INDEX OF SHEETS:

* ADDITIONAL SHEETS NOT USED 374 & 378

ENGINEERS SEAL:	ENGINEERS SEAL:	ENGINEERS SEAL:	ENGINEERS SEAL:	ENGINEERS SEAL:	ENGINEERS SEAL:
FOR OVERALL PLAN, EXCEPT AS NOTED	STRUCTURES, EXCEPT RIC-30-1156, RIC-30-1212, & RIC-30-1236 SUBSTRUCTURE	RETAINING WALLS & RIC-30-1156, RIC-30-1212 & RIC-30-1236 SUBSTRUCTURE	TRAFFIC CONTROL, EXCLUDING SIGNING EAST OF RIC-30-1156	SIGNING EAST OF RIC-30-1156	LIGHTING & I.T.S.
STATE OF OHIO SHELDON SCHLABACH E-68365 REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO HERBERT KOGER E-50539 REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO NIKHIL C. KHEDEKAR E-64638 REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO NEAL UNDERWOOD E-75225 REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO S. SAM KHORSHIDI E-61030 REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO JORDAN STEELE E-76138 REGISTERED PROFESSIONAL ENGINEER
SIGNED: [signature] DATE: 11/20/19	SIGNED: [signature] DATE: 11-20-19	SIGNED: [signature] DATE: 11-18-19	SIGNED: [signature] DATE: 11-19-19	SIGNED: [signature] DATE: 11/18/19	SIGNED: [signature] DATE: 11/19/19

STANDARD CONSTRUCTION DRAWINGS (CONTINUED FROM SHEET 1)

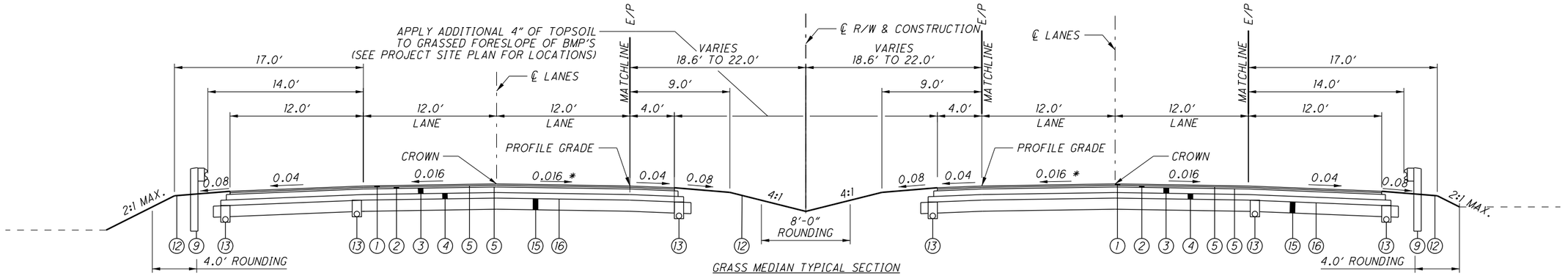
HL-10.11	7-19-19	HL-60.11	7-21-17	TC-7.65	7-20-18	TC-51.12	1-15-16	TC-61.30	7-19-19							SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
HL-10.12	1-20-17	HL-60.12	7-15-16	TC-12.30	1-19-18	TC-52.10	10-18-13	TC-64.10	10-18-19							902	7-19-19		
HL-10.13	7-20-18	HL-60.31	1-18-19	TC-21.10	7-19-19	TC-52.20	7-20-18									907	10-18-19		
HL-20.11	4-21-17			TC-21.20	7-20-18	TC-65.10	1-17-14									908	10-20-17		
HL-20.13	1-19-18			TC-21.50	7-15-16	TC-65.11	7-21-17									913	4-21-17		
HL-20.14	1-18-19			TC-22.10	10-18-13	TC-71.10	1-19-18									916	1-19-18		
HL-30.11	7-19-19			TC-22.20	01-17-14	TC-72.20	7-20-18									921	4-20-12		
HL-30.21	1-17-14			TC-41.10	7-19-13	TC-73.20	7-21-17									929	1-20-17		
HL-30.22	1-17-14			TC-41.20	10-18-13	TC-81.10	7-15-16									961	10-18-19		
HL-30.33	1-17-14			TC-41.30	10-18-13	TC-81.21	1-18-19									977	4-17-09		
HL-30.41	1-19-18			TC-41.40	10-18-13	TC-82.10	7-19-19												
HL-40.10	1-20-17			TC-41.50	10-18-13	TC-83.10	1-19-18												
HL-40.20	7-19-19			TC-42.10	10-18-13	TC-83.20	7-21-17												
HL-50.11	1-16-15			TC-42.20	10-18-13	TC-85.20	7-20-18												
HL-50.21	1-18-19			TC-51.11	1-15-16														

CALCULATED - CHECKED -

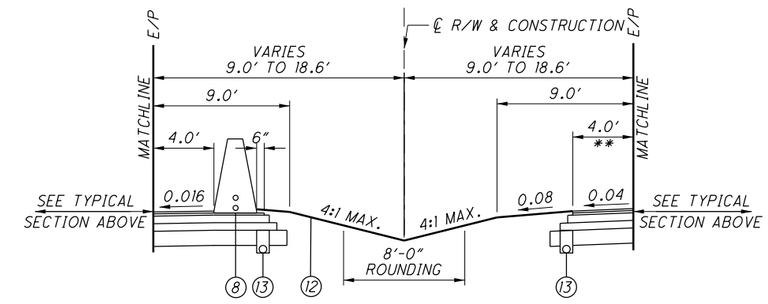
INDEX OF SHEETS

RIC-30-9.26

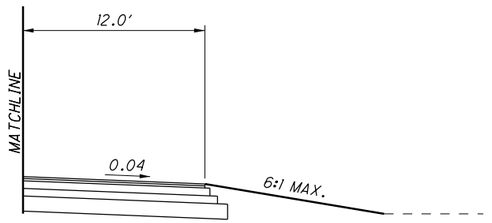
2
1669



GRASS MEDIAN TYPICAL SECTION
STA. 489+00 TO STA. 495+00
STA. 685+00 TO STA. 689+50



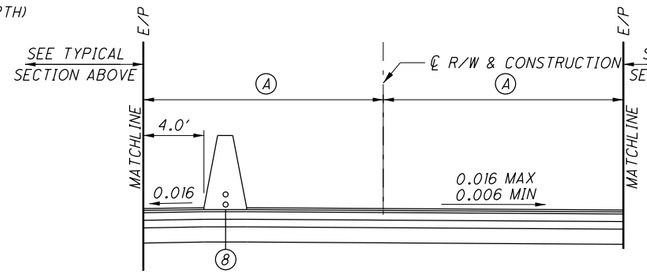
GRASS MEDIAN TYPICAL SECTION - WITH BARRIER
STA. 495+00 TO STA. 500+76.38
STA. 679+09.77 TO STA. 685+00 (MIRROR TYPICAL)



U.S. 30 SHOULDER GRADING - WITHOUT GUARDRAIL (6:1 MAX. SLOPE)

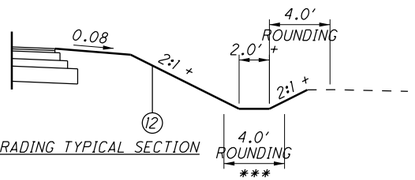
PROPOSED ITEM LEGEND

1. ITEM 442 - 1 ½" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (447) (SEE NOTE 3)
2. ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446), AS PER PLAN
3. ITEM 302 - 6" ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN
4. ITEM 304 - 6" AGGREGATE BASE
5. ITEM 407 - NON-TRACKING TACK COAT
6. ITEM 407 - TACK COAT
7. ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=13")
8. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 (WITH TWO 4" RACEWAYS)
9. ITEM 606 - GUARDRAIL, TYPE MGS
10. ITEM 204 - SUBGRADE COMPACTION
11. ITEM 609 - CURB, TYPE 6
12. ITEM 659 - SEEDING AND MULCHING
13. ITEM 605 - 6" BASE PIPE UNDERDRAIN WITH GEOTEXTILE FABRIC, 707.31 OR 707.41 (18" NORMAL DEPTH)
14. ITEM 452 - 10.5" NON-REINFORCED CONCRETE PAVEMENT, CLASS QCIP WITH QC/QA
15. ITEM 206 - CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP
16. ITEM 206 - CURING COAT
17. ITEM 609 - 6" CONCRETE TRAFFIC ISLAND
18. ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15")
19. ITEM 608 - 4" CONCRETE WALK
20. ITEM 609 - CURB, TYPE 4-C
21. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (SEE TYPICALS FOR DEPTH)
22. ITEM 617 - COMPACTED AGGREGATE (AVERAGE THICKNESS - 2")
23. ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448), AS PER PLAN (VARIABLE THICKNESS - SEE TYPICALS FOR DEPTH)
24. ITEM 202 - WEARING COURSE REMOVED
25. ITEM 442 - 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446), AS PER PLAN
26. ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448), AS PER PLAN (VARIABLE THICKNESS - 1¾" TO 2½")
27. ITEM 305 - 9" CONCRETE BASE, CLASS QCIP
28. ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER
29. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
30. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN
31. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1 (WITH 4" RACEWAY)
32. ITEM 608 - 4" CONCRETE MEDIAN
33. ITEM 302 - ASPHALT CONCRETE BASE, PG64-22 (VARIABLE THICKNESS - SEE TYPICALS FOR DEPTH)
34. ITEM 302 - 6" ASPHALT CONCRETE BASE, PG64-22

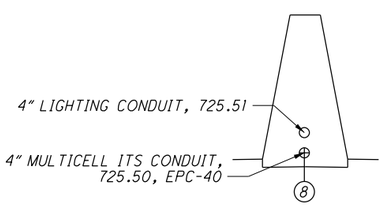


PAVED MEDIAN TYPICAL SECTION - WITH BARRIER DETAIL 1
STA. 500+76.38 TO STA. 502+92.15

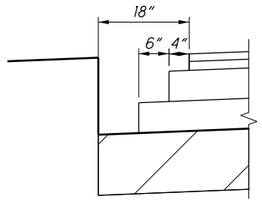
STATION	(A)
500+76.38	9.0'
502+92.15	5.4'



DITCH GRADING TYPICAL SECTION



MEDIAN BARRIER CONDUIT DETAIL



ASPHALT PAVEMENT STEP DETAIL

NOTE:

1. SEE SHEET 26 FOR LEGEND OF EXISTING PAVEMENT.
2. FOR SPEED CHANGE LANE TYPICAL SECTION SEE SHEET 18.
3. THE CONTRACTOR SHALL PROVIDE ANTI-SEGREGATION EQUIPMENT FOR ASPHALT SURFACE COURSE.

* TRANSITION CROSS-SLOPE FROM 0.016 TO -0.016 (SLOPE TOWARDS OUTSIDE SHOULDER) FROM STA. 494+00 TO STA. 495+00 AND STA. 685+00 TO STA. 686+00

** TRANSITION SHOULDER CROSS-SLOPE FROM -0.04 TO +0.009 FROM STA. 500+26.45 TO STA. 500+76.45

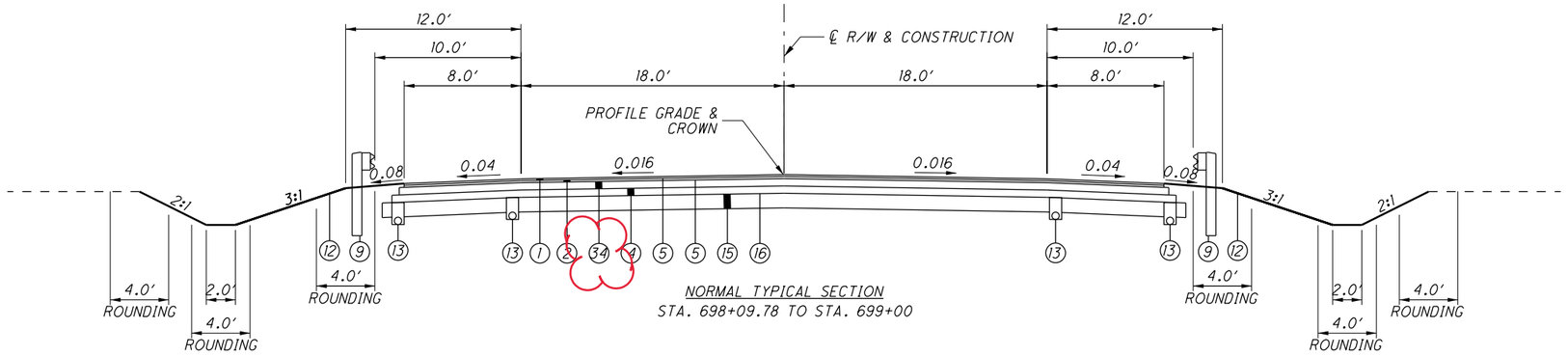
*** VEGETATED BIOFILTERS SHALL NOT BE ROUNDED. REFER TO SITE PLAN FOR LOCATIONS.

\+ OR AS SHOWN ON CROSS SECTIONS

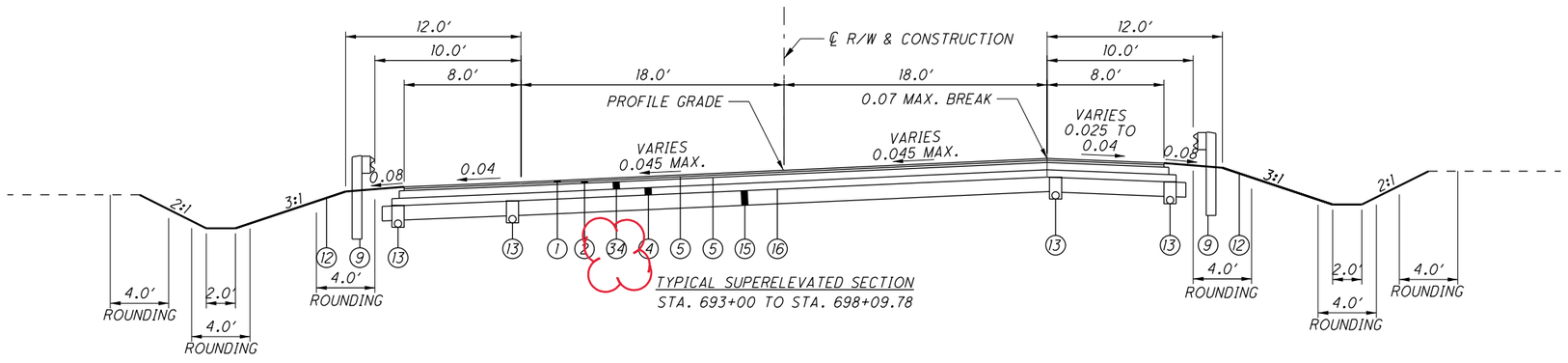
CALCULATED | CHECKED

TYPICAL SECTIONS - U.S. 30

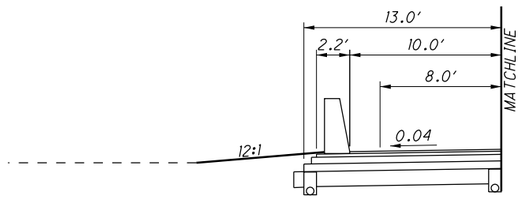
RIC-30-9.26



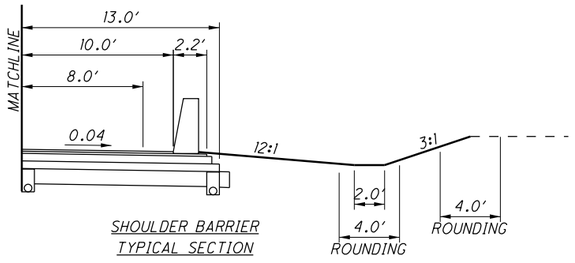
NORMAL TYPICAL SECTION
STA. 698+09.78 TO STA. 699+00



TYPICAL SUPERELEVATED SECTION
STA. 693+00 TO STA. 698+09.78

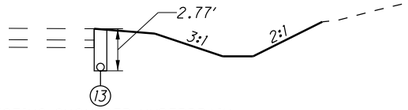


SHOULDER BARRIER
TYPICAL SECTION
STA 697+91.00 TO STA 697+83.04

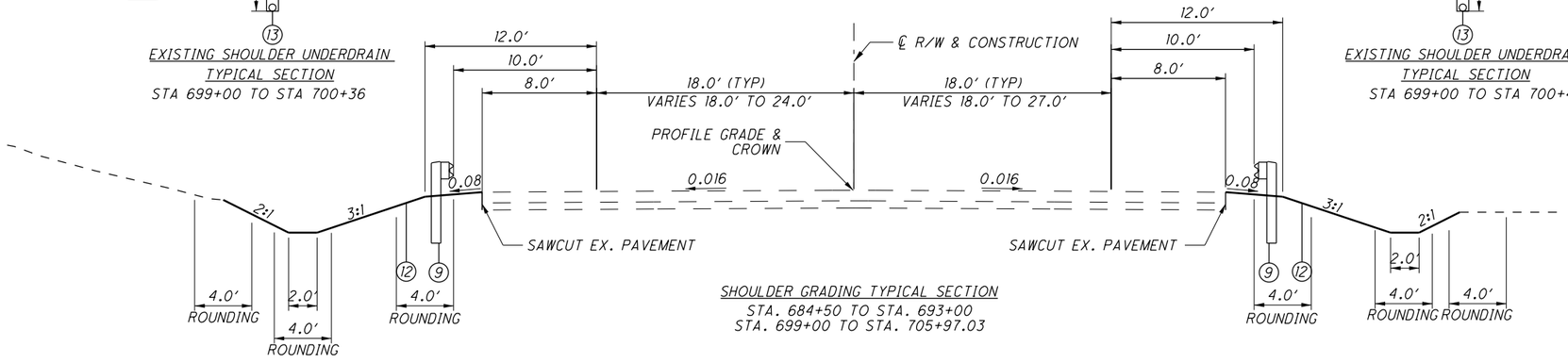


SHOULDER BARRIER
TYPICAL SECTION
STA 695+81.00 TO STA 695+93.75

EXISTING SHOULDER UNDERDRAIN
TYPICAL SECTION
STA 699+00 TO STA 700+36



EXISTING SHOULDER UNDERDRAIN
TYPICAL SECTION
STA 699+00 TO STA 700+48



SHOULDER GRADING TYPICAL SECTION
STA. 684+50 TO STA. 693+00
STA. 699+00 TO STA. 705+97.03

NOTE:

1. SEE SHEET 12 FOR LEGEND.
2. FOR EXISTING PAVEMENT DETAILS SEE SHEET 26.

CALCULATED | CHECKED

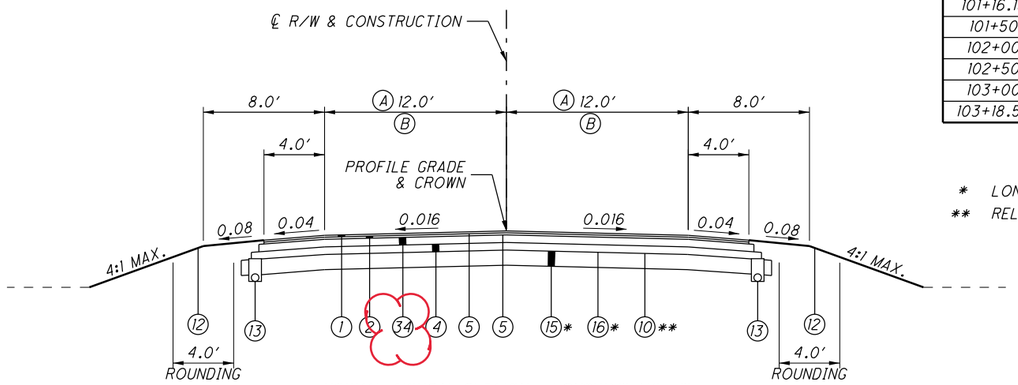
TYPICAL SECTIONS - S.R. 39

RIC-30-9.26

20
1669

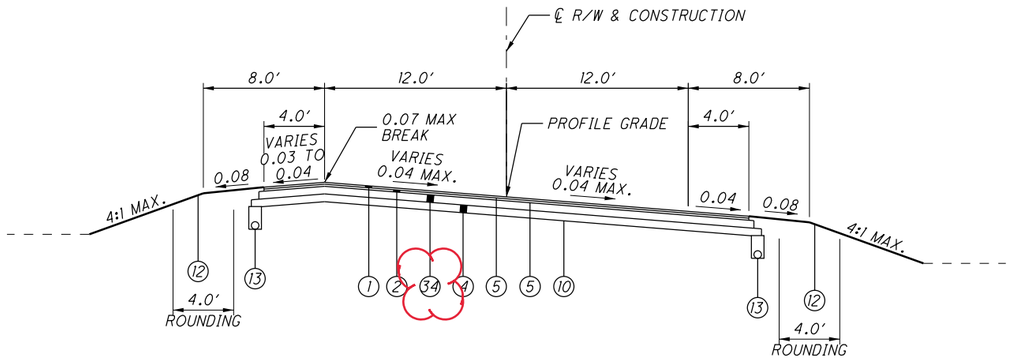
STATION	Ⓑ	
	LEFT	RIGHT
101+16.19	0.00′	99.00′
101+50	10.5′	109.50′
102+00	10.5′	82.67′
102+50	10.5′	19.83′
103+00	10.5′	14.27′
103+18.50	10.5′	12.63′

* LONGVIEW AVE. W ONLY
** RELOCATED LONGVIEW AVE. ONLY

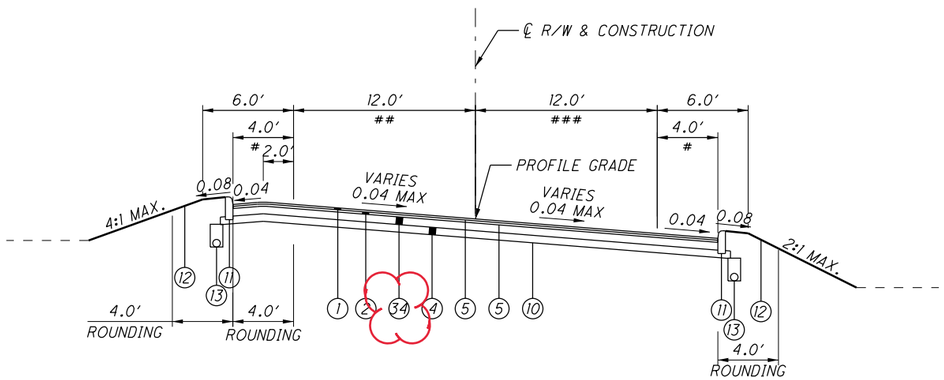


NORMAL TYPICAL SECTION - LONGVIEW AVE. W & RELOCATED LONGVIEW AVE.

Ⓑ STA. 101+16.09 TO STA. 103+18.50
Ⓐ STA. 302+75 TO STA. 302+94.16
STA. 308+14.89 TO STA. 308+94.86



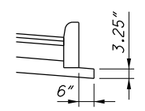
SUPERELEVATED TYPICAL SECTION - RELOCATED LONGVIEW AVE.
STA. 302+94.16 TO STA. 308+14.89
STA. 308+94.86 TO STA. 309+86.31



SUPERELEVATED TYPICAL SECTION WITH CURB - RELOCATED LONGVIEW AVE.

STA. 309+86.31 TO STA. 311+30
STA. 311+30 TO STA. 311+75

\# VARIES 1.0′ TO 2.0′ LT, 4.0′ TO 2.1″ RT
\## VARIES 12.0′ TO 10.5′
\### VARIES 12.0′ TO 13.5′



TYPICAL CURB DETAIL

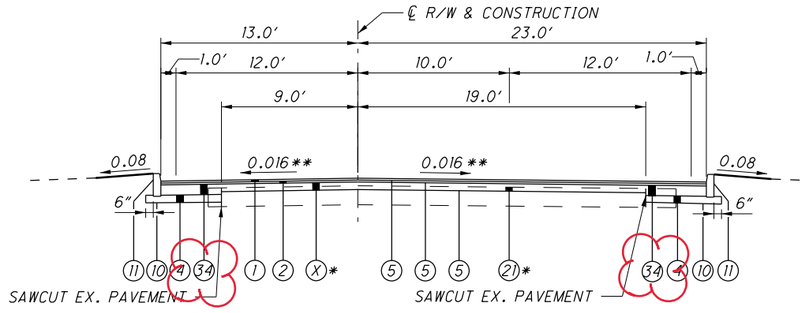
NOTE:

1. SEE SHEET 12 FOR LEGEND.
2. SEE SHEET 12 FOR STANDARD DITCH GRADING TYPICAL SECTION.

CALCULATED | CHECKED

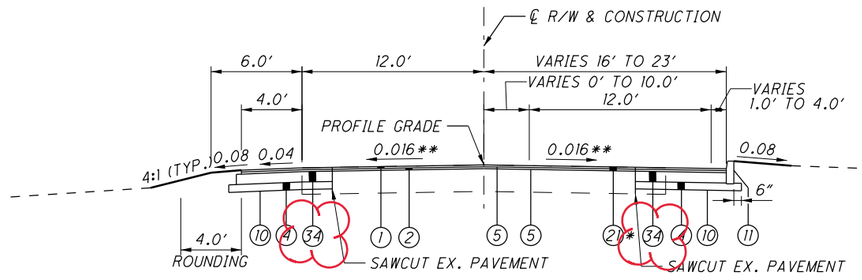
TYPICAL SECTIONS - LONGVIEW AVE.

RIC-30-9.26



TYPICAL SECTION - LONGVIEW AVE. E

STA. 53+28.73 TO STA. 55+65.34



TYPICAL SECTION - LONGVIEW AVE. E

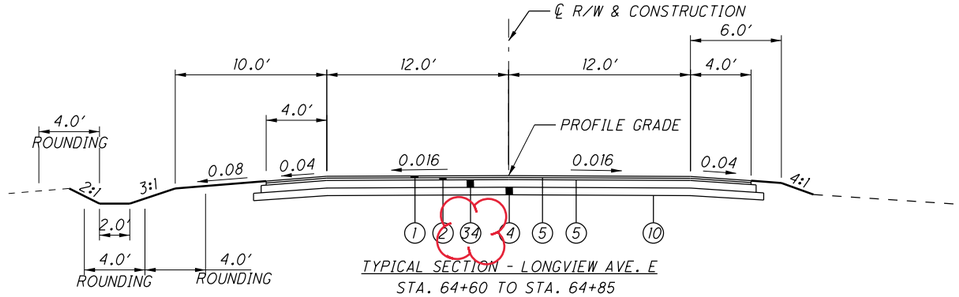
STA. 55+65.34 TO STA. 58+50

LONGVIEW AVE. E - PAVEMENT PROFILE DETAIL

STA. 54+50 TO STA. 59+25

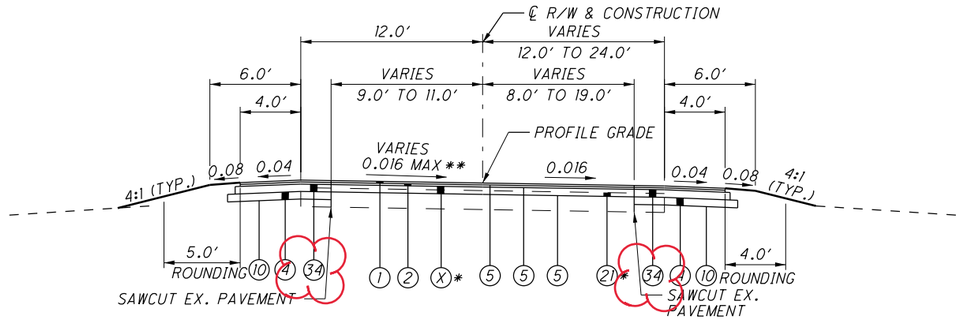
STATION	CROSS SLOPE LEFT	CROSS SLOPE RIGHT
54+50	-0.016	-0.016
54+75	-0.016	-0.014
55+00	-0.016	-0.007
55+25	-0.016	0.000
55+50	-0.017	0.007
55+75	-0.011	0.003
56+00	-0.019	-0.004
56+25	-0.019	-0.010
56+50	-0.010	-0.007
56+75	-0.011	-0.009
57+00	-0.011	-0.007
57+25	-0.003	-0.007
57+50	-0.007	-0.002
57+75	-0.015	-0.007
58+00	-0.002	-0.005
58+25	0.002	-0.003
58+50	-0.011	0.001
58+75	-0.016	-0.005
59+00	-0.016	-0.012
59+25	-0.016	-0.016

** SEE THE INTERSECTION DETAILS, MISCELLANEOUS DETAILS, SUPERELEVATION TABLES, AND THE TABLE ON THIS SHEET.



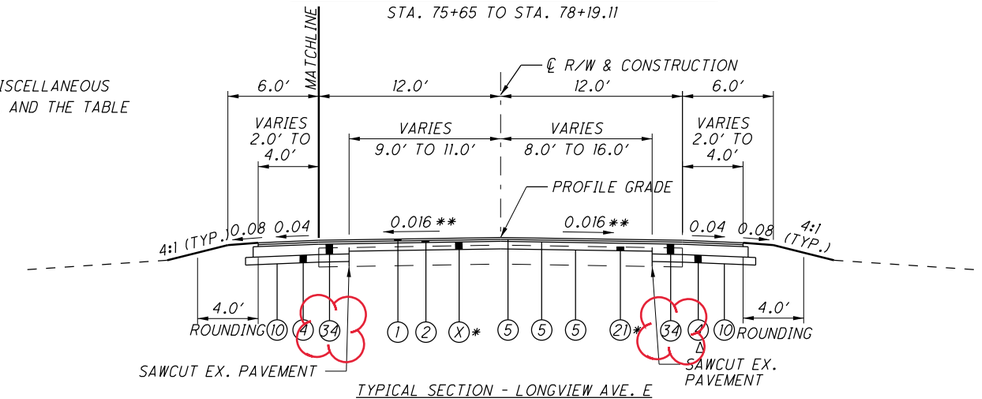
TYPICAL SECTION - LONGVIEW AVE. E

STA. 64+60 TO STA. 64+85



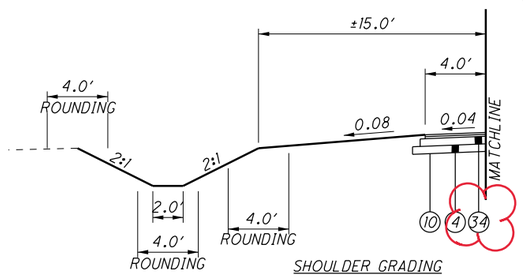
TYPICAL SUPERELEVATED SECTION - LONGVIEW AVE. E

STA. 75+65 TO STA. 78+19.11



TYPICAL SECTION - LONGVIEW AVE. E

STA. 58+50 TO STA. 64+60
STA. 64+85 TO STA. 75+65



SHOULDER GRADING TYPICAL SECTION

STA. 64+85 TO STA. 68+30

Δ NO FULL DEPTH PAVEMENT ON THE RIGHT SHOULDER FROM STATION 58+50 TO STATION 62+00.

STATION	SAWCUT OFFSET LEFT	STATION	SAWCUT OFFSET RIGHT
53+24.40	VARIES	53+19.83	VARIES
53+70.40	9.0′	53+58.64	19.0′
57+00	9.0′	57+28.50	19.0′
57+50	10.0′	58+00	14.0′
68+50	10.0′	58+50 (BACK)	14.0′
69+00	11.0′	58+50 (AHEAD)	16.0′
75+50	11.0′	62+00 (BACK)	16.0′
76+00	10.0′	62+00 (AHEAD)	14.0′
77+00	10.0′	67+50	8.0′
77+60	11.0′	75+50	8.0′
		76+00	12.0′
		77+80	12.0′

TRANSITION SAWCUT LINE BETWEEN THE OFFSETS SHOWN IN THE ABOVE TABLE.

* NOTES:

1. SEE SHEET 12 FOR LEGEND.
2. PLANE 3.25″ AT THE CENTERLINE WITH A CROSS SLOPE OF -0.016 EXCEPT WHERE NOTED ON THIS SHEET.
3. BALLOON (X) IS EITHER AN ITEM 442 SCRATCH COURSE OR ITEM 302 ASPHALT CONCRETE BASE COURSE THAT VARIES IN THICKNESS AS SHOWN ON THE TABLE TO PROVIDE THE REQUIRED PAVEMENT SURFACE ELEVATIONS.
4. SEE REFERENCE SPREADSHEET FOR ADDITIONAL INFORMATION.

BALLOON (X) DETAILS				
STATION	TO	STATION	THICKNESS	BALLOON
53+28.73		55+50	0″-6″	(23)
55+50		58+25	0″	-
58+25		59+00	0″-4.5″	(23)
59+00		64+60	4.5″-7.25″	(33)
64+85		65+50	4.25″-7.25″	(33)
65+50		72+50	0″-4.5″	(23)
72+50		77+50	4.5″-6″	(33)
77+50		78+19.11	0″-4.5″	(23)

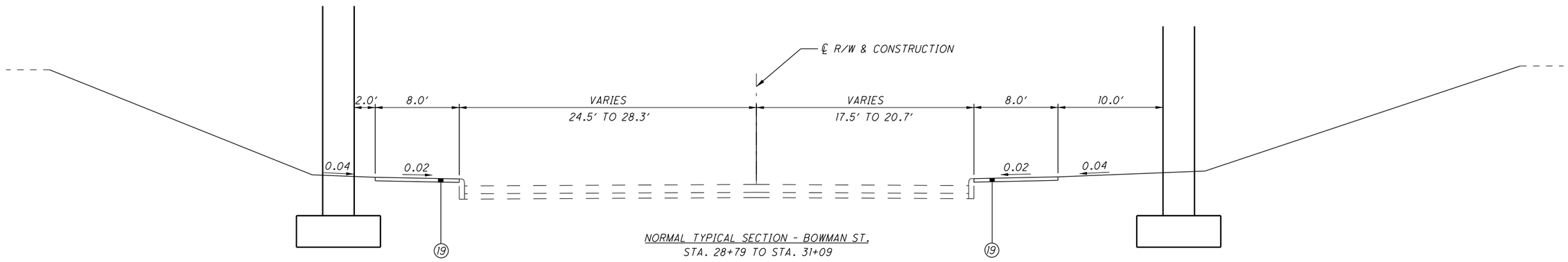
CALCULATED

CHECKED

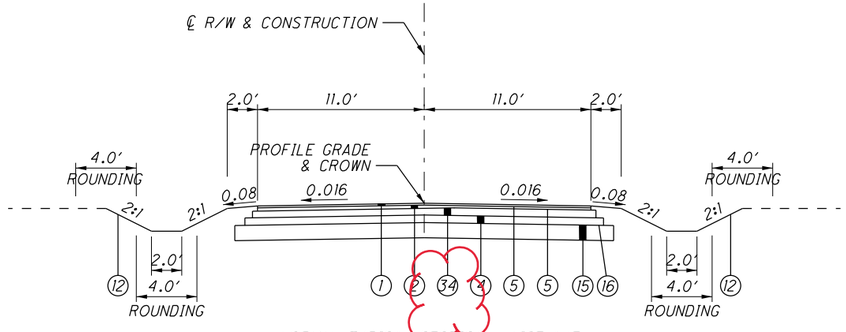
TYPICAL SECTIONS - LONGVIEW AVE. E.

RIC-30-9.26

22
1669



NORMAL TYPICAL SECTION - BOWMAN ST.
STA. 28+79 TO STA. 31+09



NORMAL TYPICAL SECTION - WISE AVE.
STA 20+25.09 TO STA 31+65

NOTE:

1. SEE SHEET 12 FOR LEGEND.

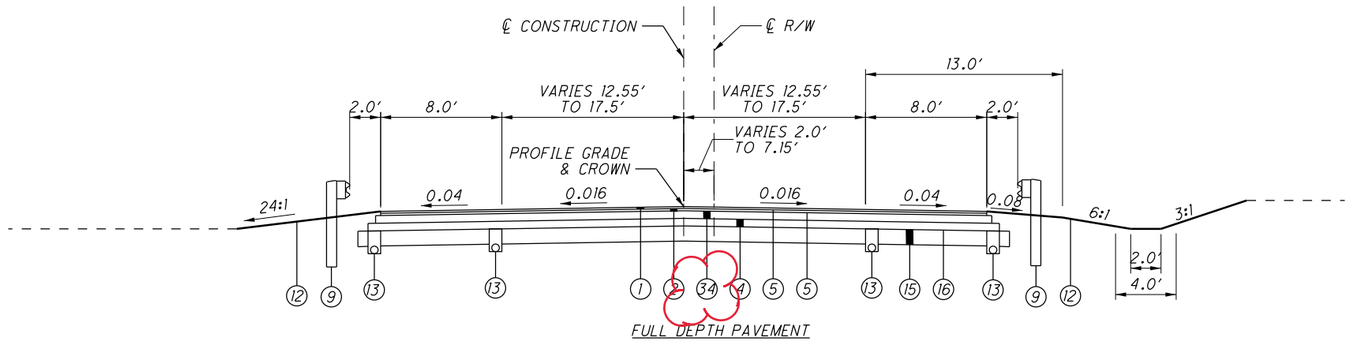
CALCULATED | CHECKED

TYPICAL SECTIONS - BOWMAN ST. & WISE AVE.

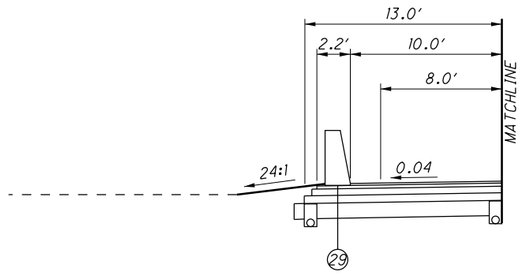
RIC-30-9.26

23
1669

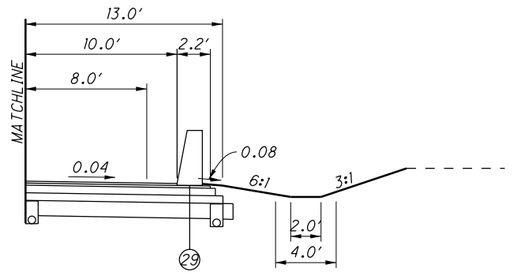
M:\15074\93455\Design\Roadway\Sheets\93455_0012.dgn 2/20/2020 4:16:40 PM acb284



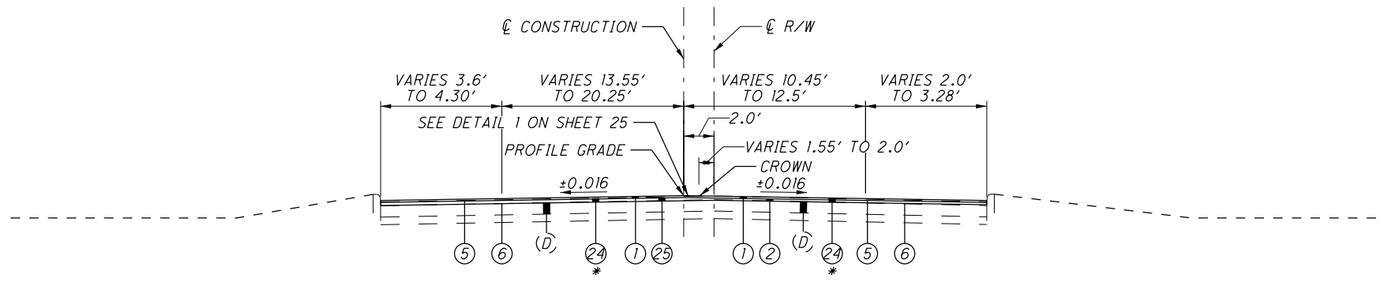
FULL DEPTH PAVEMENT
TYPICAL SECTION
STA 159+75 TO STA 165+25



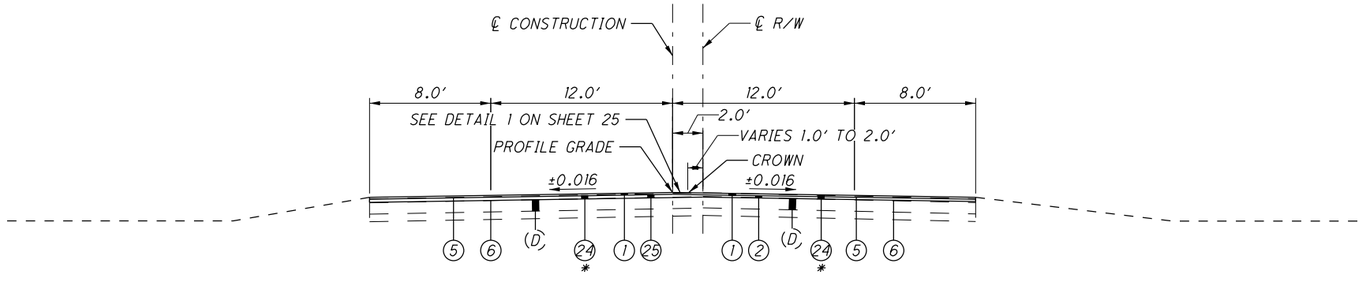
SHOULDER BARRIER
TYPICAL SECTION
STA 160+75.00 TO STA 162+19.00



SHOULDER BARRIER
TYPICAL SECTION
STA 161+20.00 TO STA 162+64.00



RESURFACING TYPICAL SECTION
STA 150+75 TO STA 152+12



RESURFACING TYPICAL SECTION
STA 175+75.62 TO STA 177+00

NOTE:

1. SEE SHEET 12 FOR PROPOSED ITEM LEGEND.

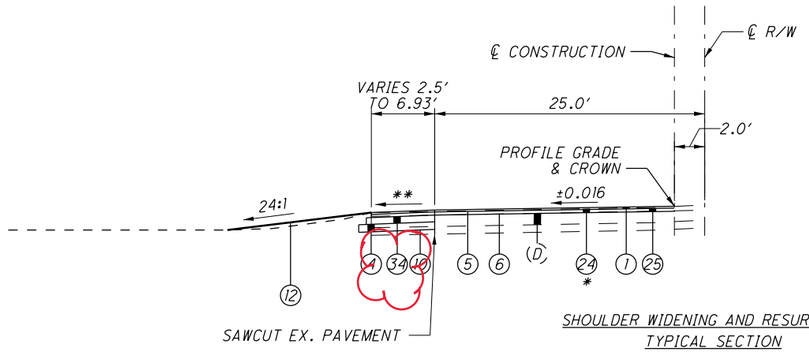
2. SEE SHEET 26 FOR EXISTING ITEM LEGEND.

* THE CONTRACTOR SHALL MILL OFF THE EXISTING ASPHALT OVERLAY TO EXISTING CONCRETE PAVEMENT THEN RESURFACE WITH ASPHALT SURFACE AND INTERMEDIATE COURSE.

