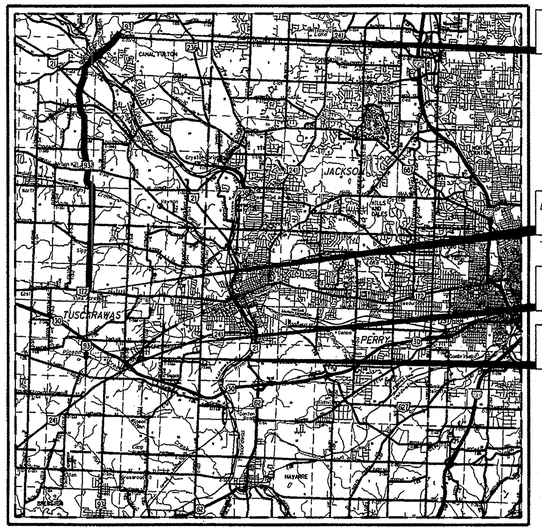


END PAVING
SLM: 19.25

BEGIN PAVING
SLM: 11.71

SLM: 10.03

SLM: 9.94

LOCATION MAP

LATITUDE: N40°50'23" LONGITUDE: W81°36'23"

SCALE IN MILES
0 2 4 6 8

N

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

DESIGN DESIGNATION

	10.03	11.87	16.70
CURRENT ADT (2009)	3400	5500	3700
DESIGN YEAR ADT (2029)	4400	7100	4700
DESIGN HOURLY VOLUME (2029)	484	710	517
DIRECTIONAL DISTRIBUTION	60%	60%	60%
TRUCKS (24 HOUR B&C)	7%	9%	11%
DESIGN SPEED	60	60	60
LEGAL SPEED	55	55	55

DESIGN FUNCTIONAL CLASSIFICATION:

URBAN PRINCIPAL ARTERIAL SLM: 11.71 TO 12.96 & 17.65 TO 19.25

RURAL MINOR ARTERIAL SLM: 9.94, 10.03, & 12.96 TO 17.65

NHS PROJECT NO

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:
ODOT - DISTRICT 4 PRODUCTION
2088 SOUTH ARLINGTON ROAD
AKRON, OHIO 44306

ENGINEERS SEAL:

STATE OF OHIO
THOMAS J POWELL
E-61151
REGISTERED
PROFESSIONAL ENGINEER

SIGNED:
DATE: 02/04/09

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

STA-93-(9.94)
(10.03)(11.71)

CITY OF CANAL FULTON

LAWRENCE TOWNSHIP
TUSCARAWAS TOWNSHIP
STARK COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

IMPROVEMENT OF 7.54 MILES OF SR 93 BY PLANING AND RESURFACING, INCLUDING CURB RAMPS, GUARDRAIL, MINOR STRUCTURE WORK, 2 STRUCTURE REPLACEMENTS, AND 1 CULVERT REPLACEMENT.

STA-93-10.03	
PROJECT EDA:	0.65 ACRES
ESTIMATED CONTRACTOR EDA:	0.25 ACRES
NOTICE OF INTENT EDA:	N/A (NOI NOT REQUIRED)
STA-93-11.87	
PROJECT EDA:	0.83 ACRES
ESTIMATED CONTRACTOR EDA:	0 ACRES
NOTICE OF INTENT EDA:	N/A (NOI NOT REQUIRED)
STA-93-16.70	
PROJECT EDA:	0.46 ACRES
ESTIMATED CONTRACTOR EDA:	0 ACRES
NOTICE OF INTENT EDA:	N/A (NOI NOT REQUIRED)

2008 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS 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 SHEETS 13-17.

APPROVED Eric M. Zotti
DATE 2-4-09 DISTRICT DEPUTY DIRECTOR

APPROVED JoAnne M. Bolitho Jr.
DATE 2-11-09 DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	10/19/07	MT-97.12	9/05/06			
BP-4.1	7/16/04	MT-99.20	1/16/09			
BP-7.2	1/19/07	MT-105.10	10/18/02			
		MT-105.11	10/18/02			
DM-4.3	7/19/02					
DM-4.4	7/19/02	TC-42.20	7/16/04			
		TC-65.10	1/21/05			
GR-1.1	7/16/04	TC-65.11	1/21/05			
GR-2.1	1/16/04	TC-71.10	1/19/07			
GR-3.4	1/20/06	TC-73.10	1/19/01			
GR-4.2	1/19/07					
DS-1-92	7/18/03					
MT-35.10	4/20/01					
MT-95.50	9/05/06					

SUPPLEMENTAL SPECIFICATIONS

800-2008	1/16/09
802	10/20/08
832	4/25/06
843	7/18/03

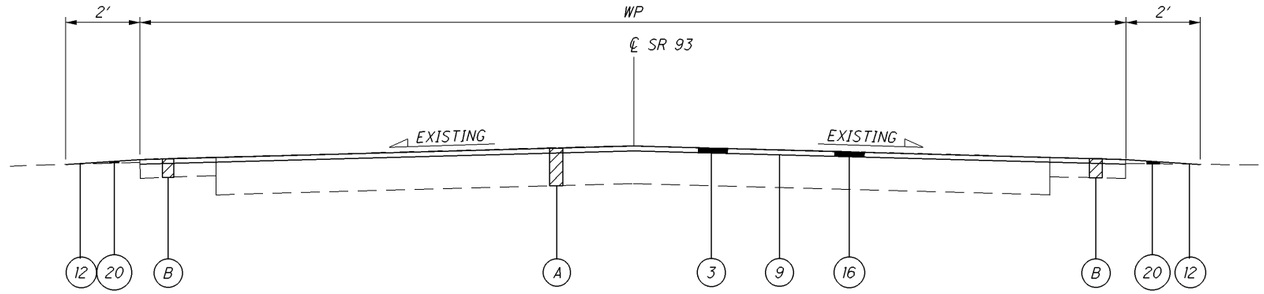
SPECIAL PROVISIONS

NWP #3	2/4/09

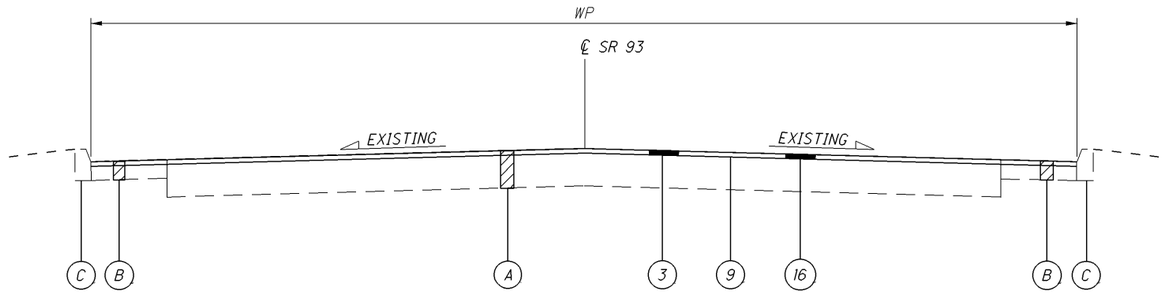
FEDERAL PROJECT NO. E071 (116)
PID NO. 83320
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NORFOLK SOUTHERN R J CORMAN
STA-93-(9.94) (10.03)(11.71)
1 / 73

STA - SR-93-(9.94)(10.03)(11.71)
090260 PID - 83320
Dist 4 4/29/2009

I:\Projects\STA\83320\roadway\sheets\83320GT001.dgn 04-FEB-2009



SECTION APPLIES			
SLM		LENTH	WP
FROM	TO	(MILES)	(FEET)
11.71	13.09	1.38	26
17.65	17.76	0.11	36
17.76	17.77	0.01	30
18.67	19.25	0.58	27
	TOTAL	2.08	



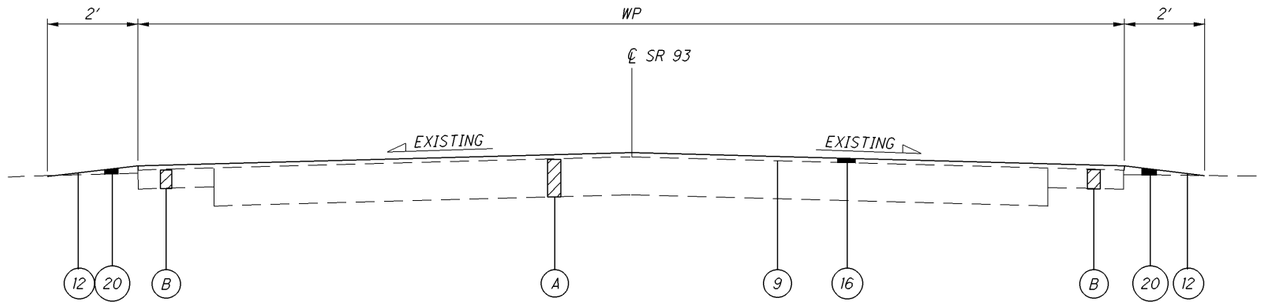
SECTION APPLIES			
SLM		LENTH	WP
FROM	TO	(MILES)	(FEET)
17.77	18.11	0.34	30
18.12	18.16	0.04	30
18.20	18.22	0.02	30
18.22	18.31	0.09	36
18.31	18.67	0.36	30
	TOTAL	0.49	

(1) NOT USED
(2) 204, SUBGRADE COMPACTION
(3) 254, PAVEMENT PLANING, ASPHALT CONCRETE (T = 1 ½")
(4) 254, PAVEMENT PLANING, ASPHALT CONCRETE (T = 3")
(5) 301, ASPHALT CONCRETE BASE, PG64-22 (T = 8")
(6) 301, ASPHALT CONCRETE BASE, PG64-22 (T = 9")
(7) 301, ASPHALT CONCRETE BASE, PG64-22 (VARIABLE THICKNESS)
(8) 304, AGGREGATE BASE, AS PER PLAN (T = 6")
(9) 407, TACK COAT @ 0.15 GAL/SY
(10) 407, TACK COAT FOR INTERMEDIATE COURSE @ 0.10 GAL/SY
(11) 407, TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY
(12) 408, PRIME COAT, AS PER PLAN
(13) 422, SINGLE CHIP SEAL
(14) 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T = 1 3/4")
(15) 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T = 1 1/2")
(16) 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M (T = 1 1/2")
(17) 512, TYPE 3 WATERPROOFING
(18) 605, 4" SHALLOW PIPE UNDERDRAIN
(19) 606, GUARDRAIL, TYPE 5
(20) 617, COMPACTED AGGREGATE, AS PER PLAN
(21) 659, SEEDING AND MULCHING

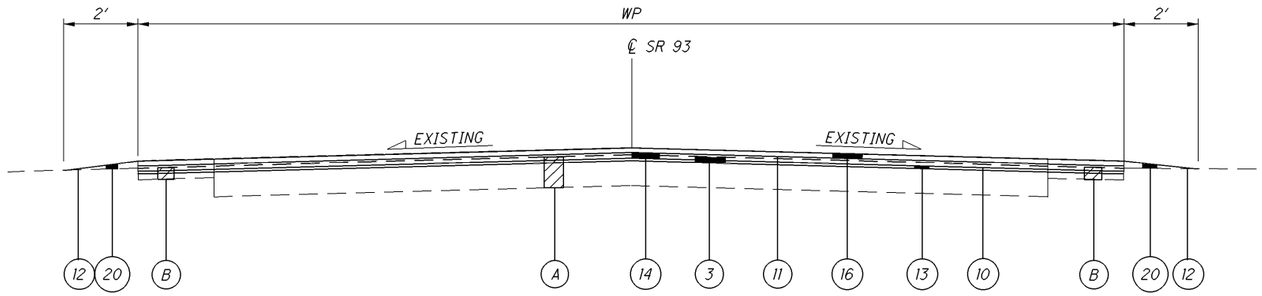
(A) EXISTING ASPHALT CONCRETE PAVEMENT
(B) EXISTING AGGREGATE BASE
(C) EXISTING ASPHALT CONCRETE BASE
(D) EXISTING GUARDRAIL
(E) EXISTING CURB

TYPICAL SECTIONS

STA-93-(9.94)
(10.03)(11.71)



SECTION APPLIES			
SLM		LENTH	WP
FROM	TO	(MILES)	(FEET)
13.09	14.25	1.16	26
	TOTAL	1.16	

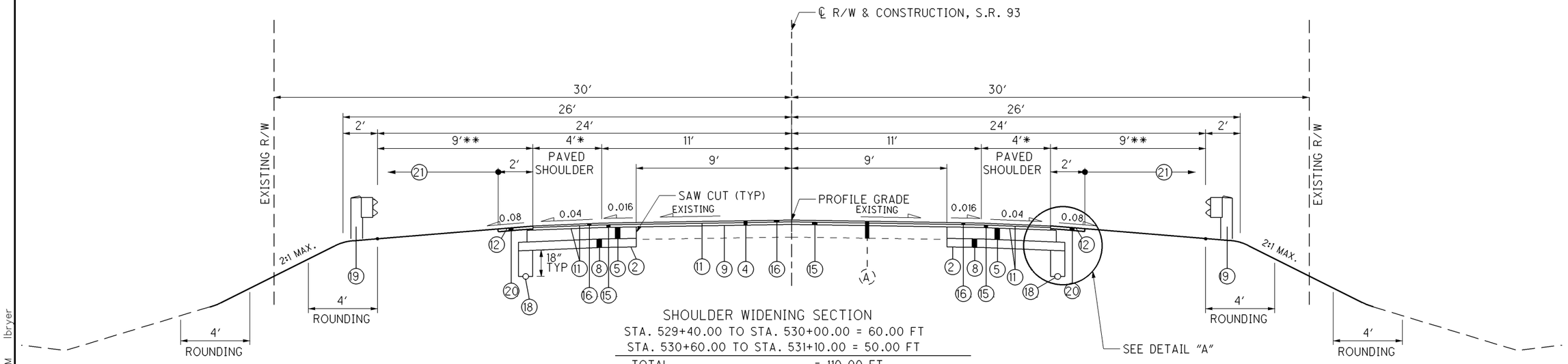


SECTION APPLIES			
SLM		LENTH	WP
FROM	TO	(MILES)	(FEET)
14.25	14.42	0.17	25
14.44	14.45	0.01	25
14.46	16.39	1.93	25
16.41	17.06	0.65	25
17.06	17.23	0.17	45
17.30	17.40	0.10	45
17.40	17.65	0.25	25
	TOTAL	2.76	

* FOR LEGEND SEE SHEET 2

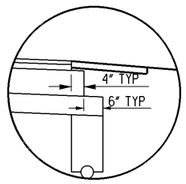
TYPICAL SECTIONS

STA-93-(9.94)
(10.03)(11.71)



SHOULDER WIDENING SECTION

STA. 529+40.00 TO STA. 530+00.00 = 60.00 FT
STA. 530+60.00 TO STA. 531+10.00 = 50.00 FT
TOTAL = 110.00 FT



DETAIL "A"

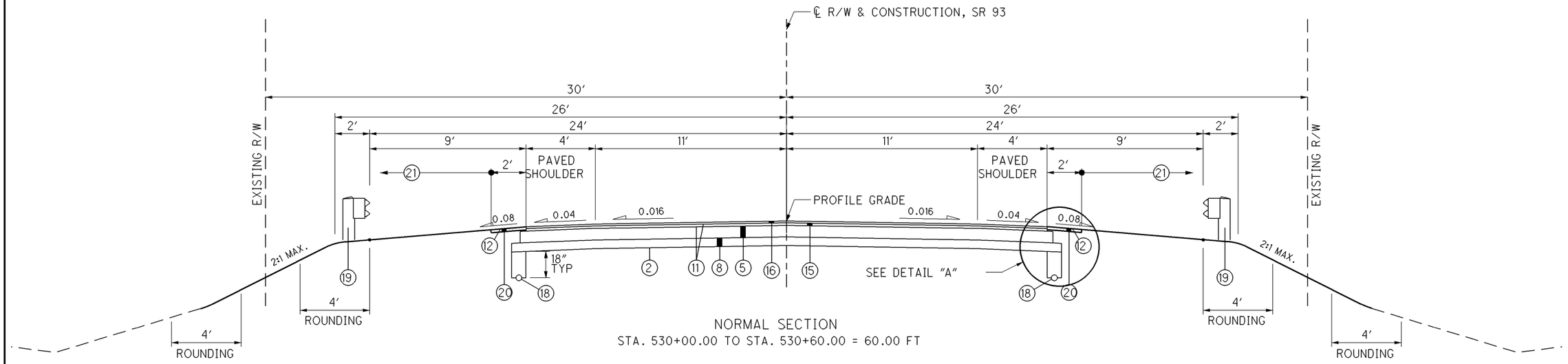
* VARIES 2′ TO 4′ STA. 529+40.00 TO STA. 530+00.00, LT & RT
VARIES 4′ TO 2′ STA. 530+60.00 TO STA. 531+10.00, LT & RT

** VARIES 11′ TO 9′ STA. 529+40.00 TO STA. 530+00.00, LT & RT
VARIES 9′ TO 11′ STA. 530+60.00 TO STA. 531+10.00, LT & RT

* FOR LEGEND SEE SHEET 2

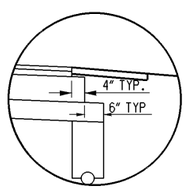
TYPICAL SECTIONS (STA-93-1003)

STA-93-(9.94)
(10.03)(11.71)

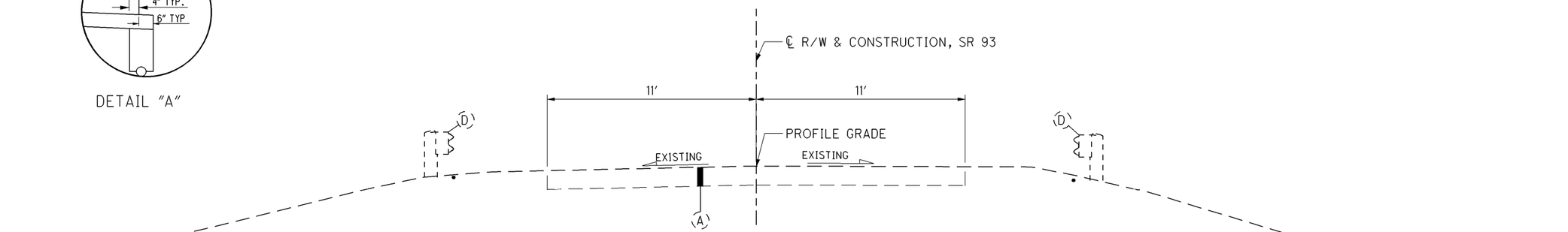


NORMAL SECTION
STA. 530+00.00 TO STA. 530+60.00 = 60.00 FT

NOTE: FOR THE SECTION OVER THE BOX CULVERT, DELETE ITEMS 2, 8, AND 18 AND PLACE ITEM 5 FROM THE BOTTOM OF THE INTERMEDIATE COURSE TO THE TOP OF THE BOX.



DETAIL "A"

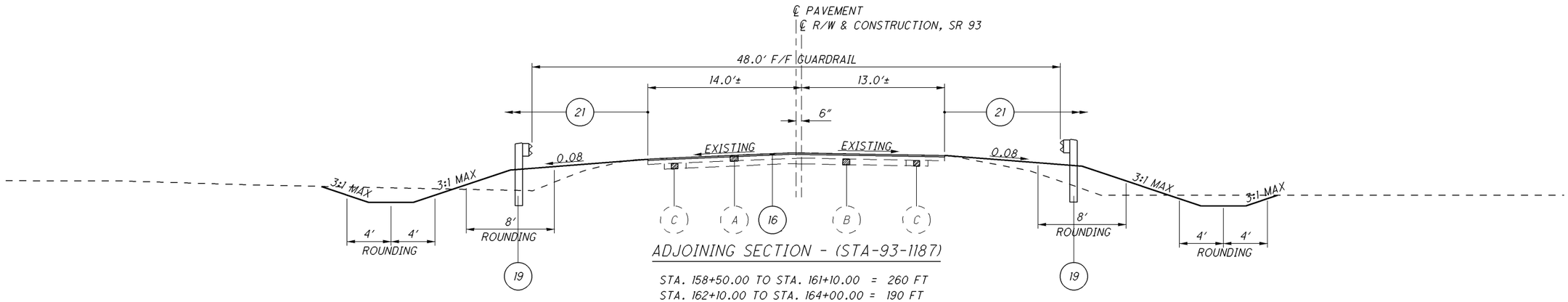


EXISTING SECTION
STA. 529+40.00 & STA. 531+10.00

* FOR LEGEND SEE SHEET 2

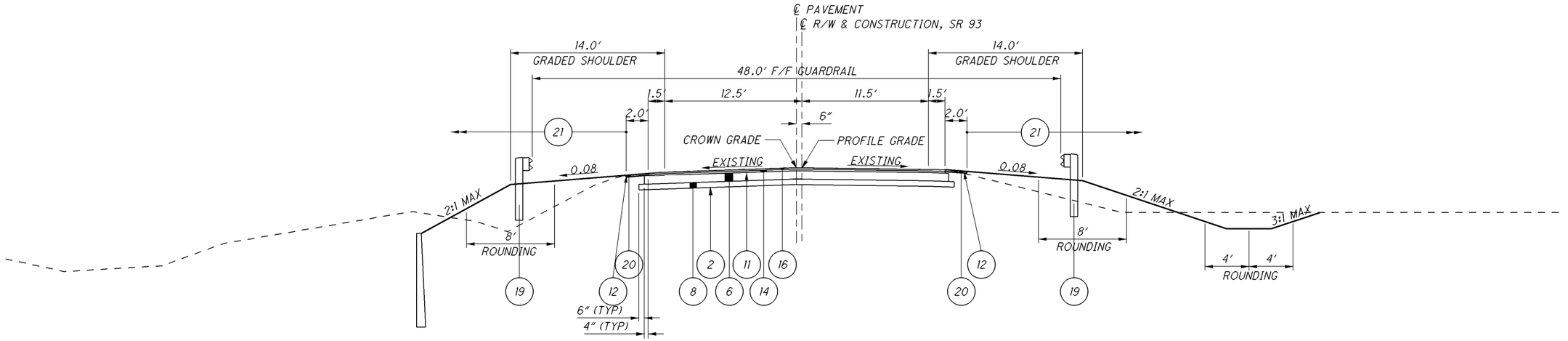
TYPICAL SECTIONS (STA-93-1003)

STA-93-(9.94)
(10.03)(11.71)



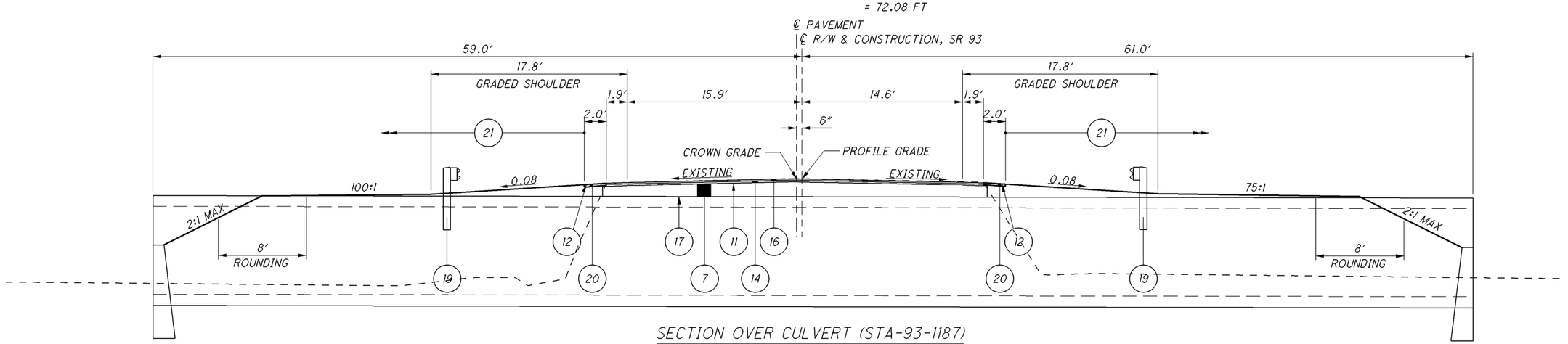
ADJOINING SECTION - (STA-93-1187)

STA. 158+50.00 TO STA. 161+10.00 = 260 FT
STA. 162+10.00 TO STA. 164+00.00 = 190 FT
= 450 FT



FULL DEPTH SECTION - (STA-93-1187)

STA. 161+10.00 TO STA. 161+46.34 = 36.34 FT
STA. 161+74.26 TO STA. 162+10.00 = 35.74 FT
= 72.08 FT



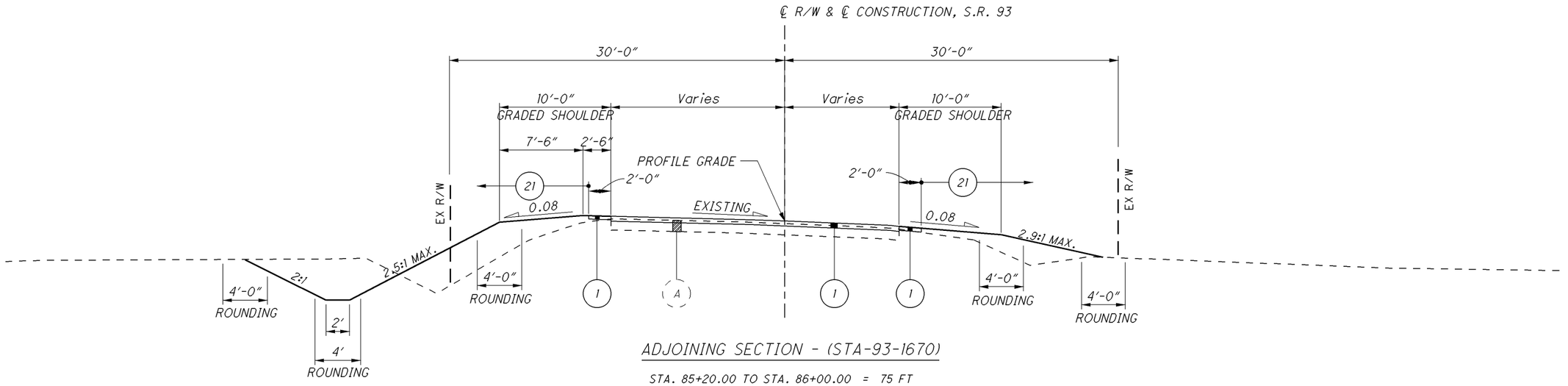
SECTION OVER CULVERT (STA-93-1187)

STA. 161+46.34 TO STA. 161+74.26 = 27.92 FT

* FOR LEGEND SEE SHEET 2

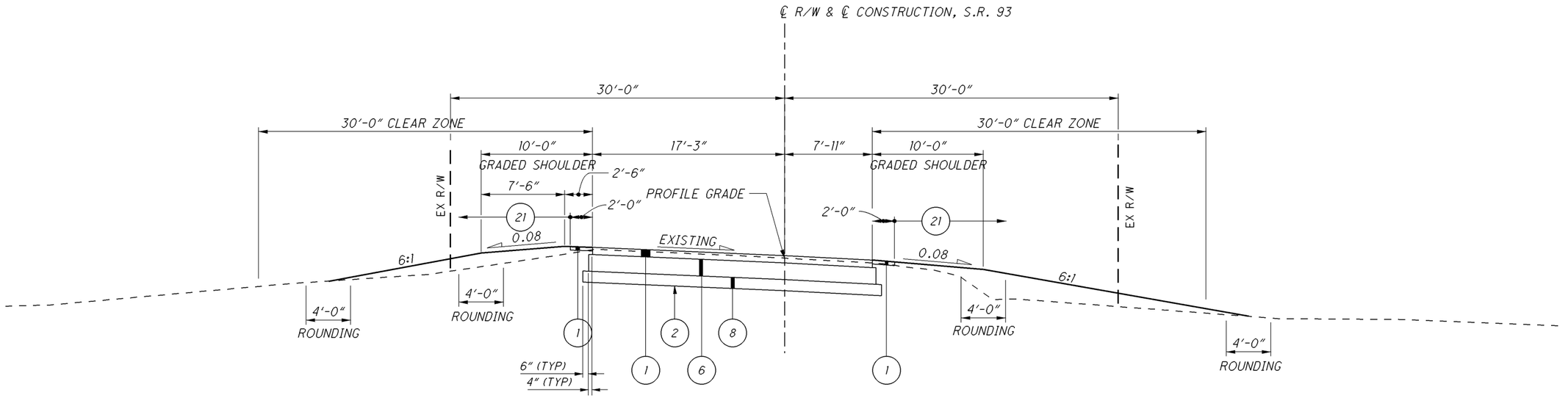
TYPICAL SECTIONS (STA-93-1187)

STA-93-(9.94)
(10.03)(11.71)



ADJOINING SECTION - (STA-93-1670)

STA. 85+20.00 TO STA. 86+00.00 = 75 FT
STA. 86+50.00 TO STA. 87+50.00 = 100 FT
= 175 FT



FULL DEPTH SECTION - (STA-93-1670)

STA. 86+00.00 TO STA. 86+50.00 = 50.00 FT

* FOR LEGEND SEE SHEET 2

TYPICAL SECTIONS (STA-93-1670)

STA-93-(9.94)
(10.03)(11.71)

7
73

UTILITIES

THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS:

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OHIO & GAS PROCEDURES UNDERGROUND PROTECTION SERVICE (OGPUPS), THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEADQUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ALL AREAS.

OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
OGPUPS 1-800-925-0988
ODOT 330-786-3145 KEN GREENE

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.

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

AQUA OHIO
ATTN: DON SNYDER
870 3RD ST, NW
MASSILLON, OH 44647
330-832-5764 EXT 205
330-832-5770 FAX

BELDEN AND BLAKE OIL AND GAS
ATTN: KEITH KERSTETTER
1748 SALTWELL RD
DOVER, OH 44622
330-602-5551 EXT 227
330-602-5554 FAX

DOMINION EAST OHIO GAS
ATTN: GEORGE TURNER, JR.
SPRINGSIDE PLACE
320 SPRINGSIDE DR
SUITE 320
AKRON, OH 44333
330-664-2495
888-694-8299 FAX

EQUITY OIL & GAS
ATTN: CHUCK BAKER
PO BOX 677
BEREA, OH 44017
440-234-4202
440-234-6129 FAX

GREAT LAKES ENERGY PARTNERS
ATTN: MARK BELZER
PO BOX 550
HARTVILLE, OH 44632
330-877-6747
330-877-6129 FAX

OHIO EDISON
ATTN: STEVE VANCHOFF
1910 W MARKET ST
BUILDING 1
AKRON, OH 44313
330-384-4750
330-384-4723 FAX

AT&T
ATTN: JANE JEWETT
50 W BOWERY ST
4TH FLOOR
AKRON, OH 44308
330-384-3449
330-384-8879 FAX

COLUMBIA GAS OF OHIO
ATTN: DAN SUREN
7080 FRYE RD
MIDDLEBURG HEIGHTS, OH 44130
440-891-2428
440-891-2797 FAX

EMBARQ
ATTN: ROD HARRIS
3801 ELM RD
WARREN, OH 44502
330-841-1404
330-372-6970 FAX

MASSILLON CABLE
ATTN: JEFF CAMPBELL
PO BOX 814
MASSILLON, OH 44648
330-833-0202
330-833-7522 FAX

NORTH EAST OHIO NATURAL GAS
ATTN: CHAD WALLACE
9081 SR 250
STRASBURG, OH 44680
1-800-848-5589
330-878-5614 FAX

TIME WARNER CABLE
ATTN: JEFF ROLAND
530 SOUTH MAIN ST
SUITE 1741
AKRON, OH 44311
330-630-7958

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.

PROFILE AND ALIGNMENT

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY WITH A UNIFORM THICKNESS AS SHOWN ON THE TYPICAL SECTIONS.

PAVEMENT MARKING LANE WIDTHS

THE NORMAL LANE WIDTH FOR THE PAVEMENT MARKINGS ON THIS PROJECT SHALL BE AS FOLLOWS:

ROUTE	S.L.M. TO S.L.M.	LANE WIDTH
93	11.71 TO 19.25	12'

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S DATUM NAD83.

ROUNDING

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

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING THE COMPLETION OF THIS PROJECT

INTERSECTIONS (SLM 11.71 TO 13.09)
INTERSECTIONS (SLM 17.65 TO 19.25)

INTERSECTIONS FROM SLM 11.71 TO 13.09 AND FROM 17.65 TO 19.25 WILL BE RESURFACED 2 FT. BEYOND THE EDGE LINE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR INDICATED IN THE PLAN. INTERSECTIONS SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE OR WITH THE MAINLINE PAVEMENT IF THIS CAN BE ACCOMPLISHED WITHOUT CHANGING THE VELOCITY AND DIRECTION OF THE PAVER. USE THE SAME ASPHALT CONCRETE AS THE MAINLINE PAVEMENT. PROVIDE A SMOOTH TRANSITION TO THE EXISTING PAVEMENT. ANY GRADING OR PRIME NECESSARY TO ACCOMPLISH THIS WORK SHALL BE INCLUDED IN THE COST OF THE PERTINENT BID ITEM.

INTERSECTIONS (SLM 13.09 TO 17.65)

INTERSECTIONS FROM SLM 13.09 TO 17.65 WILL BE RESURFACED 25 FT. BEYOND THE EDGE LINE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR INDICATED IN THE PLAN. INTERSECTIONS SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE. A BUTT JOINT, AS PER STANDARD CONSTRUCTION DRAWING BP-3.1, SHALL BE USED TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING PAVEMENT. USE THE SAME ASPHALT CONCRETE AS THE MAINLINE PAVEMENT UNLESS SHOWN OTHERWISE ON THE ASPHALT CONCRETE CALCULATIONS SHEET. ANY GRADING OR PRIME NECESSARY TO ACCOMPLISH THIS WORK SHALL BE INCLUDED IN THE COST OF THE PERTINENT BID ITEM.

ITEM 304 AGGREGATE BASE, AS PER PLAN

GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE.

ITEM 617 COMPACTED AGGREGATE, AS PER PLAN

IN LOW SHOULDER AREAS EXCEEDING 1", OR AS DIRECTED BY THE ENGINEER, RECYCLED ASPHALT PAVEMENT (RAP) SHALL BE USED IN AREAS ADJACENT TO THE PAVED BERM. THE RAP SHALL HAVE A MINIMUM PG CONTENT OF 4.5% AND MEET THE FOLLOWING GRADATION. ONCE THE STOCKPILE MEETS THE GRADATION, THE PG CONTENT OF THE RAP SHALL BE DETERMINED PER 441.03. THE RAP ANALYSIS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO USE. METHOD OF MEASUREMENT SHALL BE AS PER 617.06. PLACEMENT AND COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 617. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1-1/2"	100
3/4"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

ITEM 408 - PRIME COAT, AS PER PLAN

THE CONTRACTOR WILL APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE COMPLETED COMPACTED AGGREGATE SHOULDER.

THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID PRIME COAT MATERIAL ONTO THE EDGE OF THE PAVEMENT OR EDGELINE. CARE ALSO SHALL BE TAKEN TO AVOID SPRAYING LIQUID PRIME COAT MATERIAL ONTO DRIVEWAY APRONS, MAILBOX APPROACHES OR ANY PEDESTRIAN AREAS. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)

THIS ITEM OF WORK SHALL CONSIST OF PAVING ALL EXISTING DRIVEWAYS FROM SLM 13.09 TO SLM 17.65 THAT DO NOT HAVE A CURB CUT OR ARE NOT PAVED AS AN INTERSECTION AS SHOWN ON THE ASPHALT CONCRETE PLAN SHEET. DRIVEWAYS ARE TO BE PAVED A DISTANCE OF 10 FT. FROM THE EDGE OF PAVED SHOULDER UNLESS OTHERWISE DIRECTED BY THE ENGINEER. DRIVEWAYS SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE. ASPHALT CONCRETE AVERAGE THICKNESSES SHALL BE 2 IN. FOR AGGREGATE DRIVEWAYS (UNIMPROVED) AND 1 IN. FOR IMPROVED DRIVEWAYS. AGGREGATE DRIVEWAYS SHALL BE GRADED PRIOR TO PAVING SUCH THAT SURFACE DRAINAGE DOES NOT ENCROACH UPON THE PAVED SHOULDER. THE MAXIMUM PAVED WIDTH SHALL NOT EXCEED THAT ALLOWED FOR THROAT AND RADIUS FOR UNCURBED DRIVEWAYS AS PER STANDARD DRIVE DESIGN MANUAL. ALL GRADING, TOOLS, EQUIPMENT, MATERIAL AND INCIDENTALS REQUIRED TO LAYOUT AND CONSTRUCT THE DRIVEWAYS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS).

CALCULATED LMB CHECKED

GENERAL NOTES

STA-93-(9.94)
(10.03)(11.71)

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

1) THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SSS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND SECTION	5/22/00	7/31/00

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF FOUR 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 "PLUS" EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

CURB RAMPS

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, INSTALLATION OF THE TRUNCATED DOMES WILL BE PERFORMED PRIOR TO MAINLINE RESURFACING.

THERE ARE AN ESTIMATED 33 LOCATIONS REQUIRING THE INSTALLATION OF TRUNCATED DOMES TO EXISTING WALK. THE LOCATIONS WILL BE DETERMINED BY THE PROJECT ENGINEER.

THE FOLLOWING QUANTITIES HAVE BEEN FORWARDED TO THE GENERAL SUMMARY:

608, TRUNCATED DOMES, 33 EACH

PAVED MAILBOX APPROACHES

ALL EXISTING MAIL BOX APPROACHES WILL BE PAVED WITH ASPHALT CONCRETE AS PER TYPICAL SHOWN OR AS NEAR AS PRACTICAL. AGGREGATE APPROACHES SHALL HAVE A 2 IN. MIN. THICKNESS; IMPROVED APPROACHES SHALL HAVE A 2 IN. MIN. THICKNESS. THE CONTRACTOR SHALL HAVE THE OPTION OF PAVING THE MAILBOX APPROACHES WITH EITHER THE PAVING OF THE DRIVEWAYS OR THE PAVING OF THE MAINLINE AND SHOULDERS. PAYMENT SHALL BE AS FOLLOWS:

1. SHOULD THE CONTRACTOR ELECT TO PAVE THE MAILBOX APPROACHES WITH THE DRIVEWAYS THEN ALL GRADING, TACK, TOOLS, EQUIPMENT, MATERIAL AND INCIDENTALS REQUIRED FOR THE CONTRACTOR TO LAYOUT AND CONSTRUCT THE MAILBOX APPROACHES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS).

2. SHOULD THE CONTRACTOR ELECT TO PAVE THE MAILBOX APPROACHES WITH THE MAINLINE AND SHOULDERS, THEN ALL GRADING, TACK, TOOLS, EQUIPMENT, MATERIAL AND INCIDENTALS REQUIRED TO LAYOUT AND CONSTRUCT THE MAILBOX APPROACHES SHALL BE INCLUDED IN THE UNIT BID FOR ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M.

BRICK CROSSWALKS

THE BRICK CROSSWALKS AT THE INTERSECTION OF SR 93 AND VERMONT AVE. (S.L.M. 18.24) SHOULD NOT BE DISTURBED. IF THE BRICK CROSSWALKS ARE DAMAGED THEY WILL BE REPAIRED TO THEIR ORIGINAL CONDITION AT THE EXPENSE OF THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN

MONUMENT BOX RINGS SHOULD BE USED TO ADJUST MONUMENT BOXES TO GRADE. ALL OTHER REQUIREMENTS SHALL STILL BE APPLICABLE.

ITEM 604, MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN, 6 EACH

MANHOLE ADJUSTED TO GRADE, AS PER PLAN

GRADE RINGS SHALL NOT BE USED TO ADJUST MANHOLES TO GRADE. ALL OTHER REQUIREMENTS SHALL STILL BE APPLICABLE.

