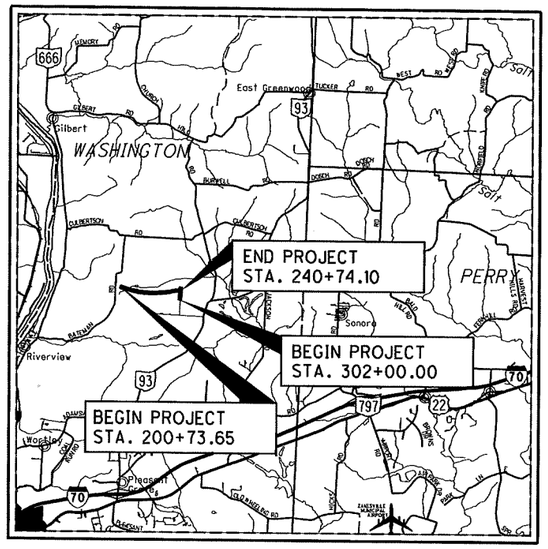

LOCATION MAP

LATITUDE: N39°59'22" LONGITUDE: W81°57'10"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2030)	0
DESIGN YEAR ADT (2030)	2000
DESIGN SPEED	45MPH
LEGAL SPEED	35MPH

DESIGN FUNCTIONAL CLASSIFICATION:
RURAL LOCAL

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:
WOOLPERT, Inc.
2780 AIRPORT DRIVE, SUITE 180
COLUMBUS, OHIO 43219
TEL: 614.476.6000
FAX: 614.476.6625
www.woolpert.com

MUS-JIM GRANGER DR.

EAST POINTE BUSINESS PARK

MUSKINGUM COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

CONSTRUCTION OF A 0.77 MILE CONNECTOR ROAD FROM BATEMAN ROAD TO JIM GRANGER DRIVE. INCLUDING CONSTRUCTION OF A 0.12 MILE EXTENSION OF JIM GRANGER DRIVE.

PROJECT EARTH DISTURBED AREA:	11.53 ACRES
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA:	1.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	12.78 ACRES

2008 SPECIFICATIONS

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

ENGINEERS SEAL:

STATE OF OHIO
NATHAN C. FISCHER
E-71880
REGISTERED PROFESSIONAL ENGINEER

SIGNED: Nathan Fischer
DATE: 6/4/08

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	10-19-07	HW-1.1	1-21-05	TC-41.20	1-19-01		
		HW-2.2	4-21-06	TC-42.20	7-16-04		
DM-1.1	4-21-06			TC-52.10	1-19-07		
DM-1.4	4-21-06			TC-52.20	1-19-07		
DM-4.2	1-21-05						
DM-4.3	7-19-02			MT-101.60	9-20-06		
DM-4.4	7-19-02						

SUPPLEMENTAL SPECIFICATIONS

800-2008	10-17-08
832	4-25-06
836	4-15-05

SPECIAL PROVISIONS

NWP 14
OEPA-PENDING

APPROVED _____
DATE 6-12-08 ZANESVILLE MUSKINGUM COUNTY PORT AUTHORITY

APPROVED _____
DATE 6/12/08 MUSKINGUM COUNTY ENGINEER

APPROVED _____
DATE 6-12-08 MUSKINGUM COUNTY COMMISSIONER

APPROVED _____
DATE 6-12-08 MUSKINGUM COUNTY COMMISSIONER

APPROVED _____
DATE 6-12-08 MUSKINGUM COUNTY COMMISSIONER

FEDERAL PROJECT NO. FAN EO 40615

PID NO. 77328

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

MUS-JIM GRANGER DR

1
46

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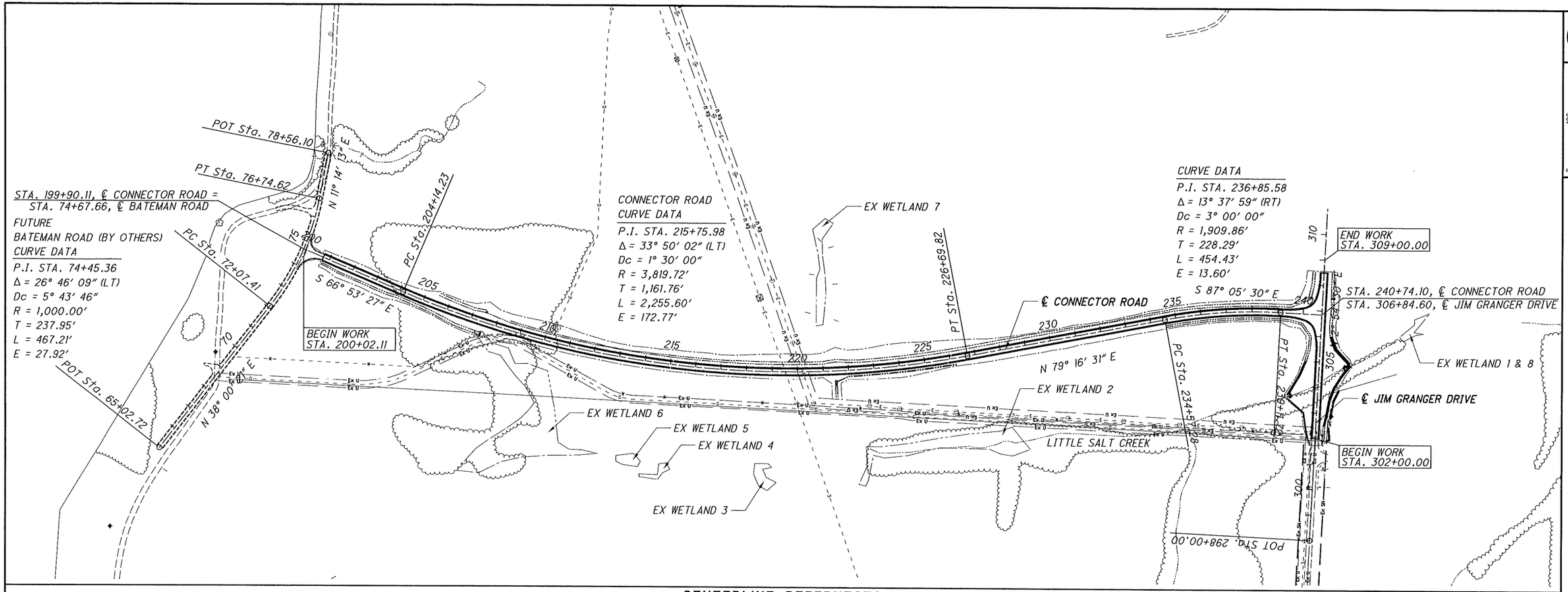
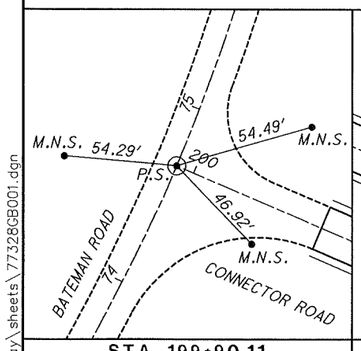
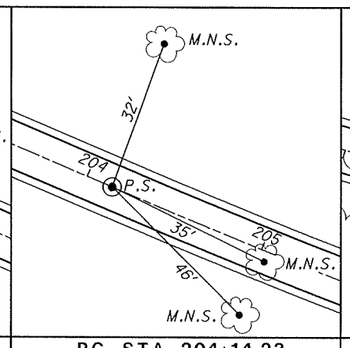


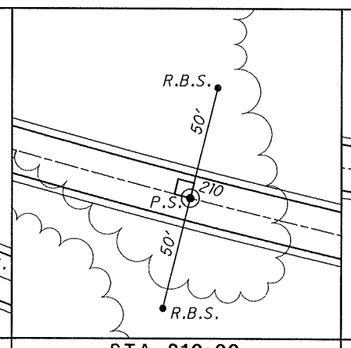
CENTERLINE REFERNECES



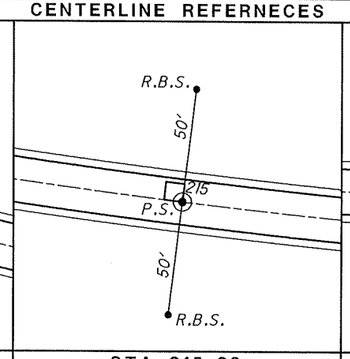
STA. 199+90.11



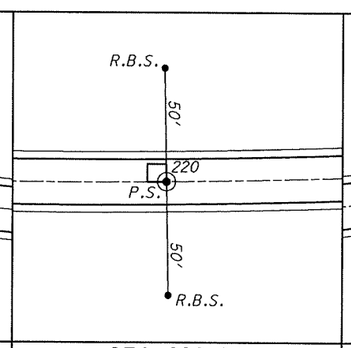
PC STA. 204+14.23



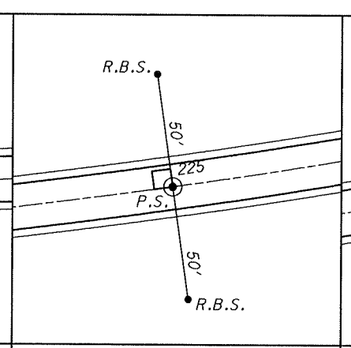
STA. 210+00



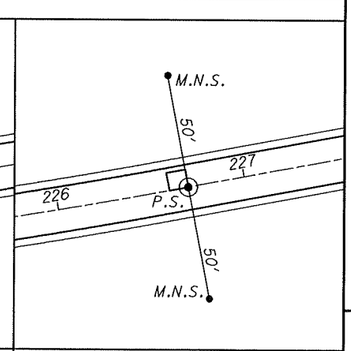
STA. 215+00



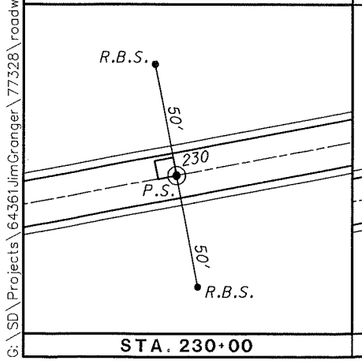
STA. 220+00



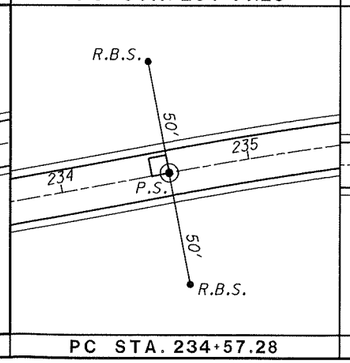
STA. 225+00



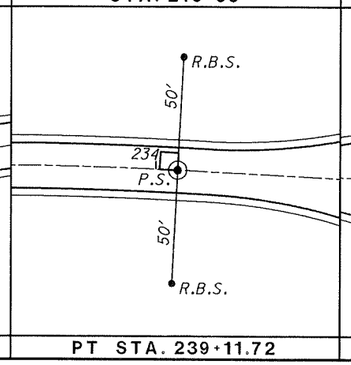
PT STA. 226+69.82



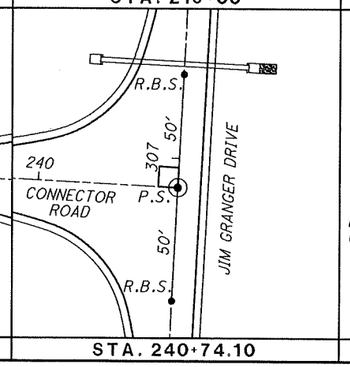
STA. 230+00



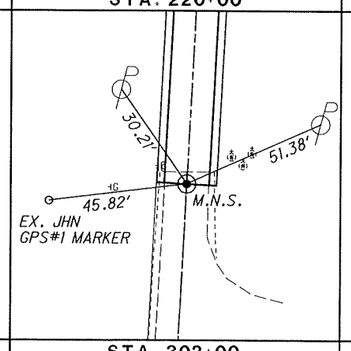
PC STA. 234+57.28



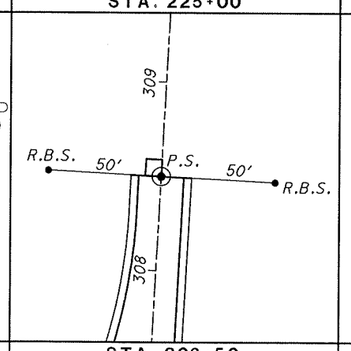
PT STA. 239+11.72



STA. 240+74.10



STA. 302+00



STA. 308+50

M.N.S. MAG NAIL SET
P.S. PONY SPIKE SET
R.B.S. REBAR SET

NOTE: CENTERLINE REFERENCES NOT TO SCALE

LEGEND

SCHEMATIC PLAN

MUS-JIM GRANGER DR

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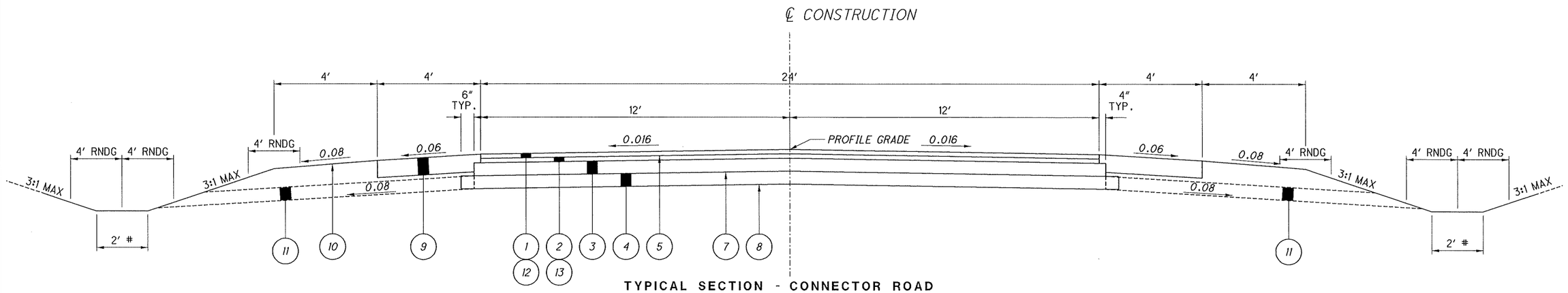
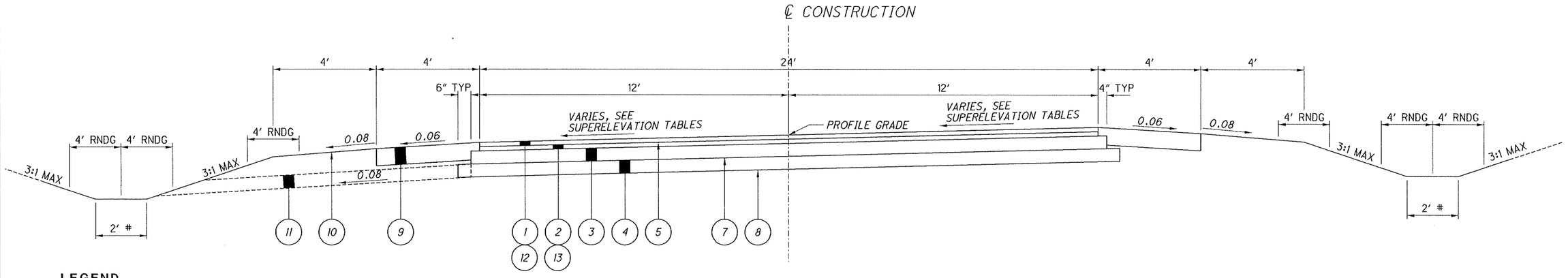


TYPICAL SECTION - CONNECTOR ROAD

STA. 201+55.35 TO STA. 203+50.96
STA. 227+33.09 TO STA. 233+71.81
STA. 239+97.19 TO STA. 240+74.10

TYPICAL SECTION - JIM GRANGER DRIVE

STA. 302+00.00 TO STA. 308+50.00



TYPICAL SECTION - CONNECTOR ROAD

STA. 200+73.65 TO STA. 201+55.35
STA. 203+50.96 TO STA. 227+33.09
STA. 233+71.81 TO STA. 239+97.19 (OPPOSITE HAND)

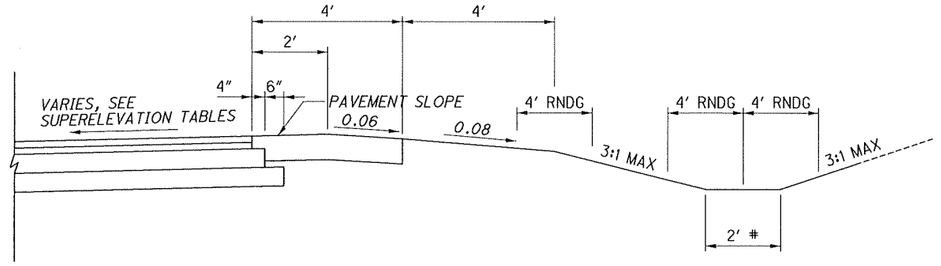
LEGEND

1. ITEM 448 - 2 " ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22
2. ITEM 448 - 2 " ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, PG 64-22
3. ITEM 301 - 6" ASPHALT CONCRETE BASE
4. ITEM 304 - 6" AGGREGATE BASE
5. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
6. NOT USED
7. ITEM 408 - PRIME COAT
8. ITEM 204 - SUBGRADE COMPACTION
9. ITEM 411 - 8" STABILIZED CRUSHED AGGREGATE
10. ITEM 659 - SEEDING AND MULCHING
11. ITEM 605 - AGGREGATE DRAINS

ALTERNATE BID FOR ASPHALT PAVEMENT

12. ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 70-22M
13. ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22

UNLESS OTHERWISE NOTED IN CROSS SECTIONS



CONNECTOR ROAD - SUPERELEVATED SHOULDER TYPICAL SECTION

STA. 200+73.65 TO STA. 200+97.63
STA. 204+08.67 TO STA. 226+75.44
STA. 234+29.46 TO STA. 239+39.52 (OPPOSITE HAND)

CALCULATED RSH CHECKED VDK

TYPICAL SECTIONS

MUS-JIM GRANGER DR

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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

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

POWER:

AEP
1900 LICKING RD.
ZANESVILLE, OHIO 43701
PH: (740) 450-4863
ATTN: FRED MILLER

POWER:

GUERNSEY-MUSKINGUM ELECTRIC
17 SOUTH LIBERTY ST.
NEW CONCORD, OHIO 43762
PH: (740) 454-0770
ATTN: ENGINEERING DEPT.

CABLE:

TIME WARNER CABLE
737 HOWARD ST.
ZANESVILLE, OHIO 43701
PH: (740) 455-9705
ATTN: ENGINEERING DEPT.

GAS:

CAMERON BROTHERS
3636 ADAMSVILLE ROAD
ZANESVILLE, OHIO 43701
PH: (740) 453-3300
ATTN: JIM CAMERON

GAS:

THE ENERGY COOPERATIVE
120 O'NEIL DR.
HEBRON, OHIO 43025
PH: (800) 255-6815
ATTN: DAVE DETTY

GAS:

COLUMBIA GAS OF OHIO
2429 LINDEN AVE.
P.O. BOX 310
ZANESVILLE, OHIO 43702
PH: (740) 452-5467
ATTN: JIM DEITRICH

TELEPHONE:

AMERITECH
160 N. 6TH ST.
ZANESVILLE, OHIO 43701
PH: (740) 454-3514
ATTN: ENGINEERING DEPT.

WATER:

MUSKINGUM COUNTY WATER DEPARTMENT
375 RICHARDS RD.
ZANESVILLE, OHIO 43701
PH: (740) 453-0678
ATTN: JEFF PICKRELL

SEWER:

MUSKINGUM COUNTY SEWER DEPARTMENT
375 RICHARDS RD.
ZANESVILLE, OHIO 43701
PH: (740) 453-0678
ATTN: JEFF PICKRELL

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON NAVD 1988.

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.

CLEARING AND GRUBBING

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

ITEM 204 - PROOF ROLLING, AS PER PLAN

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

CONTRACTOR IS TO USE A 50 TON PROOF ROLLER.

ITEM 204 - PROOF ROLLING, AS PER PLAN	5 HOUR.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	4 EACH
659, SEEDING AND MULCHING	35345 SQ. YD.
659, REPAIR SEEDING AND MULCHING	1767 SQ. YD
659, INTER-SEEDING	1767 SQ. YD.
659, COMMERCIAL FERTILIZER	4.93 TON
659, LIME	7 ACRES
659, WATER	196 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.

FARM DRAINS

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

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

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

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

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

603	6" CONDUIT, TYPE B	100 FT.
603	6" CONDUIT, TYPE E	100 FT.
603	6" CONDUIT, TYPE F	100 FT.

ITEM 614, MAINTAINING TRAFFIC

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS FOLLOWS:
ON JIM GRANGER DRIVE AT STA. 302+00 AND ON THE CONNECTOR ROAD AT STA. 200+10.

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 ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE, AND AT 25 FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

CONNECTOR ROAD:

-BEGINNING AT STA. 201+00 AND ENDING AT STA. 234+00 PLACE AGG DRAIN AT 50' INTERVALS ALONG THE LEFT SIDE OF THE ROAD
-PLACE AN AGGERATE DRAIN AT STA. 208+34.24, 221+56.10, AND STA. 240+00 ON THE LEFT SIDE OF THE ROAD.

-BEGINNING AT STA. 201+25 AND ENDING AT STA. 203+75 PLACE AGG DRAIN AT 50' INTERVALS ALONG THE RIGHT SIDE OF THE ROAD
-BEGINNING AT STA. 227+25 AND ENDING AT STA. 240+00 PLACE AGG DRAIN AT 50' INTERVALS ALONG THE RIGHT SIDE OF THE ROAD

JIM GRANGER DRIVE:

-BEGINNING AT STA. 302+00 AND ENDING AT STA. 308+50 PLACE AGG DRAIN AT 50' INTERVALS ALONG THE LEFT SIDE OF THE ROAD
-PLACE AN AGGERATE DRAIN AT STA. 306+05.53 ON THE LEFT SIDE OF THE ROAD.
-BEGINNING AT STA. 302+25 AND ENDING AT STA. 308+25 PLACE AGG DRAIN AT 50' INTERVALS ALONG THE RIGHT SIDE OF THE ROAD
-PLACE AN AGGERATE DRAIN AT STA. 306+05.53 ON THE RIGHT SIDE OF THE ROAD.

WETLAND PLAN NOTE

EIGHT (8) WETLANDS ARE IDENTIFIED IN THE VICINITY OF THE PROJECT AREA. THE LOCATIONS OF THE WETLAND AREAS ARE NOTED ON THE SCHEMATIC PLAN SHEET AND ON THE PLAN AND PROFILE SHEETS. THE WETLAND AREAS ARE LOCATED ON THE OUTSIDE OF THE CONSTRUCTION LIMITS. THE CONTRACTOR MAY NOT ENTER OR USE THESE AREAS AS A STAGING AREA, OR ALLOW ANY CONSTRUCTION, MATERIAL STORAGE, WASTE, BORROW OR ANY OTHER TYPE OF WORK IN THESE AREAS. SILT FENCE IS TO BE PLACED AROUND THE WETLANDS LOCATED ON PORT AUTHORITY PROPERTY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. DETAILS REGARDING THE WETLAND CAN BE OBTAINED FROM THE ECOLOGICAL SURVEY REPORT: LEVEL 1.

INDIANA BAT NOTE

CLEARING OF ANY TREES THAT HAVE SUITABLE SUMMER BROOD REARING OR ROOSTING HABITAT FOR THE FEDERALLY ENDANGERED INDIANA BAT (E.G. TREES WITH EXFOLIATING BARK AND/OR CAVITIES), SHALL OCCUR BEFORE APRIL 15 OR AFTER SEPTEMBER 15 WHEN THE BATS WOULD NOT BE USING SUCH HABITAT.

CONTRACTOR COORDINATION

IT IS IMPORTANT THAT THE CONTACTOR NOTIFY AND COORDINATE CONSTRUCTION ACTIVITIES WITH THE CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF THE BATEMAN ROAD IMPROVEMENTS. ANY WORK NOTED AS BY OTHERS WITHIN THIS PLAN SET ARE BEING PERFORMED AS PART OF THE BATEMAN ROAD IMPROVEMENTS.

DUST CONTROL

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

ITEM 616	WATER	133 MGAL

UNSUITABLE SOIL

THE FOLLOWING ITEMS HAVE BEEN INCLUDED AS CONTINGENCY QUANTITIES TO BE USED ONLY AT THE DIRECTION OF THE ENGINEER FOR THE PURPOSE OF REMOVING UNSUITABLE SOIL.

204, EXCAVATION OF SUBGRADE	1000 CY
204, EMBANKMENT	1000 CY
204, GRANULAR EMBANKMENT	330 CY
204, GRANULAR MATERIAL, TYPE B	330 CY
204, GRANULAR MATERIAL, TYPE C	330 CY
204, GEOTEXTILE FABRIC	1000 SY

CONTINGENCY ITEMS

ALL ITEMS NOTED AS CONTINGENCY ITEMS IN THE PLANS SHALL NOT BE ORDERED BY THE CONTRACTOR UNLESS DIRECTED TO DO SO BY THE ENGINEER.

CALCULATED RSH CHECKED VDK

GENERAL NOTES

MUS-JIM GRANGER DR

CLEAN WATER ACT PERMIT (PENDING)

A CLEAN WATER ACT PERMIT HAS BEEN APPLIED FOR BY THE MUSKINGUM COUNTY ENGINEER'S OFFICE FOR THE PROJECT IMPACTS RELATED TO THE IDENTIFIED WETLAND AREAS AND THE LOCATION AT THE STREAM WHERE THE CULVERT WILL BE CONSTRUCTED. AT THIS TIME THE CLEAN WATER ACT PERMIT HAS NOT BEEN ISSUED FOR THE PROJECT. AT PRESENT A NATIONWIDE PERMIT FROM THE ARMY CORPS OF ENGINEERS HAS BEEN SECURED HOWEVER, THE IMPACTS EXCEED THE LIMITS CERTIFIED BY THE OHIO EPA. THEREFORE, AN INDIVIDUAL 401 PERMIT NEEDS TO BE OBTAINED PRIOR TO ANY WORK IN THE IMPACTED WETLAND AREAS AND STREAM.

NO WORK IN THESE JURISDICTIONAL WATERS CAN OCCUR UNTIL THE APPROPRIATE PERMIT HAS BEEN ISSUED BY OEPA. IT IS ANTICIPATED THAT THE APPROPRIATE PERMITS WILL BE ISSUED BY NOVEMBER 15, 2008.

IT SHOULD BE NOTED THAT THE OTHER WETLANDS IN THE PROJECT AREA ARE TO BE AVOIDED DURING CONSTRUCTION AS WELL AS AVOIDANCE OF IMPACTS TO THE STREAM.

WETLAND AVOIDANCE

AREAS OF WETLANDS ARE INDETIFIED IN THE VICINITY OF THE PROJECT AREA. THE LOCATION OF THE WETLAND AREAS ARE NOTED ON THE PLAN SHEETS. THE WETLANDS ARE LOCATED ADJACENT TO THE PROPOSED ROADWAY.

THE WETLANDS ARE LOCATED:

#1/#8 TO ADJACENT LITTLE SALT CREEK, WEST AND EAST OF STA 304+00

#2,#3,#4,#5-LOCATED SOUTH OF STA 210+00 TO 230+00

#6-LOCATED IMMEDIATELY ADJACENT TO STA 207+00 TO208+00

#7-ISOLATED WETLAND LOCATED NORTH OF STA 220+00 (SNOW FENCE ONLY)

THE CONTRACTOR MAY NOT ENTER OR USE THE STREAM OR WETLAND AREAS AS A STAGING AREA, OR ALLOW ANY CONSTRUCTION, MATERIAL STORAGE, WASTE OR ANY OTHER TYPE OF WORK IN THESE AREAS. SILT FENCE IS NEEDED TO BE INSTALLED BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO PREVENT MATERIAL FROM ENTERING THE WETLAND DURING GRADING ACTIVITIES. THE WETLANDS TO HAVE SILT FENCE INSTALLED AT THE PERIMETER ARE THE ONES LOCATED ON MUSKINGUM PORT AUTHORITY LAND. ADDITIONAL DETAILS REGARDING THE WETLAND LOCATIONS AND BOUNDARIES CAN BE OBTAINED FROM THE DISTRICT 5 ENVIRONMENTAL COORDINATOR (740) 323-5191.