CALCULATED | CHECKED

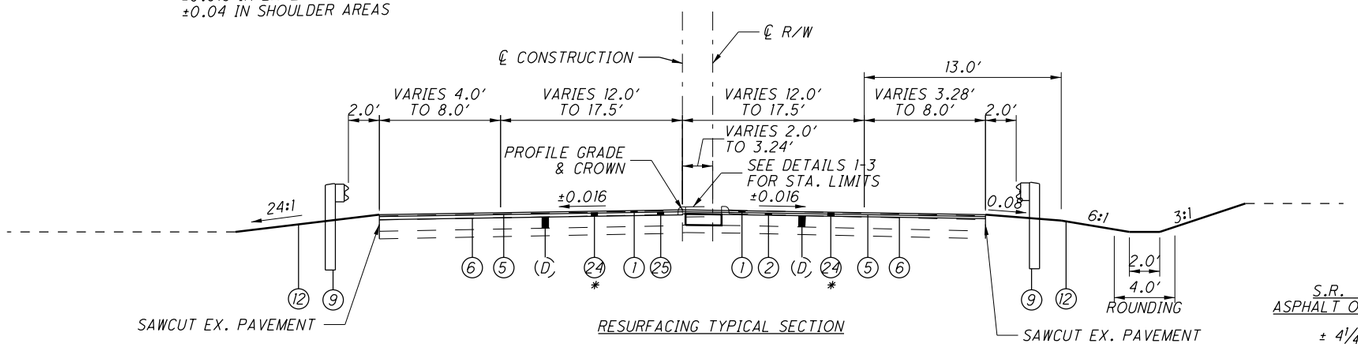
TYPICAL SECTIONS - S.R. 545

RIC-30-9.26



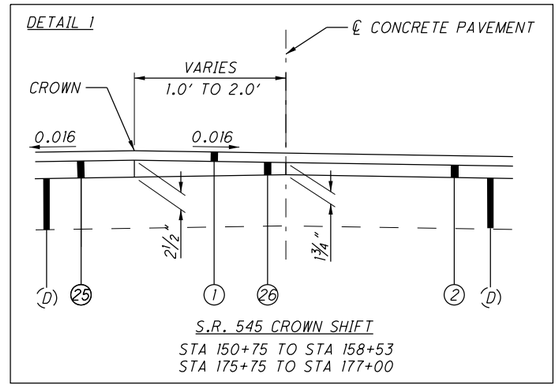
SHOULDER WIDENING AND RESURFACING
TYPICAL SECTION
STA 154+75.89 TO STA 156+35

** - VARIES
±0.016 IN LANE AREAS
±0.04 IN SHOULDER AREAS

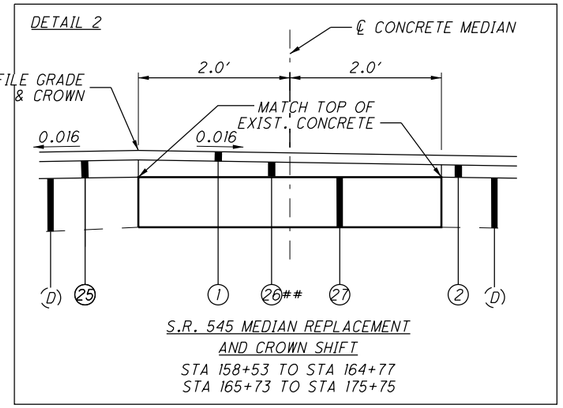


RESURFACING TYPICAL SECTION
STA 152+12 TO STA 159+75
STA 165+25 TO STA 175+75.62

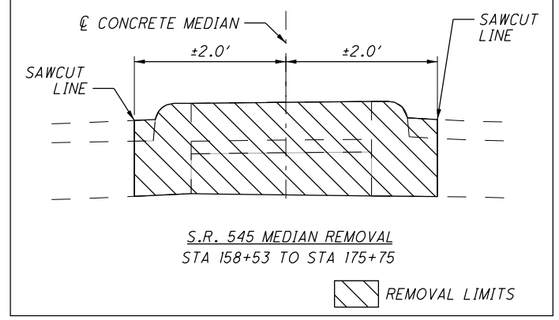
S.R. 545 EXISTING
ASPHALT OVERLAY THICKNESS
± 4¼" AVERAGE



S.R. 545 CROWN SHIFT
STA 150+75 TO STA 158+53
STA 175+75 TO STA 177+00



S.R. 545 MEDIAN REPLACEMENT
AND CROWN SHIFT
STA 158+53 TO STA 164+77
STA 165+73 TO STA 175+75



S.R. 545 MEDIAN REMOVAL
STA 158+53 TO STA 175+75

STATION	SAWCUT OFFSET LEFT	STATION	SAWCUT OFFSET RIGHT
152+77	28.01′	152+70#	26.15′
152+77	23′ (AHEAD)	152+76	20.5′
153+50	23′	154+50	20.5′
153+95.60**	61.61′	155+00	20.0′
154+18.60**	81.61′	155+11.50	20.0′
154+50	23′	155+21.31#	29.81′
156+35	23′ (BACK)	155+72.36#	30.64′
156+35	26.41′ (AHEAD)	155+83	20.0′
159+25	20.0′	157+30	20.0′
159+50	20.0′	157+51.5#	29.46′
159+75	21.00′ (BACK)	158+26#	30.09′
165+25	17.5′ (AHEAD)	158+40	20.0′
166+42.02	17.5′ (BACK)	159+25	20.0′
166+42.02	25.5′ (AHEAD)	159+75	21.00′ (BACK)
166+50	25.5′	165+25	25.5′ (AHEAD)
169+00	20.0′	166+50	25.5′
175+40.15	20.0′	169+00	20.0′
175+71.63	25.25′	175+02.30	20.0′
		175+09.96#	38.91′
		175+21.96#	39.79′
		175+29.60	20.0′
		177+00	20.0′
		177+10.28	24.23′

** - NO SAWCUT ACROSS LONGVIEW INTERSECTION
# - NO SAWCUT ACROSS DRIVE APPROACHES

NOTE:

1. SEE SHEET 12 FOR PROPOSED ITEM LEGEND.

2. SEE SHEET 26 FOR EXISTING ITEM LEGEND.

* THE CONTRACTOR SHALL MILL OFF THE EXISTING ASPHALT OVERLAY TO EXISTING CONCRETE PAVEMENT THEN RESURFACE WITH ASPHALT SURFACE AND INTERMEDIATE COURSE. THE EXISTING ASPHALT OVERLAY THICKNESS IS ESTIMATED AT ± 4.25" AVERAGE.

TRANSITION (26) FROM 2½" ON THE LEFT EDGE TO 1¾" ON THE RIGHT SIDE

CALCULATED | CHECKED

TYPICAL SECTIONS - S.R. 545

RIC-30-9.26

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

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

ITEM 611 - CONDUIT BORED OR JACKED

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 15 FEET TO THE EDGE OF PAVEMENT OR THE NEAREST RAIL. PROVIDE A STEEL CASING PIPE CONFORMING TO 748.06 HAVING JOINTS WITH A CIRCUMFERENCIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER OR MACHINED INTERLOCKING JOINTS ARE PERMITTED. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE. CASING PIPE IS NOT REQUIRED FOR THE TWO LOCATIONS UNDER THE ASHLAND RAILWAY.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

PROJECT QUANTITIES SHALL BE DETERMINED BY THE PROJECT PERSONNEL AND WILL BE PAID FOR AS A CHANGE ORDER TO THE PROJECT.

ITEM 611 - CONDUIT UNDER RAILROAD (ASHLAND RAILWAY)

THE STATE SHALL PAY TO THE RAIL COMPANY ALL COSTS FOR WATCHMEN OR FLAGGERS DEEMED NECESSARY BY THE RAIL COMPANY, OR OCCASIONED BY THE OPERATIONS OF THE CONTRACTOR, OR ANY SUB-CONTRACTOR, IN CARRYING FORWARD THE INSTALLATION OF PIPE OR CONDUIT UNDER THE RAILROAD PER THE PLAN. THE COSTS FOR WATCHMEN OR FLAGGERS REQUIRED BY AN ALTERNATE METHOD OF INSTALLATION SHALL BE PAID TO THE RAIL COMPANY BY THE CONTRACTOR. THE COSTS FOR WATCHMEN OR FLAGGERS OCCASIONED BY THE NEGLIGENCE OF THE CONTRACTOR, OR ANY SUB-CONTRACTOR, IN CONNECTION WITH THE INSTALLATION OF THE PIPE OR CONDUIT SHALL BE PAID BY THE CONTRACTOR.

TRACK SUPPORTS REQUIRED BY THE RAIL COMPANY IN CONNECTION WITH THE INSTALLATION OF THE PIPE OR CONDUIT PER THE PLAN SHALL BE INCLUDED IN THE COMPANY FORCE ACCOUNT WORK AND PAID BY THE STATE. THE COST OF ANY TRACK SUPPORTS REQUIRED BY AN ALTERNATE METHOD OF INSTALLATION OF THE PIPE OR CONDUIT SHALL BE SHALL BE PAID TO THE RAIL COMPANY BY THE CONTRACTOR.

THE CONTRACTOR SHALL SECURE APPROVAL OF HIS OPERATIONS FROM THE STATE AND THE RAIL COMPANY. THE RAIL COMPANY WILL PERFORM AN ENGINEERING REVIEW OF METHODS OF OPERATIONS AND ENGINEERING SUPERVISION OF CONSTRUCTION WITHOUT COST TO THE CONTRACTOR.

PRIOR TO BIDDING, THE CONTRACTOR SHALL COORDINATE WITH THE RAIL COMPANY TO AGREE UPON THE REQUIREMENTS OF WATCHMEN AND FLAGGERS TO PROTECT OPERATIONS. THE CONTRACTOR SHALL EXECUTE A BOND IN FAVOR OF BOTH THE STATE AND THE COMPANY AS REQUIRED BY SECTION 5525.16 OF THE REVISED CODE OF OHIO.

THE CONTRACTOR SHALL CO-OPERATE WITH THE RAILROAD OFFICIALS CONCERNING WORK ADJACENT TO RAILROAD TRACKS, IN ORDER TO AVOID DELAY TO, OR INTERFERENCE WITH RAILROAD TRAFFIC, AND SHALL NOTIFY THE COMPANY 15 CALENDAR DAYS IN ADVANCE OF CONSTRUCTION OPERATIONS.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	3 EACH
659, TOPSOIL	29691 CU. YD.
659, REPAIR SEEDING AND MULCHING	13374 SQ. YD.
659, INTER-SEEDING	13374 SQ. YD.
659, COMMERCIAL FERTILIZER	37.31 TON
659, LIME	55.27 ACRES
659, WATER	1481 M. GAL.
659, MOWING	600 M. SQ. FT

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

REVIEW OF DRAINAGE FACILITIES

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

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

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

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

ITEM 611 - INLET, NO. 4 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN

THE INLET IS LOCATED IN A BARRIER WIDTH TRANSITION ZONE FOR AN ADJACENT LIGHT POLE FOUNDATION. THE TROUGH AND BARRIER WIDTH SHALL TRANSITION TO MATCH STANDARD CONSTRUCTION DRAWING RM-4.4.

POST CONSTRUCTION STORM WATER TREATMENT

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

VEGETATED FILTER STRIP

THIS PLAN UTILIZES VEGETATED FILTER STRIP(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 AND ITEM 670, SLOPE EROSION PROTECTION TO ALL DISTURBED AREAS DESIGNATED AS VEGETATED FILTER STRIPS, THE EDGE OF SHOULDER, AND THE FORESLOPE AS SPECIFIED IN THE PLANS.

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 SHALL BE TRAPEZOIDAL, AS SHOWN IN THE PLANS.

ITEM - 302 ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN

MIX DESIGN - FOLLOW THE REQUIREMENTS OF 302.02 EXCEPT AS MODIFIED BELOW:

- USE A MAXIMUM F/A RATIO OF 1.4
- MINIMUM TSR IS 0.70 AS DETERMINED USING SUPPLEMENT 1051. ADD ANTISTRIP ADDITIVE AS SPECIFIED IN 441.04 IF REQUIRED BASED ON TSR.

NOTIFICATION - NOTIFY ERIC BIEHL AT 614-275-1380 AND JULIE MILLER AT 614-466-3165 ONE WEEK PRIOR TO PLANNED BEGINNING PRODUCTION AND PLACEMENT.

QUALITY CONTROL AND ACCEPTANCE - FOLLOW THE REQUIREMENTS OF 403 USING 446 ACCEPTANCE EXCEPT AS MODIFIED BELOW:

- REPLACE MSG COMPARISON IN TABLE 403.06-1 WITH 0.015.

THE REQUIREMENTS OF 441.09 AND 441.10 APPLY, EXCEPT AS MODIFIED BELOW:

- MAINTAIN THE F/A RATIO LESS THAN 1.4.
- IF THE F/A RATIO IS GREATER THAN 1.2, RECALCULATE THE F/A RATIO USING THE EFFECTIVE ASPHALT BINDER CONTENT AND ENSURE THE RECALCULATED F/A RATIO IS LESS THAN 1.4.
- COMPACT AIR VOIDS SPECIMENS USING A SIX-INCH MARSHALL HAMMER WITH 70 BLOWS ON EACH SIDE ACCORDING TO 302.02. OUT-OF-SPECIFICATION LIMITS FOR AIR VOIDS IS 2.5 TO 5.5 PERCENT (DESIGN AIR VOIDS OF 4.0 PERCENT).
- FOR INFORMATION PURPOSES ONLY: COMPACT THREE SPECIMENS USING THE SUPERPAVE GYRATORY AT 50 GYRATIONS AND THREE AT 65 GYRATIONS EACH PRODUCTION DAY. USE THE SAME SAMPLE FOR BOTH GYRATORY LEVELS. PROPERLY LABEL EACH SPECIMEN WITH GYRATORY LEVEL AND LOT SPLIT SAMPLE ID AND SET ASIDE FOR DISTRICT TESTING TO TAKE POSSESSION. DO NOT DISPOSE OF SPECIMENS.

DENSITY ACCEPTANCE - FOLLOW THE REQUIREMENTS OF 446 ASPHALT CONCRETE CORE DENSITY ACCEPTANCE, INCLUDING JOINT CORES, EXCEPT AS MODIFIED BELOW:

- OBTAIN 6-INCH DIAMETER CORES ON EACH LIFT PLACED.
- OBTAIN JOINT CORES AT COLD LONGITUDINAL JOINTS SUCH THAT THE CORE'S CLOSEST EDGE IS 6 INCHES (152 MM) FROM THE EDGE OF THE MAT.
- PAY FACTORS FOR EACH LIFT OF 302 APP WILL BE AS SPECIFIED IN THE FOLLOWING TABLE.

MEAN OF LOT CORE DENSITY[1]	PAY FACTOR
	302, AS PER PLAN
>98.0%	[2]
>97.0% TO 98.0%	[3]
92.0% TO 97.0%	1
91.0% TO 91.9%	0.9
90.0% TO 90.9%	0.8
89.0% TO 89.9%	0.7
<89.0%	[4]

[1] MEAN OF CORES AS PERCENT OF AVERAGE MSG FOR THE PRODUCTION DAY.

[2] THE DISTRICT WILL DETERMINE WHETHER THE MATERIAL MAY REMAIN IN PLACE. THE PAY FACTOR FOR MATERIAL ALLOWED TO REMAIN IN PLACE IS 0.50.

[3] THE DISTRICT WILL DETERMINE WHETHER THE MATERIAL MAY REMAIN IN PLACE. THE PAY FACTOR FOR MATERIAL ALLOWED TO REMAIN IN PLACE IS 0.70.

[4] THE DISTRICT WILL DETERMINE WHETHER THE MATERIAL MAY REMAIN IN PLACE. THE PAY FACTOR FOR MATERIAL ALLOWED TO REMAIN IN PLACE IS 0.50.

IF MATERIAL IS REMOVED AND REPLACED, REMOVE AND REPLACE THE FULL LIFT AND ALL COURSES PAVED ON THE LIFT.

CALCULATED JJM CHECKED SDS

GENERAL NOTES

RIC-30-9.26

34
1669

M:\15074\93455\Design\Roadway\Sheets\93455GN0003.dgn 2/24/2020 4:17:14 PM acb284

PHASE 8

GENERAL: THIS PHASE WILL UTILIZE THE NEW PAVEMENT AND REQUIRE A LANE CLOSURE IN EACH DIRECTION PER SCD MT-95.30 TO CONSTRUCT THE ASPHALT SURFACE COURSE, FINAL PAVEMENT MARKINGS, RPM'S AND SHOULDER RUMBLE STRIPS ON US 30. THE LANE CLOSURES ON US 30 SHALL MEET THE PLCS. SOME OF THESE ITEMS MAY BE COMPLETED IN PHASE 9 AS NOTED BELOW, IF NECESSARY.

1. RAMP CLOSURES SHALL ONLY TO BE IN EFFECT DURING CONSTRUCTION WORK ON THE RAMP AND DURING THE TIME WHEN PERMITTED TO BE CLOSED.

2. ALL ENTRANCE RAMPS MAY BE CLOSED BETWEEN 8:00 PM TO 6:00 AM UNLESS OTHERWISE NOTED IN THIS PHASE. REFER TO SCD MT-98.29 AND SCD MT-98.30.

3. THE US 309 EB ENTRANCE RAMP TO US 30 AND THE US 30 WB EXIT TO SR 309 SHALL REMAIN OPEN AT ALL TIMES. ENTRANCE RAMP D FROM TRIMBLE ROAD IS TO BE CLOSED WHEN WORKING ON US 30 WB BETWEEN STATION 489+00 TO STATION 513+00 AS PERMITTED BY THE PLCS. EXIT RAMP A TO TRIMBLE ROAD MAY BE CLOSED WHEN WORKING ON US 30 EB BETWEEN STATION 489+00 TO STATION 513+00 WHEN PERMITTED BY THE PLCS.

4. EXIT RAMPS A AND B TO TRIMBLE ROAD AND EXIT RAMPS A AND C TO FIFTH AVENUE ARE TO BE CLOSED WHEN WORKING ON THESE RAMPS ONLY BETWEEN 9:00 PM TO 6:00 AM. RAMP A AT TRIMBLE ROAD HAS ADDITIONAL RESTRICTIONS AS NOTED IN NOTE 3. ALL OTHER EXIT RAMPS MAY EITHER REMAIN OPEN USING SCD MT-98.20 AND BE CONSTRUCTED WITH THE ADJACENT US 30 WORK OR CLOSED AND CONSTRUCTED BETWEEN 9:00 PM TO 6:00 AM.

ADDITIONAL RAMP CLOSURE LIMITATIONS:

1. US 30 EB EXIT RAMP A TO TRIMBLE ROAD AND THE US 30 EB EXIT RAMP G TO SR 39 SHALL NOT BE CLOSED AT THE SAME TIME.

2. US EB ENTRANCE RAMP C FROM TRIMBLE ROAD AND THE US 30 EB ENTRANCE RAMP I AT SR 39 SHALL NOT BE CLOSED AT THE SAME TIME.

3. US 30 EB ENTRANCE RAMP I FROM SR 39 AND US 30 EB ENTRANCE RAMP X AT LONGVIEW AVENUE EAST SHALL NOT BE CLOSED AT THE SAME TIME.

4. THE US 30 EB ENTRANCE RAMP X FROM LONGVIEW AVENUE EAST AND THE US 30 EB ENTRANCE RAMP B AT FIFTH AVENUE SHALL NOT BE CLOSED AT THE SAME TIME.

5. THE US 30 WB ENTRANCE RAMP D FROM FIFTH AVENUE AND THE US 30 WB ENTRANCE RAMP C FROM SR 13 SHALL NOT BE CLOSED AT THE SAME TIME.

6. THE US 30 ENTRANCE RAMP C FROM SR 13 AND THE US 30 WB ENTRANCE RAMP HL AT SR 39 SHALL NOT BE CLOSED AT THE SAME TIME.

7. THE US 30 ENTRANCE RAMP HL FROM SR 39 AND THE US 30 EXIT RAMP B AT TRIMBLE ROAD MAY BE CLOSED AT THE SAME TIME.

8. THE US 30 WB ENTRANCE RAMP HL AT SR 39 AND THE US 30 ENTRANCE RAMP D FROM TRIMBLE ROAD SHALL NOT BE CLOSED AT THE SAME TIME.

WORK TO BE PERFORMED AS FOLLOWS:

A. REMOVE THE CROSSOVERS AND RECONSTRUCT THE U-TURN MEDIANS. REMOVE PAVEMENT FOR MAINTAINING TRAFFIC AND GRADE. PLACE THE TACK COAT, SURFACE COURSE, SHOULDER RUMBLE STRIPS, PAVEMENT MARKINGS AND RPM'S. FINISH GRADING ALONG THE COMPLETED PAVEMENT. SEED AND MULCH.

B. US 309 EB ENTRANCE RAMP TO US 30 AND THE US 30 WB EXIT TO SR 309 SHALL REMAIN OPEN AT ALL TIMES.

C. INSTALL THE DETOUR SIGNING AND CLOSE US 30 EB EXIT RAMP A TO TRIMBLE ROAD. SEE DETOUR PLAN 8C MAP.

D. INSTALL THE DETOUR SIGNING AND CLOSE US 30 EB ENTRANCE C FROM TRIMBLE ROAD. SEE DETOUR PLAN 8D MAP.

E. INSTALL THE DETOUR SIGNING AND CLOSE US 30 EB ENTRANCE RAMP I FROM SR 39. SEE DETOUR PLAN 8E MAP.

F. INSTALL THE DETOUR SIGNING AND CLOSE US 30 EB ENTRANCE RAMP X FROM LONGVIEW AVENUE EAST. SEE DETOUR PLAN 8F MAP.

G. INSTALL THE DETOUR SIGNING AND CLOSE US 30 EB EXIT RAMP A TO FIFTH AVENUE. SEE DETOUR PLAN 8G MAP.

H. INSTALL THE DETOUR SIGNING AND CLOSE US 30 EB ENTRANCE RAMP B FROM FIFTH AVENUE. SEE DETOUR PLAN 8H MAP.

I. INSTALL THE DETOUR SIGNING AND CLOSE US 30 WB EXIT RAMP C TO FIFTH AVENUE. SEE DETOUR PLAN 8I MAP.

J. INSTALL THE DETOUR SIGNING AND CLOSE US 30 WB ENTRANCE RAMP D FROM FIFTH AVENUE. SEE DETOUR PLAN 8J MAP.

K. INSTALL THE DETOUR SIGNING AND CLOSE THE US 30 WB ENTRANCE RAMP C FROM SR 13. SEE DETOUR PLAN 8K MAP.

L. INSTALL THE DETOUR SIGNING AND CLOSE THE US 30 WB ENTRANCE RAMP HL FROM SR 39. SEE DETOUR PLAN 8L MAP.

M. INSTALL THE DETOUR SIGNING AND CLOSE THE US 30 WB EXIT RAMP B TO TRIMBLE ROAD. SEE DETOUR PLAN 8M MAP.

N. INSTALL THE DETOUR SIGNING AND CLOSE THE US 30 WB ENTRANCE RAMP D FROM TRIMBLE ROAD. SEE DETOUR PLAN 8N MAP.

PHASE 9

GENERAL: ALL PROJECT WORK EXCEPT THE WORK LISTED BELOW SHALL BE COMPLETED BY OCTOBER 30, 2022. WORK LISTED BELOW SHALL BE COMPLETED BY MAY 26, 2023. PHASE 9 SHALL ONLY BE UTILIZED IF THE LISTED EXCEPTIONS WERE NOT COMPLETED IN PHASE 8. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF THE ITEMS NOT EXPECTED TO BE COMPLETED BY OCTOBER 30, 2022 AT LEAST 15 WORKING DAYS PRIOR TO OCTOBER 30, 2022.

LANE CLOSURES, IF REQUIRED, SHALL FOLLOW SCD MT-95.30. PAVEMENT MARKINGS SHALL FOLLOW SCD MT-99.20.

EXCEPTED WORK: PAVEMENT MARKINGS, RPM'S, AND CONCRETE SEALING NOT PLACED IN PHASE 8 DUE TO APPLICATION TEMPERATURE RESTRICTIONS, PERMANENT SEEDING, FIELD TOUCH-UP BRIDGE PAINT, RUMBLE STRIPS, INCOMPLETE PUNCH LIST ITEMS, AND MISCELLANEOUS ITEMS THAT HAVE APPLICATION TEMPERATURE RESTRICTIONS.

SR 39 WORK

GENERAL: THE WORK ON SR 39 CONSISTS OF MULTIPLE PHASES WHICH WILL BE PERFORMED AT VARIOUS TIMES INCLUDING SOME WHICH COINCIDE WITH US 30 BRIDGE WORK. THE POSTED SPEED LIMIT ON SR 39 IS 35 MPH.

WORK TO BE PERFORMED AS FOLLOWS:

1. LOWERING THE SR 39 PAVEMENT UNDER US 30 (SR 39 PHASES A AND B): THIS WORK SHALL OCCUR AT THE SAME TIME AS PHASE 1 US 30 CONSTRUCTION. NOTE THAT THE EXISTING PIER FOUNDATIONS OF THE EXISTING US 30 BRIDGES OVER SR 39 CONFLICT WITH A PORTION OF THE PROPOSED SR 39 WORK. THE VERTICAL CLEARANCE OF THE NEW BRIDGE BEAMS AND THE EXISTING SR 39 PAVEMENT PROVIDES APPROXIMATELY 13.29 FEET CLEARANCE WHICH IS UNACCEPTABLE TO MAINTAIN TRUCK TRAFFIC. MAINTAIN THE EXISTING VERTICAL CLEARANCES ON SR 39 UNDER THESE TWO BRIDGES. THE EXCAVATION FOR THE FULL DEPTH PAVEMENT IS TO BE COMPLETED BETWEEN THE FACES OF THE FOUNDATIONS OF THE EXISTING BRIDGE PIERS. ONLY THE FULL DEPTH PAVEMENT REPLACEMENT UP TO AND INCLUDING THE SURFACE COURSE MATERIAL AT A MINIMUM OF 20 FEET EACH SIDE OF THE CENTER LINE OF CONSTRUCTION OF SR 39 UNDER THE US 30 BRIDGES AND FULL WIDTH BEYOND THE BRIDGES SHALL BE COMPLETED BEFORE ANY OF THE NEW BRIDGE BEAMS ARE TO BE PLACED AND/OR THE EXISTING VERTICAL CLEARANCE IS REDUCED. PAVEMENT MARKINGS FOR THE CENTER LINE AND EDGE LINES SHALL BE PAINT. AVOID DAMAGING THE NEW PAVEMENT ON SR 39 DURING THE REMOVAL AND CONSTRUCTION OF THE PIERS.

A. DETOUR FOR DRAINAGE CONSTRUCTION: THE CLOSURE OF SR 39 AND DETOUR SHALL ONLY OCCUR BETWEEN THE HOURS OF 5:00 PM FRIDAY TO 9:00 PM SUNDAY. ADDITIONAL RESTRICTIONS APPLY PER THE "LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS". A PORTION OF THE PROPOSED STORM SEWER WORK AND REMOVAL OF A PORTION OF THE EXISTING STORM SEWERS LOCATED NEAR THE US 30 BRIDGES OVER SR 39 SHALL BE COMPLETED. THE TOP 6" OF THE TRENCHES SHALL BE FILLED WITH ITEM 301 ASPHALT CONCRETE BASE MATERIAL ONLY WHERE THE PAVEMENT WILL REMAIN TO BE USED FOR TRAFFIC IN PHASES WHICH FOLLOW. THIS WORK SHALL BE COMPLETED BEFORE THE PROPOSED PAVEMENT IS PLACED. CLOSE SR 39 USING BARRICADES PER SCD MT-101.60.

1. DETOUR SB SR 39 TRAFFIC. SEE DETOUR PLAN SR 39-1A1 MAP.

2. DETOUR NB SR 39 TRAFFIC. SEE DETOUR PLAN SR 39-1A2 MAP.

3. DRAINAGE AT STA. 695+02, 52 FEET RIGHT: DUE TO THE PHASING OF WORK, A TEMPORARY DRAINAGE CONNECTION IS TO BE PROVIDED FROM THE PROPOSED MANHOLE AT STA. 695+02.57, 52 FEET RIGHT AND THE EXISTING 42" REINFORCED CONCRETE PIPE. FROM THE PROPOSED MANHOLE AND USING THE KNOCKOUT FOR THE PROPOSED 48" TYPE C CONDUIT ON THE OUTLET, CONSTRUCT 16 FEET OF TEMPORARY 42" OR 48" CONDUIT, A TEMPORARY MANHOLE NO. 3, AND 8 FEET OF TEMPORARY 42" CONDUIT CONNECTING TO THE EXISTING PIPE ON THE OUTLET SIDE OF THE TEMPORARY MANHOLE. WHEN THE PROPOSED 48" TYPE C CONDUIT IS CONSTRUCTED IN PHASE 3 DURING THE RAMP RECONSTRUCTION IN THIS AREA, THE TEMPORARY 42" CONDUIT AND TEMPORARY MANHOLE NO. 3 ARE TO BE REMOVED. THE COST OF THIS WORK IS TO BE INCLUDED IN THE LUMP SUM BID OF ITEM 614 MAINTAINING TRAFFIC.

B. PHASE A PAVEMENT (YEAR 1): CONSTRUCT THE EAST HALF OF SR 39 WHILE MAINTAINING THE LANES ON THE WEST HALF. SHIFT TRAFFIC, ONE LANE IN EACH DIRECTION, TO THE WEST SIDE AS SHOWN IN THE SR 39 PHASE A DETAILS. CONSTRUCT THE PAVEMENT REMOVAL, FULL DEPTH PAVEMENT, THE SIGNAL POLES AND CONSTRUCTION DRAINAGE ON THE EAST HALF OF THE ROADWAY INCLUDING THE TIE-IN TO THE NEW RAMP I. CONSTRUCTION DRAINS CAN BE PLACED BETWEEN THE NEW PAVEMENT AND THE EXISTING PIER FOUNDATIONS AND OUTLET TO THE EXISTING OR NEW STORM SEWERS LOCATED NEAR THE BRIDGE. THE US 30 WB EXIT RAMP J TO SR 39 WILL BE PERMANENTLY CLOSED AND TRAFFIC TO BE DETOURED TO TRIMBLE ROAD, THEN EB ON US 30 AND EXIT AT SR 39.

C. PHASE B PAVEMENT (YEAR 1): INSTALL A SIGNALIZED CLOSURE ON SR 39 PER SCD MT-96.11. CONSTRUCT THE TEMPORARY EXIT RAMP CONNECTOR FROM THE LOOP RAMP TO SR 39 BEFORE SETTING UP THE PORTABLE BARRIER AND THE SIGNALIZED CLOSURE. THIS EXIT RAMP SHALL REMAIN OPEN DURING THIS PHASE. PLACE ONE LANE OF TRAFFIC ON THE NEW PAVEMENT CONSTRUCTED IN SR 39 PHASE A AS SHOWN IN THE SR 39 PHASE B DETAILS. CONSTRUCT THE FULL DEPTH PAVEMENT AND CONSTRUCTION DRAINAGE ON THE WEST HALF OF THE ROADWAY. CONSTRUCTION DRAINS MAY BE PLACED BETWEEN THE NEW PAVEMENT AND THE EXISTING PIER FOUNDATIONS AND OUTLET TO THE EXISTING OR NEW STORM SEWERS LOCATED NEAR THE BRIDGE.

D. PHASE C (YEAR 1 AND OVER THE WINTER): PROVIDE ONE LANE OF TRAFFIC IN EACH DIRECTION ON SR 39 AT THE CENTER PORTION OF THE ROADWAY ON THE NEW PAVEMENT CONSTRUCTED IN SR 39 PHASES A AND B. SR 39 TRAFFIC SHALL USE NEW RAMP I WHEN IT IS OPERATIONAL. REMOVE THE EXISTING US 30 EB RAMP I AND PART OF SR 39 PAVEMENT TO RELOCATED LONGVIEW AVENUE.

2. PHASE D (YEAR 2 - PHASE 3): CONSTRUCT THE WEST HALF OF SR 39 WHILE MAINTAINING TRAFFIC IN THE LANES ON THE EAST HALF. THIS PHASE SHALL OCCUR WHEN RAMPS HL AND HR AND H ARE UNDER CONSTRUCTION IN US 30 PHASE 3. SHIFT ONE LANE OF TRAFFIC IN EACH DIRECTION TO THE EAST SIDE AS SHOWN IN THE PHASE D DETAILS. CONSTRUCT THE REMAINING PAVEMENT REMOVALS ON THE WEST HALF OF THE ROADWAY NORTH OF US 30.

3. PHASE E (YEARS 2 AND 3 - PHASES 4-6): MAINTAIN 1 LANE OF TRAFFIC IN EACH DIRECTION ON SR 39 DURING WORK ON THE US 30 BRIDGES AS SHOWN IN THE DETAILS.

4. PHASE F (YEAR 3 - PHASE 7): RAMPS H AND I ARE OPEN TO TRAFFIC. WORK ON THE WEST SIDE OF SR 39 FROM THE US 30 BRIDGES TO ARNOLD STREET ON THE WEST SIDE OF SR 39 IS TO BE COMPLETED DURING PHASE 7 WHEN RAMP G IS CLOSED. WORK ON THE PAVEMENT AT THE US 30 BRIDGES INCLUDING BARRIER CONSTRUCTION SHALL BE COMPLETED. THE RAMP G INTERSECTION WITH SR 39 SHALL BE COMPLETED. MAINTAIN 1 LANE OF TRAFFIC IN EACH DIRECTION ON SR 39 AS SHOWN IN THE DETAILS. MAINTAIN TRAFFIC USING FLAGGERS AND CONSTRUCT THE FINAL PAVEMENT MARKINGS ON SR 39 WHEN THIS WORK IS COMPLETED.

CALCULATED BAD CHECKED SDS

SEQUENCE OF CONSTRUCTION NOTES

RIC-30-9.26

SHEET NUM.													PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
32-38B	40-65	66-67	369-371	380-383	390	395	918	959	991	1510-1511	1531-1585	OFFICE CALCS	01/NHS/BR	02/NHS/PV	03/NHS/BR	04/NHS/BR						
																					ROADWAY	
LS														LS			201	11001	LS		CLEARING AND GRUBBING, AS PER PLAN	32
283			27				594					154,219		155,123			202	23000	155,123	SY	PAVEMENT REMOVED	
662														662			202	23001	662	SY	PAVEMENT REMOVED, AS PER PLAN	35
			387				1,097					72,521		74,005			202	23010	74,005	SY	PAVEMENT REMOVED, ASPHALT	
												15,051		15,051			202	23500	15,051	SY	WEARING COURSE REMOVED	
			1,658											1,658			202	30500	1,658	FT	CONCRETE MEDIAN REMOVED	
			1,626											1,626			202	30501	1,626	FT	CONCRETE MEDIAN REMOVED, AS PER PLAN	36
	502		10,359											10,861			202	30700	10,861	FT	CONCRETE BARRIER REMOVED	
			6,658											6,658			202	32000	6,658	FT	CURB REMOVED	
			808											808			202	32600	808	FT	GUTTER REMOVED	
			27											27			202	32800	27	SY	CONCRETE SLOPE PROTECTION REMOVED	
			5,488											5,488			202	35100	5,488	FT	PIPE REMOVED, 24" AND UNDER	
			1,331											1,331			202	35200	1,331	FT	PIPE REMOVED, OVER 24"	
	181		24,443											24,624			202	38000	24,624	FT	GUARDRAIL REMOVED	
			401											401			202	38300	401	FT	GUARDRAIL REMOVED, BARRIER DESIGN	
	14													14			202	42010	14	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	49
			8											8			202	58000	8	EACH	MANHOLE REMOVED	
			68											68			202	58100	68	EACH	CATCH BASIN REMOVED	
			3											3			202	58200	3	EACH	INLET REMOVED	
			64											64			SPECIAL	20270000	64	FT	FILL AND PLUG EXISTING CONDUIT, 12"	33
			314											314			SPECIAL	20270000	314	FT	FILL AND PLUG EXISTING CONDUIT, 15"	33
			444											444			SPECIAL	20270000	444	FT	FILL AND PLUG EXISTING CONDUIT, 18"	33
			297											297			SPECIAL	20270000	297	FT	FILL AND PLUG EXISTING CONDUIT, 24"	33
			176											176			SPECIAL	20270000	176	FT	FILL AND PLUG EXISTING CONDUIT, 30"	33
			356											356			SPECIAL	20270000	356	FT	FILL AND PLUG EXISTING CONDUIT, 36"	33
			609											609			SPECIAL	20270000	609	FT	FILL AND PLUG EXISTING CONDUIT, 48"	33
			271											271			SPECIAL	20270000	271	FT	FILL AND PLUG EXISTING CONDUIT, 60"	33
			182											182			SPECIAL	20270000	182	FT	FILL AND PLUG EXISTING CONDUIT, 66"	33
			232											232			SPECIAL	20270000	232	FT	FILL AND PLUG EXISTING CONDUIT, 78"	33
			253							10,430				10,683			202	75000	10,683	FT	FENCE REMOVED	
			2											2			202	75250	2	EACH	GATE REMOVED	
			1											1			202	98100	1	EACH	REMOVAL MISC.: POLE BASE	33
			23											23			202	98100	23	EACH	REMOVAL MISC.: STEEL POST	33
			4											4			202	98100	4	EACH	REMOVAL MISC.: WOOD POST	33
			5											5			202	98100	5	EACH	REMOVAL MISC.: CONCRETE DRAIN OUTLET	33
1														1			202	98100	1	EACH	REMOVAL MISC.: SIGN - PARCEL 116, BUSINESS SIGN	33
1														1			202	98100	1	EACH	REMOVAL MISC.: SIGN - PARCEL 205, PIPELINES INC	33
1														1			202	98100	1	EACH	REMOVAL MISC.: BILLBOARD - PARCEL 240	33
						201,609							185	201,624			203	10000	201,809	CY	EXCAVATION	
2,948						165,927							13,811	155,064			203	20000	168,875	CY	EMBANKMENT	
LS														LS			203	98500	LS		ROADWAY, MISC.: SURCHARGE	36
							910					7,319		8,229			204	10000	8,229	SY	SUBGRADE COMPACTION	
80														80			204	45000	80	HOUR	PROOF ROLLING	
6,172														6,172			206	10500	6,172	TON	CEMENT	
												238,524		238,524			206	11000	238,524	SY	CURING COAT	
												238,524		238,524			206	15010	238,524	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
LS														LS			206	30000	LS		MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS	
	88		17,170											17,258			606	15050	17,258	FT	GUARDRAIL, TYPE MGS	
			37											37			606	26150	37	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	33
	14													14			606	26150	14	EACH	ANCHOR ASSEMBLY, MGS TYPE E, OFFSET DESIGN (MASH 2016)	49
	1		31											32			606	26550	32	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			21											21			606	35002	21	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			11											11			606	35102	11	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
			1											1			606	60028	1	EACH	IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL), 30 MPH/36 INCH	
			5											5			606	70000	5	EACH	THRIE BEAM BULLNOSE	
			600											600			606	71000	600	FT	THRIE BEAM GUARDRAIL	

CALCULATED JJM CHECKED SDS

GENERAL SUMMARY

RIC-30-9.26

352
1669

M:\15074.93455\Design\Roadway\Sheets\93455GG001.dgn 2/25/2020 8:23:33 AM kja282

SHEET NUM.													PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
32-38B	40-65	66-67	369-371	380-383	390	395	918	959	991	1510-1511	1531-1585	OFFICE CALCS	01/NHS/BR	02/NHS/PV	03/NHS/BR	04/NHS/BR						
																					PAVEMENT	
	69,480						506					12,262		82,248			254	01000	82,248	SY	PAVEMENT PLANING, ASPHALT CONCRETE, DEPTH VARIES	
959														959			254	01600	959	SY	PATCHING PLANED SURFACE	
84							7							91			301	46000	91	CY	ASPHALT CONCRETE BASE, PG64-22	
184														184			301	46001	184	CY	ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN	35
												2,967		2,967			302	46000	2,967	CY	ASPHALT CONCRETE BASE, PG64-22	
												33,186		33,186			302	46001	33,186	CY	ASPHALT CONCRETE BASE, AS PER PLAN PG64-22	34
							122					40,505		40,627			304	20000	40,627	CY	AGGREGATE BASE	
												723		723			305	13010	723	SY	9" CONCRETE BASE, CLASS QC 1P	
51	5,906						83					862		6,902			407	10000	6,902	GAL	TACK COAT	
												26,083		26,083			407	20000	26,083	GAL	NON-TRACKING TACK COAT	
							35							35			441	50400	35	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	
							60							60			441	50600	60	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)	
												9,885		9,885			442	00100	9,885	CY	ANTI-SEGREGATION EQUIPMENT	
	2,895													2,895			442	10000	2,895	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
												11,861		11,861			442	10101	11,861	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446), AS PER PLAN, BINDER VARIES	35
												9,892		9,892			442	10300	9,892	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (447)	
												350		350			442	20201	350	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), AS PER PLAN, BINDER VARIES	35
							10							10			452	10010	10	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
							463							463			452	12010	463	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
												18,922		18,922			452	14022	18,922	SY	10.5" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P WITH QC/QA	
			166											166			609	24510	166	FT	CURB, TYPE 4-C	
			1,178											1,178			609	26000	1,178	FT	CURB, TYPE 6	
			294											294			609	28001	294	FT	CURB, TYPE 7, AS PER PLAN	1002
			405											405			609	54000	405	SY	6" CONCRETE TRAFFIC ISLAND	
			15											15			609	70000	15	SY	4" CONCRETE MEDIAN	
												79		79			617	10100	79	CY	COMPACTED AGGREGATE	
												1,417		1,417			617	20000	1,417	SY	SHOULDER PREPARATION	
												20		20			618	40600	20	MILE	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	
																					WATER WORK	
									60					60			638	04900	60	FT	1" COPPER SERVICE BRANCH	
									2					2			638	07800	2	EACH	6" GATE VALVE AND VALVE BOX	
									2					2			638	07900	2	EACH	8" GATE VALVE AND VALVE BOX	
									2					2			638	10200	2	EACH	6" FIRE HYDRANT	
									2					2			638	10480	2	EACH	FIRE HYDRANT REMOVED	
									1					1			638	10500	1	EACH	FIRE HYDRANT REMOVED AND RESET	
									18					18			638	10800	18	EACH	VALVE BOX ADJUSTED TO GRADE	
									2					2			638	10900	2	EACH	SERVICE BOX ADJUSTED TO GRADE	
									2					2			638	98000	2	EACH	WATER WORK, MISC.: CONNECTION ASSEMBLY	986
									28					28			638	98600	28	FT	WATER WORK, MISC.: 6" WATER MAIN AND FITTINGS	986
									663					663			638	98600	663	FT	WATER WORK, MISC.: 8" WATER MAIN AND FITTINGS	986
																					SANITARY SEWER	
			213											213			611	01800	213	FT	8" CONDUIT, TYPE B	
			67											67			611	02000	67	FT	8" CONDUIT, TYPE C	
			1											1			611	99574	1	EACH	MANHOLE, NO. 3	
			14											14			611	99654	14	EACH	MANHOLE ADJUSTED TO GRADE	
																					LIGHTING	
																					FOR LIGHTING ESTIMATED QUANTITIES	1150
																					TRAFFIC SURVEILLANCE	
																					FOR TRAFFIC SURVEILLANCE ESTIMATED QUANTITIES	1004
																					TRAFFIC CONTROL	
			381											381			626	00102	381	EACH	BARRIER REFLECTOR, TYPE 1, (BI-DIRECTIONAL)	
			42											42			626	00102	42	EACH	BARRIER REFLECTOR, TYPE 1, (ONE-WAY)	
			94											94			626	00116	94	EACH	BARRIER REFLECTOR, TYPE 5, (BI-DIRECTIONAL)	
			203											203			626	00116	203	EACH	BARRIER REFLECTOR, TYPE 5, (ONE-WAY)	

CALCULATED JJM
CHECKED SDS

GENERAL SUMMARY

RIC-30-9.26

355
1669

M:\15074.93455\Design\Roadway\Sheets\93455GG0004.dgn 2/25/2020 9:33:59 AM kja282

SHEET NO.	STATION TO STATION		203 EXCAVATION (01/NHS/BR) CY	203 EXCAVATION (02/NHS/PV) CY	203 EMBANKMENT (01/NHS/BR) CY	203 EMBANKMENT (02/NHS/PV) CY	659 SEDDING AND MULCHING SY	863 GEOGRID, TYPE P1 SY	863 GEOGRID, TYPE S1 SY	0 REINFORCED EMBANKMENT CY
	U.S. 30									
594	444+00	448+00		0		0	0			
595	449+00	453+00		0		0	0			
596	454+00	458+00		0		0	0			
597	459+00	463+00		0		0	0			
598	464+00	468+00		0		0	0			
599	469+00	473+00		0		0	0			
600	474+00	478+00		0		0	0			
601	479+00	483+00		0		0	0			
602	484+00	488+00		0		0	0			
603	489+00	490+00		212		68	631			
604	490+50	491+50		228		485	1652			
605	492+00	493+50		878		1967	2919			
606	494+00	495+50		266		909	2264			
607	496+00	497+50		119		669	1820			
608	498+00	499+50		249		965	1680			
609	500+00	501+50		316		937	1272			
610	502+00	503+50		45		649	805			
611	504+00	505+50		56		738	792			
612	506+00	507+50		12		1123	694			
613	508+00	509+50		1		930	546			
614	510+00	511+50		6		566	0			
615	512+00	513+50		86		453	324			
616	514+00	515+50		609		303	1363			
617	516+00	517+50		1626		55	1606			
618	518+00	519+50		1863		0	1291			
619	520+00	521+50		1102		44	1414			
620	522+00	523+50		410		281	1649			
621	524+00	525+50		230		376	808			
622	526+00	527+50		32		375	14			
623	528+00	529+50		318		540	551			
624	530+00	531+50		1029		681	1905			
625	532+00	533+50		840		793	1935			
626	534+00	535+50		278		838	1275			
627	536+00	537+50		88		708	941			
628	538+00	539+50		32		610	1059			
629	540+00	541+50		131		466	1206			
630	542+00	543+50		212		394	1289			
631	544+00	545+50		344		338	1430			
632	546+00	547+50		732		179	1575			
633	548+00	549+50		662		84	1034			
634	550+00	551+50		639		78	925			
635	552+00	553+50		1064		93	1170			
636	554+00	555+50		1156		199	1592			

