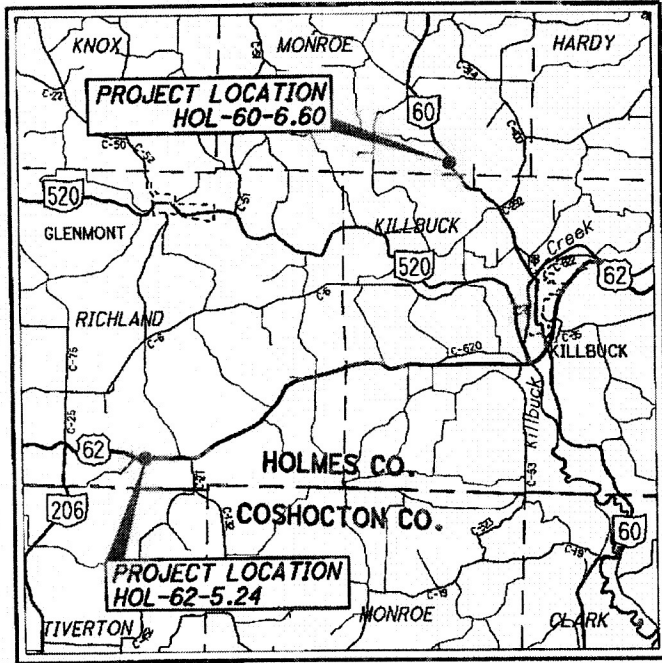
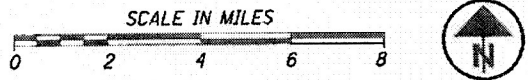


HOL - US 62/SR 60-05.24/06.60
 214014 PID - 109013
 Dist 11 8/12/2021



LOCATION MAP

LATITUDE: 40°27'40" N LONGITUDE: 82°06'00" W - (U.S. 62)
 LATITUDE: 40°31'40" N LONGITUDE: 82°00'35" W - (S.R. 60)



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

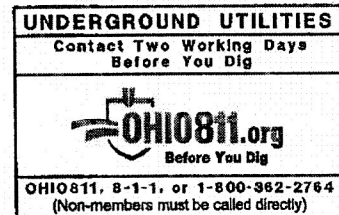
DESIGN DESIGNATION

	HOL-62-5.24	HOL-60-6.60
CURRENT ADT (2022)	2000	1300
DESIGN YEAR ADT (2042)	2900	1400
DESIGN HOURLY VOLUME (2042)	350	150
DIRECTIONAL DISTRIBUTION	70%	57%
TRUCKS (24 HOUR B&C)	13%	7%
DESIGN SPEED	55 MPH	55 MPH
LEGAL SPEED	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	RURAL MAJOR COLLECTOR	RURAL MAJOR COLLECTOR
NHS PROJECT	NO	NO

DESIGN EXCEPTIONS

DESIGN FEATURE:	APPROVAL DATE:	SHEET NO.:
HORIZONTAL CURVE RADIUS	6/28/19	20
STOPPING SIGHT DISTANCE	6/28/19	20
SUPERELEVATION RATE	6/28/19	3, 20

ADA DESIGN WAIVER: NONE REQUIRED



PLAN PREPARED BY:
 OHIO DEPARTMENT OF TRANSPORTATION
 DISTRICT II ENGINEERING
 NEW PHILADELPHIA, OHIO

ENGINEERS SEAL:

 SIGNED: D.A.H.
 DATE: 5/13/21

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
HOL-62/60-5.24/6.60
PART 1
 RICHLAND TOWNSHIP
 MONROE TOWNSHIP
 HOLMES COUNTY
 FOR PART 2, SEE HOL-60-2.99

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ATTENTION
 Contact the Ohio Department
 of Transportation for current
 Plans of Record

PROJECT DESCRIPTION

IMPROVEMENT OF 0.01 MILES (15') OF U.S. 62 BY REPLACING AN EXISTING 3' x 2' BOX CULVERT WITH A NEW 30" CULVERT AND IMPROVEMENT OF 0.02 MILES (100') OF S.R. 60 BY REPLACING AN EXISTING BOX CULVERT WITH A NEW 8' x 4' PRECAST CONCRETE BOX CULVERT. BOTH LOCATIONS INCLUDE MINIMAL APPROACH ROADWAY WORK, INCLUDING GUARDRAIL AND DITCH GRADING.

EARTH DISTURBED AREAS

	HOL-62-5.24	HOL-60-6.60
PROJECT EARTH DISTURBED AREA:	0.3 Ac	0.1 Ac
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.1 Ac	0.1 Ac
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (NO NOI REQUIRED)	N/A (NO NOI REQUIRED)

2019 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 8 FOR U.S. 62 AND SHEET 10 FOR S.R. 60.

PARTS 1 AND 2				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
STANDARD CONSTRUCTION DRAWINGS					
BP-3.1	1/17/20	MT-97.10	4/19/19	800-2019 4/16/21	WATERWAY
BP-4.1	7/19/13	MT-101.60	1/17/20	832 10/19/18	PERMIT
BP-5.1	1/18/19	MT-101.90	7/17/20	902 7/19/19	CONDITIONS
		MT-105.10	1/17/20		5/26/20
DM-4.3	1/15/16	TC-41.20	10/18/13		
DM-4.4	1/15/16	TC-41.30	10/18/13		
MGS-1.1	1/19/18	TC-42.20	10/18/13		WATERWAY
MGS-2.1	1/19/18	TC-52.10	10/18/13		PERMIT
MGS-4.1	1/20/17	TC-52.20	1/15/21		CONDITIONS
MGS-4.2	7/19/13	TC-61.30	7/19/19		11/16/20
HW-2.2	7/20/18	TC-65.10	1/17/14		

APPROVED
 DATE 5/16/21 DISTRICT DEPUTY DIRECTOR

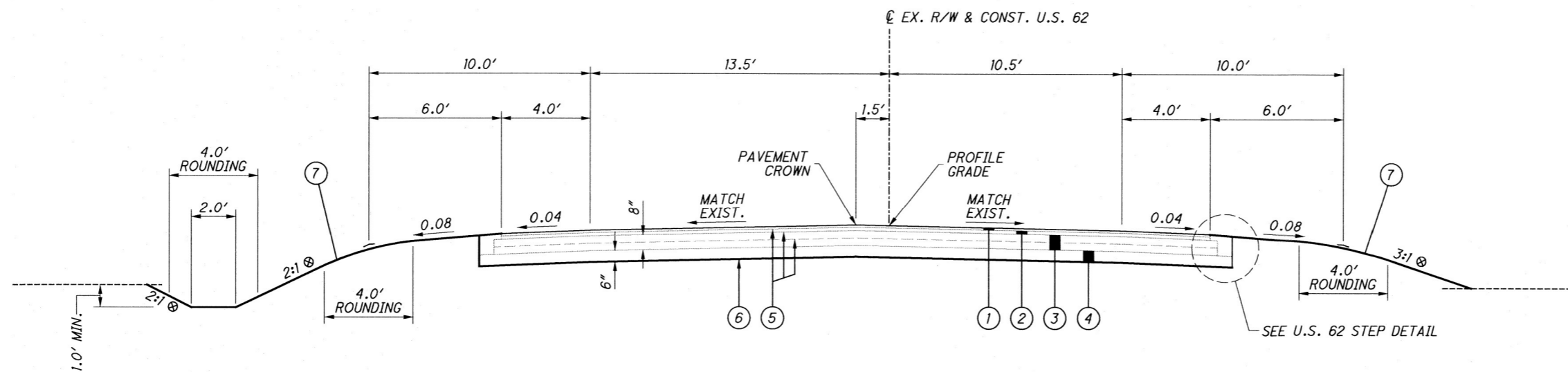
APPROVED
 DATE 4/29/21 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E191(420)
 PID NO. 109013
 CONSTRUCTION PROJECT NO.
 RAILROAD INVOLVEMENT NONE
 HOL-62/60-5.24/6.60
 1/44

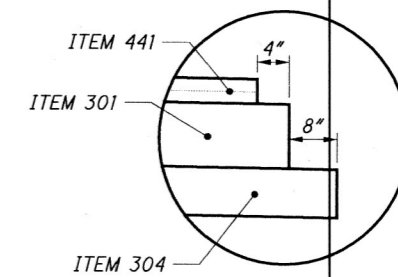
Contract Proposal available @
 www.contracts.dot.state.oh.us

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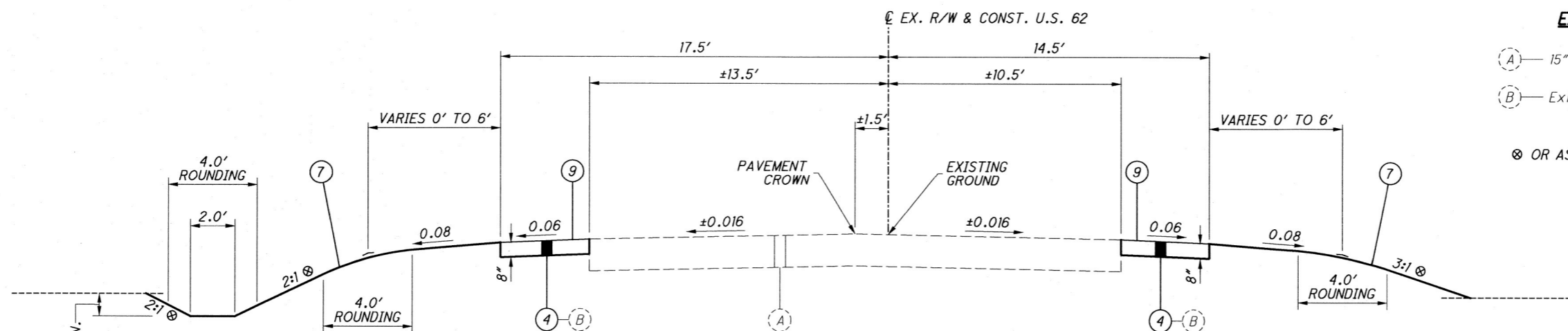


U.S. 62 - NORMAL SECTION
STA. 16+49.50 TO STA. 16+64.50



U.S. 62 - STEP DETAIL

- PROPOSED LEGEND**
- ① — ITEM 441 - 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) AS PER PLAN (PG70-22M)
 - ② — ITEM 441 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
 - ③ — ITEM 301 - ASPHALT CONCRETE BASE, PG64-22
 - ④ — ITEM 304 - AGGREGATE BASE
 - ⑤ — ITEM 407 - TACK COAT
 - ⑥ — ITEM 203 - SUBGRADE COMPACTION
 - ⑦ — ITEM 659 - SEEDING AND MULCHING
 - ⑧ — ITEM 606 - GUARDRAIL, TYPE MGS, AS PER PLAN
 - ⑨ — ITEM 408 - PRIME COAT, AS PER PLAN



LEFT SHOULDER SECTION
SECTION APPLIES:
STA. 16+10 TO STA. 16+49.50
STA. 16+64.50 TO STA. 17+50

U.S. 62 - ADJOINING SECTION

RIGHT SHOULDER SECTION
SECTION APPLIES:
STA. 16+25 TO STA. 16+49.50
STA. 16+64.50 TO STA. 16+92

- EXISTING LEGEND**
- Ⓐ — 15" Existing Asphalt Concrete
 - Ⓑ — Existing Aggregate Shoulder
- ⊗ OR AS SHOWN IN CROSS SECTIONS

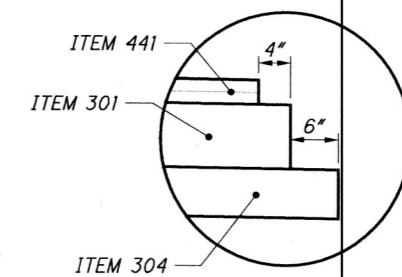
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TYPICAL SECTIONS - U.S. 62

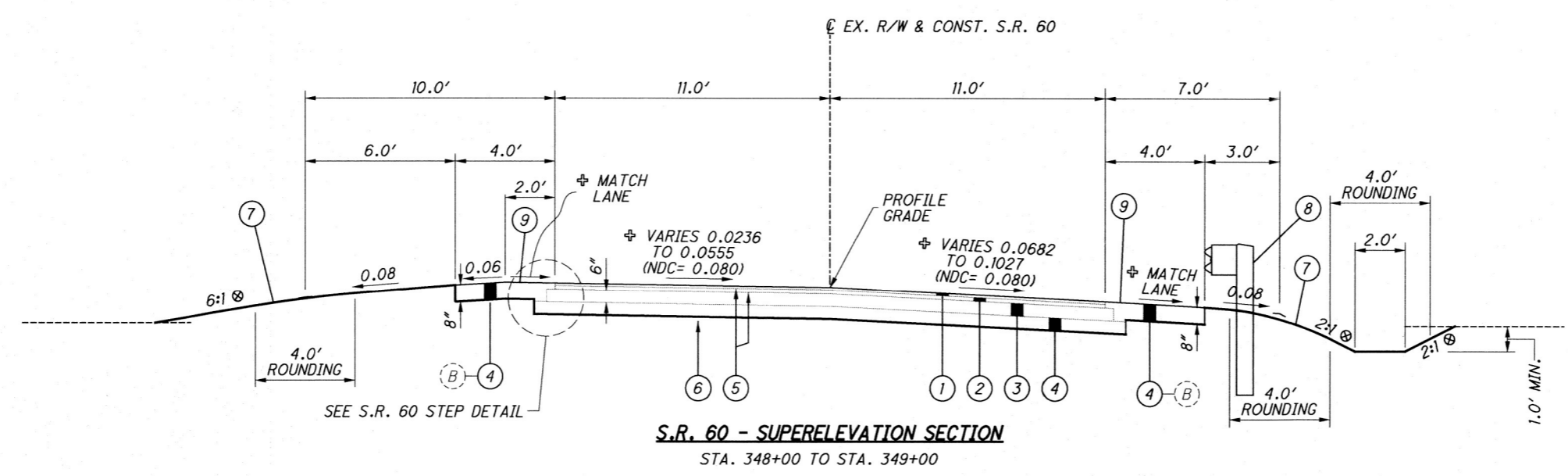
HOL-62/60-5.24/6.60

2
44

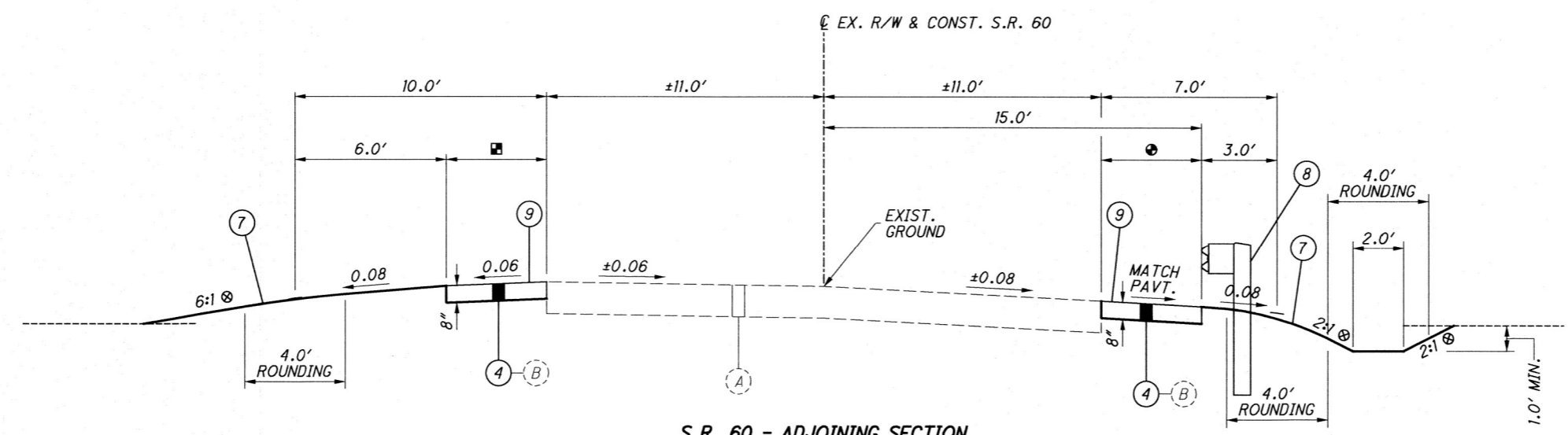
CALCULATED
SAH
CHECKED
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S.R. 60 - STEP DETAIL



S.R. 60 - SUPERELEVATION SECTION
STA. 348+00 TO STA. 349+00



LEFT SHOULDER SECTION
SECTION APPLIES:
STA. 347+50 TO STA. 348+00
STA. 349+00 TO STA. 349+25

S.R. 60 - ADJOINING SECTION

RIGHT SHOULDER SECTION
SECTION APPLIES:
STA. 349+00 TO STA. 350+25

PAVEMENT TRANSITION TABLE

Left Side Pavement				SR 60		Right Side Pavement			
Elev	Diff	Width	Slope	Station	PG	Slope	Width	Diff	Elev
873.39	0.26	11	0.0236	348+00.00	873.13	-0.0682	11	-0.75	872.38
873.87	0.35	11	0.0316	348+25.00	873.52	-0.0768	11	-0.84	872.68
874.27	0.44	11	0.0396	348+50.00	873.83	-0.0855	11	-0.94	872.89
874.58	0.52	11	0.0475	348+75.00	874.06	-0.0941	11	-1.04	873.02
874.84	0.61	11	0.0555	349+00.00	874.23	-0.1027	11	-1.13	873.1

FOR LEGEND, SEE SHEET 2

- ⊕ SEE PAVEMENT TRANSITION TABLE ON THIS SHEET
- VARIES 347+50 TO 348+00 - 2' TO 4';
VARIES 349+00 TO 349+10 - 4' TO 2'
- STA. 349+00 TO 349+75 - 4';
VARIES 349+75 TO 350+25 - 4' TO 2'
- ⊗ OR AS SHOWN IN CROSS SECTIONS

TYPICAL SECTIONS - S.R. 60

HOL-62/60-5.24/6.60

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UTILITIES

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

HOL-62-5.24

HOLMES-WAYNE ELECTRIC CO-OP
ATTN: TIM VICKERS
6060 STATE ROUTE 83
MILLERSBURG, OHIO 44654
330-674-1055
TVICKERS@HWECCOOP.COM

CENTURYLINK CORPORATION
ATTN: JEFFREY SCHOONOVER
2025 AKRON ROAD
WOOSTER, OHIO 44691
330-262-1128
JEFFREY.L.SCHOONOVER@CENTURYLINK.COM

HOL-60-6.60

HOLMES-WAYNE ELECTRIC CO-OP
ATTN: TIM VICKERS
6060 STATE ROUTE 83
MILLERSBURG, OHIO 44654
330-674-1055
TVICKERS@HWECCOOP.COM

CENTURYLINK CORPORATION
ATTN: JEFFREY SCHOONOVER
2025 AKRON ROAD
WOOSTER, OHIO 44691
330-262-1128
JEFFREY.L.SCHOONOVER@CENTURYLINK.COM

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

EXISTING PLANS

THE FOLLOWING EXISTING PLANS ARE AVAILABLE FOR REFERENCE AT THE DISTRICT 11 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, 2201 REISER AVE. S.E., NEW PHILADELPHIA, OHIO, 44663:

ORIGINAL CONSTRUCTION:
COLUMBUS MILLERSBURG ROAD, S.H. (I.C.H.) 23 SEC. N

IN ADDITION, THE EXISTING PLANS CAN BE FOUND ON THE DEPARTMENT'S WEBSITE AT THE FOLLOWING ADDRESS:

<http://www.dot.state.oh.us/pub/contracts/attach>

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SURVEY CONTROL TABLE FOR PROJECT CONTROL INFORMATION.

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

HOL-62-5.24

PROJECT CONTROL
POSITIONING METHOD: OPUS
MONUMENT TYPE: TYPE A

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID 12A

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD 83 (2011)
ELLIPSOID: GRS 1980
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE
COMBINED SCALE FACTOR: 1.00004401028106
ORIGIN OF COORDINATE SYSTEM:
N 289468.481
E 2079727.678

HOL-60-6.60

PROJECT CONTROL
POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: TYPE A

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID 12A

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD 83 (2011)
ELLIPSOID: GRS 1980
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE
COMBINED SCALE FACTOR: 1.000053457541
ORIGIN OF COORDINATE SYSTEM:
N 314366.056
E 2104868.260

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

UNITS ARE IN U.S. SURVEY FEET.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ROUNDING

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

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN. (PG70-22M)

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS), AS PER PLAN

FOLLOW SPECIFICATION 703.05 EXCEPT DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED "SR" OR "SRH" ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

ITEM 606 - GUARDRAIL, TYPE MGS, AS PER PLAN

USE PARTIAL DEPTH ANCHORING FOR THE POSTS OVER THE BOX CULVERT AS SHOWN ON THE 'FOOTING ANCHOR DETAIL' OF STANDARD CONSTRUCTION DRAWING MGS-1.1. NO THROUGH BOLTING TO THE UNDERSIDE OF THE STRUCTURE WILL BE PERMITTED. SEE SHEET 20 FOR W6x9 STEEL POST LENGTHS.

DO NOT DRIVE THE FIRST POST LOCATED BEYOND THE CULVERT; INSTEAD SET IN DRILLED OR DUG HOLES.

ITEM 408 - PRIME COAT, AS PER PLAN

THIS ITEM OF WORK SHALL BE PERFORMED IN ACCORDANCE WITH C&MS 408 EXCEPT THE CONTRACTOR SHALL APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 50 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FORM 7460-1.

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

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

OHIO DEPARTMENT OF TRANSPORTATION OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
OHIO.AIRPORT.PROTECTION@DOT.OHIO.GOV

SURVEY CONTROL TABLE

STATION	OFFSET	NORTHING	EASTING	ELEV.	REMARKS
HOL-62-2.54					
17+55.68	-26.97	289468.481	2079727.678	923.280	S610 - 5/8" IRON PIN
16+44.60	25.36	289521.388	2079838.49	917.720	S611 - CONC. MON.
16+00.00	CL	289496.256	2079883.216	N/A	CL1
18+00.00	CL	289495.219	2079683.219	N/A	CL2
HOL-60-6.60					
347+41.91	-21.04	314161.985	2104916.623	871.11	S600 - IRON PIN
349+48.94	21.76	314366.056	2104868.26	874.31	S601 - IRON PIN
348+00.46	CL	314223.381	2104906.596	N/A	CL1
351+19.83	CL	314526.482	2104813.566	N/A	CL2

GENERAL NOTES

HOL-62/60-5.24/6.60

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ITEM 646 - EPOXY PAVEMENT MARKINGS

REPLACE THE EXISTING PAVEMENT MARKINGS WITHIN THE PROJECT LIMITS WITH NEW PAVEMENT MARKINGS AT THE SAME LOCATIONS AS PER CMS 641.06.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 646 - EDGE LINE, 6" (WHITE)

US 62		
STA. 16+10 TO STA. 17+50 LT. =	0.03 MILE	
STA. 16+25 TO STA. 16+92 RT. =	0.01 MILE	
SR 60		
347+50 TO 349+15 LT. =	0.03 MILE	
348+00 TO 350+25 RT. =	0.04 MILE	
TOTAL	0.11 MILE	

ITEM 646 - CENTER LINE

US 62		
STA. 16+10 TO STA. 17+50 =	0.03 MILE	
SR 60		
STA. 347+50 TO STA. 350+25 =	0.05 MILE	
TOTAL	0.08 MILE	

RAISED PAVEMENT MARKER (RPM)

THE CONTRACTOR SHALL REMOVE ALL EXISTING RAISED PAVEMENT MARKERS AND INSTALL NEW RPMS WITHIN THE PROJECT LIMITS. SPACING FOR THE NEW RPMS SHALL BE 40'.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

U.S. 62		
STA. 16+49.50 TO STA. 16+64.50 =	1 EACH	
S.R. 60		
STA. 348+00 TO STA. 349+00 =	3 EACH	
TOTAL =	4 EACH	

ITEM 621 - RPM

U.S. 62		
STA. 16+49.50 TO STA. 16+64.50 =	1 EACH	
S.R. 60		
STA. 348+00 TO STA. 349+00 =	3 EACH	
TOTAL =	4 EACH	

ITEM 659 - SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	4 EACH
149 x 1 / 10000 = 0.013	
2 MIN AT EACH LOCATION	
659, TOPSOIL	149 CU. YD.
1343 x 111 / 1000 = 149.07	
659, REPAIR SEEDING AND MULCHING	67 SQ. YD.
1343 x 5% = 67.15	
659, COMMERCIAL FERTILIZER	0.18 TON
1343 x 3 x 90 / 1000 / 2000 = 0.18	
659, LIME	0.28 ACRES
1343 x 9 / 43560 = 0.28	
659, WATER	7 M. GAL.
1343 x 9 x 300 / 1000 x 2 / 1000 = 7.25	

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.

ENDANGERED BAT HABITAT REMOVAL

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

WATERS OF THE US

WATERS OF THE US HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA. THESE FEATURES ARE SHOWN IN THE CONSTRUCTION PLANS. THE CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT NO IMPACTS OCCUR TO ANY WATERS OF THE US IN EXCESS OF THE IMPACTS DEPICTED BY THE CONSTRUCTION LIMITS IN THE PLANS.

ANY OTHER SITE PROPOSED BY THE CONTRACTOR FOR OFF PROJECT ANCILLARY CONSTRUCTION (STAGING AREAS, WASTE LOCATIONS, AND/OR BORROW LOCATIONS) MUST MEET THE REQUIREMENTS OF CMS 105.16.

EARTHWORK AND SEEDING TABLE			
SHEET NO.	203		659
	EXCAVATION	EMBANKMENT	SEEDING AND MULCHING
	CY YD	CU YD	SQ YD
U.S. 62			
16	32	13	148
17	76	19	176
18	18	1	190
19	0	0	0
S.R. 60			
22	43	22	98
23	36	91	216
24	55	27	189
25	59	9	193
26	40	0	133
TOTAL CARRIED TO GENERAL SUMMARY	359	182	1343

CALCULATED
SAH
CHECKED
DAH

GENERAL NOTES

HOL - 62 / 60 - 5.24 / 6.60

ITEM SPECIAL - MAILBOX SUPPORT SYSTEM, SINGLE

DESCRIPTION:

THIS WORK SHALL CONSIST OF REMOVING THE EXISTING MAILBOX SUPPORT SYSTEM, FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER. MAILBOXES LOCATED WITHIN THE CLEAR ZONE SHALL BE INSTALLED USING "BREAKAWAY" TYPE SUPPORTS. SATISFACTORY SUPPORTS ARE AS FOLLOWS:

WOOD POSTS

MAXIMUM NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4 1/2 INCH DIAMETER ROUND TIMBER, AND CONFORM TO 710.14.