ITEM 207 - PERIMETER FILTER FABRIC FENCE 6884 LF

ITEM 607 - SNOW FENCE 925 LF

WETLAND PERMIT DETERMINATION (404/401)

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTION 404/401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. THE OHIO DEPARTMENT OF TRANSPORTATION-OFFICE OF ENVIRONMENTAL SERVICES (OES) AND/OR THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE) HAS DETERMINED THAT THE PROJECT MEETS THE CRITERIA OF NATIONWIDE PERMIT #14 (ID #2007-947); THE OEPA PERMIT CERTIFICATION IS PENDING. BASED UPON THE ANTICIPATED IMPACTS TO STREAM(S) AND/OR WETLAND(S) AS PRESENTED IN THE PLANS. HOWEVER THIS PERMIT DETERMINATION DID NOT INCLUDE THE USE OF TEMPORARY CONSTRUCTION ACCESS FILLS THAT MAY BE REQUIRED FOR CONSTRUCTION (I.E. CAUSEWAY STREAM CROSSINGS, CONSTRUCTION ACCESS PADS, COFFERDAMS, ETC.). INFORMATION REGARDING THE USE OF TEMPORARY CONSTRUCTION ACCESS FILLS MAY NOT HAVE BEEN KNOWN AT THE TIME OF THE PERMIT DETERMINATION. THE CONTRACTOR SHOULD BE AWARE THAT THE USE OF TEMPORARY FILL BELOW THE ORDINARY HIGH WATER MARK (OHWM), WHICH IS THE USACE'S JURISDICTIONAL LIMITS, WILL REQUIRE A PRECONSTRUCTION NOTICE (PCN) AND AUTHORIZATION BY THE USACE AND OEPA AND REOPENING THE PERMITTING PROCESS FOR THE PROJECT.

SHOULD TEMPORARY CONSTRUCTION ACCESS FILL BE REQUIRED, THE CONTRACTOR OR LOCAL PROJECT SPONSOR SHALL COORDINATE SUCH ACTIVITIES, INCLUDING THE PCN, WITH THE APPROPRIATE USACE DISTRICT OFFICE AND ALLOW 6-8 MONTHS FOR THE TOTAL PROCESSING OF THE REVISED PERMIT. THE CONTRACTOR SHALL NOT UTILIZE TEMPORARY FILLS BELOW THE OHWM UNTIL SUCH ACTIVITY IS AUTHORIZED BY THE USACE. SHOULD A PCN BE REQUIRED, THE PCN SHALL INCLUDE PERTINENT INFORMATION (I.E. VOLUME AND SURFACE AREA OF TEMPORARY FILLS) AND DRAWINGS (PLAN AND PROFILE VIEW) OF TEMPORARY FILLS BELOW OHWM. ONLY CLEAN, NON ERODIBLE MATERIALS SHALL BE USED FOR TEMPORARY CONSTRUCTION ACCESS FILLS. ANY TEMPORARY FILLS BELOW OHWM SHALL BE REMOVED FOLLOWING COMPLETION OF THE AUTHORIZED ACTIVITY AND THE AREA OF STREAM WHERE TEMPORARY FILL WAS LOCATED SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITIONS

USACE DEFINITION OF OHWM-THE ORDINARY HIGH WATER MARK IS THE LINE ON THE SHORES ESTABLISHED BY THE FLUCTUATIONS OF WATER AS INDICATED BY PHYSICAL CHARACTERISTICS SUCH AS CLEAR, NATURAL LINE IMPRESSED ON THE BANK; SHELVING; CHANGES IN THE CHARACTER OF THE SOIL; DESTRUCTION OF TERRESTRIAL VEGETATION; THE PRESENCE OF LITTER AND DEBRIS; OR THE APPROPRIATE MEANS THAT CONSIDER THE CHARACTERISTICS OF THE SURROUNDING AREAS.

WETLAND BANK CREDIT PURCHASE

TO MITIGATE THE PROJECT IMPACTS ON JURISDICTIONAL WETLANDS, THE CONTRACTOR SHALL PURCHASE 1.0 ACRES OF WETLAND MITIGATION CREDITS FROM THE PANZNER MITIGATION BANK. THE TRANSACTION SHALL BE INITIATED BY THE CONTRACTOR WITHIN 30 DAYS OF THE ISSUANCE OF THE PERMIT BY OEPA OR 30 DAYS FROM AUTHORIZATION OF THE CONTRACT. THE PANZNER MITIGATION BANK CAN BE REACHED AT PANZNER AND SONS, INC. AT (330)864-9485.

PAYMENT FOR THIS ITEM WILL BE THE AMOUNT PAID TO THE SELECTED WETLAND MITIGATION BANK. DOCUMENTATION THAT THE MITIGATION CREDITS HAVE BEEN PURCHASED SHALL BE PROVIDED TO THE PROJECT ENGINNER AND ODOT DISTRICT 5 ENVIRONMENTAL COORDINATOR UPON COMPLETION OF THE TRANSACTION.

ITEM SPECIAL-WETLAND MITIGATION LUMP SUM

UNEXPECTED ARCHAEOLOGICAL DISCOVERY

IN THE EVENT OF THE INADVERTENT DISCOVERY OF ARCHEOLOGICAL ITEMS DURING CONSTRUCTION, INCLUDING HUMAN REMAINS, THE PROJECT WILL CEASE IMMEDIATELY IN THE AREA OF THE DISCOVERY, A REASONABLE EFFORT TO PROTECT THE ITEM WILL BE MADE BY THE CONTRACTOR AND NOTICE PROVIDED TO THE ODOT DISTRICT 5 ENVIRONMENTAL, COORDINATOR, JACKSONTOWN ROAD, PO BOX 306 JACKSONTOWN, OHIO 43030 (740) 323-4400. THIS REQUIREMENT IS IN COMPLIANCE WITH THE PART OF NAGPRA SECTION 3(D) OF 25 USC 3002 (D).

CALCULATED RSH CHECKED VDK

GENERAL NOTES

MUS-JIM GRANGER DR

4A
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QTY	UNIT	ITEM	DESCRIPTION
			Roadway
1	LS	201	Clearing and Grubbing
25	FT	202	Guardrail Removed for Reuse
25098	CY	203	Embankment
34743	CY	203	Excavation
1000	CY	204	Excavation of Subgrage
1000	CY	204	Embankment
330	CY	204	Granular Embankment
330	CY	204	Granular Material, Type B
330	CY	204	Granular Material, Type C
1000	CY	204	Geotextile Fabric
25	FT	606	Guardrail Rebuilt
			Erosion Control
6884	LF	207	Perimeter Filter Fabric Fence
299	CY	601	Rock Channel Protection, Type B, with Filter
925	LF	607	Fence, Snow
133	MGAL	616	Dust Control
35345	SY	659	Seeding and Mulching
4	EA	659	Soil Analysis Test
4.93	TON	659	Commercial Fertilizer
196	MGAL	659	Water
1767	SY	659	Inter Seeding
7	ACRES	659	Lime
1767	SY	659	Repair Seeding and Mulching
3643	SY	3478	Ditch Erosion Protection Mat, Type A
989	SY	596	Seeding and Erosion Control with Turf Reinforcing Mat, Type 1
			Drainage
39.5	SY	601	Riprap using 6" reinforced concrete slab
29.9	CY	602	Concrete Masonry
80	FT	603	27" Conduit, Type B (706.02)
78	FT	603	30" Conduit, Type B (706.02)
74	FT	603	42" Conduit, Type B (706.02)
238	FT	603	60" Conduit, Type B (706.02)
100	FT	603	6" Conduit, Type B
100	FT	603	6" Conduit, Type E
100	FT	603	6" Conduit, Type F
50	FT	603	6" Conduit, Type F For Underdrain Outlets
2	EA	604	Precast Reinforced Concrete Outlet
1651	FT	605	Aggegate Drains

QTY	UNIT	ITEM	DESCRIPTION
			Pavement
14401	SY	204	Subgrade Compaction
5	HR	204	Proof Rolling, As Per Plan
2201	CY	301	6" Asphalt Concrete Base, PG64-22
2287	CY	304	6" Aggregate Base
515	GAL	407	Tack Coat for Intermediate Course
5488	GAL	408	Prime Coat
867	CY	411	Stabilized Crushed Aggregate
715	CY	448	Asphalt Concrete Surface Course, Type 1 PG 64-22
715	CY	448	Asphalt Concrete Intermediate Course, Type 1 PG 64-22
			Traffic Control
52	FT	630	Ground Mounted Post, No. 2 Post
28	SF	630	Sign Flat Sheet, Type G
3	EA	630	Removal of Ground Mounted Sign and Reerection
3	EA	630	Removal of Ground Mounted Post Support and Reerection
0.88	MI	644	Centerline, Double Yellow
1.79	MI	644	Edgeline
47	FT	644	Stop Line
			Miscellaneous
1	LS	614	Maintenance of Traffic
8	MO	619	Field Office, Type A
1	LS	623	Construction Layout Stakes
1	LS	624	Mobilization
1	LS	832	Storm Water Pollution Prevention Plan
50000	EA	832	Erosion Control
1	LS	SPEC	Wetland Mitigation
			Bid Alternate
447	CY	448	Asphalt Concrete Surface Course, Type 1 PG 70-22M
626	CY	448	Asphalt Concrete Intermediate Course, Type 2 PG64-22

CALCULATED NGF
CHECKED VDK

GENERAL SUMMARY

MUS-JIM GRANGER DR

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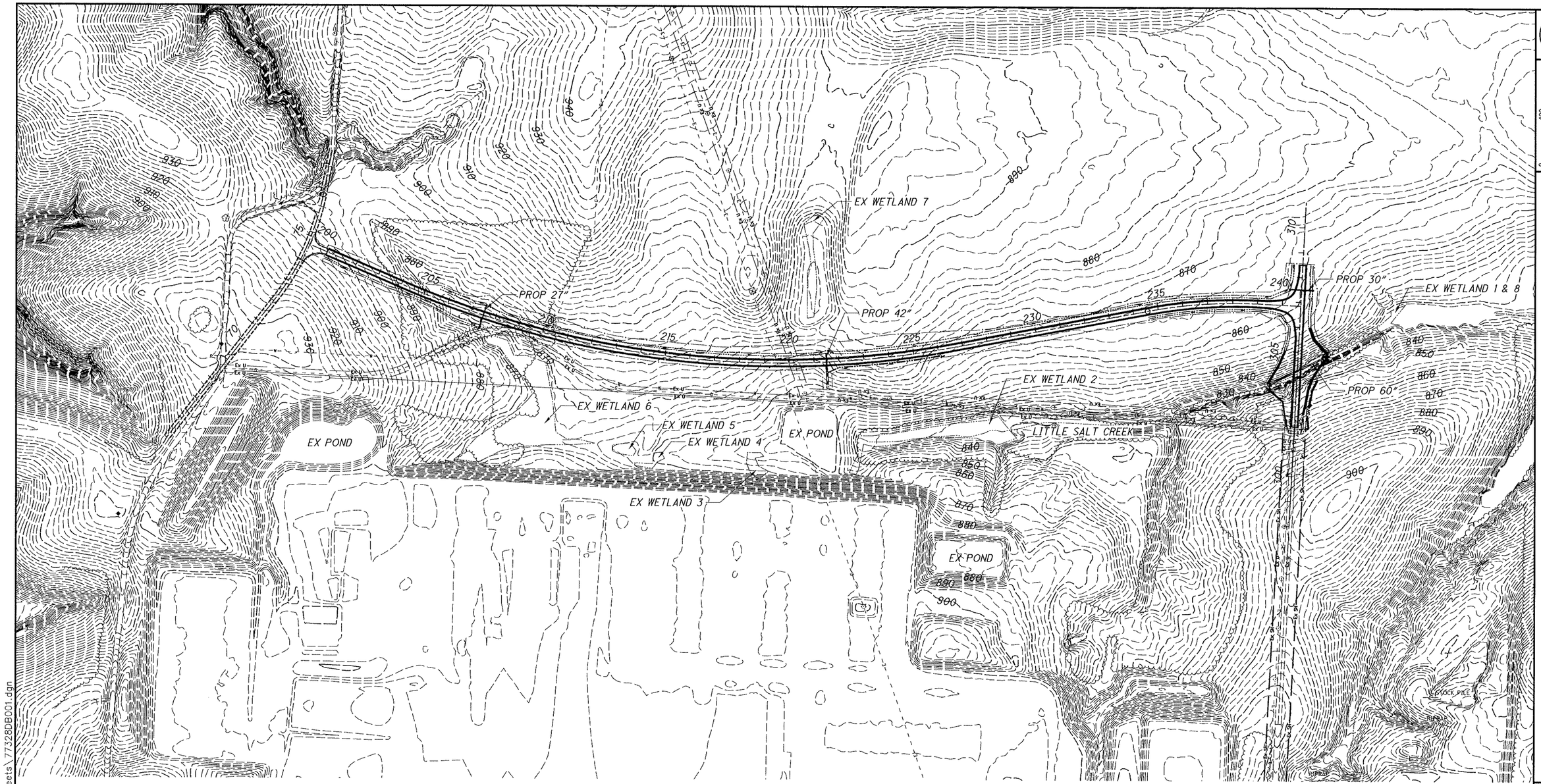

PROJECT SITE PLAN

MUS-JIM GRANGER DR

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PROJECT DESCRIPTION

CONSTRUCTION OF A 0.77 MILE CONNECTOR ROAD FROM BATEMAN ROAD TO JIM GRANGER DRIVE, INCLUDING CONSTRUCTION OF A 0.12 MILE EXTENSION OF JIM GRANGER DRIVE.

USGS Quadrants
Zanesville East, Ohio
*Longitude: 81°57'10"**
*Latitude: 39°59'22"**

** Longitude and Latitude to Approx. Center of Project*

PROJECT DATA			
Total Area (Right-of-Way)	N/A	Runoff Coefficient for Pre-Construction Site	0.50 Ac
Project Earth Disturbed Area	11.53 Ac	Runoff Coefficient for Post Construction Site	0.62 Ac
Estimated Contractor Earth Disturbed Area	1.25 Ac	Soil and Water Conservation Map	Soil Survey of Muskingum County (1987) Sheet 42
Notice of Intent Earth Disturbed Area	12.78 Ac	Immediate Recieving Waters	Little Salt Creek
Impervious (Paved) Area for Pre-Construction Site	0 Ac	Subsequent Recieving Water	Muskingum River
Impervious (Paved) Area for Post Construction Site	3.50 Ac		

FOR CULVERT SEE SHEET 17

PAVEMENT MARKING LEGEND

(DY) - CENTERLINE, DOUBLE YELLOW, SOLID

(EL) - EDGE LINE, WHITE

(SL) - STOP LINE

N 11° 14' 13" E

PT STA. 76+74.62

BEGIN WORK STA. 200+02.11

BEGIN PROJECT STA. 200+73.65

STOP

R1-1-30 200+35

SL

℄ CONST. CONNECTOR ROAD

CONST. LIMITS

PC Sta. 204+14.23

DY

EL

CONNECTOR ROAD CURVE DATA

P.I. STA. 215+75.98
Δ = 33° 50' 02" (LT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 1,161.76'
L = 2,255.59'
E = 172.77'

+50 BEGIN M-A

STA. 207+50.00 ℄ CONST. CONNECTOR ROAD

RIPRAP CUTOFF WALL

+00 END M-A BEGIN M-1

+50 END M-1 BEGIN M-A

PROP. DITCH

+00 END M-A

HW-2.2

STA. 199+90.11 ℄ CONNECTOR ROAD = STA. 74+67.66 ℄ BATEMAN ROAD

S 66° 53' 27" E

PROP. 27" RCP

HW-2.2

MATCH LINE 208+50

+75 BEGIN M-A

PROP. DITCH

CONST. LIMITS

+00 END M-A BEGIN M-1

+00 END M-1 BEGIN M-A

+50 END M-A

R22-1-24 203+00

SPEED LIMIT 35

RIPRAP CUTOFF WALL

ROCK CHANNEL PROTECTION TYPE B, WITH FILTER
10'L X 4'W X 30"T/27=3.70CY

EX. WETLAND 6

EX. GAS

EX. 18" DUCTILE IRON WATER

FUTURE BATEMAN ROAD (BY OTHERS) CURVE DATA

P.I. STA. 74+45.36
Δ = 26° 46' 09" (LT)
Dc = 5° 43' 46"
R = 1,000.00'
T = 237.95'
L = 467.21'
E = 27.92'

PC Sta. 72+07.41

N 38° 00' 21" E

DITCH EROSION PROTECTION LEGEND

M-A ITEM 670 - DITCH EROSION PROTECTION MAT, TYPE A
M-1 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
M-3 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3

℄ BATEMAN ROAD (BY OTHERS)

73.65, MEET EX. FULL DEPTH PAVEMENT

STA 200+90.00 ELEV 903.52

220.00' VC
P.V.I. STA 202+00.00
ELEV = 901.32'
SSD = 414'
K = 62

-2.00 %

-5.55 %

STA 203+10.00 ELEV 895.22

EXISTING GROUND

PROFILE GRADE

STA 204+90.00 ELEV 890.78

-5.55 %

+2.20 %

PROP. 27" RCP

620.00' VC
P.V.I. STA 207+00.00 ELEV = 873.57'
K = 80

903.82 903.31 902.72 902.03 901.24 900.35 899.35 898.26 897.06 895.76 894.38 893.00 891.61 890.23 888.91 887.67 886.51 885.43 884.42 883.50 882.65 881.88 881.18 880.57 880.03 879.58 879.20 878.89 878.67 878.52 878.46 878.47

905.32 904.32 902.40 900.30 898.26 896.12 894.39 891.99 889.68 885.48 881.32 877.35 875.00 875.00 875.00 874.01 874.70 875.87

910 900 890 880 870 860 850

200+00 201+00 202+00 203+00 204+00 205+00 206+00 207+00 208+00

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N

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED RSH CHECKED VDK

PLAN AND PROFILE - CONNECTOR ROAD
STA. 200+00.00 TO STA. 208+50.00

MUS-JIM GRANGER DR

7
46

PAVEMENT MARKING LEGEND

(DY) - CENTER LINE, DOUBLE YELLOW, SOLID

(EL) - EDGE LINE, WHITE

(SL) - STOP LINE

CURVE DATA

P.I. STA. 215+75.98
Δ = 33° 50′ 02″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 1,161.76′
L = 2,255.59′
E = 172.77′

MATCH LINE 208+50

MATCH LINE 221+00

EL

DY

PROP. DITCH

CONST. LIMITS

+00 BEGIN M-A

+00 END M-A
BEGIN M-1

+00 END M-1
BEGIN M-A

+00 END M-1
BEGIN M-1

4′
12″
12″
4′

℄ CONST. CONNECTOR ROAD

EX. WETLAND 7

EX. WETLAND 6

EX. GAS

EX. 18″ DUCTILE IRON WATER

CAUTION OVERHEAD POWERLINES

Ex U

ExW

G

W

DITCH EROSION PROTECTION LEGEND

M-A ITEM 670 - DITCH EROSION PROTECTION MAT, TYPE A
M-1 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
M-3 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3

878.47 878.55 878.72 878.96 879.29 879.68 880.17 880.71 881.26 881.81 882.35 882.90 883.40 883.81 884.13 884.38 884.53 884.59 884.57 884.46 884.26 883.98 883.61 883.16 882.61 881.98 881.28 880.59 879.88 879.19 878.48 877.79 877.08 876.38 875.68 874.98 874.28 873.58 872.88 872.18 871.48 870.78 870.08 869.42 868.82 868.29 867.83 867.43 867.11 866.85 866.67

900 890 880 870 860 850 840

360.00′ VC
P.V.I. STA 213+02.84 ELEV = 886.81′
SSD = 396′
K = 72

EXISTING GROUND

PROFILE GRADE

STA 210+22.84
ELEV 882.86

STA 210+10.00
ELEV 880.38

STA 214+82.84
ELEV 881.77

+2.20 %

-2.80 %

STA 219+00.00
ELEV 870.08

-2.80 %

+0.48 %

300.00′ VC
P.V.I. STA 220+50.00
ELEV = 865.88′
K = 91

875.87 877.56 879.67 880.90 881.84 882.62 883.38 884.09 884.26 884.05 883.68 883.04 881.95 880.87 879.71 878.40 876.76 875.48 874.24 872.83 871.44 869.93 868.70 867.72 867.15 867.62

209+00 210+00 211+00 212+00 213+00 214+00 215+00 216+00 217+00 218+00 219+00 220+00 221+00

CALCULATED RSH
CHECKED VDK

HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN AND PROFILE - CONNECTOR ROAD
STA. 208+50.00 TO STA. 221+00.00

MUS-JIM GRANGER DR

8
46

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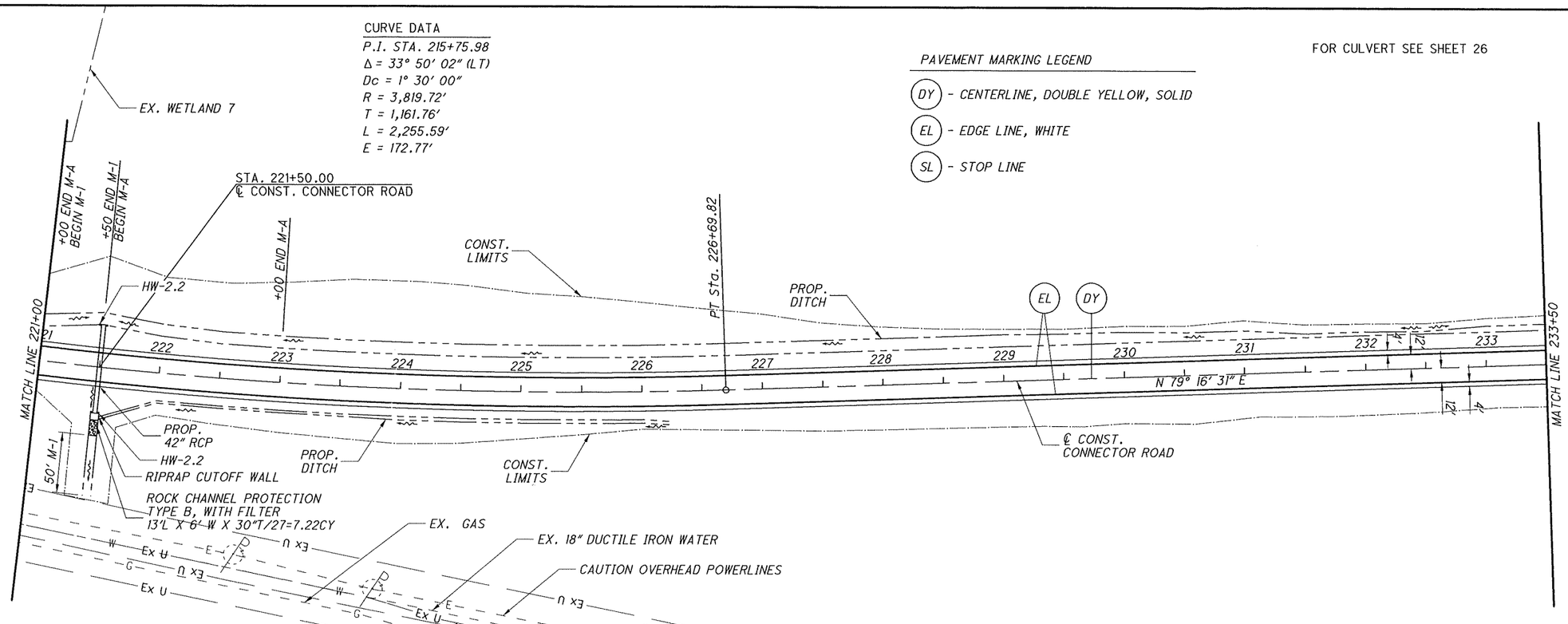
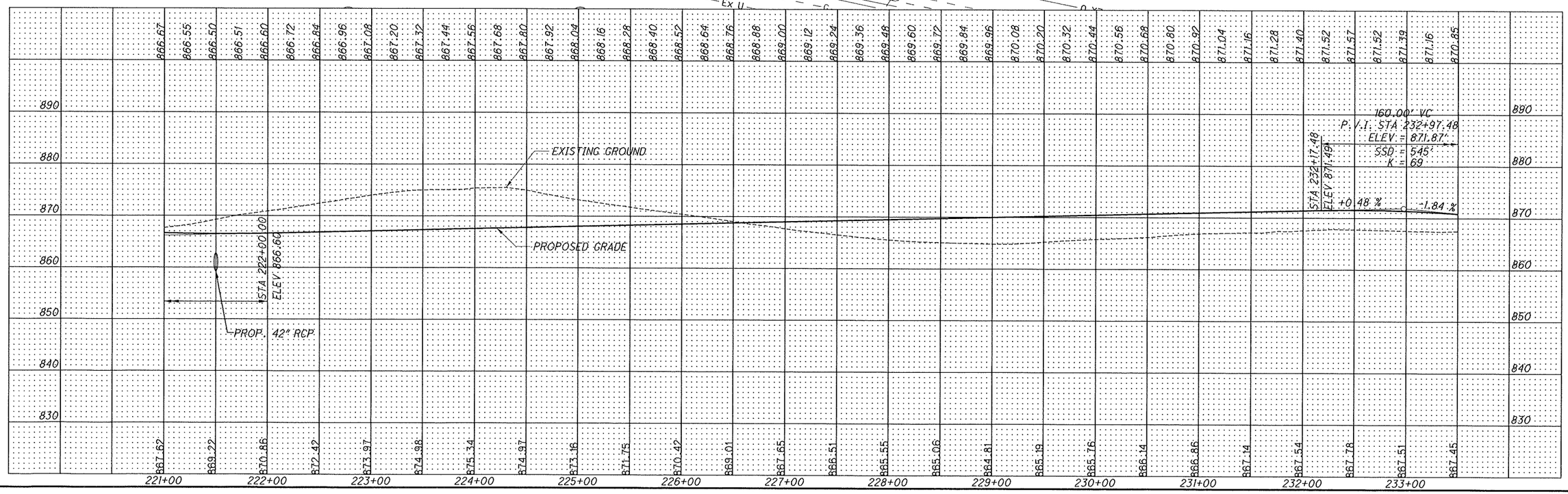
CURVE DATA
P.I. STA. 215+75.98
Δ = 33° 50′ 02″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 1,161.76′
L = 2,255.59′
E = 172.77′

PAVEMENT MARKING LEGEND
(DY) - CENTERLINE, DOUBLE YELLOW, SOLID
(EL) - EDGE LINE, WHITE
(SL) - STOP LINE

FOR CULVERT SEE SHEET 26



DITCH EROSION PROTECTION LEGEND
M-A ITEM 670 - DITCH EROSION PROTECTION MAT, TYPE A
M-1 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
M-3 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3



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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED RSH
CHECKED VDK

