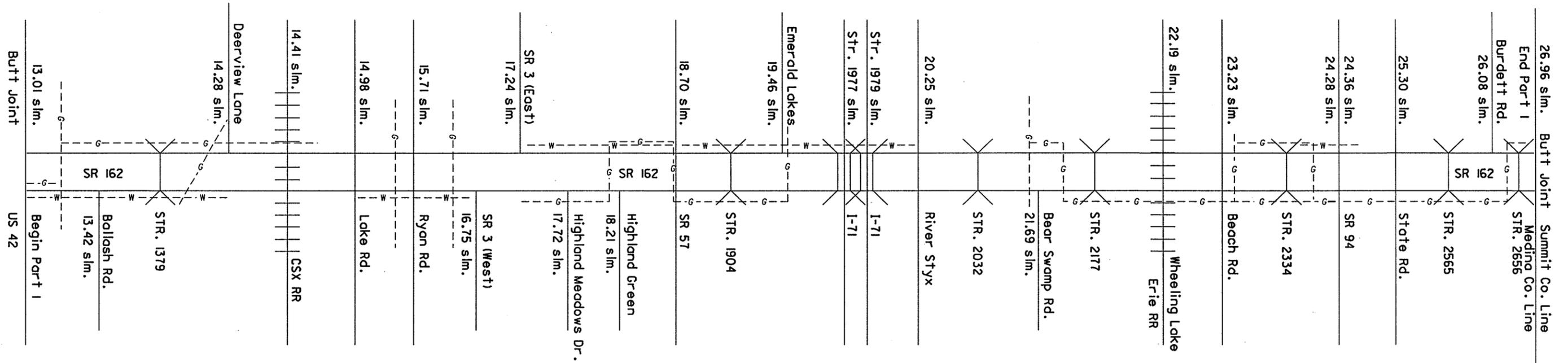


NOTE: ALL UTILITIES SHOWN ARE APPROXIMATE LOCATIONS.



* SEE TYPICALS ON "SHOULDER DATA" SHEET

* MAKE SURE TO MAINTAIN PROPER CLEARANCE AT I-71 OVERHEAD STRUCTURES (See Sheet # 20)

USE BUTT JOINTS THROUGHOUT PROJECT

PAVEMENT DATA

PART	ROUTE	LOG POINT TO LOG POINT Straight Line mileage	LENGTH		WIDTH FEET AVG.	* TYPICAL	EXISTING TYPE PAVEMENT	PAVEMENT AREA square yards	407		448		446		254 PAVEMENT PLANING, BITUMINOUS sq. yd.	604 CATCH BASIN ADJUSTED TO GRADE each	604 MANHOLE ADJUSTED TO GRADE each	604 MONUMENT BOX ADJUSTED TO GRADE each	638 VALVE BOX ADJUSTED TO GRADE each	
			mile	feet					TACK COAT @ 0.08 gal/sy	TACK COAT INTERMEDIATE @ 0.03 gal/sy	THICK AVG. inch.	cu. yd.	THICK AVG. inch.	cu. yd.						
I	SR 162	13.01-16.75	3.74	19747	24	I	404	52659	4213	1580	0.75	1097	1.25	1829						
		17.24-18.70	1.46	7709	24	I	404	20557	1645	617	0.75	428	1.25	714						
		18.70-24.28	5.58	29462	24	I	404	78565	6285	2357	0.75	1637	1.25	2729	*					
		24.36-26.96	2.60	13728	24	I	404	36608	2929	1098	0.75	763	1.25	1272						
							EXTRA AREA FOR INTERS., DRIVES & MB	4800	384	144	0.75	100	1.25	167	1000					
		TOTAL	13.38	70646				193189	15456	5796		4025		6711	1000	1	3	5	5	

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WORKSTATION: mschafra DATE: 04/24/02

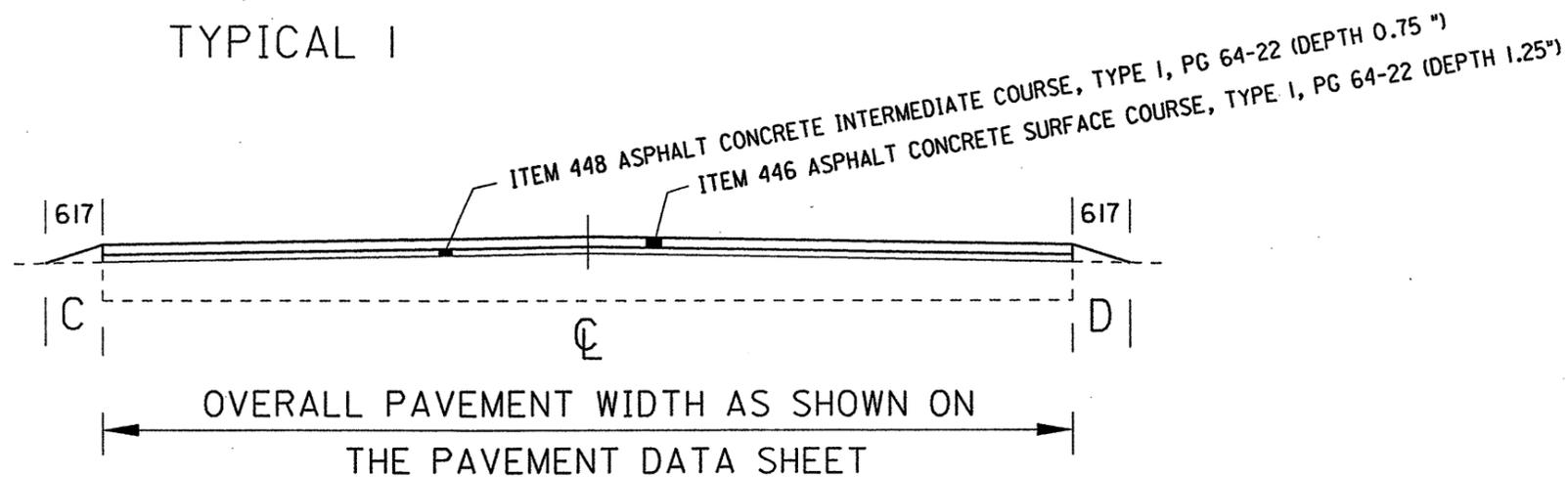
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PAVEMENT DATA

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TYPICAL I



+ Omit Item 408 in residential areas

SHOULDER DATA

PART	ROUTE	LOG POINT TO LOG POINT (straight line mileage)	LENGTH		TYPICAL	PAVED SHOULDER PROPOSED WIDTH feet (avg.)		PAVED SHOULDER AREA sq. yd.	203 LINEAR GRADING		301 BITUMINOUS AGGREGATE BASE, PG 64-22		AGGREGATE SHOULDER PROPOSED WIDTH feet (avg.)		AGGR. SHOULDER AREA sq. yd.	617	617	408
			mile	feet		DEPTH (avg.) inch.	station		AVG. THICK inch.	cu. yd.	C	D	SHOULDER PREPARATION	SHOULDER RECONDITIONING, MISC.: COMPACTED AGGREGATE		BITUMINOUS PRIME COAT		
													sq. yd.	ton		gallon		
I	SR 162	13.01-16.75	3.74	19747	I								2'	2'	8776	8776	548	+ 3510
		17.24-18.70	1.46	7709	I								1'	1'	1713	1713	107	+ 685
		18.70-24.28	5.58	29462	I								1'	1'	6547	6547	409	+ 2619
		24.36-26.96	2.60	13728	I								1'	1'	3051	3051	191	+ 1220
															2250	2250	141	
		TOTAL	13.38	70646												22337	1396	8034

SHOULDER DATA

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PROGRESSION OF WORK

PAVEMENT RESURFACING SHALL FOLLOW THE COMPLETION OF STRUCTURE MED-SR162-42.740 sIK. GUARDRAIL SHALL BE REMOVED PRIOR TO ANY EMBANKMENT WORK AT THE GUARDRAIL RUN. GUARDRAIL WORK SHALL BE DONE AFTER RESURFACING, AND BERM WORK SO AS TO ESTABLISH PROPER GRADE FROM WHICH TO CONSTRUCT THE RAIL.

ROUTINE MAINTENANCE:

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN.

PAVEMENT CONTROL:

AN AUTOMATIC SCREED CONTROL, HAVING A 20 FT. MINIMUM SKI-ARM, SHALL BE USED FOR PLACING THE INTERMEDIATE COURSE AND SURFACE COURSE ON EXISTING PAVEMENT WIDTHS OF 20 FT. AND OVER.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPER-ELEVATED CURVES. THE SUPER-ELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE INTO ALL CATCH BASINS AND INLETS.

ITEM 407, TACK COAT

ITEM 407, TACK COAT FOR INTERMEDIATE COURSE

AS PER 407.05 THE APPLICATION RATES SHALL BE 0.08 GAL. PER SQ. YD. PRIOR TO THE LEVELING COURSE AND SHALL BE 0.03 GAL PER SQ. YD. PRIOR TO THE SURFACE COURSE FOR ESTIMATING PURPOSES ONLY. THE RATE OF APPLICATION SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. A COMPLETE PAVEMENT SURFACE COVERAGE SHALL BE REQUIRED. AREAS OF TACK STRIPPED BY CONSTRUCTION EQUIPMENT OR TRAFFIC SHALL BE RECOATED PRIOR TO PLACING ASPHALT CONCRETE. ALL COST AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER GALLON FOR ITEM 407, TACK COAT AND ITEM 407 TACK COAT FOR INTERMEDIATE COURSE.

ITEM 446, ASPHALT CONCRETE SURFACE

COURSE, TYPE 1, PG 64-22

IN ADDITION TO ITEM 401.12 AND STANDARD DRAWING BP-3.1M, TRANSVERSE, FEATHERED OR BUTT JOINTS SHALL BE SEALED WITH A 6" INCH WIDE BAND OF ASPHALT CEMENT ACROSS THE TOP SURFACE. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

ITEM 254, PAVEMENT PLANING, BITUMINOUS

PLANING IS TO BE PERFORMED AS DIRECTED AND IN AREAS DESIGNATED BY THE ENGINEER. REMOVAL OF EXISTING PAVEMENT SURFACE MAY BE REQUIRED TO ELIMINATE ADVERSE SURFACE DISTORTION, WHICH IN THE JUDGEMENT OF THE ENGINEER, CANNOT BE SATISFACTORILY CORRECTED IN THE PAVING COURSES.

THESE AREAS MAY VARY IN DEPTH, AS DIRECTED BY THE ENGINEER.

THESE AREAS MAY INCLUDE MATERIAL DISPLACED BY RUTTING OR SHOVING, ASPHALT SURFACE PATCHES, CONCRETE PATCHES, TRANSVERSE BUMPS, JOINTS AT STRUCTURES, ADJOINING PAVEMENTS, RAILROADS, ETC.

INTERSECTIONS AND DRIVES:

RURAL-INTERSECTIONS SHALL BE PAVED TO THE END OF THE RADIUS OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS)

URBAN-INTERSECTIONS SHALL BE PAVED TO THE BACK OF CROSSWALKS OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS)

EXISTING PAVED DRIVES SHALL BE PAVED SO AS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE HIGHWAY AND THE DRIVE, (DISTANCE FROM EDGE OF ROADWAY MAY VARY - AT EACH DRIVE) AS DIRECTED BY THE ENGINEER.

EXISTING AGGREGATE DRIVES SHALL BE PAVED WITH AN APRON THE WIDTH OF THE 6' BERM OR 2 FT. MINIMUM. THE SLOPE OF THIS APRON SHALL BE THE SAME AS THE ADJACENT PAVEMENT SLOPE OR AS DIRECTED BY THE ENGINEER. ITEM 617 AGGREGATE SHALL BE PLACED ADJACENT TO THIS APRON TO PROVIDE A SMOOTH TRANSITION FROM THE APRON TO THE EXISTING DRIVE. (WIDTH OF THIS 6' APPLICATION MAY VARY.) AS DIRECTED BY THE ENGINEER. AN ADDITIONAL QUANTITY HAS BEEN ESTIMATED TO COMPLETE THIS WORK AND IS SHOWN ON THE "SHOULDER DATA" SHEET.

ANY HAZARD OR UNSAFE CONDITION RESULTING FROM THE ABOVE WORK MUST BE CORRECTED IMMEDIATELY, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR IS REMINDED OF SECTIONS 104.04, 107.07 & 614.02 (c): PUBLIC CONVENIENCE AND SAFETY.

BUTT JOINTS

BUTT JOINTS SHALL NOT BE CUT AND LEFT OPEN TO TRAFFIC. THEY SHALL BE FILLED IN WITH A TEMPORARY ASPHALT CONCRETE WEDGE, OF SUFFICIENT LENGTH, AS DIRECTED BY THE ENGINEER.

CONSTRUCTION "BUMP" (OW-62) AND "ADVISORY SPEED" (OW-143) SIGNS SHALL BE ERECTED AND MAINTAINED DURING THIS TIME PERIOD.

ITEM 604, CASTINGS ADJUSTED TO GRADE

ANY UNIT OF THIS ITEM MAY BE NONPERFORMED IF SO DIRECTED BY THE ENGINEER AND THE SURFACE SHALL BE FEATHERED TO MEET THE EXISTING CASTING OR INLET IN A MANNER ACCEPTABLE TO THE ENGINEER. ALL ADJUSTING RINGS SHALL HAVE THE ENGINEERS APPROVAL BEFORE USING.

UNDER ITEM 604.03, ADJUSTING TO GRADE, PARAGRAPH (A), THE CASTING TO BE ADJUSTED MAY OR MAY NOT HAVE AN EXISTING FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING CASTING OR GRATE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR IS REMINDED TO FIELD CHECK ALL ADJUSTMENT TO GRADE ITEMS PRIOR TO BIDDING, AS NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR LABOR AND MATERIAL REQUIRED TO SATISFACTORILY ADJUST CASTINGS WITHOUT FRAMES.

ITEM 614, BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO CONSTRUCT A TEMPORARY ASPHALT WEDGE FROM THE EXISTING PAVEMENT TO THE PLANED SURFACE AT BUTT JOINTS AND OTHER LOCATIONS THAT RESULT IN A DROP-OFF IN EXCESS OF 1 1/2 IN., AS DIRECTED BY THE ENGINEER. THIS QUANTITY SHALL ALSO BE USED AT PLANED SURFACES WHERE A TEMPORARY ASPHALT WEDGE IS NEEDED AROUND CASTINGS, AS DIRECTED BY THE ENGINEER.

10 CUBIC YD. ITEM 614, BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC

ITEM 614, WORK ZONE MARKING SIGN

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE MARKING SIGNS PER THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, 614.04.

WORK ZONE MARKING SIGN: (OW-167-36) NO EDGE LINE	= 33 each
WORK ZONE MARKING SIGN: (R-33-24) DO NOT PASS	= 30 each
WORK ZONE MARKING SIGN: (R-34-24) PASS WITH CARE	= 28 each
TOTAL	= 91 each

COMBINING PROJECTS

PART II OF THIS PLAN IS A METRIC PROJECT WHICH WAS ORIGINALLY DESIGNED BY A CONSULTANT TO BE UNDER CONSTRUCTION SEVERAL YEARS AGO AND TIMED TO BE COMPLETED A FEW YEARS BEFORE THE RESURFACING PROJECT (PART I) WHICH IS IN ENGLISH UNITS AND DESIGNED BY ODOT. IN ORDER TO SELL THE PROJECTS TOGETHER, THE GENERAL SUMMARIES HAD TO BE BOTH IN ENGLISH UNITS. OUR BIDDING AND ACCOUNTING SYSTEMS ALSO REQUIRE ONE UNIT OF MEASUREMENT. THE METRIC PROJECT (PART II), OTHER THAN THE GENERAL SUMMARY, WILL HAVE TO BE CONVERTED TO ENGLISH UNITS AS PER CMS 109.011.

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GENERAL NOTES

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DATE: 03/22/02

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WORKSTATION: m_schafra DATE: 03/28/02

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ITEM 253, PAVEMENT REPAIR:

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING PAVEMENT OR PAVED BERM WHICH MAY BE ASPHALT, BRICK, CONCRETE, OR A COMBINATION OF EACH, IN AREAS OF EXISTING PAVEMENT FAILURE.