STEEL POSTS

NOMINAL 2 INCH DIAMETER (2 3/8" O.D.) SCHEDULE 40 STANDARD STRENGTH STEEL PIPE, AND CONFORM TO AASHTO M 181. ALL HARDWARE, INCLUDING, BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

ANY MATERIAL WITH BREAKAWAY CROSS SECTION CHARACTERISTICS EQUIVALENT TO THE POSTS MENTIONED ABOVE.

SETTING THE POSTS:

POSTS SHALL BE SET PER 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE. WHERE GUARDRAIL EXISTS, MAILBOXES AND THEIR SUPPORTS SHOULD BE LOCATED BEHIND THE GUARDRAIL AND MEET THE REQUIREMENTS MENTIONED ABOVE.

MOUNTING THE BOXES:

THE CONTRACTOR SHALL SECURELY AND NEATLY ATTACH THE MAILBOX TO THE NEW SUPPORT AND FURNISH ALL THE NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) NECESSARY TO COMPLETE THE INSTALLATION. SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION WITH NO MORE THAN TWO BOXES MOUNTED ON A SINGLE POST. IN LOCATIONS WHERE MULTIPLE MAILBOXES ARE PRESENT (2 OR MORE), THE "*GROUPED MAILBOX INSTALLATION" LAYOUT SHALL BE USED IN LIEU OF SINGLE SUPPORTS.

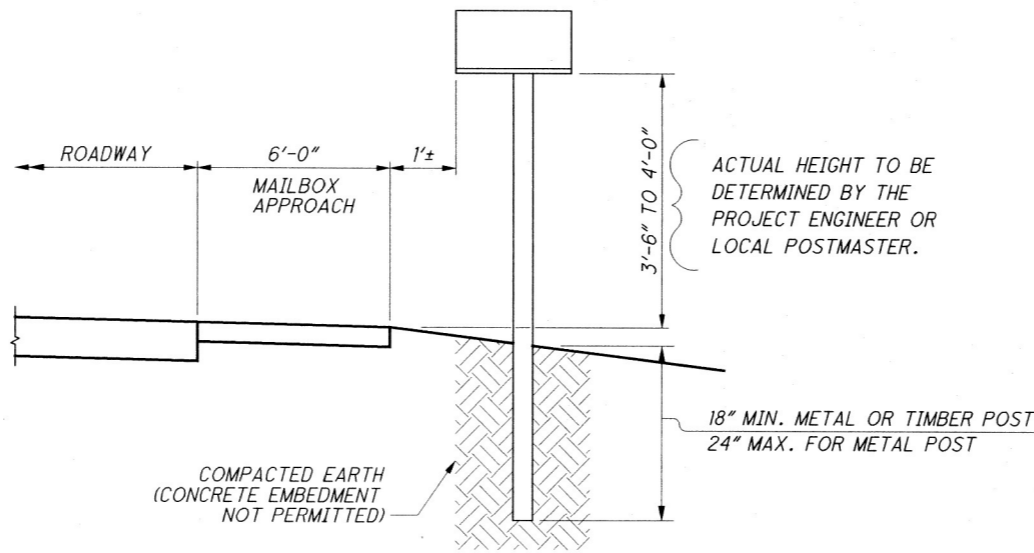
IF THE OWNER FAILS TO SUPPLY A NEW BOX, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND MOUNT IT TO THE NEW SUPPORT. THE CONTRACTOR SHALL EXERCISE DUE CARE IN SUCH AN OPERATION, AND BE HELD RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POSTMASTER REGARDING THE TIMING FOR THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

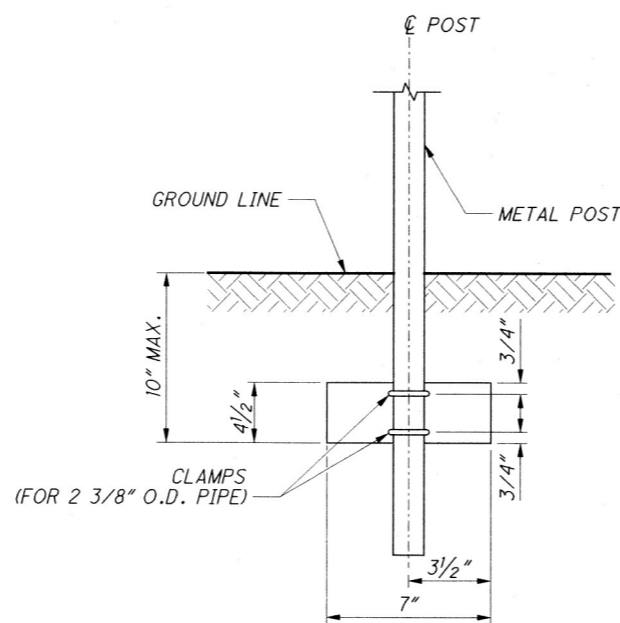
BASIS OF PAYMENT:

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS FOR PERMANENT INSTALLATIONS SHALL ALSO APPLY.

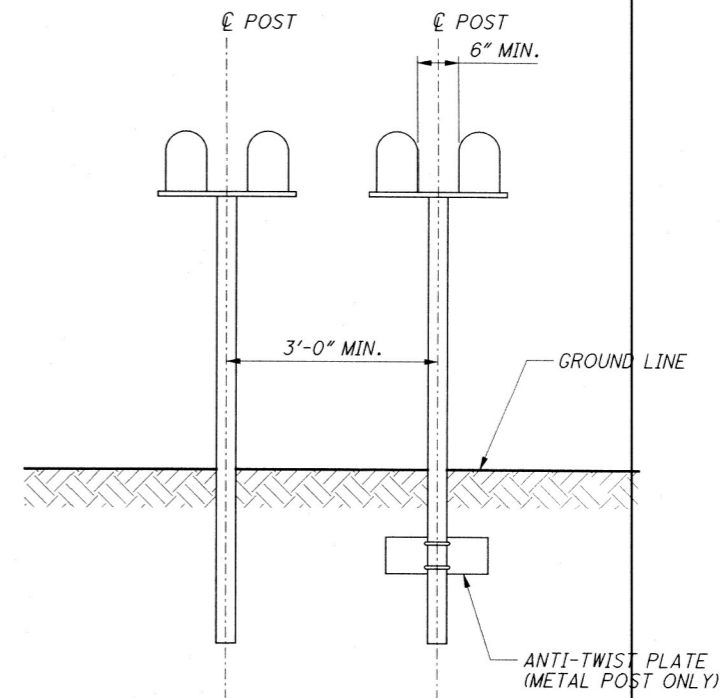
MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL - MAILBOX SUPPORT SYSTEM, SINGLE



ELEVATION AT MAILBOX APPROACH



ANTI-TWIST PLATE



***GROUPED MAILBOX INSTALLATION**

CALCULATED
SAH
CHECKED
DAH

GENERAL NOTES

HOL -62/ 60-5.24/ 6.60

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ITEM 614 - MAINTAINING TRAFFIC

A MINIMUM OF ONE (1) 10' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON U.S. 62 AND S.R. 60 AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED THE DETOUR DURATION LISTED IN THE DETOUR TABLE BELOW, WHEN TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 8 - 11. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT PROVIDED IN THE DETOUR TABLE FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

DETOUR TABLE		
LOCATION	DETOUR DURATION	DISINCENTIVE \$ PER TIME UNIT
HOL-62-5.24	3 DAYS	\$7200 PER DAY
HOL-60-6.60	10 DAYS	\$7200 PER DAY

THE 3-DAY DETOUR ON U.S. 62 SHALL BE PERFORMED OVER ONE WEEKEND BETWEEN APRIL 1, 2022 AND JUNE 30, 2022. THE 10-DAY DETOUR FOR S.R. 60 SHALL BE PERFORMED BETWEEN JUNE 1, 2022 AND AUGUST 15, 2022, WHEN LOCAL SCHOOLS ARE NOT IN SESSION, BUT SHALL NOT BE PERFORMED CONCURRENT WITH THE DETOUR FOR HOL-60-2.99 (PART 2).

THE MAINTENANCE OF TRAFFIC SHALL BE IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST REVISION; THE REFERENCED STANDARD CONSTRUCTION DRAWINGS INCLUDING DESIGNER NOTES; THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS); POLICY NO. 516-003(P) TRAFFIC MANAGEMENT IN WORK ZONES INTERSTATE AND OTHER FREEWAYS; ODOT LOCATION AND DESIGN MANUAL, VOLUME 1; ODOT TRAFFIC ENGINEERING MANUAL; AND ALL REQUIREMENTS DETAILED IN THESE PLANS.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00AM FRIDAY
THURSDAY	(THANKSGIVING ONLY)
FRIDAY	6:00AM WEDNESDAY THROUGH 6:00AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY

(CONTINUED...)

ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN

(CONTINUED...)

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS AT THE U.S. 62 LOCATION, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE OF \$900 FOR EACH HOUR THE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS AT THE S.R. 60 LOCATION, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE OF \$300 FOR EACH HOUR THE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW.

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE.

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

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION.

SR 60 WILL BE
CLOSED MMM-DD
FOR 10 DAYS
INFO: 330-339-6633

W20-H13-60

US 62 WILL BE
CLOSED MMM-DD
FOR 3 DAYS
INFO: 330-339-6633

W20-H13-60

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE LOCATIONS SHOWN ON SHEETS 8 - 11 DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

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

MAINTENANCE OF LOCAL ACCESS

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ACCESS TO ALL DRIVEWAYS DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL MEET WITH AFFECTED PROPERTY OWNERS PRIOR TO THE RELEVANT CONSTRUCTION ACTIVITIES TO ADDRESS HOW DRIVEWAY ACCESS WILL FUNCTION.

DUST CONTROL

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

ITEM 616, WATER 5 M. GAL.

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614 - WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT 0.11 MILES
 ITEM 614 - WORK ZONE CENTER LINE, CLASS III, 642 PAINT 0.16 MILES

DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE." THIS ROUTE IS SHOWN ON SHEET NO. 8. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DETERMINED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DETERMINED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 30 CU. YD.
 ITEM 617, COMPACTED AGGREGATE 30 CU. YD.

NOTIFICATION OF TRAFFIC RESTRICTIONS

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

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

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

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

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR IS HEREBY ADVISED THAT PROJECT HOL-520-9.83/9.87, PID 109012 MAY BE UNDER CONSTRUCTION DURING THE SAME PERIOD THIS PROJECT IS BEING CONSTRUCTED. UPON AWARD OF THIS CONTRACT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE OTHER CONTRACTORS OF THE EFFECTS OF THIS CONTRACT UPON THE HOL-520-9.83/9.87 PROJECT. THE CONTRACTOR SHALL COOPERATE WITH THE OTHER CONTRACTORS IN ACCORDANCE WITH SEC. 105.08 AND ARRANGE A MUTUALLY ACCEPTABLE WORK SCHEDULE, SUBJECT TO THE APPROVAL OF THE ENGINEER. ANY CONFLICTS BETWEEN CONTRACTORS INVOLVING WORK SCHEDULES, WORK AREAS OR COOPERATION WILL BE RESOLVED BY THE ENGINEER.

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MAINTENANCE OF TRAFFIC NOTES

HOL - 62/ 60-5.24/ 6.60

CALCULATED
SAH
CHECKED
DAH

ITEM 614, DETOUR SIGNING

THE FOLLOWING SIGNS SHALL BE ERECTED ALONG THE DESIGNATED OFFICIAL DETOUR ROUTE AND SHALL BE ASSEMBLED AS SHOWN ON THIS SHEET. ALL DETOUR SIGNING SHALL BE INSTALLED BEFORE COMMENCING ANY OF THE PROPOSED WORK REQUIRING THE DETOUR.

EACH SIGN ASSEMBLY SHALL BE PLACED 100 FT. (OR AS DIRECTED) IN ADVANCE OF THE IMPENDING CHANGE OF ROUTE. OFFSET SHALL BE AS PER STANDARD CONSTRUCTION DRAWING TC-42.20.

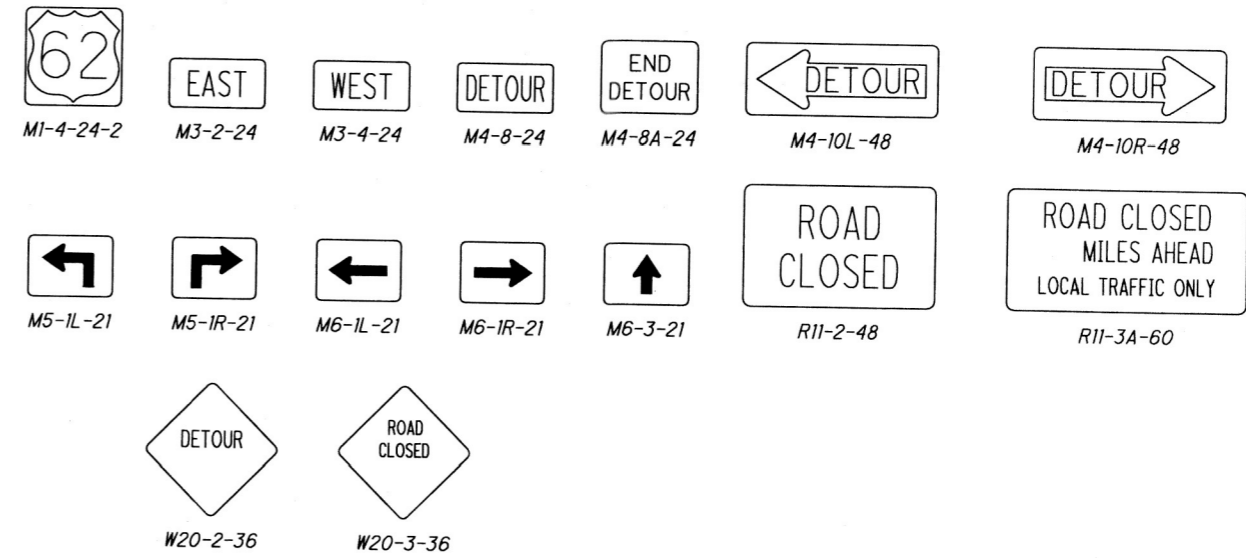
IN ADDITION TO THE SIGNS INCLUDED IN THE LEGEND AND SHOWN ON THE DETOUR MAPS, PLACE THE FOLLOWING SIGN ASSEMBLY:



ALL ANTICIPATED QUANTITIES ARE SHOWN IN THE TABLE BELOW AND ARE PROVIDED FOR INFORMATION ONLY.

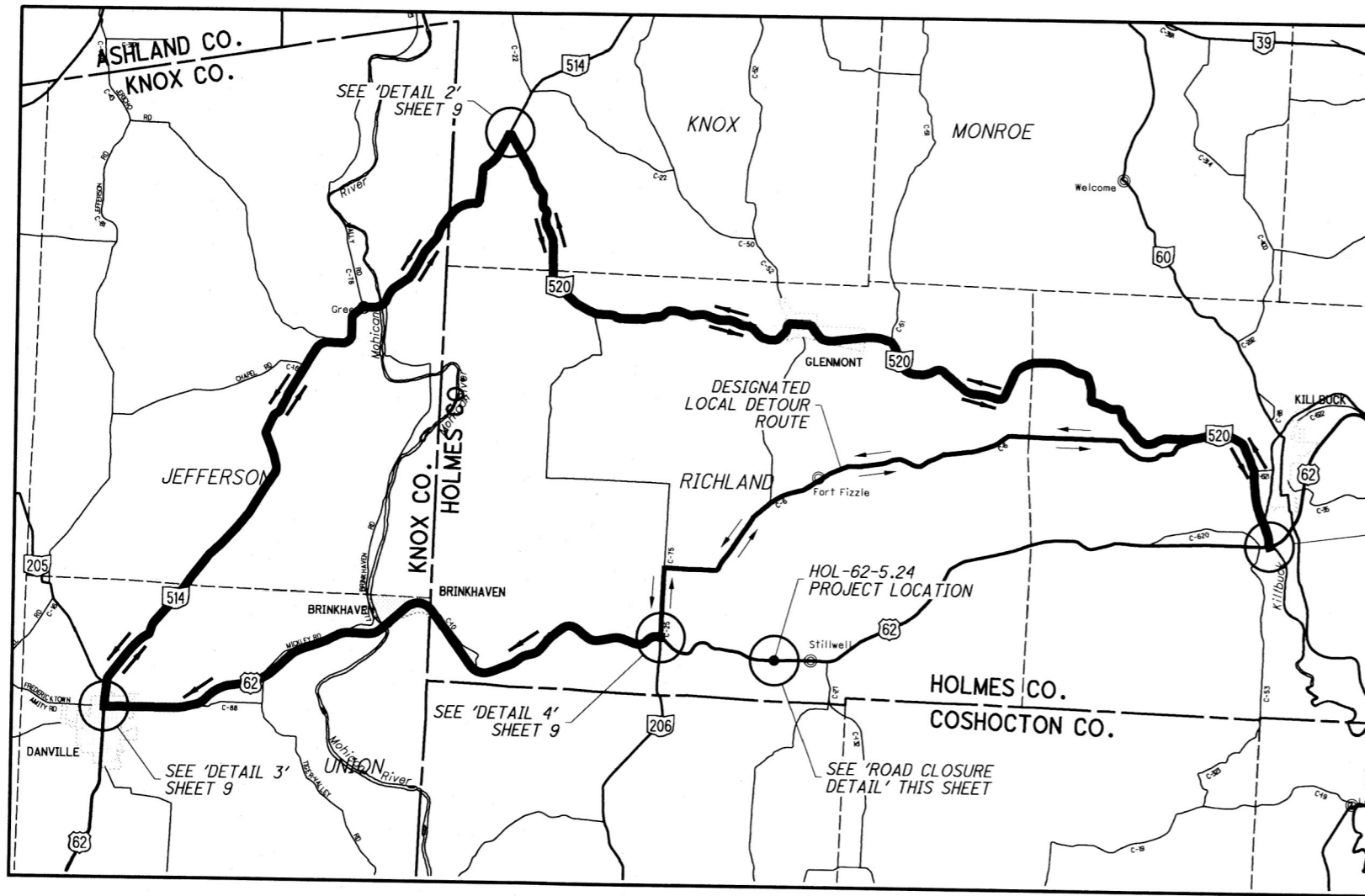
SIGN CODE	NO. OF SIGNS	SIZE
R11-3A-60	3	60 IN. x 30 IN.
M4-10R-48	1	48 IN. x 18 IN.
M4-8-24	45	24 IN. x 12 IN.
M1-4-24-2	47	24 IN. x 24 IN.
M3-2-24	11	24 IN. x 12 IN.
M3-4-24	6	24 IN. x 12 IN.
M5-1L-21	2	21 IN. x 15 IN.
M6-1L-21	2	21 IN. x 15 IN.
M5-1R-21	3	21 IN. x 15 IN.
M6-1R-21	3	21 IN. x 15 IN.
M4-8A-24	2	24 IN. x 18 IN.
W20-2-36	5	36 IN. x 36 IN.
R11-2-48	2	48 IN. x 30 IN.
M4-10L-48	1	48 IN. x 18 IN.
M6-3-21	30	21 IN. x 15 IN.
W20-3-36	2	36 IN. x 36 IN.

SIGN LEGEND

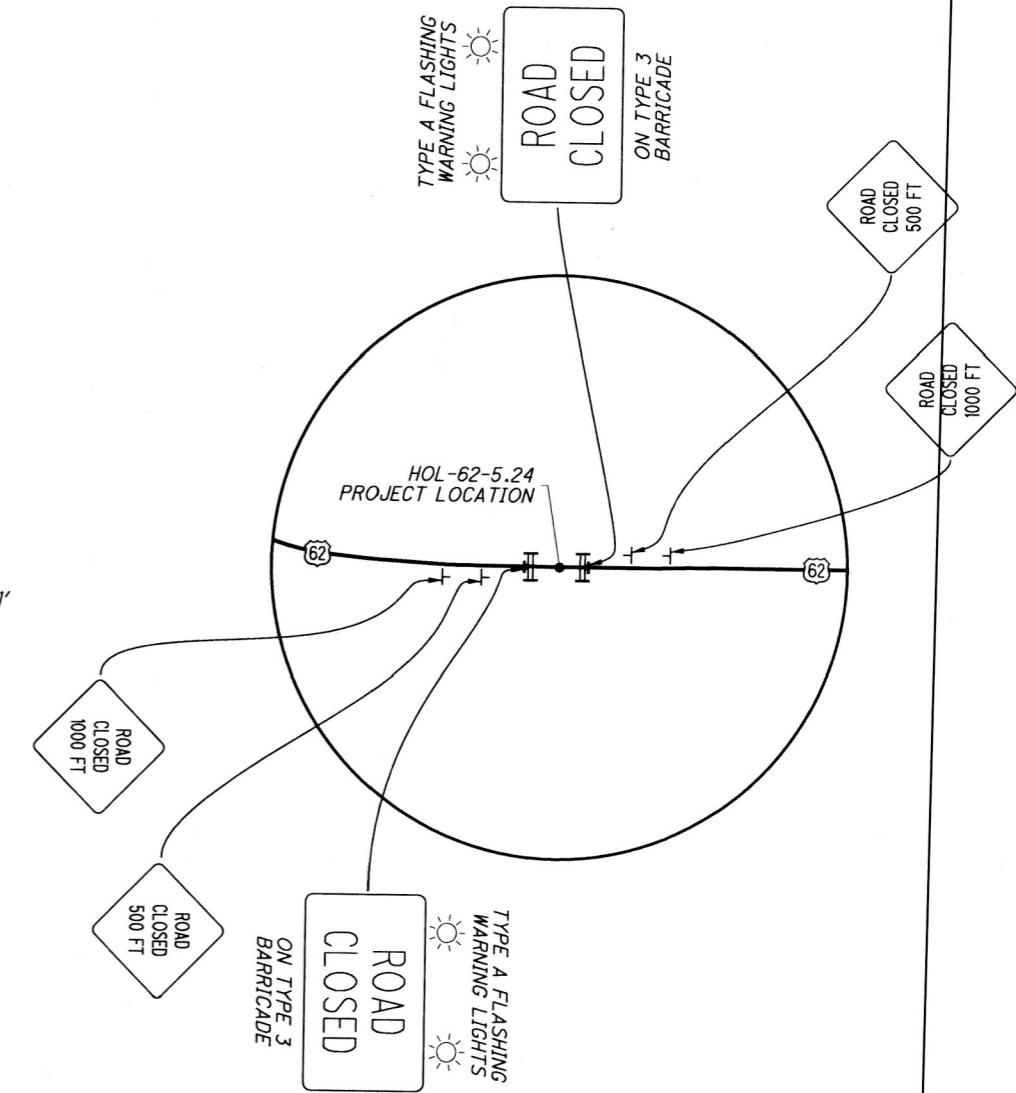


AT INTERVALS NOT TO EXCEED 2 MILES IN RURAL AREAS AND AT INTERVALS NOT TO EXCEED 2 BLOCKS WITHIN URBANIZED AREAS. IT IS ANTICIPATED THAT 12 SIGN ASSEMBLIES WILL BE REQUIRED TO MEET THIS MAXIMUM SPACING.

PAYMENT FOR ALL LABOR, EQUIPMENT & MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, DETOUR SIGNING, UNLESS SEPERATELY ITEMIZED IN THE PLAN.