ITEM 604, MANHOLD ADJUSTED TO GRADE, AS PER PLAN, 1 EACH

FIELD DRIVES

THIS ITEM OF WORK SHALL CONSIST OF PLACING ITEM 304 AGGREGATE BASE FOR ALL FIELD DRIVES. FIELD DRIVES ARE TO BE PLACED A DISTANCE OF 10 FT. FROM THE EDGE OF PAVED SHOULDER UNLESS OTHERWISE DIRECTED BY THE ENGINEER. FIELD DRIVES SHALL BE PLACED AFTER COMPLETION OF THE SURFACE COURSE. AVERAGE THICKNESS SHALL BE 2 IN. ALL GRADING, TOOLS, EQUIPEMENT, MATERIAL, AND INCIDENTALS REQUIRED TO LAYOUT AND CONSTRUCT THE FIELD DRIVES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 304 AGGREGATE BASE.

AN ESTIMATED QUANTITY OF 6 CU YD. HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK.

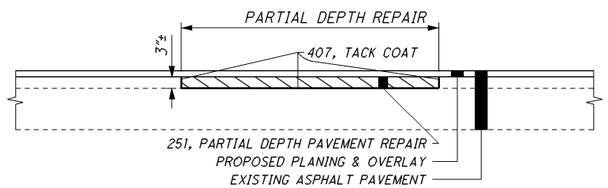
PAVEMENT MARKINGS

PAVEMENT MARKING DETAIL SHEETS WILL BE DISTRIBUTED AT THE PRE-CONSTRUCTION MEETING.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THE ITEM SHALL CONSIST OF REPAIRING EXISTING LOCATIONS EXHIBITING SURFACE DETERIORATION AND PLACING ITEM 448 ASPHALT CONCRETE, TYPE 2. THE ASPHALT CONCRETE SHALL BE COMPACTED WITH A TYPE I PNEUMATIC TIRE ROLLER AND A STEEL WHEEL ROLLER AS PER 401.13. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

251, PARTIAL DEPTH PAVEMENT REPAIR, 100 SQ. YD.



CALCULATED LMB CHECKED

GENERAL NOTES

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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$'_{32}$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 603 CONDUIT ITEMS.

EARTHWORK (STA-93-1003)

THE FOLLOWING QUANTITIES ARE TAKEN FROM THE ROADWAY CROSS SECTIONS OF STRUCTURE STA-93-1003.

203, EXCAVATION 225 CU YD
203, EMBANKMENT 949 CU YD

EARTHWORK (STA-93-1187)

THE FOLLOWING QUANTITIES ARE TAKEN FROM THE ROADWAY CROSS SECTIONS OF STRUCTURE STA-93-1187.

203, EXCAVATION 497 CU YD
203, EMBANKMENT 893 CU YD

EARTHWORK (STA-93-1670)

THE FOLLOWING QUANTITIES ARE TAKEN FROM THE ROADWAY CROSS SECTIONS OF STRUCTURE STA-93-1670.

203, EXCAVATION 225 CU YD
203, EMBANKMENT 429 CU YD

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF PIPES UNDER ITEM 603.

STA. 529+40.00 TO STA. 531+10.00 (STA-93-1003)
204, SUBGRADE COMPACTION 262 SQ YD
301, ASPHALT CONCRETE BASE, PG64-22 (T = 8") 58 CU YD
301, ASPHALT CONCRETE BASE, PG64-22 (VAR. T) 46 CU YD
304, AGGREGATE BASE, AS PER PLAN (T = 6") 44 CU YD
407, TACK COAT 33 GAL
407, TACK COAT FOR INTERMEDIATE COURSE 35 GAL
408, PRIME COAT, AS PER PLAN 30 GAL
448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T = 1 ½") 23 CU YD
448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M (T = 1 ½") 23 CU YD
617, COMPACTED AGGREGATE, AS PER PLAN 5 CU YD

STA. 161+10.00 TO STA. 162+10.00 (STA-93-1187)
204, SUBGRADE COMPACTION 217 SQ YD
301, ASPHALT CONCRETE BASE, PG64-22 (T = 9") 55 CU YD
301, ASPHALT CONCRETE BASE, PG64-22 (VAR. T) 23 CU YD
304, AGGREGATE BASE, AS PER PLAN (T = 6") 36 CU YD
407, TACK COAT FOR INTERMEDIATE COURSE 12 GAL
408, PRIME COAT, AS PER PLAN 18 GAL
448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T = 1 ¾") 15 CU YD
617, COMPACTED AGGREGATE, AS PER PLAN 3 CU YD

STA. 86+00.00 TO STA. 86+50.00 (STA-93-1670)
204, SUBGRADE COMPACTION 140 SQ YD
301, ASPHALT CONCRETE BASE, PG64-22 (T = 9") 35 CU YD
304, AGGREGATE BASE, AS PER PLAN (T = 6") 24 CU YD

THE ABOVE QUANTITY IS BASED ON PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH. SEE STANDARD CONSTRUCTION DRAWING DM-1.4 FOR TRENCH WIDTH FORMULA AND CALCULATION.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

SEEDING AND MULCHING (STA-93-1003)

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

659, TOPSOIL 209 CU. YD.

659, SEEDING AND MULCHING 1880 SQ. YD.

659, REPAIR SEEDING AND MULCHING 94 SQ. YD

659, INTER-SEEDING 94 SQ. YD.

659, COMMERCIAL FERTILIZER 0.3 TON

659, LIME 0.4 ACRES

659, WATER 11 M. GAL.

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.

SEEDING AND MULCHING (STA-93-1187)

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

659, TOPSOIL 332 CU. YD.

659, SEEDING AND MULCHING 2986 SQ. YD.

659, REPAIR SEEDING AND MULCHING 150 SQ. YD

659, INTER-SEEDING 150 SQ. YD.

659, COMMERCIAL FERTILIZER 0.4 TON

659, LIME 0.6 ACRES

659, WATER 16 M. GAL.

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.

SEEDING AND MULCHING (STA-93-1670)

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

659, TOPSOIL 159 CU. YD.

659, SEEDING AND MULCHING 1426 SQ. YD.

659, REPAIR SEEDING AND MULCHING 72 SQ. YD

659, INTER-SEEDING 72 SQ. YD.

659, COMMERCIAL FERTILIZER 0.2 TON

659, LIME 0.3 ACRES

659, WATER 8 M. GAL.

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.

CALCULATED LMS CHECKED TJP

GENERAL NOTES

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(10.03)(11.71)

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT OF WAY) (CONSTRUCTION) LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

603, 6" CONDUIT, TYPE B 40 FT.

603, 6" CONDUIT, TYPE E 40 FT.

603, 6" CONDUIT, TYPE F 40 FT.

601, ROCK CHANNEL PROTECTION TYPE C WITH FILTER
2 CU. YD.

CALCULATED LMS
CHECKED TJP

GENERAL NOTES

STA-93-(9.94)
(10.03)(11.71)

INSTREAM WORK

ALL MATERIALS REMOVED FROM DITCHES, STREAMS OR WETLANDS MUST BE IMMEDIATELY REMOVED TO AN UPLAND SITE AND STABILIZED (I.E., SEEDED) TO PREVENT REDISTRIBUTION INTO ANY WATERS OF THE UNITED STATES. IMMEDIATE REMOVAL IS DEFINED BY THE UNITED STATES ARMY CORPS OF ENGINEERS AS DEPOSITING THE REMOVED MATERIALS DIRECTLY INTO A TRUCK AND REMOVING THE MATERIAL FROM THE SITE; PLACEMENT OF REMOVED MATERIALS INTO A WETLAND OR ON THE BANKS OF A STREAM EVEN TEMPORARILY IS CONSIDERED A FILL AND REQUIRES A PERMIT ACTION. ANY AREAS DISTURBED BY EQUIPMENT ACTIVITIES MUST BE SEEDED TO PREVENT EROSION OF SEDIMENTS INTO WATERS OF THE UNITED STATES.

WATER COLUMN AND SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL.

INSTREAM WORK WILL BE LIMITED WERE PRACTICABLE AND ONLY CLEAN NON-ERODIBLE MATERIAL WILL BE USED FOR STREAM CROSSING, COFFERDAMS, OR OTHER EQUIPMENT ACCESS PADS. THIS TEMPORARILY PLACED MATERIAL WILL BE REMOVED AND THE STREAM BOTTOM RESTORED TO NEAR NATURAL CONDITIONS WHEN THE WORK IS COMPLETED.

CONSTRUCTION AND DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT CONSTRUCTION AND DEMOLITION DEBRIS FROM ENTERING THE STREAMS. ANY DEBRIS MATERIAL THAT DOES FALL INTO THE STREAM SHALL BE REMOVED AS SOON AS POSSIBLE.

PUBLIC RECREATION AREA - GRAVEL PATH AVOIDANCE (STA-93-16.70)

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT THE EXISTING GRAVEL PATH LOCATED ON THE LAWRENCE TOWNSHIP PUBLIC RECREATION AREA ADJACENT TO AND WEST OF SR 93 AT THE STA 93 $^{13}/_{32}$ 16.70 CULVERT SITE. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS WITHIN THE EXISTING GRAVEL PATH. TO PROTECT THIS EXISTING GRAVEL PATH, A TEMPORARY CONSTRUCTION FENCE SHALL BE INSTALLED ALONG THE PROPOSED CONSTRUCTION LIMITS ADJACENT TO THE EXISTING GRAVEL PATH. THIS TEMPORARY CONSTRUCTION FENCE SHALL BE INSTALLED ALONG THE PROPOSED CONSTRUCTION LIMITS ADJACENT TO THE EXISTING GRAVEL PATH BY THE PROJECT CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES AT THE STA 93 $^{13}/_{32}$ 16.70 CULVERT SITE, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES, AND MAINTAINED BY THE PROJECT CONTRACTOR THROUGHOUT THE CONSTRUCTION OF CULVERT STA 93 $^{13}/_{32}$ 16.70. THIS WORK WILL BE MADE UNDER ITEM 832, EROSION CONTROL.

STREAM CHANNEL EXCAVATION

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEAN OUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

MECHANICAL EQUIPMENT OPERATION AT STREAM CHANNEL

THE MECHANICAL EQUIPMENT USED TO EXECUTE THE WORK AUTHORIZED HEREIN SHALL BE OPERATED IN SUCH A WAY AS TO MINIMIZE TURBIDITY THAT COULD DEGRADE WATER QUALITY AND ADVERSELY AFFECT AQUATIC PLANT AND ANIMAL LIFE.

NO EXCAVATION, GRADING OR FILLING OPERATIONS SHALL BE PERFORMED IN ANY WETLANDS OR STREAMS UNLESS THE REQUIRED STATE AND/OR FEDERAL PERMITS HAVE BEEN OBTAINED IN ACCORDANCE WITH ALL APPLICABLE STATE AND/OR FEDERAL LAWS AND REGULATIONS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS IN ANY WETLANDS, STREAMS OR OTHER WATERS OF THE UNITED STATES.

ENDANGERED SPECIES HABITAT

THIS PROJECT IS WITHIN THE RANGE OF THE FEDERALLY LISTED ENDANGERED INDIANA BAT (MYOTIS SODALIS). THE UNDERSIDE OF THE STA 93-9.99 BRIDGE AND THE STA 93-11.87 BRIDGE TO BE REPLACED AS PART OF THE PROJECT SHALL BE CHECKED FOR THE PRESENCE OF BATS PRIOR TO CONSTRUCTION BY THE ENGINEER. IF BATS ARE FOUND, THE ODOT DISTRICT 4 ENVIRONMENTAL SECTION SHALL BE CONTACTED FOR FURTHER DIRECTION.

WATERWAY PERMIT DETERMINATION (404/401) - ODOT PROJECTS

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. THE OHIO DEPARTMENT OF TRANSPORTATION - OFFICE OF ENVIRONMENTAL SERVICES (OES) AND/OR THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE) HAS DETERMINED THAT THE PROJECT MEETS THE CRITERIA OF NATIONWIDE PERMIT (NWP) 3 - MAINTENANCE; BASED UPON THE ANTICIPATED IMPACTS TO STREAM(S) AND/OR WETLAND(S). HOWEVER, THIS PERMIT DETERMINATION DID NOT INCLUDE THE USE OF TEMPORARY CONSTRUCTION ACCESS FILLS THAT MAY BE REQUIRED FOR CONSTRUCTION (I.E. CAUSEWAY STREAM CROSSINGS, CONSTRUCTION ACCESS PADS, COFFERDAMS, ETC.). INFORMATION REGARDING THE USE OF TEMPORARY CONSTRUCTION ACCESS FILLS MAY NOT HAVE BEEN KNOWN AT THE TIME OF THE PERMIT DETERMINATION. THE CONTRACTOR SHOULD BE AWARE THAT THE USE OF TEMPORARY FILL BELOW THE ORDINARY HIGH WATER MARK (OHWM), WHICH IS THE USACE $^{5}/_{32}$S JURISDICTIONAL LIMITS, WILL REQUIRE A PRE-CONSTRUCTION NOTIFICATION (PCN) AND AUTHORIZATION BY THE USACE UNDER NWP 33 - TEMPORARY CONSTRUCTION ACCESS AND DEWATERING. SHOULD TEMPORARY CONSTRUCTION ACCESS FILL BE REQUIRED, THE CONTRACTOR SHALL COORDINATE SUCH ACTIVITIES, INCLUDING THE PCN, THROUGH OES AND ALLOW 60 DAYS MINIMUM FOR PROCESSING WITH THE USACE. THE CONTRACTOR SHALL NOT COORDINATE THESE ACTIVITIES DIRECTLY WITH THE USACE. THE CONTRACTOR SHALL NOT UTILIZE TEMPORARY FILLS BELOW OHWM UNTIL SUCH ACTIVITY IS AUTHORIZED BY THE USACE. SHOULD A PCN BE REQUIRED, THE PCN SHALL INCLUDE PERTINENT INFORMATION (I.E. VOLUME AND SURFACE AREA OF TEMPORARY FILLS) AND DRAWINGS (PLAN AND PROFILE VIEW) OF TEMPORARY FILLS BELOW OHWM. ONLY CLEAN, NON ERODIBLE MATERIALS SHALL BE USED FOR TEMPORARY CONSTRUCTION ACCESS FILLS. ANY TEMPORARY FILLS BELOW OHWM SHALL BE REMOVED FOLLOWING COMPLETION OF THE AUTHORIZED ACTIVITY AND THE AREA OF STREAM WHERE TEMPORARY FILL WAS LOCATED SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITION. PLEASE NOTE THAT FORDING OF WATERWAYS IS NOT ALLOWED PER ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 2008, ITEM 207.03.

CALCULATED LMS CHECKED TJP

GENERAL NOTES

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(10.03)(11.71)

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. A MINIMUM OF ONE TEN FOOT BIDIRECTIONAL LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT AND COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK. EXCEPT WHERE THE DETOUR IS IN EFFECT.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2211, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE ADDITIONAL NOTE HEREIN.

4. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

5. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS TWO (2) MILES RURAL OR ONE (1) MILE URBAN.

6. IN ADDITION TO THE REQUIREMENTS OF 614.11 WORK ZONE PAVEMENT MARKINGS, AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, CENTER, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH PLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 WORK ZONE PAVEMENT MARKINGS.

7. A QUANTITY OF 20 CU. YDS. OF 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

8. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

9. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGN HAS BEEN INCLUDED IN THE PLAN. THIS QUANTITY SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING SIGNS: W8-1 (BUMP), W6-3 (TWO-WAY TRAFFIC), W8-H13 (NO EDGE LINES), R4-1 (DO NOT PASS), AND W8-11 (UNEVEN LANES). THESE QUANTITIES SHALL BE AS PER 614.04.

THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT:

PHASE I - PLANED SURFACE
- 614, WORK ZONE CENTER LINE, CLASS II, 7.54 MILE
- 614, WORK ZONE STOP LINE, CLASS 1, 125 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS 1, 230 FT
- 614, WORK ZONE MARKING SIGN (ALL PHASES). 32 EACH

PHASE II - INTERMEDIATE COURSE (CHIP SEAL)
- 614, WORK ZONE CENTERLINE, CLASS II, 3.40 MILE

PHASE III - INTERMEDIATE COURSE
- 614, WORK ZONE CENTERLINE, CLASS II, 3.40 MILE

PHASE IV - SURFACE COURSE
- 614, WORK ZONE CENTERLINE, CLASS III, 642 PAINT, 7.54 MILE
- 614, WORK ZONE STOP LINE, CLASS III, 642 PAINT, 125 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT, 230 FT

TO BE USED AS DIRECTED BY THE ENGINEER:
- 614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 13.36 FT

WINTER TRAFFIC LIMITATIONS

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND APRIL 1. NOVEMBER 14 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND DISINCENTIVES OF $1300 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. THE CONTRACTOR MAY CLOSE LANES PRIOR TO APRIL 1 WITH WRITTEN APPROVAL FROM THE DISTRICT CONSTRUCTION ENGINEER.

ADVANCED NOTICE TO PAVE

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/ SUPERVISOR HAS BEEN GRANTED.

WEIGHTED CHANNELIZERS

THE WEIGHTED CHANNELIZER SHALL BE PREDOMINATELY ORANGE IN COLOR AND SHALL BE MADE OF A LIGHTWEIGHT, FLEXIBLE, AND DEFORMABLE MATERIAL. THEY SHALL BE AT LEAST 42 INCHES IN HEIGHT WITH A WEIGHTED BASE. THEY MAY HAVE A "HANDLE" OR LIFTING DEVICE WHICH EXTENDS ABOVE THE 42 INCH MINIMUM HEIGHT.

THE MARKINGS ON THE WEIGHTED CHANNELIZER SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZER SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON-RETROREFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE. THE WEIGHTED CHANNELIZER SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

ON FREEWAYS AND MULTILANE HIGHWAYS:
USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTILANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATION, GENERALLY TWELVE HOURS OR LESS, FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK WITHIN THE ABOVE NOTED TIME PERIOD, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. ANY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN TWELVE HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRIERS.

WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE "TANGENT AREA". THE "TANGENT AREA" IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS.

ON OTHER HIGHWAYS:
THERE ARE NO DURATIONS OF WORK RESTRICTIONS FOR USE OF WEIGHTED CHANNELIZERS ON ALL OTHER TYPES OF HIGHWAYS, DAY OR NIGHT. ON THESE ROADWAYS THE WEIGHTED CHANNELIZER MAY BE USED IN THE TRANSITION TAPERS AS WELL AS IN THE TANGENT AREAS, DAY OR NIGHT.

MAXIMUM SPACING OF THE WEIGHTED CHANNELIZER SHALL BE 40 FEET.

STEPS SHOULD BE TAKEN TO ENSURE THAT THE WEIGHTED CHANNELIZERS WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. BALLASTS SHOULD NOT PRESENT A HAZARD IF THE WEIGHTED CHANNELIZERS ARE INADVERTENTLY STRUCK, NOR SHOULD THEY AFFECT THE VISIBILITY OF THE WEIGHTED CHANNELIZERS. ALL BALLASTS USED SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

HOLIDAY LANE CLOSURES

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPENED TO TRAFFIC AND ALL SIGNALS IN OPERATION DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	NEW YEARS
MEMORIAL DAY	FOURTH OF JULY
LABOR DAY	THANKSGIVING

DAY OF THE WEEK	TIMES ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 12:00N MONDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N MONDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY THROUGH 12:00N MONDAY

THERE SHALL NOT BE ANY EXTENSIONS DUE TO WEATHER OR MATERIAL DELAYS WHATSOEVER.

SHALL THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, DISINCENTIVES OF $1300 SHALL BE ASSESSED TO THE CONTRACTOR FOR EACH CALENDAR DAY THAT THE LANES REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

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 3 M. GAL

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC

STA-93-(9.94)
(10.03)(11.71)

ITEM 632 - DETECTOR LOOP, AS PER PLAN

THE CONTRACTOR SHALL CONTACT THE DISTRICT OFFICE (330-786-3146) THREE WORKING DAYS PRIOR TO ANY PLANING OR TRENCHING AT THE INTERSECTION OF SR 172 AND SR 93. ANY LOOP DETECTORS DISTURBED BY PAVEMENT PLANING OR TRENCHING SHALL BE ABANDONED IN PLACE.

SR 172/SR 93 - 25' X 6', 1 EACH

ITEM 632 - DETECTOR LOOP, AS PER PLAN, 1 EACH

DETOUR NOTIFICATION [ODOT]

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

DETOUR DURATION FOR CULVERT REPLACEMENTS

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE AS FOLLOWS:

STA-93-1003:
21 CALENDAR DAYS
CAN NOT BE CLOSED CONCURRENT WITH 1187 & 1670
CAN ONLY BE CLOSED BETWEEN JUNE 7 AND AUGUST 1, 2009

STA-93-1187:
21 CALENDAR DAYS
CAN CLOSE CONCURRENT WITH 1670
CAN ONLY BE CLOSED BETWEEN JUNE 21 AND JULY 17, 2009

STA-93-1670:
14 CALENDAR DAYS
CAN CLOSE CONCURRENT WITH 1187
CAN ONLY BE CLOSED BETWEEN JUNE 21 AND JULY 17, 2009

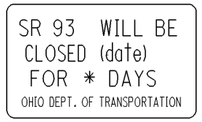
CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS (LANE WIDTH REDUCTIONS, TEMPORARY ROADWAYS, OR ONE WAY TRAFFIC) TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME. THE FAILURE OF THE CONTRACTOR TO MEET THE DETOUR LIMITATION DATES WILL CAUSE SEPARATE DISINCENTIVES OF $1300 PER CALENDAR DAY OF OVERRUN OF DETOUR LIMITATION TIME TO BE ASSESSED.

DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTES, LOCAL ROUTES HAVE BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTES OR "DESIGNATED LOCAL DETOUR ROUTES." THIS ROUTE IS SHOWN ON SHEETS NO.12-14. 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.

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP 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 THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.



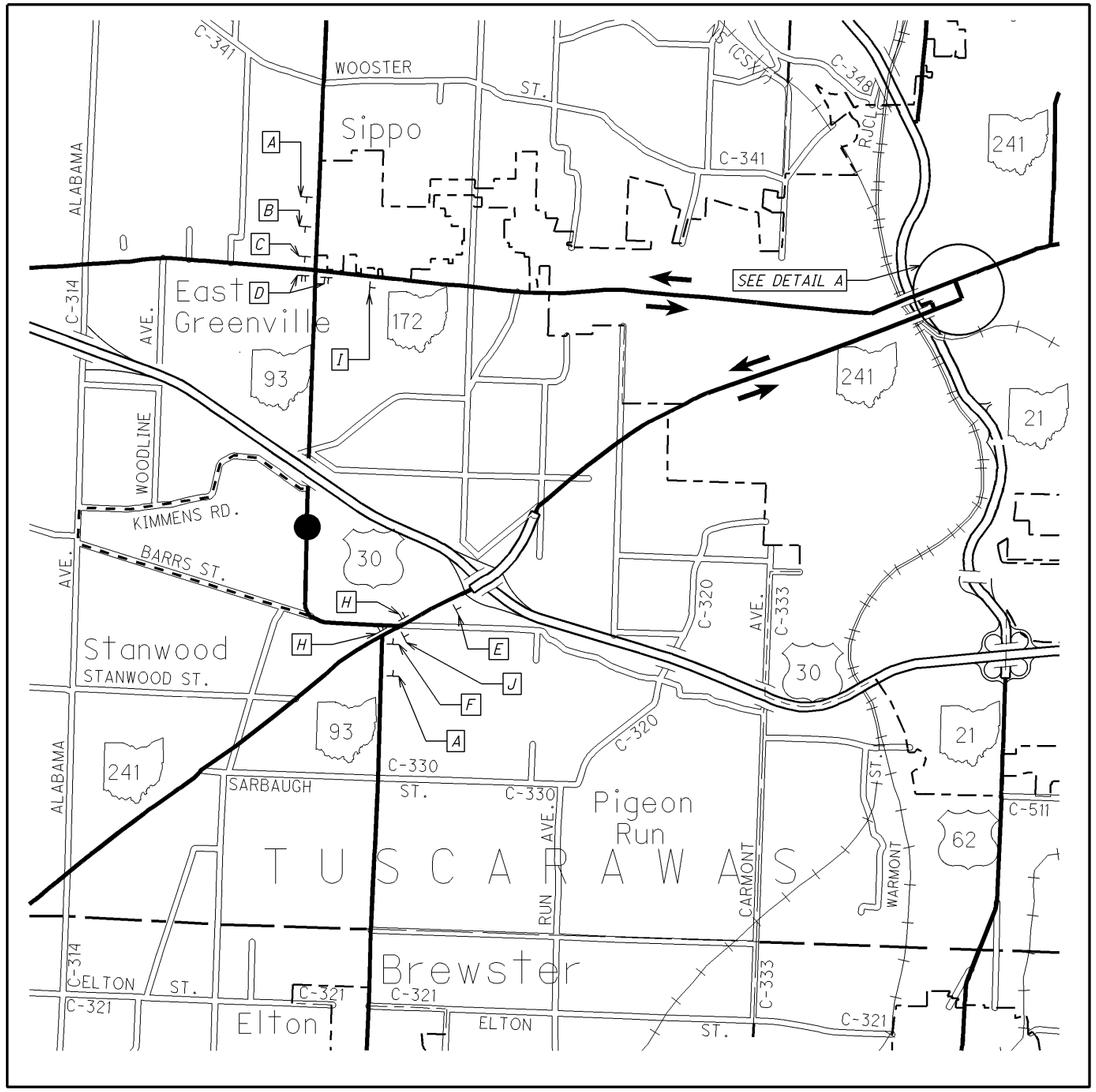
W20-H14-60
*CLOSURE TIMES ARE AS FOLLOWS:
10.03 - 21 DAYS
11.87 - 21 DAYS
16.70 - 14 DAYS

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC

**STA-93-(9.94)
(10.03)(11.71)**

14
73



DETOUR PLAN - CULVERT 10.03

● PROJECT LOCATION - CLOSE AS PER MT-101.60

← → OFFICIAL DETOUR ROUTE: SR-172 / SR-241

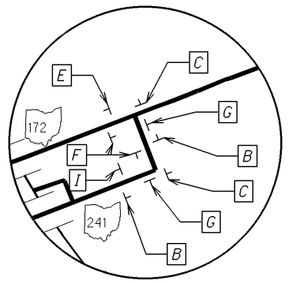
- - - - - LOCAL DETOUR ROUTE: KIMMENS RD. / ALABAMA AVE. / BARRS ST.

NOTE: REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TA-8) FOR SIGN SPACING.

SIGNING LEGEND

A	DETOUR 1500 FT W20-2-36	E	DETOUR M4-8-24 NORTH M3-1-24 93 M1-5-24-2	I	DETOUR M4-8-24 SOUTH M3-3-24 93 M1-5-24-2
B	DETOUR M4-8-24 93 M1-5-24-2 M5-1L-21	F	DETOUR M4-8-24 93 M1-5-24-2 M5-1R-21	J	DETOUR M4-8-24 93 M1-5-24-2 M6-3-21
C	DETOUR M4-8-24 93 M1-5-24-2 M6-1L-21	G	DETOUR M4-8-24 93 M1-5-24-2 M6-1R-21		
D *	ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY R11-3A-60 DETOUR M4-10L-48	H *	ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY R11-3A-60 DETOUR M4-10R-48		

* ON TYPE III BARRICADE



DETAIL A

N

MAINTENANCE OF TRAFFIC
DETOUR PLAN FOR STRUCTURE STA-93-1003

STA-93-0.00

15
73

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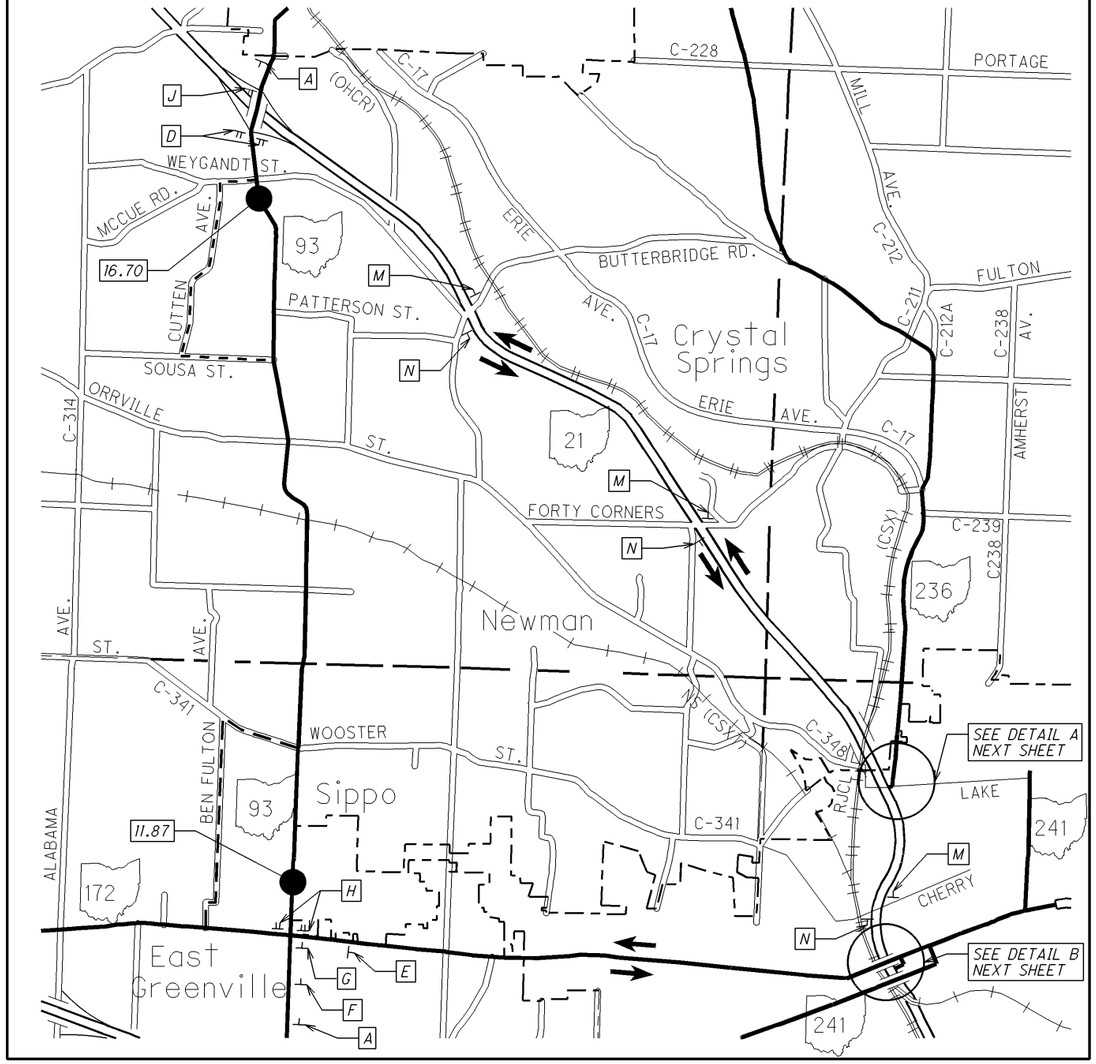


DETOUR PLAN - CULVERTS 11.87 AND 16.70

- ● PROJECT LOCATIONS - CLOSE AS PER MT-101.60
- ← → OFFICIAL DETOUR ROUTE: SR-21 / LILLIAN GISH BLVD. / SR-172
- – – – 11.87 - LOCAL DETOUR ROUTE: BEN FULTON AVE. / WOOSTER ST.
- ----- 16.70 - LOCAL DETOUR ROUTE: WEYGANDT ST. / CUTTEN AVE. / SOUSA ST.

NOTE: REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TA-8) FOR SIGN SPACING.

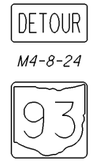
SIGNING LEGEND

A

W20-2-36

B NOT USED

C



M4-8-24
M1-5-24-2
M6-1L-21

D *

R11-3A-60
M4-10L-48

E

M4-8-24
M3-1-24
M1-5-24-2

F

M4-8-24
M1-5-24-2
M5-1R-21

G

M4-8-24
M1-5-24-2
M6-1R-21

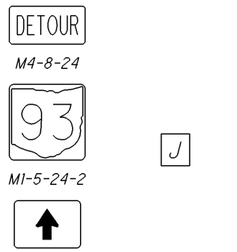
H *

R11-3A-60
M4-10R-48

I

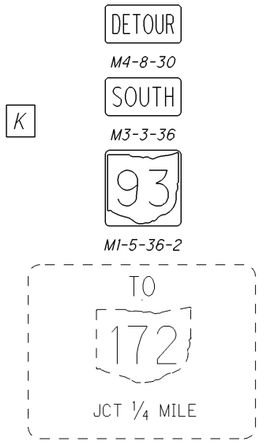
M4-8-24
M3-3-24
M1-5-24-2

J



M4-8-24
M1-5-24-2
M6-3-21

K



M4-8-30
M3-3-36
M1-5-36-2

* ON TYPE III BARRICADE

MAINTENANCE OF TRAFFIC DETOUR PLAN FOR STRUCTURES STA-93-1187 AND STA-93-1670

STA-93-(9.99)(11.71)

SIGNING LEGEND CONTINUED

L

DETOUR
M4-8-30

TO 172
TO
93
M1-5-36-2

M5-1L-30

LILLIAN GISH BLVD

O

DETOUR
M4-8-30

93
M1-5-36-2

M6-1L-30

M

DETOUR
M4-8-30

NORTH
M3-1-36

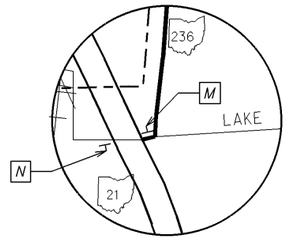
93
M1-5-36-2

N

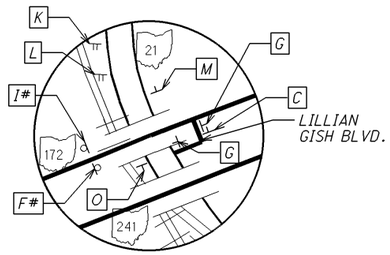
DETOUR
M4-8-30

SOUTH
M3-3-36

93
M1-5-36-2



DETAIL A



DETAIL B

#MOUNT ON AN EXISTING POLE

MAINTENANCE OF TRAFFIC DETOUR PLAN FOR STRUCTURES STA-93-1187 AND STA-93-1670

STA-93-(9.99)(11.71)

17
73

SHEET NUMBER											PARTICIPATION			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9	10	11	20	21	22	23	40	41			FED/ STATE	FED/ CF	CF						
																		ROADWAY	
					LUMP						LUMP			202	11000	LUMP		STRUCTURE REMOVED (STA-93-1670)	
			2189								2189			202	23500	2189	SQ YD	WEARING COURSE REMOVED	
					227						227			202	35100	227	FT	PIPE REMOVED, 24" AND UNDER	
					800		3080	488			3880		488	202	38000	4368	FT	GUARDRAIL REMOVED	
					1						1			202	58100	1	EACH	CATCH BASIN REMOVED	
	947				75						1022			203	10000	1022	CU YD	EXCAVATION	
	2271										2271			203	20000	2271	CU YD	EMBANKMENT	
	619										619			204	10000	619	SQ YD	SUBGRADE COMPACTION	
					1						1			604	04500	1	EACH	CATCH BASIN, NO. 2-2B	
1													1	604	34501	1	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	9
6											6			604	39501	6	EACH	MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN	9
					1075		1843	288			2918		288	606	13000	3206	FT	GUARDRAIL, TYPE 5	
					6		27	4			33		4	606	22010	37	EACH	ANCHOR ASSEMBLY, TYPE E-98	
					2		5				7			606	26500	7	EACH	ANCHOR ASSEMBLY, TYPE T	
							6				6			606	35140	6	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
33													33	608	53000	33	EACH	TRUNCATED DOMES	
																		EROSION CONTROL	
					16						16			601	32100	16	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
		2									2			601	32200	2	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
	700										700			659	00300	700	CU YD	TOPSOIL	
	6292										6292			659	10000	6292	SQ YD	SEEDING AND MULCHING	
	316										316			659	14000	316	SQ YD	REPAIR SEEDING AND MULCHING	
	316										316			659	15000	316	SQ YD	INTER-SEEDING	
	0.9										0.9			659	20000	0.9	TON	COMMERCIAL FERTILIZER	
	1.3										1.3			659	31000	1.3	ACRE	LIME	
	35										35			659	35000	35	M GAL	WATER	
											10000			832	30000	10000	EACH	EROSION CONTROL	
																		DRAINAGE	
						74					74			603	00410	74	FT	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	
		40									40			603	00900	40	FT	6" CONDUIT, TYPE B	
		40									40			603	01400	40	FT	6" CONDUIT, TYPE E	
		40									40			603	01500	40	FT	6" CONDUIT, TYPE F	
					150						150			603	04600	150	FT	12" CONDUIT, TYPE C	
					58						58			603	06400	58	FT	15" CONDUIT, TYPE D	
					65						65			603	07600	65	FT	18" CONDUIT, TYPE C	
					108						108			603	53400	108	FT	58" X 91" CONDUIT, TYPE A, 706.04	
						4					4			604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	
						305					305			605	05100	305	FT	4" SHALLOW PIPE UNDERDRAINS	
																		PAVEMENT	
100											70		30	251	01000	100	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR	
			72428	27228							73775	25881		254	01000	99656	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
	217										217			301	46000	217	CU YD	ASPHALT CONCRETE BASE, PG64-22	
6					62						68			304	20000	68	CU YD	AGGREGATE BASE	
	104										104			304	20001	104	CU YD	AGGREGATE BASE, AS PER PLAN	8
	33		6118	4085							6354	3882		407	10000	10236	GALLON	TACK COAT	
	47		7486								7533			407	14000	7533	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
					111						111			408	10000	111	GALLON	PRIME COAT	
	48		5365	658							5494	577		408	10001	6071	GALLON	PRIME COAT, AS PER PLAN	8
			53464								53464			422	10000	53464	SQ YD	SINGLE CHIP SEAL	
	38		2599								2637			448	46050	2637	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
	23		3847	1135	16						3943	1078		448	46904	5021	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M	
			162								162			448	48020	162	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	
	8		774	94							794	82		617	10101	876	CU YD	COMPACTED AGGREGATE, AS PER PLAN	8

CALCULATED LMB CHECKED

GENERAL SUMMARY

STA-93-(9.94)
(10.03)(11.71)

SHEET NUMBER											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
13	14	22	42	43							FED/ STATE	FED/ CF	CF						
																		TRAFFIC SURVEILLANCE	
	1										1			632	26501	1	EACH	DETECTOR LOOP, AS PER PLAN	14
																		TRAFFIC CONTROL	
			480								480			621	10000	480	EACH	RPM, LOW PROFILE, YELLOW/YELLOW	
			16								16			621	10010	16	EACH	RPM, LOW PROFILE, WHITE	
			496								496			621	54000	496	EACH	RAISED PAVEMENT MARKER REMOVED	
				13.36							12.12	1.24		646	10000	13.36	MILE	EDGE LINE	
				7.54							5.94	1.6		646	10200	7.54	MILE	CENTER LINE	
				230								230		646	10300	230	FT	CHANNELIZING LINE	
				125							36	89		646	10400	125	FT	STOP LINE	
				220								220		646	10500	220	FT	CROSSWALK LINE	
				4							4			646	20000	4	EACH	RAILROAD SYMBOL MARKING	
				4							2	2		646	20110	4	EACH	SCHOOL SYMBOL MARKING, 96"	
				48								48		646	20200	48	FT	PARKING LOT STALL MARKING	
				4								4		646	20300	4	EACH	LANE ARROW	
																		STRUCTURES	
																		FOR STA-93-0994 ESTIMATED QUANTITIES	46
																		FOR STA-93-1003 ESTIMATED QUANTITIES	54
																		FOR STA-93-1187 ESTIMATED QUANTITIES	60
																		FOR STA-93-1442 ESTIMATED QUANTITIES	46
																		FOR STA-93-1639 ESTIMATED QUANTITIES	46
																		FOR STA-93-1725 ESTIMATED QUANTITIES	46
																		FOR STA-93-1816 ESTIMATED QUANTITIES	46
																		MAINTENANCE OF TRAFFIC	
32											24	8		614	12460	32	EACH	WORK ZONE MARKING SIGN	
20											17	3		614	13000	20	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
14.34											12.74	1.6		614	21400	14.34	MILE	WORK ZONE CENTER LINE, CLASS II	
7.54											5.94	1.6		614	21550	7.54	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
13.36											13.36			614	22350	13.36	MILE	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
230												230		614	23000	230	FT	WORK ZONE CHANNELIZING LINE, CLASS I	
230												230		614	23680	230	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	
125											36	89		614	26000	125	FT	WORK ZONE STOP LINE, CLASS I	
125											36	89		614	26610	125	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
3											3			616	10000	3	M GAL	WATER	
											LUMP			614	11000	LUMP		MAINTAINING TRAFFIC	
											6			619	16010	6	MONTH	FIELD OFFICE, TYPE B	
											LUMP			623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
											LUMP			624	10000	LUMP		MOBILIZATION	

