17/24 & 18/24.

ALL LABOR, MATERIALS, EQUIPMENT, AND MISCELLANEOUS ITEMS ASSOCIATED WITH CONSTRUCTING THE PROPOSED BASE BID VANDAL PROTECTION FENCE SHALL BE INCLUDED IN THE PER FOOT COST.



ALTERNATE 5 PARAPET AND VPF BID ITEMS

ALTERNATE 6 BID ITEM:
ITEM 607 – SPECIAL, VANDAL PROTECTION FENCE (DECORATIVE FENCE):

1.01 WORK INCLUDED
THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND APPURTENANCES NECESSARY FOR INSTALLATION OF THE INDUSTRIAL ORNAMENTAL STEEL FENCE SYSTEM DEFINED HEREIN ON THE GENDER ROAD BRIDGE PARAPETS.

THE HEIGHT OF THE INDUSTRIAL ORNAMENTAL FENCE SYSTEM SHALL BE 8 FEET.

1.02 DESIGN LOADING
ALL COMPONENTS OF THE DECORATIVE FENCE SHALL BE DESIGNED PER LOADING IN ACCORDANCE WITH AASHTO LRFD 3.8.

1.03 SYSTEM DESCRIPTION
THE MANUFACTURER SHALL SUPPLY A TOTAL INDUSTRIAL ORNAMENTAL STEEL FENCE SYSTEM OF THE AMERISTAR AEGIS II GENESIS DESIGN, 3–RAIL STYLE OR STRUCTURAL EQUIVALENT. THEY SYSTEM SHALL INCLUDE ALL COMPONENTS (I.E., PICKETS, RAILS, POSTS, GATES AND HARDWARE) REQUIRED.

1.04 QUALITY ASSURANCE
THE CONTRACTOR SHALL PROVIDE LABORERS AND SUPERVISORS WHO ARE THOROUGHLY FAMILIAR WITH THE TYPE OF CONSTRUCTION INVOLVED AND MATERIALS AND TECHNIQUES SPECIFIED.

1.05 REFERENCES
- ASTM A653/A653M – STANDARD SPECIFICATION FOR STEEL SHEET, ZINC–COATED (GALVANIZED) OR ZINC–IRON ALLOY COATED (GALVANNEALED) BY THE HOT–DIP PROCESS.
- ASTM B117 – PRACTICE FOR OPERATING SALT–SPRAY (FOG) APPARATUS.
- ASTM D523 – TEST METHOD FOR SPECULAR GLOSS.
- ASTM D714 – TEST METHOD FOR EVALUATING DEGREE OF BLISTERING IN PAINT.
- ASTM D822 – PRACTICE FOR CONDUCTING TESTS ON PAINT AND RELATED COATINGS AND MATERIALS USING FILTERED OPEN–FLAME CARBON–ARC LIGHT AND WATER EXPOSURE APPARATUS.
- ASTM D1654 – TEST METHOD FOR EVALUATION OF PAINTED OR COATED SPECIMENS SUBJECTED TO CORROSIVE ENVIRONMENTS.
- ASTM D2244 – TEST METHOD FOR CALCULATION OF COLOR DIFFERENCES FROM INSTRUMENTALLY MEASURED COLOR COORDINATES.
- ASTM D2794 – TEST METHOD FOR RESISTANCE OF ORGANIC COATINGS TO THE EFFECTS OF RAPID DEFORMATION (IMPACT).
- ASTM D3359 – TEST METHOD FOR MEASURING ADHESION BY TAPE TEST.
- ASTM F2408 – ORNAMENTAL FENCES EMPLOYING GALVANIZED STEEL TUBULAR PICKETS.

1.06 SUBMITTAL
THE MANUFACTURER'S SUBMITTAL PACKAGE SHALL BE PROVIDED PRIOR TO INSTALLATION.

1.07 PRODUCT HANDLING AND STORAGE
UPON RECEIPT AT THE JOB SITE, ALL MATERIALS SHALL BE CHECKED TO ENSURE THAT NO DAMAGES OCCURRED DURING SHIPPING OR HANDLING. MATERIALS SHALL BE STORED IN SUCH A MANNER TO ENSURE PROPER VENTILATION AND DRAINAGE, AND TO PROTECT AGAINST DAMAGE, WEATHER, VANDALISM AND THEFT.

1.08 PRODUCT WARRANTY
A. ALL STRUCTURAL FENCE COMPONENTS (I.E. RAILS, PICKETS, AND POSTS) SHALL BE WARRANTED WITHIN SPECIFIED LIMITATIONS, BY THE MANUFACTURER FOR A PERIOD OF 10 YEARS FROM DATE OF ORIGINAL PURCHASE. WARRANTY SHALL COVER ANY DEFECTS IN MATERIAL FINISH, INCLUDING CRACKING, PEELING, CHIPPING, BLISTERING OR CORRODING.

B. REIMBURSEMENT FOR LABOR NECESSARY TO RESTORE OR REPLACE COMPONENTS THAT HAVE BEEN FOUND TO BE DEFECTIVE UNDER THE TERMS OF MANUFACTURES WARRANTY SHALL BE GUARANTEED FOR FIVE (5) YEARS FROM DATE OF ORIGINAL PURCHASE.

PART 2 – MATERIALS
2.01 MANUFACTURER
THE FENCE SYSTEM SHALL CONFORM TO AMERISTAR AEGIS II GENESIS 3–RAIL DESIGN, 3–RAIL STYLE MANUFACTURED BY AMERISTAR FENCE PRODUCTS, INC. IN TULSA, OKLAHOMA.

2.02 MATERIAL
A. STEEL MATERIAL FOR FENCE FRAMEWORK (I.E. TUBULAR PICKETS, RAILS AND POSTS), SHALL BE GALVANIZED PRIOR TO FORMING IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A653/A653M, WITH MINIMUM YIELD STRENGTH OF 45,000 PSI (310 MPA). THE STEEL SHALL BE HOT–DIP GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A653/A653M WITH A MINIMUM ZINC COATING WEIGHT OF 0.90 OZ/FT2 (276 G/M2), COATING DESIGNATION G–90.

B. MATERIAL FOR PICKETS SHALL BE 1" SQUARE X 14 GA. TUBING. THE CROSS–SECTIONAL SHAPE OF THE RAILS SHALL CONFORM TO THE MANUFACTURER'S FORERUNNER'S DOUBLE WALL DESIGN WITH OUTSIDE CROSS–SECTION DIMENSIONS OF 1.75" SQUARE AND A MINIMUM THICKNESS OF 14 GA. PICKET HOLES IN THE FORERUNNER RAIL SHALL BE SPACED 4.715" O.C., EXCEPT FOR INVINCIBLE STYLE 6' LONG, WHICH SHALL BE, SPACED 4.98" O.C. PICKET RETAINING RODS SHALL BE 0.125" DIAMETER GALVANIZED STEEL. HIGH QUALITY PVC GROMMETS SHALL BE SUPPLIED TO SEAL ALL PICKET–TO–RAIL INTERSECTIONS. FENCE POSTS SHALL MEET THE FOLLOWING MINIMUM SIZE REQUIREMENTS:

TABLE 1 – MINIMUM SIZES FOR AEGIS II POSTS

FENCE POSTS	PANEL HEIGHT
2 ½" X 12 GA.	UP TO & INCLUDING 6' HEIGHT
3" X 12 GA.	OVER 6' UP TO AND INCLUDING 10' HEIGHT
4"X11 GA.	OVER 10' HEIGHT

C. SQUARE WEAVE WIRE MESH, TYPE 304 STAINLESS STEEL, INTERCRIMP WEAVE WITH 1–1/2"± SQUARE OPENINGS, .120"± WIRE DIAMETER, 86% OPEN AREA. ATTACH WOVEN WIRE CLOTH TO PICKETS USING A STAINLESS STEEL TEK SCREW AND FENDER WASHER TO SECURE TO PICKETS.

2.03 FABRICATION
A. PICKETS, RAILS AND POSTS SHALL BE PRECUT TO SPECIFIED LENGTHS. FORERUNNER RAILS SHALL BE PREPUNCHED TO ACCEPT PICKETS. PICKETS SHALL BE PREDRILLED TO ACCEPT RETAINING RODS.

B. GROMMETS SHALL BE INSERTED INTO THE PREPUNCHED HOLES IN THE RAILS AND PICKETS SHALL BE INSERTED THROUGH THE GROMMETS SO THAT PREDRILLED PICKET HOLES ALIGN WITH THE INTERNAL UPPER RACEWAY OF THE FORERUNNER RAILS (NOTE: THIS CAN BEST BE ACCOMPLISHED BY MAKING AN ALIGNMENT JIG). RETAINING RODS SHALL BE INSERTED INTO EACH FORERUNNER RAIL SO THAT THEY PASS THROUGH THE PREDRILLED HOLES IN EACH PICKET.

C. THE MANUFACTURED GALVANIZED FRAMEWORK SHALL BE SUBJECTED TO THE PERMACOAT THERMAL STRATIFICATION COATING PROCESS (HIGH–TEMPERATURE, IN–LINE, MULTI–STAGE, MULTI–LAYER) INCLUDING, AS A MINIMUM, A SIX–STAGE PRETREATMENT/WASH, AN ELECTROSTATIC SPRAY APPLICATION OF AN EPOXY BASE, AND A SEPARATE ELECTROSTATIC SPRAY APPLICATION OF A POLYESTER FINISH. THE BASE COAT SHALL BE A THERMOSETTING EPOXY POWDER COATING (GRAY IN COLOR) WITH A MINIMUM THICKNESS OF 2 MILS (0.0508MM). THE TOPCOAT SHALL BE A "NO–MAR" TGIC POLYESTER POWDER COAT FINISH WITH A MINIMUM THICKNESS OF 2 MILS (0.0508MM). THE COLOR SHALL BE BLACK. THE STRATIFICATION–COATED FRAMEWORK SHALL BE CAPABLE OF MEETING THE PERFORMANCE REQUIREMENTS FOR EACH QUALITY CHARACTERISTIC SHOWN IN TABLE 2.

TABLE 2

QUALITY CHARACTERISTICS REQUIREMENTS	ASTM TEST METHOD	PERFORMANCE
ADHESION	D3359 – METHOD B	ADHESION (RETENTION OF COATING) OVER 90% OF TEST AREA (TAPE & KNIFE TEST).
CORROSION RESISTANCE	B117, D714 & D1654	CORROSION RESISTANCE OVER 3,500 HOURS (SCRIBED PER 1654; FAILURE MODE IS ACCUMULATION OF 1/8" COATING LOSS FROM SCRIBE OR MEDIUM #8 BLISTERS).
IMPACT RESISTANCE	D2794	IMPACT RESISTANCE OVER 60 INCH LB. (FORWARD IMPACT USING 0.625" BALL).
WEATHERING RESISTANCE	D822 D2244, D523 (60° METHOD)	WEATHERING RESISTANCE OVER 1,000 HOURS (FAILURE MODE IS 60% LOSS OF GLOSS OR COLOR VARIANCE OF MORE THAN 3 DELTA–E COLOR UNITS).

D. COMPLETED SECTIONS (I.E., PANELS) SHALL BE CAPABLE OF SUPPORTING A 600 LB. LOAD APPLIED AT MIDSPAN WITHOUT PERMANENT DEFORMATION. PANELS SHALL BE BIASABLE TO A 25% CHANGE IN GRADE.

PART 3 – EXECUTION
3.01 PREPARATION
ALL NEW INSTALLATION SHALL BE LAID OUT BY THE CONTRACTOR IN ACCORDANCE WITH THE CONSTRUCTION PLANS.

3.02 FENCE INSTALLATION
FENCE POSTS SHALL BE SPACED ACCORDING TO TABLE 3, PLUS OR MINUS ½". FOR INSTALLATIONS THAT MUST BE RAKED TO FOLLOW SLOPING GRADES, THE POST SPACING DIMENSION MUST BE MEASURED ALONG THE GRADE. FENCE PANELS SHALL BE ATTACHED TO POSTS WITH BRACKETS SUPPLIED BY THE MANUFACTURER. POSTS SHALL BE INSTALLED ATOP THE PROPOSED CONCRETE PARAPETS. SEE SHEET 22/23 FOR DETAILS PERTAINING TO POST ASSEMBLY AND ADHESIVE ANCHOR CONNECTION TO THE TOP OF PARAPETS.

TABLE 3 – AEGIS II GENESIS 8' NOMINAL SPAN (92.625" RAIL) – POST SPACING BY BRACKET TYPE
3" POST – INDUSTRIAL UNIVERSAL BRACKET (BB303) – 96.5" POST SETTING ±½" O.C.
3" POST – INDUSTRIAL FLAT MOUNT BRACKET (BB301) – 96.5" POST SETTING ±½" O.C.
3" POST – INDUSTRIAL SWIVEL BRACKET (BB304)* – 98" POST SETTING ±½" O.C.

*NOTE: WHEN USING BB304 SWIVEL BRACKETS ON EITHER OR BOTH ENDS OF A PANEL INSTALLATION, CARE MUST BE TAKEN TO ENSURE THE SPACING BETWEEN POST AND ADJOINING PICKETS MEETS APPLICABLE CODES. THIS WILL REQUIRE TRIMMING ONE OR BOTH ENDS OF THE PANEL.

3.03 FENCE INSTALLATION MAINTENANCE
WHEN CUTTING/DRILLING RAILS OR POSTS ADHERE TO THE FOLLOWING STEPS TO SEAL THE EXPOSED STEEL SURFACES; 1) REMOVE ALL METAL SHAVINGS FROM CUT AREA. 2) APPLY ZINC–RICH PRIMER TO THOROUGHLY COVER CUT EDGE AND/OR DRILLED HOLE; LET DRY. 3) APPLY 2 COATS OF CUSTOM FINISH PAINT MATCHING FENCE COLOR. FAILURE TO SEAL EXPOSED SURFACES PER STEPS 1–3 ABOVE WILL NEGATE WARRANTY. AMERISTAR SPRAY CANS OR PAINT PENS SHALL BE USED TO PRIME AND FINISH EXPOSED SURFACES; IT IS RECOMMENDED THAT PAINT PENS BE USED TO PREVENT OVERSPRAY. USE OF NON–AMERISTAR PARTS OR COMPONENTS WILL NEGATE THE MANUFACTURE'S WARRANTY.

3.04 GATE INSTALLATION
NOT APPLICABLE

3.05 CLEANING
THE CONTRACTOR SHALL CLEAN THE JOBSITE OF EXCESS MATERIALS; POST–HOLE EXCAVATIONS SHALL BE SCATTERED UNIFORMLY AWAY FROM POSTS.

3.06 BASE PLATES, FASTENERS, AND ADHESIVE ANCHORS
FOR SPECIFICATIONS PERTAINING TO BASE PLATES, FASTENERS, AND ADHESIVE ANCHORS, SEE VPF–1–90, SHEET 1/8.

NTS

Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

GENERAL NOTES (CONT.)
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

CALCULATED BY: RJE CHECKED BY: JGM

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	SUPER.	GEN.	SHEET #
202	11203		LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP	2/24
202	22900	4	SY	APPROACH SLAB REMOVED			4	
503	21300	LUMP		UNCLASSIFIED EXCAVATION			LUMP	
509	10000	26,193	LB	EPOXY COATED STEEL REINFORCEMENT	2147	24,046		
509	30020	3432	LB	NO. 4 DEFORMED GFRP REINFORCEMENT	252	3180		
510	10000	1241	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	36	1121	84	
511	34446	2	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK		2		
511	44110	7	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	7			
511	51512	90	CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK		90		
512	10050	1031	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)		1031		
514	00050	4261	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL		4261		
514	00060	4261	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT		4261		
514	00066	4261	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT		4261		3/24
516	11800	20	FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT		20		3/24
516	13600	18	SF	1" PREFORMED EXPANSION JOINT FILLER		18		
518	12201	9	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN		9		3/24
518	12801	12	EACH	SCUPPER MODIFICATION, AS PER PLAN		12		3/24
519	11100	137	SF	PATCHING CONCRETE STRUCTURE		137		
526	15000	4	SY	REINFORCED CONCRETE APPROACH SLABS (T=13")			4	
				ALTERNATE 5				
511	34451	90	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN		90		2/24
607	39911	544	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN		544		3/24
				ALTERNATE 6				
511	34463	101	CY	CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN		101		2/24
607	40000	544	FT	SPECIAL – VANDAL PROTECTION FENCE (DECORATIVE FENCE)		544		3/24

NOTE

1. SEE GENERAL SUMMARY SHEET 23/96 FOR PARTICIPATION SPLITS.

ABBREVIATION LEGEND

ABUT	: ABUTMENT	NF	: NEAR FACE
℄	: BOUNDARY LINE	PEJF	: EXPANSION JOINT FILLER
℄	: CENTERLINE	PROP	: PROPOSED
C/C	: CENTER TO CENTER	PVI	: POINT OF VERTICAL INTERSECTION
CIP	: CAST-IN-PLACE	RF	: RIGHT FACE
CLR	: CLEAR	R/W	: ROADWAY
CMSC	: CONSTRUCTION AND MATERIAL SPECIFICATION	SPA	: SPACED
CJ	: CONSTRUCTION JOINT	STA	: STATION
CONST	: CONSTRUCTION	STM	: STORM
DIA	: DIAMETER	TBR	: TO BE REMOVED
DND	: DO NOT DISTURB	TBRL	: TO BE RELOCATED
EL	: ELEVATION	TBRLO	: TO BE RELOCATED (BY OTHERS)
EJ	: EXPANSION JOINT	TYP	: TYPICAL
EX	: EXISTING	T&B	: TOP AND BOTTOM
℄	: FLOW LINE	W/	: WITH
FF	: FAR FACE	WM	: WATER MAIN
MAX	: MAXIMUM		
MIN	: MINIMUM		

NTS

Reviewed CAS 1/31/24 Date
Structure File Number 2531291
Drawn RJE
Designed RJE
Checked JGM

ESTIMATED QUANTITIES
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

4/24

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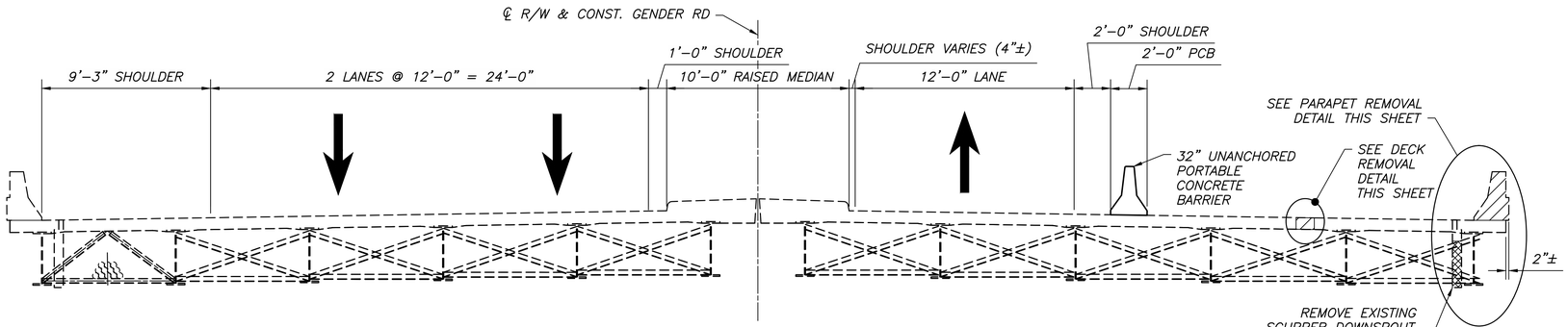
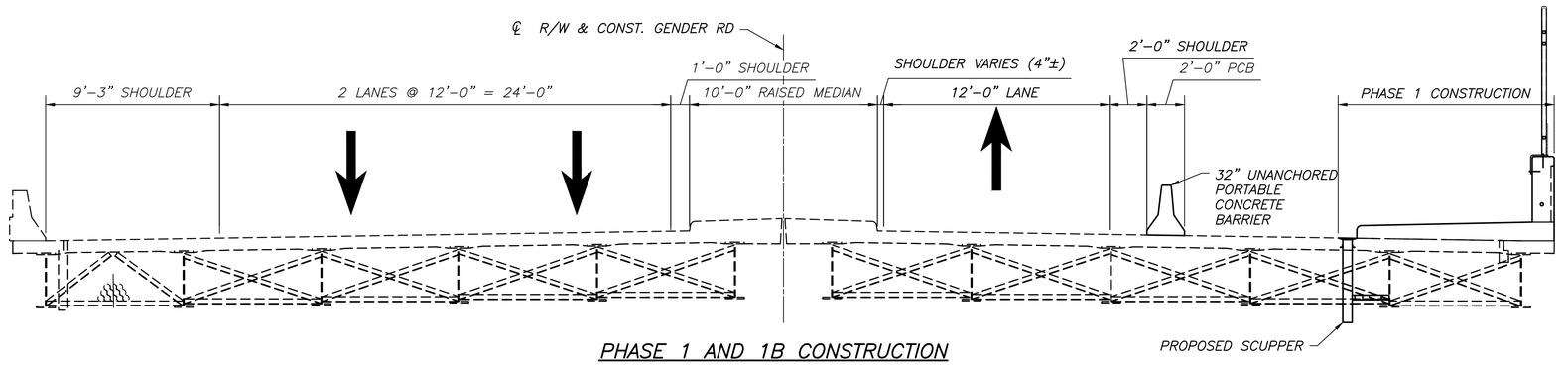
STAGE 3 PLANS – NOT FOR CONSTRUCTION



PHASE 1 AND 1B REMOVAL



PHASE 1 AND 1B CONSTRUCTION

SEQUENCE OF CONSTRUCTION

PHASE 1 AND 1B

1. INSTALL PORTABLE BARRIER ON THE EXISTING DECK AND MAINTAIN TRAFFIC PER THE MAINTENANCE OF TRAFFIC PLANS.
2. REMOVE EXISTING BRIDGE PARAPET, PORTION OF EXISTING DECK (TO FACILITATE PROPOSED SCUPPER INSTALLATION), AND PORTION OF EXISTING WINGWALLS ON THE NORTHBOUND (EAST) SIDE OF THE BRIDGE AS SHOWN IN THE PLANS.
3. CONSTRUCT PROPOSED RAISED SIDEWALK, PARAPET, WINGWALL MODIFICATIONS, AND VANDAL FENCE ON THE NORTHBOUND (EAST) SIDE OF THE BRIDGE.

PHASE 2

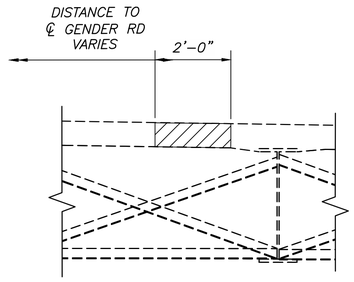
1. INSTALL PORTABLE BARRIER ON THE EXISTING DECK AND MAINTAIN TRAFFIC PER THE MAINTENANCE OF TRAFFIC PLANS.
2. REMOVE EXISTING BRIDGE PARAPET AND PORTION OF WINGWALLS ON THE SOUTHBOUND (WEST) SIDE OF THE BRIDGE AS SHOWN IN THE PLANS.
3. CONSTRUCT PROPOSED PARAPET, WINGWALL MODIFICATIONS, AND VANDAL FENCE ON THE SOUTHBOUND (WEST) SIDE OF THE BRIDGE.

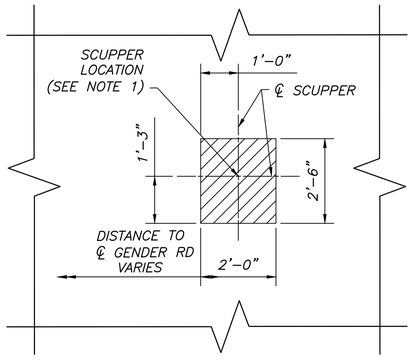
PHASE 3

1. INSTALL ORANGE DRUMS ON THE EXISTING DECK AND MAINTAIN TRAFFIC PER THE MAINTENANCE OF TRAFFIC PLANS.
2. PATCH AREAS OF RAISED MEDIAN AS SHOWN ON SHEET 1/24.

NOTES

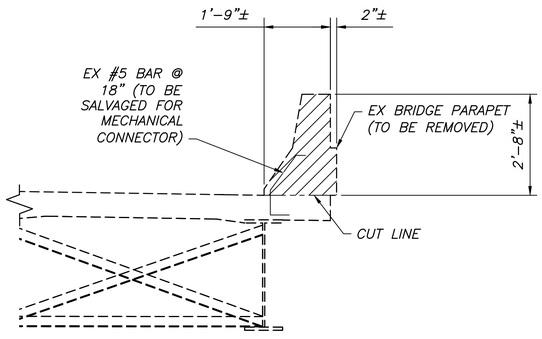
1. SEE SHEET 16/24 FOR STATIONS/OFFSETS OF ALL PROPOSED SCUPPER LOCATIONS.
2. PLACE HMWM 6" WIDE AROUND PERIMETER OF SCUPPER ONCE INFILL CONCRETE HAS FULLY CURED. INCLUDE WITH ITEM 518 – SCUPPER MODIFICATIONS, AS PER PLAN FOR PAYMENT.



