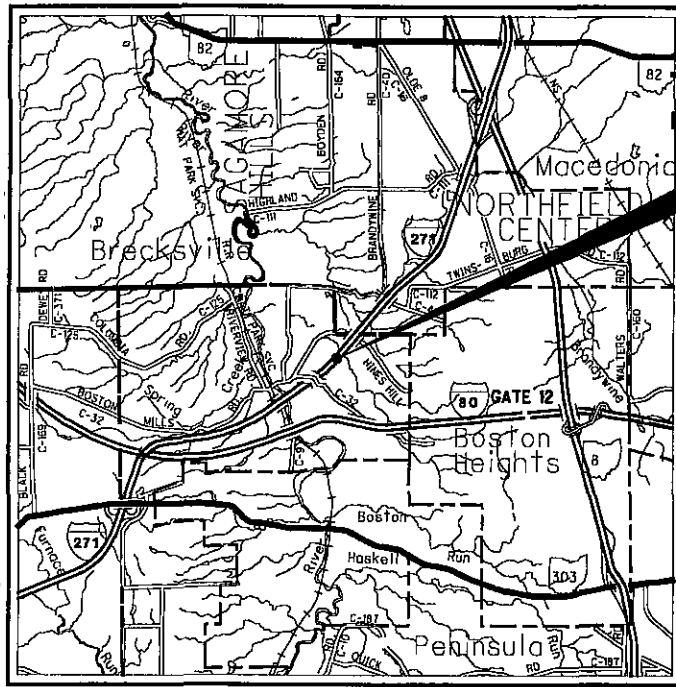


SUM - IR 271 - 8.84
070352 PID - 78043
Dist 4 6/27/2007



PROJECT LOCATION
SLM 8.84

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUM-271-8.84

**BOSTON TOWNSHIP
SUMMIT COUNTY**

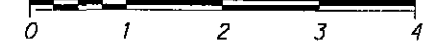
INDEX OF SHEETS:

TITLE SHEET	1
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LOCATION MAP

LATITUDE: 41°16'00" LONGITUDE: 81°32'51"

SCALE IN MILES



PORTION TO BE IMPROVED _____
INTERSTATE & DIVIDED HIGHWAY _____
UNDIVIDED STATE & FEDERAL ROUTES _____
OTHER ROADS _____

DESIGN DESIGNATION

DESIGN SPEED _____ 70 MPH
LEGAL SPEED _____ 65 MPH
DESIGN FUNCTIONAL CLASSIFICATION:
PRINCIPAL ARTERIAL - INTERSTATE (RURAL)
NHS PROJECT _____ YES

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:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF PRODUCTION
2088 SOUTH ARLINGTON ROAD
AKRON, OHIO 44306

ENGINEERS SEAL:

SIGNED: *Thomas J. Powell*
DATE: **03-19-07**

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS
BP-3.1	7/16/04	MT-35.10	4/20/01			800 4/20/07
		MT-95.30	9/05/06			832 4/25/06
DM-1.2	10/21/05	MT-95	40 10/20/06			
DM-1.4	4/21/06	MT-101.70	10/18/02			
DM-4.3	7/19/02	MT-105.10	10/18/02			
DM-4.4	7/19/02	MT-105.11	10/18/02			
F-2.1	7/28/00	TC-41.20	1/19/01			
F-3.4	7/28/00	TC-42.20	7/16/04			
		TC-52.10	1/19/07			
GR-1.1	7/16/04	TC-52.20	1/19/07			
GR-2.1	1/16/04					
RM-4.1	10/20/06					
RM-4.2	10/20/06					

PROJECT DESCRIPTION

SLOPE REPAIR AND RECONSTRUCTION AT
SLM 8.84 ON IR-271 IN BOSTON TOWNSHIP,
SUMMIT COUNTY. WORK INCLUDES DRAINAGE
IMPROVEMENTS AND GUARDRAIL REPLACEMENT.

PROJECT EARTH DISTURBED AREA: 2.88 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 3.91 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 6.79 ACRES

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.

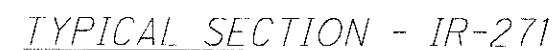
2005 SPECIFICATIONS

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 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: *John R. Shy*
DATE: **3-20-07** DISTRICT DEPUTY DIRECTOR
APPROVED: *James J. Beasley*
DATE: **4-5-07** DIRECTOR, DEPARTMENT OF
TRANSPORTATION

FEDERAL PROJECT NO.	NON-FEDERAL
PID NO.	78043
CONSTRUCTION PROJECT NO.	
RAILROAD INVOLVEMENT	NONE
SUM-271-8.84	
19	



STA. 467+00, LT TO STA. 475+00, LT = 800'

LEGEND

- | ITEM NO. | DESCRIPTION | QTY | UNIT | PRICE |
|----------|---|-----|------|-------|
| 1 | 203, EMBANKMENT | | | |
| 1A | 203, EXCAVATION, AS PER PLAN | | | |
| 2 | 203, GRANULAR MATERIAL, TYPE A | | | |
| 3 | 204, GEOTEXTILE FABRIC, TYPE D, NONWOVEN | | | |
| 4 | SPECIAL, MISC.: GEOWEB SLOPE PROTECTION SYSTEM (GW30V6) | | | |
| 5 | 603, 6" CONDUIT, TYPE F, 707.41 (PERFORATED) | | | |
| 6 | 203, GRANULAR MATERIAL, TYPE E, AS PER PLAN | | | |
| 7 | 204, GEOTEXTILE FABRIC, TYPE A, 712.09 | | | |
| 8 | 659, SEEDING AND MULCHING | | | |
| 9 | 448, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 | | | |
| 10 | 448, 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 | | | |
| 11 | 301, 8" ASPHALT CONCRETE BASE, PG64-22 | | | |
| 12 | 304, 6" AGGREGATE BASE, AS PER PLAN | | | |
| 13 | 407, TACK COAT FOR INTERMEDIATE COURSE | | | |
| 14 | NOT USED | | | |
| 15 | 204, SUBGRADE COMPACTION | | | |
| 16 | 605, 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP | | | |
| 17 | 606, GUARDRAIL, TYPE 5 | | | |
| 18 | 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN (T-3") | | | |
| 19 | 605, UNDERDRAINS MISC.: 8" BASE PIPE UNDERDRAINS WITH FABRIC WRAP | | | |
| A | EXISTING REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT WITH ASPHALT OVERLAY | | | |
| B | EXISTING BITUMINOUS AGGREGATE BASE | | | |