THE ENGINEER SHALL DESIGNATE THE LOCATIONS AND LIMITS OF THE AREAS TO BE REPAIRED. PAVEMENT REPAIR SHALL BE PERFORMED AFTER PAVEMENT PLANING. THE REPAIR AREAS SHALL BE ROUGHLY RECTANGULAR IN SHAPE AND CUT OR SAWED TO A NEAT LINE. THE PAVEMENT SHALL BE REMOVED WITHIN THE DESIGNATED AREAS BY METHODS WHICH WILL NOT DAMAGE THE ADJACENT PAVEMENT. THE DEPTH OF REMOVAL, AS DIRECTED BY THE ENGINEER, SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT (ESTIMATED DEPTH MAY VARY FROM 2 IN. TO 12 IN.). THE MATERIALS SO REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 203.05.

REPLACEMENT MATERIAL SHALL BE ITEM 301 OR ITEM 448, TYPE 2 MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. THE REPAIR AREAS SHALL BE PAINTED WITH BITUMINOUS MATERIAL (SIDES AND BOTTOM) AT AN APPLICATION RATE OF 0.25 GAL. PER SQ. YD. ALL COMPACTION SHALL BE ACHIEVED BY MECHANICAL METHODS TO THE SATISFACTION OF THE ENGINEER. MAXIMUM LIFT THICKNESS SHALL BE 3 IN.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD, (BY TICKET WEIGHT CONVERSION), OF ITEM 253, PAVEMENT REPAIR.

Part 1 = 600 cubic yard

**ITEM 617, SHOULDER RECONDITIONING, MISC.:
COMPACTED AGGREGATE**

THIS ITEM OF WORK SHALL CONFORM TO ITEM 617 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS BOOK WITH EXCEPTION OF 617.03 (MATERIALS) AND 617.06 (METHOD OF MEASUREMENT).

THE MATERIAL ON THIS PROJECT SHALL BE THE BITUMINOUS ASPHALT GRINDINGS RESULTING FROM ITEM 254. THE GRINDINGS USED FOR THIS ITEM SHALL BE PLACED AND COMPACTED AS DESCRIBED IN 617.05 WITH SPECIAL CARE TO CREATE PROPER COMPACTION. 100% OF THIS MATERIAL SHALL PASS A 1 1/4 IN. SIEVE AS JUDGED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO MEET THE TYPICAL SECTIONS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

SINCE THE BITUMINOUS ASPHALT GRINDINGS FROM THIS JOB WILL NOT BE A LARGE ENOUGH QUANTITY TO RECONDITION THE AGGREGATE SHOULDERS, THE CONTRACTOR WILL NEED TO SUPPLY THE ADDITIONAL QUANTITY FROM AN APPROVED RAP (RECYCLED ASPHALT PAVEMENT) PILE OR SUPPLY ITEM 617 COMPACTED AGGREGATE, TYPE A AS SPECIFIED IN THE SPECIFICATIONS BOOK.

THE MATERIAL ON THIS PROJECT WILL BE PAID FOR BY THE TON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING THE GROSS, TARE, AND NET WEIGHT OF EACH TRUCK LOAD OF MATERIAL TO THE NEAREST 100 LBS. IN TRIPLICATE ON PLANT TICKET FORMS APPROVED BY THE DIRECTOR. THE CONTRACTOR SHALL PROVIDE A TARE WEIGHT FOR EACH TRUCK AT THE BEGINNING OF EACH DAY'S OPERATION. ONE COPY OF THE WEIGHT TICKET SHALL ACCOMPANY EACH LOAD DELIVERED TO THE PROJECT AND SHALL BE PRESENTED TO THE ENGINEER.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE PRICE BID PER TON OF 617 SHOULDER RECONDITIONING, MISC.: COMPACTED AGGREGATE.

RAILROAD CROSSINGS

PRIOR TO ANY WORK AT RAILROAD CROSSINGS THE CONTRACTOR SHALL CONTACT THE AFFECTED RAILROAD AUTHORITY AS TO MAKE THEM AWARE OF THE PROGRESS AND SCHEDULE OF WORK. THE CONTRACTOR SHALL COOPERATE WITH THE RAILROAD SO AS TO ADDRESS ANY SAFETY CONCERNS. FLAGGING MAY BE REQUIRED BY THE RAILROAD. THE CONTRACTOR IS RESPONSIBLE FOR PAYING THE RAILROAD FOR ALL FLAGGING COSTS. REFER TO RAILROAD LIABILITY INSURANCE PROPOSAL NOTE.

THE CROWN SHALL BE WORKED OUT OF THE PROPOSED PAVEMENT ON EACH SIDE OF THE RAILROAD CROSSING, BEGINNING 50 FEET FROM THE NEAREST RAIL, BY RAISING THE EDGES OF THE NEW PAVEMENT TO MEET THE PLATFORM ELEVATION.

OMIT AND RESUME RESURFACING AT THE HEADER TIE, AS DIRECTED BY THE ENGINEER.

RAILROAD CROSSING INFORMATION

OWNER OF RAILROAD: CSX TRANSPORTATION, INC

THE NUMBER OF TRAINS OPERATING THROUGH THE IMPROVEMENT IS ESTIMATED TO BE:

PASSENGER TRAINS/DAY N/A @ N/A MILES PER HOUR
FREIGHT TRAINS/DAY 31 @ 25 MILES PER HOUR
HAZARDOUS MATERIAL: Yes

THE IDENTIFICATION OF THE CROSSING IS KNOWN AS:
RR MILEPOST: BJ 129.55
AARDOT NO.: 142-501W

LOCAL CONTACT PERSON FOR FLAGGING: Skipper Dykes at (330) 824-3182

RAILROAD CROSSING INFORMATION

OWNER OF RAILROAD: WHEELING AND LAKE ERIE RAILROAD

THE NUMBER OF TRAINS OPERATING THROUGH THE IMPROVEMENT IS ESTIMATED TO BE:

PASSENGER TRAINS/DAY N/A @ N/A MILES PER HOUR
FREIGHT TRAINS/DAY 150 cars @ 25 MILES PER HOUR
HAZARDOUS MATERIAL: yes

THE IDENTIFICATION OF THE CROSSING IS KNOWN AS:
RR MILEPOST: 145.90
AARDOT NO.: 002-096Y

LOCAL CONTACT PERSON FOR FLAGGING: Heidi Kaiser at (330)-767-7229

COORDINATION OF WORK BETWEEN CONTRACTORS

PID 23944 MED-CRBIKE-0.00 IS A BIKE PATH PROJECT LINKING CHIPPEWA ROAD TO RYAN ROAD, AND IS SCHEDULED TO BE CONSTRUCTED IN THE LATE 2002 CONSTRUCTION SEASON OR THE 2003 CONSTRUCTION SEASON. THERE WILL BE A DETOUR FOR THIS BIKE PATH PROJECT DUE TO PLACING A BOX CULVERT UNDER SR162. THE APPROXIMATE LOCATION ON SR162 FOR THE BOX CULVERT IS AT SLM 15.20. COORDINATION OF WORK BETWEEN THESE TWO CONTRACTS IS THE RESPONSIBILITY OF THE CONTRACTOR.

PID 19552 MED-162-26.96 IS A SAFETY INTERSECTION UPGRADE PROJECT AT CR 2 WHICH REQUIRES A 90 DAY DETOUR. IT IS SCHEDULED FOR CONSTRUCTION IN THE YEAR 2003. COORDINATION OF WORK BETWEEN THESE TWO CONTRACTS IS THE RESPONSIBILITY OF THE CONTRACTOR.

UTILITIES:

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ALL DAMAGE INFLICTED ON UTILITIES IN THE EXECUTION OF THIS CONTRACT.

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

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

GAS
Columbia Gas of Ohio
7080 Fry Road
Middleburg Heights, Ohio
44130-2513
(440) 891-2455

Gas
GatherCo
STREET OR P.O. BOX
CITY, STATE, ZIP
TELEPHONE NUMBER

ELECTRIC
Ohio Edison
1910 W. Market Street
Akron, Ohio 44313
(330) 384-4846

Telephone
MCI WorldCom
12300 Ridge Road
North Royalton, Ohio 44133
(440) 237-8410

WATER
Medina Co. Sanitary Egrs.
791 W. Smith Road
Medina, Ohio 44258
(330) 723-9585

CABLE
CableVision
1100 East 222nd St.
Euclid, Ohio 44117
(216) 531-6213

TELEPHONE
GTE (Verizon Comm.)
6223 Norwalk Rd.
Medina, Ohio 44256
(330) 722-9586

CABLE
Armstrong Utilities
1141 LaFayette Rd.
Medina, Ohio 44256
(800) 589-3536

TELEPHONE
AmeriTech
50 W. Bowery St.
Akron, Ohio 44308
(330) 384-8057

GAS
Columbia Gas Transmission
589 N. State Rd.
Medina, Ohio 44256
(330) 723-4900

BRIDGE LOCATION MARKER SIGN

THE BRIDGE LOCATION MARKER SIGN INDICATES THE COUNTY, THE ROUTE, AND THE STRAIGHT LINE MILEAGE OF THE STRUCTURE. THE CONTRACTOR SHALL REMOVE THE EXISTING BRIDGE LOCATION MARKER SIGNS AND REERECT THE SIGNS IN KIND. IF THERE ARE ANY QUESTIONS ON THE LOCATION, PLEASE CONTACT THE DISTRICT BRIDGE ENGINEER.

ALL COSTS, INCLUDING THE SIGN REMOVAL, SIGN REERECTION, AND POST INSTALLATION SHALL BE INCLUDED IN THE FOLLOWING PAY ITEMS:

- ITEM 630 GROUND MOUNTED SUPPORT, NO. 2. POST 45 LIN. FT.
- ITEM 630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION 6 EACH

SCHEDULE OF WORK

THE CONTRACTOR IS REQUIRED TO GET AS MUCH OF THE RESURFACING OF SR 162 DONE IN THE 2002 CONSTRUCTION SEASON DUE TO THE POOR CONDITION OF THE ROADWAY.

GENERAL NOTES

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RPM General Notes
Materials Supplied by The Department

All materials are to be Contractor furnished, except that the Department shall supply RPM materials in the quantities shown herein to the Contractor. Pay Items for the Department supplied materials shall be indicated as "Installation Only". The quantity and type of Department supplied materials are shown on sheet 38 of this plan.

At the Pre-Construction Conference an authorization for pick up form will be furnished by the District Construction Administrator and the Contractor will be informed of the location of the Department Supplied Materials to be picked up.

For some projects having quantities of less than 20 RPMs, the contractor may pick up RPM materials at the District Offices. Quantities over 20 RPMs will be picked up at the Recycler's Warehouse or as arranged with the District. The Contractor shall pick up Department supplied RPM materials at the specified location(s) for transport to the work site or to the Contractor's storage facility. The Recycled Raised Pavement Marker (RPM) Authorization Form is to be signed by the District Construction Engineer prior to pick up of the RPMs. The Contractor shall notify the District and / or the parties listed on the authorization form in writing at least five (5) calendar days prior to pick up of the department supplied materials. The contractor shall store the RPMs without damage or contamination with foreign matter. A deduction in the amount of the actual cost to the Department shall be made for materials damaged by the Contractor or for castings received by the Contractor which were not installed and were not returned to the Department.

Return of Non-performed Raised Pavement Marker Materials Supplied by the Department

Raised Pavement Marker Materials Supplied by the Department, that are non-performed shall be carefully repacked or packed in the boxes in the same style and quantity as originally received from the Department. Casting styles shall not be mixed within any one container. The Contractor shall clearly mark on the outside of each container, the color of the prismatic retro-reflector, the style of casting. Boxes shall be placed on skids or pallets in the same style (Low Profile or Conventional, reflectorised or non reflectorised) and no more than 420 RPMs (or 21 Boxes) on one skid.

Only use the boxes supplied by the Raised Pavement Marker Recycler. Boxes must be marked with the recycler's part or catalog number and the project number. The recycler's catalog or part numbers may be obtained from the Office of Traffic Engineering in Columbus, Ohio or from the recycler. Boxes not marked with the proper recycler's catalog or part numbers, and the department's project number will not be accepted at the recycler's warehouse

Non Performed Materials will be returned to the location as specified by the District Construction Engineer within 30 Days of the completion of the project.

The above work, including all labor, equipment and material needed to perform the work, shall be considered incidental to the respective pay item.

If the department has to repackage the RPMs correctly, the Contractor will be assessed the actual cost for repackaging the Materials by the Department's Forces.

Loading of Materials Supplied by the Department at the Recycler's Warehouse

Trucks shall have a loading height of 48 inches and be able to back up flush to the loading dock.

Trucks shall not have any obstructions or protrusions that prevent the loading by a standard forklift or lift truck. Semi trucks or 20 foot commercial trucks are the most appropriate trucks for loads in excess of 4 pallets (one pallet = 21 boxes = 2100 lbs).

Stake body trucks are appropriate to load less load and the load can be safely secured for transport by chaining or strapping down as needed.

Pickup trucks are appropriate for loads of approximately one pallet, provided the pickup truck is rated for the load and the load can be safely secured for transport.

Dump trucks, tilt bed trucks, and non commercial moving vans will not be loaded

The warehouse supervisor will refuse to load any truck that is unsafe to load or unsuitable for the load being placed on the truck.

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GENERAL NOTES

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ITEM SPECIAL, MAILBOX SUPPORT

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF EXISTING NON-STANDARD MAILBOX SUPPORTS AND FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED HARDWARE IN ACCORDANCE WITH THE DETAILS SHOWN, AND ATTACHING AN OWNER SUPPLIED MAILBOX, AT LOCATIONS DETERMINED BY THE ENGINEER.

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

THE BOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION. SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO MAILBOXES MAY BE MOUNTED ON A SINGLE POST. [HARDWARE SHALL BE COMMERCIAL GRADE GALVANIZED STEEL]

WOOD POSTS SHALL BE NOMINAL 4 IN. x 4 IN. (S4S) OR 4 1/2 IN. DIAMETER ROUND, AND CONFORM TO 710.14. STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 IN. I.D., AND CONFORM TO AASHTO M 181.

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

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH THE LOCAL POST MASTER AND NOTIFYING THE PROPERTY OWNERS PRIOR TO WORK.

GROUP MAILBOX SUPPORTS SHALL BE PLACED ON 3'-4" CENTERS AND THE TURNOUT LENGTHENED TO ACCOMMODATE THE GROUPING.

WHERE GUARDRAIL EXISTS, MAILBOXES AND THEIR SUPPORTS SHALL BE PLACED BEHIND THE GUARDRAIL. SUPPORTS MUST STILL MEET THE BREAKAWAY REQUIREMENTS LISTED ABOVE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DESCRIBED ABOVE.

ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, SINGLE
PART 1 = 2 EACH

ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, DOUBLE
PART 1 = 0 EACH

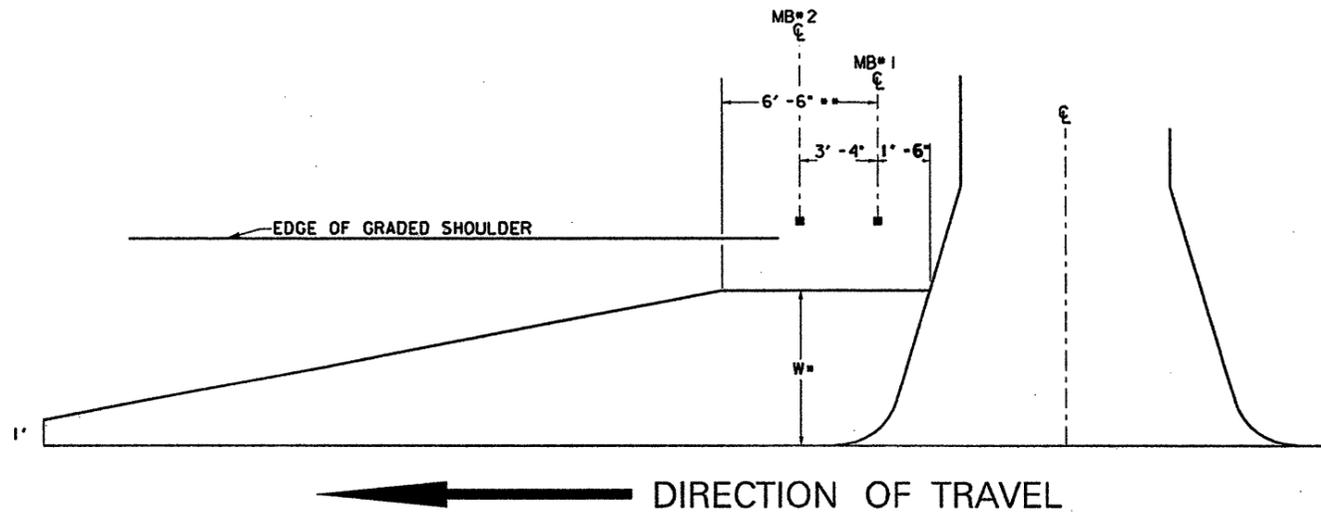
MAILBOXES

EXISTING AGGREGATE MAILBOX APPROACHES SHALL BE PAVED WITH 1 IN. OF 448 INTERMEDIATE COURSE AND 1 IN. OF 448 SURFACE COURSE. THEY SHALL CONFORM AS MUCH AS PRACTICAL TO STANDARD DRAWING BP 4.1M OR AS DIRECTED BY THE ENGINEER.