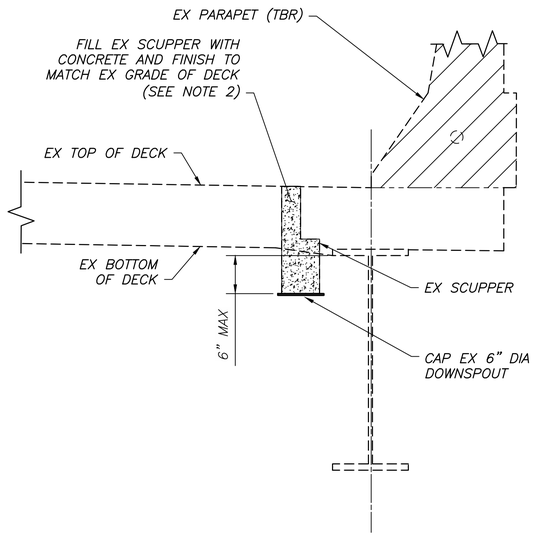


DETAIL PLAN VIEW

DECK REMOVAL FOR SCUPPER INSTALLATION



PARAPET REMOVAL DETAIL



EXISTING SCUPPER MODIFICATION DETAILS

LEGEND

DENOTES AREAS TO BE REMOVED PER ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

PORTION OF EXISTING SCUPPER REMOVED INCLUDED IN ITEM 518 – SCUPPER MODIFICATION, AS PER PLAN

NTS

Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

PHASE CONSTRUCTION & REMOVAL DETAILS
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

5/24

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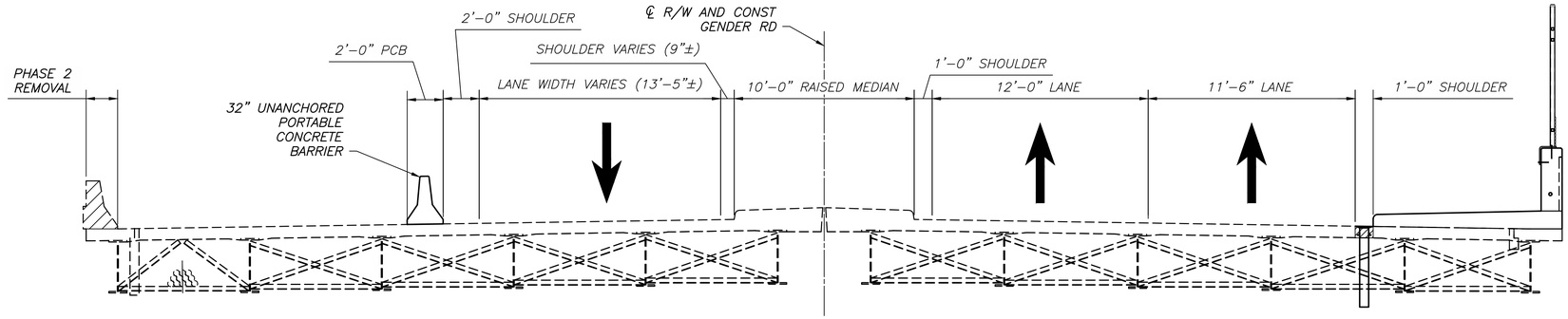
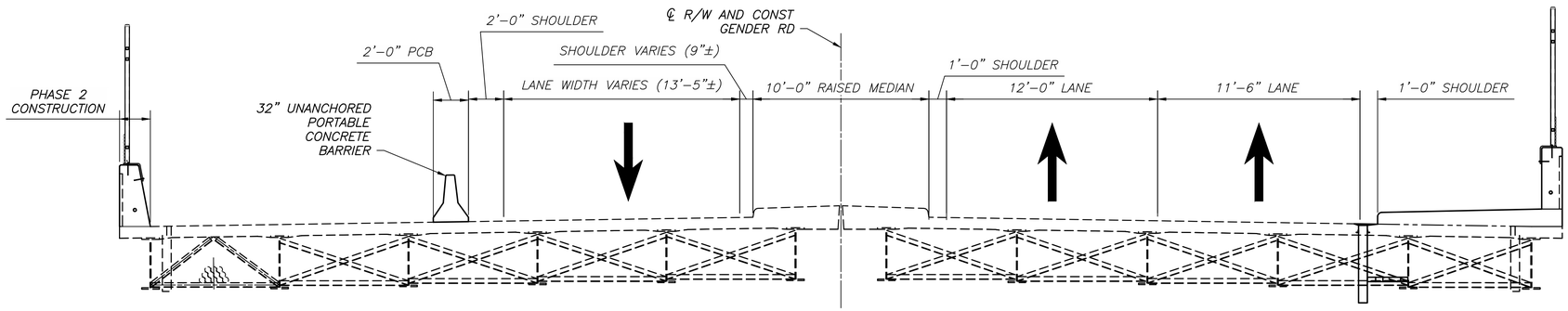
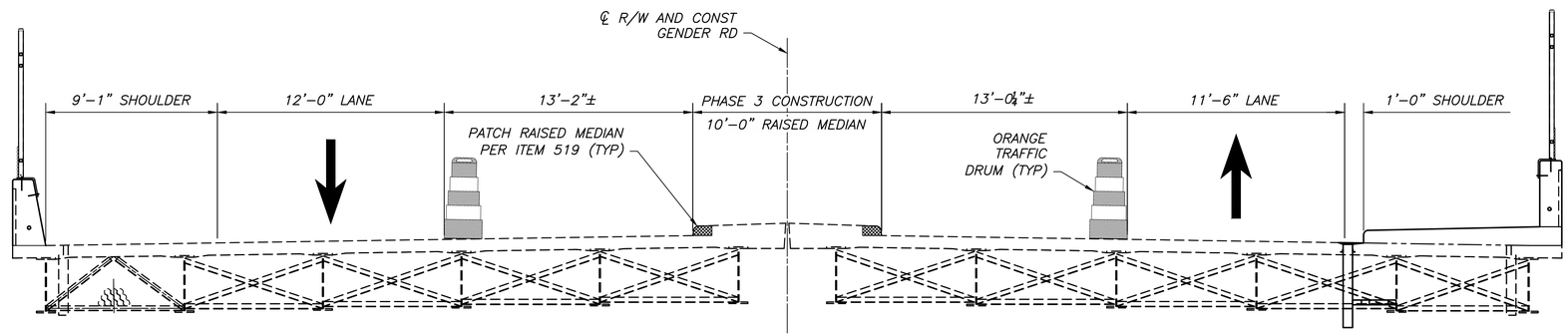
STAGE 3 PLANS – NOT FOR CONSTRUCTION



PHASE 2 REMOVAL



PHASE 2 CONSTRUCTION



PHASE 3 CONSTRUCTION

LEGEND

DENOTES AREAS TO BE REMOVED PER ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

STAGE 3 PLANS – NOT FOR CONSTRUCTION

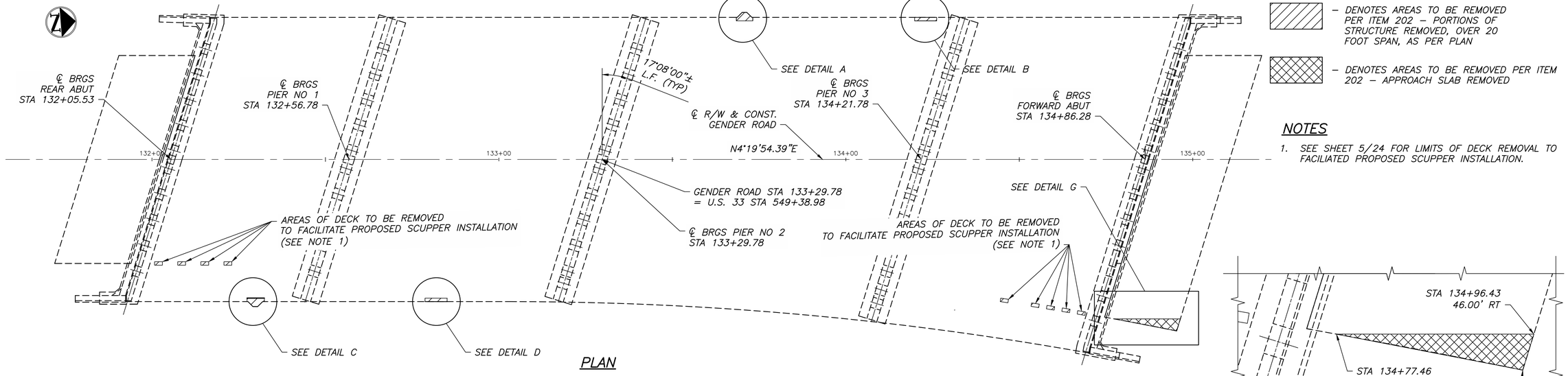
Designed GB	Drawn GB	Reviewed CAS	Date 1/31/24
Checked RJE			Structure File Number 2531291

NTS

PHASE CONSTRUCTION DETAILS (CONT.)
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

6/24



PLAN

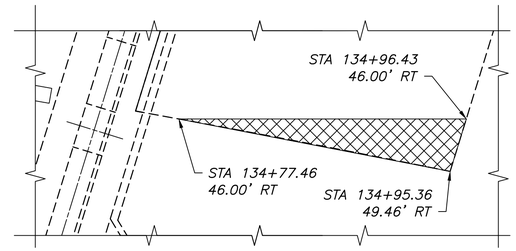
LEGEND

– DENOTES AREAS TO BE REMOVED PER ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

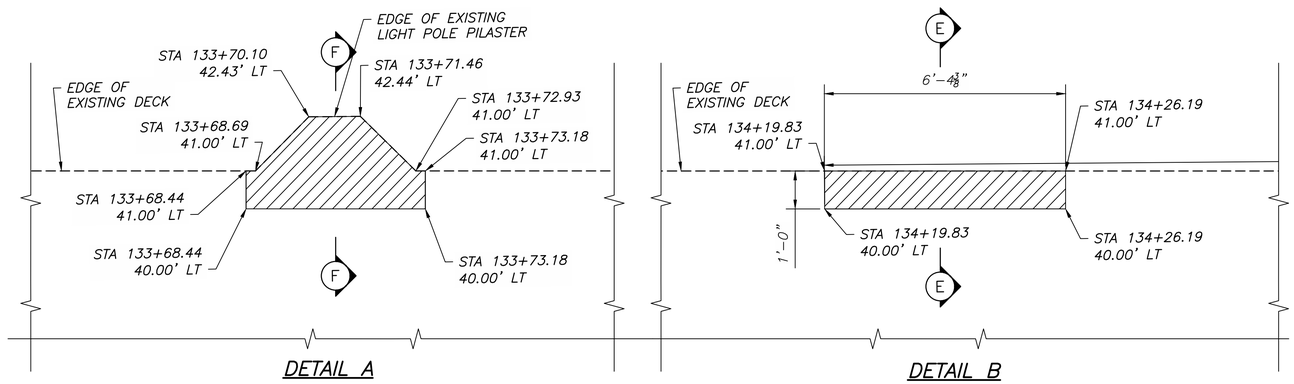
– DENOTES AREAS TO BE REMOVED PER ITEM 202 – APPROACH SLAB REMOVED

NOTES

1. SEE SHEET 5/24 FOR LIMITS OF DECK REMOVAL TO FACILIATED PROPOSED SCUPPER INSTALLATION.

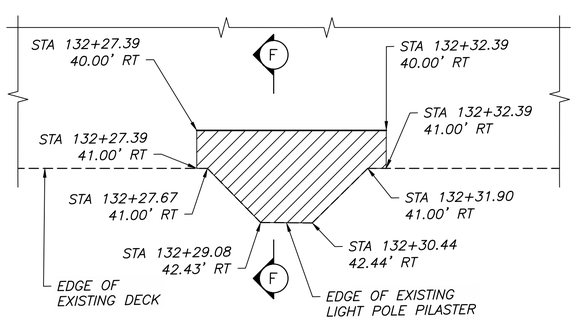


DETAIL G

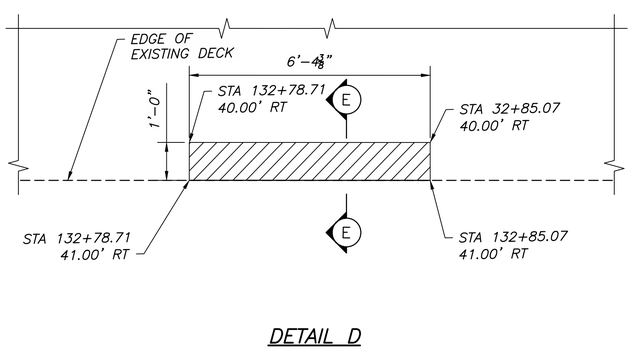


DETAIL A

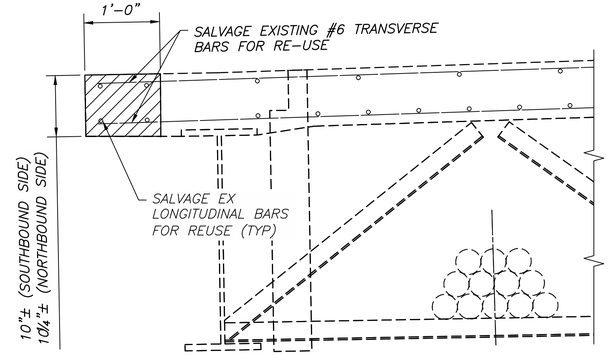
DETAIL B



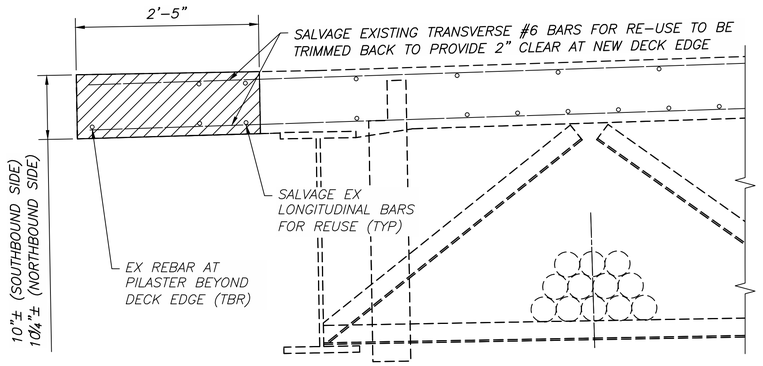
DETAIL C



DETAIL D



SECTION E–E



SECTION F–F

NTS

Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

DECK & APPROACH SLAB REMOVAL DETAILS

CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

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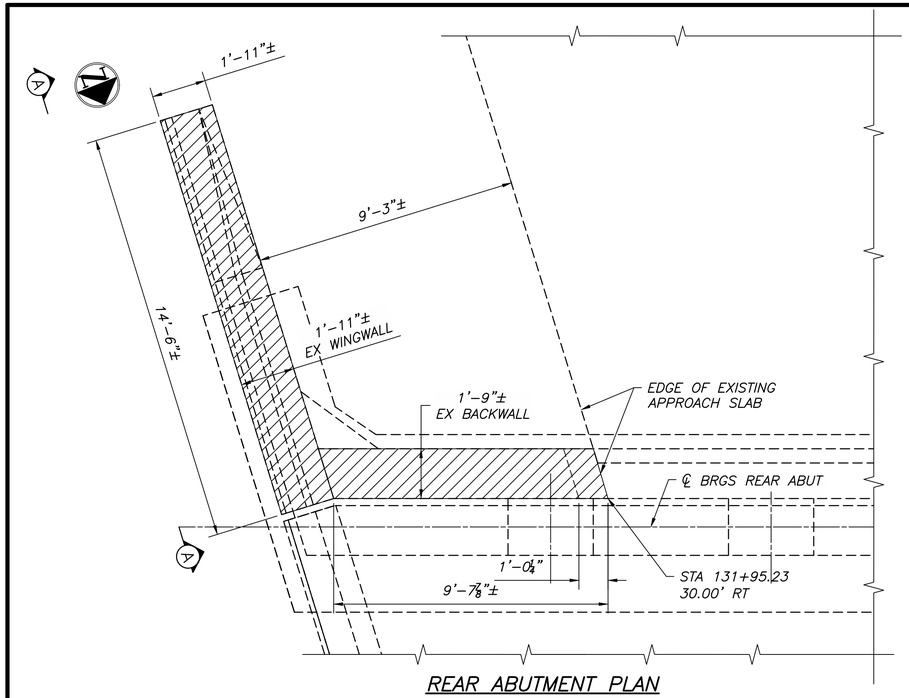
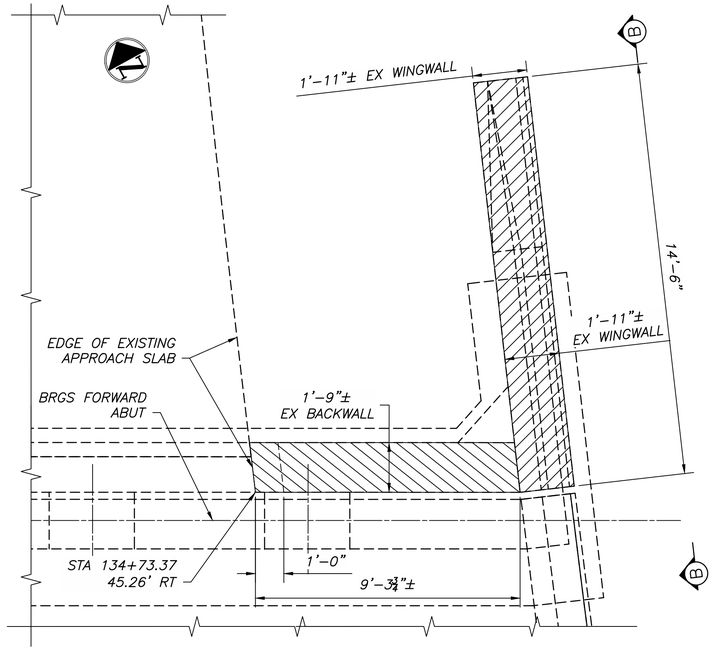
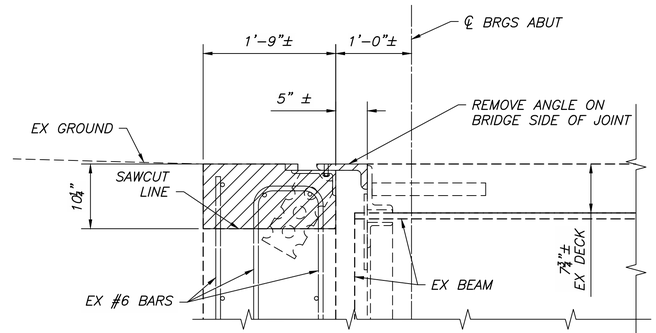
96



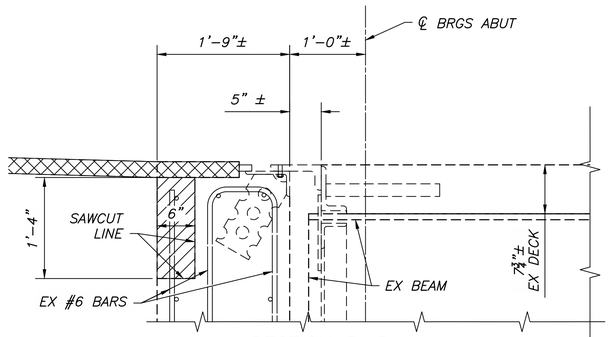
REAR ABUTMENT PLAN



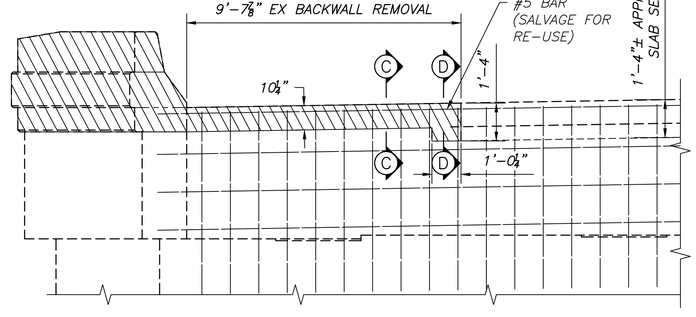
FORWARD ABUTMENT PLAN



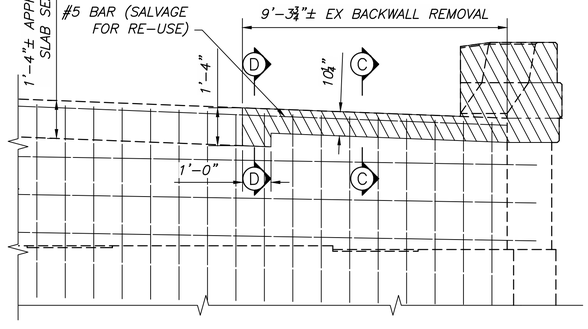
SECTION C–C



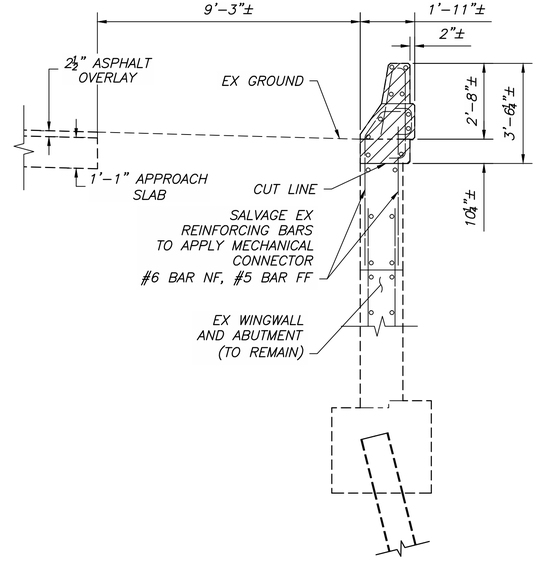
SECTION D–D



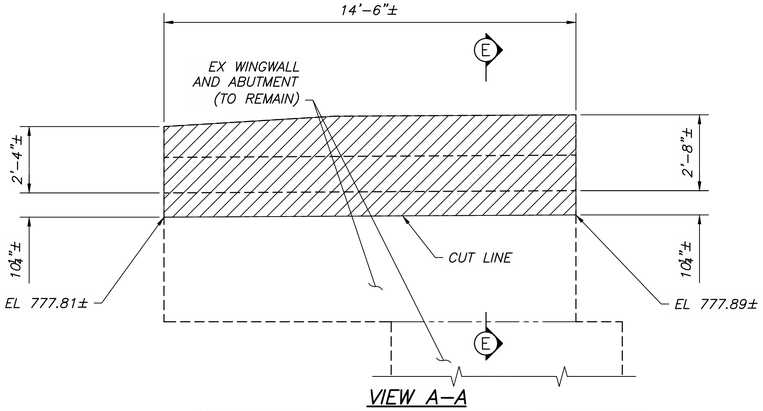
REAR ABUTMENT ELEVATION



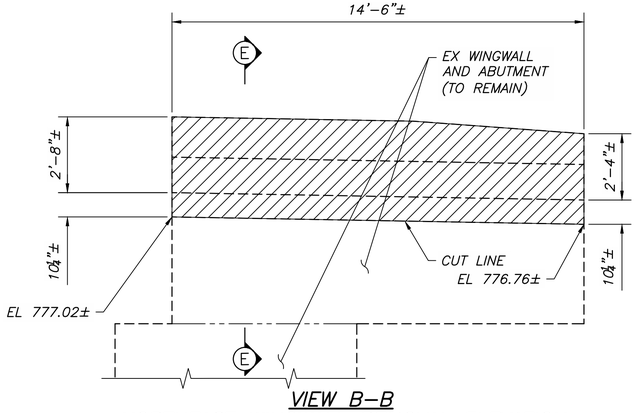
FORWARD ABUTMENT ELEVATION



SECTION E–E



VIEW A–A
SOUTHEAST WINGWALL REMOVAL ELEVATION



VIEW B–B
NORTHEAST WINGWALL REMOVAL ELEVATION

LEGEND

– DENOTES AREAS TO BE REMOVED PER ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

– DENOTES AREAS TO BE REMOVED PER ITEM 202 – PAVEMENT REMOVED

NTS

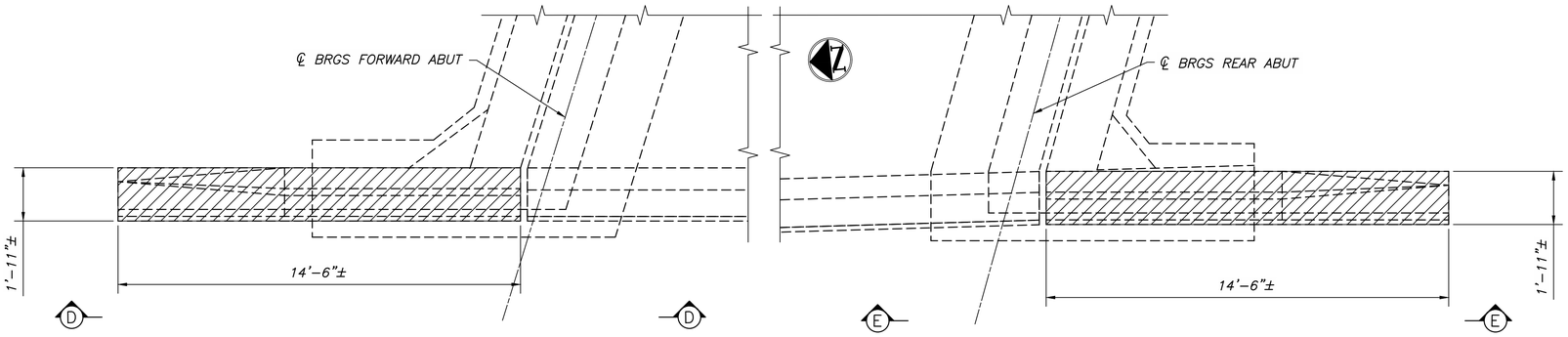
Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

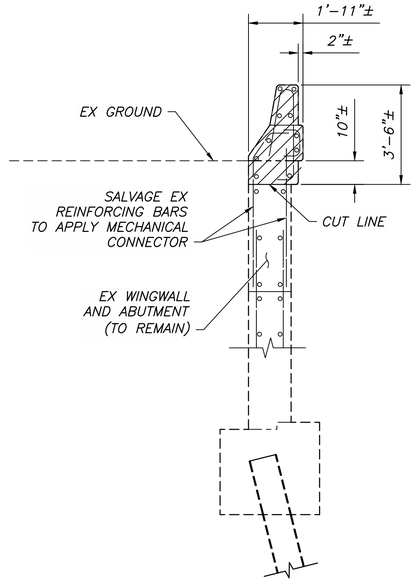
ABUTMENT & RIGHT WINGWALL REMOVAL DETAILS

CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

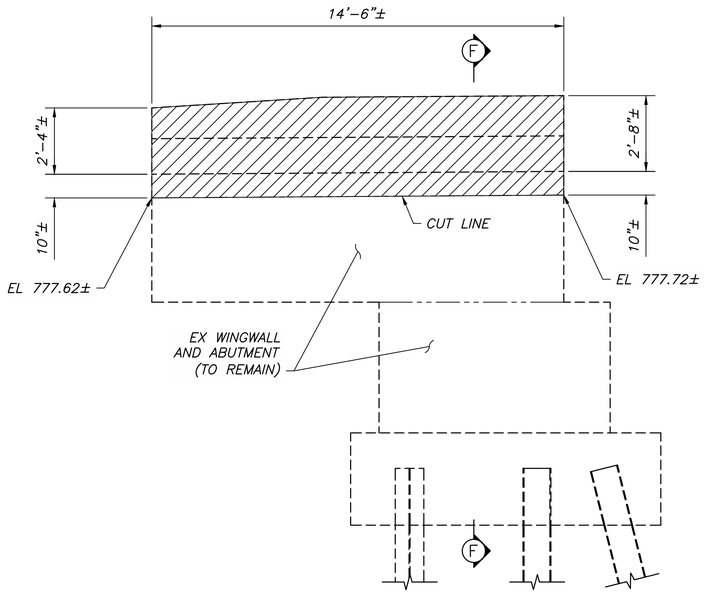
8/24



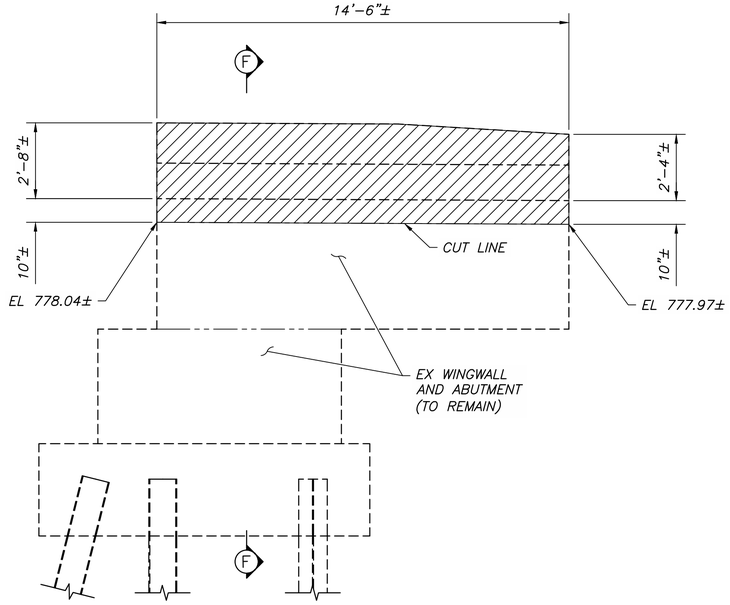


SECTION F-F

FORWARD ABUTMENT NORTHWEST WINGWALL REMOVAL PLAN



REAR ABUTMENT SOUTHWEST WINGWALL REMOVAL PLAN



VIEW D-D NORTHWEST WINGWALL REMOVAL ELEVATION

VIEW E-E SOUTHWEST WINGWALL REMOVAL ELEVATION

LEGEND

– DENOTES AREAS TO BE REMOVED PER ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

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Xrefs: 20230152_BS002, 20230152_BS001