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ROUNDING

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

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 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 EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON THE PLANS, BUT CAN BE OBTAINED FROM THE OWNERS OF THE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES.

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.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM, NAVD 88 BASED ON GPS ORTHO HEIGHTS.

BENCHMARKS AND CENTERLINE REFERENCE TIES

BENCHMARKS AND CENTERLINE REFERENCE TIES FOR THIS PROJECT SHALL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES, LOGS 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.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ITEM 203 - EXCAVATION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OFF SITE OF ALL EXCAVATED MATERIALS, AS SHOWN ON THE CROSS SECTION SHEETS, ACCORDING TO CMS 105.16 AND 105.17.

STREAM CHANNEL EXCAVATION

STREAM CHANNEL EXCAVATION WITHIN "WATERS OF THE US" IS SUBJECT TO US ARMY CORPS OF ENGINEERS (USACE) REGULATORY JURISDICTION AND WILL REQUIRE AUTHORIZATION BY THE USACE VIA THE WATERWAY PERMITTING PROCESS (404/401). IN ACCORDANCE WITH THE APPLICABLE WATERWAY PERMITS (404/401) STREAM CHANNEL EXCAVATION CAN NOT EXCEED THE QUANTITIES AND/OR SURFACE AREA THAT HAS BEEN PERMITTED. THE WATERWAY PERMITS ARE ATTACHED TO THE CONSTRUCTION PLANS AS SPECIAL PROVISIONS AND WILL BE AVAILABLE IN THE PROJECT CONSTRUCTION OFFICE.

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

ITEM 304 AGGREGATE BASE, AS PER PLAN

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

ITEM 605 - UNDERDRAINS MISC.: 8" BASE PIPE UNDERDRAINS WITH FABRIC WRAP

MATERIAL SPECIFICATION FOR THIS ITEM OF WORK SHALL BE 707.41. BACKFILL BASE PIPE UNDERDRAINS WITH GRANULAR MATERIAL CONSISTING OF No. 57 STONE AND INCLUDE WITH THIS ITEM FOR PAYMENT. ALL OTHER PROVISIONS SHALL MEET ITEM 605 SPECIFICATIONS. DIMENSIONS SHALL BE AS DETAILED IN THE PLANS.

ENDANGERED SPECIES HABITAT

THIS PROJECT IS WITHIN THE RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND MAY IMPACT SUMMER ROOSTING HABITAT FOR THIS SPECIES. THE SUMMER ROOSTING HABITAT FOR THE INDIANA BAT CONSISTS OF LIVING OR DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES. THEREFORE, ANY UNAVOIDABLE CUTTING OF SUCH TREES WILL BE PERFORMED ONLY AFTER SEPTEMBER 15 AND BEFORE APRIL 15.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES

ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED IN THE PLAN SHALL BE IN PLACE PRIOR TO ANY CLEARING AND GRUBBING, EXCAVATION, GRADING OR FILLING OPERATIONS, AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 209, LINEAR GRADING, AND PAVING UNDER THE GUARDRAIL USING 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING, SHALL CONSIST OF EXCAVATING EXISTING MATERIAL, PLACING GRANULAR MATERIAL AND APPLYING HERBICIDE AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS, ASPHALT AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

HERBICIDE SHALL BE EPA APPROVED FOR PAVING UNDER GUARDRAIL. IT SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

EACH SUCCESSFUL BIDDER MUST BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL SPRAYING SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE SPRAY CATEGORY.

HERBICIDE LABEL, MATERIAL SAFETY DATA SHEET AND COPY OF APPLICATORS LICENSES SHALL BE SUBMITTED TO THE ENGINEER FOR VERIFICATION PRIOR TO COMMENCING WORK.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED. PAVING MAY BE PLACED UNDER EXISTING OR PROPOSED GUARDRAIL USING ONE OF THE FOLLOWING METHODS:

- METHOD A
- 1) SET GUARDRAIL POSTS
(OMIT IF EXISTING GUARDRAIL IS TO REMAIN)
 - 2) PLACE ITEM 448
- METHOD B
- 1) PLACE ITEM 448
 - 2) BORE ASPHALT AT POST LOCATIONS
(MAY BE OMITTED IF STEEL POSTS ARE USED)
 - 3) SET GUARDRAIL POSTS
 - 4) PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

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SEEDING AND MULCHING

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

659, SEEDING AND MULCHING	20938 SQ. YD.
659, REPAIR SEEDING AND MULCHING	1047 SQ. YD.
659, COMMERCIAL FERTILIZER	2.82 TON
659, LIME	4.33 ACRES
659, WATER	56 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.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

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

ITEM 203 - GRANULAR MATERIAL, TYPE E, AS PER PLAN

No. 57 STONE SHALL BE USED.

