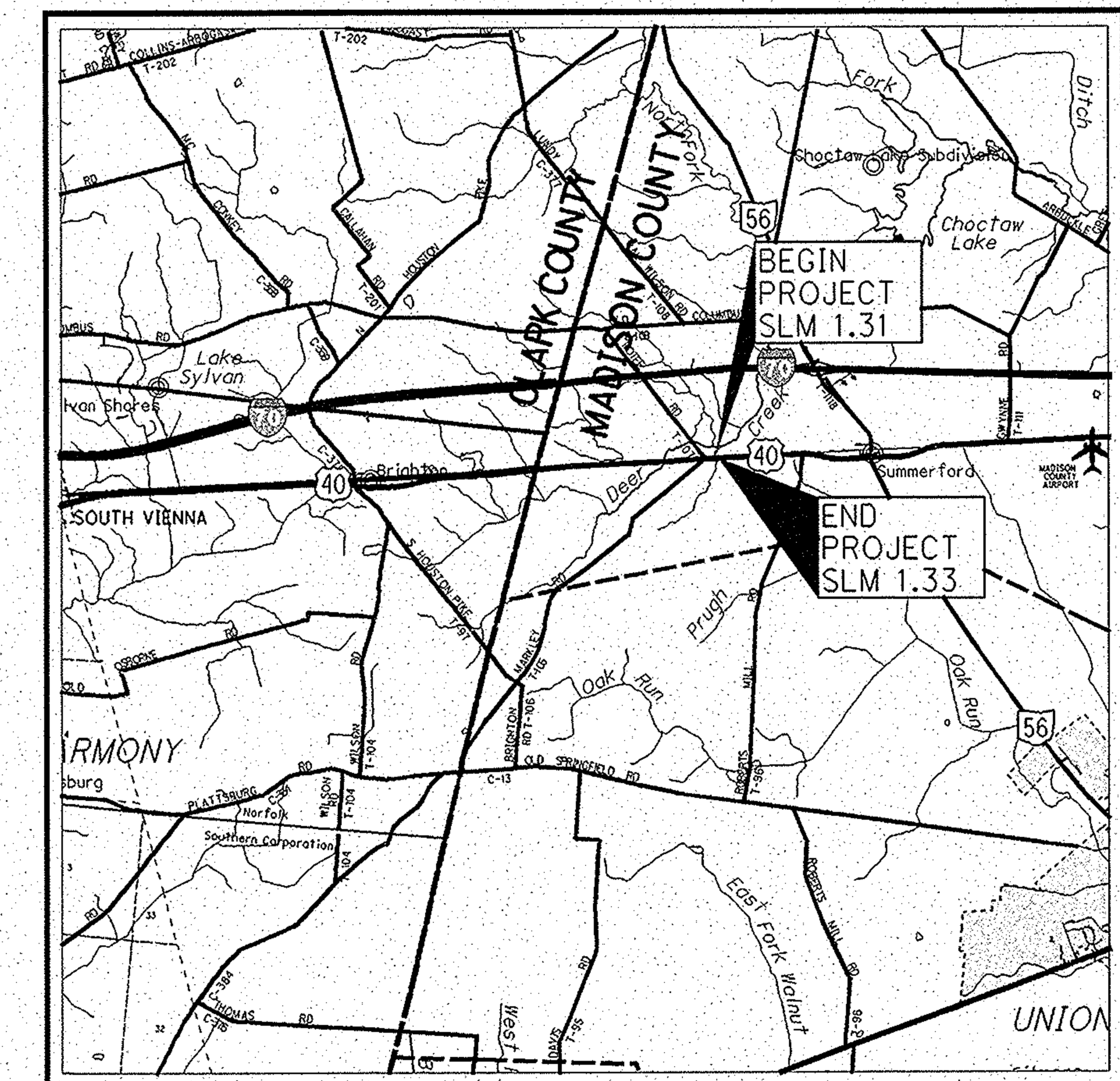
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MAD-40-1.31

SOMERFORD TOWNSHIP
MADISON COUNTY



LOCATION MAP

LATITUDE: 39°55′58″ LONGITUDE: 83°30′48″

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

	U.S. 40	POTEE RD	MARKLEY RD
CURRENT ADT (2011)	3,000	200	300
DESIGN YEAR ADT (2031)	3,700	200	300
DESIGN HOURLY VOLUME (2031)	370	20	30
DIRECTIONAL DISTRIBUTION	59%	61%	57%
TRUCKS (24 HOUR B&C)	5%	4%	4%
Td	2%	6%	1%
DESIGN SPEED	60	55	55
LEGAL SPEED	55	55	55

DESIGN FUNCTIONAL CLASSIFICATION:
MAD-40 : RURAL MAJOR COLLECTOR

NHS PROJECT ______ YES

DESIGN EXCEPTIONS

NONE REQUIRED

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:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT SIX

INDEX OF SHEETS:

ENGINEERS SEAL:
STATE OF OHIO KEVIN R. FIANT E-64877 PROFESSIONAL ENGINEER
SIGNED: Kevin Fiant
DATE: 10/4/10

STANDARD DRAWINGS												SUP. SPECS.	
NAME	DATE	NAME	DATE	NAME	DATE	NAME	DATE	NAME	DATE	NAME	DATE	NAME	DATE
BP-3.1	10/19/07	GR-1.1	07/16/04	TC-41.20	01/19/01							800-2010	11/8/10
		GR-2.1	01/16/04	TC-42.20	07/16/04							802	10/15/10
CB-3.3	07/15/05	GR-2.3	04/18/03	TC-61.30	04/16/10							832	05/05/09
HW-1.1	01/21/05	GR-4.2	01/19/07	TC-65.10	01/21/05								
DM-1.1	04/21/06	GR-5.3	04/16/10	TC-65.11	01/21/05								
DM-1.4	04/21/06			TC-73.10	01/19/01							SPECIAL PROVISIONS	
DM-4.4	04/17/09												
		MT-35.10	04/20/01									RGP	11/15/10
		MT-101.60	04/17/09										
		MT-101.90	01/16/09										
		MT-105.10	01/16/09										

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE REPLACEMENT OF A CULVERT CARRYING AN UNNAMED TRIBUTARY OF DEER CREEK UNDER US 40 WEST OF SUMMERFORD, OHIO. THE PROJECT WILL ALSO INVOLVE LIMITED APPROACH WORK.

MAD-40-1.31
PROJECT EARTH DISTURBED AREA: 0.72 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.13 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

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 APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 9 .

PLANS CERTIFIED BY:
NAME Cy Carr DATE 10/4/10
DISTRICT 6
OHIO DEPT. OF TRANSPORTATION

APPROVED Thomas J. Wester / FMA
DATE 10/6/10 DISTRICT DEPUTY DIRECTOR

APPROVED John M. Molitoris Jr.
DATE 11-29-10 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E090 (493)
PID NO. 86274
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
MAD-40-1.31
1/25

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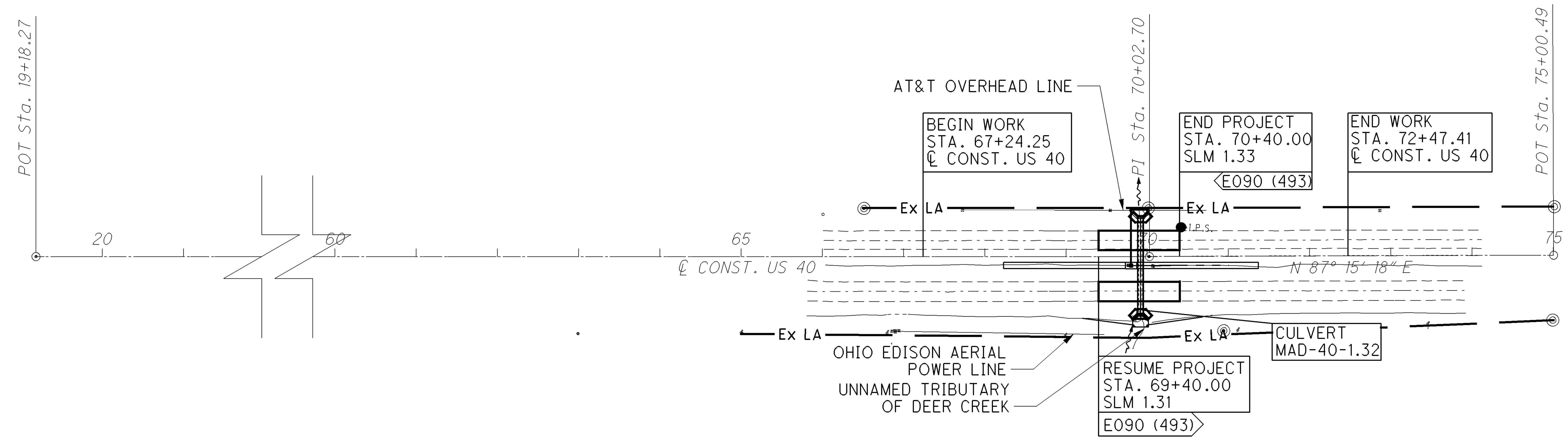
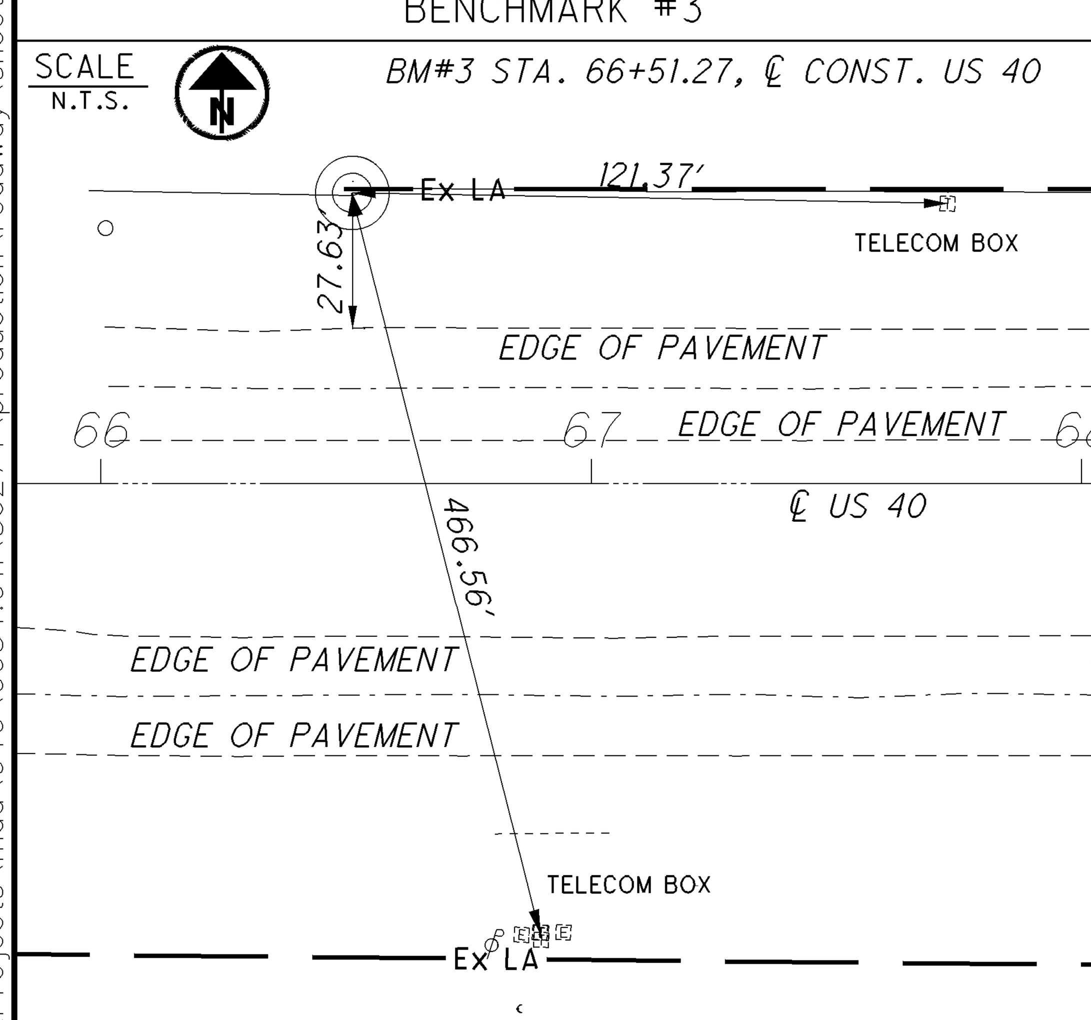
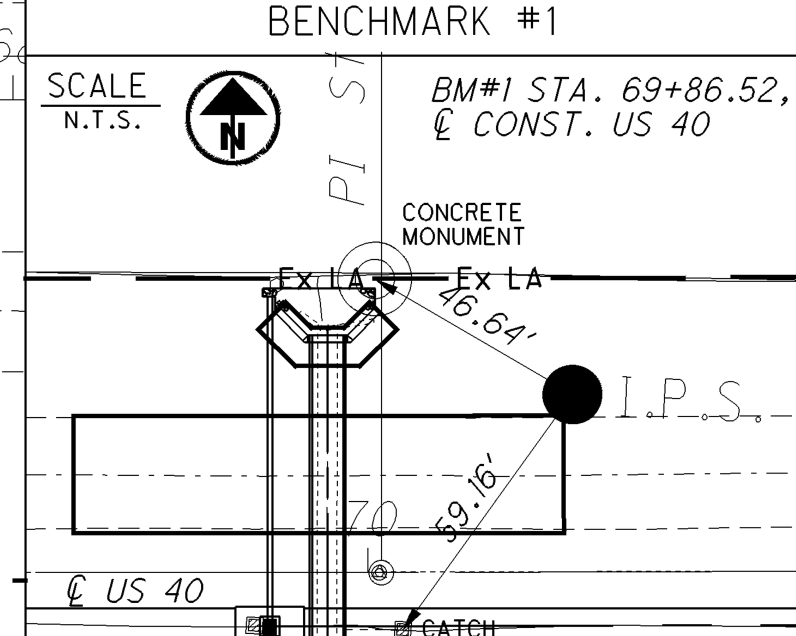
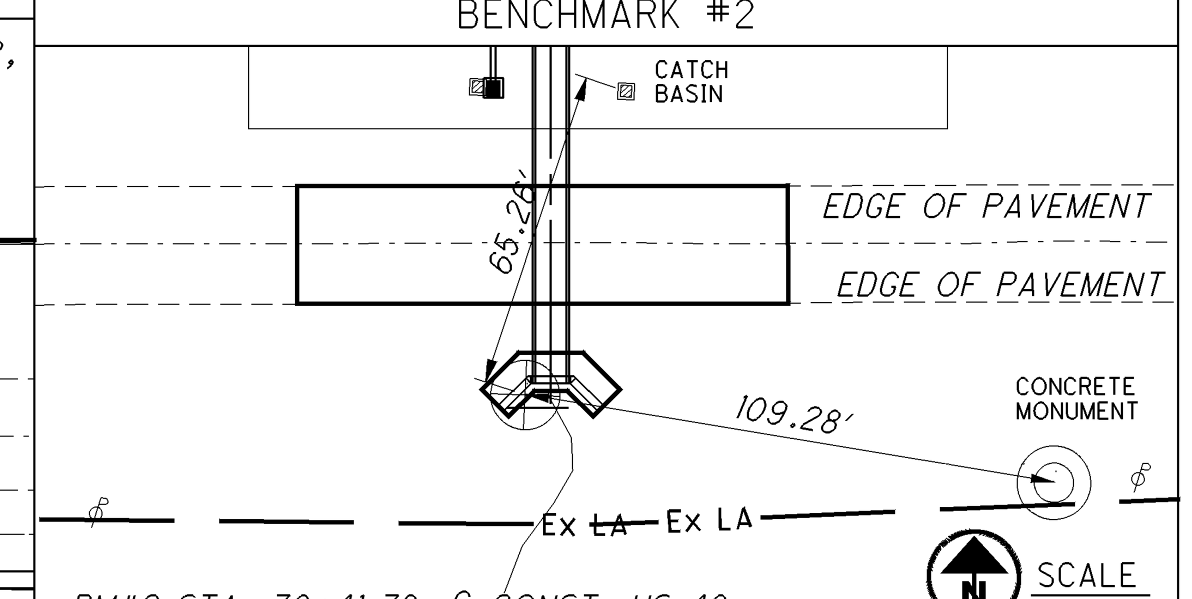
MAD - US-40-1.31
110070 PID - 86274
Dist6 2/10/2011

NOTE: 6" MARATHON HIGH PRESSURE GAS LINE CROSSES US 40 AT APPROXIMATELY STA. 50+75.