CALCULATED LMB
CHECKED

GENERAL SUMMARY

STA-93-(9.94)
(10.03)(11.71)

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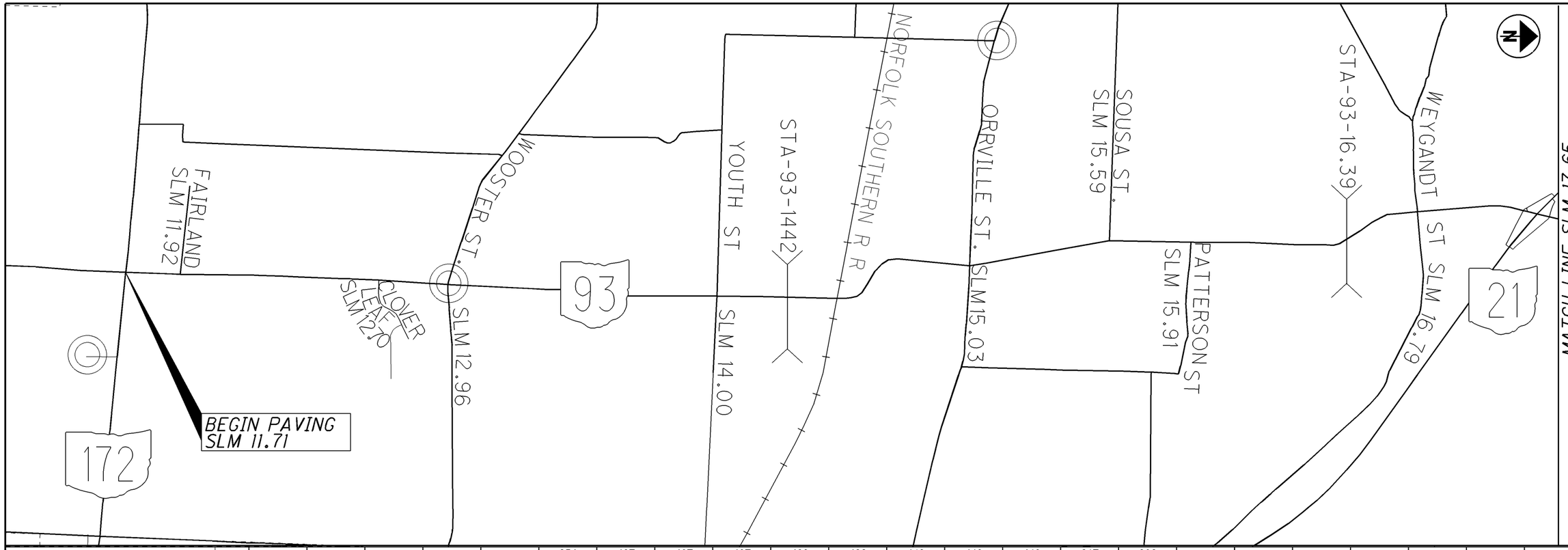
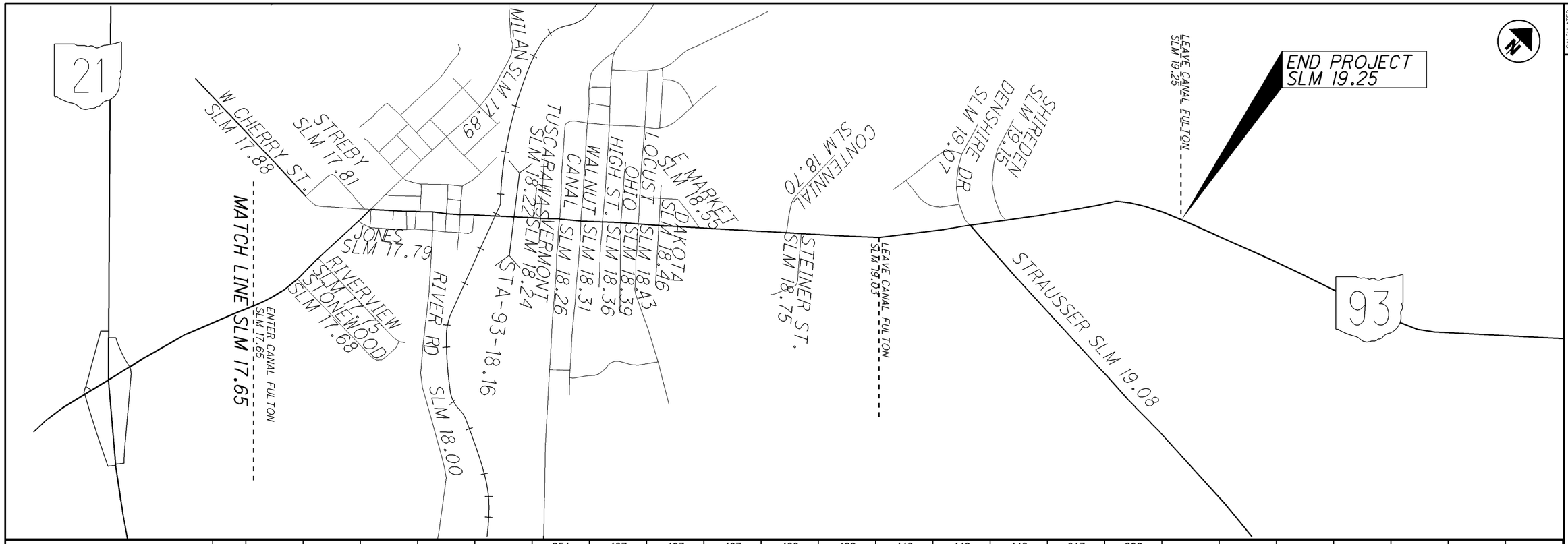


SLM RANGE			CITY/ROUTE	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	254 PAVEMENT PLANING, ASPHALT CONCRETE, 1 1/2"	407 TACK COAT, @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE, @ 0.10 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE, @ 0.04 GAL/SY	408 PRIME COAT, AS PER PLAN	422 SINGLE CHIP SEAL	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22, 1 3/4"	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, 1 1/2"	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	617 COMPACTED AGGREGATE, AS PER PLAN	202 WEARING COURSE REMOVED
					FT	FT	SQ YD	SQ YD	SQ YD	GALLON	GALLON	GALLON	GALLON	SQ YD	CU YD	CU YD	CU YD	CU YD	SQ YD
11.71	TO	12.32	93	LT/RT	3220.80	26.00	9304.53		9304.53	1395.68			572.59			387.69		81.12	
12.32	TO	12.38	93	LT/RT	316.80	26.00	915.20		915.20	137.28			28.16			38.13		3.99	
12.38	TO	12.43	93	LT/RT	264.00	26.00	762.67		762.67	114.40			46.93			31.78		6.65	
12.43	TO	12.58	93	LT/RT	792.00	26.00	2288.00		2288.00	343.20			70.40			95.33		9.97	
12.58	TO	12.91	93	LT/RT	1742.40	26.00	5033.60		5033.60	755.04			309.76			209.73		43.88	
12.91	TO	12.93	93	LT/RT	105.60	26.00	305.07		305.07	45.76			18.77			12.71		2.66	
12.93	TO	13.09	93	LT/RT	844.80	26.00	2440.53		2440.53	366.08			150.19			101.69		21.28	
13.09	TO	14.25	93	LT/RT	6124.80	26.00	17693.87			2654.08			1088.85			737.24		154.25	
14.25	TO	14.42	93	LT/RT	897.60	25.00	2493.33		2493.33		249.33	99.73	159.57	2493.33	121.20	103.89		22.61	
14.44	TO	14.45	93	LT/RT	52.80	25.00	146.67		146.67		14.67	5.87	9.39	146.67	7.13	6.11		1.33	
14.46	TO	16.39	93	LT/RT	10190.40	25.00	28306.67		28306.67		2830.67	1132.27	1811.63	28306.67	1376.02	1179.44		256.65	
16.41	TO	17.06	93	LT/RT	3432.00	25.00	9533.33		9533.33		953.33	381.33	610.13	9533.33	463.43	397.22		86.44	
17.06	TO	17.23	93	LT/RT	897.60	45.00	4488.00		4488.00		448.80	179.52	159.57	4488.00	218.17	187.00		22.61	
17.30	TO	17.40	93	LT/RT	528.00	45.00	2640.00		2640.00		264.00	105.60	93.87	2640.00	128.33	110.00		13.30	
17.40	TO	17.65	93	LT/RT	1320.00	25.00	3666.67		3666.67		366.67	146.67	234.67	3666.67	178.24	152.78		33.24	
INTERSECTIONS (PAVE 2 FT)								103.33	103.33	15.50						4.31			
INTERSECTIONS (PAVE 25 FT)								2188.89			218.89	87.56		2188.89	106.40	91.20			2188.89
DRIVEWAYS								1522.22		152.22							84.57		
MAILBOX APPROACHES								1386.90		138.69							77.05		
									72427.60	6117.93	5346.36	2138.55	5364.48	53463.56	2598.92	3846.27	161.62	759.97	2188.89
TOTALS CARRIED TO GENERAL SUMMARY									72428	6118	5347	2139	5365	53464	2599	3847	162	760	2189

CALCULATED LMB
CHECKED

PAVEMENT CALCULATIONS

**STA-93-(9.94)
(10.03)(11.71)**



CALCULATED LMB
CHECKED

PAVEMENT CALCULATIONS

SLM RANGE			CITY/ROUTE	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	254 PAVEMENT PLANING, ASPHALT CONCRETE, 1 1/2"	407 TACK COAT, @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE, @ 0.10 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE, @ 0.04 GAL/SY	408 PRIME COAT, AS PER PLAN	422 SINGLE CHIP SEAL	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22, 1 1/2"	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	617 COMPACTED AGGREGATE, AS PER PLAN	202 WEARING COURSE REMOVED
CF = CITY OF CANAL FULTON					FT	FT	SQ YD	SQ YD	SQ YD	GALLON	GALLON	GALLON	GALLON	SQ YD	CU YD	CU YD	CU YD	CU YD	SQ YD
17.65	TO	17.76	CF	LT/RT	580.80	36.00	2323.20		2323.20	348.48			103.25			96.80		14.63	
17.76	TO	17.77	CF	LT/RT	52.80	30.00	176.00		176.00	26.40			9.39			7.33		1.33	
17.77	TO	18.11	CF	LT/RT	1795.20	30.00	5984.00		5984.00	897.60						249.33			
18.12	TO	18.16	CF	LT/RT	211.20	30.00	704.00		704.00	105.60						29.33			
18.20	TO	18.22	CF	LT/RT	105.60	30.00	352.00		352.00	52.80						14.67			
18.22	TO	18.31	CF	LT/RT	475.20	36.00	1900.80		1900.80	285.12						79.20			
18.31	TO	18.67	CF	LT/RT	1900.80	30.00	6336.00		6336.00	950.40						264.00			
18.67	TO	19.08	CF	LT/RT	2164.80	27.00	6494.40		6494.40	974.16			384.85			270.60		54.52	
19.08	TO	19.25	CF	LT	897.60	13.50	1346.40		1346.40	201.96			79.79			56.10		11.30	
19.08	TO	19.25	93	RT	897.60	13.50	1346.40		1346.40	201.96			79.79			56.10		11.30	
INTERSECTIONS (PAVE 2 FT)								264.44	264.44	39.67						11.02			
SUBTOTALS									27227.64	4084.15	0.00	0.00	657.07	0.00	0.00	1134.49	0.00	93.08	0.00
TOTALS CARRIED TO GENERAL SUMMARY									27228	4085	0	0	658	0	0	1135	0	94	0

STA-93-(9.94)
(10.03)(11.71)

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REF NO.	SHEET NO.	STATION TO STATION					202 STRUCTURE REMOVED (STA-93-16.70) LUMP	202 PIPE REMOVED, 24" AND UNDER FT	202 GUARDRAIL REMOVED FT	202 CATCH BASIN REMOVED EACH	203 EXCAVATION CU YD	304 AGGREGATE BASE (THICKNESS = 6") CU YD	408 PRIME COAT GALLON	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M (THICKNESS = 2") CU YD	601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER CU YD	603 12" CONDUIT, TYPE C FT	603 15" CONDUIT, TYPE D FT	603 18" CONDUIT, TYPE C FT	603 58" X 91" CONDUIT, TYPE A, 706.04 FT	604 CATCH BASIN, NO. 2-2B EACH	606 GUARDRAIL, TYPE 5 FT	606 ANCHOR ASSEMBLY, TYPE E-98 EACH	606 ANCHOR ASSEMBLY, TYPE T EACH				
R1	24	529+04.77	RT	TO	531+93.90	RT			287.5																		
R2	24	530+00.86	LT	TO	532+34.86	LT			237.5																		
R3	24	531+98.11	RT	TO	532+23.19	RT		25																			
R4	25	161+07.29	RT	TO	161+60.64	RT			50																		
R5	25	161+87.04	RT	TO	162+40.02	RT			50																		
R6	25	160+80.68	LT	TO	161+33.96	LT			50																		
R7	25	161+60.41	LT	TO	162+13.69	LT			50																		
R8	25	161+50.20	LT	TO	162+30.36	LT		80																			
R9	25	162+30.36	LT							1																	
R10	25	162.30.36	LT	TO	162+99.76	LT		70																			
R11	26	86+37.95	RT	TO	86+59.31	RT		22																			
R12	26	86+62.99	RT	TO	86+93.53	RT		30																			
R13	26	86+26.04					LUMP																				
R14	26	85+86.22	RT	TO	86+64.35	RT			75																		
GR1	24	528+09.91	RT	TO	531+61.96	RT																	250	2			
GR2	24	530+00.00	LT	TO	532+51.68	LT																	200	1	1		
GR3	25	159+20.07	RT	TO	163+57.57	RT																	337.5	2			
GR4	25	159+13.91	LT	TO	162+49.98	LT																	287.5	1	1		
P1	24	531+60.00	RT	TO	532+23.19	RT												65									
P2	25	161+48.69	LT	TO	162+30.36	LT											80										
P3	25	162+30.36	LT	TO	163+01.94	LT											70										
P4	26	86+26.04																		107.5							
P5	26	86+34.65	RT	TO	86+92.69	RT													57.5								
CB1	25	162+30.36	LT																		1						
RCP1	26	86+26.04	LT												16												
D1	24	529+69.26	LT								45	35	82	12													
D2	24	532+08.68	RT								16	12	29	4													
D3	26	86+77.78	RT								14	15															
TOTALS CARRIED TO GENERAL SUMMARY							0	227	800	1	75	62	111	16	16	150	58	65	108	1	1075	6	2	0	0	0	0

CALCULATED LMS
CHECKED TJP

SUB-SUMMARY

STA-93-(9.94)
(10.03)(11.71)

REF NO.	SHEET NO.	STATION TO STATION					BEGIN ELEVATION	END ELEVATION	OUTLET						603	604	605						FOR INFORMATION ONLY			
									BEGIN		STATION		END		4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAINS						TEE	45° BEND	90° BEND	END CAP
									ELEVATION	OFFSET	SHALLOW UNDERDRAIN OUTLET	OUTLET TO DRAINAGE STRUCTURE	ELEVATION	OFFSET												
															FT	EACH	FT						EACH	EACH	EACH	EACH
U1	24	529+40.00	LT	TO	530+27.60	LT	1040.15	1041.73	1040.15	13	529+40.00		1041.50	25	12	1	88						1			2
U2	24	530+45.88	LT	TO	531+10.00	LT	1042.60	1044.86	1043.09	15	530+60.00		1040.00	40	25	1	65						1			2
U3	24	529+40.00	RT	TO	530+21.96	RT	1040.15	1041.73	1040.15	13	529+40.00		1041.50	25	12	1	82						1			2
U4	24	530+40.23	RT	TO	531+10.00	RT	1042.60	1044.86	1043.30	15	530+60.00		1038.25	40	25	1	70						1			2
TOTALS CARRIED TO GENERAL SUMMARY															74	4	305	0	0	0	0	0	4	0	0	8

CALCULATED LMS
CHECKED TJP

UNDERDRAIN SUBSUMMARY

STA-93-(9.94)
(10.03)(11.71)

LEGEND

* STA. 530+33.92 = STA. 2+84.43

CONST. CONSTRUCTION
E/P EDGE OF PAVEMENT
E/S EDGE OF SHOULDER
G/R GUARDRAIL
SHLDR SHOULDER
RESURFACING

EXIST. STRUCTURE TO BE REMOVED STA-93-1003

TYPE T ANCHOR ASSEMBLY

℄ DRIVE

BRANCH OF PIGEON RUN

℄ CREEK

BEGIN SHLDR TAPER STA. 529+40.00 LT & RT ℄ SLM 10.01

END SHLDR TAPER STA. 531+10.00 LT & RT = SLM 10.04

G/R LENGTH OF NEED STA. 532+38.15

TYPE E-98 ANCHOR ASSEMBLY

CONSTRUCTION LIMITS

℄ R/W AND CONSTRUCTION, SR-93

E/S

E/P

SAW CUT

SAW CUT

N 1°42'01" E

G/R LENGTH OF NEED STA. 528+23.43

TYPE E-98 ANCHOR ASSEMBLY

CONST. LIMITS

TYPE E-98 ANCHOR ASSEMBLY

G/R LENGTH OF NEED STA. 531+48.44

BEGIN WORK STA. 527+80.00

BEGIN PROJECT STA. 530+00.00

SUSPEND PROJECT STA. 530+60.00

SUSPEND WORK STA. 532+75.00

END SHLDR TAPER STA. 530+00.00 LT & RT

BEGIN SHLDR TAPER STA. 530+60.00 LT & RT

*** FOR DRIVEWAY DETAILS SEE BP-4.1**

P.V.I. Sta. 530+10.00
Elev. = 1,044.35
130.55' V.C.
RESURFACING
FULL DEPTH
RESURFACING
PROFILE GRADE
EVC Sta. 529+44.72
Elev. 1,043.41
Sta. 530+00.00
Sta. 530+60.00
PVT Sta. 530+75.28
Elev. 1,046.81
1,043.34
1,018.12
SAW CUT
SAW CUT
+1.44 %
-3.17 %
HW (100) = 1040.06
HW (25) = 1039.29
EXISTING STRUCTURE TO BE REMOVED (STA-93-1003)
16' X 7' CONDUIT, TYPE A, 706.05, AS PER PLAN
65' - 18" CONDUIT, TYPE C @ 8.54%
EXISTING PROFILE GRADE
EX. 24" RCP
EX. 18" RCP TO BE REMOVED

1,043.34 1,043.65 1,044.03 1,044.48 1,045.00 1,045.59 1,046.26 1,046.39 1,047.75

1065 1060 1055 1050 1045 1040 1035 1030

528+00 529+00 530+00 531+00 532+00

1042.38 1042.67 1042.90 1043.36 1044.40 1045.80 1047.55 1049.62 1051.99 1055.01

CALCULATED MJH CHECKED TJP

HORIZONTAL SCALE IN FEET 0 10 20 40

PLAN AND PROFILE (STA-93-1003) STA. 527+50.00 TO STA. 533+00.00

STA-93-(9.94) (10.03)(11.71)

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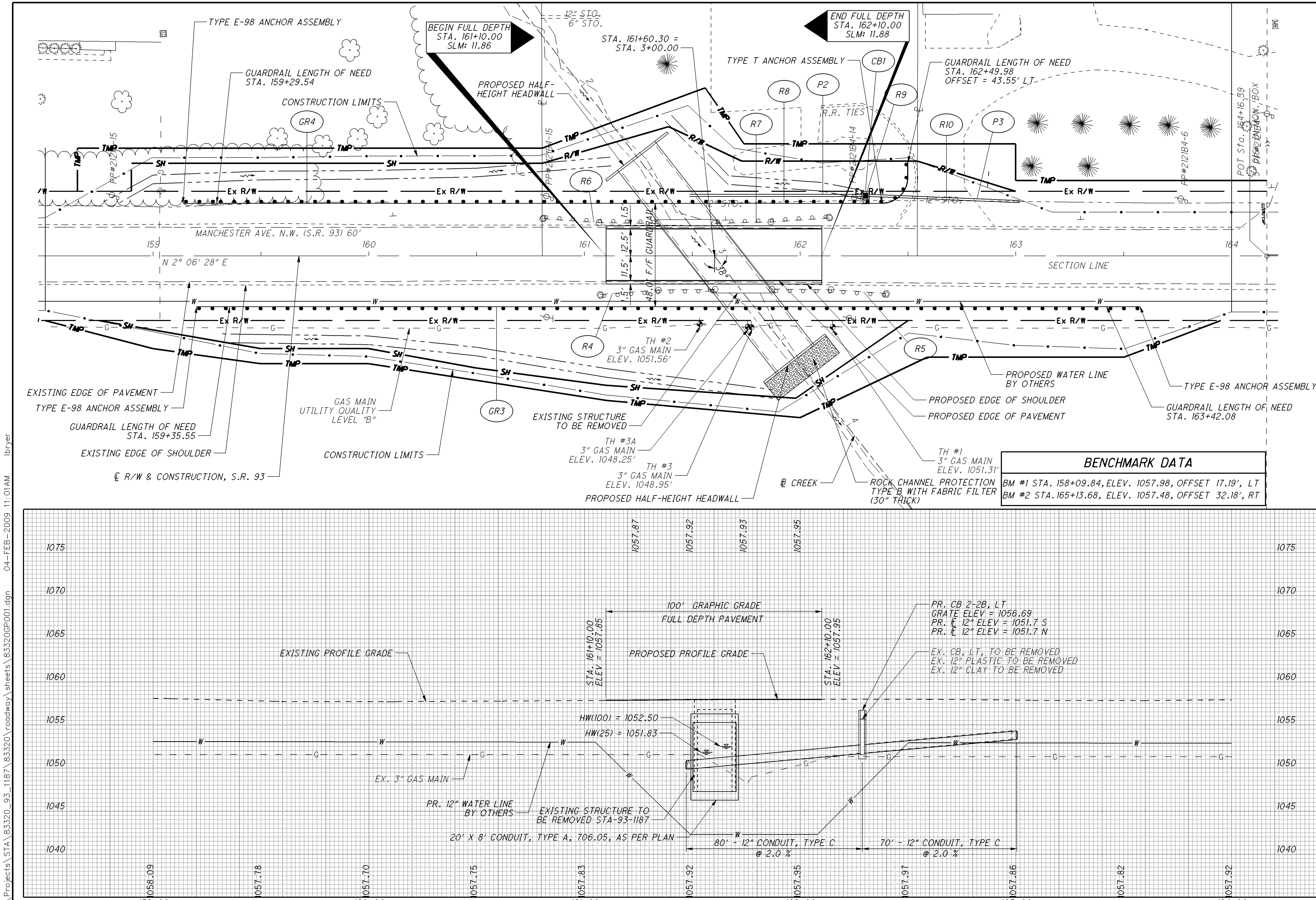
BEGIN FULL DEPTH STA. 161+10.00 SLM: 11.86
END FULL DEPTH STA. 162+10.00 SLM: 11.88
12" STO.
6" STO.
TYPE E-98 ANCHOR ASSEMBLY
GUARDRAIL LENGTH OF NEED STA. 159+29.54
CONSTRUCTION LIMITS
PROPOSED HALF-HEIGHT HEADWALL
STA. 161+60.30 = STA. 3+00.00
TYPE T ANCHOR ASSEMBLY
GUARDRAIL LENGTH OF NEED STA. 162+49.98 OFFSET = 43.55' LT
R.R. TIES
POT Sta. 164+16.59
MANCHESTER AVE. N.W. (S.R. 93) 60'
N 2° 06' 28" E
SECTION LINE
F/F GUARDRAIL
TH #2 3" GAS MAIN ELEV. 1051.56'
EXISTING EDGE OF PAVEMENT
TYPE E-98 ANCHOR ASSEMBLY
GUARDRAIL LENGTH OF NEED STA. 159+35.55
EXISTING EDGE OF SHOULDER
℄ R/W & CONSTRUCTION, S.R. 93
GAS MAIN UTILITY QUALITY LEVEL "B"
CONSTRUCTION LIMITS
EXISTING STRUCTURE TO BE REMOVED
TH #3A 3" GAS MAIN ELEV. 1048.25'
TH #3 3" GAS MAIN ELEV. 1048.95'
PROPOSED HALF-HEIGHT HEADWALL
℄ CREEK
ROCK CHANNEL PROTECTION TYPE B WITH FABRIC FILTER (30" THICK)
TH #1 3" GAS MAIN ELEV. 1051.31'
PROPOSED EDGE OF PAVEMENT
PROPOSED EDGE OF SHOULDER
PROPOSED WATER LINE BY OTHERS
TYPE E-98 ANCHOR ASSEMBLY
GUARDRAIL LENGTH OF NEED STA. 163+42.08
BENCHMARK DATA
BM #1 STA. 158+09.84, ELEV. 1057.98, OFFSET 17.19', LT
BM #2 STA. 165+13.68, ELEV. 1057.48, OFFSET 32.18', RT
100' GRAPHIC GRADE
FULL DEPTH PAVEMENT
STA. 161+10.00 ELEV = 1057.85
STA. 162+10.00 ELEV = 1057.95
EXISTING PROFILE GRADE
PROPOSED PROFILE GRADE
PR. CB 2-2B, LT GRATE ELEV = 1056.69 PR. ℄ 12" ELEV = 1051.7 S PR. ℄ 12" ELEV = 1051.7 N
EX. CB, LT, TO BE REMOVED EX. 12" PLASTIC TO BE REMOVED EX. 12" CLAY TO BE REMOVED
HW(100) = 1052.50
HW(25) = 1051.83
EX. 3" GAS MAIN
PR. 12" WATER LINE BY OTHERS
EXISTING STRUCTURE TO BE REMOVED STA-93-1187
20' X 8' CONDUIT, TYPE A, 706.05, AS PER PLAN
80' - 12" CONDUIT, TYPE C @ 2.0 %
70' - 12" CONDUIT, TYPE C @ 2.0 %
159+00
160+00
161+00
162+00
163+00
164+00

HORIZONTAL SCALE IN FEET

CALCULATED LMS CHECKED TJP

PLAN AND PROFILE (STA-93-1187)
STA. 158+50.00 TO STA. 164+00.00

STA-93-(9.94) (10.03)(11.71)

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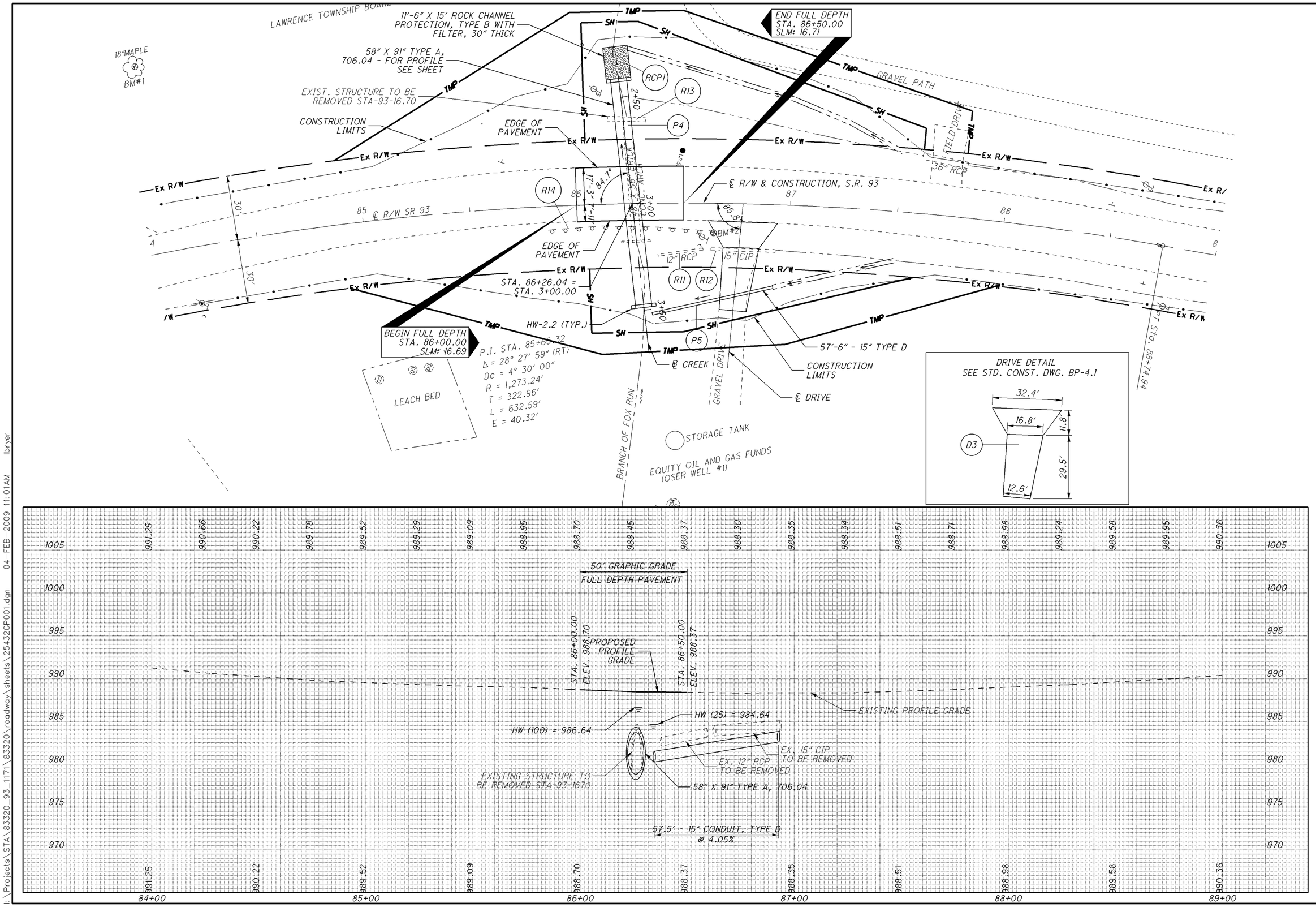

HORIZONTAL SCALE IN FEET

CALCULATED MJH
CHECKED TJP

PLAN AND PROFILE (STA-93-1670)
STA. 84+00.00 TO STA. 89+00.00

STA-93-(9.94)
(10.03)(11.71)

26
73

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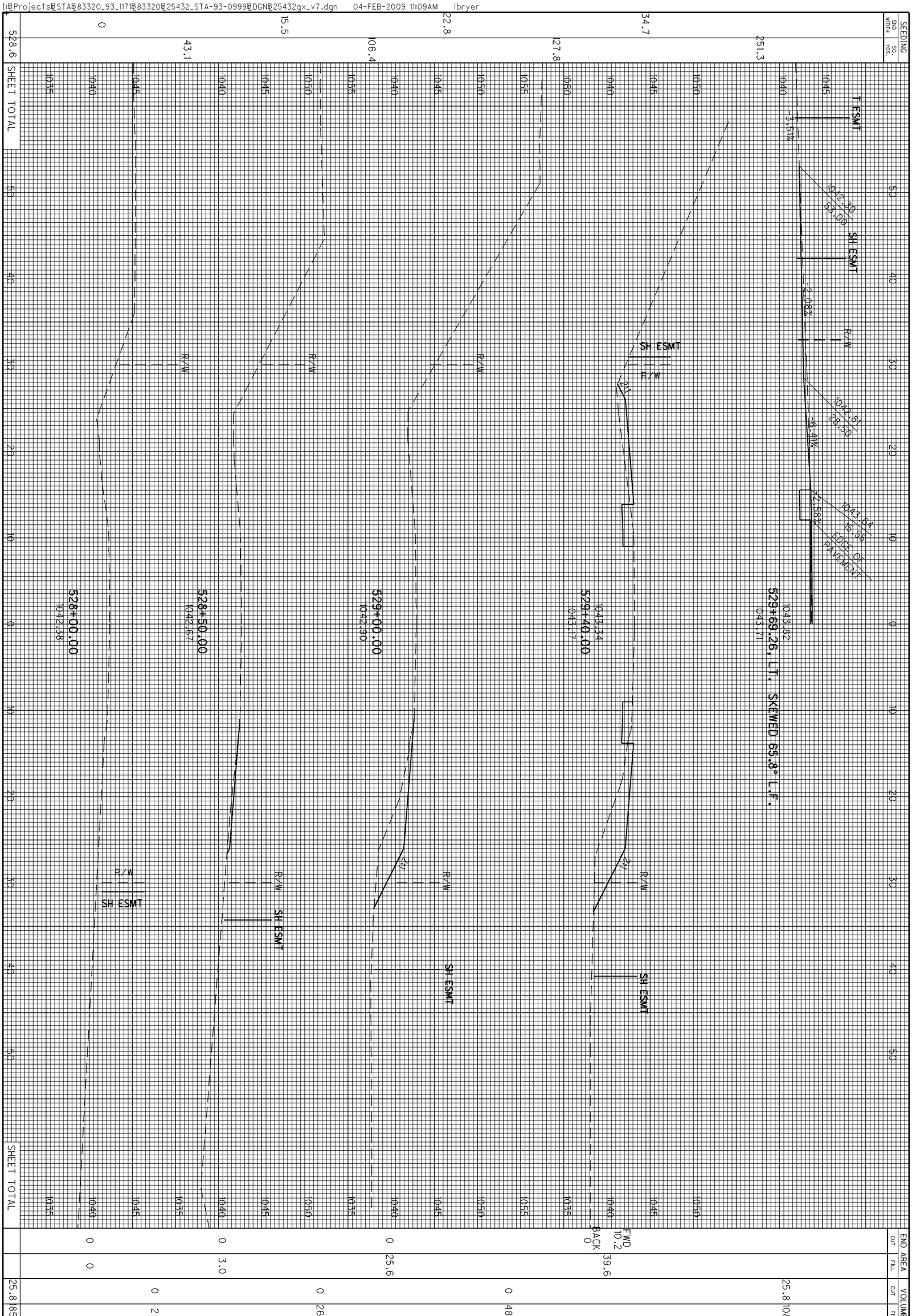
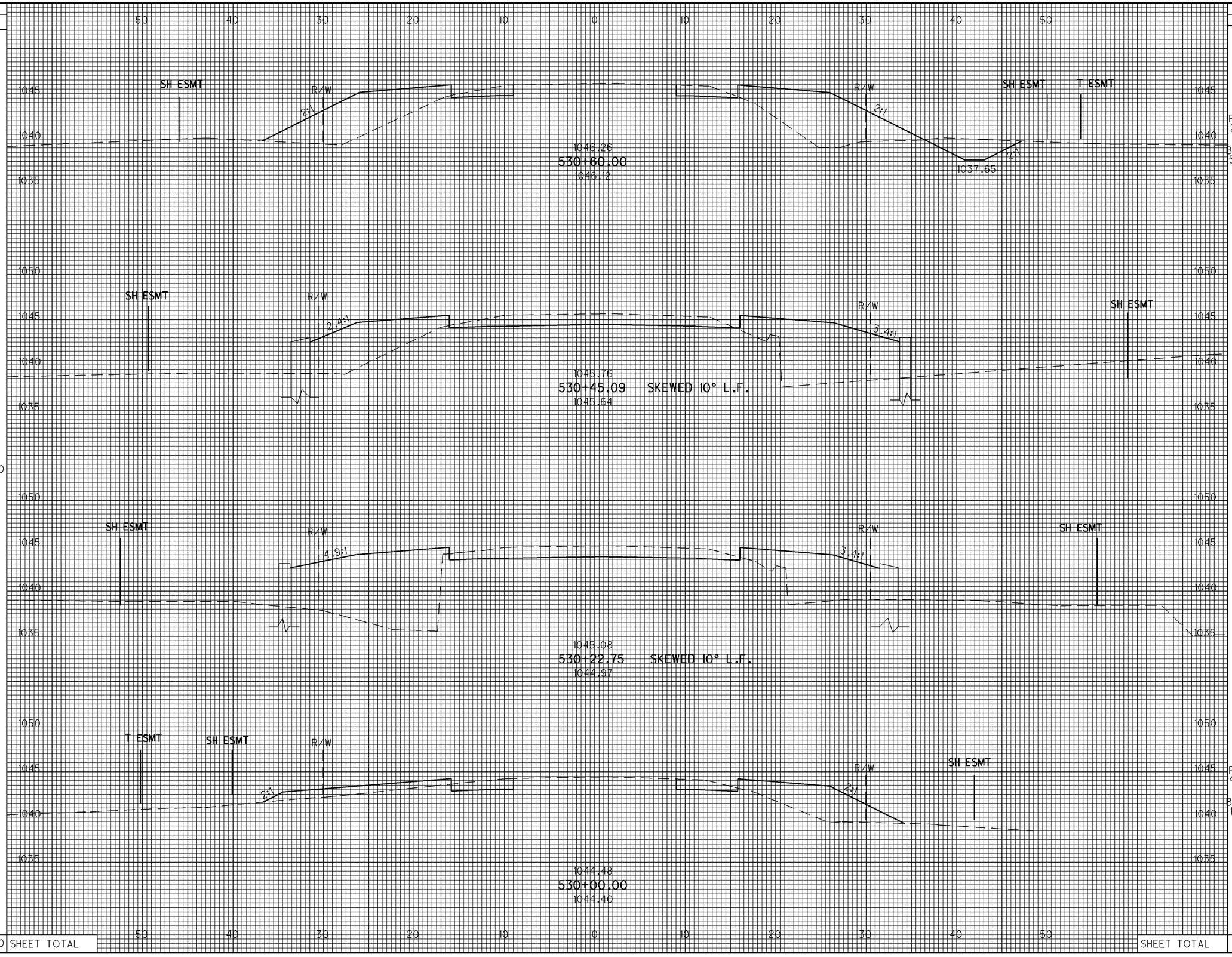


27/73	**STA-93-(9.94) (10.03)(11.71)**	**CROSS SECTIONS (STA-93-1003) STA. 528+00.00 TO STA. 530+00.00**

CALCULATED MJH
CHECKED

SEEDING	
END WIDTH	SQ. YDS.
55.9	
	322.0
40.7	
322.0	SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
FWD 26.1 BACK 57.9	131.3		
FWD 46.6 BACK 13.0	57.7	116.1	210
SHEET TOTAL		116.1	210

CALCULATED MJH

CHECKED

CROSS SECTIONS (STA-93-1003)
STA. 530+00.00 TO STA. 530+60.00

STA-93-(9.94)
(10.03)(11.71)