EARTHWORK CALCULATIONS

STATION	END AREA			VOLUME		
	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203
	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN
	SQ FT	SQ FT	SQ FT	CU YD	CU YD	CU YD
467+00.00	0	0	0			
467+50.00 BACK	0	231	0	0	214	0
467+50.00 AHEAD	657	788	116			
468+00.00	674	916	126	1233	1578	225
468+50.00	720	1068	140	1291	1838	247
469+00.00	766	1285	156	1376	2179	275
469+50.00	823	1387	161	1472	2475	294
470+00.00	819	1446	177	1521	2624	313
470+56.69	843	1536	176	1745	3131	371
471+00.00	868	1601	176	1373	2516	283
471+58.01	960	1659	183	1964	3503	386
472+00.00	986	1688	158	1514	2603	266
472+50.00	1043	1726	181	1879	3162	314
473+00.00	1005	1465	177	1897	2955	332
473+50.00	856	1070	146	1724	2348	300
474+00.00	547	556	104	1300	1506	232
474+50.00 BACK	357	428	84	838	912	175
474+50.00 AHEAD	0	192	0			
475+00.00	0	0	0	0	178	0
TOTALS CARRIED TO GENERAL SUMMARY				21127	33722	4013

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

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

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

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

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.

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

DAY OF THE WEEK	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 MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

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. 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.

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. PAYMENT FOR ALL WORK AND MATERIALS ASSOCIATED WITH THESE ITEMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE
HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING
ONE OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (24 INCHES WIDE SIX-BAY) WORK ZONE
IMPACT ATTENUATOR MANUFACTURED BY ENERGY
ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE,
CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9".
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:

DRAWING NUMBER: QSCZCVR-T4
DRAWING NAME: QUADGUARD CZ SYSTEM FOR
CONSTRUCTION ZONES
REVISION DATE: 5/13/99 REV. J
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-10
DRAWING NAME: QUADGUARD SYSTEM CONCRETE PAD,
CZ, QG
REVISION DATE: 11/19/97 REV. D
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-16
DRAWING NAME: QUADGUARD SYSTEM BACKUP ASSEMBLY,
CZ, QG
REVISION DATE: 7/30/99 REV. F
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 354051Z
DRAWING NAME: QUADGUARD CZ SYSTEM NOSE ASSEMBLY,
CZ, QG, 24, 30, 36
REVISION DATE: 5/17/99
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-18
DRAWING NAME: TRANSITION ASSEMBLY, 4 OFFSET, QG
REVISION DATE: 6/25/99 REV. F
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35400260
DRAWING NAME: QUADGUARD SYSTEM PCMB ANCHOR
ASSEMBLY
REVISION DATE: 11/19/97 REV. C
ODOT APPROVAL DATE: 8/27/99

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION)
MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE
STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. 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:

DRAWING NUMBER: SS450
DRAWING NAME: CRASH-CUSHION ATTENUATING TERMINAL
PLAN, ELEVATION & SECTIONS
REVISION DATE: 3/12/99 REV. I
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS455
DRAWING NAME: TRACC TRANSITION TO W-BEAM MEDIAN
BARRIER PLAN, ELEVATION & SECTIONS
REVISION DATE: 2/18/99
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS461
DRAWING NAME: TRACC TRANSITION TO CONCRETE SAFETY
SHAPE BARRIER PLAN, ELEVATION &
SECTIONS
REVISION DATE: 6/30/99 REV. I
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS462
DRAWING NAME: TRACC TRANSITION TO CONCRETE BARRIER
SINGLE SLOPE PLAN, ELEVATION &
SECTIONS
REVISION DATE: 6/30/99
ODOT APPROVAL DATE: 8/27/99

3. THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR,
DISTRIBUTED BY ROAD SYSTEMS INC., SALES SUPPORT,
2183 ELM TRACE, AUSTINTOWN, OH 44515,
(TELEPHONE 330-799-9291)

THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT
(24' LONG AND 35" WIDE). 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:

DRAWING NUMBER: A040416
DRAWING NAME: UNIVERSAL TAU-II PARTS LIST
REVISION DATE: 4/22/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040420
DRAWING NAME: UNIVERSAL TAU-II FOUNDATION,
FLUSH MOUNT BACKSTOP
REVISION DATE: 4/28/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040105
DRAWING NAME: UNIVERSAL TAU-II FOUNDATION,
PCB BACKSTOP (REFERENCED ON A04020)
REVISION DATE: 1/07/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: B040239
DRAWING NAME: APPLICATION, FLUSH MOUNT BACKSTOP
(TYPICAL FOR PARALLEL 60 MPH UNIT)
REVISION DATE: 4/21/04
ODOT APPROVAL DATE: 10/16/04

4. THE GREAT CZ IMPACT ATTENUATOR MANUFACTURED BY
ENERGY ABSORPTION SYSTEMS, INC.

THIS ATTENUATOR MAY BE USED UNTIL JANUARY 1, 2007
IF THE ITEM WAS PURCHASED BEFORE OCTOBER 1, 1998 AND
IS IN THE CONTRACTOR'S INVENTORY.