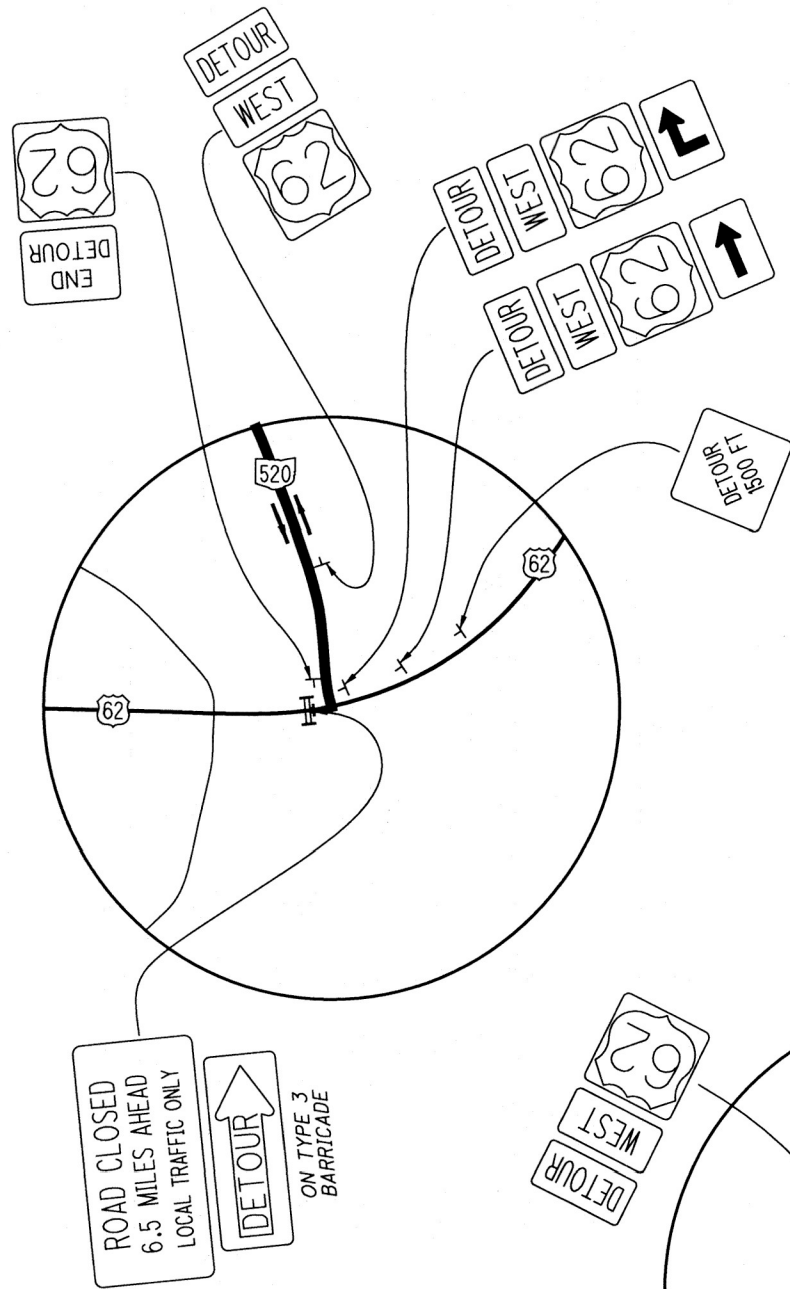


OFFICIAL DETOUR ROUTE

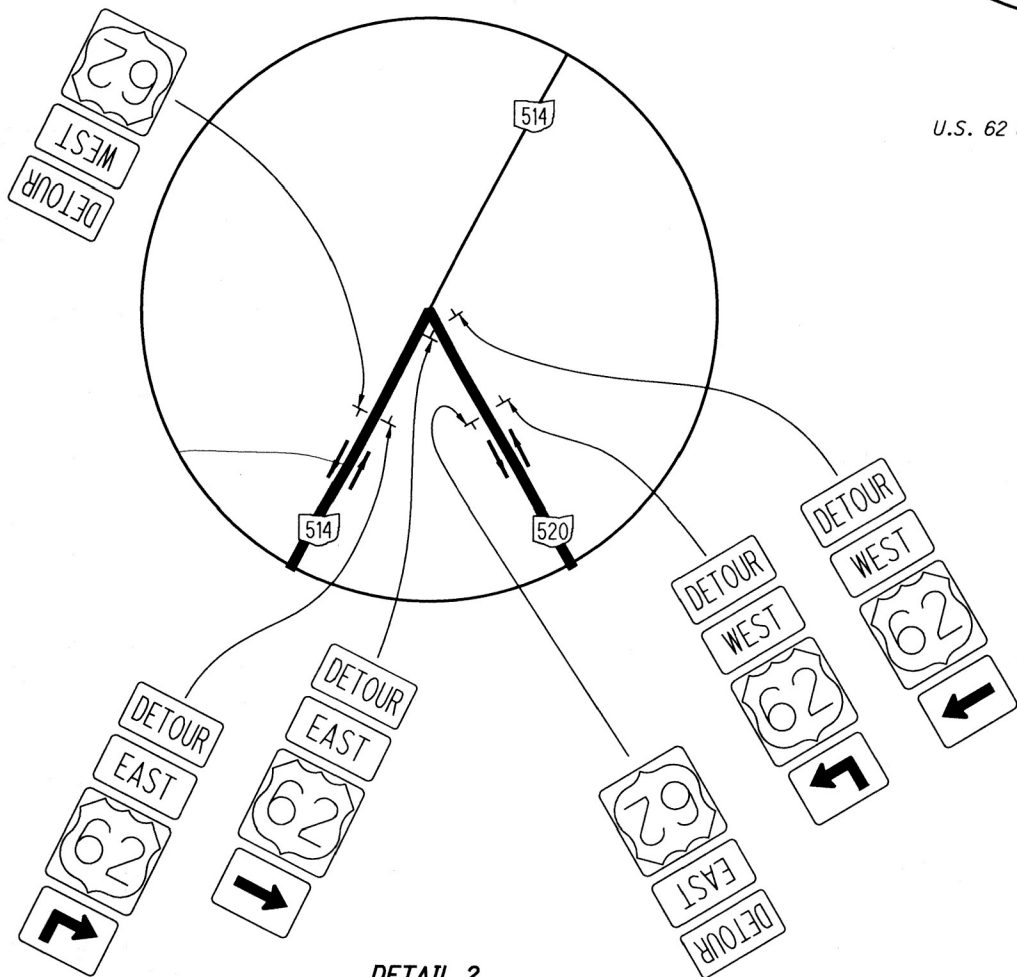


ROAD CLOSURE DETAIL

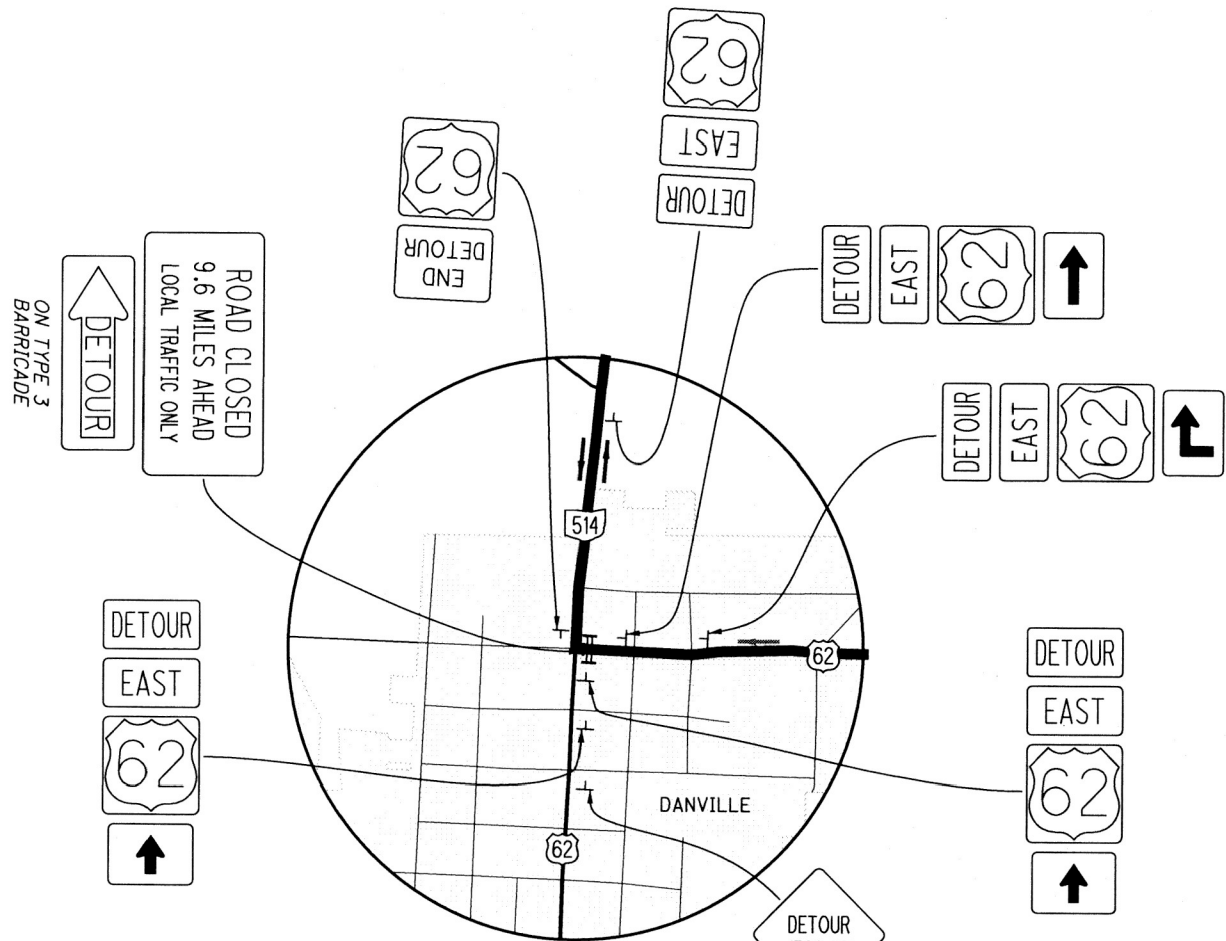
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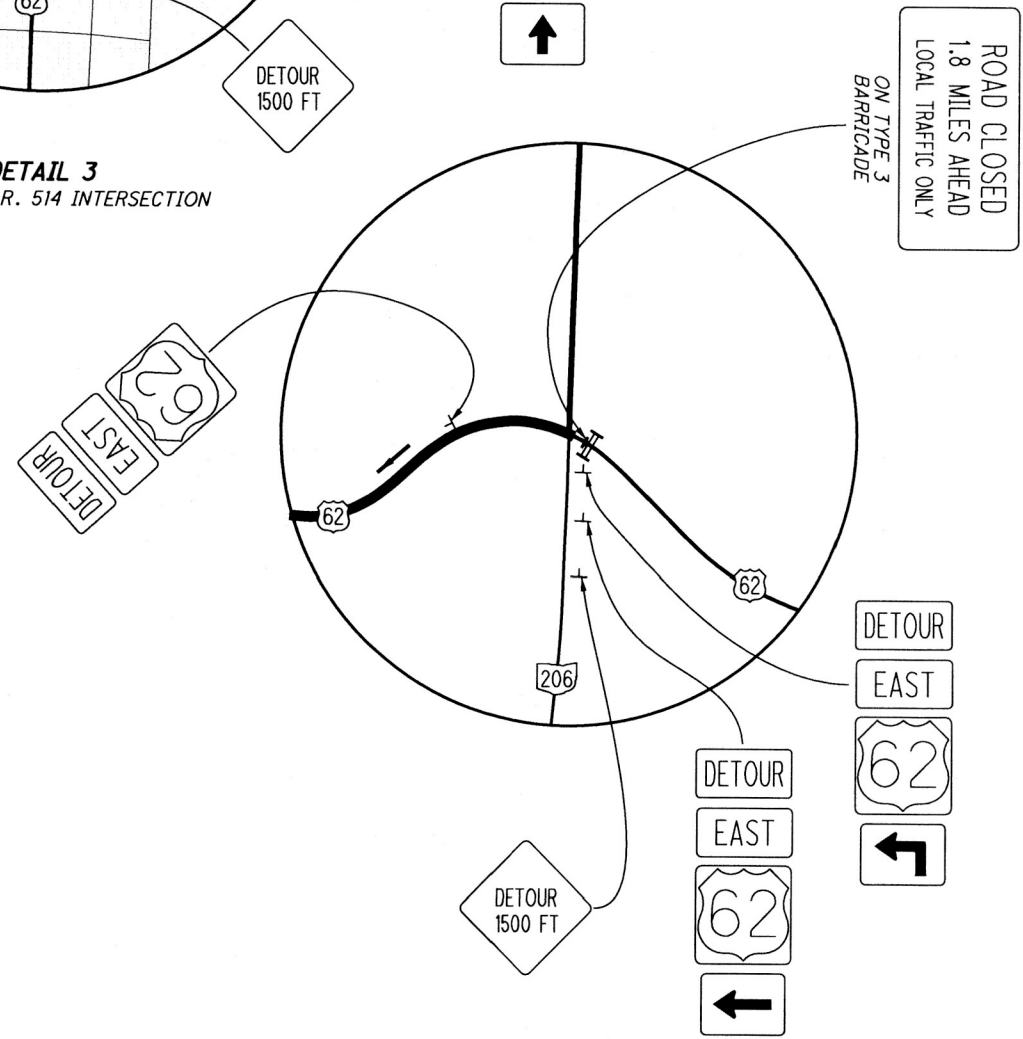
DETAIL 1
U.S. 62 & S.R. 520 INTERSECTION



DETAIL 2
S.R. 514 & S.R. 520 INTERSECTION



DETAIL 3
U.S. 62 & S.R. 514 INTERSECTION



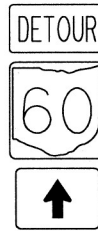
DETAIL 4
U.S. 62 & S.R. 206 INTERSECTION

ITEM 614, DETOUR SIGNING

THE FOLLOWING SIGNS SHALL BE ERECTED ALONG THE DESIGNATED OFFICIAL DETOUR ROUTE AND SHALL BE ASSEMBLED AS SHOWN ON THIS SHEET. ALL DETOUR SIGNING SHALL BE INSTALLED BEFORE COMMENCING ANY OF THE PROPOSED WORK REQUIRING THE DETOUR.

EACH SIGN ASSEMBLY SHALL BE PLACED 100 FT. (OR AS DIRECTED) IN ADVANCE OF THE IMPENDING CHANGE OF ROUTE. OFFSET SHALL BE AS PER STANDARD CONSTRUCTION DRAWING TC-42.20.

IN ADDITION TO THE SIGNS INCLUDED IN THE LEGEND AND SHOWN ON THE DETOUR MAPS, PLACE THE FOLLOWING SIGN ASSEMBLY:



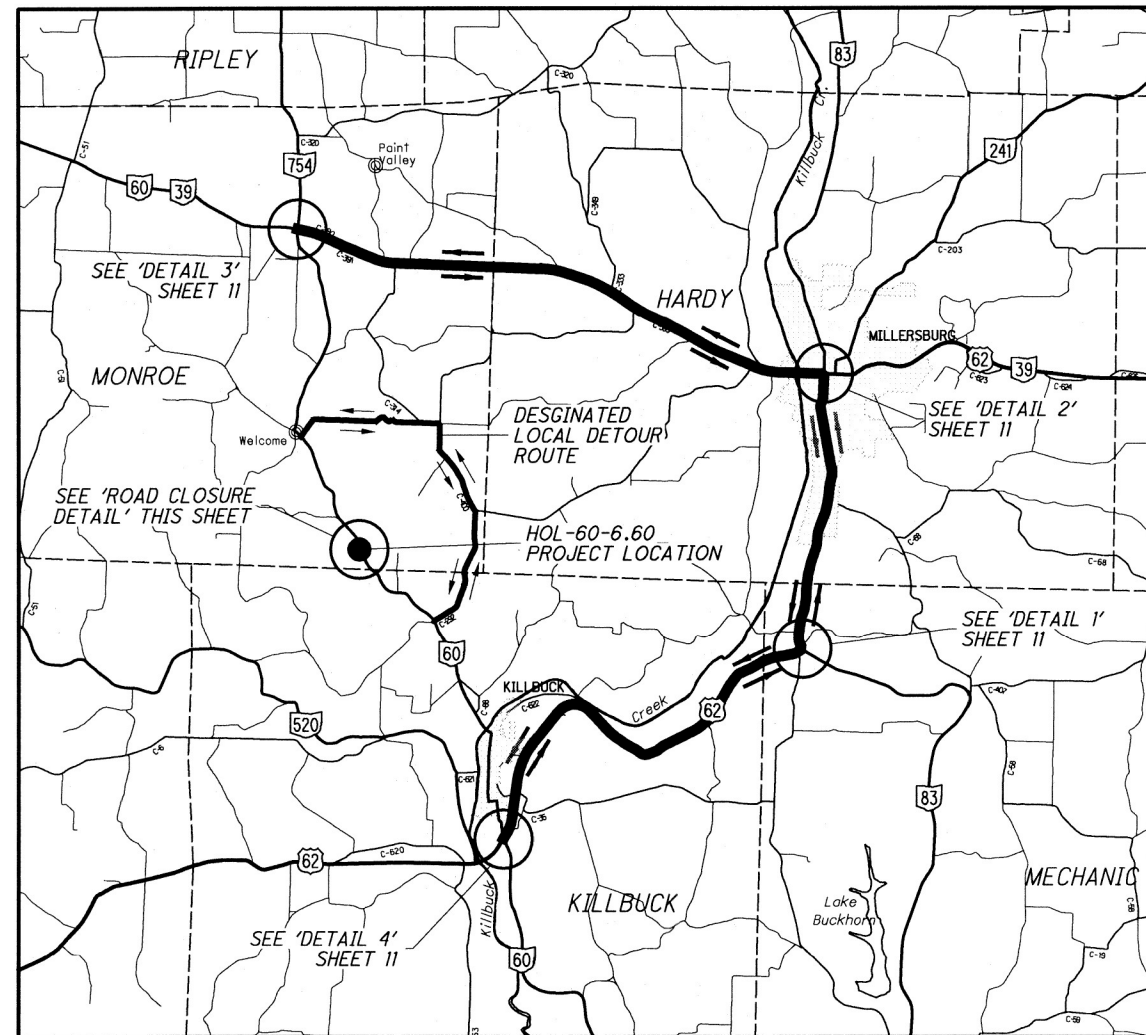
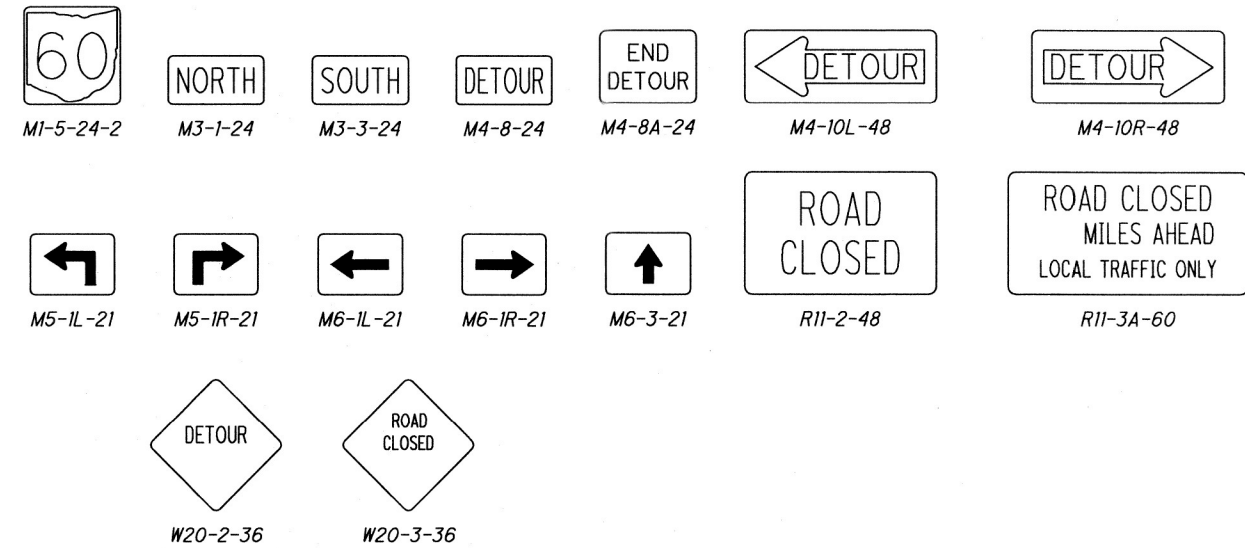
AT INTERVALS NOT TO EXCEED 2 MILES IN RURAL AREAS AND AT INTERVALS NOT TO EXCEED 2 BLOCKS WITHIN URBANIZED AREAS. IT IS ANTICIPATED THAT 12 SIGN ASSEMBLIES WILL BE REQUIRED TO MEET THIS MAXIMUM SPACING.

ALL ANTICIPATED QUANTITIES ARE SHOWN IN THE TABLE BELOW AND ARE PROVIDED FOR INFORMATION ONLY.

SIGN CODE	NO. OF SIGNS	SIZE
R11-3A-60	2	60 IN. x 30 IN.
M4-10R-48	1	48 IN. x 18 IN.
M4-8-24	34	24 IN. x 12 IN.
M1-5-24-2	36	24 IN. x 24 IN.
M3-1-24	11	24 IN. x 12 IN.
M3-3-24	11	24 IN. x 12 IN.
M5-1L-21	3	21 IN. x 15 IN.
M6-1L-21	3	21 IN. x 15 IN.
M5-1R-21	3	21 IN. x 15 IN.
M6-1R-21	3	21 IN. x 15 IN.
M4-8A-24	2	24 IN. x 18 IN.
W20-2-36	2	36 IN. x 36 IN.
R11-2-48	2	48 IN. x 30 IN.
M4-10L-48	1	48 IN. x 18 IN.
M6-3-21	16	21 IN. x 15 IN.
W20-3-36	4	36 IN. x 36 IN.

PAYMENT FOR ALL LABOR, EQUIPMENT & MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, DETOUR SIGNING, UNLESS SEPERATELY ITEMIZED IN THE PLAN.