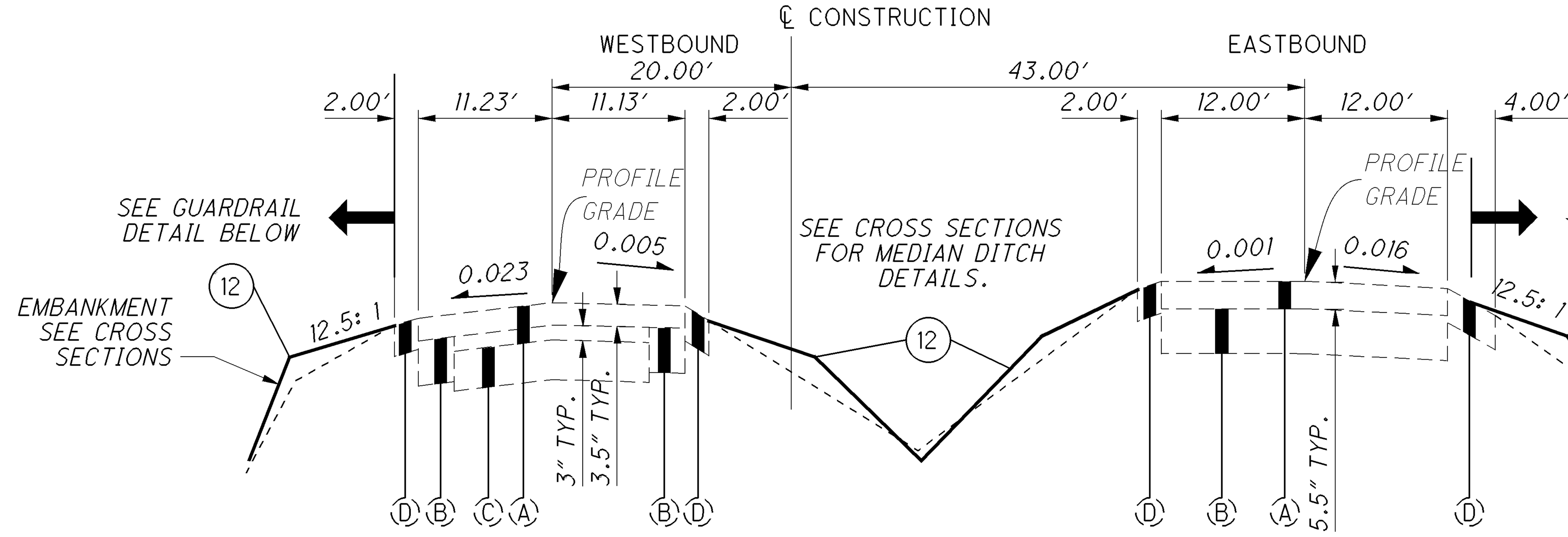
VERTICAL & HORIZONTAL CONTROL						
BENCHMARK #	STATION	OFFSET	ELEVATION	FEATURE	NORTHING	EASTING
1	69+86.52	73.58	1088.46	BM	705464.52	1684308.42
2	70+41.78	-36.24	1089.22	IPINS	705576.81	1684358.61
3	66+51.27	-59.28	1086.65	CMON	705582.35	1683967.60

HORIZONTAL SCALE IN FEET 0 50 100 200

CALCULATED
CHECKED

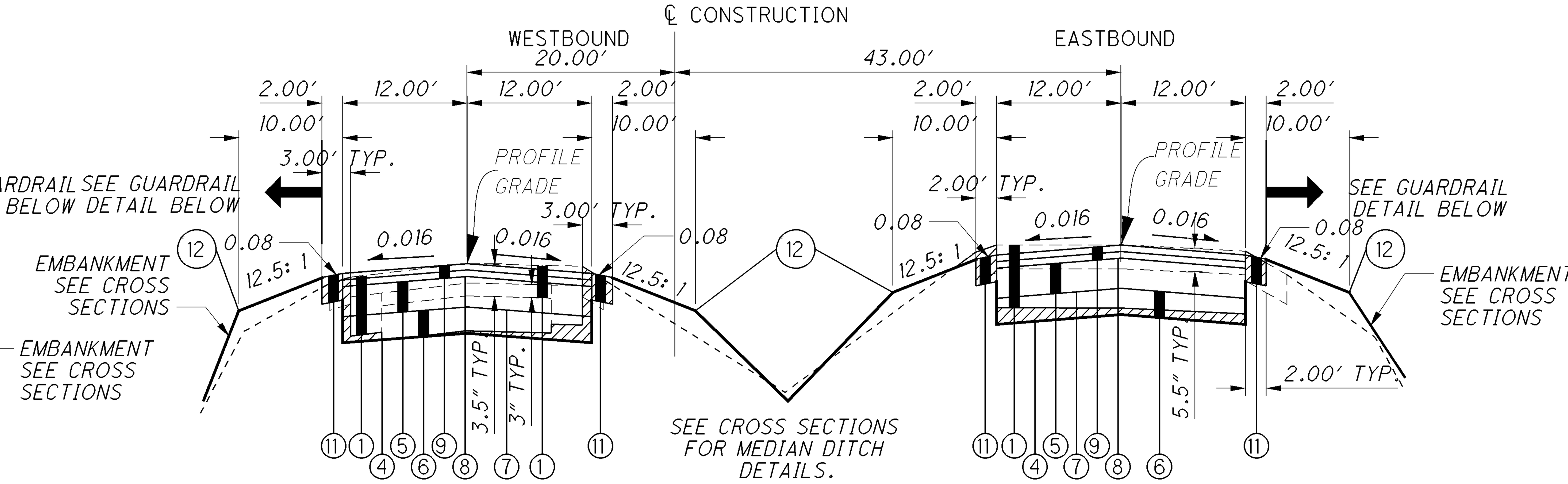
SCHEMATIC PLAN

MAD-40-1.31



ADJOINING TYPICAL - US 40

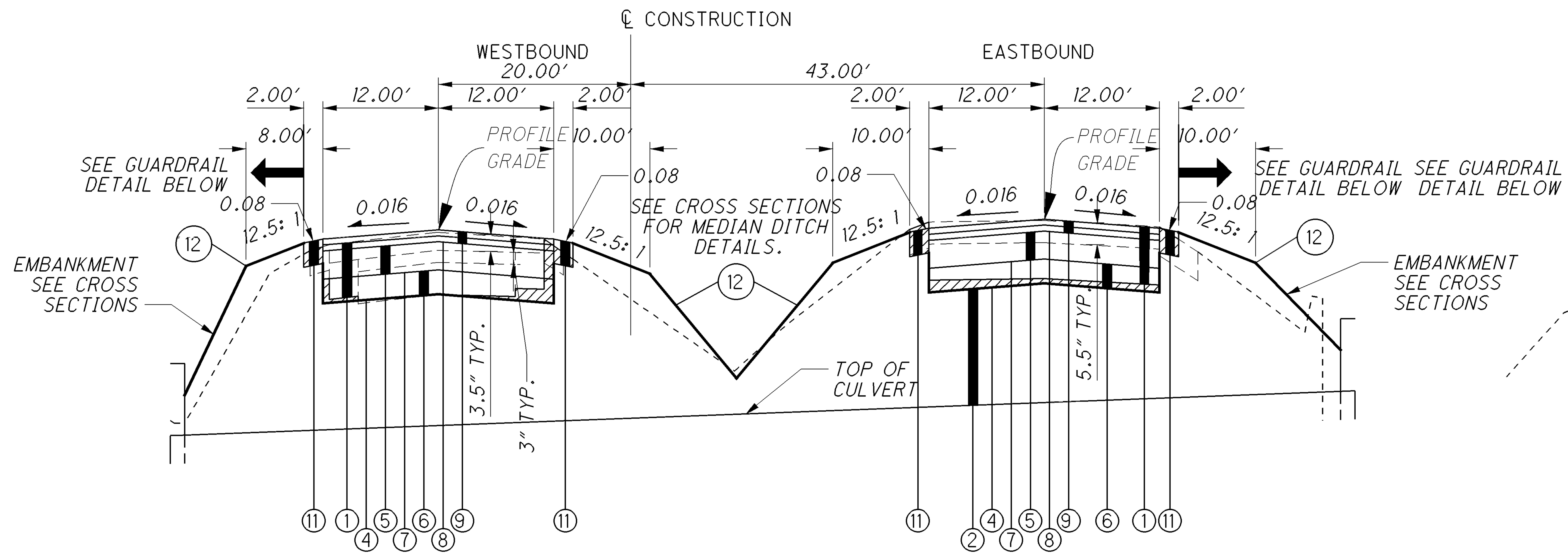
STA. 69+40.00



TYPICAL SECTION - US 40

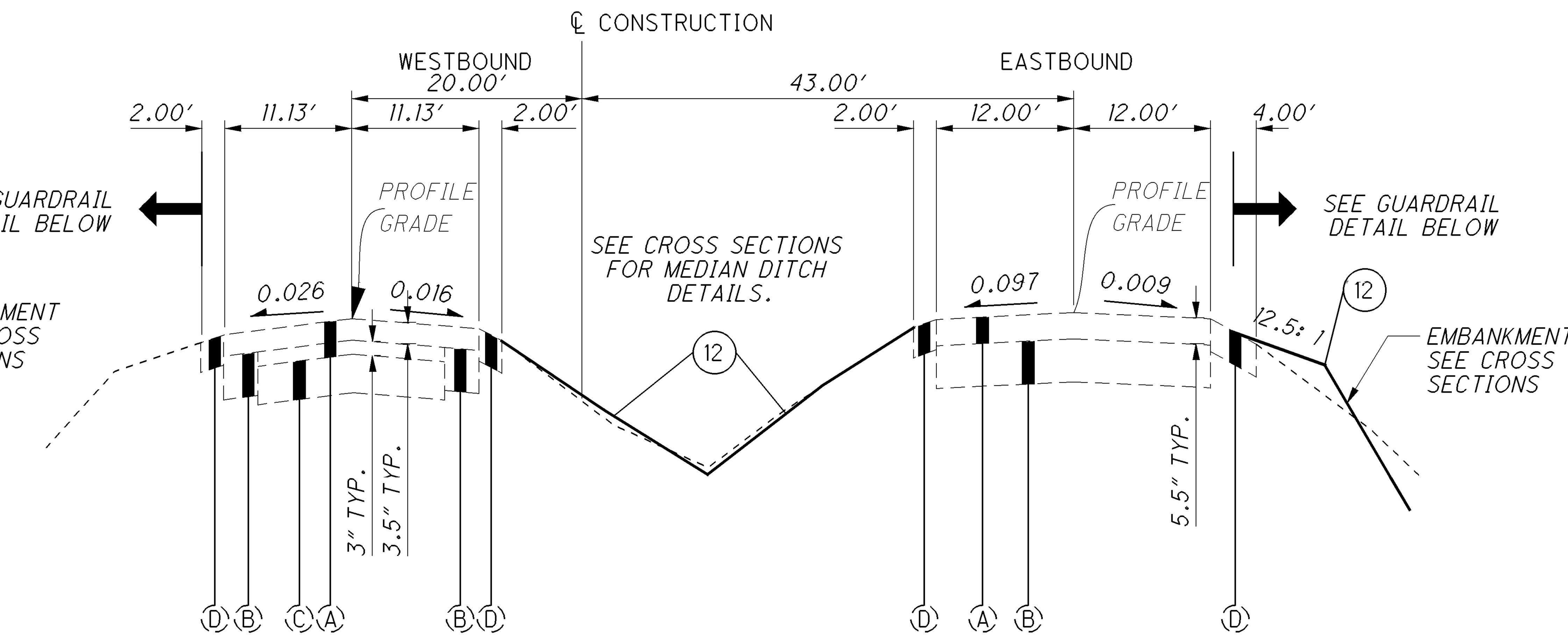
STA. 69+40.00 TO STA. 70+40.00

NOTE: TRANSITION CROSS SLOPES TO TIE INTO EXISTING PAVEMENT.



TYPICAL SECTION ALONG MAD-40-1.32 STRUCTURE

STA. 69+91.75



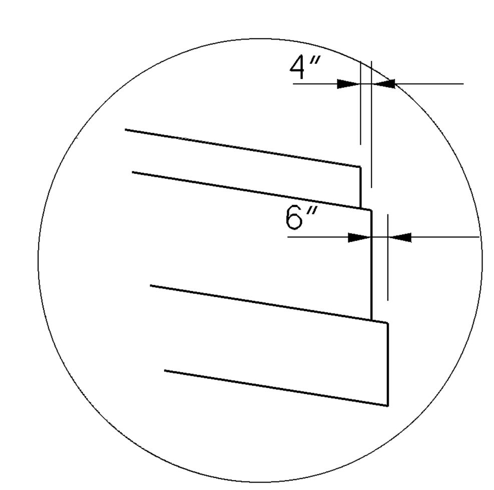
ADJOINING TYPICAL - US 40

STA. 70+40.00

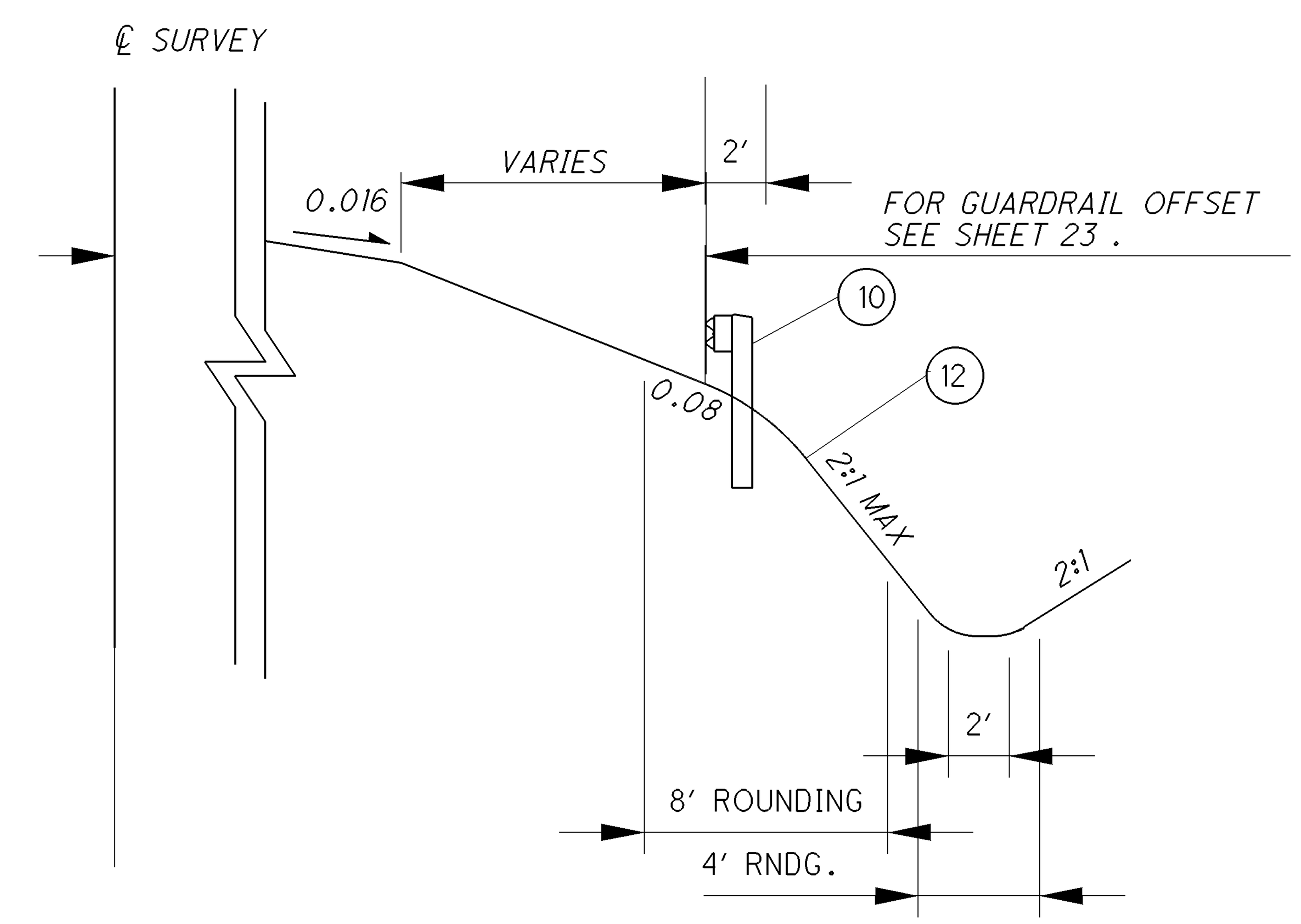
LEGEND

1. ITEM 202 - PAVEMENT REMOVED
2. ITEM 203 - EMBANKMENT - FOR INFORMATION ONLY - PAYMENT INCLUDED IN ITEM 603
3. ITEM 203 - EXCAVATION, 16"±
4. ITEM 204 - SUBGRADE COMPACTION
5. ITEM 301 - 7" ASPHALT CONCRETE BASE, PG 64-22
6. ITEM 304 - 6" AGGREGATE BASE
7. ITEM 407 - TACK COAT @ 0.075 GAL. PER SQ. YD.
8. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE @ 0.040 GAL. PER SQ. YD.
9. ITEM 448 - 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (2 LIFTS)
10. ITEM 606 - GUARDRAIL
11. ITEM 617 - 6" COMPACTED AGGREGATE
12. ITEM 659 - SEEDING AND MULCHING

- (A) EXISTING ASPHALT CONCRETE
- (B) 9" ± REINFORCED CONCRETE PAVEMENT
- (C) 8" ± MACADAM PAVEMENT
- (D) 6" ' EXISTING COMPACTED AGGREGATE



BASE AND SUBBASE STEP DETAIL



GUARDRAIL AND DITCH DETAIL

TYPICAL SECTIONS

MAD-40-1.31

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NOTIFICATION OF CONSTRUCTION INITIATION:

AT LEAST FOURTEEN DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS VIA EMAIL AT D06.PIO@DOT.STATE.OH.US AND THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT D06.MOT@DOT.STATE.OH.US OF THE ANTICIPATED START DATE OF ANY CONSTRUCTION ACTIVITIES, INCLUDING BUT NOT LIMITED TO THE PLACING OF WORK ZONE SIGNS. THE NOTIFICATION SHALL ALSO INCLUDE THE PROJECT NUMBER, PID, NAME AND PHONE NUMBER OF THE CONTRACTOR, A POINT OF CONTACT AND THE ANTICIPATED IMPACT ON TRAFFIC. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT WORK ZONE TRAFFIC MANAGER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION INITIATION DATE.

THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL LOCAL, COUNTY, STATE AND FEDERAL EMERGENCY SERVICES AND EVERY AFFECTED SCHOOL FACILITY OF ANY ANTICIPATED ROAD CLOSURES AT LEAST FOURTEEN (14) DAYS BEFORE THE CLOSURE. SPECIFICALLY, THE ROAD CLOSURE NOTICE MUST DISCLOSE 1) THE EXACT PORTION OF THE ROAD TO BE CLOSED 2) THE DATE OF THE ANTICIPATED CLOSURE 3) THE DURATION OF THE CLOSURE 4) AND THE DETOUR ROUTE(S). A COPY OF THIS NOTIFICATION MUST BE PRESENTED AT THE PRECONSTRUCTION MEETING. THE CONTRACTOR IS ALSO RESPONSIBLE FOR NOTIFYING THE PROJECT ENGINEER WHEN, INCLUDING DATE AND TIME, THE NOTIFICATION IS DISTRIBUTED. A COPY OF EVERY NOTIFICATION MUST BE SENT TO ODOT COMMUNICATIONS AT D06.PIO@STATE.OH.US.

NOTIFICATION OF TRAFFIC RESTRICTIONS:

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

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

NOTIFICATION OF TRAFFIC RESTRICTIONS: (CONT.)