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN
AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACE-
MENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A
SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT

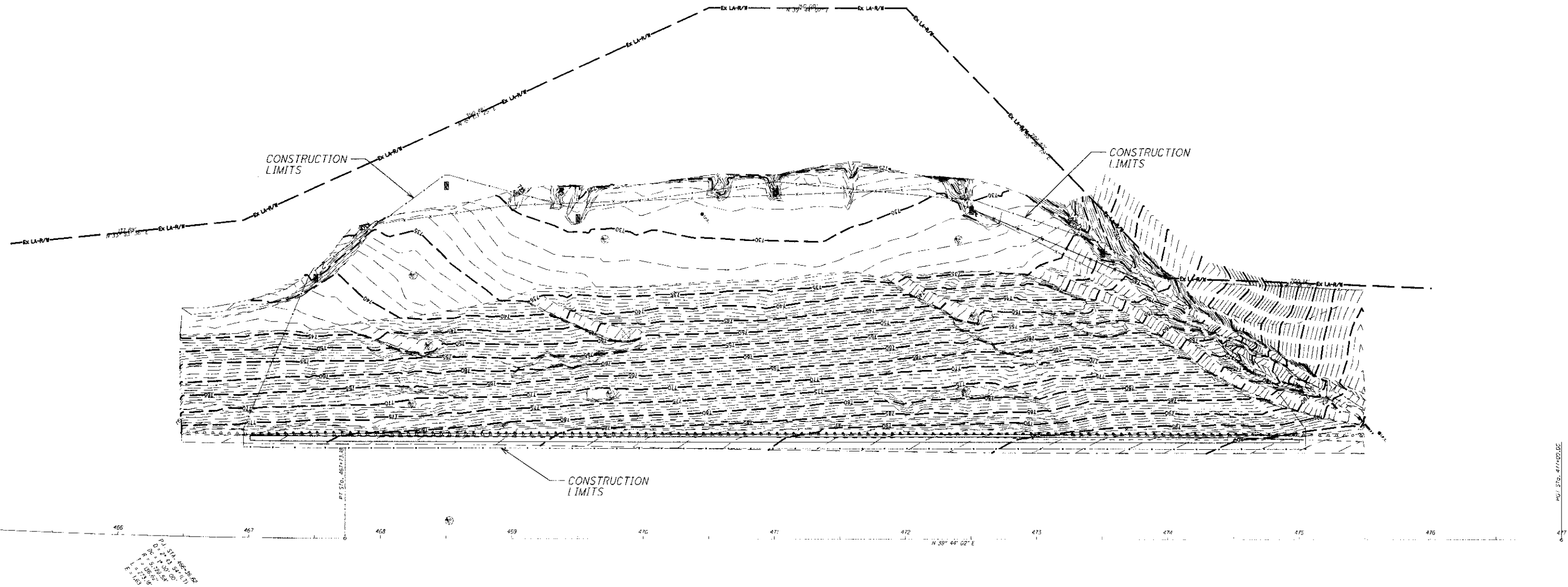
ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRAC-
TOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE
PARTS PACKAGE FOR EVERY ONE TO SIX UNITS INSTALLED ON
THE PROJECT SITE. FOR EXAMPLE, FIVE INSTALLED UNITS
REQUIRE ONE SPARE PARTS PACKAGE AND SEVEN INSTALLED
UNITS REQUIRE TWO SPARE PARTS PACKAGES.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR
SHALL SUPPLY APPROPRIATE TRANSITIONS. PAYMENT FOR THE
ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND
SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS
NECESSARY TO CONSTRUCT, MAINTAIN, REPAIR, REPLACE OR
RELOCATE A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR
SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS,
LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY
SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

[illegible]

[illegible]

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PROJECT DATA

TOTAL AREA (RIGHT-OF-WAY): 6.27 ACRES
PROJECT EARTH DISTURBED AREA: 2.88 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 3.91 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 6.79 ACRES
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE: 0.07 ACRES
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE: 0.07 ACRES

RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE: 0.4
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE: 0.4
SOIL AND WATER CONSERVATION MAPS: 8
IMMEDIATE RECEIVING WATER: UNNAMED
SUBSEQUENT RECEIVING WATER: CUYAHOGA RIVER