SHEET NO.	STATION TO STATION		203 EXCAVATION (01/NHS/BR) CY	203 EXCAVATION (02/NHS/PV) CY	203 EMBANKMENT (01/NHS/BR) CY	203 EMBANKMENT (02/NHS/PV) CY	659 SEDDING AND MULCHING SY	863 GEOGRID, TYPE P1 SY	863 GEOGRID, TYPE S1 SY	863 REINFORCED EMBANKMENT CY
	U.S. 30									
637	556+00	557+50		472		205	928			
638	558+00	559+50		138		85	325			
639	560+00	561+50		1133		156	1503			
640	562+00	563+50		752		111	1353			
641	564+00	565+50		2335		24	1603			
642	566+00	566+50		1214		512	1740			
643	568+50	569+50		931		9	986			
644	570+00	571+50		788		13	1203			
645	572+00	573+50		435		23	783			
646	574+00	575+50		1029		36	1130			
647	576+00	577+50		674		1993	1718			
648	578+00	579+50		833		3216	2242			
649	580+00	581+50		1189		3553	2297			
650	582+00	583+50		1037		3209	2428			
651	584+00	585+50		529		482	1130			
652	586+00	587+50		975		51	1367			
653	588+00	589+50		1255		228	1675			
654	590+00	591+50		731		1266	1622			
655	592+00	593+50		1400		2633	2105			
656	594+00	595+50		1660		4453	2889			
657	596+00	597+50		1424		5517	3606			
658	598+00	599+00		1654		4530	2617			
659	601+00	601+50		822		1621	920			
660	602+00	603+50		2008		2077	2128			
661	604+00	605+50		2081		1748	1503			
662	606+00	607+50		653		248	671			
663	608+00	609+50		450		6	533			
664	610+00			164		5	176			
665	627+00	627+50		191		19	89			
666	628+00	629+50		312		346	508			
667	630+00	631+50		619		422	2100			
668	632+00	633+50		267		369	1240			
669	634+00	635+50		81		252	0			
670	636+00	637+00		89		234	246			
671	637+50	639+00		214		2134	1448			
672	639+50	640+00		244		4361	1711			
673	640+50	641+50	63	16	10767	416	1783			
674	642+00	642+50	122	86	3044	62	1072			
675	643+00	643+50		1041		2183	2124	1270	680	1689
676	646+50	647+50		3319		3150	2854			
SHEET SUBTOTALS CARRIED TO SHEET 395			185	51116	13811	69852	99787	1270	680	1689

CALCULATED JGL CHECKED JJM

EARTHWORK SUBSUMMARY

RIC-30-9.26

391
1669

M:\15074.93455\Design\Roadway\Sheets\93455GS0001.dgn 2/21/2020 3:00:49 PM acb284

SHEET NO.	STATION TO STATION		203 EXCAVATION (01/NHS/BR) CY	203 EXCAVATION (02/NHS/PV) CY	203 EMBANKMENT (01/NHS/BR) CY	203 EMBANKMENT (02/NHS/PV) CY	659 SEEDING AND MULCHING SY	863 GEOGRID, TYPE P1 SY	863 GEOGRID, TYPE S1 SY	863 REINFORCED EMBANKMENT CY
	S.R. 545 RAMP RR									
849	2+50			640		0	176			
	S.R. 545 RAMP RL									
850	2+50			144		0	50			
	S.R. 545 RAMP R									
851	3+00	4+00		3998		0	1611			
852	4+50	5+50		1816		1	1727			
	S.R. 545 RAMP RR									
853	4+50	5+00		262		0	258			
854	5+50	6+00		200		0	383			
	S.R. 545 RAMP RL									
855	4+50	5+50		209		0	395			
856	6+00	6+50		33		16	277			
	FIFTH AVE RAMP A									
857	170+50	172+00		122		27	605			
858	172+50	174+00		317		8	710			
859	174+50	176+00		602		5	697			
860	176+50	178+00		1103		7	1203			
861	178+50	180+00		357		8	980			
	FIFTH AVE RAMP B									
862	369+00	371+00		374		5	658			
863	371+50	373+50		454		24	614			
	FIFTH AVE RAMP D									
864	473+50	475+00		315		1	387			
865	475+50	477+00		915		5	803			
866	477+50	478+50		569		1	651			
867	479+00	480+00		587		512	855			
868	480+50	481+50		233		219	432			
	SUBTOTALS		0	13,250	0	839	13,472	0	0	0
	SUBTOTALS FROM SHEET 391		185	51,116	13,811	69,852	99,787	1,270	680	1,689
	SUBTOTALS FROM SHEET 392		0	71,906	0	27,266	56,088	0	0	0
	SUBTOTALS FROM SHEET 393		0	33,448	0	12,572	50,140	0	0	0
	SUBTOTALS FROM SHEET 394		0	31,904	0	44,587	48,001	5,716	2,995	7,352
	TOTALS CARRIED TO GENERAL SUMMARY		201,809		165,927		267,488	6,986	3,675	9,041

SEEDING AND MULCHING CALCULATIONS

ITEM 659 - TOPSOIL
267488 SQ YD x 111 CU YD / 1000 = 29691.17 CU YD — USE 29,691 CU YD

ITEM 659 - REPAIR SEEDING AND MULCHING
267488 SQ YD x 0.05 = 13374.40 SQ YD — USE 13,374 SQ YD

ITEM 659 - INTER-SEEDING
267488 SQ YD x 0.05 = 13374.40 SQ YD — USE 13,374 SQ YD

ITEM 659 - COMMERCIAL FERTILIZER
267488 SQ YD x 9 = 2407392.00 SQ FT
2407392.00 x 30 LBS / 1000 SQ FT = 72221.76 LBS
13374 SQ YD x 9 = 120366.00 SQ FT
120366.00 x 20 LBS / 1000 SQ FT = 2407.32 LBS
72221.76 LBS + 2407.32 LBS = 74629.08 LBS /2000= 37.31 TON — USE 37.31 TON

ITEM 659 - LIME
267488 SQ YD x 9 = 2407392.00 SQ FT
2407392.00 SQ FT / 43560 = 55.2661157 ACRE — USE 55.27 ACRE

ITEM 659 - WATER
267488 SQ YD x 9 = 2407392.00 SQ FT
2407392.00 SQ FT / 1000 x 300 GAL x 2 APPLICATIONS = 1444.44 M GAL
13374 SQ YD x 9 = 120366.00 SQ FT
120366.00 SQ FT / 1000 x 300 GAL = 36.11 M GAL
1444.44 M GAL + 36.11 M GAL = 1480.55 M GAL — USE 1481 M GAL

TOTALS CARRIED TO GENERAL NOTES SHEET 34.

CALCULATED JGL CHECKED JJM

EARTHWORK SUBSUMMARY

RIC-30-9.26

395
1669

M:\5074\93455\Design\Roadway\Sheets\93455GS0005.dgn 2/21/2020 2:59:43 PM acb284

SEEDING END WIDTH	SEEDING SQ. YDS.
75	397
68	381
69	372
65	353
	1503

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
285	266		
		545	496
		304	270
		581	498
324	268		
		590	487
313	258		
		365	267
		208	1748

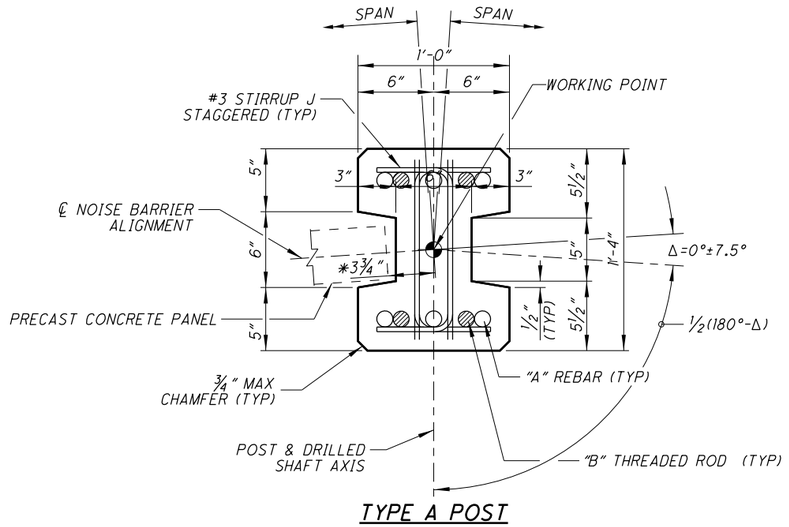
CALCULATED JGL
CHECKED SDS

CROSS SECTIONS - U.S. 30
STA 604+00 TO STA 605+50

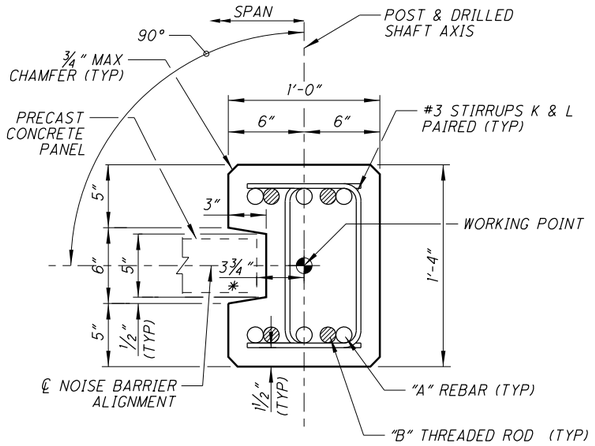
RIC-30-9.26

661
1669

M:\15074\93455\Design\Roadway\Sheets\93455XS0059.dgn 2/20/2020 3:50:48 PM acb284



TYPE A POST



TYPE B POST

16" PRECAST CONCRETE POST DATA

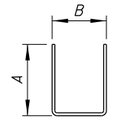
GEOMETRY		TYPE A POST					TYPE B POST				
BARRIER HEIGHT (BH)	MAX POST SPACING (SPAN)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)
8'≤BH≤16'	16'-0"	#6	#6	¾	30	10	#5	#5	⅝	25	10
	24'-0"	#7	#7	⅞	34	10	#6	#6	¾	29	10
16'≤BH≤25'	16'-0"	#10	#10	1¼	67	9	#7	#7	⅞	34	10
	24'-0"	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

◇ - USE 20" PRECAST CONCRETE POST; SEE SHEET 972/1669 .

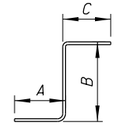
#3 STIRRUP SCHEDULE

MARK	TYPE	LENGTH	DIMENSIONS A	B	C
J	1	1'-11"	6"	1'-1"	
K	1	2'-5"	9"	1'-1"	
L	1	1'-11"	6"	1'-1"	
M	1	1'-4½"	3½"	11½"	
N	1	2'-3½"	9"	11½"	
P	2	1'-8"	4½"	1'-1"	4½"
R	2	1'-6¼"	4½"	1'-0¼"	3½"

BENDING DIAGRAMS



TYPE-1



TYPE-2

LEGEND

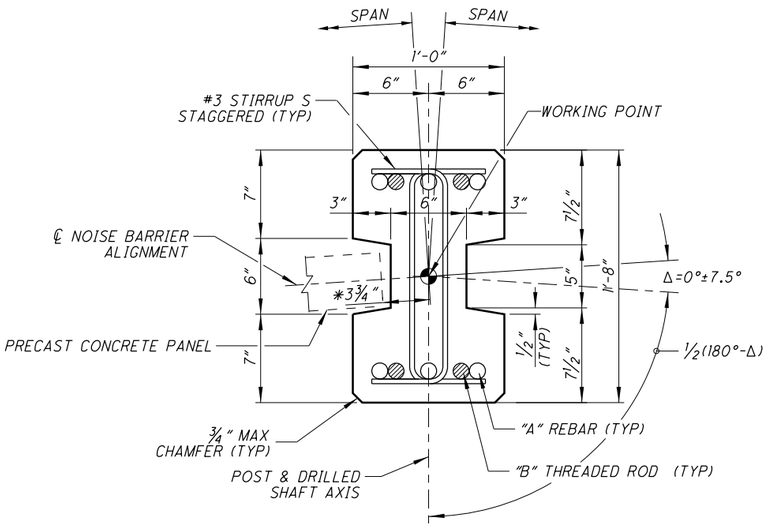
* = PANEL LENGTH DEDUCTION (PLD) DIMENSION AS SHOWN IN "PLD TABLE" ON SHEET 5/13 OF STANDARD DRAWING NBS-1-09.
TR.E = THREADED ROD EMBEDMENT, SEE SHEET 7/13 OF STANDARD DRAWING NBS-1-09.
SS = STIRRUP SPACING, SEE SHEET 7/13 OF STANDARD DRAWING NBS-1-09.
ϕ = MINIMUM NOMINAL THREAD DIAMETER
⌖ = CENTER OF DRILLED SHAFT

CALCULATED JGL CHECKED HK

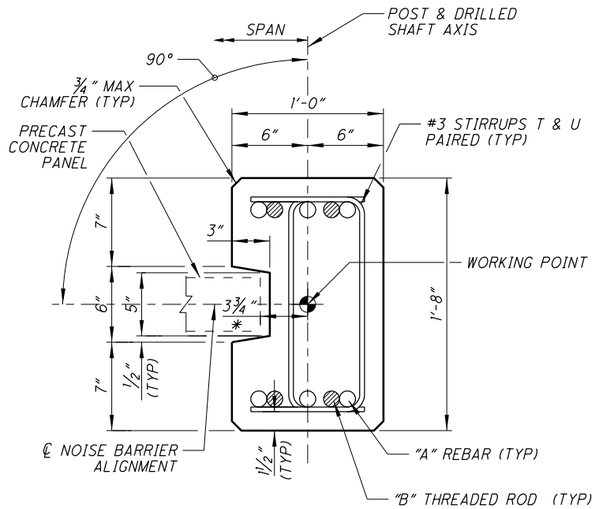
NOISE BARRIER MISCELLANEOUS DETAILS

RIC-30-9.26

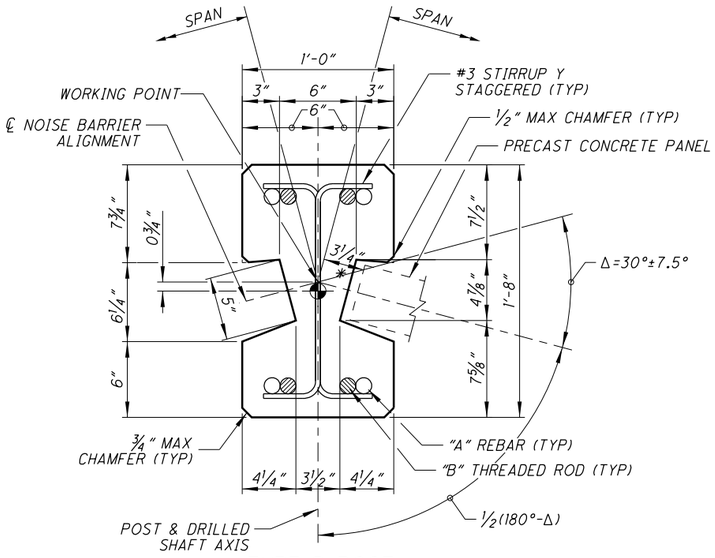
971/1669



TYPE A POST



TYPE B POST



TYPE D POST

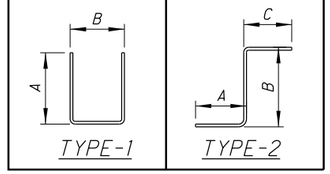
20" PRECAST CONCRETE POST DATA

GEOMETRY		TYPE A POST					TYPE B POST					TYPE D POST				
BARRIER HEIGHT (BH)	MAX POST SPACING (SPAN)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)
BH≤23'	24'-0"	#10	#10	1¼	67	12	#7	#7	⅞	34	13	#11	#11	1⅜	81	10
BH≤24'	23'-0"	#10	#10	1¼	67	12	#7	#7	⅞	34	13	#11	#11	1⅜	81	10
BH≤25'	21'-0"	#10	#10	1¼	67	12	#7	#7	⅞	34	13	#11	#11	1⅜	81	10
BH≤25'	16'-0"	#8	#8	1	42	12	#6	#6	¾	30	13	#10	#10	1¼	67	12

#3 STIRRUP SCHEDULE

MARK	TYPE	LENGTH	DIMENSIONS A	B	C
S	1	2'-3"	6"	1'-5"	
T	1	2'-9"	9"	1'-5"	
U	1	2'-3"	6"	1'-5"	
W	1	1'-7"	3½"	1'-2"	
X	1	2'-6"	9"	1'-2"	
Y	2	2'-0"	4½"	1'-5"	4½"
Z	2	1'-9¾"	4½"	1'-3¾"	3½"

BENDING DIAGRAMS



LEGEND

* = PANEL LENGTH DEDUCTION (PLD) DIMENSION AS SHOWN IN "PLD TABLE" ON SHEET 5/13 OF STANDARD DRAWING NBS-1-09.

TR.E = THREADED ROD EMBEDMENT, SEE SHEET 7/13 OF STANDARD DRAWING NBS-1-09.

SS = STIRRUP SPACING, SEE SHEET 7/13 OF STANDARD DRAWING NBS-1-09.

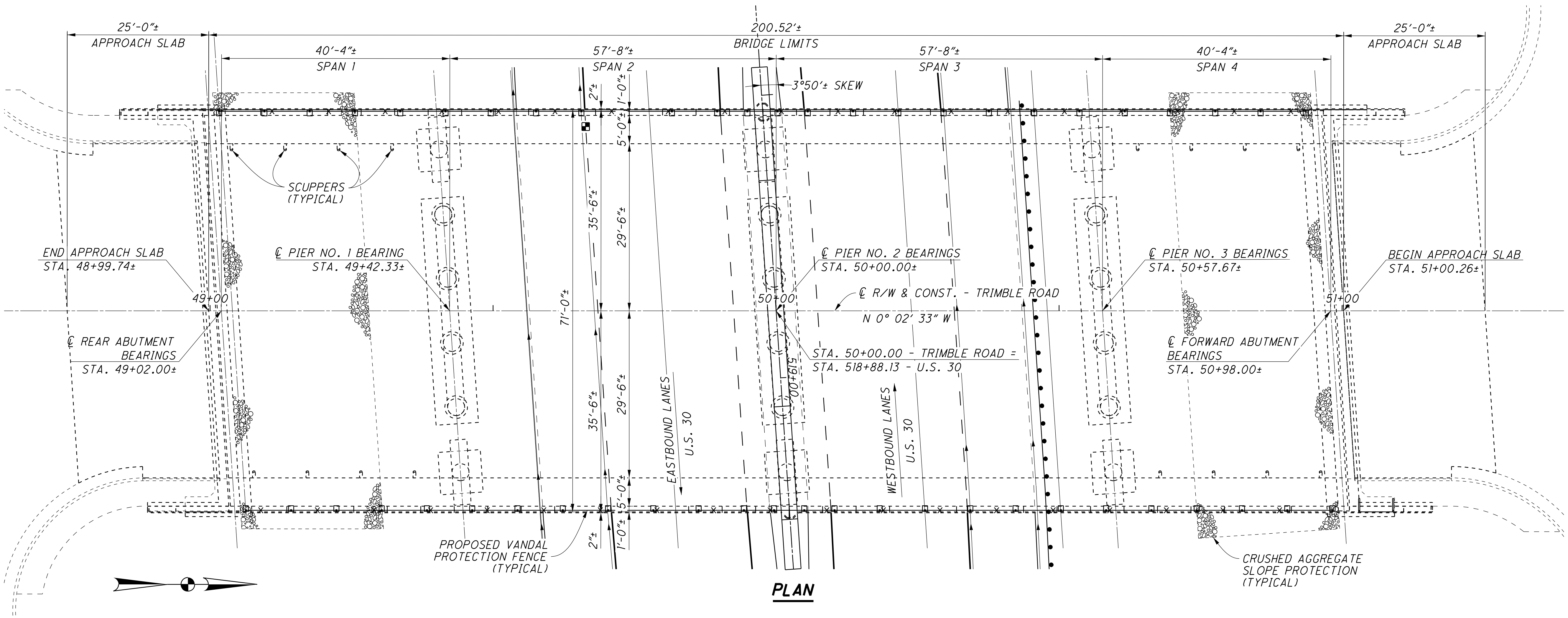
ϕ = MINIMUM NOMINAL THREAD DIAMETER

⌖ = CENTER OF DRILLED SHAFT

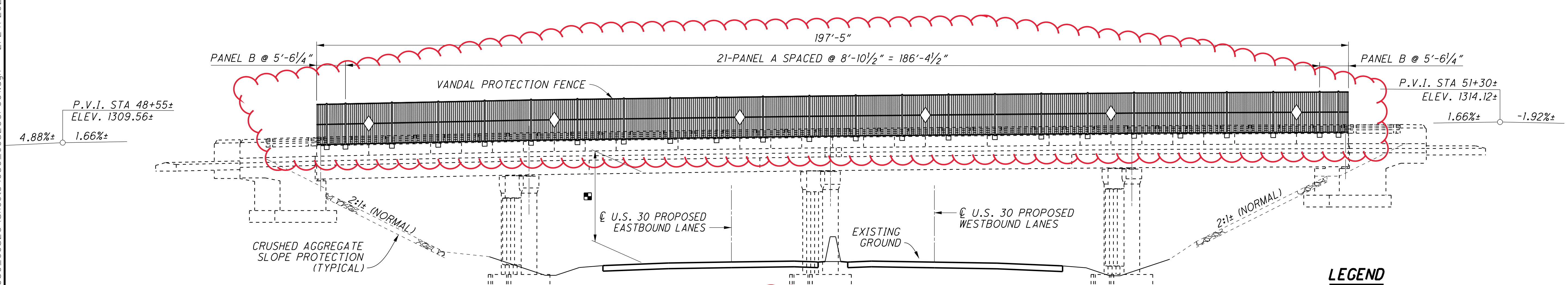
CALCULATED JGL CHECKED HK

NOISE BARRIER MISCELLANEOUS DETAILS

RIC-30-9.26



PLAN



ELEVATION

(RIGHT SIDE)

VERTICAL CLEARANCE

EXISTING:	15.19'
PROPOSED:	16.75'
REQUIRED:	16.50'

VERTICAL CURVE DATA

L = 200'±	L = 350'±
g¹ = 4.88%±	g¹ = 1.66%±
g² = 1.66%±	g² = -1.92%±
PVI STA. 48+55±	PVI STA. 51+30±
ELEV. 1309.56±	ELEV. 1314.12±

LEGEND

—x— VANDAL FENCE

NOTES

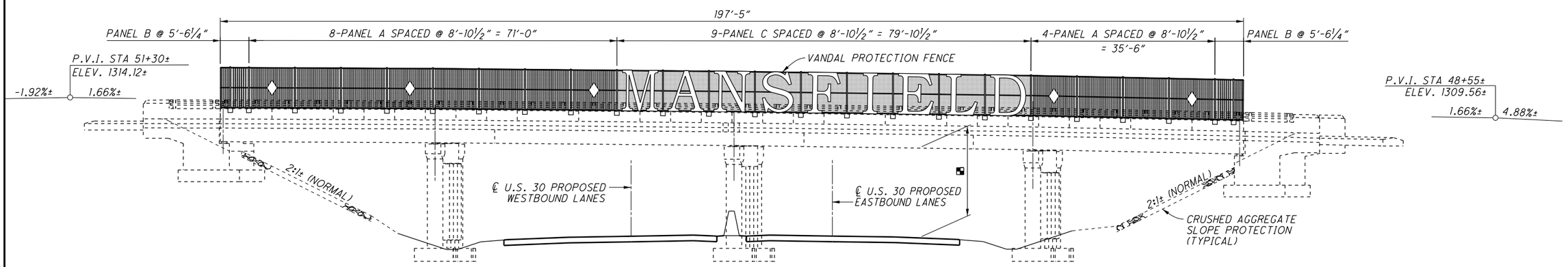
1. FOR PANEL A AND PANEL B DETAILS SEE SHEET 6/7.
2. FOR DETAILS OF THE LEFT SIDE OF BRIDGE SEE SHEET 2/7.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED HK	DRAWN TAC	REVIEWED SDS	DATE 9-24-19
CHECKED BDH	REVISED	STRUCTURE FILE NUMBER 7001088	

GENERAL PLAN AND FENCE DETAIL
BRIDGE NO. RIC-30-0982
UNDER TRIMBLE ROAD

RIC-30-9.26
PID No. 98911



ELEVATION
(LEFT SIDE)

VERTICAL CLEARANCE

EXISTING: 15.19'
PROPOSED: 16.75'
REQUIRED: 16.50'

LEGEND

——×—— VANDAL FENCE

NOTES

1. FOR PANEL A AND PANEL B DETAILS SEE SHEET 6/7.
2. FOR PANEL C DETAILS SEE SHEET 7/7.
3. FOR FENCE DETAILS ON RIGHT SIDE OF BRIDGE SEE SHEET 1/7.

M:\15074\93455\Design\Structures\RIC030_0982C\Sheets\030_0982CSA001.dgn 2/24/2020 10:17:38 AM acb284

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
3665 ELECTRIC AVENUE, AKRON, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001088	

FENCE ELEVATION
BRIDGE NO. RIC-30-0982
UNDER TRIMBLE ROAD

RIC-30-9.26
PID No. 98911

2 / 7

1199A
1669

CALC:	RLE	DATE:	8/30/2019
CHECKED:	TAC	DATE:	8/30/2019

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL 03/NHS/BR	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
607	39911	395	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN			395		1/7 THRU 7/7

ITEM 607 VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN
DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING AND INSTALLING VANDAL FENCING AND LETTERS ON EXISTING CONCRETE BRIDGE RAILING. FENCE IS TO BE CONSTRUCTED IN A MANNER THAT PROVIDES A RIGID, TAUT FENCE CLOSELY CONFORMING TO THE TOP SURFACE OF THE EXISTING RAILING. UNLESS OTHERWISE SPECIFIED IN THE PLANS, INSTALL POSTS PLUMB.

POSTS: POSTS SHALL BE 2½" SQUARE (OUTSIDE DIMENSION) WITH ⅛" WALL THICKNESS AND WELDED IRON CAP. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

HORIZONTAL MEMBERS: HORIZONTAL MEMBERS SHALL BE 1½" SQUARE CHANNEL WITH ⅛" WALL THICKNESS. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

PICKETS: PICKETS SHALL BE ¾" SQUARE SOLID IRON. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH THE FENCE.

BASE PLATES: BASE PLATES SHALL BE ASTM A709 GRADE 36 OR 50 STEEL. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

FASTENERS: THE ½" DIAMETER, HIGH STRENGTH BOLTS, THREADED ANCHORS, ½" DIAMETER BOLTS, NUTS AND WASHERS SHALL MEET THE REQUIREMENTS OF ASTM A325. ALL HARDWARE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH THE FENCE. THE ½" DIAMETER THREADED ROD FOR ADHESIVE ANCHORS SHALL BE ASTM A 193, GRADE B7 WITH ASTM A 563 NUTS AND ASTM F 436 WASHERS.

USE AN ANCHOR ADHESIVE EVALUATED ACCORDING TO ICCES REPORT AC308, "ACCEPTANCE CRITERIA FOR POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE ELEMENTS". FOR CRACKED AND UN-CRACKED CONCRETE APPLICATIONS. PUBLISHED ICCES REPORTS FOR ACCEPTABLE PRODUCTS ARE AVAILABLE AT:
WWW.ICC-ES.ORG/EVALUATION _REPORTS/INDEX.SHTML

SELECT FROM ONE OF THE FOLLOWING APPROVED PRODUCTS:
POWERS PE1000+ EPOXY ADHESIVE ANCHOR SYSTEM
(ICCES REPORT ESR-2583)
CHEMOFAST C-RE 385 EPOXY ADHESIVE ANCHOR SYSTEM
(ICCES REPORT ESR-2538)
SIMPSON STRONG-TIE SET-XP EPOXY ADHESIVE ANCHORS
(ICCES REPORT ESR-2508)
WURTH WIT-PE500 EPOXY ADHESIVE ANCHORS
(ICCES REPORT ESR-3051)
HILTI-HY 200-R ADHESIVE ANCHOR SYSTEM
(ICCES REPORT ESR-3187)

INSTALL ADHESIVE ANCHORS ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS PUBLISHED IN SECTION 4.3 OF THE ICCES REPORTS LISTED ABOVE. THE MINIMUM EMBEDMENT DEPTH FOR ANCHORS SHALL BE 7".

THE CONTRACTOR MAY SUBSTITUTE MECHANICAL ANCHORS FOR THE HORIZONTAL ANCHORS IN LIEU OF INTERNALLY THREADED ADHESIVE ANCHORS. THE FACTORED LOADING ON THE TWO ANCHOR HORIZONTAL CONNECTION CONSIST OF 7.1 KIPS OF TENSION AND 1.4 KIPS OF SHEAR. THE MECHANICAL ANCHORS SHALL BE EVALUATED ACCORDING TO ICCES REPORT AC193, "ACCEPTANCE CRITERIA FOR MECHANICAL ANCHORS IN CONCRETE ELEMENTS", FOR CRACKED AND UN-CRACKED APPLICATIONS. PUBLISHED ICCES REPORTS FOR ACCEPTABLE PRODUCTS ARE AVAILABLE AT:
WWW.ICC-ES.ORG/EVALUATION _REPORTS/INDEX.SHTML

THE CONTRACTOR SHALL SUPPLY DOCUMENTATION SEALED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER ENSURING THAT THE SELECTED MECHANICAL ANCHORAGE PROVIDES SUFFICIENT CAPACITY FOR THIS APPLICATION IN ACCORDANCE WITH AC193. INSTALL ANCHORS ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS PUBLISHED IN THE ICCES REPORT.

TENSION BARS: TENSION BARS SHALL BE 3/16" x ½" STEEL. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

TENSION BANDS: TENSION BANDS SHALL BE ⅛" x 1" STEEL ASSEMBLED WITH ⅜" DIAMETER x 1¼" BOLTS. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH THE FENCE. ONE TENSION BAND SHALL BE SUPPLIED FOR EACH FOOT OF FABRIC HEIGHT.

ITEM 607 VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN (CONTINUED)
DOUBLE WRAP FABRIC TIES: DOUBLE WRAP FABRIC TIES SHALL BE 0.091 INCH CORE DIAMETER PVC COATED STEEL WIRE 15¼" LONG. THE PVC COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE. TO CONNECT THE FABRIC TO HORIZONTAL MEMBERS USE DOUBLE WRAP TIES 2 TO 3 INCHES ON EACH SIDE OF THE POSTS AND AT SPACING NOT TO EXCEED 12" BETWEEN POSTS.

FABRIC: FABRIC SHALL CONSIST OF A 1" DIAMOND MESH USING 0.12 INCH DIAMETER (11 GAGE) WIRE CONFORMING TO ASTM F668 CLASS 2A OR 2B EXCEPT AS NOTED. THE PVC COATING SHALL BE POWDER COATED BLACK IN COLOR CLOSELY APPROXIMATING FEDERAL STANDARD NO. 595B-17038. SELVAGES SHALL BE KNUCKLED AT BOTH ENDS. HANDLE ALL PVC COATED FABRIC WITH CARE. IF THE PVC COATING IS DAMAGED, REPLACE THE DAMAGED PORTION OF THE FABRIC AT NO COST TO THE DEPARTMENT.

LETTERS AND DIAMONDS: LETTERS AND DIAMONDS SHALL BE GALVANIZED PER CMS 711.02. PRIOR TO GALVANIZING, ALL CORNERS OF THERMALLY CUT OR SHEARED EDGES SHALL HAVE A 1/16 INCH RADIUS OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE. VENT HOLES WHERE REQUIRED FOR GALVANIZING SHALL BE DETAILED BY THE FABRICATOR AND PLACED IN THE UNDERSIDE OF THE MEMBER.

AFTER GALVANIZING, ZINC HIGH SPOTS SUCH AS METAL DRIP LINES AND OTHER FLAWS THAT WOULD DETRACT FROM THE PAINT APPEARANCE SHALL BE MADE FLUSH WITH THE SURROUNDING SURFACE BY RETEXTURING TO SSPC SP2 OR SP3. CARE SHALL BE TAKEN THAT THE BASE GALVANIZED COATING IS NOT REMOVED. REPAIRED AREAS SHALL BE CHECKED FOR REQUIRED COATING THICKNESS.

GALVANIZED COATINGS DAMAGED IN THE SHOP SHALL BE REPAIRED PER ASTM A780 METHOD A3. GALVANIZED COATINGS DAMAGED IN THE FIELD SHALL BE REPAIRED PER ASTM A780 METHOD A1.

AFTER REMOVING HIGH SPOTS, THE GALVANIZED COATING SHALL BE CLEANED PER SSPC SP1. THE CLEANING SOLUTION SHALL BE AN ALKALINE WITH A PH RANGING FROM A MINIMUM OF 11 TO A MAXIMUM OF 12. THIS SOLUTION CAN BE APPLIED BY IMMERSION, SPRAY OR SOFT NYLON BRUSH. FOLLOWING CLEANING WITH A HOT WATER OR HOT PRESSURE WASHER RINSE, INDIVIDUAL PIECES SHALL BE SEPARATED AND POSITIONED TO FACILITATE DRAINAGE AND DRYING. THE PIECES SHALL BE COMPLETELY DRY BEFORE PROCEEDING.

AFTER CLEANING, THE PIECES SHALL BE ABRASIVE BLASTED PER SSPC SPT BRUSH-OFF BLAST CLEANING. THE BLASTING OPERATION SHALL ROUGHEN THE GALVANIZED SURFACE TO AN ANGULAR SURFACE PROFILE OF 0.25 TO 0.5 MILS. THE BLASTING EQUIPMENT, TECHNIQUE AND ABRASIVE MATERIAL SHALL BE SELECTED TO PROVIDE FOR THE SPECIFIED SURFACE PROFILE WITHOUT REMOVAL OF ZINC LAYERS. THE FINAL ZINC MILLAGE SHALL NOT BE LESS THAN 3.0 MILS. ALL ABRASIVE RESIDUE SHALL BE REMOVED WITH CLEAN COMPRESSED AIR OR OTHER METHODS ACCEPTABLE TO THE DEPARTMENT. FIELD CONNECTION AREAS SHALL HAVE A UNIFORM GALVANIZED COATING FREE OF LOCAL EXCESSIVE ROUGHNESS WHICH WOULD PREVENT THE CONNECTIONS FROM MAKING INTIMATE CONTACT.

ALL LETTERS AND DIAMONDS PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH THE FENCE.

FILLET WELDS: FILLET WELDS SHALL CONFORM TO CMS 513.

SHIM PLATES: SHIM PLATES SHALL BE MADE FROM ANY MULTI-POLYMER PLASTIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI. IN ORDER TO INSTALL POSTS PLUMB, ENDS OF POSTS AND SLEEVES MAY BE CUT ON A BIAS.

ACCESS OPENING AT LIGHT POLE: ALL ⅜" DIAMETER HEX HEAD BOLTS WITH WASHERS AND HEX NUT SHALL MEET THE REQUIREMENTS OF ASTM A325. THE ¼"x2"x1'-8" PLATES AND 1'-8" SQUARE x 3/16" ACCESS COVER, ALL HARDWARE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH THE FENCE.

FIELD TOUCH-UP AND REPAIR OF PROTECTIVE COATING: FOR TOUCH-UP AND REPAIR OF POWDER COATING FOLLOW MANUFACTURERS GUIDE LINES.

SHOP DRAWINGS: PROVIDE SHOP DRAWINGS FOR ORNAMENTAL RAILING (POSTS, HORIZONTAL MEMBERS, BASE PLATES AND PICKETS) PER CMS 501.04.

MAINTENANCE OF TRAFFIC: MAINTAIN TRAFFIC AS INDICATED IN THE PLANS.

(SEE SHEET 40/1669)

ITEM 607 VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN (CONTINUED)
CAULKING COMPOUND: CAULKING COMPOUND SHALL CONFORM TO FEDERAL SPECIFICATION TT-S-00230C TYPE II CLASS A, ALUMINUM GRAY. WHEN APPLYING THE CAULK TO THE BASE PLATE, PROVIDE A 1" OPENING THROUGH THE CAULKING ON LOW SIDE OF BASE PLATE.

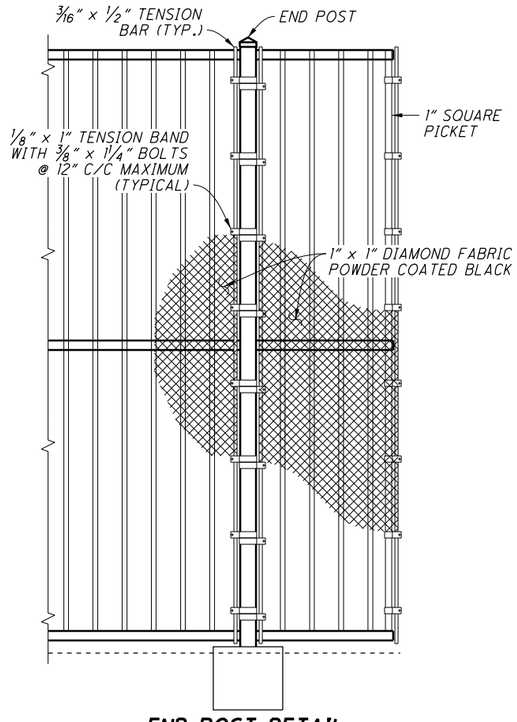
FENCE GROUNDING: VANDAL PROTECTION FENCE SHALL BE GROUNDED AS SHOWN IN THE PLANS AND SHALL INCLUDE ALL EQUIPMENT MATERIALS AND LABOR NECESSARY TO COMPLETE THE WORK.

CONSTRUCTION PROCEDURE:
1. FIELD VERIFY THE PLAN LOCATIONS OF ALL BASE PLATES AND MARK PARAPETS ACCORDINGLY.
2. MARK AND DRILL HOLES FOR THE ½" HIGH STRENGTH THREADED ANCHORS, ½" BOLTS OR APPROVED ½" INSERTS USING A BASE PLATE OR TEMPLATE.
3. INSTALL ½" DIAMETER HIGH STRENGTH THREADED ANCHORS, ½" BOLTS, OR APPROVED ½" INSERTS.
4. INSTALL POSTS AND BASE PLATES AND SHIM WHERE REQUIRED.
5. CAULK EDGES OF BASE PLATES, SHIMS AND SLEEVES.
6. COMPLETE INSTALLATION OF FENCE.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY BY THE FOOT. THE DEPARTMENT WILL MEASURE ALONG THE BOTTOM OF THE FENCE FROM CENTER TO CENTER OF END POSTS.