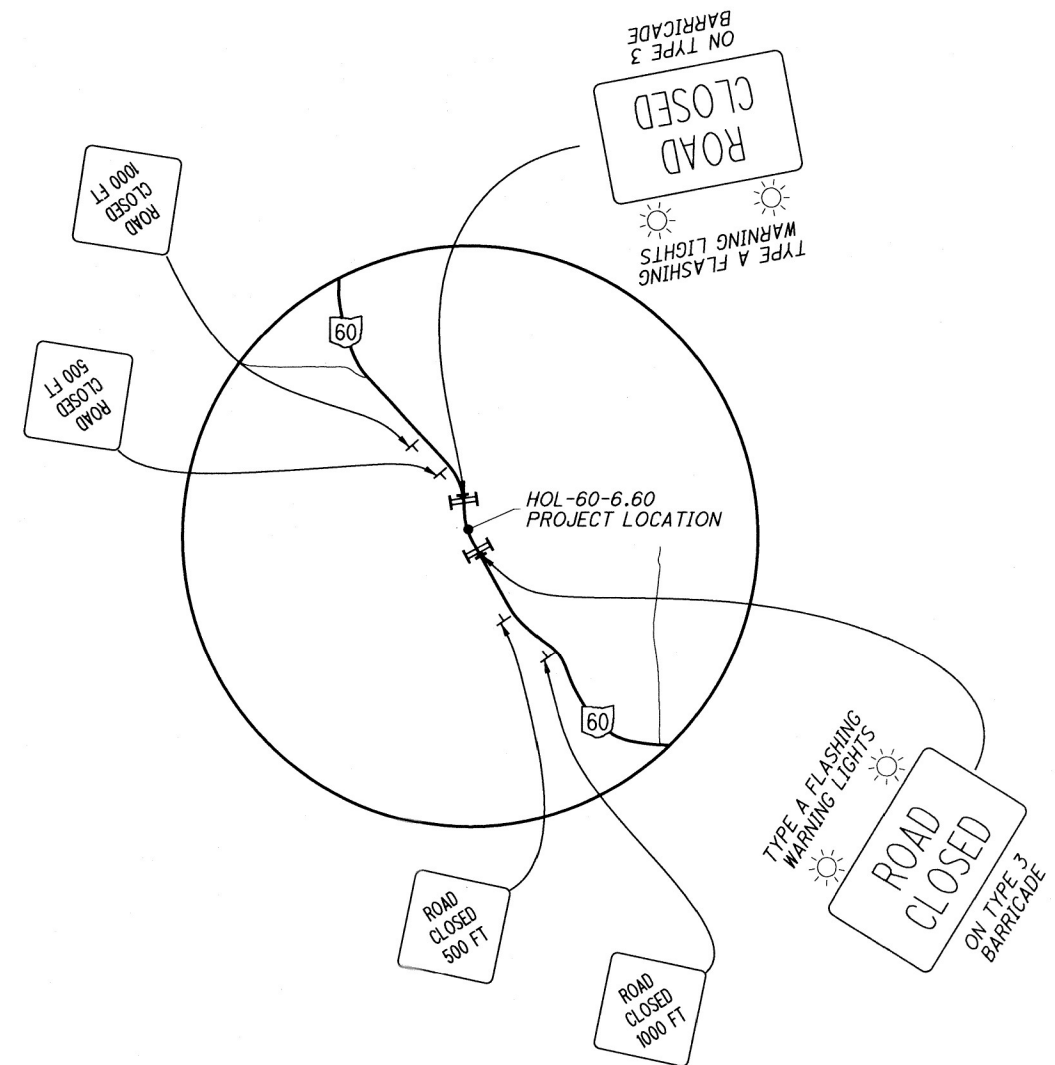
SIGN LEGEND



OFFICIAL DETOUR ROUTE



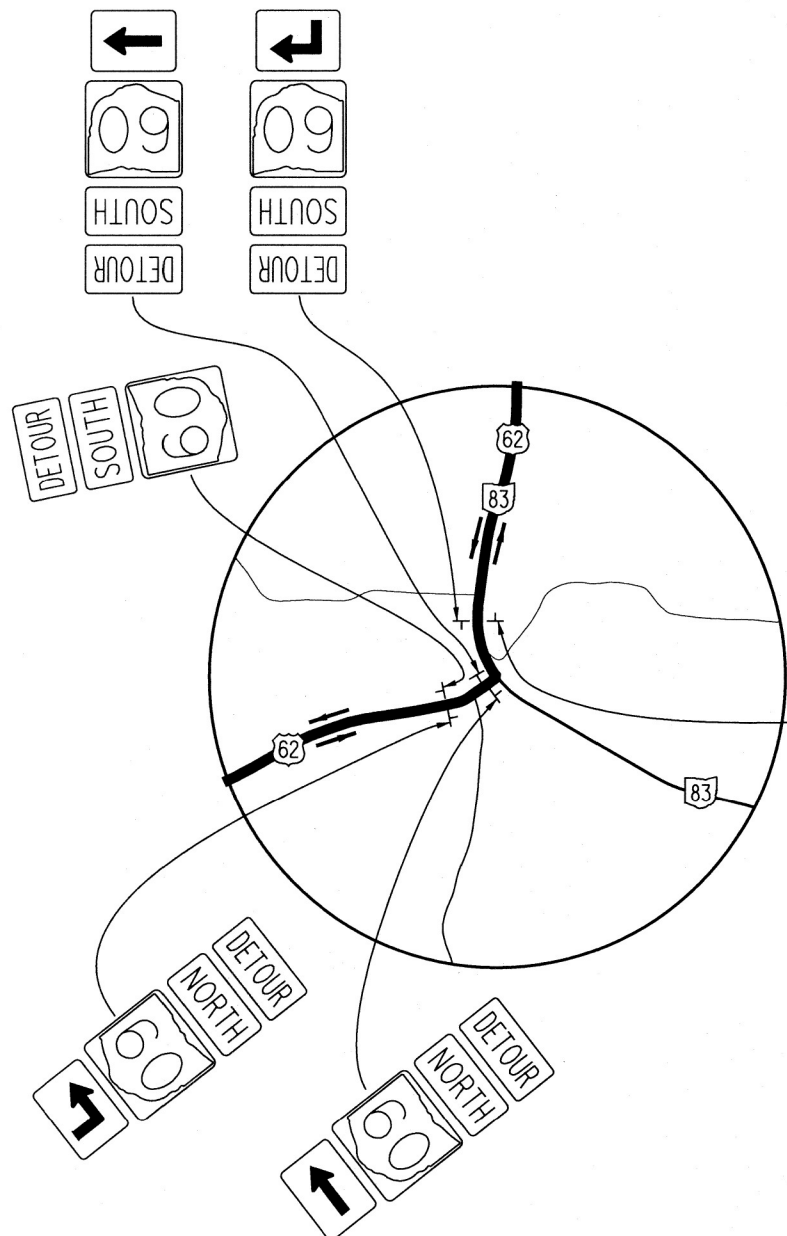
NOT TO SCALE



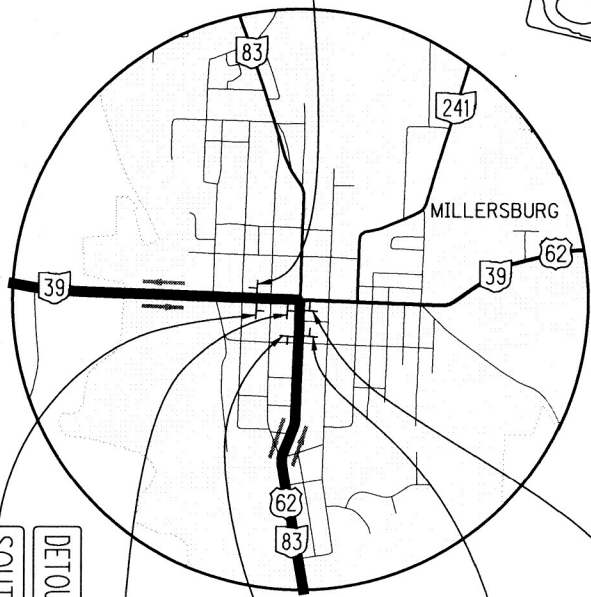
ROAD CLOSURE DETAIL

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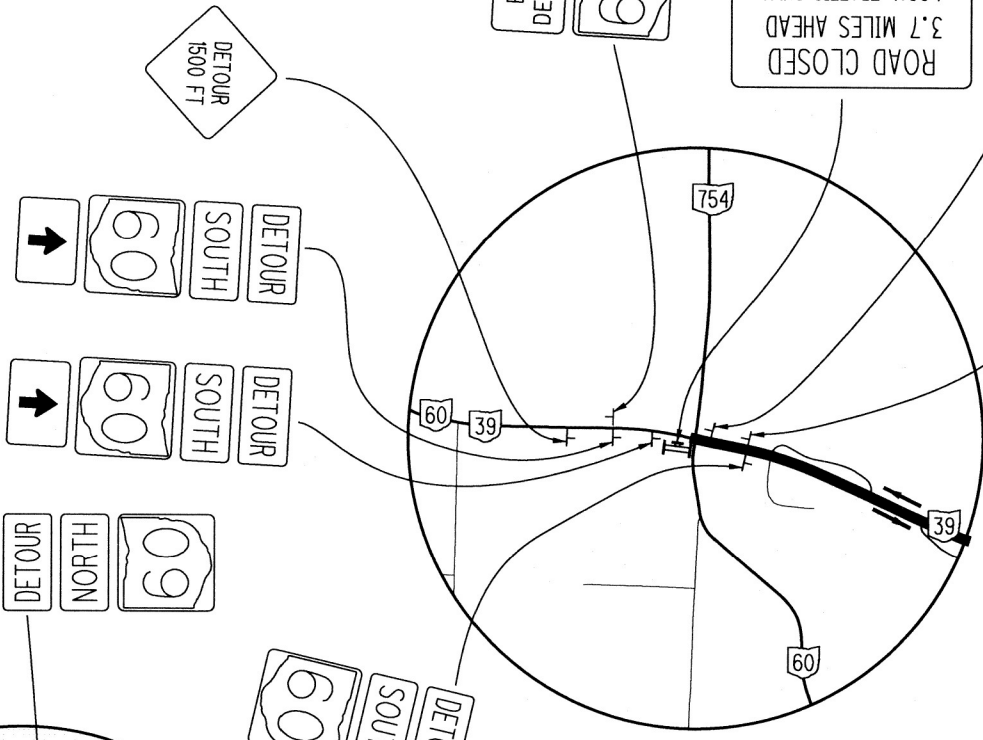
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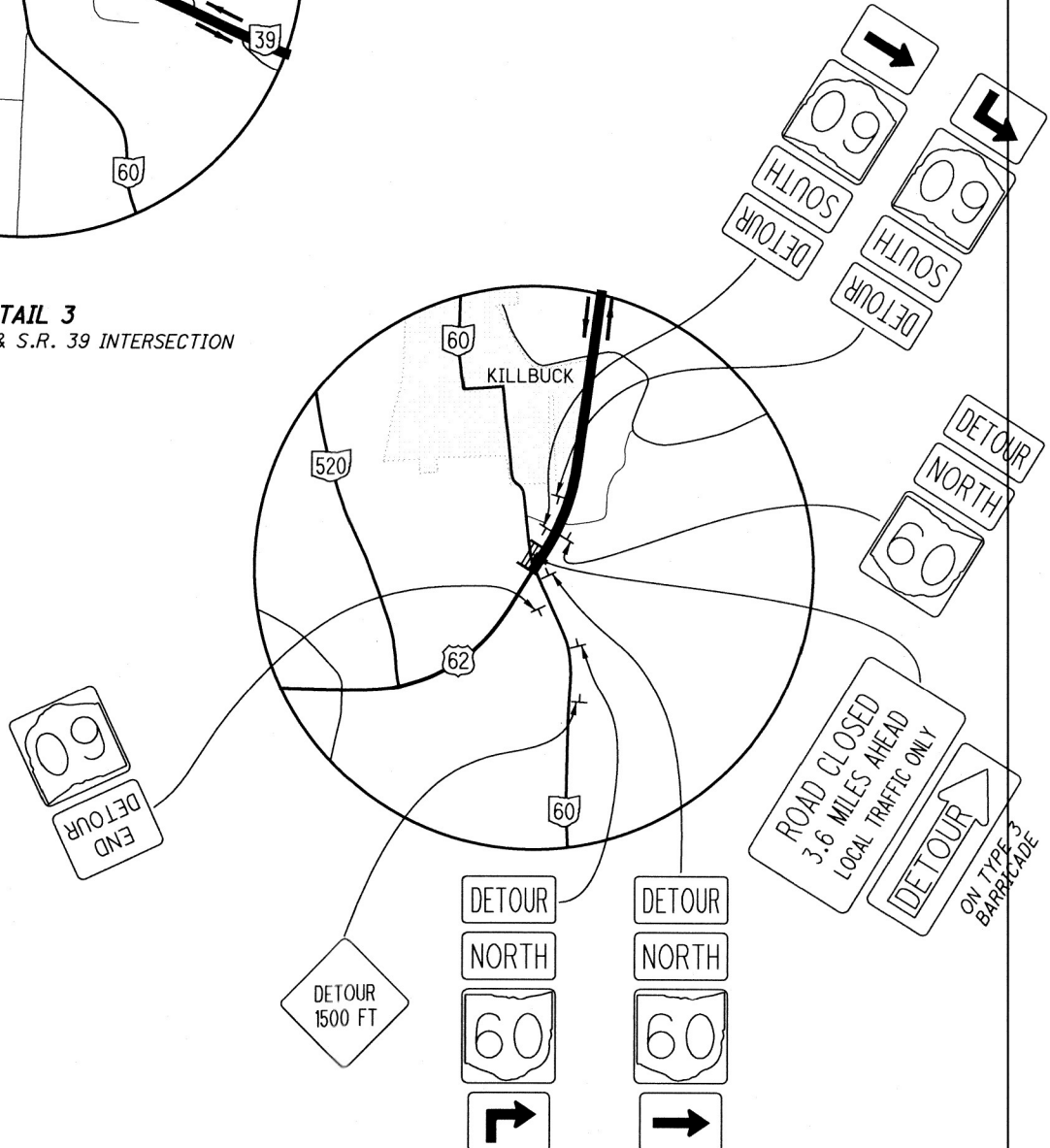
DETAIL 1
U.S. 62 & S.R. 83 INTERSECTION



DETAIL 2
U.S. 62/S.R. 83 & S.R. 39 INTERSECTION



DETAIL 3
S.R. 60, S.R. 754 & S.R. 39 INTERSECTION



DETAIL 4
S.R. 60 & U.S. 62 INTERSECTION

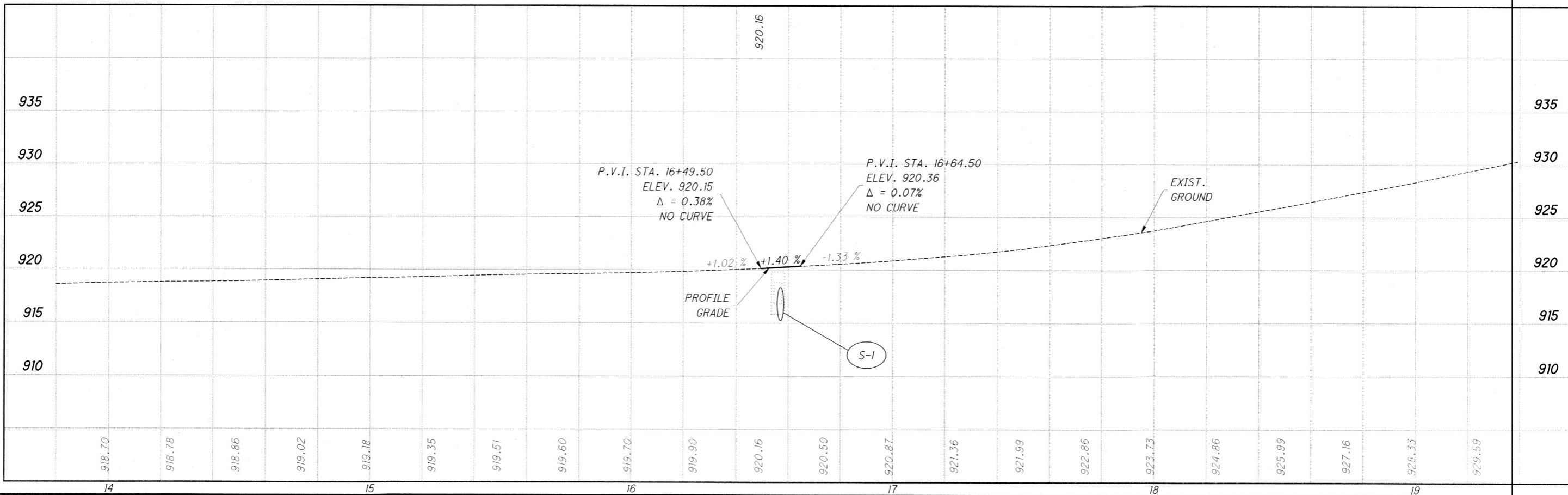
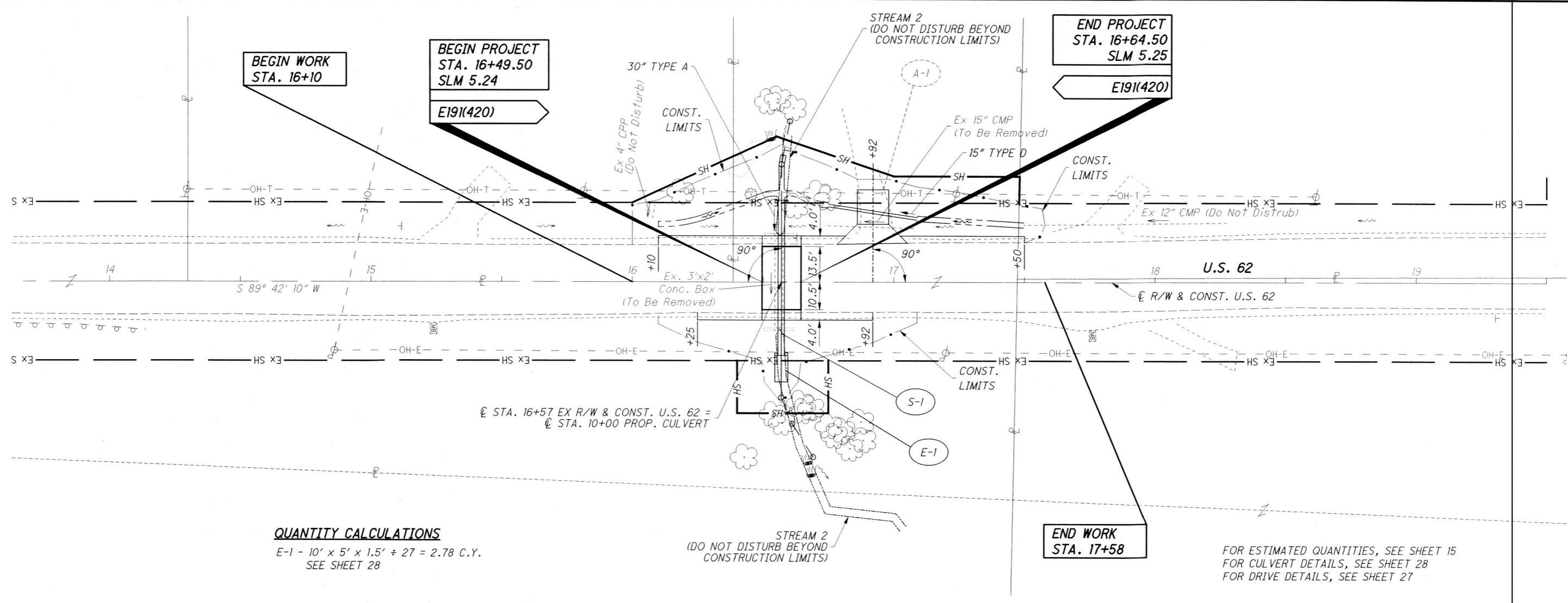
CALCULATED	SAH	DETOUR PLAN
	CHECKED	
HOL-62/60-5.24/6.60		11 44
DAH		

SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	
4	5					15	21	27	30		OFFICE CALCS	01/ STR/CV	EXT	TOTAL				
																ROADWAY		
	LS											LS	201	11000	LS	CLEARING AND GRUBBING		
						LS			LS			LS	202	11000	LS	STRUCTURE REMOVED		
								43				43	202	23000	43	PAVEMENT REMOVED		
								34				34	202	35100	34	PIPE REMOVED, 24" AND UNDER		
							229					229	202	38000	229	GUARDRAIL REMOVED		
		359										359	203	10000	359	EXCAVATION		
		182										182	203	20000	182	EMBANKMENT		
								93				336	429	204	10000	429	SUBGRADE COMPACTION	
									150			150	606	15051	150	GUARDRAIL, TYPE MGS, AS PER PLAN		
									1			1	606	25550	1	ANCHOR ASSEMBLY, MGS TYPE A	4, 20	
									2			2	606	26550	2	ANCHOR ASSEMBLY, MGS TYPE T		
									1			1	SPECIAL	69050100	1	MAILBOX SUPPORT SYSTEM, SINGLE	6	
																EROSION CONTROL		
									27			27	601	32110	27	ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER		
						3						3	601	32200	3	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER		
									17			17	601	32210	17	ROCK CHANNEL PROTECTION, TYPE C WITH AGGREGATE FILTER		
												4	659	00100	4	SOIL ANALYSIS TEST		
		149										149	659	00300	149	TOPSOIL		
		1,343										1,343	659	10000	1,343	SEEDING AND MULCHING		
		67										67	659	14000	67	REPAIR SEEDING AND MULCHING		
		0.18										0.18	659	20000	0.18	COMMERCIAL FERTILIZER		
		0.28										0.28	659	31000	0.28	LIME		
		7										7	659	35000	7	MGAL WATER		
												5,000	832	30000	5,000	EROSION CONTROL		
																DRAINAGE		
									LS			LS	503	11100	LS	COFFERDAMS AND EXCAVATION BRACING		
									225			225	503	21100	225	UNCLASSIFIED EXCAVATION		
									2,813			2,813	509	10000	2,813	EPOXY COATED REINFORCING STEEL		
									7			7	511	46010	7	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING		
									22			22	511	46510	22	CLASS QC1 CONCRETE, FOOTING		
									1			1	511	46610	1	CLASS QC1 CONCRETE, HEADWALL		
									36			36	512	10100	36	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
									218			218	512	33000	218	TYPE 2 WATERPROOFING		
									26			26	516	13600	26	1" PREFORMED EXPANSION JOINT FILLER		
									8			8	518	21200	8	POROUS BACKFILL WITH GEOTEXTILE FABRIC		
									1.1			1.1	602	20000	1.1	CONCRETE MASONRY		
												35	611	06400	35	15" CONDUIT, TYPE D		
								59				59	611	13200	59	30" CONDUIT, TYPE A, 706.02		
									90			90	611	94801	90	8' X 4' CONDUIT, TYPE A, 706.05, AS PER PLAN (DESIGN COVER < 2')	30	
												166	613	41200	166	LOW STRENGTH MORTAR BACKFILL		

I:\ProjectData\109013\Design\Roadway\Sheets\09013_GG001.dgn Sheet 5/12/2021 11:44 AM shorr\lsb

GENERAL SUMMARY

I:\ProjectData\109013\Design\Roadway\Sheets\109013.GP002.dgn Sheet 5/12/2021 11:18:50 AM short1sb



PLAN AND PROFILE - U.S. 62
STA. 13+50 TO STA. 19+50

HOL -62/ 60-5.24/ 6.60

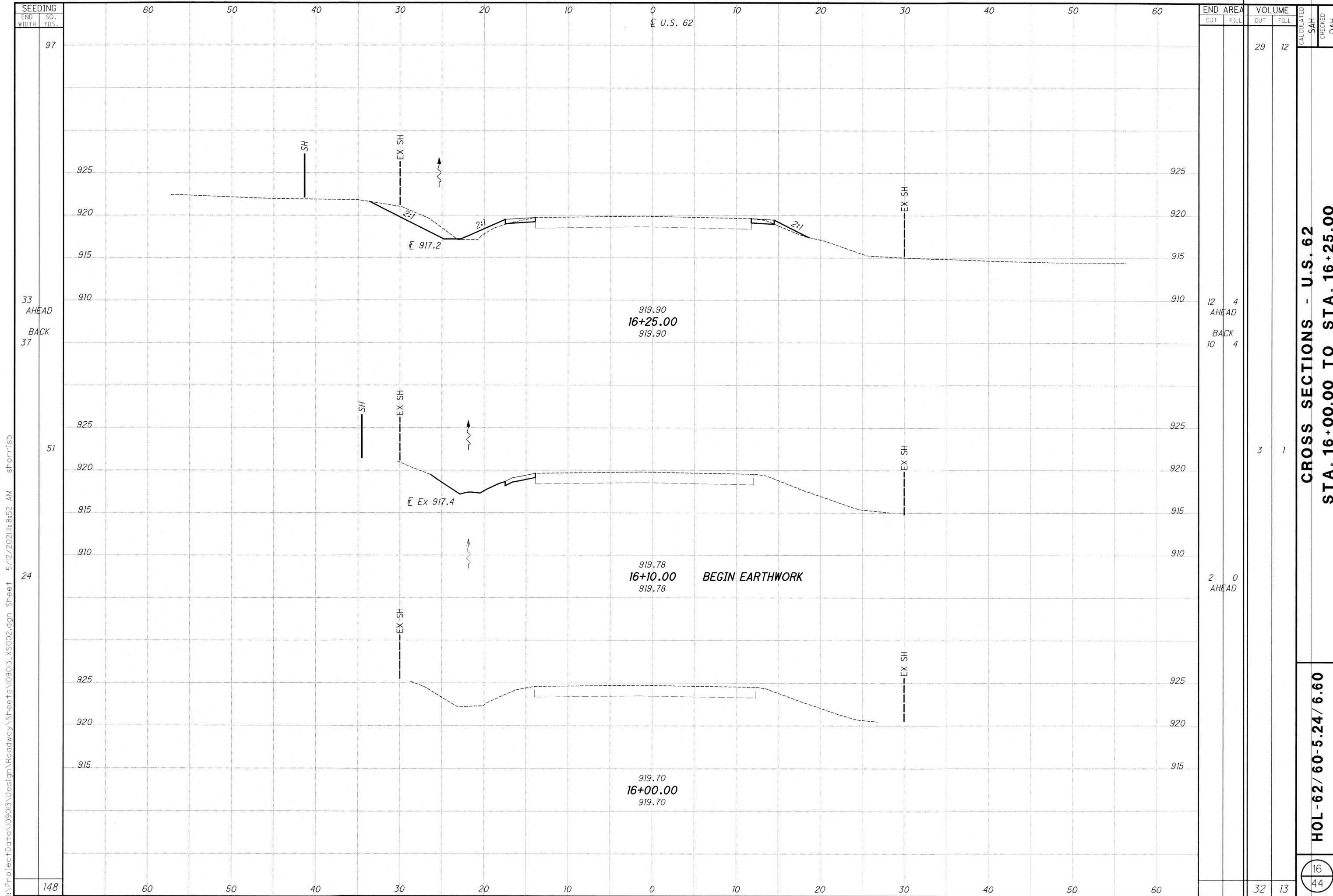
CALCULATED SAH CHECKED DAH

14
44

I:\ProjectData\109013\Design\Roadway\Sheets\109013_G0002.dgn Sheet 5/12/2021 11:18:51 AM shorrt1sb

REF. NO.	SHEET NO.	STATION		SIDE	202				601	602	611					
		FROM	TO		STRUCTURE REMOVED				ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	CONCRETE MASONRY	30" CONDUIT, TYPE A, 706.02					
					LS			CU YD	CY YD			FT				
E-1	14	16+57		RT				3								
S-1	28	16+57		LT & RT	LS				1.12			59				
SUBTOTAL									1.12							
TOTALS CARRIED TO GENERAL SUMMARY					LS			3	1.1			59				

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CALCULATED</td> <td style="font-size: small;">SAH</td> </tr> <tr> <td style="font-size: small;">CHECKED</td> <td style="font-size: small;">DAH</td> </tr> </table>	CALCULATED	SAH	CHECKED	DAH	ESTIMATED QUANTITIES - U.S. 62
CALCULATED	SAH				
CHECKED	DAH				
HOL-62/60-5.24/6.60					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">15</td> </tr> <tr> <td style="text-align: center;">44</td> </tr> </table>		15	44		
15					
44					



SEEDING	END WIDTH	SO. YDS.
	97	
	51	
	24	
	148	

END AREA		VOLUME		CALCULATED	SAH	CHECKED	DAH
CUT	FILL	CUT	FILL				
12	4	29	12				
10	4						
2	0	3	1				
32	13						

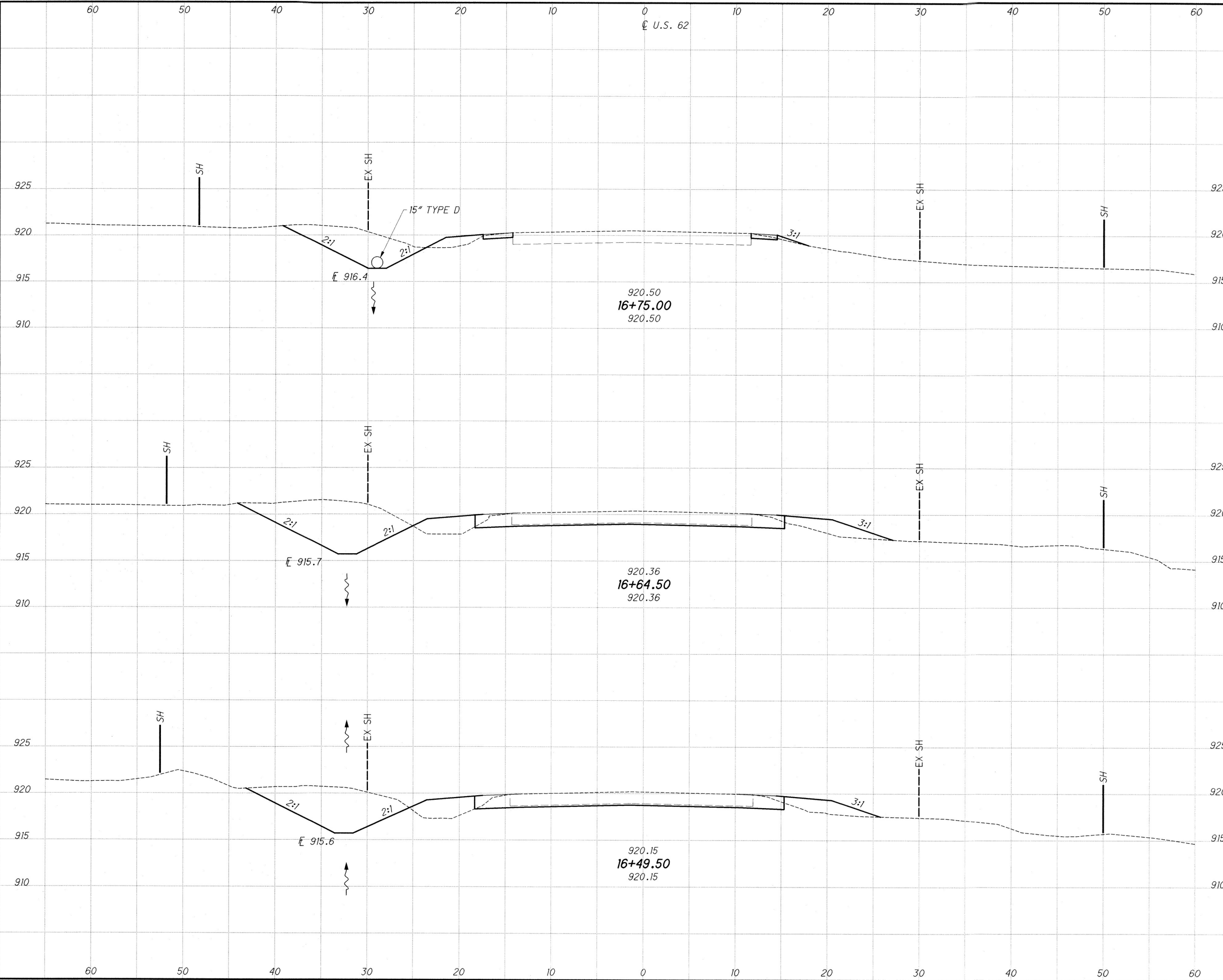
CROSS SECTIONS - U.S. 62
STA. 16+00.00 TO STA. 16+25.00

HOL-62/60-5.24/6.60

16
44

I:\ProjectData\109013\Design\Roadway\Sheets\109013_X5002.dgn Sheet 5/12/2021 11:18:52 AM shorr\rsb