NTS

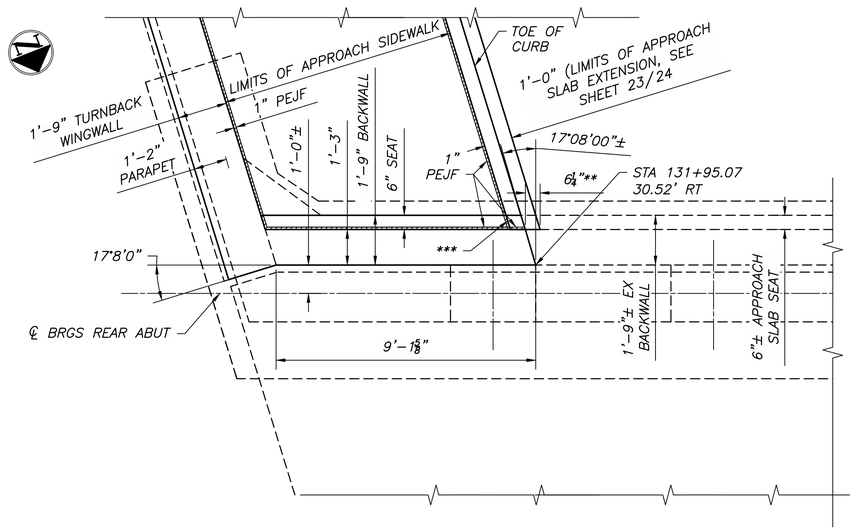
Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

LEFT (WEST) WINGWALL REMOVAL DETAILS
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

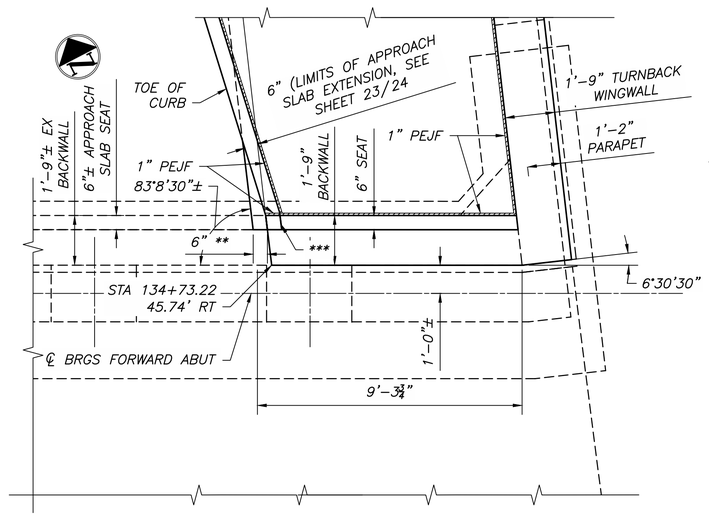
FRA-674-2.22
GENDER ROAD - PHASE 6

9/24

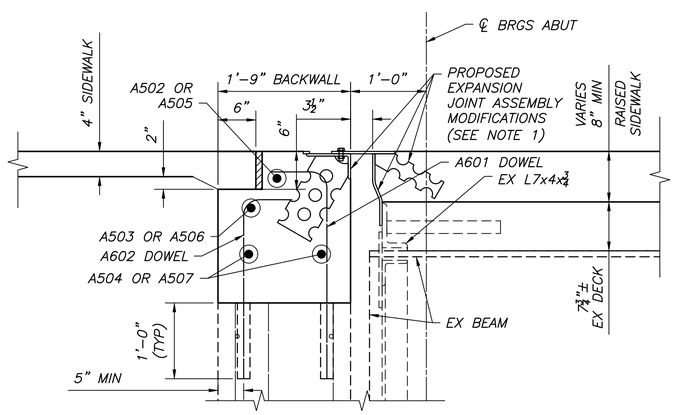
81
96



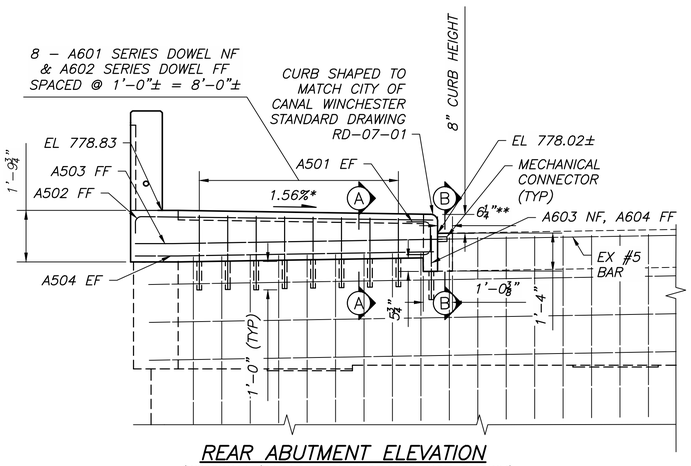
REAR ABUTMENT PLAN



FORWARD ABUTMENT PLAN

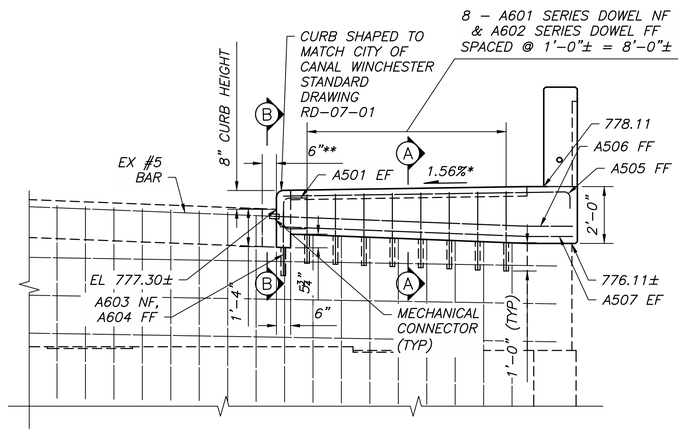


SECTION A–A



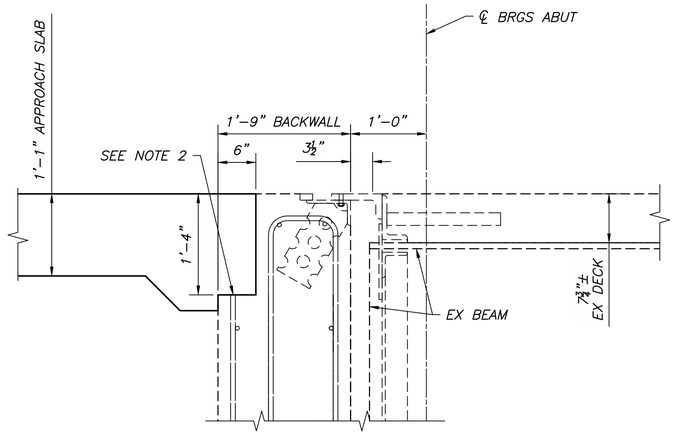
REAR ABUTMENT ELEVATION

(WINGWALL/PARAPET REINFORCING NOT SHOWN)



FORWARD ABUTMENT ELEVATION

(WINGWALL/PARAPET REINFORCING NOT SHOWN)



SECTION B–B

LEGEND

* – MEASURED NORMAL TO EDGE OF DECK

** – APPROACH SLAB EXTENSION BEYOND TOE OF CURB

*** – VERTICAL STEP IN APPROACH SLAB SEAT

NOTES

1. SEE SHEET 13/24 FOR EXPANSION JOINT MODIFICATION DETAILS.
2. COAT EXPOSED ENDS OF EXISTING REINFORCING STEEL WITH TYPE E WATERPROOFING. THIS WORK SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NTS

Designed	Drawn	Reviewed	Date
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Checked		Structure File Number	
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PROPOSED ABUTMENT BACKWALL DETAILS
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

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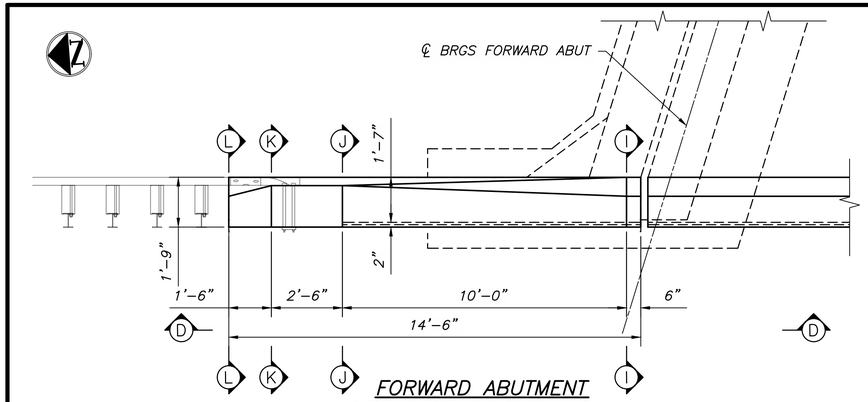
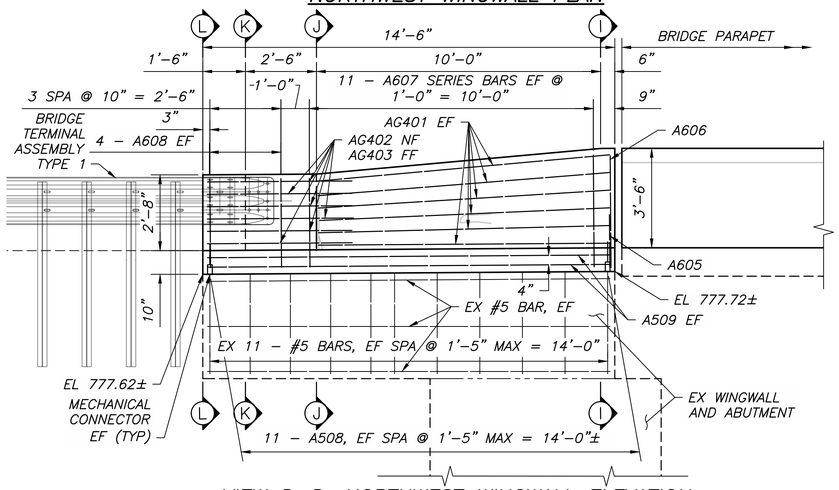
96

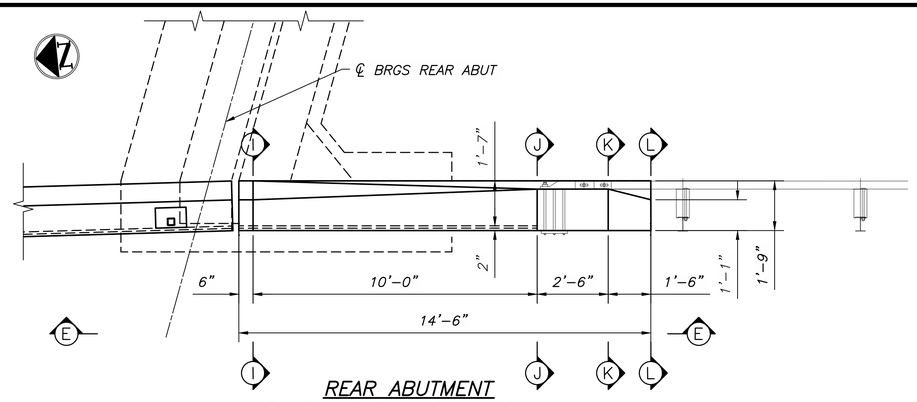
STAGE 3 PLANS – NOT FOR CONSTRUCTION



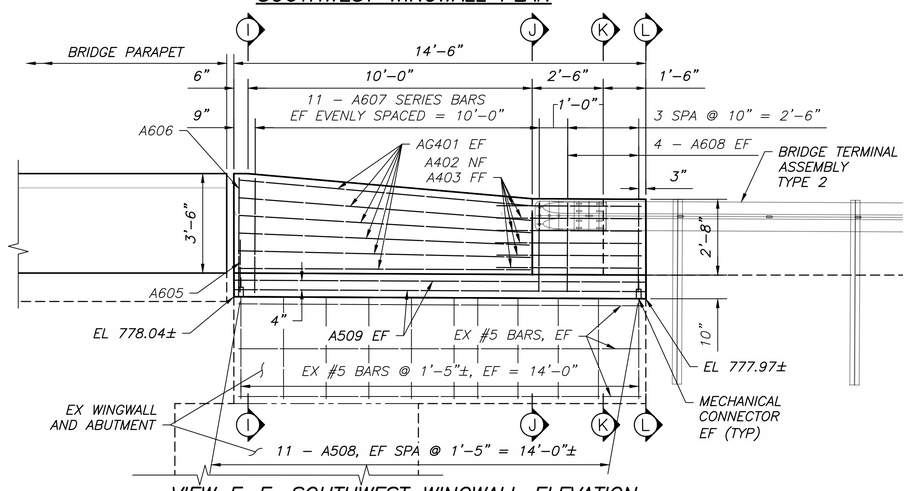
FORWARD ABUTMENT NORTHWEST WINGWALL PLAN



VIEW D–D, NORTHWEST WINGWALL ELEVATION



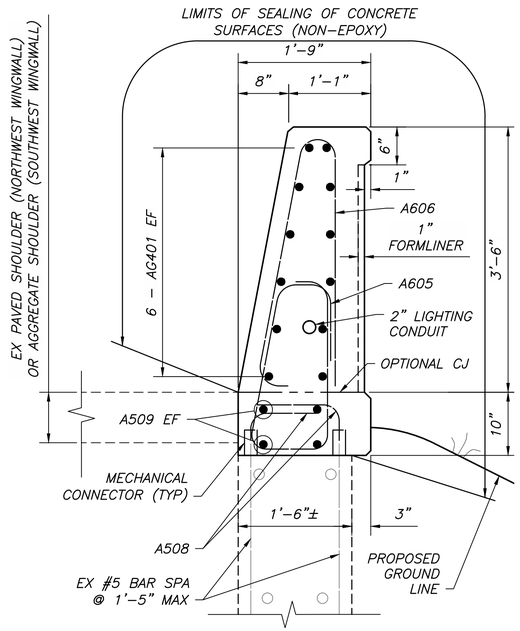
REAR ABUTMENT SOUTHWEST WINGWALL PLAN



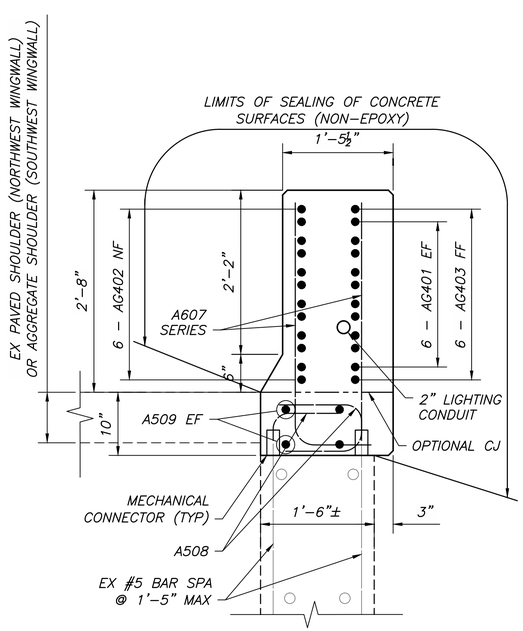
VIEW E–E, SOUTHWEST WINGWALL ELEVATION

NOTES

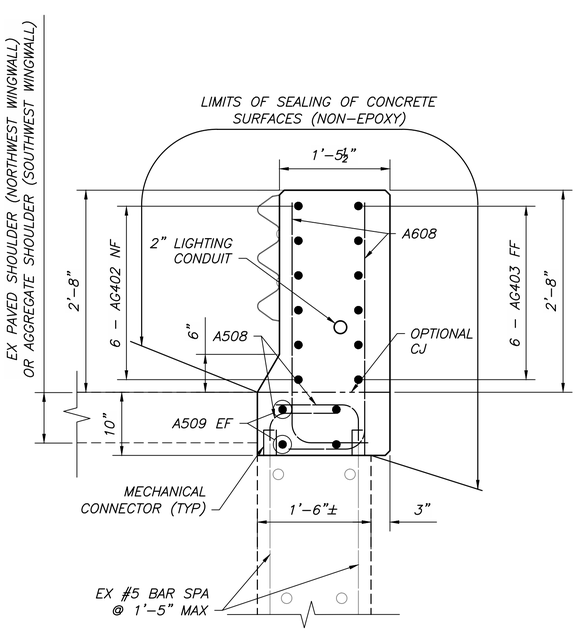
1. FOR ADDITIONAL DETAILS NOT SHOWN, SEE STANDARD DRAWING SBR–1–20.
2. FIELD BEND HORIZONTAL LEG OF A608 BAR AS NEEED TO MAINTAIN 2" CLEAR FROM BACK EDGE OF WINGWALL.
3. PARAPET DETAILS ON THIS SHEET REFLECT ALTERNATE 2.



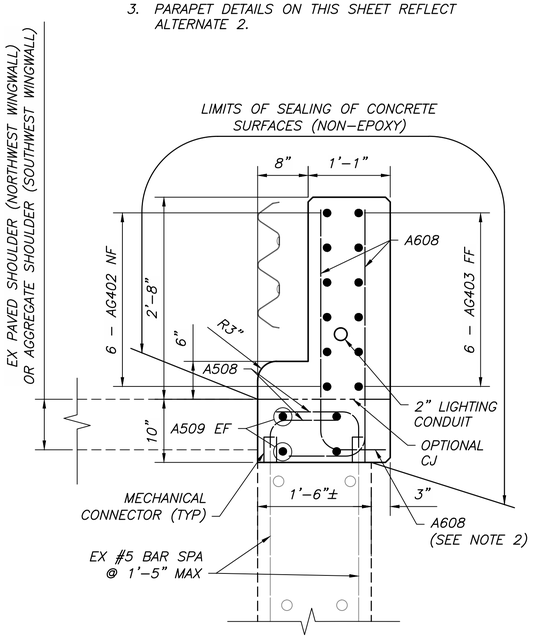
SECTION I–I



SECTION J–J



SECTION K–K



SECTION L–L

Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

NTS

LEFT (WEST) WINGWALL RECONSTRUCTION
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

11/24

83
96

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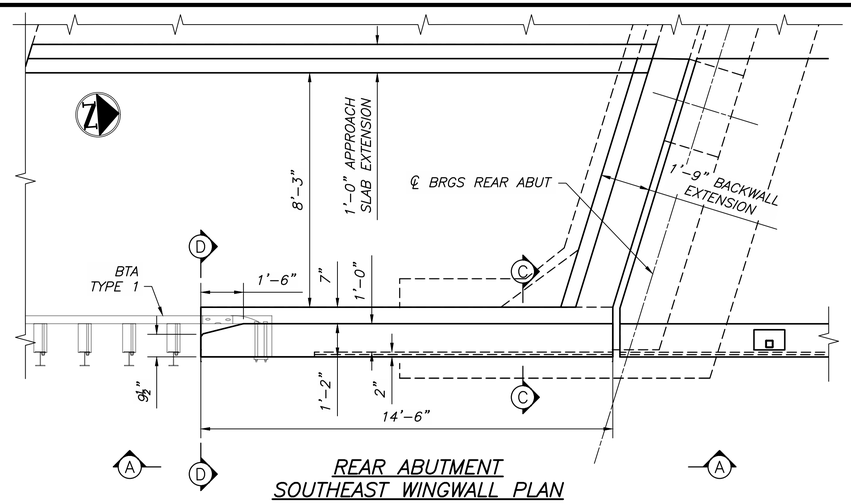
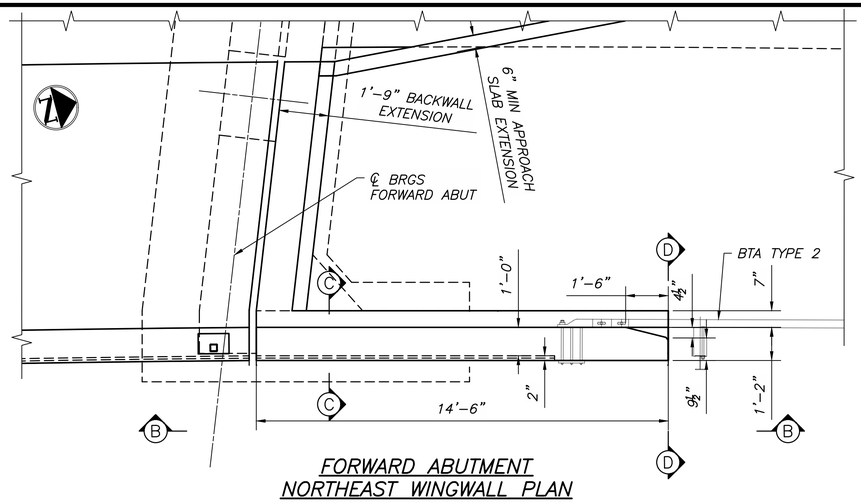
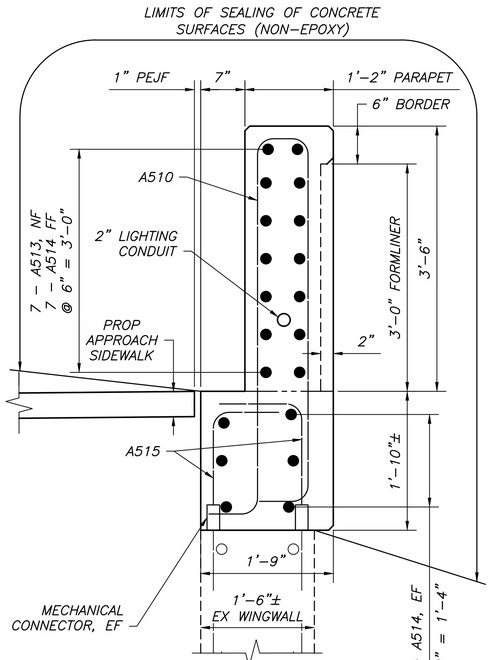


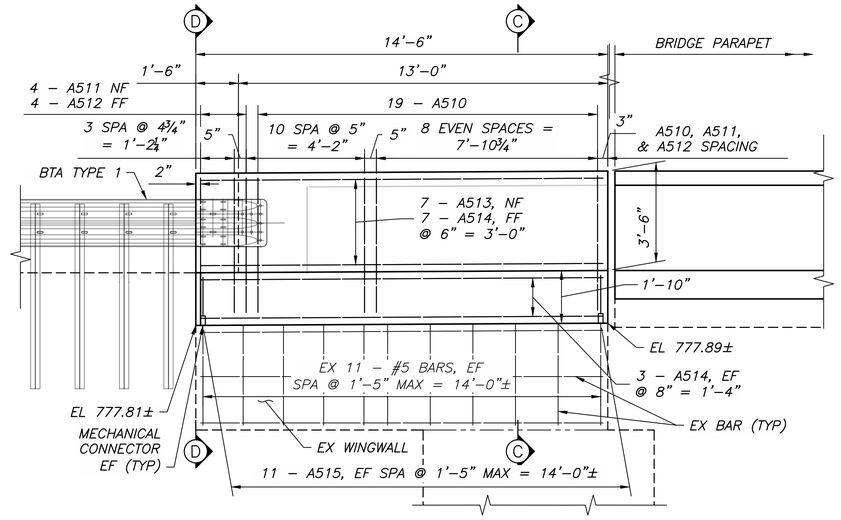
REAR ABUTMENT SOUTHEAST WINGWALL PLAN



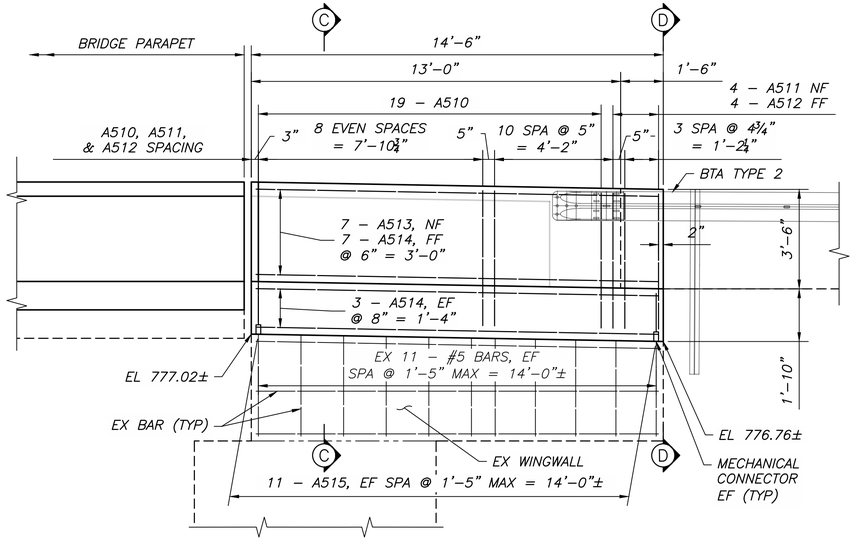
FORWARD ABUTMENT NORTHEAST WINGWALL PLAN



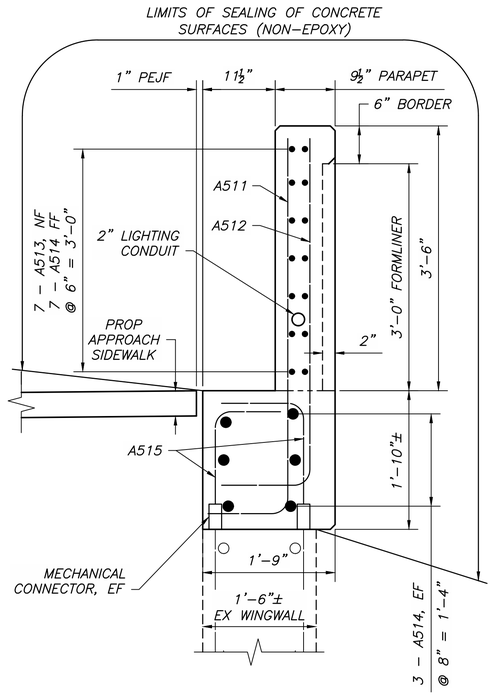
SECTION C-C



VIEW A-A (SOUTHEAST WINGWALL ELEVATION)



VIEW B-B (NORTHEAST WINGWALL ELEVATION)



SECTION D-D

NOTES

1. FOR ADDITIONAL DETAILS NOT SHOWN, SEE STANDARD DRAWING BR-2-15.
2. PARAPET DETAILS ON THIS SHEET REFLECT ALTERNATE 2.

NTS	
Designed	GB
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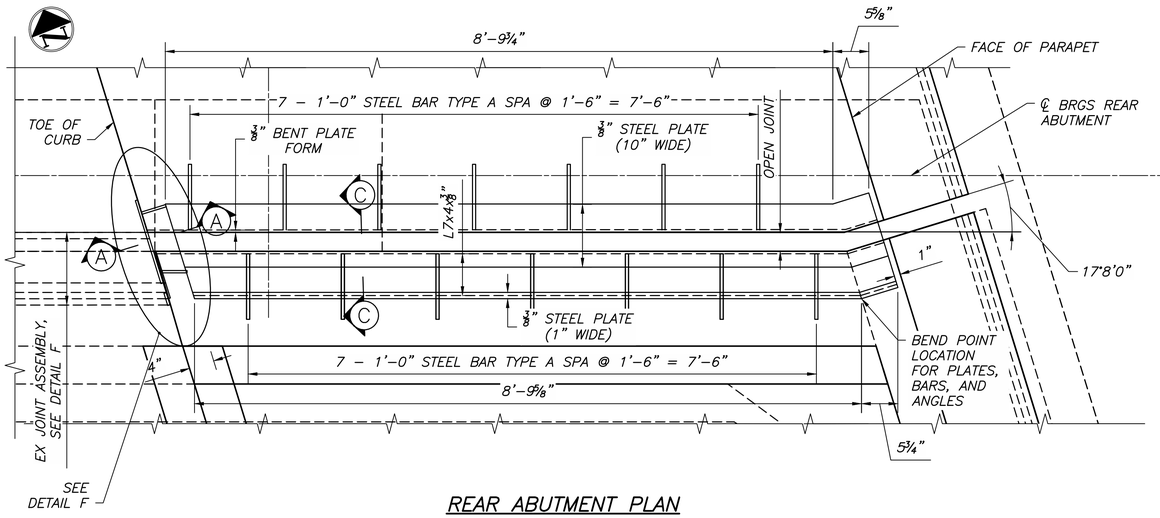
RIGHT (EAST) WINGWALL RECONSTRUCTION
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