BASIS OF PAYMENT: THE DEPARTMENT WILL MAKE PAYMENT FOR THE COMPLETED AND ACCEPTED QUANTITIES OF VANDAL FENCE AS FOLLOWS:

ITEM UNIT DESCRIPTION
607 FT VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN



END POST DETAIL

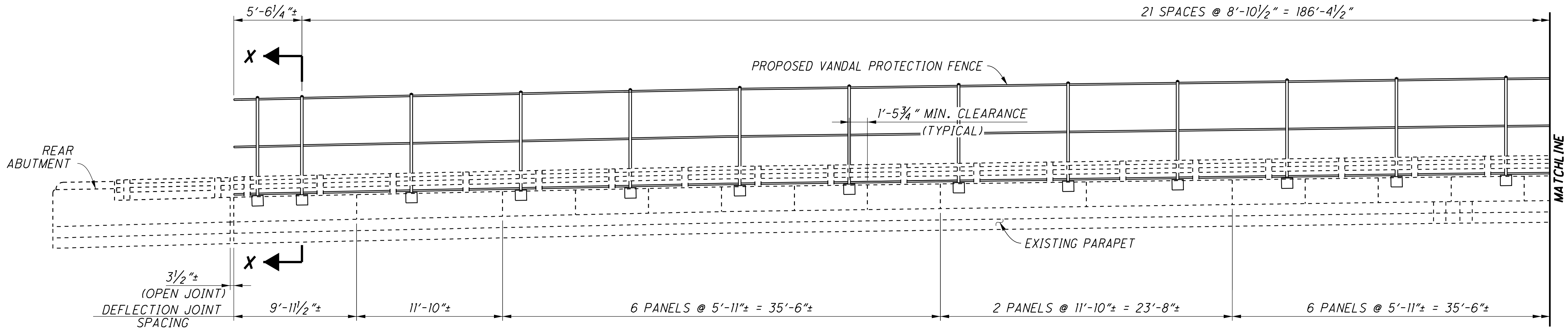
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-6677

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001088	

FENCE NOTES
BRIDGE NO. RIC-30-0982
UNDER TRIMBLE ROAD

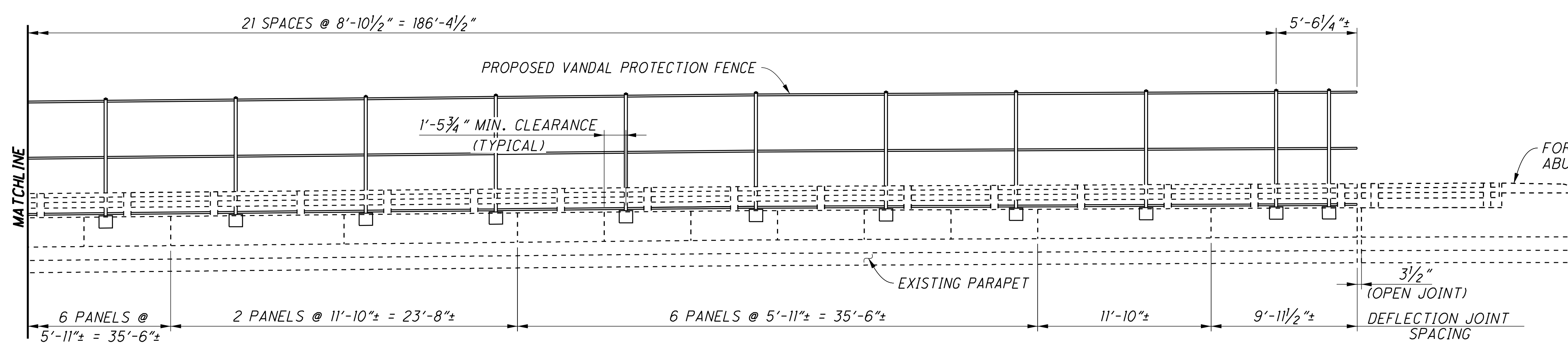
RIC-30-09.26
PID No. 93455

M:\15074\93455\Design\Structures\RIC030_0982C\Sheets\030_0982CSA002.dgn 2/24/2020 10:19:56 AM ccb284



FENCE ELEVATION

(LOOKING WEST)



FENCE ELEVATION

(LOOKING WEST)

NOTES

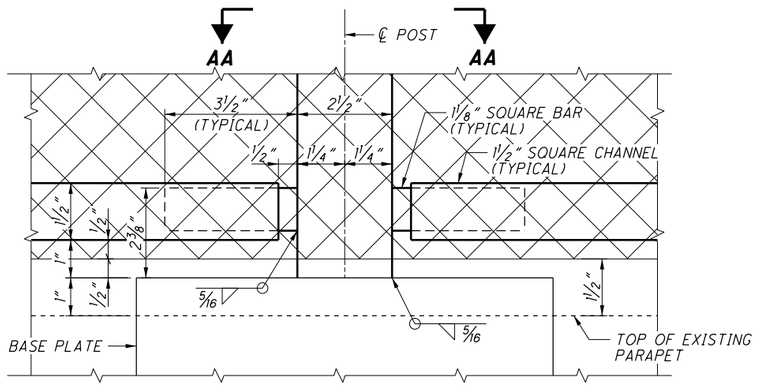
1. FOR SECTION X-X SEE SHEET 5/7.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-8077

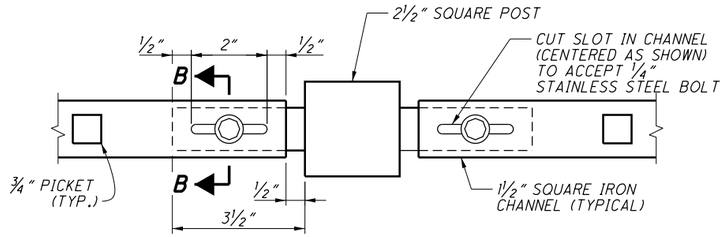
DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001088	

FENCE ELEVATION
BRIDGE NO. RIC-30-0982
UNDER TRIMBLE ROAD

RIC-30-09.26
PID No. 93455

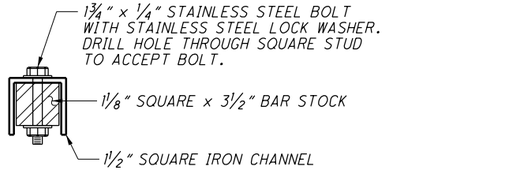


FENCE POST DETAIL

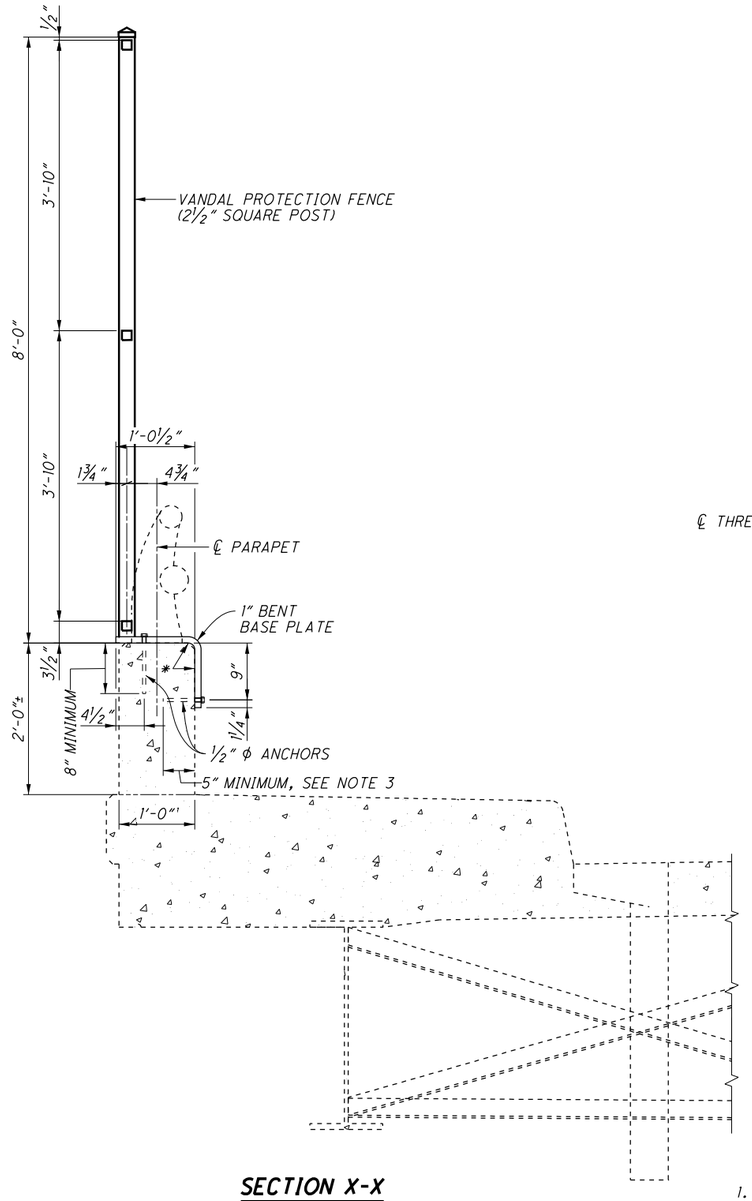


VIEW AA-AA

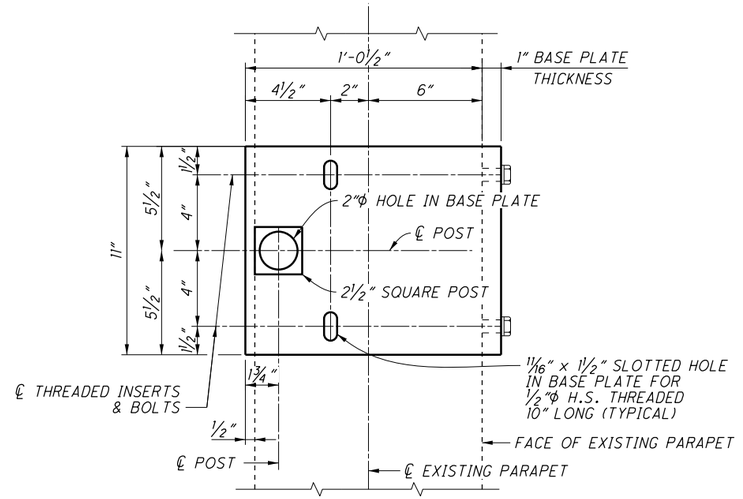
(SLIP JOINT)



SECTION B-B



SECTION X-X



PLAN - BASE PLATE

LEGEND

* - CAULKING COMPOUND

NOTES

1. EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE. 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 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 DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.
2. FOR FENCE ELEVATION SEE SHEET 4/7.
3. INTERNALLY THREADED ADHESIVE ANCHOR INSERTS REQUIRED FOR THIS LOCATION. SEE FENCE NOTES FOR SUBSTITUTING MECHANICAL ANCHORS.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
3600 GLICK ROAD, ANNISTON, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

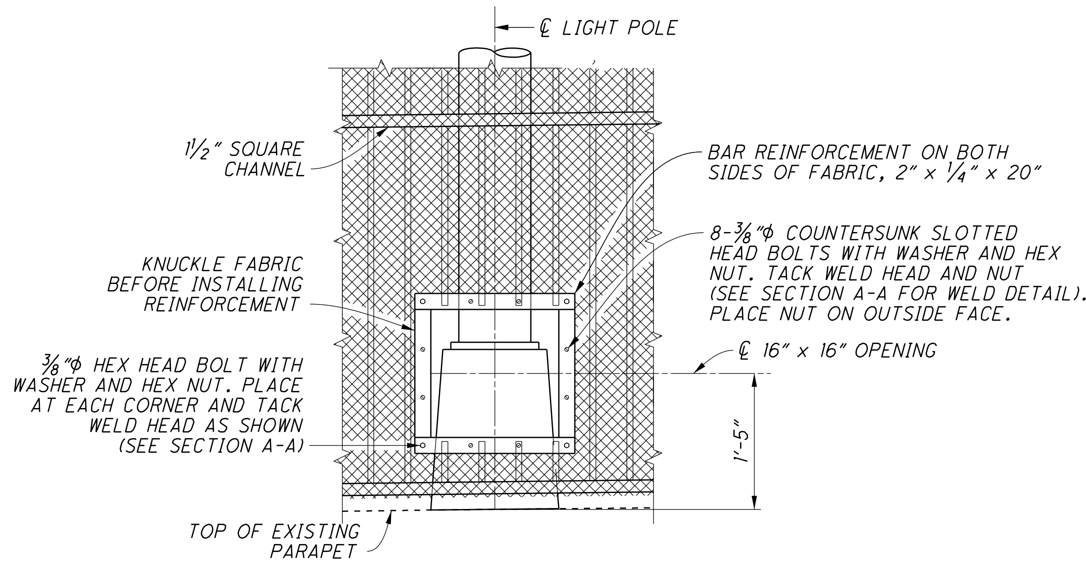
DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001088	

FENCE DETAIL
BRIDGE NO. RIC-30-0892
UNDER TRIMBLE ROAD

RIC-30-09.26
PID No. 93455

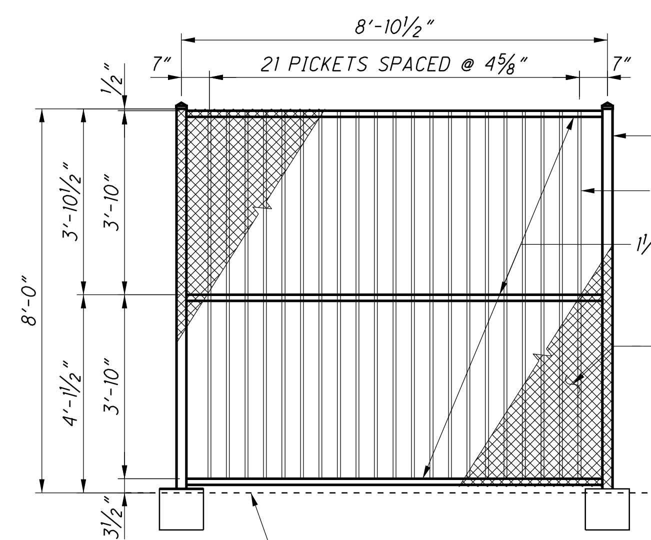
5 / 7

1202
1669

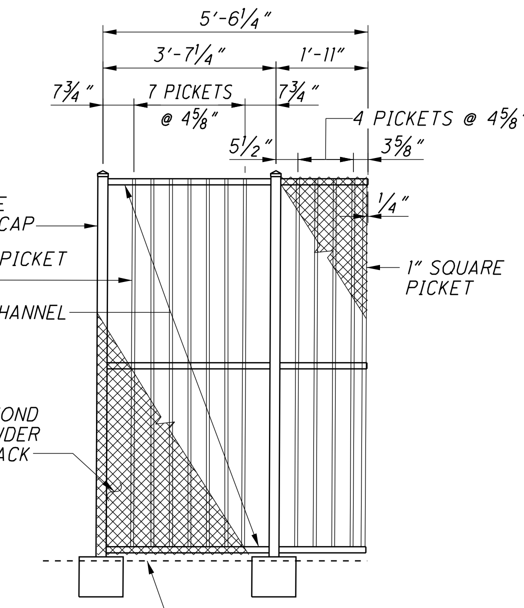


ACCESS OPENING AT LIGHT POLE

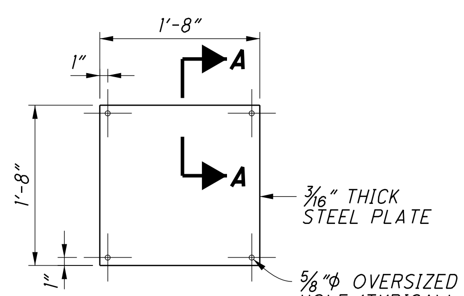
(COVER NOT SHOWN)



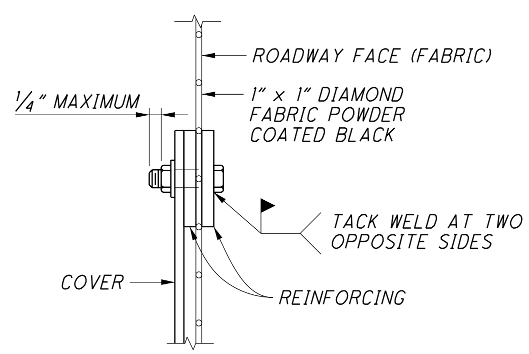
PANEL A FENCE ELEVATION



PANEL B FENCE ELEVATION

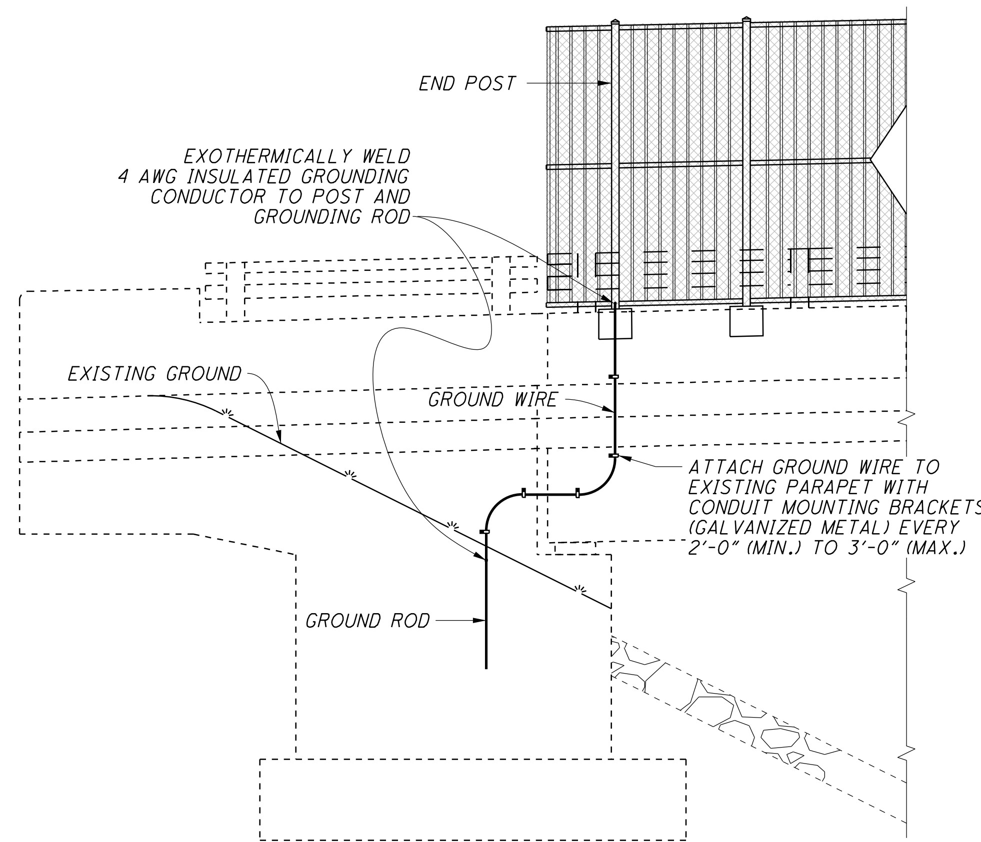


ACCESS COVER

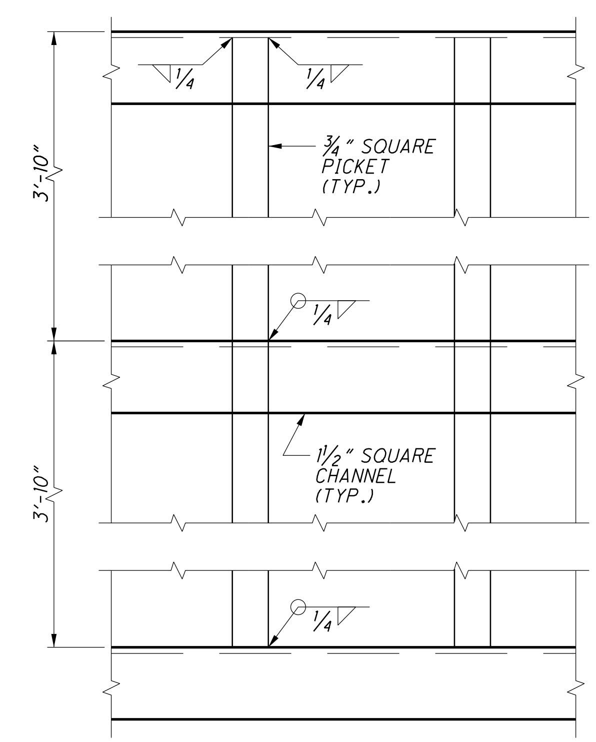


SECTION A-A

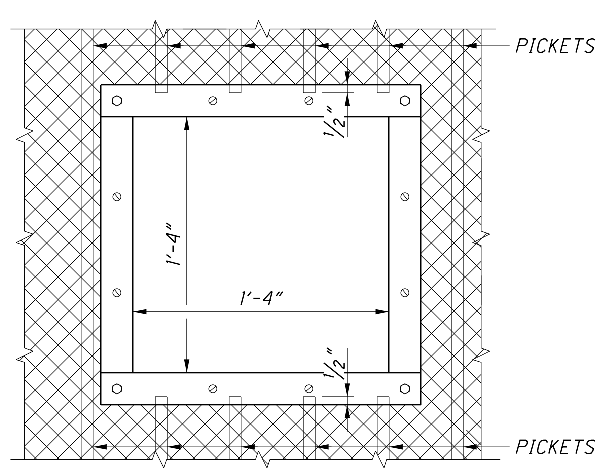
(SHOWING CORNER BOLT)



FENCE GROUNDING DETAIL



PICKET DETAIL



ACCESS OPENING DETAIL

NOTES

1. FOR ADDITIONAL DETAILS AND NOTES SEE SHEET 5/7.
2. GROUND EACH CORNER OF THE BRIDGE.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED BDH	REVISED	STRUCTURE FILE NUMBER 7001088	

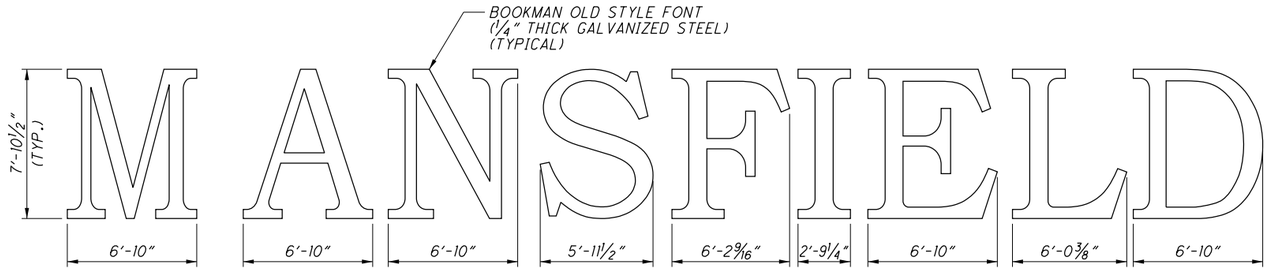
FENCE DETAIL

BRIDGE NO. RIC-30-0892

UNDER TRIMBLE ROAD

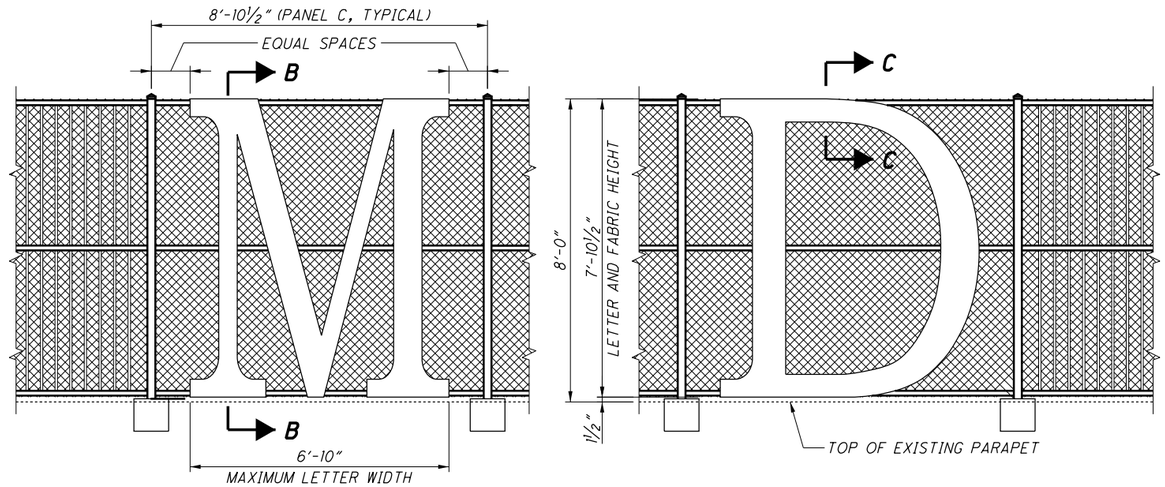
RIC-30-09.26

PID No. 93455



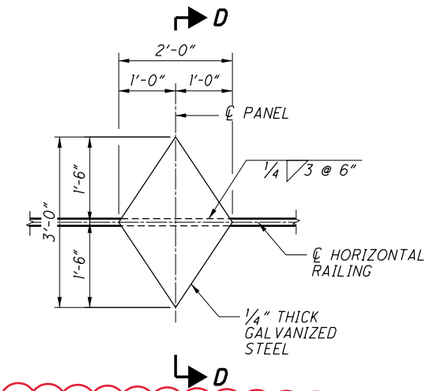
LETTER DETAILS

LETTER	FONT	AREA (S.F.)	WEIGHT (LB.)	QTY.	TOTAL WEIGHT
M	BOOKMAN OLD STYLE	21.36	218.05	1	218.05
A	BOOKMAN OLD STYLE	14.7	150.06	1	150.06
N	BOOKMAN OLD STYLE	19.35	197.53	1	197.53
S	BOOKMAN OLD STYLE	17.84	182.12	1	182.12
F	BOOKMAN OLD STYLE	15.78	161.09	1	161.09
I	BOOKMAN OLD STYLE	9.5	96.98	1	96.98
E	BOOKMAN OLD STYLE	19.63	200.39	1	200.39
L	BOOKMAN OLD STYLE	12.89	131.59	1	131.59
D	BOOKMAN OLD STYLE	18.71	191.00	1	191.00
◇	SEE DIAMOND DETAIL	3.0	30.63	11	336.93



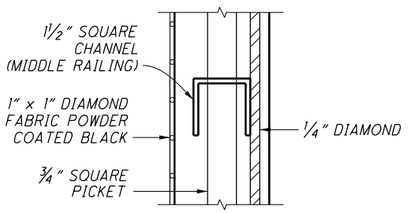
PANEL C - LETTER LOCATION DETAIL

(PICKETS ARE NOT IN PANEL C)

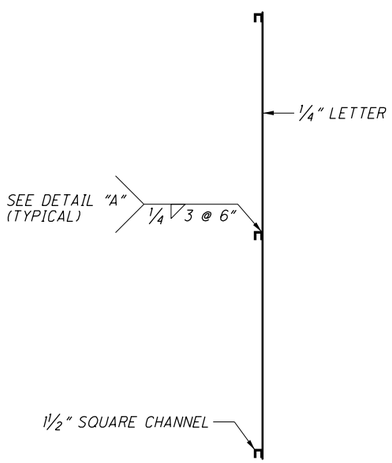


DIAMOND DETAIL

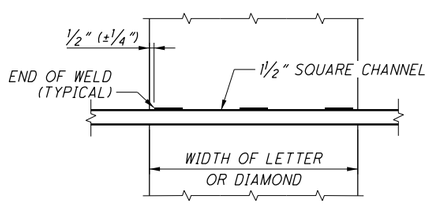
(PLACE DIAMONDS ON FENCE PANEL A AS SHOWN IN THE PLANS)



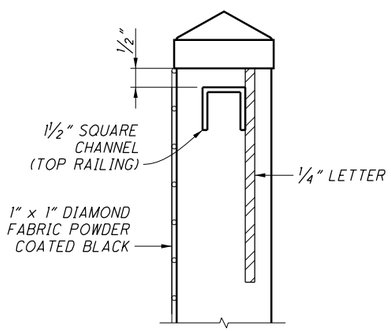
SECTION D-D



SECTION B-B



DETAIL "A"



SECTION C-C

NOTES

1. DIMENSIONS GIVEN FOR FENCE LETTERING ARE INCOMPLETE. OVERALL DIMENSIONS AND THE APPROXIMATE AREAS AND WEIGHT ARE GIVEN. OTHER DIMENSIONS ARE PROPORTIONAL TO THE FONT. AN ELECTRONIC COPY OF THIS FILE WILL BE MADE AVAILABLE TO THE CONTRACTOR THROUGH THE OHIO DEPARTMENT OF TRANSPORTATION IF REQUESTED.
2. EACH LETTER SHALL BE 1/4" THICK GALVANIZED STEEL. EACH LETTER SHALL BE CENTERED HORIZONTALLY ON THE 8'-0" WIDE FENCE PANELS INDICATED. SEE FENCE NOTES FOR DETAILS ABOUT GALVANIZING AND PAINTING OF FENCE.
3. AFTER GALVANIZING OF LETTERED FENCE UNITS HAS OCCURRED, WARPAGE OF LETTERS AND DIAMONDS SHALL BE CORRECTED TO WITHIN ½"± OF ITS ORIGINAL FLAT SHAPE.
4. ALL LETTERS SHALL BE WELDED TO THE TOP, MIDDLE AND BOTTOM RAIL. WHERE THE LENGTH OF CONTACT BETWEEN THE LETTER AND THE RAIL IS GREATER THAN 10", STITCH WELDING SHALL BE USED AS SHOWN IN SECTION B-B AND DETAIL "A". WHERE THE LENGTH OF CONTACT IS LESS THAN 10" A CONTINUOUS 1/4" FILLET WELD TERMINATING ½" FROM THE EDGE OF THE LETTER SHALL BE USED.
5. DIAMONDS SHALL BE PLACED IN FENCE PANEL AS SHOWN IN THE PLANS.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-6677

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001088	

LETTER DETAILS
BRIDGE NO. RIC-30-0892
UNDER TRIMBLE ROAD

RIC-30-09.26
PID No. 93455

7 / 7

1203A
1669

STANDARD DRAWINGS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7-17-15
AS-2-15	REVISED	1-18-19
GSD-1-19	DATED	1-18-19
PCB-91	REVISED	1-18-13
SBR-1-13	REVISED	7-20-18
SBR-2-13	REVISED	7-20-18
SICD-1-96	REVISED	7-18-14
SICD-2-14	DATED	7-18-14
VPF-1-90	REVISED	7-20-18

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN LOADING
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT².

DESIGN DATA
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05

ITEM 203 EMBANKMENT, AS PER PLAN
PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 564+75 TO 570+75.

PILE DRIVING CONSTRAINTS
PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND THE PIER PILES, UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

DECK PLACEMENT ASSUMPTIONS
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.42 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

PILES TO BEDROCK
DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 125 KIPS PER PILE FOR THE ABUTMENT PILES. THE TOTAL FACTORED LOAD IS 262 KIPS PER PILE FOR THE PIER NO. 1 PILES.

ABUTMENT PILES: (HP 10X42)
70 PILES 45 FEET LONG, ORDER LENGTH

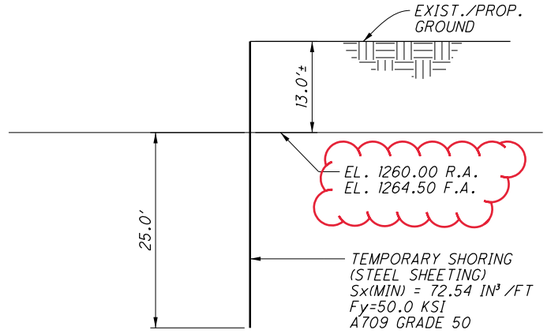
PIER NO. 1 PILES (HP 10X42)
36 PILES 35 FEET LONG, ORDER LENGTH

PIER NO. 2 PILES (HP 10X42)
36 PILES 20 FEET LONG, ORDER LENGTH

STRUCTURE PAINTING: ALL BRIDGE FINISH COATS SHALL BE THE SAME COLOR.

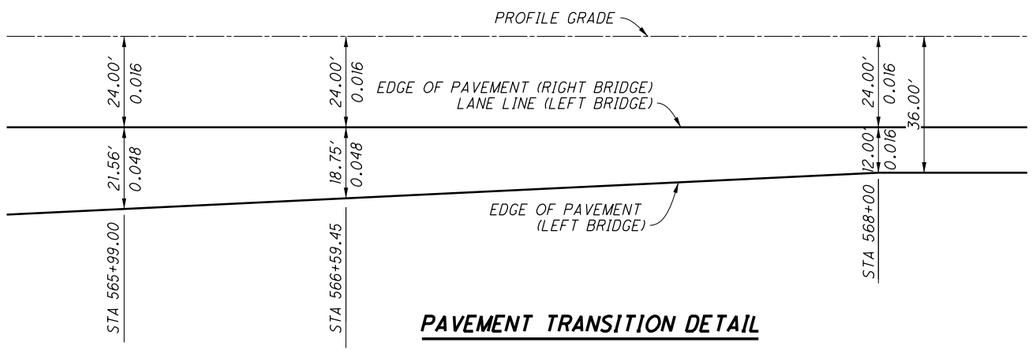
ABBREVIATIONS

ABUT.	-	ABUTMENT
APPR.	-	APPROACH
BRG.	-	BEARING
BOT.	-	BOTTOM
CONST. JT.	-	CONSTRUCTION JOINT
CLR.	-	CLEAR
CONST.	-	CONSTRUCTION
CORR.	-	CORRUGATED
DIA.	-	DIAMETER
DIM.	-	DIMENSION
DWG.	-	DRAWING
EL.	-	ELEVATION
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.A.	-	FORWARD ABUTMENT
FWD.	-	FORWARD
F.F.	-	FRONT FACE
FT.	-	FEET
LBS.	-	POUNDS
MAX.	-	MAXIMUM
MEAS.	-	MEASURED
MIN.	-	MINIMUM
OPT.	-	OPTIONAL
P.E.J.F.	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
R.F.	-	REAR FACE
REQ'D.	-	REQUIRED
SPA.	-	SPACING
STA.	-	STATION
T.O.S.	-	TOP OF SLOPE
TYP.	-	TYPICAL
U.O.N.	-	UNLESS OTHERWISE NOTED
VAR.	-	VARIES
W/	-	WITH



SECTION A-A
TEMPORARY SHORING DETAIL

NOTE: SEE SHEET 2/66 FOR LOCATION.



PAVEMENT TRANSITION DETAIL

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLEFONTAINE, OHIO 43311
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001119	

GENERAL NOTES
BRIDGE NO. RIC-30-1074
OVER S.R.39

RIC-30-9.26
PID No. 93455

3/66

1206
1669

CALC:	TAC	DATE:	5/7/2019
CHECKED:	RLE	DATE:	5/21/2019

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL 01/NHS/BR	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3/66
202	22900	311	SY	APPROACH SLAB REMOVED				311	
202	23500	311	SY	WEARING COURSE REMOVED				311	
202	98200	124	FT	REMOVAL MISC.:STEEL PILE (HP12x53)	54	70			17/66 & 18/66
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	3/66
503	21100	1174	CY	UNCLASSIFIED EXCAVATION	747	427			
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
507	00101	5130	FT	STEEL PILES HP10X42, FURNISHED, AS PER PLAN	3150	1980			17/66 & 18/66
507	00151	4420	FT	STEEL PILES HP10X42, DRIVEN, AS PER PLAN	2800	1620			17/66 & 18/66
507	93300	142	EACH	STEEL POINTS OR SHOES				142	
509	10000	304979	LB	EPOXY COATED REINFORCING STEEL	38719	67518	198742		
511	21523	878	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			878		35/66
511	33500	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE			4		
511	41012	206	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		206			
511	44112	178	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	178				
511	46512	360	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	232	128			
512	10100	1590	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	93	606	804	87	
512	10300	408	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			368	40	
512	33000	27	SY	TYPE 2 WATERPROOFING	27				
513	10260	603922	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			603922		
513	20000	11466	EACH	WELDED STUD SHEAR CONNECTORS			11466		
514	00800	603922	LB	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			603922		
514	00851	603922	LB	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			603922		3/66
514	10000	29	EACH	FINAL INSPECTION REPAIR			29		
516	10010	264	FT	ARMORLESS PREFORMED JOINT SEAL				264	
516	13600	32	SF	1" PREFORMED EXPANSION JOINT FILLER			32		
516	13900	624	SF	2" PREFORMED EXPANSION JOINT FILLER			181	443	
516	14020	333	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	333				
516	44101	26	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 13/16"x1'-2 1/2"x1'-5" W/ † x1'-3 1/2"x1'-6" BEVELED LOAD PLATE		26			31/66
516	44101	26	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 15/16"x1'-0"x1'-1" W/ 1 5/8"x1'-1"x1'-2" BEVELED LOAD PLATE	26				31/66
518	21200	185	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	185				
518	40000	348	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	348				
518	40010	62	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	62				
526	25001	666	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				666	48/66 THRU 53/66
526	90030	274	FT	TYPE C INSTALLATION				274	
601	21000	1501	SY	CONCRETE SLOPE PROTECTION				1501	
607	39900	354	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			354		

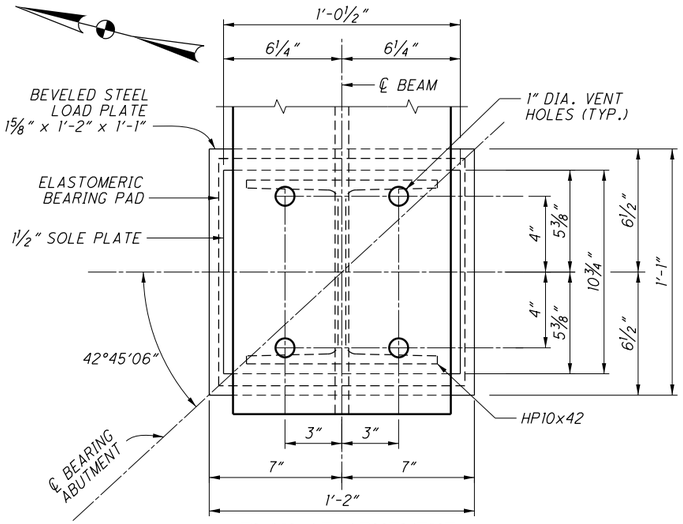
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLEFAIRE BOULEVARD, KENSINGTON, OHIO 44691
TELEPHONE (330) 345-6566
FAX: (330) 345-6077

DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED | STRUCTURE FILE NUMBER 7001119

ESTIMATED QUANTITIES
BRIDGE NO. RIC-30-1074
OVER S.R. 39

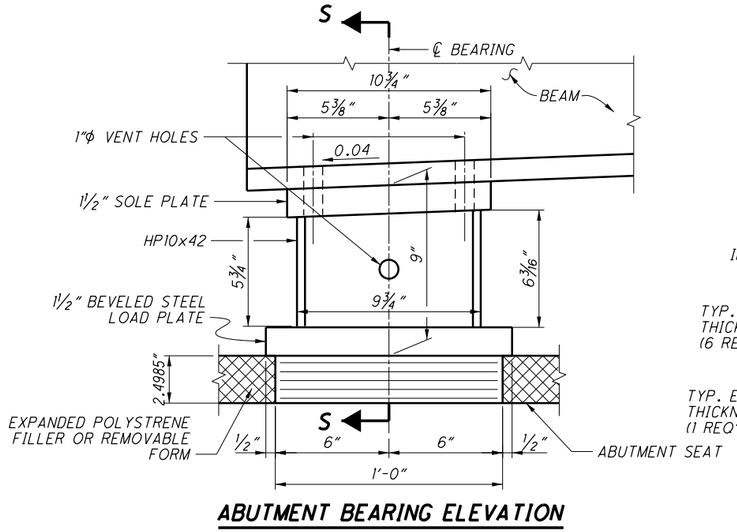
RIC-30-9.26
PID No. 93455

1207
1669

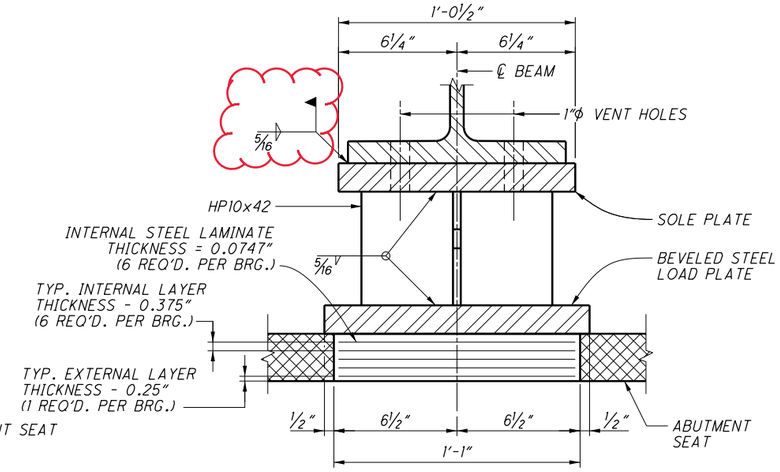


PLAN AT ABUTMENT

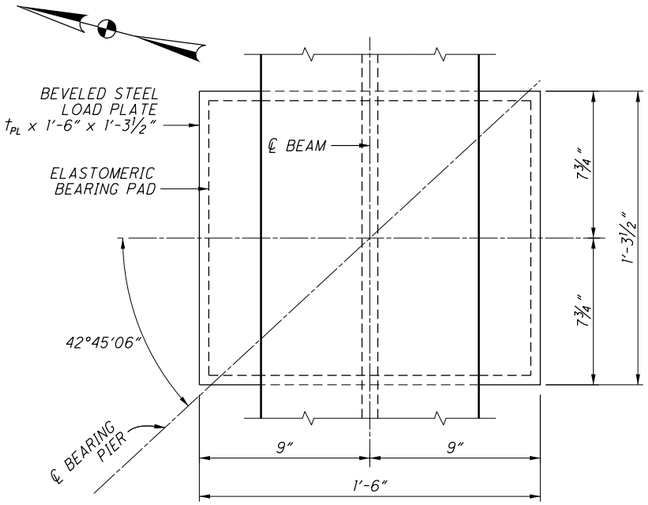
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



ABUTMENT BEARING ELEVATION

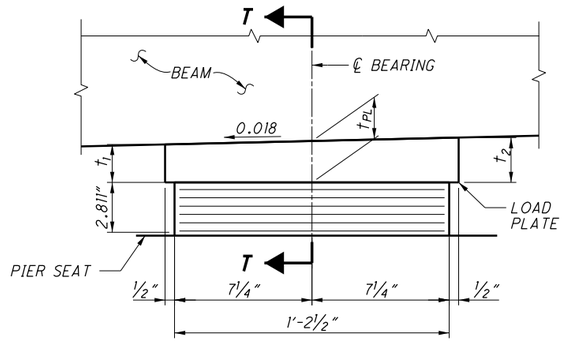


SECTION S-S

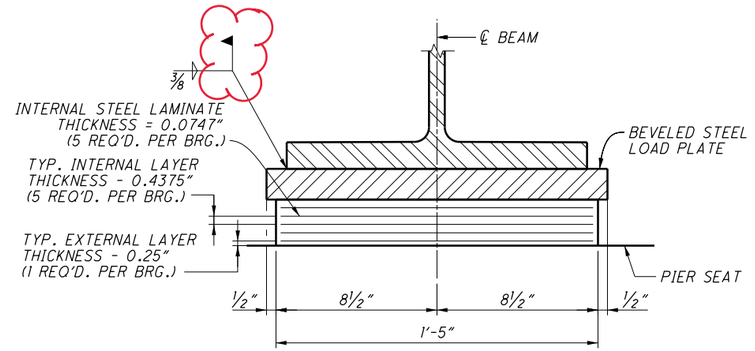


PLAN AT PIERS

BEARING ORIENTATION



PIER BEARING ELEVATION



SECTION T-T

LOAD PLATE THICKNESS "t"

LOCATION		H	J	K	L	M	N	A-G
PIER NO. 1	t_1	2⅜"	2⅜"	2¼"	2¼"	2⅛"	2"	2"
	t_{PL}	2½"	2½"	2⅜"	2⅜"	2¼"	2⅛"	2⅛"
	t_2	2⅝"	2⅝"	2½"	2½"	2⅜"	2¼"	2¼"
PIER NO. 2	t_1	2½"	2"	2½"	2"	2⅝"	2"	2"
	t_{PL}	2⅝"	2⅛"	2⅝"	2⅛"	2¾"	2⅛"	2⅛"
	t_2	2¾"	2¼"	2¾"	2¼"	2⅞"	2¼"	2¼"

BEARING REACTION TABLE (KIPS) (SEE NOTE 6)

BEARING DESIGNATION	LOCATION	TYPE	NO.	LEFT BRIDGE					RIGHT BRIDGE				
				DEAD LOAD			LIVE LOAD	TOTAL	DEAD LOAD			LIVE LOAD	TOTAL
				DIAPHRAGM	REACTION	TOTAL			DIAPHRAGM	REACTION	TOTAL		
E-148	REAR ABUT.	EXP.	13	46.65	36.97	83.62	64.27	148	42.93	35.6	78.9	60.6	140
E-258	PIER NO. 1	EXP.	13		153.83	153.83	103.91	258		145.3	145.3	97.4	243
E-258	PIER NO. 2	EXP.	13		153.83	153.83	103.91	258		145.3	145.3	97.4	243
E-148	FORWARD ABUT.	EXP.	13	46.65	36.97	83.62	64.27	148	42.93	35.6	78.9	60.6	140

NOTES

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONGTERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. BASIS FOR PAYMENT FOR ELASTOMERIC BEARING: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, STEEL SUPPORT POST, BEVELING OF LOAD PLATE WHERE REQUIRED AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE AT THE CONTRACT PRICE FOR THE APPROPRIATE ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
3. FOR ABBREVIATIONS SEE SHEET 3 /66.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION, ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
5. THE STEEL LOAD PLATE (ASTM A709, GRADE 50) SHALL BE BONDED BY VULCANIZATION TO ELASTOMER DURING THE MOLDING PROCESS.
6. TABLE INCLUDES UNFACTERED DEAD LOADS, LIVE LOAD (WITHOUT IMPACT) AND TOTAL REACTIONS.

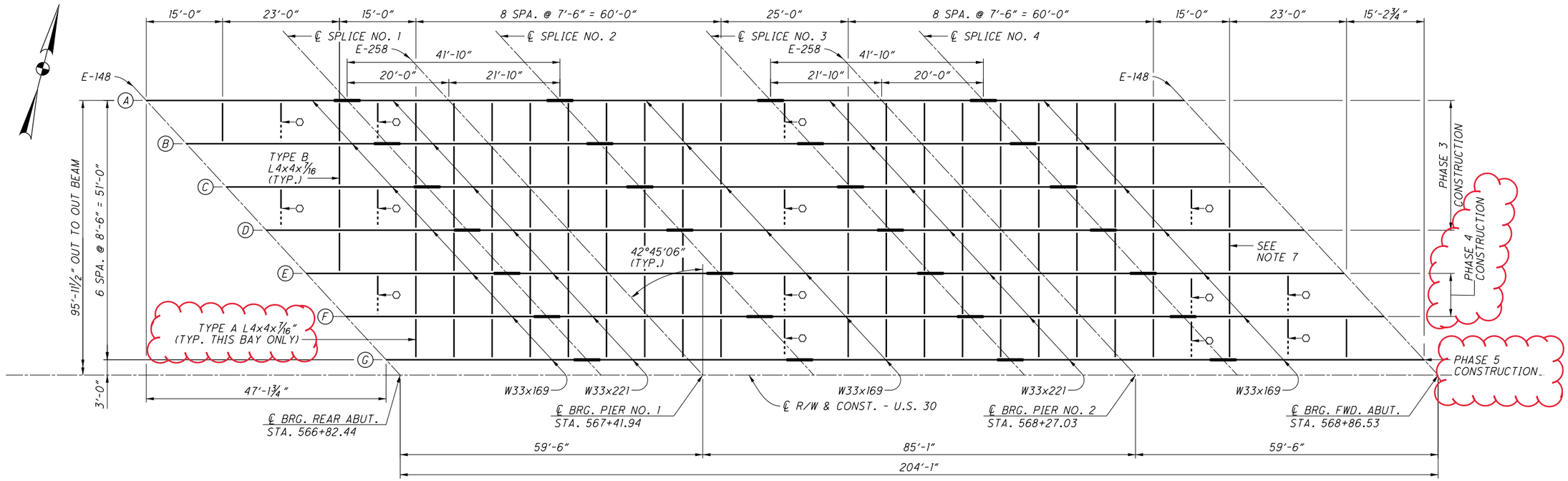
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1882 EAST AVON BELDEN ROAD, AVON, OHIO 44011
TELEPHONE: (330) 345-6556
FAX: (330) 345-6077
DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED - | STRUCTURE FILE NUMBER 7001119

ELASTOMERIC BEARING DETAILS

BRIDGE NO. RIC-30-1074
OVER S.R. 39

RIC-30-9.26
PID No. 93455

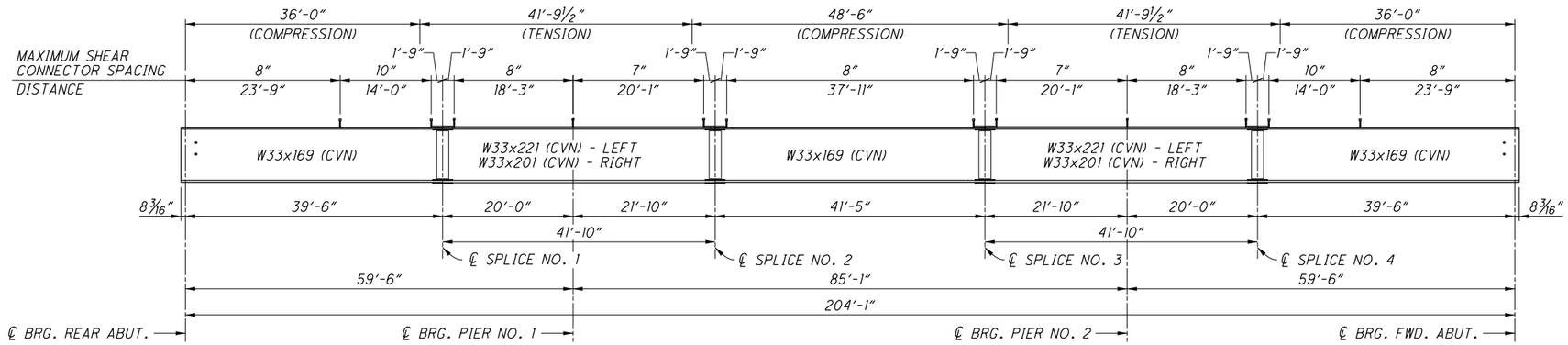
M:\15074\93455\Design\Structures\RIC030_1074C\Sheets\030_1074CSB001.dgn 2/24/2020 10:41:45 AM acb284



FRAMING PLAN - WB LANES

(LEFT BRIDGE)

○ - TEMPORARY LATERAL SUPPORT
LOCATE AT ½" CROSSFRAME SPACING
SEE SHEET 35/66



BEAM ELEVATION

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/66.
2. FOR EB LANES FRAMING PLAN AND ADDITIONAL DETAILS SEE SHEET 35/66.
3. FOR TRANSVERSE SECTION SEE SHEET 44/66.
4. FOR ELASTOMERIC BEARING DETAILS SEE SHEET 31/66.
5. FOR SPLICE DETAILS SEE SHEET 36/66.
6. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
7. CROSSFRAMES BETWEEN BEAMS D AND E SHALL BE INSTALLED AFTER THE PHASE 3 AND PHASE 4 DECK CONCRETE HAS BEEN POURED AND PRIOR TO DECK CLOSURE POURS.
8. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
9. CROSSFRAMES BETWEEN BEAMS E AND G SHALL BE INSTALLED AFTER PHASE 4 DECK CONSTRUCTION. CROSSFRAMES SHALL BE TYPE A. BOLTS SHALL BE TIGHTENED AFTER PHASE 5 DECK CONSTRUCTION.
10. FOR INTERMEDIATE CROSS FRAMES SEE STD. DWG GSD-1-19.