GRADING SHALL BE PERFORMED IN THESE AREAS TO OBTAIN A BASE WHICH WILL ALLOW THE FINISHED GRADE TO BE FLUSH WITH ADJACENT PAVEMENT. A QUANTITY OF ITEM 617 SHOULDER RECONDITIONING, MISC.: COMPACTED AGGREGATE HAS BEEN PROVIDED FOR AREAS WHERE THE SHOULDER IS LOW PRIOR TO GRADING AND/OR LOW AREAS CAUSED BY THE REMOVAL OF UNSUITABLE MATERIAL. QUANTITIES TO PERFORM THIS WORK HAVE BEEN INCLUDED IN THE GENERAL SUMMARY AND ARE ESTIMATED AS FOLLOWS.

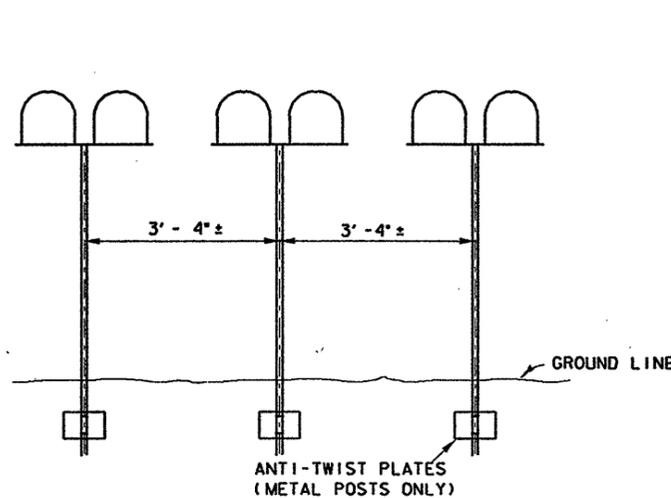
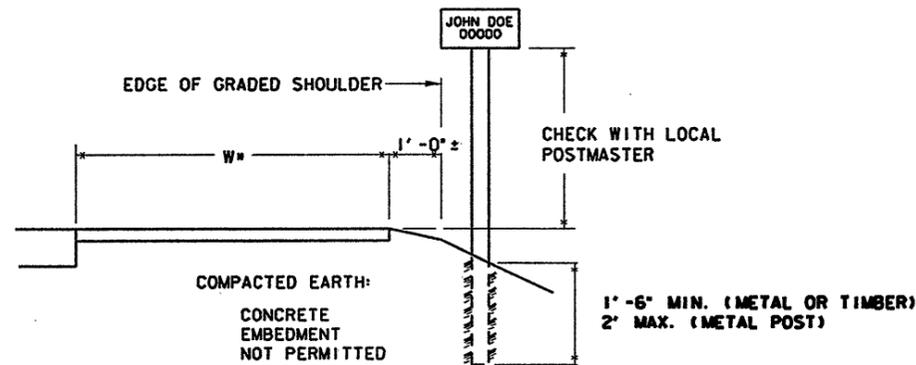
ITEM 203, GRADING MAILBOX APPROACHES:
PART 1 = 270 each

ITEM 617, SHOULDER RECONDITIONING, MISC.: COMPACTED AGGREGATE
Part 1 = 300 TONS

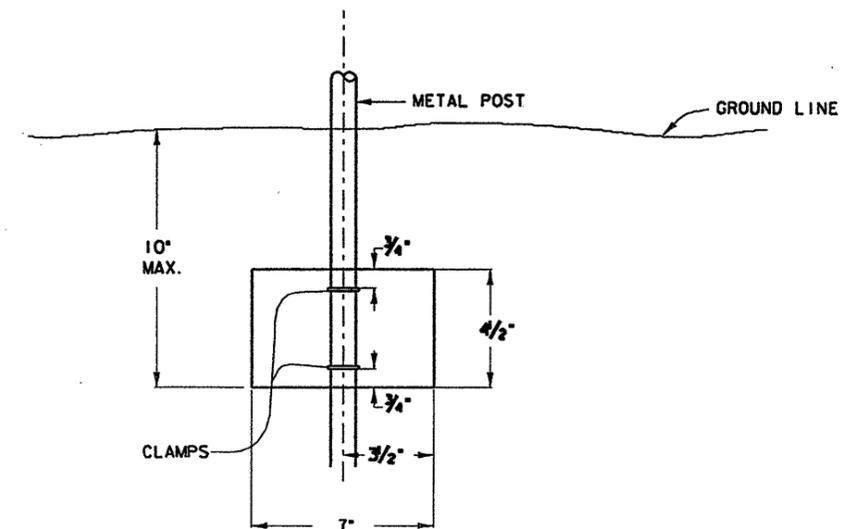


• WHERE MAILBOX POSTS ARE BEHIND GUARDRAIL, TURNOUT SHALL EXTEND TO FACE OF GUARDRAIL. WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT. MINIMUM, EXCEPT WHERE FIELD CONDITIONS WILL NOT PERMIT.

•• ADD 3/4 FT. FOR EACH ADDITIONAL MAILBOX



GROUP MAILBOX INSTALLATION



ANTI-TWIST PLATE

checked
TEW
MJS

MAILBOX FACILITIES

MED-SR162-13.01

10
39

WORKSTATION: mschafra DATE: 03/22/02

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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 AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.2M. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

GUARDRAIL REPLACEMENT:

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE GUARDRAIL. INSTALL EMBANKMENT, GRADE AND REINSTALL GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED ON THIS PROJECT UNTIL SUCH TIME THAT THE ENGINEER IS ASSURED OF SAID COMPLIANCE.

LOCATIONS OF GUARDRAIL:

THE GUARDRAIL PROTECTION PROVIDED IN THIS PLAN SHALL BE LOCATED IN THE FIELD TO ASSURE THAT THE INSTALLATION WILL AFFORD THE MAXIMUM PROTECTION FOR TRAFFIC. THIS LOCATION SHALL BE POSITIONED AS FAR AS POSSIBLE FROM THE EDGE OF PAVEMENT WHILE MAINTAINING PROPER GRADE IN FRONT OF GUARDRAIL AS PER STANDARD DRAWINGS AND PLAN DETAILS.

ITEM 202 ANCHOR ASSEMBLY REMOVED, TYPE A:

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING TYPE A, ANCHOR ASSEMBLY INCLUDING ALL POSTS, HARDWARE, RAIL ELEMENTS, AND CONCRETE ANCHORS. ALL ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF.

THE EXISTING CONCRETE ANCHOR AND CONCRETE AT POSTS SHALL BE REMOVED ENTIRELY. ALL HOLES REMAINING AFTER REMOVAL SHALL BE FILLED WITH GRANULAR MATERIAL OR EXCESS MATERIAL RESULTING FROM GUARDRAIL CONSTRUCTION. ALL FILL MATERIAL SHALL BE THOROUGHLY COMPACTED AND LEVELED, AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202, ANCHOR ASSEMBLY REMOVED, TYPE A.

ITEM 203, EMBANKMENT, AS PER PLAN:

AT SPECIFIED LOCATIONS AND LOCATIONS AS DIRECTED BY THE ENGINEER, EMBANKMENT SHALL BE PLACED AS TO PROVIDE A SUITABLE AREA TO CONSTRUCT GUARDRAIL AND TO PROVIDE FOR THE STRUCTURAL INTEGRITY OF THE ROADWAY SHOULDER.

AREAS WHERE EMBANKMENT MATERIALS ARE TO BE PLACED SHALL BE SCALPED. THE REQUIREMENTS FOR BENCHING SHALL BE WAIVED. THE DEPTH OF LAYERS IN WHICH THE EMBANKMENTS ARE PLACED AND THE METHOD OF COMPACTION SHALL BE DETERMINED BY THE ENGINEER. AFTER THE EMBANKMENT HAS BEEN PLACED, THE AREAS SHALL BE FERTILIZED, SEEDED, MULCHED, AND WATERED AS PER ITEM 870. THE COST SHALL BE INCLUDED IN THIS ITEM FOR PAYMENT. THE METHOD OF MEASUREMENT FOR EMBANKMENT MATERIAL SHALL BE THE NUMBER OF CUBIC YARDS MEASURED BY LOOSE VOLUME IN THE CARRIER AT THE WORK SITE, IN LIEU OF THE REQUIREMENTS OF 203.15, AND PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ITEM 203 - EMBANKMENT, AS PER PLAN AND SHALL INCLUDE ALL WORK DESCRIBED ABOVE AND AT ALL TIMES BE AS DIRECTED BY THE ENGINEER.

ITEM 606 - GUARDRAIL POST:

THIS ITEM SHALL BE USED IN CONJUNCTION WITH ITEM 606 - GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL, AND AS DIRECTED BY THE ENGINEER. IT SHALL CONSIST OF REPLACING EXISTING GUARDRAIL POSTS DEEMED BY THE ENGINEER TO BE INSUFFICIENT. THE POSTS SHALL BE OF THE SAME TYPE, SIZE, AND SPACING OF THE EXISTING GUARDRAIL RUN. THEY SHALL BE PLACED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING GR-1.2M.

A QUANTITY OF 25 POSTS IS INCLUDED IN THE TOTAL ON THE GENERAL SUMMARY SHEET AS A CONTINGENCY.

ITEM 606 - GUARDRAIL POST, 9 FOOT:

PAYMENT FOR ITEM 606 - GUARDRAIL POST, 9 FEET SHALL INCLUDE COSTS OVER AND ABOVE THE PRICE BID FOR ITEM 606 - GUARDRAIL, TYPE 5 FOR UTILIZING 9 FOOT GUARDRAIL POSTS IN PLACE OF NORMAL LENGTH (6 FEET) POSTS AT LOCATIONS SPECIFIED IN THE PLAN OR AS DIRECTED BY THE ENGINEER. 9 FOOT GUARDRAIL POSTS SHALL BE INSTALLED WITH A MINIMUM EMBEDMENT DEPTH OF 6.40 FEET.

THIS ITEM SHALL ALSO BE USED IN CONJUNCTION WITH ITEM 606 - GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL, AND AS DIRECTED BY THE ENGINEER. IT SHALL CONSIST OF REPLACING EXISTING GUARDRAIL POSTS DEEMED BY THE ENGINEER TO BE INSUFFICIENT. THE POSTS SHALL BE OF THE SAME TYPE, SIZE, AND SPACING OF THE EXISTING GUARDRAIL RUN. THEY SHALL BE PLACED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING GR-1.2M, AND THE ABOVE NOTE.

A QUANTITY OF 10 POSTS IS INCLUDED IN THE TOTAL ON THE GENERAL SUMMARY SHEET AS A CONTINGENCY. THESE POSTS ARE TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 606 GUARDRAIL MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL:

WHERE DESIGNATED ON THE PLAN, THE EXISTING TYPE 5 GUARDRAIL SHALL BE RAISED OR LOWERED ON THE EXISTING WOOD POSTS AS PER STANDARD DRAWING GR-2.1M SO AS TO OBTAIN THE STANDARD 27 3/4 IN. HEIGHT. THE RAIL SHALL BE REATTACHED TO THE POSTS USING NEW POST BOLTS. FOR RAIL THAT REQUIRES BEING LOWERED THE POSTS SHALL BE CUT OR TRIMMED AND THE TOPS SHALL BE TREATED.

THE RAIL SHALL BE DISMANTLED ONLY TO THE EXTENT NECESSARY TO FIELD BORE NEW BOLT HOLES IN THE WOOD POSTS, AND TO RECONNECT THE RAIL AND BLOCK TO EXISTING POSTS.

THE EXISTING TYPE "A" ANCHOR ASSEMBLIES THAT ARE TO REMAIN SHALL NOT BE ADJUSTED. THE LAST RAIL ELEMENT SHALL BE TRANSITIONED TO MEET THESE ASSEMBLIES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID ITEM 606, GUARDRAIL MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM SPECIAL - RESHAPING BERM:

BERMS AND SHOULDERS AT LOCATIONS WHERE EXISTING GUARDRAIL IS REMOVED OR WHERE GUARDRAIL IS TO BE BUILT, SHALL BE RESHAPED AS DIRECTED BY THE ENGINEER TO INSURE A SMOOTH SURFACE FREE OF IRREGULARITIES. EXCESS MATERIAL RESULTING SHALL BE USED ELSEWHERE FOR THIS ITEM IF SO DIRECTED OR DISPOSED OF. IF EXTRA MATERIAL IS REQUIRED IT SHALL BE PAID FOR WITH ITEM 203 - EMBANKMENT, AS PER PLAN. THIS WORK SHALL NOT BE STARTED UNTIL AFTER THE RESURFACING AND BERM WORK HAS BEEN COMPLETED.

THE AREA IN FRONT OF THE GUARDRAIL SHALL BE GRADED AND RESHAPED TO PROVIDE AN AREA THAT HAS A SLOPE OF 10:1 MAX.

THE ABOVE WORK SHALL BE PAID FOR WITH ITEM SPECIAL, RESHAPING BERM WITH THE EXCEPTION OF ANY EXTRA MATERIAL REQUIRED TO MEET THE SLOPE REQUIREMENTS WHICH SHALL BE PAID BY ITEM 203 - EMBANKMENT, AS PER PLAN.

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WORKSTATION: mschafra DATE: 03/22/02

DESIGNED
CHECKED
GUARDRAIL GENERAL NOTES

MED-SR162-13.01

ITEM 606 - ANCHOR ASSEMBLY, TYPE B-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

- 1) THE SRT-350, GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330.545.4373).

THE LENGTH OF THE SRT-350 SYSTEM IS CONSIDERED TO BE 37'-6" (11.43 m), INCLUSIVE OF THREE 12'-6" (3.81 m) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SS444 SS444M	Slotted Rail Terminal Post Layout and Erection Details SRT-350 (12.5, 8 Post)	7/12/99 REV. 1	8/27/99
SS425M	Slotted Rail Terminal SRT-350 Post Layout and Erection Details (12.5, 9 Post)	6/21/97 REV. 1	3/6/98

- 2) THE FLEAT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 7631 NEW CASTLE DRIVE, FRANKFORT, IL 60423 (TELEPHONE: 815.464.5917).

THE LENGTH OF THE FLEAT-350 IS CONSIDERED TO BE 37'-6" (11.43 m), INCLUSIVE OF THREE 12'-6" (3.81 m) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
FLT-M	Flared Energy Absorbing Terminal (FLEAT-350) Assembly	4/16/98	7/31/98

GRADING SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING GR-4.3M.

THE FACE OF THE TYPE B-98 IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 36 IN. WIDE X 12 IN. HIGH (915 mm W x 305 mm H) FOR THE SRT-350 AND 14 IN. WIDE X 20 IN. HIGH (350 mm W x 500 mm H) FOR THE FLEAT-350.

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

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

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

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50 FEET (15.24 m), INCLUSIVE OF TWO 25 FOOT (7.62 m) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SS265M	ET-2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98
SS142	ET-2000 PLUS 50'-0" PLAN, ELEVATION & SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET-2000 PLUS PLAN, ELEVATION & SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET-2000 PLUS 50'-0" WITH 12'-6" PANELS & HBA POSTS 1-4 PLAN, ELEVATION & SECTION	5/22/00	7/31/00

- 2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 7631 NEW CASTLE DRIVE, FRANKFORT, IL 60423 (TELEPHONE: 815-464-5917).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0" (15.24 m), INCLUSIVE OF FOUR 12'-6" (3.81m) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" x 18".