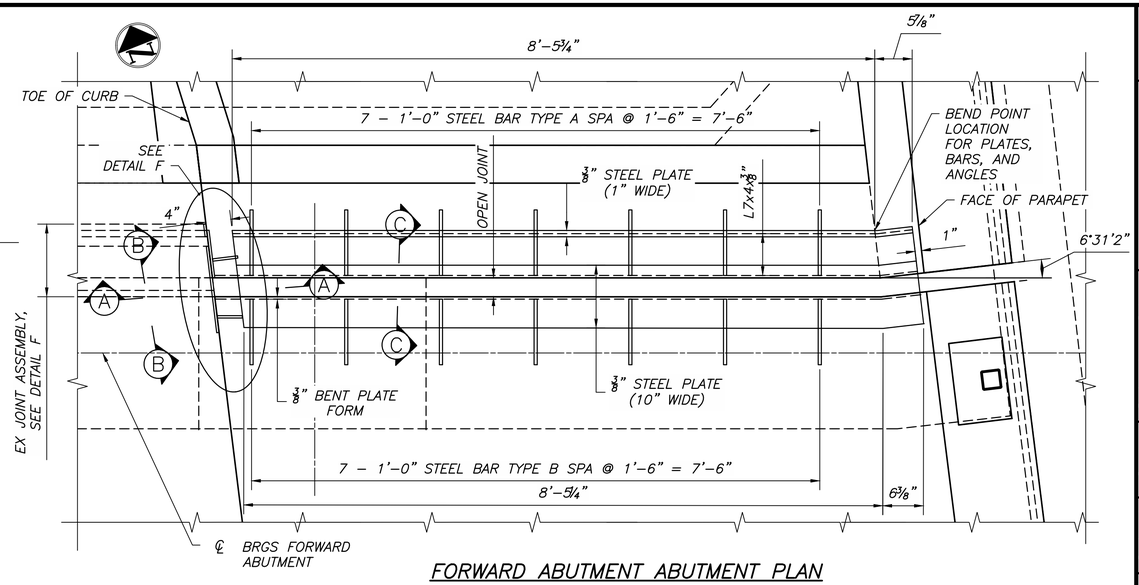
FRA-674-2.22
GENDER ROAD - PHASE 6

12/24

84
96

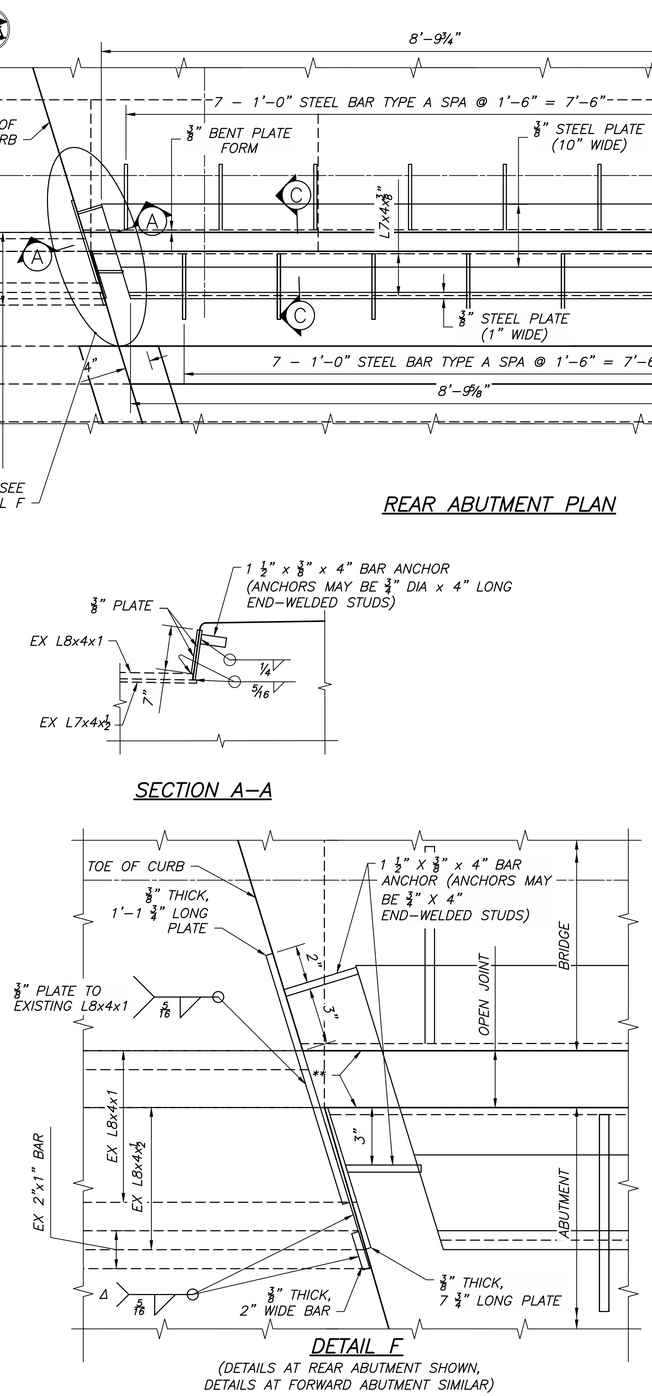


REAR ABUTMENT PLAN



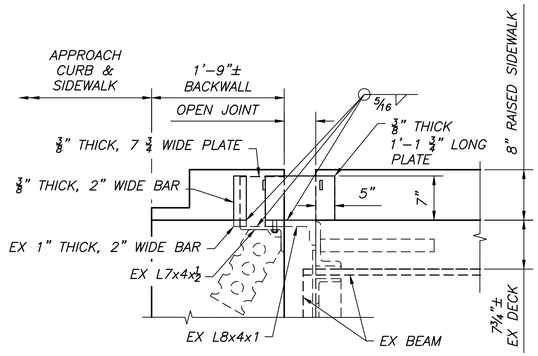
FORWARD ABUTMENT ABUTMENT PLAN

SECTION A–A



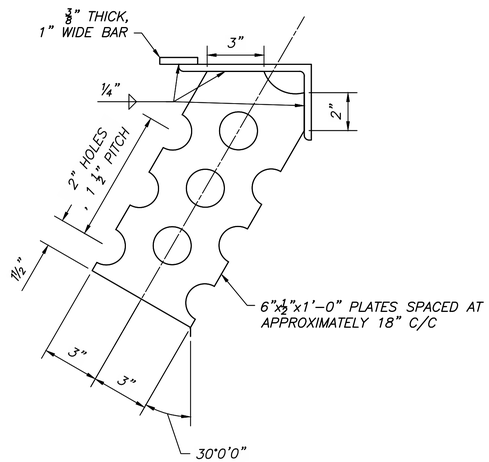
DETAIL F

(DETAILS AT REAR ABUTMENT SHOWN, DETAILS AT FORWARD ABUTMENT SIMILAR)

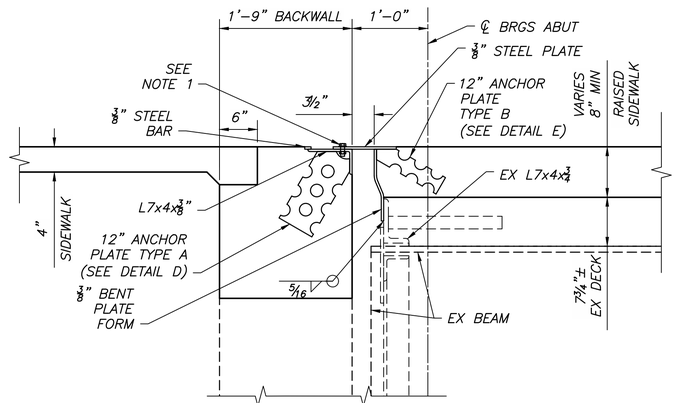


VIEW B–B

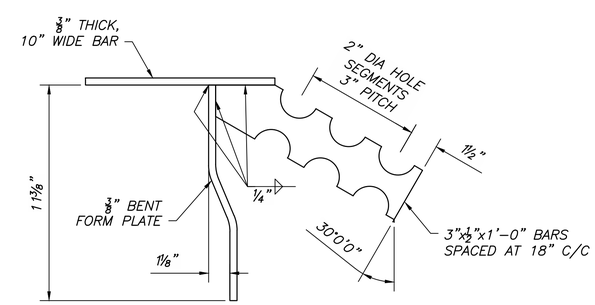
(DETAILS FROM FORWARD ABUTMENT SHOWN, VIEW FROM REAR ABUTMENT OPPOSITE HAND)



DETAIL D (12" ANCHOR PLATE TYPE A)



SECTION C–C



DETAIL E (12" ANCHOR PLATE TYPE B)

LEGEND

** – EXTEND BENT PLATE AND VERTICAL LEG OF L7x4x½ TO FACE OF CURB. UTILIZE ¼" FILLED WELDS TO CONNECT TO CURB PLATES EACH SIDE.

Δ – ⅝" PLATE TO EX L7x4x½
⅝" BAR TO EX 2"x1" BAR

NOTES

1. ⅝" x 2" BOLTS AT NOT MORE THAN 2'–0" C/C WITH NUTS TACK–WELDED TO UNDERSIDE OF LOWER ANGLE. 1 1⁄16" HOLES IN UPPER PLATE. CENTER ⅝" BOLTS IN 1 1⁄16" HOLES. APPLY FLAKE GRAPHITE BETWEEN WASHERS AND ANGLE. TURN BOLTS TIGHT AND RELEASE ONE–HALF TURN. REMOVE BOLTS AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING, TO AVOID DAMAGE DUE TO TEMPERATURE EXPANSION OR CONTRACTION OF SUPERSTRUCTURE. FILL HOLES WITH BITUMINOUS MATERIALS, PER CMS 705.04.

NTS

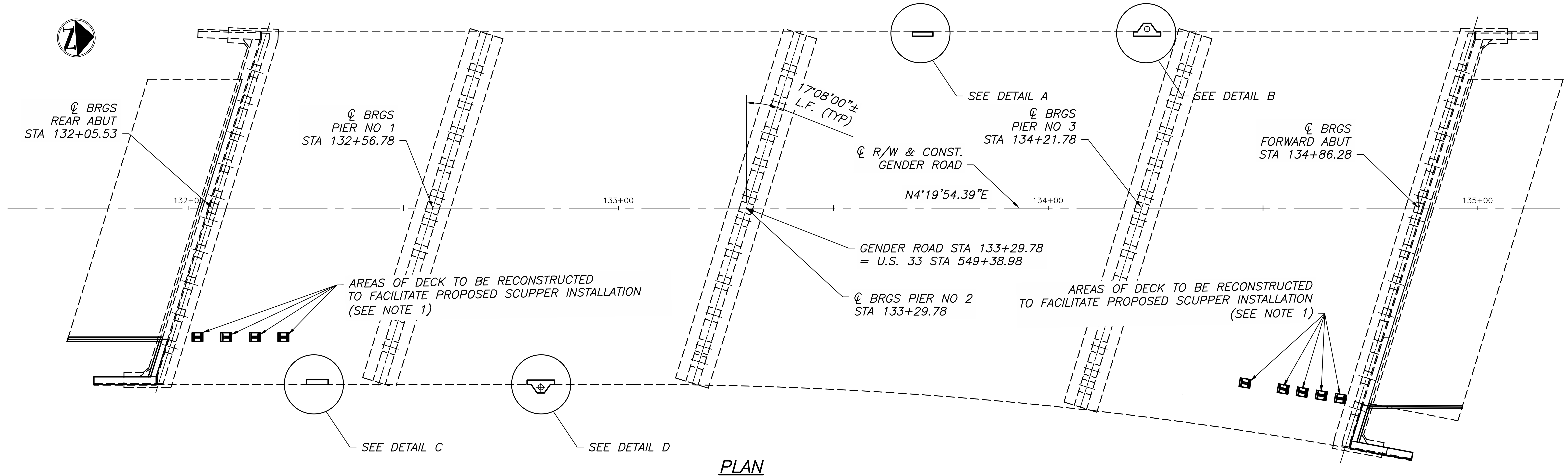
Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

EXPANSION JOINT DETAILS
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

13/24

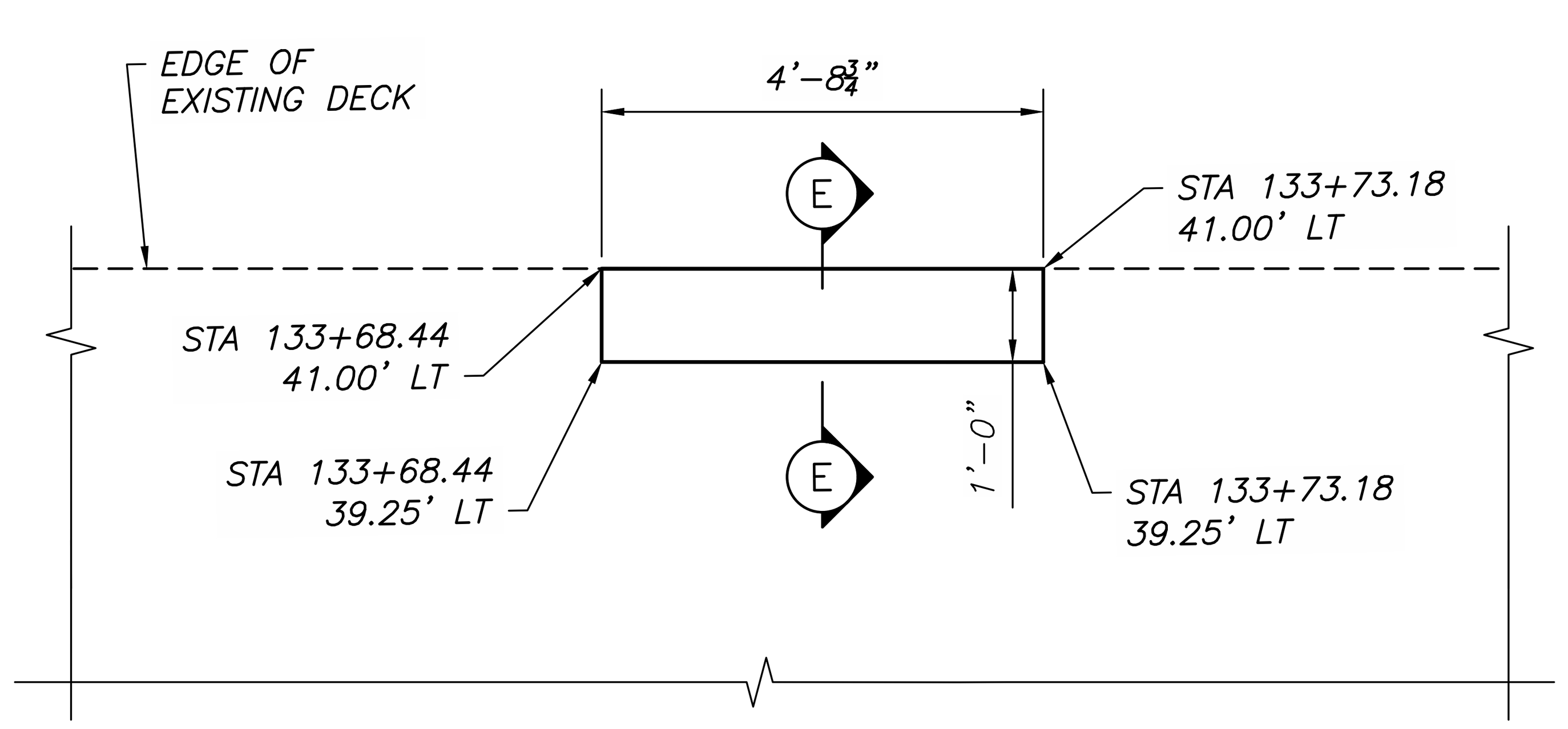
85
96



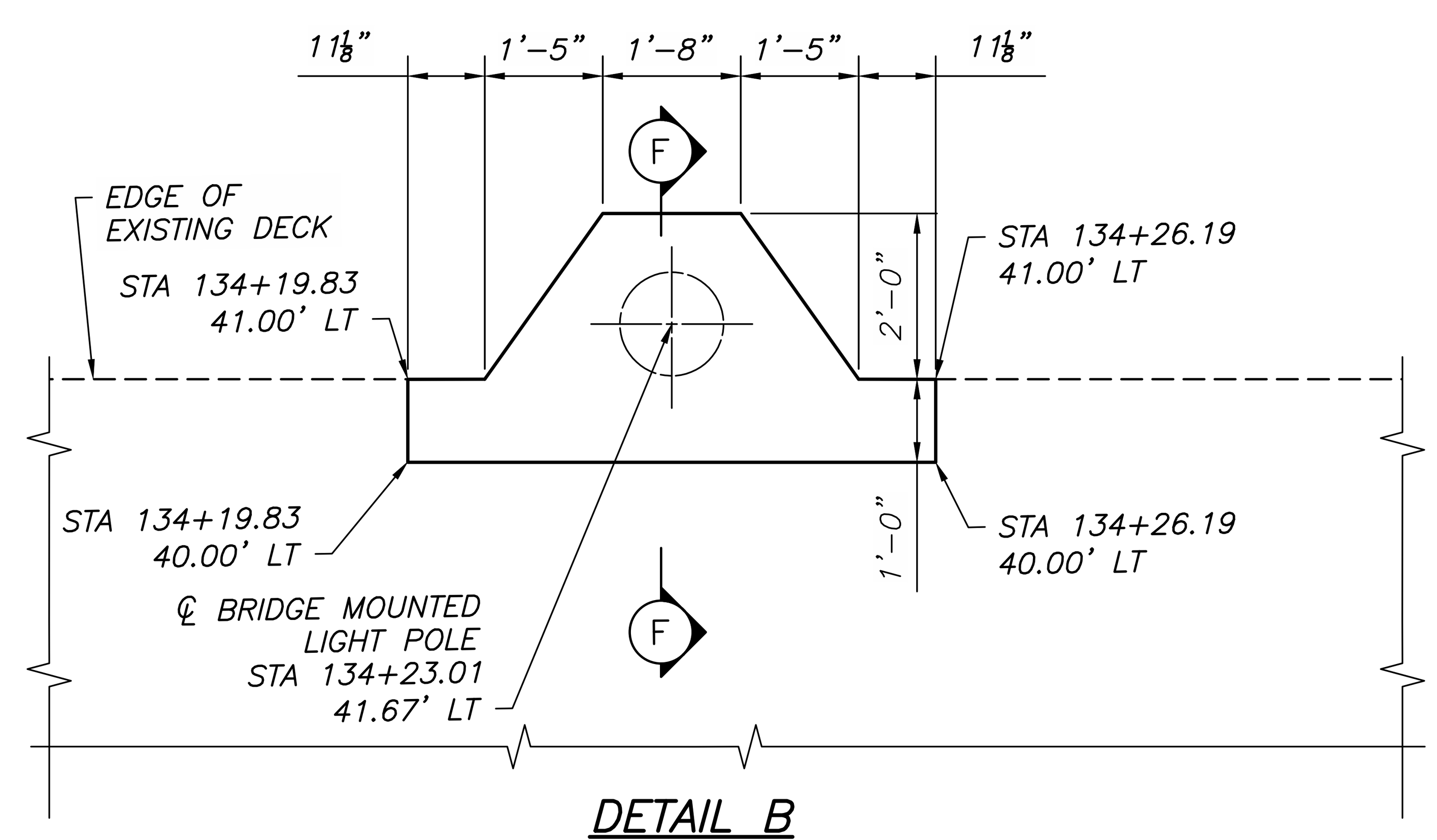
PLAN

NOTES

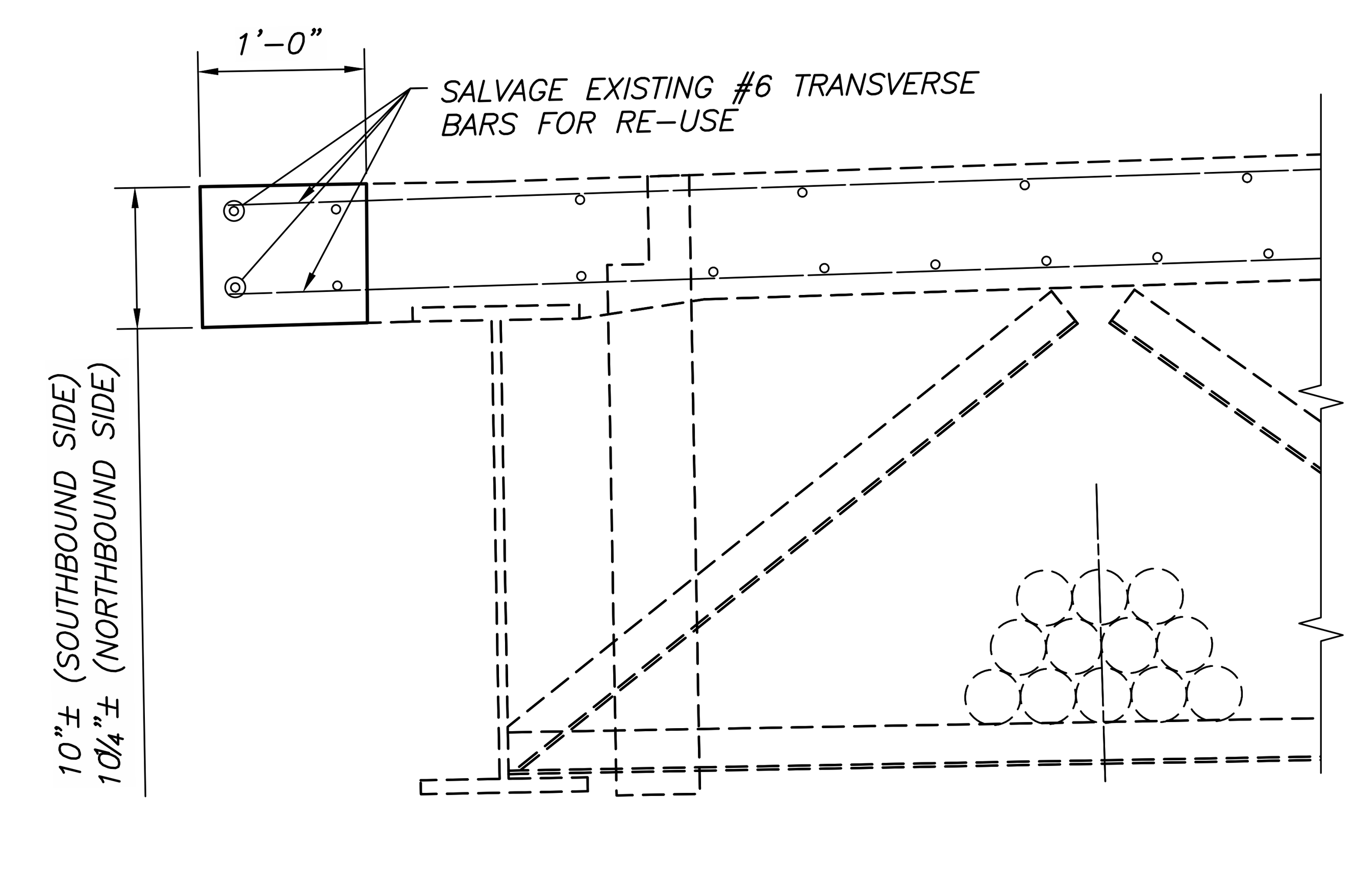
1. SEE SHEET 15/24 FOR LIMITS OF DECK RECONSTRUCTION TO FACILIATED PROPOSED SCUPPER INSTALLATION.
2. SEE SHEET 20/24 FOR LIGHT POLE PILASTER REINFORCING DETAILS.