Notification Time Frame Table

Item	*Duration of Closure*	*Notification due to District 6 Communications Office*
Ramp and Road Closures	>= 2 weeks	14 business days prior to closure
	> 12 hours and < 2 weeks	7 business days prior to closure
	< 12 hours	2 business days prior to closure
Lane Closures/Restrictions	>= 2 weeks	7 business days prior to closure
	< 2 weeks	2 business days prior to closure

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

GENERAL:

THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL IN WRITING BEFORE WORK IS STARTED ON THIS PROJECT. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

CONTINGENCY QUANTITIES:

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

NATIONAL ROAD MILE MARKER:

THE STONE NATIONAL ROAD MILE MARKER AT STATION 69+54.52, 56.93' LEFT IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES. IT IS TO BE LEFT IN PLACE UNDISTURBED FOR THE LENGTH OF THE PROJECT. PRIO TO THE BEGINNING OF ANY CONSTRUCTION ACTIVITIES TEMPORARY FENCING SHALL BE ERECTED AT A 10' OFFSET AROUND THE MARKER (SUBJECT TO RIGHT OF WAY CONSTRAINTS) IN ORDER TO PREVENT DAMAGE TO THE MARKER DURING CONSTRUCTION. THE COST OF THE FENCING IS INCIDENTAL TO THE CONTRACT.

STAGING AREA LIMITATIONS:

DO NOT CONSTRUCT OR USE ANY STAGING AREA WITHIN 25' OF A WATERWAY. USE OF THE EXISTING PAVEMENT WITHIN THE LIMITS OF THE FULL ROADWAY CLOSURE IS ACCEPTABLE.

INDIANA BAT HABITAT:

ANY UNAVOIDABLE CUTTING OF TREES WITH SUITABLE ROOSTING AND BROOD-REARING HABITAT FOR THE INDIANA BAT (LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES, OR CAVITIES) WILL BE PERFORMED ONLY BEFORE APRIL 1 OR AFTER SEPTEMBER 30 WHEN THE SPECIES WOULD NOT BE USING SUCH HABITAT.

UTILITIES OWNERSHIP:

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

AT&T
3233 WOODMAN DRIVE RM 225
KETTERING, OH 45420
1-937-296-3650

MARATHON PIPELINE, LLC
539 S. MAIN ST RM 7642
FINDLAY, OH 45840-3295
1-419-421-2211

OHIO EDISON COMPANY
420 SOUTH YORK STREET
SPRINGFIELD, OH 45505
1-937-327-1283

WORK LIMITS:

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ELEVATION DATUM:

ALL ELEVATIONS ARE BASED ON THE U.S.G.S. DATUM (NAVD 1988)

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. AL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

CONTRACTORS EQUIPMENT - OPERATION AND STORAGE:

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC WHERE PRACTICAL. EQUIPMENT SHALL HAVE AT LEAST ONE AMBER FLASHING LIGHT. WHEN PARKED ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE LOCATED EITHER A MINIMUM OF THIRTY FEET FROM THE EDGE OF PAVEMENT OR SIX FEET BEHIND GUARDRAIL WITH A MINIMUM OF 125 FEET OF GUARDRAIL PRECEDING THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT AN APPROVED CONTRACTOR'S STORAGE AREA.

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REVIEW OF DRAINAGE FACILITIES:

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

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

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

ITEM 407 - TACK COAT:

THE RATE OF APPLICATION OF ITEM 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY, THE PLAN INDICATES AN AVERAGE APPLICATION RATE OF TACK COAT AT 0.075 GALLON PER SQUARE YARD. THE APPLICATION RATE OF TACK COAT FOR INTERMEDIATE COURSE IS 0.04 GALLON PER SQUARE YARD. THIS ITEM IS FOR USE WITH ITEM 448 AS DIRECTED BY THE ENGINEER. A COVER AGGREGATE SHALL BE USED IF HEAVY TRACKING OF THE TACK COAT ON TO THE EXISTING PAVEMENT SHOULD OCCUR DURING THE PAVING OPERATIONS. THE COST OF THE COVER AGGREGATE SHALL BE INCLUDED IN THE COST OF THIS ITEM.

ENVIRONMENTAL AGREEMENT WITH ODNR:

NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT, SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO ANY STREAMS, DRAINAGE COURSES OR BODIES OF WATER. ALL ASPHALT OR CONCRETE GRINDINGS, EXCESS ASPHALTIC OR CONCRETE MATERIALS OR ANY OTHER DEBRIS GENERATED DURING RESURFACING OR OTHER SIMILAR ACTIVITIES SHALL NOT BE DISPOSED OF WITHIN A FLOODPLAIN BELOW THE 100-YEAR FLOOD ELEVATION. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT LIQUIDS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY BRIDGE STRUCTURE (E.G. PAINT, SEALER, SOLVENT) FROM ENTERING STREAMS, WETLANDS OR OTHER "WATERS OF THE UNITED STATES" AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

FARM DRAINS

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

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

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

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

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

603 4" CONDUIT, TYPE C 20 FT.

603 6" CONDUIT, TYPE C 20 FT.

603 8" CONDUIT, TYPE C 20 FT.

601 ROCK CHANNEL PROTECTION TYPE C WITH FILTER
1 CU. YD.

ITEM 606 - GUARDRAIL, TYPE 5:

THE LOCATION OF GUARDRAIL RUNS AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT TO ASSURE THAT THE PLANNED INSTALLATION WILL AFFORD THE MAXIMUM PROTECTION FOR TRAFFIC.

GUARDRAIL POST HOLES:

ALL HOLES REMAINING AFTER REMOVAL OF GUARDRAIL POSTS SHALL BE FILLED WITH GRANULAR MATERIAL, EXCESS MATERIAL RESULTING FROM GUARDRAIL RECONSTRUCTION, OR EXCESS MATERIAL FROM BERM RESHAPING. FILL MATERIAL CONTAINING SOD SHALL NOT BE USED. ALL FILL MATERIAL SHALL BE APPROVED BY THE ENGINEER. MATERIAL PLACED IN HOLES SHALL BE THROUGHLY COMPACTED AND LEVELED OFF AS DIRECTED BY THE ENGINEER. PAVEMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE FROM ITEM 202, GUARDRAIL REMOVED, AS PER PLAN.

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. #	DRAWING NAME	DWG./REV DATE	ODOT APPROVAL DATE
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION & SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION & SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS & HBA POSTS 1-4 PLAN, ELEVATION & 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

CALCULATED
CHECKED

GENERAL NOTES

MAD-40-1.31

ITEM 606 - ANCHOR ASSEMBLY, TYPE E, (CONTINUED):
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 623 - CONSTRUCTION LAYOUT STAKES:
THIS ITEM SHALL CONSIST OF STATIONING USING 3 FT LATH STAKES OR PAINT MARKINGS. THE STAKES OR PAINT MARKINGS SHALL BE SPACED AT 50 FT INTERVALS AND EXTEND THROUGHOUT THE LENGTH OF THE PROJECT. PLACEMENT OF THE STAKES OR PAINT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED, MISSING STAKES, OR PAINT MARKINGS. PAINT MARKINGS SHALL BE PLACED ON CURBS AND USED IN AREAS WERE THE PLACEMENT OF STAKES IS NOT POSSIBLE AND APPROVED BY THE PROJECT ENGINEER.

CONSTRUCTION LAYOUT STAKES WILL BE PAID FOR AT THE CONTRACT LUMP SUM BID, WHICH PRICE SHALL BE FULL COMPENSATION FOR ALL SERVICES, MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS, INCLUDING THE REMOVAL, NECESSARY TO COMPLETE THIS ITEM.

ITEM 630 - SIGN, FLAT SHEET:
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST:
THESE ITEMS SHALL BE USED TO PLACE NEW STRUCTURE IDENTIFICATION SIGNS AT THE FOLLOWING STRUCTURES:

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EACH SIGN SHALL BE ATTACHED TO THE CONCRETE PARAPET WITH CONCRETE ANCHORS AT THE RIGHT REAR LOCATION. IF THE BRIDGE DOES NOT HAVE A CONCRETE PARAPET, THE SIGN SHALL BE POST MOUNTED TO ONE NEW NO. 2 POST AS PER STANDARD CONSTRUCTION DRAWING TC-41.20 (MOST CURRENT REVISION) USING TWO 5/16" ALUMINUM BOLTS 2 1/2" IN LENGTH. THE POST SHALL BE 7'-0" LONG.

SIGNS SHALL BE SIZED AS PER SIGN I-H25a AS GIVEN IN THE ODOT SIGN DESIGN MANUAL (MOST CURRENT VERSION). ALL INCIDENTALS WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 630 - SIGN, FLAT SHEET.

ITEM 630 - SIGN, FLAT SHEET: (CONTINUED)
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST: (CONT.)
THE FOLLOWING ITEMS HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN = 1.0 SQ FT
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST = 7 FT

ITEM 659 - SEEDING AND MULCHING:
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 THAT ARE COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. THE QUANTITIES LISTED IN THE PLANS ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS.

EXISTING PLANS:
EXISTING PLANS ENTITLED MAD-40-(0.00-2.47) MAY BE INSPECTED IN THE ODOT DISTRICT SIX OFFICE IN DELAWARE.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS:
THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 60 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. A COPY OF THE SUBMISSION AND TWO COPIES OF FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION.

ITEM 614 MAINTAINING TRAFFIC:
BELOW IS A SUMMARY OF THE MOT REQUIREMENTS FOR THIS PROJECT:

- THE REMOVAL AND REPLACEMENT OF THE CULVERT AT SLM 1.31 WILL BE PERFORMED UNDER A COMPLETE CLOSURE OF US 40. THE ROAD CLOSURE SHALL BE SETUP IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, TYPICAL APPLICATION 8 "ROAD CLOSURE WITH OFF-SITE DETOUR."

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION). COPIES ARE AVAILABLE FROM:

THE OHIO DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC,
1980 WEST BROAD STREET
COLUMBUS, OHIO 43223.

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL IN WRITING BEFORE WORK IS STARTED ON THIS PROJECT.

ITEM 614 - MAINTAINING TRAFFIC:
LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT, IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ITEM 614 - MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGNS):
NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.

ITEM 614- MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR):
A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 21 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED.

DISINCENTIVES SHALL BE ASSESSED (IN THE AMOUNT OF $ 300 PER DAY) FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

ACCESS TO PRIVATE PROPERTY:
MAINTAIN ACCESS TO COMMERCIAL PROPERTY WITH ONLY ONE DRIVEWAY AT ALL TIMES BY USE OF PART WIDTH CONSTRUCTION.

MAINTAIN ACCESS TO RESIDENTIAL PROPERTIES AT ALL TIMES. WHEN A RESIDENTIAL DRIVE IS CLOSED FOR CONSTRUCTION, MAINTAIN ALTERNATE ACCESS TO THE PROPERTY.

ITEM 614- MAINTENANCE OF TRAFFIC:
THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410 - TRAFFIC COMPACTED SURFACE, TYPE A OR B
= 10 CU YD

ITEM 616 - WATER = 1 M GAL

ITEM 614 - MAINTENANCE OF TRAFFIC: MOT DEVICES
THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" "ROAD CLOSED" SIGNS, SIGN SUPPORTS, TYPE III BARRICADES, GATES, AND LIGHTS, AS DETAILED IN STANDARD CONSTRUCTION DRAWING MT-101.60 AT THE LOCATIONS SHOWN IN THE DETOUR PLANS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

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

DROPOFFS IN WORK ZONES:
THE DROPOFF ADJACENT TO THE TRAVELED LANE SHALL BE NO GREATER THAN 5 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. THIS REQUIREMENT MAY BE MET BY TEMPORARILY PLACING SUBBASE AND BASE MATERIAL TO WITHIN 5 INCHES OF THE EXISTING GRADE ADJACENT TO THE TRAVELED LANE AND SLOPING THE MATERIAL AT 3:1 OR FLATTER WITHIN THE EXCAVATED AREA OR SECURELY PLATING OPENING. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS DURING WORKING HOURS. THESE REQUIREMENTS SHALL BE MET AT NO ADDITIONAL COST.

DESIGNATED LOCAL DETOUR ROUTE:
IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE." THIS ROUTE IS SHOWN ON SHEET NO. 10 / 25 . DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER.

ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE.

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

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC:
= 25 CU YD

ITEM 616 - WATER = 1 M GAL

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS:
USE OF LAW ENFORCEMENT OFFICERS (LEOs) BY CONTRACTORS OTHER THAN THE USES SPECIFIED IN THIS NOTE WILL NOT GENERALLY BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE ENGINEER. LEOs SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED. IN GENERAL, LEOs SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.
- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

LEOs SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC NOTES

MAD-40-1.31

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS: (CONT.)

THE LEOs WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOs AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOs. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A LIST OF THE APPROPRIATE LAW ENFORCEMENT AGENCY(S), INCLUDING ADDRESS AND TELEPHONE NUMBER.

THE LEO SHOULD REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING THE SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF THE SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHOULD NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF THE SHIFT.

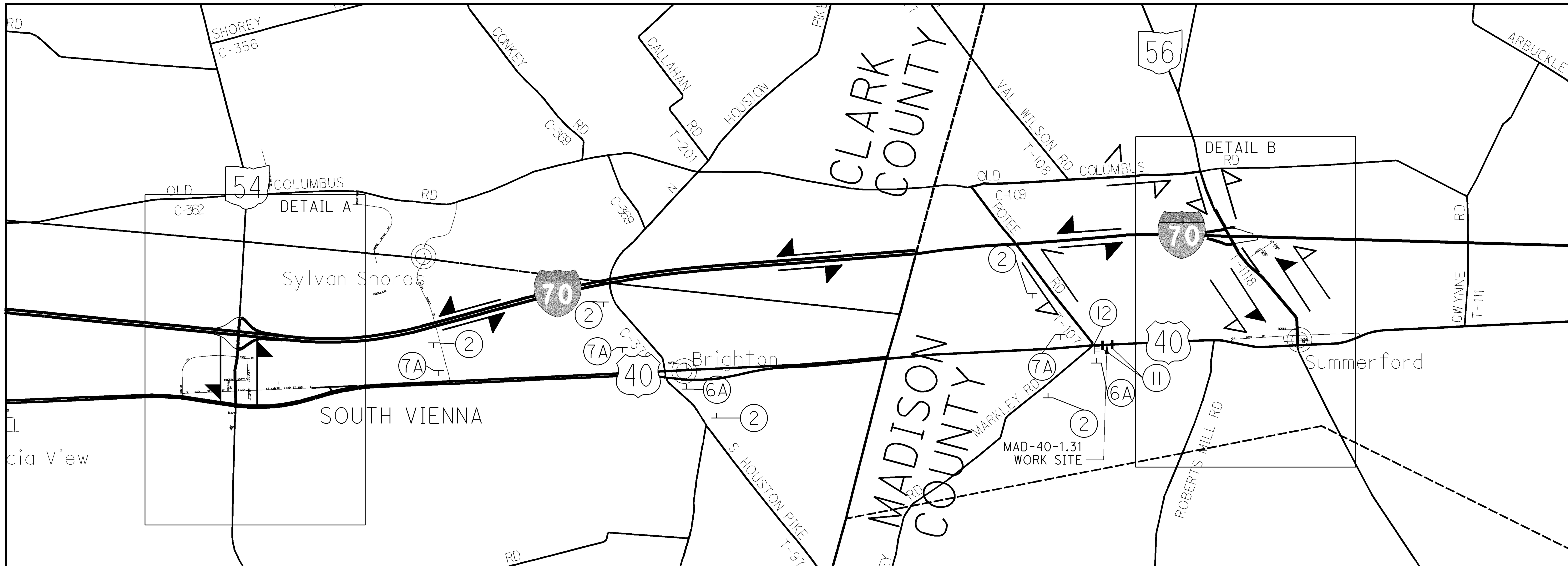
LAW ENFORCEMENT OFFICERS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR,FOR ASSISTANCE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED:
ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR, FOR ASSISTANCE:

= 20 HOUR



NOTES:

THE CONTRACTOR SHALL ERECT, MAINTAIN AND REMOVE THE DETOUR. ALL SIGNS AND BARRICADES ARE TO BE INCLUDED IN ITEM 614 - DETOUR SIGNING FOR PAYMENT. ALL SIGNS, EXCEPT M1-5 AND M3-1 ARE TO BE BLACK ON ORANGE CONSTRUCTION SIGNS, ON TYPE 2 POSTS, OR ON EXISTING ROUTE MARKING SIGNS WHERE PRACTICAL. TYPE A WARNING LIGHTS REQUIRED AT NIGHT FOR SIGNS 9 & 10.

LEGEND

DETOUR ROUTE
LOCAL DETOUR (UNSIGNED)
TEMPORARY SIGN LOCATION
TEMPORARY SIGN ON TYPE III BARRICADE

FOR DETAILS A & B, SEE SHEET 10/25.

Sign	Panels
1	DETOUR AHEAD W20-2-48; 40 M1-4-30; 1000 FT W16-2A-30
2	DETOUR AHEAD W20-2-48; 40 M1-4-30; EAST M3-2-24
3	DETOUR AHEAD W20-2-48; 40 M1-4-30; WEST M3-4-24
4	ROAD CLOSED AHEAD W20-3-48; 40 M1-4-30; 1000 FT W16-2A-30
5A	DETOUR M4-8-24; WEST 40 M1-4-30; ↑ M6-3-21
5B	DETOUR M4-8-24; EAST 40 M1-4-30; ↑ M6-3-21
6A	DETOUR M4-8-24; EAST 40 M1-4-30; ← M6-1L-21
6B	DETOUR M4-8-24; WEST 40 M1-4-30; ← M6-1L-21
7A	DETOUR M4-8-24; EAST 40 M1-4-30; → M6-1R-21
7B	DETOUR M4-8-24; WEST 40 M1-4-30; → M6-1R-21
8	END DETOUR M4-8A-24; 40 M1-4-30

11

ROAD CLOSURE TYPE III BARRICADES

(SEE STD. DWG. MT-101.60)

R11-3B

POTEE RD AND US 40 INTERSECTION: 0.1 MILES AHEAD
BARRICADE TO BE PLACED BLOCKING EAST BOUND PASSING LANE.
BARRICADE TO BE PLACED BLOCKING EAST BOUND DRIVING LANE.