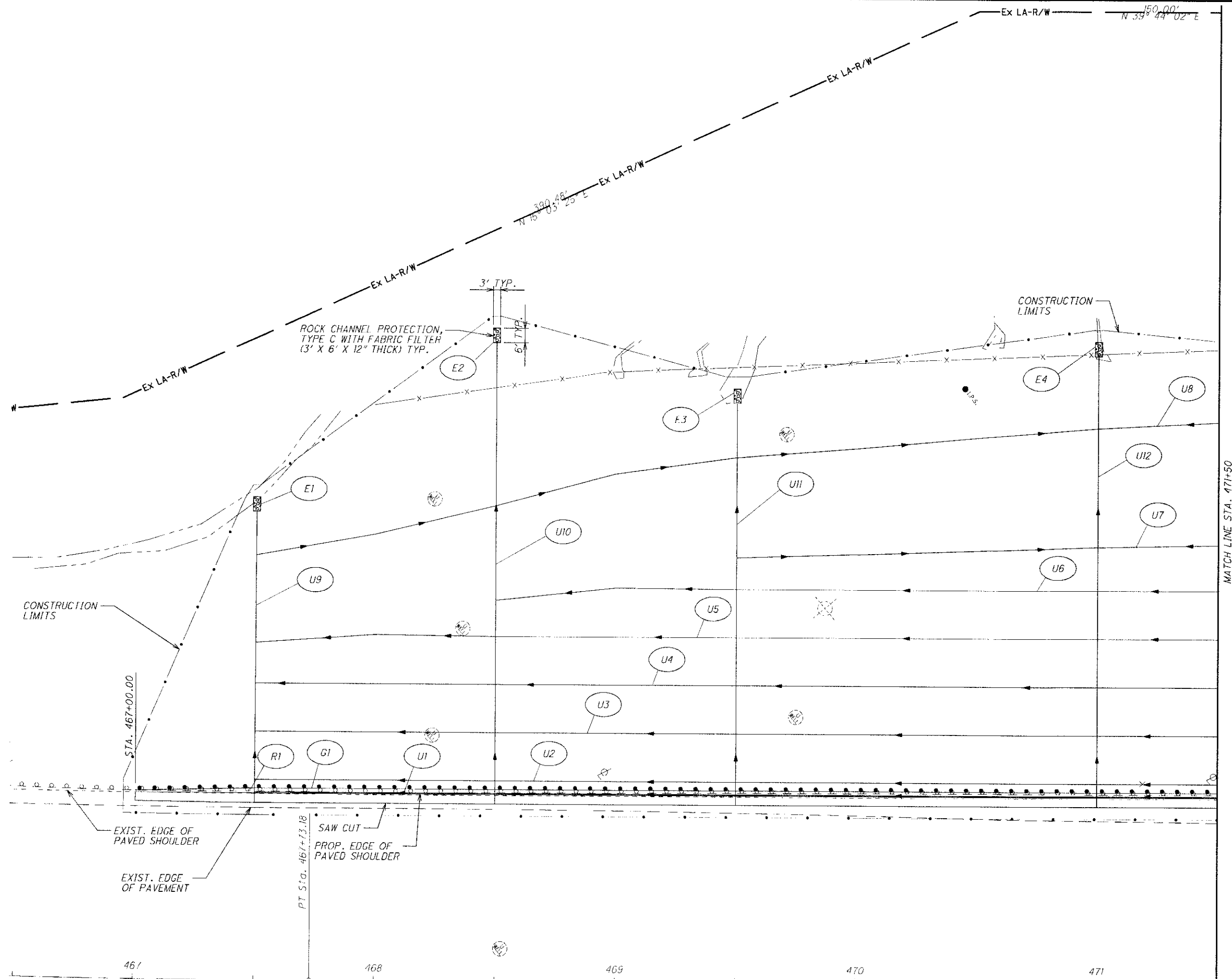
PROJECT DESCRIPTION

SLOPE REPAIR AND RECONSTRUCTION AT SLM 8.84 ON IR-271 IN BOSTON TOWNSHIP, SUMMIT COUNTY. WORK INCLUDES REDUCTION OF THE SLOPE ANGLE, DRAINAGE IMPROVEMENTS AND GUARDRAIL REPLACEMENT.