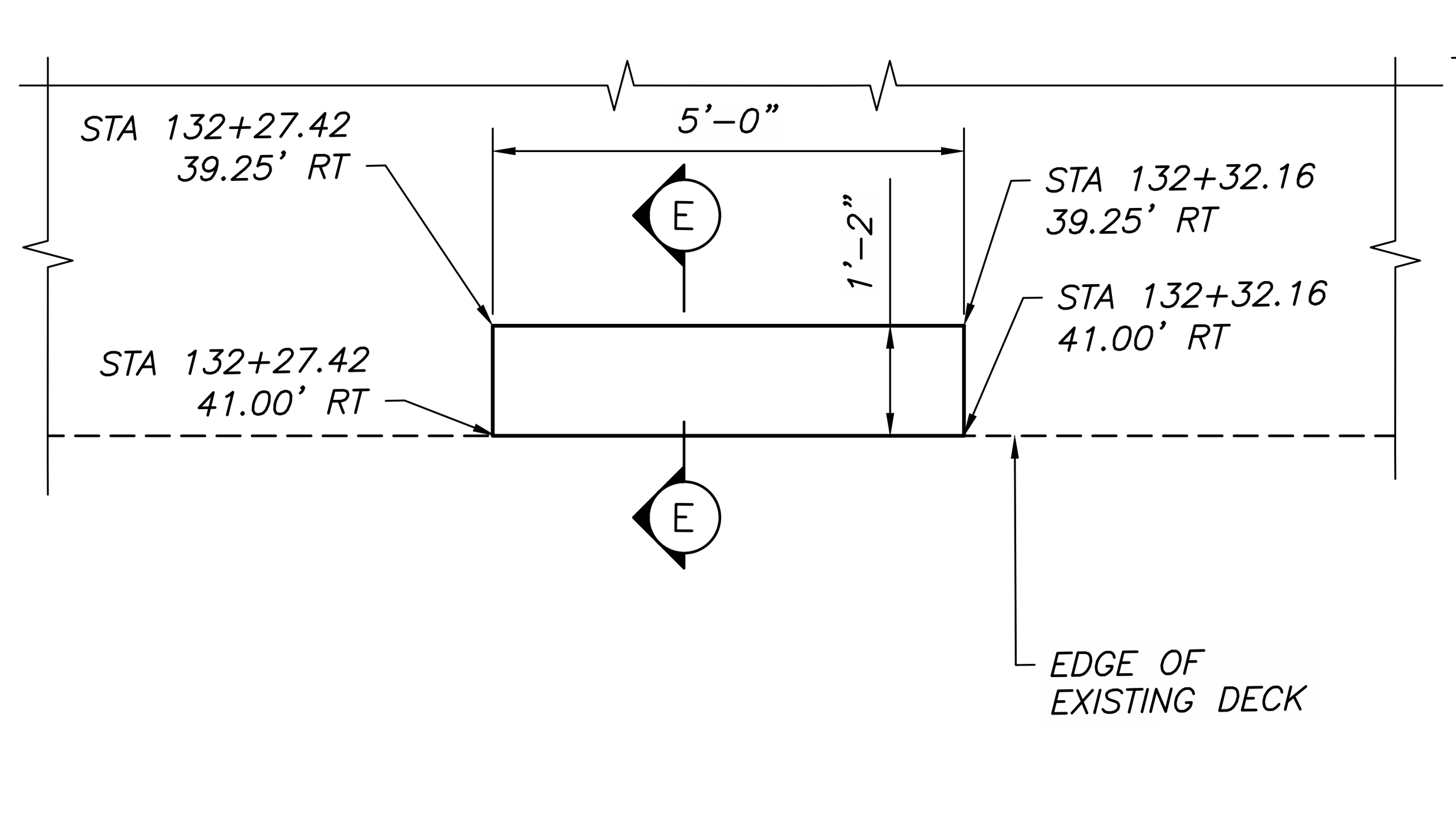
DETAIL A



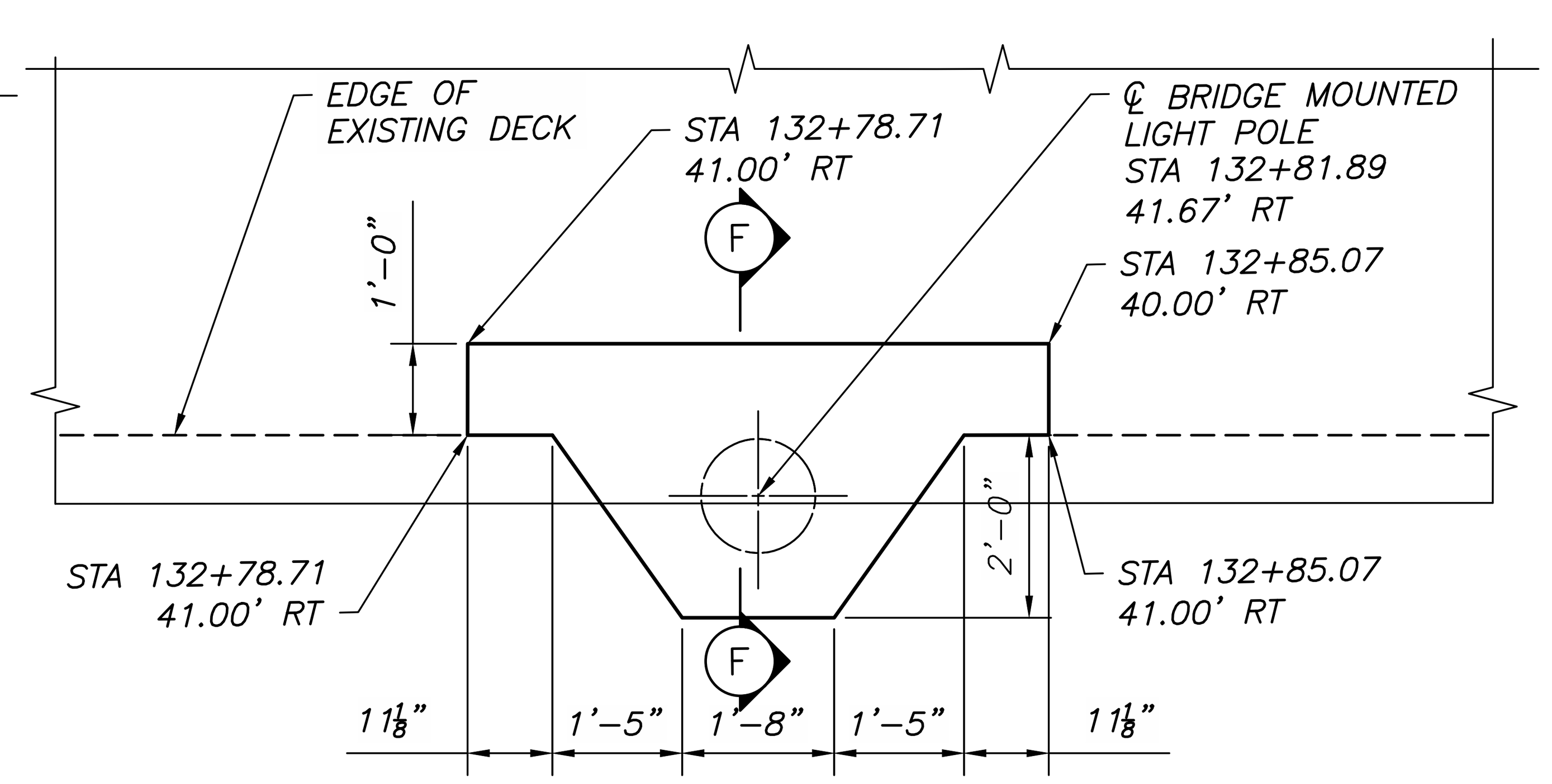
DETAIL B
(SEE NOTE 2)



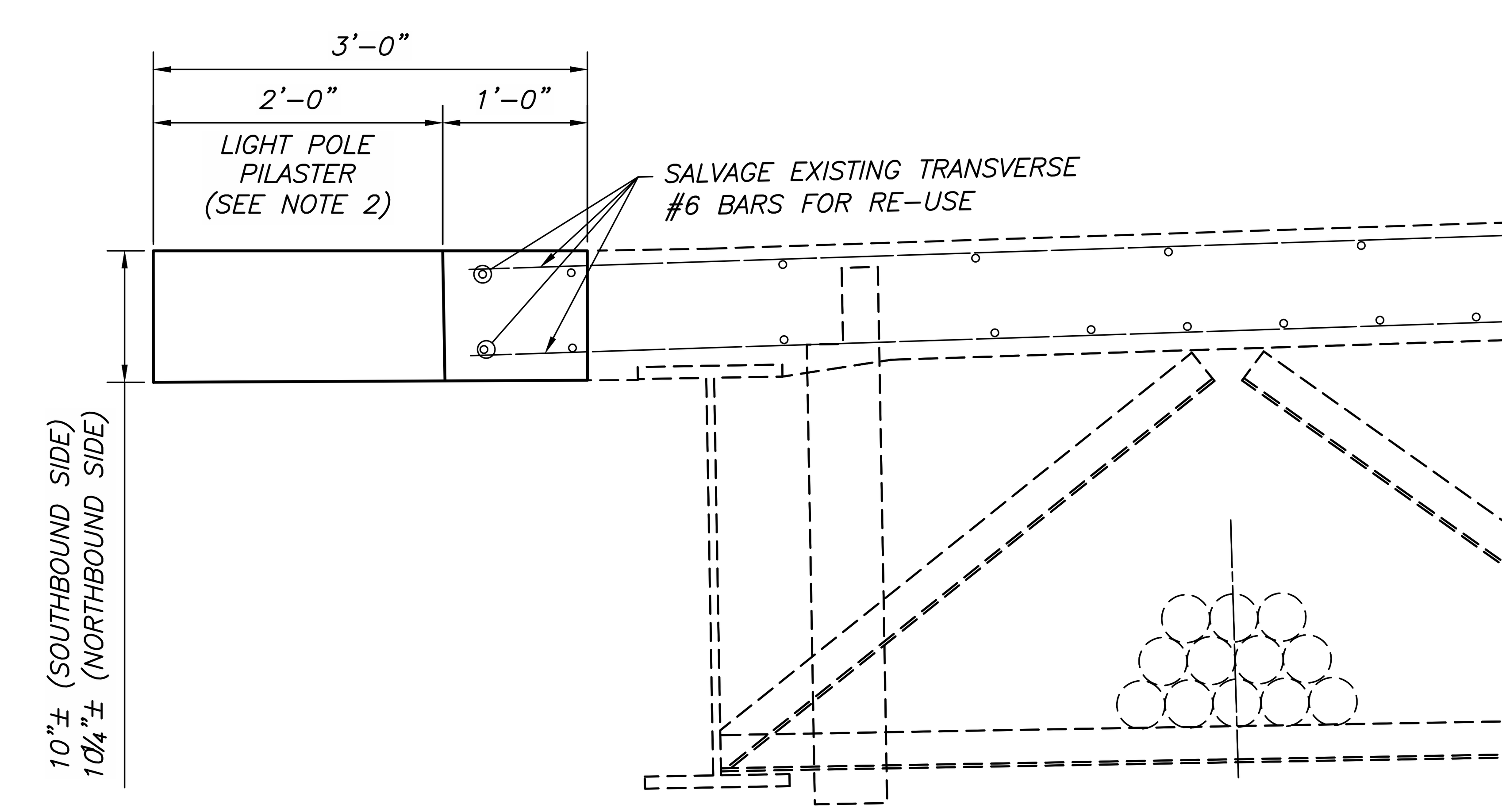
SECTION E–E



DETAIL C



DETAIL D
(SEE NOTE 2)



SECTION F–F

NTS

Reviewed	Date
CAS	1/31/24
Structure File Number	
2531291	

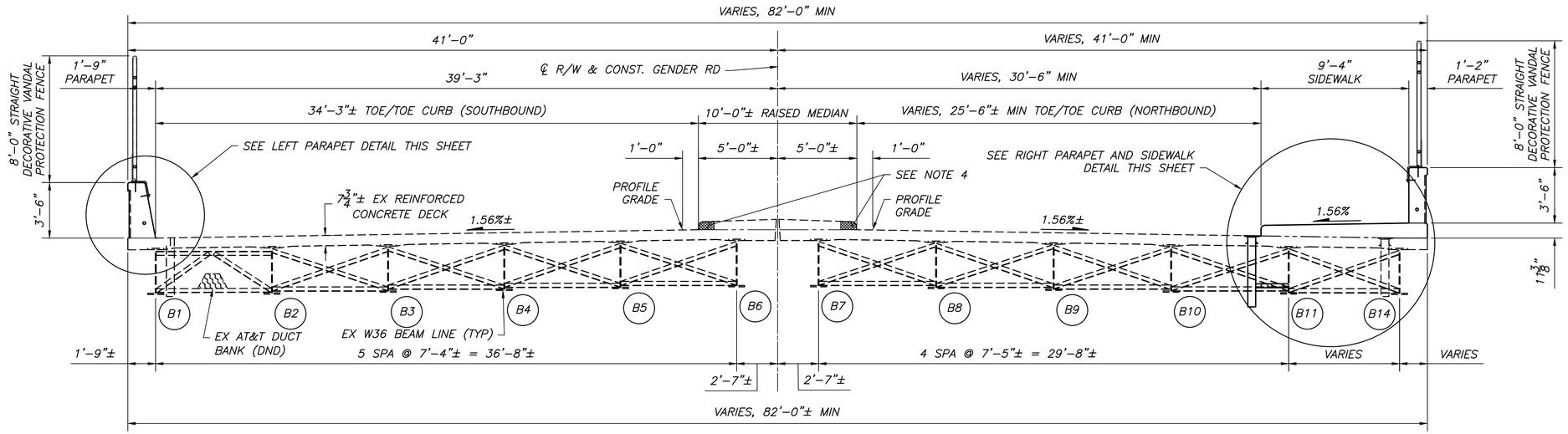
Designed	Drawn	Checked
GB	GB	RJE

PROPOSED DECK CONSTRUCTION
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

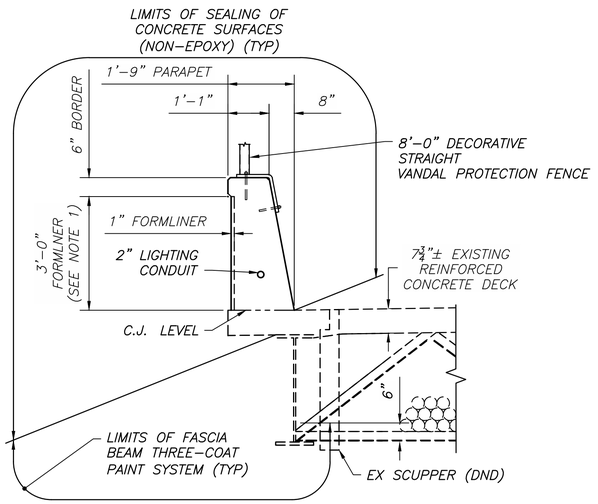
14/24

STAGE 3 PLANS – NOT FOR CONSTRUCTION



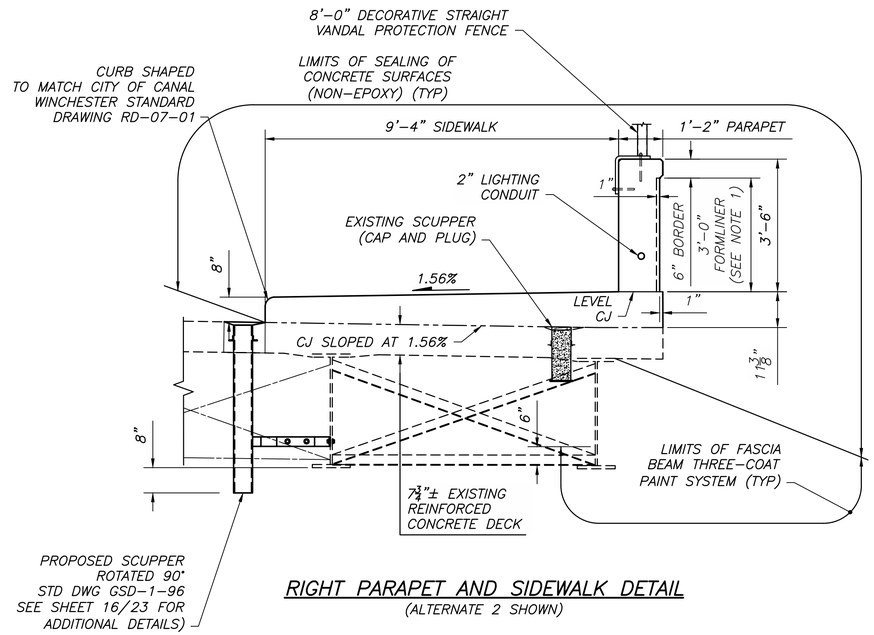
TRANSVERSE SECTION

(SECTION SHOWN APPLIES FROM STA 132+05.52 TO STA 132+94.73)



LEFT PARAPET DETAIL

(ALTERNATE 2 SHOWN)



RIGHT PARAPET AND SIDEWALK DETAIL

(ALTERNATE 2 SHOWN)

NOTES

1. "CANAL WINCHESTER" LETTERING AT A 2'–6" HEIGHT SHALL BE APPLIED WITHIN THE FORMLINER THE CONCRETE FORMLINER SHALL BE APPLIED WITHIN THE VERTICAL LIMITS SHOWN AND SHALL BE CENTERED ABOUT ℄ PIER NO. 2. SEE SHEET 21/23 FOR ADDITIONAL DETAILS.
2. SEE SHEET 18/24 FOR PROPOSED SCUPPER LOCATIONS.
3. SEE GENERAL NOTES FOR ADDITIONAL DETAILS ON SCUPPER INSTALLATION.
4. EXISTING RAISED MEDIAN PATCHING. SEE SHEET 1/24 FOR LOCATIONS AND LIMITS.

NTS

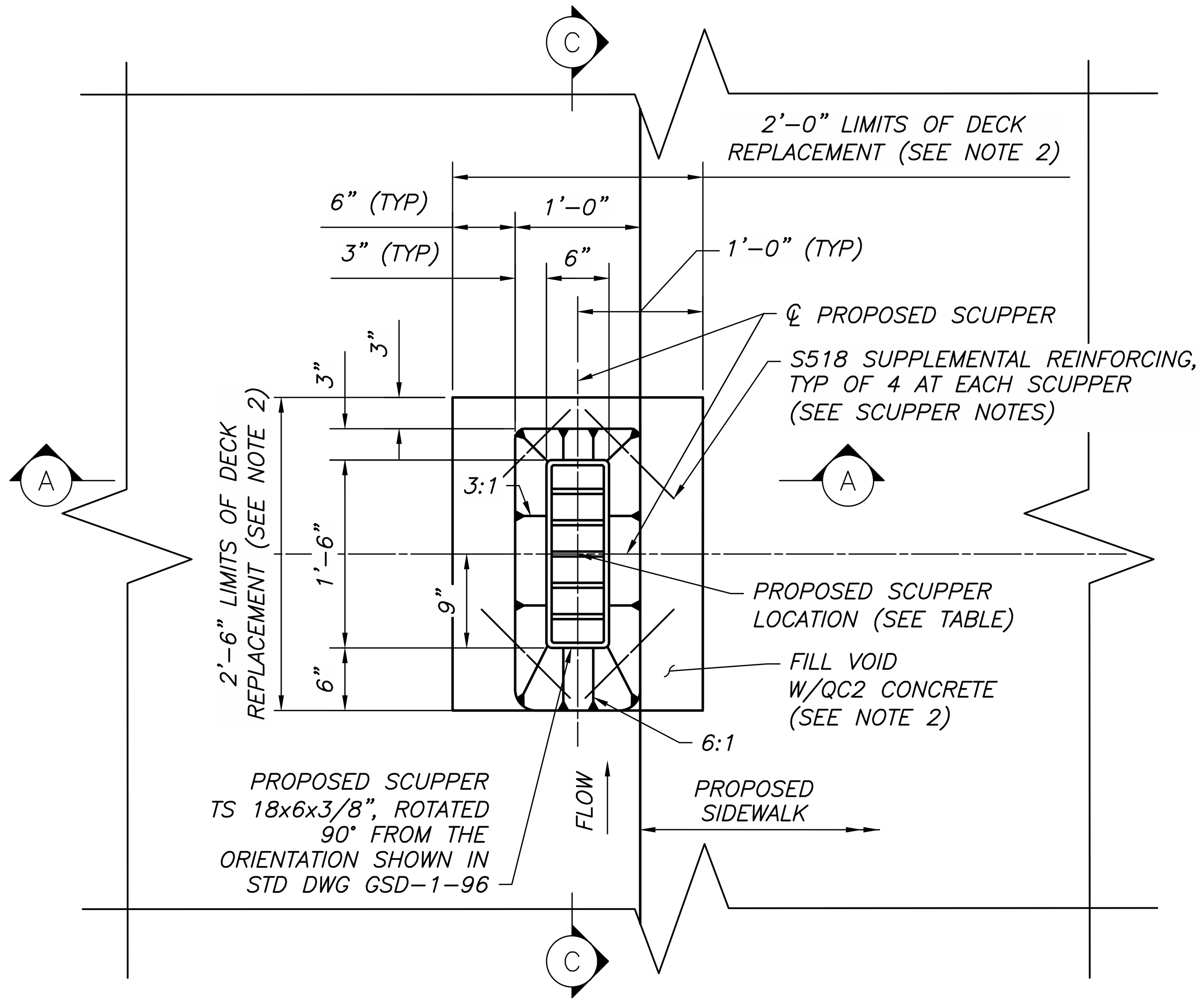
Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

TRANSVERSE SECTION
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

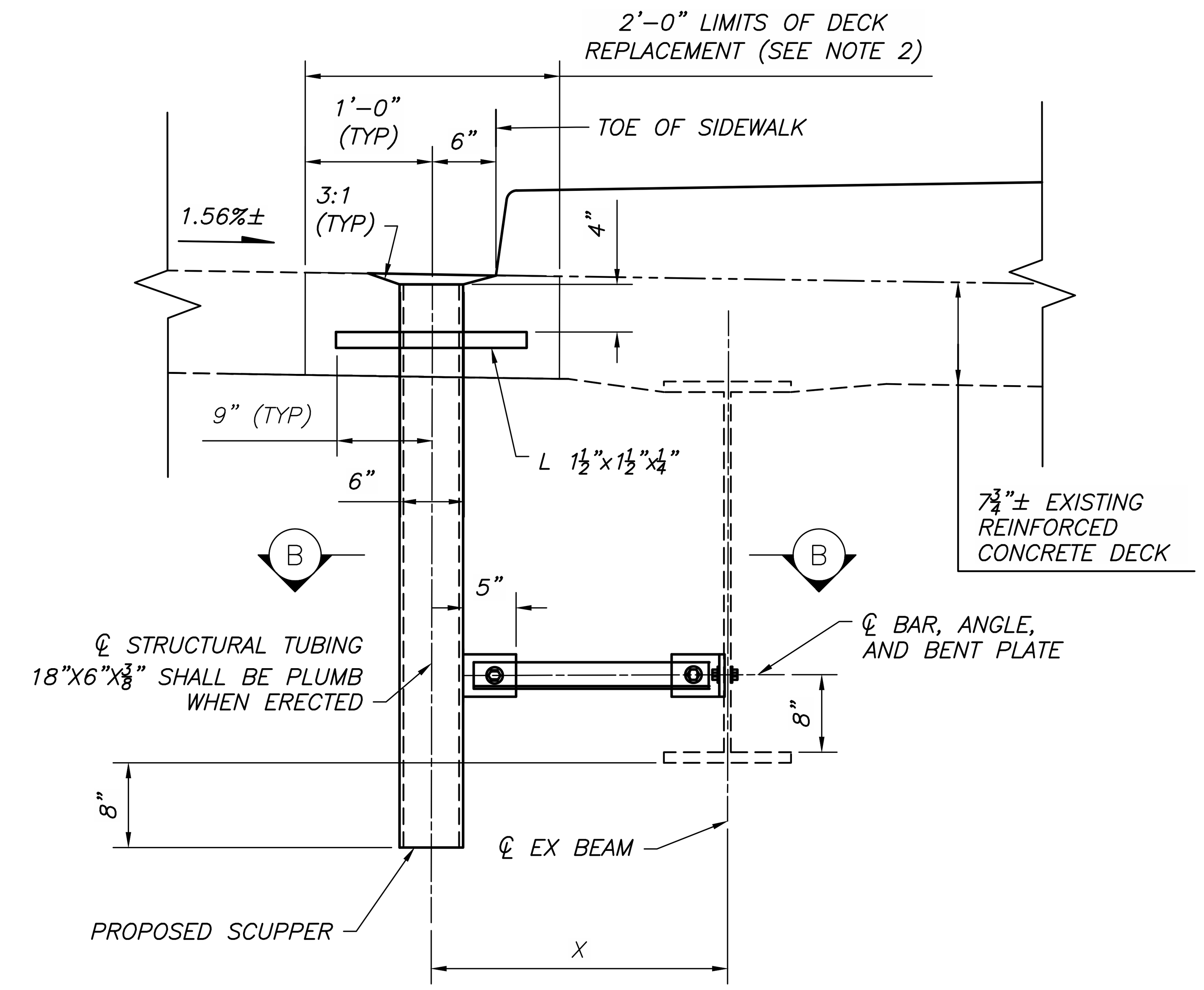
FRA-674-2.22
GENDER ROAD - PHASE 6

15/24

87
96

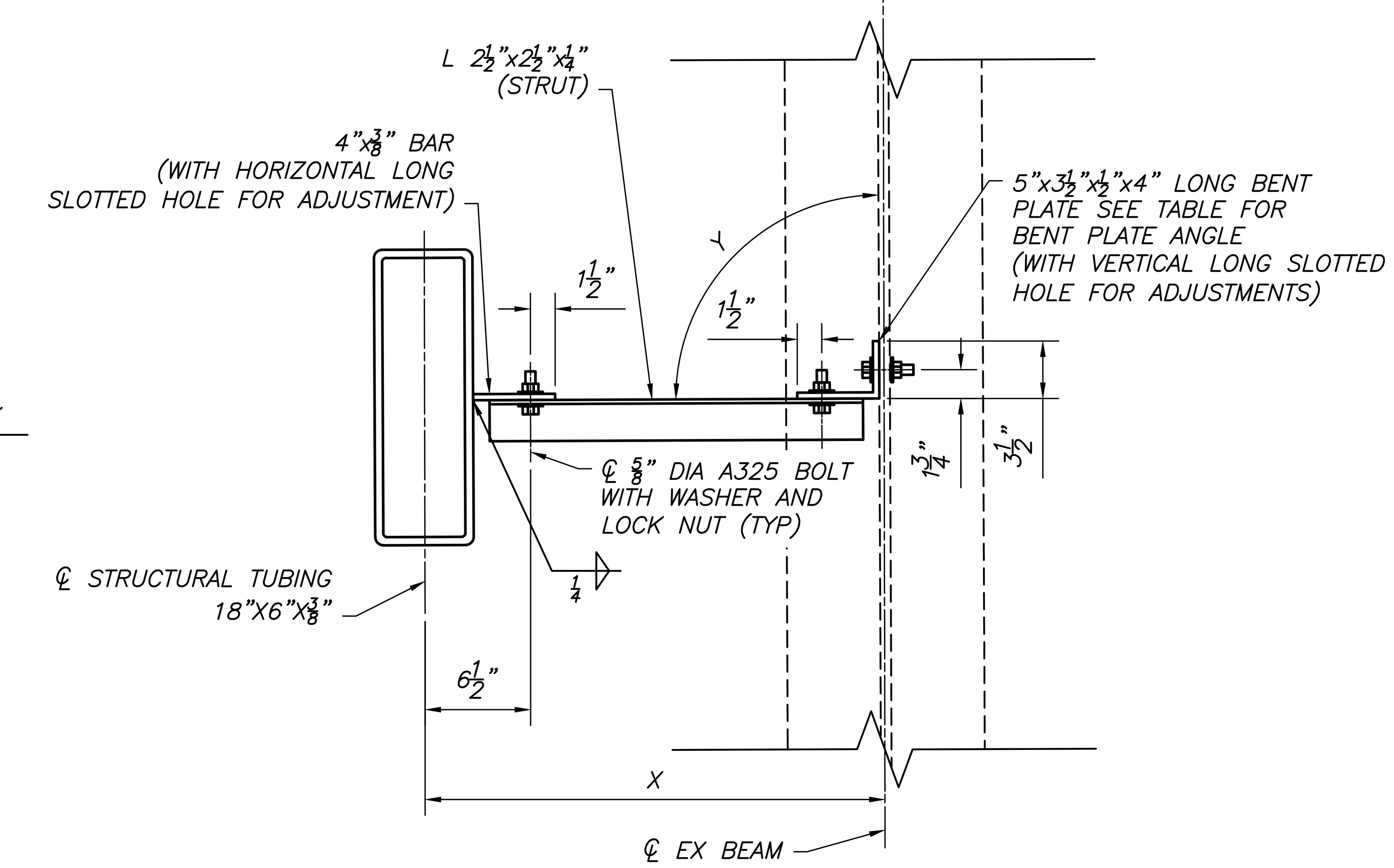


PROPOSED SCUPPER PLAN



SECTION A-A FOR SCUPPERS 1-4 & 7-9

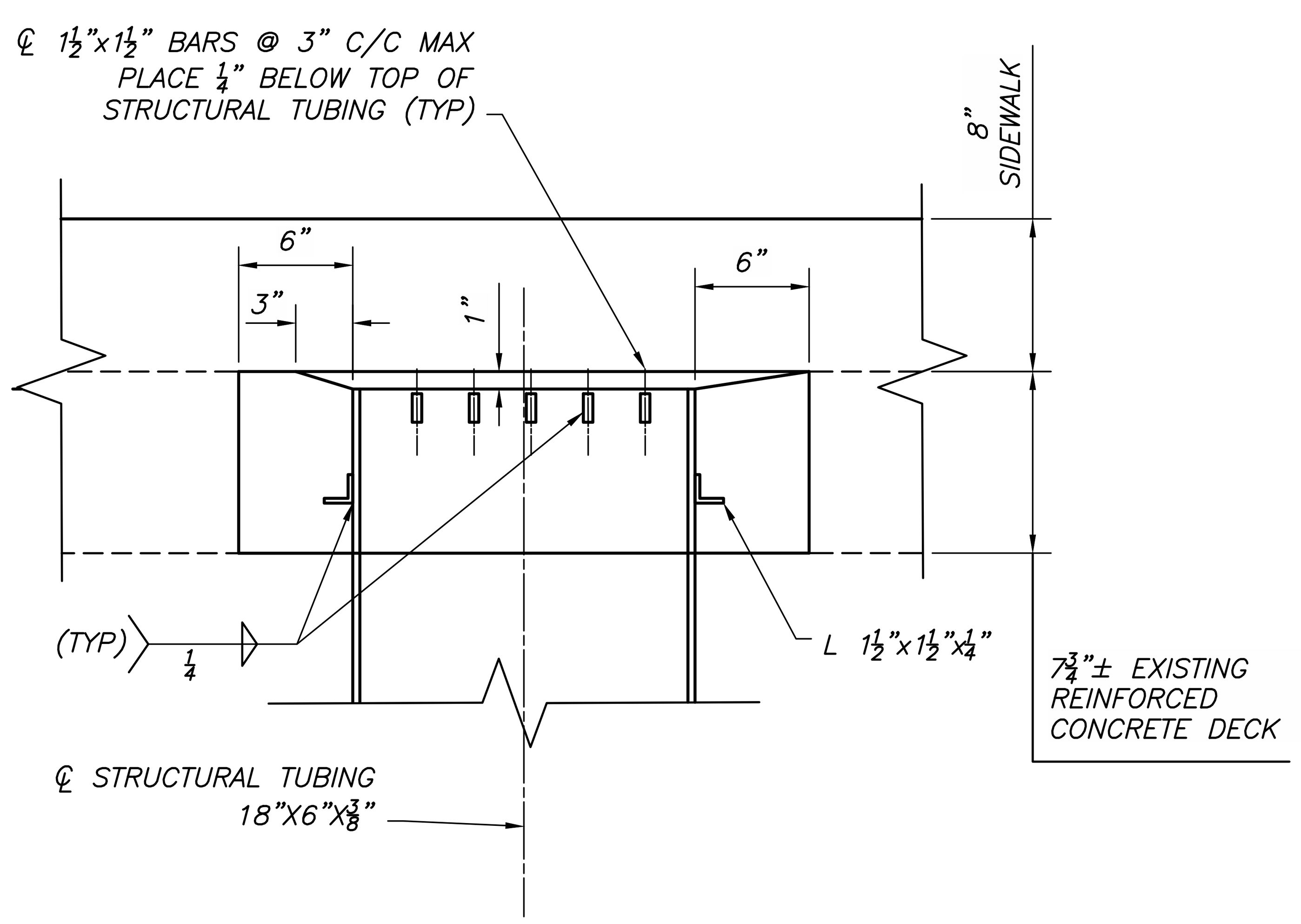
(LOOKING UPSTATION)