ROBERTS MILL RD AND US 40 INTERSECTION: 0.6 MILES AHEAD
BARRICADE TO BE PLACED ON MEDIAN SHOULDER OF WEST BOUND PASSING LANE.
BARRICADE TO BE PLACED PARTIALLY BLOCKING WEST BOUND TRAVEL LANE.

SR 54 AND US 40 INTERSECTION: 5.3 MILES AHEAD
BARRICADE TO BE PLACED ON MEDIAN SHOULDER OF EAST BOUND PASSING LANE.

SR 56 AND US 40 INTERSECTION: 1.5 MILES AHEAD
BARRICADE TO BE PLACED ON MEDIAN SHOULDER OF WEST BOUND PASSING LANE.

9

TYPE A WARNING LIGHTS

US-40 CLOSED
USE SR-54
FOLLOW DETOUR

SPECIAL

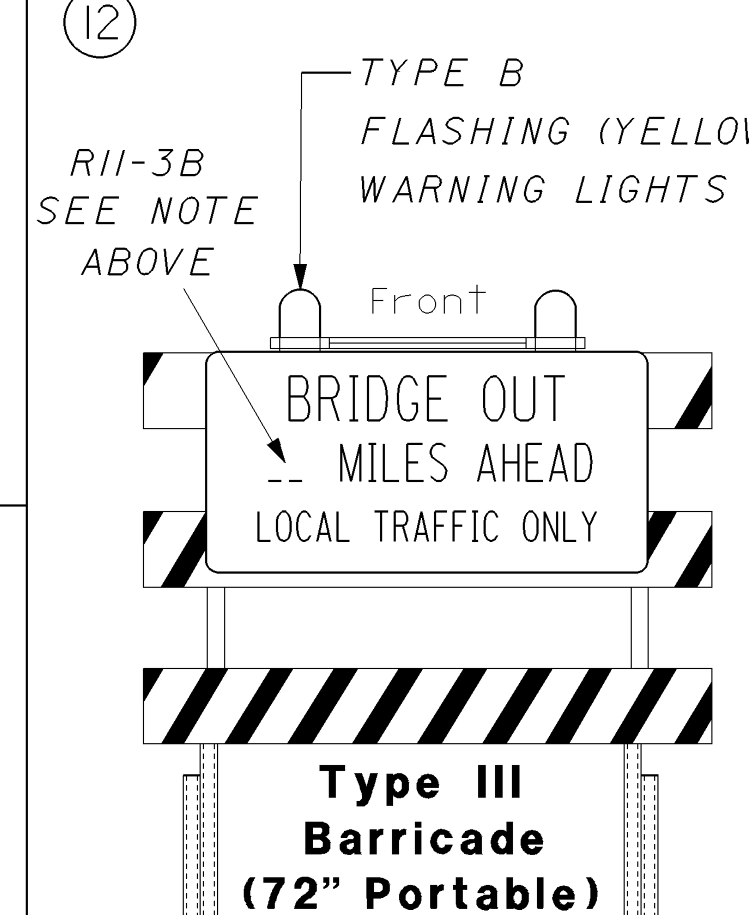
10

TYPE A WARNING LIGHTS

US-40 CLOSED
USE SR-56
FOLLOW DETOUR

SPECIAL

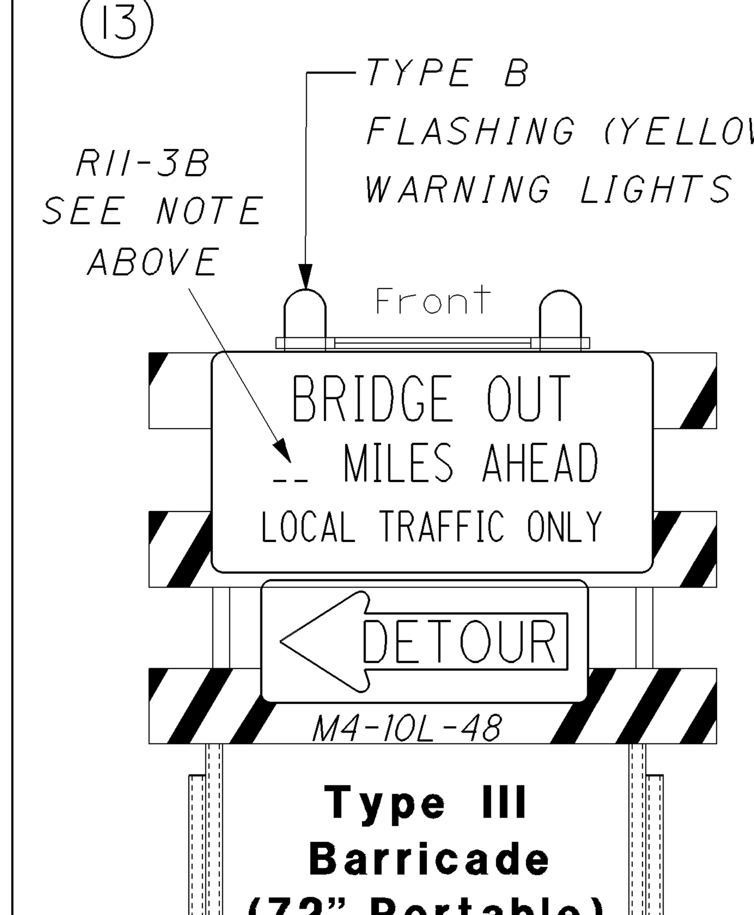
12



Type III Barricade (72" Portable)

See 6F.63 of the OMUTCD.

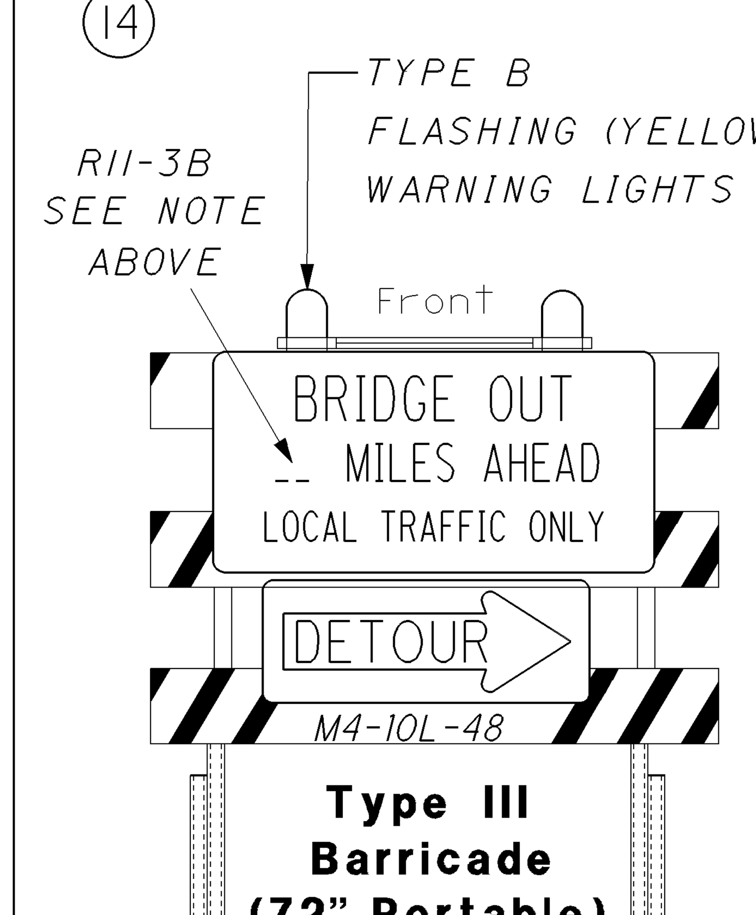
13



Type III Barricade (72" Portable)

See 6F.63 of the OMUTCD.

14



Type III Barricade (72" Portable)

See 6F.63 of the OMUTCD.

HORIZONTAL SCALE IN FEET 0 1000 2000 4000

CALCULATED ACT CHECKED

MAINTENANCE OF TRAFFIC DETOUR PLAN

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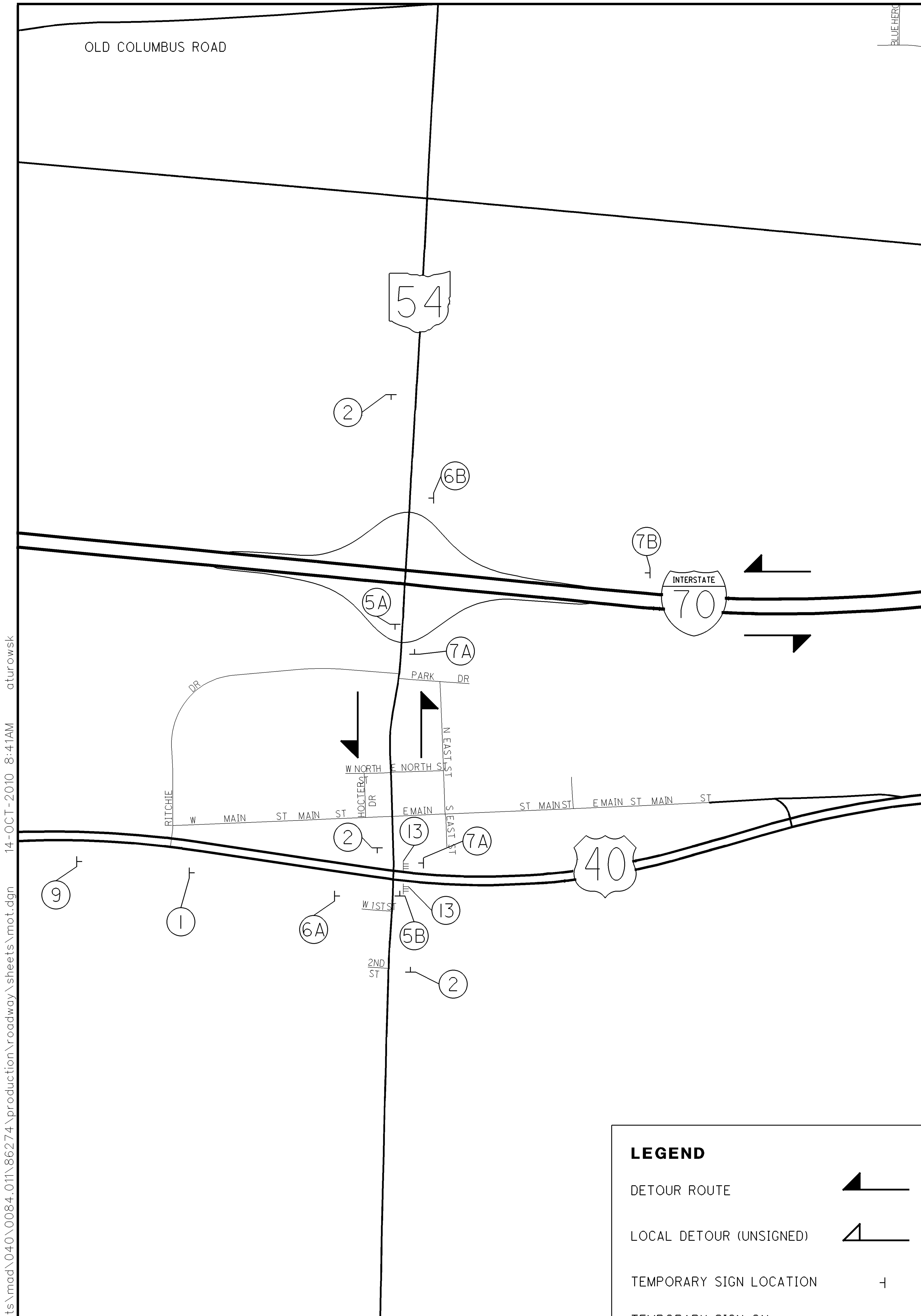
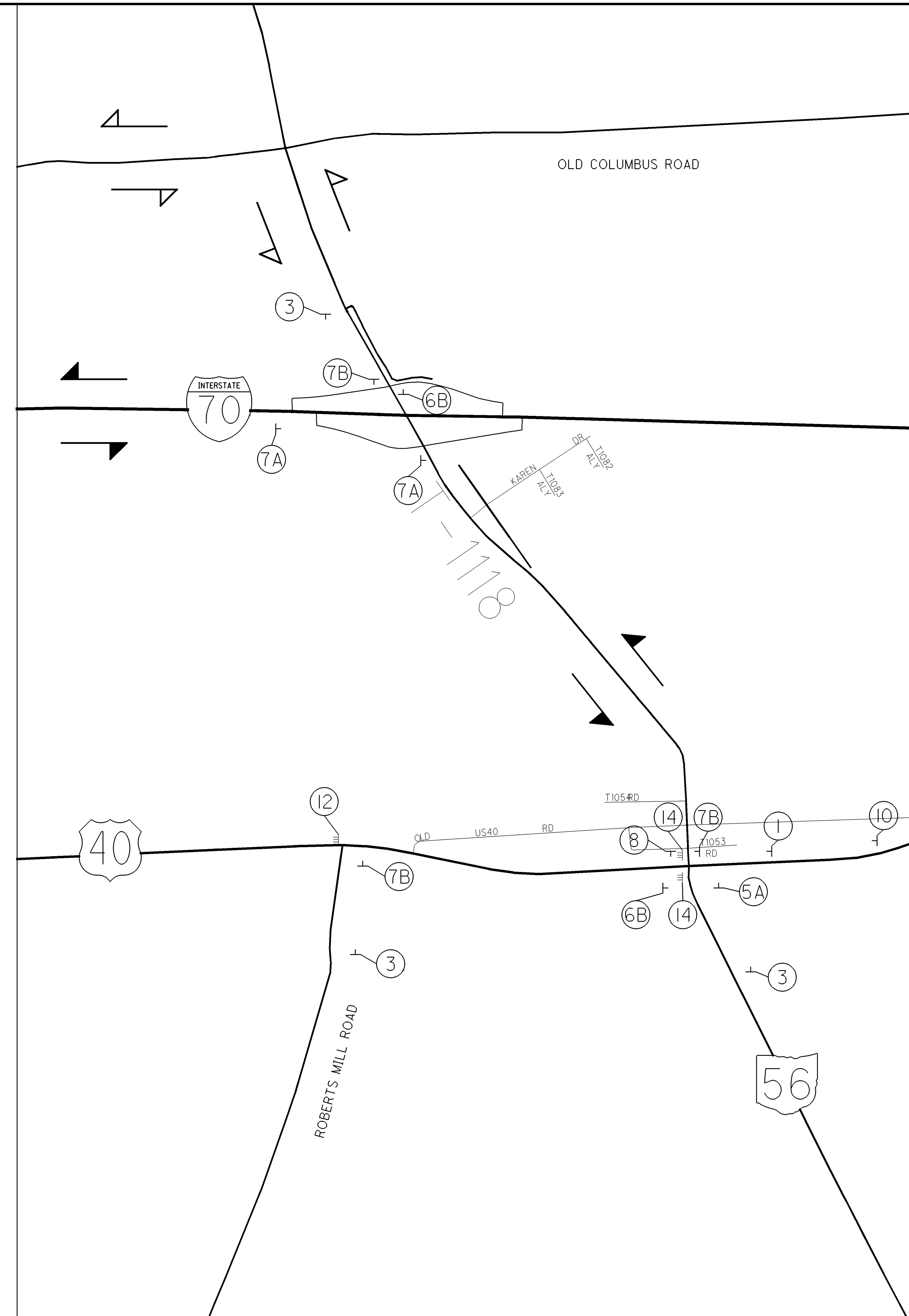


DETAIL A



DETAIL B

HORIZONTAL SCALE IN FEET
0 250 500 1000

CALCULATED
CHECKED

MAINTENANCE OF TRAFFIC DETOUR PLAN DETAILS

MAD-40-1.31

SHEET NUMBER 4-6	7-8	13	14	15	16	23	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
											ROADWAY	
LUMP							201	11000	LUMP		CLEARING AND GRUBBING	
			2				202	20010	2	EACH	HEADWALL REMOVED	
		511					202	23000	511	SQ YD	PAVEMENT REMOVED	
			25				202	35100	25	FT	PIPE REMOVED, 24" AND UNDER	
			124				202	35200	124	FT	PIPE REMOVED, OVER 24"	
						700	202	38000	700	FT	GUARDRAIL REMOVED	
						4	202	42000	4	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A	
			2				202	58100	2	EACH	CATCH BASIN REMOVED	
					115		203	10000	115	CU YD	EXCAVATION	
					227		203	20000	227	CU YD	EMBANKMENT	
		600					204	10000	600	SQ YD	SUBGRADE COMPACTION	
						625	606	13000	625	FT	GUARDRAIL, TYPE 5	
						50	606	17290	50	FT	GUARDRAIL, TYPE 5, LONG-SPAN	
						2	606	26100	2	EACH	ANCHOR ASSEMBLY, TYPE E	
						2	606	26500	2	EACH	ANCHOR ASSEMBLY, TYPE T	
											EROSION CONTROL	
			9				601	11000	9	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB	
			18				601	32000	18	CU YD	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	
1			11				601	32200	12	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
					167		659	00300	167	CU YD	TOPSOIL	
					1510		659	10000	1,510	SQ YD	SEEDING AND MULCHING	
					76		659	14000	76	SQ YD	REPAIR SEEDING AND MULCHING	
					76		659	15000	76	SQ YD	INTER-SEEDING	
					0.20		659	20000	0.20	TON	COMMERCIAL FERTILIZER	
					0.31		659	31000	0.31	ACRE	LIME	
					8		659	35000	8	M GAL	WATER	
			250				670	00700	250	SQ YD	DITCH EROSION PROTECTION	
							832	30000	10,000	EACH	EROSION CONTROL	
											DRAINAGE	
			33.0				602	20000	33.0	CU YD	CONCRETE MASONRY	
20							603	00200	20	FT	4" CONDUIT, TYPE C	
20							603	01100	20	FT	6" CONDUIT, TYPE C	
20							603	02000	20	FT	8" CONDUIT, TYPE C	
			66				603	04200	66	FT	12" CONDUIT, TYPE A	
			120				603	53200	120	FT	48" X 76" CONDUIT, TYPE A, 706.04	
			1				604	02800	1	EACH	CATCH BASIN, NO. 8	
											PAVEMENT	
		107					301	46000	107	CU YD	ASPHALT CONCRETE BASE, PG64-22	
		95					304	20000	95	CU YD	AGGREGATE BASE	
		41					407	10000	41	GALLON	TACK COAT	
		21					407	14000	21	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
		44					448	47020	44	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
		15					617	10100	15	CU YD	COMPACTED AGGREGATE	