PLAN AND PROFILE - CONNECTOR ROAD
STA. 221+00.00 TO STA. 233+00.00

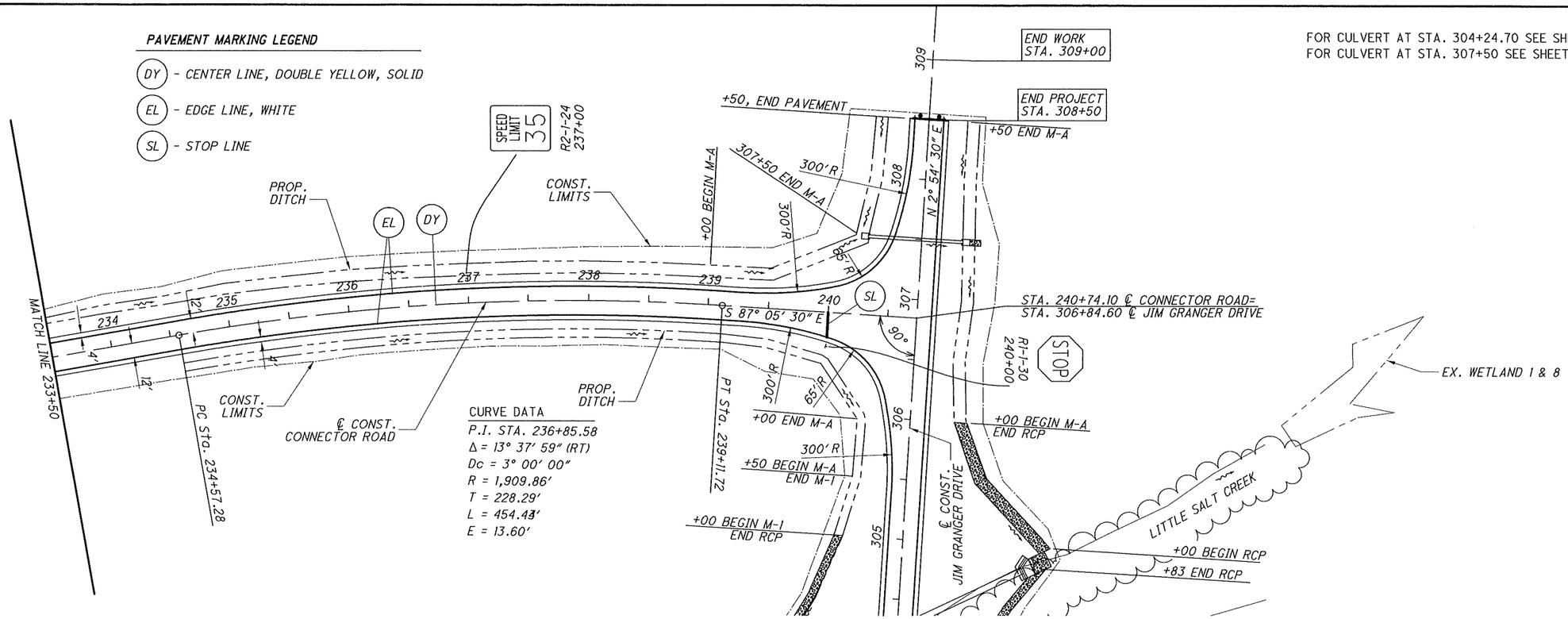
MUS-JIM GRANGER DR

PAVEMENT MARKING LEGEND

(DY) - CENTER LINE, DOUBLE YELLOW, SOLID

(EL) - EDGE LINE, WHITE

(SL) - STOP LINE



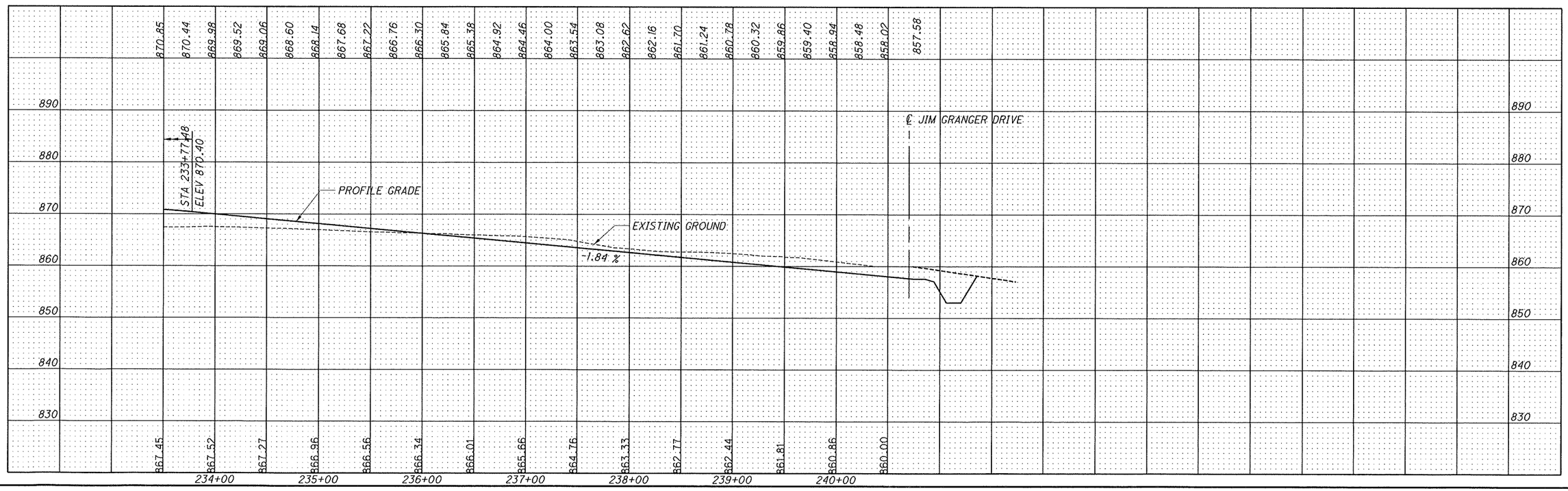
CURVE DATA

P.I. STA. 236+85.58
Δ = 13° 37' 59" (RT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 228.29'
L = 454.43'
E = 13.60'

FOR CULVERT AT STA. 304+24.70 SEE SHEET 40
FOR CULVERT AT STA. 307+50 SEE SHEET 42

DITCH EROSION PROTECTION LEGEND

M-A ITEM 670 - DITCH EROSION PROTECTION MAT, TYPE A
M-1 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
M-3 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3



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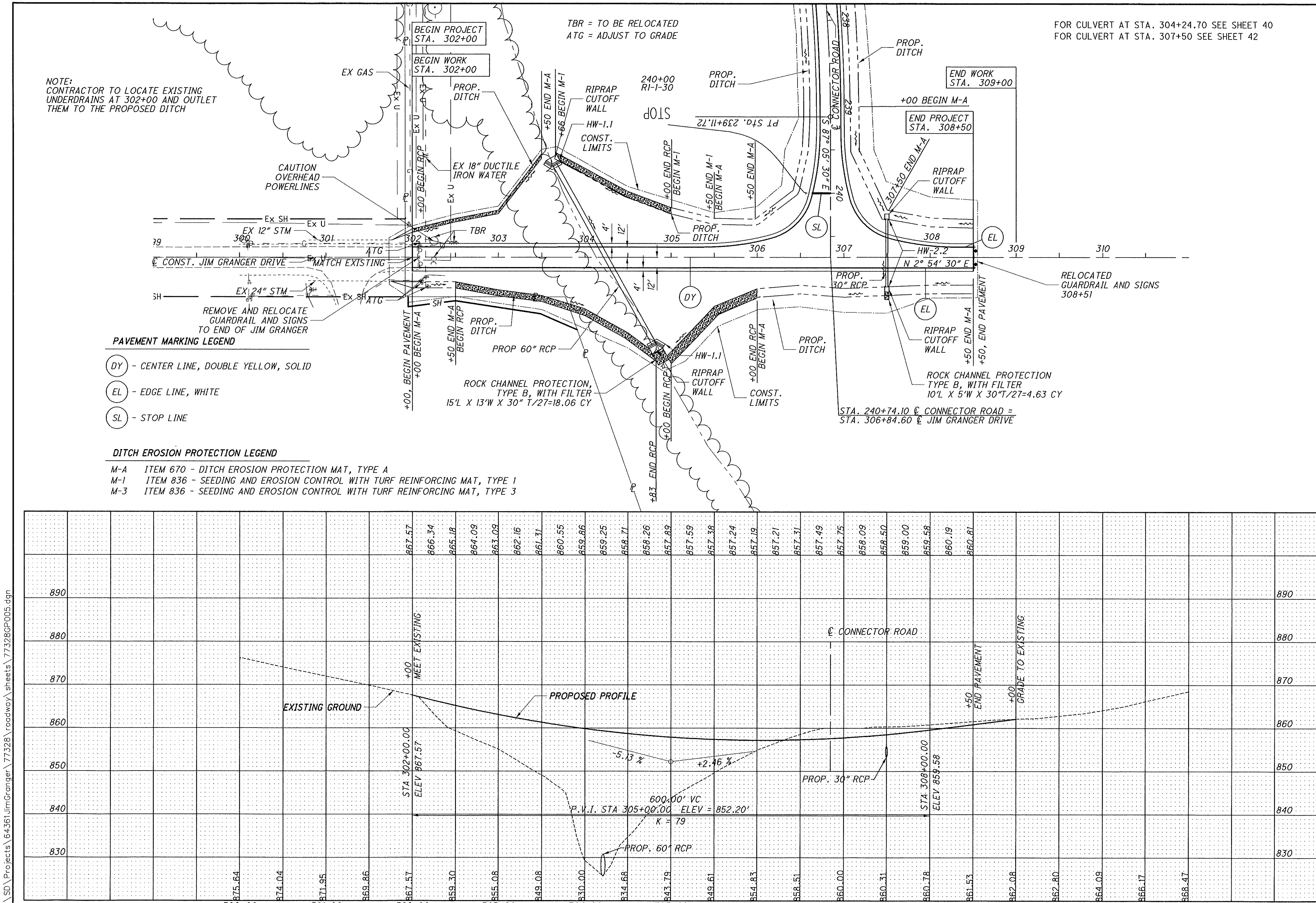
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED RSH
CHECKED VDK

PLAN AND PROFILE - CONNECTOR ROAD
STA. 233+50.00 TO STA. 240+74.10

MUS-JIM GRANGER DR



NOTE:
CONTRACTOR TO LOCATE EXISTING UNDERDRAINS AT 302+00 AND OUTLET THEM TO THE PROPOSED DITCH
TBR = TO BE RELOCATED
ATG = ADJUST TO GRADE
FOR CULVERT AT STA. 304+24.70 SEE SHEET 40
FOR CULVERT AT STA. 307+50 SEE SHEET 42
BEGIN PROJECT STA. 302+00
BEGIN WORK STA. 302+00
END WORK STA. 309+00
END PROJECT STA. 308+50
+00 BEGIN M-A
EX GAS
PROP. DITCH
+50 END M-A
+66 BEGIN M-1
RIPRAP CUTOFF WALL
HW-1.1
CONST. LIMITS
240+00 RI-1-30
STOP
PT Sta. 239+11.72
℄ CONNECTOR ROAD
N 87° 05' 30" E
CAUTION OVERHEAD POWERLINES
EX 18" DUCTILE IRON WATER
+00 BEGIN RCP
+00 END RCP BEGIN M-1
+50 END M-1 BEGIN M-A
+50 END M-A
307+50 END M-A
Ex SH
Ex U
EX 12" STM
TBR
ATG
MATCH EXISTING
℄ CONST. JIM GRANGER DRIVE
EX 24" STM
REMOVE AND RELOCATE GUARDRAIL AND SIGNS TO END OF JIM GRANGER
HW-2.2
N 2° 54' 30" E
PROP. 30" RCP
RELOCATED GUARDRAIL AND SIGNS 308+51
+00, BEGIN PAVEMENT
+00 BEGIN M-A
+50 END M-A BEGIN RCP
PROP 60" RCP
ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER 15'L X 13'W X 30" T/27=18.06 CY
+00 BEGIN RCP
+83 END RCP
+00 END RCP BEGIN M-A
RIPRAP CUTOFF WALL
ROCK CHANNEL PROTECTION TYPE B, WITH FILTER 10'L X 5'W X 30"T/27=4.63 CY
+50 END M-A
+50, END PAVEMENT
STA. 240+74.10 ℄ CONNECTOR ROAD = STA. 306+84.60 ℄ JIM GRANGER DRIVE
PAVEMENT MARKING LEGEND
DY - CENTER LINE, DOUBLE YELLOW, SOLID
EL - EDGE LINE, WHITE
SL - STOP LINE
DITCH EROSION PROTECTION LEGEND
M-A ITEM 670 - DITCH EROSION PROTECTION MAT, TYPE A
M-1 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
M-3 ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3
867.57 866.34 865.18 864.09 863.09 862.16 861.31 860.55 859.86 859.25 858.71 858.26 857.89 857.59 857.38 857.24 857.19 857.21 857.31 857.49 857.75 858.09 858.50 859.00 859.58 860.19 860.81
+00 MEET EXISTING
℄ CONNECTOR ROAD
+50 END PAVEMENT
+00 GRADE TO EXISTING
EXISTING GROUND
PROPOSED PROFILE
STA 302+00.00 ELEV 867.57
-5.13 %
+2.46 %
PROP. 30" RCP
STA 308+00.00 ELEV 859.58
600.00' VC
P.V.I. STA 305+00.00 ELEV = 852.20'
K = 79
PROP. 60" RCP
875.64 874.04 871.95 869.86 867.57 859.30 855.08 849.08 830.00 834.68 843.79 849.61 854.83 858.51 860.00 860.31 860.78 861.53 862.08 862.80 864.09 866.17 868.47
300+00 301+00 302+00 303+00 304+00 305+00 306+00 307+00 308+00 309+00

HORIZONTAL SCALE IN FEET

CALCULATED RSH

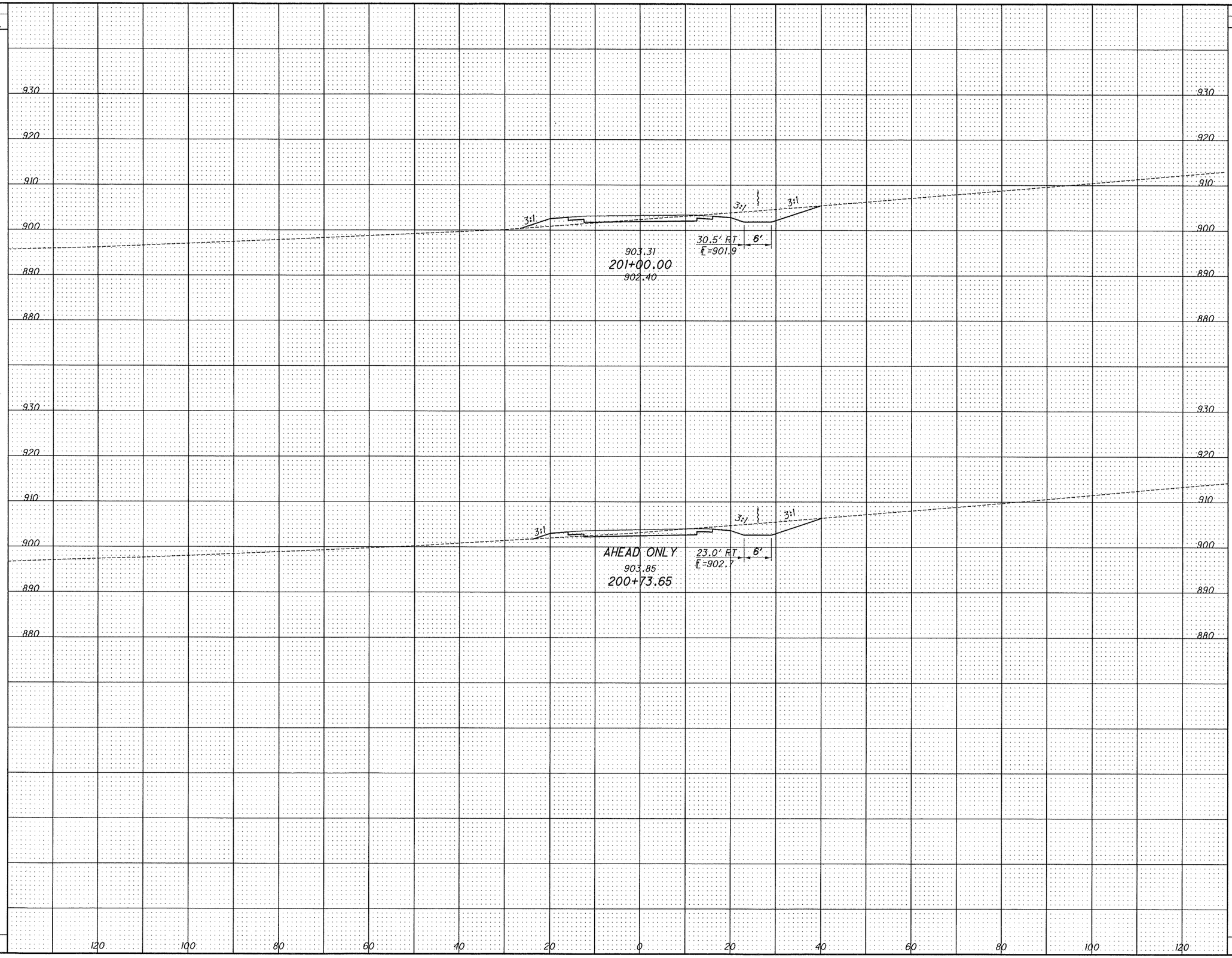
CHECKED VDK

PLAN AND PROFILE - JIM GRANGER DRIVE

STA. 302+00.00 TO STA. 308+50.00

MUS-JIM GRANGER DR

SEEDING	
END WIDTH	SQ. YDS.
36	101
33	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
52	17	55	12
61	8		

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 200+73.65 TO STA. 201+00

MUS-JIM GRANGER DR

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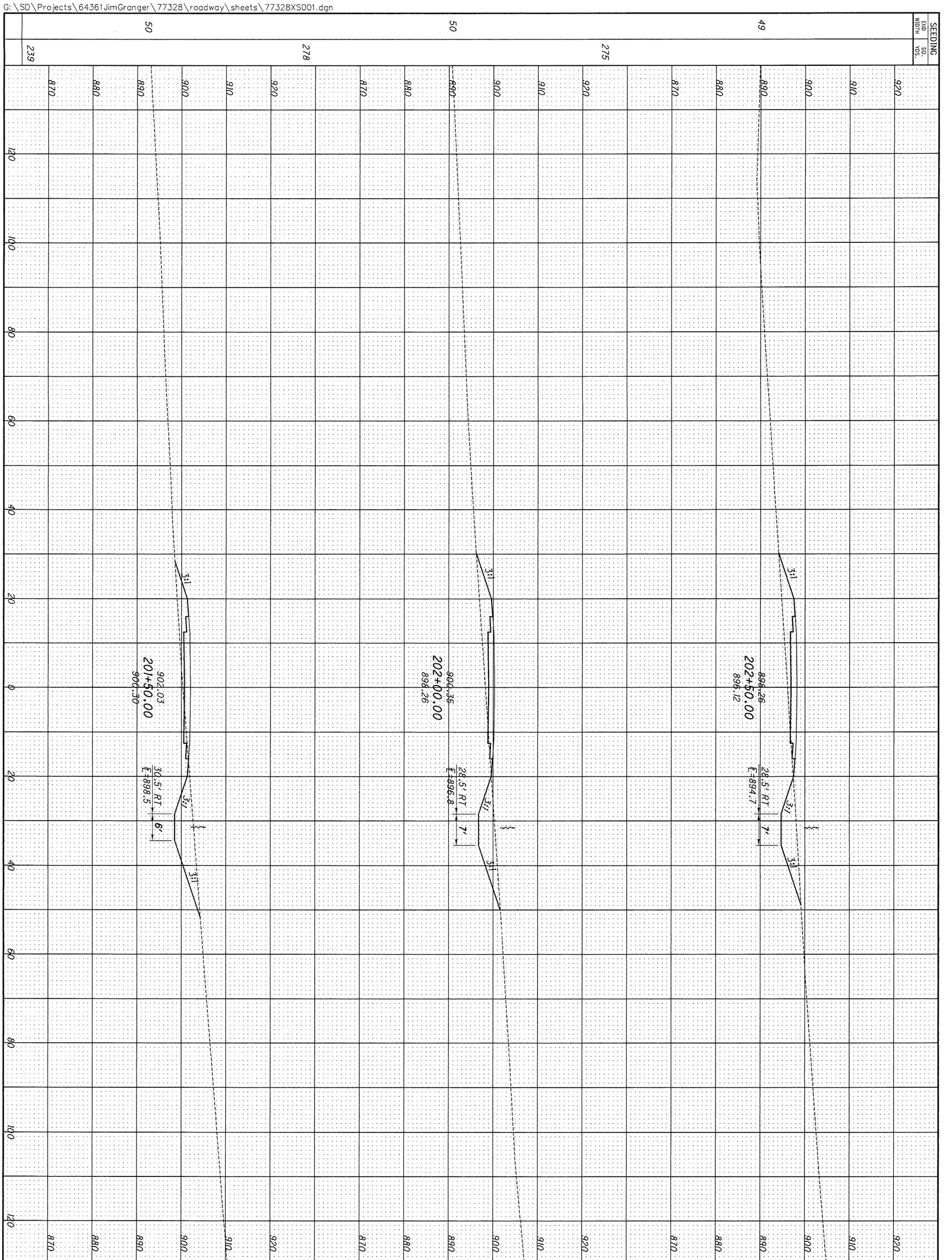

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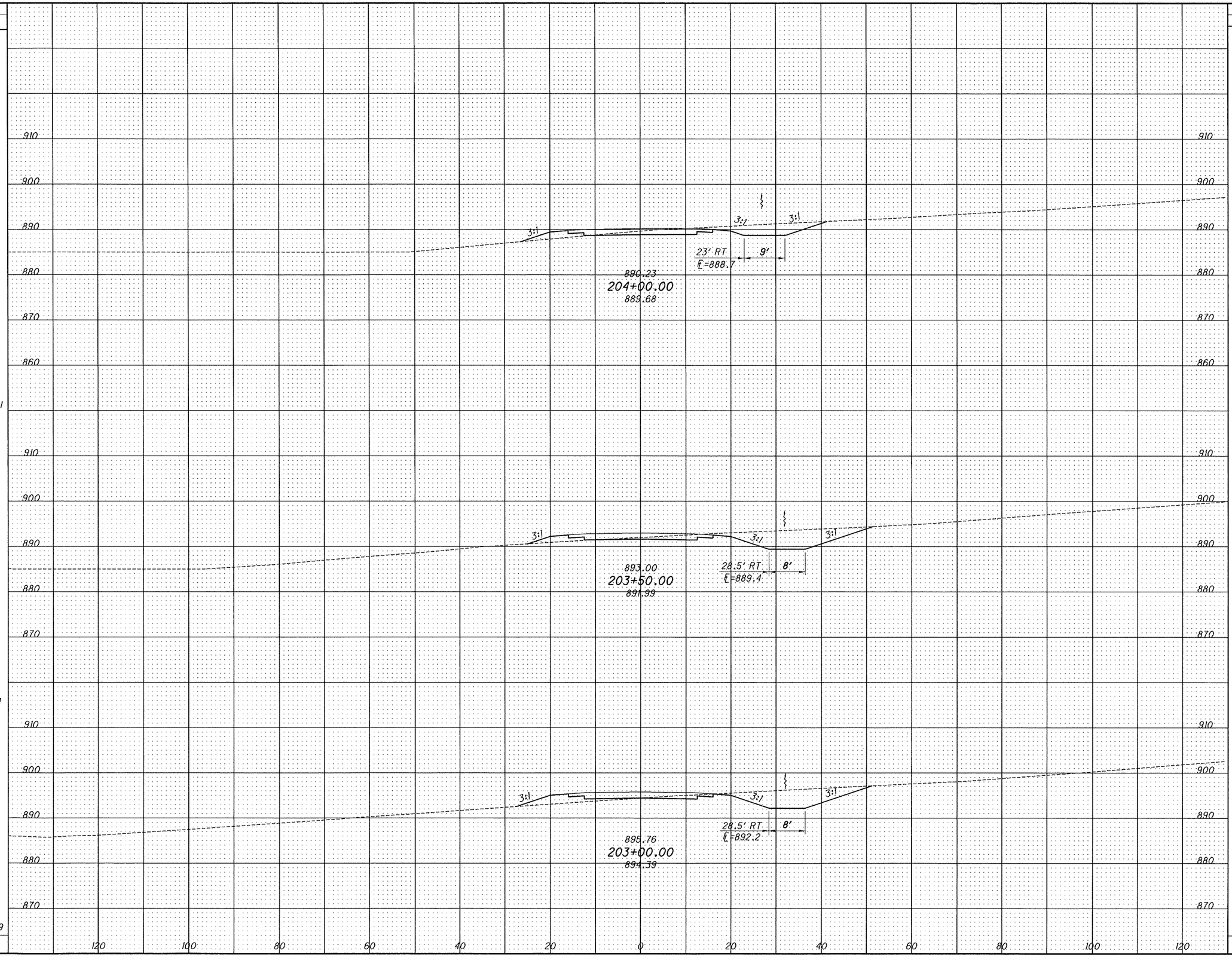
MUS-JIM GRANGER DR

CROSS SECTIONS - CONNECTOR ROAD
STA. 201+50 TO STA. 202+50

CALCULATED RSH

CHECKED VDK

SEEDING	
END WIDTH	SQ. YDS.
37	231
46	261
48	269



END AREA		VOLUME	
CUT	FILL	CUT	FILL
64	14		
		153	24
101	12		
		176	34
89	25		
		141	72

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 203+00 TO STA. 204+00

MUS-JIM GRANGER DR

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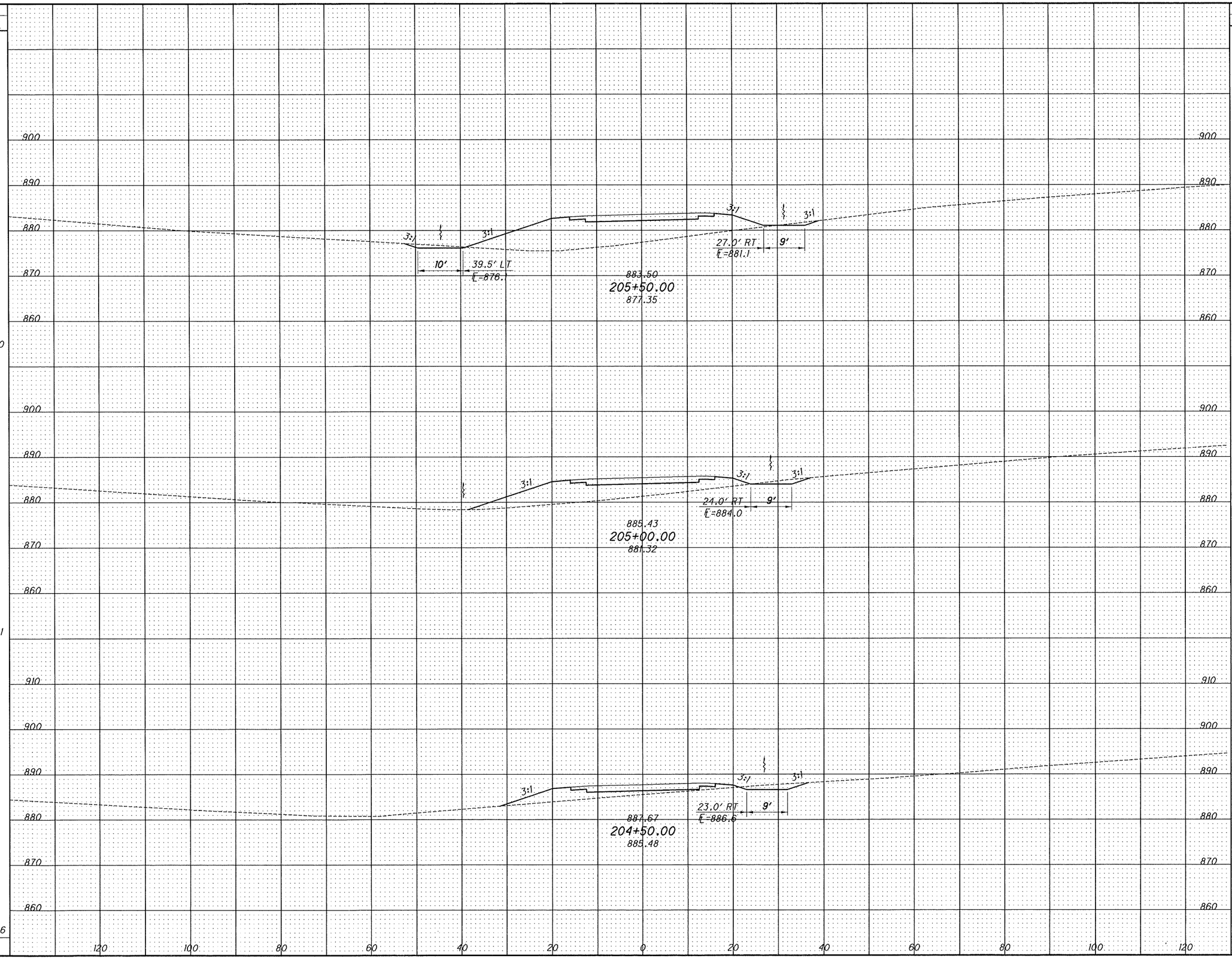
G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING	
END WIDTH	SQ. YDS.
62	300
46	231
37	206