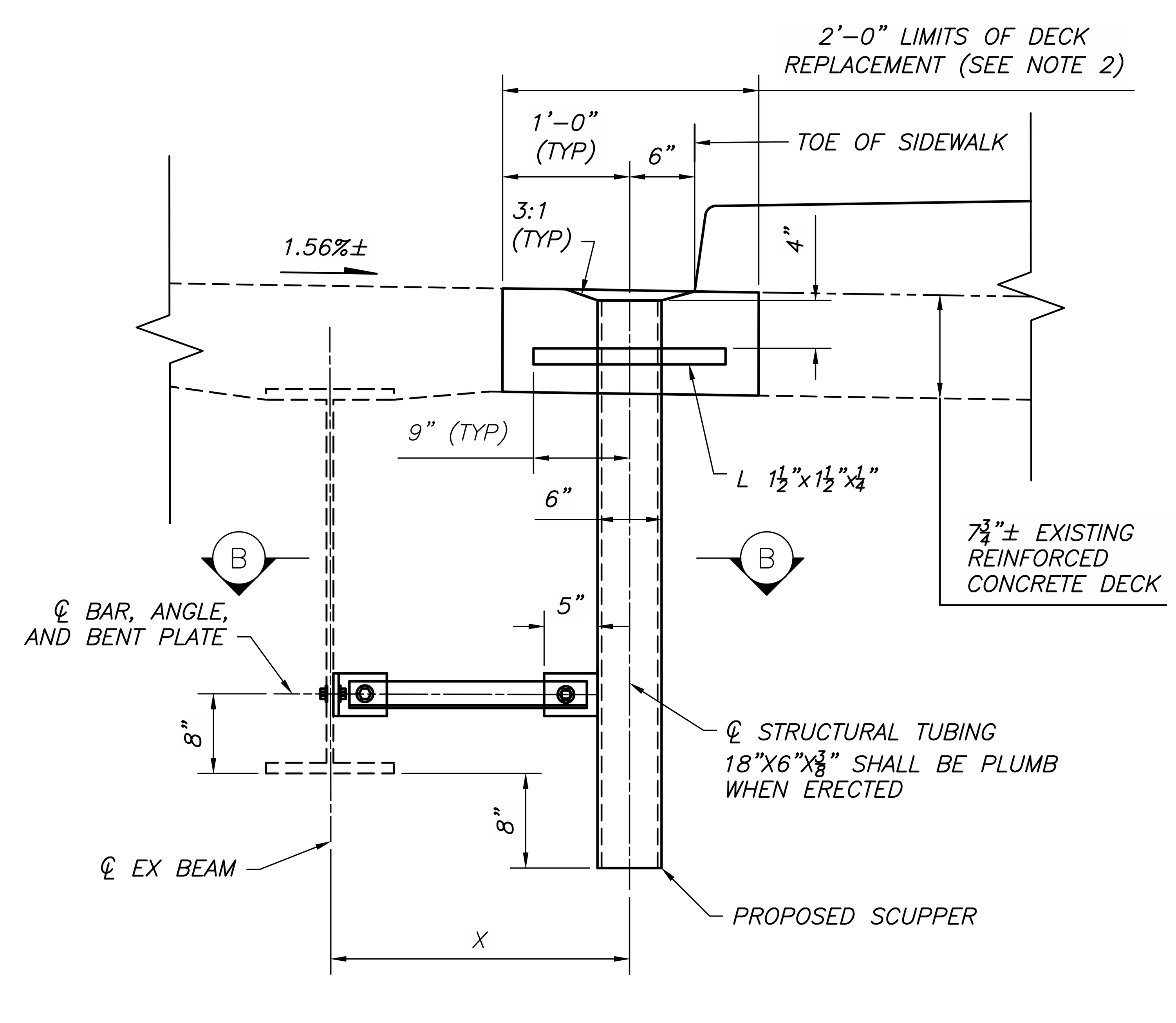
SECTION B-B

(SCUPPERS 1-4, AND 7-9 SHOWN, SCUPPERS 5 AND 6 SIMILAR)

SCUPPER NO.	STATION	OFFSET	DISTANCE "X"	ANGLE "Y"
1	132+02.00	30.00' RT	2'-3"±	90°00'00"±
2	132+08.67	30.00' RT	2'-3"±	90°00'00"±
3	132+15.33	30.00' RT	2'-3"±	90°00'00"±
4	132+22.00	30.00' RT	2'-3"±	90°00'00"±
5	134+45.81	40.69' RT	2'-0 ½"±	83°06'13"±
6	134+54.70	42.07' RT	3'-2"±	82°33'50"±
7	134+59.14	42.79' RT	2'-11"±	85°16'47"±
8	134+63.57	43.54' RT	2'-6 ¼"±	85°00'35"±
9	134+68.00	44.30' RT	2'-1 ¼"±	84°44'24"±



SECTION C-C



SECTION A-A FOR SCUPPERS 5 & 6

(LOOKING UPSTATION)

SCUPPER NOTES

S518 SUPPLEMENTAL REINFORCING:
REINFORCE THE CONCRETE DECK AT THE LOCATIONS SHOWN WITH FOUR – #4 BARS, 1'-0" LONG ORIENTED AT 45° TO THE LONG AXIS OF THE SCUPPER AND LOCATED JUST BELOW THE TRANSVERSE BARS IN THE TOP MAT OF STEEL. FIELD CUT TRANSVERSE AND LONGITUDINAL DECK REINFORCING ONLY AS NEEDED TO INSTALL THE SCUPPERS. REPAIR BARS THAT ARE CUT WITH EPOXY COATED REINFORCING STEEL AND MECHANICAL CONNECTORS PER C&MS 509 AS NEEDED.

MATERIAL:
FURNISH STRUCTURAL STEEL TUBING ACCORDING TO C&MS 707.10. TOUGHNESS TESTING IN ACCORDANCE WITH ASTM E436 IS NOT REQUIRED. ALL OTHER MATERIAL SHALL BE ASTM A709 GRADE 36, 50 PR 50W. GALVANIZE SUPPORT ANGLES, BARS, BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH C&MS 711.02.

DECK CROWN/SUPERELEVATION:
CUT THE TOP OF THE STEEL TUBING SQUARE FOR CROSS SLOPES ½" PER FOOT AND LESS. CUT THE TOP OF THE TUBING PARALLEL TO THE DECK SURFACE FOR CROSS SLOPES GREATER THAN ½" PER FOOT.

FASTENER NOTES:
1. THE SIZE OF THE SLOTTED HOLES SHALL BE 11/16"x1 9/16". THE SLOT SHALL BE AS NOTED IN THE PLAN DETAILS. BOLTS SHALL BE ⅝" DIAMETER A325 TYPE 1, GALVANIZED, WITH HEX NUT AND TWO WASHERS. TIGHTEN ACCORDING TO C&MS 513.

2. THE BOLTS SHALL BE ⅝" DIAMETER A325 TYPE 1 GALVANIZED. EACH ASSEMBLY SHALL INCLUDE A BOLT, NUT, AND TWO WASHERS. TIGHTEN ACCORDING TO C&MS 513. AFTER THE DECK CONCRETE HAS BEEN POURED, FIELD DRILL THE 13/16" DIAMETER HOLE IN THE WEB.

NOTES

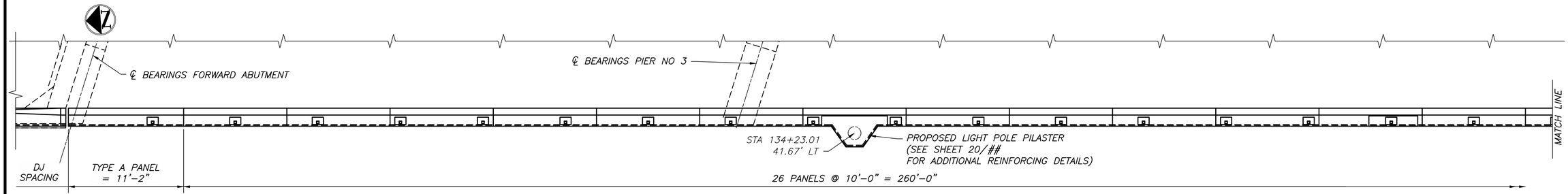
1. SEE SHEET 18/24 FOR PROPOSED SCUPPER LOCATIONS.
2. FILL VOID AROUND PROPOSED SCUPPER WITH QC2 CONCRETE. INCLUDE CONCRETE, SUPPLEMENTAL REINFORCING, AND FIELD DRILLING IN THE EXISTING WEBS WITH ITEM 518, SUPPERS, INCLUDING SUPPORTS, AS PER PLAN FOR PAYMENT.
3. FIELD MEASURE DIMENSION "X" AND ANGLE "Y" PRIOR TO FABRICATING SUPPORT MEMBERS.

NTS

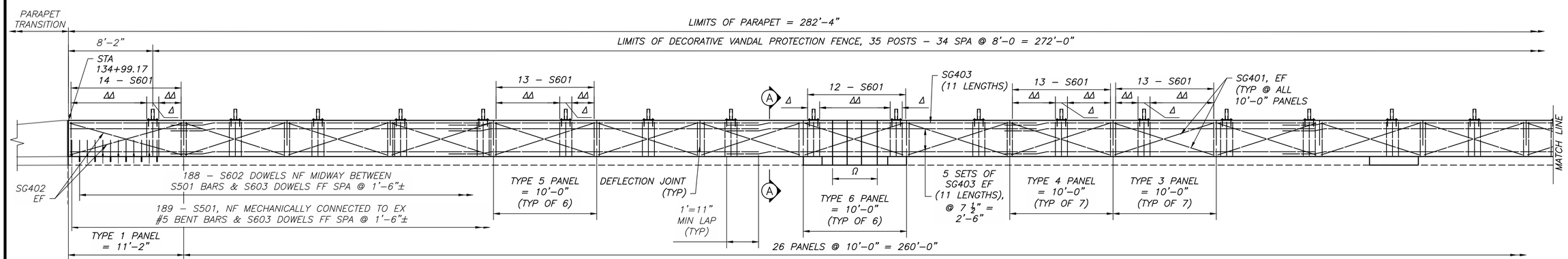
Designed	Drawn	Reviewed	Date
TDA	TDA	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

SCUPPER DETAILS
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

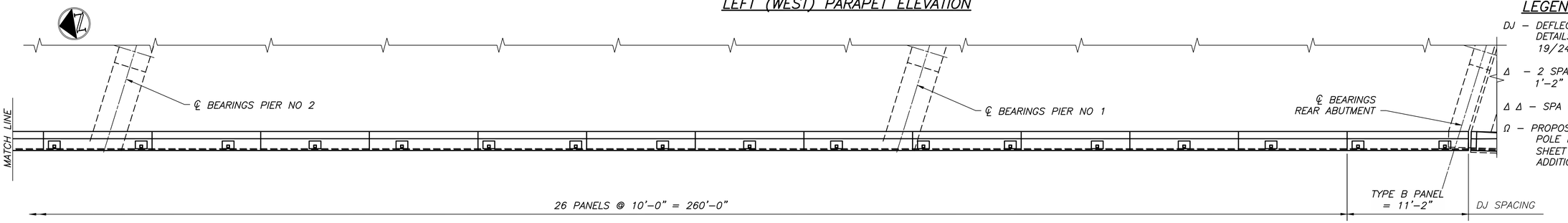
FRA-674-2.22
GENDER ROAD - PHASE 6



LEFT (WEST) PARAPET PLAN



LEFT (WEST) PARAPET ELEVATION



LEGEND

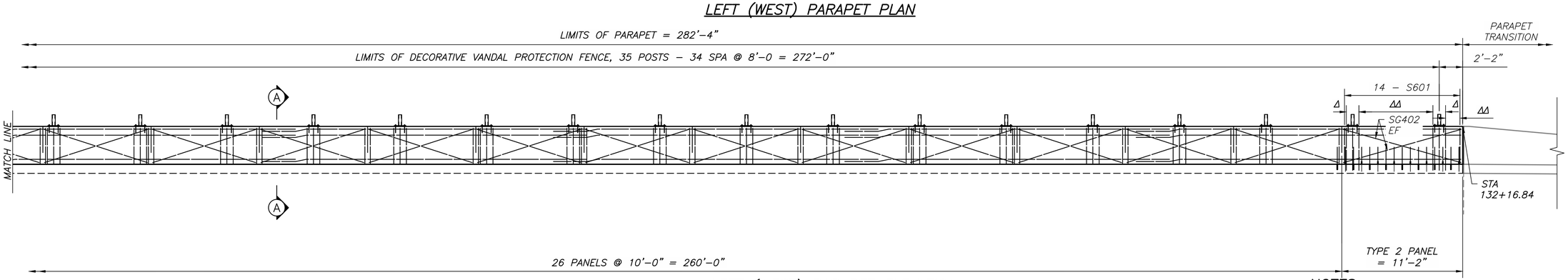
DJ – DEFLECTION JOINT, DETAILS SEE SHEET 19/24

Δ – 2 SPA @ 7" = 1'–2"

Δ Δ – SPA @ 12" MAX

Ω – PROPOSED LIGHT POLE PILASTER, SEE SHEET 20/24 FOR ADDITIONAL DETAILS

LEFT (WEST) PARAPET PLAN



LEFT (WEST) PARAPET ELEVATION

NOTES

1. FOR ADDITIONAL PARAPET NOTES AND DETAILS NOT SHOWN, SEE STANDARD DRAWING SBR–1–20.
2. ELEVATION VIEW LOOKING AT EXTERIOR FACE OF PARAPET.
3. FOR SECTION A–A SEE SHEET 19/24.

NTS

Date 1/31/24
Reviewed CAS
Structure File Number 2531291
Drawn GB
Designed RJE
Checked JGM

LEFT PARAPET PLAN AND ELEVATION

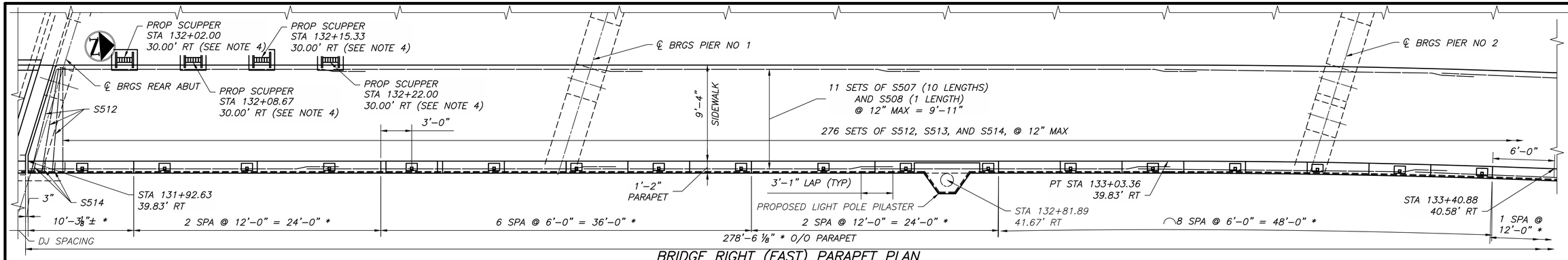
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

17/24

89
96

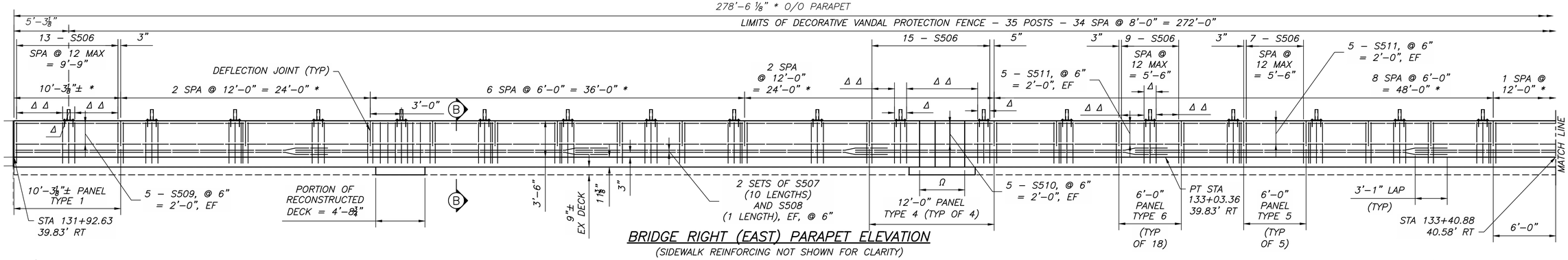
STAGE 3 PLANS – NOT FOR CONSTRUCTION



BRIDGE RIGHT (EAST) PARAPET PLAN

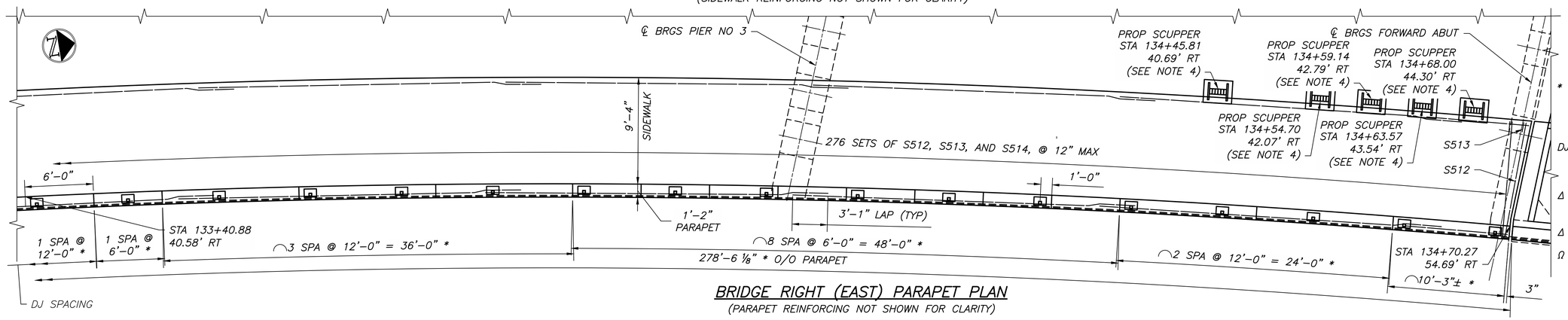
(PARAPET REINFORCING NOT SHOWN FOR CLARITY)

278'-6 ⅛" * O/O PARAPET



BRIDGE RIGHT (EAST) PARAPET ELEVATION

(SIDEWALK REINFORCING NOT SHOWN FOR CLARITY)



BRIDGE RIGHT (EAST) PARAPET PLAN

(PARAPET REINFORCING NOT SHOWN FOR CLARITY)

LEGEND

* – MEASURED ALONG TOE OF PARAPET (CURVED OR STRAIGHT)

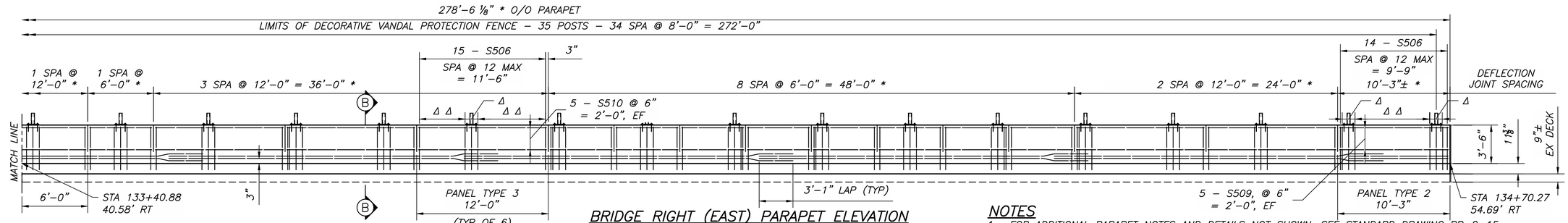
DJ – DEFLECTION JOINT, DETAILS SEE SHEET 19/24

Δ – 2 SPA @ 7" = 1'-2"

Δ Δ – SPA @ 12" MAX

Ω – PROPOSED LIGHT POLE PILASTER, SEE SHEET 20/24 FOR ADDITIONAL DETAILS

278'-6 ⅛" * O/O PARAPET



BRIDGE RIGHT (EAST) PARAPET ELEVATION

(SIDEWALK REINFORCING NOT SHOWN FOR CLARITY)

NOTES

1. FOR ADDITIONAL PARAPET NOTES AND DETAILS NOT SHOWN, SEE STANDARD DRAWING BR-2-15.
2. ELEVATION VIEW LOOKING AT EXTERIOR FACE OF PARAPET.
3. FOR SECTION B-B, SEE SHEET 19/24.
4. STATIONS & OFFSETS MEASURED TO ℄ SCUPPER. SEE SHEET 16/24 FOR PROPOSED SCUPPER INSTALLATION DETAILS.

NTS

Date 1/31/24
Reviewed CAS
Structure File Number 2531291
Drawn GB
Designed RJE
Checked JGM

RIGHT PARAPET & SIDEWALK PLAN & ELEVATION

CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

18/24

90
96

STAGE 3 PLANS – NOT FOR CONSTRUCTION

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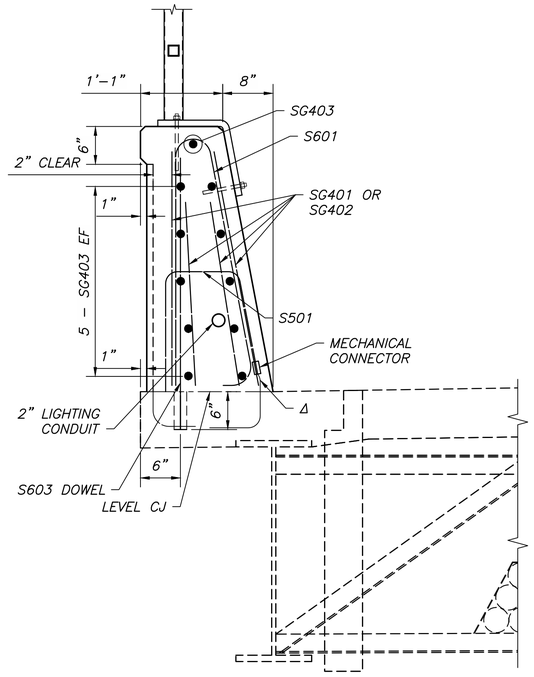
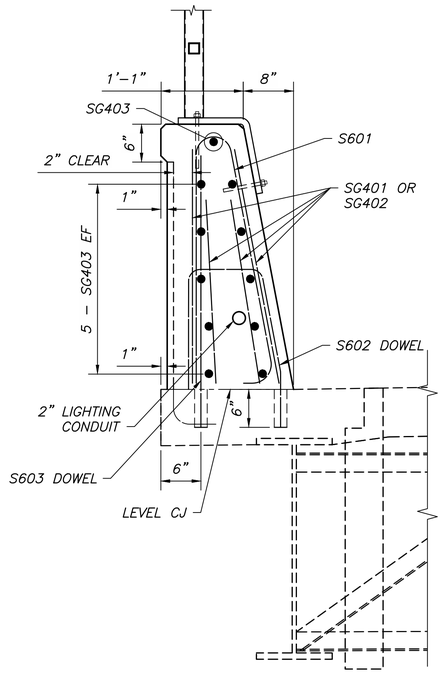


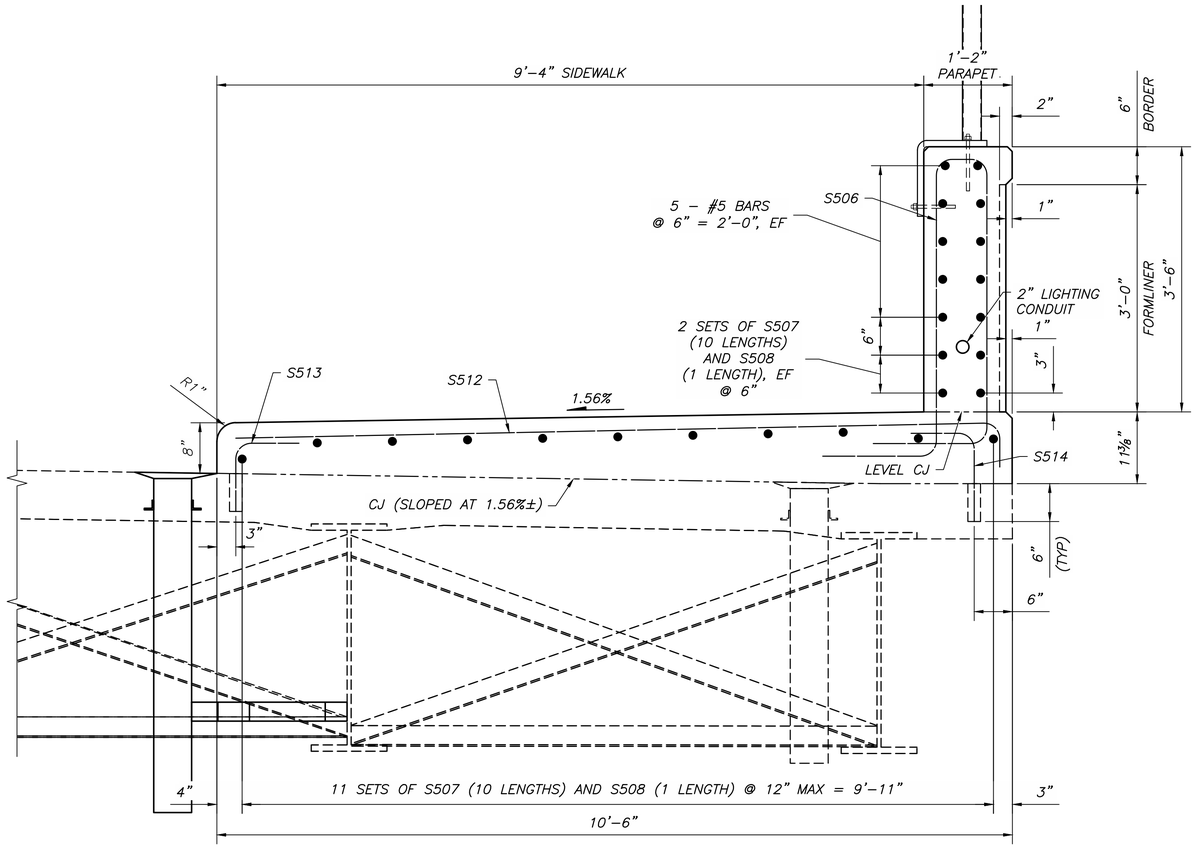
SECTION A–A (MECHANICAL CONNECTED S501 BAR SHOWN)

