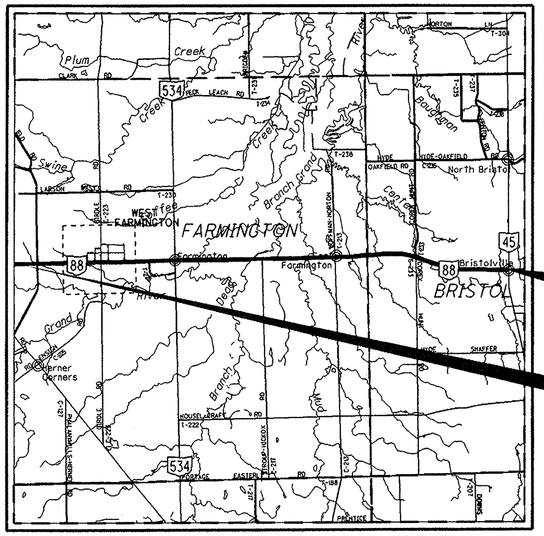

LOCATION MAP

LATITUDE: 41°23'24" LONGITUDE: 80°55'55"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

STATE & FEDERAL ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2010)	5370
TRUCKS (24 HOUR B&C)	390
LEGAL SPEED	45
DESIGN FUNCTIONAL CLASSIFICATION:	
RURAL MINOR ARTERIAL	
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
2088 S. ARLINGTON RD.
AKRON, OH 44319

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

TRU-88-0.00

VILLAGE OF FARMINGTON
BRISTOL/FARMINGTON TOWNSHIPS
TRUMBULL COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

IMPROVEMENT OF 7.03 MILES OF SR 88 IN TRUMBULL COUNTY BY PLANING THE SURFACE AND PLACING AN ASPHALT LAYER. AS WELL AS MAINTENANCE OF VARIOUS STRUCTURES AND INSTALLATION OF AN ANIMAL FENCE.

PROJECT EARTH DISTURBED AREA:	1.15 ACRES
ESTIMATED CONTRACTOR EDA:	0.25 ACRES
NOTICE OF INTENT EDA:	1.40 ACRES

2010 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 APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____ DISTRICT DEPUTY DIRECTOR
DATE 3/31/11

APPROVED _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION
DATE 4-11-11

ENGINEERS SEAL:

STATE OF OHIO · DOUGLAS A. YARD · E-58044 · REGISTERED PROFESSIONAL ENGINEER

SIGNED: _____
DATE: 3/31/11

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	10/19/07	DS-1-92	7/18/03				
BP-4.1	7/16/04						
		HW-2.1	7/30/07				
DM-1.4	4/21/06	MT-35.10	4/20/01				
DM-4.3	4/17/09	MT-97.10	10/15/10				
DM-4.4	4/17/09	MT-97.12	10/15/10				
		MT-99.20	1/16/09				
GR-1.1	7/16/04	MT-101.90	1/16/09				
GR-2.1	1/16/04	MT-105.10	1/16/09				
GR-3.4	10/16/09						
GR-4.2	1/19/07	TC-52.10	1/19/07				
GR-5.2	4/16/10	TC-52.20	1/19/07				
GR-5.3	4/16/10	TC-65.10	1/21/05				
		TC-65.11	1/21/05				
RM-1.1	1/21/11	TC-71.10	1/21/11				
		TC-73.10	1/19/01				

SUPPLEMENTAL SPECIFICATIONS

800-2011	4/15/11
832	5/5/09
843	4/18/03

SPECIAL PROVISIONS

WPC	3/25/11

FEDERAL PROJECT NO. EO81 (115)
PID NO. 82921
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
TRU-88-0.00
1/33

TRU - SR-88-0.00
110433 PID - 82921
Dist 4 6/30/2011

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

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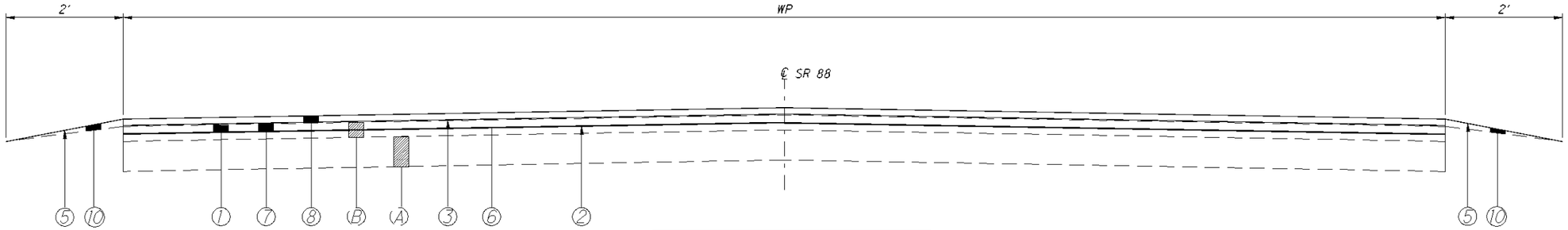
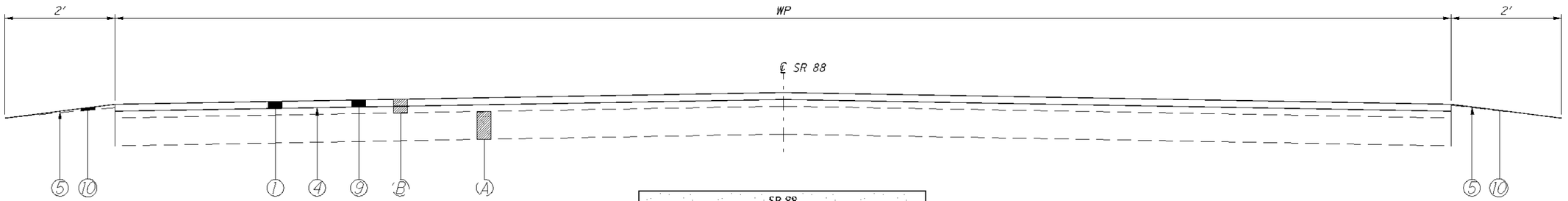


SR 88			
SLM		AVG WP (FT)	LENGTH (MILES)
FROM	TO		
0.00	0.30	27	0.30
0.30	1.65	25	1.35
1.65	2.54	31	0.89
Total			2.54



SR 88			
SLM		AVG WP (FT)	LENGTH (MILES)
FROM	TO		
2.54	7.03	34	4.49

LEGAND

(1) 254, PAVEMENT PLANING, ASPHALT CONCRETE, (T= 1 ½")
(2) 407, TACK COAT @ 0.10 GAL/SY
(3) 407, TACK COAT, INTERMEDIATE COURSE, @ 0.04 GAL/SY
(4) 407, TACK COAT, INTERMEDIATE COURSE, @ 0.15 GAL/SY
(5) 408, PRIME COAT, AS PER PLAN @ 0.4 GAL/SY
(6) 422, SINGLE CHIP SEAL WITH POLYMER BINDER
(7) 448, ASPHALT CONCRETE INTERMEDIATE, TYPE 2 PG64-22, (T=1 ¾')
(8) 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG70-22M, (T=1 ¼")
(9) 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG70-22M, (T=1 ½")
(10) 617, COMPACTED AGGREGATE, AS PER PLAN

(A) MACADAM
(B) EXISTING ASPHALT CONCRETE SURFACE COURSE

TYPICAL SECTIONS

TRU-88-0.00

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 HEAD-QUARTERS 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:

CenturyLink
ATTN: Chuck Mansell
3801 Elm Road
Warren, OH 44502
330-841-1408
330-372-6970 Fax

Columbia Gas of Ohio
ATTN: Dan Suren
7080 Frye Road
Middleburg Heights, OH 44130
440-891-2428
440-891-2797 Fax

Fair Point Communications
ATTN: David Hendershott
70 South Maple St.
Orwell, OH 44076
800-400-5568
440-437-1000 Fax

Ohio Edison
ATTN: Bill Speece
730 South Avenue
Youngstown, OH 44502
330-740-7635
330-740-7655 Fax

Orwell Natural Gas Co.
95 East Main Street
Orwell, OH 44076
440-437-8600

Time Warner Cable
ATTN: Doug Lawrentz
4352 Youngstown Road SE
Warren, OH 44484
330-369-7107 ext 7179

Windstream
ATTN: Jeff Gulyas
100 Owen Brown Road
Hudson, OH 44236
330-650-8404
330-656-2929 Fax

BoCor Holdings
ATTN: Mark Young
6616 Promway Avenue
North Canton, OH 44720
330-494-1221
330-494-1747 Fax

PROFILE AND ALIGNMENT

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

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.

PAVEMENT MARKING LANE WIDTHS

THE NORMAL LANE WIDTH FOR THE PAVEMENT MARKINGS ON THIS PROJECT SHALL BE AS FOLLOWS [AT LEAST 3 DAYS PRIOR TO PERFORMING THE WORK CONTACT THE TRAFFIC OFFICE AT 330-786-3147 TO CONFIRM THE WIDTHS]:

ROUTE	S.L.M. TO S.L.M.	LANE WIDTH
SR 88	0.00 TO 2.03	9'
SR 88	2.03 TO 7.03	12'

INTERSECTIONS

INTERSECTIONS 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.

THIS SHALL APPLY TO SLM 0.00 TO 2.54

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 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
1-½"	100
¾"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

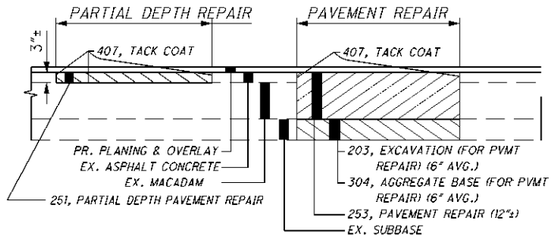
CLEARING AND GRUBBING

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 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, 6000 SQ. YD.



ITEM 253 - PAVEMENT REPAIR

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 12"± 301 ASPHALT CONCRETE BASE, PG64-22. THE MAXIMUM COMPACTED DEPTH OF ANY ONE LAYER SHALL BE 6 INCHES. 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. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

253, PAVEMENT REPAIR, 1350 SQ YD

ITEM 203 - EXCAVATION (FOR PAVEMENT REPAIR)

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

203, EXCAVATION (FOR PAVEMENT REPAIR) 225 CU YD

EARTHWORK

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ANIMAL FENCE.

STA. 191+00.00 TO STA. 208+50.00
ITEM 203, EXCAVATION 238 CU.YDS.
ITEM 203, EMBANKMENT 1442 CU.YDS.

ITEM 304 - AGGREGATE BASE (FOR PAVEMENT REPAIR)

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO BACKFILL AREAS WHICH WERE EXCAVATED UNDER ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

304, AGGREGATE BASE (FOR PAVEMENT REPAIR) 225 CU YD

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

THIS ITEM OF WORK SHALL CONSIST OF PAVING ALL EXISTING DRIVEWAYS 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).

THIS SHALL APPY TO SLM 0.00 TO 2.54

DRIVEWAYS

THE CONTRACTOR WILL NOT BE PERMITTED TO LEAVE A DIFFERENCE IN ELEVATION BETWEEN THE MAINLINE ASPHALT SURFACE COURSE AND THE EXISTING DRIVEWAYS. IF APPROVED BY THE ENGINEER, AN ASPHALT WEDGE WITH A WIDTH OF APPROX 2' MAY BE PLACED EITHER ON THE ROADWAY SHOULDER OR DRIVEWAY DEPENDENT UPON WHICH SIDE IS HIGH. A QUANTITY OF MAINLINE SURFACE COURSE ASPHALT HAS BEEN PROVIDED IN THE CALCULATIONS AND GENERAL SUMMARY TO PERFORM THIS ITEM OF WORK.

THIS SHALL APPLY TO SLM 2.54 TO 7.03

PAVEMENT MARKING DETAILS

THE PAVEMENT MARKING DETAIL SHEETS WILL BE SUPPLIED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.

INTERSECTIONS

INTERSECTIONS 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.

THIS SHALL APPLY TO SLM 2.54 TO 7.03

CALCULATED
CNC
CHECKED

GENERAL NOTES

TRU-88-0.00

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4" BY 4" SQUARE OR 4-1/2" DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" I.D., AND CONFORM TO AASHTO M 181.

ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

12"
1"

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

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

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

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

690, MAILBOX SUPPORT SYSTEM, SINGLE 1 EACH

FIELD DRIVES

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

AN ESTIMATED QUANTITY OF 2 CU. YD. HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

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
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
SS330	ET2000 PLUS 50'-0" WITH FOUR FOUNDATION TUBES AND FOUR CRT POSTS	3/28/06	3/29/06
SS373	ET2000 PLUS 50'-0" WITH 7 SYT POSTS AND ONE HBA POST	6/20/09	1/20/09

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
SKT HINGED CRT	SEQUENTIAL KINKING TERMINAL (SKT-350) FOUR POSTS ARE STEEL HINGED AND FIVE POSTS ARE CRT	4/30/06	5/23/06
SKT-SP	SEQUENTIAL KINKING TERMINAL (SKT-350 A SEVEN POST OPTION USING STANDARD STEEL POST	3/30/09	3/4/09

THE FACE OF THE TYPE E 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, 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.

ITEM 606 - ANCHOR ASSEMBLY, TYPE B

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 SRT-350, GUARDRAIL END TERMINAL AS MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE SRT-350 SYSTEM IS CONSIDERED TO BE 37'-6", INCLUSIVE OF THREE 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
SS444	SLOTTED RAIL TERMINAL POST LAYOUT AND	7/12/99 Rev. 1	8/27/99
SS444M	ERECTION DETAILS SRT-350 (12.5, 8 POST)	7/12/99	
SS425M	SLOTTED RAIL TERMINAL SRT-350 POST LAYOUT AND ERECTION DETAILS (12.5, 9 POST)	6/21/97 Rev. 1	3/6/98

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

THE LENGTH OF THE FLEAT-350 IS CONSIDERED TO BE 37'-6", INCLUSIVE OF THREE 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
FLT-M	FLARED ENERGY ABSORBING TERMINAL (FLEAT-350) ASSEMBLY	4/16/98	7/31/98
FLT HINGED CRT	FLARED ENERGY ASORBING TERMINAL (POSTS 1 AND 2 ARE STEEL HINGED)	5/4/06	5/23/06
FLT-SP	FLARED ENERGY ASORBING TERMINAL (A SEVEN POST OPTION USING STANDARD STEEL POSTS)	3/30/09	3/4/09

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.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 36" W X 12" H FOR THE SRT-350 AND 14" W X 20" H FOR THE FLEAT.