28
73

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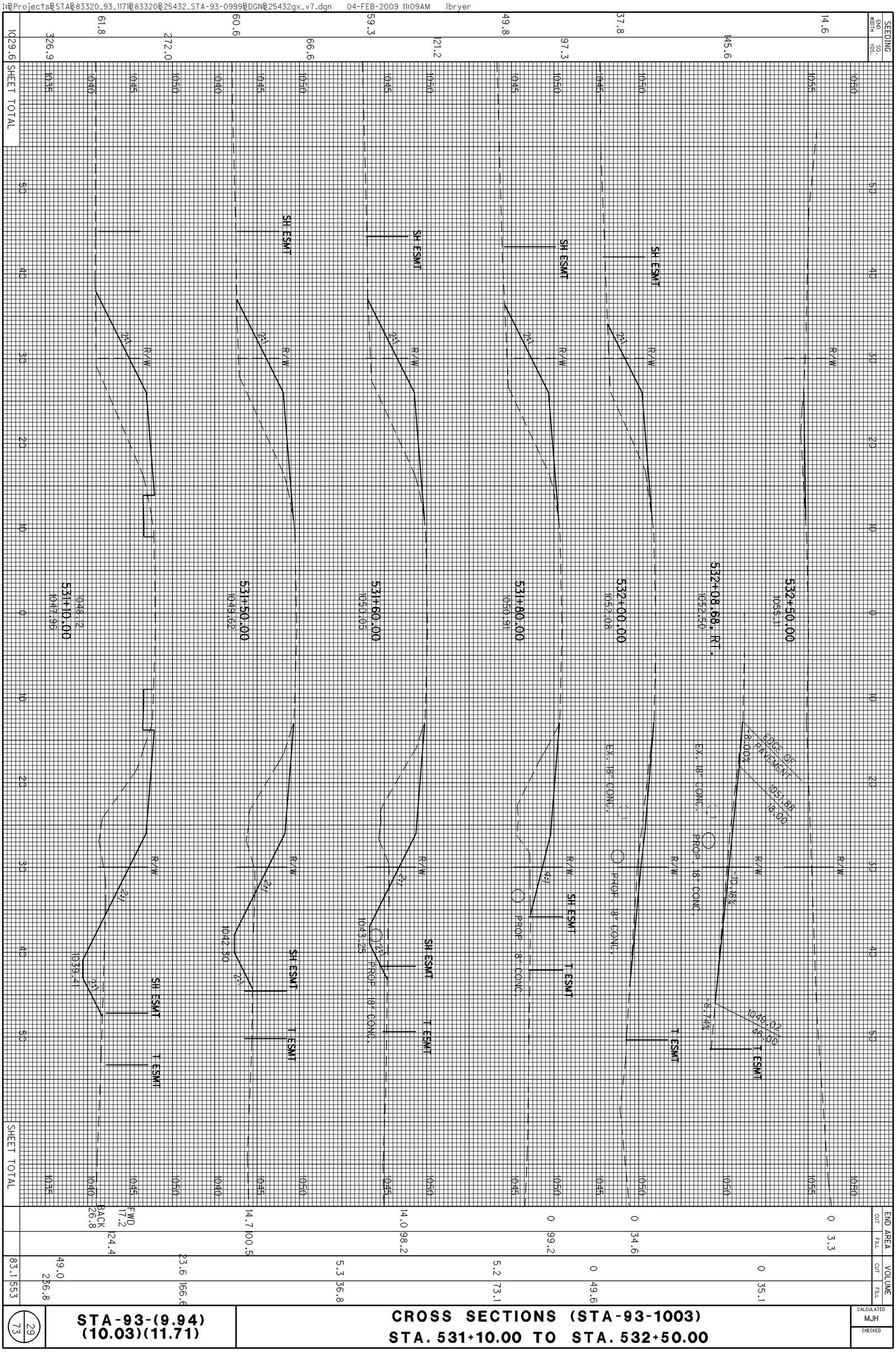

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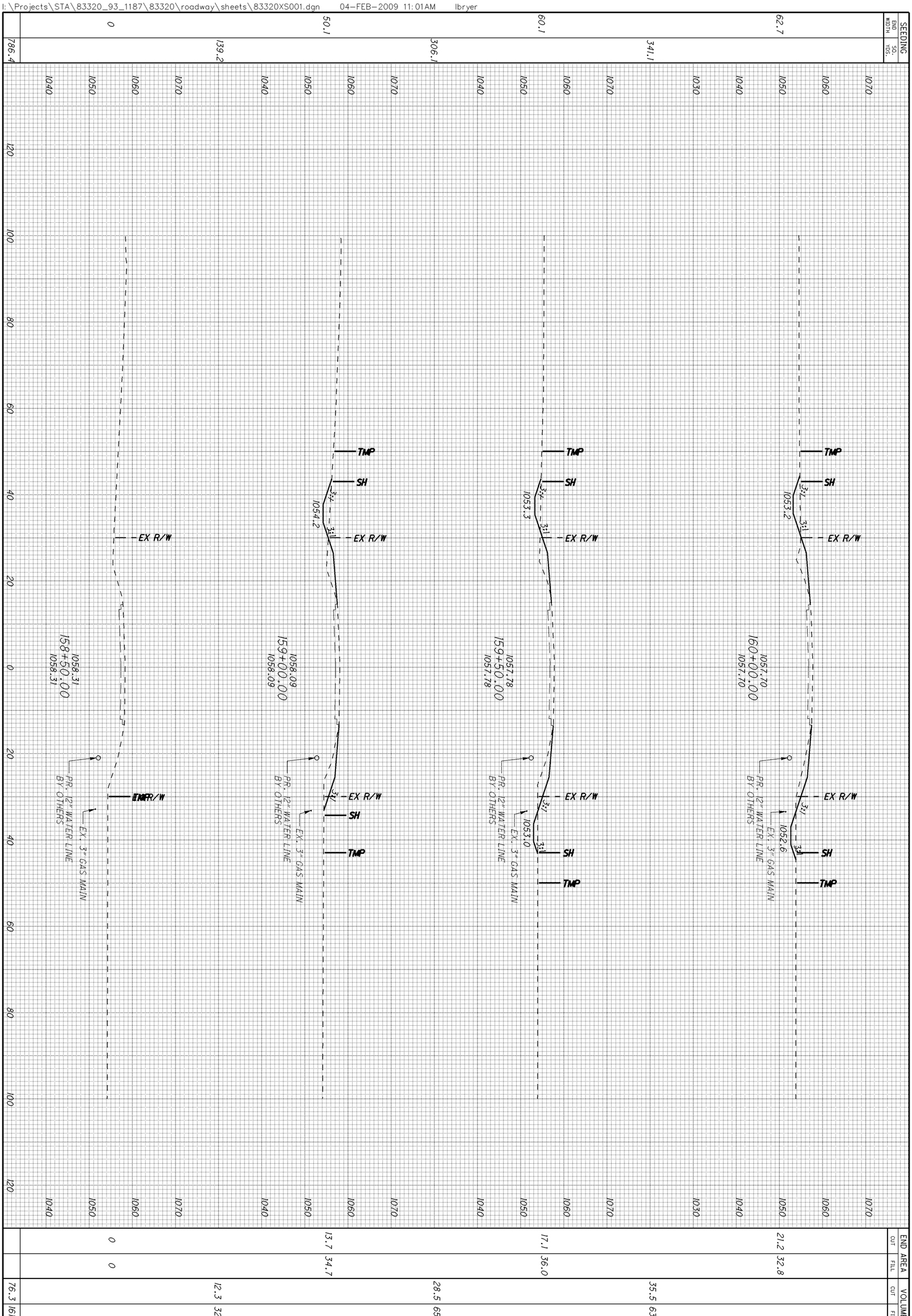

30
73

STA-93-(9.94)
(10.03)(11.87)

CROSS SECTIONS (STA-93-1187)

STA. 158+50.00 TO STA. 160+00.00

CALCULATED LMS
CHECKED TJP

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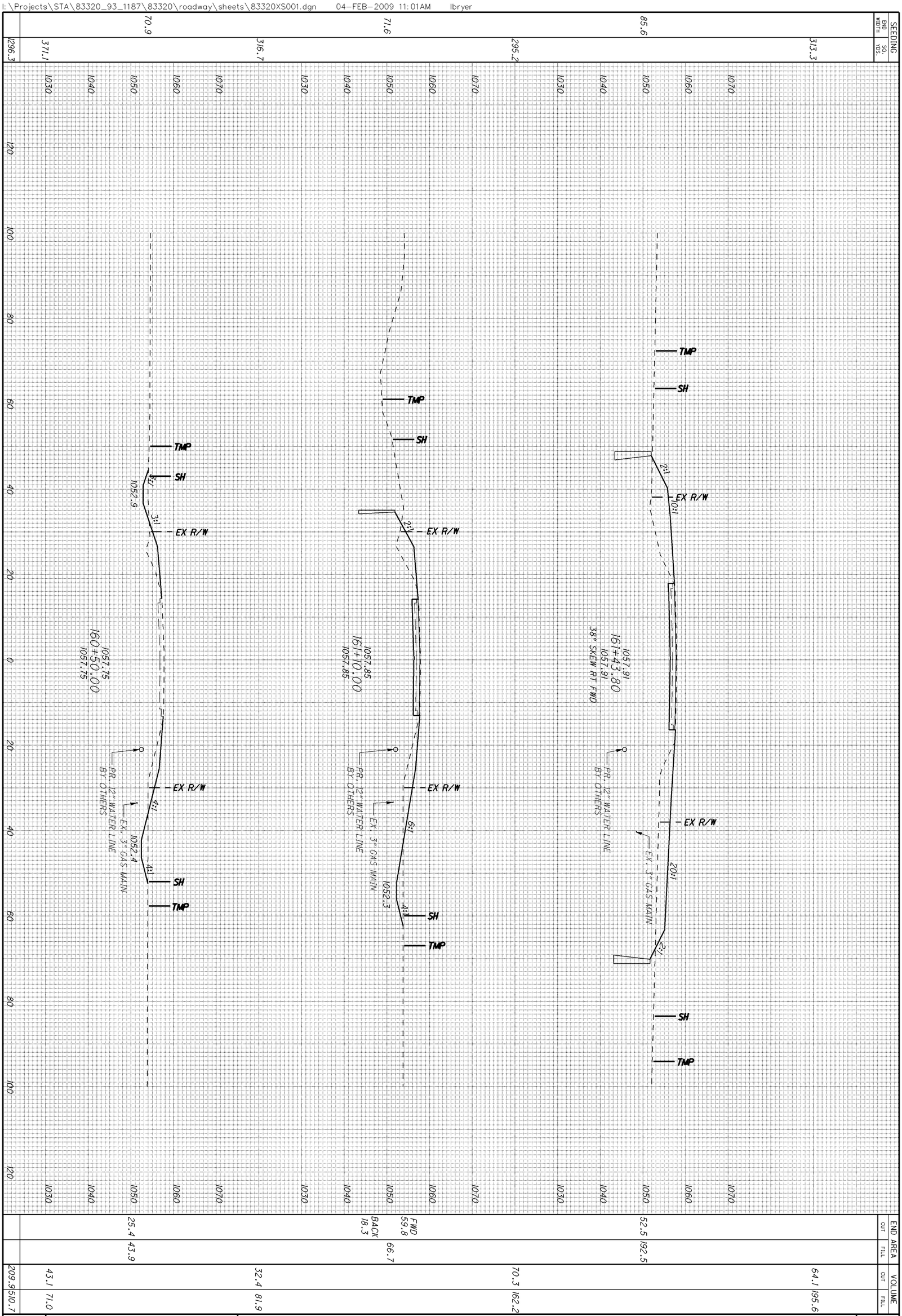

31/73	STA-93-(9.94) (10.03)(11.87)	CROSS SECTIONS (STA-93-1187) STA. 160+50.00 TO STA. 161+43.80	CALCULATED LMS CHECKED TJP

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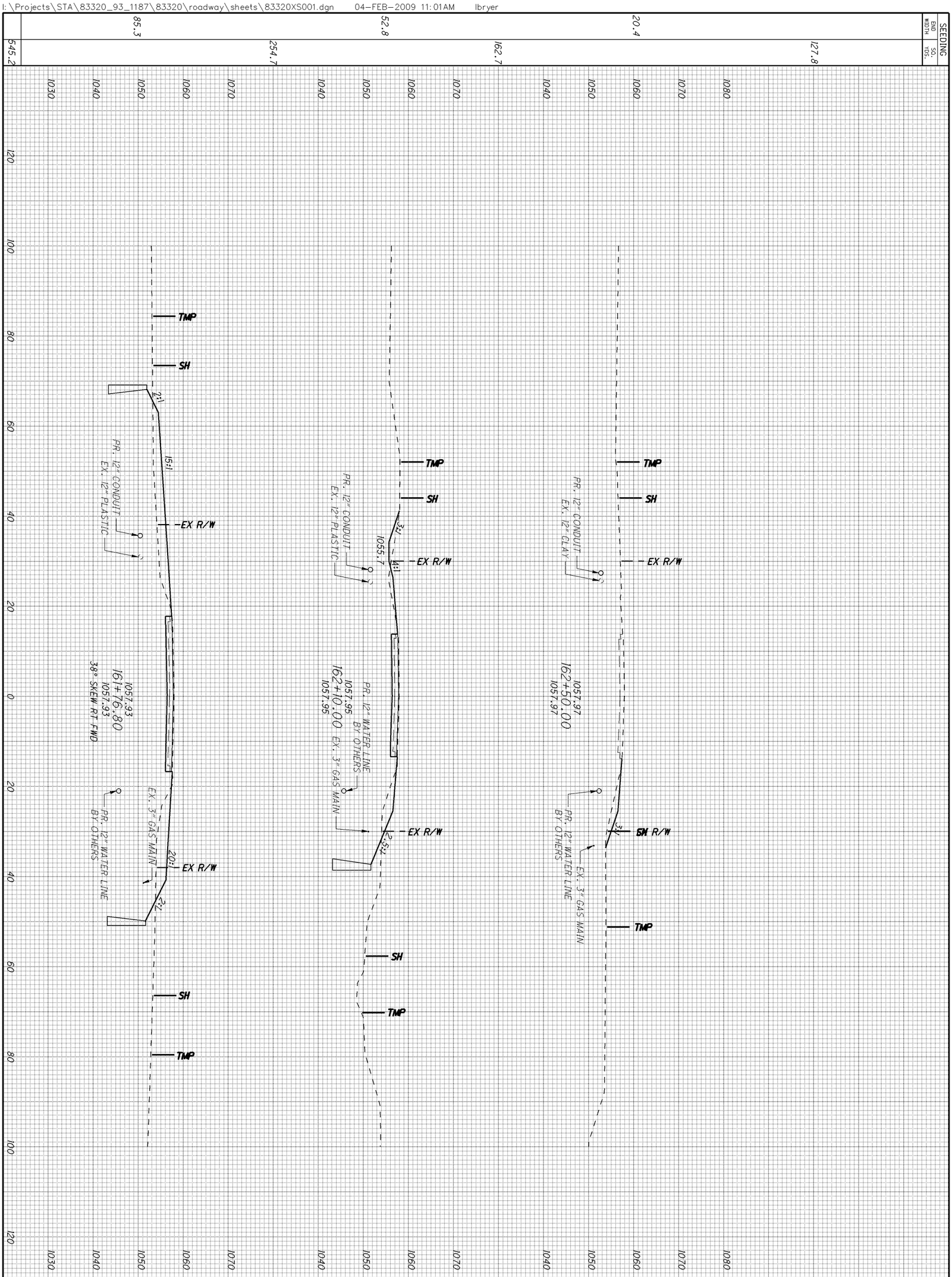

32/73

STA-93-(9.94)
(10.03)(11.87)

CROSS SECTIONS (STA-93-1187)
STA. 161+76.80 TO STA. 162+50.00

CALCULATED LMS
CHECKED TJP

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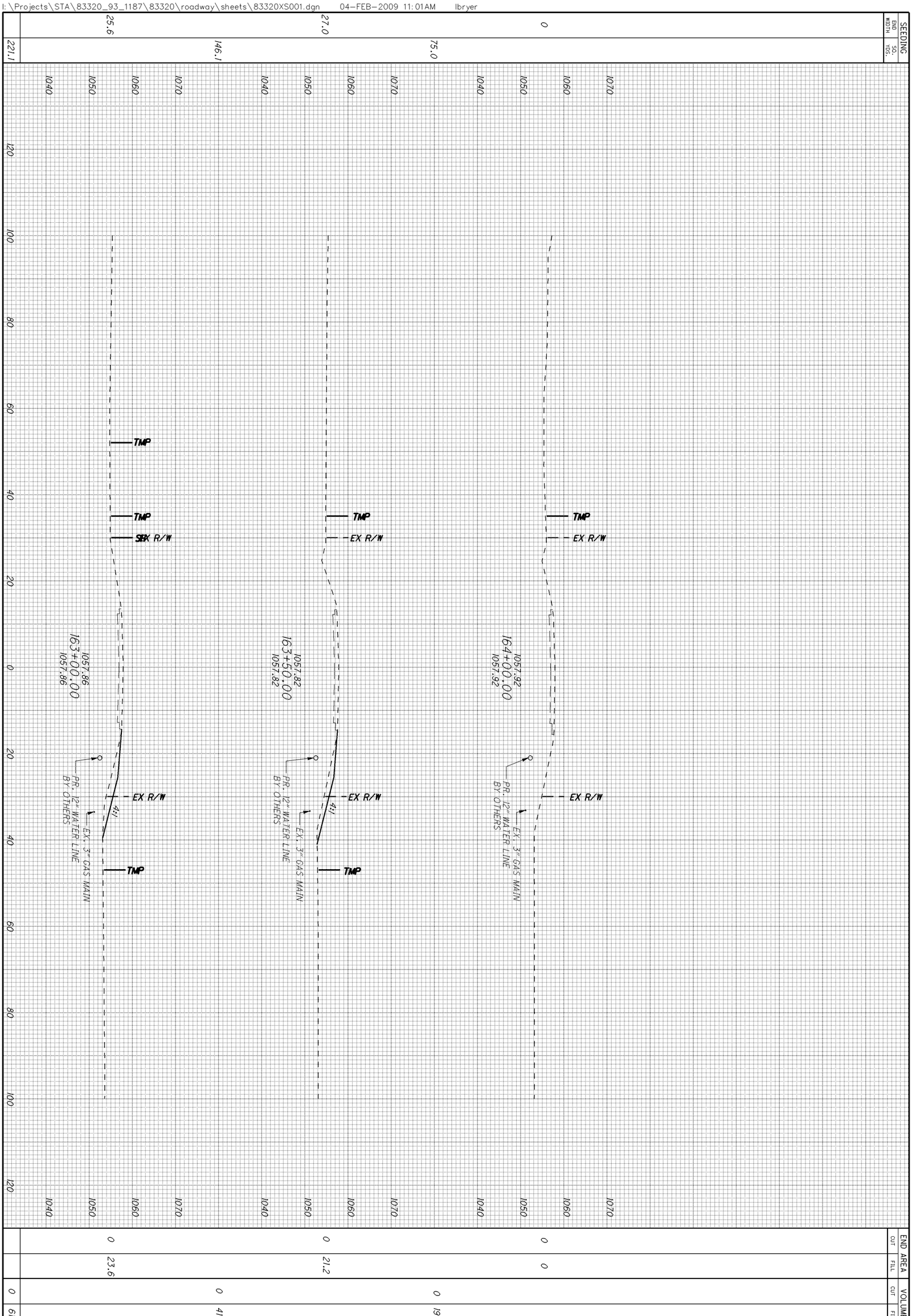

33 / 73	STA-93-(9.94) (10.03)(11.87)	CROSS SECTIONS (STA-93-1187) STA. 163+00.00 TO STA. 164+00.00	CALCULATED LMS CHECKED TJP

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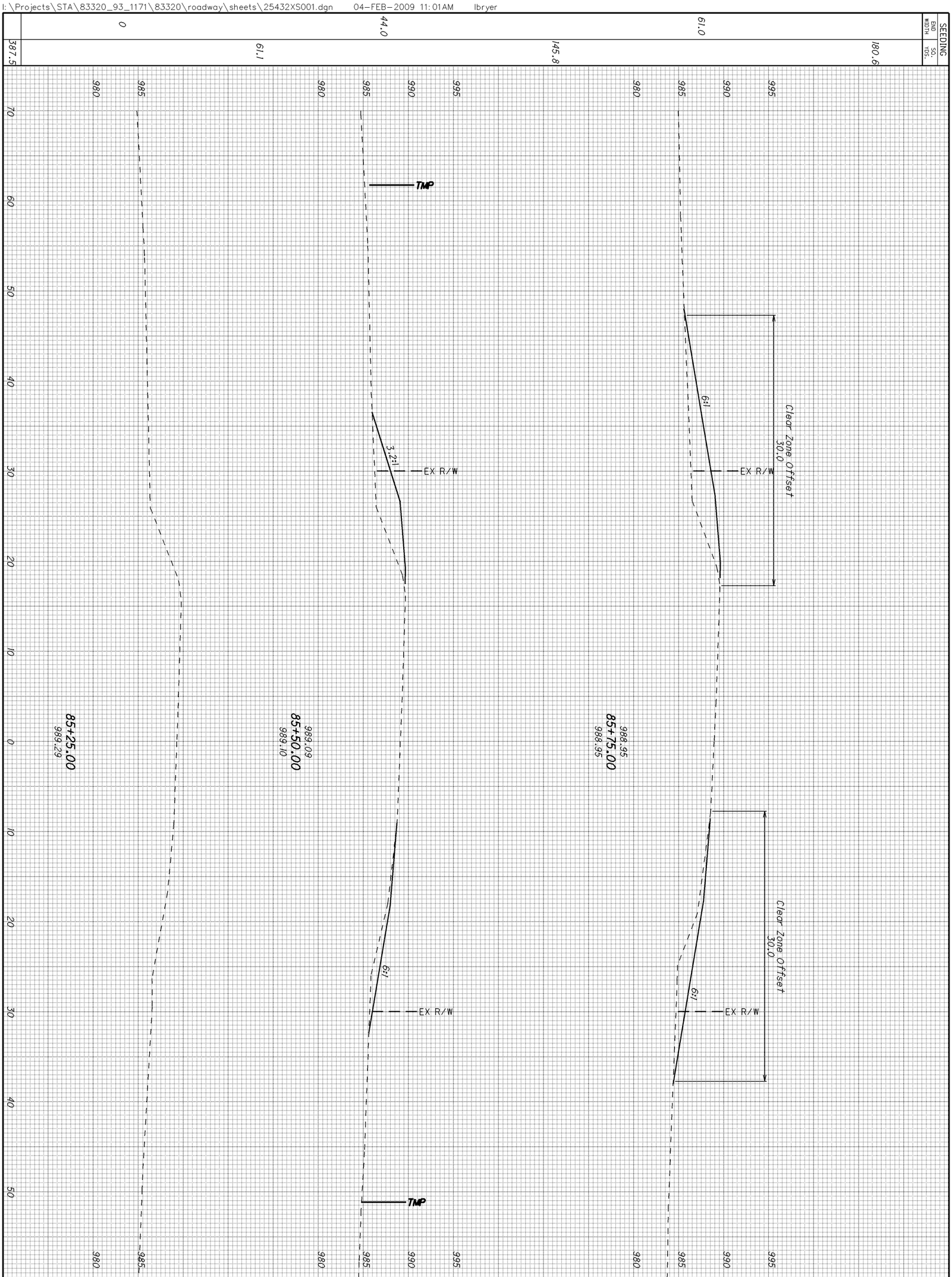

34/73	**STA-93-(9.94)** **(10.03)(11.71)**	**CROSS SECTIONS (STA-93-1670)** **STA. 85+25.00 TO STA. 85+75.00**
		CALCULATED MJH CHECKED TJP

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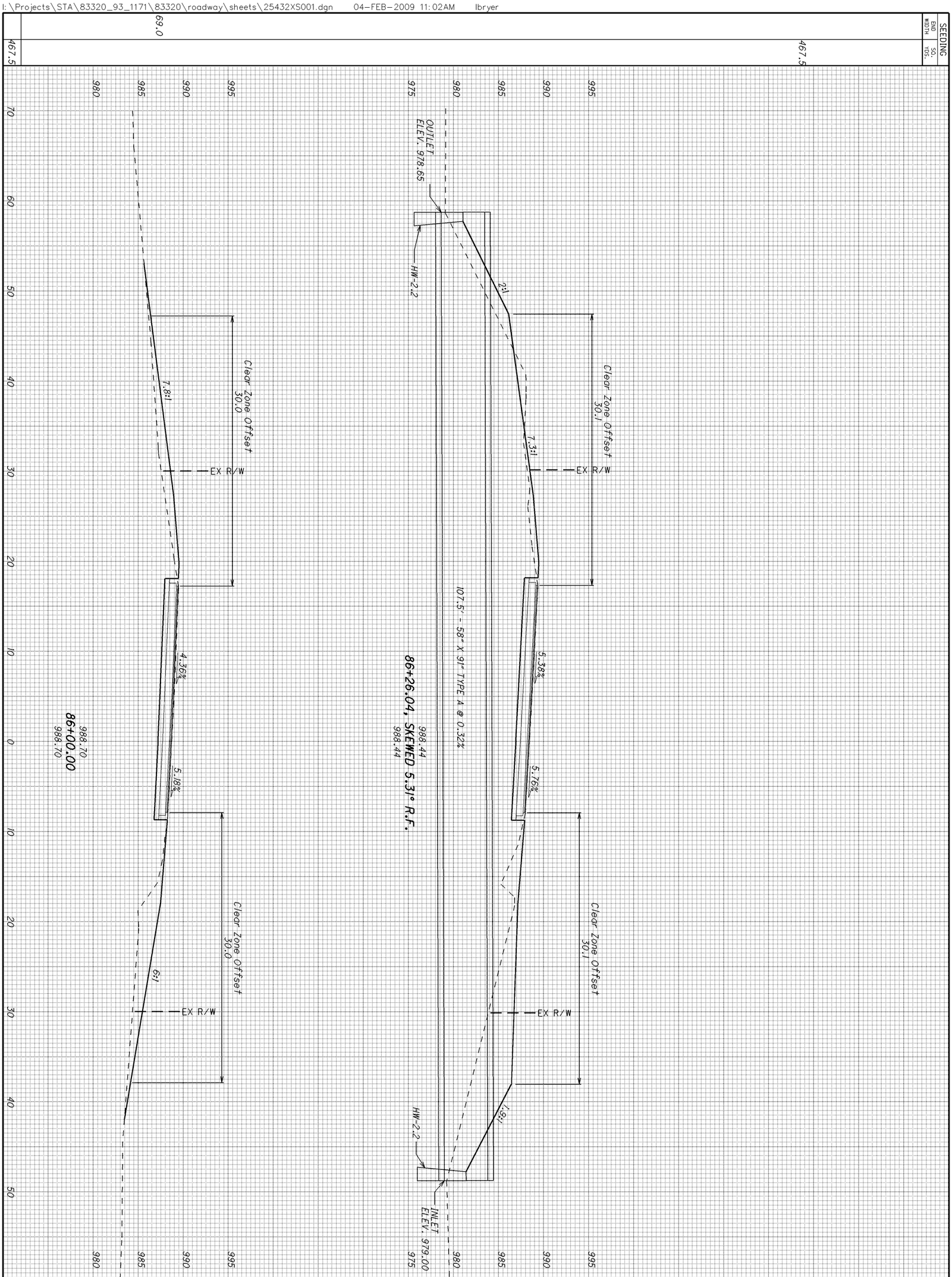

35/73

STA-93-(9.94)
(10.03)(11.71)

CROSS SECTIONS (STA-93-1670)
STA. 86+00.00 TO STA. 86+26.04

CALCULATED MJH
CHECKED TJP

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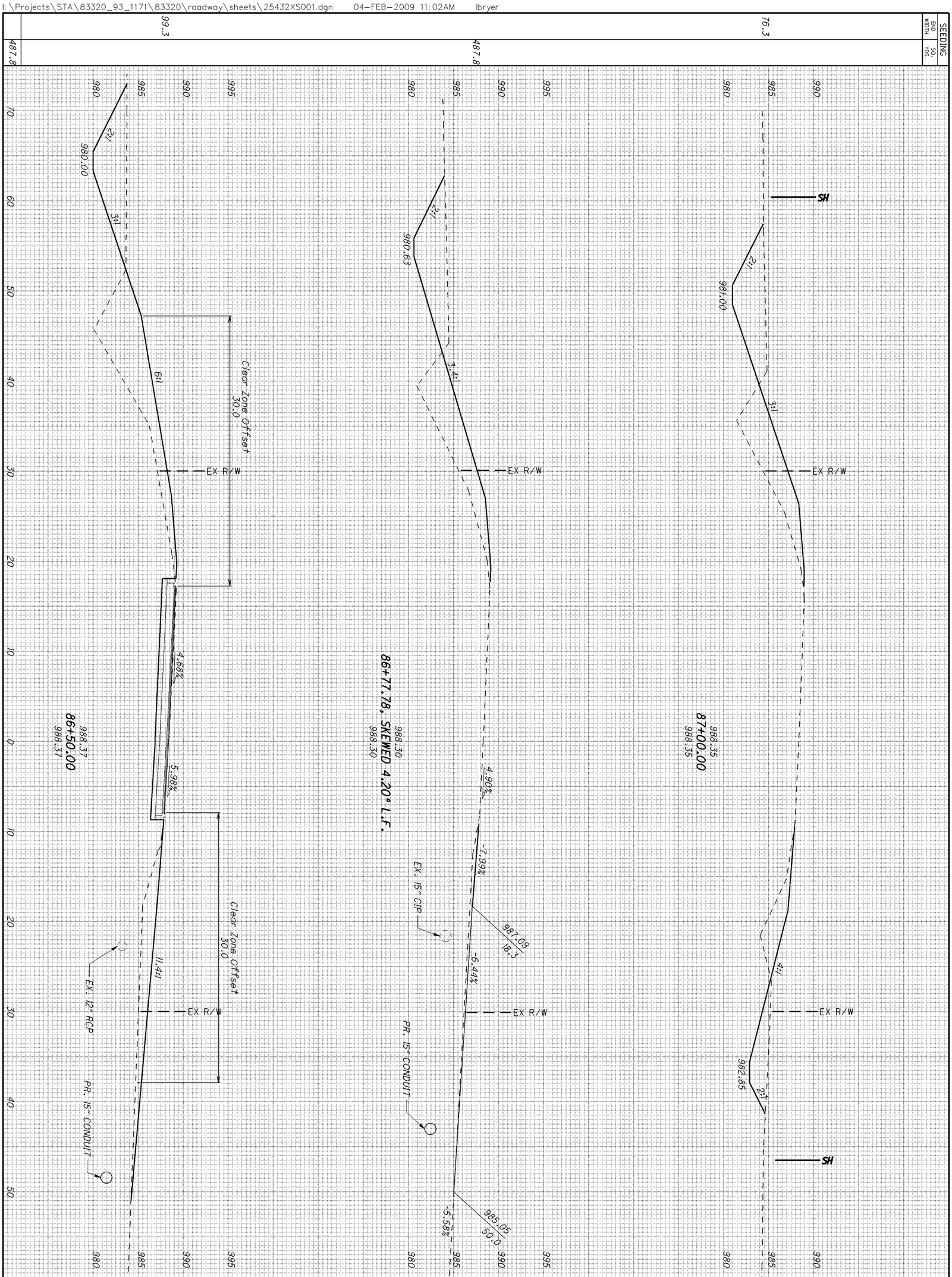

36
73

STA-93-(9.94)
(10.03)(11.71)

CROSS SECTIONS (STA-93-1670)
STA. 86+50.00 TO STA. 87+00.00

CALCULATED MJH
CHECKED TJP

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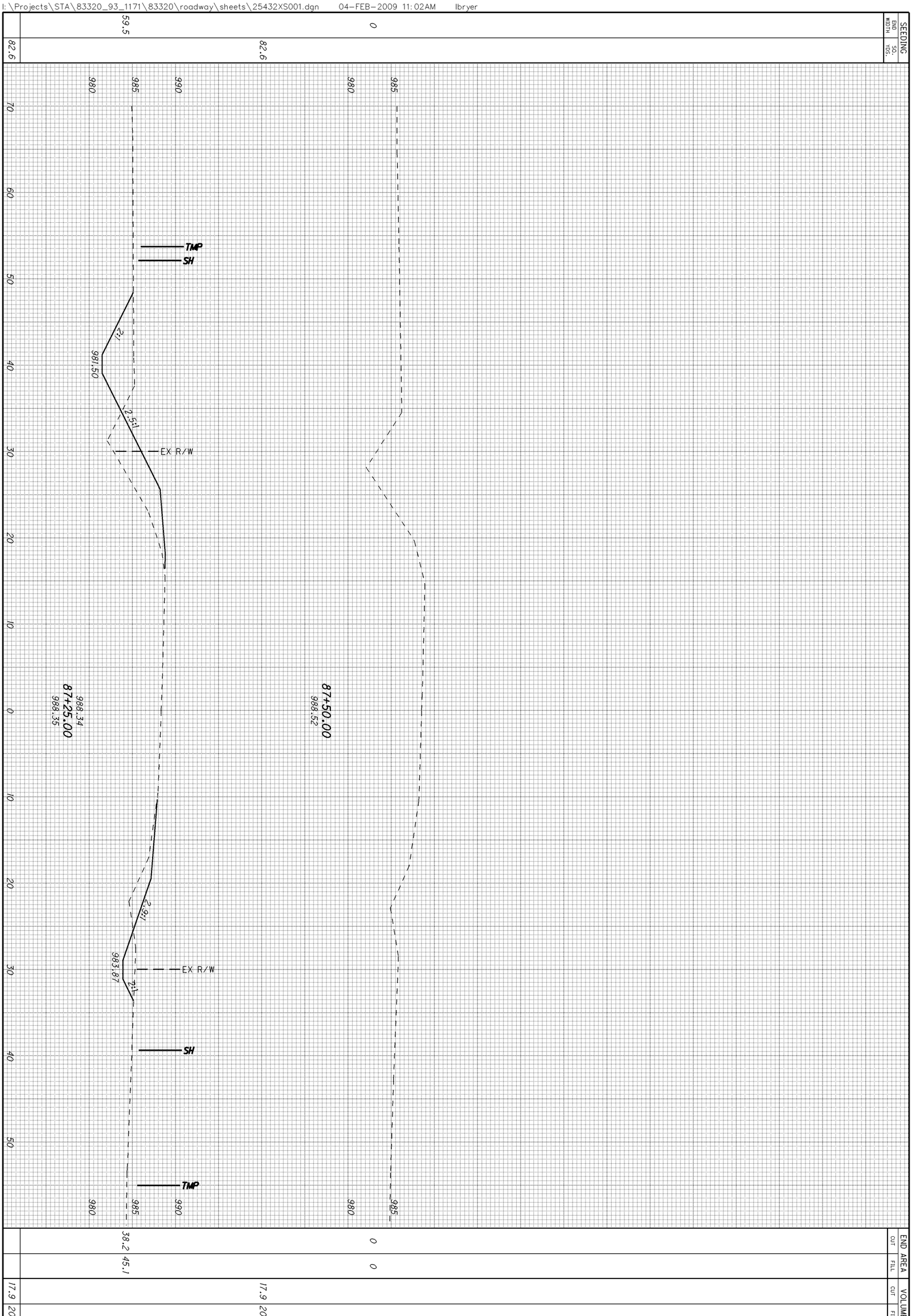

37/73

STA-93-(9.94)
(10.03)(11.71)

CROSS SECTIONS (STA-93-1670)
STA. 87+25.00 TO STA. 87+50.00

CALCULATED MJH
CHECKED TJP

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
37.7	42.2	59.6	0	18.2	0
38.2	23.3	38.6	0	7.9	0
0	0	0	0		
	65.5			26.1	0

CALCULATED LMS
CHECKED TJP

CROSS SECTIONS (STA-93-1187)
STA. 2+20.00 TO STA. 2+41.00

STA-93-(9.94)
(10.03)(11.71)

38
73

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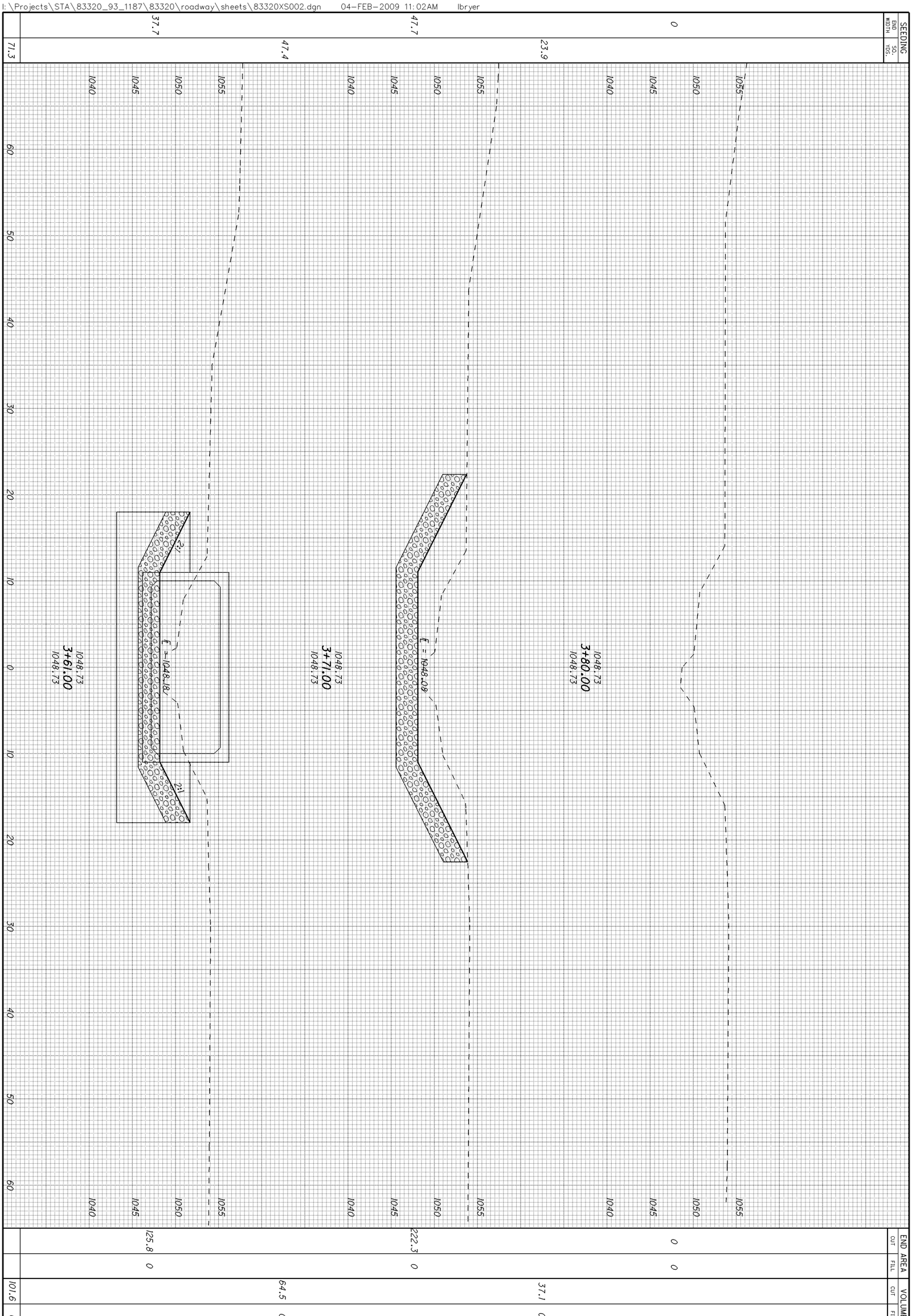

STA-93-(9.94)
(10.03)(11.71)