END AREA		VOLUME	
CUT	FILL	CUT	FILL
9	284		
7	173	15	423
12	64	18	219
		70	72

CALCULATED VDK
CHECKED RSH

CROSS SECTIONS - CONNECTOR ROAD
STA. 204+50 TO STA. 205+50

MUS-JIM GRANGER DR

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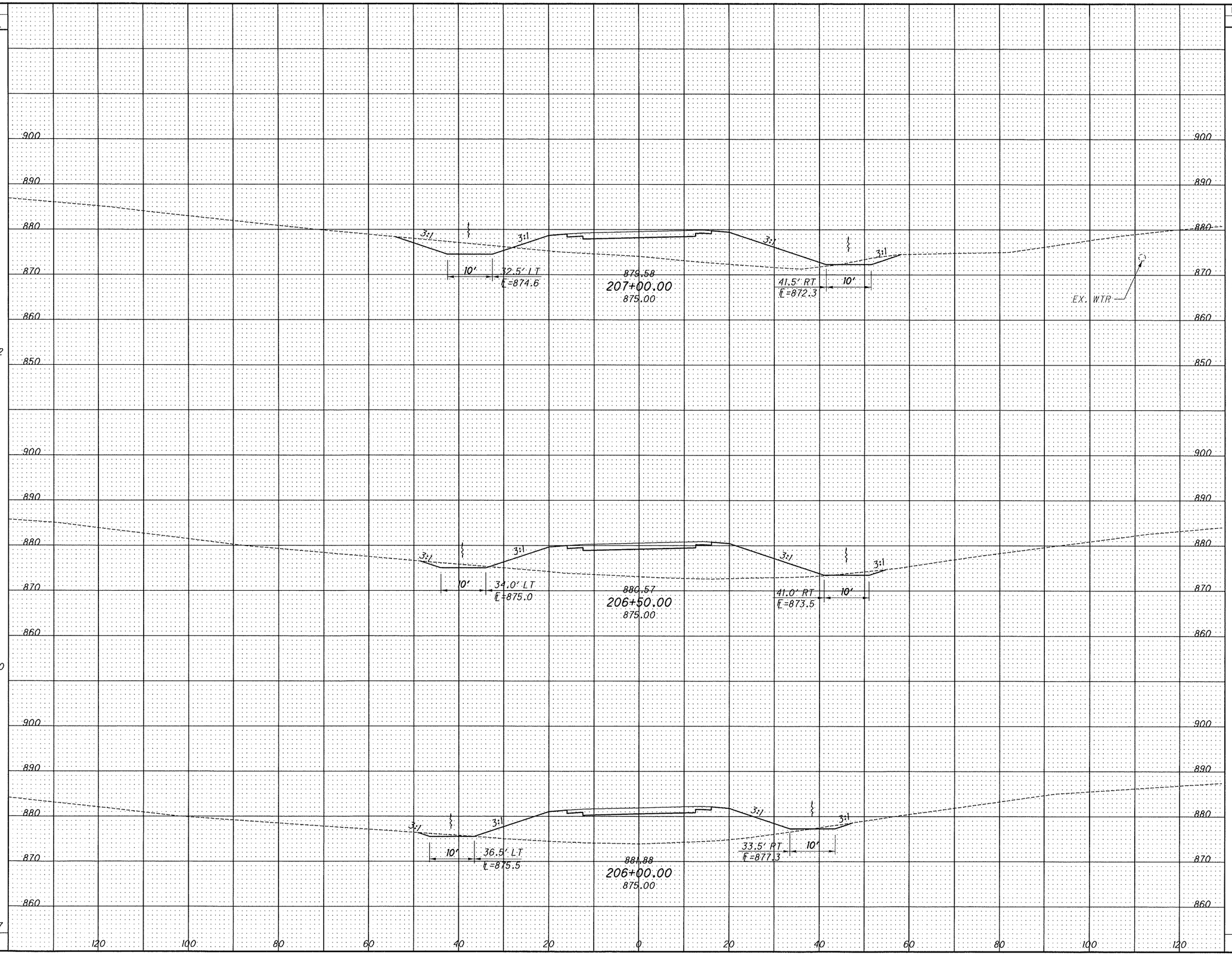
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING	
END WIDTH	SQ. YDS.
85	442
74	400
70	367



END AREA		VOLUME	
CUT	FILL	CUT	FILL
54	289		
		63	614
15	374		
		20	694
7	376		
		15	611

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 206+00 TO STA. 207+00

MUS-JIM GRANGER DR

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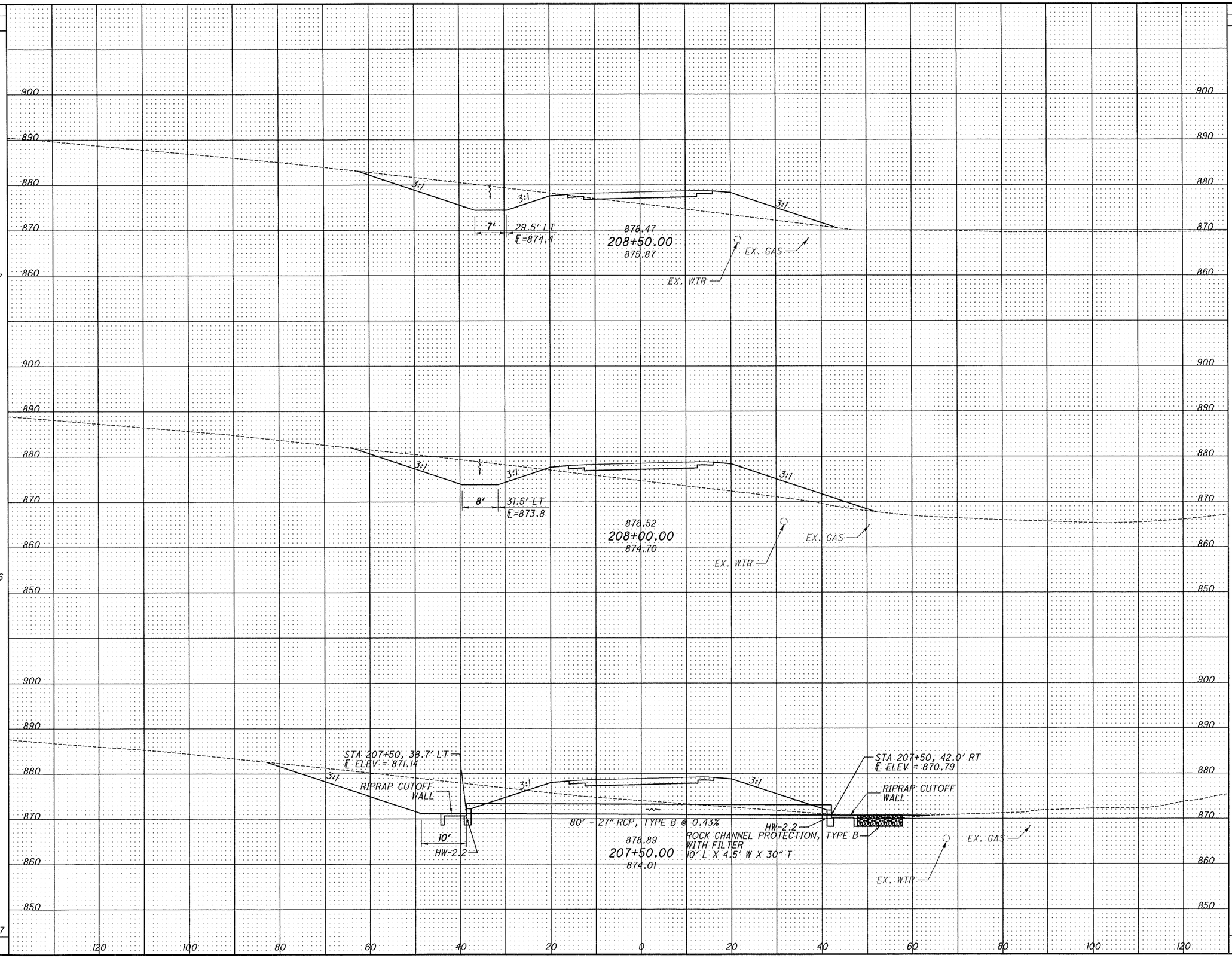
SEEDING END WIDTH	SEEDING SQ. YDS.
80	467
88	656
148	647



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
141	124		
		251	306
130	206		
		378	410
278	237		
		307	487

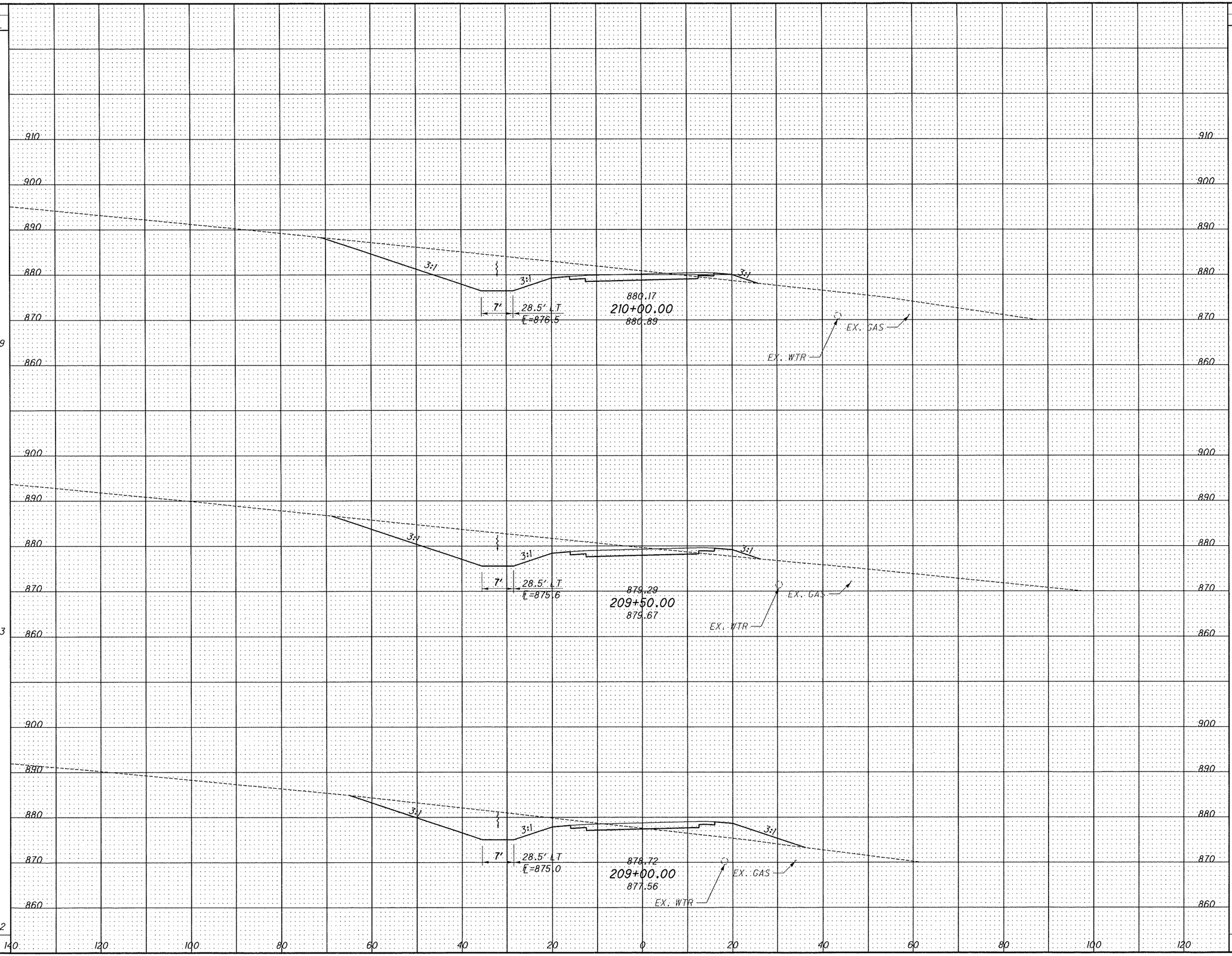
CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD STA. 207+50 TO STA. 208+50

MUS-JIM GRANGER DR

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING	
END WIDTH	SQ. YDS.
67	369
66	383
72	422



END AREA		VOLUME	
CUT	FILL	CUT	FILL
322	11		
287	13	564	22
197	57	448	65
		313	168

CALCULATED

CHECKED

CROSS SECTIONS - CONNECTOR ROAD STA. 209+00 TO STA. 210+00

MUS-JIM GRANGER DR

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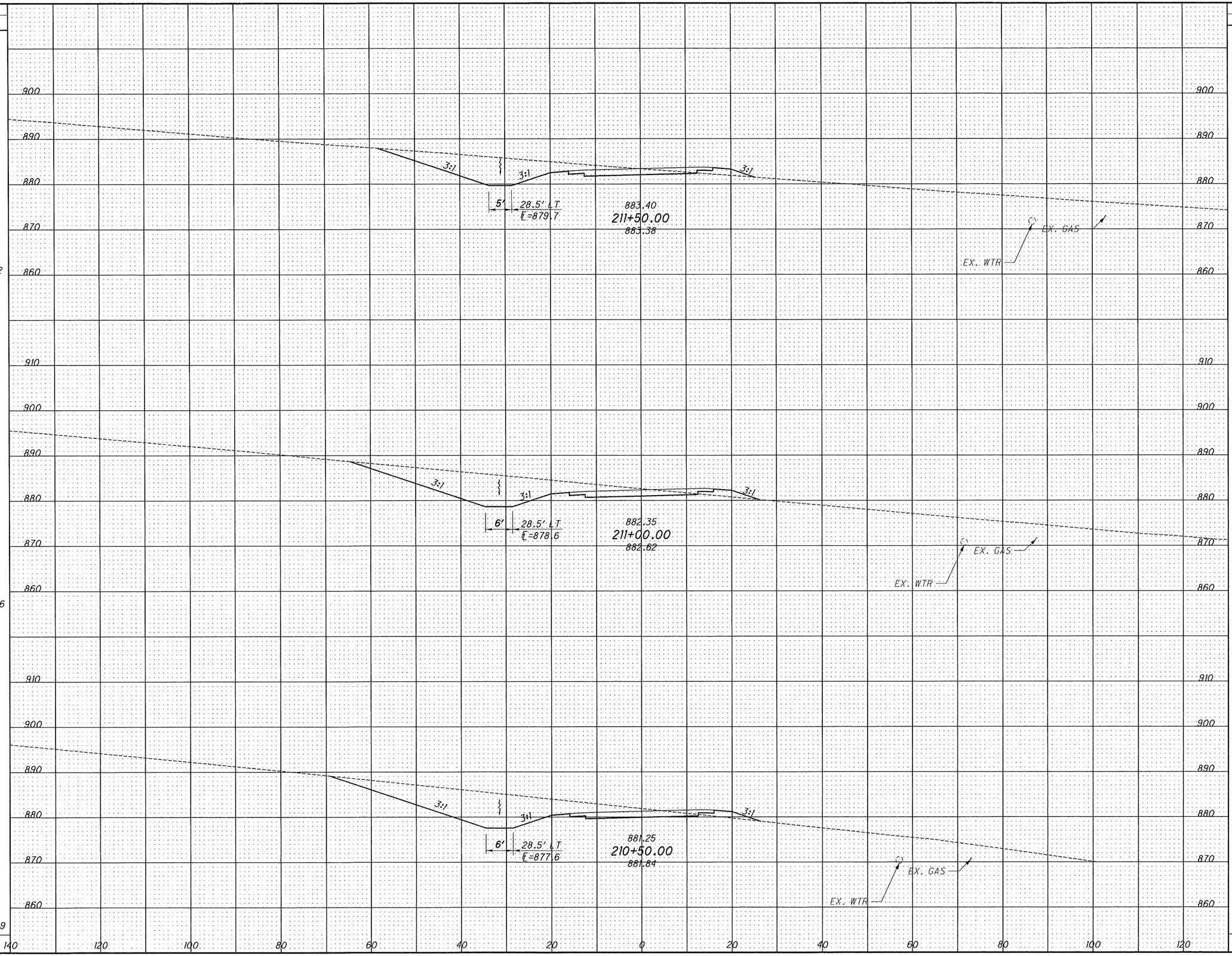
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
54	322
62	356
66	369



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
194	12	413	23
252	13	512	23
301	12	577	21

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 210+50 TO STA. 211+50

MUS-JIM GRANGER DR

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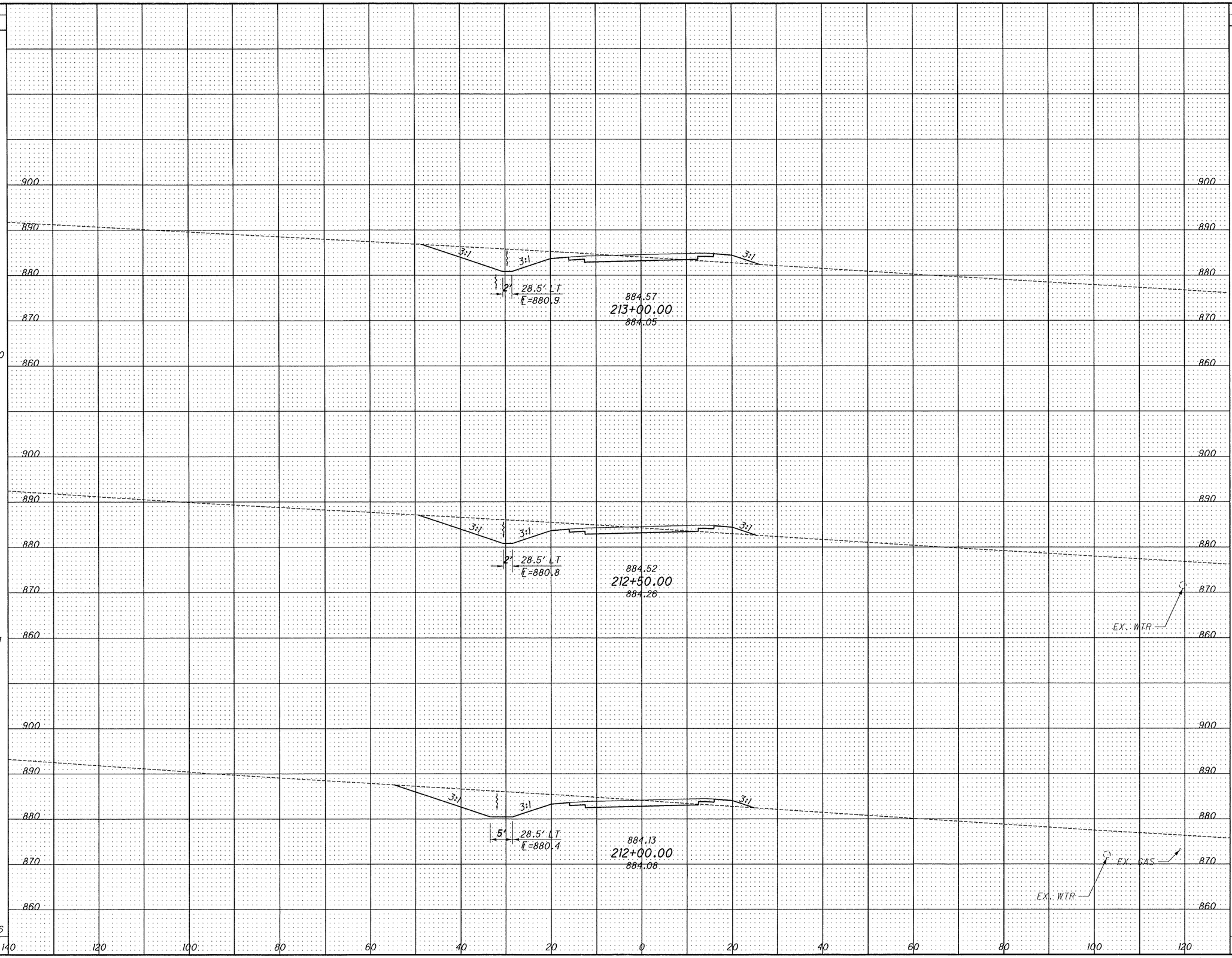
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING	
END WIDTH	SQ. YDS.
45	250
45	261
49	286



END AREA		VOLUME	
CUT	FILL	CUT	FILL
112	16	222	27
128	13	273	22
167	11	334	21

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 212+00 TO STA. 213+00

MUS-JIM GRANGER DR

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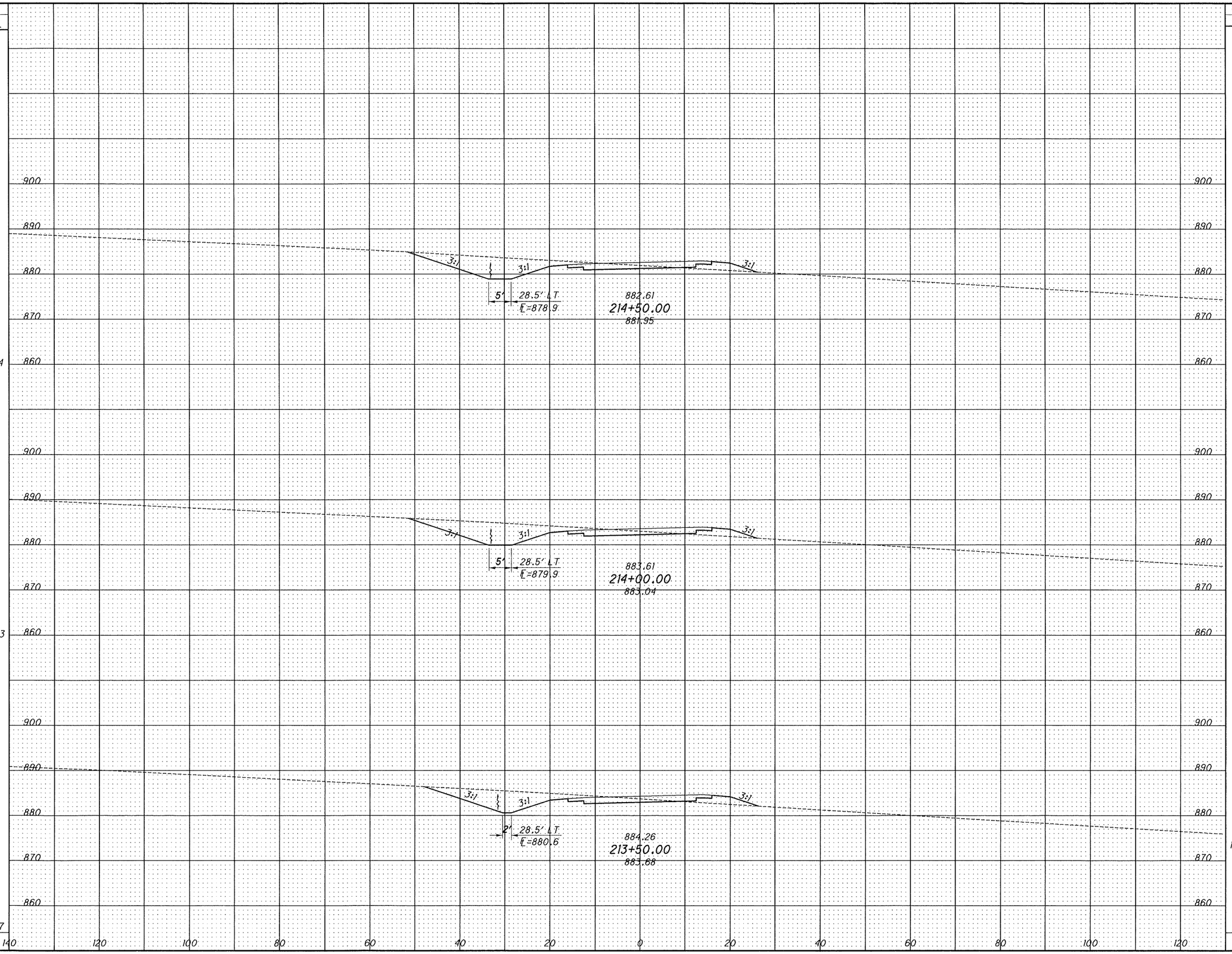
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING	
END WIDTH	SQ. YDS.
48	264
47	253
44	247



END AREA		VOLUME	
CUT	FILL	CUT	FILL
119	17	227	31
126	16	217	31
108	17	204	31

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 213+50 TO STA. 214+50

MUS-JIM GRANGER DR

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46

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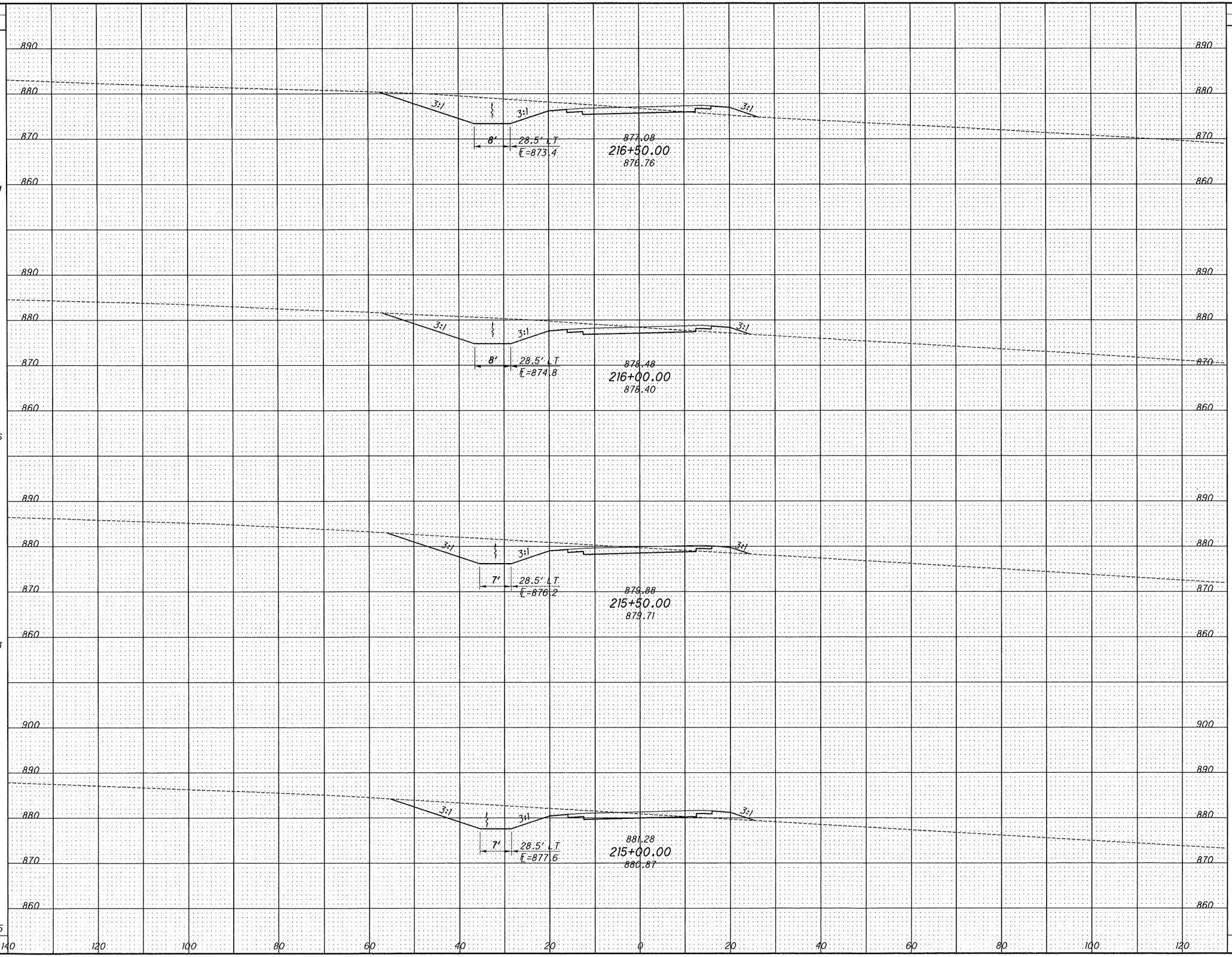
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
54	294	178	16	334	24
52	286	183	10	324	19
51	283	167	10	296	22
51	275	153	14	252	29



CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 215+00 TO STA. 216+50

MUS-JIM GRANGER DR

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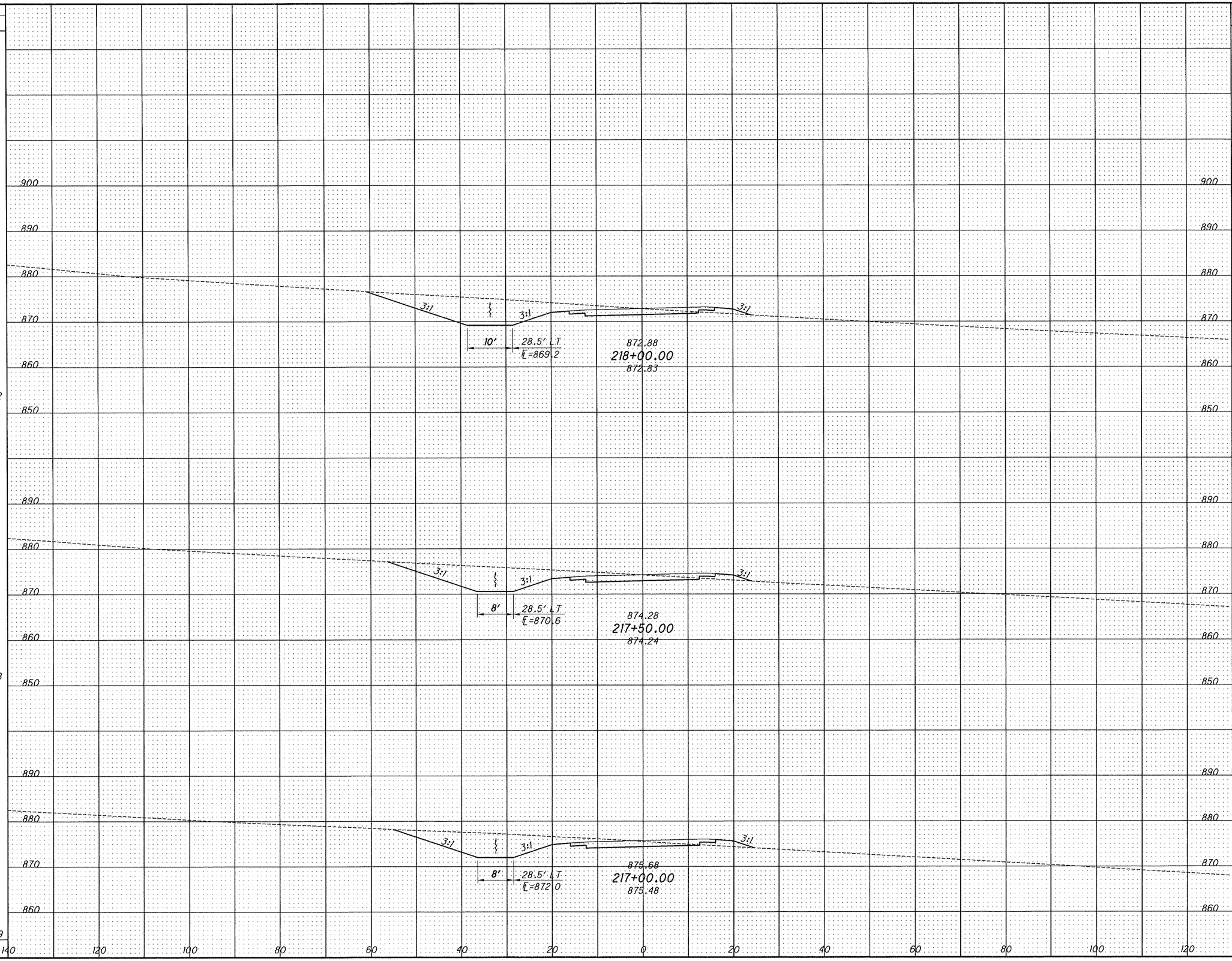
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
55	292	208	9	352	17
50	278	173	9	310	19
50	289	162	11	315	25



CALCULATED RSH
CHECKED VDK

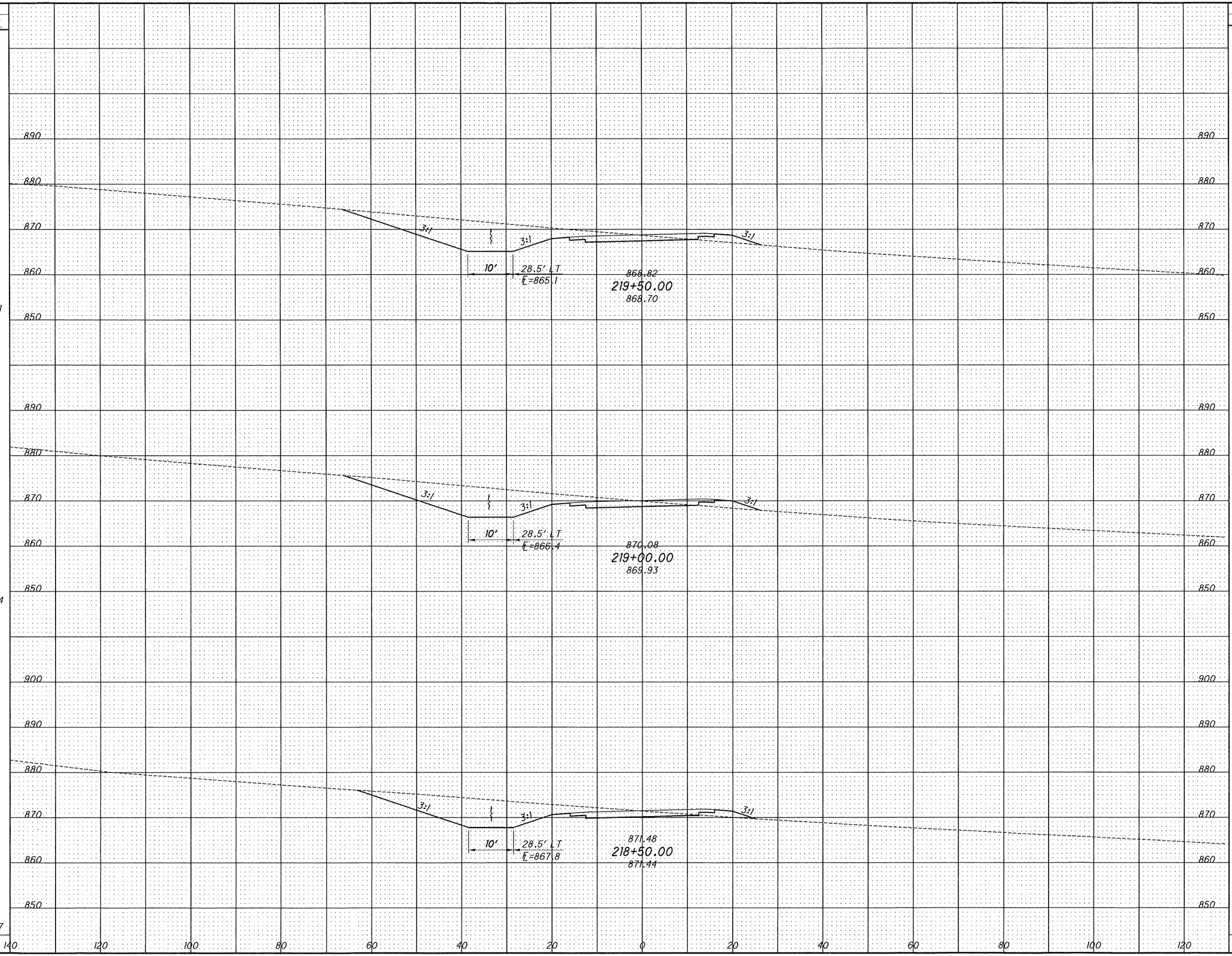
CROSS SECTIONS - CONNECTOR ROAD
STA. 217+00 TO STA. 218+00

MUS-JIM GRANGER DR

23
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING	
END WIDTH	SQ. YDS.
65	361
65	344
59	317



END AREA		VOLUME	
CUT	FILL	CUT	FILL
289	15		
242	15	446	28
223	12	430	25
		398	19

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD STA. 218+50 TO STA. 219+50

MUS-JIM GRANGER DR

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46

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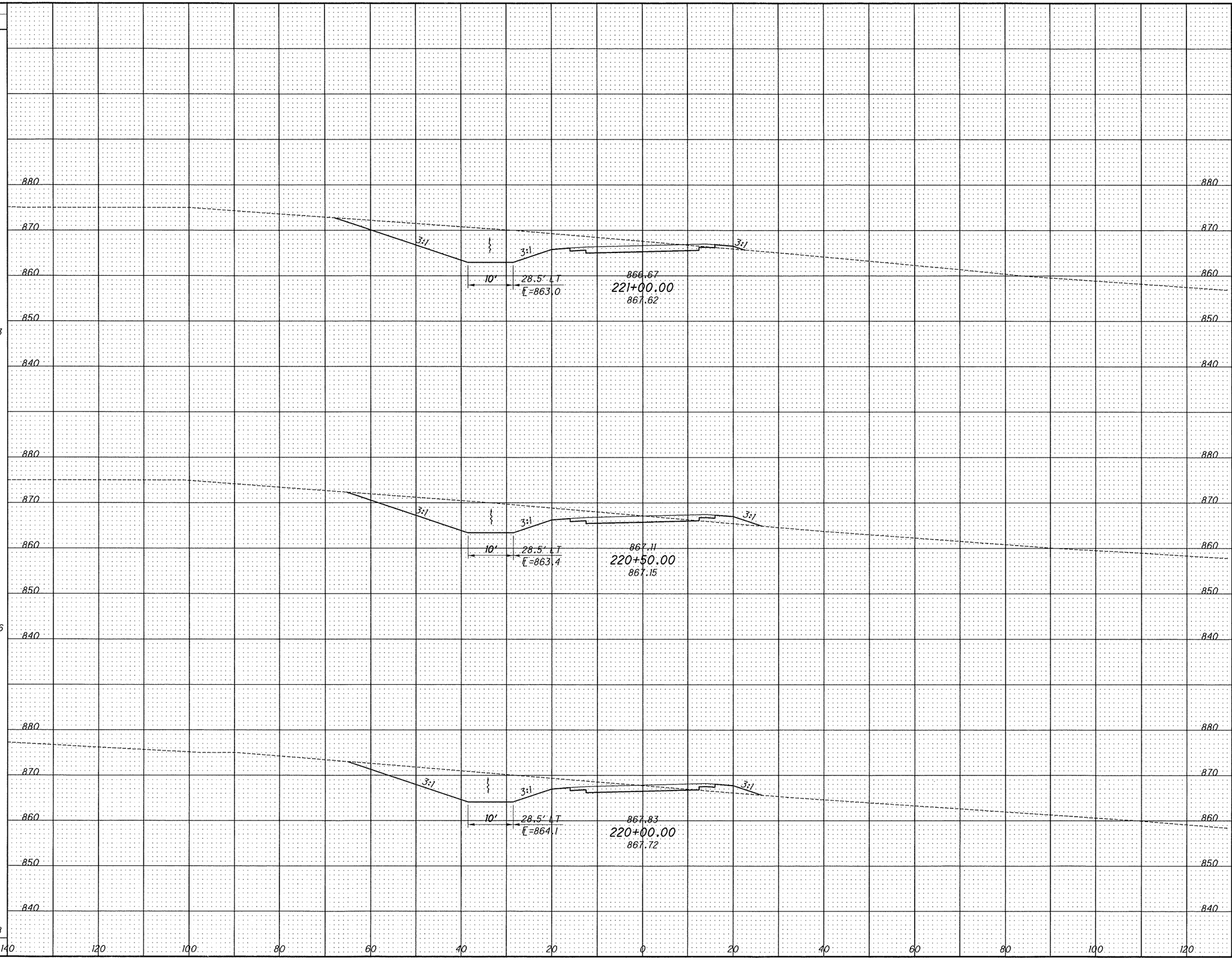
SEEDING	
END WIDTH	SQ. YDS.
63	353
64	356
64	358



END AREA		VOLUME	
CUT	FILL	CUT	FILL
314	3		
		520	16
248	14		
		447	27
234	15		
		440	28

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 220+00 TO STA. 221+00

MUS-JIM GRANGER DR

25
46

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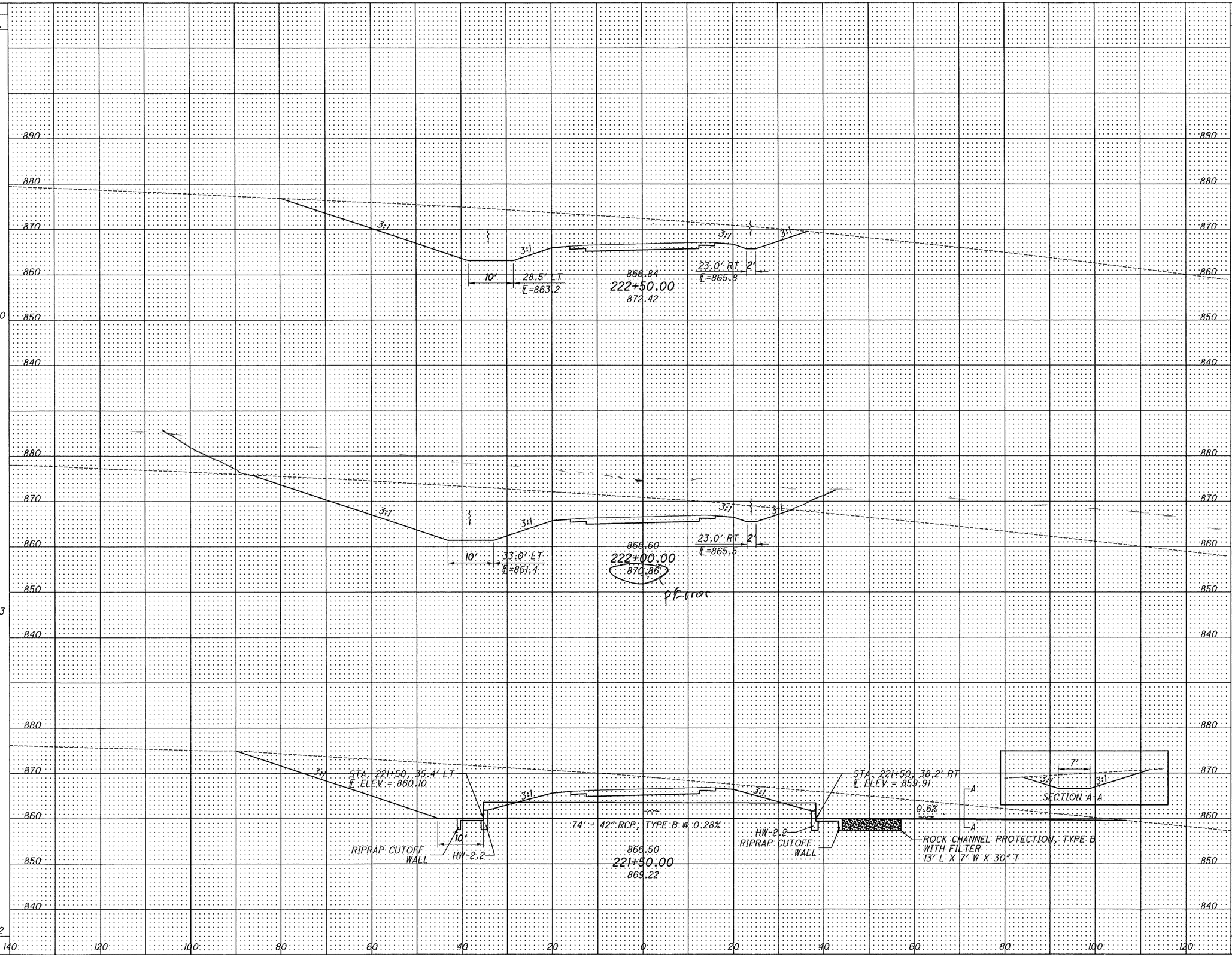
SEEDING	
END WIDTH	SQ. YDS.
88	500
92	1053
	287
	972



END AREA		VOLUME	
CUT	FILL	CUT	FILL
750	0		
		1380	0
741	0		
		1594	0
981	0		
		1199	3

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 221+50 TO STA. 222+50

MUS-JIM GRANGER DR

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46

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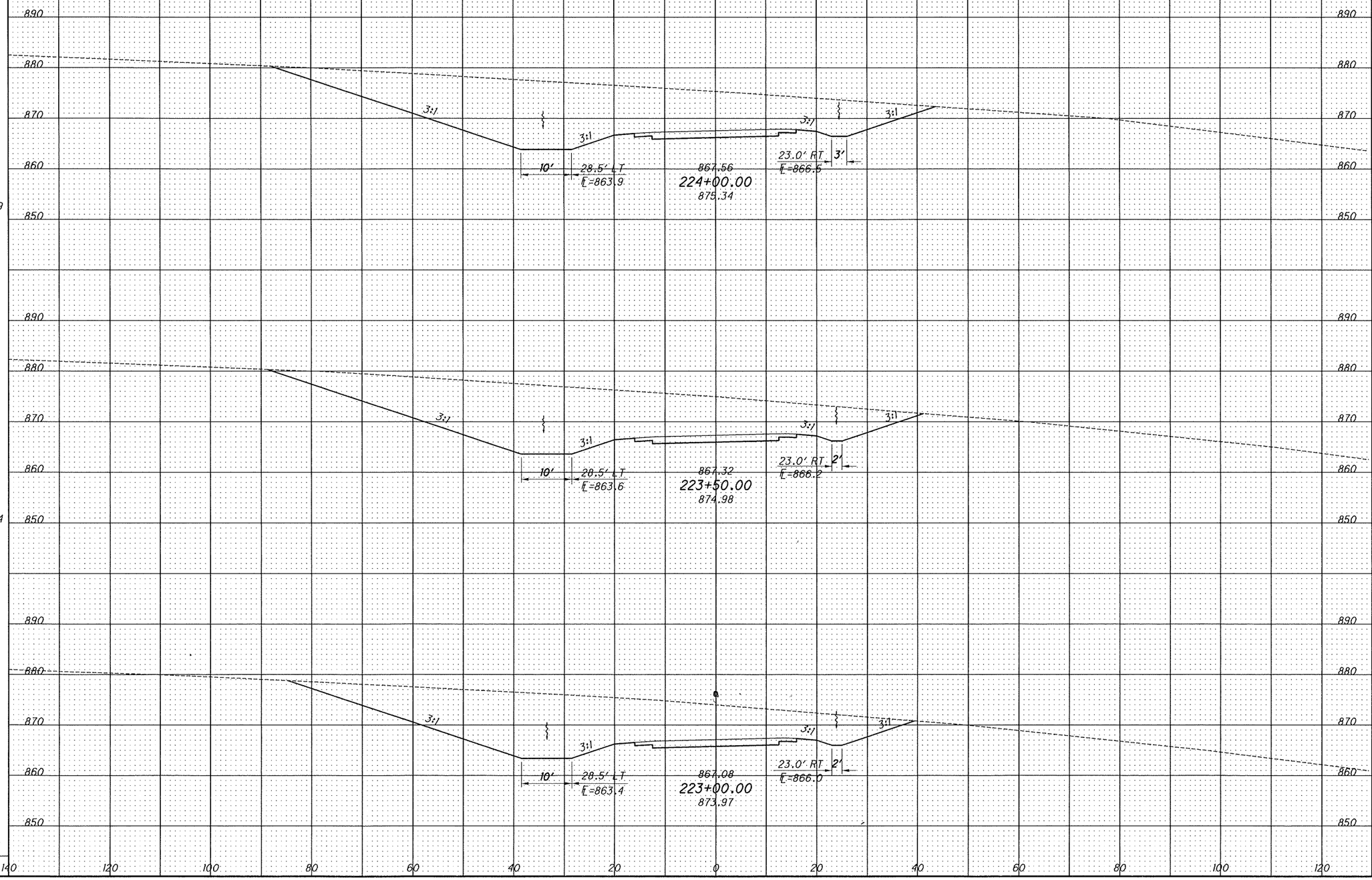
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
105	569	1033	0	1899	0
100	544	1018	0	1784	0
96	511	909	0	1536	0



CALCULATED RSH
CHECKED VDK

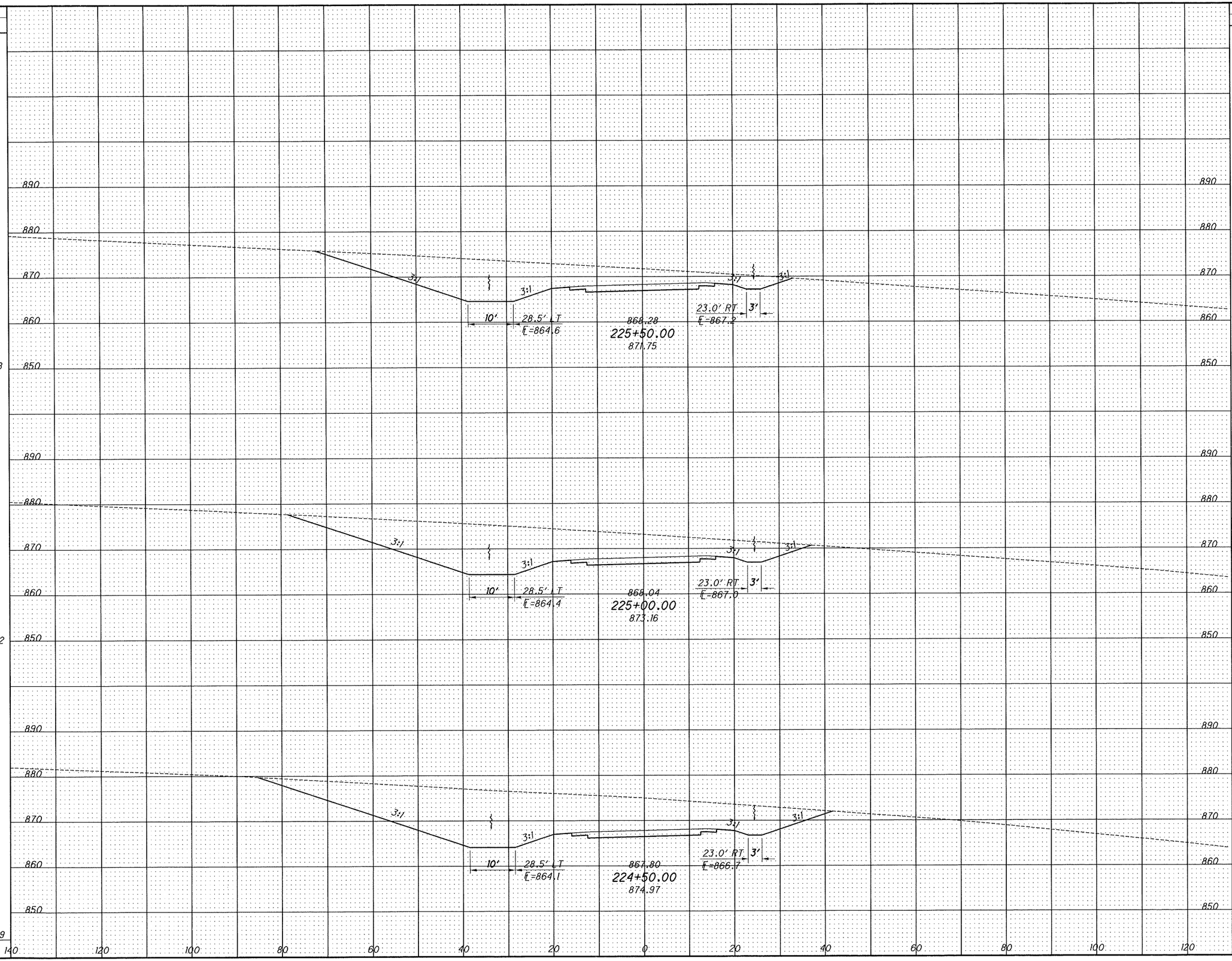
CROSS SECTIONS - CONNECTOR ROAD
STA. 223+00 TO STA. 224+00

MUS-JIM GRANGER DR

27
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
77	458	519	0	1135	0
88	522	707	0	1516	0
100	569	931	0	1818	0



CALCULATED RSH
CHECKED VDK

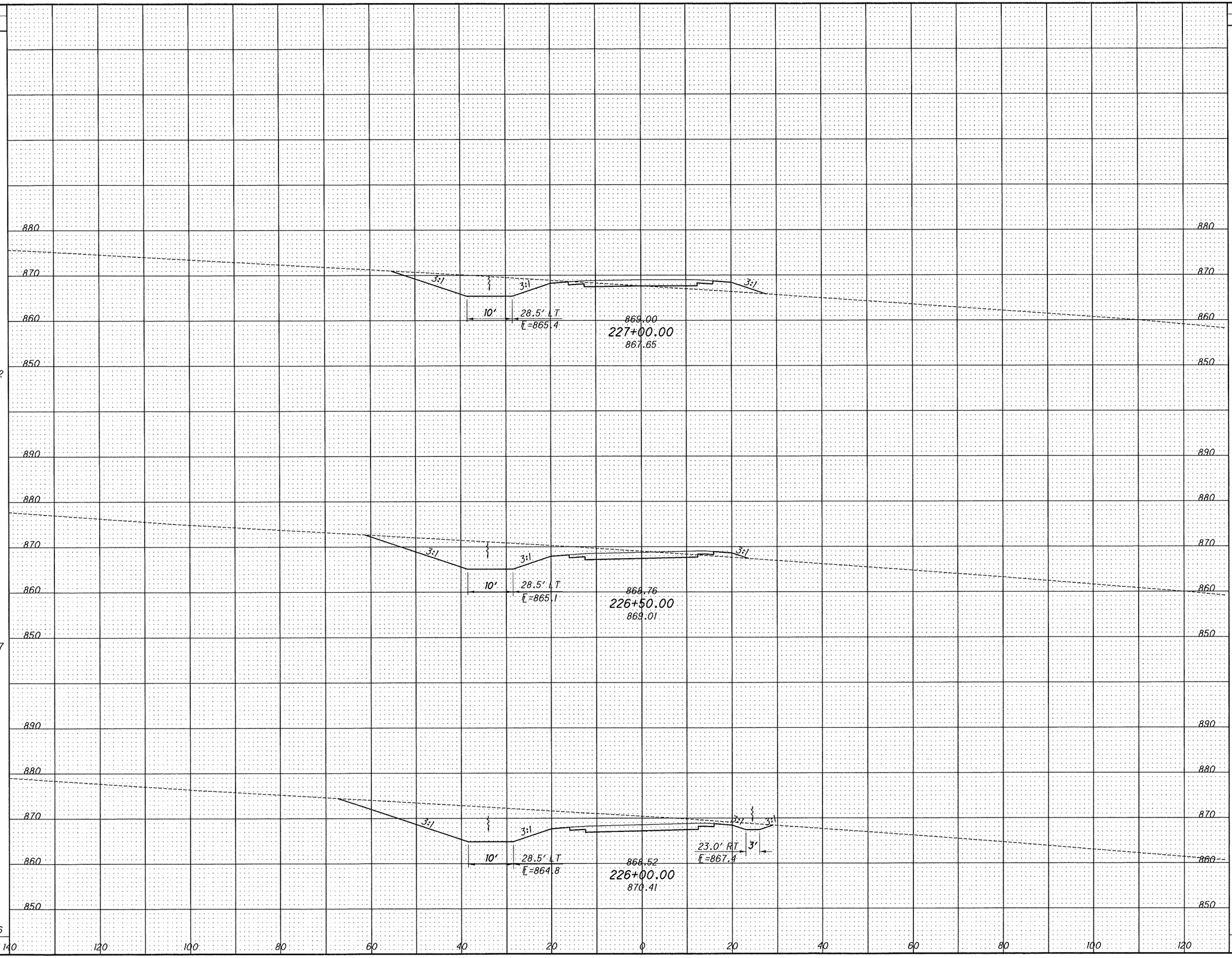
CROSS SECTIONS - CONNECTOR ROAD
STA. 224+50 TO STA. 225+50