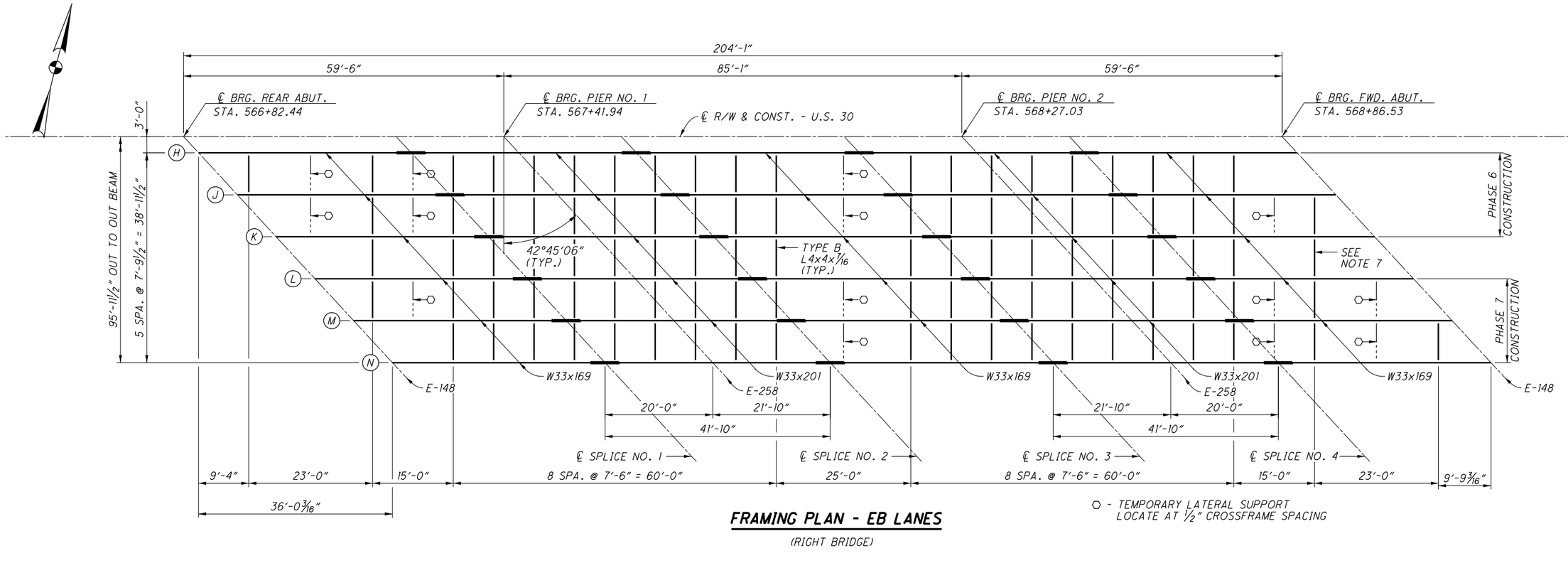
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1836 EAST MAIN STREET, KENT, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	--	7001119	

FRAMING PLAN - LEFT (WESTBOUND)
BRIDGE NO. RIC-30-1074
OVER S.R. 39

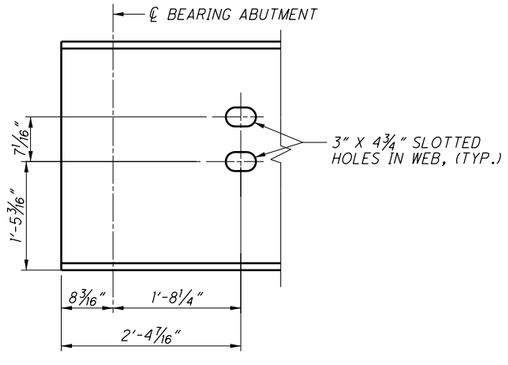
RIC-30-9.26
PID No. 93455

1237
1669

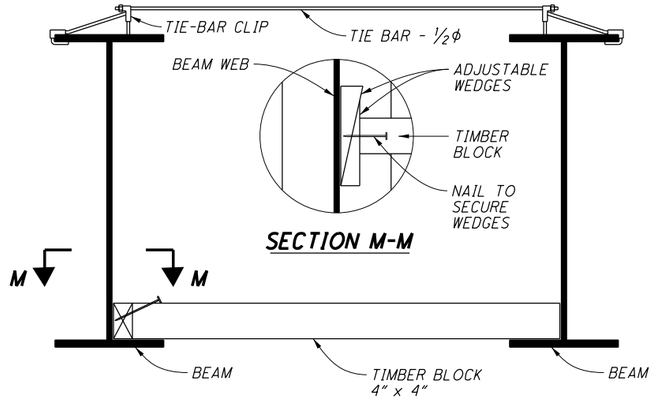


FRAMING PLAN - EB LANES

(RIGHT BRIDGE)



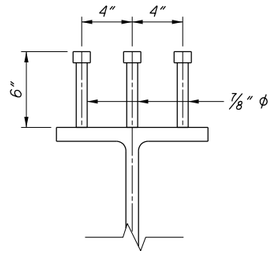
TYPICAL BEAM END DETAIL



SECTION M-M

TEMPORARY LATERAL SUPPORT SYSTEMS

1. PLACED AS PER PLAN BEFORE DECK POURING.
2. TIMBER BLOCK TO BE REMOVED WHEN DECK IS CURED.



WELDED STUD SHEAR CONNECTOR DETAIL

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/66.
2. FOR WB LANES FRAMING PLAN, BEAM ELEVATION AND NOTES SEE SHEET 34/66.
3. FOR TRANSVERSE SECTION SEE SHEET 44/66.
4. FOR ELASTOMERIC BEARING DETAILS SEE SHEET 31/66.
5. FOR SPLICE DETAILS SEE SHEET 36/66.
6. TEMPORARY LATERAL SUPPORTS: THE COST OF MATERIALS, ERECTION AND LABOR SHALL BE INCLUDED IN ITEM 511 CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN FOR PAYMENT.
7. CROSSFRAMES BETWEEN BEAMS J AND K SHALL BE INSTALLED AFTER THE PHASE 6 AND PHASE 7 DECK CONCRETE HAS BEEN POURED AND PRIOR TO DECK CLOSURE POURS.
8. FOR INTERMEDIATE CROSS FRAME SEE STD. DWG. GSD-1-19.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WEST LAKE, OHIO 44145
TELEPHONE (330) 345-6558
FAX (330) 345-6077

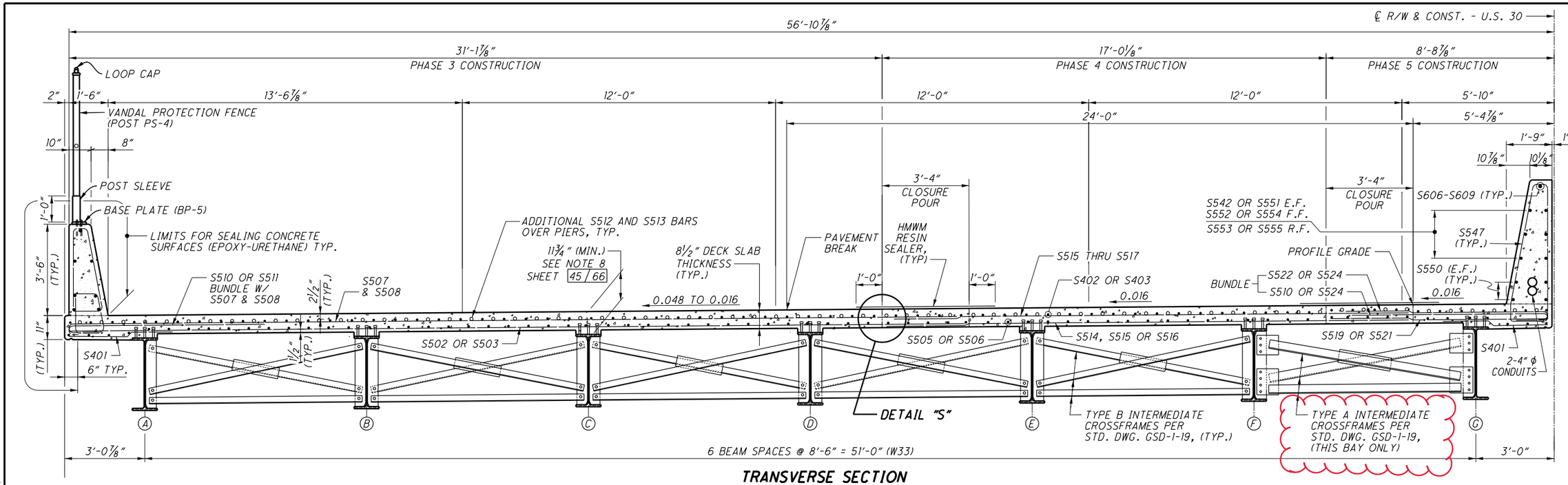
DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	--	7001119	

FRAMING PLAN - RIGHT (EASTBOUND)
BRIDGE NO. RIC-30-1074
OVER S.R. 39

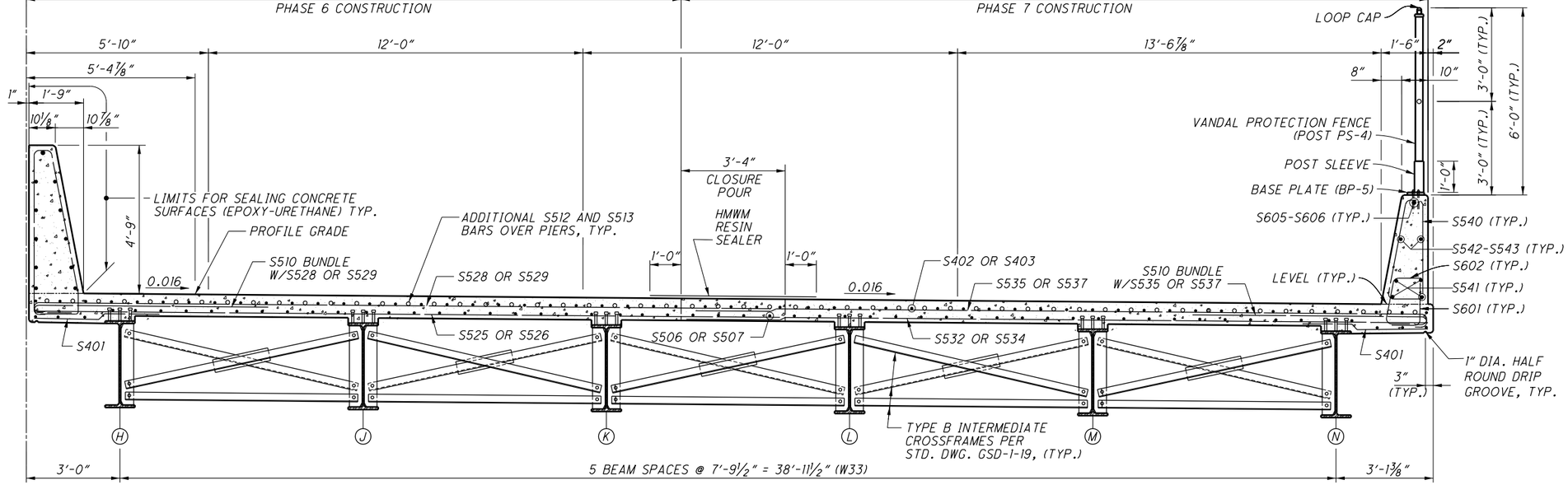
RIC-30-9.26
PID No. 93455

35/66

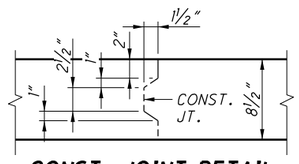
1238
1669



TRANSVERSE SECTION



TRANSVERSE SECTION



CONST. JOINT DETAIL

DETAIL "S" (TYPICAL)

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/66.
2. FOR SLAB PLAN SEE SHEET 45/66 AND 46/66.
3. FOR SCREED ELEVATIONS SEE SHEET 41/66.
4. FOR BARRIER MEDIAN AND RAILING DETAILS SEE SHEETS 47/66 THRU 50/66.
5. MINIMUM BAR LAPS:
   NO.4 BAR = 1'-11"
   NO. 5 BARS = 2'-5"
   NO. 5 BARS = 3'-0" S502, S504, S514, S516, S519, S525, S527, S532 & S533
   NO. 6 BAR = 3'-7"
6. THE CLOSURE POUR SHALL BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN IN ACCORDANCE OF ITEM 512. THE RESIN SHALL COVER THE ENTIRE CLOSURE POUR SECTION AND OVERLAP EACH CONSTRUCTION JOINT 1'-0".

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLEFONTAINE, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	RLE	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001119	

TRANSVERSE SECTION
BRIDGE NO. RIC-30-1074
OVER S.R. 39

RIC-30-9.26
PID No. 93455

44/66

1247
1669

STANDARD DRAWINGS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7-17-15
AS-2-15	REVISED	1-18-19
GSD-1-19	DATED	1-18-19
PCB-91	REVISED	1-18-13
SBR-1-13	REVISED	7-20-18
SBR-2-13	REVISED	7-20-18
SICD-1-96	REVISED	7-18-14
SICD-2-14	DATED	7-18-14
VPF-1-90	REVISED	7-20-18

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFIACTIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN LOADING
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT².

DESIGN DATA
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05

SUBSTRUCTURE CONCRETE REMOVAL:
REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. 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 INCH 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 REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

ITEM 203 EMBANKMENT, AS PER PLAN
PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 597+50 to 602+50.

PILES TO BEDROCK
DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 132 KIPS PER PILE FOR THE ABUTMENT PILES.

REAR ABUTMENT PILES: (HP 10X42)
23 PILES 50 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES: (HP 10X42)
23 PILES 60 FEET LONG, ORDER LENGTH

PILE SPLICES
IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

DECK PLACEMENT ASSUMPTIONS
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.3 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

MECHANICAL CONNECTORS:
AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATINGS USED SHALL CONFORM TO THE SAME SPECIFICATION. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATION WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEET THE SPECIFICATIONS. CONNECTORS SHALL BE INCLUDED IN ITEM 509 FOR PAYMENT.

REINFORCING STEEL LENGTHS IN THE TABLES FOR BARS THAT ARE TO BE MECHANICALLY SPLICED ASSUME AN END TO END TYPE CONNECTOR WILL BE USED. IF THE CONTRACTOR ELECTS TO USE ANOTHER TYPE OF CONNECTOR THE FABRICATOR SHALL BE DIRECTED TO MAKE ADJUSTMENTS TO THE REINFORCING STEEL LENGTHS ACCORDINGLY.

DRILLED SHAFTS:
THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 265 KIPS AT THE PIERS. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 0 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 0 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 2400 KIPS.

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, 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 REINFORCING STEEL 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.

STRUCTURE PAINTING: ALL BRIDGE FINISH COATS SHALL BE THE SAME COLOR.

ABBREVIATIONS

ABUT.	-	ABUTMENT
APPR.	-	APPROACH
BRG.	-	BEARING
BOT.	-	BOTTOM
CONST. JT.	-	CONSTRUCTION JOINT
CLR.	-	CLEAR
CONST.	-	CONSTRUCTION
CORR.	-	CORRUGATED
DIA.	-	DIAMETER
DIM.	-	DIMENSION
DWG.	-	DRAWING
EL.	-	ELEVATION
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.A.	-	FORWARD ABUTMENT
FWD.	-	FORWARD
F.F.	-	FRONT FACE
FT.	-	FEET
LBS.	-	POUNDS
MAX.	-	MAXIMUM
MEAS.	-	MEASURED
MIN.	-	MINIMUM
OPT.	-	OPTIONAL
P.E.J.F.	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
R.F.	-	REAR FACE
REQ'D.	-	REQUIRED
SPA.	-	SPACING
STA.	-	STATION
T.O.S.	-	TOP OF SLOPE
TYP.	-	TYPICAL
U.O.N.	-	UNLESS OTHERWISE NOTED
VAR.	-	VARIES
W/	-	WITH

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WHEELING, WEST VIRGINIA, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED | STRUCTURE FILE NUMBER 7001143

GENERAL NOTES

BRIDGE NO. RIC-30-1135
BOWMAN STREET

RIC-30-9.26
PID No. 93455

CALC: RLE DATE: 5/28/2019
CHECKED: TAC DATE: 6/1/2019

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL 01/NHS/BR	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3/56
202	22900	258	SY	APPROACH SLAB REMOVED				258	
202	23500	258	SY	WEARING COURSE REMOVED				258	
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	3/56
503	21100	384	CY	UNCLASSIFIED EXCAVATION	384				
504	11100	3840	SF	STEEL SHEET PILING LEFT IN PLACE, Sx = 34.8 IN^3/FT				3840	
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
507	00100	2530	FT	STEEL PILES HP10X42, FURNISHED	2530				
507	00150	2300	FT	STEEL PILES HP10X42, DRIVEN	2300				
509	10001	227811	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	21843	59290	146678		23/56
510	10000	24	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	24				
511	21523	645	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			645		5/56 & 33/56
511	33500	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE			4		
511	41012	153	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		153			
511	44112	85	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	85				
511	46512	148	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	148				
512	10100	1155	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	48	397	654	56	
512	10300	233	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			204	29	
512	33000	16	SY	TYPE 2 WATERPROOFING	16				
513	10260	371800	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			371800		
513	20000	8676	EACH	WELDED STUD SHEAR CONNECTORS			8676		
514	00800	371800	LB	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			371800		
514	00851	371800	LB	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			371800		3/56
514	10000	19	EACH	FINAL INSPECTION REPAIR			19		
516	10010	176	FT	ARMORLESS PREFORMED JOINT SEAL				176	
516	13600	26	SF	1" PREFORMED EXPANSION JOINT FILLER			26		
516	13900	285	SF	2" PREFORMED EXPANSION JOINT FILLER			60	225	
516	14020	261	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	261				
516	44101	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 13/16"x1'-2"x1'-5" W/ † x1'-3"x1'-6" BEVELED LOAD PLATE		24			28/56
516	44101	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 1/2"x11"x1'-0" W/ 1 5/8"x1'-0"x1'-1" BEVELED LOAD PLATE	24				28/56
518	21200	97	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	97				
518	40001	220	FT	6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN	220				15/56 & 19/56
518	40010	22	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	22				
524	95434	84	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK WITH QC/QA		84			
524	95442	278	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK WITH QC/QA		278			
526	15001	390	SY	REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN				390	43/56 THRU 47/56
526	90030	176	FT	TYPE C INSTALLATION				176	
601	21000	932	SY	CONCRETE SLOPE PROTECTION				932	
607	39900	289	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			289		

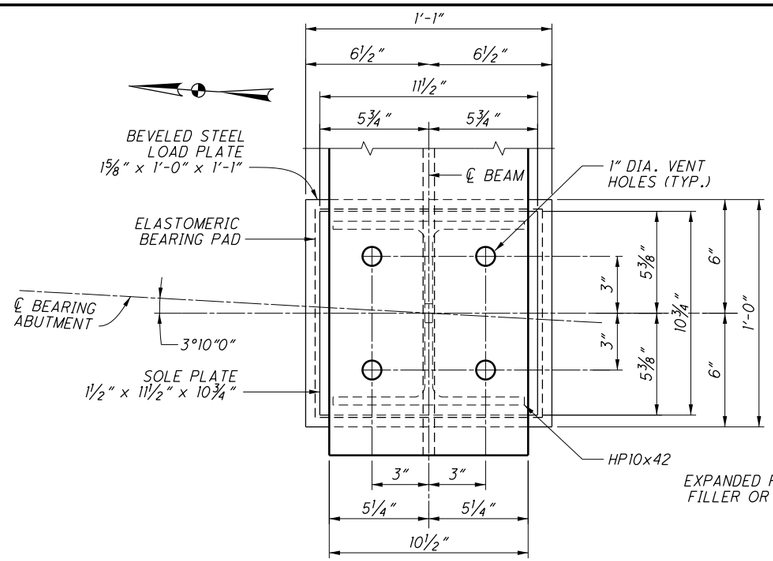
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLE PASS AVENUE, AKRON, OHIO 44281
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED XXX | STRUCTURE FILE NUMBER 7001143

ESTIMATED QUANTITIES
BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

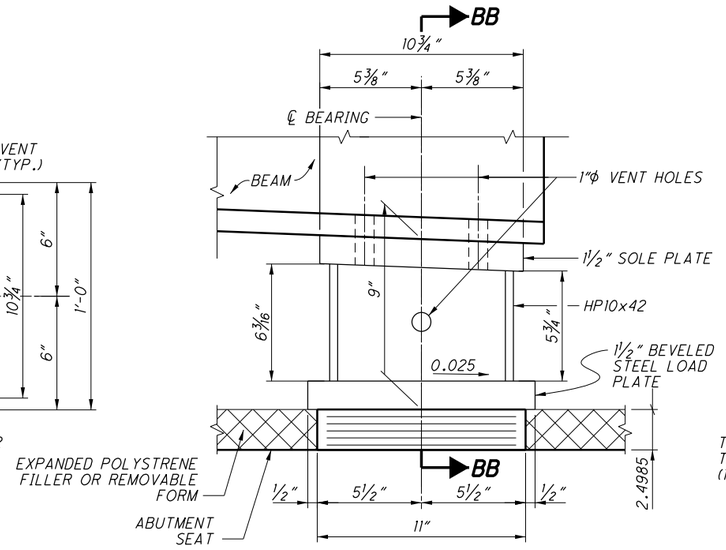
RIC-30-9.26
PID No. 93455

1273
1669

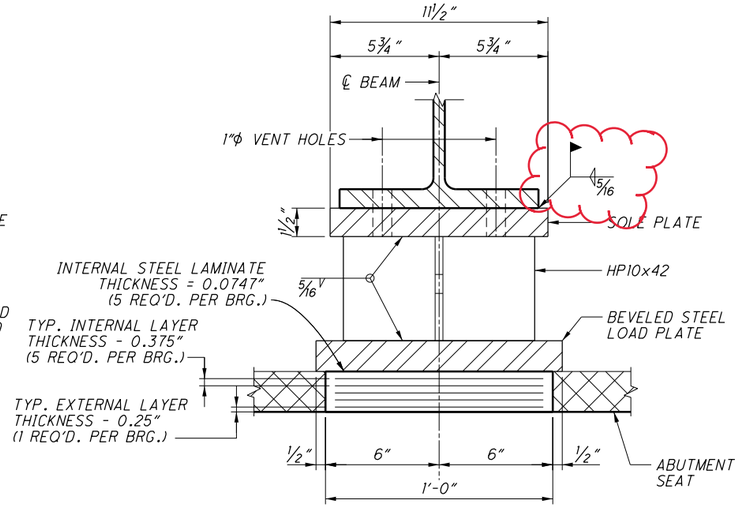


PLAN AT ABUTMENT

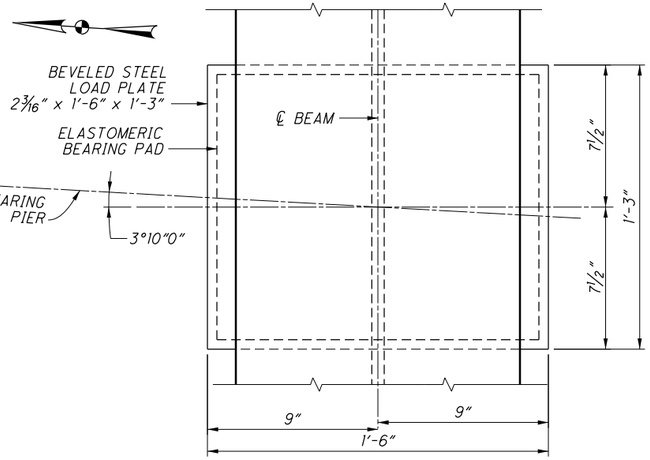
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



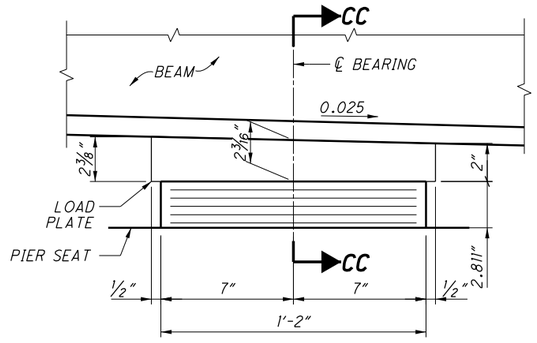
ABUTMENT BEARING ELEVATION



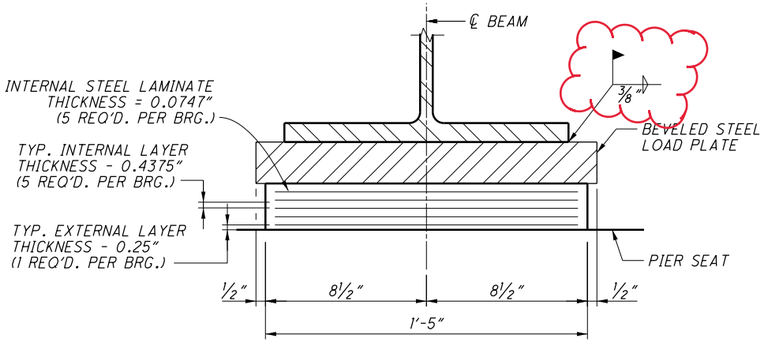
SECTION BB-BB



PLAN AT PIERS



PIER BEARING ELEVATION



SECTION CC-CC

BEARING ORIENTATION

BEARING REACTION TABLE (KIPS) (SEE NOTE 6)

LOCATION	TYPE	NO.	LEFT BRIDGE					RIGHT BRIDGE					BEARING DESIGNATION
			DEAD LOAD			LIVE LOAD	MAX. DESIGN LOAD	DEAD LOAD			LIVE LOAD	MAX. DESIGN LOAD	
			DIAPHRAGM	REACTION	TOTAL			DIAPHRAGM	REACTION	TOTAL			
REAR ABUT.	EXP.	12	26.08	24.14	50.2	55.2	105	26.08	24.14	50.2	55.2	105	E-105
PIER NO. 1	EXP.	12		123.84	123.8	110.3	234		123.84	123.8	110.3	234	E-234
PIER NO. 2	EXP.	12		123.84	123.8	110.3	234		123.84	123.8	110.3	234	E-234
FORWARD ABUT.	EXP.	12	26.08	24.14	50.2	55.2	105	26.08	24.14	50.2	55.2	105	E-105

NOTES

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONGTERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. BASIS FOR PAYMENT FOR ELASTOMERIC BEARING: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, STEEL SUPPORT POST, BEVELING OF LOAD PLATE WHERE REQUIRED AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE AT THE CONTRACT PRICE FOR THE APPROPRIATE ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
3. FOR ABBREVIATIONS SEE SHEET 3/56.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION, ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
5. THE STEEL LOAD PLATE (ASTM A709, GRADE 50) SHALL BE BONDED BY VULCANIZATION TO ELASTOMER DURING THE MOLDING PROCESS.
6. TABLE INCLUDES UNFACTORED DEAD LOADS, LIVE LOAD (WITHOUT IMPACT) AND TOTAL REACTIONS.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WILLOUGHBY HILLS, OHIO 44691
TELEPHONE (330) 946-9556
FAX (330) 946-9077

DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED --- | STRUCTURE FILE NUMBER 7001143

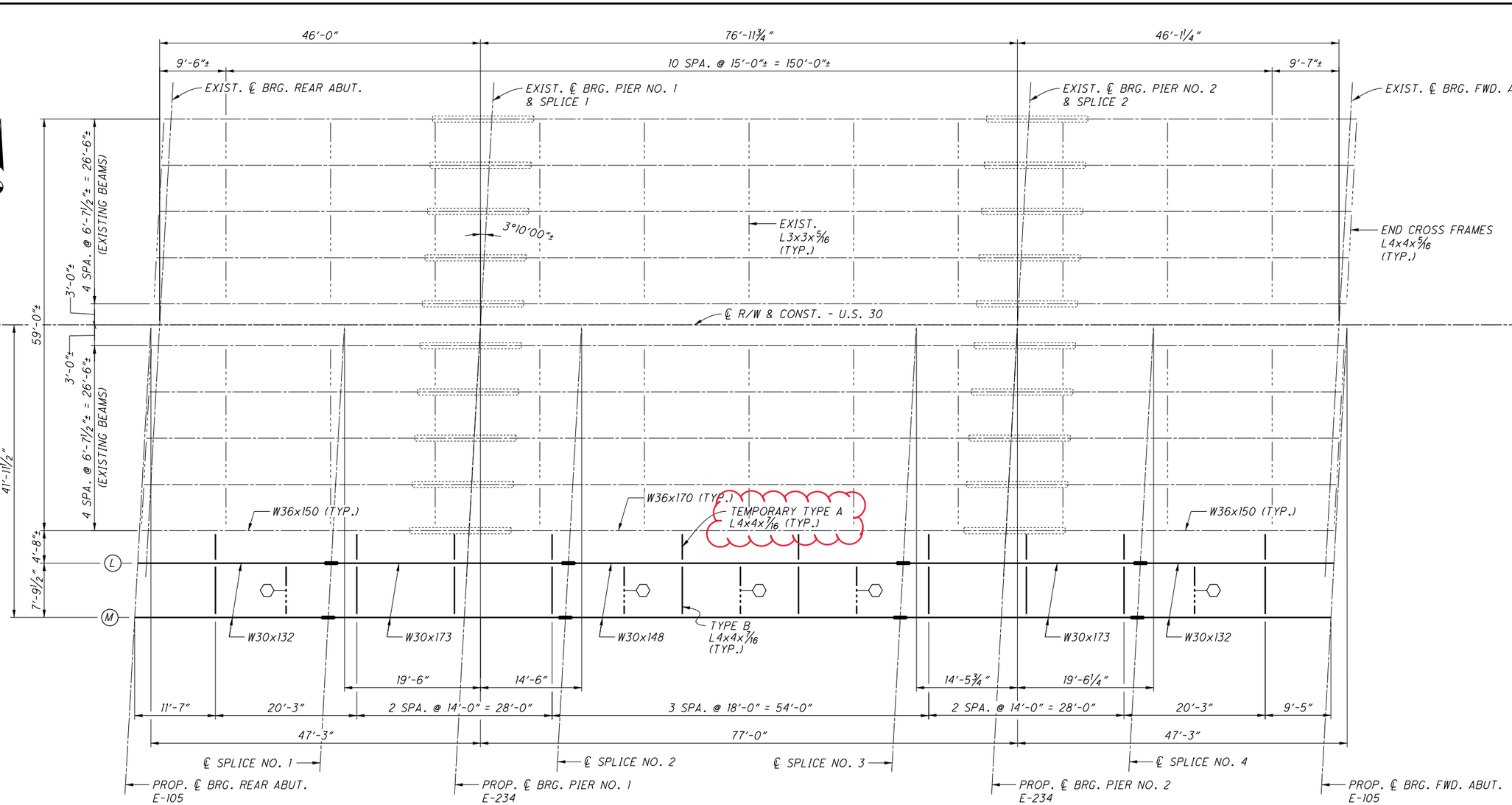
ELASTOMERIC BEARING DETAILS

BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

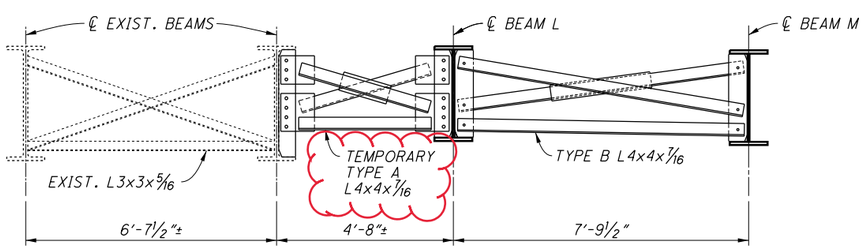
RIC-30-9.26
PID No. 93455

28/56

1297
1669



FRAMING PLAN FOR PHASE 1A CONSTRUCTION



TEMPORARY INTERMEDIATE CROSSFRAME DETAIL

LEGEND

⬡ - TEMPORARY LATERAL SUPPORT
LOCATE AT ½ CROSSFRAME SPACING

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/56.
2. FOR FRAMING PLANS SEE SHEETS 32/56 & 33/56.
3. FOR BEAM DETAILS AND ADDITIONAL NOTES SEE SHEETS 34/56.
4. FOR INTERMEDIATE CROSS FRAME SEE STD. DWG. GSD-1-19.
5. FOR TEMPORARY LATERAL SUPPORT SEE SHEET 33/56.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WEST LAKE, OHIO 44081
TELEPHONE (330) 345-6556
FAX (330) 345-6077

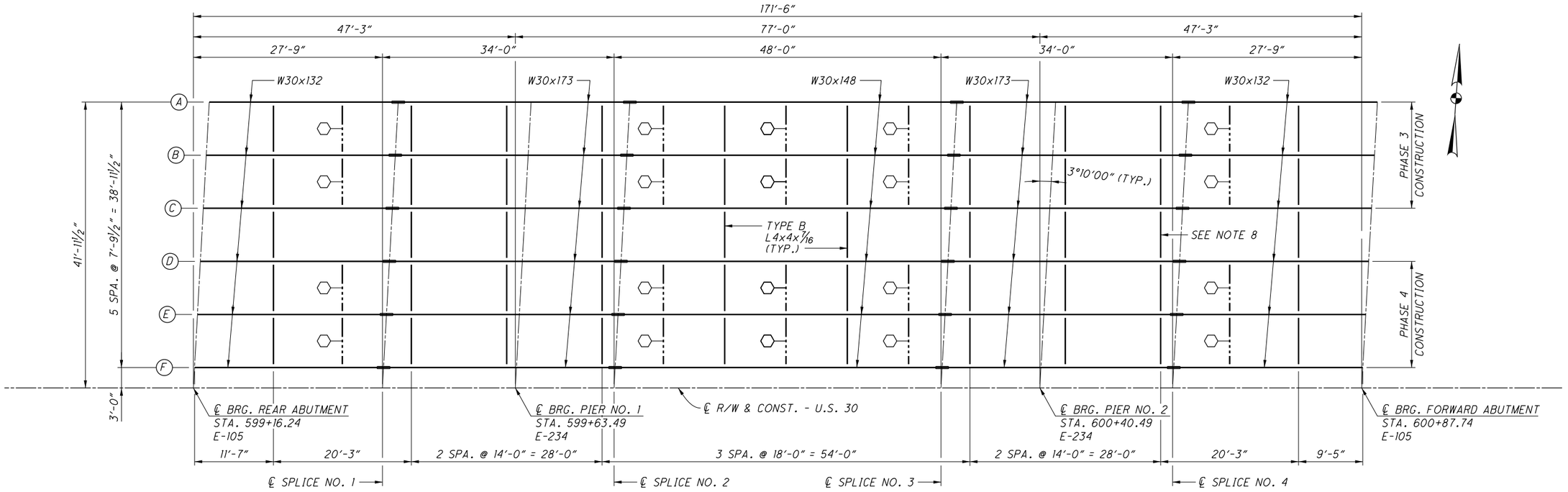
DESIGNED HK | DRAWN TAC | CHECKED BDH | REVIEWED SDS | DATE 9-24-19 | REVISED --- | STRUCTURE FILE NUMBER 7001143

PHASE 1A FRAMING PLAN
BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

RIC-30-9.26
PID No. 93455

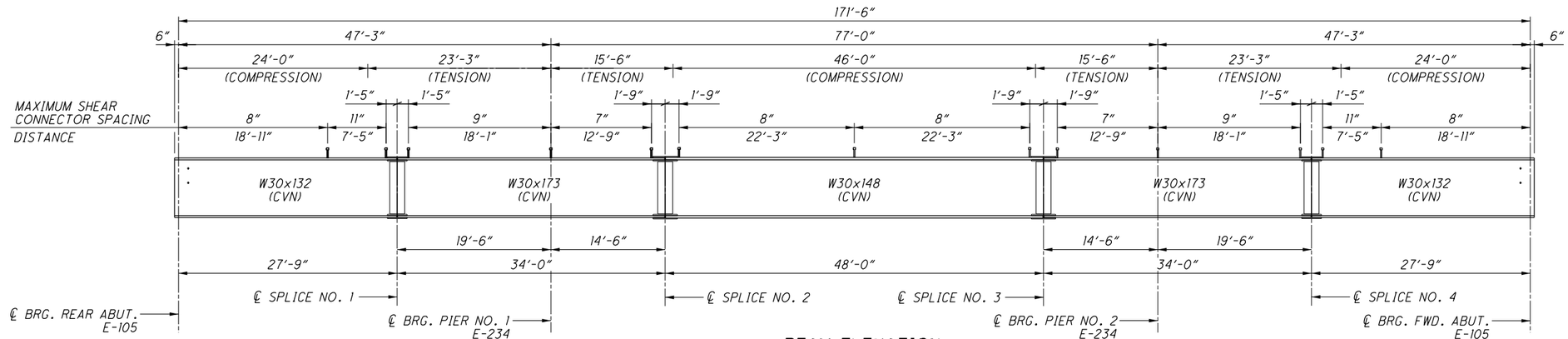
31/56

1300
1669



FRAMING PLAN - WESTBOUND LANES

(LEFT BRIDGE)



BEAM ELEVATION

LEGEND

⬡ - TEMPORARY LATERAL SUPPORT, LOCATE AT ½ CROSSFRAME SPACING SEE SHEET 33/56 .