CROSS SECTIONS (STA-93-1187)
STA. 3+61.00 TO STA. 3+80.00

CALCULATED LMS
CHECKED TJP

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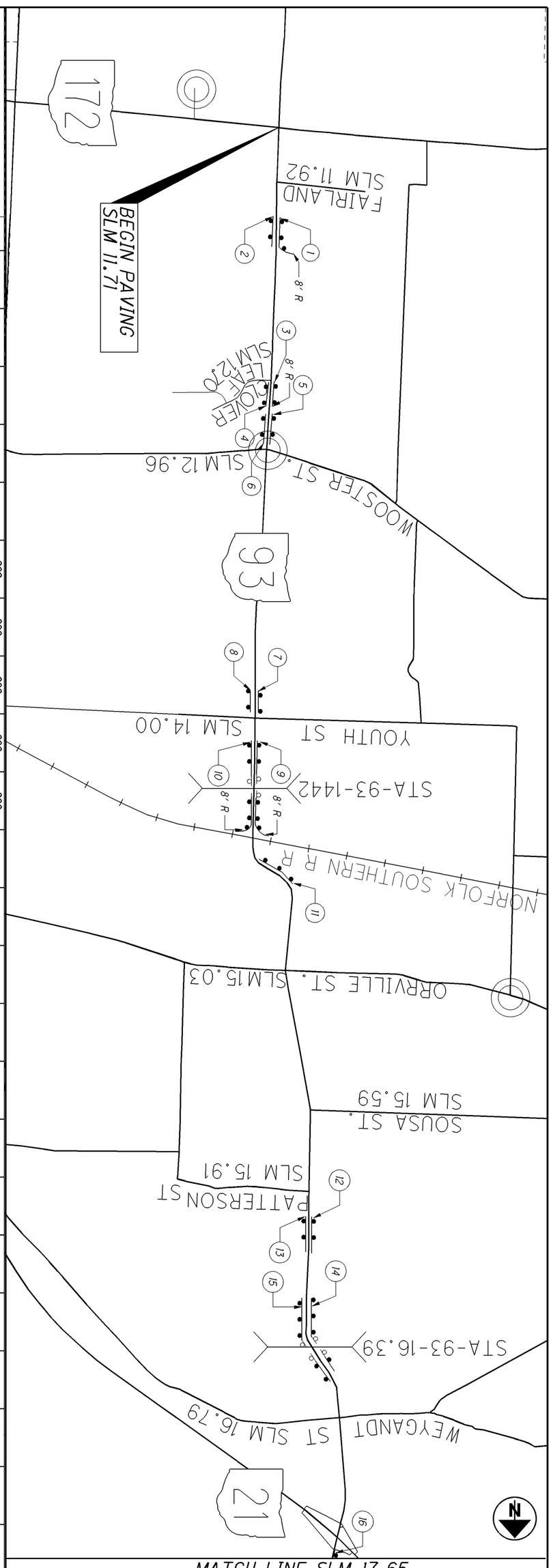
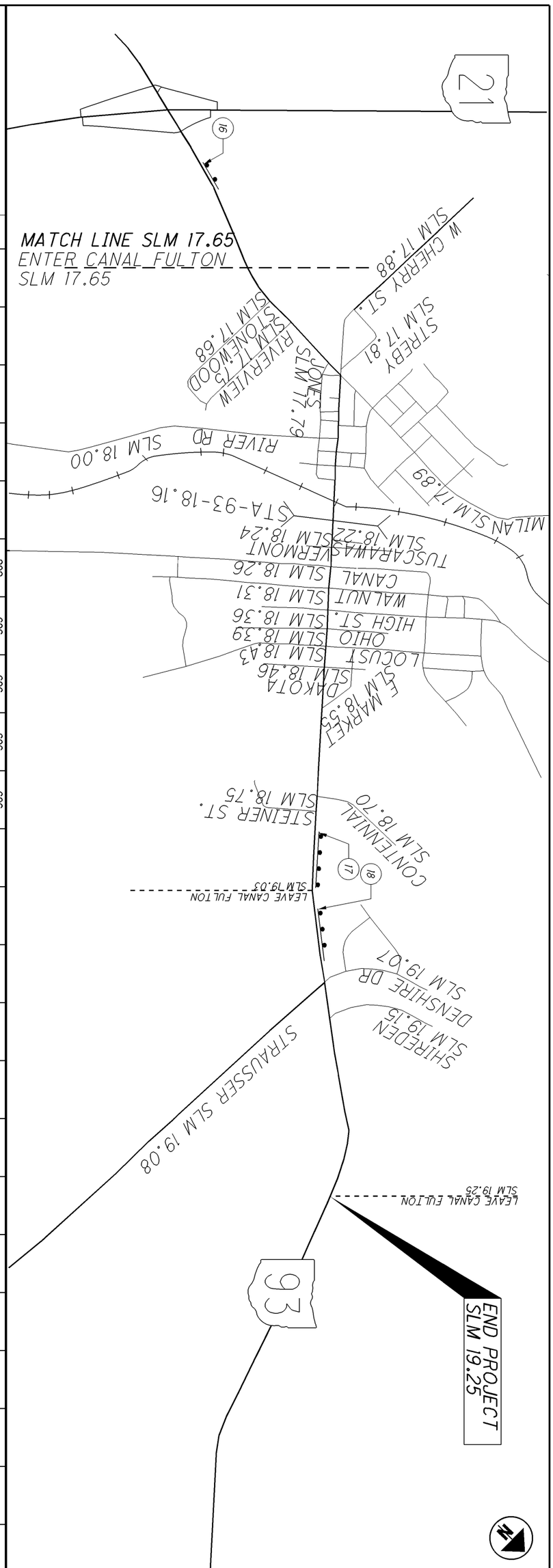
SLM	LOCATION	SIDE	EXISTING LENGTH FT		PROPOSED LENGTH FT		GUARDRAIL REMOVED 202 FT	GUARDRAIL, TYPE 5 606 FT	ANCHOR ASSEMBLY, TYPE E-98 606 EACH	ANCHOR ASSEMBLY, TYPE T 606 EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4 606 EACH
12.04	1	LT	62.50		87.50		62.50	37.50	1.00	1.00	
12.04	2	RT	62.50		112.50		62.50	12.50	2.00		
12.76	3	LT	150.00		162.50		150.00	112.50	1.00	1.00	
12.76	4	RT	187.50		187.50		187.50	87.50	2.00		
12.85	5	LT	225.00		225.00		225.00	125.00	2.00		
12.85	6	RT	200.00		200.00		200.00	100.00	2.00		
13.95	7	LT	300.00		300.00		300.00	200.00	2.00		
13.95	8	RT	250.00		250.00		250.00	150.00	2.00		
14.45	9	LT	112.50		112.50		112.50	62.50	1.00	1.00	1.00
14.45	10	RT	137.50		137.50		137.50	87.50	1.00	1.00	1.00
14.69	11	LT	467.50		467.50		467.50	367.50	2.00		
15.93	12	LT	200.00		200.00		200.00	100.00	2.00		
15.93	13	RT	100.00		112.50		100.00	12.50	2.00		
16.43	14	LT	243.75		250.00		243.75	150.00	2.00		2.00
16.43	15	RT	218.75		225.00		218.75	175.00	1.00	1.00	2.00
17.47	16	LT	162.50		162.50		162.50	62.50	2.00		
TOTALS CARRIED TO GENERAL SUMMARY							3080.00	1842.50	27.00	5.00	6.00
SUBTOTALS							3080	1843	27	5	6



40 / 73	STA-93-(9.94) (10.03)(11.71)	GUARDRAIL DETAILS	CALCULATED LMB / CHECKED

SLM	LOCATION	SIDE	EXISTING LENGTH		PROPOSED LENGTH		GUARDRAIL REMOVED		GUARDRAIL, TYPE 5		ANCHOR ASSEMBLY, TYPE E-98		ANCHOR ASSEMBLY, TYPE T		BRIDGE TERMINAL ASSEMBLY, TYPE 4	
								202		606		606		606		606
18.90	17	LT	375.00	FT	375.00	FT	375.00	FT	275.00	FT	2.00	EACH		EACH		EACH
19.00	18	LT	112.50	FT	112.50	FT	112.50	FT	12.50	FT	2.00	EACH		EACH		EACH
SUBTOTALS							487.50	488	287.50	288	4.00	4	0.00	0	0.00	0
TOTALS CARRIED TO GENERAL SUMMARY																



STA-93-(9.94)
(10.03)(11.71)

GUARDRAIL DETAILS

CALCULATED LMB
CHECKED

LOCATION								621	621	621	621		621	
COUNTY	ROUTE	SECTION (S.L.M.)						RPM, LOW PROFILE, YELLOW/YELLOW	RPM, LOW PROFILE WHITE/RED	RPM, LOW PROFILE, WHITE	RPM, LOW PROFILE YELLOW/RED		RAISED PAVEMENT MARKER REMOVED	REMARKS
		FROM	TO					EACH	EACH	EACH	EACH		EACH	
STA	93	11.71	14.37					176		16			192	SR 93 NB. FROM SR 172 TO CURVES (CENTER LINE AND STOP APPROACH)
STA	93	14.37	14.85					104					104	CURVES @ 20' SPACING (14.46-14.76) (CENTER LINE)
STA	93	14.85	17.65					200					200	FROM CURVES TO CANAL FULTON CORP. (CENTER LINE)
TOTALS CARRIED TO GENERAL SUMMARY				0	0	0	0	480	0	16	0	0	496	

CALCULATED | CHECKED

RAISED PAVEMENT MARKINGS

STA-93-11.71

42
73

CENTER LINE

GENERAL SPEC: 640
MATERIAL TYPE: 646

CALCULATED | CHECKED

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
STA	93	11.71	JCT. SR 172	19.25	NORTH CORP. CANAL FULTON	7.54	15.43	
TOTAL						7.54	15.43	

LANE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	4" LANE LINE		COMMENTS
							DASHED	SOLID	
TOTAL									

EDGE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	WHITE EDGE LINE			YELLOW EDGE LINE			COMMENTS
						TOTAL	HIGHWAY	RAMP	TOTAL	HIGHWAY	RAMP	
STA	93	11.71	JCT. SR 172	17.77	END EDGE LINE NORTHBOUND	12.12	12.12					
STA	93	17.77	END EDGE LINE NORTHBOUND	17.85	END EDGE LINE SOUTHBOUND	0.08	0.08					
STA	93	18.67	BEGIN EDGE LINE	19.25	END PROJECT	1.16	1.16					
TOTAL						13.36	13.36					

AUXILIARY

CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE	STOP LINE	TRANSVERSE DIAGONAL LINES		CROSS WALK LINES	WORD ON PVMT ONLY		LANE ARROWS				SYMBOL MARKINGS			ISLAND MARKING	PARKING	COMMENTS
					WHITE	YELLOW		72"	96"	TURN LEFT	TURN RIGHT	THRU	COMB.	RxR	SCHOOL 72"	SCHOOL 96"			
			FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	L.F.	
STA	SR 93 @ SR 172	11.710		12															
STA	SR 93 @ TUSLAW SCHOOLS	12.040														4			
STA	SR 93 @ CONRAIL RXR	14.462		24										2					
STA	SR 93 @ B&O RXR	18.133		30			120							2					
STA	SR 93 @ CANAL ST.	18.273		19														48	
STA	SR 93 @ WALNUT ST.	18.316					86												
STA	SR 93 @ HIGH ST.	18.360					60												
STA	SR 93 @ LOCUST ST.	18.430	230	40			74			4									
TOTAL			230	125			340			4				4		4		48	

PAVEMENT MARKING SUB SUMMARY

STA-93-11.71

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

DS-1-92 DATED/REVISED 7-18-03

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 4-18-03

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, INCLUDING THE 2002 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DECK PROTECTION METHOD

STA-93-1442
-WATERPROOFING AND ASPHALT CONCRETE OVERLAY

STA-93-1639
-SRS CONCRETE TREATMENT

STA-93-1725
-SRS CONCRETE TREATMENT

STA-93-1816
-SRS CONCRETE TREATMENT

CONVERSION OF STANDARD BRIDGE DRAWINGS

THE STANDARD BRIDGE DRAWINGS REFERENCED IN THIS PLAN ARE IN ENGLISH UNITS. ANY CONVERSION OF DIMENSIONS REQUIRED TO CONSTRUCT THE ITEMS SHOWN ON THE STANDARDS IS THE RESPONSIBILITY OF THE CONTRACTOR. REFER TO 109.02 FOR A LISTING OF CONVERSION FACTORS. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY METRIC VALUES WHERE SUITABLE.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

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 WHICH HAVE BEEN VERIFIED IN THE FIELD.

PROPOSED WORK

STA-93-0994
-CLEAN OUT CHANNEl 20' AT INLET AND OUTLET
-PAVE THE EXISTING INVERTS OF CULVERTS
-CLEARING AND GRUBBING AROUND INLET AND OUTLET OF CULVERTS 20'
-NEW STRUCTURE IDENTIFICATION SIGNS

STA-93-1442
-REMOVE AND REPLACE WATERPROOFING AND ASPHALT CONCRETE OVERLAY
-REMOVE AND REPLACE ASPHALT CONCRETE OVERLAY ON APPROACH SLABS
-INSTALL A POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM
-REPLACE EXISTING DRIP STRIP
-PATCH ALL UNSOUND CONCRETE OF SUBSTRUCTURE
-REPAIR EROSION AT THE REAR LEFT EMBANKMENT
-SEAL ALL EXPOSED CONCRETE OF DECK EDGES, ABUTMENTS, AND WINGWALLS WITH EPOXY-URETHANE
-CLEARING AND GRUBBING 15' AROUND ABUTMENTS FOR SEALING OPERATIONS
-NEW STRUCTURE IDENTIFICATION SIGNS

STA-93-1639
-SEAL CONCRETE DECK AND APPROACH SLABS WITH SRS CONCRETE TREATMENT
-SEAL ALL EXPOSED CONCRETE OF DECK EDGES, ABUTMENTS, AND WINGWALLS WITH EPOXY-URETHANE
-CLEARING AND GRUBBING 15' AROUND ABUTMENTS FOR SEALING OPERATIONS
-NEW STRUCTURE IDENTIFICATION SIGNS

STA-93-1725
-SEAL CONCRETE DECK AND APPROACH SLABS WITH SRS CONCRETE TREATMENT
-REPAIR EXISTING OZEU PAINT SYSTEM
-SEAL ALL EXPOSED CONCRETE PARAPETS, ABUTMENTS, PIERS, AND WINGWALL WITH EPOXY-URETHANE
-CLEARING AND GRUBBING 15' AROUND ABUTMENTS FOR SEALING OPERATIONS
-REPAIR EROSION THAT UNDERMINED THE APPROACH SLABS AT ALL FOUR CORNERS
-NEW STRUCTURE IDENTIFICATION SIGNS

STA-93-1816
-SEAL CONCRETE DECK AND APPROACH SLABS WITH SRS CONCRETE TREATMENT
-SEAL ALL EXPOSED CONCRETE OF INSIDE PARAPETS AND BACKWALL WITH EPOXY-URETHANE
-CLEARING AND GRUBBING 15' AROUND ABUTMENTS FOR SEALING OPERATIONS
-NEW STRUCTURE IDENTIFICATION SIGNS

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.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, 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 CMS 501.05.

ITEM 202, WEARING COURSE REMOVED, AS PER PLAN:

REMOVE ALL OF THE ASPHALT CONCRETE ON STRUCTURE STA-93-1442. THICKNESS VARIES WITH A MINIMUM THICKNESS OF 2 1/2"±. MILLING OR OTHER MECHANICAL METHOD OF ASPHALT DECK REMOVAL MAY BE PERFORMED TO WITHIN 1/2"± OF THE TOP OF THE EXISTING PRESTRESSED CONCRETE BOX BEAMS. THE LAST 1/2"± OF ASPHALT CONCRETE TO BE REMOVED AND THE WATERPROOFING WILL BE REMOVED USING A NON-DESTRUCTIVE METHOS SUCH AS HAND SCRAPING. THE CONTRACTOR WILL USE CAUTION IN REMOVING THE REMAINING ASPHALT AND WATER- PROOFING SO THAT THE SURFACE OF THE PRESTRESSED CONCRETE BOX BEAMS ARE NOT DAMAGED. ANY DAMAGE INCURRED TO THE BOX BEAMS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

PAYMENT FOR THIS ITEM WILL INCLUDE ALL LABOR, MATERIALS, AND EQUIPEMENT NECESSARY TO PERFORM THIS ITEM. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD FOR ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK WILL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED WILL BE DISPOSED OF AS PER 105.16 AND 105.17 OF CMS. ALL CONDUITS WILL BE CLEAN OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE WILL INCLUDE THE COST OF EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 202, REMOVAL MISC.: CHANNEL CLEANOUT

THIS WORK SHALL CONSIST OF RE-ESTABLISHING THE ORIGINAL CHANNEL PROFILE BY REMOVING SEDIMENT BUILDUP, VEGETATION, AND DEBRIS FROM THE EXISTING CHANNEL WITHIN STATE RIGHT-OF-WAY LIMITS AS SPECIFIED IN THE PLANS. ANY TREES LOCATED WITHIN CHANNEL OR BANK LIMITS SHALL BE INCLUDED UNDER ITEM 201 CLEARING AND GRUBBING. ALL MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17 OF THE CMS WITH THE APPROVAL OF THE ENGINEER. NO AREAS OF EXISTING CHANNEL PROTECTION SHALL BE REMOVED IN ORDER TO RESTORE THE ORIGINAL CHANNEL PROFILE. AFFECTED CHANNEL AREAS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CHANNEL CLEANOUT SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 202 REMOVAL MISC.: CHANNEL CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR LABOR, EQUIPEMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CHANNEL CLEANOUT.

ITEM 203, BORROW
ITEM 613, LOW STRENGTH MORTAR BACKFILL

THESE ITEMS WILL BE USED TO FIX THE UNDERMINING OF THE APPROACH SLABS AT ALL FOUR CORNERS OF STRUCTURE STA-93-1725.

ITEM 514 - FIELD PAINTING, MISC.; REPAIR PAINTING

ALL PAINTED AREAS THAT ARE DAMAGED OR RUSTED SHALL BE CLEANED AND PAINTED AS FOLLOWS.

CMS 514.07 THROUGH 514.09 APPLY. REMOVE EXISTING PAINT COATING FROM THE AREA OF THE DAMAGED PAINT ACCORDING TO SSPC-SP3, POWER AND HAND TOOL CLEANING, AS SHOWN ON THE PICTORAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 3. THE ENGINEER WILL USE THE SSPC-VIS 3 TO DETERMINE THE ACCEPTANCE FOR THE POWER TOOL CLEANING. CONTAIN AND DISPOSE OF WASTE GENERATED BY THE CLEANING ACCORDING TO CMS 514.13D.

APPLY THE THREE-COAT PAINT SYSTEM, CMS 708.02, ACCORDING TO CMS 514.14 THROUGH 514.17. TINT THE FINISH COAT TO APPROXIMATELY THE SAME COLOR AS THE EXISTING FINISH COLOR. THE ENGINEER WILL DETERMINE THE PRIME COAT THICKNESS; PRIME AND INTERMEDIATE COAT THICKNESS; AND PRIME, INTERMEDIATE, AND FINISH COAT THICKNESS USING A TYPE 2 MAGNETIC GAGE AT SPOT LOCATIONS. EACH COAT OF PAINT SHALL MEET THE MINIMUM DRY FILM THICKNESS REQUIREMENTS OF CMS 514.20.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK.

DESIGN AGENCY: ODOT --- DISTRICT 4 PRODUCTION
DESIGNED LMS | DRAWN LMS | REVIEWED TJP | DATE 01-14-09
CHECKED | REVISED | STRUCTURE FILE NUMBER

STRUCTURE GENERAL NOTES

STA-93-0994, STA-93-1442, STA-93-1639, STA-93-1725, AND STA-93-1816
BRANCH PIGEON, NEWMAN CREEK, FOX RUN, OVER S.R. 21, AND TUSCARAWAS RIVER

STA-93-(9.94)
(10.03) (11.71)
PID No. 83320

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 603, DUMP ROCK FILL, TYPE C

THIS ITEM WILL BE USED TO FIX THE EROSION AT THE REAR LEFT ABUTMENT OF STRUCTURE STA-93-1442 WHERE THE FOOTER IS EXPOSED.

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL BE HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
STA-93-0994 (2 APPROACHES), STA-93-1442 (2 APPROACHES), STA-93-1639 (2 APPROACHES), STA-93-1725 (2 APPROACHES), AND STA-93-1816 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
LMS	LMS	TJP	01-14-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	

STRUCTURE GENERAL NOTES
STA-93-0994, STA-93-1442, STA-93-1639, STA-93-1725, AND STA-93-1816
BRANCH PIGEON, NEWMAN CREEK, FOX RUN, OVER S.R. 21, AND TUSCARAWAS RIVER

STA-93-(9.94)
(10.03) (11.71)
PID No. 83320

CALC:	LMS	DATE:	10/9/2008
CHECKED:	TJP	DATE:	1/14/2009

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
	STA-93-0994 SFN 7604920	STA-93-1442 SFN 7605056	STA-93-1639 SFN 7605080	STA-93-1725 SFN 7605102	STA-93-1816 SFN 7605145							
	LUMP	LUMP	LUMP	LUMP	LUMP			201	11000		CLEARING AND GRUBBING	
		LUMP						202	11201		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	1
		143						202	23500	SQ YD	WEARING COURSE REMOVED	
		184						202	23501	SQ YD	WEARING COURSE REMOVED, AS PER PLAN	1
	164							SPEC	20270100	FT	PIPE CLEANOUT	1
	40							202	98200	FT	REMOVAL MISC.: CHANNEL CLEANOUT	1
				4				203	40000	CU YD	BORROW	
		22						407	10000	GALLON	TACK COAT	
		14						407	14000	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
		16						448	46020	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22	
		14						448	47020	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
	LUMP							503	11100		COFFERDAMS, CRIBS AND SHEETING	
		158	109	1344	316			512	10100	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
			498	1453	645			512	10400	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
		185						512	33010	SQ YD	TYPE 3 WATERPROOFING	
				100				514	27700	SQ FT	FIELD PAINTING, MISC.: REPAIR PAINTING	1
		64						SPEC	51631300	FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	5
		128						SPEC	51822300	FT	STEEL DRIP STRIP	
		75						519	11101	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	1
				8				601	27000	CU YD	DUMPED ROCK FILL, TYPE C	
	164							603	96550	FT	FIELD PAVING OF EXISTING PIPE, TWIN CMP (10'-8" X 6'-11")	
	1			4				613	41200	CU YD	LOW STRENGTH MORTAR BACKFILL	
	15	15	15	15	15			630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
	2	2	2	2	2			630	80100	SQ FT	SIGN, FLAT SHEET, 730.20	
	2	2	2	2	1			630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
	2	2	2	2	1			630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
		45						843	50000	SQ FT	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

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STRUCTURE ESTIMATED QUANTITIES
STA-93-0994, STA-93-1442, STA-93-1639, STA-93-1725, AND STA-93-1816
BRANCH PIGEON, NEWMAN CREEK, FOX RUN, OVER S.R. 21, AND TUSCARAWAS RIVER

STA-93-(9.94)
(10.03)(11.71)
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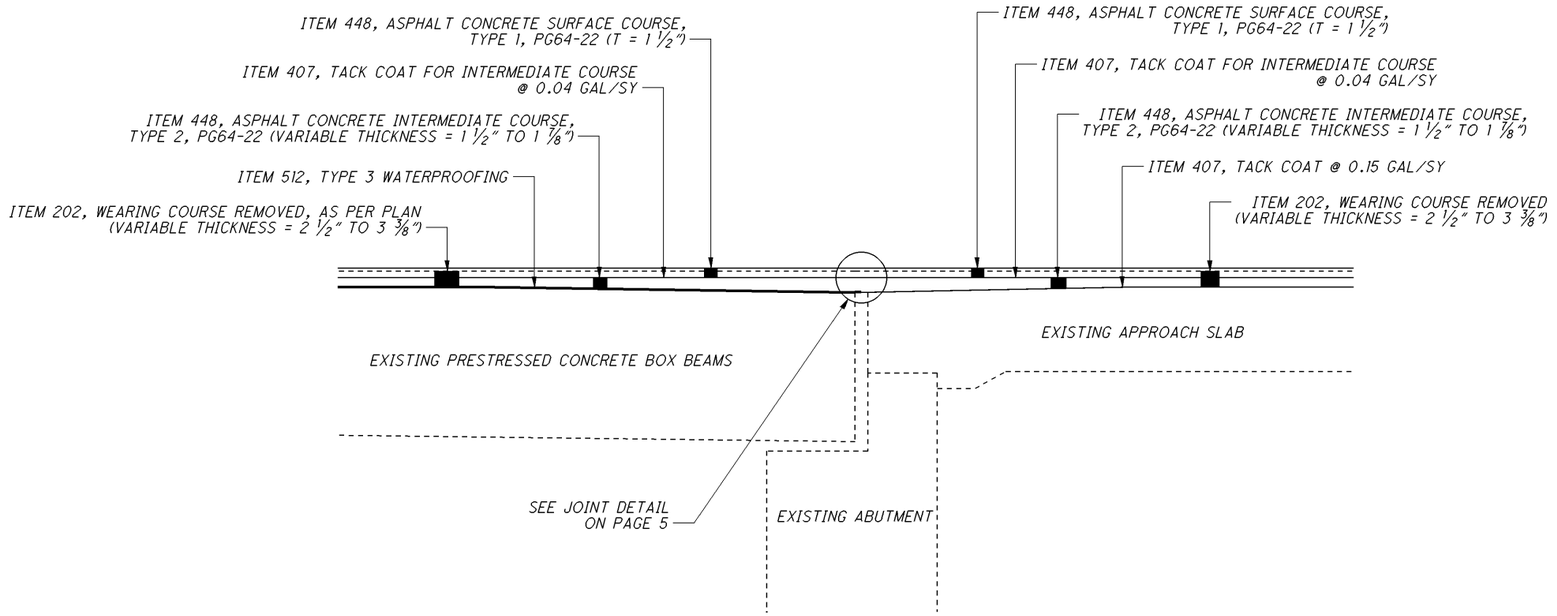

STA-93-1442

APPROACH PAVEMENT SHOWN, TRAILING PAVEMENT SIMILAR

BRIDGE NUMBER	BRIDGE DECK											APPROACH SLABS											
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	202 WEARING COURSE REMOVED, AS PER PLAN (VARIABLE THICKNESS = 2 1/2" TO 3 3/8")	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22 (VARIABLE THICKNESS = 1 1/2" TO 1 7/8")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (T = 1 1/2")	512 TREATING OF CONCRETE BRIDGE DECK WITH SRS	512 TYPE 3 WATERPROOFING	SPEC POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	SPEC STEEL DRIP STRIP		LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	202 WEARING COURSE REMOVED (VARIABLE THICKNESS = 2 1/2" TO 3 3/8")	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22 (VARIABLE THICKNESS = 1 1/2" TO 1 7/8")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (T = 1 1/2")	512 TREATING OF CONCRETE BRIDGE DECK WITH SRS			
	FT	FT	SQ YD	SQ YD	GALLON	CU YD	CU YD	SQ YD	SQ YD	FT	FT		FT	FT	SQ YD		SQ YD	GALLON	GALLON	CU YD	CU YD	SQ YD			
STA-93-1442	51.83	32.00	184.28	184.28	7.37	8.64	7.68		184.28	64.00	128.00		20.00	32.00	71.11	REAR	71.11	10.67	2.84	3.33	2.96				
													20.00	32.00	71.11	FWD	71.11	10.67	2.84	3.33	2.96				
STA-93-1639	62.00	40.00	275.56					275.56					25.00	40.00	111.11	REAR						111.11			
													25.00	40.00	111.11	FWD						111.11			
STA-93-1725	257.18	44.00	1257.32					1257.32					20.00	44.00	97.78	REAR						97.78			
													20.00	44.00	97.78	FWD						97.78			
STA-93-1816	167.30	28.00	520.49					520.49					20.00	28.00	62.22	REAR						62.22			
													20.00	28.00	62.22	FWD						62.22			
TOTALS				185	8	9	8	2054	185	64	128	0				TOTALS	143	22	6	7	6	543	0	0	0

DESIGN AGENCY: ODOT --- DISTRICT 4 PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
LMS	LMS	TJP	01-14-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	

STRUCTURE GENERAL NOTES

STA-93-1442, STA-93-1639, STA-93-1725, AND STA-93-1816
NEWMAN CREEK, FOX RUN, OVER S.R. 21, AND TUSCARAWAS RIVER

STA-93-(9.94)
(10.03) (11.71)
PID No. 83320

4 / 7

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GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

ITEM SPECIAL - POLYMER-MODIFIED ASPHALT EXPANSION JOINT SYSTEM

THIS ITEM WILL BE USED TO SEAL THE EXPANSION/CONTRACTION JOINTS AS PER THESE DETAILS AND THE MANUFACTURER'S REQUIREMENTS USING A POLYMER-MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN THE SERVICES OF ONE OF THE FOLLOWING APPROVED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE(S) HAS BEEN COMPLETED.

PRODUCT NAME	SUPPLIER	ADDRESS	PHONE NO.
THORMA-JOINT	DYNAMIC SURFACE APPLICATIONS, LTD	373 VILLAGE RD. PENNSDALE, PA 17756	(570)546-6041
MATRIX 502	CRAFCO INC.	420 N. ROOSEVELT AVE. CHANDLER, AZ 85226	(800)528-8242
EXPANDEX JOINT SYSTEM	WATSON-BOWMAN ACME	95 PINEVIEW DR. AMHERST, NY 14228	(716)691-7566
APJ ASPHALTIC PLUG EXPANSION JOINT	WYOMING EQUIPMENT SALES	281 SIXTH STREET P.O. BOX 287 WEST WYOMING, PA 18644	(570)693-2810

MATERIALS:

BRIDGING PLATE:

MILD STEEL ¼" OR ⅛" THICK PLATE, 8" WIDE OR 18 GAUGE ALUMINUM, 8" WIDE.

BINDER:

TYPE:	POLYMER MODIFIED ASPHALT
SOFTENING POINT:	180 DEGREES F. MIN.
FLOW:	3 mm. MAX. AT 140 DEGREES F.
PENETRATION:	9 mm. MAX. AT 77 DEGREES F. 1 mm. MIN AT 0 DEGREES F. ASTM D 3407
DUCTILITY:	40 cm. MIN. ASTM D 113
RESILIENCE:	60% MIN. AT 77 DEGREES F.
TENSILE ADHESION:	700% MIN.
SPECIFIC GRAVITY:	1.10 * 0.05
POURING TEMP:	350 - 390 DEGREES F.

AGGREGATE:

TYPE:	CRUSHED, DOUBLE WASHED, AND DRIED GRANITE OR BASALT
GRADATION:	THE GRADATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT.

BACKER ROD:

THE BACKER SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE POLYMER MODIFIED ASPHALT.

NOTE: PRIOR TO PLACEMENT OF ANY PORTION OF THE JOINT SYSTEM, THE PROJECT ENGINEER MUST HAVE CERTIFIED TEST DATA MEETING ALL THE MINIMUM REQUIREMENTS OF ALL THE MATERIALS OF THE JOINT SYSTEM.

INSTALLATION PROCEDURES:

SAWING AND SURFACE PREPARATION:

AFTER ALL PAVING OPERATIONS ARE COMPLETE, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN TWO INCHES DEEP (20" CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED). REMOVE ALL MATERIAL, INCLUDING WATER-PROOFING MATERIAL, BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT A VELOCITY OF 3,000 FEET PER SECOND WITH 15 PSIG CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 6 INCHES OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

SEALING OF EXPANSION JOINT: (PRE-STRESSED BOX OR CONCRETE SLAB)

THE EXPANSION JOINT GAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF ⅛" OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN ⅛" AND 1⅛" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

BOND BREAKER:

SPREAD BINDER OVER SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 1 FOOT INTERVALS ALONG THE LONGITUDINAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SETUP BEFORE NEXT OPERATION. WHEN ALUMINUM BRIDGING PLATES ARE USED, ONLY THE BINDER IS REQUIRED TO SECURE THE INDIVIDUAL PLATES.

BINDER COAT:

SEAL ALL PREPARED, EXPOSED SURFACES OF THE JOINT WITH BINDER. POUR THE HOT BINDER OVER THE FLOOR AREA OF THE JOINT AND SPREAD TO COAT ALL EXPOSED SURFACES. THE BINDER WILL BE A MINIMUM OF 1/32" THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 350 AND 390 DEGREES F. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 410 DEGREES F. NOR ALLOWED TO EXCEED 390 DEGREES F. FOR MORE THAN 1 HOUR. A DOUBLE JACKETED OIL MELTER WILL BE USED TO HEAT THE BINDER. THE MELTER WILL BE EQUIPPED WITH A CONTINUOUS AGITATION SYSTEM, TEMPERATURE CONTROLS, AND A CALIBRATED THERMOMETER. ALSO A SYSTEM FOR ACCURATELY MEASURING THE WEIGHTS OF THE BINDER AND THE AGGREGATE WILL BE REQUIRED.

BUILD-UP OF JOINT LAYERS:

AGGREGATE PREPARATION:

HEAT THE AGGREGATE TO A TEMPERATURE OF 275 TO 325 DEGREES F., WITH A SUITABLE ROTATING DRUM WITH ATTACHED HEAT SOURCE OR A HOT COMPRESSED AIR LANCE, TO REMOVE DUST AND MOISTURE.

AGGREGATE PROPORTION AND LAYER THICKNESS:

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS, UNLESS PATENTED INSTALLATION REQUIRES DIFFERENTLY, NOT LESS THAN ¾ OF AN INCH NOR EXCEEDING 2-1/2 INCHES. THE THICKNESS OF EACH LAYER CAN BE VARIED WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MIN. 2 INCHES). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH BINDER. RAKE THE MIXTURE TO MIX AND LEVEL.

THE TOP LAYER THICKNESS WILL VARY BETWEEN ½ INCH AND ONE (1) INCH. IN PREPARING THE TOP LAYER, THE RATIO OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

MAINTENANCE OF TRAFFIC:

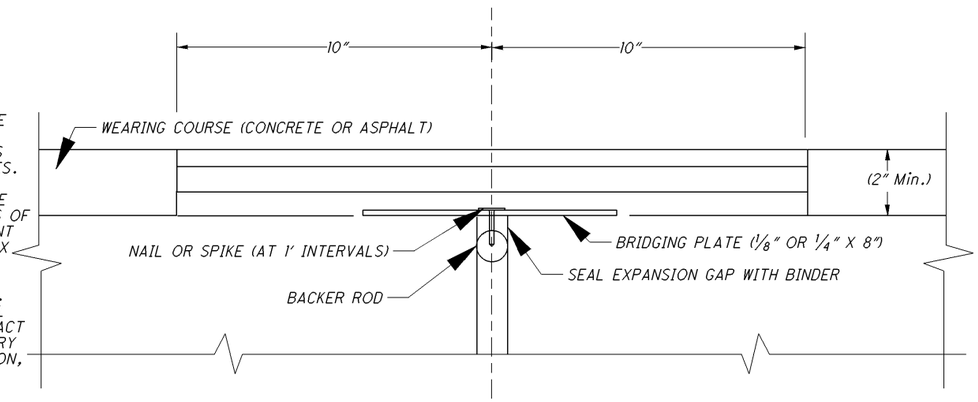
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF TWO (2) INCHES OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER OF THE JOINT INSTALLED. IN ALL CASES, OPERATIONS WILL BE SCHEDULED SO THAT ALL LANES CAN BE OPEN TO TRAFFIC DURING ALL NON-WORKING HOURS.

TESTING:

CERTIFICATION WILL BE SUPPLIED FOR EACH PROJECT SHOWING BINDER COMPLIANCE WITH REQUIRED PROPERTIES. A ONE QUART SAMPLE OF BINDER WILL BE RETRIEVED FROM EACH BRIDGE FOR FURTHER TESTING BY THE O.D.O.T OFFICE OF MATERIALS MANAGEMENT.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT:

THE DEPARTMENT WILL MEASURE THE JOINT BY THE NUMBER OF FEET AND WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS: ITEM SPECIAL, FEET, POLYMER MODIFIED ASPHALT EXPANSION JONT SYSTEM.



TYPICAL PRESTRESSED BOX BEAM OR CONCRETE SLAB JOINT

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
CHECKED	REVISED	STRUCTURE FILE NUMBER 7605056	

PLAN INSERT SHEET
POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM
STA-93-1442

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

5 / 7

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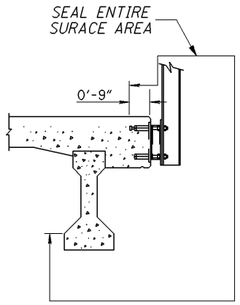
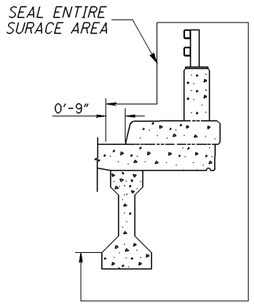
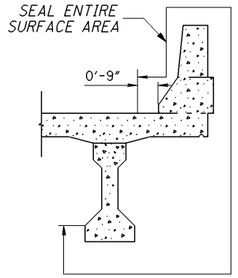


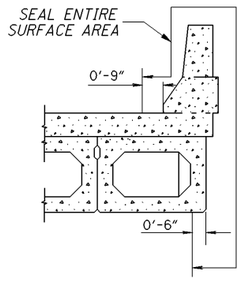
DETAIL A
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



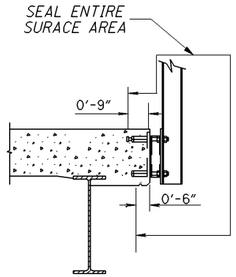
DETAIL B
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



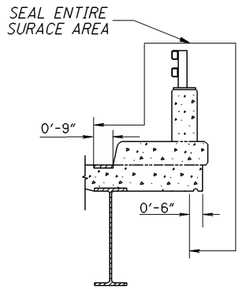
DETAIL C
CONCRETE DECK WITH
DEFLECTOR PARAPET



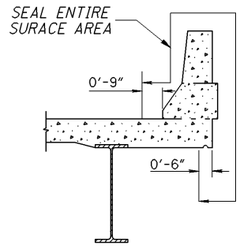
DETAIL D
PRESTRESSED BOX BEAM DECK
WITH DEFLECTOR PARAPET



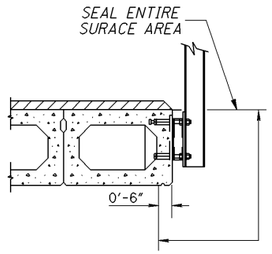
DETAIL E
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



DETAIL F
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



DETAIL G
CONCRETE DECK WITH
DEFLECTOR PARAPET



DETAIL H
PRESTRESSED BOX BEAM DECK
WITH OVER THE SIDE DRAINAGE

BRIDGE NO.	STRUCTURE TYPE	PROPOSED SEALING	FEDERAL COLOR NUMBER	ESTIMATED QUANTITIES				
				ABUT SQ YD	PIER SQ YD	SUPER SQ YD	GEN SQ YD	TOTAL SQ YD
STA-93-1442	SIMPLE SPAN PRESTRESSED CONCRETE BOX BEAM	SEAL DECK EDGES PER DETAIL H SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT WINGWALLS	PER CMS	126		32		158
STA-93-1639	SIMPLE SPAN CONTINUOUS STEEL BEAM	SEAL DECK EDGES PER DETAIL E SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT WINGWALLS	PER CMS	73		36		109
STA-93-1725	4 SPAN CONTINUOUS STEEL BEAM	SEAL PARPAETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	148	682	514		1344
STA-93-1816	3 SPAN PRESTRESSED CONCRETE BOX BEAM	SEAL INSIDE PARAPETS SEAL ALL EXPOSED CONCRETE AT BACKWALL	PER CMS	28		288		316

NOTES:
- EPOXY-URETHANE SEALER SHALL BE USED UNLESS SHOWN OTHERWISE
- DETAILS E, F, G AND H ALSO APPLY TO CONCRETE SLAB BRIDGES

SEALING OF BEAM SEATS

SEALING OF BEAM SEATS: IF THE BEAMS SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

DATE
REVIEWED TJP 01-14-09
DRAWN LMS
DESIGNED LMS
STRUCTURE FILE NUMBER
REVISED
CHECKED

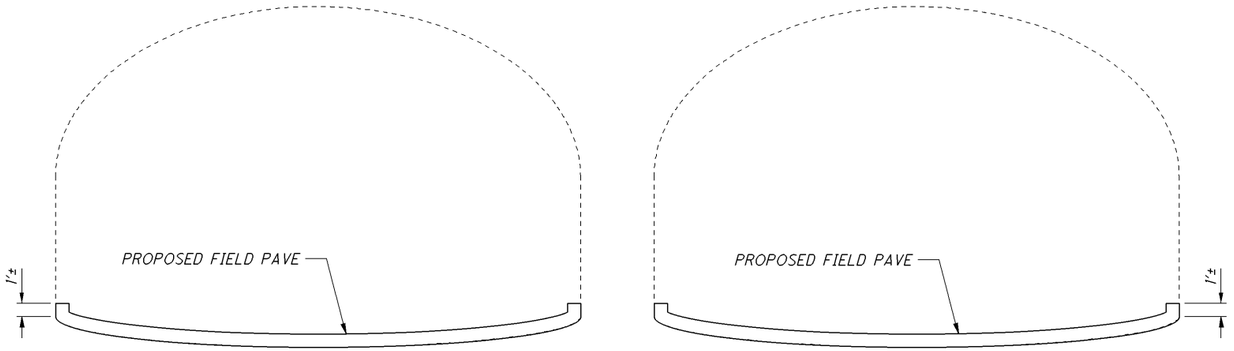
CONCRETE SEALING DETAILS

STA-93-1442, STA-93-1639, STA-93-1725, AND STA-93-1816
NEWMAN CREEK, FOX RUN, S.R. 21, AND TUSCARAWAS RIVER

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

6 / 7

49
73



WORK DESCRIPTION

FIELD PAVE THE EXISTING TWIN 10'-8" X 6'-11" SECTIONAL CORRUGATED METAL PIPE ARCH. THE CONTRACTOR WILL PAVE THE BOTTOM OF THE PIPE AS SHOWN IN THE DETAIL WITH CLASS C PORTLAND CEMENT CONCRETE AS PER ITEM 603.13 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

THE AREA TO BE PAVED WILL BE CLEANED TO REMOVE ALL DEBRIS AND SEDIMENT AS PER ITEM SPECIAL - PIPE CLEAN OUT.