MUS-JIM GRANGER DR

28
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING	
END WIDTH	SQ. YDS.
60	322
56	397
87	456



END AREA		VOLUME	
CUT	FILL	CUT	FILL
111	26	308	31
222	7	541	6
362	0	816	0

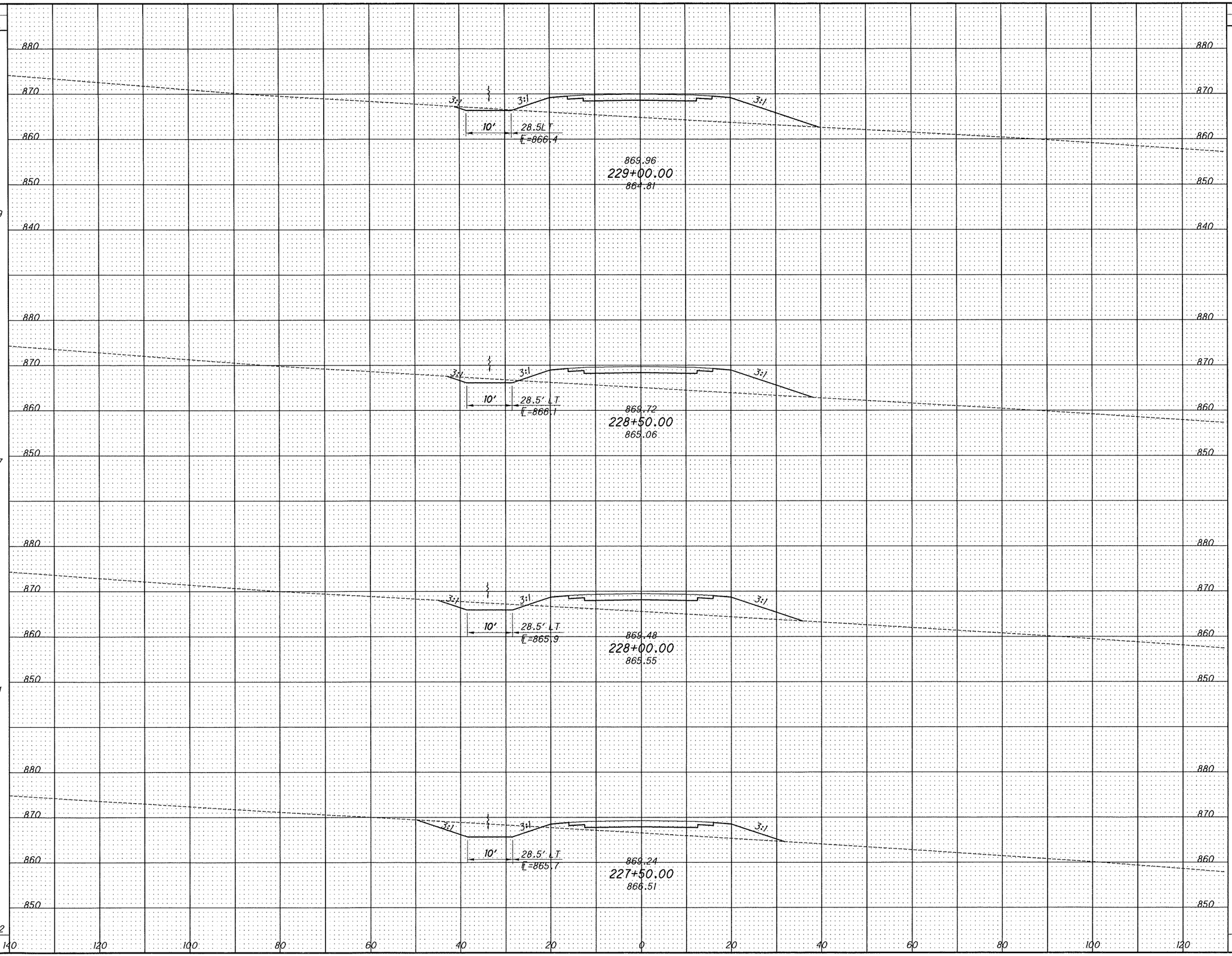
CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 226+00 TO STA. 227+00

MUS-JIM GRANGER DR

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING	
END WIDTH	SQ. YDS.
57	
	319
58	
	317
56	
	311
56	
	322



END AREA		VOLUME	
CUT	FILL	CUT	FILL
5	225		
		16	389
12	195		
		33	319
23	150		
		71	215
54	82		
		152	100

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 227+50 TO STA. 229+00

MUS-JIM GRANGER DR

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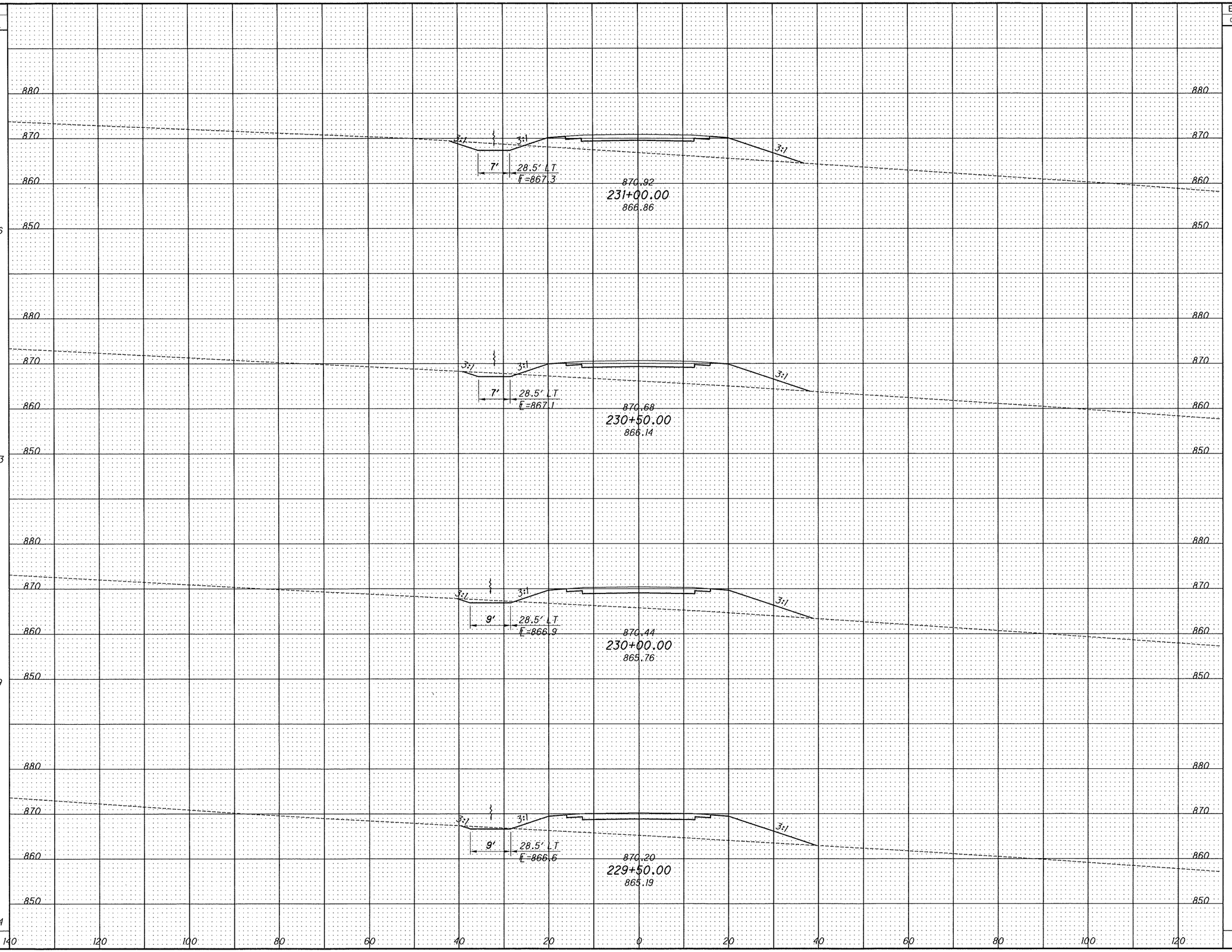
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING	
END WIDTH	SQ. YDS.
67	
	356
61	
	333
59	
	319
56	
	314



END AREA		VOLUME	
CUT	FILL	CUT	FILL
18	159		
		24	321
8	188		
		14	358
7	199		
		10	387
4	219		
		9	411

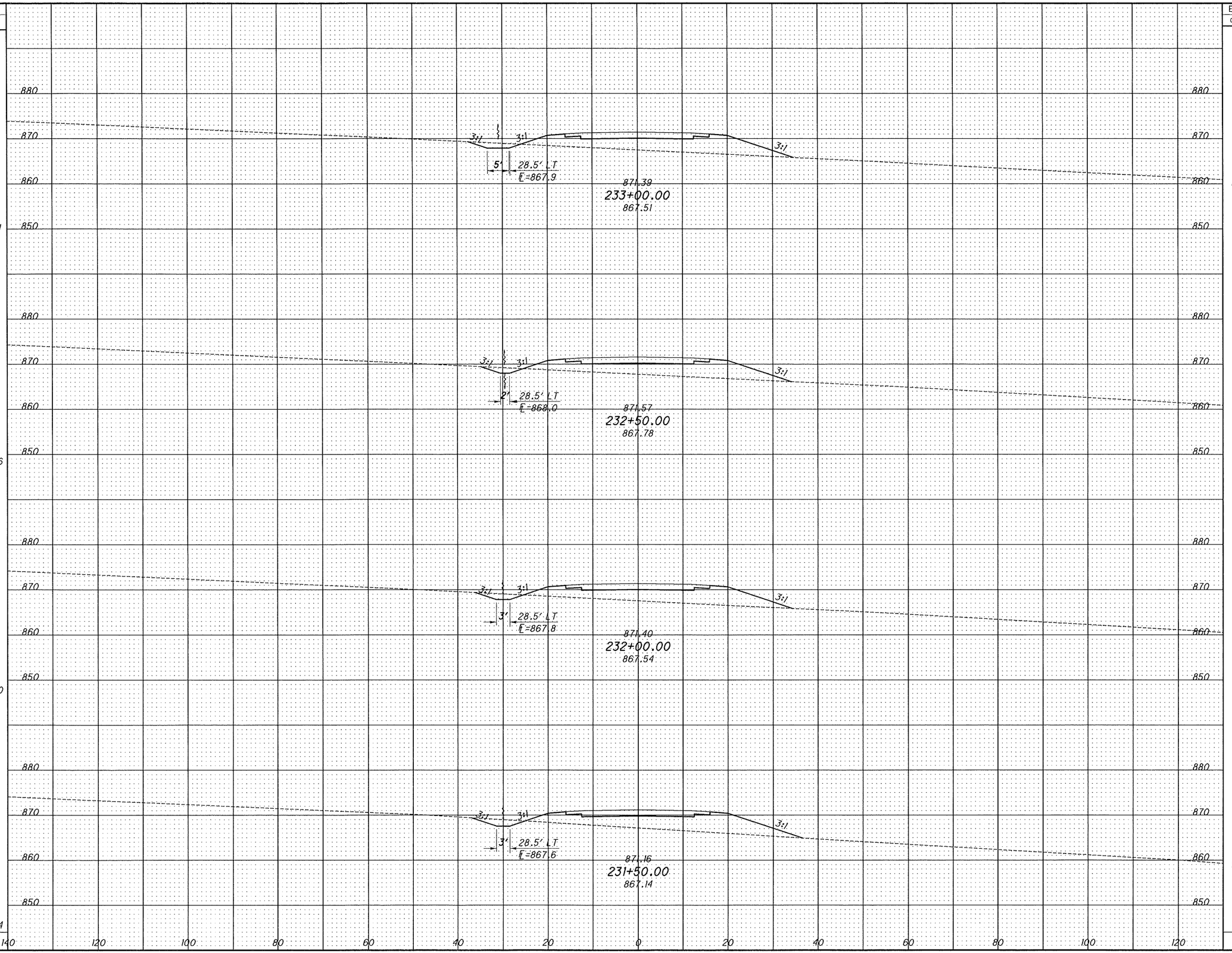
CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - CONNECTOR ROAD
STA. 229+50 TO STA. 231+00

MUS-JIM GRANGER DR

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
42	231	10	148	17	266
41	236	9	139	18	260
44	300	11	142	25	276
64	364	16	156	32	292



CALCULATED RSH
CHECKED VDK

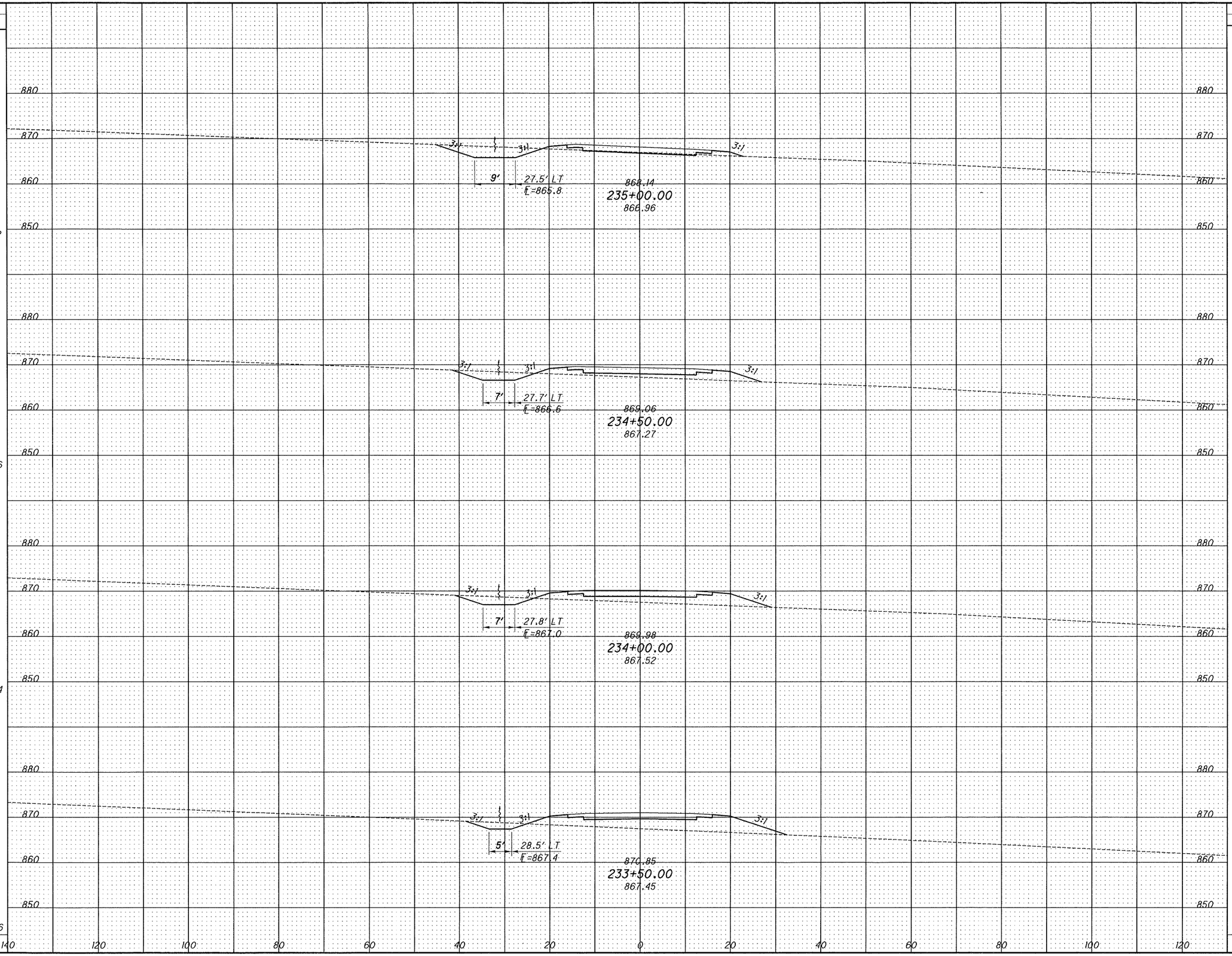
CROSS SECTIONS - CONNECTOR ROAD
STA. 231+50 TO STA. 233+00

MUS-JIM GRANGER DR

32
46

C:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
40	242
47	256
45	244
43	246



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
45	12		
		64	58
24	51		
		48	118
29	76		
		92	183
71	122		
		75	250

CALCULATED RSH
CHECKED VDK

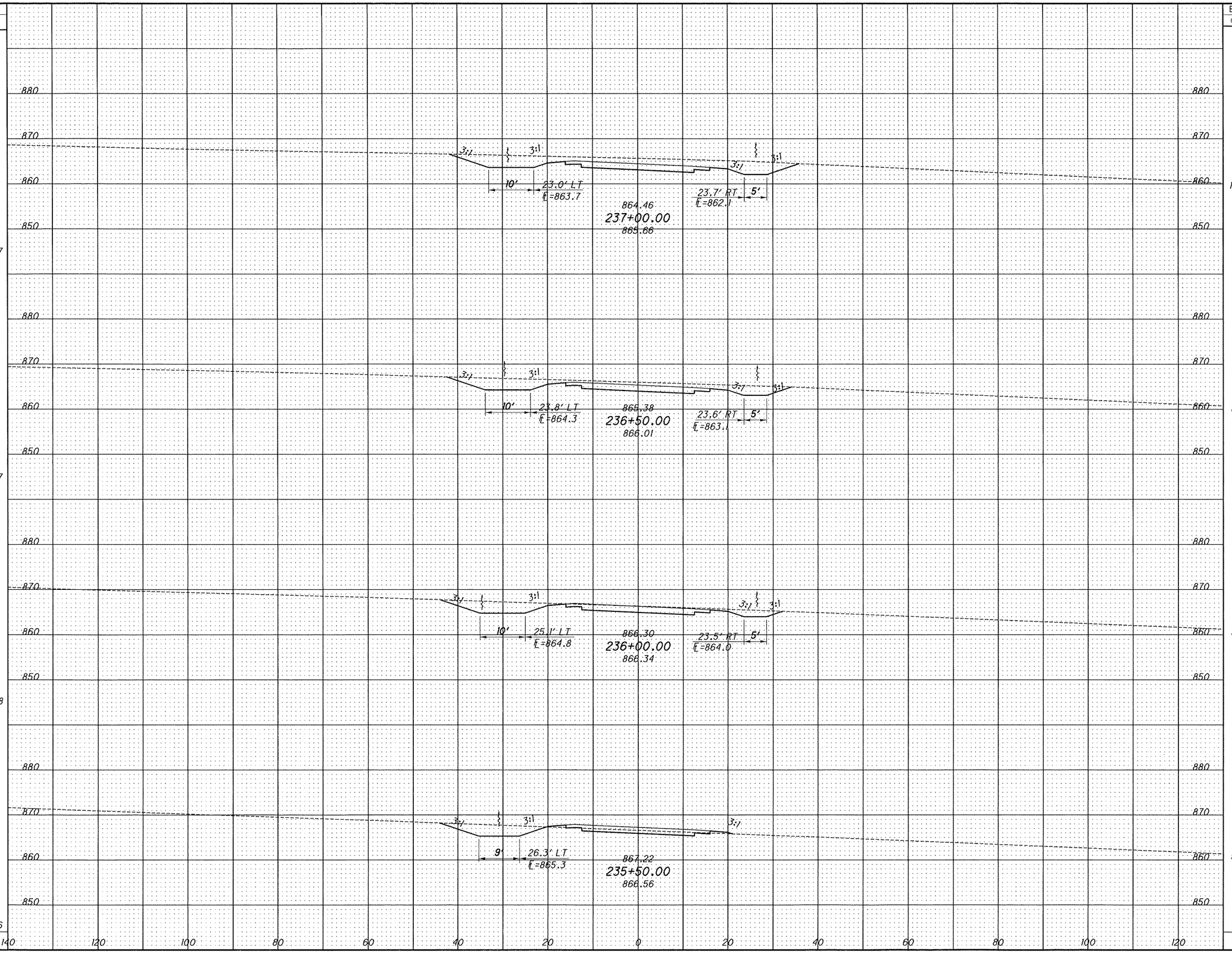
CROSS SECTIONS - CONNECTOR ROAD STA. 233+50 TO STA. 235+00

MUS-JIM GRANGER DR

33
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
59	297	166	0	275	0
48	297	131	0		
59	258	98	0	211	0
34	206	58	3	144	3
				96	14



CALCULATED RSH
CHECKED VDK

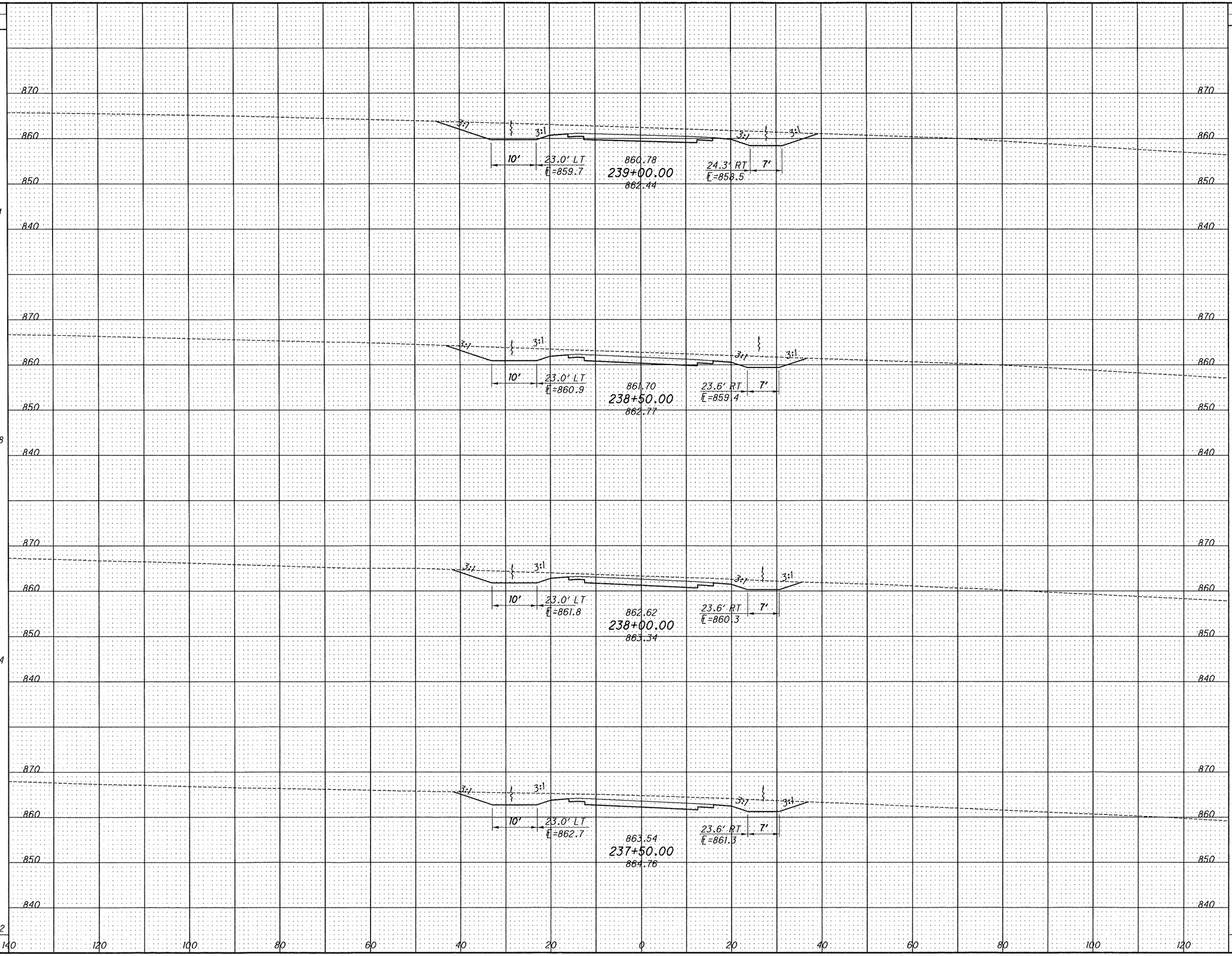
CROSS SECTIONS - CONNECTOR ROAD
STA. 235+50 TO STA. 237+00

MUS-JIM GRANGER DR

34
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
55	294	219	0	355	0
51	278	164	0	278	0
49	294	135	0	278	0
57	322	165	0	307	0



CALCULATED RSH
CHECKED VDK

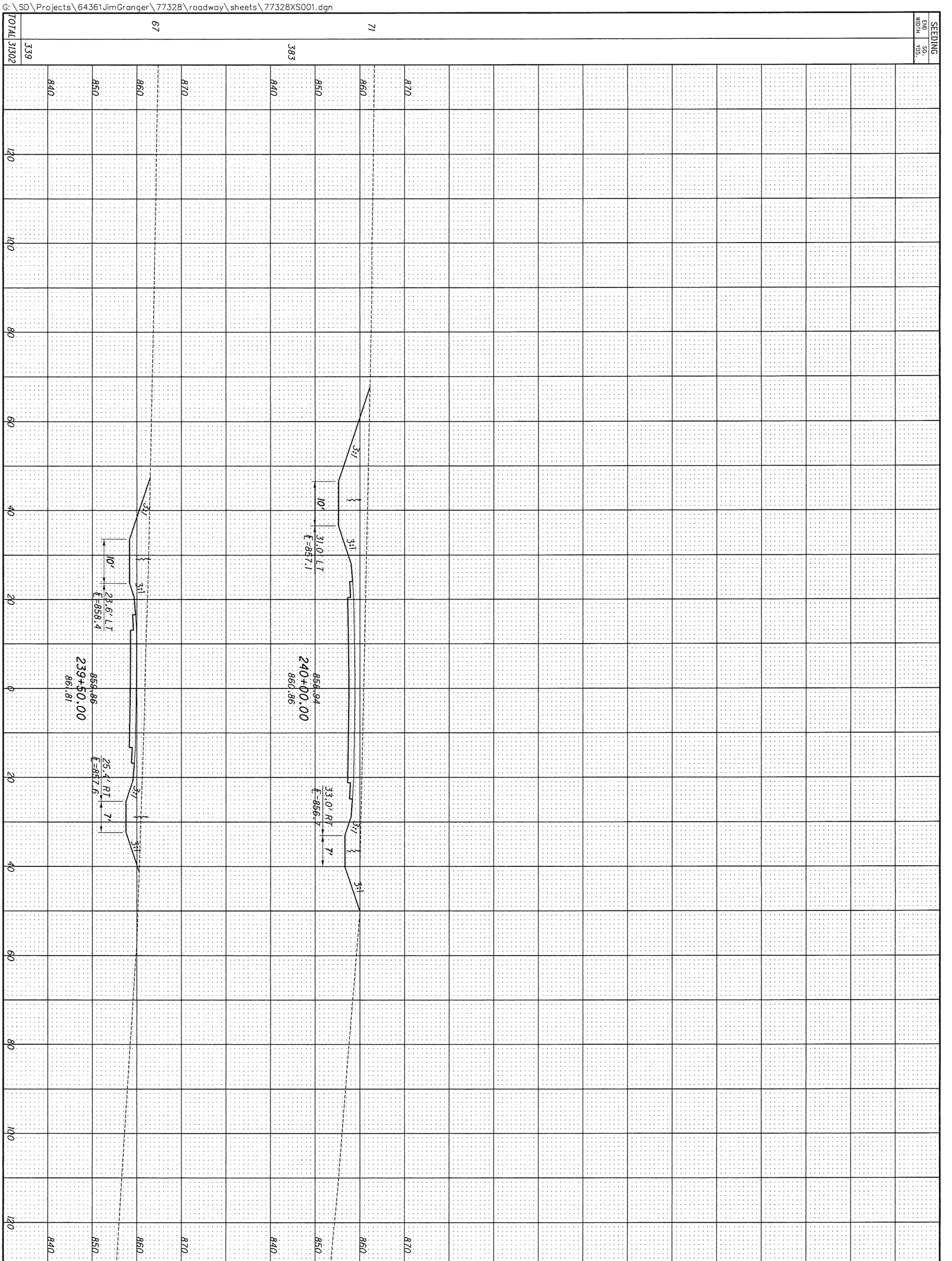
CROSS SECTIONS - CONNECTOR ROAD
STA. 237+50 TO STA. 239+00