THE CONTRACTOR MAY USE A SALVAGED EXTRUDER WHEN ASSEMBLING THE ITEM 606 ANCHOR ASSEMBLY, TYPE E-98. ALL WELDS ON THE EXTERIOR OF THE SALVAGED EXTRUDER SHALL NOT BE DAMAGED AND THE FEEDER SHUTE SHALL NOT BE BENT.

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

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WORKSTATION: mschafra DATE: 03/22/02

GUARDRAIL GENERAL NOTES

MED-SR162-13.01

BRIDGE NUMBER MED-162-1379 SFN 5206073

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51273500	240	square yard	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN
864	10100	40	square yard	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

QUANTITIES FROM SHEET NUMBER 18

BRIDGE NUMBER MED-162-2032 SFN 5206251

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51273500	303	square yard	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN

QUANTITIES FROM SHEET NUMBER 19

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 WORKSTATION: dmoliens DATE: 03/28/02

DESIGN AGENCY	DISTRICT THREE
DATE	3/2002
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DRAWN	EJG
REVISOR	
DESIGNED	EJG
CHECKED	RDN
STRUCTURE SUMMARY	
MED-162-13.01	
13	39

BRIDGE NUMBER MED-162-2334 SFN 5206340

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
SPECIAL	51631300	64	linear feet	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM (4 IN. THICK)
864	10100	39	square yard	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

QUANTITIES FROM SHEET NUMBER 20 & 21

BRIDGE NUMBER MED-162-2565 SFN 5206391

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
202	11301	16	cubic yard	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	38500	162.5	linear feet	BRIDGE RAILING REMOVED
509	20001	100	pound	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN
SPECIAL	51273500	364	square yard	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN
517	70000	168.5	linear feet	RAILING (TWIN STEEL TUBE)
SPECIAL	51822300	172	linear feet	STEEL DRIP STRIP
SPECIAL	51912300	17	square yard	PATCHING CONCRETE BRIDGE DECK- TYPE B
842	34401	17	cubic yard	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (DECK EDGE RECONSTRUCTION)
864	10100	51	square yard	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

QUANTITIES FROM SHEET NUMBER 22

DESIGN AGENCY
DISTRICT THREE

DATE
3/2002
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STRUCTURAL FILE NUMBER

DRAWN
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REVISED

DESIGNED
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CHECKED
RDN

STRUCTURE SUMMARY

MED-162-13.01

REFERENCES SHALL BE MADE TO STANDARD DRAWINGS:

BP-3.1	DATED	7/28/00
MT-97.10M	DATED	4/25/94
TST-1-99	DATED	10/20/00
DS-1-92	DATED	12/15/94

AND TO SUPPLEMENTAL SPECIFICATIONS:

842	DATED	1/6/99
864	DATED	7/11/00
899	DATED	10/21/98

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND FROM FIELD OBSERVATION AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02. THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGES ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OHIO.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED ON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

DESIGN DATA:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI
 REINFORCING STEEL - ASTM A615, A616, A617 - GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996 INCLUDING THE 1997, 1998, 1999 AND 2000 INTERIM SPECIFICATIONS, AND THE ODOT BRIDGE DESIGN MANUAL.

PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES:

SPECIAL CARE SHALL BE TAKEN, WHEN PLACING THE ASPHALT CONCRETE FEATHERING TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH PAVEMENT TO THE BRIDGE DECK OR APPROACH SLAB. THE CONTRACTOR'S ATTENTION IS CALLED TO SECTION 404.16 OF THE CMS AND TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES.

ITEM 517- RAILING (TWIN STEEL TUBE):

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE BRIDGE RAILING SHALL BE CONSTRUCTED AS PER THE DETAILS IN THE PLAN AND STANDARD DRAWING TST-1-99.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER LIN. FT. FOR ITEM 517 - RAILING (TWIN STEEL TUBE) WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

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WORKSTATION: dmollens DATE: 03/28/02

DESIGN AGENCY: DISTRICT THREE
 DATE: 3/2002
 REVIEWED: ACH STRUCTURAL FILE NUMBER
 DRAWN: DCN REVISED
 DESIGNED: DCN CHECKED: RDW
 STRUCTURE GENERAL NOTES
 MED-162-13.01
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ITEM 842 - CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN:

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE COARSE AGGREGATE SHALL BE LIMESTONE.

ALL OTHER PROVISIONS OF ITEM 842 SHALL REMAIN IN EFFECT.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 842 - CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW REINFORCING STEEL. ANY EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT THE CONTRACTOR'S COST. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER.

THE NUMBER OF POUNDS OF REINFORCING STEEL PAID FOR AT CONTRACT PRICES SHALL BE THE ACTUAL POUNDS OF REPLACEMENT REINFORCING STEEL SPECIFIED BY THE ENGINEER DUE TO CORROSION AND SHALL INCLUDE PLACEMENT, DOWELING, BENDING, SUPPORTING, TIE WIRES, AND TYING OF THAT SPECIFIED REINFORCING STEEL.

AN ALLOWANCE OF 100 POUNDS FOR STRUCTURE MED 162-2565 IS INCLUDED IN THIS ITEM FOR THIS PURPOSE.

ITEM 614 - MAINTAINING TRAFFIC:

FOR STRUCTURE MED-162-2565:

DURING RECONSTRUCTION OF THE DECK EDGES AND REPLACEMENT OF THE BRIDGE RAIL, TRAFFIC SHALL BE DETOURED AS SHOWN IN PART 2 OF THE PLANS WHICH DETAILS THE REPLACEMENT OF STRUCTURE MED-162-42.740 slk (MED-162-2661slm). THE OTHER WORK ITEMS MAY BE DONE WHILE THE DETOUR IS SET UP OR ONE LANE MAY BE CLOSED DURING WORKING HOURS USING FLAGGERS AS PER STANDARD DRAWING MT-97.10M.

FOR ALL OTHER LOCATIONS:

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT DURING WORKING HOURS WHEN ONE LANE MAY BE CLOSED USING FLAGGERS AS PER STANDARD DRAWING MT-97.10M.

THERE SHALL BE NO LANE CLOSURES UNLESS WORK IS CURRENTLY BEING DONE THAT WARRANTS SUCH A CLOSURE.

ALL WORK VEHICLES LICENSED TO OPERATE ON THE HIGHWAY, INCLUDING MATERIAL TRUCKS, SHALL BE EQUIPPED WITH A FLASHING, ROTATING OR OSCILLATING AMBER LIGHT VISIBLE TO ALL DIRECTIONS OF TRAFFIC FOR A MINIMUM OF 1/4 MILE IN BRIGHT SUNLIGHT AND SHALL BE OPERATED WITH LIGHTED HEAD AND TAIL LAMPS. THE AMBER LIGHT SHALL BE IN OPERATION AT ALL TIMES WITHIN THE WORK ZONE AND WHILE TRAVELING TO AND FROM THE WORK ZONE WHENEVER THE VEHICLE SPEED IS BELOW 40 MPH. VEHICLE HAZARD LAMPS DO NOT SATISFY THIS REQUIREMENT. ALL OTHER EQUIPMENT SHALL BE EQUIPPED WITH A FLASHING, ROTATING OR OSCILLATING AMBER LIGHT VISIBLE TO ALL DIRECTIONS OF TRAFFIC FOR A MINIMUM OF 1/4 MILE IN BRIGHT SUNLIGHT. THE AMBER LIGHT SHALL BE IN OPERATION WHILE THE EQUIPMENT IS WITHIN THE WORK ZONE.

LIGHTING USED TO ILLUMINATE THE WORK AREA SHALL BE AIMED AND SHIELDED TO PREVENT GLARE ENCROACHING INTO OPEN TRAFFIC LANES.

CONSTRUCTION EQUIPMENT, PRIVATE VEHICLES AND MATERIALS SHALL NOT BE PARKED OR STORED ON THE ROADWAY OR ADJACENT TO THE ROADWAY WITHIN THE 30 FT. CLEAR ZONE OF THE TRAVELED LANES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF THE OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

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WORKSTATION: dml/lens DATE: 03/28/02

DESIGN AGENCY		DISTRICT THREE	
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STRUCTURE GENERAL NOTES			
MED-162-13.01			
16		39	

PART	COUNTY, ROUTE, BRIDGE NO.	STRUCTURE TYPE	BRIDGE DECK DATA					ROADWAY DATA			
			LENGTH (BRIDGE LIMITS)	WIDTH	BRIDGE DECK AREA	SKEW	EXISTING WEARING SURFACE	EXISTING PAVEMENT WIDTH	EXISTING APPROACH SLAB WIDTH	EXISTING APPROACH SLAB LENGTH	
			LIN.FT.	LIN.FT.	SQ.YD.			LIN.FT.	LIN.FT.	LIN.FT.	
I	● MED-162-1379	3- SPAN CONCRETE SLAB	67.5	32	240	0°	CONCRETE	32	32	15	
I	●● MED-162-1547	CONCRETE BOX CULVERT	22			0°	ASPHALT	24			
I	●●● MED-162-1904	STEEL BEAM WITH TIMBER DECK	13	25	36	0°	ASPHALT	24			
I	●●●● MED-162-1977	3- SPAN STEEL BEAM	OVERPASS					24			
I	●●●● MED-162-1979	3- SPAN STEEL BEAM	OVERPASS					24			
I	● MED-162-2032	3- SPAN CONCRETE SLAB	80.1	34	303	30° R.F.	CONCRETE	34	34	20	
I	+ MED-162-2177	CONCRETE BOX CULVERT	16			28° L.F.	ASPHALT	24			
I	+ MED-162-2182	CONCRETE BOX CULVERT	14			21° R.F.	ASPHALT	24			
I	++ MED-162-2334	PRESTRESSED BOX BEAM	41.1	32	147	0°	ASPHALT	24	32	15	
I	●● MED-162-2380	TWIN CONCRETE PIPES	12			0°	ASPHALT	24			
I	+++ MED-162-2565	3- SPAN CONCRETE SLAB	74.4	44	364	30° R.F.	CONCRETE	44	24	25	
I	++++ MED-162-2661	CONCRETE BOX CULVERT	17			0°	ASPHALT	24			

● PLANE 100 FT. ON BOTH APPROACHES. OMIT RESURFACING ON THE BRIDGE DECK AND APPROACH SLABS, BUTT JOINT AT THE APPROACH SLABS (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK. SEE ROADWAY PLANS FOR GUARDRAIL WORK)
ITEM 254- PAVEMENT PLANING, BITUMINOUS: 711 SQUARE YARDS AND 756 SQUARE YARDS, RESPECTIVELY (CARRIED TO GENERAL SUMMARY, SHEET NO. 3)

●● PAVE OVER (NO STRUCTURE WORK OR GUARDRAIL WORK)

●●● FEATHER INTERMEDIATE COURSE 100 FT. EACH WAY FROM THE STRUCTURE, PAVE OVER WITH SURFACE COURSE ONLY. (NO STRUCTURE WORK. SEE ROADWAY PLANS FOR GUARDRAIL WORK)

●●●● PLANE 500 FT. (CENTERED UNDER THE STRUCTURES). THE EXISTING VERTICAL CLEARANCES SHALL BE FIELD MEASURED BY THE CONTRACTOR. MAINTAIN THE EXISTING VERTICAL CLEARANCES

ITEM 254- PAVEMENT PLANING, BITUMINOUS: 1,333 SQUARE YARDS (CARRIED TO GENERAL SUMMARY, SHEET NO. 3)

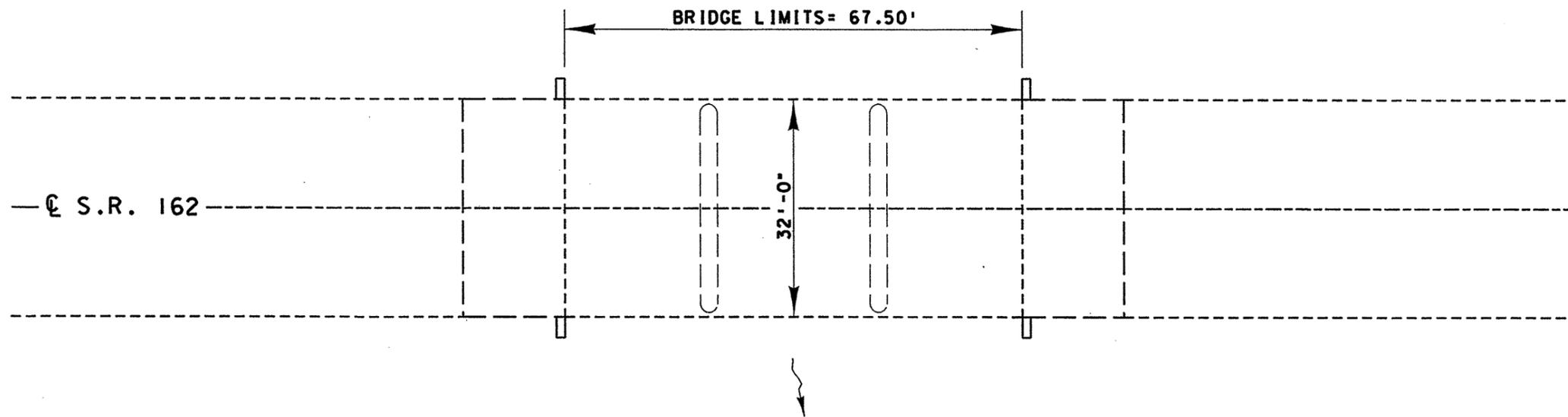
+ PAVE OVER (NO STRUCTURE WORK. SEE ROADWAY PLANS FOR GUARDRAIL WORK)

++ FEATHER INTERMEDIATE COURSE AT APPROACH SLABS, PAVE OVER APPROACH SLABS AND BRIDGE WITH SURFACE COURSE ONLY. (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK. SEE ROADWAY PLANS FOR GUARDRAIL WORK)

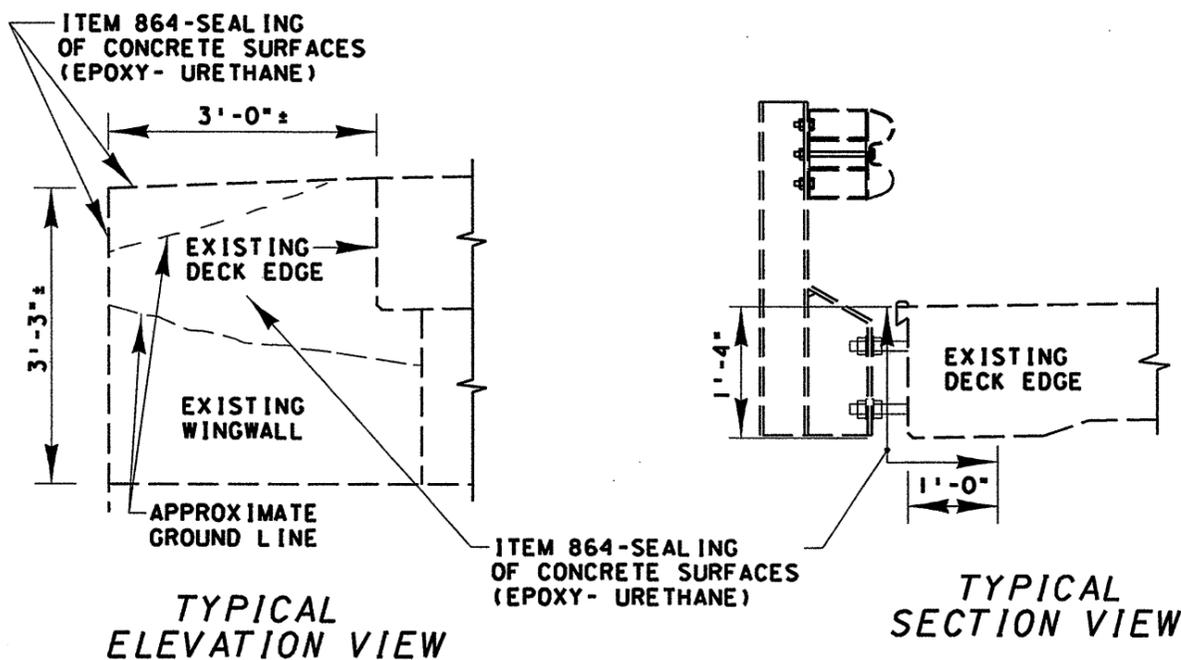
+++ PLANE 100 FT. ON BOTH APPROACHES. OMIT RESURFACING ON THE BRIDGE DECK, BUTT JOINT AT THE BRIDGE (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK. SEE ROADWAY PLANS FOR GUARDRAIL WORK)