(WEST PARAPET ALTERNATE 6 SHOWN, REINFORCING DETAILS AT EXISTING SLAB SHOWN, REINFORCING DETAILS AT PROPOSED SLAB MODIFICATIONS SIMILAR)



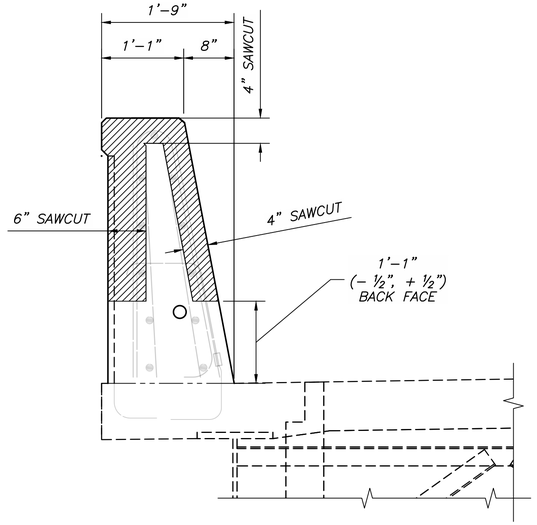
SECTION A–A (S602 DOWEL BAR SHOWN)

(WEST PARAPET ALTERNATE 6 SHOWN, REINFORCING DETAILS AT EXISTING SLAB SHOWN, REINFORCING DETAILS AT PROPOSED SLAB MODIFICATIONS SIMILAR)



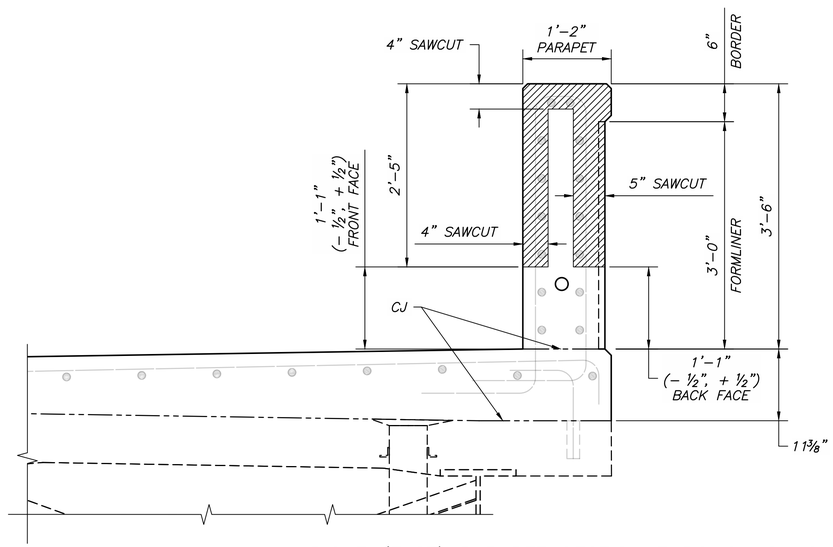
SECTION B–B

(EAST PARAPET ALTERNATE 6 SHOWN)



LEFT (WEST) PARAPET SECTION THROUGH SAWCUT

(WEST PARAPET ALTERNATE 6 SHOWN)



RIGHT (EAST) PARAPET SECTION THROUGH SAWCUT

(EAST PARAPET ALTERNATE 6 SHOWN)

NOTES

1. SEE SHEET 17/24 FOR LOCATION OF SECTION A–A.
2. SEE SHEET 18/24 FOR LOCATION OF SECTION B–B.

LEGEND

Δ – FIELD BEND AS NECESSARY TO MAINTAIN 2" CLEAR COVER

PARAPET SECTIONS

CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

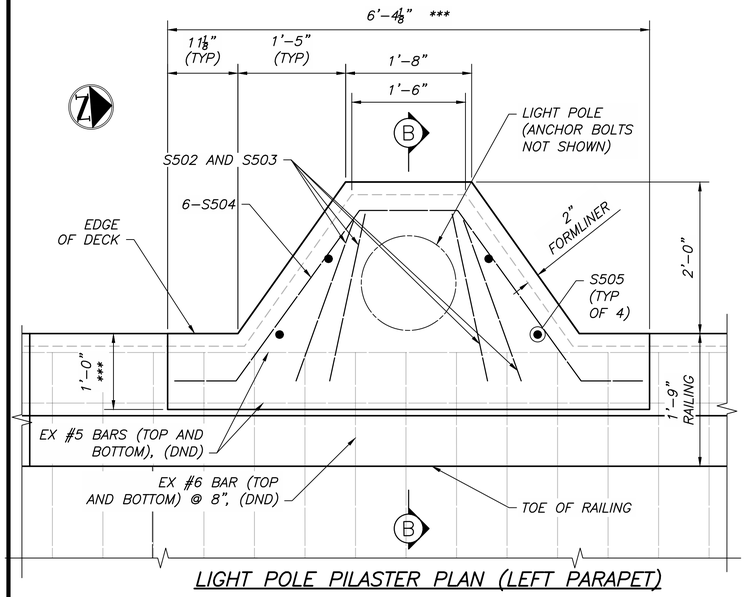
NTS

Designed RJE | Drawn GB | Reviewed CAS | Date 1/31/24
Checked JGM | Structure File Number 2531291

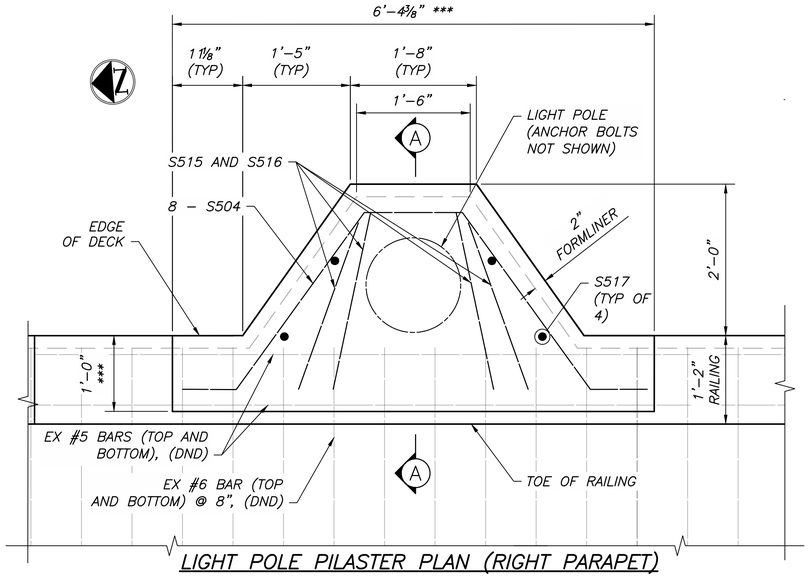
FRA-674-2.22
GENDER ROAD - PHASE 6

19/24

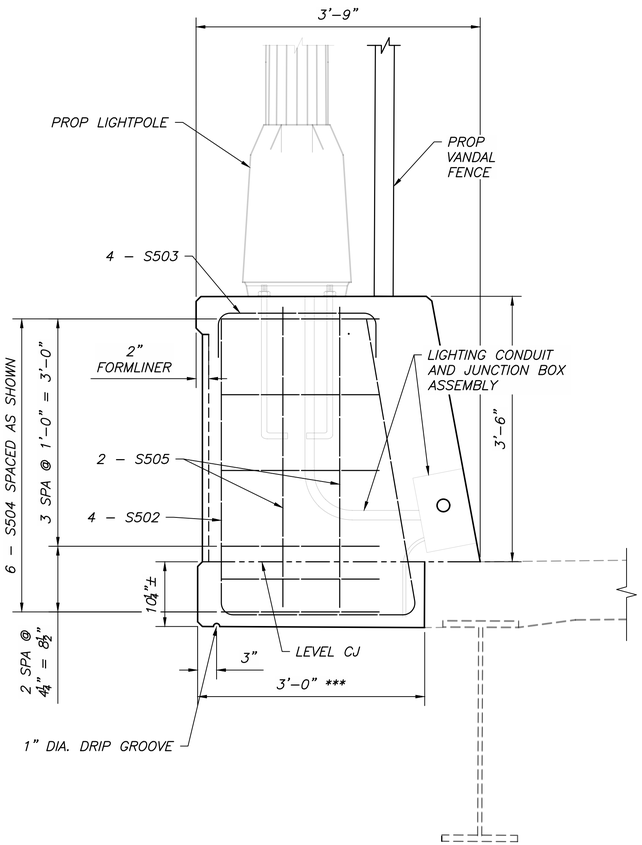
91
96



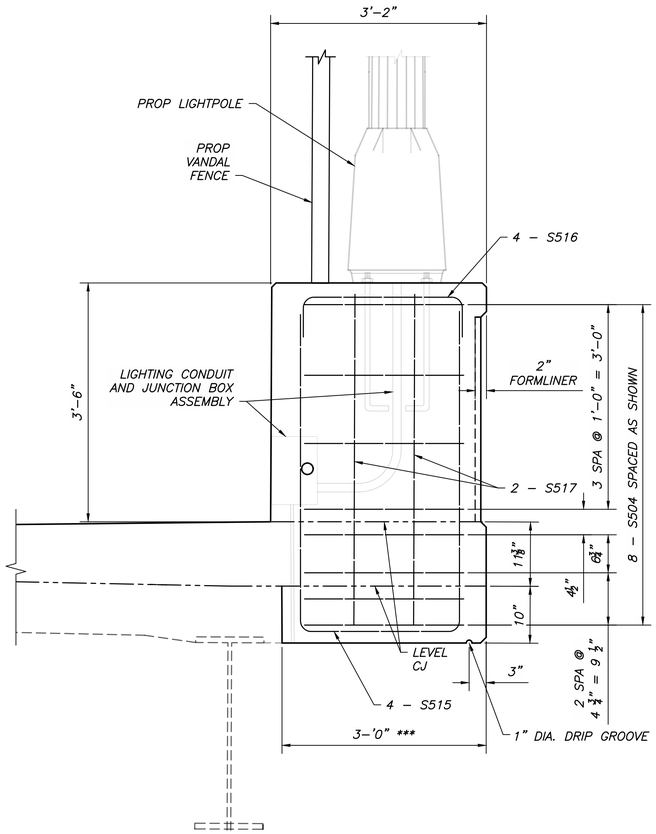
LIGHT POLE PILASTER PLAN (LEFT PARAPET)



LIGHT POLE PILASTER PLAN (RIGHT PARAPET)



SECTION B–B
(ALTERNATE 6 SHOWN, EXISTING DECK REINFORCING NOT SHOWN)



SECTION A–A
(ALTERNATE 6 SHOWN, EXISTING DECK REINFORCING NOT SHOWN)

LEGEND

*** – LIMITS OF DECK AND PILASTER CONSTRUCTION

NOTES:

1. RAILING REINFORCING NOT SHOWN FOR CLARITY.
2. FOR DETAILS NOT SHOWN, REFER TO ODOT STANDARD DRAWING HL–20.14.

NTS

Designed	Drawn	Reviewed	Date
RJE	GB	CAS	1/31/24
Checked		Structure File Number	
JGM		2531291	

LIGHT POLE PILASTER DETAILS

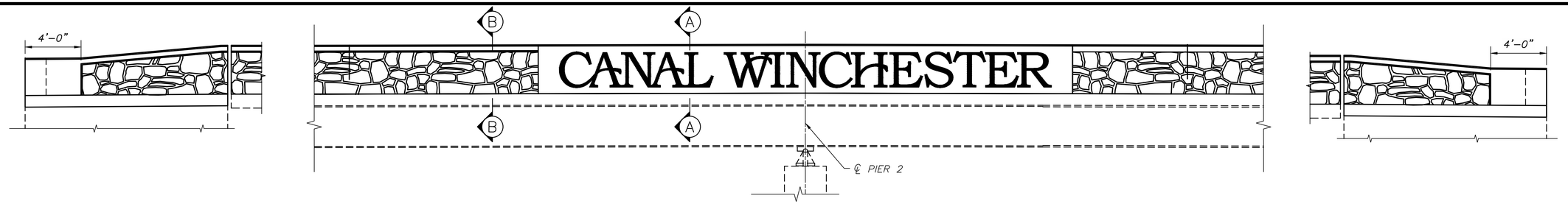
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

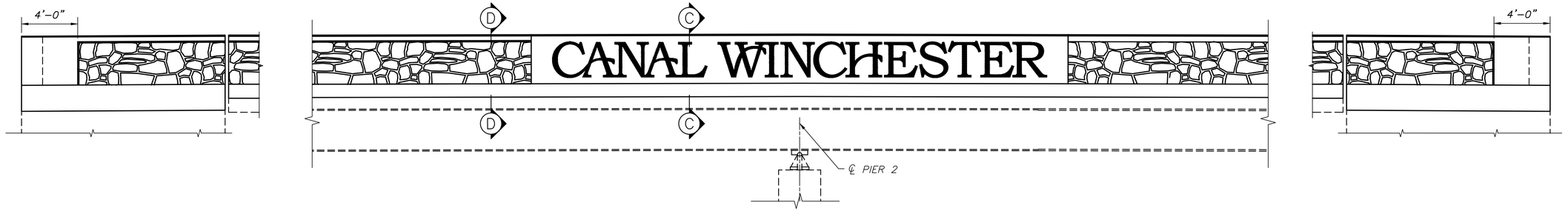
20/24

92
96

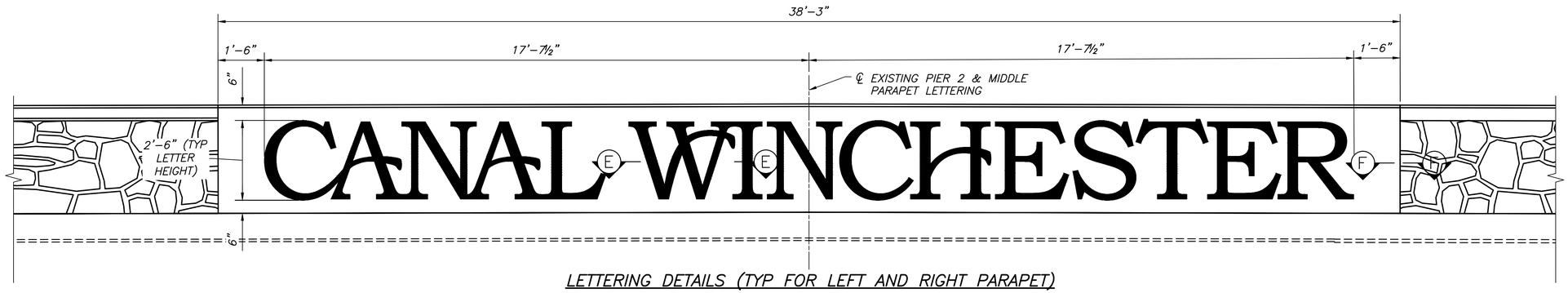
STAGE 3 PLANS – NOT FOR CONSTRUCTION



LEFT PARAPET EXTERIOR ELEVATION



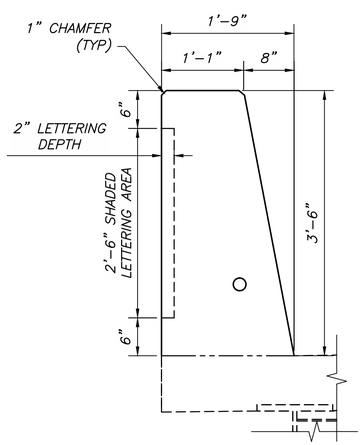
RIGHT PARAPET EXTERIOR ELEVATION



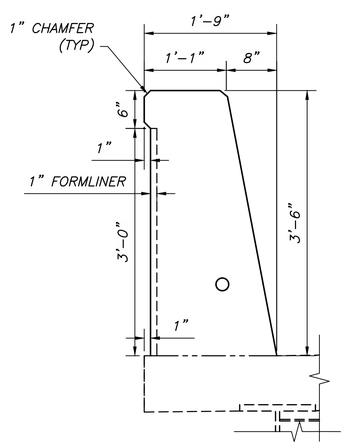
LETTERING DETAILS (TYP FOR LEFT AND RIGHT PARAPET)

NOTES

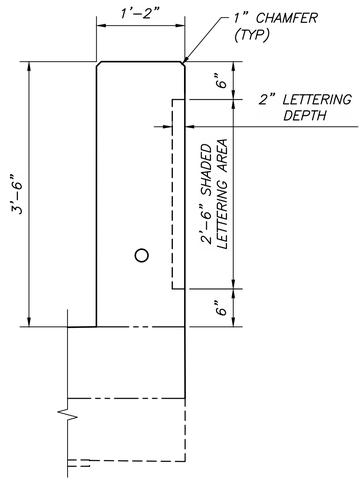
1. THE PARAPET AESTHETIC DETAILS SHOWN ON THIS SHEET APPLY TO ALTERNATE 6.



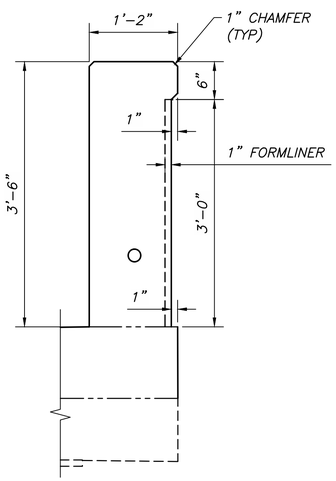
SECTION A-A



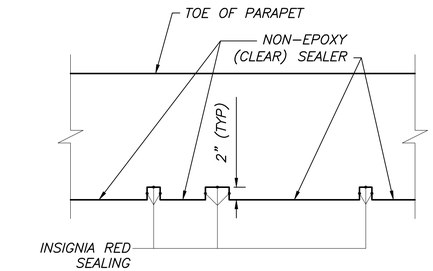
SECTION B-B



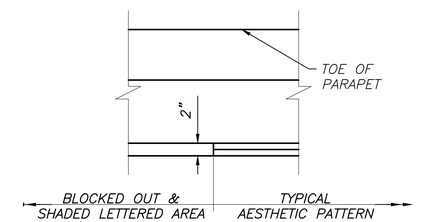
SECTION C-C



SECTION D-D



SECTION E-E (DEPRESSED LETTER DETAIL)



SECTION F-F (DEPRESSED LETTER DETAIL)

NTS

Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

PARAPET AESTHETIC DETAILS
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

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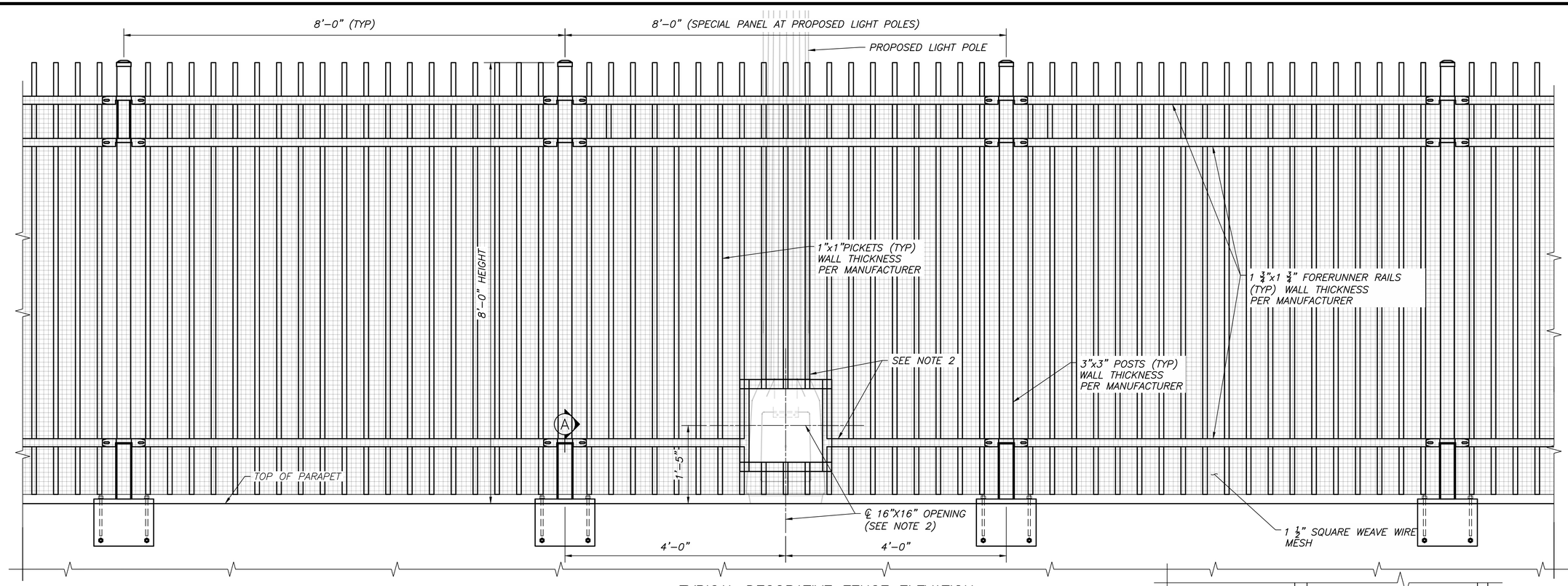
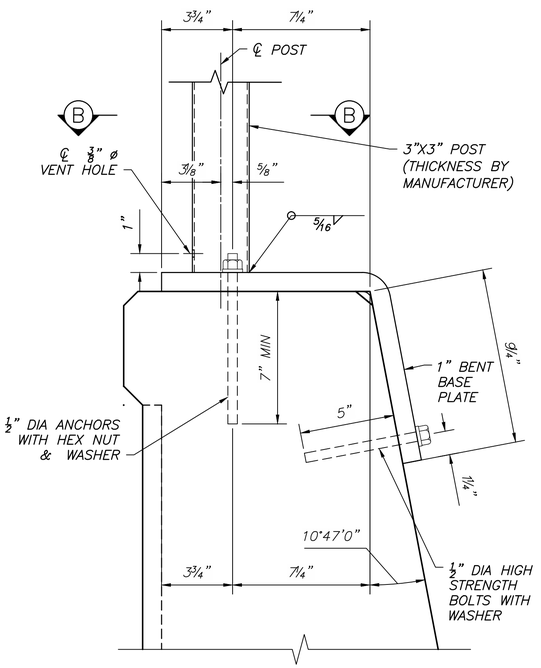
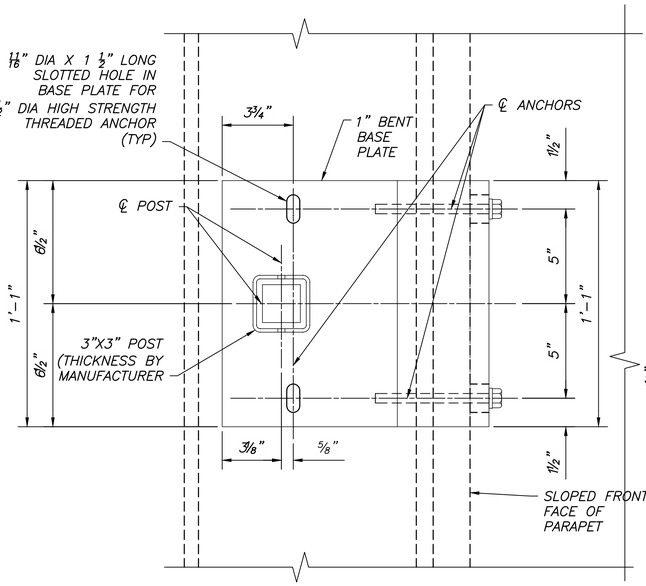
STAGE 3 PLANS – NOT FOR CONSTRUCTION



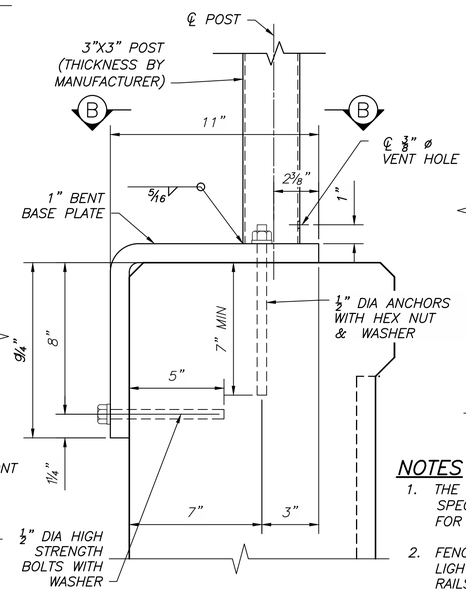
TYPICAL DECORATIVE FENCE ELEVATION



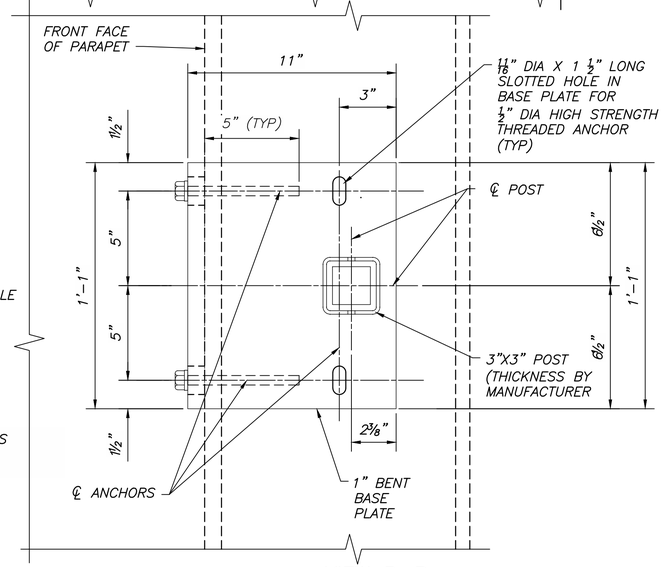
SECTION A–A
(CONNECTION TO LEFT PAREPET)



VIEW B–B
(CONNECTION TO LEFT PAREPET)



SECTION A–A
(CONNECTION TO RIGHT PAREPET)



VIEW B–B
(CONNECTION TO RIGHT PAREPET)

NOTES

1. THE FENCE DETAILS SHOWN ON THIS SHEET APPLY TO ALTERNATE 6. SEE ITEM 607 – SPECIAL, VANDAL PROTECTION FENCE (DECORATIVE FENCE) GENERAL NOTE ON SHEET 3/24 FOR NOTE PERTAINING TO DECORATIVE FENCE.
2. FENCE MANUFACTURER SHALL DESIGN PANEL TO ALLOW FOR 16"X16" ACCESS OPENING AT LIGHT POLE. ACCESS OPEING SHALL BE DESIGNED TO BLEND IN WITH FENCE PICKETS AND RAILS, INCLUDING EXTENSION OF THE PICKET AND RAIL PATTERN ACROSS THE OPENING TO MINIMIZE ITS VISIBILITY. OPENING SHALL REFER TO VPF–1–90, SHEET 5/24 FOR ADDITIONAL DETAILS NOT SHOWN.
3. FOR SPECIFICATIONS PERTAINING TO BASE PLATES, FASTENERS, AND ADHESIVE ANCHORS, SEE VPF–1–90, SHEET 1/8.