MUS-JIM GRANGER DR

35
46

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS001.dgn



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MUS-JIM GRANGER DR

CROSS SECTIONS - CONNECTOR ROAD
STA. 239+50 TO STA. 240+00.00

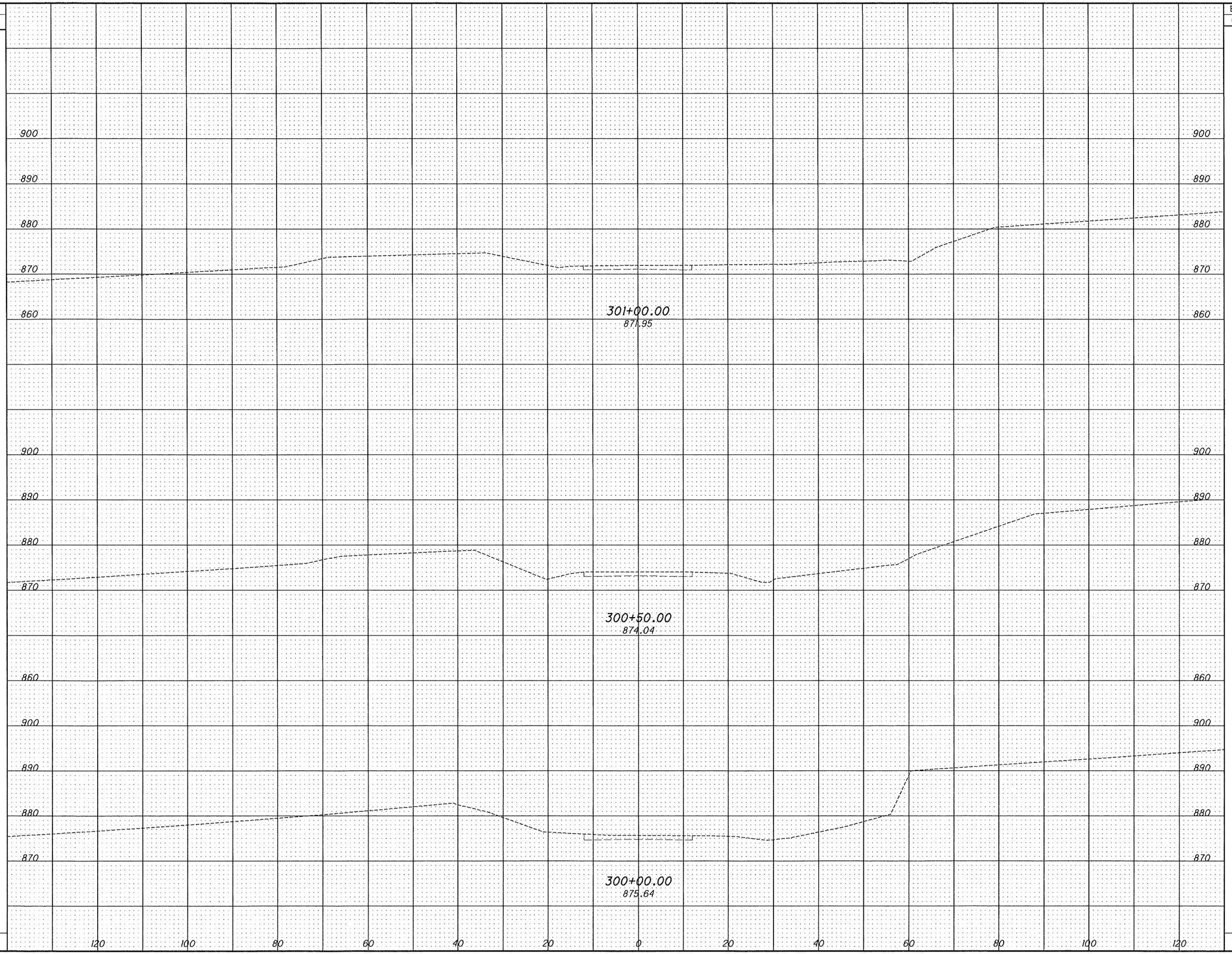
CALCULATED RSH

CHECKED VDK

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RSH
CHECKED VDK

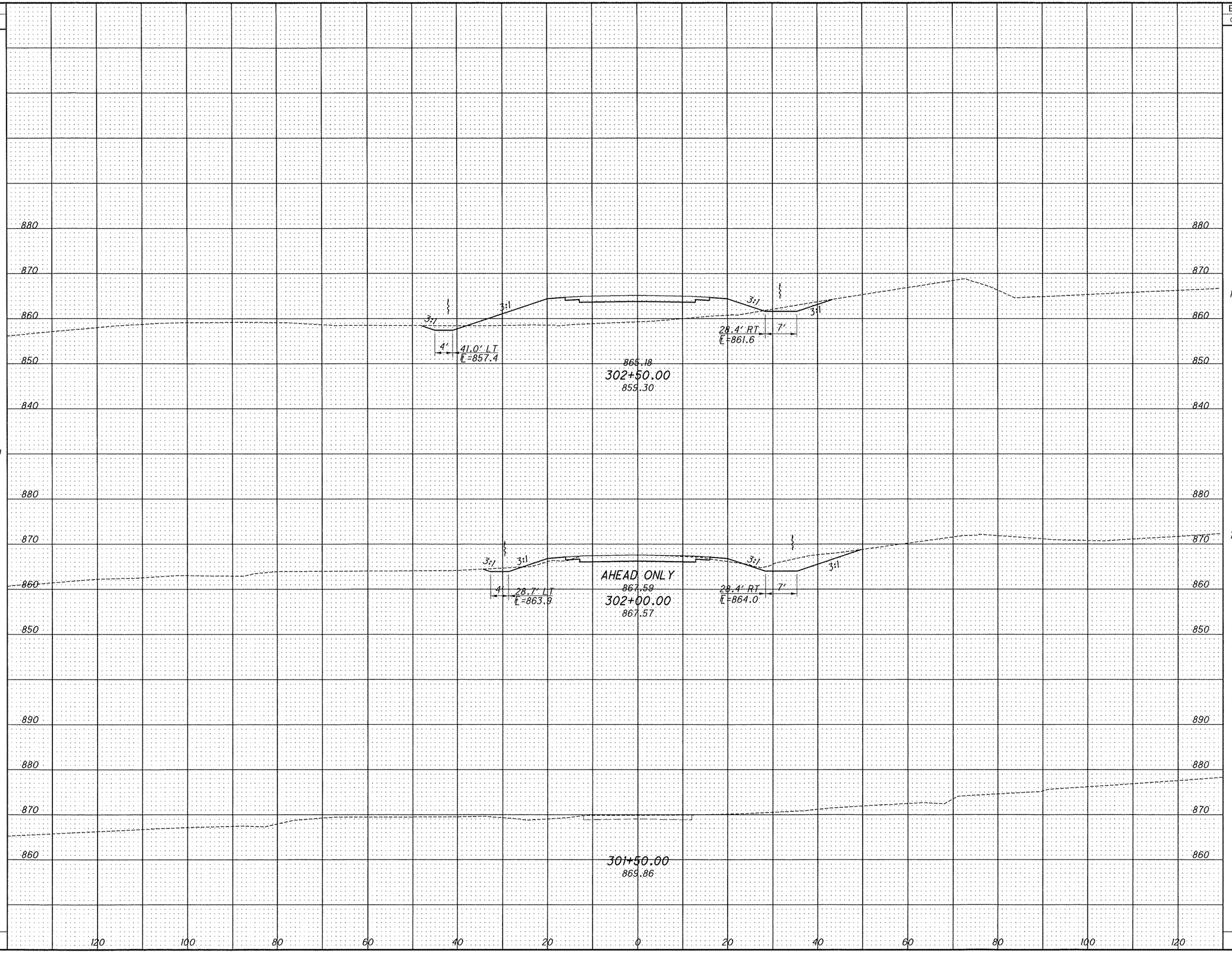


CROSS SECTIONS - JIM GRANGER DRIVE
STA. 300+00 TO STA. 301+00

MUS-JIM GRANGER DR

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS002.dgn

SEEDING	
END WIDTH	SQ. YDS.
61	319
54	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
18	250		
		87	240
76	9		

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - JIM GRANGER DRIVE
STA. 301+50 TO STA. 302+00

MUS-JIM GRANGER DR

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS002.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
157	869
156	653
79	389

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
29	2603		
27	1075		
25	438		
		52	3406
		48	1401
		40	637

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - JIM GRANGER DRIVE
STA. 303+00 TO STA. 304+00

MUS-JIM GRANGER DR

39
46

304+00.00
859.86
830.00
3:1
3:1
7'
96.1' LT
℄=833.7
59.5' RT
℄=846.0
8'

303+50.00
861.31
849.08
3:1
5'
114.7' LT
℄=829.0
44.2' RT
℄=852.5
7'

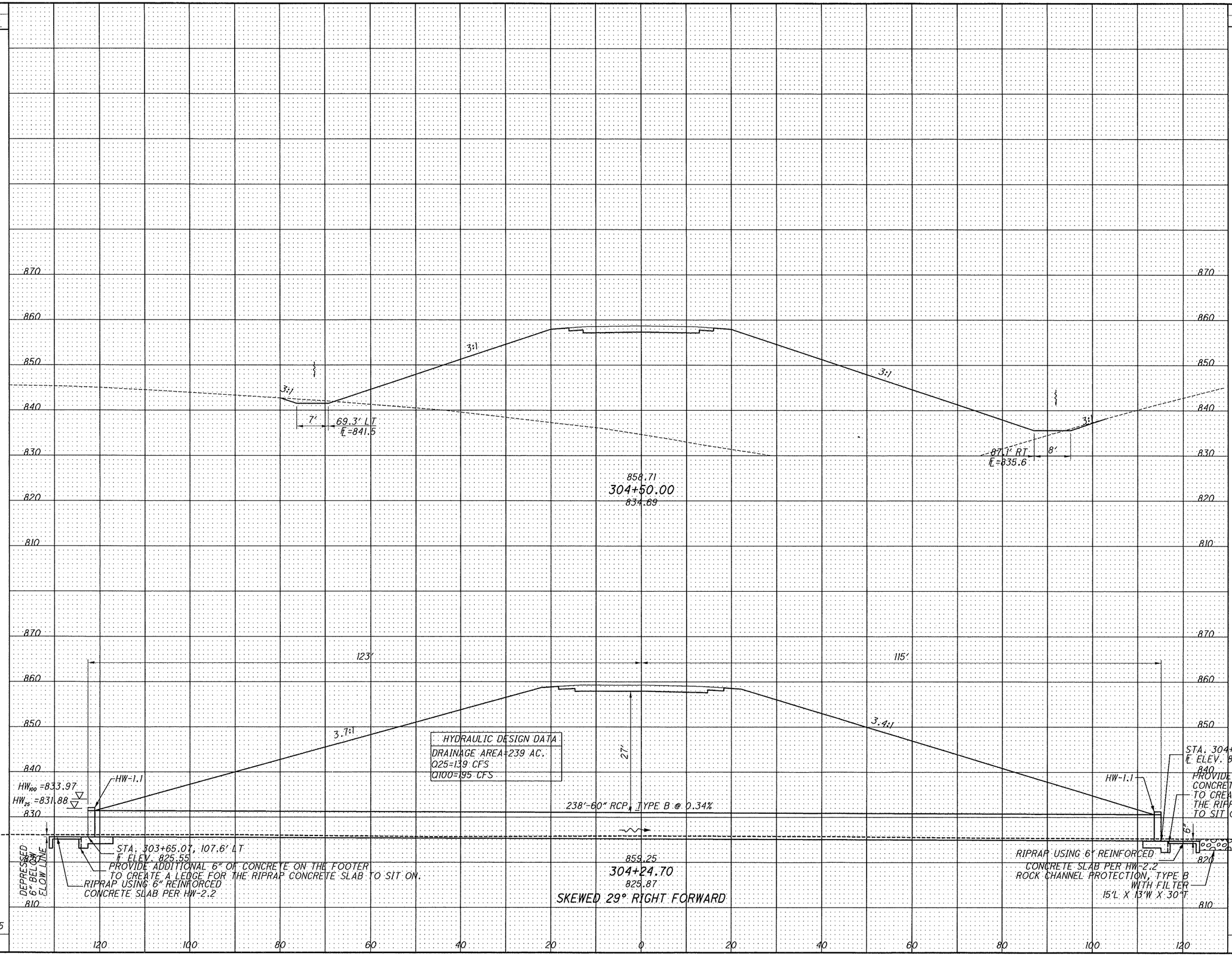
303+00.00
863.09
855.08
3:1
4'
50.3' LT
℄=852.2
37.6' RT
℄=856.5
7'

870 860 850 840 830 820 810

120 100 80 60 40 20 0 20 40 60 80 100 120

G:\SD\Projects\64361JimGranger\77328\roadway\sheets\77328XS002.dgn

SEEDING	
END WIDTH	SQ. YDS.
158	
875	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
9	2507		
		35	4731

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - JIM GRANGER DRIVE
STA. 304+21.50 TO STA. 304+50

MUS-JIM GRANGER DR

40
46

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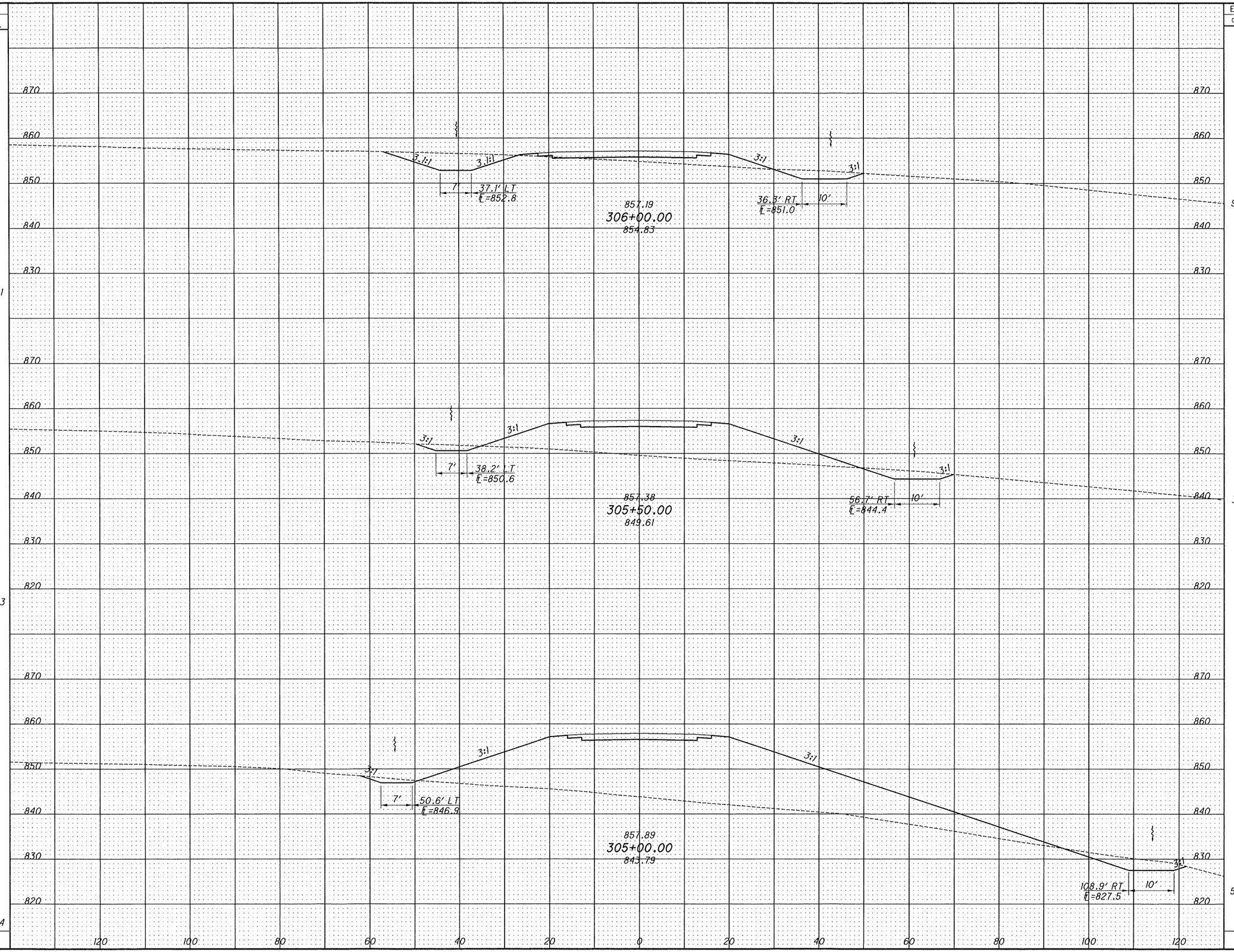
SEEDING	
END WIDTH	SQ. YDS.
73	461
93	703
160	894



END AREA		VOLUME	
CUT	FILL	CUT	FILL
97	58		
		126	445
39	423		
		84	1506
52	1203		
		56	3435

CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - JIM GRANGER DRIVE
STA. 305+00 TO STA. 306+00

MUS-JIM GRANGER DR

41
46

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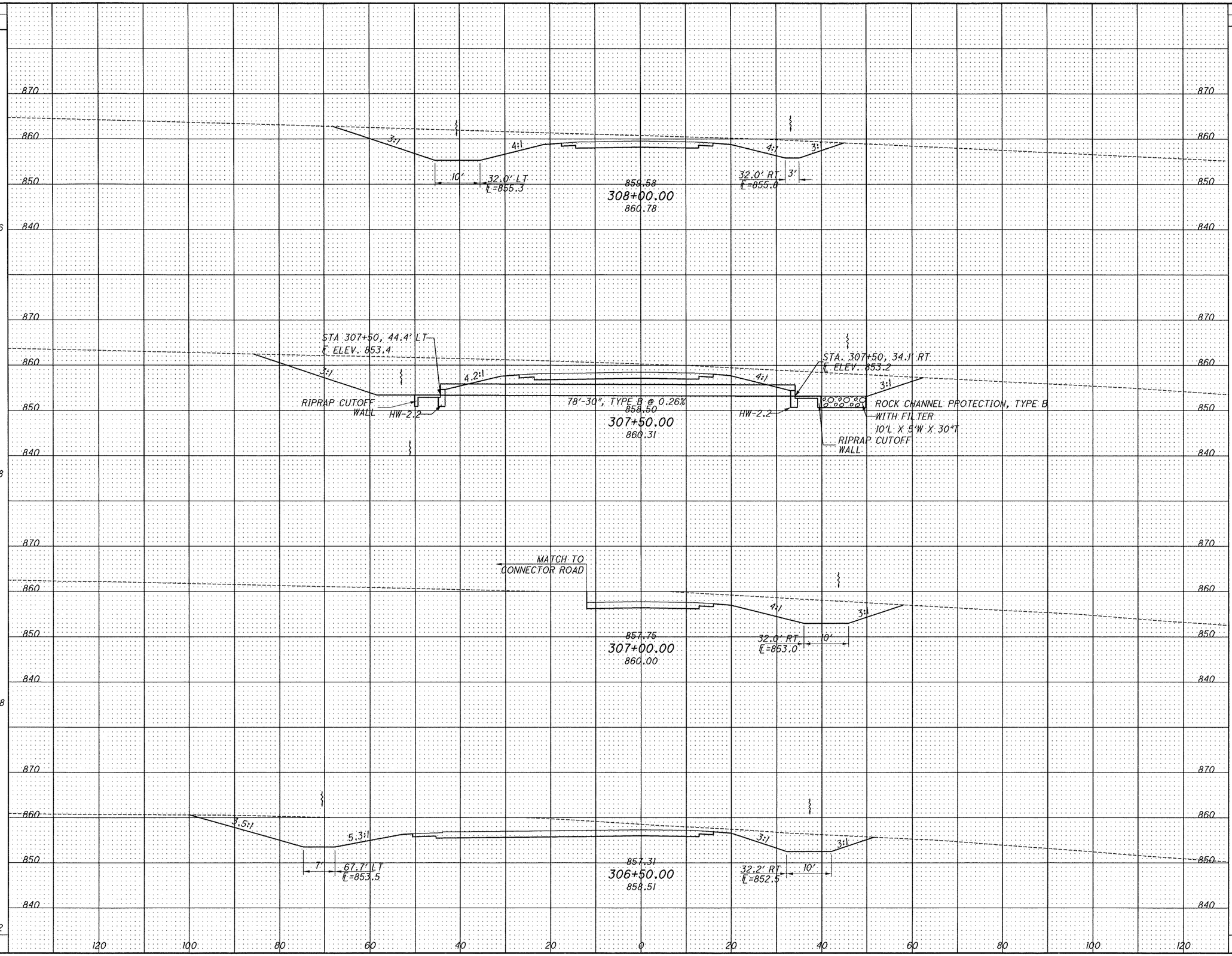
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
82	636	371	0	961	0
147	528	667	0	846	0
43	358	247	0	726	0
86	442	537	0	586	54



CALCULATED RSH
CHECKED VDK

CROSS SECTIONS - JIM GRANGER DRIVE STA. 306+50 TO STA. 308+00

MUS-JIM GRANGER DR

42
46

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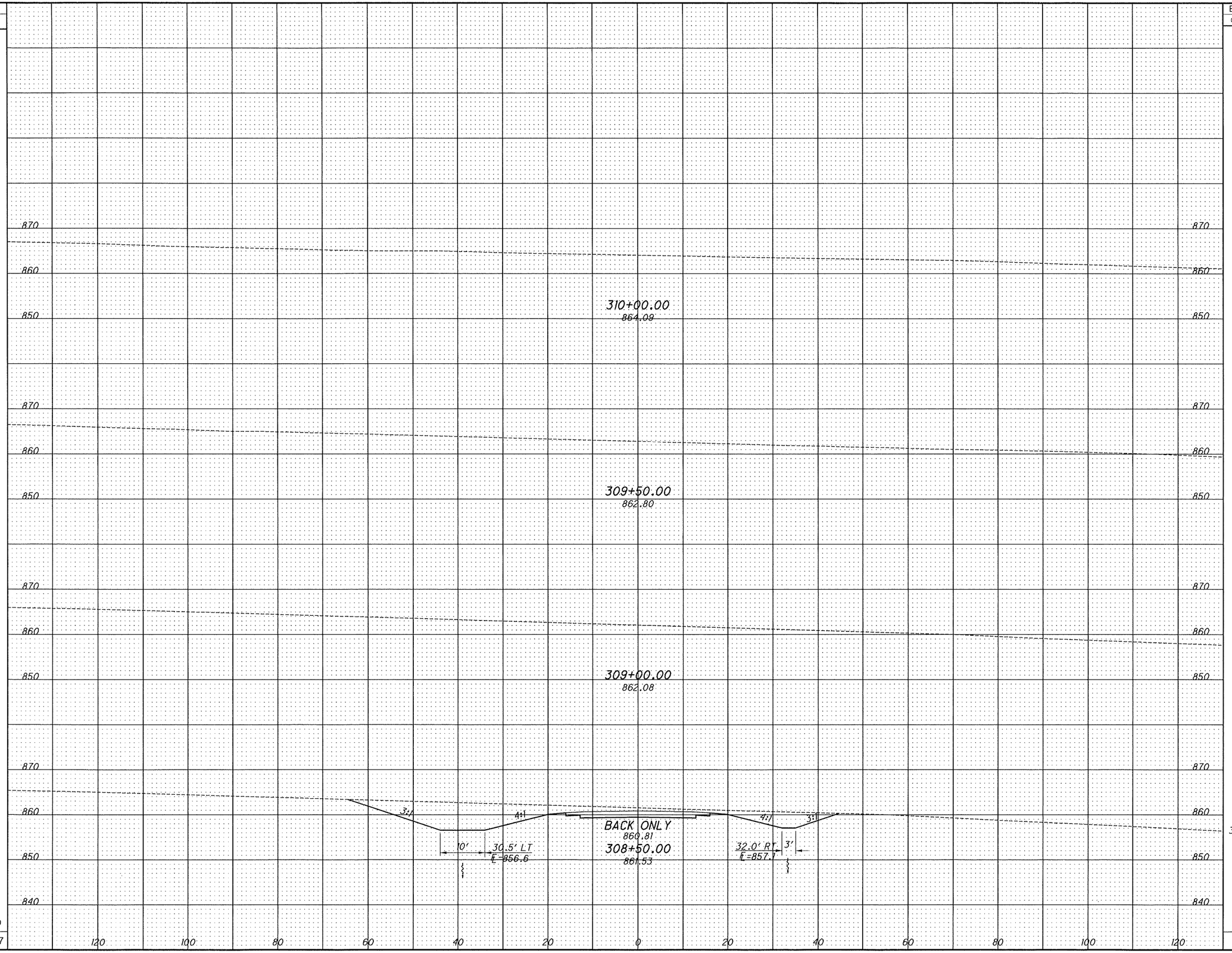
SEEDING	
END WIDTH	SQ. YDS.
80	450
TOTAL	7677