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/56 .
2. FOR EASTBOUND LANES FRAMING PLAN AND ADDITIONAL DETAILS SEE SHEET 33/56 .
3. FOR TRANSVERSE SECTION SEE SHEET 40/56 .
4. FOR ELASTOMERIC BEARING DETAILS SEE SHEET 28/56 .
5. FOR SPLICE DETAILS SEE SHEET 34/56 .
6. FOR INTERMEDIATE CROSS FRAME DETAILS SEE STD DWG GSD-1-19.
7. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.
8. CROSSFRAMES BETWEEN BEAMS D AND C SHALL BE INSTALLED AFTER THE PHASE 3 AND PHASE 4 DECK CONCRETE HAS BEEN POURED AND PRIOR TO DECK CLOSURE POURS.
9. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

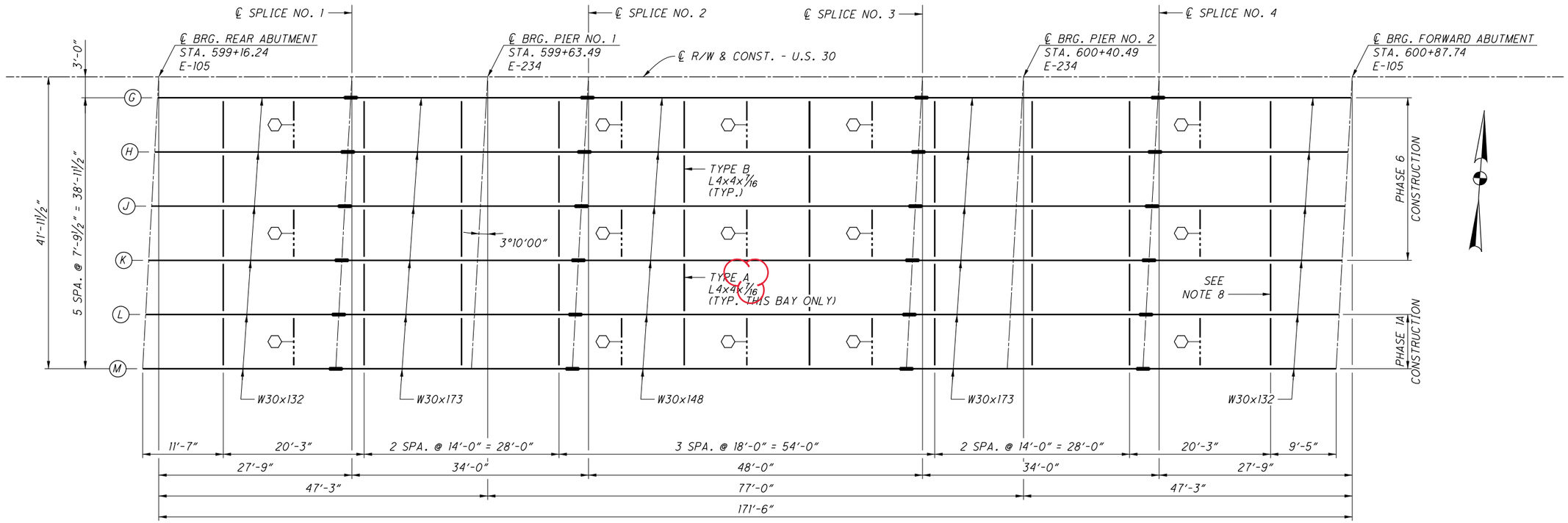
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1836 EAST PLEASANT VALLEY BLVD., AKRON, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001143	

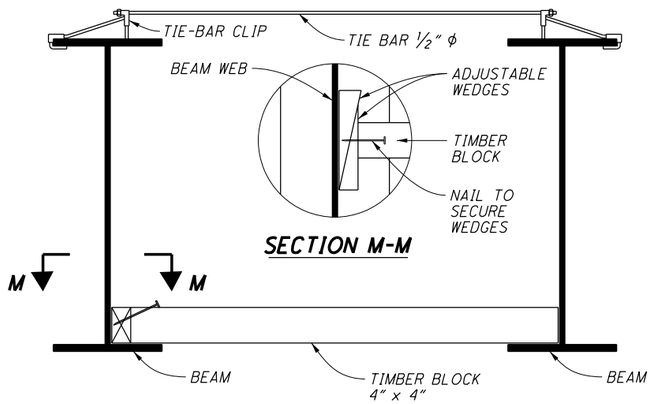
FRAMING PLAN - LEFT (WESTBOUND)
BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

RIC-30-9.26
PID No. 93455

1301
1669

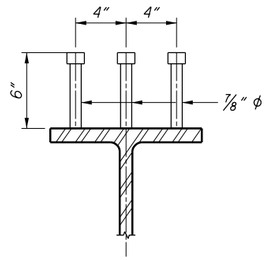


FRAMING PLAN - EASTBOUND LANES

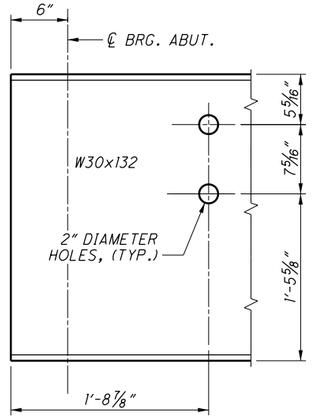


TEMPORARY LATERAL SUPPORT SYSTEMS

1. PLACED AS PER PLAN BEFORE DECK POURING.
2. TIMBER BLOCK TO BE REMOVED WHEN DECK IS CURED.



WELDED STUD SHEAR CONNECTOR DETAIL



TYPICAL BEAM END DETAIL

LEGEND

⬡ - TEMPORARY LATERAL SUPPORT, LOCATE AT ½ CROSSFRAME SPACING

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/56.
2. FOR WESTBOUND LANES FRAMING PLAN, BEAM ELEVATION AND NOTES SEE SHEET 32/56.
3. FOR TRANSVERSE SECTION SEE SHEET 40/56.
4. FOR ELASTOMERIC BEARING DETAILS SEE SHEET 28/56.
5. FOR SPLICE DETAILS SEE SHEET 34/56.
6. FOR INTERMEDIATE CROSSFRAME DETAILS SEE STD DWG GSD-1-19.
7. TEMPORARY LATERAL SUPPORTS: THE COST OF MATERIALS, ERECTION AND LABOR SHALL BE INCLUDED IN ITEM 511 CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN FOR PAYMENT.
8. CROSSFRAMES BETWEEN BEAMS K AND L SHALL BE INSTALLED AFTER THE PHASE 6 AND PHASE 1A DECK CONCRETE HAS BEEN POURED AND PRIOR TO PHASE 7.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLE PASS, MORSE RD., OHIO 44691
TELEPHONE (330) 345-6556
FAX: (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001143	

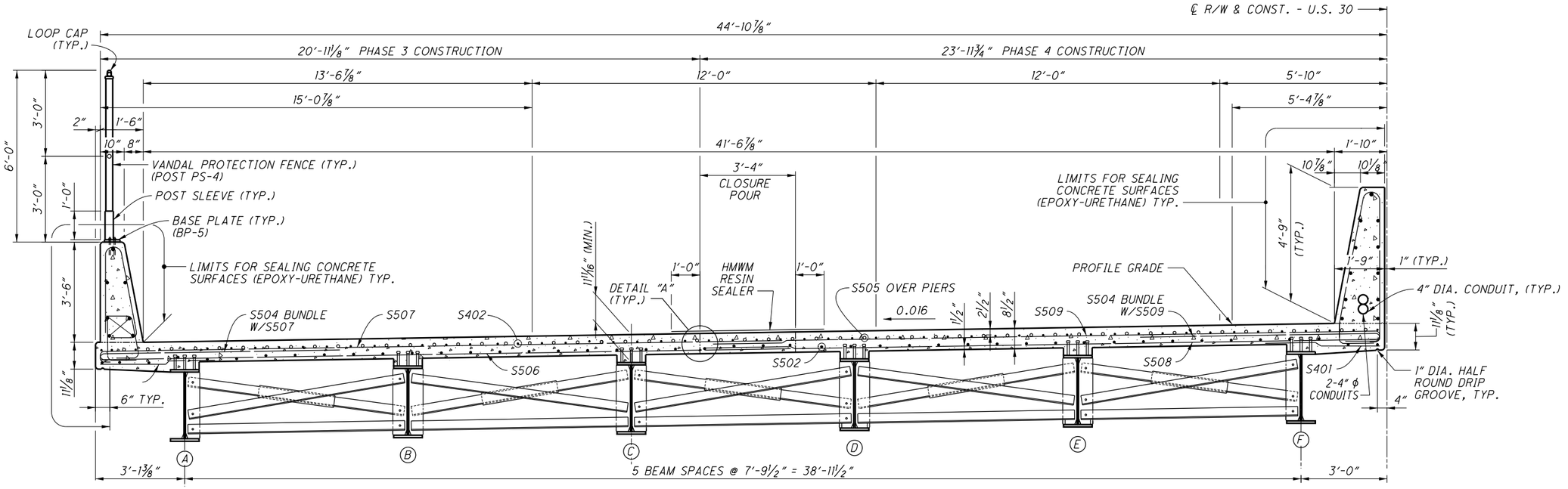
FRAMING PLAN - RIGHT (EASTBOUND)
BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

RIC-30-9.26
PID No. 93455

33/56

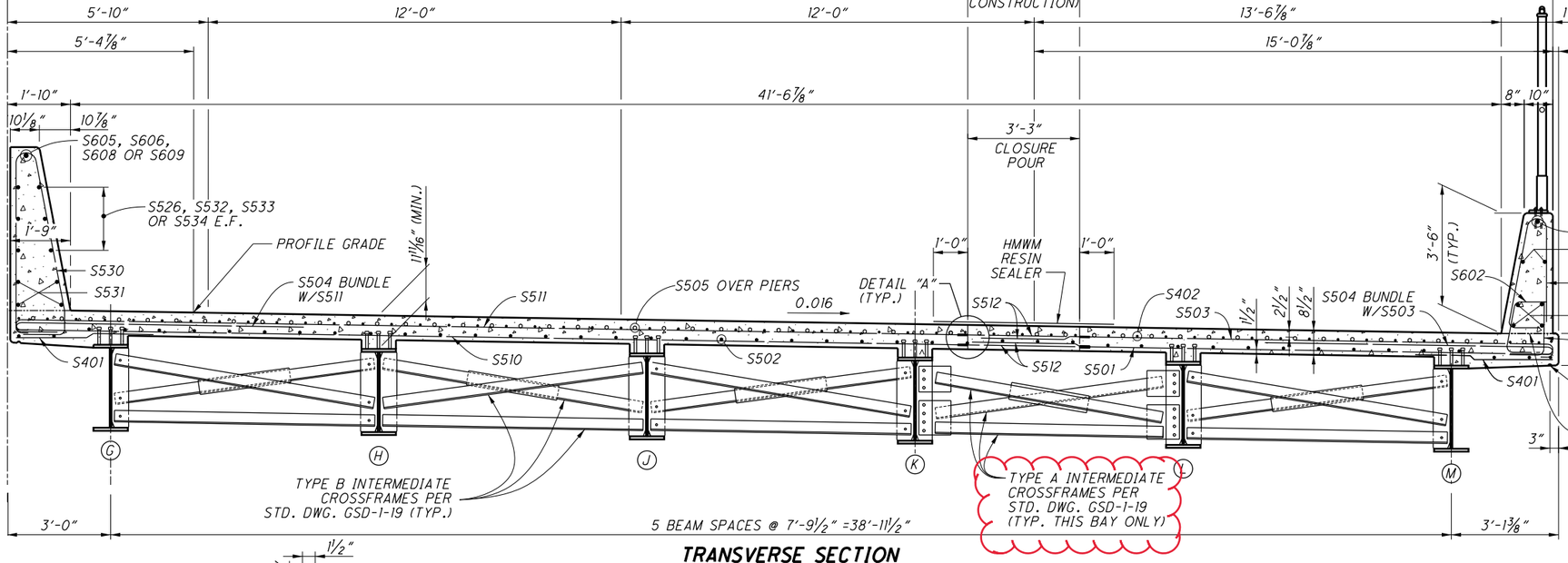
1302
1669

M:\15074\93455\Design\Structures\RIC030_1135C\Sheets\030_1135CSS003.dgn 2/24/2020 10:58:54 AM ocb284



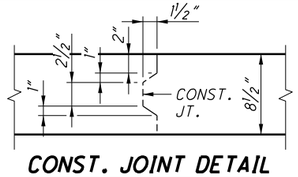
TRANSVERSE SECTION

(WESTBOUND LANES)



TRANSVERSE SECTION

(EASTBOUND LANES)



CONST. JOINT DETAIL DETAIL "A"

LEGEND

DENOTES MECHANICAL CONNECTOR

NOTES

1. FOR SLAB PLAN SEE SHEET 41/56.
2. FOR ABBREVIATIONS SEE SHEET 3/56.
3. MINIMUM REINFORCING STEEL SPLICE LENGTH UNLESS OTHERWISE NOTED:
   NO. 4 BAR = 1'-11"
   NO. 5 BAR = 2'-5"
   NO. 5 BAR = 3'-0" (BOTTOM OF SLAB)
   NO. 6 BAR = 3'-7"
4. FOR BARRIER MEDIAN AND RAILING DETAILS SEE SHEETS 42/56 THRU 45/56.
5. THE CLOSURE POUR SHALL BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN IN ACCORDANCE OF ITEM 512. THE RESIN SHALL COVER THE ENTIRE CLOSURE POUR SECTION AND OVERLAP EACH CONSTRUCTION JOINT 1'-0"

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1836 EAST PLEASANT VALLEY BLVD., AKRON, OHIO 44312
TELEPHONE (330) 345-6556
FAX: (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001143	

TRANSVERSE SECTION
BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

RIC-30-9.26
PID No. 93455

1309
1669

STANDARD DRAWINGS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7-17-15
AS-2-15	REVISED	1-18-19
GSD-1-19	DATED	1-18-19
PCB-91	REVISED	1-18-13
SBR-1-13	REVISED	7-20-18
SBR-2-13	REVISED	7-20-18
SICD-1-96	REVISED	7-18-14
SICD-2-14	DATED	7-18-14
VPF-1-90	REVISED	7-20-18

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN LOADING
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT².

DESIGN DATA
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILES DRIVEN TO TIP ELEVATION FOR SOIL/PILE SETUP
THE ULTIMATE BEARING VALUE IS 220 KIPS PER PILE FOR THE ABUTMENT PILES. THE ULTIMATE BEARING VALUE AT PIERS IS 352.0 KIPS PER PILE LEFT BRIDGE AND 338.5 KIPS PER PILE RIGHT BRIDGE. PART OF THE ULTIMATE BEARING VALUE WILL BE ACHIEVED THROUGH PILE/SOIL SETUP, WHICH IS A TIME DEPENDENT INCREASE IN RESISTANCE THAT OCCURS IN SOME SOILS.

NOTIFY THE ENGINEER AT LEAST 5 DAYS BEFORE DRIVING PILES SO THAT THE ENGINEER CAN NOTIFY THE DISTRICT GEOTECHNICAL ENGINEER, THE OFFICE OF CONSTRUCTION ADMINISTRATION, AND THE OFFICE OF GEOTECHNICAL ENGINEERING.

DRIVE THE FIRST TWO PILES IN EACH SUBSTRUCTURE TO THE TIP ELEVATION GIVEN BELOW FOR THE SUBSTRUCTURE, DRIVE THE THIRD AND FOURTH PILES TO 75% AND 85% OF THE LENGTH OF THE FIRST TWO PILES. PERFORM DYNAMIC LOAD TESTING ON ALL FOUR PILES WHILE DRIVING. AFTER DRIVING THE FOUR PILES, CEASE ALL DRIVING OPERATIONS AT THE SUBSTRUCTURE FOR A MINIMUM OF 7 DAYS. INCLUDE THE WAITING PERIOD AS A SEPARATE ACTIVITY IN THE PROGRESS SCHEDULE. AFTER THE WAITING PERIOD, PERFORM PILE RESTRIKES ON THE FOUR PILES (TWO RESTRIKE ITEMS). SUBMIT ALL TEST RESULTS TO THE ENGINEER. THE ENGINEER WILL REVIEW THE TEST RESULTS AND ESTABLISH DRIVING CRITERIA FOR THE PILING IN THE SUBSTRUCTURE WITH THE ASSISTANCE OF THE DISTRICT GEOTECHNICAL ENGINEER, AND THE OFFICE OF GEOTECHNICAL ENGINEERING.

PILES DRIVEN TO TIP ELEVATION FOR SOIL/PILE SETUP (CONT.)
THE DRIVING CRITERIA WITH PILE SETUP SHALL BE PERFORMED FOR THE FIRST STAGE OF BRIDGE CONSTRUCTION. THE CONTRACTOR SHALL NOT ORDER PILES FOR SUBSEQUENT PHASES UNTIL AFTER THE DRIVING CRITERIA HAS BEEN ESTABLISHED WITH SETUP. THE DEPARTMENT WILL ADJUST THE FURNISHED PILE QUANTITIES BASED ON THE RESTRIKE TEST RESULTS.

IF THE DYNAMIC LOAD TESTING INDICATES A PILE HAS ACHIEVED THE ULTIMATE BEARING VALUE ABOVE THE TIP ELEVATION DURING THE INITIAL DRIVING, (BEFORE THE WAITING PERIOD), STOP DRIVING AND NOTIFY THE ENGINEER. IF THE RESTRIKE TEST RESULTS ON THE FOUR PILES INDICATE THAT A PILE DID NOT ACHIEVE THE REQUIRED ULTIMATE BEARING VALUE, DRIVE THE PILE TO THE ESTABLISHED DRIVING CRITERIA. SPLICING OF THE PILES BEYOND THE ESTIMATED LENGTH PROVIDED IN THE PLANS WILL BE PAID BY THE DEPARTMENT UNDER CMS 109.05 WITH A NEGOTIATED PRICE PER SPLICE.

LEFT BRIDGE:	NO. OF PILES	PILE TIP ELEV.	ORDER LENGTH
REAR ABUTMENT	14	1142.9	60'
PIER NO. 1	30	1104.1	75'
PIER NO. 2	30	1104.7	80'
FORWARD ABUTMENT	14	1149.8	60'

RIGHT BRIDGE:	NO. OF PILES	PILE TIP ELEV.	ORDER LENGTH
REAR ABUTMENT	17	1142.9	60'
PIER NO. 1	36	1106.9	80'
PIER NO. 2	36	1109.3	75'
FORWARD ABUTMENT	28	1149.8	60'

ABUTMENT PILES: (12" DIA. C-I-P CONCRETE)
1 DYNAMIC LOAD TEST
PIER PILES: (16" DIA. C-I-P CONCRETE)
1 STATIC LOAD TEST
2 DYNAMIC LOAD TESTS
2 RESTRIKES

PILE DRIVING CONSTRAINTS
PILE DRIVING MAY NOT BEGIN UNTIL SUFFICIENT EMBANKMENT SETTLEMENT HAS OCCURRED AS DOCUMENTED BY THE SETTLEMENT PLATFORMS. THE ANTICIPATED WAITING PERIOD TO PERMIT SUFFICIENT EMBANKMENT SETTLEMENT IS 30 DAYS. THE DISTRICT GEOTECHNICAL ENGINEER MAY REDUCE OR EXTEND THE WAITING PERIOD BASED ON THE MAGNITUDE AND RATE OF THE EMBANKMENT SETTLEMENT AS DETERMINED BY THE SETTLEMENT PLATFORMS. THE SETTLEMENT WAITING PERIOD BEGINS ONCE THE APPROACH EMBANKMENT REACHES THE DESIGN SUBGRADE LEVEL FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. BEGIN PILE DRIVING ONLY FOLLOWING TERMINATION OF THE SETTLEMENT MONITORING WAITING PERIOD BY THE DISTRICT GEOTECHNICAL ENGINEER.

ITEM 507 - CAST-IN-PLACE REINFORCED CONCRETE PILES, AS PER PLAN
MINIMUM PIPE PILE WALL THICKNESS IS 0.375".

FOR ITEM SPECIAL, SETTLEMENT PLATFORM SEE SHEET 1335 / 1669.

SETTLEMENT PLATFORM LOCATIONS

POINT	STATION	OFFSET	CONSTRUCTED IN STAGE
1	645+94.24	41.36' LT	-
2	645+82.37	13.81' LT	-
3	645+70.51	13.75' RT	-
4	645+58.64	41.30' RT	-

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05

DECK PLACEMENT ASSUMPTIONS
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.38 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

STRUCTURE PAINTING: ALL BRIDGE FINISH COATS SHALL BE THE SAME COLOR.

ABBREVIATIONS

ABUT.	-	ABUTMENT
APPR.	-	APPROACH
BRG.	-	BEARING
BOT.	-	BOTTOM
CONST. JT.	-	CONSTRUCTION JOINT
CLR.	-	CLEAR
CONST.	-	CONSTRUCTION
CORR.	-	CORRUGATED
DIA.	-	DIAMETER
DIM.	-	DIMENSION
DWG.	-	DRAWING
EL.	-	ELEVATION
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.A.	-	FORWARD ABUTMENT
FWD.	-	FORWARD
F.F.	-	FRONT FACE
FT.	-	FEET
LBS.	-	POUNDS
MAX.	-	MAXIMUM
MEAS.	-	MEASURED
MIN.	-	MINIMUM
OPT.	-	OPTIONAL
P.E.J.F.	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
R.F.	-	REAR FACE
REQ'D.	-	REQUIRED
SPA.	-	SPACING
STA.	-	STATION
T.O.S.	-	TOP OF SLOPE
TYP.	-	TYPICAL
U.O.N.	-	UNLESS OTHERWISE NOTED
VAR.	-	VARIES
W/	-	WITH

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WILLIAMSBURG, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED HK | DRAWN TAC | CHECKED BDH | REVIEWED SDS | DATE 9-24-19 | REVISED | STRUCTURE FILE NUMBER 7001232

GENERAL NOTES
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455

1346 / 1669

CALC:	HK	DATE:	6/28/2019
CHECKED:	TAC	DATE:	6/28/2019

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL 01/NHS/BR	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3/79
202	22900	411	SY	APPROACH SLAB REMOVED				411	
202	23500	411	SY	WEARING COURSE REMOVED				411	
SPECIAL	20365000	4	EACH	SETTLEMENT PLATFORM				4	3/79
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	2/79
503	21100	1967	CY	UNCLASSIFIED EXCAVATION	810	1157			
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
506	11100	LS		STATIC LOAD TEST		LS			
507	00501	4015	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN	4015				3/79
507	00551	4380	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN	4380				3/79
507	00701	9570	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN		9570			3/79
507	00751	10230	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN		10230			3/79
509	10000	411193	LB	EPOXY COATED REINFORCING STEEL	42869	136266	232058		
511	21523	1026	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			1026		42/79 & 61/79
511	33500	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE			4		
511	41012	437	CY	CLASS QCI CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		437			
511	44112	203	CY	CLASS QCI CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	203				
511	46512	496	CY	CLASS QCI CONCRETE WITH QC/QA, FOOTING	256	240			
512	10100	2037	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	237	982	723	95	
512	10300	414	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			381	33	
512	33000	42	SY	TYPE 2 WATERPROOFING	42				
513	10260	754305	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			754305		
513	20000	11778	EACH	WELDED STUD SHEAR CONNECTORS			11778		
514	00800	754305	LB	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			754305		
514	00851	754305	LB	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			754305		3/79
514	10000	31	EACH	FINAL INSPECTION/REPAIR			31		
516	10010	249	FT	ARMORLESS PREFORMED JOINT SEAL				249	
516	13600	75	SF	1" PREFORMED EXPANSION JOINT FILLER			75		
516	13900	646	SF	2" PREFORMED EXPANSION JOINT FILLER			245	401	
516	14020	300	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	300				
516	44101	28	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 3 1/8"x1'-4"x1'-7" WITH 2 3/8" (AVG)x1'-5"x1'-8" BEVELED LOAD PLATE		28			38/79
516	44101	28	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 1/2"x1'-0"x1'-2" WITH 1 3/4" (AVG)x1'-1"X1'-3" BEVELED LOAD PLATE	28				38/79
518	21200	225	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	225				
518	40000	320	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	320				
518	40010	45	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	45				
523	20000	3	EACH	DYNAMIC LOAD TESTING	1	2			
523	20500	2	EACH	RESTRIKE		2			
526	25001	657	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				657	63/79 THRU 65/79
526	90030	258	FT	TYPE C INSTALLATION				258	
601	20010	612	CY	CRUSHED AGGREGATE SLOPE PROTECTION				612	

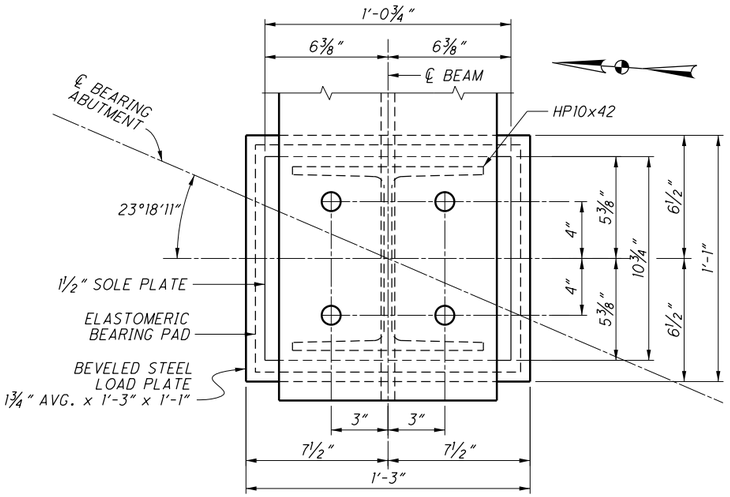
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLEFAIRE, ASHTABULA, OHIO 44851
TELEPHONE (330) 345-6556
FAX (330) 345-6077

REVIEWED SDS DATE 9-24-19
STRUCTURE FILE NUMBER 7001232
DRAWN TAC REVISED
DESIGNED HK CHECKED BDH

ESTIMATED QUANTITIES
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

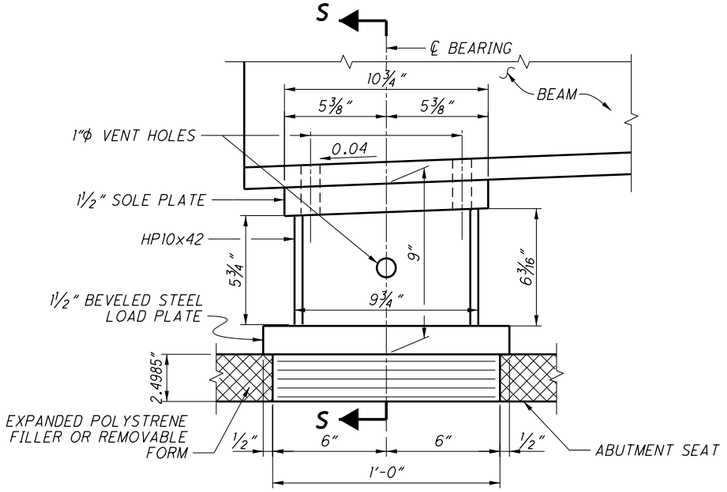
RIC-30-9.26
PID No. 93455

1347
1669

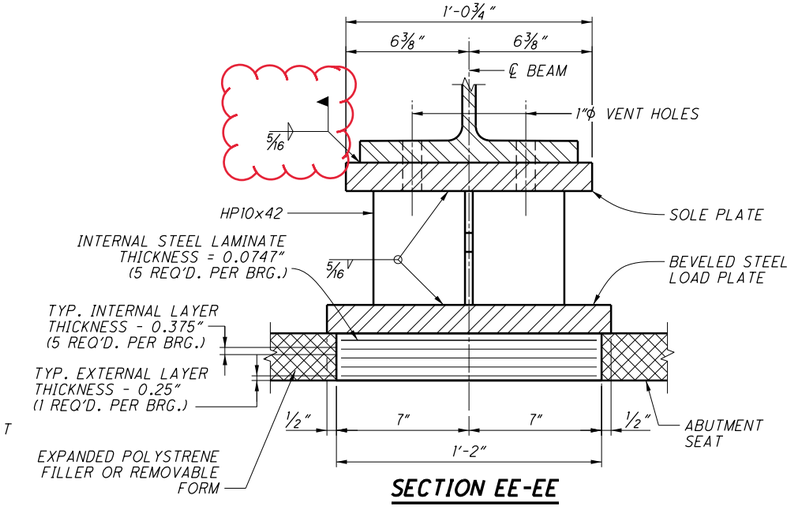


PLAN AT ABUTMENT

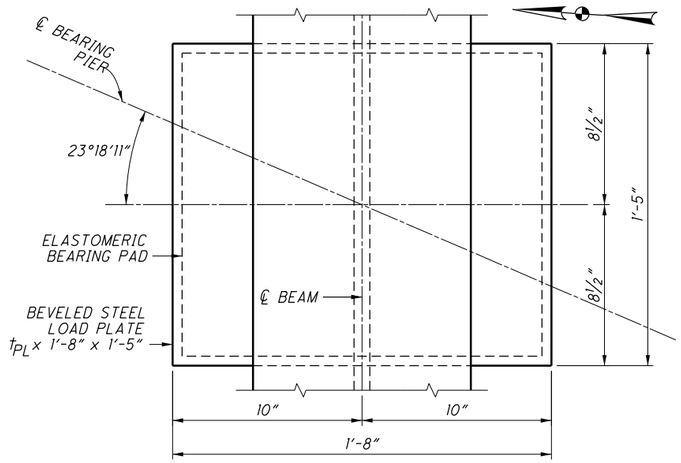
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



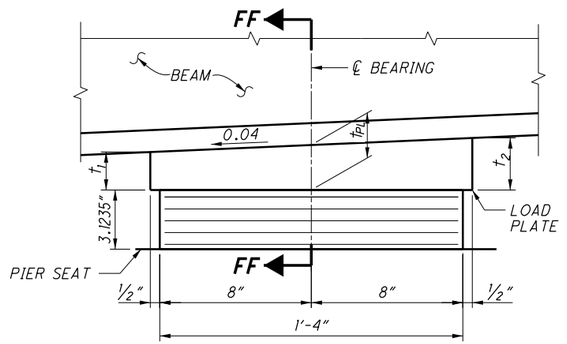
ABUTMENT BEARING ELEVATION



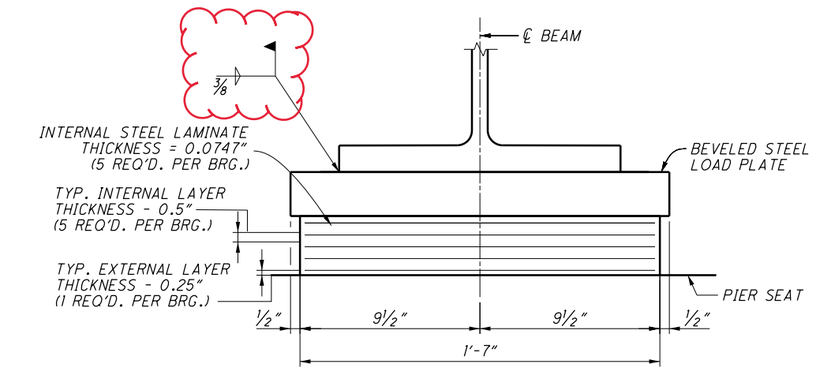
SECTION EE-EE



PLAN AT PIERS



PIER BEARING ELEVATION



SECTION FF-FF

BEARING ORIENTATION

LOAD PLATE THICKNESS (IN.)					
LOC.	PLATE thk. (+) t	BEAM			
		A AND D	B AND E	C AND F	G THRU P
PIER NO. 1	t1	2 1/4	2 1/8	2	2
	tpl	2 5/8	2 1/2	2 3/8	2 3/8
	t2	3	2 7/8	2 3/4	2 3/4
PIER NO. 2	t1	2 3/8	2 1/4	2	2
	tpl	2 3/4	2 5/8	2 3/8	2 3/8
	t2	3 1/8	3	2 3/4	2 3/4

HP 10X42 SECTION LEFT BRIDGE - (WB)				
LOCATION	REAR ABUT.		FWD. ABUT.	
	h1	h2	h1	h2
BEAM A	6 1/2"	6 1/2"	6 5/8"	6 5/8"
BEAM B	6 3/8"	6 3/8"	6 3/8"	6 3/8"
BEAM C	6 1/4"	6 1/4"	6 1/4"	6 1/4"
BEAM D	6"	6"	6"	6"
BEAM E	5 7/8"	5 7/8"	5 7/8"	5 7/8"
BEAM F	5 3/4"	5 3/4"	5 3/4"	5 3/4"

HP 10X42 SECTION RIGHT BRIDGE - (EB)				
LOCATION	REAR ABUT.		FWD. ABUT.	
	h1	h2	h1	h2
BEAMS G THRU P	5 3/4"	5 3/4"	5 3/4"	5 3/4"

BEARING REACTION TABLE (KIPS) (SEE NOTE 6)												
BEARING DESIGNATION	LOCATION	TYPE	NO.	LEFT BRIDGE (WESTBOUND)					RIGHT BRIDGE (EASTBOUND)				
				DEAD LOAD			LIVE LOAD	TOTAL	DEAD LOAD			LIVE LOAD	TOTAL
				DIAPHRAGM	REACTION	TOTAL			DIAPHRAGM	REACTION	TOTAL		
E-160	REAR ABUT.	EXP.	14	42.5	42.9	85.4	70.3	155.7	39.3	38.9	78.2	65.7	144.0
E-300	PIER NO. 1	EXP.	14		178.5	178.5	117.8	296.3		159.8	159.8	109.5	269.3
E-300	PIER NO. 2	EXP.	14		178.5	178.5	117.8	296.3		159.8	159.8	109.5	269.3
E-160	FORWARD ABUT.	EXP.	14	42.5	42.9	85.4	70.3	155.7	39.3	38.9	78.2	65.7	144.0

NOTES

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONGTERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. BASIS FOR PAYMENT FOR ELASTOMERIC BEARING: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, STEEL SUPPORT POST, BEVELING OF LOAD PLATE WHERE REQUIRED AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE AT THE CONTRACT PRICE FOR THE APPROPRIATE ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
3. FOR ABBREVIATIONS SEE SHEET 3/79 .
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION, ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
5. THE STEEL LOAD PLATE (ASTM A709, GRADE 50) SHALL BE BONDED BY VULCANIZATION TO ELASTOMER DURING THE MOLDING PROCESS.
6. TABLE INCLUDES UNFACTORED DEAD LOADS, LIVE LOAD (WITHOUT IMPACT) AND TOTAL REACTIONS.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WILLOUGHBY, OHIO 44691
TELEPHONE (330) 946-9558
FAX (330) 946-8077

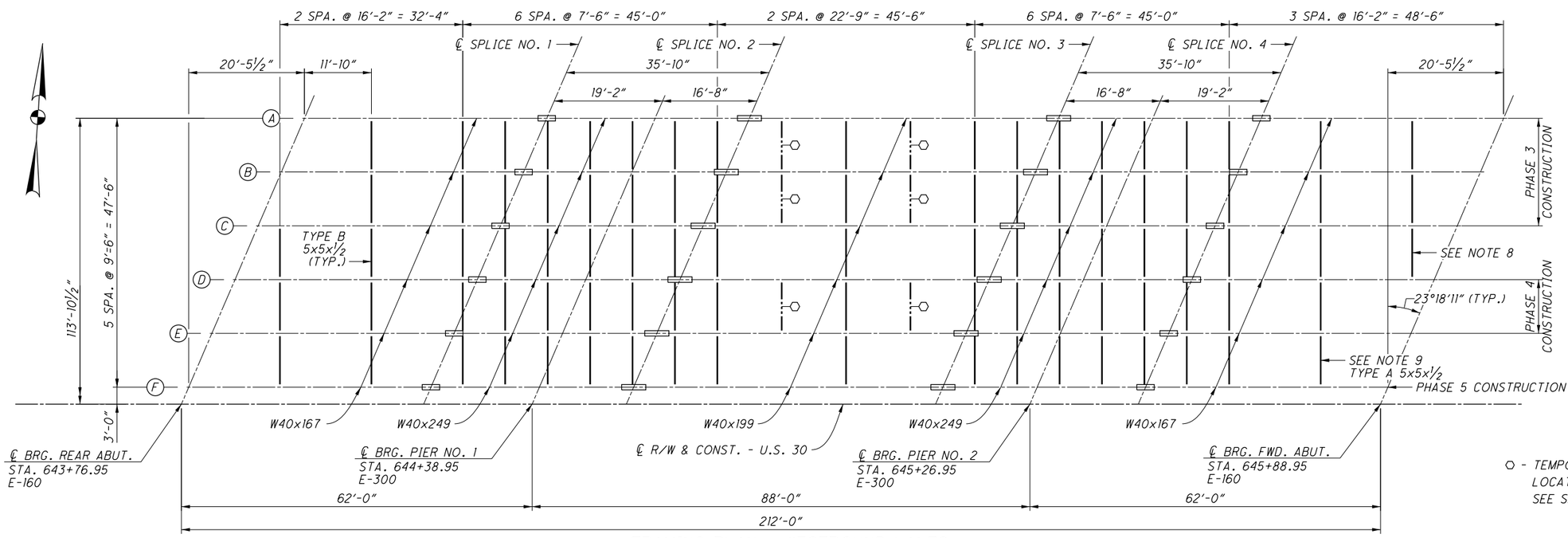
DESIGNED CEH | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED HK | REVISED --- | STRUCTURE FILE NUMBER 7001232

ELASTOMERIC BEARING DETAILS
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455

38/79

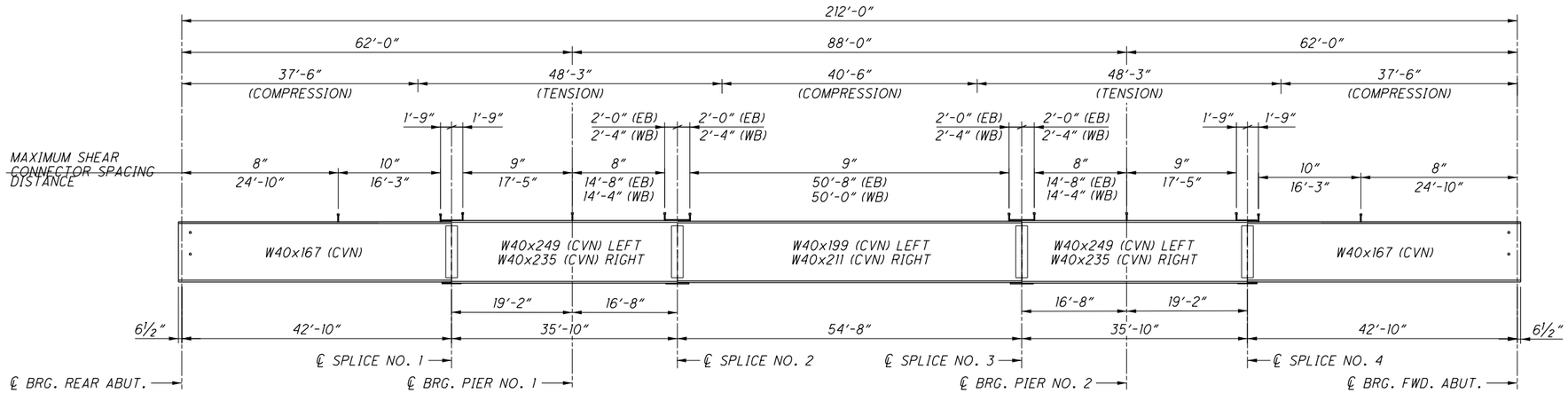
1381
1669



FRAMING PLAN - WESTBOUND LANES

LEGEND

⬡ - TEMPORARY LATERAL SUPPORT
LOCATE AT ½ CROSSFRAME SPACING
SEE SHEET 42 / 79



BEAM ELEVATION

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3 / 79 .
2. FOR EASTBOUND LANES FRAMING PLAN AND ADDITIONAL DETAILS SEE SHEET 42 / 79 .
3. FOR TRANSVERSE SECTION SEE SHEET 52 / 79 & 53 / 79 .
4. FOR ELASTOMERIC BEARING DETAILS SEE SHEET 38 / 79 .
5. FOR SPLICE DETAILS SEE SHEET 44 / 79 .
6. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
7. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
8. CROSSFRAMES BETWEEN BEAMS C AND D SHALL BE INSTALLED AFTER THE PHASE 3 AND PHASE 4 DECK CONCRETE HAS BEEN POURED AND PRIOR TO DECK CLOSURE POUR.
9. ERECT BEAM F AND TYPE A INTERMEDIATE CROSSFRAMES. DO NOT TIGHTEN BOLTS UNTIL PHASE 5 DECK CONSTRUCTION IS COMPLETED.

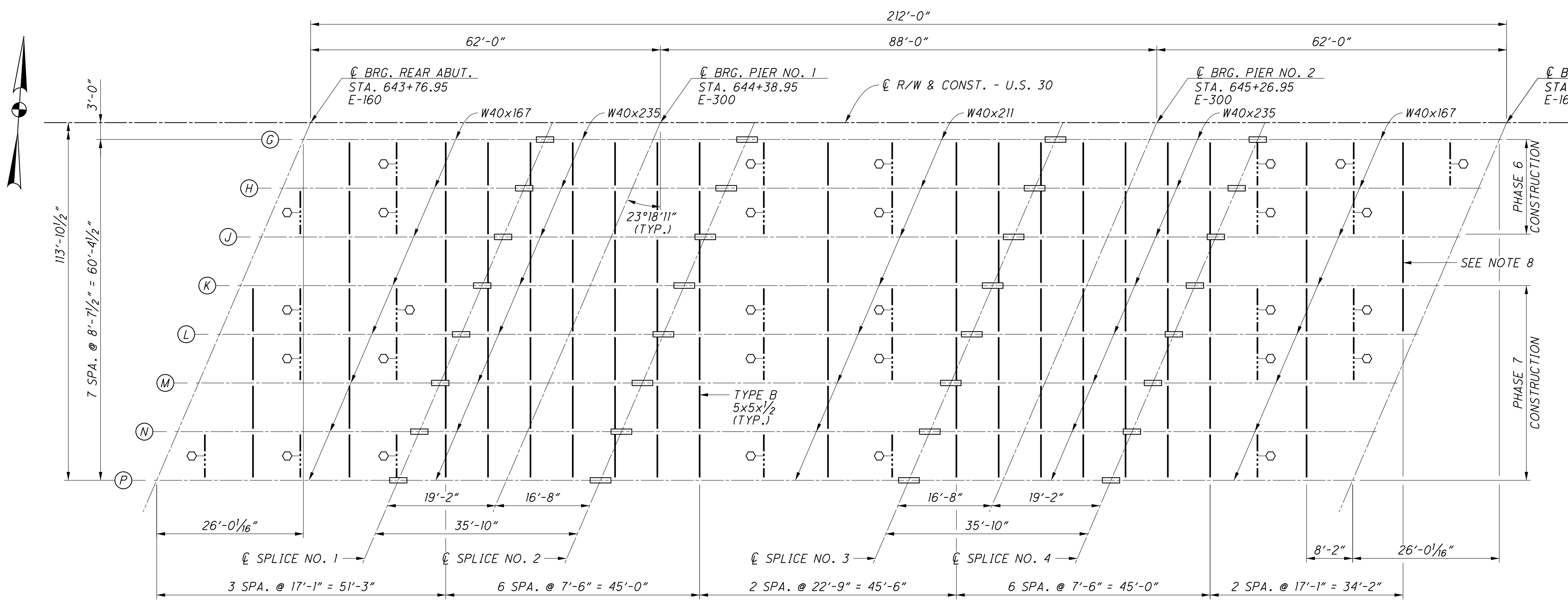
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1836 EAST PLEASANT VALLEY BLVD., AKRON, OHIO 44691
TELEPHONE (330) 345-6556
FAX: (330) 345-6017

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001232	

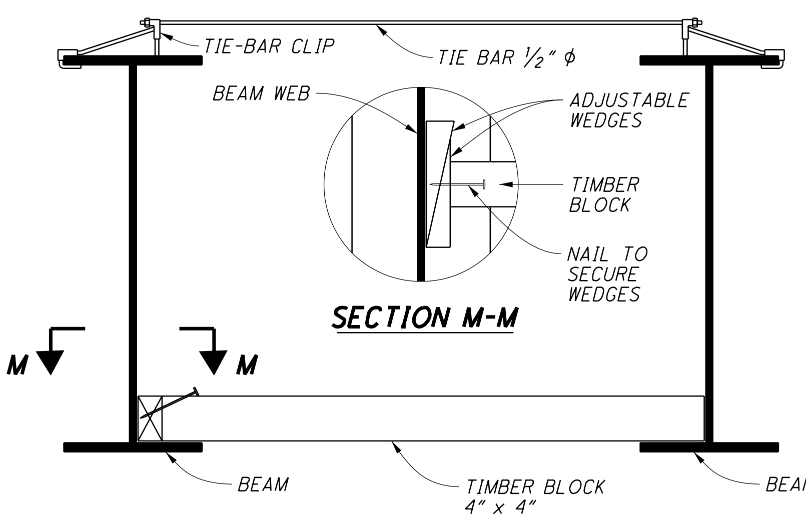
FRAMING PLAN - LEFT (WESTBOUND)
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455

1384
1669

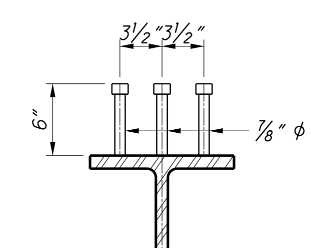


FRAMING PLAN - EASTBOUND LANES

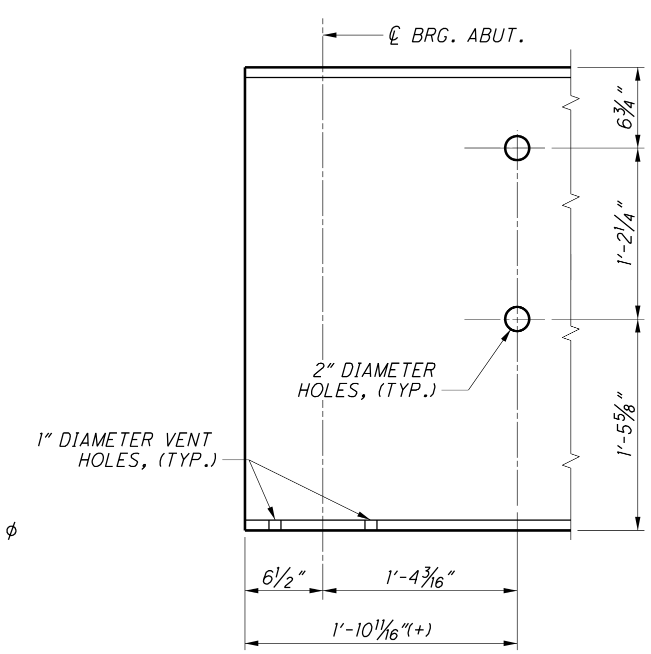


TEMPORARY LATERAL SUPPORT SYSTEMS

1. PLACED AS PER PLAN BEFORE DECK POURING.
2. TIMBER BLOCK TO BE REMOVED WHEN DECK IS CURED.



WELDED STUD SHEAR CONNECTOR DETAIL



TYPICAL BEAM END DETAIL

LEGEND

⬡ - TEMPORARY LATERAL SUPPORT
LOCATE AT 1/2 OF CROSSFRAME SPACING

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/79 .
2. FOR WESTBOUND LANES FRAMING PLAN, BEAM ELEVATION AND NOTES SEE SHEET 41/79 .
3. FOR TRANSVERSE SECTION SEE SHEET 52/79 & 53/79 .
4. FOR ELASTOMERIC BEARING DETAILS SEE SHEET 38/79 .
5. FOR SPLICE DETAILS SEE SHEET 43/79 .
6. FOR INTERMEDIATE CROSSFRAME DETAILS SEE STD DWG GSD-1-19.
7. TEMPORARY LATERAL SUPPORTS: THE COST OF MATERIALS, ERECTION AND LABOR SHALL BE INCLUDED IN ITEM 511 CLASS QC2 CONCRETE, SUPERSTRUCTURE, AND AS PER PLAN FOR PAYMENT.
8. CROSSFRAMES BETWEEN BEAMS J AND K SHALL BE INSTALLED AFTER THE PHASE 6 AND PHASE 7 DECK CONCRETE HAS BEEN POURED AND PRIOR TO DECK CLOSURE POURS.
9. DETAIL FOR HOLES DRILLED IN BOTTOM FLANGE ARE ON SHEET 38/79 .