SEEDING
 END SO. WIDTH YDS.
 49
 37
 52
 52 AHEAD
 BACK 52
 75
 38 AHEAD
 BACK 38
 176



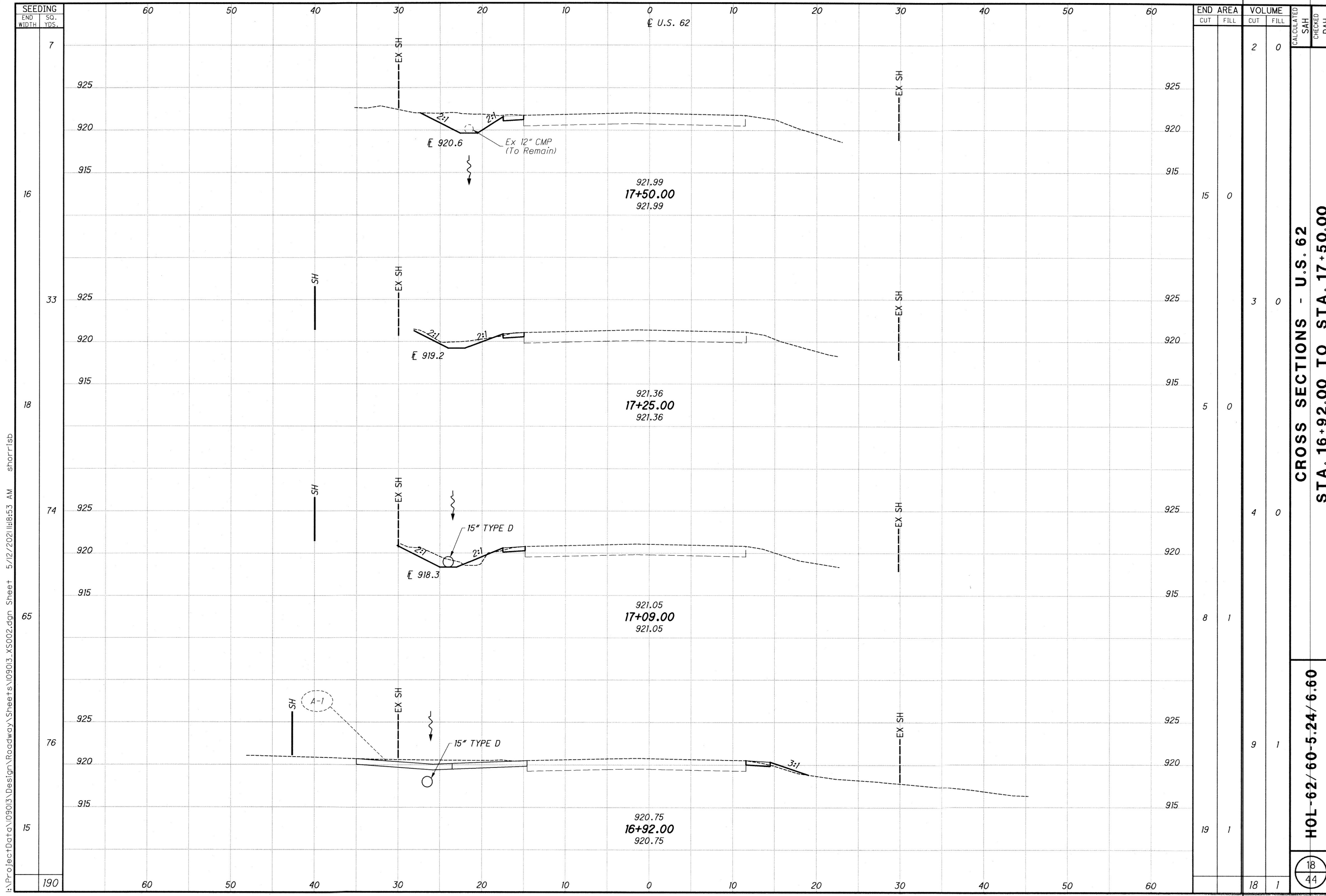
END AREA	VOLUME		CALCULATED	CHECKED
	CUT	FILL		
37	6		18	2
63 AHEAD 74 BACK	22 22		19	5
68 AHEAD 52 BACK	22 22		39	12
76	19		76	19

CROSS SECTIONS - U.S. 62
STA. 16+49.50 TO STA. 16+75.00

HOL-62/60-5.24/6.60

17
44

i:\ProjectData\109013\Design\Roadway\Sheets\109013_X5002.dgn Sheet 5/12/2021 11:53 AM shorr\sb



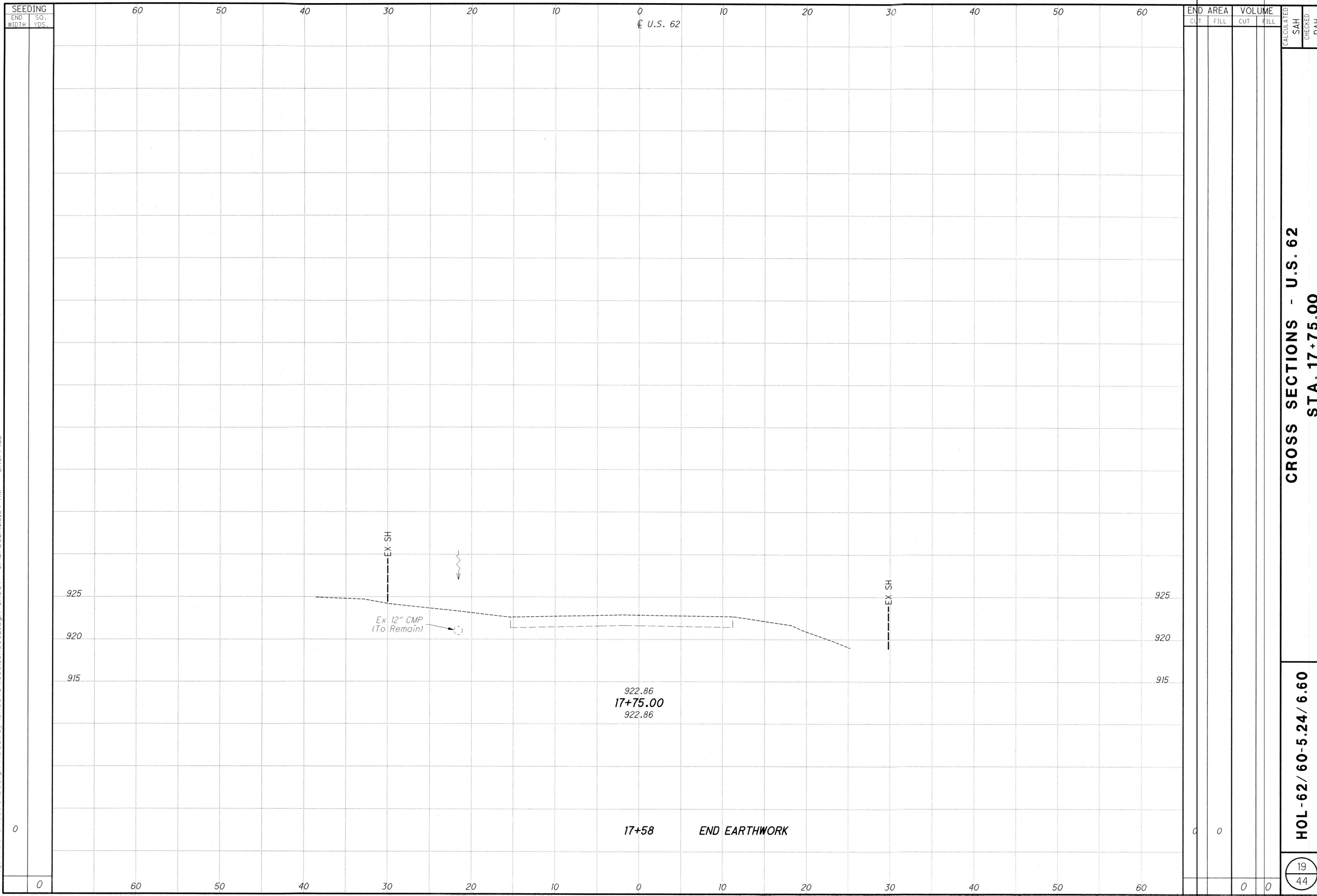
CROSS SECTIONS - U.S. 62
STA. 16+92.00 TO STA. 17+50.00

HOL-62/60-5.24/6.60

18
44

I:\ProjectData\09013\Design\Roadway\Sheets\09013.X5002.dgn Sheet 5/12/2021 11:48:53 AM shorrfsb

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SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	SAH	CHECKED	DAH
CUT	FILL	CUT	FILL				

CROSS SECTIONS - U.S. 62
STA. 17+75.00

HOL-62/60-5.24/6.60

19
44

922.86
17+75.00
 922.86

17+58 **END EARTHWORK**

EX SH

Ex. 12" CMP
 (To Remain)

EX SH

0

0

0

0

0



0 10 20 30 40
HORIZONTAL SCALE IN FEET

CALCULATED
SAH
CHECKED
DAH

PLAN AND PROFILE - S.R. 60
HOL-60-6.60

HOL-62/60-5.24/6.60

20
44

CALCULATIONS

E-2 - $\frac{287.506 \times 2.5}{27} = 27 \text{ CU YD}$
 E-3 - $\frac{305.720 \times 1.5}{27} = 17 \text{ CU YD}$
 ● COMPUTER GENERATED AREA
 SEE SHEET 29

WETLAND AREA
 (DO NOT DISTURB BEYOND
 CONSTRUCTION LIMITS)

STREAM 1
 (DO NOT DISTURB BEYOND
 CONST. LIMITS)

BEGIN WORK
 STA. 347+46

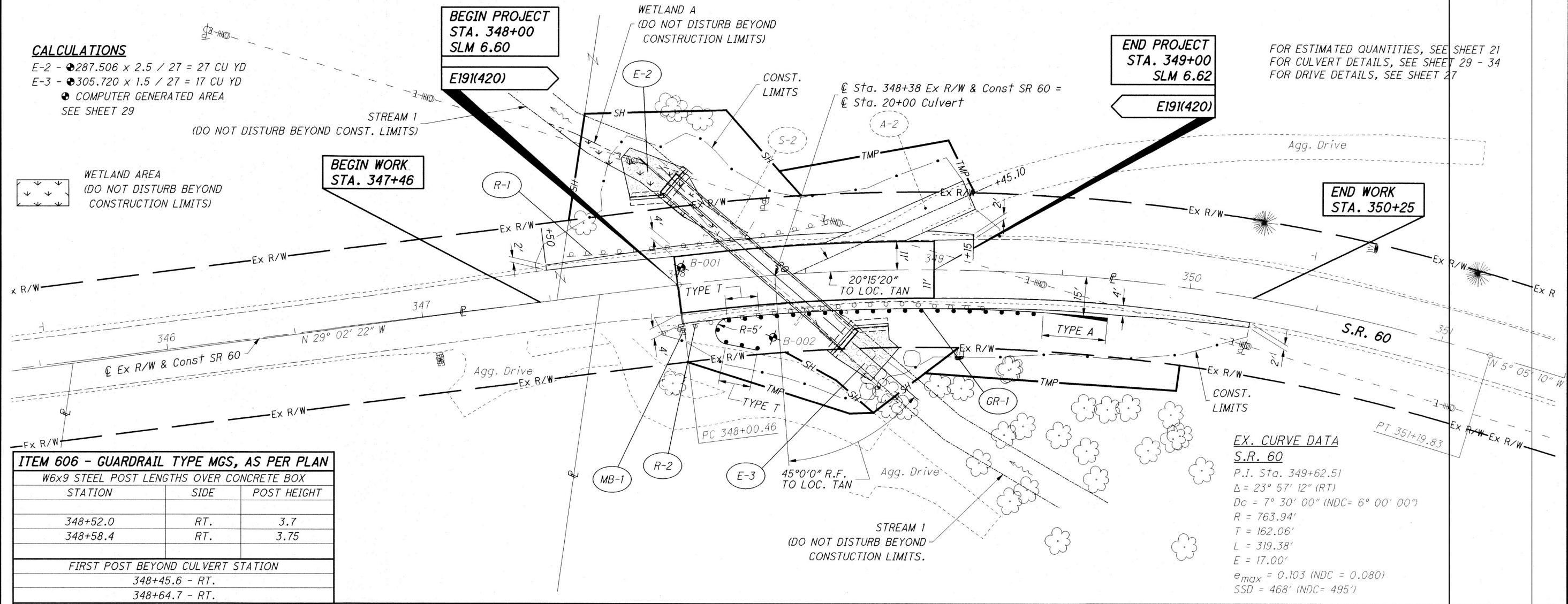
BEGIN PROJECT
 STA. 348+00
 SLM 6.60

E191(420)

END PROJECT
 STA. 349+00
 SLM 6.62

E191(420)

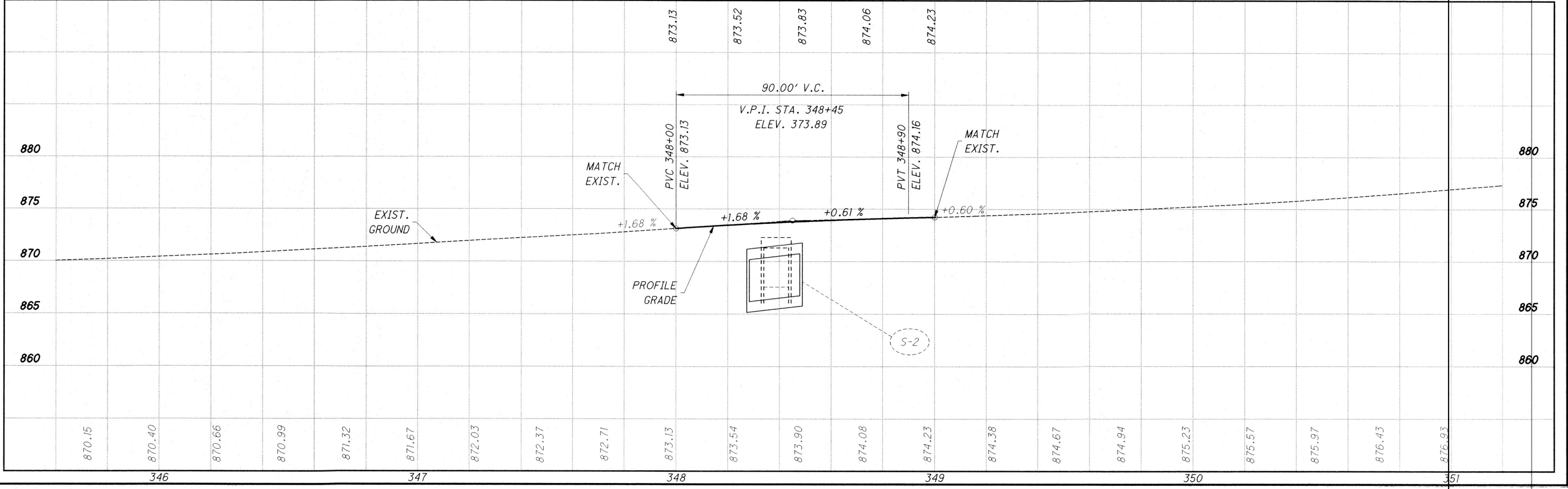
FOR ESTIMATED QUANTITIES, SEE SHEET 21
 FOR CULVERT DETAILS, SEE SHEET 29 - 34
 FOR DRIVE DETAILS, SEE SHEET 27



ITEM 606 - GUARDRAIL TYPE MGS, AS PER PLAN

W6x9 STEEL POST LENGTHS OVER CONCRETE BOX		
STATION	SIDE	POST HEIGHT
348+52.0	RT.	3.7
348+58.4	RT.	3.75
FIRST POST BEYOND CULVERT STATION		
348+45.6 - RT.		
348+64.7 - RT.		

**EX. CURVE DATA
 S.R. 60**
 P.I. Sta. 349+62.51
 $\Delta = 23^\circ 57' 12''$ (RT)
 $D_c = 7^\circ 30' 00''$ (NDC = $6^\circ 00' 00''$)
 $R = 763.94'$
 $T = 162.06'$
 $L = 319.38'$
 $E = 17.00'$
 $e_{max} = 0.103$ (NDC = 0.080)
 $SSD = 468'$ (NDC = 495')



I:\ProjectData\109013\Design\Roadway\Sheets\109013_GPO01.dgn Sheet 5/12/2021 11:56 AM shorfriisb

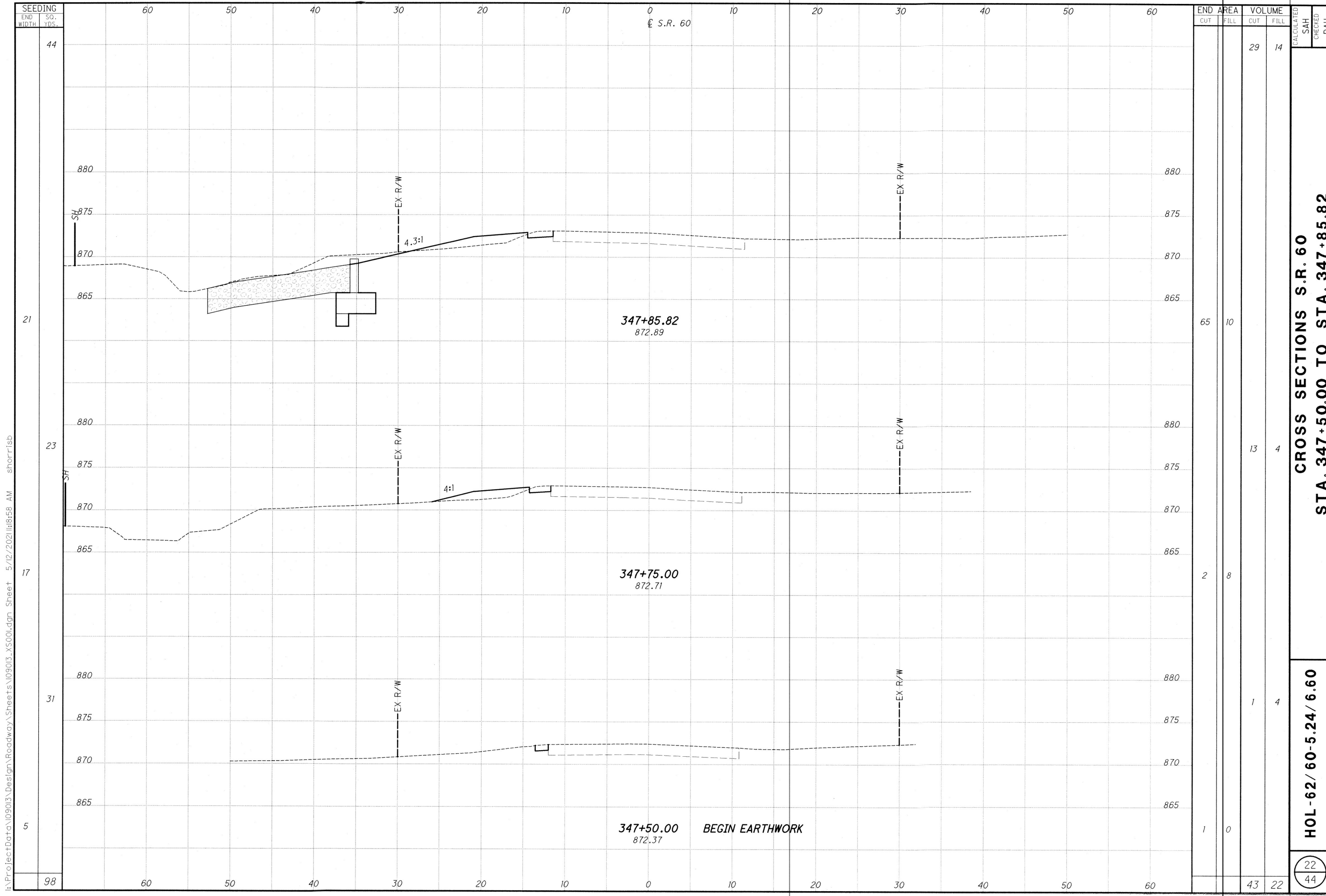
I:\ProjectData\109013\Design\Roadway\Sheets\109013_G0001.dgn Sheet 5/12/2021 11:48:57 AM shorr1sb

REF. NO.	SHEET NO.	STATION		SIDE	202				601		606			626	SPECIAL	
		FROM	TO		GUARDRAIL REMOVED				ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER	ROCK CHANNEL PROTECTION, TYPE C WITH AGGREGATE FILTER	GUARDRAIL, TYPE MGS, AS PER PLAN	ANCHOR ASSEMBLY, MGS TYPE A	ANCHOR ASSEMBLY, MGS TYPE T	BARRIER REFLECTOR, TYPE 2, TWO-WAY		MAILBOX SUPPORT SYSTEM, SINGLE
					FT	CU YD	CU YD	FT	EACH	EACH	EACH	EACH	EACH			
E-2	20	347+84	348+08	LT					27							
E-3	20	348+60	348+86	RT					17							
R-1	20	347+59	348+59	LT				102								
R-2	20	347+90	349+20	RT				127								
GR-1	20	348+13	349+69	RT						150	1	2	5			
MB-1	20	348+00		RT										1		
SUBTOTAL																
TOTALS CARRIED TO GENERAL SUMMARY								229	27	17		150	1	2	5	1

ESTIMATED QUANTITIES - S.R. 60

HOL-62/60-5.24/6.60

CALCULATED
SAH
CHECKED
DAH

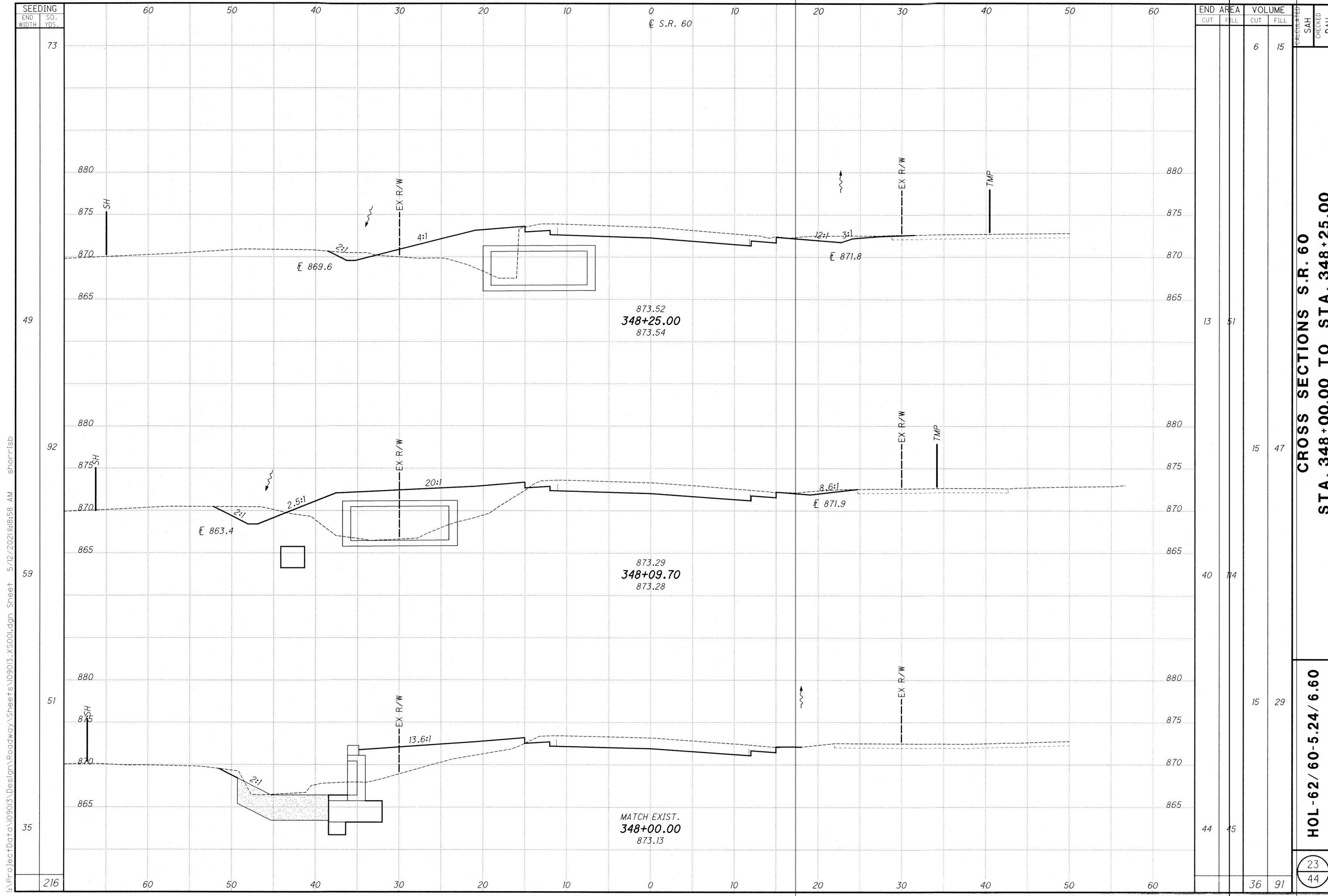


I:\ProjectData\109013\Design\Roadway\Sheets\109013_X5001.dgn Sheet 5/12/2021 11:58 AM shorr:lsb

SEEDING	END WIDTH		SO. YDS.
	END WIDTH	SO. YDS.	
44			
21			
23			
17			
31			
5			
98			

END CUT	AREA FILL	VOLUME		CALCULATED	SAH CHECKED	DAH
		CUT	FILL			
65	10	29	14			
2	8	13	4			
1	0	1	4			
43	22					

CROSS SECTIONS S.R. 60
STA. 347+50.00 TO STA. 347+85.82
HOL-62/60-5.24/6.60
 22
 44



SEEDING
END WIDTH SO. YDS.