CALCULATED
CHECKED

GENERAL SUMMARY

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SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
4-6	7-8	13	14	15	16	23													
																		TRAFFIC CONTROL	
				14										621	00100	14	EACH	RPM	
				14										621	54000	14	EACH	RAISED PAVEMENT MARKER REMOVED	
						9								626	00100	9	EACH	BARRIER REFLECTOR	
7														630	02100	7	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
1.0														630	80100	1.0	SQ FT	SIGN, FLAT SHEET	
				0.44										642	00090	0.44	MILE	EDGE LINE	
				0.22										642	00190	0.22	MILE	LANE LINE	
																		MAINTENANCE OF TRAFFIC	
	10													410	12000	10	CU YD	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
	20													614	11110	20	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	LUMP													614	12420	LUMP		DETOUR SIGNING	
	25													614	13000	25	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
	2													616	10000	2	M GAL	WATER	
	LUMP													614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16000	3	MONTH	FIELD OFFICE, TYPE A	
LUMP														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED
CHECKED

GENERAL SUMMARY

MAD-40-1.31

REFERENCE SHEET	STATION		SIDE	LENGTH	202 PAVEMENT REMOVED (L * W)/9		204 SUBGRADE COMPACTION (L * W)/9		301 7" ASPHALT CONCRETE BASE, PG 64-22 (L*W) * (7.0/12)/27		304 6" AGGREGATE BASE (L*W) * (6.0/12)/27		407 TACK COAT (0.075 GAL/SQ. YD.) (L * W)/9 * 0.075		407 TACK COAT FOR INTERMEDIATE COURSE (0.040 GAL/SQ. YD.) (L * W)/9 * 0.040		448 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22 (L*W) * (3.0/12)/27		617 6" COMPACTED AGGREGATE (L*W) * (6.0/12)/27		REMARKS
					AVG. WIDTH	AREA	AVG. WIDTH	AREA	AVG. WIDTH	VOLUME	AVG. WIDTH	VOLUME	AVG. WIDTH		AVG. WIDTH		AVG. WIDTH	VOLUME	AVG. WIDTH		
	FROM	TO		FT	FT	SQ YD	FT	SQ YD	FT	CU YD	FT	CU YD	FT	GALLON	FT	GALLON	FT	CU YD	FT	CU YD	
17	69+40.00		LT																		
17	69+40.00	70+40.00	LT	100.0	22.00	244.4	27.0	300.0	24.7	53.3	25.7	47.5	24.3	20	24.0	10.7	24.0	22.2	4.0	7.4	
17	70+40.00		LT																		
17	69+40.00		RT																		
17	69+40.00	70+40.00	RT	100.0	24.00	266.7	27.0	300.0	24.7	53.3	25.7	47.5	24.3	20	24.0	10.7	24.0	22.2	4.0	7.4	
17	70+40.00		RT																		
TOTALS CARRIED TO GENERAL SUMMARY						511		600		107		95		41		21		44		15	

CALCULATED CHECKED

PAVEMENT SUBSUMMARY

MAD-40-1.31

REF. NO.	SHEET NO.	STATION FROM	STATION TO	OFFSET FT	SIDE	SIZE (INCHES)	202 HEADWALL REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER FT	202 PIPE REMOVED, OVER 24" FT	202 CATCH BASIN REMOVED EACH	601 RIP RAP USING 6" REINFORCED CONCRETE SLAB SQ YD	601 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER CU YD	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CU YD	602 CONCRETE MASONRY CU YD	603 12" CONDUIT, TYPE A FT	603 48" X 76" CONDUIT, TYPE A, 706.04 FT	604 CATCH BASIN, NO. 8 EACH	670 DITCH EROSION PROTECTION SQ YD	
D-1	17	68+23.00	69+73.00	11	RT													125	
R-1	17	69+76.86		10.75	RT					1									
R-2	17	69+76.86	69+89.73	10.75	RT	12		12											
D-2	17	69+78.50	70+01.41		LT							18							
D-3	17	69+80.00		11	RT												1		
D-4	17	69+80.00		56.3/10	LT/RT										66				
D-5	17	69+82.09	70+01.41		RT						8.8		10.7						
D-6	17	69+87.00	71+36.97	11	RT													125	
R-3	17	69+91.60		50.7/72.8	LT/RT	48	2		124										
D-7	17	69+91.75		48.4/71.2	LT/RT									33.0		120			
R-4	17	69+93.73	70+06.06	11.6	RT	12		13											
R-5	17	70+07.06		11.7	RT					1									
TOTALS CARRIED TO GENERAL SUMMARY							2	25	124	2	9	18	11	33.0	66	120	1	250	

CALCULATED
CHECKED

MISCELLANEOUS SUBSUMMARY

MAD-40-1.31

RAISED PAVEMENT MARKER SUBSUMMARY

LOCATION								REFLECTOR TYPE													TOTAL		REMARKS
								ONE WAY				TWO WAY									621	621	
								W			Y	W W	W R				Y R	Y Y			RPM REMOVED	RPM	
SHEET NO	COUNTY	ROUTE	START LOG POINT	END LOG POINT	LENGTH	SIDE	DETAIL	RIGHT EDGE LINE		LANE LINE	LEFT EDGE LINE	RIGHT EDGE LINE	RIGHT EDGE LINE	CHANNEL-IZING LINE		LANE LINE	LEFT EDGE LINE	CENTER LINE					
			Station	Station	FT			40	80	120	80	40	80	40	80	80	80	20	40	80	EACH	EACH	
24	MAD	40	67+00.00	72+50.00	550.00	LT	9									7					7	7	
24	MAD	40	6700.00	7250.00	550.00	RT	9									7					7	7	
				SUBTOTAL																			
TOTALS CARRIED TO GENERAL SUMMARY																					14	14	

DETAIL	STANDARD DRAWING TC-65.10
1	EDGE LINE
2	CHANNELIZING LINE
3	LANE LINE
4	CENTER LINE

DETAIL	STANDARD DRAWING TC-65.11
5	ENTRANCE RAMP
6	EXIT RAMP
7	4 LANE DIVIDED TO 2 LANE TRANSITION
8	4 LANE UNDIVIDED TO 2 LANE TRANSITION
9	MULTI-LANE DIVIDED HIGHWAY

DETAIL	STANDARD DRAWING TC-65.11
10	APPROACH W/ LEFT TURN LANE
11	STOP APPROACH
12	TWO WAY LEFT TURN LANE
13	ONE LANE BRIDGE
14	HORIZONTAL CURVE

PAVEMENT MARKING SUBSUMMARY

SHEET NO.	REFERENCE NO.	STATION		SIDE	LENGTH	642 EDGE LINE	642 LANE LINE	REMARKS
		FROM	TO		FT	MILE	MILE	
24	EL-3	67+00.00	72+50.00	LT	550	0.11		
24	EL-4	67+00.00	72+50.00	LT	550	0.11		
24	LL-2	67+00.00	72+50.00	LT	550		0.11	
24	EL-5	67+00.00	72+50.00	RT	550	0.11		
24	EL-6	67+00.00	72+50.00	RT	550	0.11		
24	LL-3	67+00.00	72+50.00	RT	550		0.11	
SUBTOTAL								
TOTALS CARRIED TO GENERAL SUMMARY						0.44	0.22	

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CALCULATED
CHECKED

TRAFFIC CONTROL SUBSUMMARY

MAD-40-1.31

SHEET NUMBER	LOCATION	203 EXCAVATION CU YD	203 EMBANKMENT CU YD	659 SEEDING AND MULCHING SQ YD		
34	US 40	0	52	121		
35	US 40	0	99	330		
36	US 40	21	35	407		
37	US 40	91	40	608		
38	US 40	3	1	44		
TOTALS CARRIED TO GENERAL SUMMARY		115	227	1,510		

ITEM 659 - SEEDING AND MULCHING:
TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - SEEDING AND MULCHING = 1,510 SQ YD

ITEM 659 - TOPSOIL:
THE APPLICATION RATE FOR THIS ITEM IS
111 CU YDS PER 1000 SQ YDS OF SEEDING

1510 SQ YD / 1000 = 1.5

1.5 X 111 CU YDS = 167 CU YDS

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - TOPSOIL = 167 CU YD

ITEM 659 - COMMERCIAL FERTILIZER:
THE APPLICATION RATE FOR THIS ITEM IS
30 POUNDS PER 1000 SQ FT OF SEEDING.

1,510 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
1510 X 9 SQ FT / SQ YD = 13,590 SQ FT

13590 / 1,000 = 13.6

13.6 X 30 POUNDS = 408 POUNDS = 0.20 TONS

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - COMMERCIAL FERTILIZER = 0.20 TON

ITEM 659 - LIME:
THE APPLICATION RATE FOR THIS ITEM IS
BASED ON THE AREA OF SEEDING.

1,510 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
1510 X 9 SQ FT / SQ YD = 13,590 SQ FT

13590 / 43,560 SQ FT / ACRE = 0.31 ACRE

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - LIME = 0.31 ACRE

ITEM 659 - REPAIR SEEDING AND MULCHING:
THE APPLICATION RATE FOR THIS ITEM IS
5% OF THE SEEDING AREA.

1,510 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
1510 SQ YD X 0.05 = 76 SQ YDS

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - REPAIR SEEDING AND MULCHING = 76 SQ YD

ITEM 659 - INTER-SEEDING:
THE APPLICATION RATE FOR THIS ITEM IS
5% OF THE SEEDING AREA.

1,510 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
1510 SQ YD X 0.05 = 76 SQ YDS

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - INTER-SEEDING = 76 SQ YD

ITEM 659 - WATER:
THE APPLICATION RATE FOR THIS ITEM IS
2 APPLICATIONS OF 300 GALLONS PER 1000
SQ FT OF SEEDING

1,510 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
1510 X 9 SQ FT / SQ YD = 13,590 SQ FT

13590 / 1,000 = 13.6

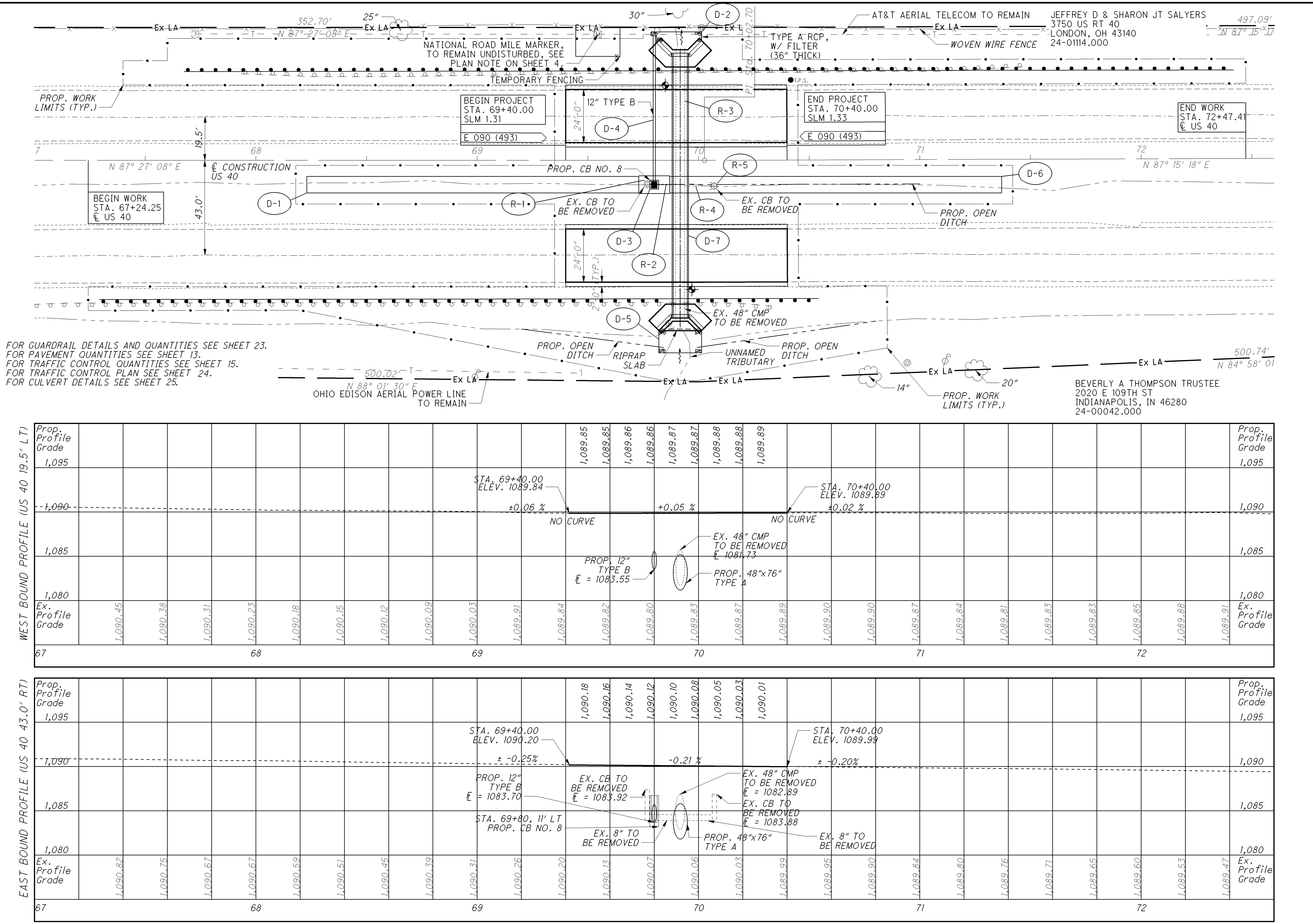
13.6 X 300 GAL. X 2 = 8,160 GALLONS = 8 M GAL

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - WATER = 8 M GAL

CULVERT SITE SEEDING SUBSUMMARY

MAD-40-1.31

CALCULATED CHECKED



HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED | CHECKED

PLAN AND PROFILE - US 40
STA. 67+00 - 72+60.00

MAD-40-1.31

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SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
23		0	29		
	50			0	20
22		0	26		
	48			0	21
21		0	29		
	23			0	11
0					
	0				
66	121	0	84	0	52