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

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.

CALCULATED | CNC | CHECKED

GENERAL NOTES

TRU-88-0.00

ITEM 604 - MONUMENT ASSEMBLY, AS PER PLAN

ADJUSTABLE MONUMENT ASSEMBLIES AS SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 WILL BE PLACED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION.

THE CONTRACTOR WILL BE PROVIDED A LOCATION LIST OF EXISTING MONUMENTATION WHICH IS TO BE REPLACED WITH NEW ADJUSTABLE MONUMENT BOX ASSEMBLIES AT THE PRE-CONSTRUCTION MEETING. THIS LIST MAY INCLUDE BOTH EXPOSED AND BURIED MONUMENTATION AND MAY ALSO INCLUDE SOME TIES TO AID IN RECOVERY.

PAYMENT FOR THE REMOVAL OF ANY EXISTING MONUMENT ASSEMBLIES SHALL ALSO BE INCLUDED IN THIS ITEM.

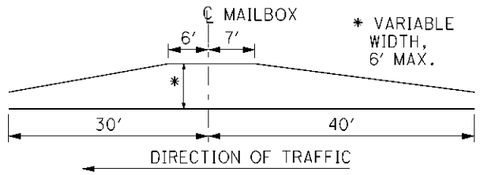
QUANTITY THAT WILL BE CARRIED TO THE GENERAL SUMMARY:
604, MONUMENT ASSEMBLY, AS PER PLAN, 2 EACH

PAVED MAILBOX APPROACHES

ALL EXISTING MAILBOX 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.



PAVEMENT RESTORATION FOR PIPE INSTALLATIONS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION:

ITEM 302 ASPHALT CONCRETE BASE, PG64-22 20 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 302 THICKNESS OF 12 INCHES AND A 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

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

659, TOPSOIL 620 CU. YD.

659, SEEDING AND MULCHING 5587 SQ. YD.

659, REPAIR SEEDING AND MULCHING 279 SQ. YD

659, COMMERCIAL FERTILIZER 0.75 TON

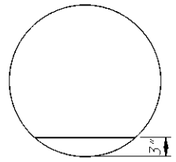
659, LIME 1.15 ACRES

659, WATER 13 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.

ITEM 603 - 24" CONDUIT, TYPE A, AS PER PLAN, 706.02

THE CONDUIT WILL BE LINED WITH 703.06 OF THE CMS AS DETAILED BELOW:



PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 603, 24" CONDUIT, TYPE A, AS PER PLAN, 706.02, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK. ALL WORK WILL BE COMPLETED AS DIRECTED BY THE ENGINEER.

DRINKING WATER RESOURCES

CAUTION WILL BE EXERCISED DURING REFUELING OPERATIONS AND DURING CONSTRUCTION EQUIPMENT MAINTENANCE ACTIVITIES WITHIN THE WEST FARMINGTON VILLAGE DRINKING WATER SOURCE PROTECTION (SWAP) AREA FOR PUBLIC WATER SYSTEM WELLS AND INTAKE. IN CASE OF AN INCIDENT AND/OR SPILL, THE CONTRACTOR SHALL, AS SOON AS POSSIBLE, NOTIFY THE ENGINEER/SUPERVISOR AND CONTACT THE OHIO EPA:

OHIO EPA SPILL REPORTING
24 HOUR EMERGENCY SERVICE
CALL: 1-800-282-9378 OR NEDO (330) 963-1200

PROVIDE AS MUCH OF THE FOLLOWING INFORMATION AS POSSIBLE:
1. TIME OBSERVED
2. LOCATION
3. MATERIAL RELEASED
4. PROBABLE SOURCE
5. VOLUME & DURATION
6. PRESENT & ANTICIPATED MOVEMENT OF CONTAMINANT
7. PERSONNEL ON SCENE
8. ACTIONS ALREADY INITIATED
9. PERSON(S) ON THE SCENE TO CONTACT

TREE CUTTING RESTRICTIONS

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR CUT/REMOVE ANY TREES PRIOR TO OR DURING CONSTRUCTION OF THE PROJECT.

WETLAND IMPACTS/AVOIDANCE

THIS PROJECT WILL IMPACT AN ESTIMATED 0.008 ACRE OF WETLANDS ADJACENT TO THE STRUCTURE AT TRU-88-5.23. THE FOLLOWING WETLANDS WILL BE IMPACTED BY THIS PROJECT:

WETLAND A; TRU-88-5.23 (SFN 7805772): 0.005 ACRE
WETLAND B; TRU-88-5.23 (SFN 7805772): 0.003 ACRE

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT THE REMAINING WETLANDS ADJACENT TO THE STRUCTURES AT TRU-88-0.16, TRU-88-3.57, TRU-88-4.30, TRU-88-5.23 AND WETLANDS INDICATED ON THE PLAN ADJACENT TO THE SMALL ANIMAL WILDLIFE CROSSINGS AND EXCLUSION FENCE FROM STATION 191+00.00 TO STATION 208+10.00. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS WITHIN THESE WETLAND AREAS. TO PROTECT AND DELINEATE THE BOUNDARY OF THE EXISTING REMAINING WETLANDS, A FILTER FABRIC FENCE AND TEMPORARY CONSTRUCTION FENCE SHALL BE INSTALLED AT THE PROPOSED CONSTRUCTION LIMITS WITHIN THE WETLANDS AREAS BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THESE LIMITS AND ADJACENT AREA, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES AND MAINTAINED BY THE CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION.

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE WETLANDS. THIS PERTAINS TO ANY EXCAVATION OPERATION 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.

ALL MATERIALS REMOVED FROM THE 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 WITH NATIVE SPECIES TO PREVENT EROSION OF SEDIMENTS INTO WATERS OF THE UNITED STATES.

BRISTOL-FARMINGTON ELEMENTARY SCHOOL CAMPUS & GRAND RIVER WILDLIFE AREA

ACCESS TO ALL BRISTOL-FARMINGTON ELEMENTARY SCHOOL FACILITIES ON THE NORTH SIDE OF SR 88 AND THE GRAND RIVER WILDLIFE AREA FACILITIES ON THE NORTH AND SOUTH SIDES OF SR 88 SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE CONSTRUCTION ACTIVITIES USING APPROPRIATE MAINTENANCE OF TRAFFIC MEASURES INCLUDING THE USE OF FLAGGERS. THE AREA SURROUNDING THIS ACCESS WILL NOT BE USED AS A STAGING AREA FOR CONSTRUCTION EQUIPMENT AND/OR MATERIALS.

STREAM AVOIDANCE

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT DEAD BRANCH AT TRU-88-3.57. NO EXCAVATION, GRADING, OR FILLING OPERATIONS SHALL BE PERFORMED IN DEAD BRANCH AT TRU-88-3.57. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE CONSTRUCTION EQUIPMENT AND/OR MATERIALS IN THIS STREAM.

BEST MANAGEMENT PRACTICES

WATER COLUMN AND SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER. THESE SHALL COMPLY WITH ODOT'S HANDBOOK FOR SEDIMENT AND EROSION CONTROL, WHICH MAY BE FOUND AT: HTTP://WWW.DOT.STATE.OH.US/DRRC/.

RIPARIAN HABITAT

EXISTING RIPARIAN HABITAT ZONES ALONG THE STREAM CHANNELS SHALL BE MAINTAINED TO THE MAXIMUM EXTENT PRACTICABLE DURING PROJECT CONSTRUCTION.

STREAM CHANNEL EXCAVATION/IN STREAM WORK

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 OPERATION 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.

ALL MATERIALS REMOVED FROM THE 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.

MECHANICAL EQUIPMENT OPERATION AT STREAM CHANNEL

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

FLOOD PLAIN DEVELOPMENT PERMIT

ODOT DISTRICT 4 WILL OBTAIN A FLOODPLAIN DEVELOPMENT PERMIT FOR THE PROJECT PRIOR TO PROJECT CONSTRUCTION AND SUBMIT IT TO THE PROJECT, AS APPROPRIATE.

PAINTING AND SEALING OPERATIONS

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT EPOXY-URETHANE SEALER, PAINT, OR OTHER MATERIALS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY STRUCTURE FROM ENTERING ANY STREAMS, WETLANDS OR OTHER WATERS OF THE UNITED STATES AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

CONSTRUCTION AND DEMOLITION DEBRIS

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

CALCULATED C.NC CHECKED

GENERAL NOTES

TRU-88-0.00

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 or COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

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 STANDARD CONSTRUCTION DRAWINGS.

4. LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS.

5. 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.

6. ALL FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS SHALL BE COMPLETED THE SAME DAY THE EXCAVATION IS MADE. IF THE CONTRACTOR CANNOT COMPLETE THE WORK, THE EXCAVATION SHALL BE BACKFILLED OR PROTECTED.

7. 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.

8. ONLY DURING OFF-PEAK PERIODS (ie ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

9. 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.

10. 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.

11. 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.

12. 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], R4-2 [PASS WITH CARE], 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 CENTERLINE, CLASS II, 7.04 MILE
614, WORK ZONE STOP LINE, CLASS I, 18 FT
614, WORK ZONE MARKING SIGN (ALL PHASES), 24 EACH

PHASE II - INTERMEDIATE COURSE
614, WORK ZONE CENTERLINE, CLASS II, 7.04 MILE
614, WORK ZONE STOP LINE, CLASS I, 18 FT

PHASE III - SURFACE COURSE
614, WORK ZONE CENTERLINE CLASS III, 642 PAINT, 7.04 MILE
614, WORK ZONE STOP LINE, CLASS III, 642 PAINT, 18 FT

TO BE USED AS DIRECTED BY THE ENGINEER
614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 42.24 MILE

ITEM 422 SINGLE CHIP SEAL TIME RESTRICTIONS

THE CONTRACTOR IS REQUIRED TO HAVE A FOUR (4) DAY WAITING PERIOD BETWEEN THE TIME THE INTERLAYER CHIP SEAL IS PLACED AND THE OVERLYING ASPHALT CONCRETE COURSE IS PLACED. AFTER THE WAITING PERIOD, THE CONTRACTOR HAS A MAXIMUM OF SEVEN (7) DAYS TO COVER UP THE CHIP SEAL.

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.

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.

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.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

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

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

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

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

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $1300 FOR EACH HOUR THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

CALCULATED | CNC | CHECKED

MAINTENANCE OF TRAFFIC NOTES

TRU-88-0.00

SHEET NUMBER												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	6	9	10	11	12	14				ENH.	PROJ.						
																		ROADWAY	
LUMP													LUMP	201	11000	LUMP		CLEARING AND GRUBBING	
				273									273	202	23500	273	SQ YD	WEARING COURSE REMOVED	
					3400								3400	202	38000	3400	FT	GUARDRAIL REMOVED	
463												238	225	203	10000	463	CU YD	EXCAVATION	
1442												1442		203	20000	1442	CU YD	EMBANKMENT	5
		2											2	604	38501	2	EACH	MONUMENT ASSEMBLY, AS PER PLAN	5
					2200								2200	606	13000	2200	FT	GUARDRAIL, TYPE 5	
					9								9	606	26000	9	EACH	ANCHOR ASSEMBLY, TYPE B	
					17								17	606	26100	17	EACH	ANCHOR ASSEMBLY, TYPE E	
					2								2	606	26500	2	EACH	ANCHOR ASSEMBLY, TYPE T	
					16								16	606	35140	16	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
	1												1	SPEC	69050100	1	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	4
																		EROSION CONTROL	
		620										620		659	00300	620	CU YD	TOPSOIL	
		5587										5587		659	10000	5587	SQ YD	SEEDING AND MULCHING	
		279										279		659	14000	279	SQ YD	REPAIR SEEDING AND MULCHING	
		0.75										0.75		659	20000	0.75	TON	COMMERCIAL FERTILIZER	
		1.15										1.15		659	31000	1.15	ACRE	LIME	
		13										13		659	35000	13	M GAL	WATER	
												9000	1000	832	30000	10000	EACH	EROSION CONTROL	
																		DRAINAGE	
								3				3		602	20000	3	CU YD	CONCRETE MASONRY	
								174				174		603	10201	174	FT	24" CONDUIT, TYPE A, AS PER PLAN,706.02	5
								3340				3340		603	98300	3340	FT	CONDUIT, MISC.:SMALL ANIMAL WILDLIFE FENCE	13
																		PAVEMENT	
6000													6000	251	01000	6000	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR	
1350													1350	253	01000	1350	SQ YD	PAVEMENT REPAIR	
				132100									132100	254	01000	132100	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
		20										20		302	46000	20	CU YD	ASPHALT CONCRETE BASE, PG64-22	
227													227	304	20000	227	CU YD	AGGREGATE BASE	
				13829									13829	407	10000	13829	GALLON	TACK COAT	
				5887									5887	407	14000	5887	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
				6515									6515	408	10001	6515	GALLON	PRIME COAT, AS PER PLAN	
				40739									40739	422	10000	40739	SQ YD	SINGLE CHIP SEAL	
				4936									4936	448	46904	4936	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M	
				2045									2045	448	46050	2045	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
				131									131	448	48020	131	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	
				905									905	617	10101	905	CU YD	COMPACTED AGGREGATE, AS PER PLAN	3
																		TRAFFIC CONTROL	
						553							553	621	10000	553	EACH	RPM, LOW PROFILE, YELLOW/YELLOW	
						16							16	621	10010	16	EACH	RPM, LOW PROFILE, WHITE	
						569							569	621	54000	569	EACH	RAISED PAVEMENT MARKER REMOVED	
							192						192	642	00490	192	FT	STOP LINE	
							14.06						14.06	644	00100	14.06	MILE	EDGE LINE	
							7.04						7.04	644	00300	7.04	MILE	CENTER LINE	
							18						18	644	00500	18	FT	STOP LINE	