ITEM 254- PAVEMENT PLANING, BITUMINOUS: 978 SQUARE YARDS (CARRIED TO GENERAL SUMMARY, SHEET NO. 3)

++++ THIS STRUCTURE TO BE REPLACED AS PART OF THIS PROJECT (SEE DETAILS IN THE PLAN). PAVE OVER NEW STRUCTURE



PLAN VIEW



TYPICAL ELEVATION VIEW

TYPICAL SECTION VIEW

NOTES:

- 1) THE EXISTING BRIDGE RAIL AND GUARDRAIL ARE NOT SHOWN IN THE PLAN VIEW. SEE SHEET NO. 26 FOR DETAILS
- 2) THE DECK EDGES AND ALL EXPOSED PORTIONS OF BOTH FACES AND ENDS OF THE WINGWALLS BEYOND THE DECK EDGES SHALL BE SEALED USING ITEM 864 - SEALING OF CONCRETE SURFACES (EPOXY- URETHANE). SEE DETAILS ON THIS SHEET
- 3) THE ENTIRE BRIDGE DECK SHALL BE SEALED USING ITEM SPECIAL-TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN

ITEM	QUANTITY	UNIT	DESCRIPTION
SPECIAL	240	square yard	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN
864	40	square yard	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET, SHEET NO. 13

DESIGN AGENCY
DISTRICT THREE

DATE
3/20/02

REVIEWED
MCH

STRUCTURAL FILE NUMBER
5206073

DRAWN
DCM

REVISED

DESIGNED
DCM

3-02

CHECKED
RDN

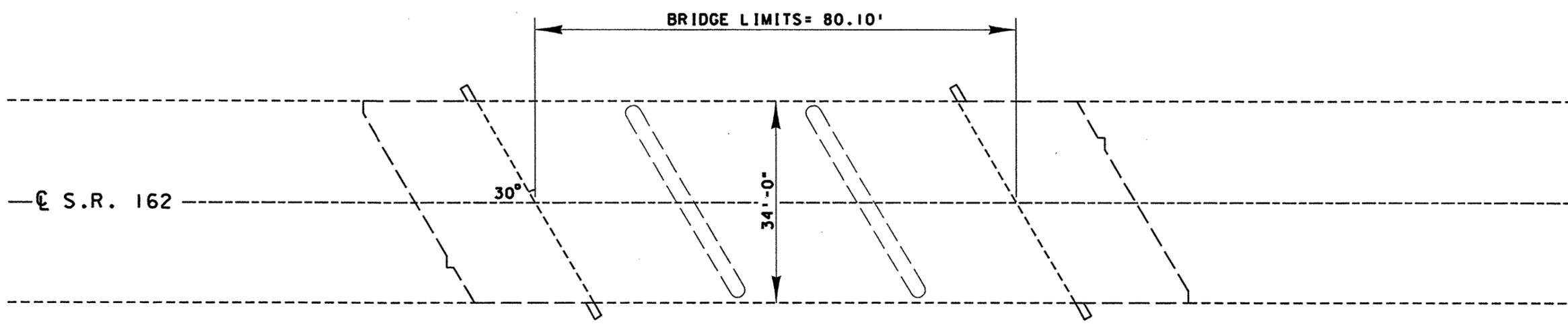
PLAN VIEW
MED-162-1379

MED-162-13.01

18
39

DESIGN FILE: I:\projects\13361\21606\Struct\misc.dgn
WORKSTATION: dml/ens DATE: 03/28/02

DESIGN FILE: I:\projects\1336\21606\Struct\misc.dgn
 WORKSTATION: dmollens DATE: 05/28/02



PLAN VIEW

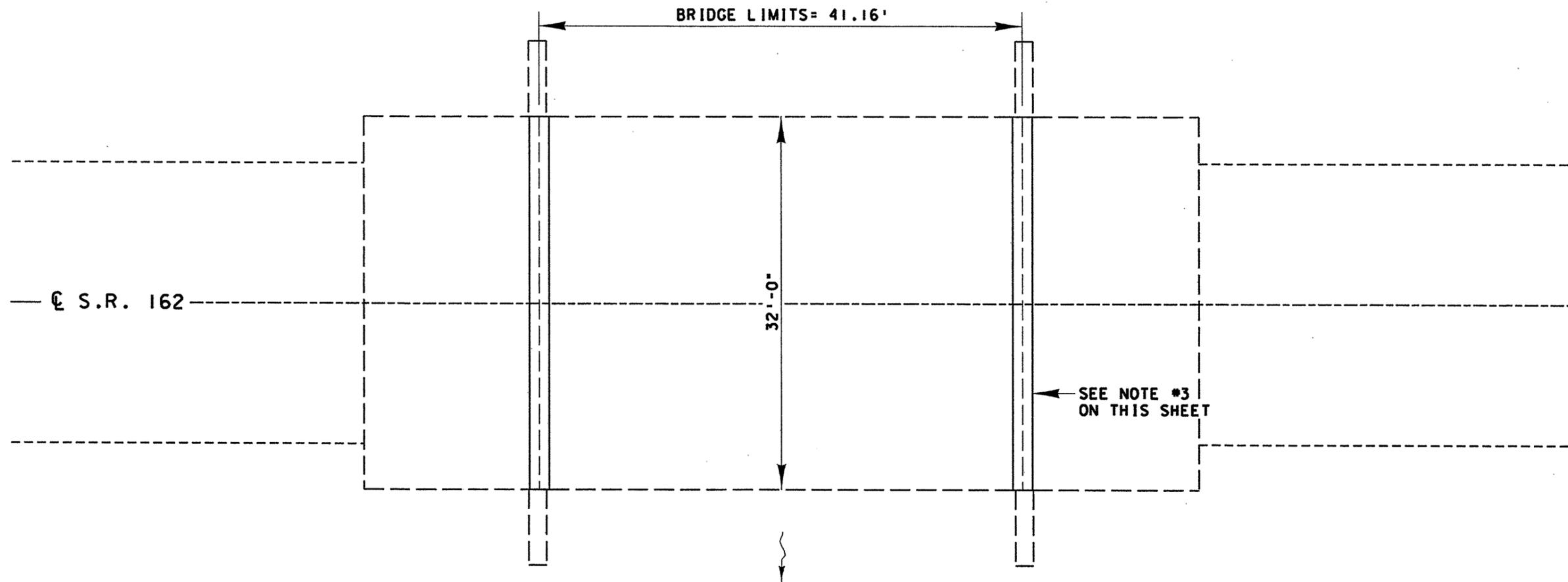
ITEM	QUANTITY	UNIT	DESCRIPTION
SPECIAL	303	square yard	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET, SHEET NO. 13

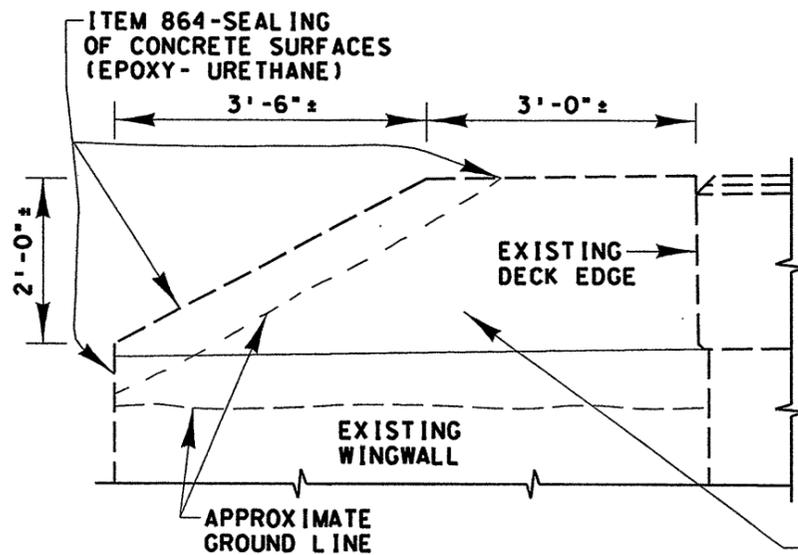
NOTES:

- 1) THE EXISTING BRIDGE RAIL AND GUARDRAIL ARE NOT SHOWN IN THE PLAN VIEW. SEE SHEET NO. 30 FOR DETAILS
- 2) THE ENTIRE BRIDGE DECK SHALL BE SEALED USING ITEM SPECIAL - TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN

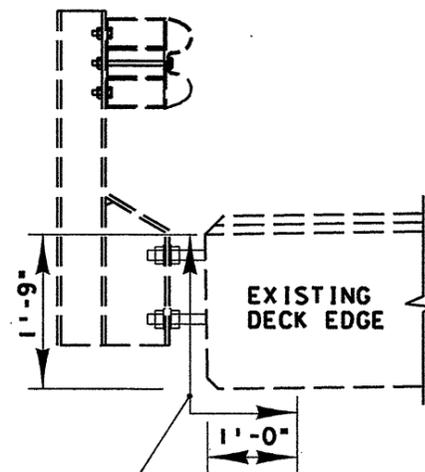
DESIGNED DCN <small>3-02</small> RDN	CHECKED RDN	DRAWN DCN	REVIEWED ACH	DATE 3/2002	STRUCTURAL FILE NUMBER 5206251	DESIGN AGENCY DISTRICT THREE
PLAN VIEW MED-162-2032						
MED-162-13.01						
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PLAN VIEW



TYPICAL ELEVATION VIEW



TYPICAL SECTION VIEW

NOTES:

- 1) THE EXISTING BRIDGE RAIL AND GUARDRAIL ARE NOT SHOWN IN THE PLAN VIEW. SEE SHEET NO. 35 FOR DETAILS
- 2) A PORTION OF THE FASCIA BEAMS AND ALL EXPOSED PORTIONS OF BOTH FACES AND ENDS OF THE WINGWALLS BEYOND THE DECK EDGES SHALL BE SEALED USING ITEM 864- SEALING OF CONCRETE SURFACES (EPOXY- URETHANE) SEE DETAILS ON THIS SHEET
- 3) POLYMER MODIFIED ASPHALT EXPANSION JOINTS SHALL BE INSTALLED AT BOTH ENDS OF THE STRUCTURE. FOR DETAILS SEE SHEET NO. 21

ITEM	QUANTITY	UNIT	DESCRIPTION
864	39	square yard	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET, SHEET NO. 14

DESIGN AGENCY
DISTRICT THREE

DATE
3/2002
REVIEWED
ACH
STRUCTURAL FILE NUMBER
5206340

DRAWN
DCM
REVISED

DESIGNED
DCM
3-02
CHECKED
RDN

PLAN VIEW
MED-162-234

MED-162-13.01

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GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

ITEM SPECIAL - POLYMER-MODIFIED ASPHALT EXPANSION JOINT SYSTEM

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

D.S. BROWN COMPANY
300 E. CHERRY ST.
N. BALTIMORE, OH 45872-0158
TEL: (419) 257-3561

LINEAR DYNAMICS, INC.
79 MONTGOMERY ST.
MONTGOMERY, PA 17752
TEL: (570) 547-1621

WATSON BOWMAN ACME
95 PINEVIEW DR.
AMHERST, NY 14228
TEL: (716) 691-7566 OR
(800) 253-9226

SILICONE SPECIALTIES INC. (S.S.I.)
P.O. BOX 50009
TULSA, OK 74150
TEL: (918) 587-5567 OR
(800) 888-8909

MATERIALS:

BRIDGING PLATE:

MILD STEEL $\frac{1}{8}$ " OR $\frac{1}{4}$ " THICK PLATE, 8" WIDE OR 18 GAUGE
ALUMINUM, 8" WIDE

BINDER:

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

AGGREGATE:

TYPE: CRUSHED, DOUBLE WASHED, AND DRIED GRANITE OR BASALT

GRADATION:

THE GRADATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT.

BACKER ROD:

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

INSTALLATION PROCEDURES:

SAWING AND SURFACE PREPARATION:

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

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

THE EXPANSION JOINT GAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF $\frac{1}{8}$ " OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN $\frac{1}{8}$ " AND $1\frac{1}{8}$ " BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

BOND BREAKER:

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

BINDER COAT:

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

BUILD-UP OF JOINT LAYERS:

AGGREGATE PREPARATION:

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

AGGREGATE PROPORTION AND LAYER THICKNESS:

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS, UNLESS PATENTED INSTALLATION REQUIRES DIFFERENTLY, NOT LESS THAN $\frac{3}{4}$ " NOR EXCEEDING $2\frac{1}{2}$ ". THE THICKNESS OF EACH LAYER CAN BE VARIED WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MIN. 2 INCHES). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH BINDER. RAKE THE MIXTURE TO MIX AND LEVEL.

THE TOP LAYER THICKNESS WILL VARY BETWEEN $\frac{1}{2}$ " AND ONE (1) INCH. IN PREPARING THE TOP LAYER, THE RATIO OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

TESTING:

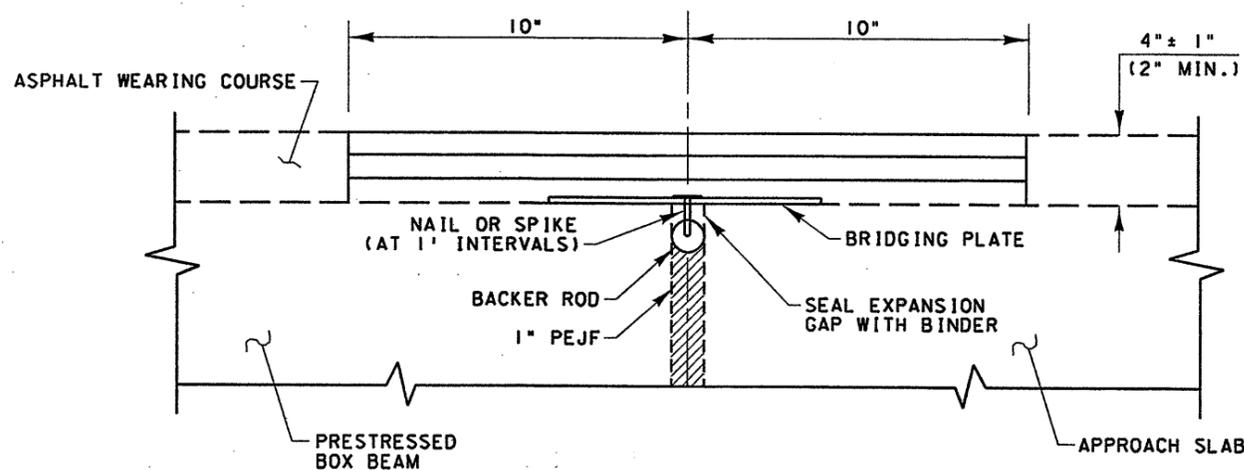
CERTIFICATION WILL BE SUPPLIED FOR EACH PROJECT SHOWING BINDER COMPLIANCE WITH REQUIRED PROPERTIES. A ONE QUART SAMPLE OF BINDER WILL BE RETRIEVED FROM EACH BRIDGE FOR FURTHER TESTING BY THE O.D.O.T. TESTING LABORATORY.

MAINTENANCE OF TRAFFIC:

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

PAYMENT:

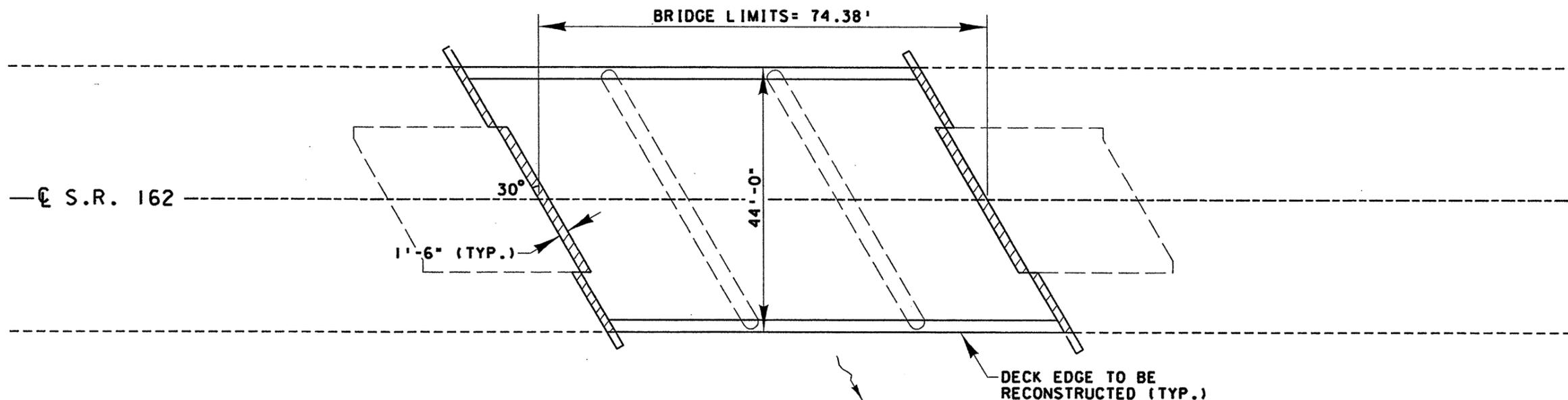
PAYMENT FOR ALL THE ABOVE WILL BE AT THE UNIT PRICE BID PER LINEAR FOOT OF SEALED JOINT IN PLACE FOR ITEM SPECIAL, POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM (4 IN. THICK). THIS WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.