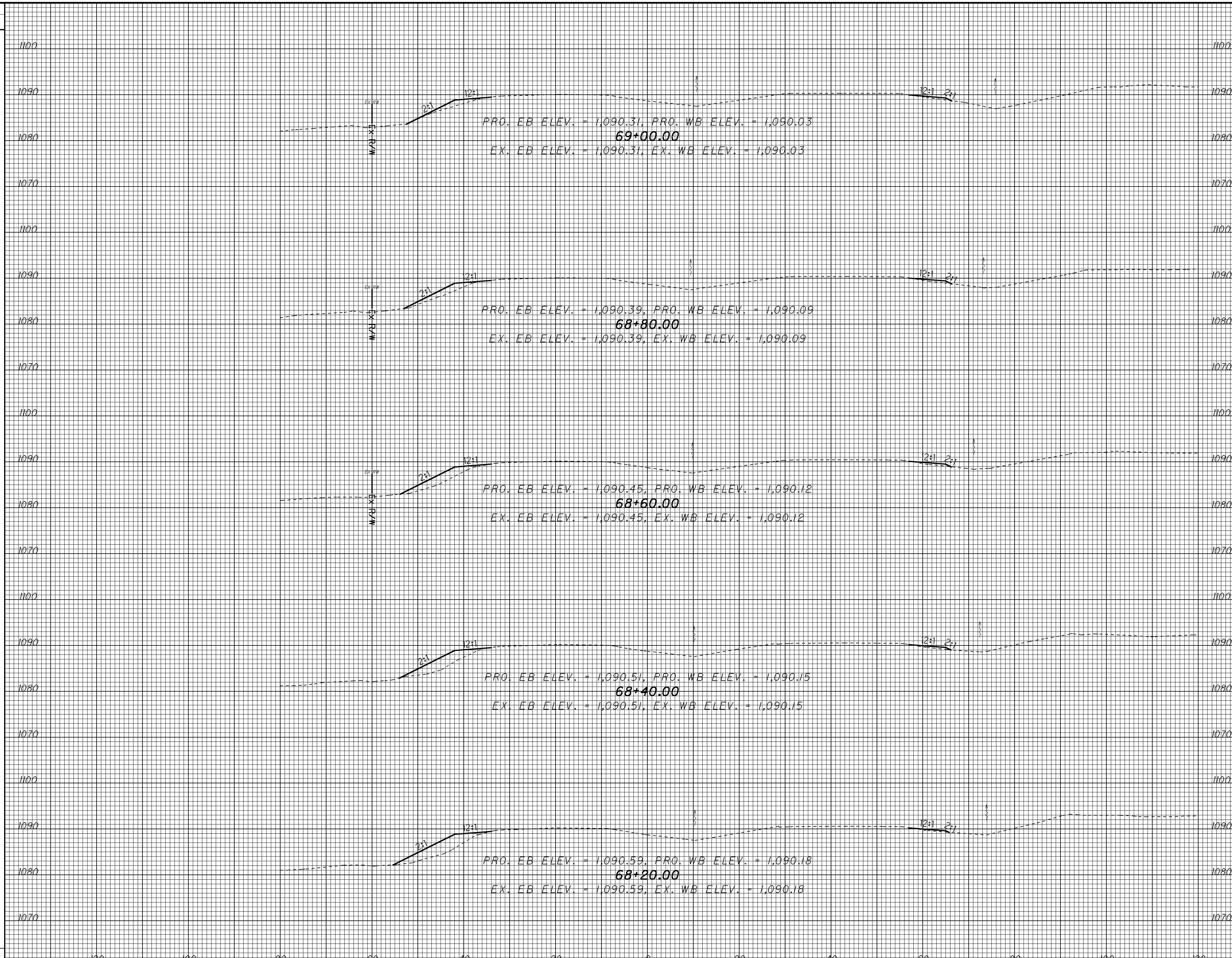
CALCULATED
CHECKED

CROSS SECTIONS
US 40 STA. 67+40.00 - 68+00.00

MAD-40-1.31

CROSS SECTIONS
US 40 STA. 68+20.00 - 69+00.00

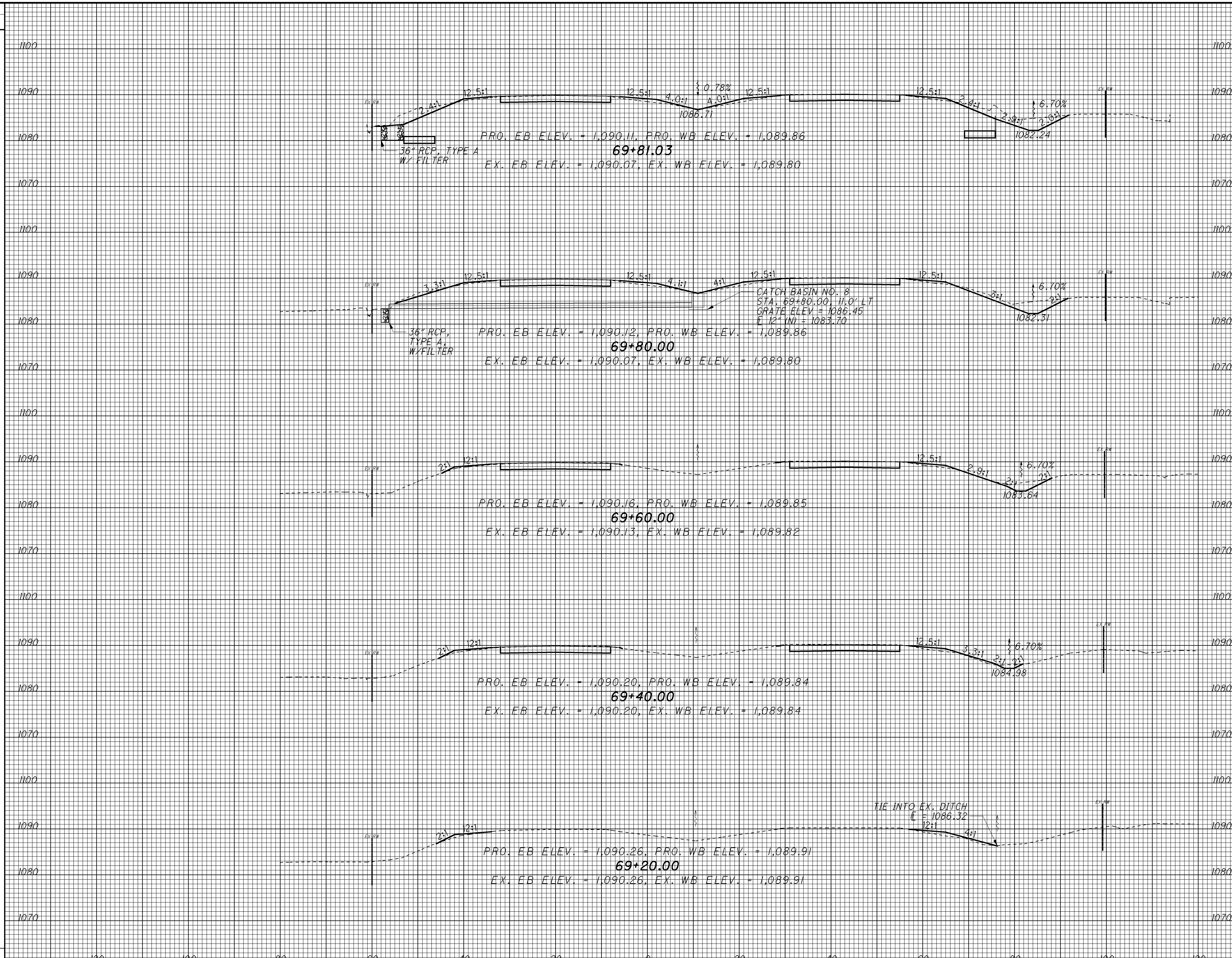
MAD-40-1.31



Station	SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
69+00.00	30	66	0	12	0	11
68+80.00	30	67	0	18	0	16
68+60.00	31	68	0	26	0	21
68+40.00	31	69	0	32	0	26
68+20.00	32	60	0	38	0	25
Total	154	330	0	126	0	99

CALCULATED
CHECKED

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
99		55	19		
	11			2	1
94		31	19		
	155			12	10
45		13	8		
	94			5	7
39		5	11		
	79			2	8
32		0	11		
	68			0	9
309	407	104	68	21	35



CALCULATED
CHECKED

CROSS SECTIONS
US 40 STA. 69+20.00 - 69+81.03

MAD-40-1.31

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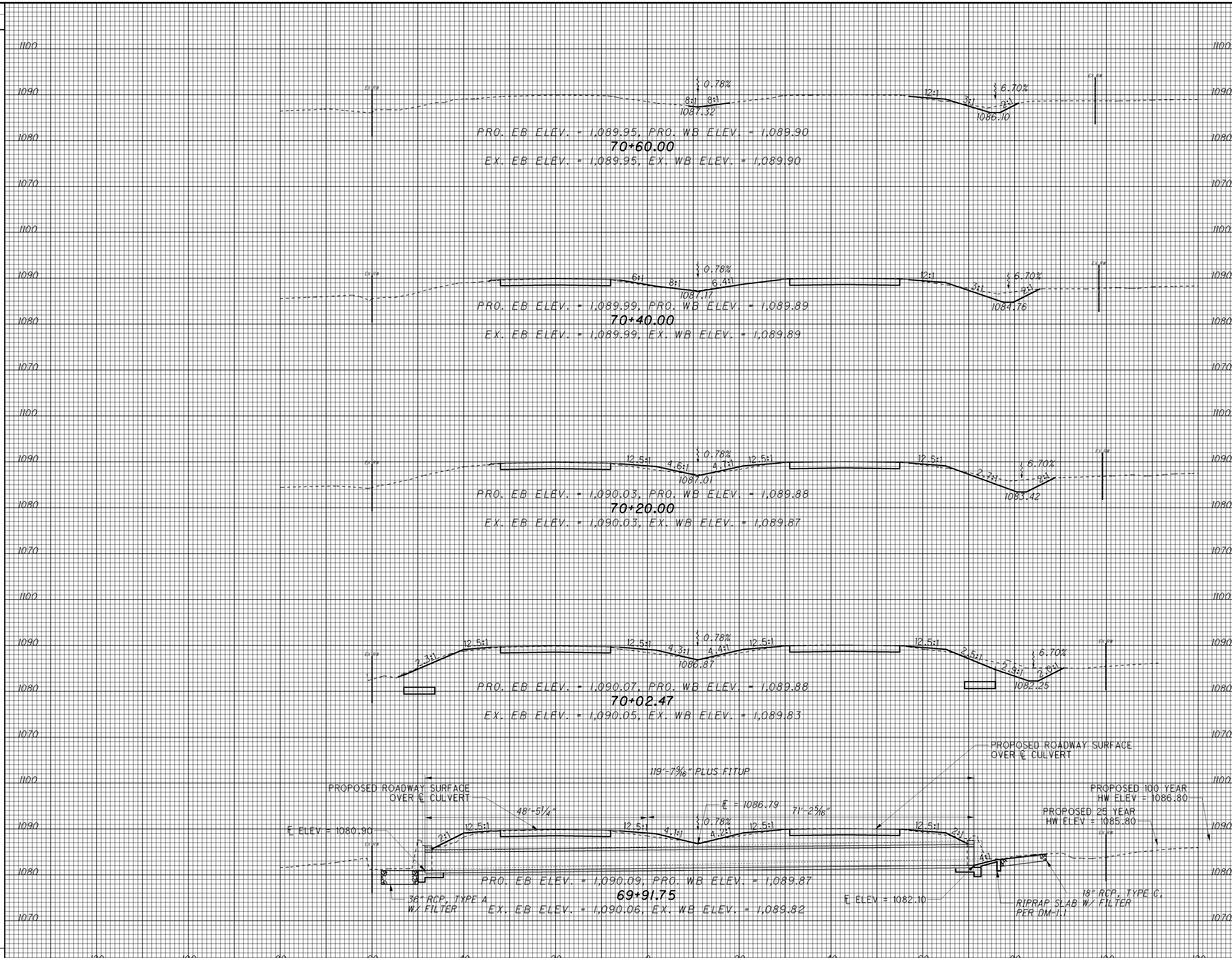

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		9	3		
34	111			11	3
		20	6		
66	150			8	8
		23	16		
70	158			42	12
		42	21		
93	93			19	9
		0	23		
63	96			11	8
326	608	94	69	91	40

CALCULATED
CHECKED

CROSS SECTIONS
US 40 STA. 69+91.75 - 70+60.00

MAD-40-1.31

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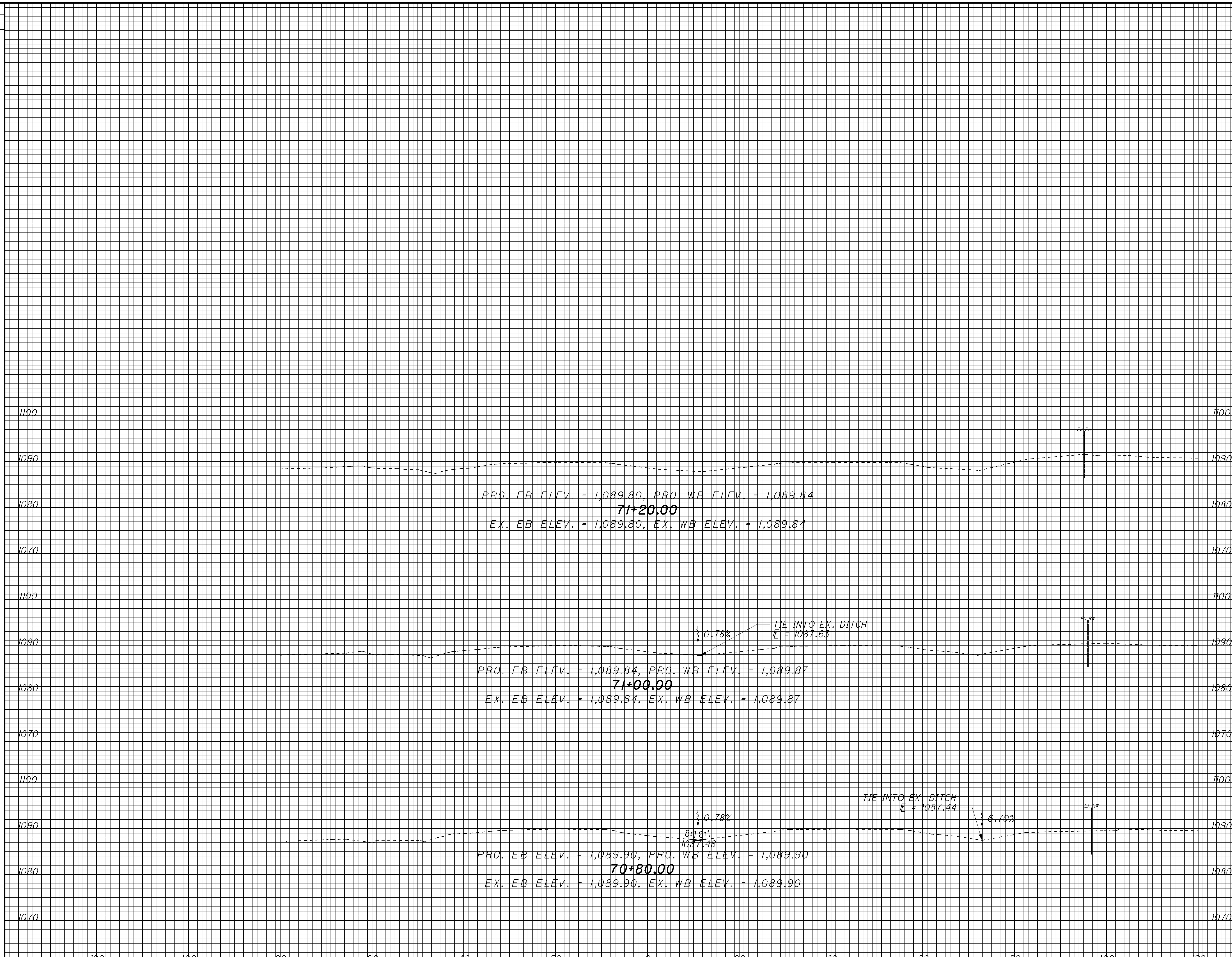
SEEDING	
END WIDTH	SQ. YDS.
0	0
0	3
3	41
3	44

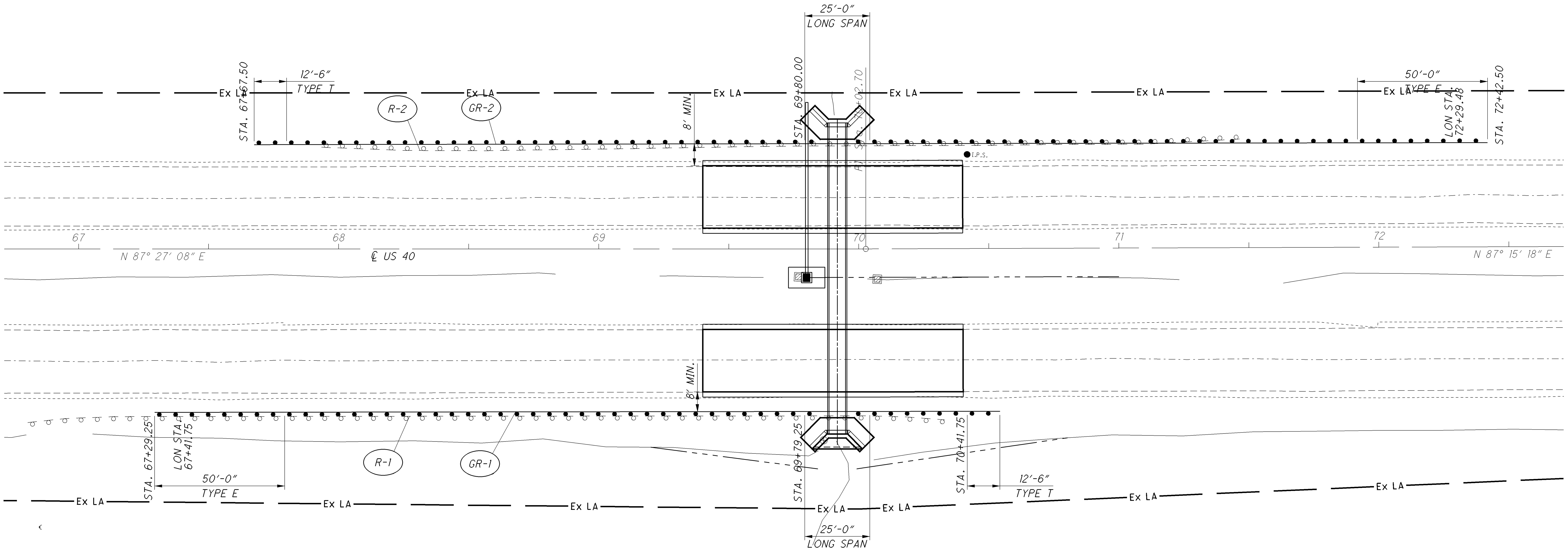


END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		3	1
0	0	3	1

CALCULATED
CHECKED

CROSS SECTIONS
US 40 STA. 70+80.00 - 71+20.00

MAD-40-1.31



REF NO.	STATION		SIDE	202 GUARDRAIL REMOVED	202 ANCHOR ASSEMBLY REMOVED, TYPE A	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, TYPE 5, LONG-SPAN	606 ANCHOR ASSEMBLY, TYPE E	606 ANCHOR ASSEMBLY, TYPE T	626 BARRIER REFLECTOR, TYPE A	REMARKS
	FROM	TO		FT	EACH	FT	FT	EACH	EACH	EACH	
R-1	66+80.40	70+33.11	RT	350	2						
R-2	67+93.36	71+46.57	LT	350	2						
GR-1	67+29.25	67+79.25	RT					1		1	
GR-1	67+79.25	69+79.25	RT			200				1	
GR-1	69+79.25	70+04.25	RT				25			1	
GR-1	70+04.25	70+41.75	RT			37.5				1	
GR-1	70+41.75	70+54.25	RT						1	1	
GR-2	67+67.50	67+80.00	LT						1	1	
GR-2	67+80.00	69+80.00	LT			200				1	
GR-2	69+80.00	70+05.00	LT				25			1	
GR-2	70+05.00	71+92.50	LT			187.5				1	
GR-2	71+92.50	72+42.50	LT					1		1	
TOTALS CARRIED TO GENERAL SUMMARY				700	4	625	50	2	2	9	

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED
CHECKED

GUARDRAIL PLAN
CULVERT LOCATION

MAD-40-1.31

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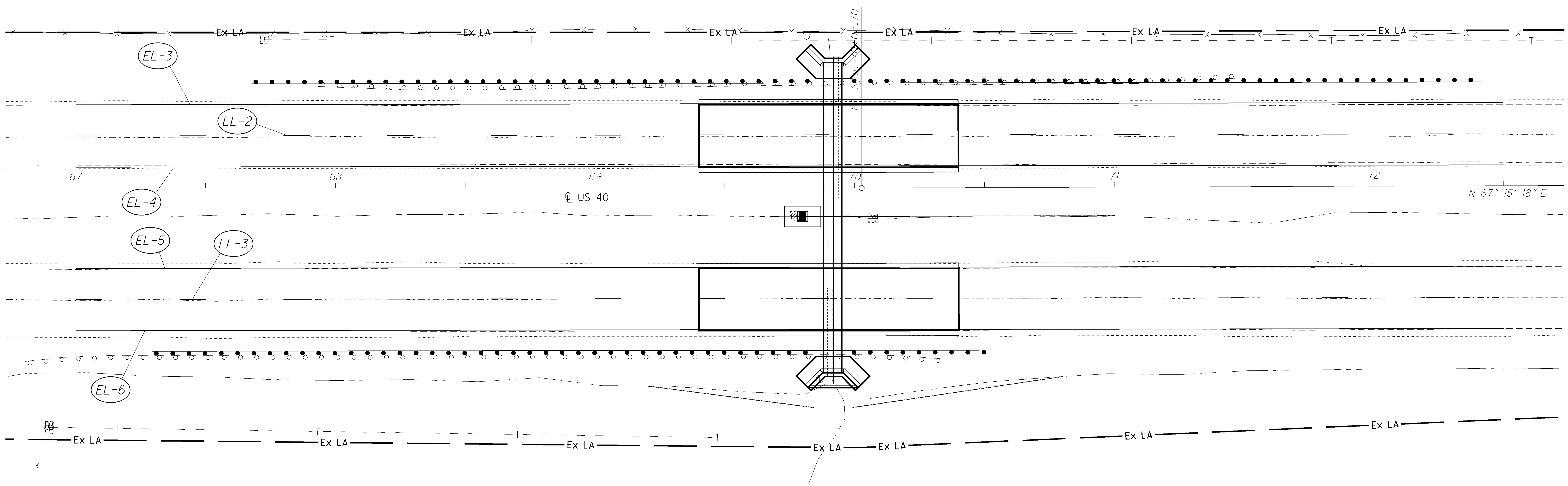

FOR TRAFFIC CONTROL QUANTITES SEE SHEET 15.
FOR GUARDRAIL QUANTITIES AND DETAILS SEE SHEET 23.
FOR PLAN AND PROFILE SEE SHEET 17 .