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	--	7001232	

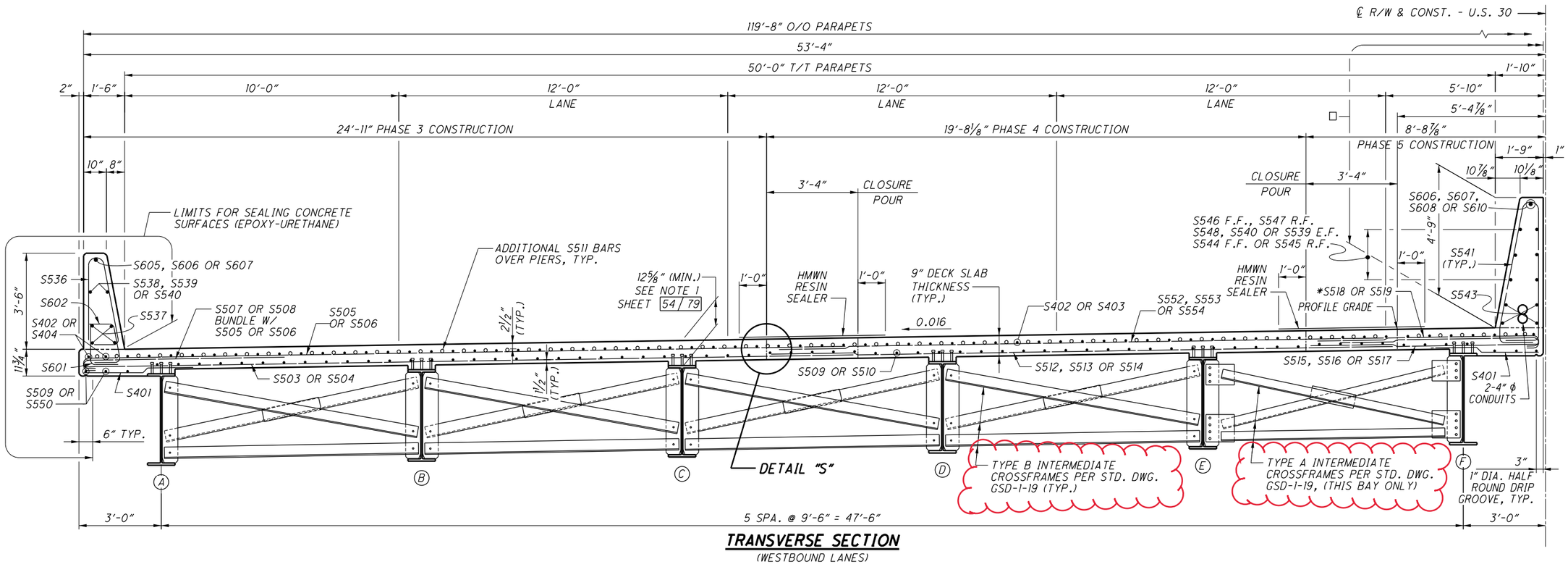
FRAMING PLAN - RIGHT (EASTBOUND)
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455

42/79

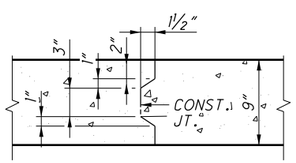
1385/1669

M:\15074\93455\Design\Structures\RIC030_1219C\Sheets\030_1219CSS002.dgn 2/27/2020 3:41:15 PM acb284



TRANSVERSE SECTION

(WESTBOUND LANES)



CONST. JOINT DETAIL

DETAIL "S"

(TYPICAL)

LEGEND

□ - LIMITS FOR SEALING CONCRETE SURFACES (EPOXY-URETHANE)

* - S507 OR S553 BUNDLE W/S518 OR S519

NOTES

1. MINIMUM REINFORCING STEEL SPLICE LENGTH UNLESS OTHERWISE NOTED:
   NO. 5 BAR = 2'-5"
   S502 THRU S504,
   S509 & S510,
   S512 THRU S517 = 3'-0" (BOTTOM OF SLAB)
2. FOR RAILING AND MEDIAN BARRIER DETAILS SEE SHEET 56 / 79 THRU 60 / 79 .
3. FOR SLAB PLAN - LEFT (WESTBOUND) SEE SHEET 54 / 79 .
4. FOR ABBREVIATIONS SEE SHEET 3 / 79 .

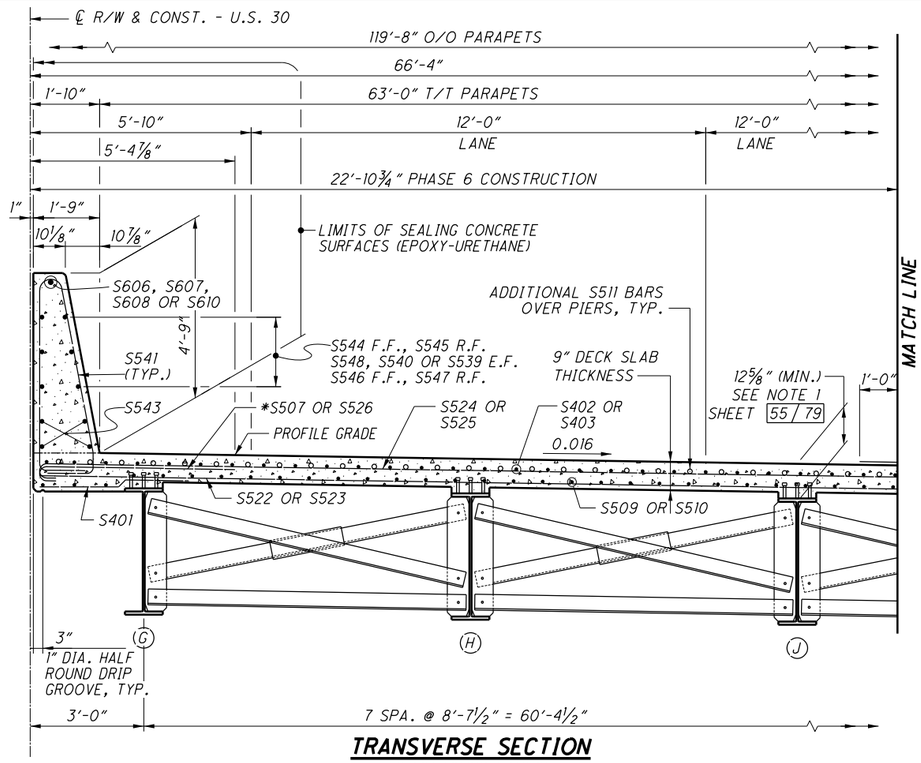
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WILLOUGHBY, OHIO 44094
TELEPHONE (330) 946-8558
FAX (330) 946-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	RLE	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001232	

TRANSVERSE SECTION - LEFT (WESTBOUND)

BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455



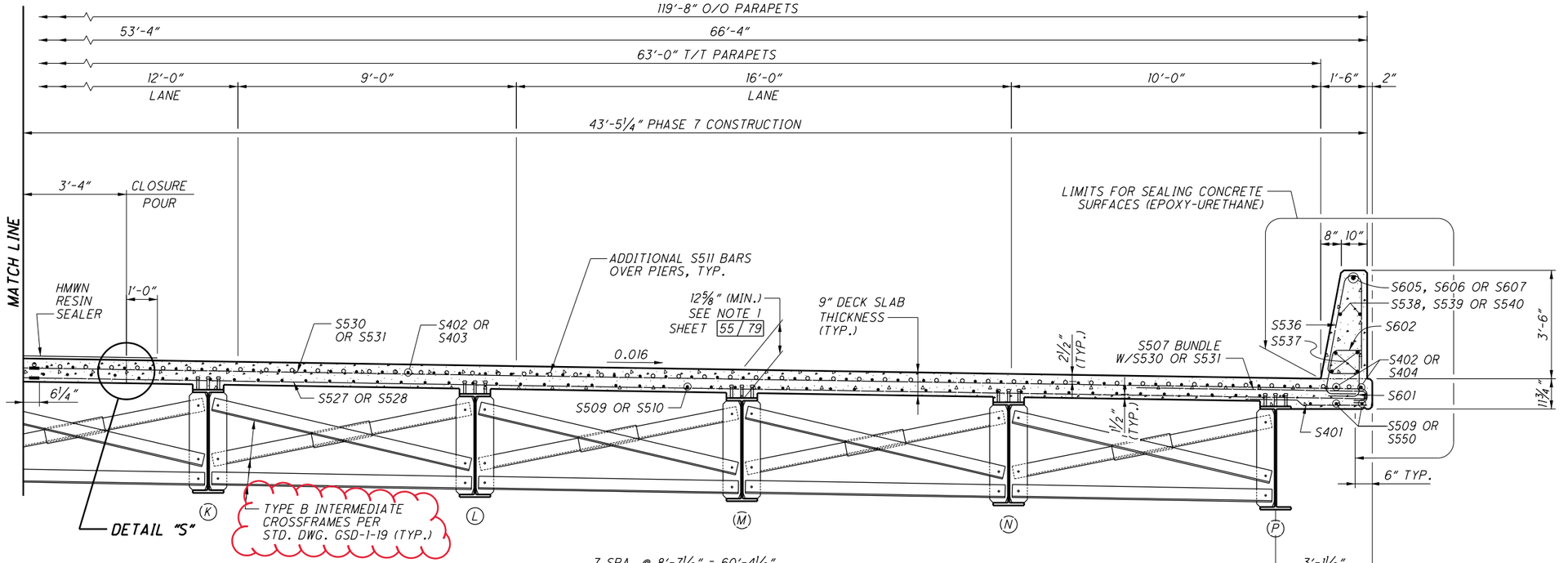
TRANSVERSE SECTION
(EASTBOUND LANES)

LEGEND

* - S507 & S526 BUNDLE WITH S524 OR S525

NOTES

1. MINIMUM REINFORCING STEEL SPLICE LENGTH UNLESS OTHERWISE NOTED:
   NO. 5 BAR = 2'-5"
   S521 THRU S523, S527 THRU S529 = 3'-0" (BOTTOM OF SLAB)
2. FOR RAILING AND MEDIAN BARRIER DETAILS SEE SHEET 56 / 79 THRU 60 / 79 .
3. FOR SLAB PLAN - RIGHT (EASTBOUND) SEE SHEET 55 / 79 .
4. FOR ABBREVIATIONS SEE SHEET 3 / 79 .
5. FOR DETAIL "S" SEE SHEET 52 / 79 .



TRANSVERSE SECTION
(EASTBOUND LANES)

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1836 EAST PIKE, ZANESVILLE, OHIO 43701
TELEPHONE (330) 345-6556
FAX: (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	RLE	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001232	

TRANSVERSE SECTION - RIGHT (EASTBOUND)
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455

53 / 79

1396
1669

M:\15074\93455\Design\Structures\RIC030_1219C\Sheets\030_1219CST002.dgn 2/24/2020 11:09:59 AM acb284

STANDARD DRAWINGS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7-17-15
AS-2-15	REVISED	1-18-19
GSD-1-19	DATED	1-18-19
PCB-91	REVISED	1-18-13
SBR-1-13	REVISED	7-20-18
SBR-2-13	REVISED	7-20-18
SICD-1-96	REVISED	7-18-14
SICD-2-14	DATED	7-18-14
VPF-1-90	REVISED	7-20-18

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN LOADING
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT².

DESIGN DATA
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05

ITEM 203 EMBANKMENT, AS PER PLAN
PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 650+50 TO 656+50.

PILE DRIVING CONSTRAINTS
PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND THE PIER PILES, UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

PILES TO BEDROCK
DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 125 KIPS PER PILE FOR THE ABUTMENT PILES. THE TOTAL FACTORED LOAD IS 235 KIPS PER PILE FOR THE PIER PILES.

	LEFT BRIDGE		RIGHT BRIDGE	
	NO. OF PILES	ORDER LENGTH	NO. OF PILES	ORDER LENGTH
REAR ABUTMENT	22	65 FT	23	65 FT
PIER NO. 1	17	50 FT	22	45 FT
PIER NO. 2	16	35 FT	20	35 FT
FORWARD ABUTMENT	17	40 FT	18	45 FT

PILE SPLICES
IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

DECK PLACEMENT ASSUMPTIONS
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.34 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

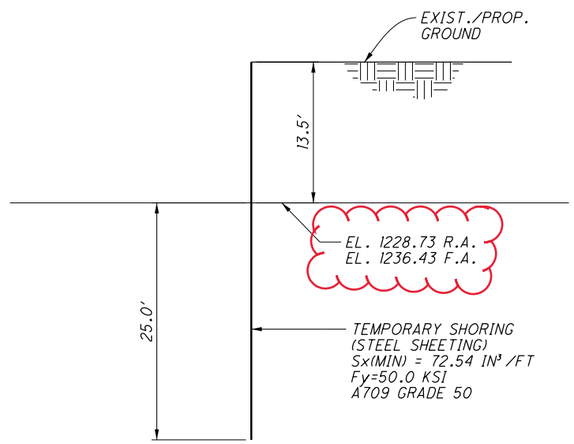
A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

STRUCTURE PAINTING: ALL BRIDGE FINISH COATS SHALL BE THE SAME COLOR.

UTILITIES TO REMAIN: EXISTING TELEPHONE DUCT SHALL NOT BE DISTURBED.

ABUT.	-	ABUTMENT
APPR.	-	APPROACH
BRG.	-	BEARING
BOT.	-	BOTTOM
CONST. JT.	-	CONSTRUCTION JOINT
CLR.	-	CLEAR
CONST.	-	CONSTRUCTION
CORR.	-	CORRUGATED
DIA.	-	DIAMETER
DIM.	-	DIMENSION
DWG.	-	DRAWING
EL.	-	ELEVATION
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.A.	-	FORWARD ABUTMENT
FWD.	-	FORWARD
F.F.	-	FRONT FACE
FT.	-	FEET
LBS.	-	POUNDS
MAX.	-	MAXIMUM
MEAS.	-	MEASURED
MIN.	-	MINIMUM
OPT.	-	OPTIONAL
P.E.J.F.	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
R.F.	-	REAR FACE
REQ'D.	-	REQUIRED
SPA.	-	SPACING
STA.	-	STATION
T.O.S.	-	TOP OF SLOPE
TYP.	-	TYPICAL
U.O.N.	-	UNLESS OTHERWISE NOTED
VAR.	-	VARIES
W/	-	WITH



SECTION A-A
TEMPORARY SHORING DETAIL

NOTE: SEE SHEET 2/73 FOR LOCATION

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLEFONTAINE, OHIO 43311
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001267	

GENERAL NOTES
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455

CALC:	BDH	DATE:	8/30/2019
CHECKED:	HK	DATE:	8/30/2019

ESTIMATED QUANTITIES

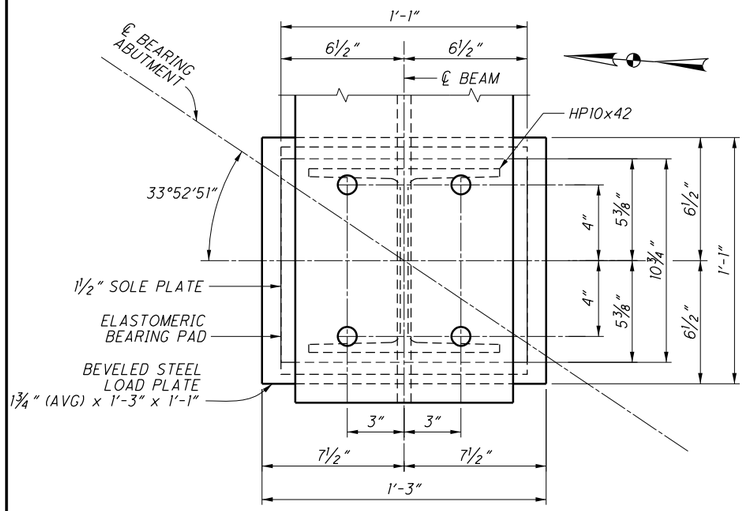
ITEM	EXTENSION	TOTAL 01/NHS/BR	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3/73
202	22900	347	SY	APPROACH SLAB REMOVED				347	
202	23500	167	SY	WEARING COURSE REMOVED				167	
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	3/73
503	21100	1693	CY	UNCLASSIFIED EXCAVATION	1234	459			
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
507	00100	7515	FT	STEEL PILES HP10X42, FURNISHED	4415	3100			
507	00150	6740	FT	STEEL PILES HP10X42, DRIVEN	4015	2725			
507	92200	585	FT	PREBORED HOLES		585			
509	10000	294385	LB	EPOXY COATED REINFORCING STEEL	39137	56695	198553		
511	21523	821	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			821		35/73 & 36/73
511	33500	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE			4		
511	41012	189	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		189			
511	44112	312	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	312				
511	46512	357	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	226	131			
512	10100	1539	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	82	561	823	73	
512	10300	369	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			335	34	
512	33000	35	SY	TYPE 2 WATERPROOFING	35				
513	10260	560936	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			560936		
513	20000	10335	EACH	WELDED STUD SHEAR CONNECTORS			10335		
514	00800	560936	LB	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			560936		
514	00851	560936	LB	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			560936		3/73
514	10000	25	EACH	FINAL INSPECTION REPAIR			25		
516	10010	256	FT	ARMORLESS PREFORMED JOINT SEAL				256	
516	13600	30	SF	1" PREFORMED EXPANSION JOINT FILLER			30		
516	13900	787	SF	2" PREFORMED EXPANSION JOINT FILLER			230	557	
516	14020	279	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	279				
516	44101	26	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 1/2"x1'-0"x1'-2" W/ 1 1/2"x1'-1"x1'-3" BEVELED LOAD PLATE	26				32/73
516	44101	26	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 3 1/8"x1'-3"x1'-6" W/ 2 5/16"(AVG)x1'-4"x1'-7" BEVELED LOAD PLATE		26			32/73
518	21200	190	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	190				
518	40000	339	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	339				
518	40010	66	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	66				
526	25001	617	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				617	53/73 THRU 58/73
526	90030	267	FT	TYPE C INSTALLATION				267	
601	21000	1154	SY	CONCRETE SLOPE PROTECTION				1154	
607	39900	320	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			320		

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-8077

REVIEWED SDS DATE 9-24-19
STRUCTURE FILE NUMBER 7001267
DRAWN TAC REVISED
DESIGNED HK CHECKED BDH

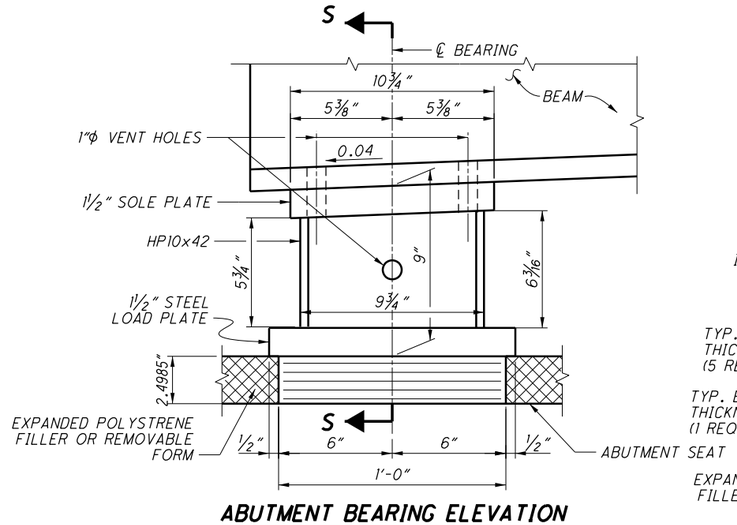
ESTIMATED QUANTITIES
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455

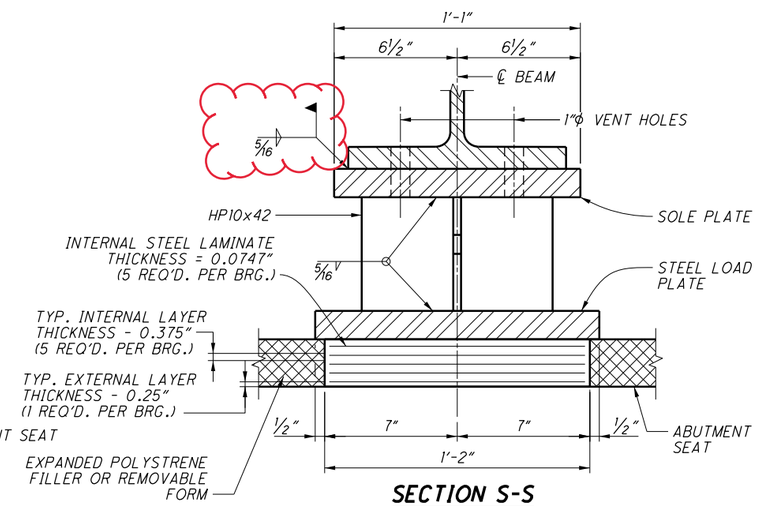


PLAN AT ABUTMENT

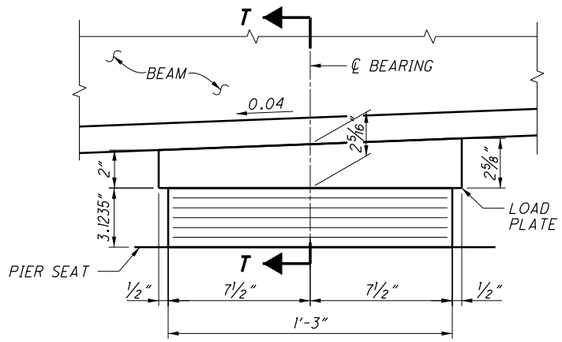
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



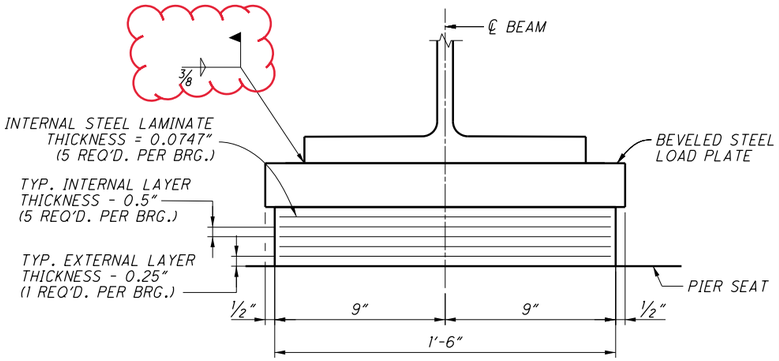
ABUTMENT BEARING ELEVATION



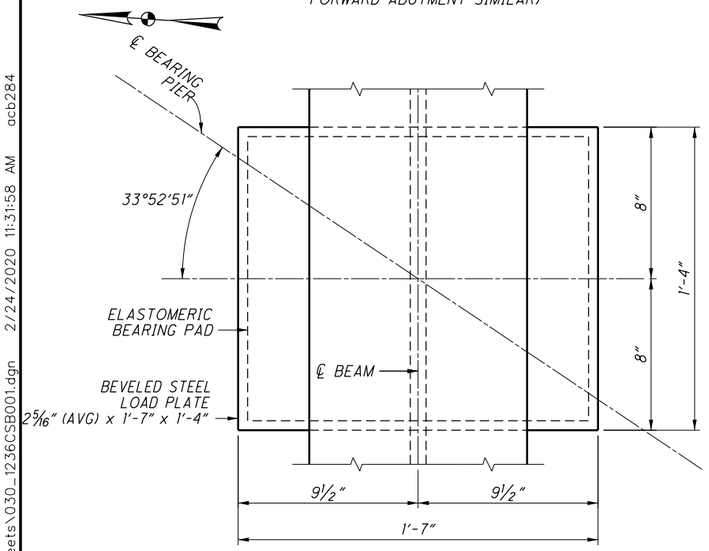
SECTION S-S



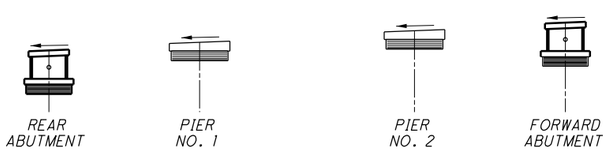
PIER BEARING ELEVATION



SECTION T-T



PLAN AT PIERS



BEARING ORIENTATION

BEARING REACTION TABLE (KIPS) (SEE NOTE 6)

BEARING DESIGNATION	LOCATION	TYPE	NO.	LEFT BRIDGE					RIGHT BRIDGE				
				DEAD LOAD			LIVE LOAD	TOTAL	DEAD LOAD			LIVE LOAD	TOTAL
				DIAPHRAGM	REACTION	TOTAL			DIAPHRAGM	REACTION	TOTAL		
E-150	REAR ABUT.	EXP.	13	43.6	37.2	80.8	66.8	147.6	42.9	35.3	78.2	66.0	144.2
E-255	PIER NO. 1	EXP.	13		154.5	154.5	99.6	254.1		150.6	150.6	98.9	249.5
E-255	PIER NO. 2	EXP.	13		154.5	154.5	99.6	254.1		150.6	150.6	98.9	249.5
E-150	FORWARD ABUT.	EXP.	13	43.6	37.2	80.8	66.8	147.6	40.4	35.1	75.4	65.5	140.9

NOTES

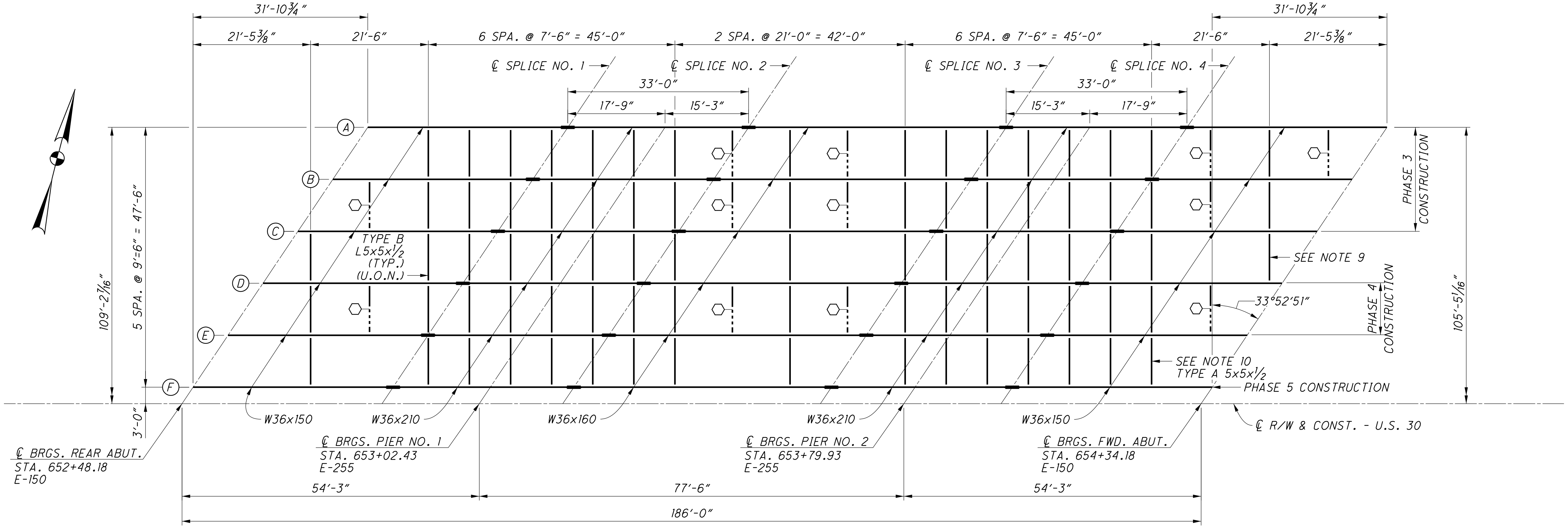
1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONGTERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. BASIS FOR PAYMENT FOR ELASTOMERIC BEARING: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, STEEL SUPPORT POST, BEVELING OF LOAD PLATE WHERE REQUIRED AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE AT THE CONTRACT PRICE FOR THE APPROPRIATE ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
3. FOR ABBREVIATIONS SEE SHEET 3/73 .
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION, ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
5. THE STEEL LOAD PLATE (ASTM A709, GRADE 50) SHALL BE BONDED BY VULCANIZATION TO ELASTOMER DURING THE MOLDING PROCESS.
6. TABLE INCLUDES UNFACTERED DEAD LOADS, LIVE LOADS (WITHOUT IMPACT) AND TOTAL REACTIONS.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLE VALLEY, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

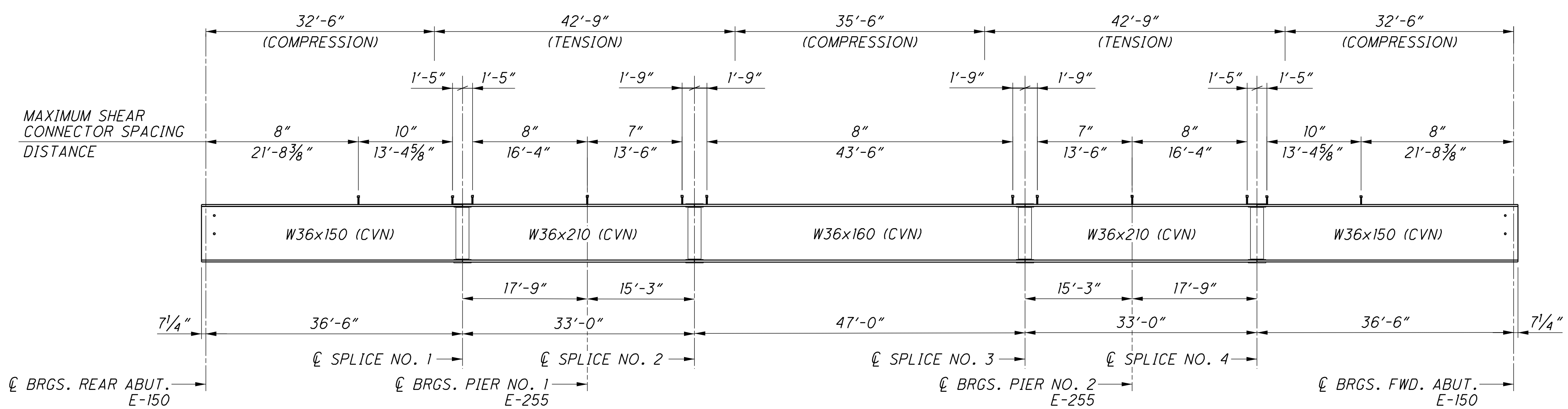
DESIGNED	DRAWN	REVIEWED	DATE
CEH	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
HK	---	7001267	

ELASTOMERIC BEARING DETAILS
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455



FRAMING PLAN - WESTBOUND LANES



BEAM ELEVATION - WESTBOUND LANES

LEGEND

○ - TEMPORARY LATERAL SUPPORT SEE SHEET 38/73
LOCATE AT ½ OF CROSS FRAME SPACING

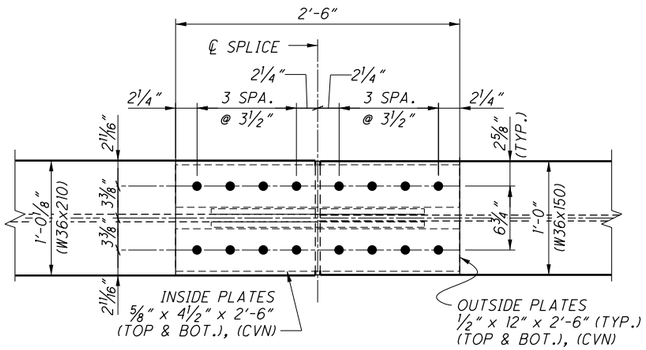
NOTES

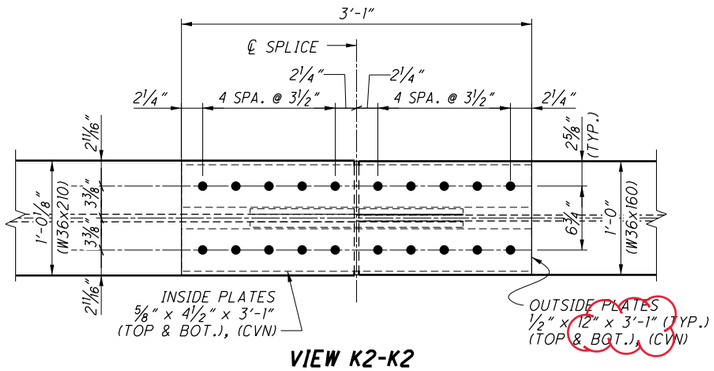
1. FOR ABBREVIATIONS SEE SHEET 3/73.
2. FOR EB LANES FRAMING PLAN AND ADDITIONAL DETAILS SEE SHEET 36/73.
3. FOR TRANSVERSE SECTION SEE SHEETS 46/73 & 47/73.
4. FOR ELASTOMERIC BEARING DETAILS SEE SHEET 32/73.
5. FOR BEAM DETAILS SEE SHEET 37/73 AND 38/73.
6. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
7. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
8. FOR INTERMEDIATE CROSSFRAME DETAILS SEE STD. DWG. GSD-1-19.
9. CROSSFRAMES BETWEEN BEAMS C AND D SHALL BE INSTALLED AFTER THE PHASE 3 AND PHASE 4 DECK CONCRETE HAS BEEN POURED AND PRIOR TO DECK CLOSURE POUR.
10. ERECT BEAM F AND TYPE A CROSSFRAMES. DO NOT TIGHTEN BOLTS UNTIL PHASE 5 DECK CONSTRUCTION IS COMPLETED.

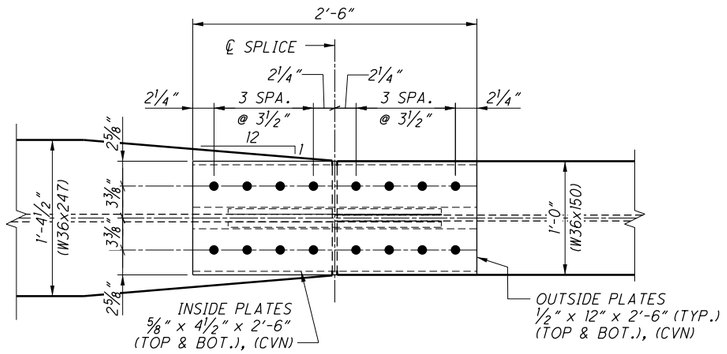
DESIGN AGENCY: ENGINEERING ASSOCIATES, INC.
DESIGNED: CEH | CHECKED: BDH | DRAWN: TAC | REVISED: -- | REVIEWED: SDS | DATE: 9-24-19 | STRUCTURE FILE NUMBER: 7001267

FRAMING PLAN - LEFT (WESTBOUND)
BRIDGE NO. RIC-30-1236
OVER S.R. 545

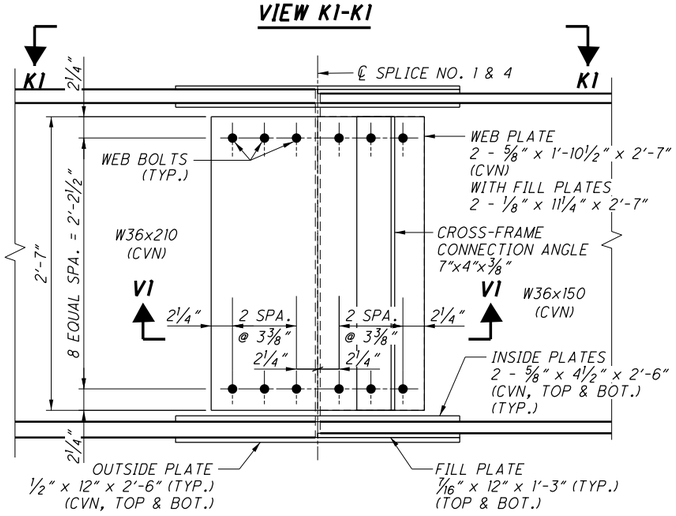
RIC-30-9.26
PID No. 93455







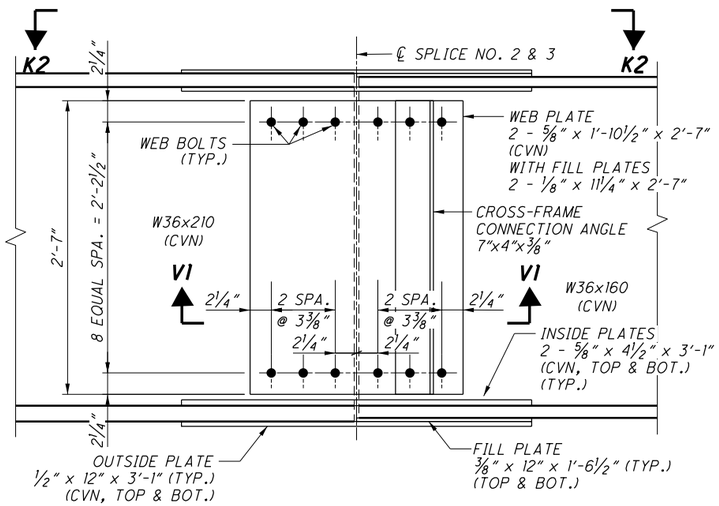
VIEW K1-K1



BEAM SPLICE DETAIL

(WESTBOUND STRUCTURE)

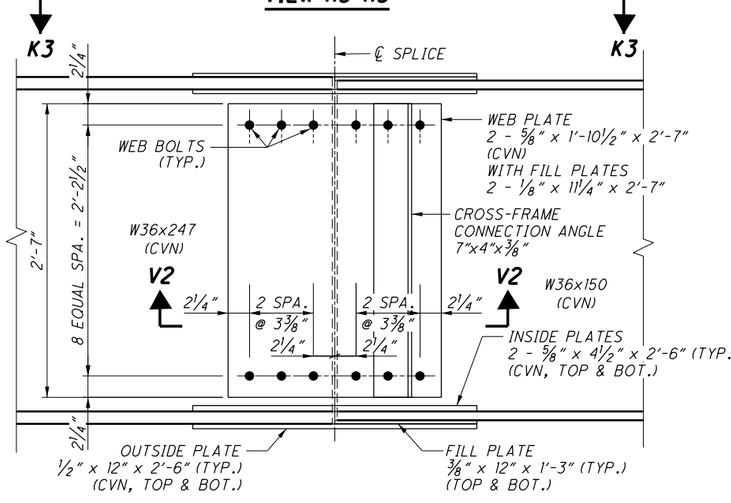
VIEW K2-K2



BEAM SPLICE DETAIL

(WESTBOUND STRUCTURE)

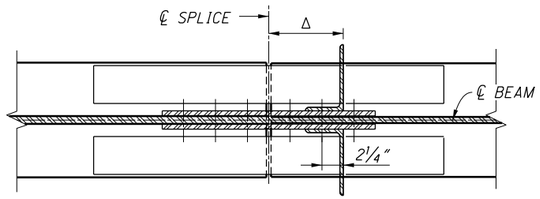
VIEW K3-K3



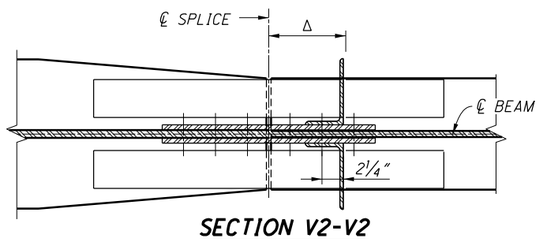
BEAM SPLICE DETAIL

(EASTBOUND STRUCTURE)

Δ LOCATION OF CONNECTION ANGLES ON SPLICE (MAY BE ON EITHER SIDE OF SPLICE ℄)				
BEAM	SPLICE 1	SPLICE 2	SPLICE 3	SPLICE 4
B				0"
C		7⅞"		
D			7⅞"	
E	0"			
H	7⅞"		0"	
J	10⅛"			
L		10⅛"		0"
M		7⅞"		



SECTION V1-V1



SECTION V2-V2

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/73 .
2. FOR FRAMING PLAN, BEAM ELEVATION AND ADDITIONAL NOTES SEE SHEETS 35/73 & 36/73 .
3. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
4. HIGH STRENGTH BOLTS SHALL BE 1⅛" DIAMETER A325, GALVANIZED TYPE I.
5. FOR ADDITIONAL BEAM DETAILS SEE SHEET 38/73 .

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WEST CHESTER, OHIO 44681
TELEPHONE (330) 345-6558
FAX (330) 345-8077

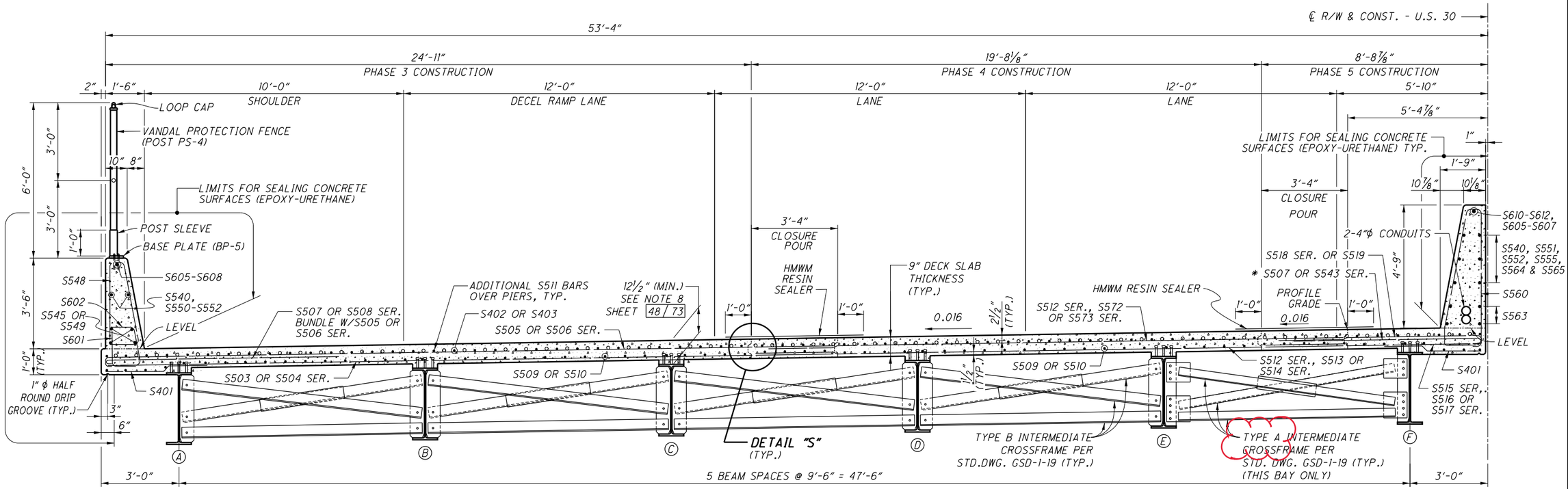
DESIGNED	DRAWN	REVIEWED	DATE
CEH	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001267	

BEAM DETAILS
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-09.26
PID No. 93455

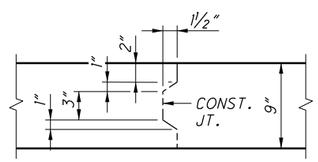
37/73

1461
1669



TRANSVERSE SECTION

(WESTBOUND LANES)



CONST. JOINT DETAIL

DETAIL "S"

LEGEND

* - S507 & S543 BUNDLE W/S518 SER., OR S519

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/73 .
2. FOR NOTES SEE SHEETS 48/73 THRU 50/73 .
3. FOR EASTBOUND TRANSVERSE SECTION SEE 47/73 .