CALCULATED CNC CHECKED

GENERAL SUMMARY

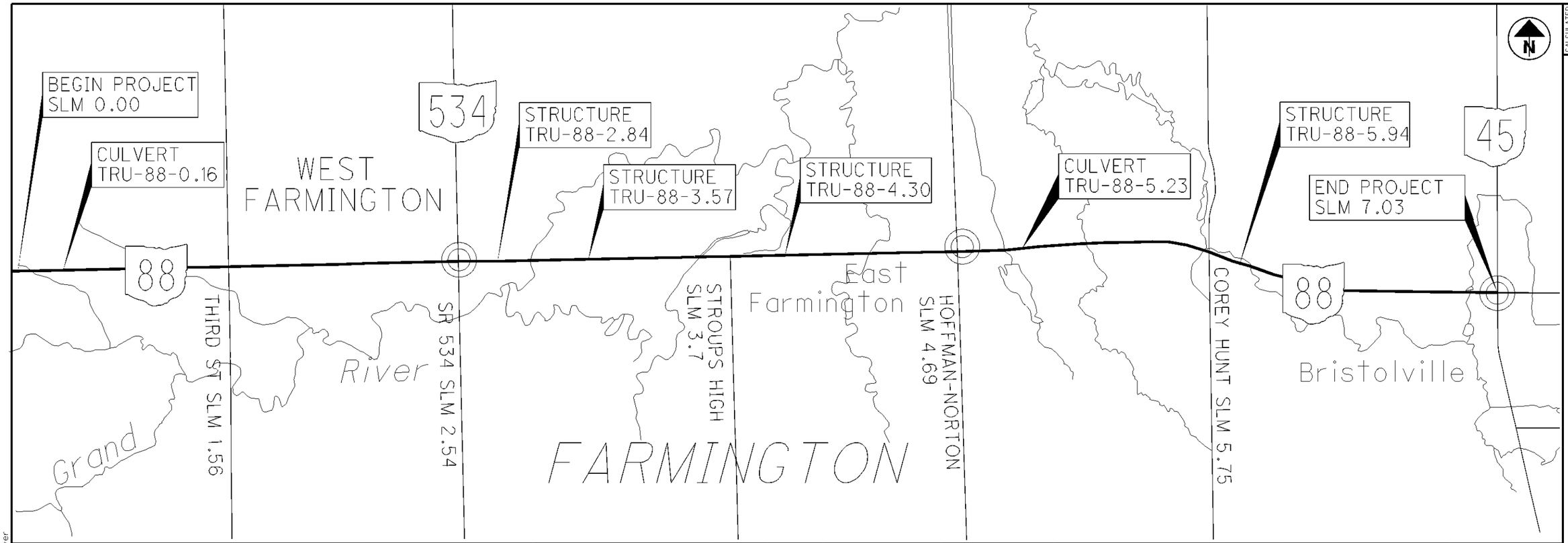
TRU-88-0.00

SHEET NUMBER												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	6	9	10	11	12					ENH.	PROJ.						
																		STRUCTURES	
																		FOR STRUCTURE TRU-88-0.16 ESTIMATED QUANTITIES	29
																		FOR STRUCTURE TRU-88-2.84 ESTIMATED QUANTITIES	29
																		FOR STRUCTURE TRU-88-3.57 ESTIMATED QUANTITIES	29
																		FOR STRUCTURE TRU-88-4.30 ESTIMATED QUANTITIES	29
																		FOR STRUCTURE TRU-88-5.23 ESTIMATED QUANTITIES	29
																		FOR STRUCTURE TRU-88-5.94 ESTIMATED QUANTITIES	29
																		MAINTENANCE OF TRAFFIC	
			24										24	614	12460	24	EACH	WORK ZONE MARKING SIGN	
			20										20	614	13000	20	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
			14.08										14.08	614	21400	14.08	MILE	WORK ZONE CENTER LINE, CLASS II	
			7.04										7.04	614	21550	7.04	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
			42.24										42.24	614	22350	42.24	MILE	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
			36										36	614	26000	36	FT	WORK ZONE STOP LINE, CLASS I	
			18										18	614	26610	18	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
														614	11000	LUMP		MAINTAINING TRAFFIC	
													4	619	16010	4	MONTH	FIELD OFFICE, TYPE B	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED CNC CHECKED

GENERAL SUMMARY

TRU-88-0.00



CALCULATED C.NC CHECKED

PAVEMENT DETAILS

SLM RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	202 WEARING COURSE REMOVED	254 PAVEMENT PLANING, ASPHALT CONCRETE(T= 1 1/2")	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.1 GAL/SY	408 PRIME COAT @ 0.4 GAL/SY	422 SINGLE CHIP SEAL	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22(T= 1 3/4")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M(T= 1 1/4")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M(T= 1 1/2")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	617 COMPACTED AGGREGATE, AS PER PLAN						
					FT	FT	SQ YD	SQ YD	SQ YD	SQ YD	GALLON	GALLON	GALLON	GALLON	SQ YD	CU YD	CU YD	CU YD	CU YD	CU YD						
0.00	TO	0.30			1584.00	27.00	4752.00		24.00	4752.00		190.08	475.20	281.60	4752.00	231.00	165.00			39.11						
0.30	TO	1.65			7128.00	25.00	19800.00		11.11	19800.00		792.00	1980.00	1267.20	19800.00	962.50	687.50			176.00						
1.65	TO	2.54			4699.20	31.00	16186.13		13.78	16186.13		647.45	1618.61	835.41	16186.13	786.83	562.02			116.03						
2.54	TO	2.84			1584.00	34.00	5984.00		15.11	5984.00	897.60			281.60						39.11						
2.86	TO	3.57			3748.80	34.00	14162.13		15.11	14162.13	2124.32			666.45				590.09		92.56						
3.60	TO	4.30			3696.00	34.00	13962.67		15.11	13962.67	2094.40			657.07				581.78		91.26						
4.32	TO	5.94			8553.60	34.00	32313.60		15.11	32313.60	4847.04			1520.64				1346.40		211.20						
5.96	TO	7.03			5649.60	34.00	21342.93		30.22	21342.93	3201.44			1004.37				889.29		139.50						
INTERSECTIONS																										
0.00	TO	2.54			25.00	VARIES	1310.44		128.00	1310.44		52.42	131.04			63.70	45.50									
2.54	TO	7.03			2.00	VARIES	53.33		5.33	53.33	8.00							2.22								
DRIVEWAYS																										
0.00	TO	2.54			10.00	VARIES	1896.67				284.50						65.86									
2.54	TO	7.03			2.00	VARIES	242.44				36.37								7.00							
MAILBOX APPROACHES																										
0.00	TO	7.03						2232.00		2232.00	334.80								124.00							
SUBTOTALS									272.89	132099.24	13828.47	1681.94	4204.86	6514.35	40738.13	2044.03	1525.88	3409.78	131.00	904.77	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS CARRIED TO GENERAL SUMMARY									273	132100	13829	1682	4205	6515	40739	2045	1526	3410	131	905	0	0	0	0	0	0

TRU-88-0.00

9
33

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REF NO.	SHEET NO.	STATION TO STATION			202 GUARDRAIL REMOVED FT		606 GUARDRAIL, TYPE S FT	606 ANCHOR ASSEMBLY, TYPE B EACH	606 ANCHOR ASSEMBLY, TYPE E EACH	606 ANCHOR ASSEMBLY, TYPE T EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 4 EACH														
		0.12 RT	TO	0.19 RT	287.5		187.5		2																
		0.14 LT	TO	0.20 LT	325		225		2																
		0.72 RT	TO	0.77 RT	250		150		2																
		0.72 LT	TO	0.77 LT	250		150		2																
		2.80 RT	TO	2.87 RT	300		212.5	1	1		2														
		2.83 LT	TO	2.88 LT	187.5		100		2		2														
		3.53 RT	TO	3.61 RT	275		225	1		1	2														
		3.56 LT	TO	3.65 LT	362.5		287.5	2			2														
		4.28 RT	TO	4.34 RT	200		100		2		2														
		4.29 LT	TO	4.35 LT	200		100		2		2														
		5.93 RT	TO	5.97 RT	137.5		87.5	1		1	2														
		5.92 LT	TO	5.98 LT	237.5		137.5		2		2														
		6.88 RT	TO	6.93 RT	212.5		137.5	2																	
		6.90 LT	TO	6.93 LT	175		100	2																	
TOTALS CARRIED TO GENERAL SUMMARY					3400	0	2200	9	17	2	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED CNC CHECKED

GUARDRAIL SUBSUMMARY

TRU-88-0.00

LOCATION								621	621	621	621		621	REMARKS
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	
		FROM	TO					EACH	EACH	EACH	EACH		EACH	
TRU	88	0.00	0.32					84					84	
TRU	88	0.32	5.53					344					344	
TRU	88	5.53	5.72					25					25	
TRU														
	88	5.72	6.19					31					31	
TRU	88	6.19	6.40					28					28	
TRU	88	6.40	7.03					41		16			57	
TOTALS CARRIED TO GENERAL SUMMARY				0	0	0	0	553	0	16	0	0	569	

CALCULATED
CNC
CHECKED

RAISED PAVEMENT MARKER SUBSUMMARY

TRU-88-0.00

CENTER LINE

GENERAL SPEC: 640
MATERIAL TYPE:

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
TRU	88	0.00	GEAUGA COUNTY LINE	7.03	JCT. SR 45	7.04	7.45	
TOTAL						7.04	7.45	

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	
TRU	88	0.00	GEAUGA COUNTY LINE	7.03	JCT. SR 45	14.06	14.06					
TOTAL						14.06	14.06					

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	DOTTED LINES	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	FT	
TRU	SR 88 @ SR 45	7.030		18															
TRU	88-SIDE ROADS			192															642, FAST DRY PAINT (OBLITERATED MARKINGS)
TOTAL				210															

PAVEMENT MARKING SUBSUMMARY

TRU-88-0.00

12
33

CALCULATED | CHECKED

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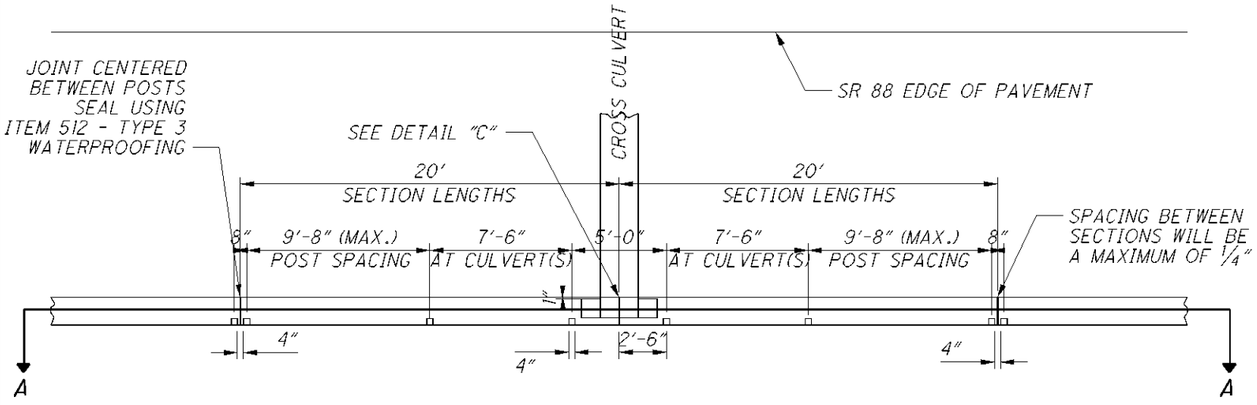
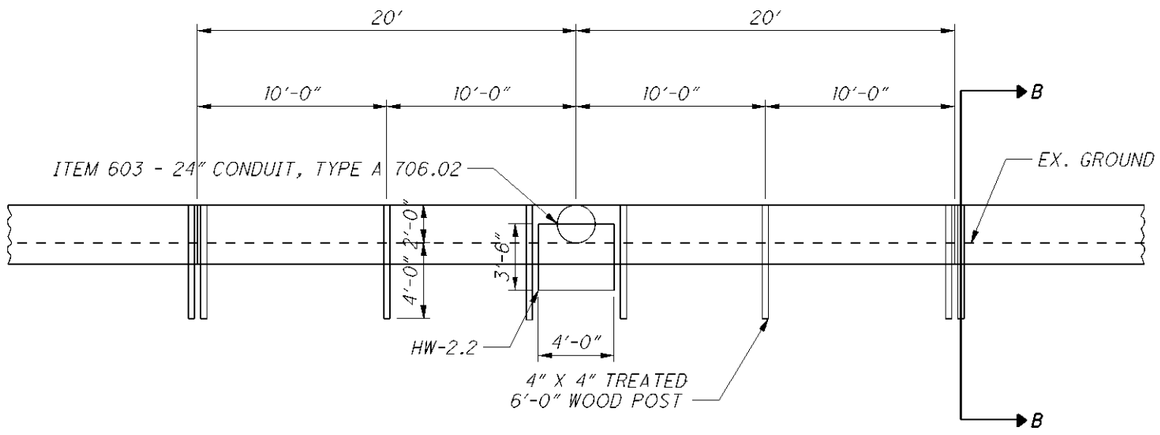
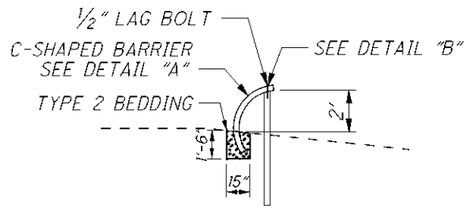


PLAN VIEW



SECTION A-A



SECTION B-B

NOTES

THIS ITEM OF WORK WILL USE ITEM 603 - 48" CONDUIT, TYPE C (707.33) TO BUILD A BARRIER PARALLEL TO THE CENTERLINE OF SR 88 TO FUNNEL SMALL ANIMALS TRYING TO CROSS THE ROAD INTO CULVERTS. THE 48" CORRUGATED PLASTIC PIPE, SUPPLIED IN 20 FOOT LONG SECTIONS, SHOULD BE CUT LENGTHWISE INTO THREE EQUAL SECTIONS AND INSTALLED AS DETAILED IN THE PLANS.