THE CONTRACTOR WILL BE REQUIRED TO USE COFFERDAMS, CRIBS, AND SHEETING TO DEWATER THE METAL PIPE ARCH PRIOR TO THE PREPARATION AND AND FIELD PAVING. AFTER THE PIPE HAS BEEN CLEANED TO REMOVE ALL DEBRIS AND SEDIMENT, NO WATER WILL BE ALLOWED TO CONTAMINATE THE PIPE. IF ANY CONTAMINATION OCCURS, THE CONTRACTOR WILL RESEAL THE AREA AND RECLEAN THE PIPE AT NO ADDITIONAL COST.

ALL EROSION UNDER THE PIPE AND IN THE VOID WHERE THE PIPE IS RUSTED THROUGH WILL BE FILLED WITH ITEM 613, LOW STRENGTH MORTAR BACKFILL.

ANY TREES LOCATED WITHIN 15' OF THE HEADWALLS THAT MAY POTENTIALLY DAMAGE THE CULVERT OR HEADWALLS IN THE FUTURE OR ENCROACH UPON THE STREAM BED OR FIELD PAVING OPERATIONS WILL BE REMOVED. REMOVAL WILL BE DETERMINED BY THE PROJECT ENGINEER AND REMOVED UNDER ITEM 201, CLEARING AND GRUBBING.

STA-93-0994

EXISTING STRUCTURE
TYPE: TWIN CORRUGATED METAL SECTIONAL PLATED PIPE ARCH SIZE: 2 @ 10'-8" X 6'-11" LENGTH: 82' SKEW: 0°

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
LMS	LMS	TJP	01-14-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	7604920

CULVERT DETAILS
STA-93-0994
BRANCH PIGEON

STA-93-(9.94)
(10.03) (11.71)
PID No. 83320

7 / 7

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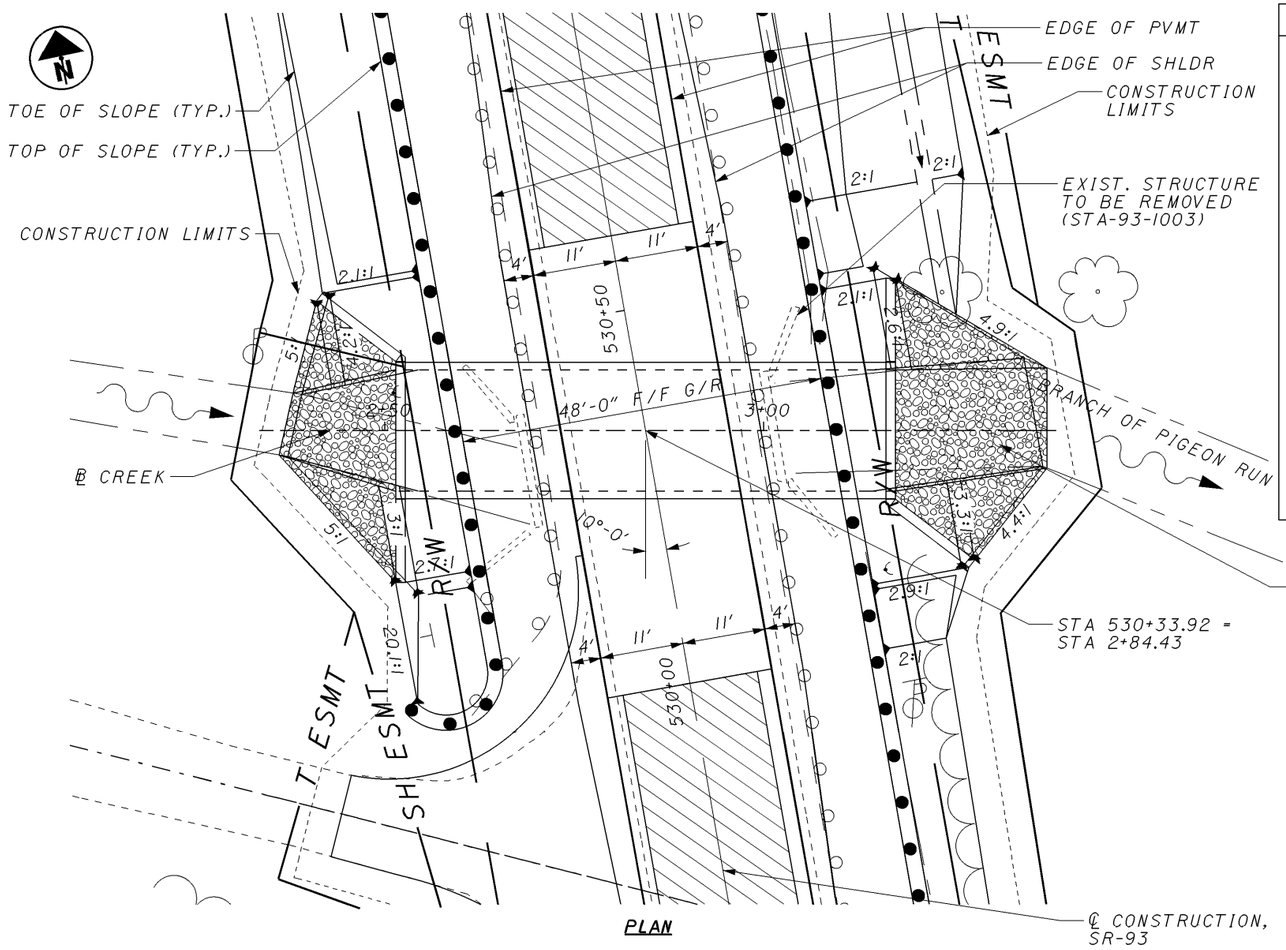
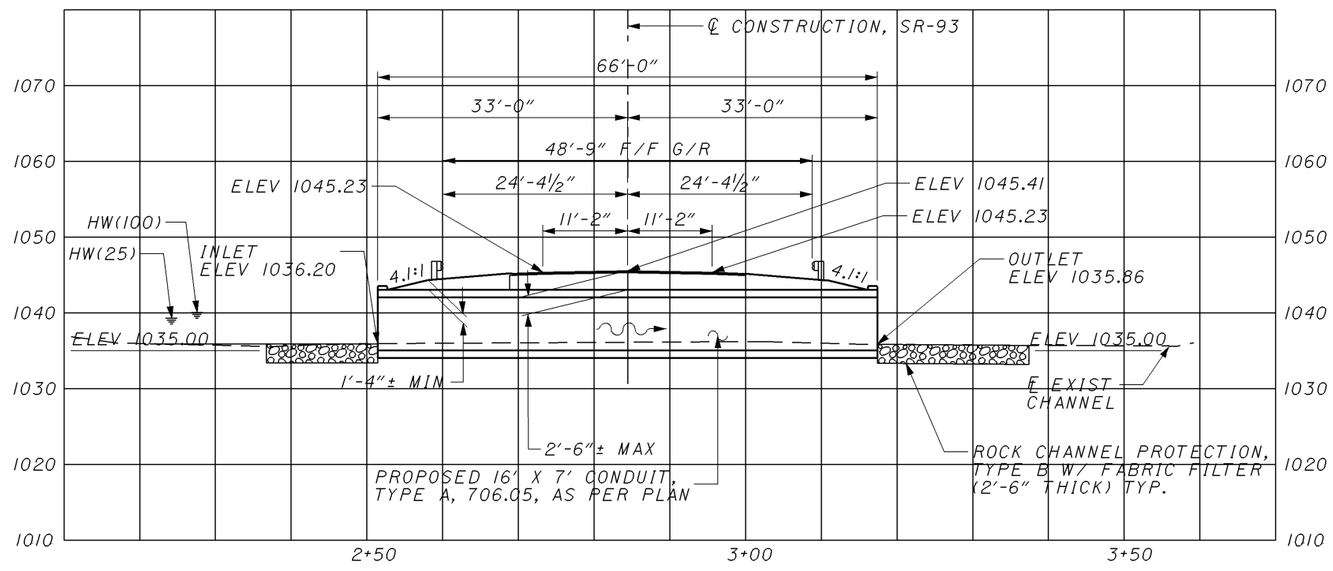
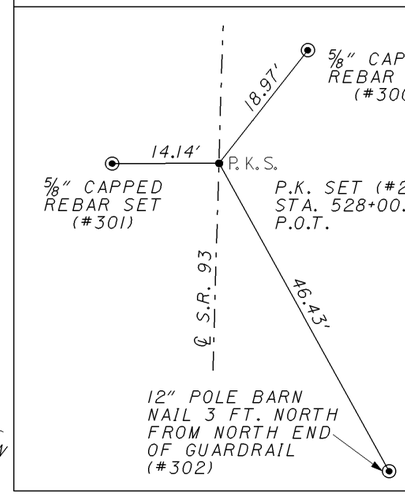


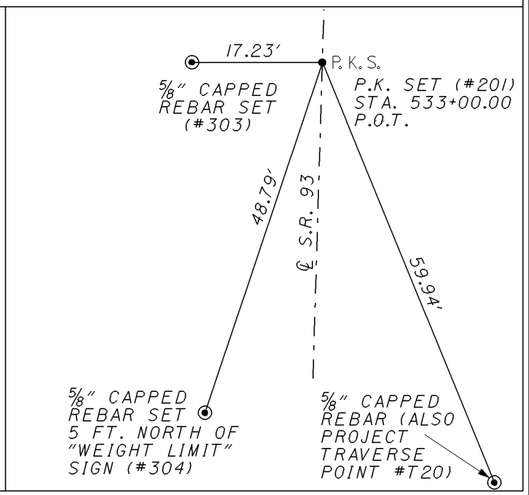
PLAN



PROFILE ALONG ℄ CREEK

℄ REFERENCE TIES





DRAINAGE DATA

DRAINAGE AREA: 1253 ACRES (1.96 SQ MILES)	
Q (25): 345.0 CFS	Q (100): 450.0 CFS
V (25): 13.56 FPS	V (100): 14.40 FPS
HW (25): 1039.29	HW (100): 1040.06

TRAFFIC

CURRENT YEAR ADT (2007)	3200
DESIGN YEAR ADT (2027)	4100
CURRENT YEAR ADTT (2007)	224
DESIGN YEAR ADTT (2027)	287

EXISTING STRUCTURE (SFN 7605315)

TYPE:	14'-0"± SPAN, CONCRETE SLAB BRIDGE W/ CONCRETE SUB-STRUCTURE
ROADWAY:	31'-4"± F/F CURBS
LOADING:	H-15
SKEW:	NONE
WEARING SURFACE:	ASPHALT CONCRETE
APPROACH SLABS:	NONE
ALIGNMENT:	TANGENT
CROWN:	3/16"/FT±
DATE BUILT:	1930

PROPOSED STRUCTURE

TYPE:	16'-0" X 7'-0" 4-SIDED PRECAST CONCRETE BOX CULVERT
ROADWAY:	48'-0" F/F GUARDRAIL
LOADING:	HL-93 FUTURE WEARING SURFACE (0.060 KIPS/SQ FT)
SKEW:	10°0'0" LF
WEARING SURFACE:	ASPHALT CONCRETE
APPROACH SLABS:	NONE
ALIGNMENT:	TANGENT
CROWN:	3/16"/FT
LOCATION:	N 40° 47' 53" W 81° 34' 26"

NOTES:

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

SEE STD CONSTRUCTION DWG GR-2.1 FOR MOUNTING OF GUARDRAIL POSTS OVER CULVERT.

SEE ROADWAY TYPICALS FOR TYPICAL ROADWAY SECTION OVER CULVERT.

LEGEND

EXIST	EXISTING
ELEV	ELEVATION
F/F	FACE TO FACE
G/R	GUARDRAIL
SHLDR	SHOULDER
PVMT	PAVEMENT
APPROX	APPROXIMATELY
⌖	BORING LOCATION

TBM 1 ELEV. = 1054.45
5/8" REBAR W/ ODOT CAP SET AT STA 532+44.21, 21.89' RT

TBM 2 ELEV. = 1044.81
6" GALV. SPIKE SET IN TOP OF 5TH G/R POST ON NW G/R OVER TWIN CULVERTS S. OF PROJECT STA 526+84.85, 16.73' LT

TBM 3 ELEV. = 1076.10
5/8" REBAR W/ ODOT CAP SET AT STA 520+04.51, 14.60' LT

DESIGN AGENCY: ODOT DISTRICT 4 PRODUCTION OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
MJH	MJH	TJP	9/23/05

CHECKED	REVISED	STRUCTURE FILE NUMBER
TJP	MJH	7604963

STARK COUNTY
STA. 530+22.75
STA. 530+45.09

SITE PLAN

BRIDGE NO.: STA-93-1003 OVER BRANCH OF PIGEON RUN

STA-93-(9.94)
(10.03)(11.71)
PID: 83320

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DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 4TH EDITION, INCLUDING THE 2007 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

DESIGN LOADING: DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

THE FOLLOWING DESIGN DATA IS ASSUMED:

UNIT WEIGHT OF CONCRETE = 150 PCF
SLOPE OF BACKFILL = 2:1
MAXIMUM FOUNDATION BEARING PRESSURE = 2000 PSF
CONCRETE CLASS C - COMPRESSICE STRENGTH 4000 PSI
(FOOTING, WINGWALLS, AND FORESLOPE WALL)
REINFORCING STEEL - ASTM A615, A616, OR A617
GRADE 60 MINIMUM YIELD STRENGTH
60,000 PSI (ALL REINFORCING SHALL BE EPOXY COATED)

REMOVAL OF EXISTING STRUCTURE

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE WILL BE REMOVED UPON RECEIVING PERMISSION FROM THE PROJECT ENGINEER.

ITEM 613 - LOW STRENGTH MORTAR BACKFILL

LOW STRENGTH MORTAR BACKFILL WILL BE PLACED AS SHOWN AND LATERALLY TO THE EDGE OF SHOULDER. SEE PROPOSAL NOTE FOR REMAINING REQUIREMENTS. PAYMENT FOR LOW STRENGTH MORTAR BACKFILL WILL BE MADE ONLY FOR BACKFILL PLACED TO THE LIMITS SHOWN. THE EXCAVATION REQUIRED FOR THE PLACEMENT OF THE LOW STRENGTH MORTAR WILL BE INCLUDED IN ITEM 603 FOR PAYMENT.

PRECAST CONCRETE

AT THE OPTION OF THE CONTRACTOR, PRECAST HEADWALLS MAY BE FURNISHED PER ITEM 602.03 PRECAST STRUCTURES, PROVIDED THEY ARE SIZED TO MEET THE SOIL LOADING AND RESISTANCE PARAMETERS, AND MEET OR EXCEED THE MATERIAL STRENGTHS AND WALL LIMITS AS SHOWN AND SPECIFIED. FULL COMPENSATION FOR THE PRECAST SUBSTITUTION IS THE VOLUME OF CONCRETE AND THE WEIGHT OF THE REINFORCING STEEL FOR THE CORRESPONDING CAST-IN-PLACE STRUCTURE.

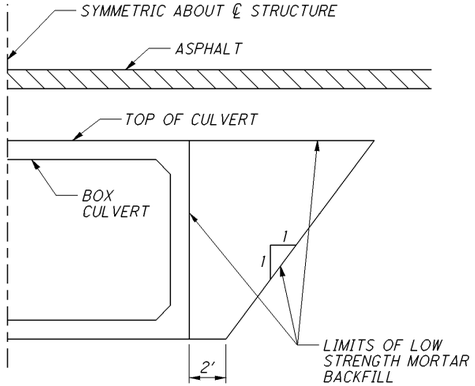
FORESLOPE WALL ANCHOR DOWELS

ANCHOR PER CMS 510 WITH NONSHRINK, NONMETALLIC GROUT CONFORMING TO CMS 705.20 AND TO A DEPTH OF 5". PAYMENT FOR DOWEL HOLES, GROUT AND INSTALLATION SHALL BE INCLUDED WITH ITEM 511.

AS AN ALTERNATIVE TO RESIN BONDING, THREADED INSERTS OR NONPROTRUDING MECHANICAL CONNECTORS CAST INTO THE CULVERT BY THE MANUFACTURER MAY BE USED PROVIDED THEY CAN REIST AN ULTIMATE PULL-OUT STRENGTH OF 12 KIPS AND MAINTAIN A MINIMUM COVER OF 3 INCHES AT THE BOTTOM OF THE CULVERT SLAB. MECHANICAL CONNECTORS MUST PROVIDE AN "L-SHAPED" BAR INSIDE THE CULVERT WITH A MINIMUM HORIZONTAL LENGTH OF 12 INCHES. PAYMENT FOR INSERTS OR MECHANICAL CONNECTORS SHALL BE INCLUDED WITH ITEM 603.

ITEM 613 - LOW STRENGTH MORTAR BACKFILL

LOW STRENGTH MORTAR BACKFILL WILL BE PLACED AS SHOWN AND LATERALLY TO THE EDGE OF SHOULDER. SEE PROPOSAL NOTE FOR REMAINING REQUIREMENTS. PAYMENT FOR LOW STRENGTH MORTAR BACKFILL WILL BE MADE ONLY FOR BACKFILL PLACED TO THE LIMITS SHOWN. THE EXCAVATION REQUIRED FOR THE PLACEMENT OF THE LOW STRENGTH MORTAR WILL BE INCLUDED IN ITEM 603 FOR PAYMENT.

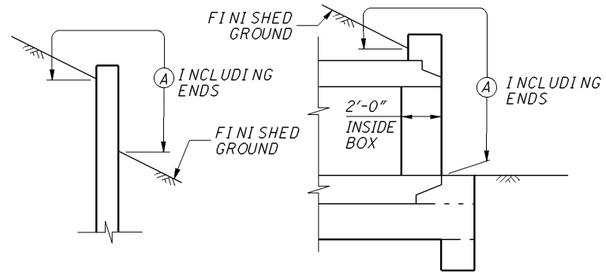


PREFORMED EXPANSION JOINT FILLER

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.

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 THE DIAGRAMS BELOW. PAYMENT FOR THE EPOXY-URETHANE SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.



LIMITS OF ITEM 512-SEALING CONCRETE SURFACES
Ⓐ - SEAL ENTIRE CONCRETE SURFACE AREA

BASIS OF PAYMENT

ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS, AND FORESLOPE WALL SHALL BE INCLUDED WITH ITEM 511 - CLASS C CONCRETE (RET-WALL/WINGWALL - INCLUDING FOOTING). PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL BE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
STA-93-1003 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:
- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

POROUS BACKFILL WITH FILTER FABRIC

1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC 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 WEEPHOLE.

WEEPHOLES 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 WEEPHOLE SHALL BE PROVIDED PER WINGWALL.

DESIGN AGENCY: ODOT --- DISTRICT 4 PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
MJH	MJH	TJP	01-14-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	7604963

STRUCTURE GENERAL NOTES
BRIDGE NO.: STA-93-1003
OVER BRANCH OF PIGEON RUN

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

2 / 8

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WATERPROOFING

TYPE 2 WATERPROOFING, PER CMS 512.09 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 CONTACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

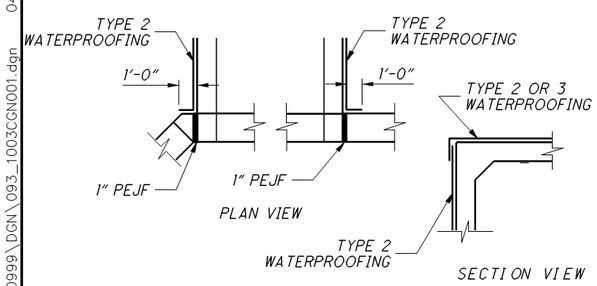
IF PAYMENT IS NOT PLACED DIRECTLY ON TOP OF THE CULVERT, TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. 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 512.10 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 WATERPFOOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 3 WATERPROOFING.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	1	0	1



WATERPROOFING DETAILS

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
MJH	MJH	TJP	01-14-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	7604963

STRUCTURE GENERAL NOTES
BRIDGE NO.: STA-93-1003
OVER BRANCH OF PIGEON RUN

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

CALC:	LMS	DATE:	12/10/2008
CHECKED:	TJP	DATE:	1/14/2009

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
201	11000	LUMP		CLEARING AND GRUBBING					
202	11000	LUMP		STRUCTURE REMOVED					
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING					
503	21300	LUMP		UNCLASSIFIED EXCAVATION					
509	10000	5088	POUND	EPOXY COATED REINFORCING STEEL				5088	
511	46000	15	CU YD	CLASS C CONCRETE, WINGWALL				15	
511	46500	89	CU YD	CLASS C CONCRETE, FOOTING				89	
511	46600	1	CU YD	CLASS C CONCRETE, HEADWALL				1	
512	10100	82	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				82	
512	33000	216	SQ YD	TYPE 2 WATERPROOFING				216	
512	33010	68	SQ YD	TYPE 3 WATERPROOFING				68	
516	13600	38	SQ FT	1" PREFORMED EXPANSION JOINT FILLER				38	
518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC					
601	32104	82	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER				82	
603	96449	66	FT	16' X 7' CONDUIT, TYPE A, 706.05, AS PER PLAN			66		7
613	41200	133	CU YD	LOW STRENGTH MORTAR BACKFILL				133	
630	02100	15	FT	GROUND MOUNTED SUPPORT, NO. 2 POST				15	
630	80100	2	SQ FT	SIGN, FLAT SHEET, 730.20				2	
630	84900	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL				2	
630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL				2	

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
MJH	MJH	TJP	01-14-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7604963	

STRUCTURE ESTIMATED QUANTITIES
BRIDGE NO.: STA-93-1003
OVER BRANCH OF PIGEON RUN

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

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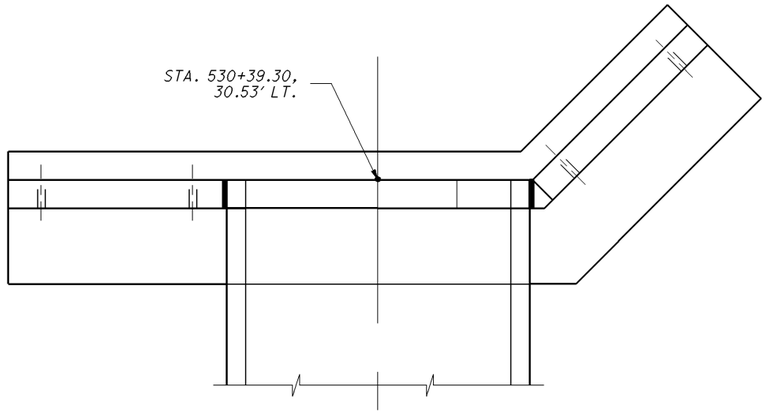
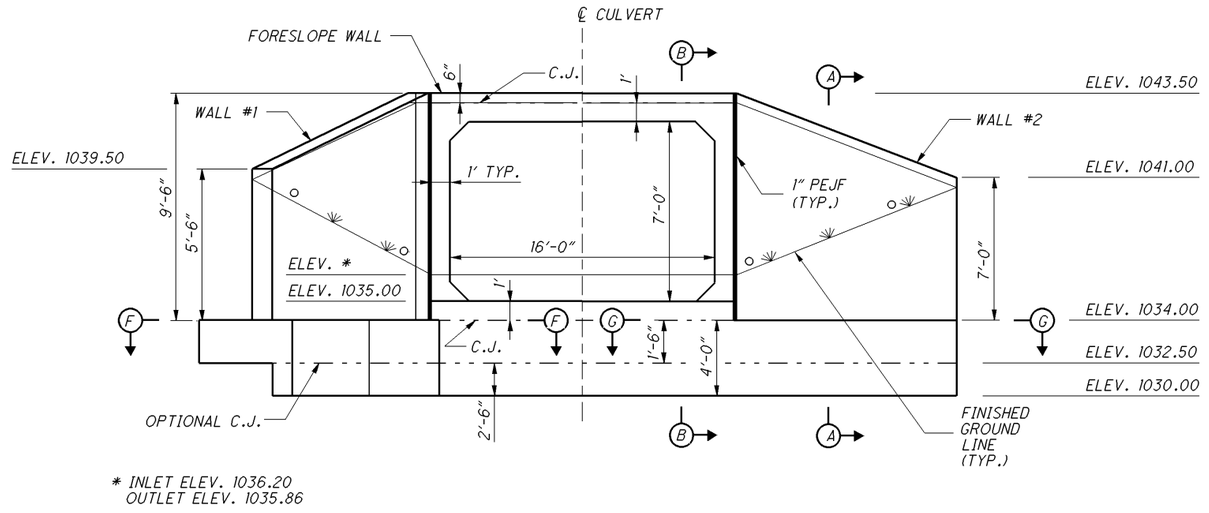
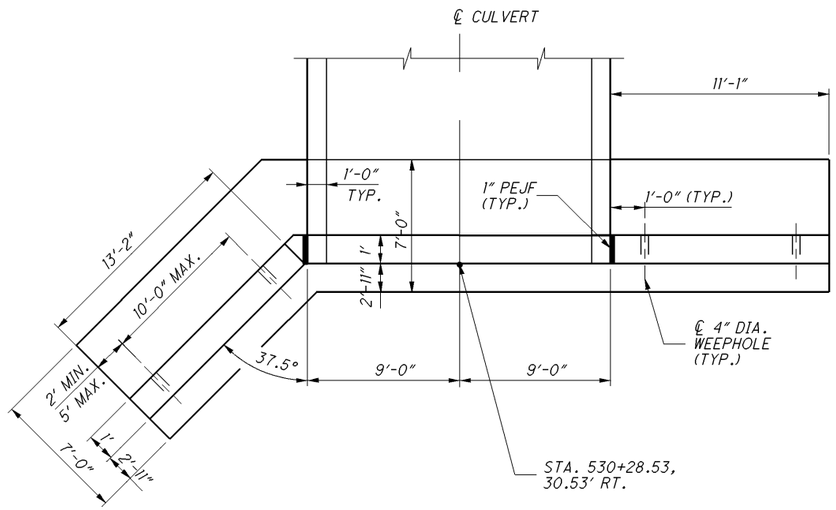




* INLET ELEV. 1036.20
OUTLET ELEV. 1035.86

INLET AND OUTLET ELEVATIONS



CULVERT & WINGWALL LAYOUT

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

DATE 01-14-09
REVIEWED TJP
STRUCTURE FILE NUMBER 7604963

DRAWN MJH
REVISED

DESIGNED MJH
CHECKED

STRUCTURE DETAILS
BRIDGE NO.: STA-93-1003
OVER BRANCH OF PIGEON RUN

~~STA-93-(9.94)~~
~~(10.03)/(11.71)~~
PID No. 83320

5 / 8

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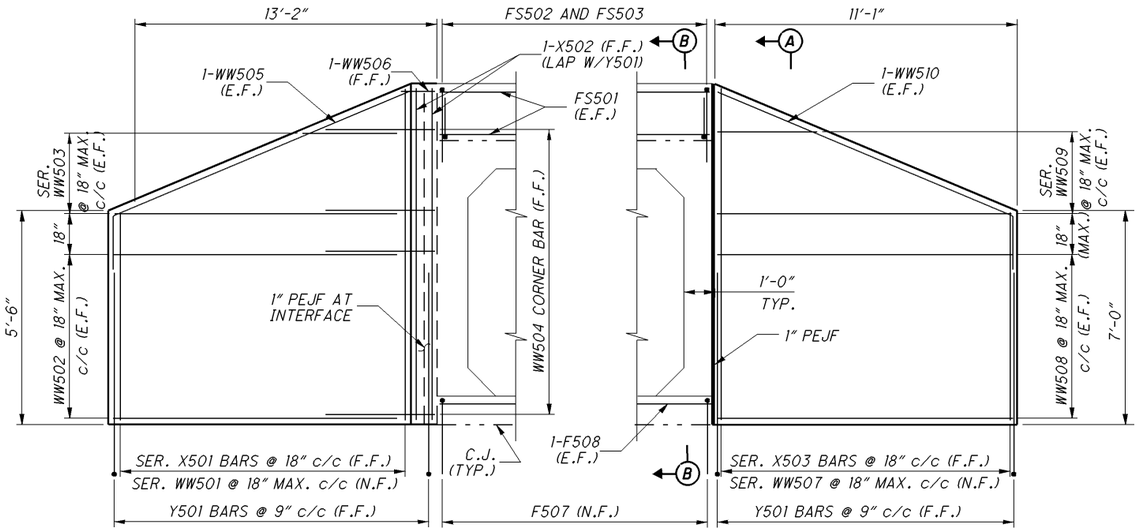
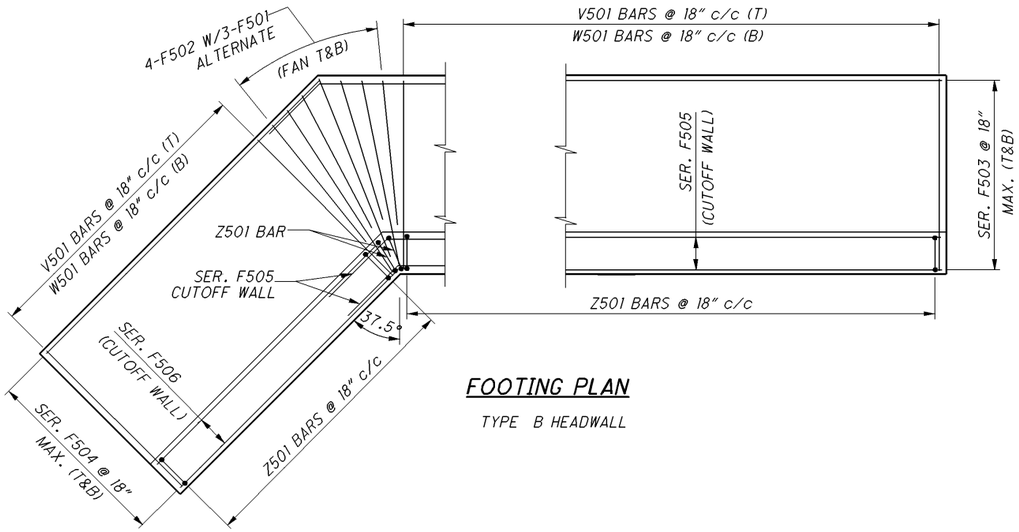


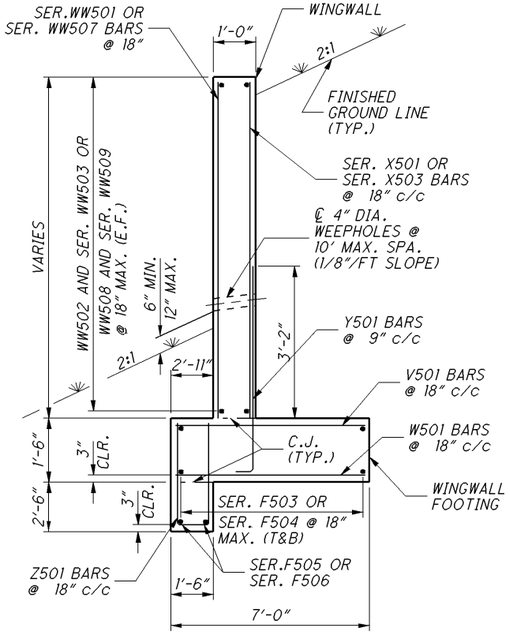
WINGWALL ELEVATION

(FOOTING NOT SHOWN)



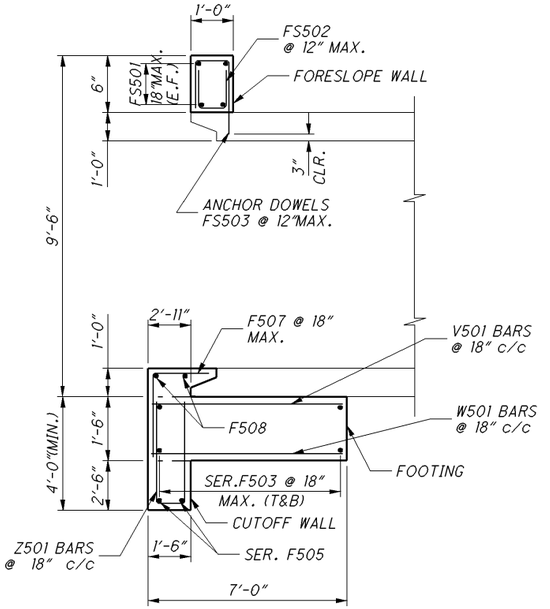
FOOTING PLAN

TYPE B HEADWALL



SECTION A-A

(POROUS BACKFILL NOT SHOWN FOR CLARITY)



SECTION B-B

(CULVERT INLET BEVEL SHOWN)

NOTES

1. FOR CULVERT LOCATION PLAN, SEE SHEET 1/8.
2. FOR PRECAST BOX CULVERT DETAILS, SEE SHEET 7/8.
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.

LEGEND:

C.J.	CONSTRUCTION JOINT	N.F.	NEAR FACE
CLR.	CLEAR	SER.	SERIES
DIA.	DIAMETER	STR.	STRAIGHT
E.F.	EACH FACE	(T)	TOP
F.F.	FAR FACE	(B)	BOTTOM
MAX.	MAXIMUM	T&B	TOP AND BOTTOM
MIN.	MINIMUM	TYP.	TYPICAL
PEJF	PREFORMED EXPANSION JOINT FILLER	INC.	INCREMENT

θ = ℄ CULVERT SKEW FROM LINE NORMAL TO ROADWAY (ROUNDED TO NEAREST 15° INCREMENT FROM 0° TO 45°)

DESIGN AGENCY: ODOT --- DISTRICT 4 PRODUCTION

DESIGNED: MJH | DRAWN: MJH | REVIEWED: TJP | DATE: 01-14-09 | STRUCTURE FILE NUMBER: 7604963 | CHECKED: | REVISED:

STRUCTURE DETAILS
BRIDGE NO.: STA-93-1003
OVER BRANCH OF PIGEON RUN

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

6 / 8

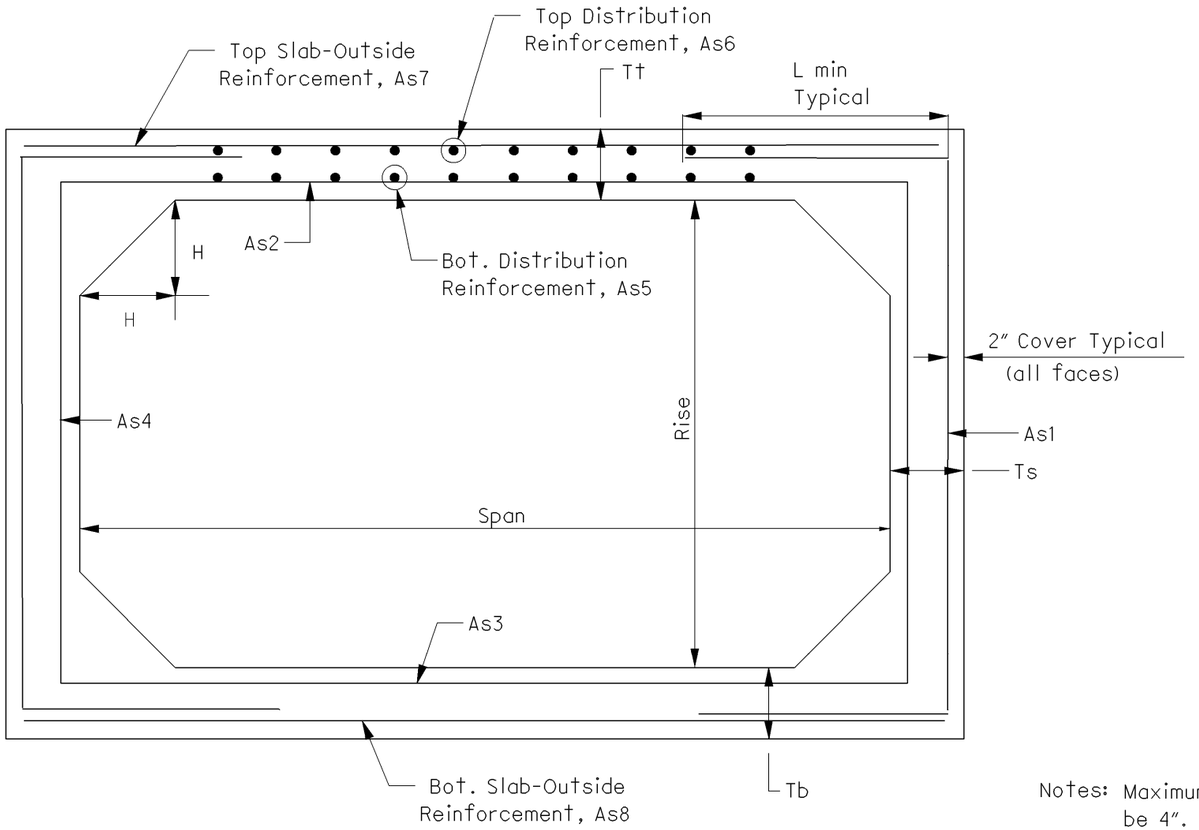
56 / 73

STA-93-1003

PID 83220

Ohio Department of Transportation

Item 603 - 16′ X 7′ Conduit Type A, 706.05, As Per Plan
All Requirements of 706.05 and ASTM C1433 Shall Be Met
Except As Detailed Herein:



Loading: HS25 & ALT. MILITARY
Depth of Cover = 1.5′ - 2.5′

Span	16′
Rise	7′
Tt	12″
Tb	12″
Ts	12″
H	12″
As1	0.93
As2	1.10
As3	0.93
As4	0.29
As5	0.29
As6	0.29
As7	0.29
As8	0.29
L min	54″

Notes: Maximum spacing of reinforcing shall be 4″.
The minimum concrete compressive strength shall be 5000 psi.
The minimum yield strength for reinforcing shall be 60 ksi.
As min = 0.002 X Gross Section Area

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
WK	WK	TJP	

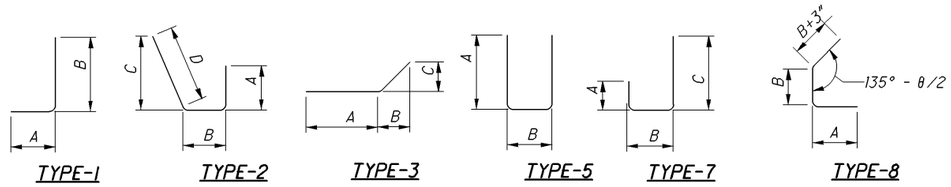
CHECKED MJH | REVISED | STRUCTURE FILE NUMBER 7604963

STRUCTURE DETAILS
BRIDGE NO.: STA-93-1003
SR 93 OVER BRANCH OF PIGEON RUN

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

TYPE B HEADWALL REINFORCING SCHEDULE

BAR MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYP	BAR TYPE DIMENSIONS A	B	C	D	INC.
					WINGWALLS				
	1	5'- 4''							
X501	SERIES	TO	77	STR.					0'- 5 3/8''
	of 10	9'- 4''							
X502	2	9'- 4''	20	STR.					
	1	6'- 10''							
X503	SERIES	TO	76	STR.					0'- 3 3/4''
	of 9	9'- 4''							
Y501	37	4'- 10''	186	1	0'- 6''	4'- 5''			
	1	5'- 4''							
WW501	SERIES	TO	77	STR.					0'- 5 3/8''
	of 10	9'- 4''							
WW502	8	12'- 10''	108	STR.					
	2	4'- 4''							
WW503	SERIES	TO	54	STR.					4'- 3 1/8''
	of 3	12'- 10''							
WW504	7	3'- 11''	29	2	0'- 7''	0'- 4 1/2''	2'- 8 3/4''	3'- 1/2''	
WW505	2	15'- 10''	34	3	2'- 5''	3'- 10''	12'- 10''		
WW506	1	1'- 6''	2	8	0'- 7''	0'- 4 1/2''			
	1	6'- 10''							
WW507	SERIES	TO	76	STR.					0'- 3 3/4''
	of 9	9'- 4''							
WW508	10	10'- 9''	113	STR.					
	2	5'- 5''							
WW509	SERIES	TO	34	STR.					5'- 4 ''
	of 2	10'- 9''							
WW510	2	13'- 5''	28	3	2'- 5''	2'- 4''	10'- 9''		
					FOOTING & CUTOFF WALL				
V501	29	6'- 8''	202	STR.					
W501	29	6'- 8''	202	STR.					
Z501	31	8'- 2''	265	5	3'- 7''	1'- 2''			
F501	6	6'- 0''	38	STR.					
F502	8	4'- 8''	39	STR.					
	2	29'- 8''			27'- 2 1/2''				
F503	SERIES	TO	398	3	TO	1'- 1 ''	2'- 2 1/4''		0'- 10 ''
	of 6	33'- 10''			31'- 4 1/4''				
	2	11'- 3''							
F504	SERIES	TO	167	STR.					0'- 10 ''
	of 6	15'- 5''							
	1	29'- 8''			27'- 2 1/2''				
F505	SERIES	TO	63	3	TO	1'- 1 ''	2'- 2 1/4''		0'- 9 1/8''
	2	30'- 5''			27'- 11 1/4''				
	1	11'- 3''							
F506	SERIES	TO	25	STR.					0'- 9 ''
	2	12'- 0''							
F507	13	5'- 1''	69	1	3'- 0''	2'- 2''			
F508	2	17'- 9''	38	STR.					
					FORESLOPE WALL				
FS501	4	17'- 9''	75	STR.					
FS502	19	0'- 9''	15	5	0'- 2''	0'- 8''			
FS503	19	1'- 8''	34	7	0'- 2''	0'- 8''	1'- 1''		
		TOTAL	2,544						



NOTE: REBAR QUANTITIES SHOWN AT LEFT ARE FOR ONE HEADWALL.