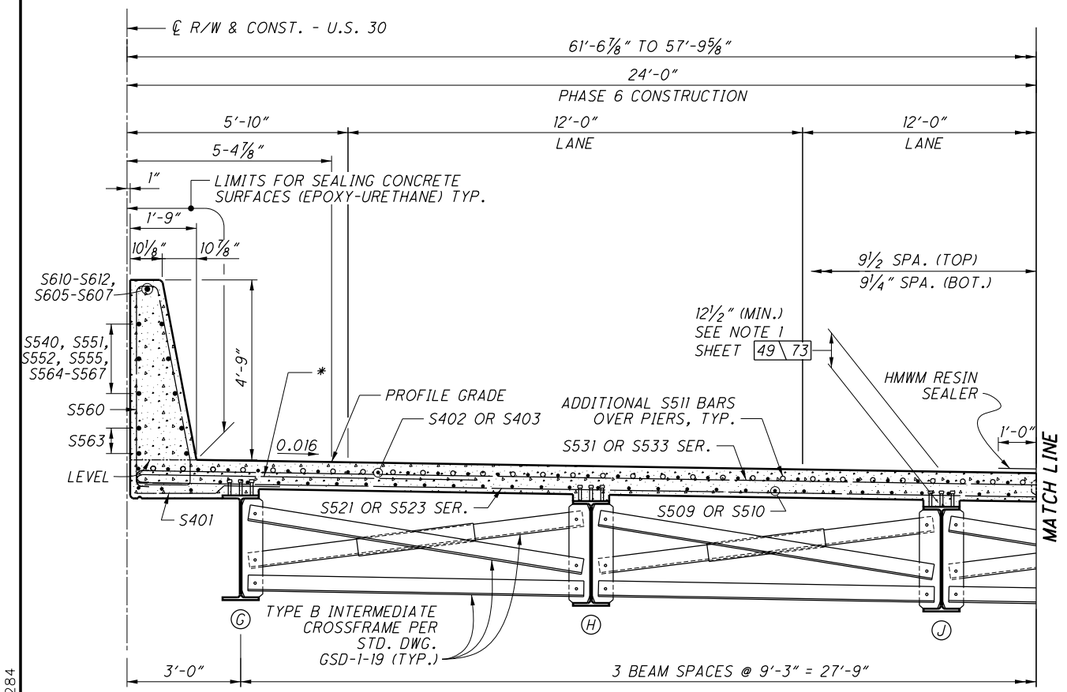
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WEST LAFAYETTE, OHIO 44691
TELEPHONE (330) 343-6558
FAX (330) 343-6077

REVIEWED	DATE	STRUCTURE FILE NUMBER
SDS	9-24-19	7001267
DRAWN	REVISED	
RLE		
DESIGNED	CHECKED	
HK	BDH	

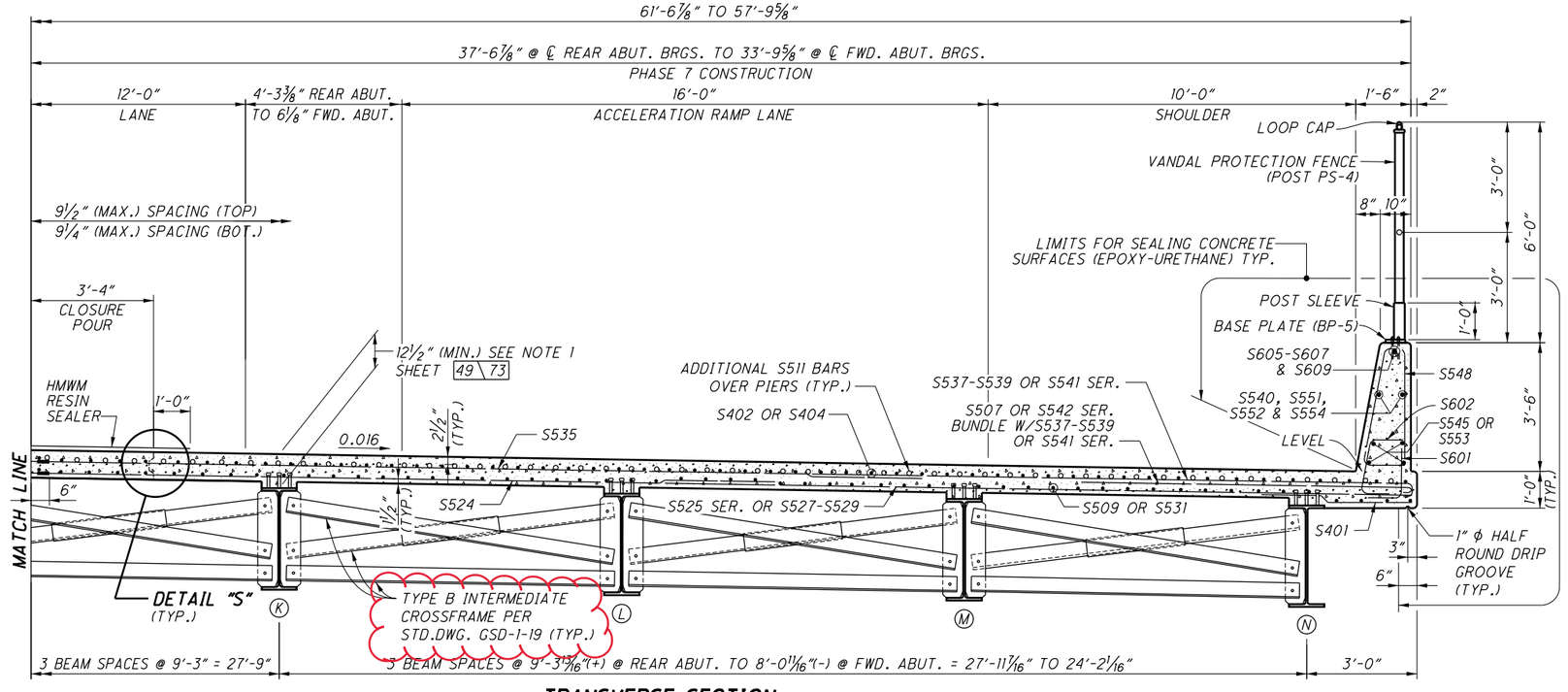
TRANSVERSE SECTION - LEFT (WESTBOUND)
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455

1470
1669



TRANSVERSE SECTION
(EASTBOUND LANES PHASE 6)



TRANSVERSE SECTION
(EASTBOUND LANES PHASE 7)

LEGEND

——— DENOTES MECHANICAL REBAR CONNECTOR

* - S507 & S534 SER. BUNDLE W/S531 OR S533 SER.

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/73 .
2. FOR NOTES SEE SHEETS 48/73 THRU 50/73 .
3. FOR WESTBOUND TRANSVERSE SECTION & DETAIL "S" SEE 46/73 .

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WILLOUGHBY HILLS, OHIO 44094
TELEPHONE (330) 946-9358
FAX: (330) 946-9077

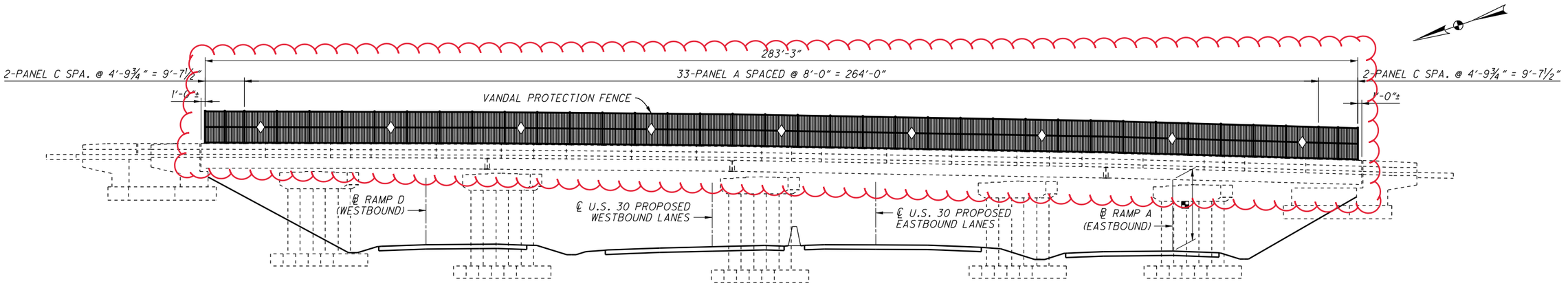
DESIGNED	DRAWN	REVIEWED	DATE
HK	RLE	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001267	

TRANSVERSE SECTION - RIGHT (EASTBOUND)
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455

47/73

1471
1669

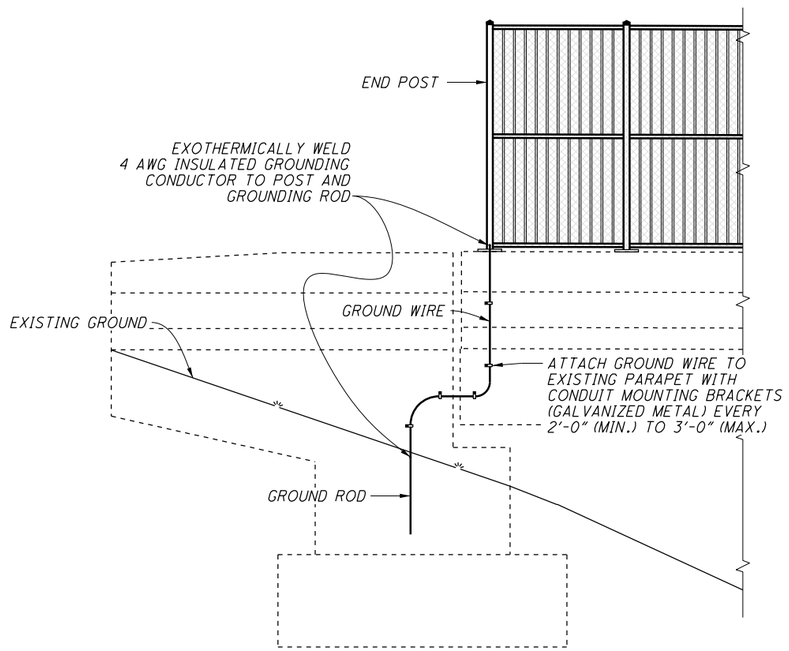


ELEVATION

(LEFT SIDE OF BRIDGE)

VERTICAL CLEARANCE

EXISTING: 15.53'
PROPOSED: 16.61'
REQUIRED: 16.50'



FENCE GROUNDING DETAIL

NOTES

1. FOR PANEL A AND PANEL C DETAILS SEE SHEET 5/6.
2. FOR FENCE DETAILS OF RIGHT SIDE OF BRIDGE SEE SHEET 1/6.
3. GROUND EACH CORNER OF THE BRIDGE.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-6677

DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED | STRUCTURE FILE NUMBER 7001290

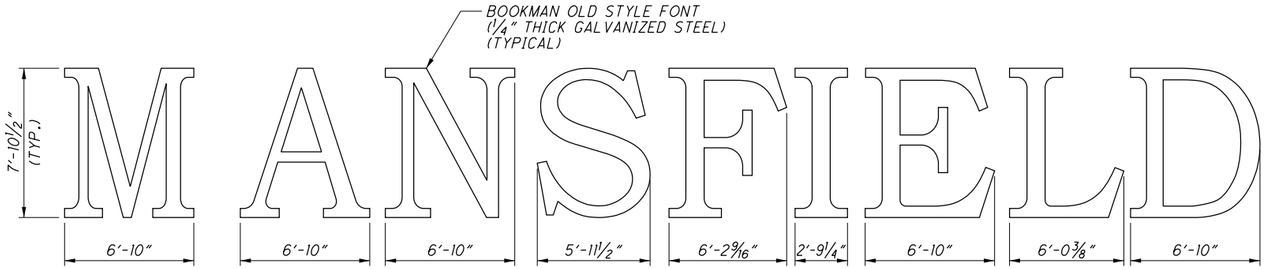
FENCE ELEVATION
BRIDGE NO. RIC-30-1283
UNDER FIFTH AVE.

RIC-30-9.26
PID No. 93455

2 / 6

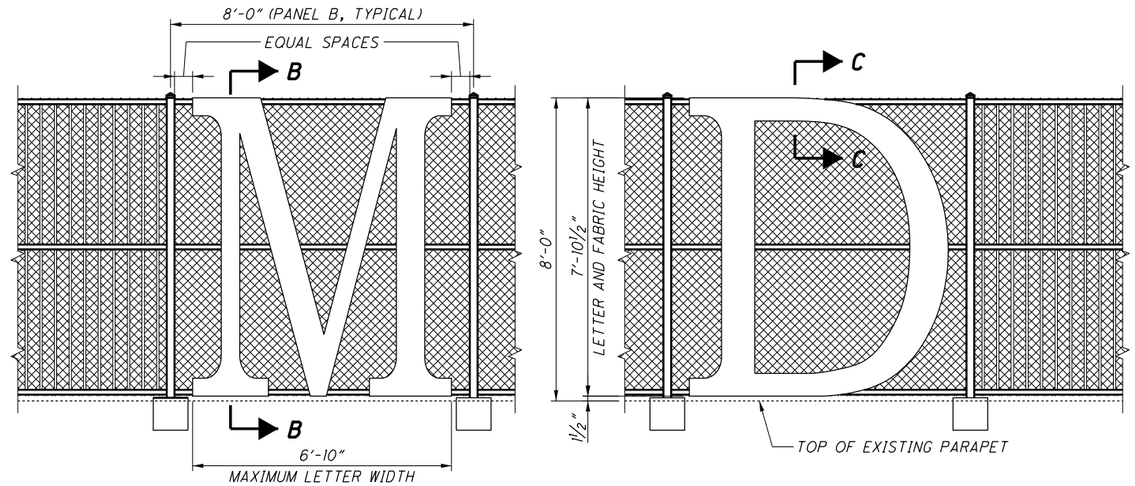
1506
1669

M:\15074\93455\Design\Structures\RIC030_1283C\Sheets\030_1283CSA001.dgn 2/24/2020 10:35:21 AM acb284



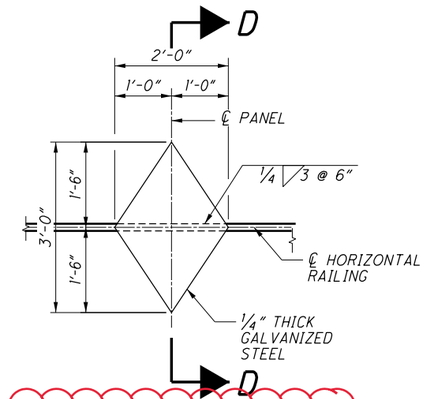
LETTER DETAILS

LETTER	FONT	AREA (S.F.)	WEIGHT (LB.)	QTY.	TOTAL WEIGHT
M	BOOKMAN OLD STYLE	21.36	218.05	1	218.05
A	BOOKMAN OLD STYLE	14.7	150.06	1	150.06
N	BOOKMAN OLD STYLE	19.35	197.53	1	197.53
S	BOOKMAN OLD STYLE	17.84	182.12	1	182.12
F	BOOKMAN OLD STYLE	15.78	161.09	1	161.09
I	BOOKMAN OLD STYLE	9.5	96.98	1	96.98
E	BOOKMAN OLD STYLE	19.63	200.39	1	200.39
L	BOOKMAN OLD STYLE	12.89	131.59	1	131.59
D	BOOKMAN OLD STYLE	18.71	191.00	1	191.00
◇	SEE DIAMOND DETAIL	3.0	30.63	16	490.08



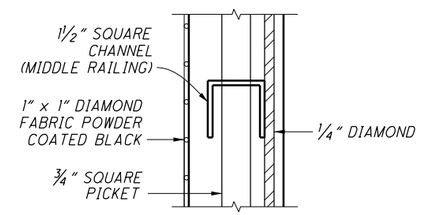
PANEL B - LETTER LOCATION DETAIL

(PICKETS ARE NOT IN PANEL B)

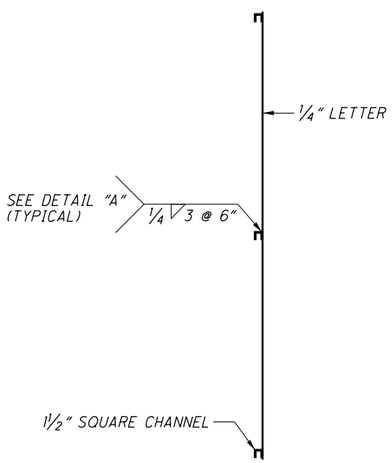


DIAMOND DETAIL

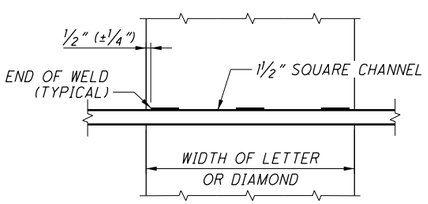
(PLACE DIAMONDS ON FENCE PANEL A AS SHOWN IN THE PLANS)



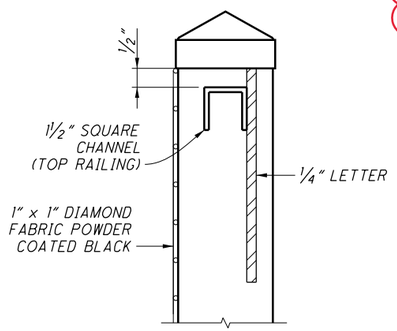
SECTION D-D



SECTION B-B



DETAIL "A"



SECTION C-C

NOTES

1. DIMENSIONS GIVEN FOR FENCE LETTERING ARE INCOMPLETE. OVERALL DIMENSIONS AND THE APPROXIMATE AREAS AND WEIGHT ARE GIVEN. OTHER DIMENSIONS ARE PROPORTIONAL TO THE FONT. AN ELECTRONIC COPY OF THIS FILE WILL BE MADE AVAILABLE TO THE CONTRACTOR THROUGH THE OHIO DEPARTMENT OF TRANSPORTATION IF REQUESTED.
2. EACH LETTER SHALL BE 1/4" THICK GALVANIZED STEEL. EACH LETTER SHALL BE CENTERED HORIZONTALLY ON THE 8'-0" WIDE FENCE PANELS INDICATED. SEE FENCE NOTES FOR DETAILS ABOUT GALVANIZING AND PAINTING OF FENCE.
3. AFTER GALVANIZING OF LETTERED FENCE UNITS HAS OCCURRED, WARPAGE OF LETTERS AND DIAMONDS SHALL BE CORRECTED TO WITHIN 1/2"± OF ITS ORIGINAL FLAT SHAPE.
4. ALL LETTERS SHALL BE WELDED TO THE TOP, MIDDLE AND BOTTOM RAIL. WHERE THE LENGTH OF CONTACT BETWEEN THE LETTER AND THE RAIL IS GREATER THAN 10", STITCH WELDING SHALL BE USED AS SHOWN IN SECTION B-B AND DETAIL "A". WHERE THE LENGTH OF CONTACT IS LESS THAN 10" A CONTINUOUS 1/4" FILLET WELD TERMINATING 1/2" FROM THE EDGE OF THE LETTER SHALL BE USED.
5. DIAMONDS SHALL BE PLACED IN FENCE PANELS AS SHOWN IN THE PLANS.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-6577

DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED | STRUCTURE FILE NUMBER 7001290

LETTER DETAILS
BRIDGE NO. RIC-30-1283
UNDER FIFTH AVE.

RIC-30-9.26
PID No. 93455

6 / 6

1509A
1669

RIC-30-9.26 PART 1

CITY OF MANSFIELD
MADISON TOWNSHIP

S.W., N.W. & N.E. QTRS. SECTION 16
S.W., S.E. & N.E. QTRS. SECTION 17
S.W. & S.E. QTRS. SECTION 18
T-21-N, R-18-W

(1) PARCEL NUMBER

(A) EASEMENT LETTER

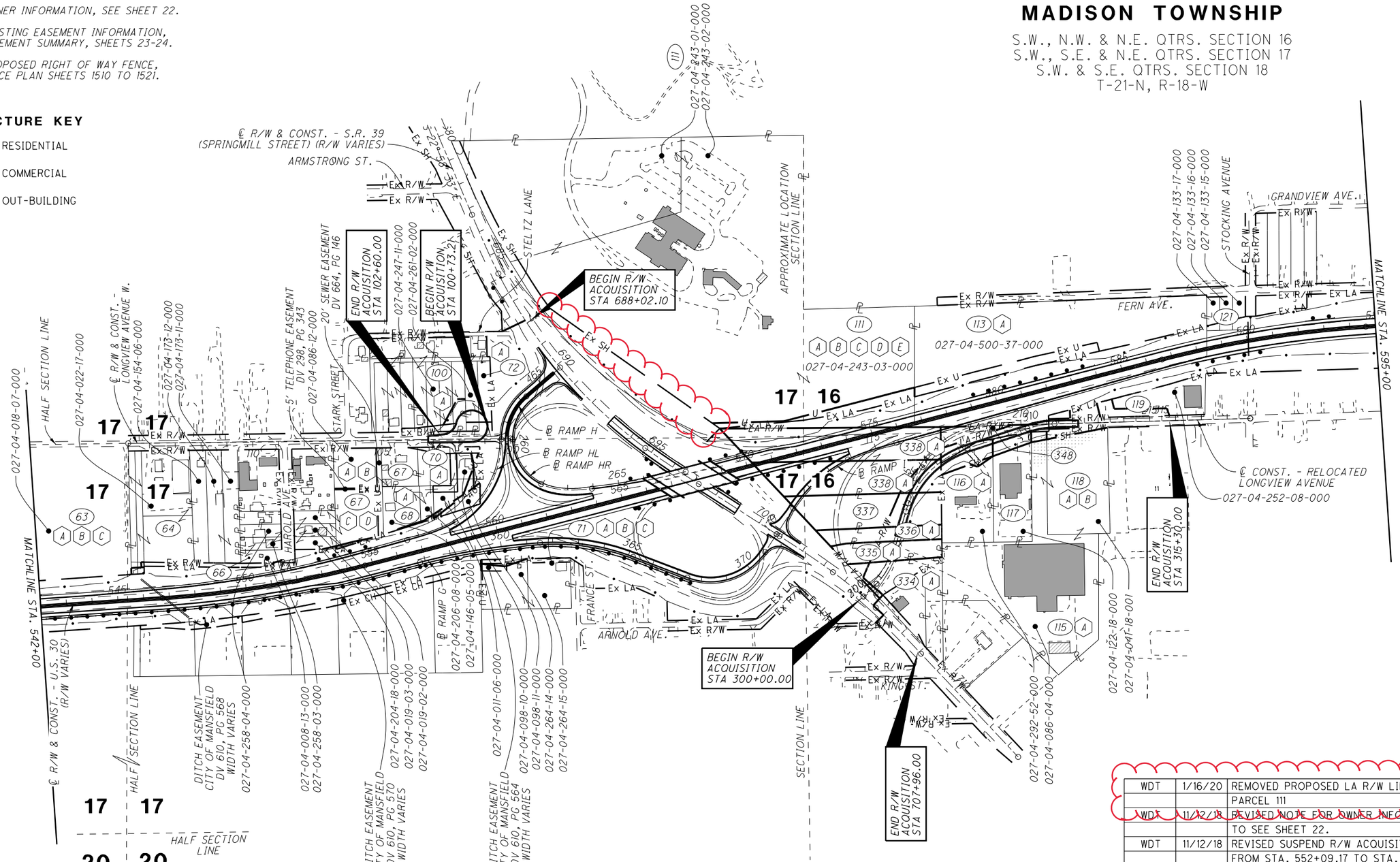
FOR OWNER INFORMATION, SEE SHEET 22.

FOR EXISTING EASEMENT INFORMATION, SEE EASEMENT SUMMARY, SHEETS 23-24.

FOR PROPOSED RIGHT OF WAY FENCE, SEE FENCE PLAN SHEETS 1510 TO 1521.

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING



REV. BY	DATE	DESCRIPTION
WDT	1/16/20	REMOVED PROPOSED LA R/W LINE FROM PARCEL 111
WDT	11/12/18	REVISED NOTE FOR OWNER INFORMATION TO SEE SHEET 22.
WDT	11/12/18	REVISED SUSPEND R/W ACQUISITION FLAG FROM STA. 552+09.17 TO STA. 551+57.08
WDT	11/12/18	REVISED NOTE FOR EASEMENT INFORMATION TO SEE SHEETS 23-24.
WDT	10/23/18	REVISED APN 027-04-086-12-000 FROM ODOT NO. 66 TO NO. 67
WDT	10/17/18	REVISED PROPERTY LINE SYMBOLS BETWEEN PARCELS 63 & 64
WDT	8/27/18	REMOVED PARCELS 347WL & 347AWL

DATE COMPLETED: 6/21/18

HORIZONTAL SCALE IN FEET
0 100 200 400

PID NO. 93455

R/W DESIGNER MDG
R/W REVIEWER WDT

PROPERTY MAP

RIC-30-9.26 PART 1

20 / 49

1541
1669

M:\15074\93455\Design\ROW\Sheets\9.26 Sheets\93455RW0002.dgn 2/24/2020 1:21:32 PM acb284

NET TAKE = GROSS TAKE - PRO IN TAKE
NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE
ALL AREAS IN ACRES UNLESS OTHERWISE STATED

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
THE OHIO DEPARTMENT OF TRANSPORTATION
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS
100SHV	WAYNE EDWARD THOMPSON	20, 23, 41	OR 2012	321	027-04-247-11-000	1.317 (c)	0.132	0.127	0.000	0.127			1.058	80/20	LOTS 18163, 18164, 18165 AND 18166, FORMERLY LOTS 4,5,6 & 7
			OR 1950	813										FEDERAL	KENWOOD ADDITION, 6 TREES
														& STATE	PV 8 PG 31, AREA BOTH LOTS & VACATED 16' ALLEY TO NORTH
															OR 1950, PG 813 IS AN AMENDED CERTIFICATE OF TRANSFER
															GRANTEE: THE CITY OF MANSFIELD
	PARCEL NUMBERS 101 THROUGH 110 INCLUSIVE														
	NOT ASSIGNED														
111UV	LUMBERMENS VILLAGE LTD.,	20, 23, 37	OR 362	619	027-04-243-01-000	7.180	0.356	0.000	0.000	0.000					NE QTR SEC 17
	AN OHIO LIMITED LIABILITY COMPANY	38, 47, 48			027-04-243-02-000	20.820	2.074	0.095	0.000	0.095					NE QTR SEC 17, 9 TREES
					027-04-243-03-000	4.920	0.887	0.304	0.000	0.304					NW QTR SEC 16, 15 TREES
					027-04-243-06-000	0.317	0.000	0.000	0.000	0.000					GRANTEE: AMERICAN TRANSMISSION SYSTEMS, INC.
	TOTAL					33.237	3.317	0.399	0.000	0.399		29.920			AND OHIO EDISON COMPANY
	PARCEL NUMBER 112 NOT ASSIGNED														
113	THE CITY OF MANSFIELD, OHIO	20, 24, 44	DV 574	593	027-04-500-37-000	11.007 (d)	5.412	0.000	0.000	0.000		5.595	0.000		PT NW QTR. SEC. 16, MANSFIELD CITY PARK
		45			027-04-500-45-000										AUDITOR AREA 5.595 AC WHICH DOES NOT INCLUDE
					027-04-500-46-000										5.412 AC PRO U.S. 30 BY DEED
															NO ADDITIONAL R/W REQUIRED
	PARCEL NUMBER 114 NOT ASSIGNED														
115SHV	C & D PROPERTIES OF MANSFIELD, LLC	20, 24, 42	OR 1815	219	027-04-086-04-000	5.570	0.000	0.048	0.000	0.048			5.522		PT LOT 15016, PARCEL #2 IN DEED
		45													PV 20, PG 25
116SHV	LONGVIEW PROPERTIES, LLC	20, 24, 42	OR 2647	320	027-04-292-52-000	1.669	0.000	0.300	0.000	0.300			1.369		NW PT LOT 15016 PV 20, PG 25
	AN OHIO LIMITED LIABILITY COMPANY	44													PRIVATE SIGN "ADVANTAGE FOSTER CARE", 2 TREES
116T								0.020	0.000	0.020					TO CONSTRUCT DRIVE AND COMPLETE GRADING
117SHV	HOSTETLER'S CATERING, INC.	20, 24, 44	DV 517	204	027-04-122-18-000	1.428	0.000	0.186	0.000	0.186			1.242		PT LOT 15016 PV 20, PG 25, 1 TREE
	AN OHIO CORPORATION	45													
118SHV	C & D PROPERTIES OF MANSFIELD, LLC	20, 24, 45	OR 1815	219	027-04-041-18-001	2.220	0.000	0.104	0.000	0.104			2.116		PT LOT 15016, PARCEL #1 IN DEED
															PV 20, PG 25, 14 TREES

NOTE: ALL TEMPORARY PARCELS TO BE OF 42 MONTH DURATION.

UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

PARCEL LEGEND:
WL = WARRANTY LIMITED ACCESS
WDV = WARRANTY DEED IN THE NAME OF CITY OF MANSFIELD
LA = LIMITED ACCESS EASEMENT
SH = STANDARD HIGHWAY EASEMENT
SHV = STANDARD HIGHWAY EASEMENT IN THE NAME OF CITY OF MANSFIELD
T = TEMPORARY EASEMENT
UV = UTILITY EASEMENT
PRE = PROPERTY RIGHT EASEMENT
CH = CHANNEL EASEMENT

DOCUMENT LEGEND:
DV = DEED VOLUME
OR = OFFICIAL RECORD
DOC = DOCUMENT
PV = PLAT VOLUME
(c) = CALCULATED
(d) = DEED AREA
(p) = PLAT RECORD AREA

* DENOTES R/W ENCROACHMENT

REV. BY	DATE	DESCRIPTION
WDT	1/16/20	REMOVED PARCEL 111PRE
WDT	7/23/19	REVISED OWNERSHIP PARCEL 116
WDT	1/14/19	REVISED PARCEL 100 FROM "SH" TO "SHV"
WDT	11/12/18	ADDED TREES TO BE REMOVED TO REMARKS
		PARCELS 100, 111, AND 118
WDT	8/21/18	REVISED SHEET NUMBER COLUMN

FIELD REVIEW BY: J. RAKOSKY, C.S.T. DATE: 6/20/18
OWNERSHIP VERIFIED BY: O.R. COLAN DATE: 6/18/18
DATE COMPLETED: 6/21/18

FEDERAL PROJECT NO. E130(382)
PID NO. 93455
STATE JOB NO. 438371
R/W DESIGNER MDG
R/W REVIEWER WDT

SUMMARY OF ADDITIONAL RIGHT OF WAY

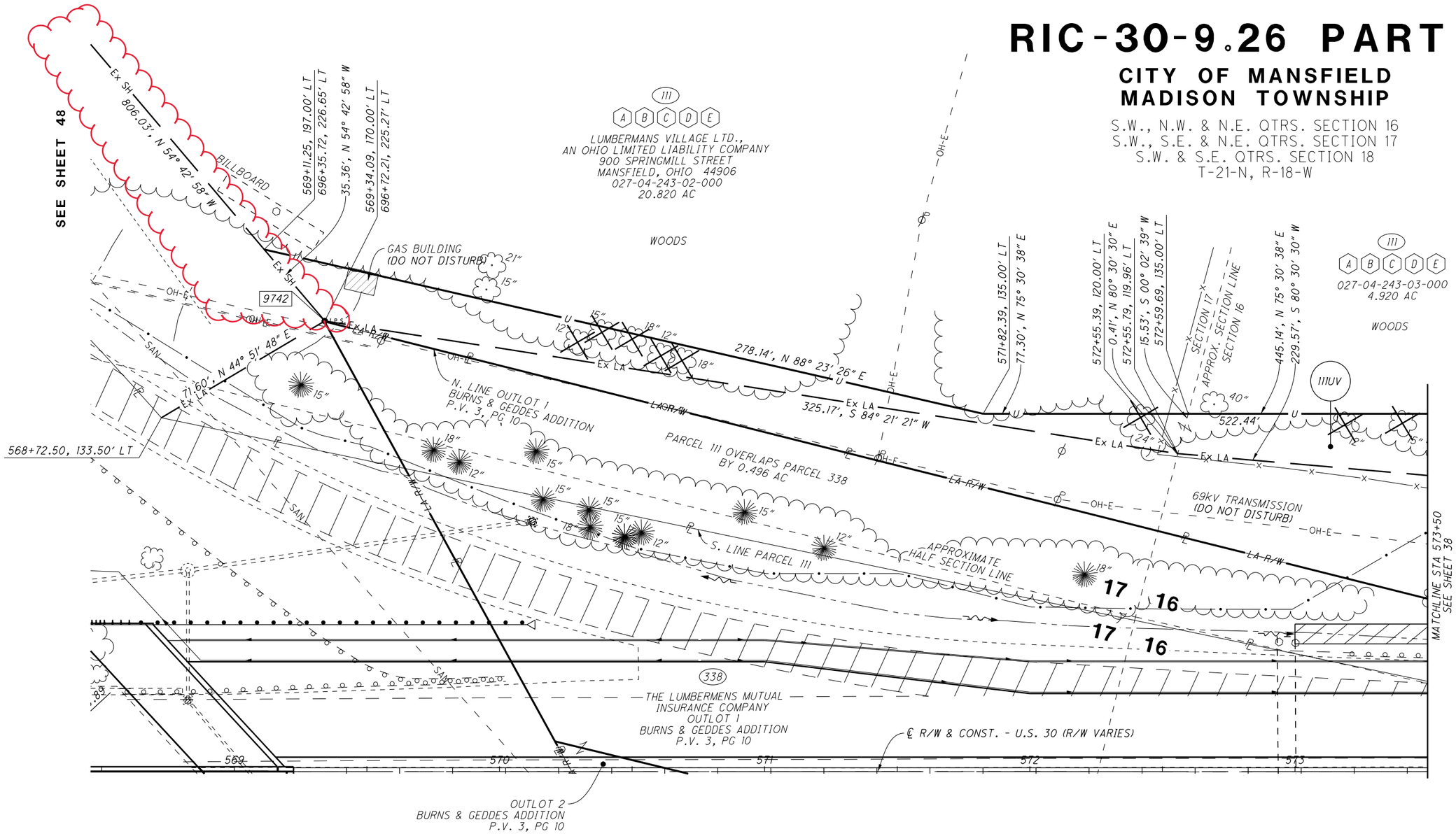
RIC-30-9.26
PART 1

1548
1669

RIC-30-9.26 PART 1

CITY OF MANSFIELD
MADISON TOWNSHIP

S.W., N.W. & N.E. QTRS. SECTION 16
S.W., S.E. & N.E. QTRS. SECTION 17
S.W. & S.E. QTRS. SECTION 18
T-21-N, R-18-W



(1) PARCEL NUMBER

(A) EASEMENT LETTER

FOR EXISTING EASEMENT INFORMATION
SEE EASEMENT SUMMARY SHEETS 23-24.

FOR PROPOSED RIGHT OF WAY FENCE,
SEE FENCE PLAN SHEETS 1510 TO 1521.

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
WDT	1/16/20	REMOVED PARCEL 111PRE
WDT	11/12/18	REVISED NOTE FOR EASEMENT INFORMATION TO SEE SHEETS 23-24.
WDT	11/12/18	ADDED TREES AND DISPOSITIONS
DATE COMPLETED:		6/21/18

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 93455

R/W DESIGNER MDG
R/W REVIEWER WDT

RIGHT OF WAY DETAIL SHEET - U.S. 30
STA. 569+00 TO STA 573+50

RIC-30-9.26
PART 1

37 / 49

1558
1669

M:\15074\93455\Design\ROW\Sheets\9.26 Sheets\93455RD0007.dgn 2/24/2020 1:24:35 PM acb284

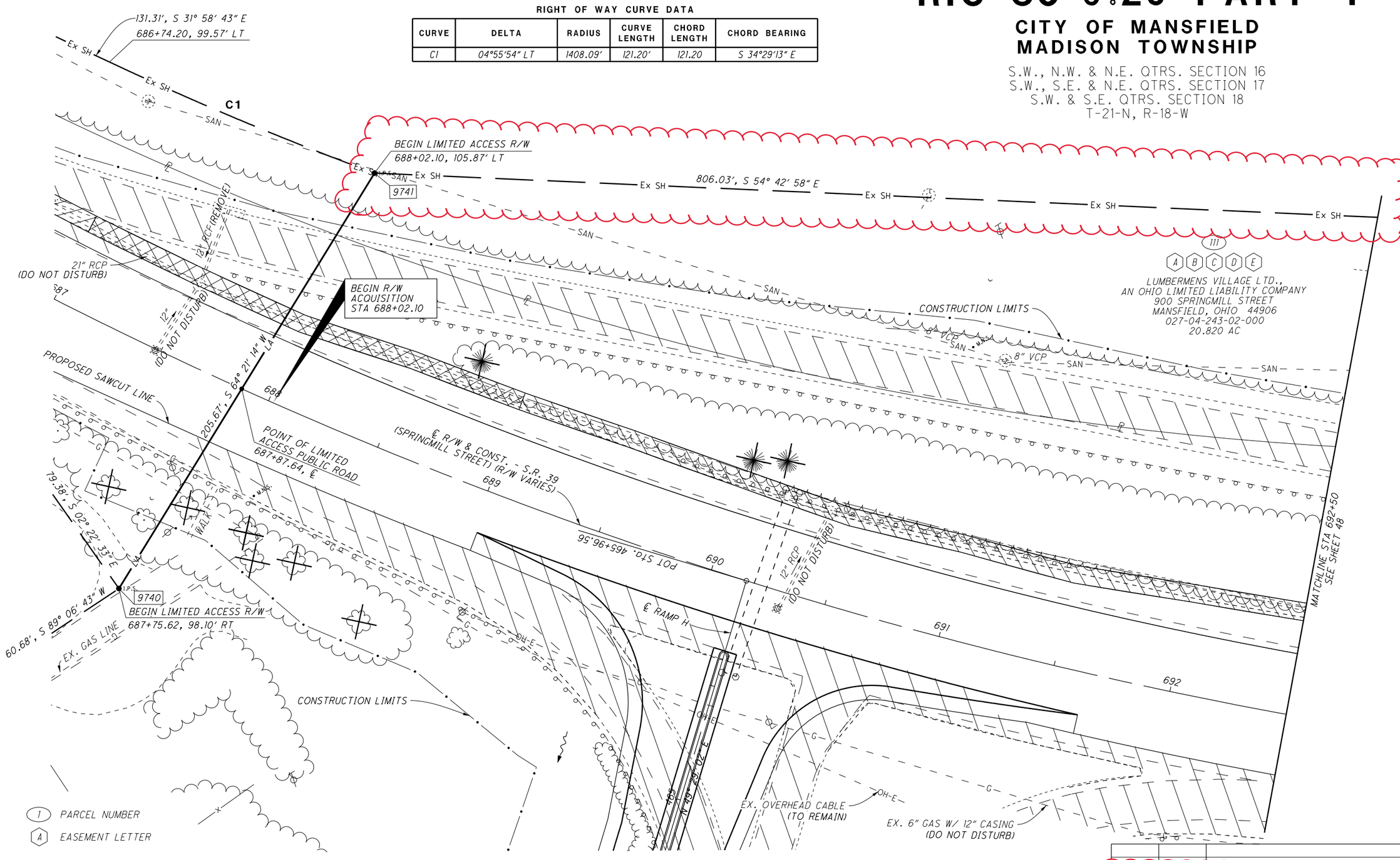
RIC-30-9.26 PART 1

CITY OF MANSFIELD
MADISON TOWNSHIP

S.W., N.W. & N.E. QTRS. SECTION 16
S.W., S.E. & N.E. QTRS. SECTION 17
S.W. & S.E. QTRS. SECTION 18
T-21-N, R-18-W

RIGHT OF WAY CURVE DATA

CURVE	DELTA	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
C1	04°55'54" LT	1408.09'	121.20'	121.20	S 34°29'13" E



1 PARCEL NUMBER

A EASEMENT LETTER

FOR EXISTING EASEMENT INFORMATION
SEE EASEMENT SUMMARY SHEETS 23-24.

FOR PROPOSED RIGHT OF WAY FENCE,
SEE FENCE PLAN SHEETS 1510 TO 1521.

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
WDT	1/16/20	REMOVED PARCEL 111PRE
WDT	11/12/18	REVISED NOTE FOR EASEMENT INFORMATION TO SEE SHEETS 23-24.
WDT	11/12/18	ADDED TREES AND DISPOSITIONS

DATE COMPLETED: 6/21/18

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 93455

R/W DESIGNER TAC
R/W REVIEWER WDT

R/W DETAIL SHEET
STA. 687+00 TO STA. 692+50

RIC-30-9.26
PART 1

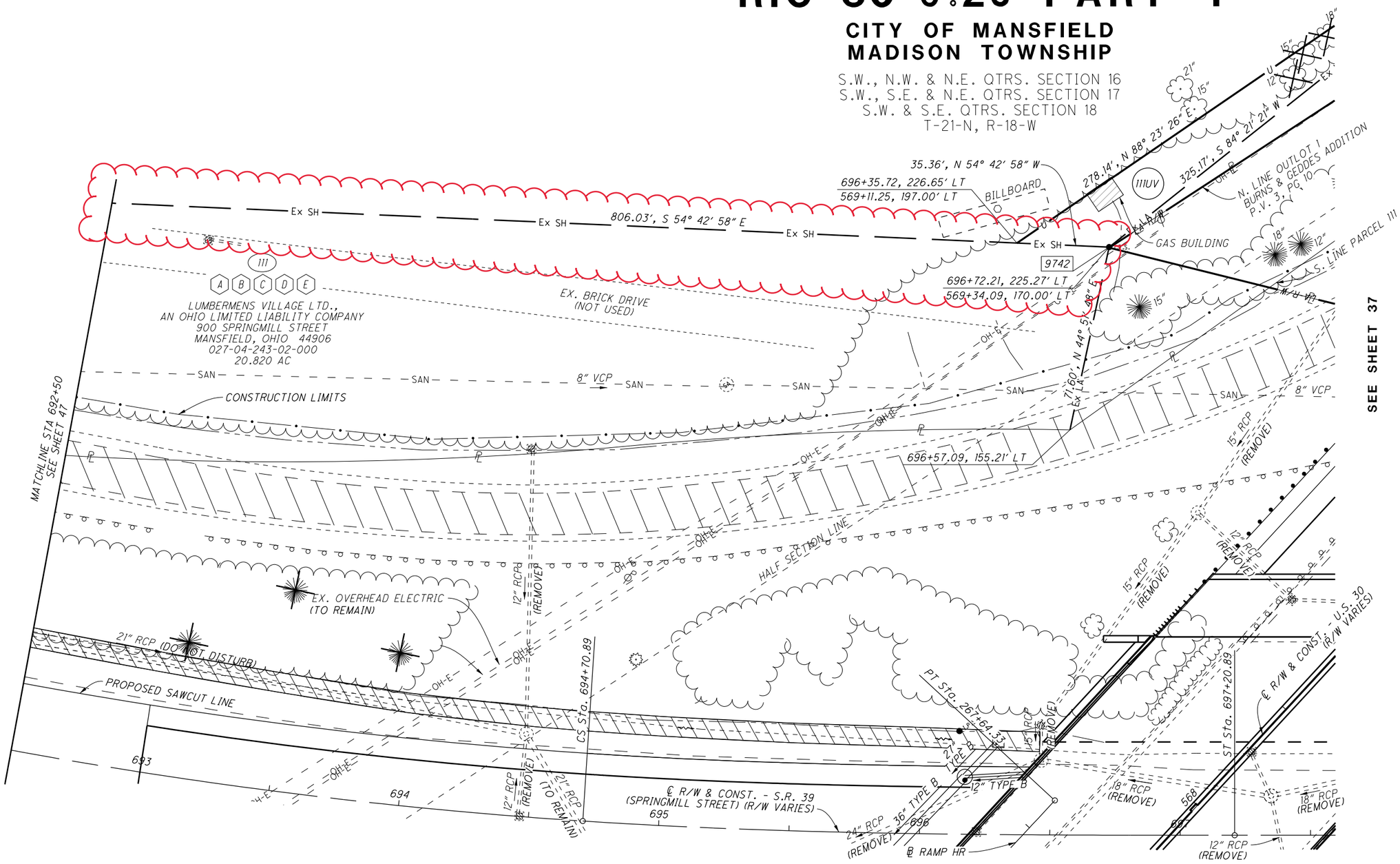
47 / 49

1568
1669

RIC-30-9.26 PART 1

CITY OF MANSFIELD
MADISON TOWNSHIP

S.W., N.W. & N.E. QTRS. SECTION 16
S.W., S.E. & N.E. QTRS. SECTION 17
S.W. & S.E. QTRS. SECTION 18
T-21-N, R-18-W



(1) PARCEL NUMBER

(A) EASEMENT LETTER

FOR EXISTING EASEMENT INFORMATION
SEE EASEMENT SUMMARY SHEETS 23-24.

FOR PROPOSED RIGHT OF WAY FENCE,
SEE FENCE PLAN SHEETS 1510 TO 1521.

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
WDT	1/16/20	REMOVED PARCEL 111PRE
WDT	11/12/18	ADDED SEE SHEET 37 REFERENCE
WDT	11/12/18	REVISED NOTE FOR EASEMENT INFORMATION
		TO SEE SHEETS 23-24.
WDT	11/12/18	ADDED TREES AND DISPOSITIONS

DATE COMPLETED: 6/21/18

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 93455

R/W DESIGNER TAC
R/W REVIEWER WDT

R/W DETAIL SHEET
STA. 692+50 TO STA. 697+50

RIC-30-9.26
PART 1

48 / 49

1569
1669

M:\15074\93455\Design\ROW\Sheets\9.26 Sheets\93455RD0702.dgn 2/24/2020 1:26:52 PM acb284