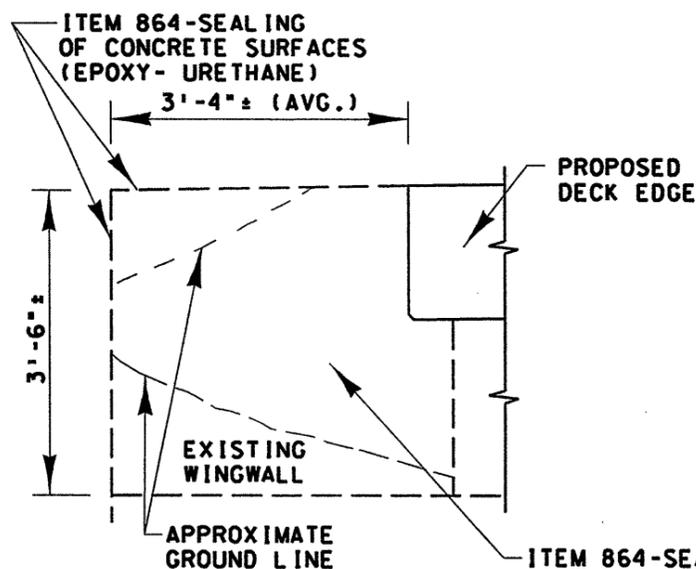
TYPICAL PRESTRESSED BOX BEAM JOINT

ITEM	QUANTITY	UNIT	DESCRIPTION
SPECIAL	64	linear feet	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM (4 IN. THICK)

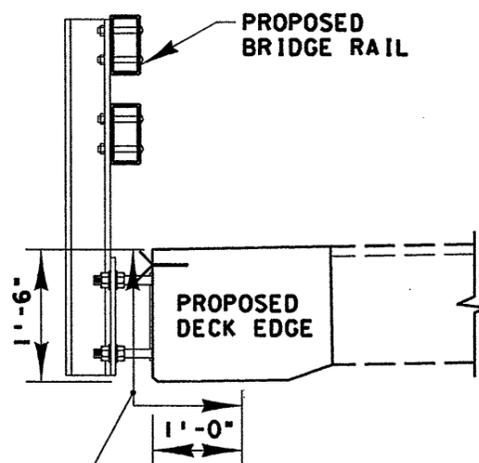
ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET, SHEET NO. 14



PLAN VIEW



TYPICAL WINGWALL ELEVATION VIEW



DECK EDGE SECTION VIEW

ITEM SPECIAL - PATCHING CONCRETE BRIDGE DECK - TYPE B

NOTES:

- 1) THE EXISTING BRIDGE RAIL AND GUARDRAIL ARE NOT SHOWN IN THE PLAN VIEW. SEE SHEET NO. 37 FOR DETAILS
- 2) THE DECK EDGES SHALL BE RECONSTRUCTED, SEE SHEET NO. 23 FOR DETAILS
- 3) THE PROPOSED DECK EDGES AND ALL EXPOSED PORTIONS OF BOTH FACES AND ENDS OF THE WINGWALLS BEYOND THE DECK EDGES SHALL BE SEALED USING ITEM 864- SEALING OF CONCRETE SURFACES (EPOXY- URETHANE). SEE DETAILS ON THIS SHEET
- 4) THE ENTIRE BRIDGE DECK SHALL BE SEALED USING ITEM SPECIAL- TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN

ITEM	QUANTITY	UNIT	DESCRIPTION
202	16	cubic yard	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	162.5	linear feet	BRIDGE RAILING REMOVED
509	100	pound	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN
SPECIAL	364	square yard	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN
517	168.5	linear feet	RAILING (TWIN STEEL TUBE)
SPECIAL	172	linear feet	STEEL DRIP STRIP
SPECIAL	17	square yard	PATCHING CONCRETE BRIDGE DECK- TYPE B
842	17	cubic yard	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (DECK EDGE RECONSTRUCTION)
864	51	square yard	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET, SHEET NO. 14

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WORKSTATION: dmal/ens DATE: 03/28/02

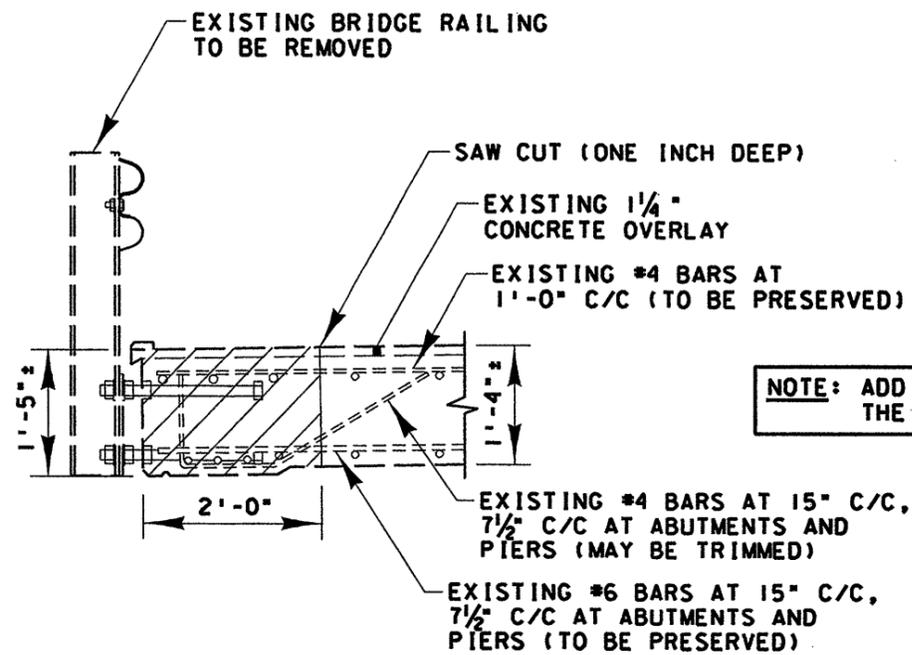
DESIGN AGENCY
DISTRICT THREE

DATE
3/20/02
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5206391

PLAN VIEW
MED-162-2565

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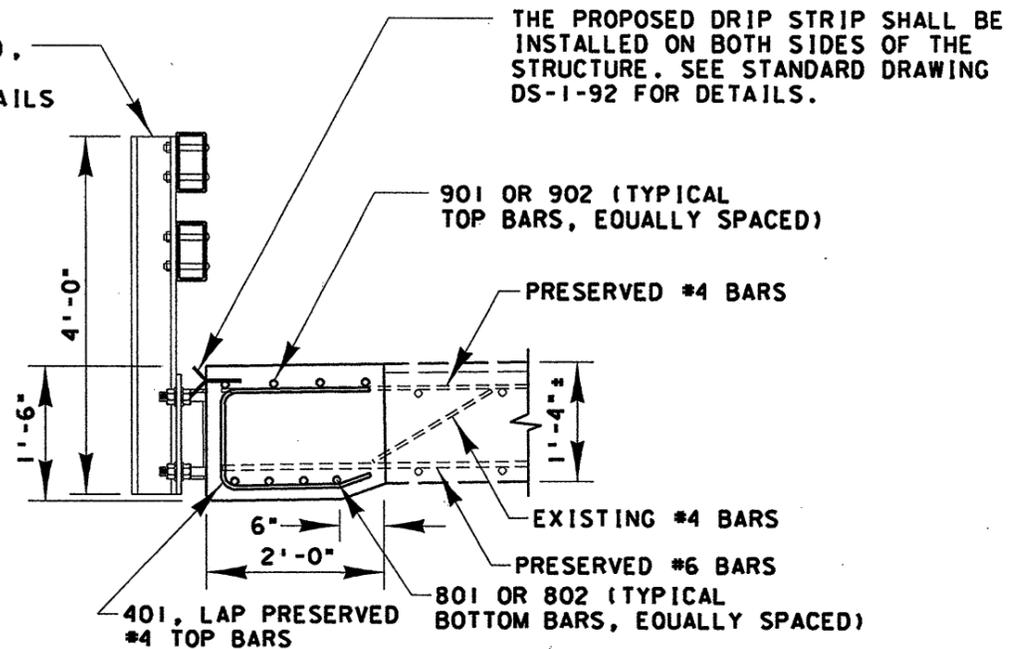


NOTE: ADDITIONAL EXISTING BARS AT THE PIERS SHALL BE PRESERVED

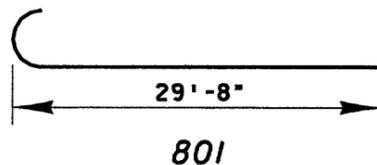
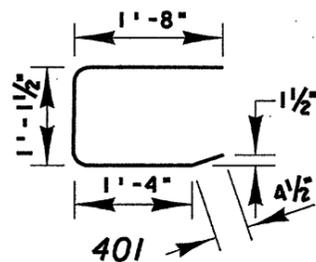
EXISTING TYPICAL SECTION VIEW

ITEM 202- PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

RAILING (TWIN STEEL TUBE), TYPICAL. SEE STANDARD DRAWING TST-1-99 FOR DETAILS

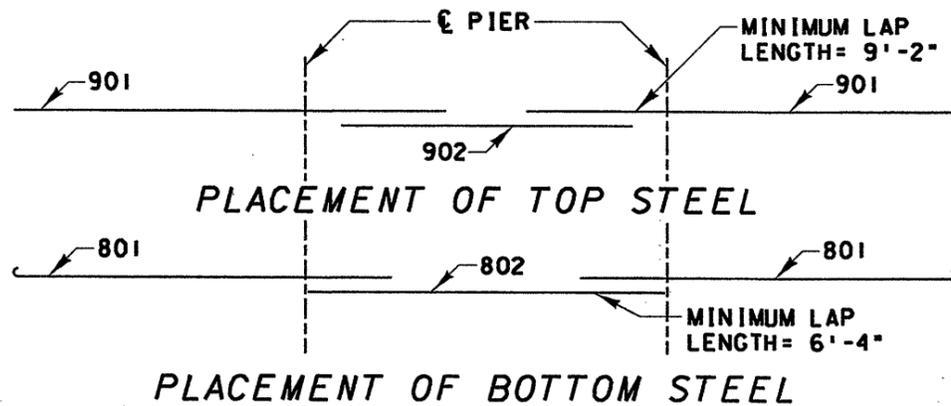


PROPOSED TYPICAL SECTION VIEW



EPOXY COATED REINFORCING STEEL, GRADE 60

REBAR DATA	
MARK	SHAPE
401	B
801	B
802	S
901	S
902	S



NOTES:

- BOTH DECK EDGES SHALL BE RECONSTRUCTED USING CLASS S CONCRETE
- PLACE HOOKED END OF 801 BARS AT ABUTMENT
- THE PROPOSED DECK EDGES AND THE EXPOSED PORTION OF THE WINGWALLS BEYOND THE DECK EDGES SHALL BE SEALED USING ITEM 864- SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). SEE DETAILS ON SHEET NO. 22
- SAW CUTTING THE REMOVAL LINES IS INCIDENTAL TO ITEM 202- PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- SEE STANDARD DRAWING TST-1-99 FOR ADDITIONAL DETAILS

PART	LOCATION	202	202	202	203	606	606	606	606	606
		GUARDRAIL REMOVED	GUARDRAIL REMOVED FOR REUSE	ANCHOR ASSEMBLY REMOVED, TYPE A	EMBANKMENT, AS PER PLAN	GUARDRAIL, TYPE 5	GUARDRAIL REBUILT, TYPE 5	GUARDRAIL, TYPE 8	GUARDRAIL POST, 9' foot	ANCHOR ASSEMBLY, TYPE B-98
		lin. ft.	lin. ft.	each	cubic yard	lin. ft.	lin. ft.	each	each	each
1	MED-SR162-13.79 S.L.M.	62.50				37.50				
1	MED-SR162-18.45 S.L.M.	587.50		2	7	662.50			51	
1	MED-SR162-19.04 S.L.M.	181.25		4	26	206.25				1
1	MED-SR162-19.66 S.L.M.	1268.75		4	167	1218.75			118	2
1	MED-SR162-20.32 S.L.M.	831.25		3	14	831.25				2
1	MED-SR162-21.07 S.L.M.	137.50		4	51	81.25		112.50		3
1	MED-SR162-21.614 S.L.M.			1						1
1	MED-SR162-21.77 S.L.M.	12.50	812.50	3			812.50			3
1	MED-SR162-22.08 S.L.M.	162.50		1	15	162.50			17	1
1	MED-SR162-23.34 S.L.M.	12.50	300	3		12.50	300			2
1	MED-SR162-24.497 S.L.M.	112.50			15	112.50			1	1
1	MED-SR162-25.65 S.L.M.	425		4		400				3
TOTAL		3793.75	1112.50	29	295	3725	1112.50	112.50	187	19