VANDAL PROTECTION FENCE DETAILS

CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

NTS

Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

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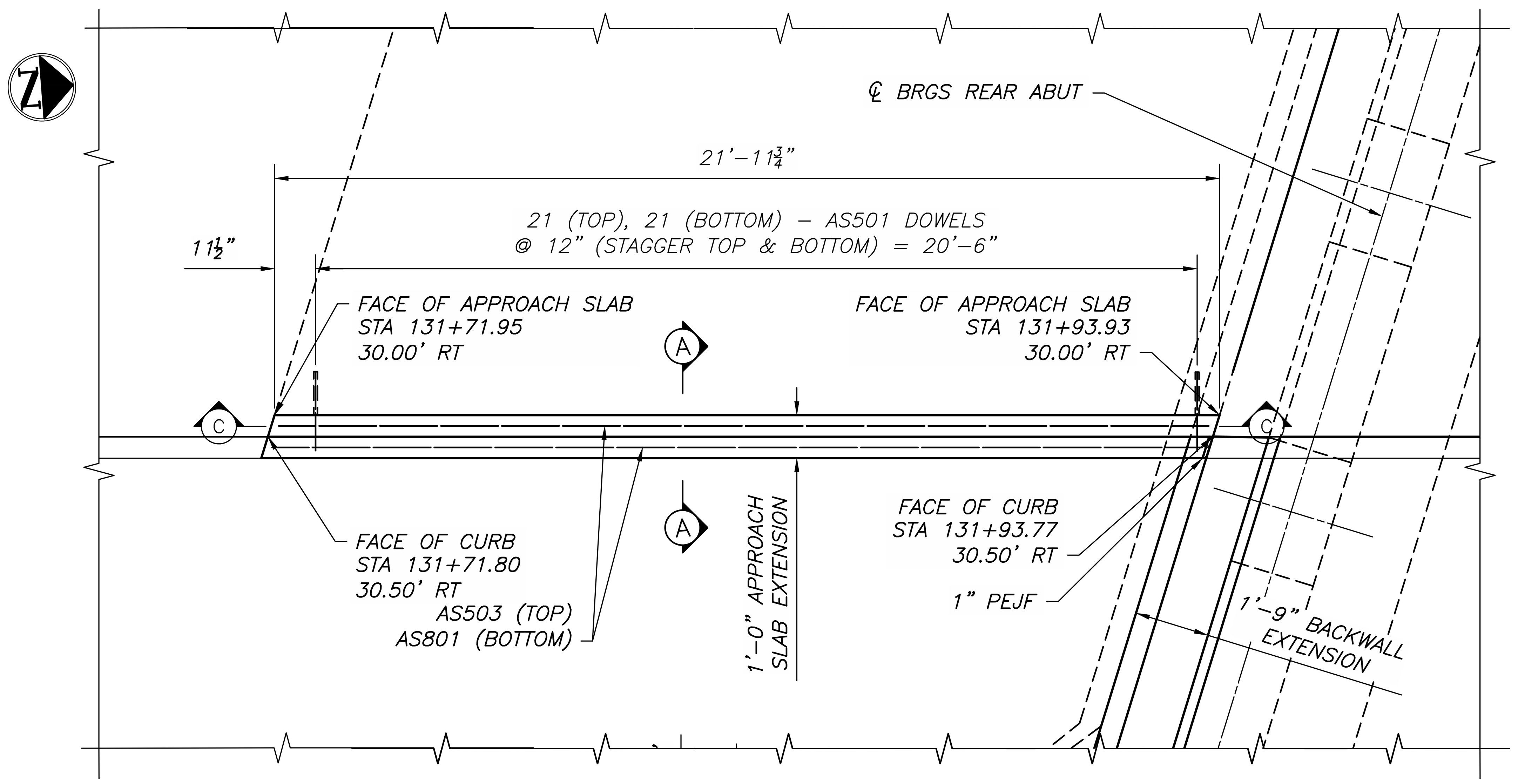
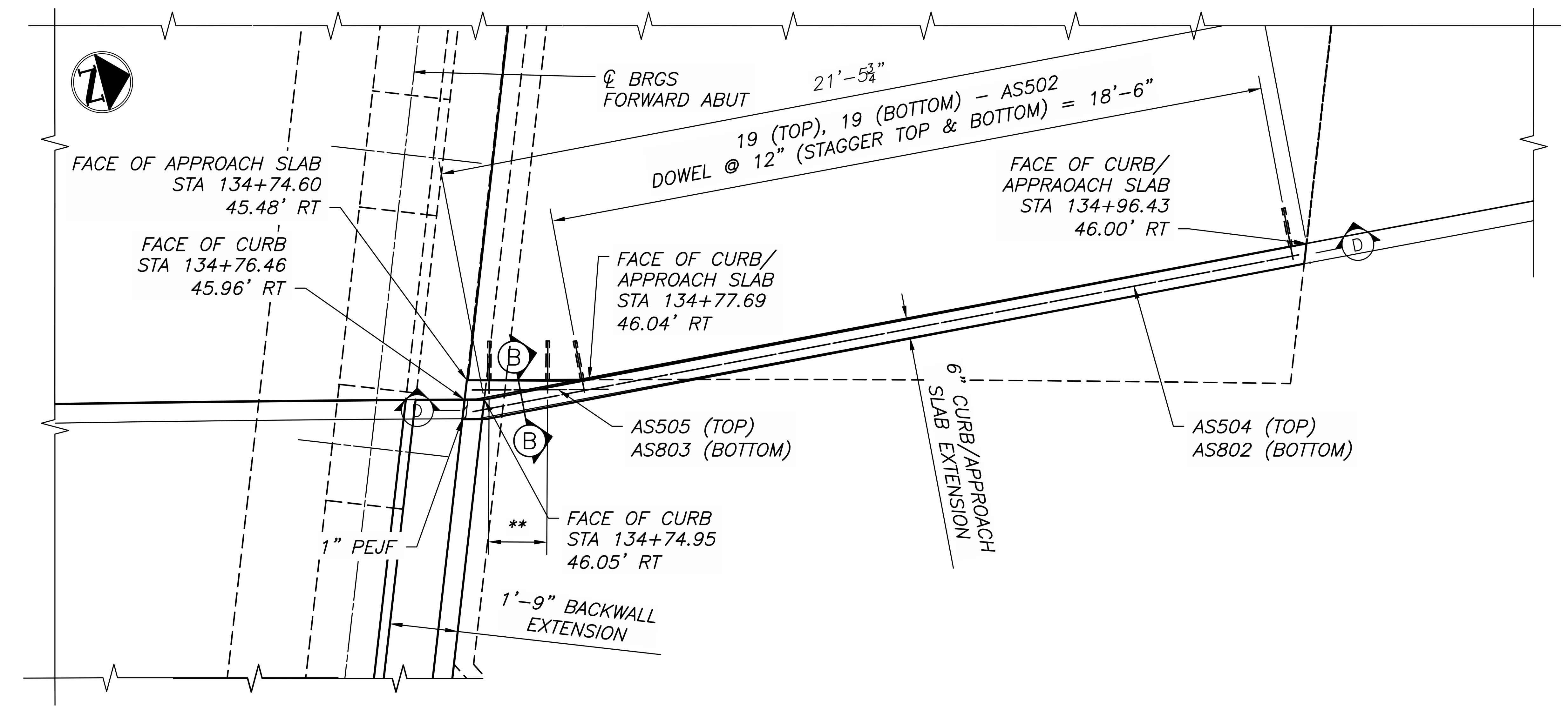
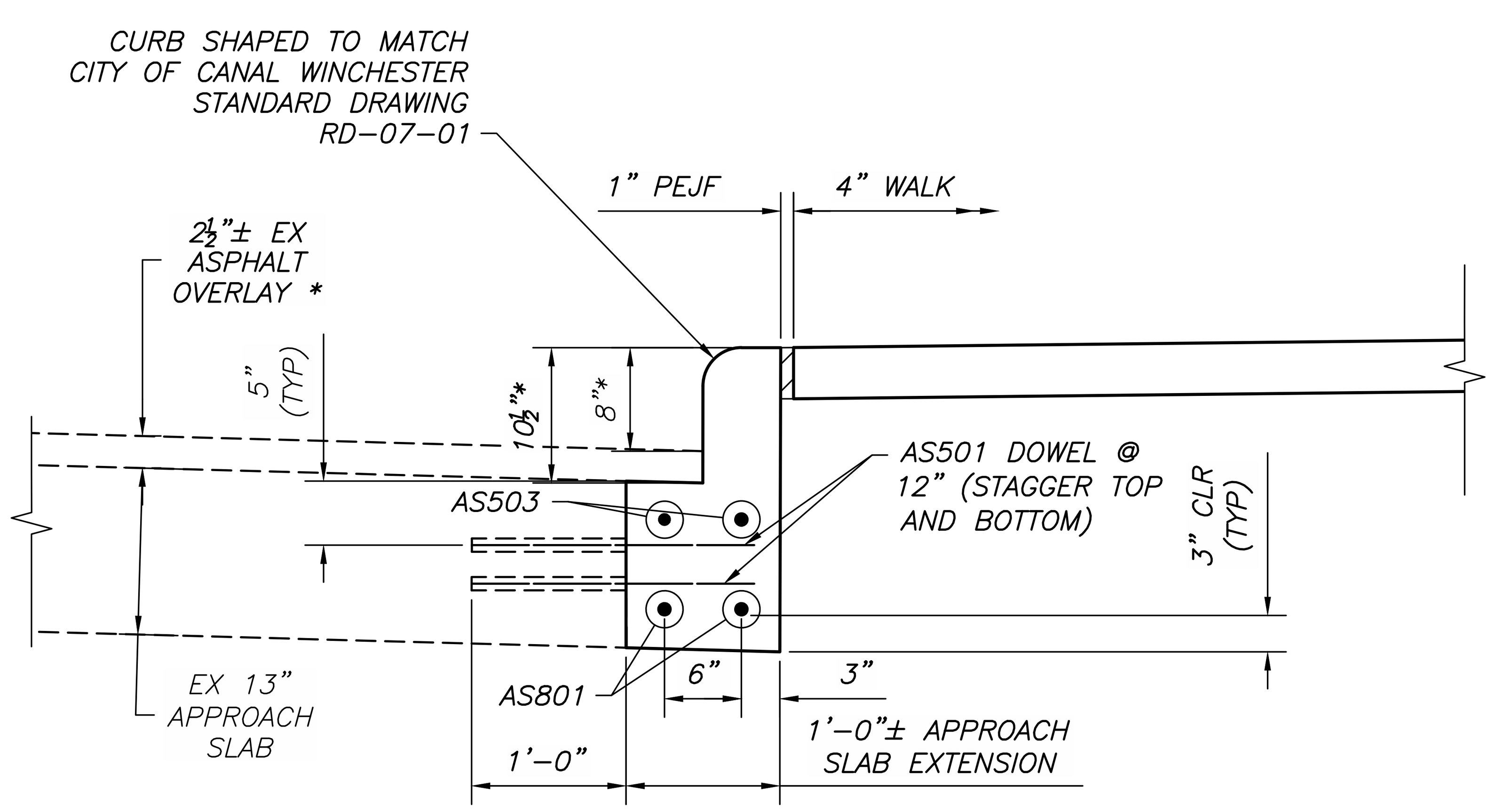


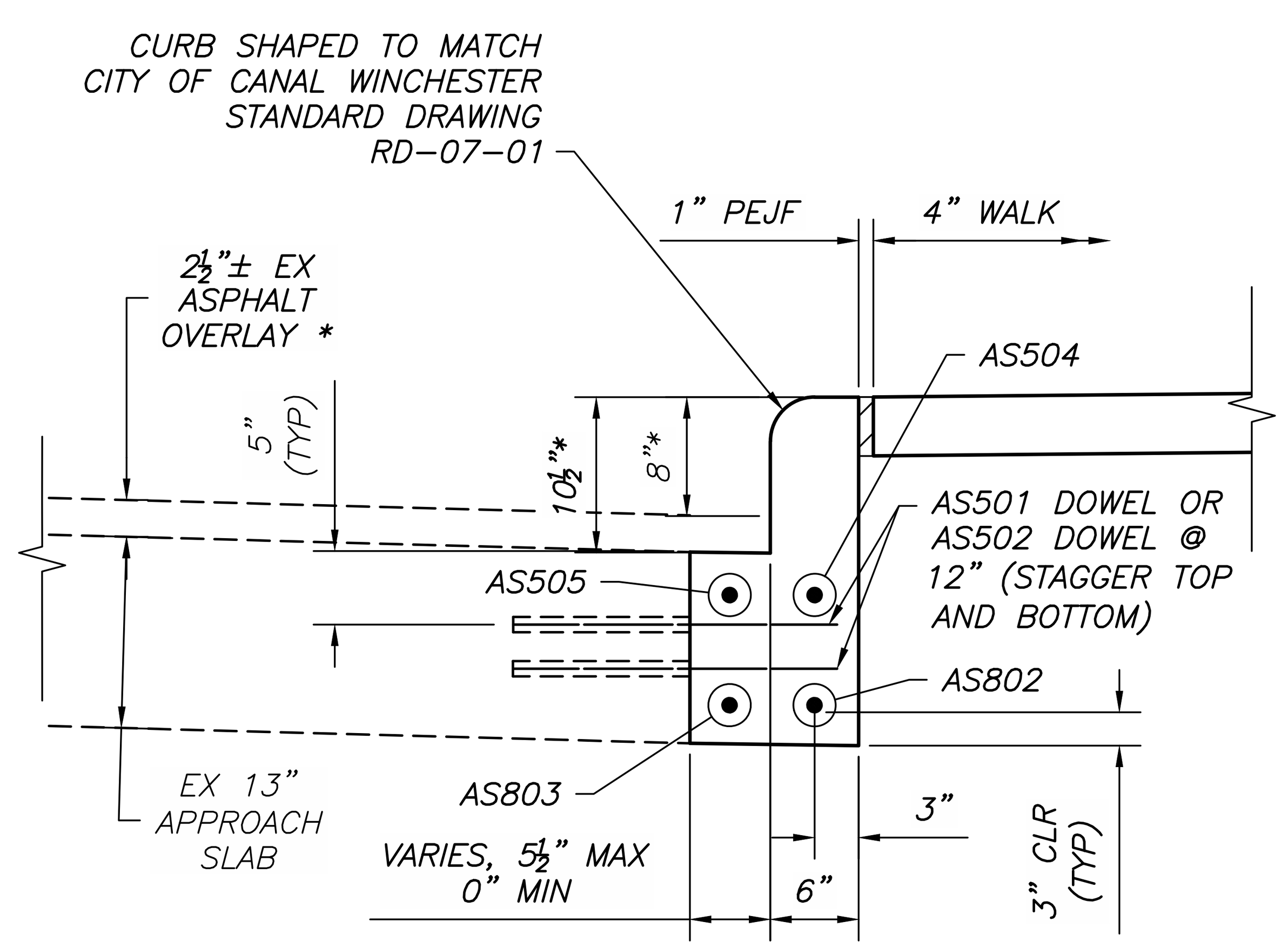
REAR ABUTMENT
SOUTHEAST WINGWALL PLAN



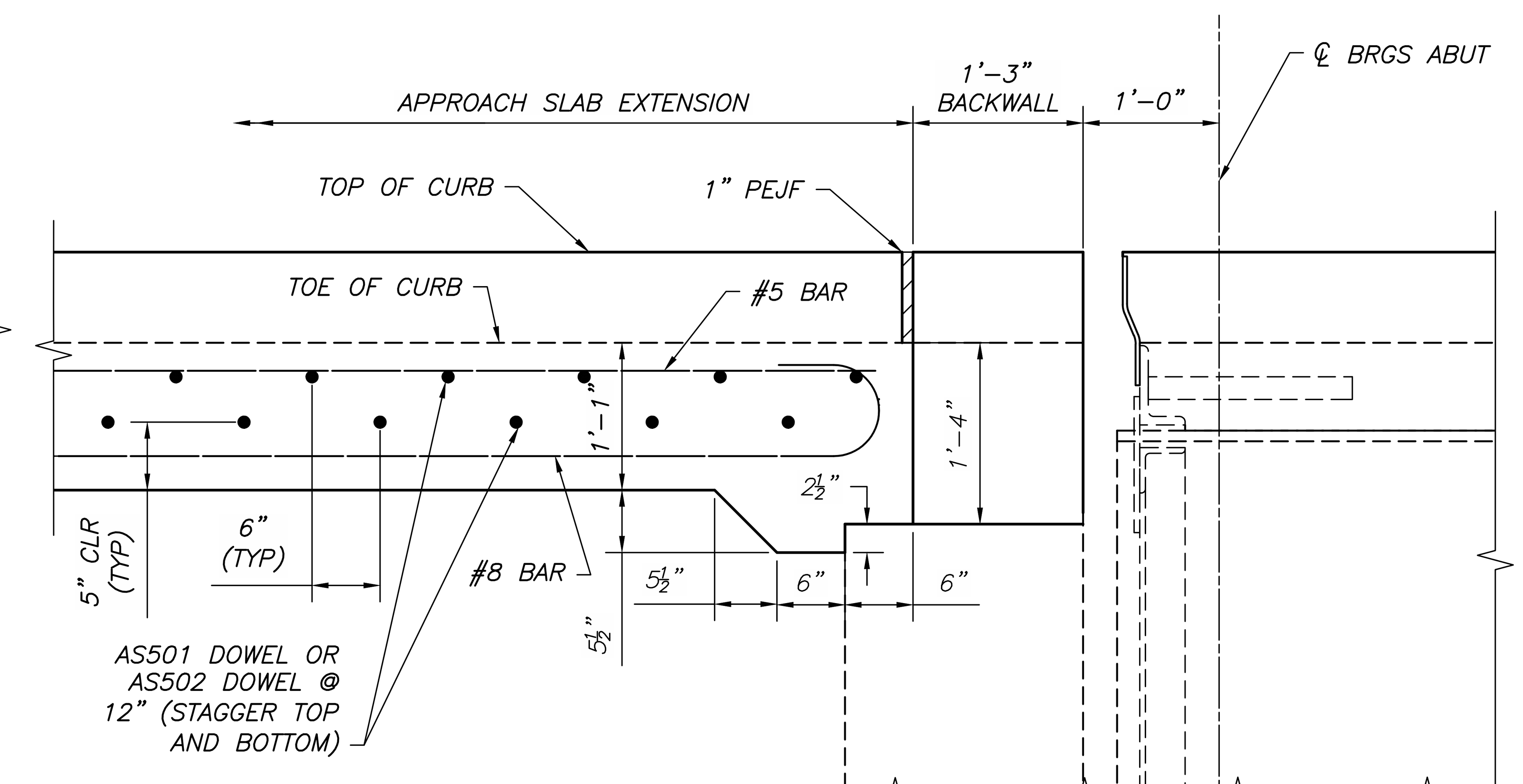
FORWARD ABUTMENT
NORTHEAST WINGWALL PLAN



SECTION A–A



SECTION B–B



SECTION C–C AND D–D
(SECTION C–C SHOWN, SECTION D–D OPPOSITE HAND)

LEGEND

* – 10 ½" TOTAL CURB HEIGHT SHALL BE ADJUSTED AS NECESSARY BASED ON ACTUAL FIELD MEASURED EXISTING/PROPOSED ASPHALT OVERLAY THICKNESS ATOP APPROACH SLAB SUCH THAT THE HEIGHT FROM TOP OF CURB TO TOP OF PAVEMENT IS 8"

** – 4 – AS501 @ 12" (STAGGER TOP & BOTTOM) = 1'-6"

NTS

Designed	Drawn	Reviewed	Date
GB	GB	CAS	1/31/24
Checked		Structure File Number	
RJE		2531291	

APPROACH SLAB DETAILS
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

STAGE 3 PLANS – NOT FOR CONSTRUCTION

	MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
	ABUTMENTS - EPOXY COATED STEEL REINFORCEMENT											
	A501	4	2'-6"	10	2	0'-10"	1'-1"	0'-10"				
	A502	1	11'-4"	12	1	0'-10"	10'-7"					
Δ	A503	1	10'-9"	11	STR							
	A504	2	10'-7"	22	STR							
	A505	1	10'-11"	11	1	0'-10"	10'-2"					
Δ	A506	1	10'-4"	11	STR							
	A507	2	10'-2"	21	STR							
Δ	A508	44	1'-7"	73	1	0'-8"	1'-0"					
	A509	8	14'-2"	118	STR							
	A510	38	11'-0"	436	30	0'-6"	0'-8"	5'-0"	4'-10"			
	A511	8	5'-11"	49	1	1'-0"	5'-0"					
	A512	8	6'-0"	50	1	1'-3"	4'-10"					
	A513	14	14'-2"	207	19	12'-9"	1'-4 1/4"	0'-5"				
	A514	26	14'-2"	384	STR							
Δ	A515	44	2'-7"	119	1	1'-0"	1'-8"					
	A601	2 SER OF 8	3'-3" TO 3'-8"	83	1	1'-0" 1'-0"	2'-5" TO 2'-10"					0'-0 11/16"
	A602	2 SER OF 8	2'-9" TO 3'-2"	71	1	1'-0" 1'-0"	1'-11" TO 2'-4"					0'-0 11/16"
	A603	2	3'-8"	11	1	1'-0"	2'-10"					
	A604	2	3'-2"	10	1	1'-0"	2'-4"					
	A605	2	7'-2 1/2"	22	37	0'-9 1/2"	1'-2 1/2"	2'-2"	1'-0"	0'-7"		
	A606	2	7'-0"	21	23	0'-6"	3'-3"	3'-3"				
	A607	4 SER OF 11	4'-1" TO 4'-11"	297	1	1'-0" 1'-0"	3'-3" TO 4'-1"					0'-1"
	A608	16	4'-1"	98	1	1'-0"	3'-3"					
	SUB-TOTAL			**2,147**								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
APPROACH SLABS - EPOXY COATED STEEL REINFORCEMENT Ω											
AS501	46	1'-10"	88	STR							
AS502	38	1'-4"	53	STR							
AS503	2	21'-7"	45	STR							
AS504	1	21'-6"	22	STR							
AS505	1	3'-5"	4	STR							
AS801	2	22'-6"	120	16	21'-7"						
AS802	1	22'-5"	60	16	21'-6"						
AS803	1	4'-4"	12	16	3'-5"						
SUB-TOTAL			**404**								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENTS - GLASS FIBER REINFORCED POLYMER REINFORCEMENT											
AG401	24	10'-0"	160	STR							
AG402	12	6'-4"	51	25	2'-6"	2'-5"	1'-4 1/4"	0'-1 1/2"	0'-5"		4'-11"
AG403	12	5'-1"	41	STR							
SUB-TOTAL			**252**								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE - GLASS FIBER REINFORCED POLYMER REINFORCEMENT											
SG401	104	10'-0"	695	STR							
SG402	8	11'-2"	60	STR							
SG403	121	30'-0"	2425	STR							
SUB-TOTAL			**3,180**								

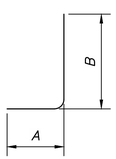
LEGEND

Δ – REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

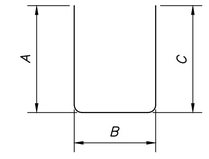
Ω – REINFORCING STEEL IN APPROACH SLABS ARE INCLUDED FOR PAYMENT WITH ITEM 526 – REINFORCED CONCRETE APPROACH SLABS (T = 13")

NOTES

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, THE NUMBER S601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT, UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.
2. ALL REINFORCING STEEL TO BE EPOXY COATED.
3. UNLESS OTHERWISE SPECIFIED, THE FOLLOWING LAP LENGTHS SHALL APPLY:
   #4 BARS: 1'–11"
   #5 BARS: 2'–5"

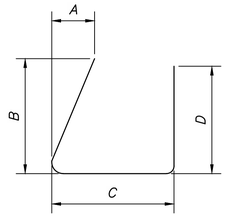


TYPE–1

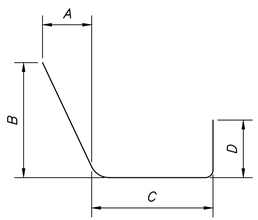


TYPE–2

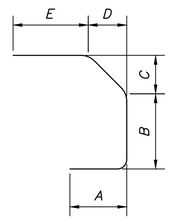
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE - EPOXY COATED STEEL REINFORCEMENT											
S501	189	3'-10"	756	10	0'-3 1/8"	1'-4 1/4"	0'-11 1/2"	1'-7"			
S502	4	10'-0"	42	9	0'-8"	3'-10"	2'-6"	3'-10"			
S503	4	2'-11"	12	2	0'-7"	2'-0"	0'-7"				
S504	14	8'-4"	122	21	1'-3"	1'-7 1/2"	0'-9 3/4"	2'-3"			
Δ S505	4	3'-11"	16	STR							
S506	374	10'-10"	4226	30	1'-6"	0'-8"	3'-11"	3'-9"			
S507	150	30'-0"	4694	STR							
S508	15	9'-0"	141	STR							
S509	20	9'-11"	207	STR							
S510	100	11'-8"	1217	STR							
S511	230	5'-8"	1359	STR							
S512	280	10'-7"	3091	1	10'-2"	0'-6"					
S513	277	1'-8"	482	1	0'-10"	0'-11"					
S514	279	1'-11"	558	1	0'-10"	1'-2"					
S515	4	11'-9"	49	2	4'-10"	2'-4"	4'-10"				
S516	4	3'-3"	14	2	0'-7"	2'-4"	0'-7"				
S517	4	4'-10"	20	STR							
S518	36	1'-0"	38	STR							
S601	360	6'-7"	3560	23	0'-6"	3'-3"	3'-3"				
S602	188	4'-6"	1271	14	1'-7"	0'-11 1/2"	0'-3 1/8"	1'-4 1/4"	0'-8 3/4"		
S603	377	3'-10"	2171	STR							
SUB-TOTAL			**24,046**								



TYPE–9



TYPE–10



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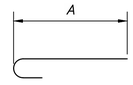
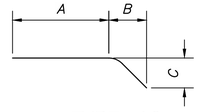
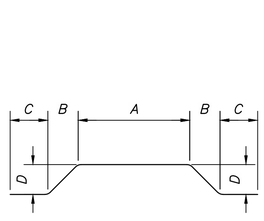


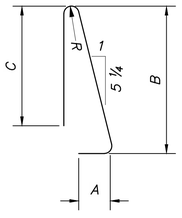
TYPE–16



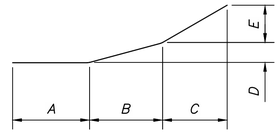
TYPE–19



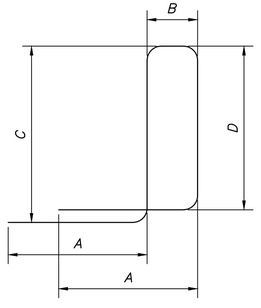
TYPE–21



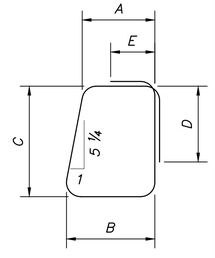
TYPE–23



TYPE–25



TYPE–30



TYPE–37

NTS

Designed	Drawn	Reviewed	Date
RJE	GB	CAS	1/31/24
Checked		Structure File Number	
JGM		2531291	

REINFORCING STEEL LIST
CITY OF CANAL WINCHESTER
BRIDGE NO. FRA-222-2250 - GENDER ROAD OVER US-33

FRA-674-2.22
GENDER ROAD - PHASE 6

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