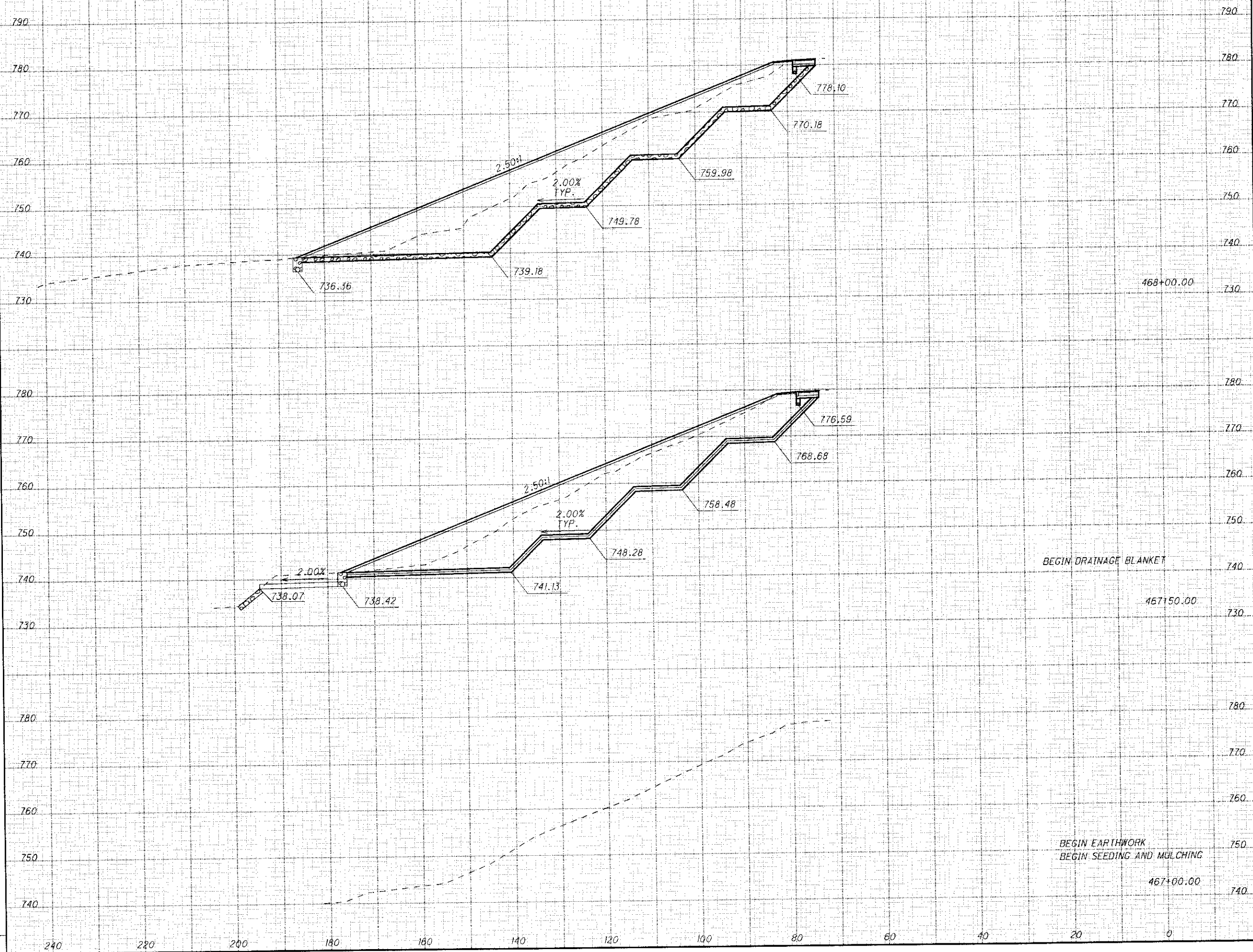
USGS QUADRANGLE MAP

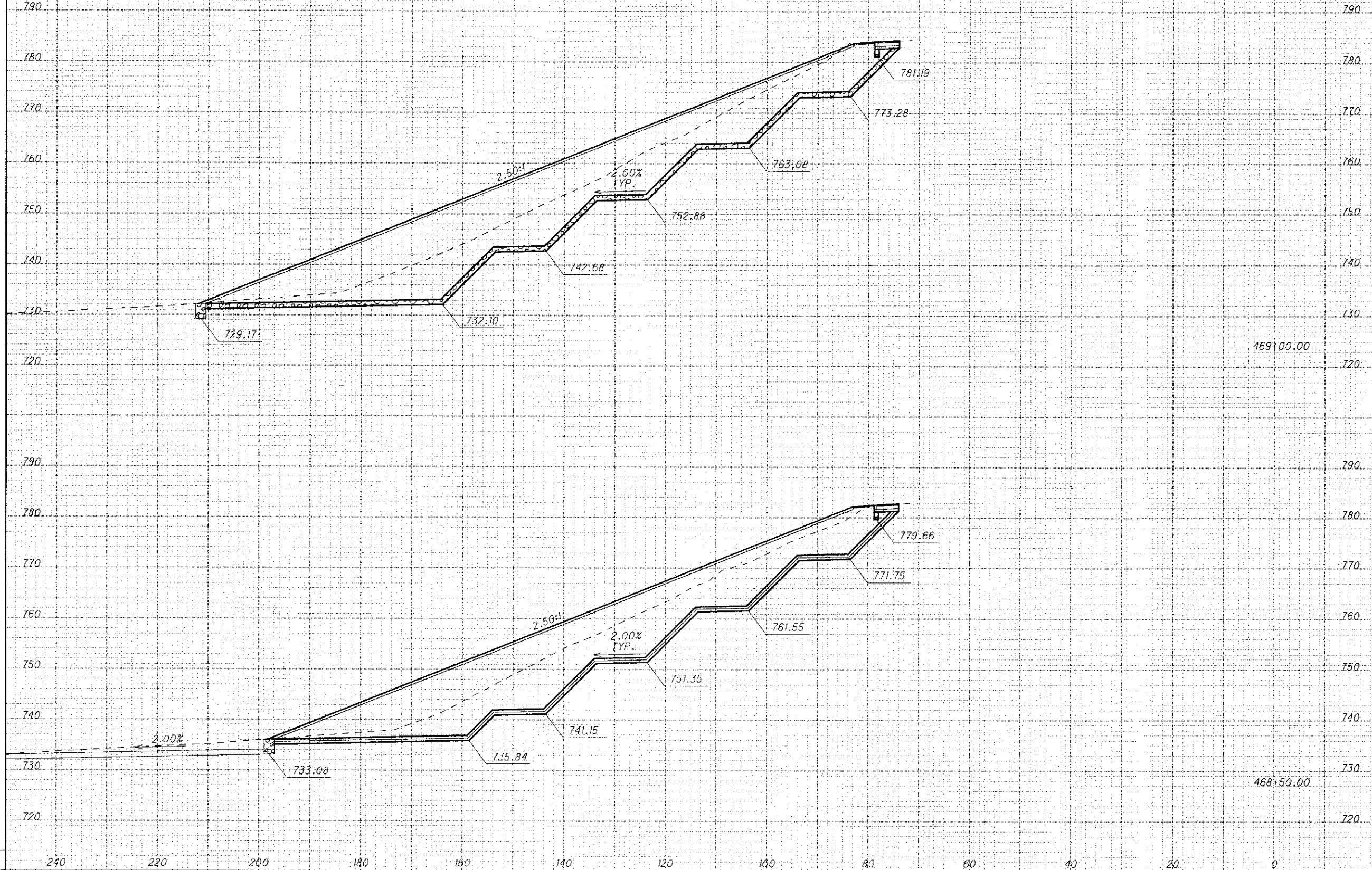
No. N4115 - W8130/7.5
NORTHFIELD, OHIO

LATITUDE: 41°16'00"
LONGITUDE: 81°32'51"