DESIGN AGENCY: ODOT --- DISTRICT 4 PRODUCTION

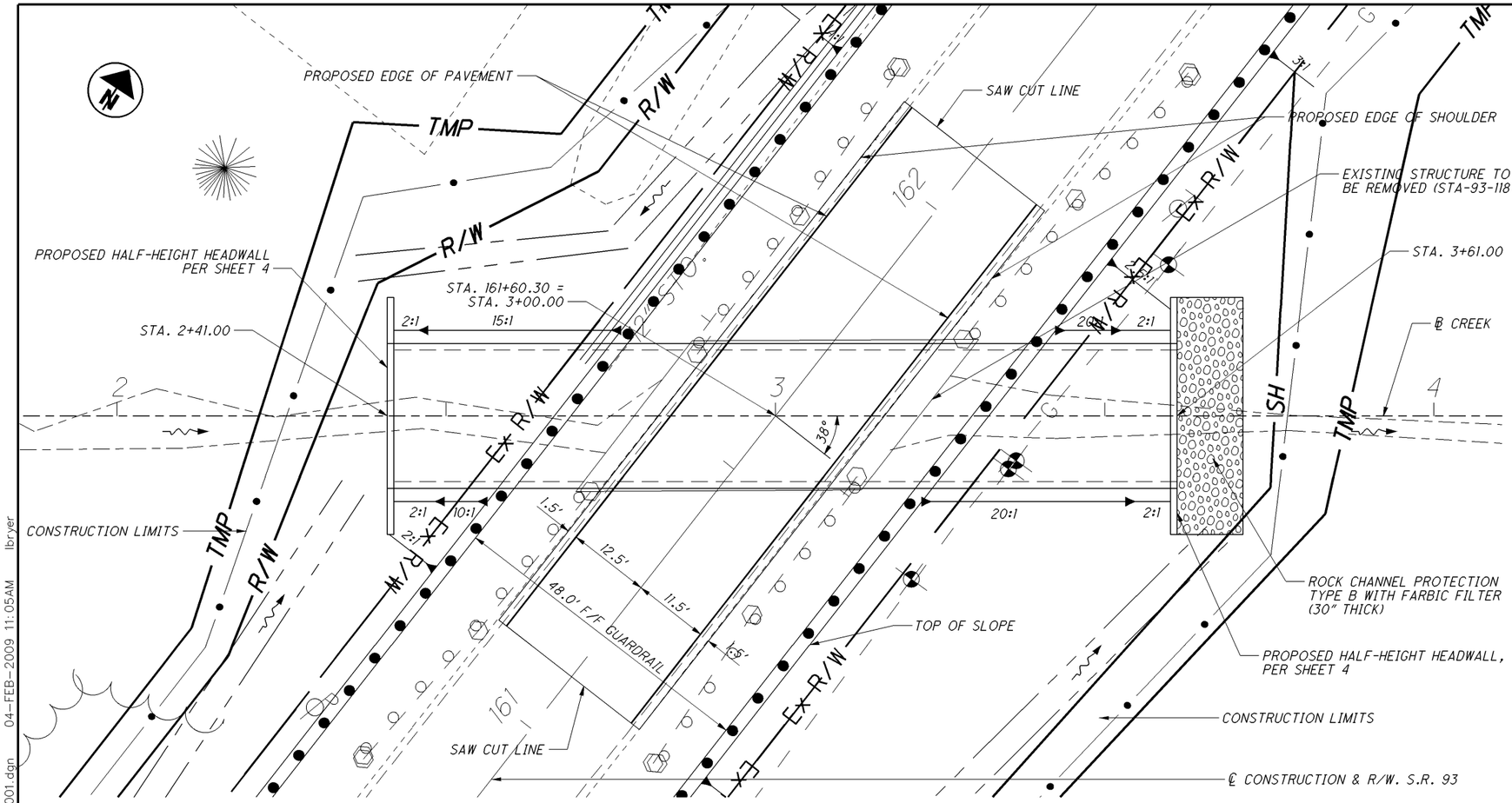
DESIGNED MJH | DRAWN MJH | REVIEWED TJP | DATE 01-14-09 | CHECKED | REVISED | STRUCTURE FILE NUMBER 7604963

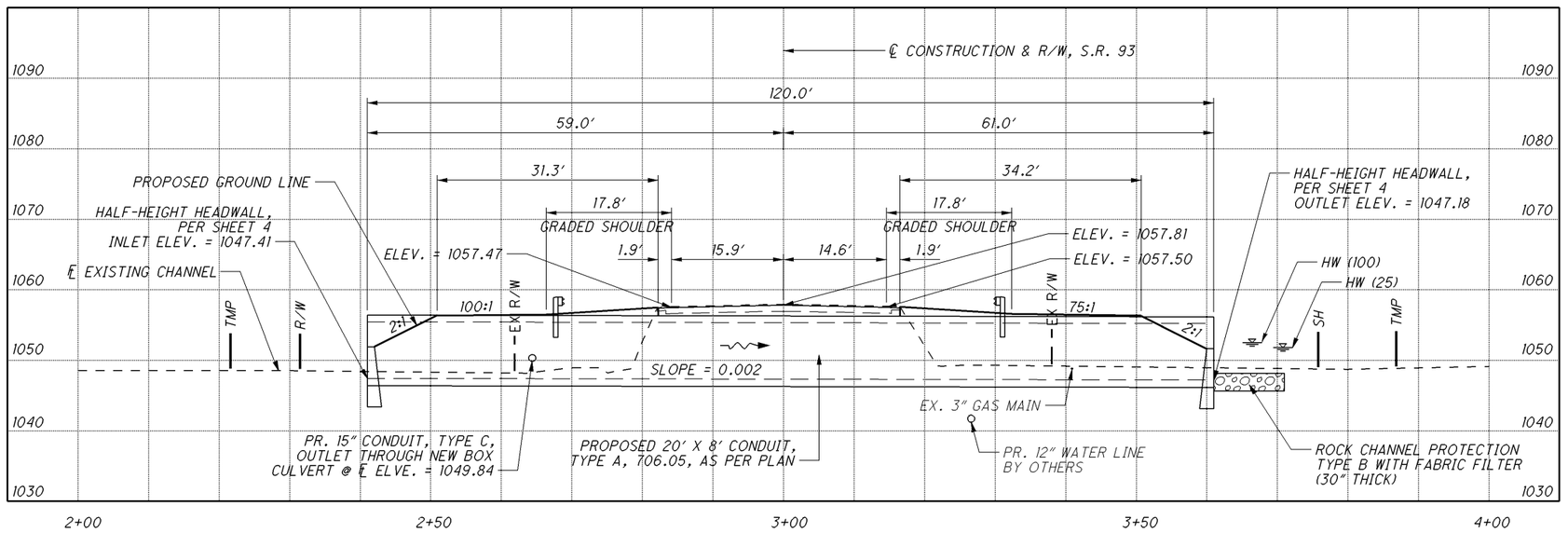
STRUCTURE DETAILS
BRIDGE NO.: STA-93-1003
OVER BRANCH OF PIGEON RUN

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

8 / 8

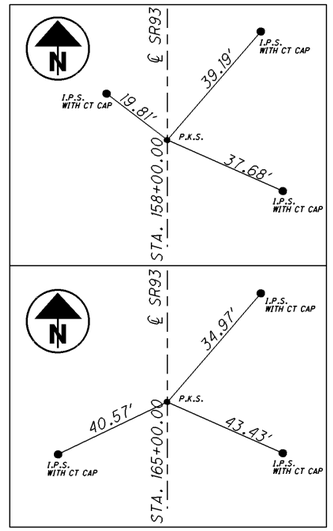
58
73





APPROXIMATELY 1'-8" MAXIMUM COVER TO PAVEMENT SURFACE AT ℄ OF PAVEMENT
APPROXIMATELY 1'-3" MINIMUM COVER TO PAVEMENT SURFACE AT EDGE OF PAVEMENT

℄ REFERENCE TIES



NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
SEE STANDARD CONSTRUCTION DRAWING GR-2.1 FOR MOUNTING OF GUARDRAIL OVER CULVERT.

DESIGN TRAFFIC:

2009 ADT = 5500 2009 ADTT = 495
2029 ADT = 7100 2029 ADTT = 639
DIRECTIONAL DISTRIBUTION = 0.60

LEGEND

BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 1.34 SQ. MILES

Q (25) =	299 CFS	V (25) =	7.3 FT/S
Q (100) =	394 CFS	V (100) =	8.1 FT/S
HW (25) =	1051.83 FT	HW (100) =	1052.50 FT

EXISTING STRUCTURE

TYPE: 19'-0"± SPAN CONCRETE SLAB BRIDGE
SPANS: SIMPLE SPAN
ROADWAY: 30'-0"± F/F PARAPET
LOADING: H-15
SKEW: 35°00'00" RT FWD
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.016
STRUCTURAL FILE NUMBER: 7605013

PROPOSED STRUCTURE

TYPE: 20'-0" X 8'-0" - 4 SIDED PRECAST CONCRETE BOX CULVERT
ROADWAY: 27'-0"
LOADING: HL-93
SKEW: 38°00'00" RT FWD
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
COORDINATES: LATITUDE N 40°48'02"
LONGITUDE W 81°36'08"

DESIGN AGENCY: ODOT --- DISTRICT 4 PRODUCTION
DESIGNED: LMS
DRAWN: LMS
REVIEWED: TJP
DATE: 01-14-09
CHECKED:
REVISED:
STRUCTURE FILE NUMBER: 7605021

STARK COUNTY
STA. 161+10.00
STA. 162+10.00

SITE PLAN
STA-93-1187
BRANCH TUSCARAWAS RIVER

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

1 / 5

59
73

04-FEB-2009 11:05AM lbryer
I:\Projects\STA\83320_93_1187\83320\structures\STA093_1187C\sheets\093_1187CSP001.dgn

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 4TH EDITION, INCLUDING THE 2007 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

DESIGN LOADING: DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

CLEARING AND GRUBBING

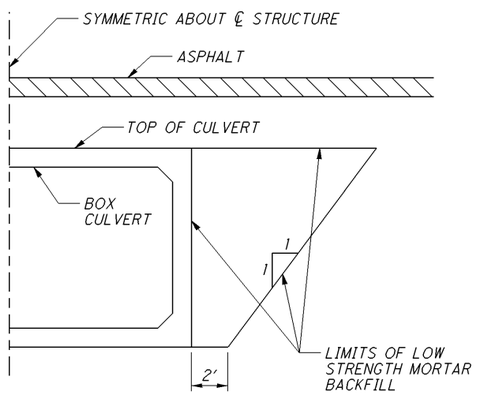
ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID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

REMOVAL OF EXISTING STRUCTURE

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE WILL BE REMOVED UPON RECEIVING PERMISSION FROM THE PROJECT ENGINEER.

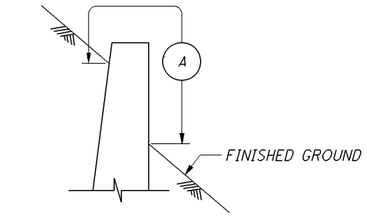
ITEM 613 - LOW STRENGTH MORTAR BACKFILL

LOW STRENGTH MORTAR BACKFILL WILL BE PLACED AS SHOWN AND LATERALLY TO THE EDGE OF SHOULDER. SEE PROPOSAL NOTE FOR REMAINING REQUIREMENTS. PAYMENT FOR LOW STRENGTH MORTAR BACKFILL WILL BE MADE ONLY FOR BACKFILL PLACED TO THE LIMITS SHOWN. THE EXCAVATION REQUIRED FOR THE PLACEMENT OF THE LOW STRENGTH MORTAR WILL BE INCLUDED IN ITEM 603 FOR PAYMENT.



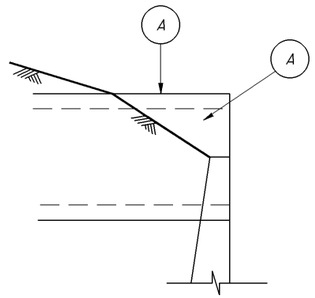
SEALING OF FACE OF CULVERT AND WINGWALLS

ALL EXPOSED FACE OF CULVERT AND WINGWALL CONCRETE WILL BE SEALED WITH EPOXY-URETHANE SEALER. THE LIMITS WILL BE AS SHOWN IN THE DETAILS BELOW. PAYMENT FOR THE EPOXY-URETHANE SEALER WILL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). THE COLOR OF CONCRETE SEALER WILL BE PER CMS.



WINGWALL

INCLUDE ENDS OF HEADWALLS



CULVERT END

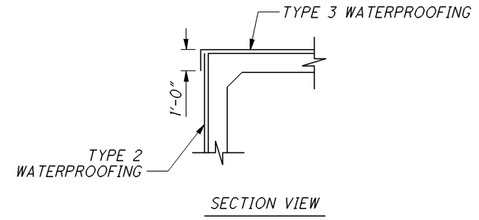
INCLUDE FACES OF CULVERT AND 2' INSIDE THE BOX ON THE TOP AND SIDES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

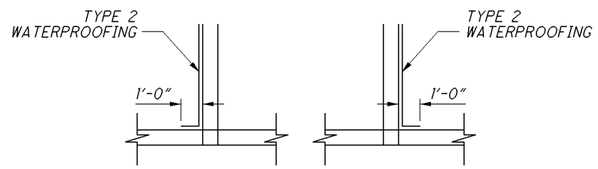
WATERPROOFING

TYPE 2 WATERPROOFING, PER CMS 512.08 AND 711.25, WILL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH WILL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING WILL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

TYPE 3 WATERPROOFING, PER CMS 512.08 AND 711.29, WILL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND WILL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH WILL BE IN CONTACT WITH ASPHALT OR BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING WILL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 3 WATERPROOFING.



SECTION VIEW



PLAN VIEW

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL BE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
STA-93-1187 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

DESIGN AGENCY: ODOT --- DISTRICT 4 PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
LMS	LMS	TJP	01-14-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	7605021

STRUCTURE GENERAL NOTES

STA-93-1187
BRANCH TUSCARAWAS RIVER

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

CALC:	LMS	DATE:	10/14/2008
CHECKED:	TJP	DATE:	1/14/2009

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
201	11000	LUMP		CLEARING AND GRUBBING					
202	11000	LUMP		STRUCTURE REMOVED					
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING					
512	10100	74	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				74	
512	33000	255	SQ YD	TYPE 2 WATERPROOFING				255	
512	33010	267	SQ YD	TYPE 3 WATERPROOFING				267	
601	32104	34	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER				34	
602	20000	22.14	CU YD	CONCRETE MASONRY				22.14	
603	96499	120	FT	20' X 8' CONDUIT, TYPE A, 706.05, AS PER PLAN				120	5
613	41200	178	CU YD	LOW STRENGTH MORTAR BACKFILL				178	
630	02100	15	FT	GROUND MOUNTED SUPPORT, NO. 2 POST				15	
630	80100	2	SQ FT	SIGN, FLAT SHEET, 730.20				2	
630	84900	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL				2	
630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL				2	

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
LMS	LMS	TJP	01-14-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7605021	

STRUCTURE ESTIMATED QUANTITIES
STA-93-1187
BRANCH TUSCARAWAS RIVER

STA-93-(9.94)
(10.03)(11.71)
PID No. 83320

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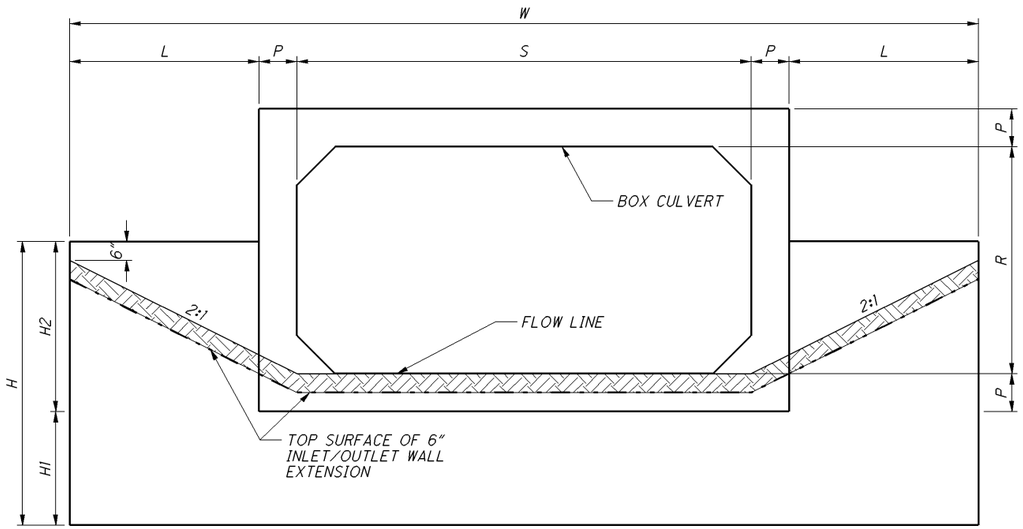
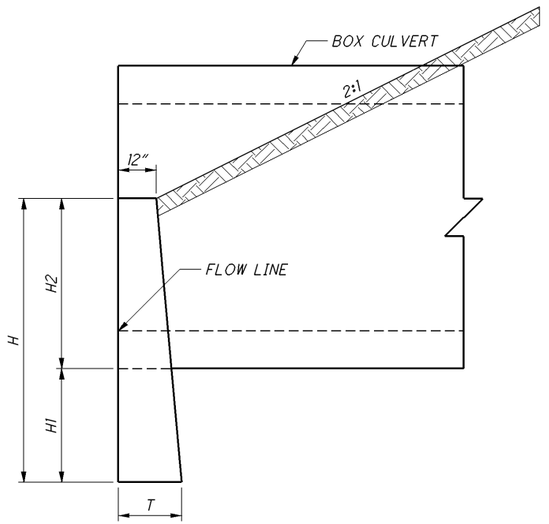
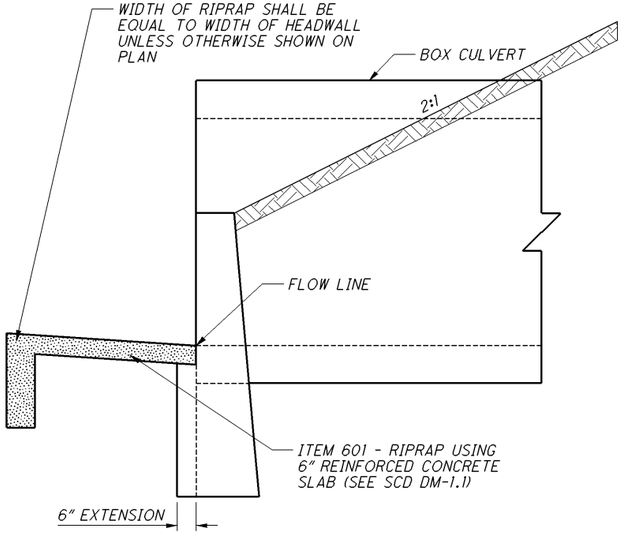
73



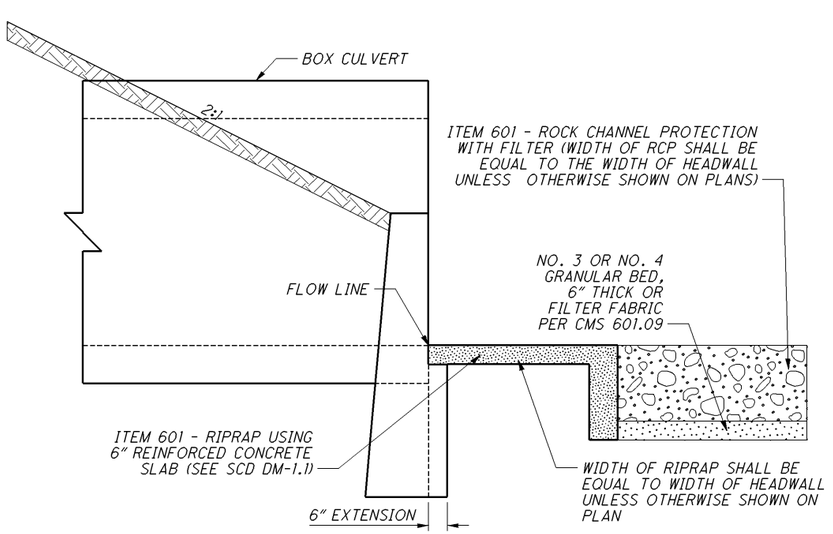
PROFILE



ELEVATION



INLET CHANNEL PROTECTION DETAIL



OUTLET CHANNEL PROTECTION DETAIL

NOTES:

GENERAL: PROVIDE A RIPRAP REINFORCED CONCRETE SLAB ACCORDING TO SCD DM-1.1 IF THE PIPE IS DEPRESSED OR IS SPECIFIED IN THE PLAN. PAYMENT WILL BE MADE PER SQUARE YARD OF ITEM 601 - RIPRAP USING 6" REINFORCED CONCRETE SLAB AND SHALL INCLUDE THE COST OF THE CUTOFF WALL.

THIS DRAWING IS FOR CAST IN PLACE HALF-HEIGHT CONCRETE HEADWALLS. PRECAST HEADWALLS WILL NOT BE PERMITTED.

CONCRETE: CONCRETE FOR HEADWALLS SHALL BE CLASS C

CONCRETE QUANTITIES ARE BASED ON HEADWALLS WITHOUT THE 6" EXTENSION UNDER THE CHANNEL PROTECTION.

CAST IN PLACE HEADWALL FOR BOX CULVERT

S	R	P	H	H1	H2	L	W	T	CONC (CU YD)
4'-0"	2'-0"	8"	5'-2"	3'-0"	2'-2"	1'-4"	8'-0"	1'-0"	1.11
4'-0"	4'-0"	8"	6'-2"	3'-0"	3'-2"	3'-4"	12'-0"	1'-4"	2.52
5'-0"	3'-0"	8"	5'-8"	3'-0"	2'-8"	2'-4"	11'-0"	1'-0"	1.69
5'-0"	4'-0"	8"	6'-2"	3'-0"	3'-2"	3'-4"	13'-0"	1'-4"	2.66
6'-0"	2'-0"	8"	5'-2"	3'-0"	2'-2"	1'-4"	10'-0"	1'-0"	1.33
6'-0"	3'-0"	8"	5'-8"	3'-0"	2'-8"	2'-4"	12'-0"	1'-0"	1.80
6'-0"	4'-0"	8"	6'-2"	3'-0"	3'-2"	3'-4"	14'-0"	1'-4"	2.80
6'-0"	5'-0"	8"	6'-8"	3'-0"	3'-8"	4'-4"	16'-0"	1'-4"	3.53
6'-0"	6'-0"	8"	7'-2"	3'-0"	4'-2"	5'-4"	18'-0"	1'-8"	5.02
7'-0"	5'-0"	8"	6'-8"	3'-0"	3'-8"	4'-4"	17'-0"	1'-4"	3.67
7'-0"	6'-0"	8"	7'-2"	3'-0"	4'-2"	5'-4"	19'-0"	1'-8"	5.19
8'-0"	4'-0"	8"	6'-2"	3'-0"	3'-2"	3'-4"	16'-0"	1'-4"	3.08
8'-0"	5'-0"	8"	6'-8"	3'-0"	3'-8"	4'-4"	18'-0"	1'-4"	3.81
8'-0"	6'-0"	8"	7'-2"	3'-0"	4'-2"	5'-4"	20'-0"	1'-8"	5.36
8'-0"	7'-0"	8"	7'-8"	3'-0"	4'-8"	6'-4"	22'-0"	1'-8"	6.39
10'-0"	4'-0"	10"	6'-4"	3'-0"	3'-4"	3'-2"	18'-0"	1'-4"	3.36
10'-0"	5'-0"	10"	6'-10"	3'-0"	3'-10"	4'-2"	20'-0"	1'-4"	4.10
10'-0"	6'-0"	10"	7'-4"	3'-0"	4'-4"	5'-2"	22'-0"	1'-8"	5.73
10'-0"	7'-0"	10"	7'-10"	3'-0"	4'-10"	6'-2"	24'-0"	1'-8"	6.77
10'-0"	8'-0"	10"	8'-4"	3'-0"	5'-4"	7'-2"	26'-0"	2'-0"	9.00
10'-0"	9'-0"	10"	8'-10"	3'-0"	5'-10"	8'-2"	28'-0"	2'-0"	10.39
10'-0"	10'-0"	10"	9'-4"	3'-0"	6'-4"	9'-2"	30'-0"	2'-4"	13.31
12'-0"	4'-0"	1'-0"	6'-6"	3'-0"	3'-6"	3'-0"	20'-0"	1'-4"	3.64
12'-0"	5'-0"	1'-0"	7'-0"	3'-0"	4'-0"	4'-0"	22'-0"	1'-8"	5.14
12'-0"	6'-0"	1'-0"	7'-6"	3'-0"	4'-6"	5'-0"	24'-0"	1'-8"	6.09
12'-0"	7'-0"	1'-0"	8'-0"	3'-0"	5'-0"	6'-0"	26'-0"	2'-0"	8.16
12'-0"	8'-0"	1'-0"	8'-6"	3'-0"	5'-6"	7'-0"	28'-0"	2'-0"	9.45
12'-0"	9'-0"	1'-0"	9'-0"	3'-0"	6'-0"	8'-0"	30'-0"	2'-4"	12.18
12'-0"	10'-0"	1'-0"	9'-6"	3'-0"	6'-6"	9'-0"	32'-0"	2'-4"	13.86
14'-0"	4'-0"	1'-0"	6'-6"	3'-0"	3'-6"	3'-0"	22'-0"	1'-4"	3.92
14'-0"	5'-0"	1'-0"	7'-0"	3'-0"	4'-0"	4'-0"	24'-0"	1'-8"	5.48
14'-0"	6'-0"	1'-0"	7'-6"	3'-0"	4'-6"	5'-0"	26'-0"	1'-8"	6.43
14'-0"	7'-0"	1'-0"	8'-0"	3'-0"	5'-0"	6'-0"	28'-0"	2'-0"	8.56
14'-0"	8'-0"	1'-0"	8'-6"	3'-0"	5'-6"	7'-0"	30'-0"	2'-0"	9.86
14'-0"	9'-0"	1'-0"	9'-0"	3'-0"	6'-0"	8'-0"	32'-0"	2'-4"	12.65
14'-0"	10'-0"	1'-0"	9'-6"	3'-0"	6'-6"	9'-0"	34'-0"	2'-4"	14.33
14'-0"	12'-0"	1'-0"	10'-6"	3'-0"	7'-6"	11'-0"	38'-0"	2'-8"	20.01
16'-0"	4'-0"	1'-0"	6'-6"	3'-0"	3'-6"	3'-0"	24'-0"	1'-4"	4.20
16'-0"	5'-0"	1'-0"	7'-0"	3'-0"	4'-0"	4'-0"	26'-0"	1'-8"	5.82
16'-0"	6'-0"	1'-0"	7'-6"	3'-0"	4'-6"	5'-0"	28'-0"	1'-8"	6.78
16'-0"	7'-0"	1'-0"	8'-0"	3'-0"	5'-0"	6'-0"	30'-0"	2'-0"	8.96
16'-0"	8'-0"	1'-0"	8'-6"	3'-0"	5'-6"	7'-0"	32'-0"	2'-0"	10.26
16'-0"	10'-0"	1'-0"	9'-6"	3'-0"	6'-6"	9'-0"	36'-0"	2'-4"	14.81
16'-0"	12'-0"	1'-0"	10'-6"	3'-0"	7'-6"	11'-0"	40'-0"	2'-8"	20.55
18'-0"	4'-0"	1'-0"	6'-6"	3'-0"	3'-6"	3'-0"	26'-0"	1'-4"	4.48
18'-0"	5'-0"	1'-0"	7'-0"	3'-0"	4'-0"	4'-0"	28'-0"	1'-8"	6.16
18'-0"	6'-0"	1'-0"	7'-6"	3'-0"	4'-6"	5'-0"	30'-0"	1'-8"	7.12
18'-0"	8'-0"	1'-0"	8'-6"	3'-0"	5'-6"	7'-0"	34'-0"	2'-0"	10.67
18'-0"	9'-0"	1'-0"	9'-0"	3'-0"	6'-0"	8'-0"	36'-0"	2'-4"	13.59
18'-0"	10'-0"	1'-0"	9'-6"	3'-0"	6'-6"	9'-0"	38'-0"	2'-4"	15.28
20'-0"	4'-0"	1'-0"	6'-6"	3'-0"	3'-6"	3'-0"	28'-0"	1'-4"	4.76
20'-0"	5'-0"	1'-0"	7'-0"	3'-0"	4'-0"	4'-0"	30'-0"	1'-8"	6.50
20'-0"	6'-0"	1'-0"	7'-6"	3'-0"	4'-6"	5'-0"	32'-0"	1'-8"	7.46
20'-0"	8'-0"	1'-0"	8'-6"	3'-0"	5'-6"	7'-0"	36'-0"	2'-0"	11.07
20'-0"	10'-0"	1'-0"	9'-6"	3'-0"	6'-6"	9'-0"	40'-0"	2'-4"	15.75

BOX CULVERT HALF-HEIGHT HEADWALL STANDARD DETAILS

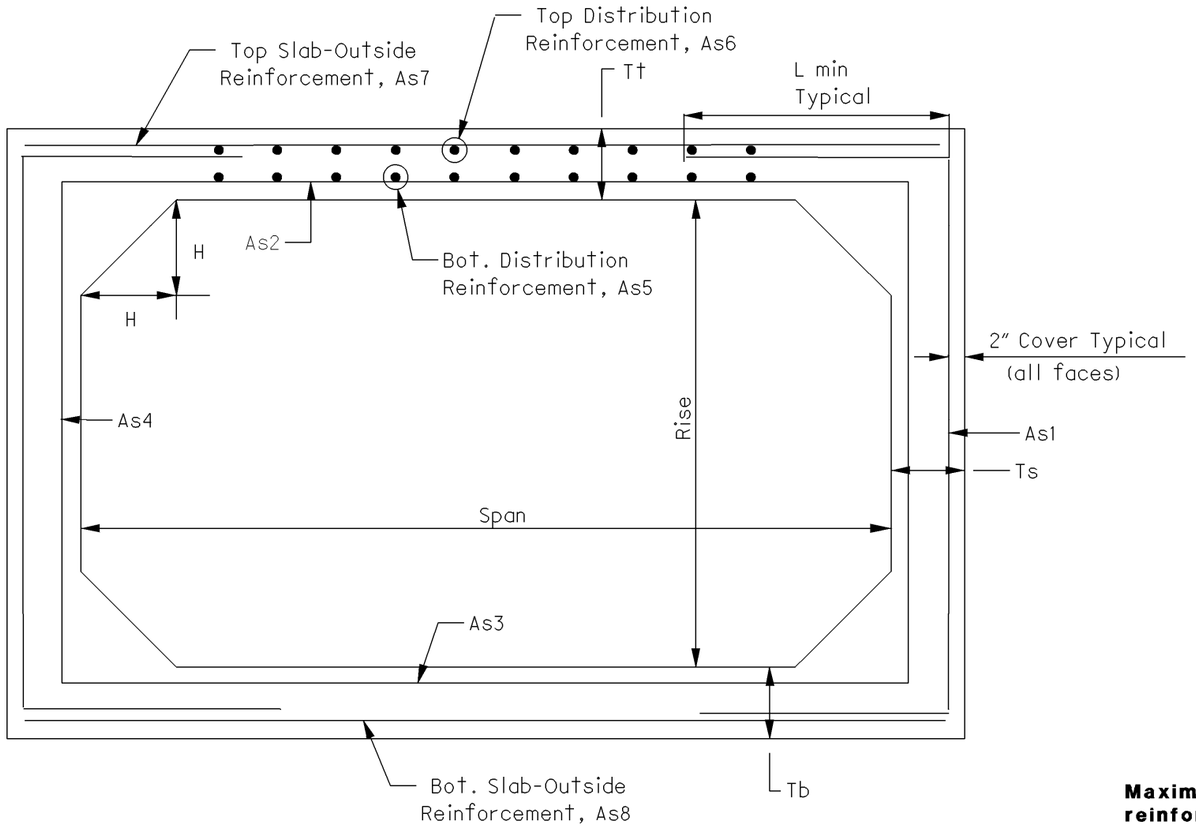
STA-93-(9.94)
(10.03)/(11.71)
PID No. 83320

STA-93-1187

SFN 7605021

Ohio Department of Transportation

Item 603 - 20' X 8' Conduit Type A, 706.05, As Per Plan
All Requirements of 706.05 Shall Be Met
Except As Detailed Herein:



* INCLUDED WITH THIS ITEM IS THE OPENING FOR THE STORM SEWER OUTLET CONDUIT. REFER TO THE SITE PLAN FOR THE LOCATION(S). THE OPENING WILL BE FORMED AND CONSTRUCTED IN THE SHOP AND INCLUDE DIAGONAL #5 REINFORCING STEEL FRAMING THE OPENING ON BOTH FACES. PROVIDE A MINIMUM OF 1 1/2" OF CLEARANCE FROM THE EDGE OF THE OPENING TO THE OUTSIDE OF THE STORM SEWER OUTLET PIPE. AFTER PLACING THE STORM SEWER OUTLET CONDUIT GROUT ALL OPENINGS BETWEEN THE PIPE AND STRUCTURE LESS THAN 4 INCHES WITH MORTAR AND GROUT (CMS 602) ALL OPENINGS BETWEEN THE PIPE AND STRUCTURE GREATER THAN 4 INCHES WITH NONSHRINK MORTAR (CMS 705.22).

Loading: HL93
Depth of Cover < 2'
FWS = 60 psf

Span	20'
Rise	8'
Tt	13" Note
Tb	12"
Ts	12"
H	12"
As1	1.24
As2	1.32
As3	1.32
As4	0.29
As5	0.29
As6	0.31
As7	0.31
As8	0.31
L min	64"

Maximum spacing of the circumferential reinforcing shall be 4".
Minimum yield strength for reinforcing shall be 60 ksi.
Minimum concrete compressive strength shall be 5000 psi.
As min = 0.002 X Gross Section Area

DESIGN AGENCY: ODOT --- DISTRICT 4 PRODUCTION
DESIGNED: LMS | DRAWN: LMS | REVIEWED: TJP | DATE | STRUCTURE FILE NUMBER: 7605021
CHECKED | REVISED

STRUCTURE GENERAL NOTES
STA-93-1187
BRANCH TUSCARAWAS RIVER

STA-93-(9.94)
(10.03)/(11.71)
PID No. 83320

5 / 5

63
73

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UTILITY OWNERS	
TYPE	NAME & ADDRESS
TELEPHONE	SBC 13630 LORAIN AVE. 4TH FLOOR CLEVELAND, OHIO 44111 216-476-6142
ELECTRIC	OHIO EDISON 1910 WEST MARKET STREET AKRON, OHIO 44313 330-384-3861
GAS	DOMINION EAST OHIO 7015 FREEDOM AVENUE NW NORTH CANTON, OHIO 44720 330-266-2048
OIL & GAS	BELDON & BLAKE OIL & GAS 5200 STONEHAM ROAD NORTH CANTON, OHIO 44720 330-499-1660 GREAT LAKES ENERGY PARTNERS P.O. BOX 550 HARTVILLE, OHIO 44632 330-587-1221

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

RIGHT OF WAY LEGEND SHEET

STA-93-(9.94)(10.03)(11.71)

STARK COUNTY
TUSCARAWAS TOWNSHIP
S.E. QUARTER SECTION 9
S.W QUARTER SECTION 10
T 12 N R 10 W

PROJECT DESCRIPTION

REPLACE THE EXISTING CONCRETE SLAB BRIDGE ON S.R. 93 WITH A 20' X 8' 4-SIDED PRECAST CONCRETE BOX CULVERT IN TUSCARAWAS TOWNSHIP, STARK COUNTY, OHIO

PROJECT CONTROL

STATE PLANE GRID NAD83 NORTH ZONE
PROJECT ADJUSTMENT FACTOR 0.9999048270

INDEX OF SHEETS:

PLANS PREPARED BY:

FIRM NAME : CT CONSULTANTS, INC.
PLANS PREPARED BY: PAMELA LEIVO
FIELD REVIEW BY: PAMELA LEIVO
DATE COMPLETED: 1/8/2008
OWNERSHIP VERIFIED BY: ROBERT HIMES
DATE COMPLETED: 9/28/2007
DATE COMPLETED:

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

LEGEND:
WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
BS = BILL OF SALE
PRW = PROPERTY RIGHT FEE SIMPLE
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
SL = SLOPE EASEMENT
S = SEWER EASEMENT
CH = CHANNEL EASEMENT

CONVENTIONAL SYMBOLS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (Ex) (Pr)
Center Line
Right of Way (Ex) Ex R/W
Right of Way (Pr) R/W
Standard Highway Ease.(Ex) Ex SH
Temporary Right of Way TMP
Channel Ease. (Pr) CH
Utility Ease. (Ex) Ex U
Railroad or
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)

Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol , Example
Property Line Symbol , Example
Break Line Symbol , Example
Tree (Pr) , Tree (Ex) , Shrub (Ex)
Tree (Remove) , Shrub (Remove)
Evergreen (Ex) , Stump
Evergreen (Remove) , Stump (Remove)
Wetland (Pr) , Grass (Pr) , Aerial Target
Post (Ex) , Mailbox (Ex) , Mailbox (Pr)
Light (Ex) , Telephone Marker (Ex)
Fire Hydrant (Ex) , Water Meter (Ex)
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)

I, Peter J. Knezevic, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation on September 24, 2007. The results of that survey are contained herein.