LEGEND

EL-# *EDGE LINE*

LL-# *LANE LINE*

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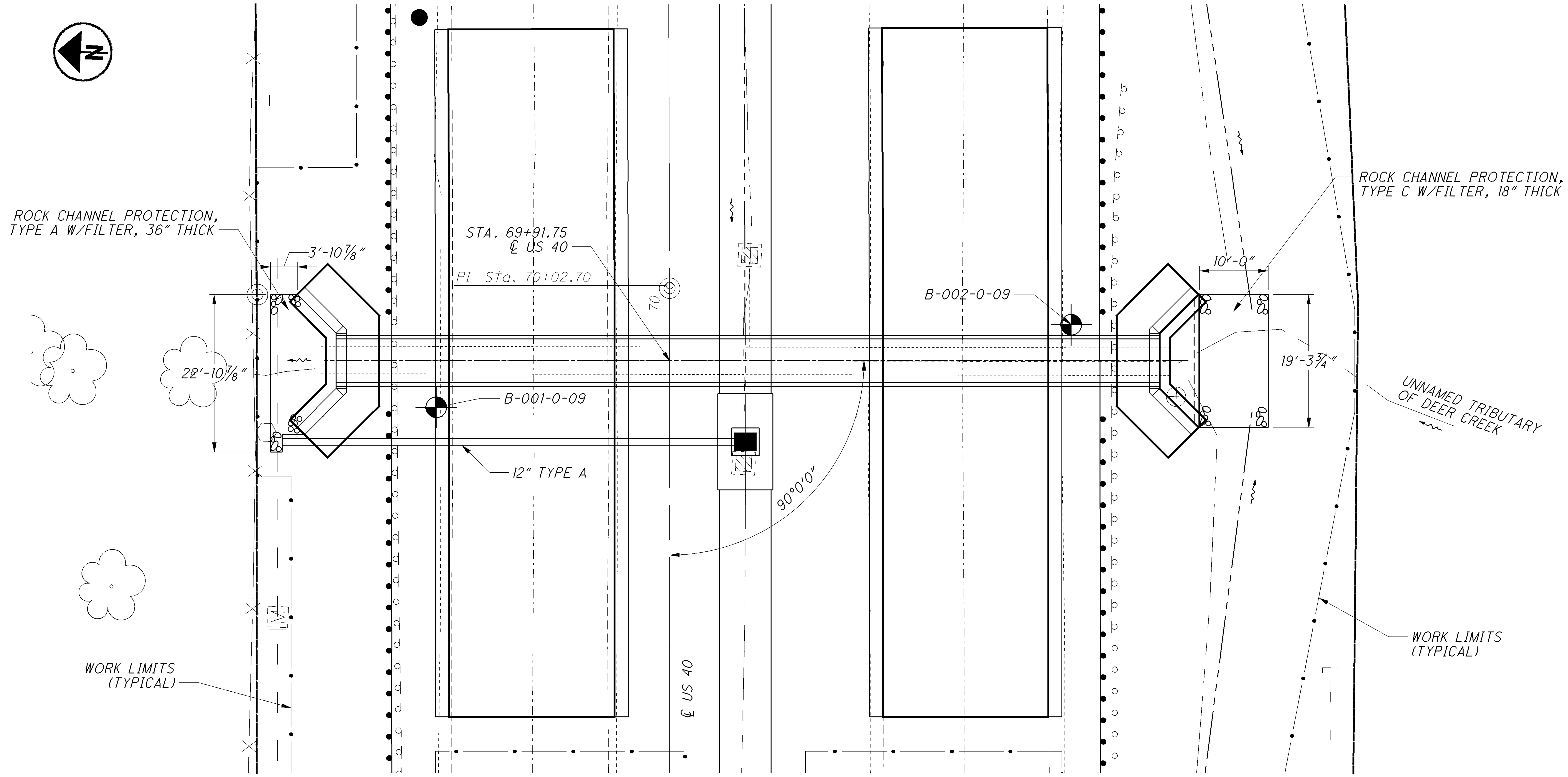
N

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED
CHECKED

CULVERT TRAFFIC CONTROL PLAN

MAD-40-1.31



NOTES

FOR BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 25

DESIGN TRAFFIC:
2011 ADT = 3000 2011 ADTT = 150
2031 ADT = 3700 2031 ADTT = 185
DIRECTIONAL DISTRIBUTION = 59%

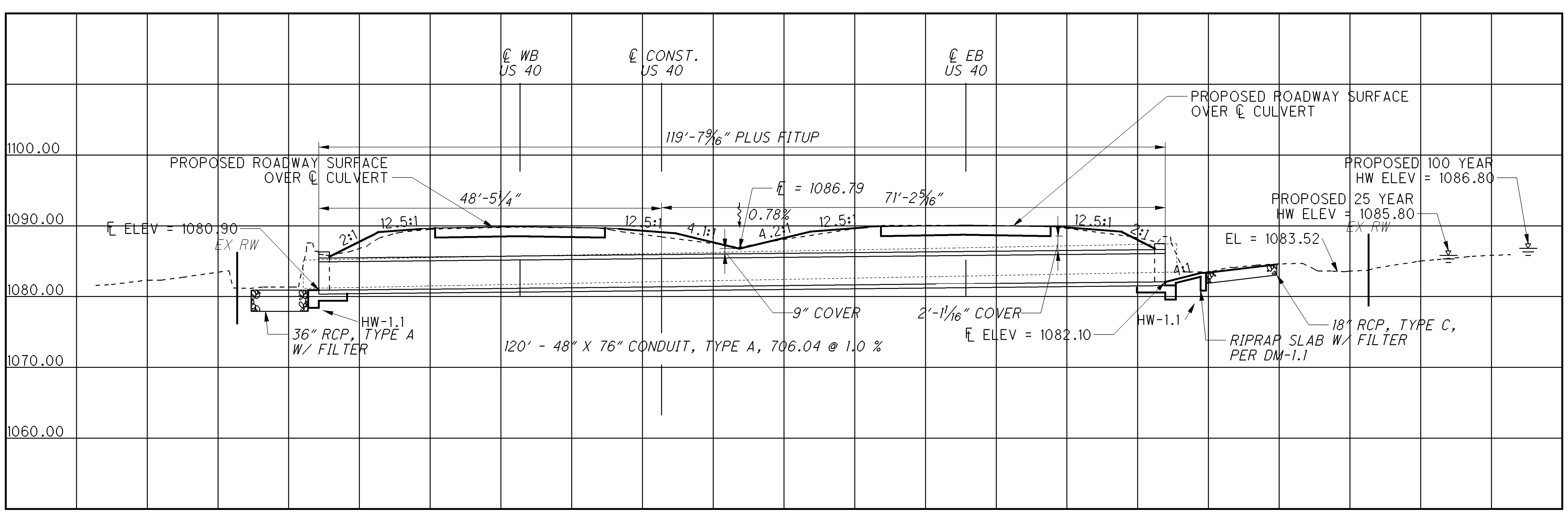
LEGEND

BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 0.22 SQ. MILES
Q (25) = 117 CFS V (25) = 16.29 FT/S
Q (100) = 161 CFS V (100) = 17.99 FT/S

NOTE: QUANTITIES ARE SHOWN ON SHEET 14 .



EXISTING CULVERT

TYPE: 61' X 48" CORRUGATED METAL PIPE - UNDER WB LANES
62' X 48" CORRUGATED METAL PIPE - UNDER EB LANES

ROADWAY: 22'-6" SHOULDER/SHOULDER
SKEW: 0 DEGREES
ALIGNMENT: TANGENT
CROWN: 3/16" PER FOOT
CULVERT ID NUMBER: MAD-40-0132
DATE BUILT: 1933 FOR WB LANES, 1950 FOR EB LANES
DISPOSITION: TO BE REPLACED

PROPOSED CULVERT

TYPE: 48" X 76" x 120' ELLIPTICAL REINFORCED CONCRETE PIPE

ROADWAY: 24'-0" SHOULDER/SHOULDER

SKEW: 0 DEGREES
CULVERT ID NO. MAD-40-0132
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
COORDINATES: LATITUDE N 39° 55' 58"
LONGITUDE W 83° 30' 48"

DESIGN AGENCY: ODOT DISTRICT SIX IN HOUSE DESIGN
REVIEWED | DATE | STRUCTURE FILE NUMBER N/A
DRAWN ACT | REVISED
DESIGNED ACT | CHECKED KRF

MADISON COUNTY
STA. 69+91.75
STA. 69+91.75

SITE PLAN
CULVERT ID NO. MAD-40-0132

MAD-40-1.31
PID No. 86274

1 / 1

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE REPLACEMENT OF A CULVERT CARRYING AN UNNAMED TRIBUTARY OF DEER CREEK UNDER US 40 WEST OF SUMMERFORD, OHIO. THE PROJECT WILL ALSO INVOLVE THE REPAIR OF AN EMBANKMENT SLIP FAILURE ALONG AN EXISTING ROADWAY DRAINAGE DITCH.

HISTORIC RECORDS

NO HISTORIC RECORDS WERE FOUND FOR THIS PROJECT.

GEOLOGY

THE PROJECT IS LOCATED AT THE TRANSITION BETWEEN THE MAD RIVER INTERLOBATE PLAIN AND DARBY PLAIN OF THE SOUTHERN OHIO LOAMY TILL PLAIN. THIS AREA IS CHARACTERIZED BY MODERATE LOW RELIEF WITH BROAD HUMMOCKY GROUND MORAINE DEPOSITS GENERALLY COMPRISED OF HIGH LIME CONTENT COHESIVE TILLS WITH SPARSE GRANULAR OUTWASH DEPOSITS ALONG THE MAJOR STREAM VALLEYS. THESE TILLS ARE GENERALLY RELATIVELY THICK UNDERLAIN BY CARBONATE ROCKS OF SILURIAN AGE.

RECONNAISSANCE

A SITE RECONNAISSANCE WAS COMPLETED BY PAUL PAINTER AND ALEX DETTLOFF FROM THE OFFICE OF GEOTECHNICAL ENGINEERING ON APRIL 02, 2009. THE CULVERT WAS NOTED AS BEING IN POOR CONDITION WITH SEVERE CORROSION OF THE PIPE AND SPALLING OF THE HEADWALL. THE SHOULDER AND EMBANKMENT SLOPE AROUND THE HEADWALL IS STEEP WITH WASHED OUT MATERIAL NOTED. DEFORMATION OF THE GUARDRAIL WAS NOTED JUST DOWN STATION OF THE CULVERT. PAVEMENT WAS NOTED AS BEING IN POOR TO FAIR CONDITION WITH SEVERAL AREAS OF CRACK SEALING NOTED. THE SURROUNDING LAND AREA IS PREDOMINATELY AGRICULTURAL.

SUBSURFACE EXPLORATION

TWO (2) BORINGS, B-001-09 AND B-002-09, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION ON OCTOBER 6 AND 7, 2009. THE BORINGS WERE DRILLED WITH A TRUCK MOUNTED ROTARY DRILL RIG, USING 3¼-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 2.5-FOOT AND 5-FOOT INTERVALS FOR THE FULL DEPTH OF THE BORINGS. THE HAMMER SYSTEM USED WAS LAST CALIBRATED IN MARCH 10, 2009, AND THE AVERAGE DRILL ROD ENERGY RATIO (ER) IS 81.3%.

EXPLORATION FINDINGS

SUBSURFACE CONDITIONS REVEALED BY THE BORINGS INDICATED THAT THE MAJORITY OF THE MATERIAL LOCATED WITHIN THE STUDY AREA IS COMPOSED PREDOMINATELY OF COHESIVE SOILS WITH LAYERS OF GRANULAR. B-001-09 ENCOUNTERED LOOSE GRAVEL WITH SAND, SILT AND CLAY IN MOIST CONDITION UNDERNEATH THE PAVEMENT TO ELEVATION 1084.5 FEET. BENEATH THIS GRANULAR LAYER STIFF SILT AND CLAY (A-6a) WHICH WAS MODERATELY ORGANIC AND SANDY SILT (A-4a) WAS ENCOUNTERED TO ELEVATION 1074.4 FEET. GRANULAR LAYERS WERE THEN ENCOUNTERED RANGING FROM GRAVEL (A-1-a) TO GRAVEL WITH SAND AND SILT (A-2-4) TYPICALLY IN MEDIUM DENSE COMPACTNESS AND BECOMING VERY DENSE WITH DEPTH TO ELEVATION 1056.9 FEET. THE BORING WAS THEN TERMINATED IN A VERY STIFF TO HARD SANDY SILT (A-4a). B-002-09 ENCOUNTERED SILT AND CLAY (A-6a) IN STIFF CONSISTENCY RANGING FROM SLIGHTLY TO MODERATELY ORGANIC TO ELEVATION 1079.5 FEET. BELOW THIS MEDIUM DENSE GRAVEL WITH SAND AND SILT (A-2-4) AND COARSE AND FINE SAND (A-3a) WAS ENCOUNTERED TO ELEVATION 1069.5 FEET. BENEATH THE GRANULAR LAYER THE BORING ENCOUNTERED STIFF TO VERY STIFF SANDY SILT (A-4a) AND SILT AND CLAY (A-6a) IN WHICH THE BORING WAS TERMINATED.

FREE WATER WAS RECORDED IN B-001-09 AND B-002-09 AT ELEVATION 1072.4 AND 1075.5 FEET, RESPECTIVELY AND STATIC WATER LEVELS WERE RECORDED AT ELEVATION 1070.4 AND 1070.0 FEET, RESPECTIVELY.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2009.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

LEGEND

DESCRIPTION	ODOT CLASS (GI)	CLASSIFIED MECH.	CLASSIFIED VISUAL
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	1	3
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	1	-
COARSE AND FINE SAND	A-3a	2	2
GRAVEL AND/OR STONE FRAGS. WITH SAND & SILT	A-2-4	2	-
GR. AND/OR ST. FRAGS. WITH SAND, SILT & CLAY	A-2-6	1	1
SANDY SILT	A-4a	4	6
SILT AND CLAY	A-6a	3	2
SILTY CLAY	A-6b	1	1
	TOTAL	15	15
AGGREGATE BASE = X = APPROXIMATE THICKNESS	VISUAL		

BORING LOCATION - PLAN VIEW.

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC INDICATES WATER CONTENT IN PERCENT.

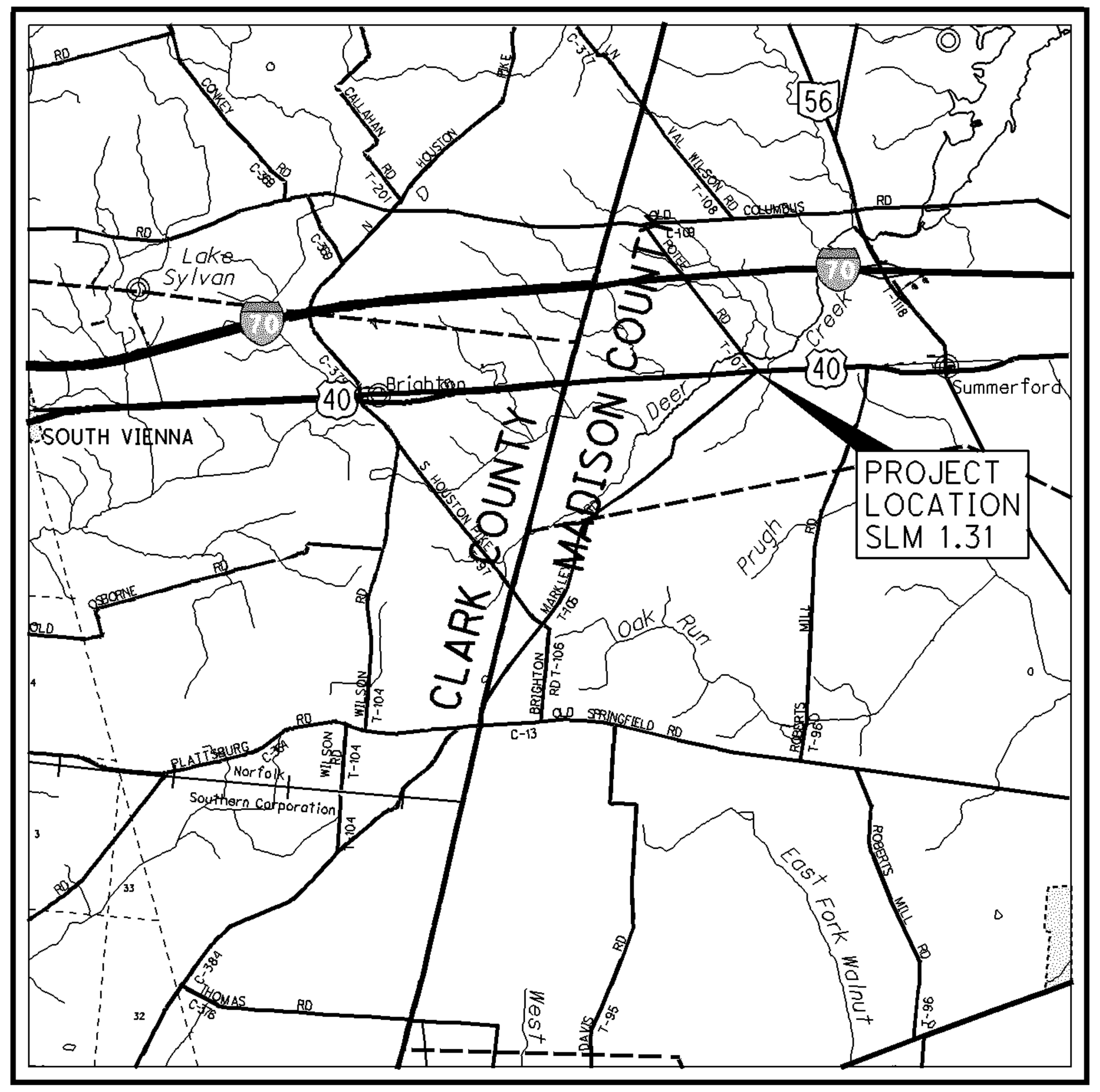
N_{60} INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

W— INDICATES FREE WATER ELEVATION.