SUM-271-8.84



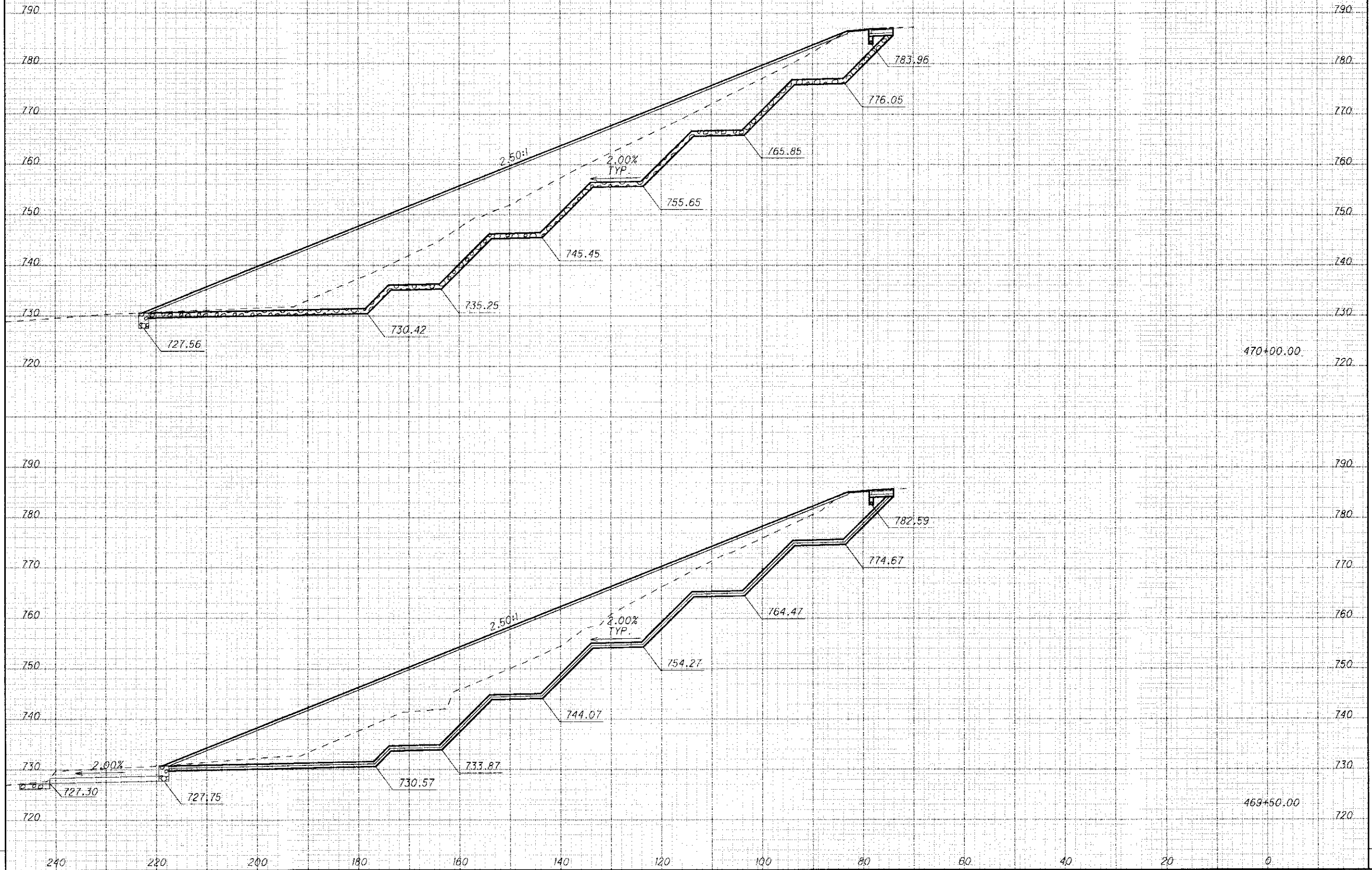


END AREA		VOLUME		CALCULATED MJH CHECKED TJP	CROSS SECTIONS STA. 468+50 TO STA. 469+00
CUT	FILL	CUT	FILL		

SEEDING
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END AREA
CUT
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CROSS SECTIONS
STA. 469+50 TO STA. 470+00

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END AREA		VOLUME		CALCULATED MJH	CHECKED TJP
CUT	FILL	CUT	FILL		



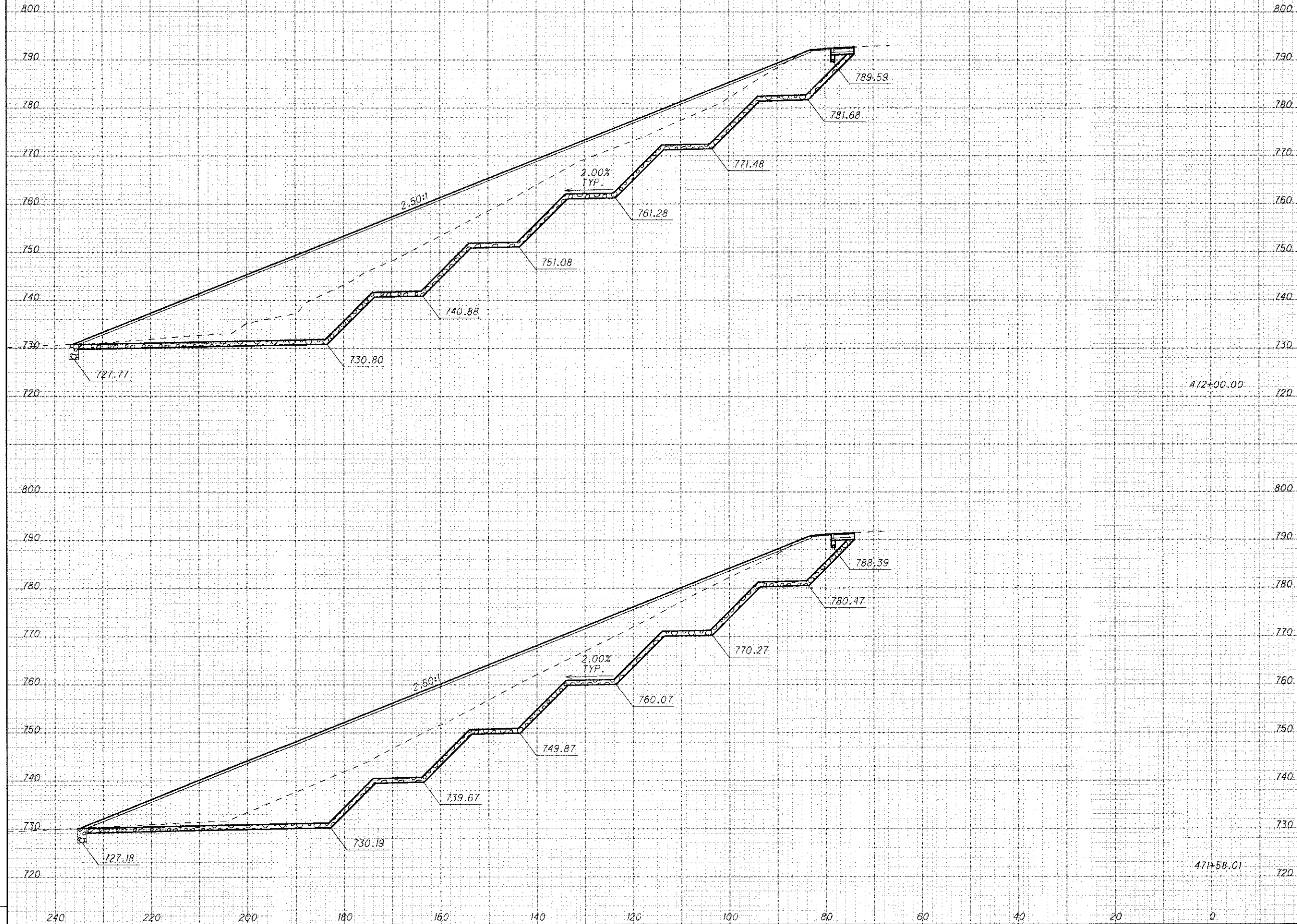
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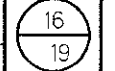
END AREA
CUH FILL
VOLUME
CUH FILL