THE POSTS WILL BE TREATED 4" X 4" POST 6 FEET IN LENGTH. CCA TREAT ALL WOOD MEMBERS AS SPECIFIED IN CMS 712.06. WEDGE THE TOP OF THE POST AS SHOWN IN DETAIL B. THE LAG BOLTS WITH FLAT WASHER WILL BE GALVANIZED 1/2" GRADE 5 AND A MINIMUN OF 8" IN LENGTH. THE CONTRACTOR WILL PRE-DRILL THE CONDUIT AND POST BEFORE INSTALLATION OF THE BOLT AS SHOWN IN DETAIL B. THE POST SHOULD BE PRE-DRILLED IN THE CENTER.

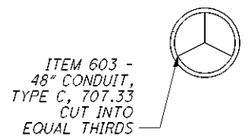
THE CONTRACTOR SHALL INSTALL ITEM 512 - TYPE 3 WATERPROOFING TO SEAL THE JOINTS IN BETWEEN PIPE SECTIONS. THE WATERPROOFING WILL BE A MINIMUM OF 2' WIDE AND WILL EXTEND FROM THE EXISTING GRADE TO THE TOP OF THE C-SHAPED BARRIER.

TYPE 2 BEDDING WILL BE USED EXCEPT AT THE LIMITS SHOWN ON DETAIL B-B.

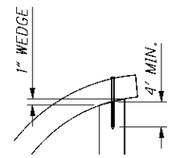
FOR FURTHER DETAIL SEE SHEETS 15-26.

A QUANTITY OF ITEM 603 - CONDUIT MISC.: ANIMAL FENCE HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED TO COMPLETE THIS ITEM OF WORK. PAYMENT FOR THIS ITEM WILL INCLUDE THE INSTALLATION OF THE C-SHAPED BARRIER, WOOD POSTS, LAG BOLTS, MASONRY COLLARS, TYPE 3 WATERPROOFING, AND ALL LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THIS WORK. ALL WORK WILL BE COMPLETED AS DETAILED IN THESE PLANS OR AS DIRECTED BY THE ENGINEER.

DETAIL A
48" CONDUIT DETAILS

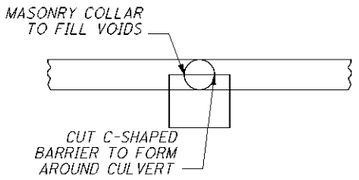


DETAIL B
LAG BOLT DETAILS



DETAIL B, NOT TO SCALE

DETAIL C
DETAILS BACKSIDE OF HEADWALL



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LMB
CHECKED

SMALL ANIMAL WILDLIFE FENCE DETAILS

TRU-88-0.00

13
33

REF NO.	SHEET NO.	STATION TO STATION					602 CONCRETE MASONRY CU YD		603 24" CONDUIT, TYPE A, AS PER PLAN, 706.02 FT			603 CONDUIT, MISC.; SMALL ANIMAL WILDFIFE FENCE FT													
F1		191+10.00	LT	TO	208+10.00	LT						1700													
F2		191+10.00	RT	TO	195+20.00	RT						410													
F3		195+80.00	RT	TO	208+10.00	RT						1230													
D1		194+25.00					0.86		58																
D2		200+05.00					0.86		58																
D3		204+05.00					0.86		58																
TOTALS CARRIED TO GENERAL SUMMARY							0	0	3	0	174	0	0	3340	0	0	0	0	0	0	0	0	0	0	0	0

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LMB
CHECKED

SMALL ANIMAL WILDLIFE FENCE/ CROSSINGS SUBSUMMARY

TRU-88-0.00

14
33

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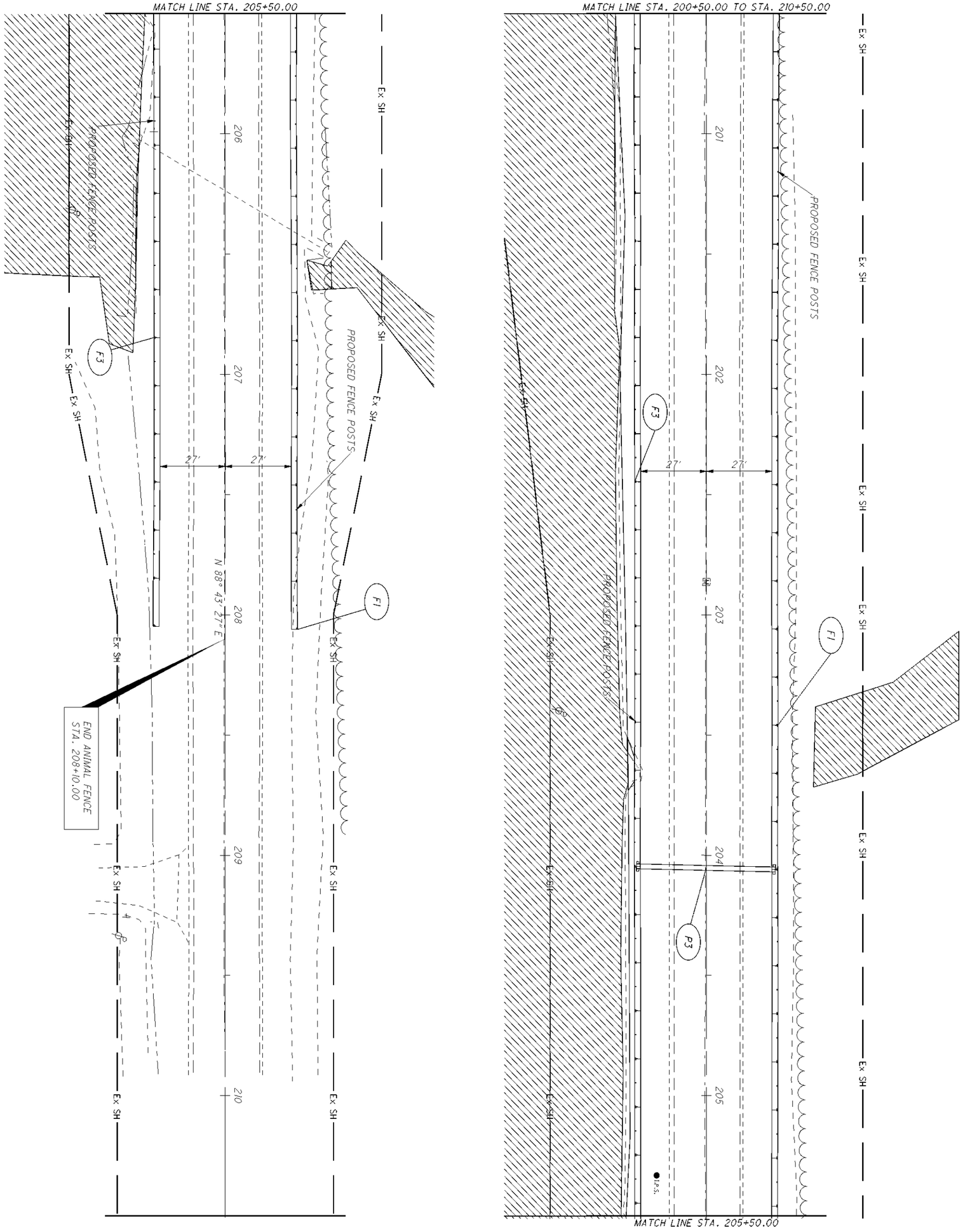
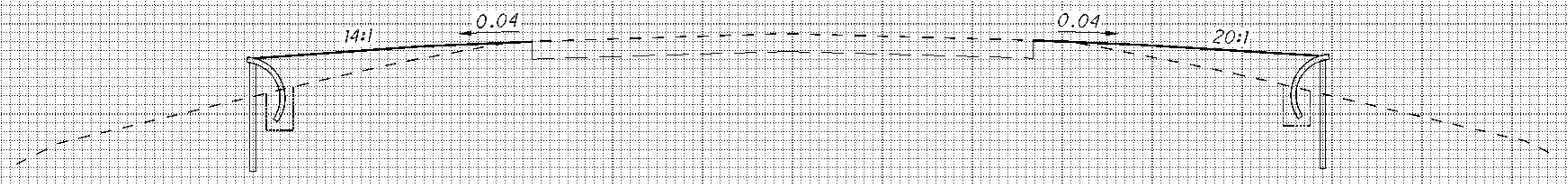
15/33	TRU-88-0.00	PLAN VIEW (SMALL ANIMAL WILDLIFE FENCE) STA. 190+00.00 TO STA. 200+00.00	CALCULATED LMB / CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET

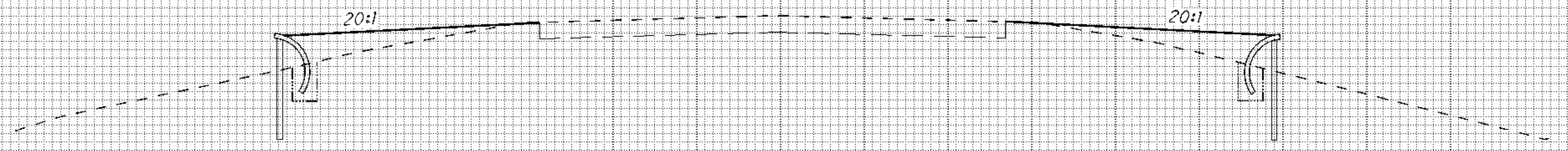
WETLANDS ON5031



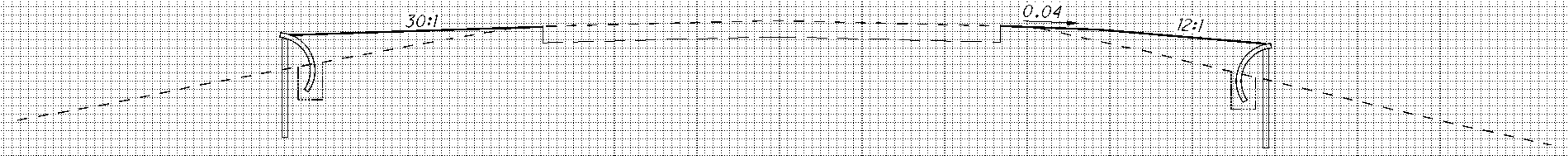
16 / 33	TRU-88-0.00	PLAN VIEW (SMALL ANIMAL WILDLIFE FENCE) STA. 200+00.00 TO STA. 210+50.00	CALCULATED LMB / CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET



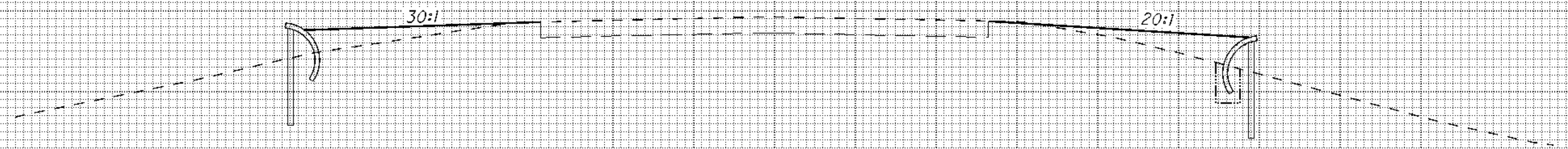
834.43
193+00.00
834.43



834.53
192+50.00
834.53



834.64
192+00.00
834.64



834.62
191+50.00
834.62

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
31		4	25		
	172			7	45
31		4	24		
	172			7	46
31		4	26		
	169			8	44
30		5	21		
	83			5	19
0		0	0		
	596			27	154

CALCULATED LMB
CHECKED DAY

CROSS SECTIONS SR 88
STA. 191+50.00 TO STA. 193+00.00

TRU-88-0.00

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32	86	4	27	3	21
30	85	2	18	3	21
31	172	4	27	7	50
31	172	4	27	7	48
	515			20	140

CALCULATED LMB
CHECKED DAY

CROSS SECTIONS SR 88
STA. 193+50.00 TO STA. 194+50.00

TRU-88-0.00

18
33

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30	181	4	23	7	48
35	139	4	29	6	39
15	144	2	13	6	42
37	192	4	32	7	42
	656			26	171