CALC BY: IEW
CHK'D BY: RPI

ESTIMATED QUANTITIES

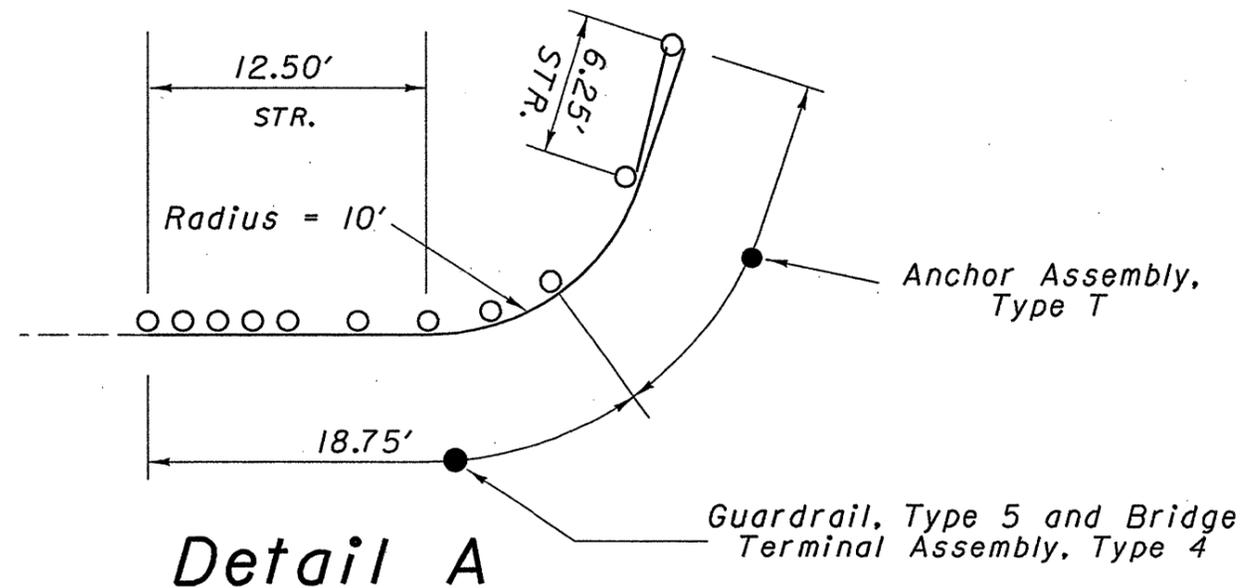
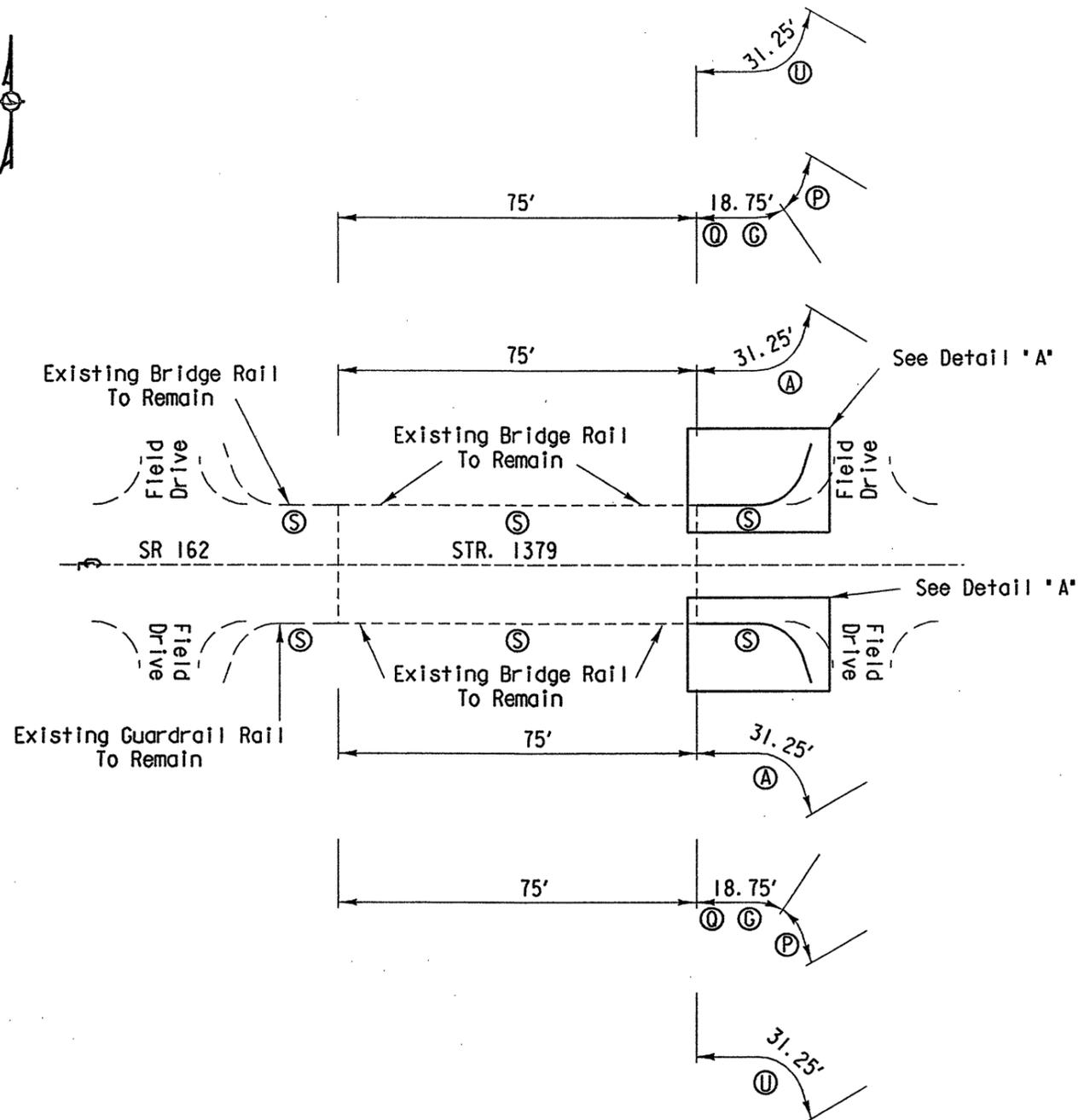
MED-162-13.01

PART	LOCATION	606	606	606		606		SPECIAL	606	626	
		ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE A	ANCHOR ASSEMBLY, TYPE T		BRIDGE TERMINAL ASSEMBLY, TYPE 4		RESHAPING BERM	GUARDRAIL MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL	BARRIER REFLECTOR, TYPE A	
		each	each	each		each		lin. ft.	lin. ft.	each	
1	MED-SR162-13.79 S.L.M.			2		2		62.50		6	
1	MED-SR162-18.45 S.L.M.	1		1				750		9	
1	MED-SR162-19.04 S.L.M.	1		2		4		393.75		7	
1	MED-SR162-19.66 S.L.M.	2						1493.75		17	
1	MED-SR162-23.02 S.L.M.	1				3		1031.25	62.50	15	
1	MED-SR162-21.07 S.L.M.							381.25		6	
1	MED-SR162-21.614 S.L.M.							62.50	100	3	
1	MED-SR162-21.77 S.L.M.			1		4		1087.50		13	
1	MED-SR162-22.08 S.L.M.		1	2				275		3	
1	MED-SR162-23.34 S.L.M.			2		4		462.50		8	
1	MED-SR162-24.497 S.L.M.			3				212.50		6	
1	MED-SR162-25.65 S.L.M.			1		4		600		10	
TOTAL		5	1	14		21		6812.50	162.50	103	

CALC BY: JEW
CHK'D BY: RPI

ESTIMATED QUANTITIES

MED-162-13.01



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.	31.25	31.25	62.50
Ⓒ	606	GUARDRAIL, TYPE 5	lin. ft.	18.75	18.75	37.50
⒫	606	ANCHOR ASSEMBLY, TYPE T	each	1	1	2
Ⓖ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	each	1	1	2
Ⓚ	SPECIAL	RESHAPING BERM	lin. ft.	31.25	31.25	62.50
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each	3	3	6

NOTES:

1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

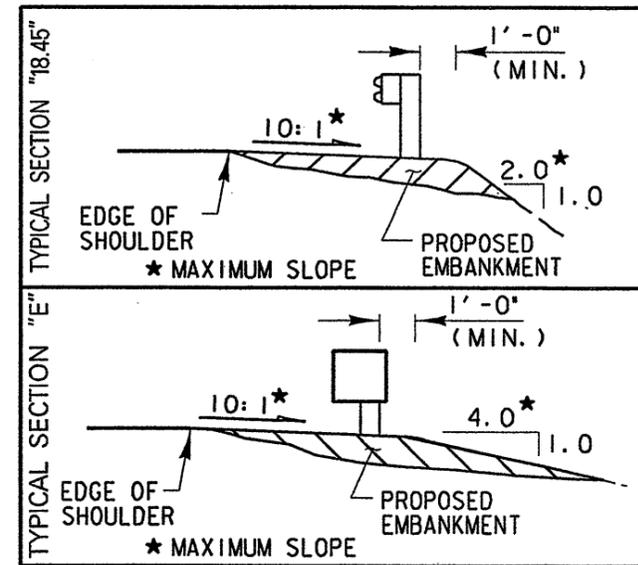
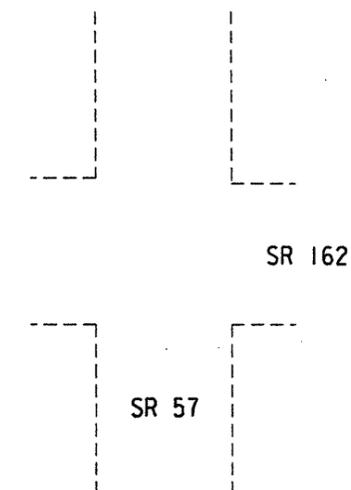
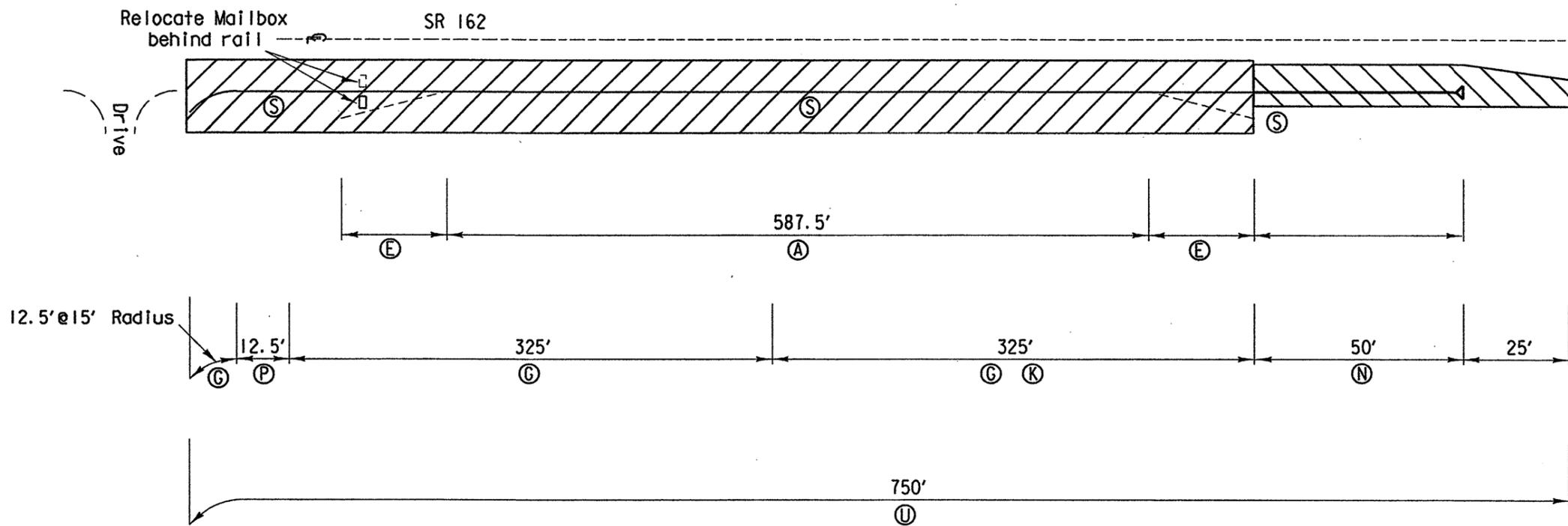
DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

DATE
REVIEWED
STRUCTURAL FILE NUMBER
5206073

DESIGNED
RPT
CHECKED
RPT

GUARDRAIL DETAIL
MED-162-STR. 1379 S.L.M.

MED-162-13.01



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.		587.50	587.50
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	lin. ft.		2	2
	203	EMBANKMENT, AS PER PLAN	cubic yard		7	7
Ⓒ	606	GUARDRAIL, TYPE 5	lin. ft.		662.5	662.5
Ⓚ	606	GUARDRAIL POST, 9' foot	each		51	51
Ⓝ	606	ANCHOR ASSEMBLY, TYPE E-98	each		1	1
Ⓟ	606	ANCHOR ASSEMBLY, TYPE T	each		1	1
Ⓤ	SPECIAL	RESHAPING BERM	lin. ft.		750	750
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each		9	9

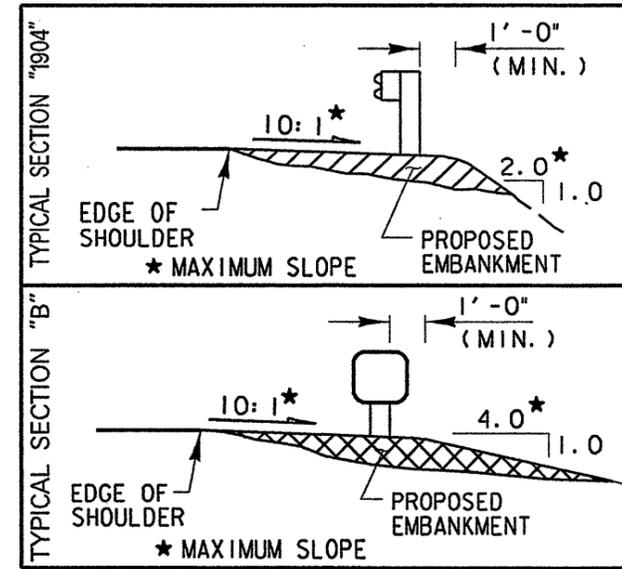
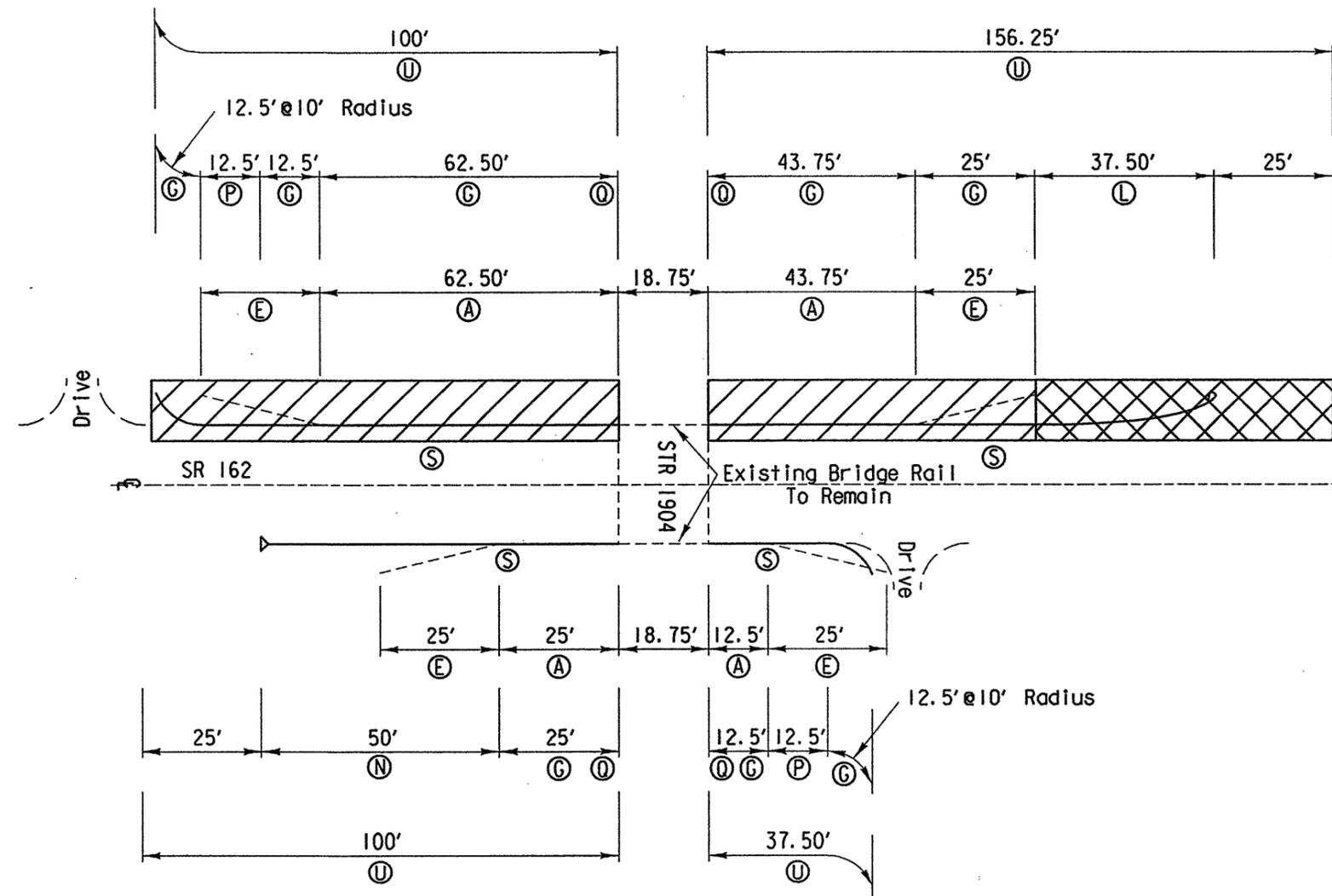
NOTES:

1. GRADE EMBANKMENT AS PER TYPICAL SECTION "E" FOR THE ENTIRE LENGTH OF THE ANCHOR ASSEMBLY, TYPE E-98 AND THE 25 FT. GRADING BEYOND THE GUARDRAIL RUN.
2. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

DESIGN AGENCY: DISTRICT THREE, PRODUCTION DEPARTMENT
 DATE: _____
 REVIEWED: _____
 STRUCTURAL FILE NUMBER: _____
 DRAWN: RPT TEW
 CHECKED: RPT
 DESIGNED: RPT
 GUARDRAIL DETAIL
 MED-162-18.45 S.L.M.
 MED-162-13.01
 27
 39

DESIGN FILE: I:\projects\1336\guardrail.dgn
 WORKSTATION: mschafra DATE: 03/22/02