CALCULATED
M/JH
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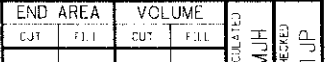


CROSS SECTIONS
STA. 471+58.01 TO STA. 472+00.00

SUM-271-8.84



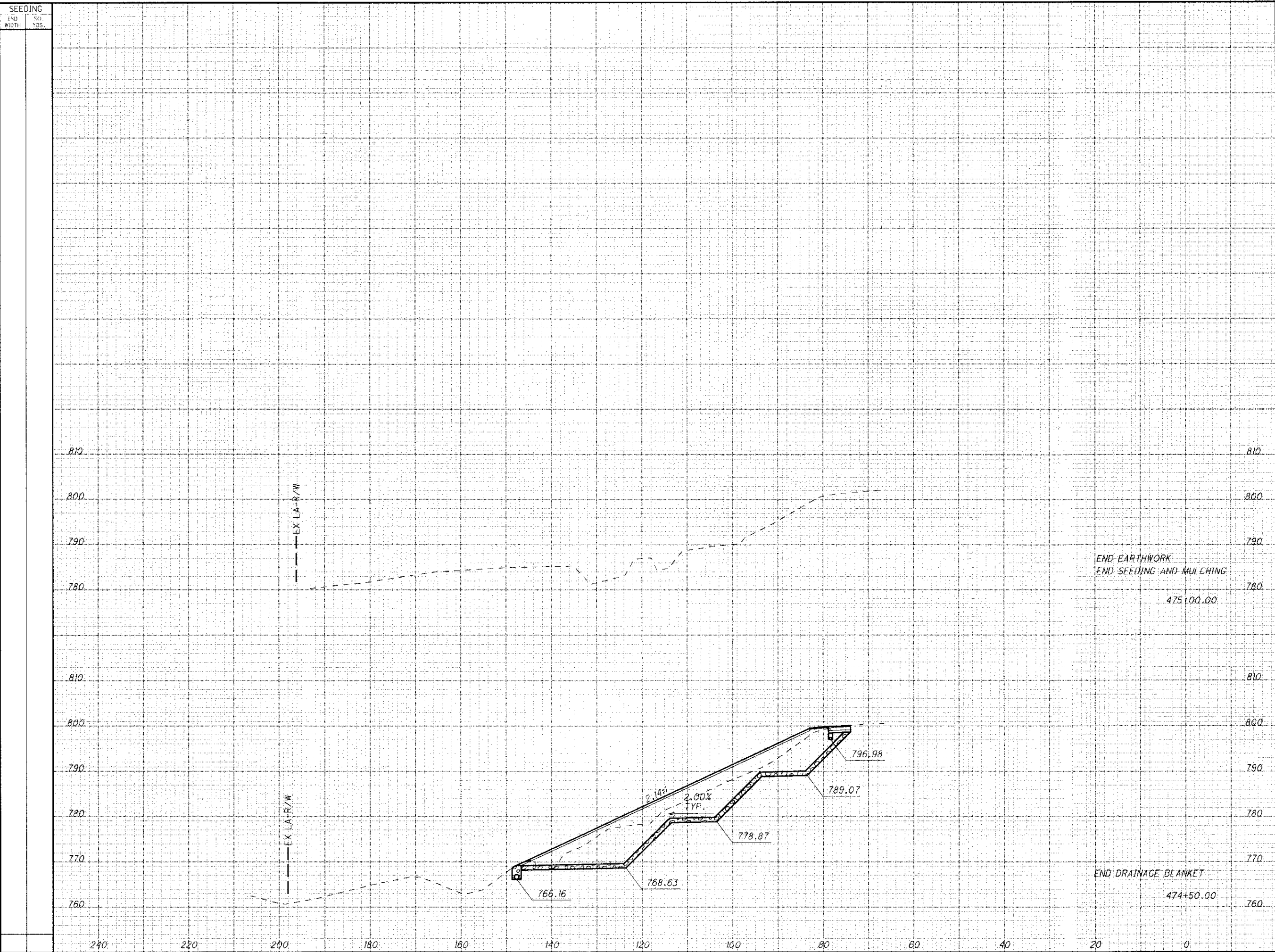
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FIND WIDTH	SO. YDS.



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END AREA		VOLUME		CALCULATED	M/JH	T/JP
CUT	FILL	CUT	FILL			
CROSS SECTIONS STA. 474+50 TO STA. 475+00						
SUM - 271 - 8.84						