CALCULATED LMB
CHECKED DAY

CROSS SECTIONS SR 88
STA. 195+00.00 TO STA. 196+50.00

TRU-88-0.00

19
33

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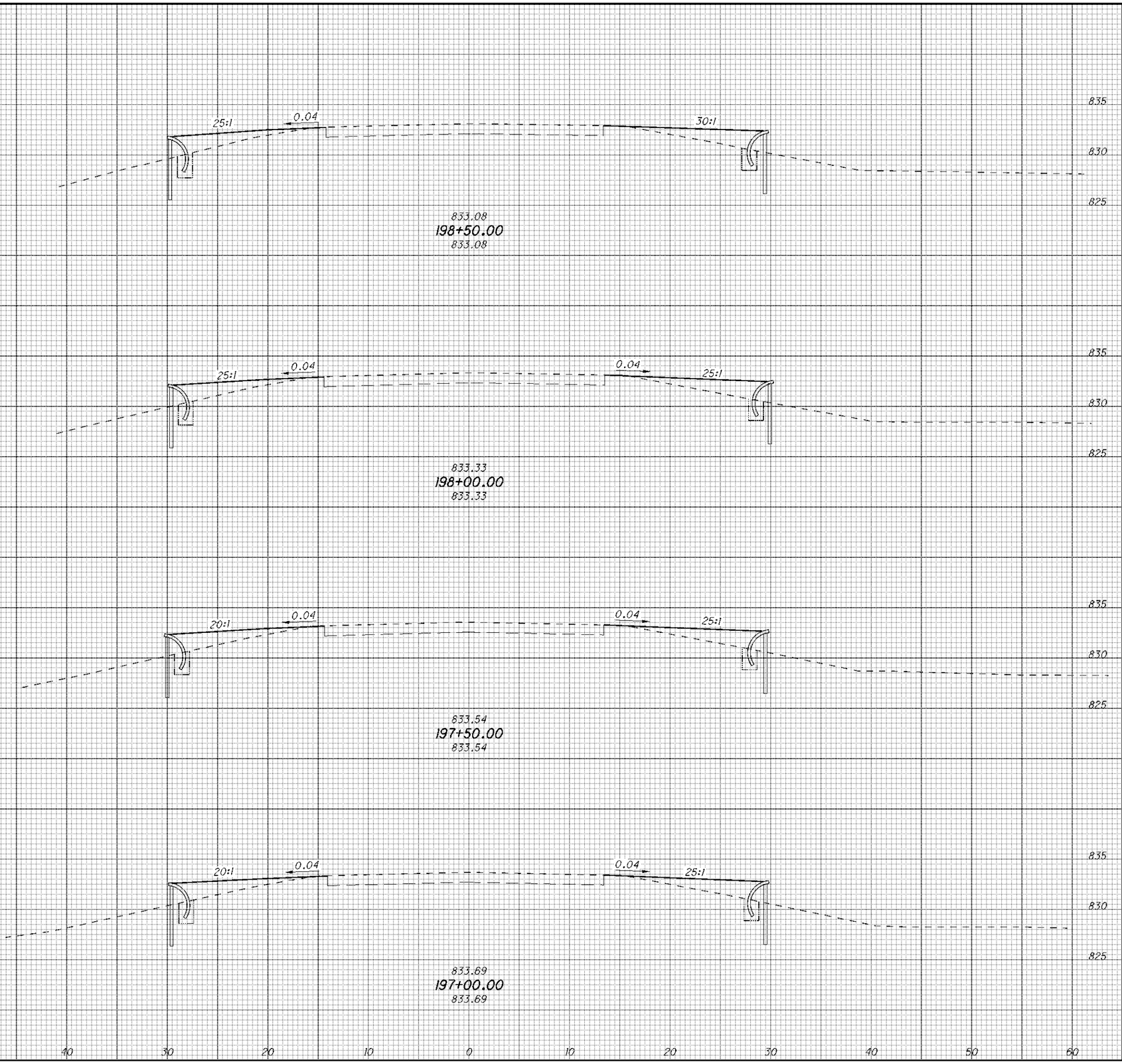
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
31	169	4	23	7	43
30	167	4	23	7	44
30	167	4	24	7	44
30	167	4	23	7	43
	670			28	174



CALCULATED LMB

CHECKED DAY

CROSS SECTIONS SR 88
STA. 197+00.00 TO STA. 198+50.00

TRU-88-0.00

20
33

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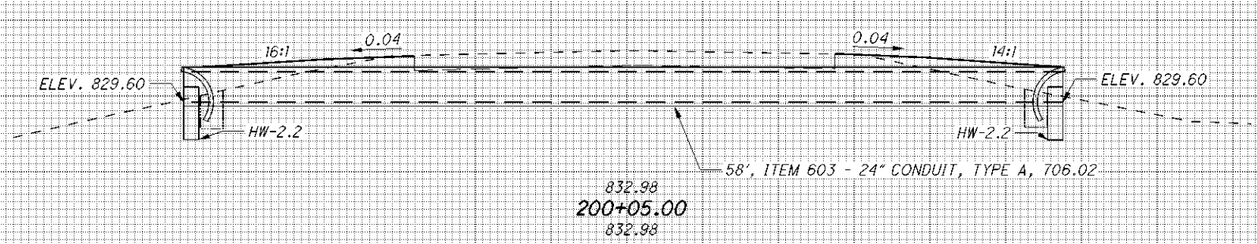
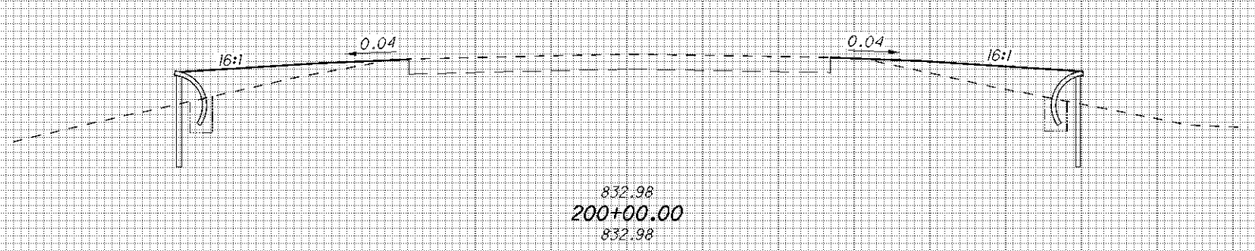
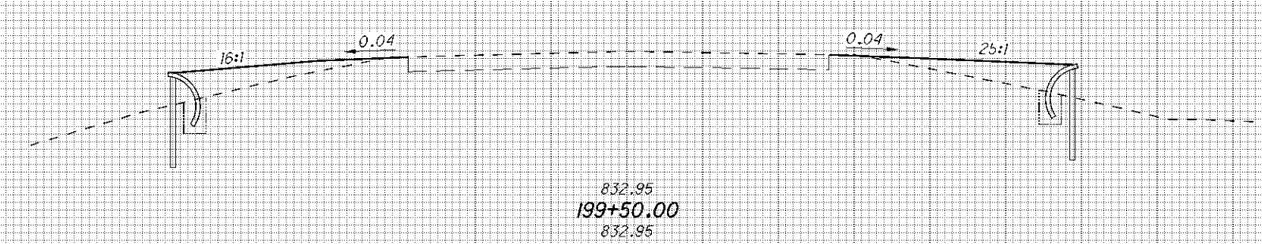
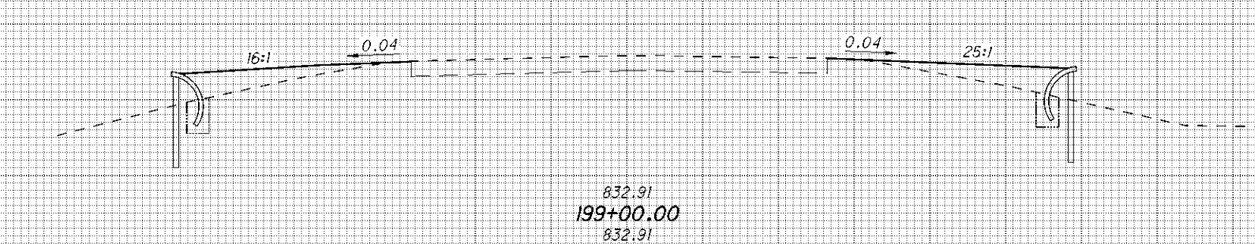
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30	17	4	14	1	3
31	172	3	16	6	38
31	56	4	25	7	44
30	169	4	22	7	42
	414			21	127









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

CALCULATED LMB
CHECKED DAY

CROSS SECTIONS SR 88
STA. 199+00.00 TO STA. 200+05.00

TRU-88-0.00

21
33

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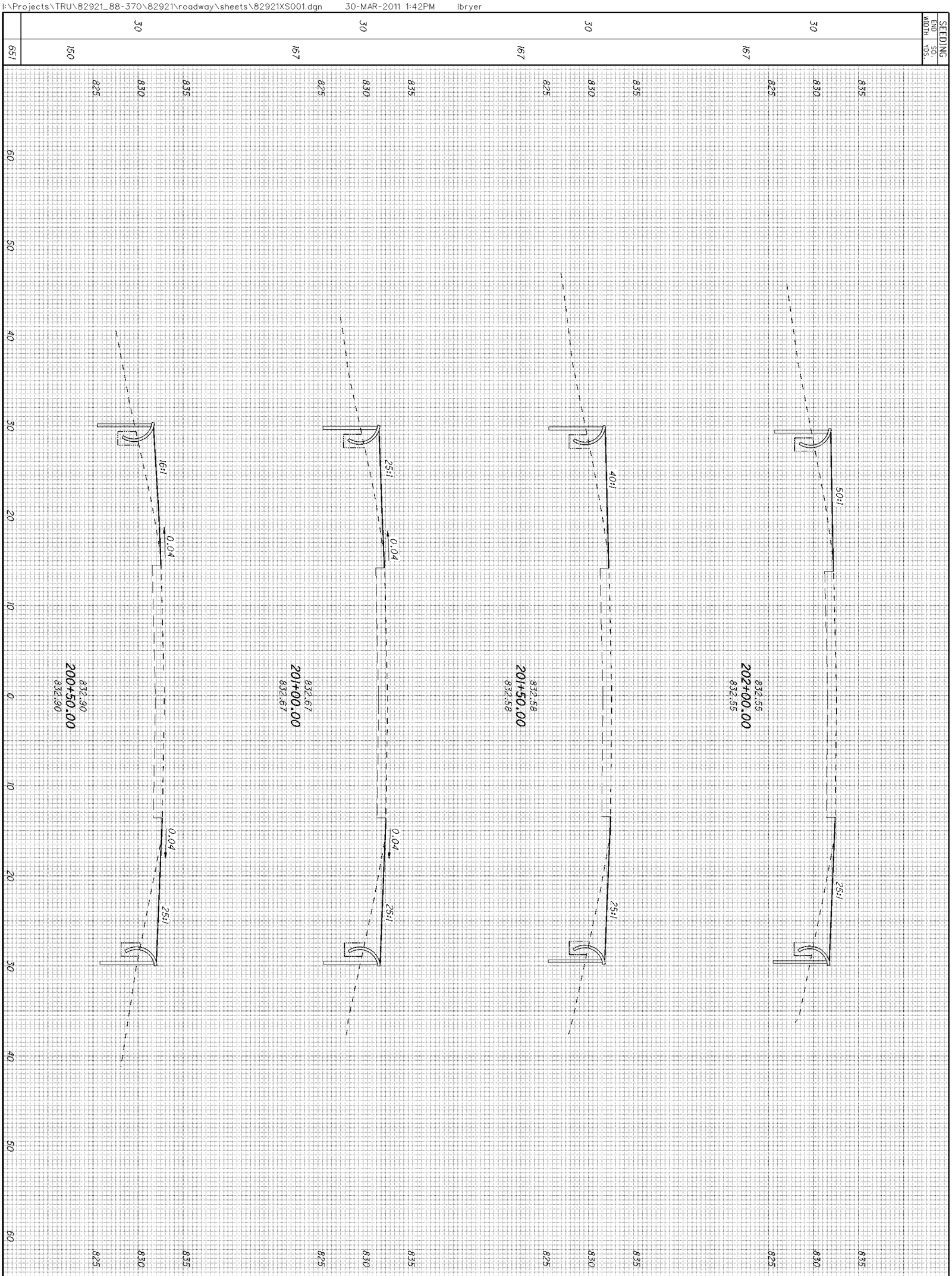
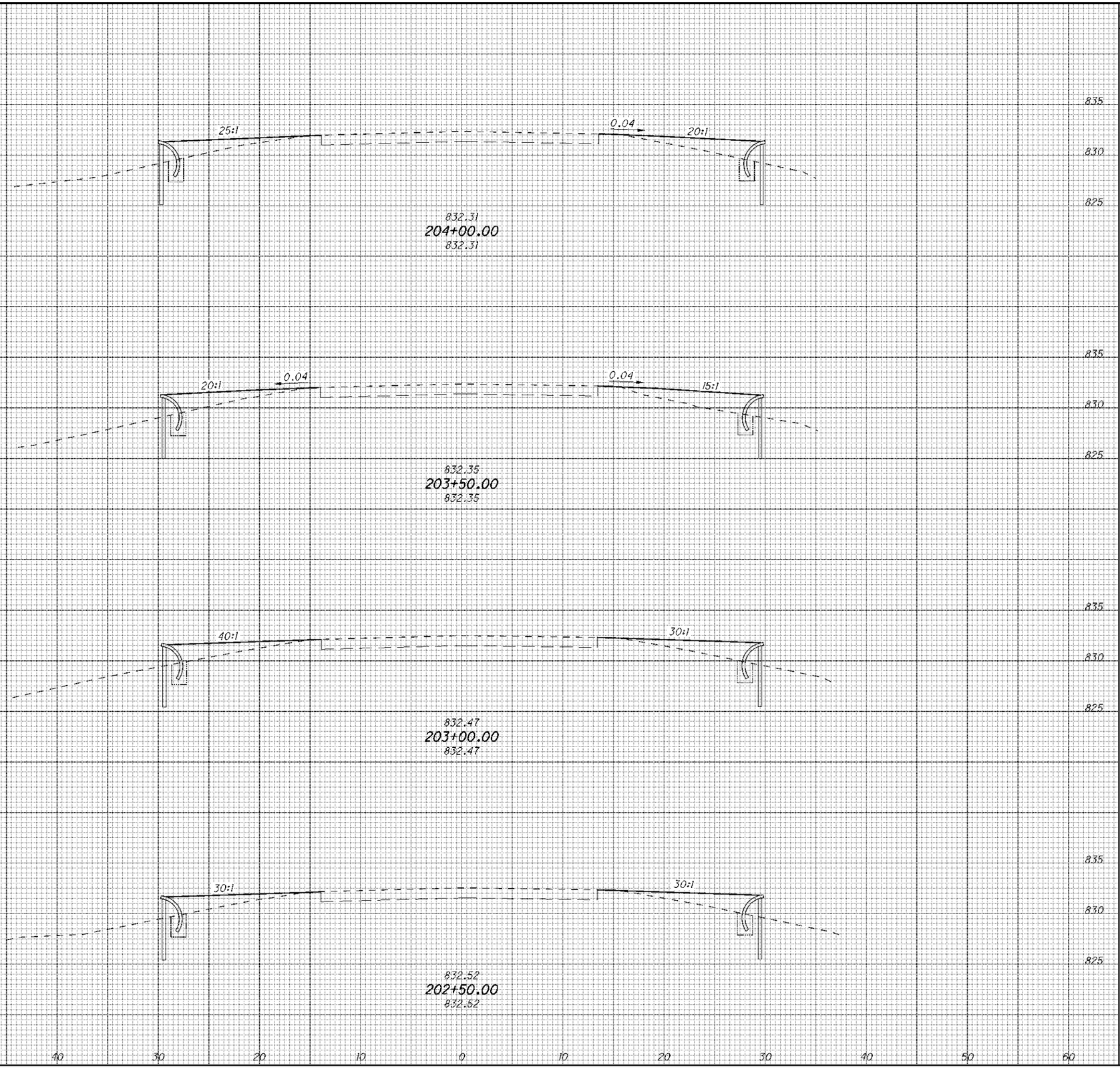