73
49
59
51
35
216

60 50 40 30 20 10 0 10 20 30 40 50 60

0 S.R. 60

880 875 870 865

SH

EX R/W

4:1

2:1

869.6

871.8

12:1 3:1

TMP

873.52
348+25.00
873.54

880 875 870 865

SH

EX R/W

20:1

2.5:1

863.4

871.9

8.6:1

TMP

873.29
348+09.70
873.28

880 875 870 865

SH

EX R/W

13.6:1

2:1

871.3

MATCH EXIST.
348+00.00
873.13

880 875 870 865

END	AREA		VOLUME	
	CUT	FILL	CUT	FILL
73			6	15
49	13	51		
59	40	14	15	47
51			15	29
35	44	45		
216	36	91		

CALCULATED
SAH
CHECKED
DAH

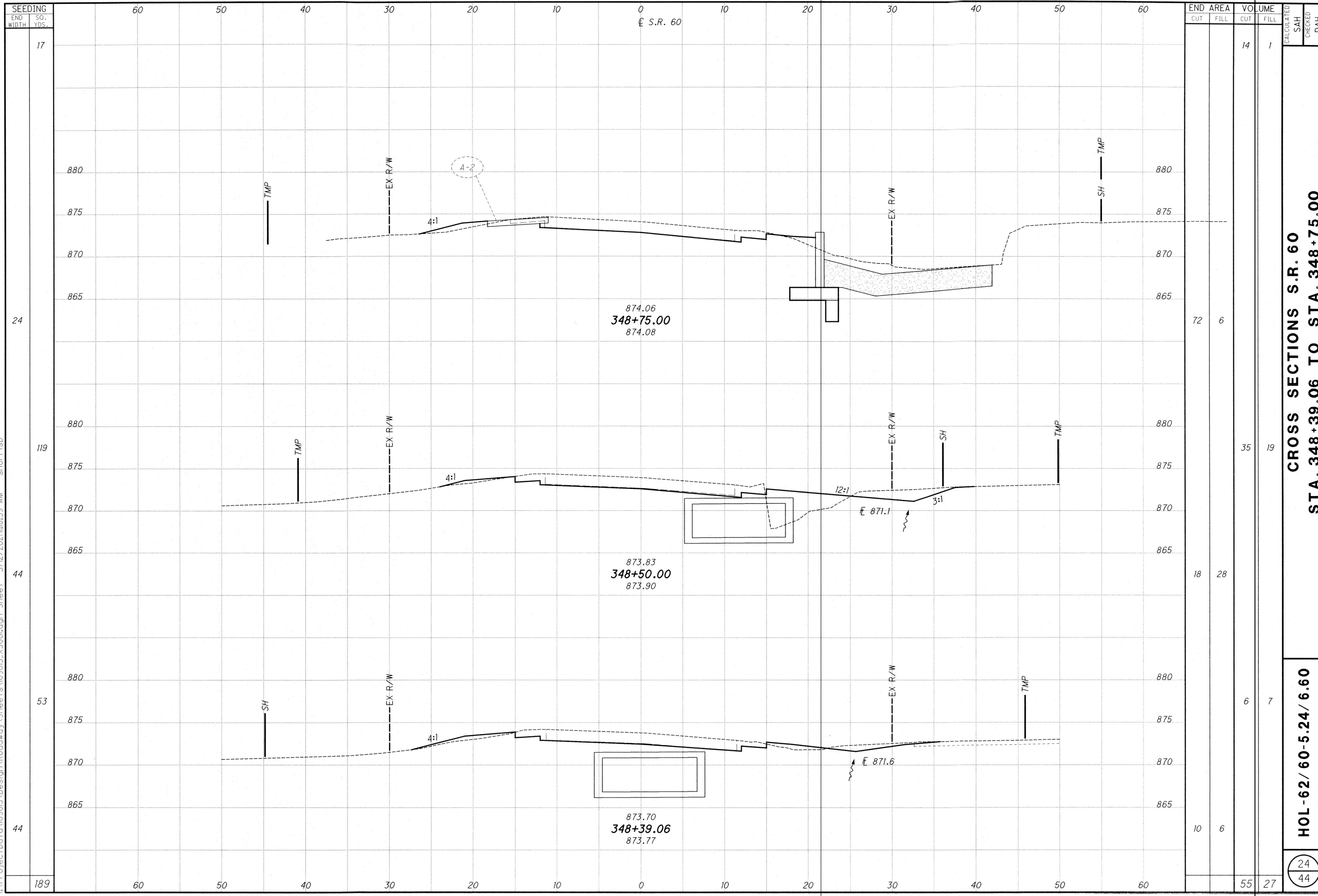
**CROSS SECTIONS S.R. 60
STA. 348+00.00 TO STA. 348+25.00**

HOL-62/60-5.24/6.60

23
44

I:\ProjectData\109013\Design\Roadway\Sheets\109013_X5001.dgn Sheet 5/12/2021 11:58 AM shorrlisb

I:\ProjectData\109013\Design\Roadway\Sheets\109013_X5001.dgn Sheet 5/12/2021 11:18:59 AM shorr\risb

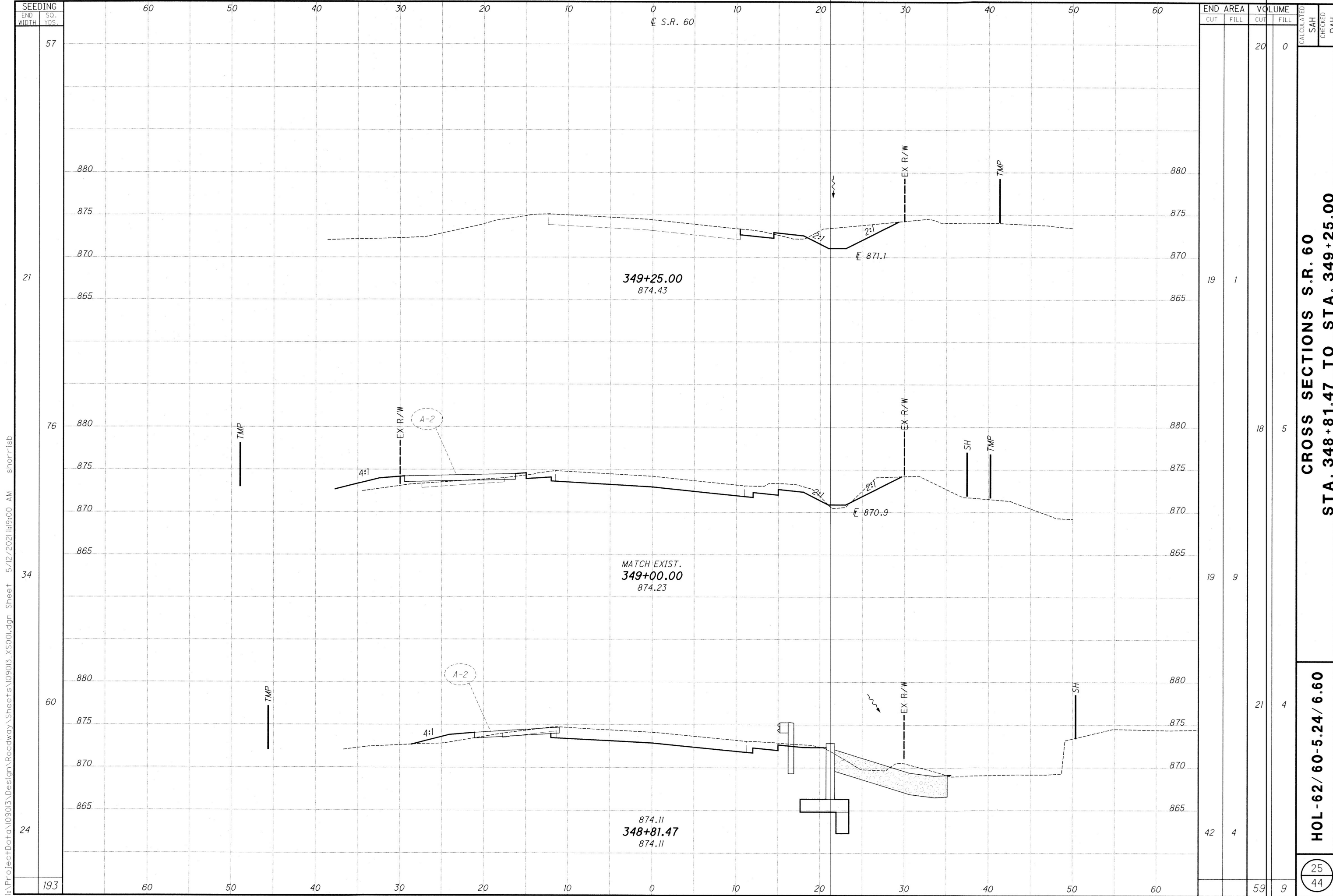


SEEDING END WIDTH	SO. YDS.	END AREA		VOLUME		CALCULATED	SAH CHECKED	DAH
		CUT	FILL	CUT	FILL			
17								
24		72	6					
119		18	28	35	19			
44				6	7			
53		10	6					
44								
189		55	27					

**CROSS SECTIONS S.R. 60
STA. 348+39.06 TO STA. 348+75.00**

HOL-62/60-5.24/6.60

24
44

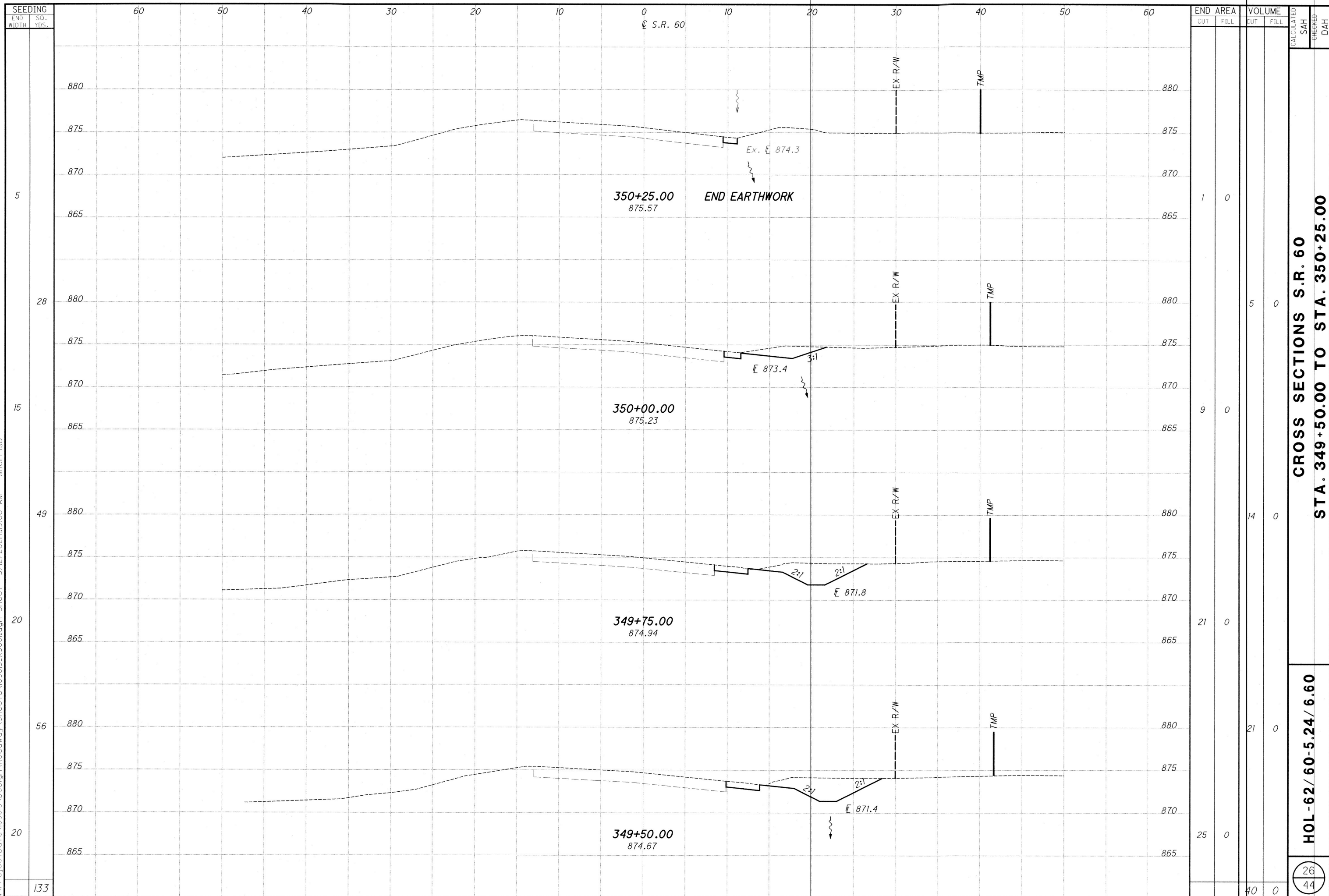


i:\ProjectData\09013\Design\Roadway\Sheets\09013_XS001.dgn Sheet 5/12/2021 11:00 AM shorr:lsb

SEEDING END WIDTH	SO. YDS.	END AREA		VOLUME		CALCULATED SAH	CHECKED DAH
		CUT	FILL	CUT	FILL		
57							
21		19	1				
76		19	9	18	5		
34		19	9				
60		42	4	21	4		
24		59	9				
193							

CROSS SECTIONS S.R. 60
STA. 348+81.47 TO STA. 349+25.00
HOL-62/60-5.24/6.60
 25
 44

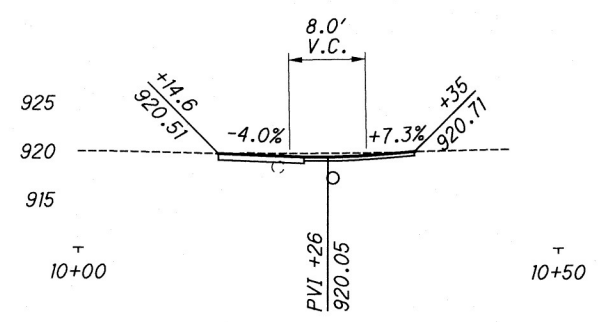
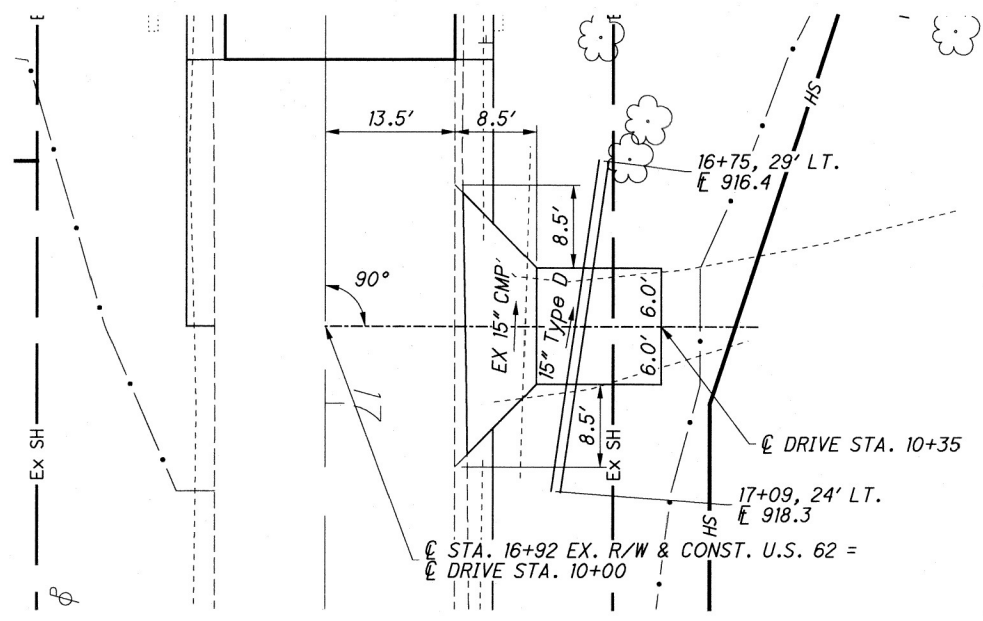
I:\ProjectData\109013\Design\Roadway\Sheets\109013_X500.dgn Sheet 5/12/2021 11:19:00 AM shorr1sb



**CROSS SECTIONS S.R. 60
STA. 349+50.00 TO STA. 350+25.00**

HOL-62/60-5.24/6.60

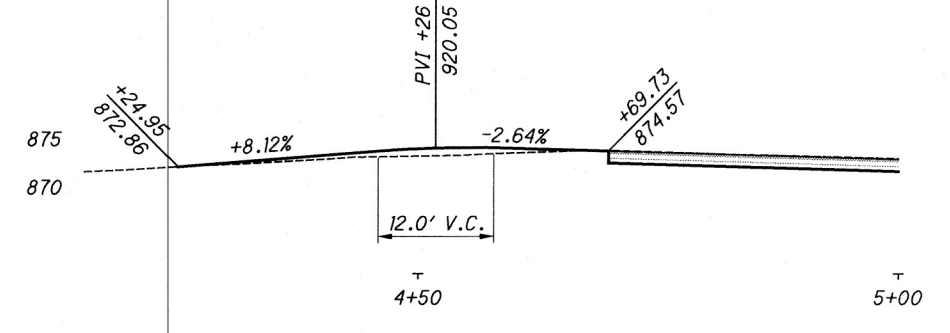
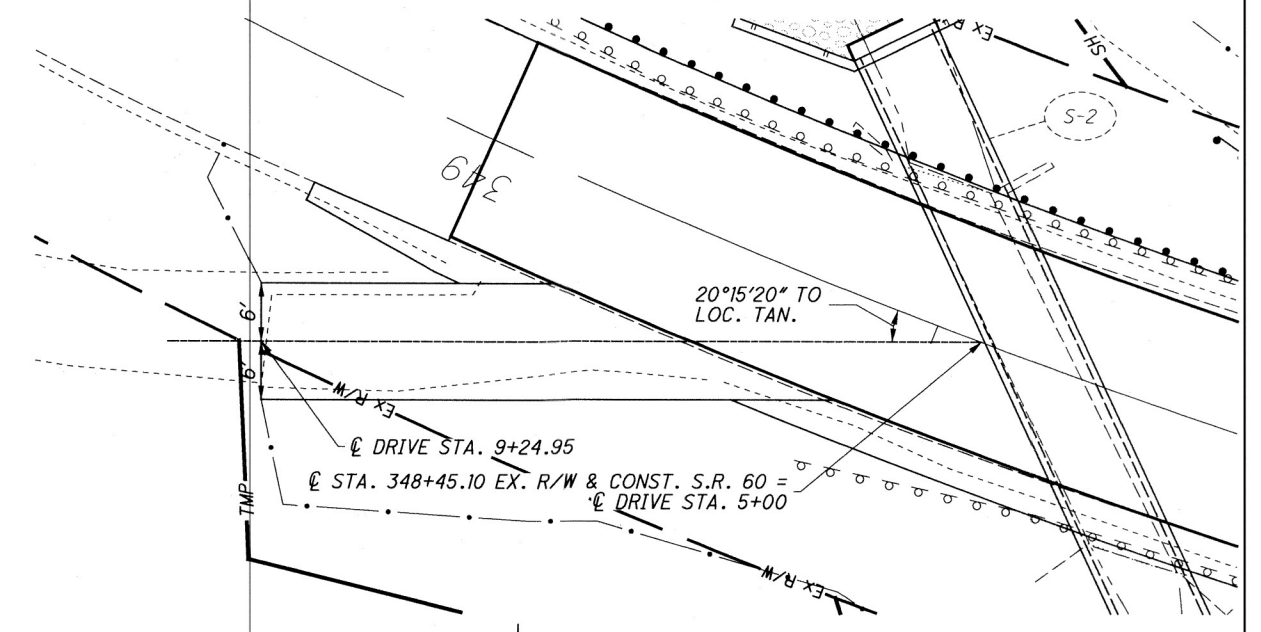
26
44



A-1 STA. 16+92, U.S. 62

ARPON AREA = 144 SF
ASPHALT BUILD-UP

DRIVE AREA = 12 x 13 = 156 SF
AGGREGATE BUILD-UP



A-2 STA. 348+45.10, S.R. 60

DRIVE AREA = 415 SF
ASPHALT BUILD-UP

DRIVE ESTIMATED QUANTITIES

SHEET NO.	REFERENCE NO.	LOCATION	SIDE	PROPOSED MATERIAL	TYPE	WIDTH	FLARE OF RETURNS	CADD GENERATED AREA	202		204	304	407	441	611	
									PAVEMENT REMOVED	PIPE REMOVED, 24" AND UNDER	SUBGRADE COMPACTION	AGGREGATE BASE (6" THICK)	TACK COAT	2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS), AS PER PLAN	15" CONDUIT, TYPE D	
									SQ. FT.	SQ. YD.	FT	SQ. YD.	CU. YD.	GALLON	CU. YD.	FT
14	A-1	16+92	RT	ASPHALT	FIELD	12.0	8.5	144.00		34	16	3	1	1		35
				AGGREGATE				156.00			17					
20	A-2	348+45.10	LT.	ASPHALT	RESIDENTIAL	12.0		539.01	43		60	10	4	3		
TOTALS CARRIED TO GENERAL SUMMARY									43	34	93	13	5	4	35	

DRIVE PAVEMENT BUILD-UP

AGGREGATE BUILD-UP
ITEM 304 - 6" AGGREGATE BASE
ITEM 204 - SUBGRADE COMPACTION

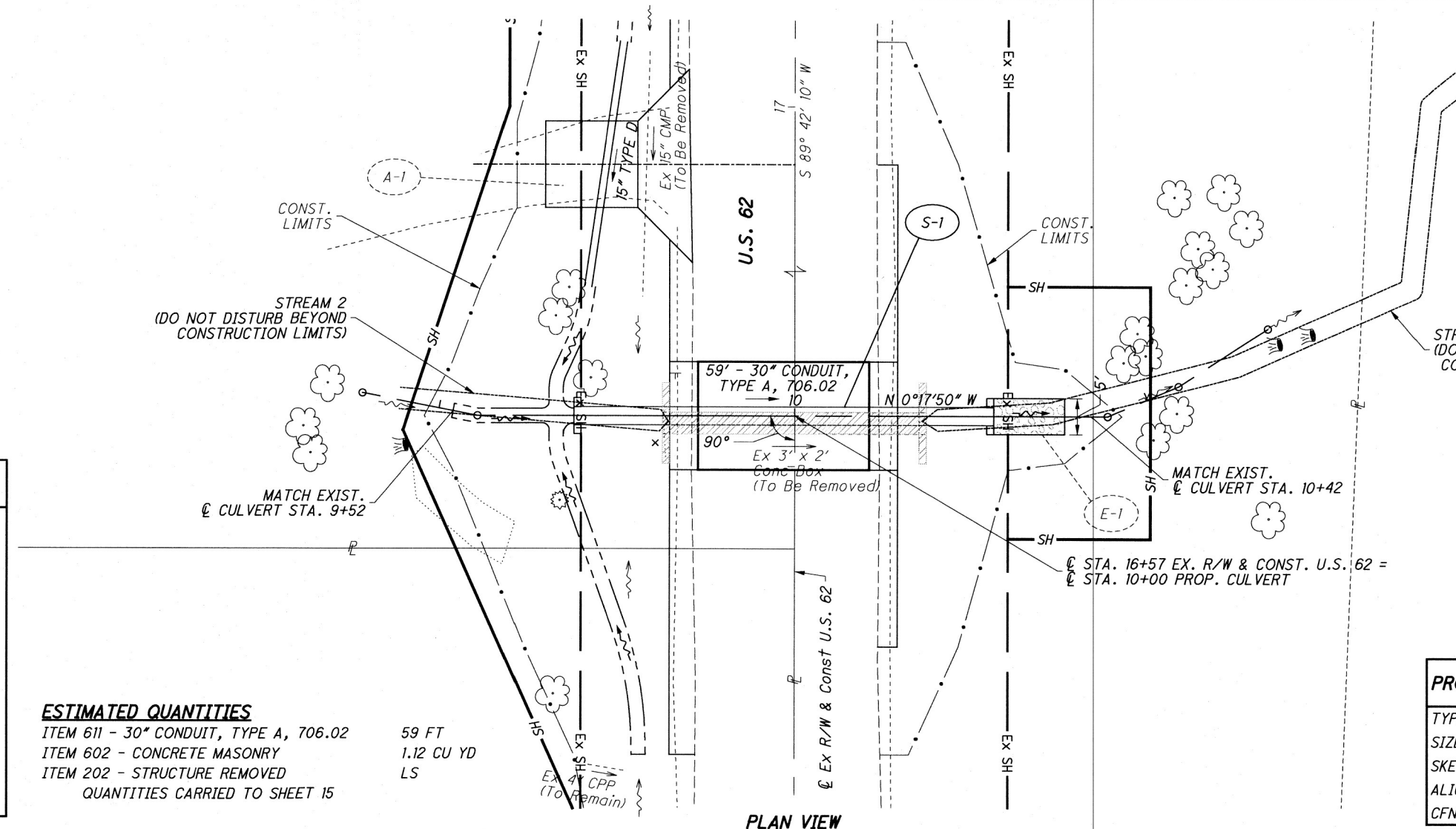
ASPHALT BUILD-UP
ITEM 442 - 2" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS), AS PER PLAN
ITEM 304 - 6" AGGREGATE BASE
ITEM 204 - SUBGRADE COMPACTION

I:\ProjectData\109013\Design\Roadway\Sheets\109013_GD001.dgn Sheet 5/12/2021 11:02 AM shorr1sb

FOR U.S. 62 PLAN AND PROFILE, SEE SHEET 14

HYDRAULIC DESIGN DATA	
Drainage Area	= 42.6 Ac
Q 25	= 33.0 cfs
Q 100	= 41.0 cfs
HW 25	= 918.55
HW 100	= 919.26
V 25	= 8.01 fps
V 100	= 8.35 fps
ORDINARY HIGH WATER MARK (FT)	= 917.7
DESIGN SERVICE LIFE (YEARS)	= 75
Ph	= 8.4
ABRASION LEVEL:	1

ESTIMATED QUANTITIES	
ITEM 611 - 30" CONDUIT, TYPE A, 706.02	59 FT
ITEM 602 - CONCRETE MASONRY	1.12 CU YD
ITEM 202 - STRUCTURE REMOVED	LS
QUANTITIES CARRIED TO SHEET 15	

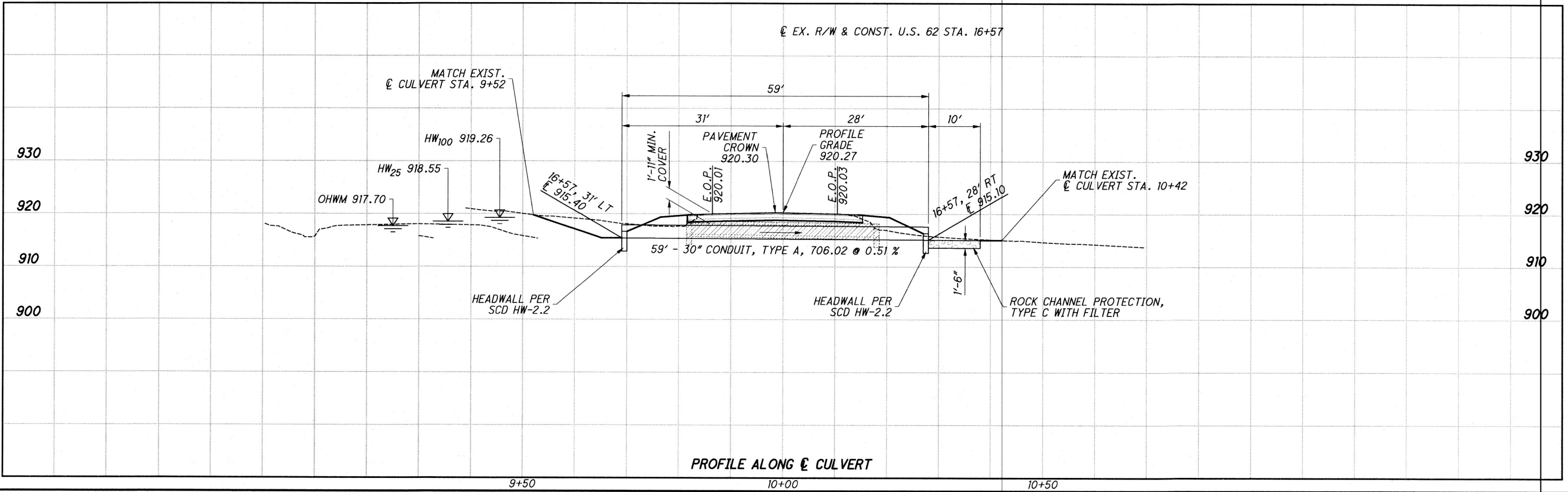


LEGEND	
	STRUCTURE TO BE REMOVED
	ROCK CHANNEL PROTECTION, TYPE C

EXISTING STRUCTURE	
TYPE:	CONCRETE BOX
SIZE:	3' x 2'
SKEW:	NONE
ALIGNMENT:	TANGENT
DATE BUILT:	±1928
CONDITION:	SERIOUS
CFN:	1810533