The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates system, North Zone by ties to the ODOT CORS network using station Wooster. The Project Adjustment Factor used for this project is 0.9999048270.

As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein.

All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "A Minimum Standards for Boundary Surveys in the State of Ohio" unless noted.

The words I and my as used herein are to mean either myself or someone working under my direct supervision.

_____
Peter J. Knezevic, Professional Land Surveyor No. 7249, Date:

SURVEYORS SEAL

SIGNED:_____
DATE:_____

FEDERAL PROJECT NO. E071(116)
PID NO. 83320
CALCULATED PSL CHECKED PJK
RIGHT OF WAY LEGEND SHEET
STA-93-(9.94) (10.03)(11.71)
1 / 6
64 73

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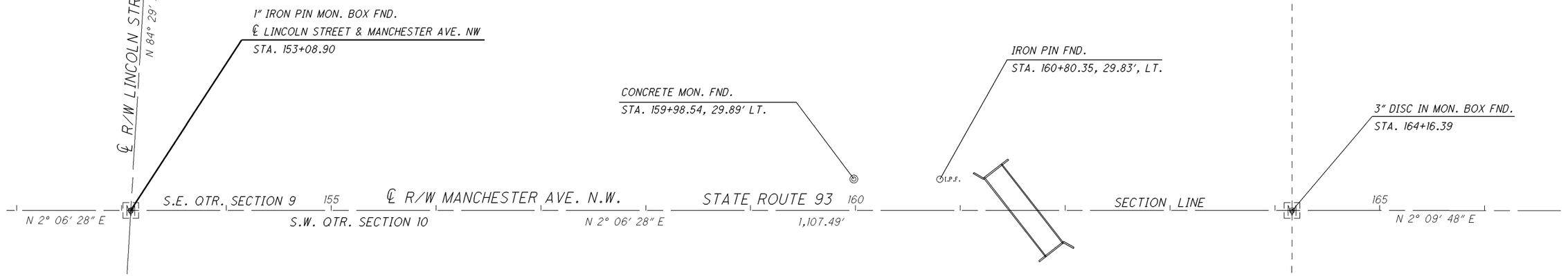
STARK COUNTY
TUSCARAWAS TOWNSHIP
S.E. QUARTER SECTION 9
S.W. QUARTER SECTION 10
T 12 N R 10 W

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING STARK COUNTY ENGINEERS RECORDS, PLATES AND DEED RECORDS ALONG WITH ODOT PLANS:

1. CANAL FULTON - BREWSTER ROAD STARK COUNTY S.H. 536 SEC. G2 (1934)
2. RIGHT OF WAY PLANS S.R. 92 S.H. 536 SEC. G-2 & H-2 (1933)

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.R.F. IRON PIN FOUND
- I.R.F. IRON PIN FOUND W/ ID CAP
- I.R.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET



BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY AND ARE BASED ON ODOT CORS GPS NETWORK, OHIO STATE PLANE, NORTH ZONE.

I, Peter J. Knezevic, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation on September, 24, 2007. The results of that survey are contained herein.

The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates system, North Zone by ties to the ODOT CORS network using station Wooster. The Project Adjustment Factor used for this project is 0.9999048270.

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The words I and my as used herein are to mean either myself or someone working under my direct supervision.

Peter J. Knezevic, Professional Land Surveyor No. 7249, Date:

SURVEYORS SEAL

SIGNED:
DATE:

RECEIVED _____, 20__
RECORDED _____, 20__
BOOK _____ PAGE _____
COUNTY RECORDER

HORIZONTAL SCALE IN FEET
0 25 50 100

PID NO. 83320

R/W DESIGNER PSL
R/W REVIEWER TPH

CENTERLINE PLAT

STA-93-(9.94)
(10.03)(11.71)

2 / 6

65 / 73

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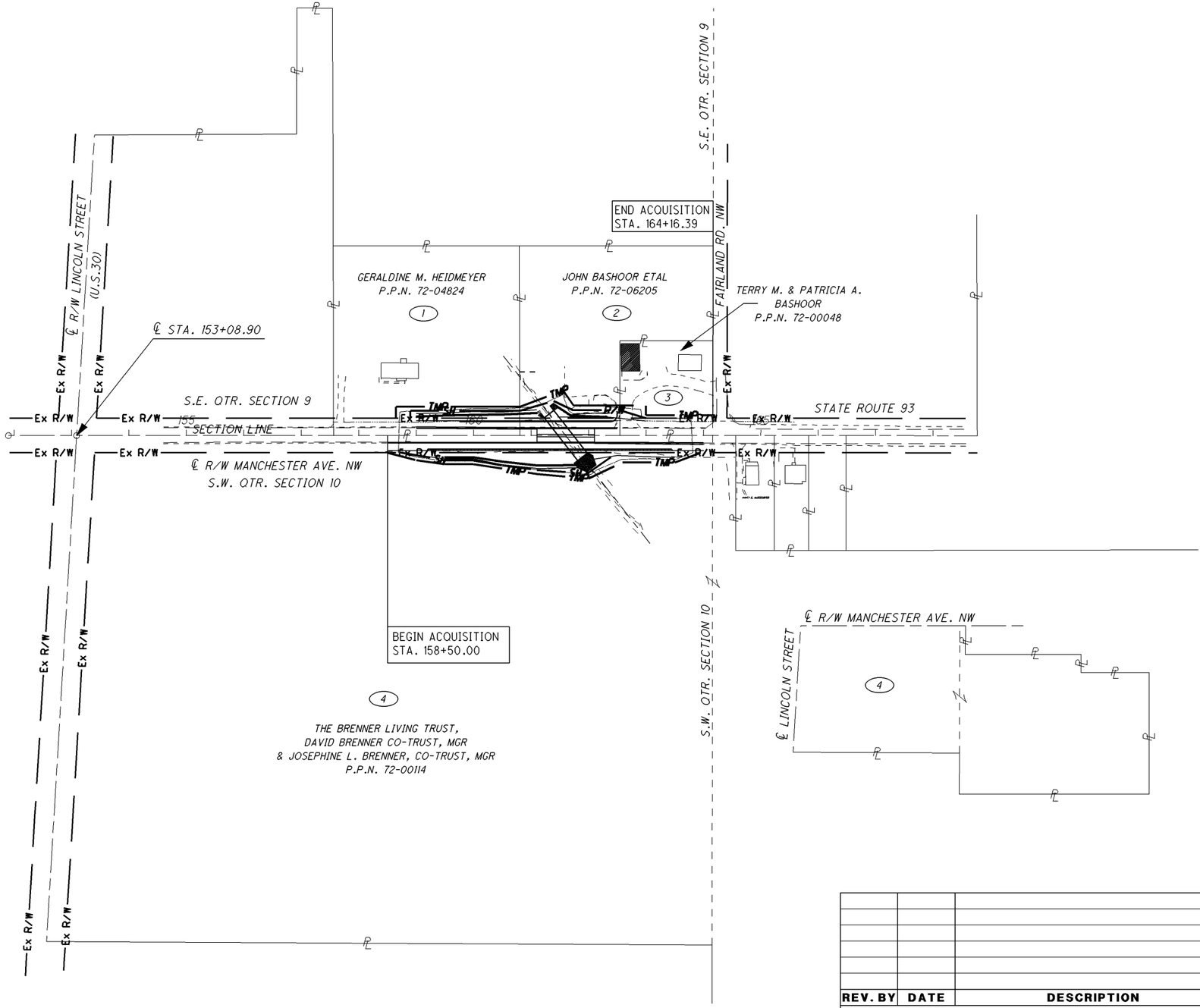
STARK COUNTY
TUSCARAWAS TOWNSHIP
S.E. QUARTER SECTION 9
S.W. QUARTER SECTION 10
T 12 N R 10 W



STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 50 100 200

PID NO. 83320

R/W DESIGNER PSL
R/W REVIEWER TPH

PROPERTY MAP

STA-93-(9.94)
(10.03)(11.71)

3 / 6

66 / 73

TOTAL NUMBER OF :

4 OWNERSHIPS
8 PARCELS
0 TOTAL TAKES
0 OWNERSHIPS W/ STRUCTURES INVOLVED

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

ALL AREAS IN ACRES

* DENOTES RIGHT OF WAY ENCROACHMENT

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE STATE OF 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	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1SH	GERALDINE M. HEIDMEYER	5 & 6	200706290035780		72-04824	2.455	0.223	0.057	0	0.057		2.175		STATE	TO CONSTRUCT & MAINTAIN A CHANNEL		
1T								0.042		0.042					GRADING		
2WD	JOHN BASHOOR, ETAL	5 & 6	200705170027081		72-06205	1.930	0.120	0.192	0.120	0.072		1.738		STATE	TO CONSTRUCT & MAINTAIN A CHANNEL		
2T								0.042		0.042					GRADING		
3WD	TERRY M. & PATRICIA A. BASHOOR	5 & 6	199603280014887		72-00048	0.614	0.112	0.119	0.112	0.007	S	0.495		STATE	SIGN, TO CONSTRUCT & MAINTAIN A CHANNEL		
3T								0.029		0.029					GRADING		
4SH	THE BRENNER LIVING TRUST,	5 & 6	1131	680	72-00114	23.46	1.409	0.170	0	0.170			21.881	STATE	TO CONSTRUCT & MAINTAIN A CHANNEL		
4T	DAVID BRENNER CO-TRUST, MGR							0.122		0.122					GRADING		
	& JOSEPHINE L. BRENNER, CO-TRUST, MGR																

NOTE: ALL TEMPORARY PARCELS TO BE OF 12 MONTH DURATION.

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

LEGEND:
WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
BS = BILL OF SALE
PRW = PROPERTY RIGHT FEE SIMPLE
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
SL = SLOPE EASEMENT
S = SEWER EASEMENT
CH = CHANNEL EASEMENT

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY PAMELA LEIVO DATE: 1/8/2008
OWNERSHIP VERIFIED BY ROBERT HIMES DATE: 9/28/2007
DATE COMPLETED

FEDERAL PROJECT NO. E071(116)
PID NO. 83320
STATE JOB NO. 440091
R/W DESIGNER PSL
R/W REVIEWER TPH

SUMMARY OF ADDITIONAL RIGHT OF WAY

STA-93-(9.94)
(10.03)(11.71)

STARK COUNTY
TUSCARAWAS TOWNSHIP
S.E. QUARTER SECTION 9
S.W. QUARTER SECTION 10
T 12 N R 10 W

GERALDINE M. HEIDMEYER
P.P.N. 7204824
DOC. # 200706290035780
1237 MANCHESTER AVE.
1
RESIDENTIAL

JOHN BASHOOR ETAL
P.P.N. 7206205
DOC. # 200705170027081
13236 FAIRLAND ST. NW
2
RESIDENTIAL

TERRY M. & PATRICIA A. BASHOOR
P.P.N. 7200048
DOC. # 199603280014887
13226 FAIRLAND ST. NW
3
RESIDENTIAL

END ACQUISITION
STA. 164+16.39

BEGIN ACQUISITION
STA. 158+50.00

FAIRLAND RD. NW (25' WIDE)

S.E. QTR. SECTION 9

S.W. QTR. SECTION 10

C/L R/W MANCHESTER AVE. NW
N 2° 06' 28" E

STATE ROUTE 93

SECTION LINE

GRASS
GRAVEL
GRAVEL PARKING
CONSTRUCTION LIMITS
REMOVE BRUSH/TREES WITHIN EASEMENT AREAS
36" MAPLE
24" TREE
30" TREE SAVE
18" TREE
24" TREE SAVE
18" TREE
3" CONIFER
R.R. TIES
RR TIES W/ GRAVEL
6" CONIFER
9" CONIFER
12"-STO.
6"-STO.
68.84'
SIGN TAKE
TAKE
POT STO. 164+16.39
3" DISK IN MON. BOX
PP#2121C-15
PP#2121B4-15
PP#2121B4-14
PP#2121B4-6
PP#2121B4

1SH 1T 2T 2WD 3WD 3T

Ex R/W
R/W
TMP
SH
U

CORN FIELD

4U = 0.080 ACRES
0.052 ACRES OVERLAPS 4SH
0.028 ACRES OVERLAPS 4T

4U 4SH 4T

FIELD

4T-1 = 0.020 ACRES

4T-1

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

THE BRENNER LIVING TRUST,
DAVID BRENNER CO-TRUST, MGR
& JOSEPHINE L. BRENNER, CO-TRUST, MGR.
P.P.N. 72-00114
VOL. 1131 PG. 680
13087 LINCOLN WAY

4
AGRICULTURAL

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 10 20 40

Ex R/W

R/W DESIGNER	PID NO.
PSL	83320
R/W REVIEWER	
TPH	

RIGHT OF WAY TOPO SHEET
STA. 158+50.00 TO STA. 164+16.39

STA-93-(9.94)
(10.03)(11.71)

5 / 6

68 / 73

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STARK COUNTY
TUSCARAWAS TOWNSHIP
S.E. QUARTER SECTION 9
S.W. QUARTER SECTION 10
T 12 N R 10 W

GERALDINE M. HEIDMEYER
P.P.N. 7204824
DOC. # 200706290035780

1

JOHN BASHOOR ETAL
P.P.N. 7206205
DOC. # 200705170027081

2

TERRY M. & PATRICIA A. BASHOOR
P.P.N. 7200048
DOC. # 199603280014887

3

C/L R/W LINCOLN STREET — N 84° 29' 32" W

FAIRLAND ROAD NW (25' WIDE)

S.E. QTR. SECTION 9

N 88° 02' 32" W

N 87° 48' 05" W

S 87° 48' 05" E

Sta 158+65.00 Off 50.00 LT
Sta 158+90.00 Off 43.00 LT
1T
1SH
Sta 160+80.32 Off 50.00 LT
2T
Sta 161+56.00 Off 78.00 LT
2WD
Sta 161+74.00 Off 52.00 LT
Sta 162+54.48 Off 52.00 LT
Sta 163+00.00 Off 52.00 LT
S 87° 53' 32" E 17.00'
3T
Sta 164+16.39 Off 35.00 LT
Sta 163+00.00 Off 35.00 LT

N 87° 52' 33" W 20.00'
TMP
N 2° 06' 28" E 215.32'
SH
N 2° 06' 28" E 190.34'
7.00'
R/W
I.P.S.
N 18° 11' 46" W 80.69'
N 57° 24' 45" E 31.62'
N 14° 03' 15" W 61.07'
N 27° 18' 32" E 37.58'
N 2° 06' 28" E 80.48'
N 2° 06' 28" E 45.52'
N 19° 11' 50" E 47.64'
N 2° 06' 28" E 116.45'
5.00'

Ex R/W
25.00'
S 2° 06' 28" W
13.00'
N 87° 52' 33" W
S 2° 06' 28" W 190.38'
I.P.F.
S 2° 06' 28" W 174.07'
14.00'
8.0'
45.56'
116.44'

Sta 153+08.90
Sta 158+65.00 Off 30.00 LT
Sta 158+90.00 Off 30.00 LT
Sta 159+98.54 Off 29.89 LT.
I.P.Fnd Sta 160+80.35 Off 29.83 LT.
43.00'
30.00'
Sta 160+80.37 Off 30.00 LT
Sta 161+39.00 Off 60.00 LT
Sta 161+73.00 Off 44.00 LT
Sta 162+54.46 Off 44.00 LT
Sta 162+54.44 Off 30.00 LT
3WD
Sta 163+00.00 Off 30.00 LT
Sta 164+16.41 Off 30.00 LT
44.00'
30.00'

771.55' TO ℄ LINCOLN ST.
159
C/L R/W MANCHESTER AVE. NW
160
STATE ROUTE 93
161
S 2° 06' 28" W 173.94'
162
S 2° 06' 28" W 163
162.00'
164
N 2° 06' 28" E
Sta 160+80.45
1107.49' ℄ LINCOLN ST. TO SECTION LINE
S.W. QTR.SECTION 10
Sta 162+54.39
SECTION LINE
Sta 164+16.39 MON. BOX FND.

S.E. QTR.SECTION 9

Sta 158+50.00 Off 30.00 RT
Sta 158+75.00 Off 30.00 RT
Sta 159+50.00 Off 43.00 RT
Sta 160+00.00 Off 43.00 RT
Sta 160+50.00 Off 52.00 RT
Sta 161+10.00 Off 60.00 RT
Sta 161+98.00 Off 66.00 RT
Sta 162+50.00 Off 30.00 RT
Sta 163+95.00 Off 30.00 RT
Sta 164+16.35 Off 30.00 RT

Ex R/W
25.00'
I.P.S.
N 2° 06' 28" E
S 11° 56' 29" W 76.12'
S 2° 06' 28" W 50.00'
N 2° 06' 28" E 375.00'
S 2° 06' 28" W 145.00'
166.35'
21.35'
30.00'

TMP
S 16° 40' 51" W 51.66'
S 10° 04' 38" W 50.49'
S 2° 06' 28" W 50.00'
S 12° 18' 42" W 50.80'
S 9° 42' 09" W 60.53'
S 10° 53' 35" W 111.31'
S 6° 00' 30" W 88.20'
S 7° 11' 14" W 90.35'
S 32° 35' 15" E 63.25'
S 23° 16' 49" E 65.31'
S 2° 06' 28" W 91.00'
S 18° 35' 16" E 48.10'

Sta 159+00.00 Off 43.00 RT
Sta 159+50.00 Off 50.00 RT
Sta 160+00.00 Off 50.00 RT
Sta 161+10.00 Off 67.00 RT
Sta 162+00.00 Off 75.00 RT
Sta 162+59.00 Off 47.00 RT
Sta 163+50.00 Off 47.00 RT

S.W. QTR. SECTION 10

4SH
4T

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

THE BRENNER LIVING TRUST,
DAVID BRENNER CO-TRUST, MGR
& JOSEPHINE L. BRENNER, CO-TRUST, MGR.
P.P.N. 72-00114
VOL. 1131 PG. 680

4

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

PID NO. 83320

R/W DESIGNER PSL
R/W REVIEWER TPH

RIGHT OF WAY BOUNDARY SHEET
STA. 158+50.00 TO STA. 164+16.39

STA-93-(9.94)
(10.03)(11.71)

6 / 6

69 / 73

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BASIS FOR BEARINGS:

THE BASIS OF BEARINGS IS BASED ON THE OHIO NORTH ZONE, STATE PLANE COORDINATES, NAD 83 (95).

NOTE: THE EXISTING RIGHT OF WAY LOCATION AND WIDTH FOR STATE ROUTE 93 WERE DETERMINED USING STARK COUNTY ROADWAY PLAN FOR PROJECT "CANAL FULTON-BREWSTER I.C.H. 536, SEC. H.I., LAWRENCE TWP." ON FILE AT STARK COUNTY ENGINEER'S OFFICE AND O.D.O.T. RIGHT OF WAY PLAN FOR PROJECT STA-93-16.39 ON FILE AT O.D.O.T., DISTRICT FOUR.

STA-93-16.70

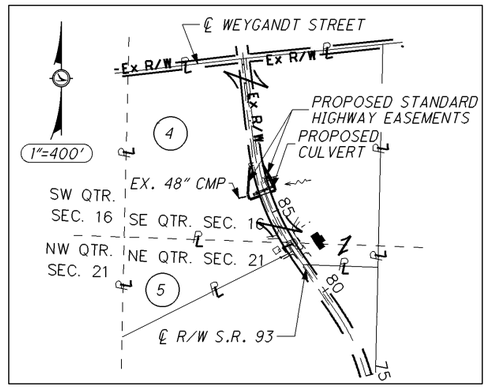
SECTION 16, T-IN, R-10W
LAWRENCE TOWNSHIP
STARK COUNTY, OHIO

MONUMENT LEGEND

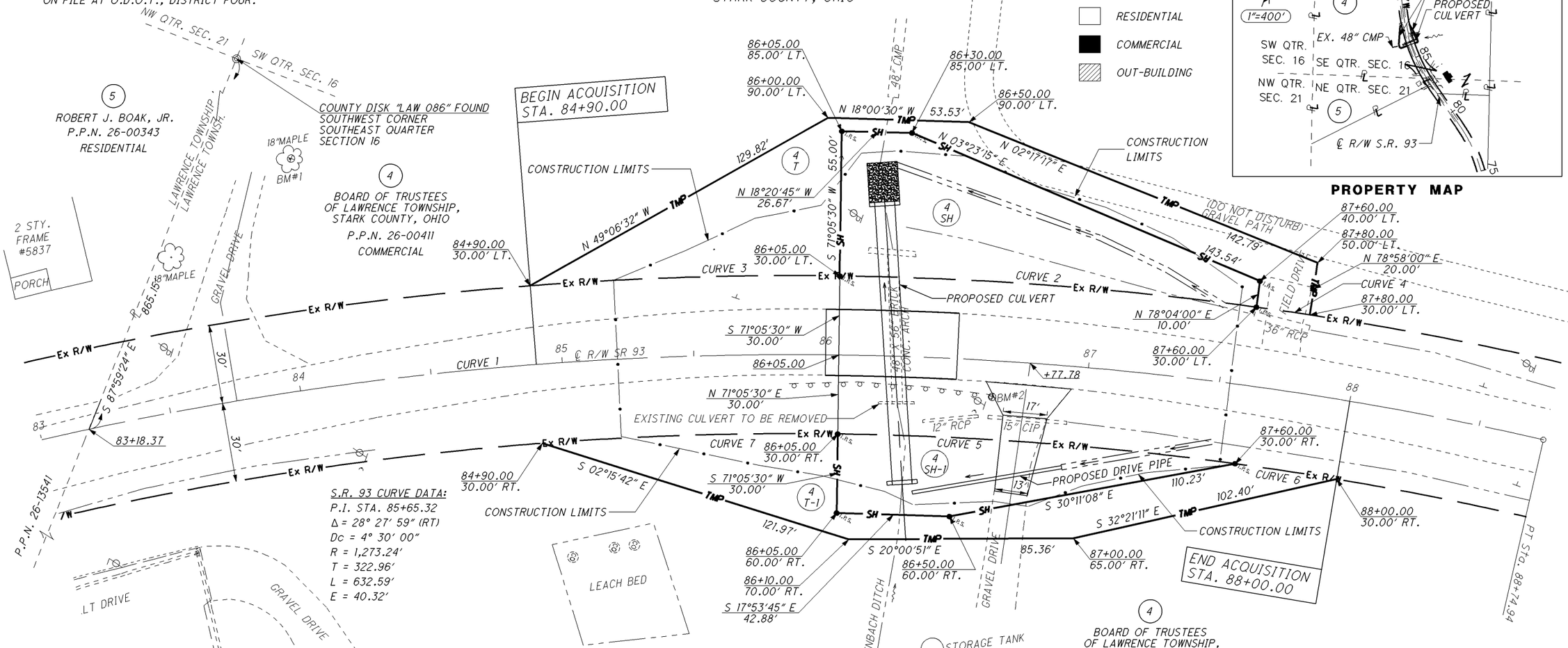
◎ EXISTING CONCRETE MONUMENT
●I.P.S. ¾" X 30" IRON REBAR WITH 1-1/2" DIA. ALUMINUM O.D.O.T. R/W CAP, TO BE SET

STRUCTURE KEY

RESIDENTIAL
COMMERCIAL
OUT-BUILDING



PROPERTY MAP



S.R. 93 CURVE DATA:
P.I. STA. 85+65.32
Δ = 28° 27' 59" (RT)
Dc = 4° 30' 00"
R = 1,273.24'
T = 322.96'
L = 632.59'
E = 40.32'

TOTAL NUMBER OF :

1 OWNERSHIPS
4 PARCELS
0 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE
ALL AREAS IN ACRES.

RIGHT OF WAY CURVE DATA

CURVE	RADIUS	DELTA	TANGENT	ARC LENGTH	CHORD LENGTH	CHORD BEARING
1	1273.24'	12°53'54"	143.92'	286.63'	286.03'	N 25°21'27" W
2	1303.24'	06°58'30"	79.42'	158.65'	158.55'	S 15°25'15" E
3	1303.24'	05°10'30"	58.89'	117.71'	117.67'	S 21°29'45" E
4	1303.24'	00°54'00"	10.24'	20.47'	20.47'	S 11°29'00" E
5	1243.24'	06°58'30"	75.77'	151.35'	151.25'	N 15°25'15" W
6	1243.24'	01°48'00"	19.53'	39.06'	39.06'	N 11°02'00" W
7	1243.24'	05°10'30"	56.18'	112.29'	112.25'	N 21°29'45" W

NOTES:
1. ALL TEMPORARY PARCELS TO BE OF 6 MONTH DURATION.
2. UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE SHOWN.

STATE JOB NO. 449498

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY DATE:
OWNERSHIP VERIFIED BY: DATE:
DATE COMPLETED: OCTOBER 2006

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD INSTRUMENT NO.	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED INSTRUMENT NO.
4 SH	BOARD OF TRUSTEES OF LAWRENCE TOWNSHIP,	1	200302140014521	26-00411	30.000	1.988	0.129	0.000	0.129	NO			STATE	GAS RIGHT OF WAY O.R. 855, PG. 165	
4 SH-1	STARK COUNTY, OHIO	1					0.069	0.000	0.069	NO			STATE		
				26-13541	1.110	0.096	0.000	0.000	0.000						
				TOTAL:	31.110	2.084	0.198	0.000	0.198		28.828				
4 T		1		26-00411			0.138			NO			STATE	TO GRADE AND SEED	
4 T-1		1		26-00411			0.103			NO			STATE	TO GRADE AND SEED AND BUILD A DRIVE	
5	ROBERT J. BOAK, JR.	1	200402250011808	26-00343	0.338	0.041								NO ADDITIONAL R/W REQUIRED	

R/W DESIGNER WLC
R/W REVIEWER GLT

PID NO. 83320

HORIZONTAL SCALE IN FEET
0 10 20 40

RIGHT OF WAY PLAN - S.R. 93
STA. 83+00 TO STA. 88+75

STA-93-(9.94)
(10.03)(11.71)

1 / 1

70
73

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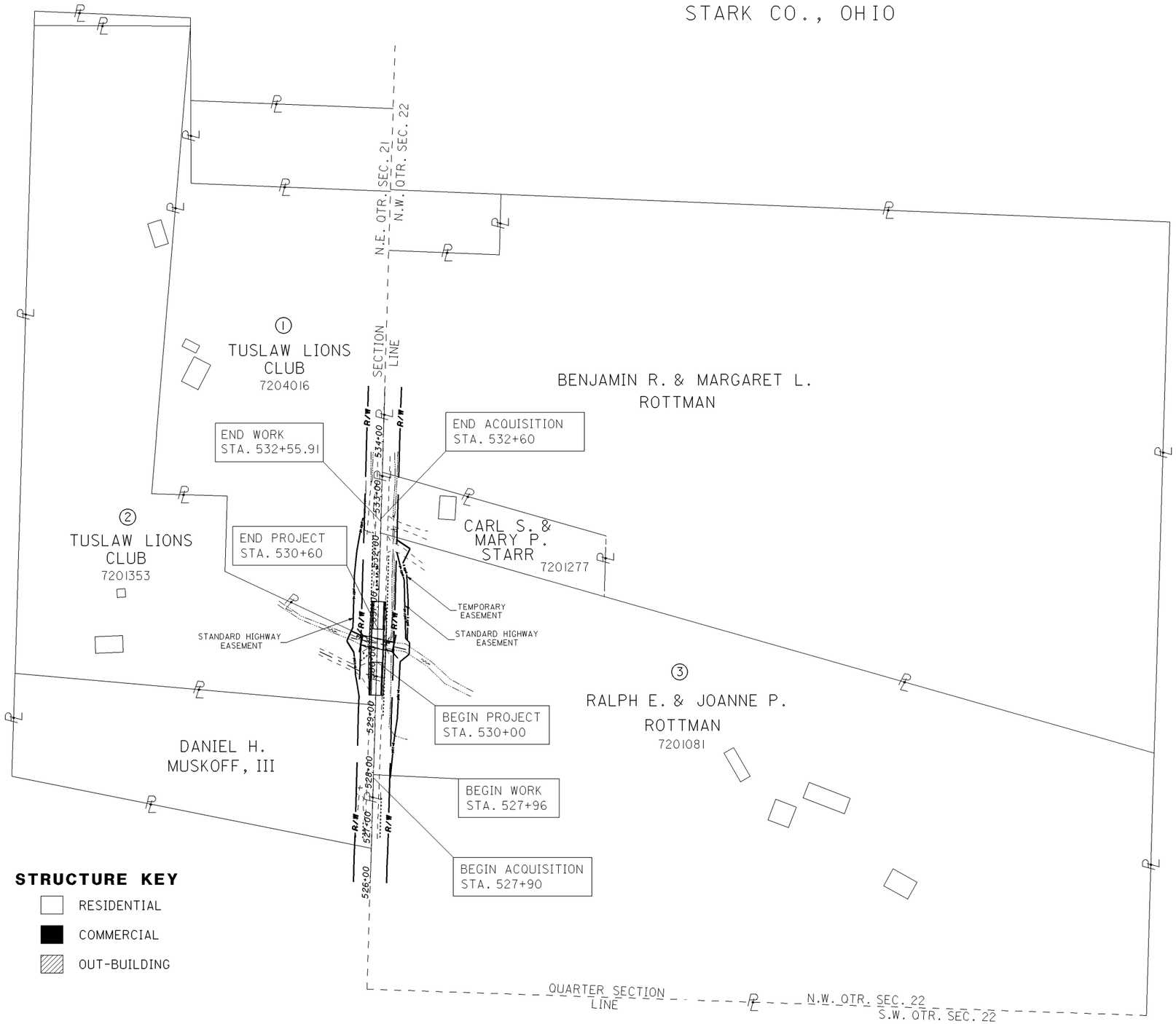
N.E. QTR. SEC. 21 & N.W. QTR. SEC. 22 TUSCARAWAS TOWNSHIIP STARK CO., OHIO



CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line
Trees ,Stumps (to be removed)
Utility Poles: Telephone , Power , Light
Right of Way (only) R/W
Standard Highway Ease. SH
Temp. Right of Way T
Exist. Right of Way Ex R/W
Exist. Stand. High. Ease. Ex SH
Exist. Channel Ease. Ex CH
Exist. Utility Ease. Ex U
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

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

REFERENCE POINT INFORMATION IS CONTAINED IN THE CONSTRUCTION PLAN.

REV. BY	DATE	DESCRIPTION
TWW	4/6/06	REV. PCL 3-SH & ADD PCL 3-T
DATE COMPLETED		

SCALE IN FEET: 0, 50, 100, 200

PID NO. 83320

R/W DESIGNER TWW
R/W REVIEWER DJH

PROPERTY MAP

STA-93-(9.94)
(10.03)(11.71)

1 / 3

71 / 73

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TOTAL NUMBER OF :

3 OWNERSHIPS — OWNERSHIPS WITH STRUCTURES INVOLVED
4 PARCELS — OWNERSHIPS WITH "P" ITEMS
TOTAL TAKES

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE STATE OF 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 AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1-SH	TUSLAW LIONS CLUB	3	3948	965	7204016	6.667	0.560	0.060	0.000	0.060		6.047		STATE	TO BUILD AND MAINTAIN BRIDGE		
2-SH	TUSLAW LIONS CLUB	3	2946	291	7201353	9.079	0.082	0.029	0.000	0.029		8.968			TO BUILD AND MAINTAIN BRIDGE		
2-T								0.010	0.000	0.010					TO GRADE AND SEED		
3-SH	RALPH E. & JOANNE P. ROTTMAN	3	3445	144	7201081	21.23	0.567	0.113	0.000	0.113			20.550	STATE	TO BUILD AND MAINTAIN BRIDGE		
3-T								0.031	0.000	0.031					TO GRADE AND SEED		

NOTE: ALL TEMPORARY PARCELS TO BE OF 9 MONTH DURATION.

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

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
TWW	4-6-06	REV. PCL 3-SH & ADD PCL 3-T
TWW	11-14-05	REVISE OWNER RECORD PCL. 3-SH

FIELD REVIEW BY DATE:
OWNERSHIP VERIFIED BY DATE:
DATE COMPLETED

FEDERAL PROJECT NO.

PID NO. 83320

STATE JOB NO. 449498

R/W DESIGNER TWW
R/W REVIEWER DJH

SUMMARY OF ADDITIONAL RIGHT OF WAY

STA-93-(9.94) (10.03)(11.71)

2 / 3

72 / 73

BASIS FOR BEARINGS:

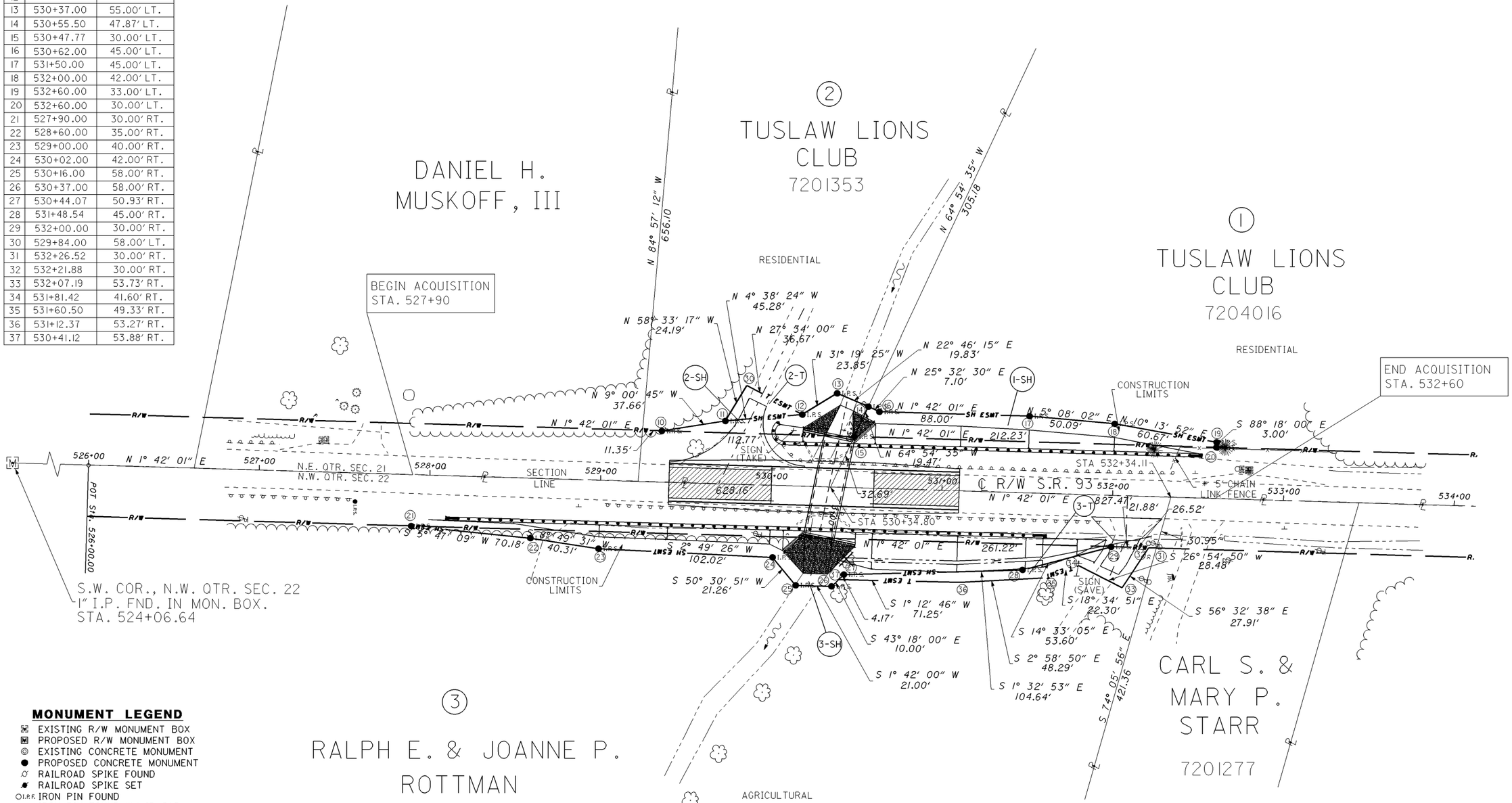
THE BASIS OF BEARING IS BASED ON THE OHIO NORTH ZONE, STATE PLANE COORDINATES, NAD 83 (95).

N.E. QTR. SEC. 21 & N.W. QTR. SEC. 22 TUSCARAWAS TOWNSHIP STARK CO., OHIO

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING RECORD DEEDS STARK COUNTY TAX MAPS:
N.E. QTR. SEC. 21
N.W. QTR. SEC. 22
AND EXISTING FOUND MONUMENTS

STATION/OFFSETS

	STATION	OFFSET
10	529+35.00	30.00' LT.
11	529+72.00	37.00' LT.
12	530+17.00	42.00' LT.
13	530+37.00	55.00' LT.
14	530+55.50	47.87' LT.
15	530+47.77	30.00' LT.
16	530+62.00	45.00' LT.
17	531+50.00	45.00' LT.
18	532+00.00	42.00' LT.
19	532+60.00	33.00' LT.
20	532+60.00	30.00' LT.
21	527+90.00	30.00' RT.
22	528+60.00	35.00' RT.
23	529+00.00	40.00' RT.
24	530+02.00	42.00' RT.
25	530+16.00	58.00' RT.
26	530+37.00	58.00' RT.
27	530+44.07	50.93' RT.
28	531+48.54	45.00' RT.
29	532+00.00	30.00' RT.
30	529+84.00	58.00' LT.
31	532+26.52	30.00' RT.
32	532+21.88	30.00' RT.
33	532+07.19	53.73' RT.
34	531+81.42	41.60' RT.
35	531+60.50	49.33' RT.
36	531+12.37	53.27' RT.
37	530+41.12	53.88' RT.



① TUSLAW LIONS CLUB 7204016

② TUSLAW LIONS CLUB 7201353

③ RALPH E. & JOANNE P. ROTTMAN 7201081

CARL S. & MARY P. STARR 7201277

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
TWW	4-6-06	REV. PCL 3-SH & ADD PCL 3-T
DATE COMPLETED		

SCALE IN FEET: 0, 15, 30, 60

PID NO. 83220

R/W DESIGNER TWW
R/W REVIEWER DJH

RIGHT OF WAY PLAN

STA-93-(9.94)
(10.03)(11.71)

3 / 3

73 / 73

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