22 / 33	TRU-88-0.00	CROSS SECTIONS SR 88 STA. 200+50.00 TO STA. 202+00.00

CALCULATED LMB
CHECKED DAY

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
31	172	3	12	6	37
31	169	4	28	7	48
30	167	4	24	7	44
30	167	4	23	7	43
	675			27	172



CALCULATED LMB
CHECKED DAY

CROSS SECTIONS SR 88
STA. 202+50.00 TO STA. 204+00.00

TRU-88-0.00

23
33

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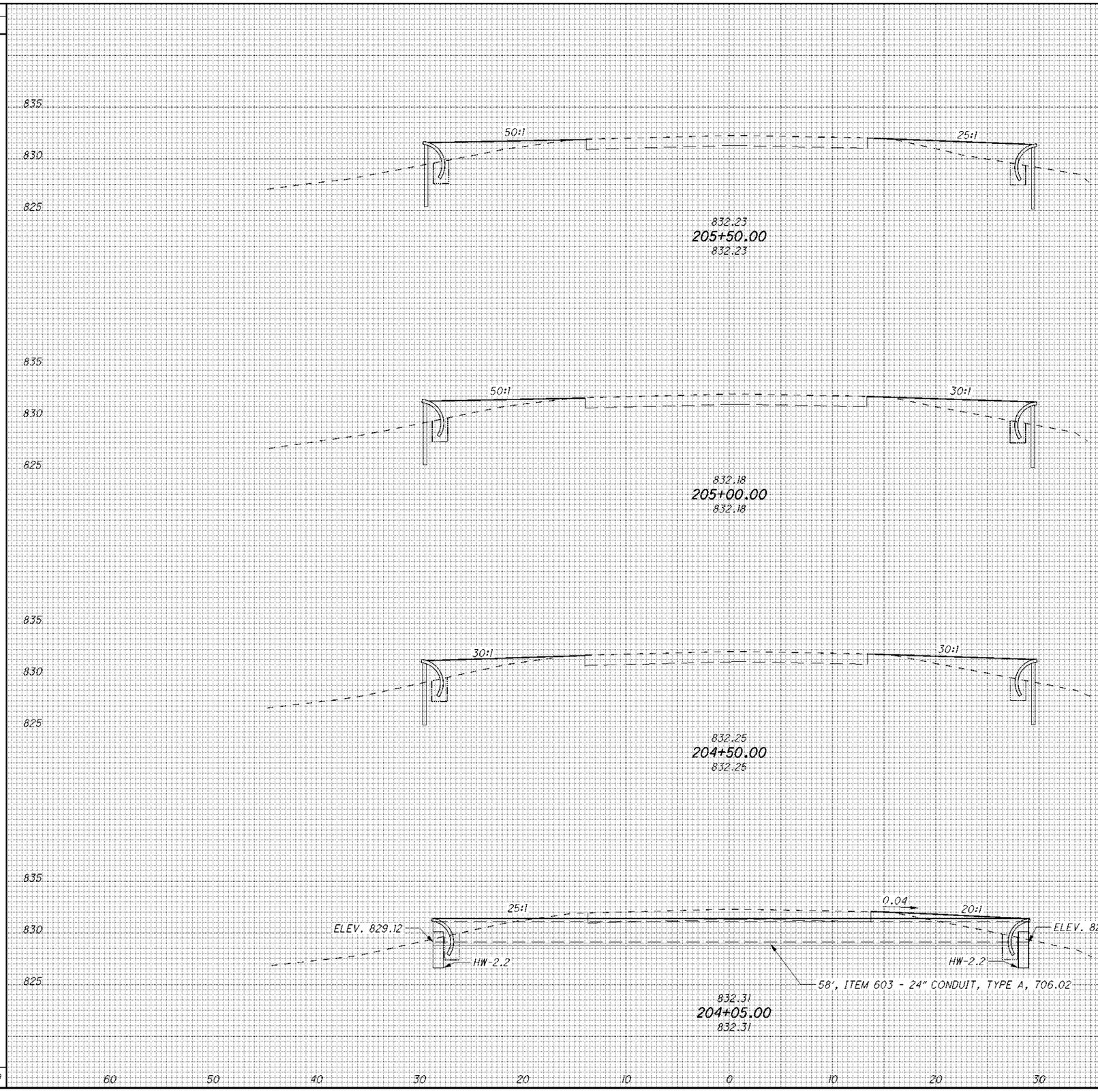
SEEDING	
END WIDTH	SQ. YDS.
30	167
30	167
30	169
30	17
	520



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	24		
		7	43
4	22		
		7	42
4	23		
		7	27
4	9		
		1	2
		22	114

CALCULATED LMB
CHECKED DAY

CROSS SECTIONS SR 88
STA. 204+05.00 TO STA. 205+50.00

TRU-88-0.00

24
33

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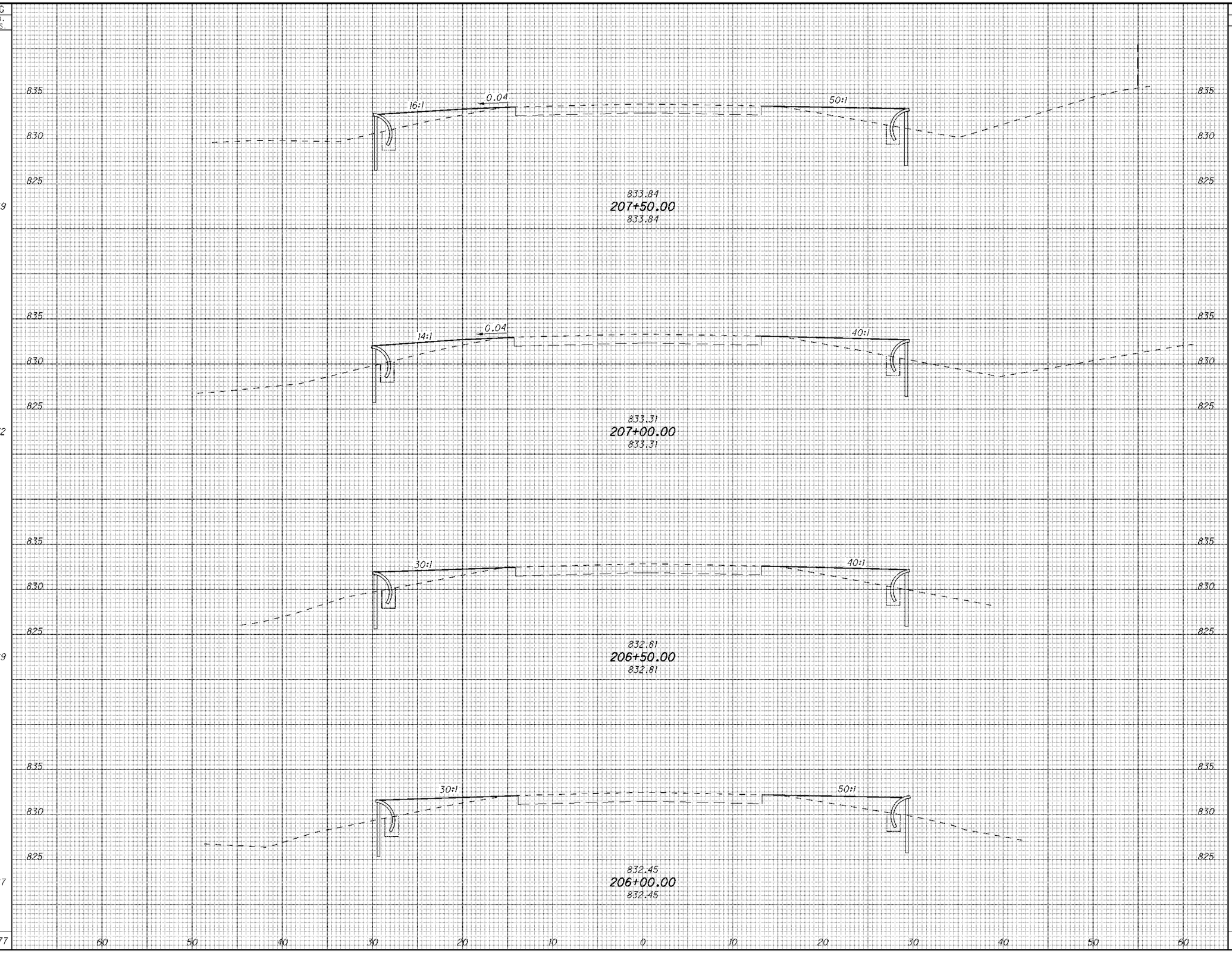
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30	169	4	24	7	44
31	172	4	24	7	46
31	169	4	26	7	46
30	167	4	24	7	44
	677			28	180



CALCULATED LMB
CHECKED DAY

CROSS SECTIONS SR 88
STA. 206+00.00 TO STA. 207+50.00

TRU-88-0.00

25
33

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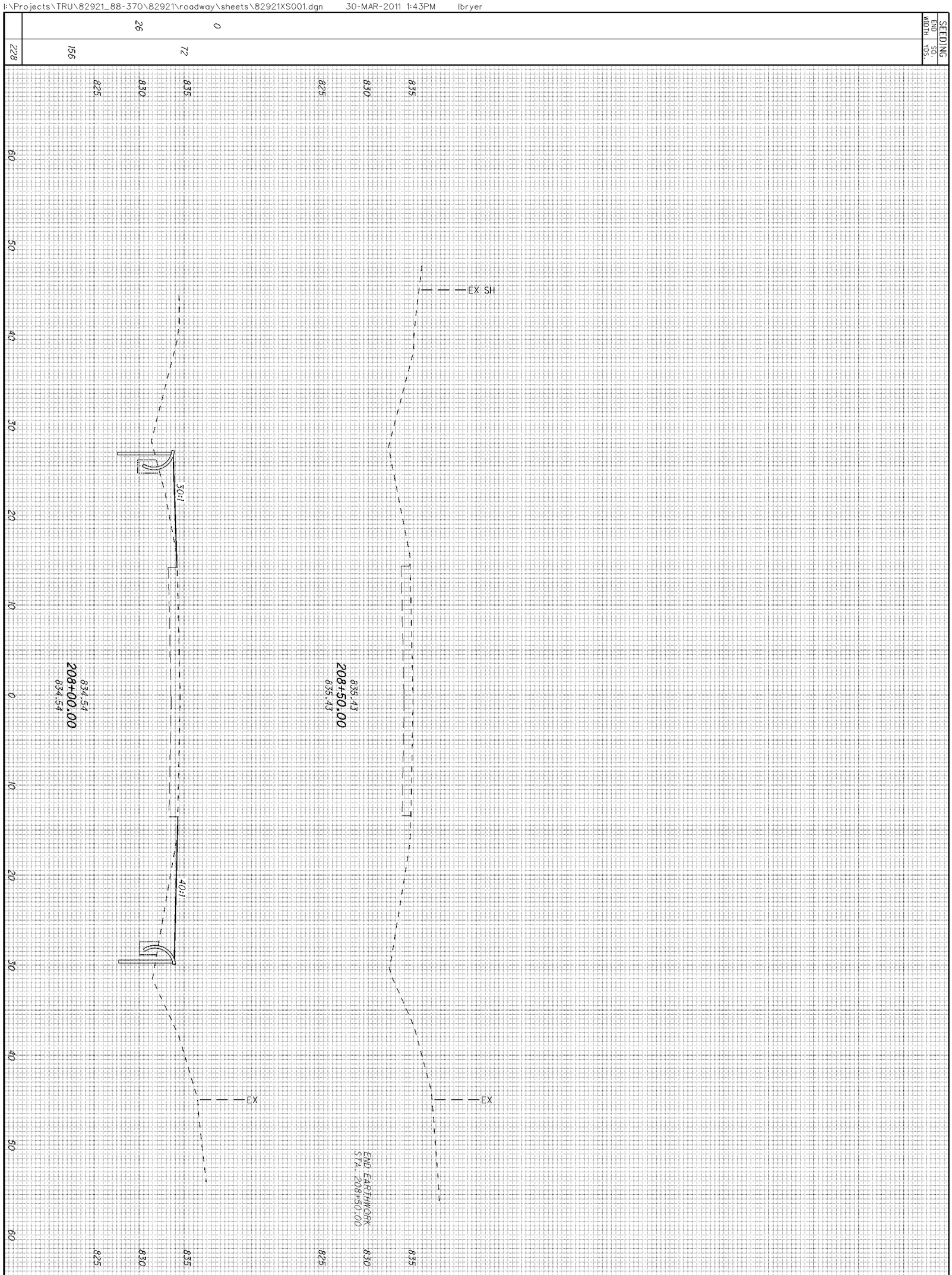


26/33

TRU-88-0.00

CROSS SECTIONS SR 88
STA. 208+00.00 TO STA. 208+50.00

CALCULATED LMB
CHECKED DAY

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

DS-1-92 DATED/REVISED 07-18-03

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 04-18-03

DESIGN SPECIFICATIONS

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.