PROPOSED STRUCTURE	
TYPE:	TYPE A
SIZE:	30"
SKEW:	NONE
ALIGNMENT:	TANGENT
CFN:	1977353

EX. R/W & CONST. U.S. 62 STA. 16+57



PROFILE ALONG CULVERT

I:\ProjectData\109013\Design\Roadway\Sheets\109013.DC002.dgn Sheet 5/12/2021 11:19:04 AM shorr\sb

S-1 - CULVERT DETAIL
 HOL-62-5.24

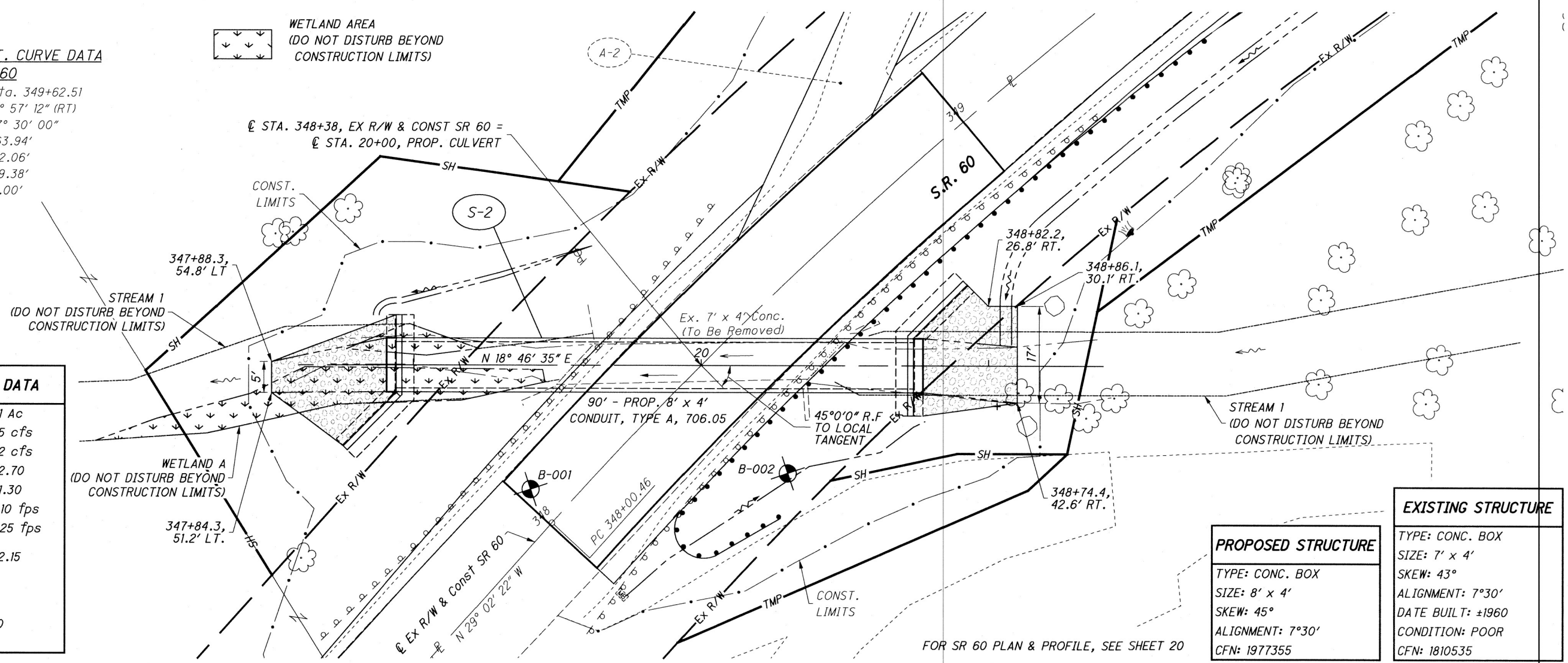
HOL-62/60-5.24/6.60

EXIST. CURVE DATA
S.R. 60
 P.I. Sta. 349+62.51
 $\Delta = 23^\circ 57' 12''$ (RT)
 $D_c = 7^\circ 30' 00''$
 $R = 763.94'$
 $T = 162.06'$
 $L = 319.38'$
 $E = 17.00'$

WETLAND AREA
 (DO NOT DISTURB BEYOND
 CONSTRUCTION LIMITS)

HYDRAULIC DESIGN DATA

Drainage Area	= 461 Ac
Q 10	= 285 cfs
Q 100	= 552 cfs
HW 10	= 872.70
HW 100	= 881.30
V 10	= 13.10 fps
V 100	= 17.25 fps
ORDINARY HIGH WATER MARK (FT)	= 872.15
DESIGN SERVICE LIFE (YEARS)	= 75
Ph	= 7.0
ABRASION LEVEL:	2

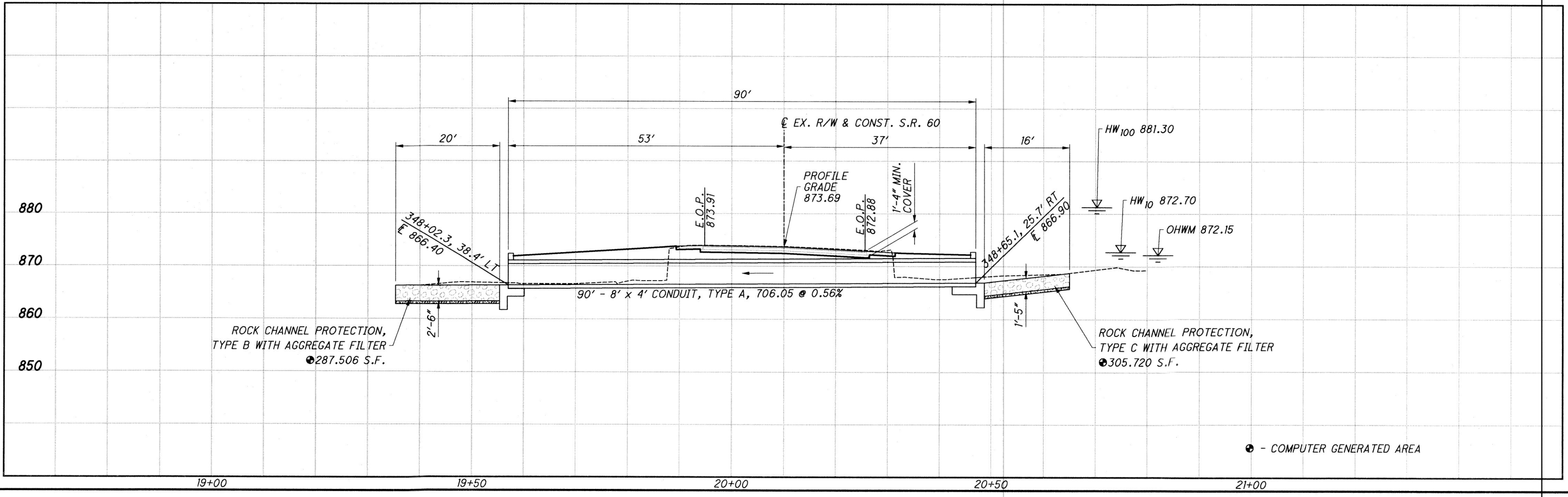


EXISTING STRUCTURE

TYPE: CONC. BOX
 SIZE: 7' x 4'
 SKEW: 43°
 ALIGNMENT: 7°30'
 DATE BUILT: ±1960
 CONDITION: POOR
 CFN: 1810535

PROPOSED STRUCTURE

TYPE: CONC. BOX
 SIZE: 8' x 4'
 SKEW: 45°
 ALIGNMENT: 7°30'
 CFN: 1977355



I:\ProjectData\109013\Design\Roadway\Sheets\109013.DC001.dgn Sheet 5/12/2021 11:05:05 AM shorrifsp

S-2 - CULVERT DETAIL
HOL-60-6.60

CALCULATED: SAH
 CHECKED: DAH

HORIZONTAL SCALE IN FEET

HOL-62/60-5.24/6.60

29
44

DESIGN SPECIFICATIONS:

THIS STANDARD DRAWING CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING THE 2015 & 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN DATA:

THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL, $\phi_{bf} = 30^\circ$
 TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF
 INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL, $\phi_f = 28^\circ$
 UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL, $S_{uf} = 1500$ PSF
 UNIT WEIGHT OF CONCRETE = 150 PCF
 SLOPE OF BACKFILL = 6:1 OR FLATTER
 HEIGHT OF LIVE LOAD SURCHARGE = 2 FT

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (FOOTING, WINGWALL AND FORESLOPE WALL)

REINFORCING STEEL - ASTM A615, A616, OR A617 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI (ALL REINFORCING SHALL BE EPOXY COATED)

BACKFILL LIMITATION:

WHEN THE DESIGN HEIGHT IS GREATER THAN 10 FT, THE BACKFILL BEHIND THE WINGWALLS SHALL NOT BE PLACED HIGHER THAN THE ELEVATION OF THE SOIL ABOVE THE TOE. WHEN THE SOIL ABOVE THE TOE IS AT ITS FINISHED ELEVATION, THE REMAINDER OF THE BACKFILL MAY BE PLACED.

POROUS BACKFILL WITH GEOTEXTILE FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC TYPE A SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEP HOLE.

WEEP HOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEP HOLE SHALL BE PROVIDED PER WINGWALL.

PREFORMED EXPANSION JOINT FILLER:

PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

GENERAL NOTES

SEALING OF FORESLOPE WALL AND WINGWALLS:

ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH EPOXY-URETHANE SEALER. THE LIMITS SHALL BE AS SHOWN IN 'LIMITS OF SEALING CONCRETE SURFACES' DETAIL. PAYMENT FOR THE EPOXY-URETHANE SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.

WATERPROOFING:

TYPE 2 WATERPROOFING, PER CMS 512 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

IF PAVEMENT IS NOT PLACED DIRECTLY ON TOP OF THE CULVERT, TYPE 2 WATERPROOFING, PER CMS 512 AND 711.25 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

IF PAVEMENT IS TO BE USED DIRECTLY ON TOP OF THE CULVERT, TYPE 3 WATERPROOFING, PER CMS 512 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 3 WATERPROOFING.

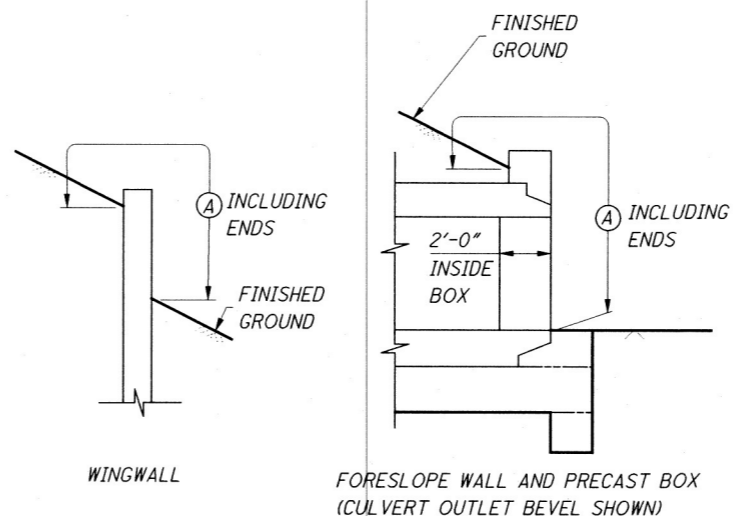
BASIS OF PAYMENT:

ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE CUTOFF WALL, AND WINGWALLS SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING.

ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, FOOTING.

ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FORESLOPE WALL SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, HEADWALL.

PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

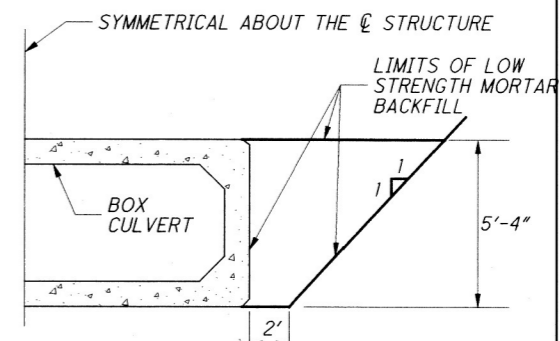


LIMITS OF SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

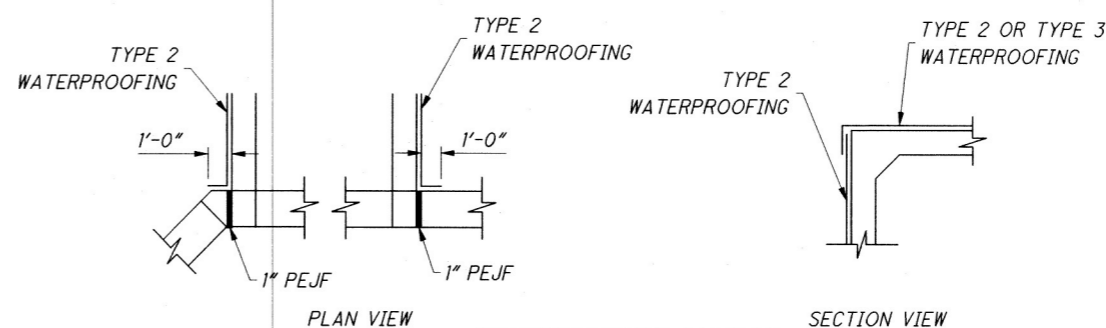
ITEM 611 - 8' X 4' CONDUIT, TYPE A, 706.05, AS PER PLAN

CONSTRUCT THE PROPOSED 8' X 4' BOX CULVERT AS PER ITEM 611. ALL REQUIREMENTS OF 706.05 AND ASTM C 1577 SHALL BE MET. THE 30 DAY WAITING PERIOD PER CMS 611.12 SHALL BE WAIVED. IN LIEU OF THE BACKFILL REQUIREMENTS OF CMS 611.06, PROVIDE LOW STRENGTH MORTAR BACKFILL TO THE LIMITS AS DETAILED ON THIS SHEET.



ITEM 613 - LOW STRENGTH MORTAR BACKFILL

TO BE PLACED FROM END TO END OF POROUS BACKFILL. CALCULATION:
 $(5.33' \times 2) + (0.5 \times 5.33' \times 5.33') = 24.86 \text{ SF} \times 90' = 2237.4 \text{ CU. FT.}$
 $2237.4 \text{ CU. FT.} \div 27 = 82.87 \text{ CU. YD.} \times 2 \text{ SIDED} = 165.74 \text{ CU. YD.}$
 USE 166 CU. YD.



WATERPROOFING DETAILS

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION
202	LS		STRUCTURE REMOVED
503	LS		COFFERDAMS AND EXCAVATION BRACING
503	225	CU. YD.	UNCLASSIFIED EXCAVATION (WINGWALL FOOTING)
509	2813	LB.	EPOXY COATED REINFORCING STEEL
511	7	CU. YD.	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING
511	22	CU. YD.	CLASS QC1 CONCRETE, FOOTING
511	1	CU. YD.	CLASS QC1 CONCRETE, HEADWALL
512	36	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	218	SQ. YD.	TYPE 2 WATERPROOFING
516	26	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	8	CU. YD.	POROUS BACKFILL WITH GEOTEXTILE FABRIC
611	90	FT.	8' x 4' CONDUIT, TYPE A, 706.05, AS PER PLAN (DESIGN COVER < 2')
613	166	CU. YD.	LOW STRENGTH MORTAR BACKFILL
TOTALS CARRIED TO GENERAL SUMMARY			

CULVERT NOTES

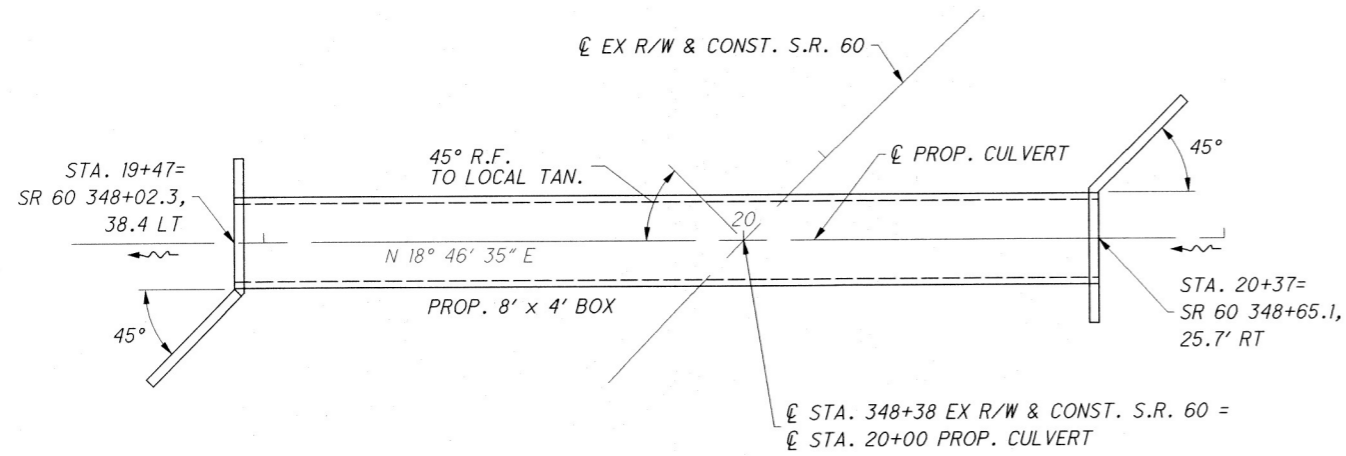
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HOL-62/60-5.24/6.60

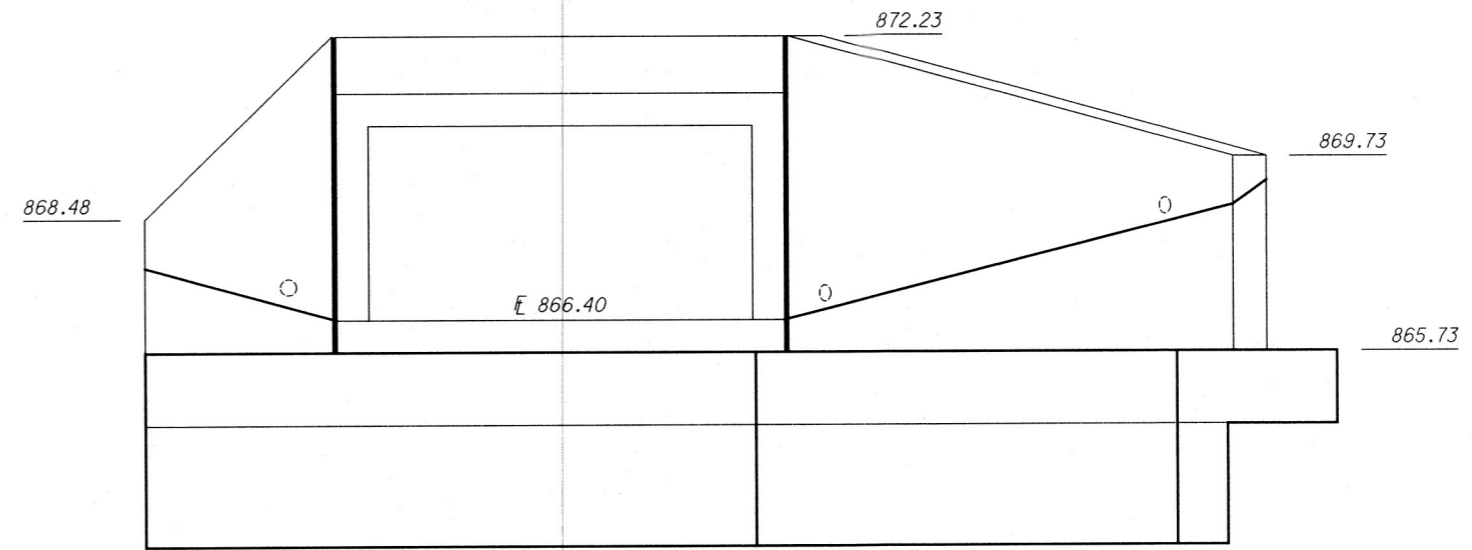
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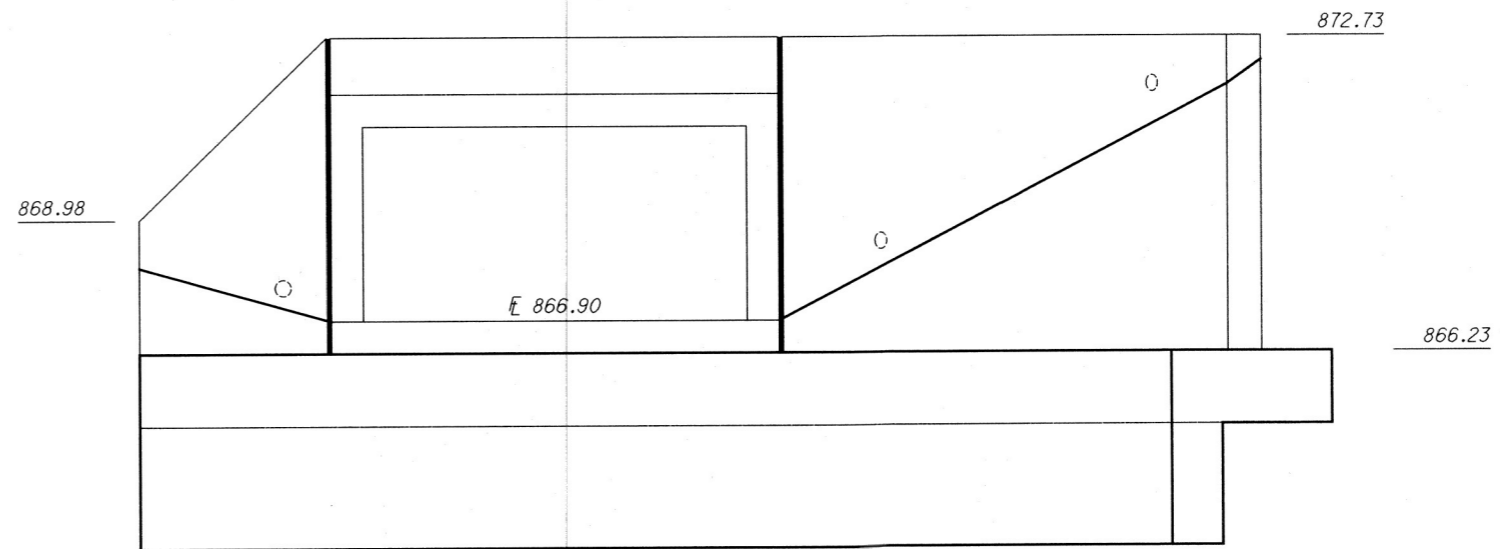
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CULVERT & WINGWALL LAYOUT



OUTLET ELEVATION



INLET ELEVATION

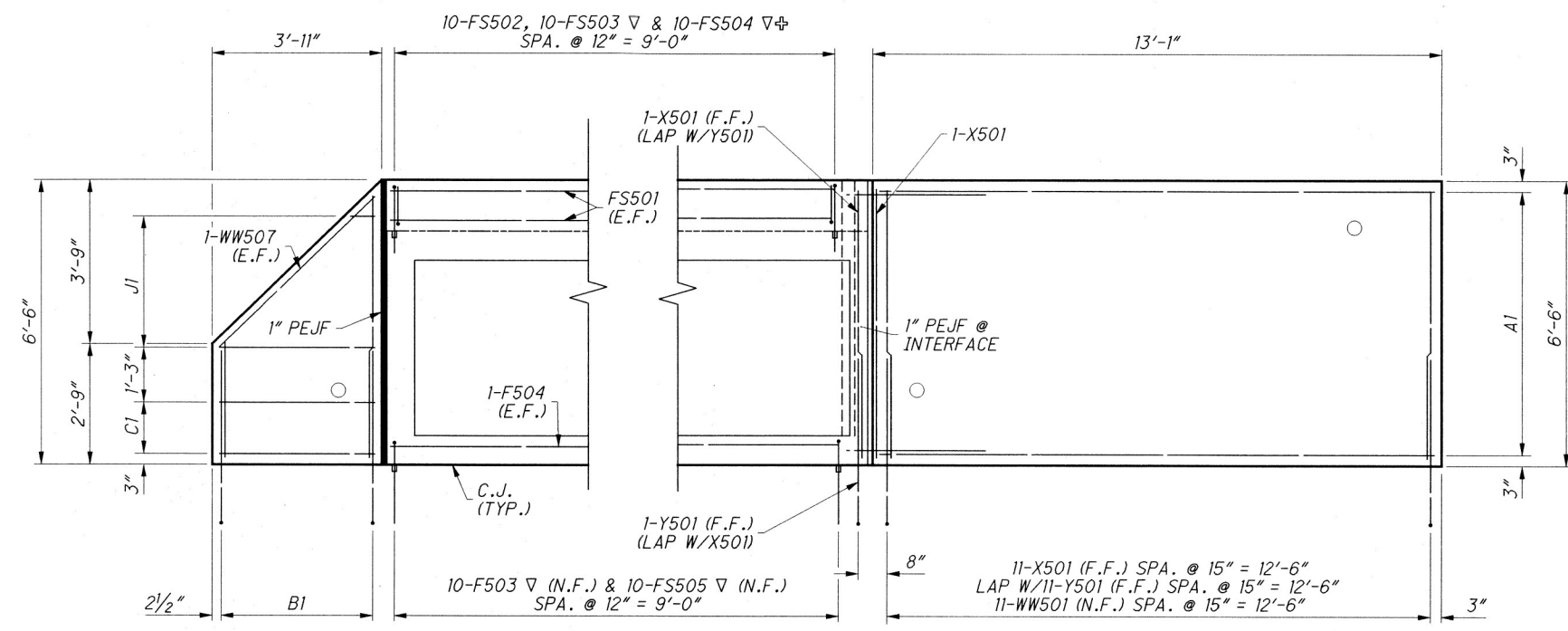
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CULVERT DETAILS