INDICATES STATIC WATER ELEVATION.

NP INDICATES A NON-PLASTIC SAMPLE.

SS INDICATES A SPLIT SPOON SAMPLE.



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

12" 3" 2.0 mm 0.42 mm 0.074 mm 0.005 mm

BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY

No. 10 SIEVE No. 40 SIEVE No. 200 SIEVE

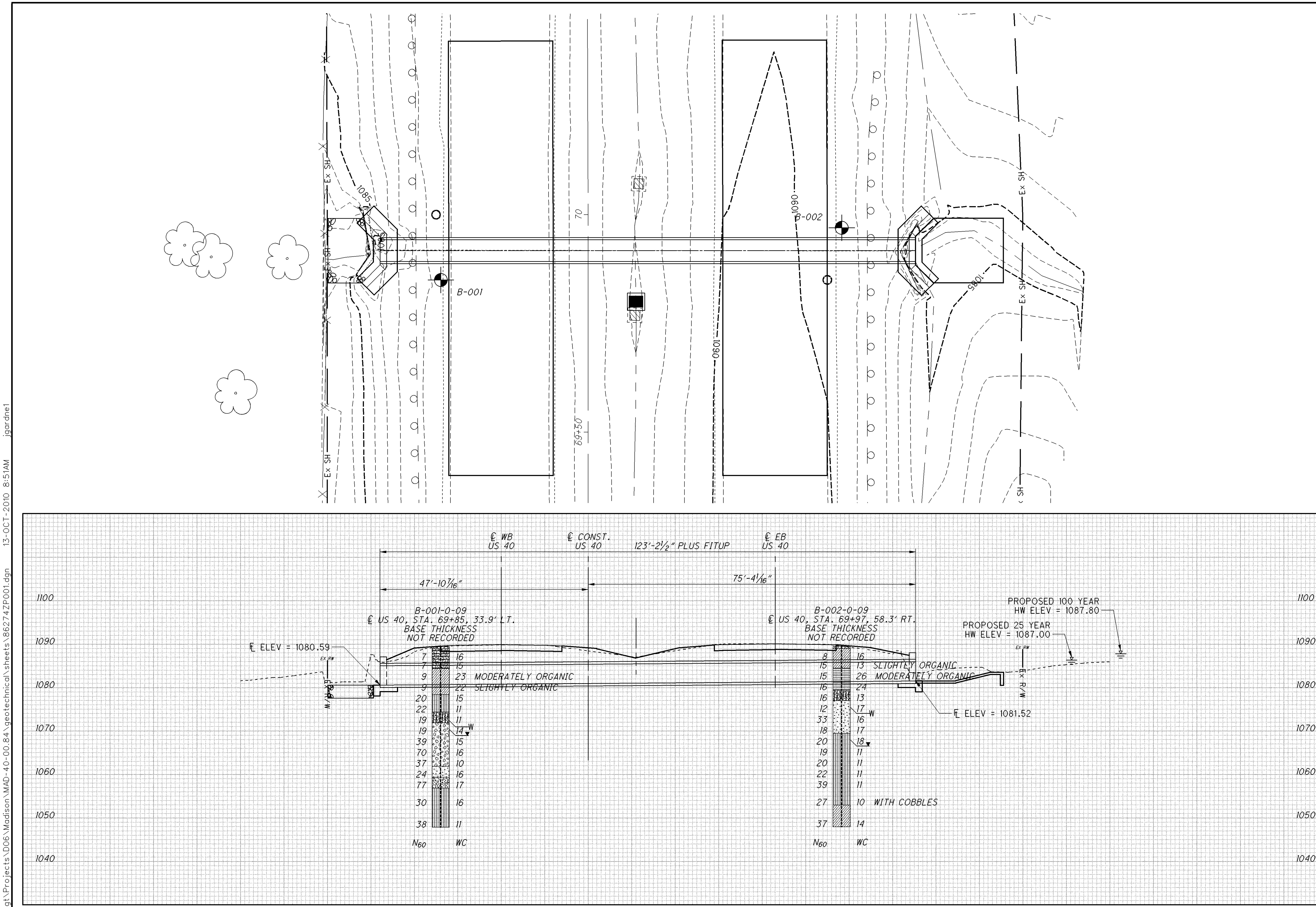
RECON. - ABCD & PPP 04/02/09
DRILLING - KAM 10/06-07/09
DRAWN - BKL 02/10
REVIEWED - MRS 02/10

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING
1600 W. BROAD ST. COLUMBUS, OH 43223

PID NO. **86274**

STRUCTURE FOUNDATION EXPLORATION
CULVERT NO. MAD-40-0132

MAD-40-1.31



HORIZONTAL SCALE IN FEET
0 5 10 20

DRAWN BKL
CHECKED MRS

STRUCTURE FOUNDATION EXPLORATION
CULVERT NO. MAD-40-0132

MAD-40-1.31

PROJECT: MAD-40-00.84 TYPE: CULVERT REPLACEMENT PID: 86274 BR ID: N/A START: 10/6/09 END: 10/6/09	DRILLING FIRM / OPERATOR: ODOT / SABO SAMPLING FIRM / LOGGER: ODOT / MCLEISH DRILLING METHOD: 3.25" HSA SAMPLING METHOD: SPT	DRILL RIG: CME 55 TRUCK HAMMER: CME AUTOMATIC CALIBRATION DATE: 3/10/09 ENERGY RATIO (%): 81.3	STATION / OFFSET: 69+85, 33.9 LT ALIGNMENT: BL US 40 ELEVATION: 1089.4 (MSL) EOB: 41.5 ft. COORD: 705573.842 N, 1684313.539 E

EXPLORATION ID B-001-0-09 — PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
AGGREGATE BASE (THICKNESS NOT RECORDED)	1089.4 / 1088.9																	
LOOSE, BROWN WITH GRAY, **GRAVEL WITH SAND, SILT, AND CLAY**, MOIST		2	3 3 2	7	89	SS-1	1.50	41	11	13	22	13	25	14	11	16	A-2-6 (0)	
	1084.4	4	2 2 3	7	100	SS-2	1.50	-	-	-	-	-	-	-	-	15	A-2-6 (V)	
STIFF, BROWN WITH GRAY, **SILT AND CLAY**, SOME SAND, SOME GRAVEL, MODERATELY ORGANIC, MOIST @6.0'; LOI = 5.4%		7	2 3 4	9	100	SS-3	1.50	21	8	18	29	24	31	17	14	23	A-6a (5)	
	1078.4	9	1 3 4	9	100	SS-4	1.00	-	-	-	-	-	-	-	-	22	A-6a (V)	
STIFF, BROWN AND GRAY, **SANDY SILT**, "AND" GRAVEL, SOME CLAY, DAMP		12	4 6 9	20	100	SS-5	1.00	35	5	7	33	20	23	15	8	15	A-4a (4)	
@12.5'; GRAY	1074.4	14	4 6 10	22	100	SS-6	1.00	-	-	-	-	-	-	-	-	11	A-4a (V)	
MEDIUM DENSE, BROWN AND GRAY, **GRAVEL WITH SAND AND SILT**, TRACE CLAY, DAMP	1071.9	W 17	6 7 7	19	67	SS-7	-	53	19	8	13	7	23	15	8	11	A-2-4 (0)	
MEDIUM DENSE, BROWN AND GRAY, **GRAVEL**, SOME SAND, TRACE SILT, TRACE CLAY, WET		▼ 19	9 7 7	19	78	SS-8	-	57	25	7	7	4	19	14	5	14	A-1-a (0)	
@20.0'; DENSE TO VERY DENSE		22	19 15 14	39	100	SS-9	-	-	-	-	-	-	-	-	-	15	A-1-a (V)	
		24	30 25 27	70	56	SS-10	-	-	-	-	-	-	-	-	-	16	A-1-a (V)	
	1061.9	27	14 16 11	37	89	SS-11	-	-	-	-	-	-	-	-	-	10	A-1-a (V)	
MEDIUM DENSE, GRAY, **COARSE AND FINE SAND**, LITTLE SILT, LITTLE GRAVEL, TRACE CLAY, WET	1059.4	29	6 8 10	24	89	SS-12	-	12	34	35	13	6	NP	NP	NP	16	A-3a (0)	
VERY DENSE, GRAY, **GRAVEL WITH SAND**, TRACE SILT, TRACE CLAY, MOIST	1056.9	32	25 27 30	77	100	SS-13	-	11	40	39	7	3	NP	NP	NP	17	A-1-b (0)	
VERY STIFF TO HARD, BROWNISH GRAY, **SANDY SILT**, SOME CLAY, LITTLE GRAVEL, MOIST		36	9 11 11	30	100	SS-14	3.00	18	5	11	34	32	23	14	9	16	A-4a (6)	
	1047.9	41 EOB	12 14 14	38	100	SS-15	-	-	-	-	-	-	-	-	-	11	A-4a (V)	

NOTES: WATER ENCOUNTERED AT 17.0'.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 40 LB. BENTONITE PELLETS

MAD-40-1.31

STRUCTURE FOUNDATION EXPLORATION
CULVERT NO. MAD-40-0132
BORING LOG B-001

DRAWN BKL
CHECKED MRS

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PROJECT: MAD-40-00.84	DRILLING FIRM / OPERATOR: ODOT / CAREY	DRILL RIG: CME 55 TRUCK	STATION / OFFSET: 69+97, 58.3 RT
TYPE: CULVERT REPLACEMENT	SAMPLING FIRM / LOGGER: ODOT / MCLEISH	HAMMER: CME AUTOMATIC	ALIGNMENT: BL US 40
PID: 86274 BR ID: N/A	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/10/09	ELEVATION: 1089.5 (MSL) EOB: 41.5 ft.
START: 10/7/09 END: 10/7/09	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81.3	COORD: 705478.064 N, 1684317.782 E

EXPLORATION ID B-002-0-09

PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.
	1089.5
AGGREGATE BASE (THICKNESS NOT RECORDED)	1089.0
STIFF, BROWN AND GRAY, **SILT AND CLAY**, SOME SAND, SOME GRAVEL, MOIST @ 3.0' - 5.0'; DAMP, SLIGHTLY ORGANIC	1084.5
STIFF, DARK GRAY, **SILTY CLAY**, SOME SAND, LITTLE GRAVEL, MODERATELY ORGANIC, MOIST @6.0'; LOI = 5.8%	1079.5
MEDIUM DENSE, BROWN, **GRAVEL WITH SAND AND SILT**, TRACE CLAY, DAMP	1077.0
MEDIUM DENSE TO DENSE, BROWN, **COARSE AND FINE SAND**, LITTLE SILT, TRACE GRAVEL, TRACE CLAY, WET	1069.5
STIFF, GRAY, **SANDY SILT**, SOME GRAVEL, SOME CLAY, MOIST @22.5'; DAMP @25.0'; VERY STIFF @32.5'; CONTAINS COBBLES	1053.0
VERY STIFF, GRAY, **SILT AND CLAY**, SOME SAND, LITTLE GRAVEL, MOIST	1048.0

DEPTHS: W (14.0'); ▼ (21.5'); EOB (41.5')

SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
2 3 3	8	100	SS-1	1.50	22	10	16	31	21	29	15	14	16	A-6a (5)	
2 4 7	15	100	SS-2	1.50	-	-	-	-	-	-	-	-	13	A-6a (V)	
3 5 6	15	100	SS-3	2.00	11	6	20	31	32	36	20	16	26	A-6b (8)	
2 5 7	16	100	SS-4	1.50	-	-	-	-	-	-	-	-	24	A-6b (V)	
5 5 7	16	100	SS-5	1.00	46	13	12	20	9	24	15	9	13	A-2-4 (0)	
3 4 5	12	78	SS-6	-	8	16	50	19	7	NP	NP	NP	17	A-3a (0)	
8 12 12	33	67	SS-7	-	-	-	-	-	-	-	-	-	16	A-3a (V)	
4 8 5	18	78	SS-8	-	-	-	-	-	-	-	-	-	17	A-3a (V)	
5 6 9	20	100	SS-9	-	26	7	9	33	25	23	13	10	18	A-4a (5)	
4 7 7	19	56	SS-10	1.00	23	17	20	26	14	19	12	7	11	A-4a (1)	
3 7 8	20	89	SS-11	3.00	-	-	-	-	-	-	-	-	11	A-4a (V)	
3 8 8	22	89	SS-12	3.00	-	-	-	-	-	-	-	-	11	A-4a (V)	
12 14 15	39	100	SS-13	2.00	-	-	-	-	-	-	-	-	11	A-4a (V)	
18 12 8	27	78	SS-14	2.00	-	-	-	-	-	-	-	-	10	A-4a (V)	
6 11 16	37	100	SS-15	3.00	13	9	15	36	27	23	12	11	14	A-6a (6)	

NOTES: WATER ENCOUNTERED AT 14.0'. HOLE CAVED IN.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 30 LB. BENTONITE PELLETS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 2/18/10 09:15 - X:\GINT\PROJECTS\2009 COMPLETE\100307.GPJ

4/4

MAD-40-1.31

STRUCTURE FOUNDATION EXPLORATION
CULVERT NO. MAD-40-0132
BORING LOG B-002

DRAWN BKL

CHECKED MRS

SPECIAL PROVISIONS

404 PERMIT- WATERWAY PERMITS

CRS: MAD-40-1.31
PID: 86274

US ARMY CORPS OF ENGINEERS
REGIONAL GENERAL PERMIT(RGP) – Section B (Maintenance)

- ◈ EFFECTIVE 10/15/2010
- ◈ EXPIRES 10/23/2014

1. Waterway Permit Time Restrictions:

For work on streams and wetlands, the Department will consider the Contractor's submission of an extension to the waterway permit end date based on project constraints. In order to be considered, the Contractor must submit a justification to the Engineer at least two months prior to the waterway permit end date.

The Engineer will submit the request for a time extension to ODOT- Office of Environmental Services- Waterway Permits Unit (614-466-7100) for consideration and coordination with the USACE and/or Ohio EPA.

2. Deviations from Permitted Construction Activities

No deviation from the requirements for work in streams and wetlands depicted in the plans, Special Provisions, and/or working drawings may be made unless a modification has been submitted to ODOT and approved by the appropriate agencies (i.e., USACE, Ohio EPA, USCG, ODNR, and USFWS).

For emergency situations resulting in unanticipated impacts to streams or wetlands, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT- Office of Environmental Services- Waterway Permits Unit must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT- Office of Environmental Services- Waterway Permits Unit (614-466-7100) for consideration and coordination with the appropriate agencies. Notification must be made at least two months prior to planned non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions

Work in the following sensitive streams is further restricted as follows

Steam Name /Description	Location	Work restriction dates (No in-stream work permitted)
Unnamed Deer Creek Trib	69+54.52	N/A

In-stream work has been defined as the placement and/or removal of fill materials (temporary or permanent) below ordinary high water of a stream. Examples of "fill" include (but are not limited to) bridge piers, abutments, culverts, rock channel protection, scour protection, and temporary work pads.

Fills (such as temporary work pads) placed within a stream identified in the above table outside of the work restriction dates can continue to be worked from during the work restriction dates, but cannot be expanded, removed, or otherwise modified (below ordinary high water) until once again outside of the work restriction dates.

The Engineer will submit the request for a time extension to ODOT- Office of Environmental Services- Waterway Permits Unit (614-466-7100) for consideration and coordination with the USACE and/or Ohio EPA.

4. Materials:

Materials utilized in or adjacent to streams and wetlands on this project for temporary or permanent fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded.

Cadmium, chromium, arsenate (CCA), creosote, and other pressure treated lumber shall not be used in structures that are placed in wetlands and streams.

5. Cultural Resources

If archeological sites or human remains are discovered, cease all work in the immediate area and notify the Engineer who will immediately contact the Office of Environmental Services – Cultural Resource Section
(614-466-7100) and the Ohio Historic Preservation Office.

In the event of human remains are discovered the Engineer shall also contact the Franklin County Sherriff's Office. (614)462-3350.

6. Water Resource Demarcation:

All streams, wetlands, lakes, and ponds indicated on the plans shall be demarcated in the field as per SS 832 prior to site disturbance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed.

7. Spill containment:

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:

- 6 - 3 in. X 8 ft. Oil only socks
- 4 - 18 in. X18 in. Oil only pillows
- 2 - 5 in. X 10ft. Booms
- 50 - 16in. X 20 in. Oil only pads
- 10- Disposable Bags
- 1- 65 Gallon drum with lid
- 25 pounds of Granular Oil Absorbent

The Oil Spill Kit shall be located within 150 feet of any equipment working in a stream or wetland. The oil Spill Kit shall be maintained for the life of the contract. Any materials utilized during the project will be replaced within 48 hours.

All costs associated with furnishing and maintaining the above referenced spill containment kit is incidental to work.

8. Blasting:

State law requires notification to the Ohio Department of Natural Resources should blasting be required within or near stream channels (See ORC 1533.58 & CMS 107.09).

Notify Engineer, in writing, for submission to ODOT Office of Environmental Services – Waterway Permits Unit (614-466-7100) for coordination with the Ohio Department of Natural Resources.

9. Waterway Permits:

A copy of the waterway permits (i.e., USACE 404, USCG Section 9 Bridge Permit and the OEPA WQC and/or Isolated Wetland Permit) shall be kept at the work site at all times and made available to all contractors and subcontractors.

10. Bridge Inspection:

Prior to the removal of bridge structures, the underside must be carefully examined for the presence of birds and bats. Should any birds or bats be found roosting on the underside of the bridge, the Contractor is required to notify the Engineer for coordination with ODOT- Office of Environmental Services (614-466-7100).

11. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer. Please forward a copy to ODOT Office of Environmental Services. Waterway Permits Unit (614-466-7100).