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 - TRU-88-0016 (OVER BRANCH GRAND RIVER)

- CHANNEL CLEAN OUT 12' AT THE OUTLET AND INLET END
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - TRU-88-0284 (OVER GRAND RIVER)

- REMOVE AND REPLACE EXISTING WATERPROOFING AND ASPHALT CONCRETE OVERLAY ON THE DECK
- REMOVE AND REPLACE EXISTING WATERPROOFING AND ASPHALT CONCRETE OVERLAY ON THE APPROACH SLABS
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
- ENCASE EXISTING TUBE PILING
- REPAIR SLOPE PROTECTION AT BOTH FORWARD AND REAR ABUTMENT FOOTER
- REMOVE AND REPLACE EXISTING STEEL DRIP STRIP, REMOVAL WILL BE PAID FOR UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- SEAL ALL EXPOSED CONCRETE OF THE ABUTMENTS, WING WALLS, PIER CAPS, AND DECK EDGES WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND ABUTMENTS
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - TRU-88-0357 (OVER BRANCH GRAND RIVER)

- REMOVE AND REPLACE EXISTING WATERPROOFING AND ASPHALT CONCRETE OVERLAY ON THE DECK
- REMOVE AND REPLACE EXISTING WATERPROOFING AND ASPHALT CONCRETE OVERLAY ON THE APPROACH SLABS
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
- REPAIR EROSION AT THE CORNERS OF THE BRIDGE
- REMOVE AND REPLACE EXISTING STEEL DRIP STRIP, REMOVAL WILL BE PAID FOR UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- SEAL ALL EXPOSED CONCRETE OF THE ABUTMENTS, WING WALLS, PIER CAPS, AND DECK EDGES WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND ABUTMENTS
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - TRU-88-0430 (OVER MUD RUN)

- REMOVE AND REPLACE EXISTING WATERPROOFING AND ASPHALT CONCRETE OVERLAY ON THE DECK
- REMOVE AND REPLACE EXISTING WATERPROOFING AND ASPHALT CONCRETE OVERLAY ON THE APPROACH SLABS
- INSTALL NEW POLYMER MODIFIED ASPHALT BINDER EXPANSION JOINT SYSTEM
- ENCASE EXISTING TUBE PILING
- REMOVE AND REPLACE EXISTING STEEL DRIP STRIP, REMOVAL WILL BE PAID FOR UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- SEAL ALL EXPOSED CONCRETE OF THE ABUTMENTS, WING WALLS, PIER CAPS, AND DECK EDGES WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND ABUTMENTS
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - TRU-88-0523 (OVER BRANCH GRAND RIVER)

- CHANNEL CLEANOUT UNDER STRUCTURE AND 10' EACH SIDE
- SEAL ALL EXPOSED CONCRETE OF THE HEADWALLS, AND WING WALLS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND THE INLET AND OUTLET END
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - TRU-88-0594 (OVER CENTER CREEK)

- REMOVE AND REPLACE EXISTING WATERPROOFING AND ASPHALT CONCRETE OVERLAY ON THE DECK
- REMOVE AND REPLACE EXISTING WATERPROOFING AND ASPHALT CONCRETE OVERLAY ON THE APPROACH SLABS
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
- REMOVE ALL SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- REPAIR SLOPE PROTECTION AT BOTH FORWARD AND REAR ABUTMENT FOOTERS
- REMOVE AND REPLACE EXISTING STEEL DRIP STRIP, REMOVAL WILL BE PAID FOR UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- SEAL ALL EXPOSED CONCRETE OF THE ABUTMENTS, WING WALLS, PIER CAPS, AND DECK EDGES WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND ABUTMENTS
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

ITEM 201, 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, 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 OR BANK 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 IN ACCORDANCE WITH 105.16 AND 105.17 OF THE CMS WITH THE APPROVAL OF THE ENGINEER. NO AREAS OF EXISTING CHANNEL PROTECTION SHALLBE 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, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CHANNEL CLEANOUT.

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 TRU-88-0430. THICKNESS VARIES WITH A MINIMUM THICKNESS OF 2½". MILLING OR OTHER MECHANICAL METHOD OF ASPHALT DECK REMOVAL MAY BE PERFORMED TO WITHIN ½"± OF THE TOP OF THE EXISTING PRESTRESSED CONCRETE BOX BEAMS. THE LAST ½"± OF ASPHALT CONCRETE TO BE REMOVED AND THE WATERPROOFING WILL BE REMOVED USING A NON- DESTRUCTIVE METHODS SUCH AS HAND SCRAPING. THE CONTRACTOR WILL USE CAUTION IN REMOVING THE REMAINING ASPHALT AND WATERPROOFING 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 EQUIPMENT 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 203, BORROW

THIS ITEM WILL BE USED TO REPAIR THE EROSION BEHIND ALL FOUR CORNERS OF STRUCTURE TRU-88-0357. BORROW WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 203, BORROW. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ASPHALT CONCRETE SURFACE COURSE

ASPHALT CONCRETE SURFACE COURSE SHALL CONSIST OF A VARIABLE THICKNESS OF 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 AND A 1-½" THICKNESS OF 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M. PLACE THE 448 INTERMEDIATE COURSE IN TWO OPERATIONS. THE FIRST PORTION OF THE COURSE SHALL BE OF 1-½" UNIFORM THICKNESS. FEATHER THE SECOND PORTION OF THE COURSE TO PLACE THE SURFACE PARALLEL TO AND 1-½" BELOW FINAL PAVEMENT SURFACE ELEVATION.

DESIGN AGENCY
ODOT --- DISTRICT 04
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AAM	AAM	TJP	02-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJP			

GENERAL NOTES

BRIDGE NO.: TRU-88-0016, TRU-88-0284, TRU-88-0357, TRU-88-0430, TRU-88-0523, & TRU-88-0594

TRU-88-0.00
PID No. 82921

ITEM 515, HIGH EARLY STRENGTH KEY-WAY GROUT

AFTER REMOVAL OF THE ASPHALT AND WATERPROOFING THE KEY-WAY GROUT WILL BE EXAMINED FOR VISIBLE DETERIORATION. ANY GROUT DETERMINED TO BE REPLACED BY THE ENGINEER WILL BE REMOVED BY ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN. THE GROUT WILL BE REPLACED WITH ITEM 515 HIGH EARLY STRENGTH KEY-WAY GROUT.

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 SPECIAL - PILE ENCASEMENT

ENCASE ALL PILES FOR THE CAPPED PILE PIERS IN CLASS C CONCRETE. PROVIDE A CONCRETE SLUMP BETWEEN 6 TO 8 INCHES WITH THE USE OF A SUPERPLASTICIZER. PLACE THE CONCRETE WITHIN A FORM THAT CONSISTS OF POLYETHYLENE PIPE (707.33), OR PVC PIPE (707.42). THE ENCASEMENT SHALL EXTEND FROM 3 FEET BELOW THE FINISHED GROUND SURFACE UP TO THE CONCRETE PIER CAP. POSITION PIPE SO THAT AT LEAST 3 INCHES OF CONCRETE COVER IS PROVIDED AROUND THE EXTERIOR OF THE PILE.

IN LIEU OF ENCASING THE PILE IN CONCRETE, GALVANIZE THE PILES ACCORDING TO 711.02. THE GALVANIZING SHALL BE CONTINUOUS FROM A MINIMUM OF 3 FEET BELOW THE FINISH GROUND SURFACE UP TO THE CONCRETE PIER CAP. THE GAL- VANIZED COATING THICKNESS SHALL BE A MINIMUM OF 4 MILS. REPAIR ALL GOUGES, SCRAPES, SCRATCHES OR OTHER SURFACE IMPERFECTIONS CAUSED BY THE HANDLING OR THE DRIVING OF THE PILE TO THE SATISFACTION OF THE ENGINEER.

THE DEPARTMENT WILL MEASURE PILE ENCASEMENT BY THE NUMBER OF FEET. THE DEPARTMENT WILL DETERMINE THE SUM AS THE LENGTH MEASURED ALONG THE AXIS OF EACH PILE FROM THE BOTTOM OF THE ENCASEMENT TO THE BOTTOM OF THE PIER CAP. THE DEPARTMENT WILL NOT PAY FOR GALVAN- IZING PROVIDED BEYOND THE PROJECT REQUIREMENTS. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM - SPECIAL, PILE ENCASEMENT.

ITEM SPECIAL - STRUCTURE MISC.: CONCRETE SPALL REMOVAL

THIS WORK WILL CONSIST OF REMOVING ALL VISIBLY SPALLED AREAS OF THE DECK FLOOR OF STRUCTURE TRU-88-0594 WITHOUT SOUNDING. AFTER SPALLED CONCRETE AREAS HAVE BEEN REMOVED SEAL WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

CONCRETE SPALL REMOVAL WILL BE PAID FOR AT THE LUMP SUM BID FOR SPECIAL - STRUCTURE MISC.: CONCRETE SPALL REMOVAL. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 601, DUMPED ROCK FILL, TYPE C

THIS WORK WILL CONSIST OF REPAIRING THE ROCK SLOPE PROTECTION UNDER STRUCTURE(S) TRU-88-0284 & TRU-88-0594 WITH ITEM 601, DUMPED ROCK FILL, TYPE C

SLOPE PROTECTION REPAIR WILL BE PAID FOR IN CUBIC YARDS AT THE UNIT BID PRICE UNDER ITEM 601, DUMPED ROCK FILL, TYPE C. THIS PRICE WILL INCLUDE THE COST OF LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

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:

TRU-88-0016 (2 APPROACHES)
TRU-88-0284 (2 APPROACHES)
TRU-88-0357 (2 APPROACHES)
TRU-88-0430 (2 APPROACHES)
TRU-88-0523 (2 APPROACHES)
TRU-88-0594 (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

CORRECTING BRIDGE IDENTIFICATION SIGN NUMBERS:

SOME OF THE EXISTING BRIDGE NUMBER SIGNS HAVE INCORRECT BRIDGE NUMBERS ON THEM. THE FOLLOWING BRIDGE NUMBERS ARE THE CORRECT ONES AND WILL BE USED ON THE NEW BRIDGE IDENTIFICATIONS SIGNS.

STRUCTURE TRU-88-0016 (SFN:7805624) THE EXISTING SIGN SHOWS 00.15. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 00.16.

STRUCTURE TRU-88-0357 (SFN:7805675) THE EXISTING SIGN SHOWS 03.58. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 03.57.

STRUCTURE TRU-88-0430 (SFN:7805713) THE EXISTING SIGN SHOWS 04.31. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 04.30.

DESIGN AGENCY
ODOT --- DISTRICT 04
PRODUCTION

DESIGNED AAAM | CHECKED TJP
DRAWN AAAM | REVISED
REVIEWED TJP | DATE 02-25-11 | STRUCTURE FILE NUMBER

GENERAL NOTES

BRIDGE NO.: TRU-88-0016, TRU-88-0284, TRU-88-0357, TRU-88-0430, TRU-88-0523, & TRU-88-0594

TRU-88-0.00
PID No. 82921

CALC:	AAM	DATE:	2/25/2011
CHECKED:	TJP	DATE:	2/25/2011

ESTIMATED QUANTITIES

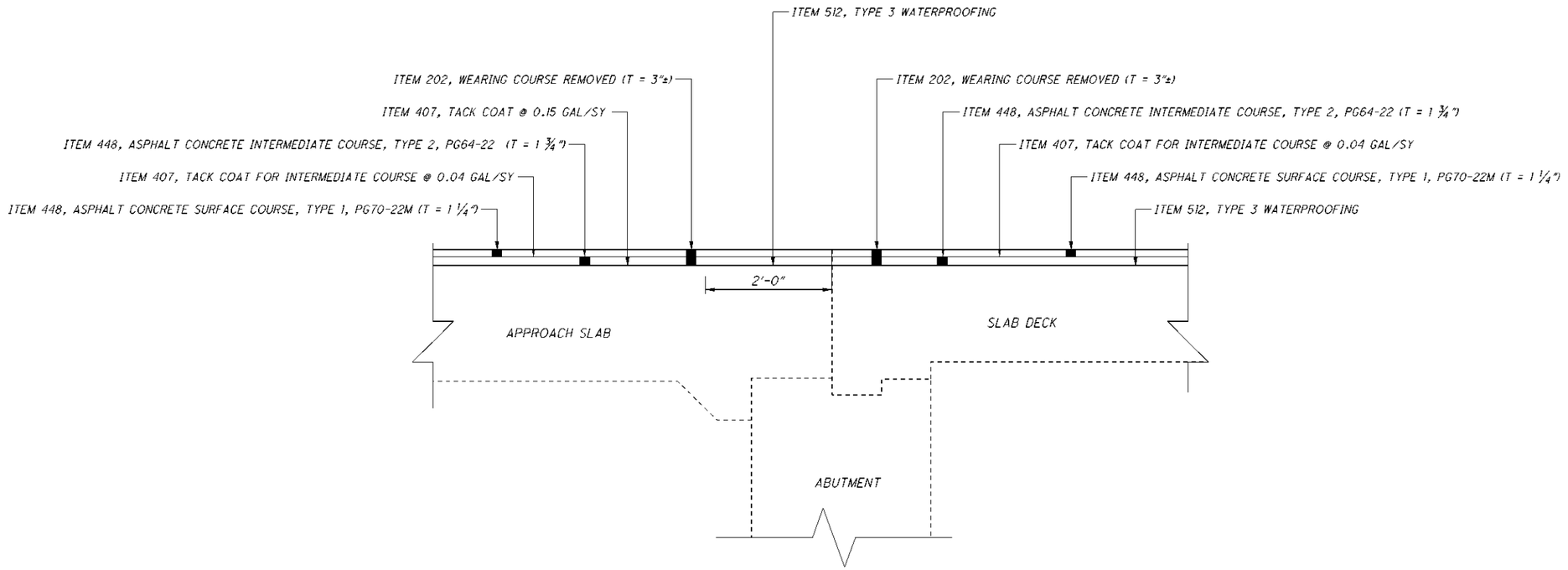
BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
TRU-88-0016 SFN 7805624	TRU-88-0284 SFN 7805640	TRU-88-0357 SFN 7805675	TRU-88-0430 SFN 7805713	TRU-88-0523 SFN 7805772	TRU-88-0594 SFN 7805799							
	LUMP	LUMP	LUMP	LUMP	LUMP			201	11000		CLEARING AND GRUBBING	
	LUMP	LUMP	LUMP		LUMP			202	11201		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	1 / 6
	490	713	214		635			202	23500	SQ YD	WEARING COURSE REMOVED	
			483					202	23501	SQ YD	WEARING COURSE REMOVED, AS PER PLAN	1 / 6
24				89				202	98200	FT	REMOVAL MISC.: CHANNEL CLEANOUT	1 / 6
		5						203	40000	CU YD	BORROW	
	16	27	29		34			407	10000	GALLON	TACK COAT	
	21	29	28		26			407	14000	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
	24	35	37		31			448	46050	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
	18	25	29		23			448	46904	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M	
	196		160					SPEC	50771200	FT	PILE ENCASEMENT	2 / 6
	117	190	209	47	219			512	10100	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	386	537	504		410			512	33010	SQ YD	TYPE 3 WATERPROOFING	
			200					515	30000	FT	HIGH EARLY STRENGTH KEYWAY GROUT	
			103					SPEC	51631300	FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	
	230	263	221		198			SPEC	51822300	FT	STEEL DRIP STRIP	
	100	100			200			519	11101	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2 / 6
					LUMP			SPEC	53000200		STRUCTURE, MISC.: CONCRETE SPALL REMOVAL	2 / 6
	135				115			601	27000	CU YD	DUMPED ROCK FILL, TYPE C	
15	15	15	15	15	15			630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
2	2	2	2	2	2			630	80100	SQ FT	SIGN, FLAT SHEET, 730.20	
2	2	1	2	2	2			630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
2	2	1	2	2	2			630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
	75	75			100			843	50000	SQ FT	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	