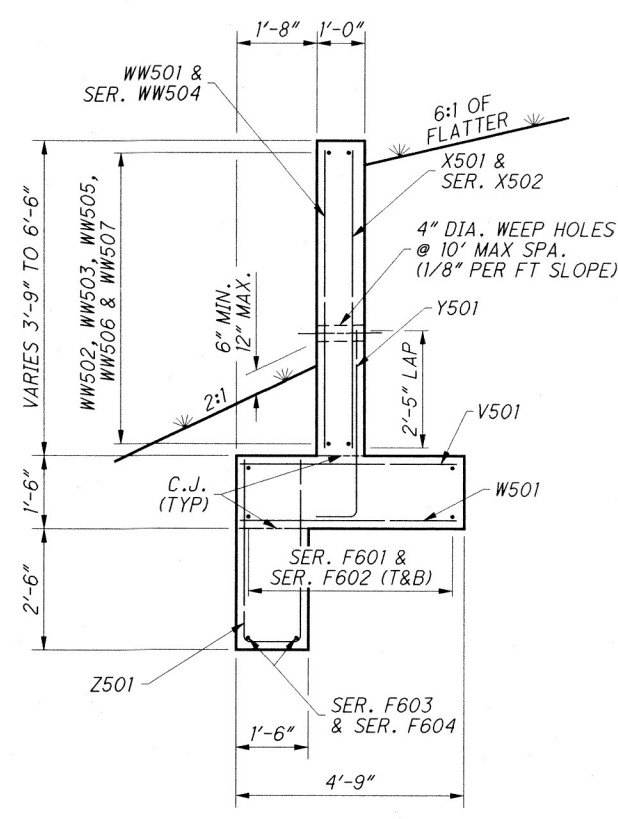
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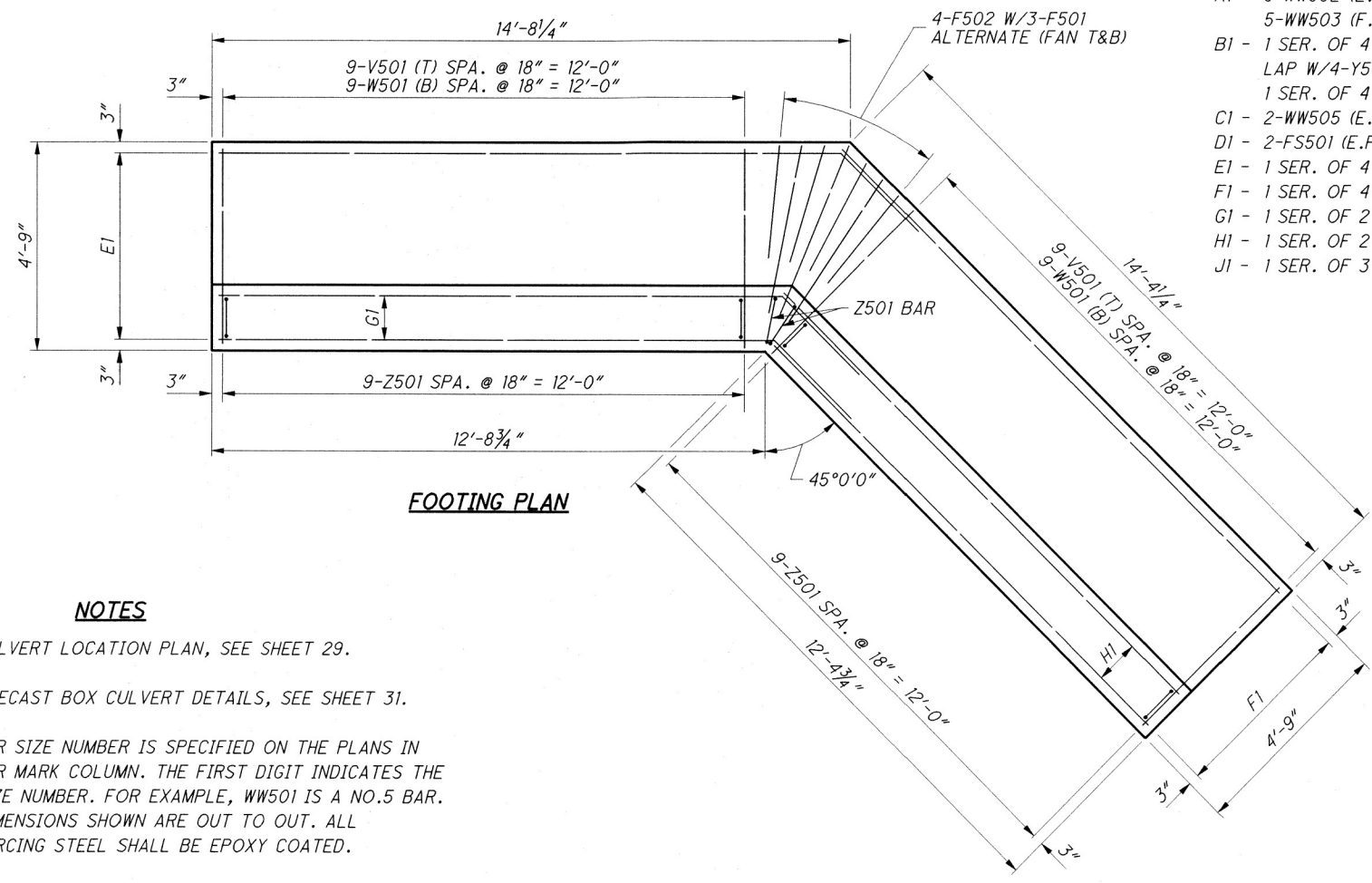
WINGWALL ELEVATION - INLET
(FOOTING NOT SHOWN)



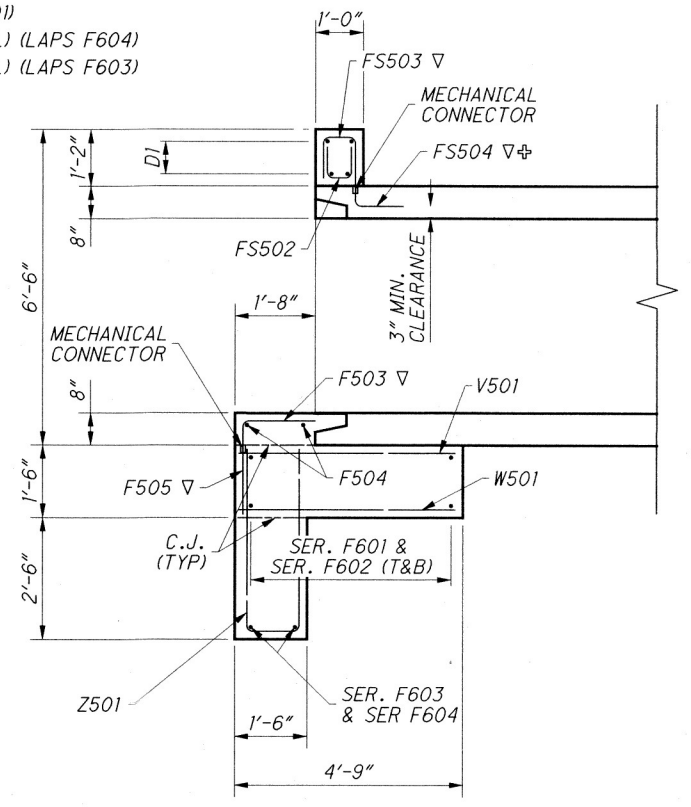
WINGWALL SECTION
(POROUS BACKFILL NOT SHOWN FOR CLARITY)

LEGEND

- A1 - 5-WW502 (E.F.) SPA. @ 18" = 6'-0"
- 5-WW503 (F.F.) SPA. @ 18" = 6'-0" (CORNER BAR)
- B1 - 1 SER. OF 4 - X502 (F.F.) SPA. @ 14" = 3'-6"
- LAP W/4-Y501 (F.F.) SPA. @ 14" = 3'-6"
- 1 SER. OF 4 - WW504 (N.F.) SPA. @ 14" = 3'-6"
- C1 - 2-WW505 (E.F.) SPA. @ 15" = 1'-2"
- D1 - 2-FS501 (E.F.) SPA. @ 10" = 10"
- E1 - 1 SER. OF 4 - F601 (T&B) SPA. @ 17" = 4'-3" (LAPS F602)
- F1 - 1 SER. OF 4 - F602 (T&B) SPA. @ 17" = 4'-3" (LAPS F601)
- G1 - 1 SER. OF 2 - F603 SPA. @ 1'-0" = 1'-0" (CUT OFF WALL) (LAPS F604)
- H1 - 1 SER. OF 2 - F604 SPA. @ 1'-0" = 1'-0" (CUT OFF WALL) (LAPS F603)
- J1 - 1 SER. OF 3 - WW506 (E.F.) SPA. @ 1'-6" = 3'-0"



FOOTING PLAN



WINGWALL SECTION
(CULVERT INLET BEVEL SHOWN)

NOTES

1. FOR CULVERT LOCATION PLAN, SEE SHEET 29.
2. FOR PRECAST BOX CULVERT DETAILS, SEE SHEET 31.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, WW501 IS A NO.5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
4. THE LAP SPLICE LENGTHS USED IN THESE DETAILS ARE AS FOLLOWS:
2'-5" FOR #5 BARS
2'-11" FOR #6 BARS

▽ - DENOTES BARS WITH MECHANICAL CONNECTOR ON ONE END. THE CONTRACTOR MAY USE THREADED INSERTS WITH A MINIMUM PULLOUT STRENGTH EQUAL TO 60 KSI AS AN ALTERNATIVE TO THE MECHANICAL CONNECTOR.
⊕ - SHOWN FOR INFORMATION ONLY. INCLUDE WITH ITEM 611 FOR PAYMENT.

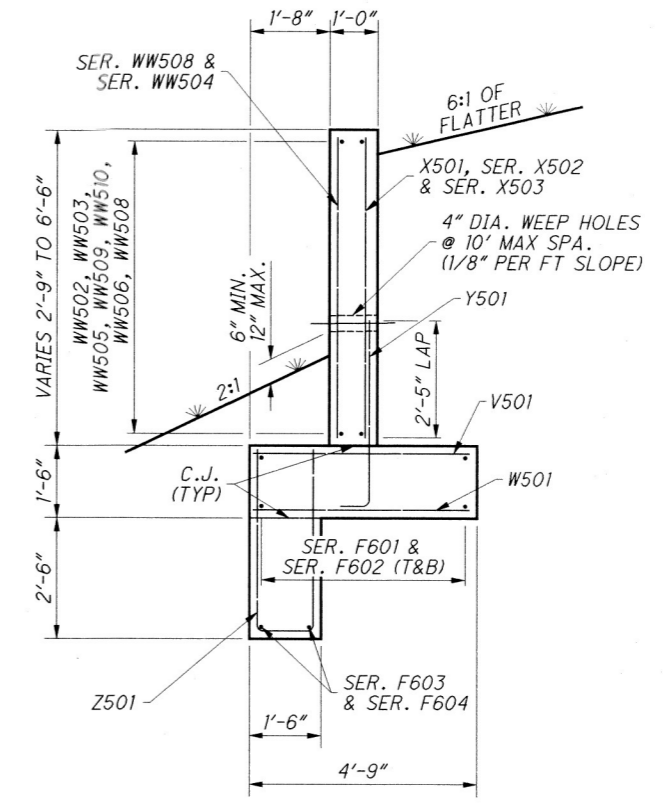
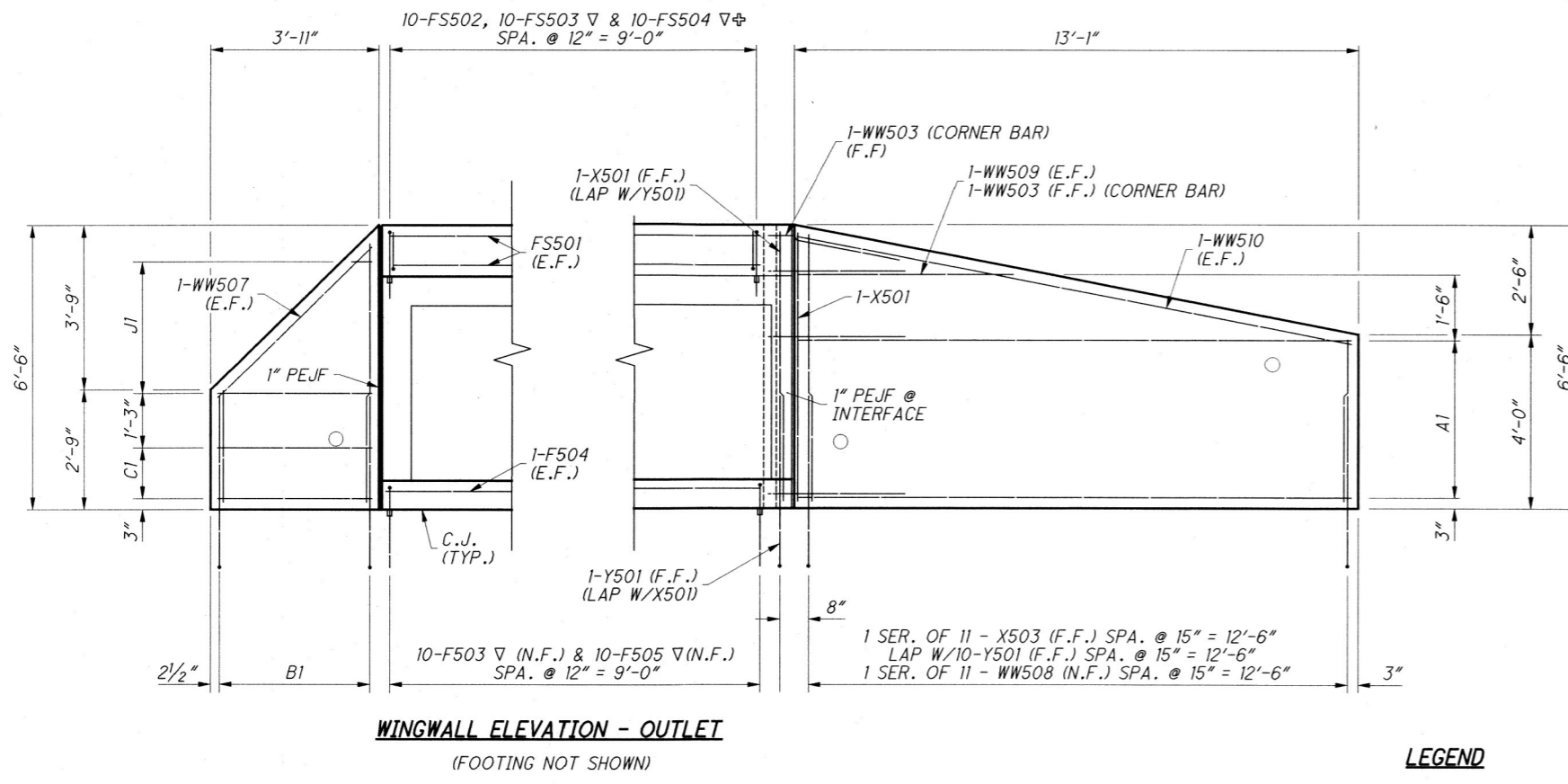
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OUTLET WINGWALL DETAILS

S-2

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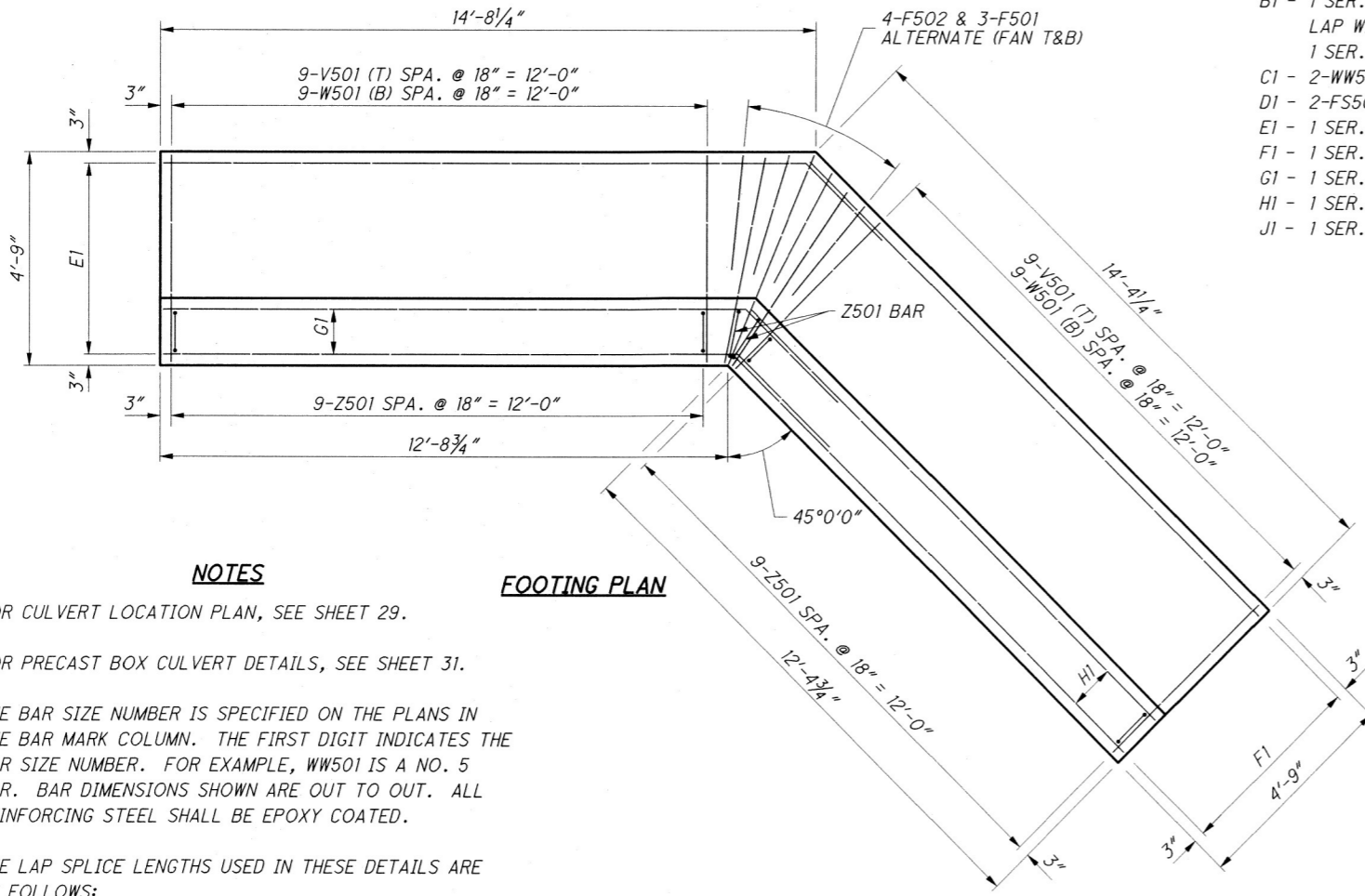
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WINGWALL ELEVATION - OUTLET
(FOOTING NOT SHOWN)

WINGWALL SECTION
(POROUS BACKFILL NOT SHOWN FOR CLARITY)

- LEGEND**
- A1 - 4-WW502 (E.F.) SPA. @ 15" = 3'-9"
 - 4-WW503 (F.F.) SPA. @ 15" = 3'-9" (CORNER BAR)
 - B1 - 1 SER. OF 4 - X502 (F.F.) SPA. @ 14" = 3'-6"
 - LAP W/4-Y501 (F.F.) SPA. @ 14" = 3'-6"
 - 1 SER. OF 4 - WW504 (N.F.) SPA. @ 14" = 3'-6"
 - C1 - 2-WW505 (E.F.) SPA @ 15" = 1'-2"
 - D1 - 2-F5501 (E.F.) SPA. @ 10" = 10"
 - E1 - 1 SER. OF 4 - F601 (T&B) SPA. @ 17" = 4'-3" (LAPS F602)
 - F1 - 1 SER. OF 4 - F602 (T&B) SPA. @ 17" = 4'-3" (LAPS F601)
 - G1 - 1 SER. OF 2 - F603 SPA. @ 1'-0" = 1'-0" (CUT OFF WALL) (LAPS F604)
 - H1 - 1 SER. OF 2 - F604 SPA. @ 1'-0" = 1'-0" (CUT OFF WALL) (LAPS F603)
 - J1 - 1 SER. OF 3 - WW506 (E.F.) SPA. @ 1'-6" = 3'-0"

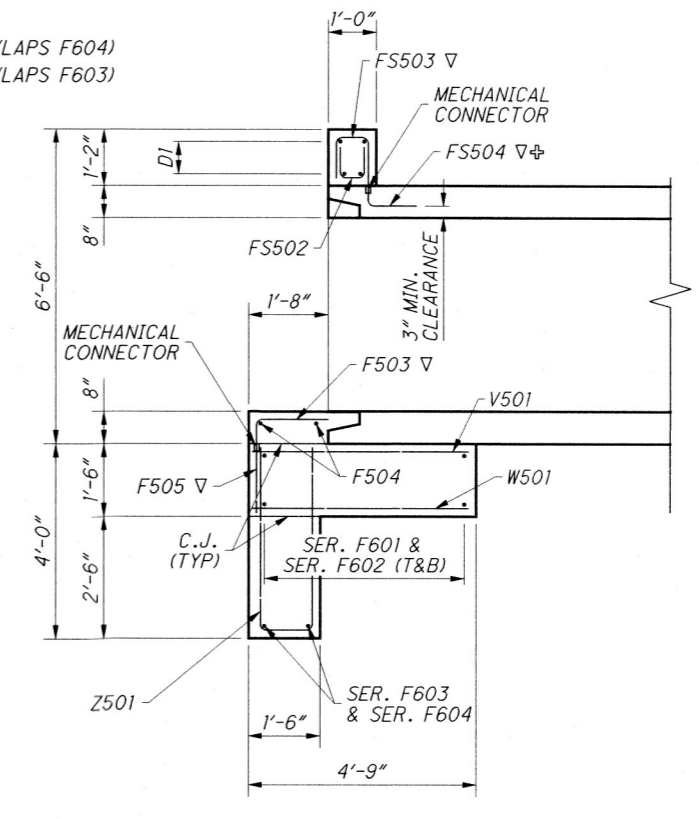


FOOTING PLAN

- NOTES**
1. FOR CULVERT LOCATION PLAN, SEE SHEET 29.
 2. FOR PRECAST BOX CULVERT DETAILS, SEE SHEET 31.
 3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, WW501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
 4. THE LAP SPLICE LENGTHS USED IN THESE DETAILS ARE AS FOLLOWS:
2'-5" FOR #5 BARS
2'-11" FOR #6 BARS

∇ - DENOTES BARS WITH MECHANICAL CONNECTOR ON ONE END. THE CONTRACTOR MAY USE THREADED INSERTS WITH A MINIMUM PULLOUT STRENGTH EQUAL TO 60 KSI AS AN ALTERNATIVE TO THE MECHANICAL CONNECTOR.

⊕ - SHOWN FOR INFORMATION ONLY. INCLUDE WITH ITEM 611 FOR PAYMENT.



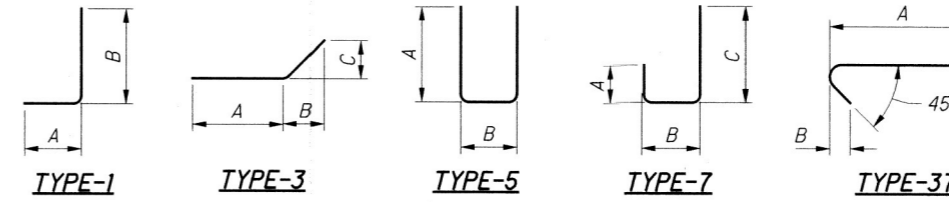
WINGWALL SECTION
(CULVERT INLET BEVEL SHOWN)

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HEADWALL SCHEDULE

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSION				
	INLET	OUTLET	TOTAL				A	B	C	D	E
WINGWALLS											
X501	13	2	15	6' - 2"	96	STR.					
X502	1	1	8	2' - 6"	35	STR.					1' - 2"
	S.O.	S.O.		TO							
X503	4	4	10	6' - 0"	51	STR.					0' - 3"
	1	S.O.		3' - 8"							
	10			TO							
Y501	16	16	32	4' - 4"	145	1	0' - 10"	3' - 11"			
WW501	11		11	6' - 2"	71	STR.					
WW502	11	8	19	12' - 9"	253	STR.					
WW503	5	6	11	3' - 3"	37	37	2' - 11"	0' - 6"			
WW504	1	1	8	2' - 6"	35	STR.					1' - 2"
	S.O.	S.O.		TO							
WW505	4	4	8	6' - 0"	30	STR.					
	4	4		3' - 7"							
WW506	2	2	12	0' - 7"	26	STR.					1' - 6"
	S.O.	S.O.		TO							
	3	3		3' - 7"							
WW507	2	2	4	5' - 0"	21	STR.					
WW508		1	10	3' - 8"	51	STR.					0' - 3"
		S.O.		TO							
WW509		2	2	6' - 2"	10	STR.					
		2		5' - 0"							
WW510		2	2	15' - 3"	32	3	2' - 5"	2' - 4"	12" - 9"		
FOOTING & CUTOFF WALL											
V501	18	18	36	4' - 5"	166	STR.					
W501	18	18	36	4' - 5"	166	STR.					
Z501	20	20	40	7' - 11"	330	5	3' - 7"	1' - 0"			
F501	6	6	12	3' - 11"	49	STR.					
F502	8	8	16	2' - 11"	49	STR.					
F503 ▽	10	10	20	1' - 9"	37	1	0' - 5"	1' - 6"			
F504	2	2	4	9' - 0"	38	STR.					
F505 ▽	10	10	20	1' - 4"	28	STR.					
F601	2	2	16	15' - 9"	397	3	12' - 10'	2' - 1"	2' - 1"		0' - 7"
	S.O.	S.O.		TO							
F602	4	4	16	17' - 3"	316	STR.					0' - 8"
	S.O.	S.O.		TO							
F603	2	2	4	12' - 2"	95	3	12' - 8'	2' - 1"	2' - 1"		0' - 5"
	S.O.	S.O.		TO							
F604	1	1	4	15' - 7"	75	STR.					0' - 5"
	S.O.	S.O.		TO							
	2	2		14' - 2"							
	4	4		17' - 3"							
	2	2		12' - 2"							
	4	4		14' - 2"							
	1	1		15' - 7"							
	2	2		16' - 0"							
	1	1		12' - 2"							
	2	2		12' - 10"							
FORESLOPE WALL											
FS501	4	4	8	9' - 0"	75	STR.					
FS502	10	10	20	2' - 1"	43	5	0' - 10"	0' - 8"	0' - 10"		
FS503 ▽	10	10	20	2' - 8"	56	7	0' - 10"	0' - 8"	1' - 0"		
FOR INFORMATION ONLY - CARRIED WITH ITEM 611											
FS504 ▽⊕	10	10	20	2' - 8"	56	1	0' - 5"	1' - 0"			
TOTAL WEIGHT					2,813						



▽ - DENOTES BARS WITH MECHANICAL CONNECTOR ON ONE END. THE CONTRACTOR MAY USE THREADED INSERTS WITH A MINIMUM PULLOUT STRENGTH EQUAL TO 60 KSI AS AN ALTERNATIVE TO THE MECHANICAL CONNECTOR.

⊕ - SHOWN FOR INFORMATION ONLY. INCLUDE WITH ITEM 611 FOR PAYMENT.

CALCULATED SAH	CHECKED DAH
CULVERT DETAIL	
HOL-62/60-5.24/6.60	
34 44	