END AREA		VOLUME	
CUT	FILL	CUT	FILL
312	0		
		632	0
TOTAL		4279	15855

CALCULATED RSH

CHECKED VDK

CROSS SECTIONS - JIM GRANGER DRIVE
STA. 308+50 TO STA. 310+00

MUS-JIM GRANGER DR

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SUPERELEVATION TABLE

P.I. STA. 215+75.98 | Dc = 1° 30′ 00″

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
903.60	*185*	-0.25	-0.0208	12.00	200+73.65 R 1	903.85	12.00	0.0208	0.25	*185*	904.10	*MATCH EX*
903.58	*185*	-0.24	-0.0202	12.00	200+75.00 R 1	903.82	12.00	0.0202	0.24	*185*	904.06	
903.44	*185*	-0.19	-0.0160	12.00	200+84.31 R 1	903.64	12.00	0.0160	0.19	*185*	903.83	*RC*
903.12		-0.19	-0.0160	12.00	201+00.00 R 1	903.31	12.00	0.0089	0.11	*185*	903.42	
902.66		-0.19	-0.0160	12.00	201+19.83 R 1	902.85	12.00	-0.0000	-0.00	*185*	902.85	*½FLAT*
902.53		-0.19	-0.0160	12.00	201+25.00 R 1	902.72	12.00	-0.0023	-0.03	*185*	902.70	
901.84		-0.19	-0.0160	12.00	201+50.00 R 1	902.03	12.00	-0.0136	-0.16	*185*	901.87	
901.68		-0.19	-0.0160	12.00	201+55.35 R 1	901.87	12.00	-0.0160	-0.19	*185*	901.68	*NC*
901.05		-0.19	-0.0160	12.00	201+75.00 R 1	901.24	12.00	-0.0160	-0.19		901.05	
900.15		-0.19	-0.0160	12.00	202+00.00 R 1	900.35	12.00	-0.0160	-0.19		900.15	
899.16		-0.19	-0.0160	12.00	202+25.00 R 1	899.35	12.00	-0.0160	-0.19		899.16	
898.06		-0.19	-0.0160	12.00	202+50.00 R 1	898.26	12.00	-0.0160	-0.19		898.06	
896.87		-0.19	-0.0160	12.00	202+75.00 R 1	897.06	12.00	-0.0160	-0.19		896.87	
895.57		-0.19	-0.0160	12.00	203+00.00 R 1	895.76	12.00	-0.0160	-0.19		895.57	
894.19		-0.19	-0.0160	12.00	203+25.00 R 1	894.38	12.00	-0.0160	-0.19		894.19	
892.81		-0.19	-0.0160	12.00	203+50.00 R 1	893.00	12.00	-0.0160	-0.19		892.81	
892.75		-0.19	-0.0160	12.00	203+50.96 R 1	892.94	12.00	-0.0160	-0.19	*185*	892.75	*NC*
891.42		-0.19	-0.0160	12.00	203+75.00 R 1	891.61	12.00	-0.0052	-0.06	*185*	891.55	
890.78		-0.19	-0.0160	12.00	203+86.48 R 1	890.97	12.00	0.0000	0.00	*185*	890.97	*½FLAT*
890.04		-0.19	-0.0160	12.00	204+00.00 R 1	890.23	12.00	0.0061	0.07	*185*	890.30	
889.28		-0.19	-0.0160	12.00	204+14.23 R 1	889.47	12.00	0.0125	0.15	*185*	889.62	*PC*
888.87	*185*	-0.19	-0.0160	12.00	204+22.00 R 1	889.07	12.00	0.0160	0.19	*185*	889.26	*RC*
888.70	*185*	-0.21	-0.0174	12.00	204+25.00 R 1	888.91	12.00	0.0174	0.21	*185*	889.12	
887.76	*185*	-0.30	-0.0250	12.00	204+41.98 R 1	888.06	12.00	0.0250	0.30	*185*	888.36	*FULL*
887.37		-0.30	-0.0250	12.00	204+50.00 R 1	887.67	12.00	0.0250	0.30		887.97	
886.21		-0.30	-0.0250	12.00	204+75.00 R 1	886.51	12.00	0.0250	0.30		886.81	
885.13		-0.30	-0.0250	12.00	205+00.00 R 1	885.43	12.00	0.0250	0.30		885.73	
884.12		-0.30	-0.0250	12.00	205+25.00 R 1	884.42	12.00	0.0250	0.30		884.72	
883.20		-0.30	-0.0250	12.00	205+50.00 R 1	883.50	12.00	0.0250	0.30		883.80	
882.35		-0.30	-0.0250	12.00	205+75.00 R 1	882.65	12.00	0.0250	0.30		882.95	
881.58		-0.30	-0.0250	12.00	206+00.00 R 1	881.88	12.00	0.0250	0.30		882.18	
880.88		-0.30	-0.0250	12.00	206+25.00 R 1	881.18	12.00	0.0250	0.30		881.48	
880.27		-0.30	-0.0250	12.00	206+50.00 R 1	880.57	12.00	0.0250	0.30		880.87	
879.73		-0.30	-0.0250	12.00	206+75.00 R 1	880.03	12.00	0.0250	0.30		880.33	
879.28		-0.30	-0.0250	12.00	207+00.00 R 1	879.58	12.00	0.0250	0.30		879.88	
878.90		-0.30	-0.0250	12.00	207+25.00 R 1	879.20	12.00	0.0250	0.30		879.50	
878.59		-0.30	-0.0250	12.00	207+50.00 R 1	878.89	12.00	0.0250	0.30		879.19	
878.37		-0.30	-0.0250	12.00	207+75.00 R 1	878.67	12.00	0.0250	0.30		878.97	
878.22		-0.30	-0.0250	12.00	208+00.00 R 1	878.52	12.00	0.0250	0.30		878.82	
878.16		-0.30	-0.0250	12.00	208+25.00 R 1	878.46	12.00	0.0250	0.30		878.76	
878.17		-0.30	-0.0250	12.00	208+50.00 R 1	878.47	12.00	0.0250	0.30		878.77	
878.25		-0.30	-0.0250	12.00	208+75.00 R 1	878.55	12.00	0.0250	0.30		878.85	
878.42		-0.30	-0.0250	12.00	209+00.00 R 1	878.72	12.00	0.0250	0.30		879.02	
878.66		-0.30	-0.0250	12.00	209+25.00 R 1	878.96	12.00	0.0250	0.30		879.26	
878.99		-0.30	-0.0250	12.00	209+50.00 R 1	879.29	12.00	0.0250	0.30		879.59	
879.39		-0.30	-0.0250	12.00	209+75.00 R 1	879.69	12.00	0.0250	0.30		879.99	
879.87		-0.30	-0.0250	12.00	210+00.00 R 1	880.17	12.00	0.0250	0.30		880.47	
880.41		-0.30	-0.0250	12.00	210+25.00 R 1	880.71	12.00	0.0250	0.30		881.01	
880.96		-0.30	-0.0250	12.00	210+50.00 R 1	881.26	12.00	0.0250	0.30		881.56	
881.51		-0.30	-0.0250	12.00	210+75.00 R 1	881.81	12.00	0.0250	0.30		882.11	
882.06		-0.30	-0.0250	12.00	211+00.00 R 1	882.36	12.00	0.0250	0.30		882.66	

SUPERELEVATION TABLE

P.I. STA. 215+75.98 | Dc = 1° 30′ 00″

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
882.06		-0.30	-0.0250	12.00	211+00.00 R 1	882.36	12.00	0.0250	0.30		882.66	
882.60		-0.30	-0.0250	12.00	211+25.00 R 1	882.90	12.00	0.0250	0.30		883.20	
883.10		-0.30	-0.0250	12.00	211+50.00 R 1	883.40	12.00	0.0250	0.30		883.70	
883.51		-0.30	-0.0250	12.00	211+75.00 R 1	883.81	12.00	0.0250	0.30		884.11	
883.84		-0.30	-0.0250	12.00	212+00.00 R 1	884.14	12.00	0.0250	0.30		884.44	
884.08		-0.30	-0.0250	12.00	212+25.00 R 1	884.38	12.00	0.0250	0.30		884.68	
884.23		-0.30	-0.0250	12.00	212+50.00 R 1	884.53	12.00	0.0250	0.30		884.83	
884.29		-0.30	-0.0250	12.00	212+75.00 R 1	884.59	12.00	0.0250	0.30		884.89	
884.27		-0.30	-0.0250	12.00	213+00.00 R 1	884.57	12.00	0.0250	0.30		884.87	
884.16		-0.30	-0.0250	12.00	213+25.00 R 1	884.46	12.00	0.0250	0.30		884.76	
883.96		-0.30	-0.0250	12.00	213+50.00 R 1	884.26	12.00	0.0250	0.30		884.56	
883.68		-0.30	-0.0250	12.00	213+75.00 R 1	883.98	12.00	0.0250	0.30		884.28	
883.31		-0.30	-0.0250	12.00	214+00.00 R 1	883.61	12.00	0.0250	0.30		883.91	
882.86		-0.30	-0.0250	12.00	214+25.00 R 1	883.16	12.00	0.0250	0.30		883.46	
882.31		-0.30	-0.0250	12.00	214+50.00 R 1	882.61	12.00	0.0250	0.30		882.91	
881.68		-0.30	-0.0250	12.00	214+75.00 R 1	881.98	12.00	0.0250	0.30		882.28	
880.99		-0.30	-0.0250	12.00	215+00.00 R 1	881.29	12.00	0.0250	0.30		881.59	
880.29		-0.30	-0.0250	12.00	215+25.00 R 1	880.59	12.00	0.0250	0.30		880.89	
879.59		-0.30	-0.0250	12.00	215+50.00 R 1	879.89	12.00	0.0250	0.30		880.19	
878.89		-0.30	-0.0250	12.00	215+75.00 R 1	879.19	12.00	0.0250	0.30		879.49	
878.19		-0.30	-0.0250	12.00	216+00.00 R 1	878.49	12.00	0.0250	0.30		878.79	
877.49		-0.30	-0.0250	12.00	216+25.00 R 1	877.79	12.00	0.0250	0.30		878.09	
876.79		-0.30	-0.0250	12.00	216+50.00 R 1	877.09	12.00	0.0250	0.30		877.39	
876.08		-0.30	-0.0250	12.00	216+75.00 R 1	876.38	12.00	0.0250	0.30		876.68	
875.38		-0.30	-0.0250	12.00	217+00.00 R 1	875.68	12.00	0.0250	0.30		875.98	
874.68		-0.30	-0.0250	12.00	217+25.00 R 1	874.98	12.00	0.0250	0.30		875.28	
873.98		-0.30	-0.0250	12.00	217+50.00 R 1	874.28	12.00	0.0250	0.30		874.58	
873.28		-0.30	-0.0250	12.00	217+75.00 R 1	873.58	12.00	0.0250	0.30		873.88	
872.58		-0.30	-0.0250	12.00	218+00.00 R 1	872.88	12.00	0.0250	0.30		873.18	
871.88		-0.30	-0.0250	12.00	218+25.00 R 1	872.18	12.00	0.0250	0.30		872.48	
871.18		-0.30	-0.0250	12.00	218+50.00 R 1	871.48	12.00	0.0250	0.30		871.78	
870.48		-0.30	-0.0250	12.00	218+75.00 R 1	870.78	12.00	0.0250	0.30		871.08	
869.78		-0.30	-0.0250	12.00	219+00.00 R 1	870.08	12.00	0.0250	0.30		870.38	
869.12		-0.30	-0.0250	12.00	219+25.00 R 1	869.42	12.00	0.0250	0.30		869.72	
868.52		-0.30	-0.0250	12.00	219+50.00 R 1	868.82	12.00	0.0250	0.30		869.12	
867.99		-0.30	-0.0250	12.00	219+75.00 R 1	868.29	12.00	0.0250	0.30		868.59	
867.53		-0.30	-0.0250	12.00	220+00.00 R 1	867.83	12.00	0.0250	0.30		868.13	
867.13		-0.30	-0.0250	12.00	220+25.00 R 1	867.43	12.00	0.0250	0.30		867.73	
866.81		-0.30	-0.0250	12.00	220+50.00 R 1	867.11	12.00	0.0250	0.30		867.41	
866.55		-0.30	-0.0250	12.00	220+75.00 R 1	866.85	12.00	0.0250	0.30		867.15	
866.37		-0.30	-0.0250	12.00	221+00.00 R 1	866.67	12.00	0.0250	0.30		866.97	
866.25		-0.30	-0.0250	12.00	221+25.00 R 1	866.55	12.00	0.0250	0.30		866.85	
866.20		-0.30	-0.0250	12.00	221+50.00 R 1	866.50	12.00	0.0250	0.30		866.80	
866.21		-0.30	-0.0250	12.00	221+75.00 R 1	866.51	12.00	0.0250	0.30		866.81	
866.30		-0.30	-0.0250	12.00	222+00.00 R 1	866.60	12.00	0.0250	0.30		866.90	
866.42		-0.30	-0.0250	12.00	222+25.00 R 1	866.72	12.00	0.0250	0.30		867.02	
866.54		-0.30	-0.0250	12.00	222+50.00 R 1	866.84	12.00	0.0250	0.30		867.14	
866.66		-0.30	-0.0250	12.00	222+75.00 R 1	866.96	12.00	0.0250	0.30		867.26	
866.78		-0.30	-0.0250	12.00	223+00.00 R 1	867.08	12.00	0.0250	0.30		867.38	
866.90		-0.30	-0.0250	12.00	223+25.00 R 1	867.20	12.00	0.0250	0.30		867.50	

CALCULATED RSH | CHECKED VDK

SUPERELEVATION TABLE
CONNECTOR ROAD

MUS-JIM GRANGER DR

SUPERELEVATION TABLE

P.I. STA. 215+75.98 | Dc = 1° 30′ 00″

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
867.02		-0.30	-0.0250	12.00	223+50.00 R 1	867.32	12.00	0.0250	0.30		867.62	
867.14		-0.30	-0.0250	12.00	223+75.00 R 1	867.44	12.00	0.0250	0.30		867.74	
867.26		-0.30	-0.0250	12.00	224+00.00 R 1	867.56	12.00	0.0250	0.30		867.86	
867.38		-0.30	-0.0250	12.00	224+25.00 R 1	867.68	12.00	0.0250	0.30		867.98	
867.50		-0.30	-0.0250	12.00	224+50.00 R 1	867.80	12.00	0.0250	0.30		868.10	
867.62		-0.30	-0.0250	12.00	224+75.00 R 1	867.92	12.00	0.0250	0.30		868.22	
867.74		-0.30	-0.0250	12.00	225+00.00 R 1	868.04	12.00	0.0250	0.30		868.34	
867.86		-0.30	-0.0250	12.00	225+25.00 R 1	868.16	12.00	0.0250	0.30		868.46	
867.98		-0.30	-0.0250	12.00	225+50.00 R 1	868.28	12.00	0.0250	0.30		868.58	
868.10		-0.30	-0.0250	12.00	225+75.00 R 1	868.40	12.00	0.0250	0.30		868.70	
868.22		-0.30	-0.0250	12.00	226+00.00 R 1	868.52	12.00	0.0250	0.30		868.82	
868.34		-0.30	-0.0250	12.00	226+25.00 R 1	868.64	12.00	0.0250	0.30		868.94	
868.42	*185*	-0.30	-0.0250	12.00	226+42.07 R 1	868.72	12.00	0.0250	0.30	*185*	869.02	*FULL*
868.50	*185*	-0.26	-0.0214	12.00	226+50.00 R 1	868.76	12.00	0.0214	0.26	*185*	869.02	
868.63	*185*	-0.19	-0.0160	12.00	226+62.05 R 1	868.82	12.00	0.0160	0.19	*185*	869.01	*RC*
868.67		-0.19	-0.0160	12.00	226+69.82 R 1	868.86	12.00	0.0125	0.15	*185*	869.01	*PC*
868.69		-0.19	-0.0160	12.00	226+75.00 R 1	868.88	12.00	0.0102	0.12	*185*	869.00	
868.80		-0.19	-0.0160	12.00	226+97.57 R 1	868.99	12.00	0.0000	0.00	*185*	868.99	*½FLAT*
868.81		-0.19	-0.0160	12.00	227+00.00 R 1	869.00	12.00	-0.0011	-0.01	*185*	868.99	
868.93		-0.19	-0.0160	12.00	227+25.00 R 1	869.12	12.00	-0.0124	-0.15	*185*	868.97	
868.97		-0.19	-0.0160	12.00	227+33.09 R 1	869.16	12.00	-0.0160	-0.19	*185*	868.97	*NC*
869.05		-0.19	-0.0160	12.00	227+50.00 R 1	869.24	12.00	-0.0160	-0.19		869.05	
869.17		-0.19	-0.0160	12.00	227+75.00 R 1	869.36	12.00	-0.0160	-0.19		869.17	
869.29		-0.19	-0.0160	12.00	228+00.00 R 1	869.48	12.00	-0.0160	-0.19		869.29	
869.41		-0.19	-0.0160	12.00	228+25.00 R 1	869.60	12.00	-0.0160	-0.19		869.41	
869.53		-0.19	-0.0160	12.00	228+50.00 R 1	869.72	12.00	-0.0160	-0.19		869.53	
869.65		-0.19	-0.0160	12.00	228+75.00 R 1	869.84	12.00	-0.0160	-0.19		869.65	
869.77		-0.19	-0.0160	12.00	229+00.00 R 1	869.96	12.00	-0.0160	-0.19		869.77	
869.89		-0.19	-0.0160	12.00	229+25.00 R 1	870.08	12.00	-0.0160	-0.19		869.89	
870.01		-0.19	-0.0160	12.00	229+50.00 R 1	870.20	12.00	-0.0160	-0.19		870.01	
870.13		-0.19	-0.0160	12.00	229+75.00 R 1	870.32	12.00	-0.0160	-0.19		870.13	
870.25		-0.19	-0.0160	12.00	230+00.00 R 1	870.44	12.00	-0.0160	-0.19		870.25	
870.37		-0.19	-0.0160	12.00	230+25.00 R 1	870.56	12.00	-0.0160	-0.19		870.37	
870.49		-0.19	-0.0160	12.00	230+50.00 R 1	870.68	12.00	-0.0160	-0.19		870.49	
870.61		-0.19	-0.0160	12.00	230+75.00 R 1	870.80	12.00	-0.0160	-0.19		870.61	
870.73		-0.19	-0.0160	12.00	231+00.00 R 1	870.92	12.00	-0.0160	-0.19		870.73	
870.85		-0.19	-0.0160	12.00	231+25.00 R 1	871.04	12.00	-0.0160	-0.19		870.85	
870.97		-0.19	-0.0160	12.00	231+50.00 R 1	871.16	12.00	-0.0160	-0.19		870.97	
871.09		-0.19	-0.0160	12.00	231+75.00 R 1	871.28	12.00	-0.0160	-0.19		871.09	
871.21		-0.19	-0.0160	12.00	232+00.00 R 1	871.40	12.00	-0.0160	-0.19		871.21	
871.33		-0.19	-0.0160	12.00	232+25.00 R 1	871.52	12.00	-0.0160	-0.19		871.33	
871.37		-0.19	-0.0160	12.00	232+50.00 R 1	871.57	12.00	-0.0160	-0.19		871.37	
871.33		-0.19	-0.0160	12.00	232+75.00 R 1	871.52	12.00	-0.0160	-0.19		871.33	
871.20		-0.19	-0.0160	12.00	233+00.00 R 1	871.39	12.00	-0.0160	-0.19		871.20	
870.97		-0.19	-0.0160	12.00	233+25.00 R 1	871.16	12.00	-0.0160	-0.19		870.97	
870.66		-0.19	-0.0160	12.00	233+50.00 R 1	870.85	12.00	-0.0160	-0.19		870.66	*NC*
870.31	*185*	-0.19	-0.0160	12.00	233+71.81 R 1	870.50	12.00	-0.0160	-0.19		870.31	
870.27	*185*	-0.17	-0.0146	12.00	233+75.00 R 1	870.44	12.00	-0.0160	-0.19		870.25	
869.94	*185*	-0.04	-0.0033	12.00	234+00.00 R 1	869.98	12.00	-0.0160	-0.19		869.79	
869.85	*185*	0.00	0.0000	12.00	234+07.33 R 1	869.85	12.00	-0.0160	-0.19		869.66	*½FLAT*

SUPERELEVATION TABLE

P.I. STA. 236+85.58 | Dc = 3° 00′ 00″

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE		STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
869.62	*185*	0.10	0.0080	12.00	234+25.00 R 1	869.52	12.00	-0.0160	-0.19		869.33	
869.39	*185*	0.19	0.0160	12.00	234+42.85 R 1	869.20	12.00	-0.0160	-0.19	*185*	869.00	*RC*
869.29	*185*	0.23	0.0192	12.00	234+50.00 R 1	869.06	12.00	-0.0192	-0.23	*185*	868.83	
869.20	*185*	0.27	0.0225	12.00	234+57.28 R 1	868.93	12.00	-0.0225	-0.27	*185*	868.66	*PC*
868.97	*185*	0.37	0.0305	12.00	234+75.00 R 1	868.60	12.00	-0.0305	-0.37	*185*	868.24	
868.64	*185*	0.50	0.0417	12.00	235+00.00 R 1	868.14	12.00	-0.0417	-0.50	*185*	867.64	
868.55	*185*	0.54	0.0450	12.00	235+07.23 R 1	868.01	12.00	-0.0450	-0.54	*185*	867.47	*FULL*
868.22		0.54	0.0450	12.00	235+25.00 R 1	867.68	12.00	-0.0450	-0.54		867.14	
867.76		0.54	0.0450	12.00	235+50.00 R 1	867.22	12.00	-0.0450	-0.54		866.68	
867.30		0.54	0.0450	12.00	235+75.00 R 1	866.76	12.00	-0.0450	-0.54		866.22	
866.84		0.54	0.0450	12.00	236+00.00 R 1	866.30	12.00	-0.0450	-0.54		865.76	
866.38		0.54	0.0450	12.00	236+25.00 R 1	865.84	12.00	-0.0450	-0.54		865.30	
865.92		0.54	0.0450	12.00	236+50.00 R 1	865.38	12.00	-0.0450	-0.54		864.84	
865.46		0.54	0.0450	12.00	236+75.00 R 1	864.92	12.00	-0.0450	-0.54		864.38	
865.00		0.54	0.0450	12.00	237+00.00 R 1	864.46	12.00	-0.0450	-0.54		863.92	
864.54		0.54	0.0450	12.00	237+25.00 R 1	864.00	12.00	-0.0450	-0.54		863.46	
864.08		0.54	0.0450	12.00	237+50.00 R 1	863.54	12.00	-0.0450	-0.54		863.00	
863.62		0.54	0.0450	12.00	237+75.00 R 1	863.08	12.00	-0.0450	-0.54		862.54	
863.16		0.54	0.0450	12.00	238+00.00 R 1	862.62	12.00	-0.0450	-0.54		862.08	
862.70		0.54	0.0450	12.00	238+25.00 R 1	862.16	12.00	-0.0450	-0.54		861.62	
862.24		0.54	0.0450	12.00	238+50.00 R 1	861.70	12.00	-0.0450	-0.54		861.16	
862.03	*185*	0.54	0.0450	12.00	238+61.77 R 1	861.49	12.00	-0.0450	-0.54	*185*	860.95	*FULL*
861.71	*185*	0.47	0.0390	12.00	238+75.00 R 1	861.24	12.00	-0.0390	-0.47	*185*	860.77	
861.12	*185*	0.33	0.0278	12.00	239+00.00 R 1	860.78	12.00	-0.0278	-0.33	*185*	860.45	
860.84	*185*	0.27	0.0225	12.00	239+11.72 R 1	860.57	12.00	-0.0225	-0.27	*185*	860.30	*PT*
860.52	*185*	0.20	0.0165	12.00	239+25.00 R 1	860.32	12.00	-0.0165	-0.20	*185*	860.13	
860.49	*185*	0.19	0.0160	12.00	239+26.15 R 1	860.30	12.00	-0.0160	-0.19	*185*	860.11	*RC*
859.93	*185*	0.07	0.0053	12.79	239+50.00 R 1	859.86	12.79	-0.0160	-0.20		859.66	
859.65	*185*	0.00	0.0000	13.86	239+61.67 R 1	859.65	13.86	-0.0160	-0.22		859.43	*½FLAT*
859.31	*185*	-0.09	-0.0060	15.66	239+75.00 R 1	859.40	15.66	-0.0160	-0.25		859.15	
858.68	*185*	-0.32	-0.0160	20.02	239+97.19 R 1	859.00	20.02	-0.0160	-0.32		858.68	*NC*
858.62		-0.33	-0.0160	20.69	240+00.00 R 1	858.94	20.69	-0.0160	-0.33		858.62	
					240+25.00 R 1	858.48						
					240+50.00 R 1	858.02						

CALCULATED RSH | CHECKED VDK

SUPERELEVATION TABLE CONNECTOR ROAD

MUS-JIM GRANGER DR

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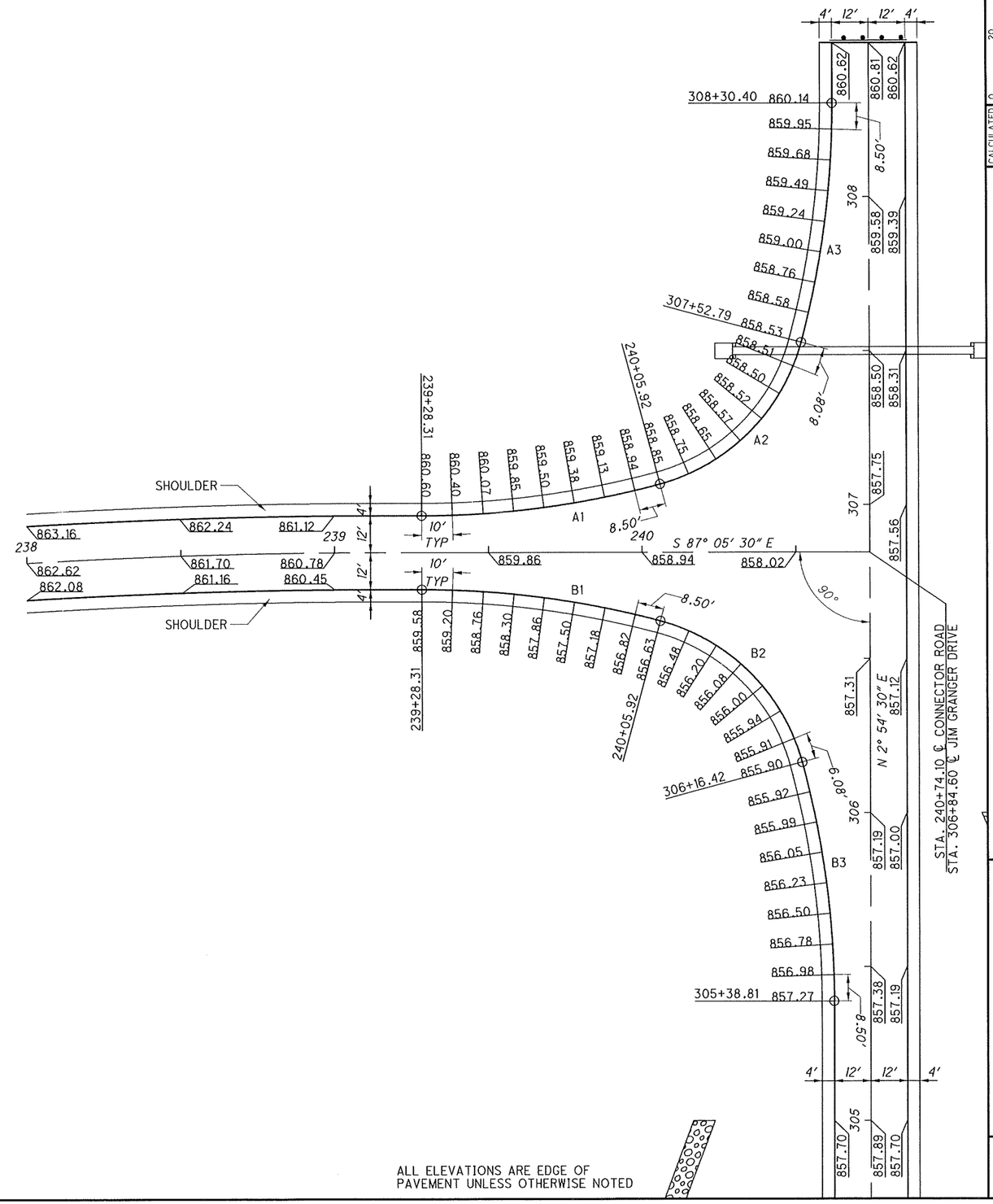
CURVE	CENTER OF CURVE POINT ℄ CONNECTOR ROAD	℄ JIM GRANGER DRIVE	RADIUS	LENGTH	
A1	239+28.31, 312.00′ LT	309+96.60, 145.79′ LT	300′	78.50′	14°59′35″
A2	238+89.10, 85.00′ LT	307+69.60, 85.00′ LT	65′	68.08	60°00′50″
A3	237+50.12, 139.46′ LT	308+30.40, 312.00′ LT	300′	78.50	14°59′35″
B1	239+28.31, 312.00′ RT	303+72.60, 145.79′ LT	300′	78.50′	14°59′35″
B2	239+89.10, 85.00′ RT	305+99.60, 85.00′ LT	65′	68.08	60°00′50″
B3	237+50.12, 139.46′ RT	305+38.81, 312.00′ LT	300′	78.50′	14°59′35″



N

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED RSH
CHECKED VDK

INTERSECTION DETAILS

MUS-JIM GRANGER DR

46/46

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