DESIGN AGENCY
ODOT --- DISTRICT 04
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AAM	AAM	TJP	02-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJP			

STRUCTURE ESTIMATED QUANTITIES
BRIDGE NO.: TRU-88-0016, TRU-88-0284, TRU-88-0357, TRU-88-0430, TRU-88-0523, & TRU-88-0594

TRU-88-0.00
PID No. 82921



TRU-88-0284, TRU-88-0357, & TRU-88-0594

REAR APPROACH SHOWN,
FORWARD APPROACH SIMILAR

BRIDGE NUMBER	BRIDGE DECK												APPROACH SLABS											
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	202 WEARING COURSE REMOVED (T = 3")	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T=1 ¾")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M (T=1 ¼")	512 TYPE 3 WATERPROOFING					LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	202 WEARING COURSE REMOVED (T = 3")	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T=1 ¾")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M (T=1 ¼")	512 TYPE 3 WATERPROOFING			
	FT	FT	SQ YD	SQ YD	GALLON	CU YD	CU YD	SQ YD					FT	FT	SQ YD		SQ YD	GALLON	GALLON	CU YD	CU YD	SQ YD			
TRU-88-0284	92.50	36.00	370.00	370.00	14.80	17.99	12.85	370.00					15.00	36.00	60.00	FWD	60.00	7.80	2.40	2.92	2.08	8.00			
													15.00	36.00	60.00	REAR	60.00	7.80	2.40	2.92	2.08	8.00			
TRU-88-0357	105.70	44.00	516.76	516.76	20.67	25.12	17.94	516.76					20.00	44.00	97.78	FWD	97.78	13.20	3.91	4.75	3.40	9.78			
													20.00	44.00	97.78	REAR	97.78	13.20	3.91	4.75	3.40	9.78			
TRU-88-0594	79.74	44.00	389.84	389.84	15.59	18.95	13.54	389.84					25.00	44.00	122.22	FWD	122.22	16.87	4.89	5.94	4.24	9.78			
													25.00	44.00	122.22	REAR	122.22	16.87	4.89	5.94	4.24	9.78			

DESIGN AGENCY
ODOT --- DISTRICT 04
PRODUCTION

DESIGNED AAAM | DRAWN AAAM | REVIEWED TJP | DATE 02-25-11
CHECKED TJP | REVISED | STRUCTURE FILE NUMBER

SUPERSTRUCTURE DETAILS

BRIDGE NO.: TRU-88-0284, TRU-88-0357, & TRU-88-0594
SFN NO.: 7805640, 7805675, & 7805799

TRU-88-0.00
PID No. 82921

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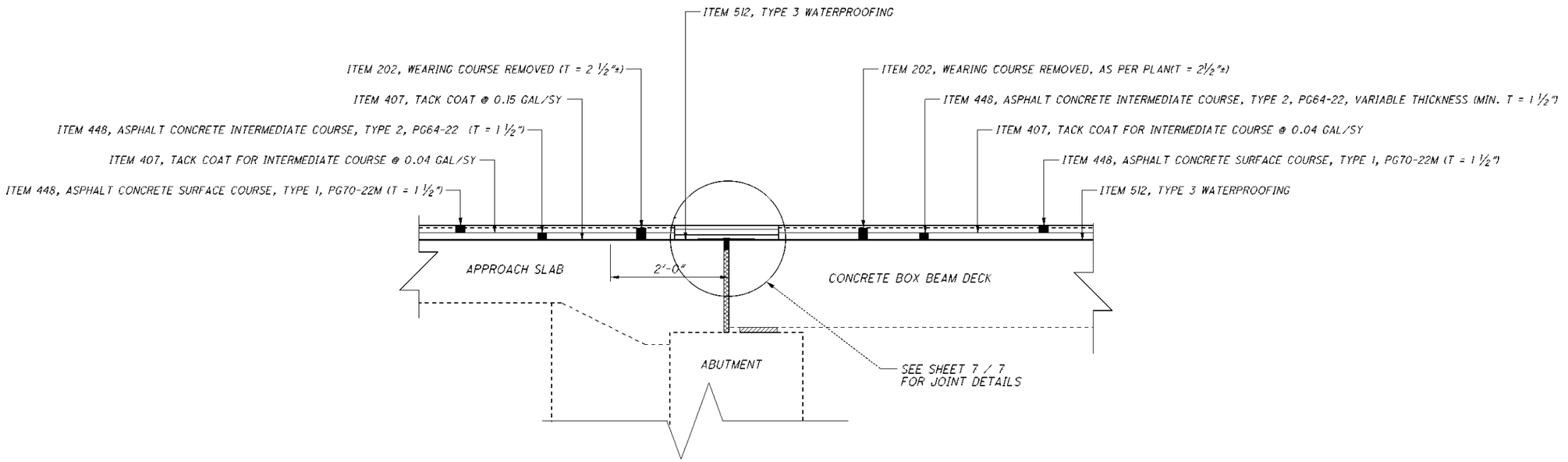

TRU-88-0430

REAR APPROACH SHOWN,
FORWARD APPROACH SIMILAR

BRIDGE NUMBER	BRIDGE DECK											APPROACH SLABS												
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	202 WEARING COURSE REMOVED, AS PER PLAN (MIN T = 2½")	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22, VAR. THICKNESS (MIN T = 1 ½")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M (T = 1 ½")	512 TYPE 3 WATERPROOFING	515 HIGH EARLY STRENGTH KEYWAY GROUT	SPEC POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM			LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	202 WEARING COURSE REMOVED (T = 2 ½")	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T = 1 ½")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M (T = 1 ½")	512 TYPE 3 WATERPROOFING			
	FT	FT	SQ YD	SQ YD	GALLON	CU YD	CU YD	SQ YD	FT	FT			FT	FT	SQ YD		SQ YD	GALLON	GALLON	CU YD	CU YD	SQ YD			
TRU-88-0430	90.43	48.00	482.29	482.29	19.29	27.49	20.10	482.29	199.01	102.16			20.00	48.00	106.67	FWD	106.67	14.40	4.27	4.44	4.44	10.67			
													20.00	48.00	106.67	REAR	106.67	14.40	4.27	4.44	4.44	10.67			

DESIGN AGENCY
ODOT --- DISTRICT 04
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AAM	AAM	TJP	02-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJP		7805713	

SUPERSTRUCTURE DETAILS
TRU-88-0430
OVER MUD RUN

TRU-88-0.00
PID No. 82921

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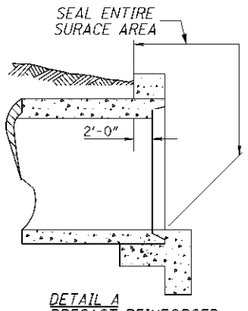
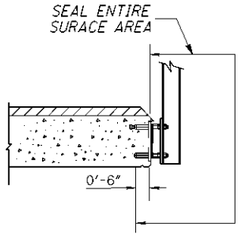
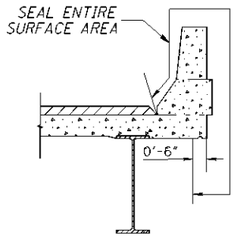


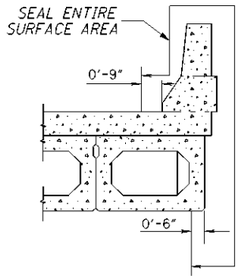
DETAIL A
PRECAST REINFORCED
CONCRETE BOX CULVERT



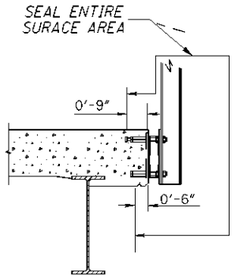
DETAIL B
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



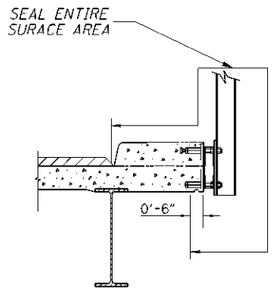
DETAIL C
CONCRETE DECK WITH
DEFLECTOR PARAPET



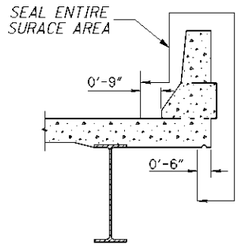
DETAIL D
PRESTRESSED BOX BEAM DECK
WITH DEFLECTOR PARAPET



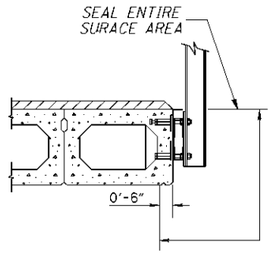
DETAIL E
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



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 NUMBER	STRUCTURE TYPE	PROPOSED SEALING	FEDERAL COLOR NUMBER	ESTIMATED QUANTITIES				
				ABUT (SQ YD)	PIER (SQ YD)	SUPER (SQ YD)	GENERAL (SQ YD)	TOTAL (SQ YD)
TRU-88-0284	3 SPAN CONTINUOUS CONCRETE SLAB	SEAL DECK EDGES PER DETAIL B SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIER CAPS	PER CMS	32	50	35		117
TRU-88-0357	3 SPAN CONTINUOUS CONCRETE SLAB	SEAL PARAPETS PER DETAIL B SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIER CAPS	PER CMS	58	66	66		190
TRU-88-0430	3 SPAN PRE-STRESSED CONC. BOX BEAM	SEAL PARAPETS PER DETAIL H SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIER CAPS	PER CMS	61	109	39		209
TRU-88-0523	PRECAST CONCRETE BOX CULVERT	SEAL ALL CONCRETE SURFACES PER DETAIL A SEAL ALL EXPOSED CONCRETE AT WING WALLS SEAL ALL EXPOSED CONCRETE AT HEADWALLS	PER CMS				47	47
TRU-88-0594	3 SPAN CONTINUOUS CONCRETE SLAB	SEAL PARAPETS PER DETAIL B SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIER CAPS	PER CMS	67	71	31	50	219

NOTES:
- EPOXY-URETHANE SEALER SHALL BE USED UNLESS SHOWN OTHERWISE
- DETAILS E, F, G AND H ALSO APPLY TO CONCRETE SLAB BRIDGES
- GENERAL ESTIMATED QUANITIY IS TO BE USED AFTER SPALL REMOVAL OF THE BOTTOM DECK FLOOR

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

DESIGNED	DRAWN	REVIEWED	DATE
AAM	AAM	TJP	02-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJP			

CONCRETE SEALING DETAILS

BRIDGE NO.: TRU-88-0284, TRU-88-0357, TRU-88-0430, TRU-88-0523, & TRU-88-0594

TRU-88-0.00
PID No. 82921

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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 1/8" OR 1/4" 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 1/8 " OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 1/8 " AND 1 1/8 " 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 3/4 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 1/2 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:

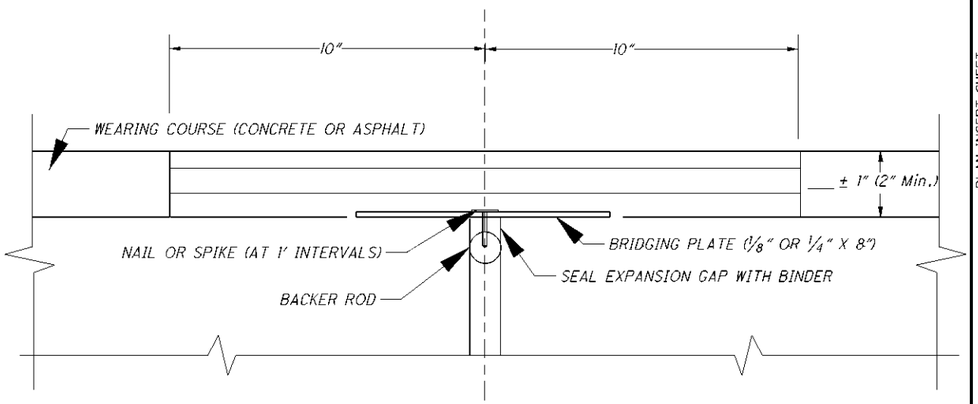
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF TWO (2) INCHES OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER 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

OFFICE OF STRUCTURAL ENGINEERING

DESIGNED AAM CHECKED REVIEWED

PLAN INSERT SHEET

POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

BRIDGE NO.: TRU-88-0430

TRU-88-0.00

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