DESIGN FILE: I:\projects\1336\guardrail.dgn
 WORKSTATION: mschafra DATE: 03/22/02



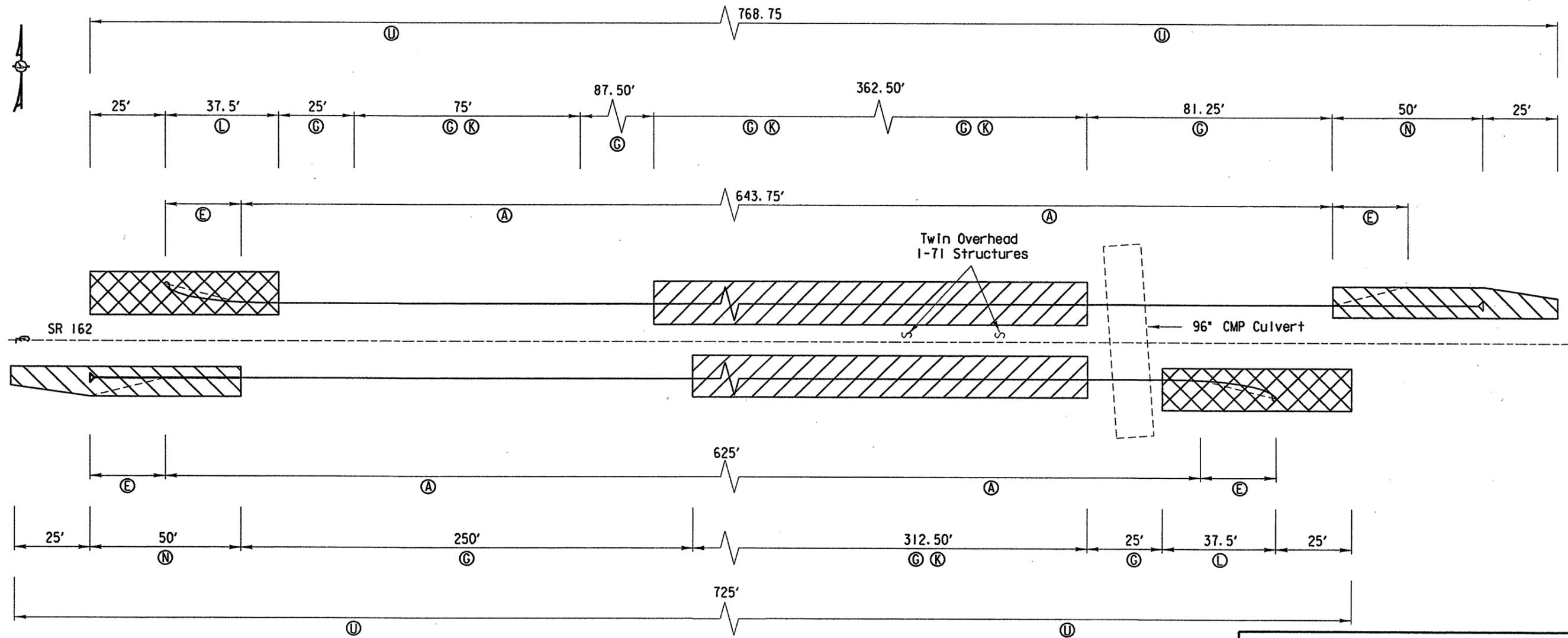
LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.	125	56.25	181.25
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	each	2	2	4
	203	EMBANKMENT, AS PER PLAN	cubic yard	26		26
Ⓒ	606	GUARDRAIL, TYPE 5	lin. ft.	156.25	50	206.25
Ⓛ	606	ANCHOR ASSEMBLY, TYPE B-98	each	1		1
Ⓝ	606	ANCHOR ASSEMBLY, TYPE E-98	each		1	1
Ⓟ	606	ANCHOR ASSEMBLY, TYPE T	each	1	1	2
Ⓠ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	each	2	2	4
Ⓢ	SPECIAL	RESHAPING BERM	lin. ft.	256.25	137.50	393.75
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each	4	3	7

NOTES:

1. GRADE EMBANKMENT AS PER TYPICAL SECTION "B" FOR THE ENTIRE LENGTH OF THE ANCHOR ASSEMBLY, TYPE B-98 AND THE 25 FT. GRADING BEYOND THE GUARDRAIL RUN.
2. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

DESIGN AGENCY: DISTRICT THREE PRODUCTION DEPARTMENT
 DATE: REVIEWED: STRUCTURAL FILE NUMBER: 5206189
 DRAWN: RPT TEW
 CHECKED: RPT
 DESIGNED: RPT
 GUARDRAIL DETAIL
 MED-162-STR. 1904 S.L.M.
 MED-162-13.01
 28
 39

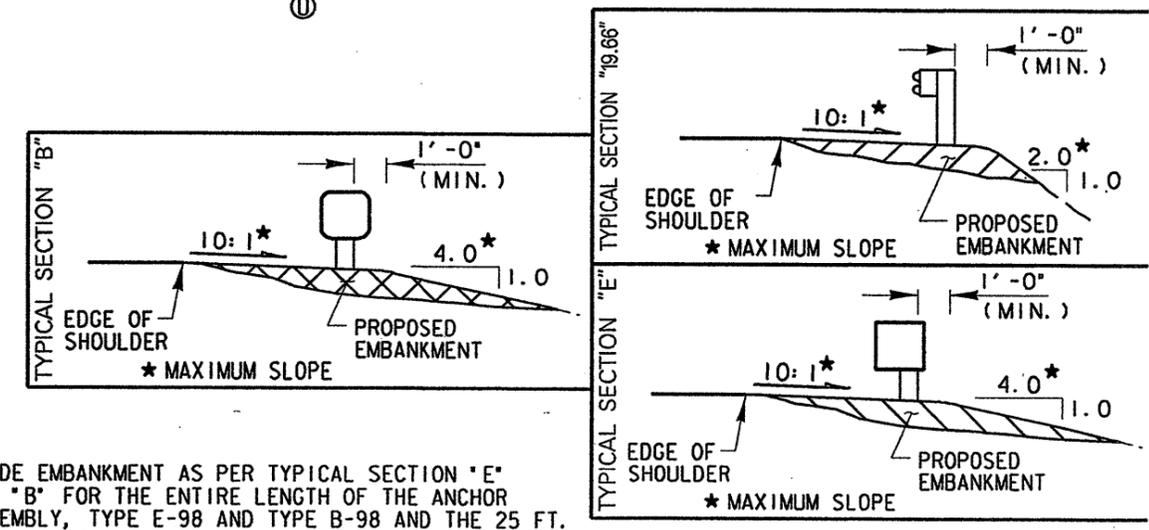
DESIGN FILE: I:\projects\13361\guardrail.dgn
 WORKSTATION: mschof7a DATE: 03/22/02



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.	643.75	625	1268.75
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	each	2	2	4
	203	EMBANKMENT, AS PER PLAN	cubic yard	78	89	167
Ⓒ	606	GUARDRAIL, TYPE 5	lin. ft.	631.25	587.5	1218.75
Ⓚ	606	GUARDRAIL POST, 9' foot	each	69	49	118
Ⓛ	606	ANCHOR ASSEMBLY, TYPE B-98	each	1	1	2
Ⓝ	606	ANCHOR ASSEMBLY, TYPE E-98	each	1	1	2
Ⓤ	SPECIAL	RESHAPING BERM	lin. ft.	768.75	725	1493.75
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each	9	8	17

NOTES:

- GRADE EMBANKMENT AS PER TYPICAL SECTION "E" AND "B" FOR THE ENTIRE LENGTH OF THE ANCHOR ASSEMBLY, TYPE E-98 AND TYPE B-98 AND THE 25 FT. GRADING BEYOND THE GUARDRAIL RUN.
- ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

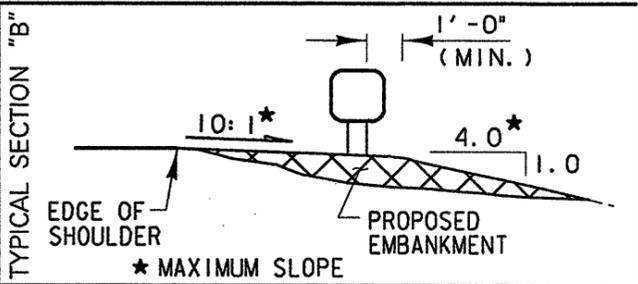
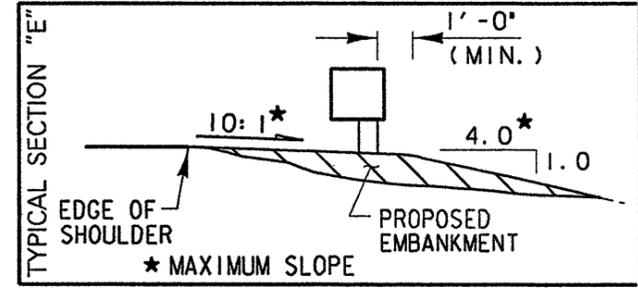
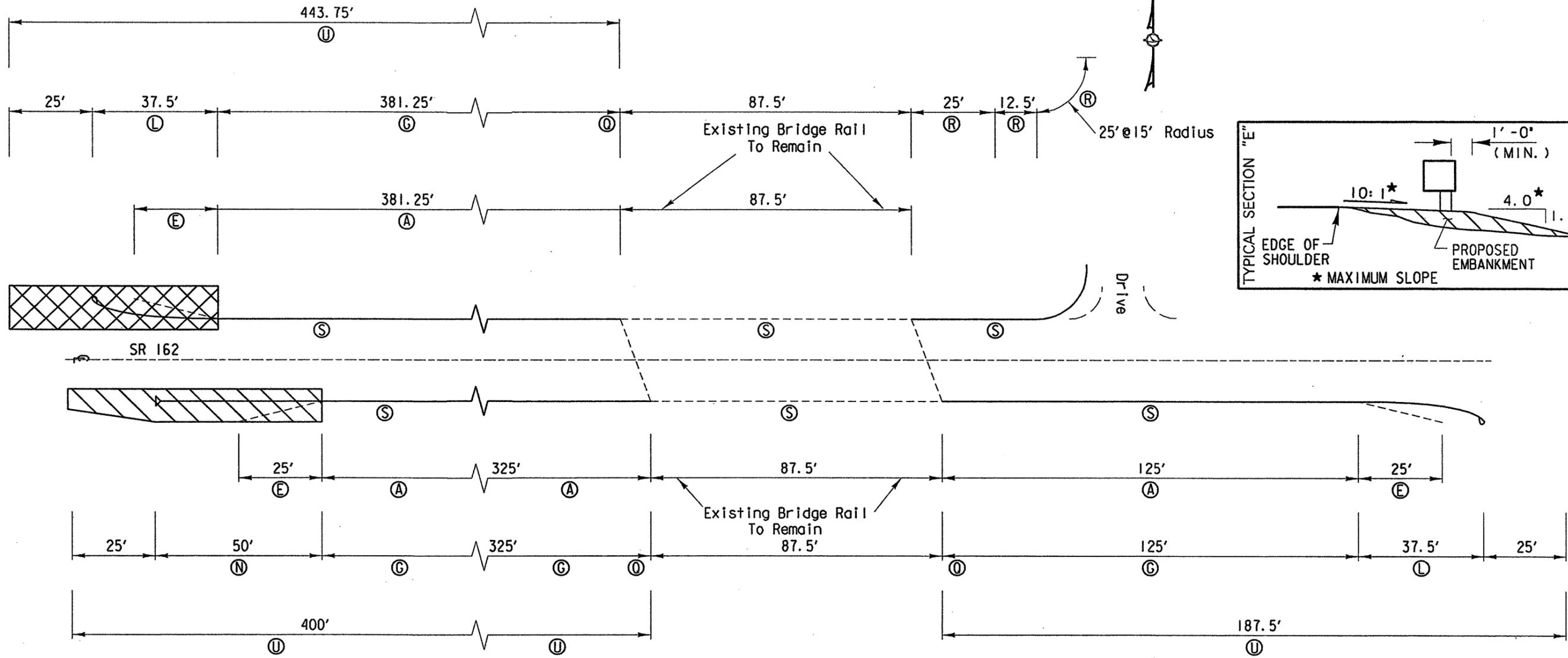


DESIGN AGENCY
 DISTRICT THREE
 PRODUCTION DEPARTMENT

DATE
 REVIEWED
 DRAWN
 CHECKED
 DESIGNED

GUARDRAIL DETAIL
 MED-162-19.66 S.L.M.

MED-162-13.01

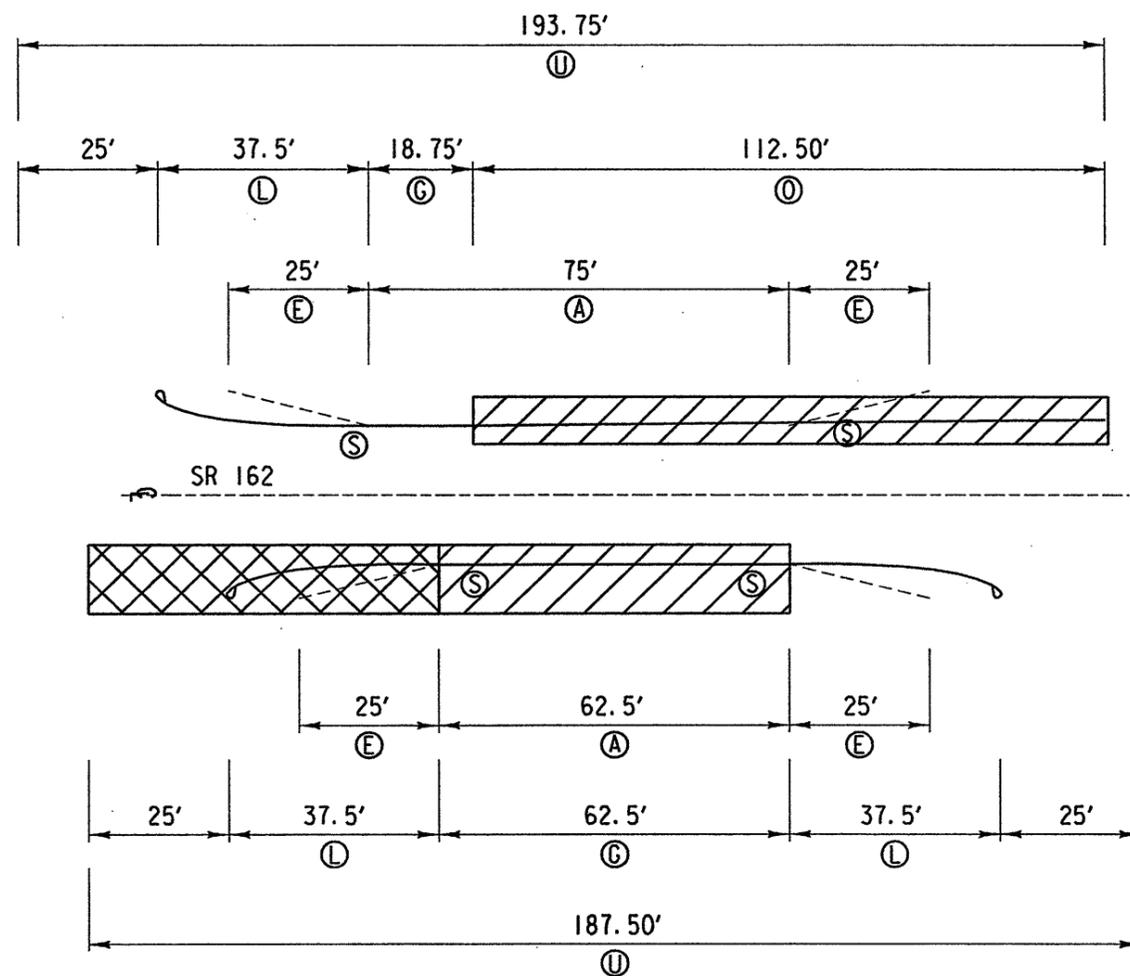


- NOTES:
- GRADE EMBANKMENT AS PER TYPICAL SECTION "E" AND "B" FOR THE ENTIRE LENGTH OF THE ANCHOR ASSEMBLY, TYPE E-98 AND TYPE B-98 AND THE 25 FT. GRADING BEYOND THE GUARDRAIL RUN.
 - ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

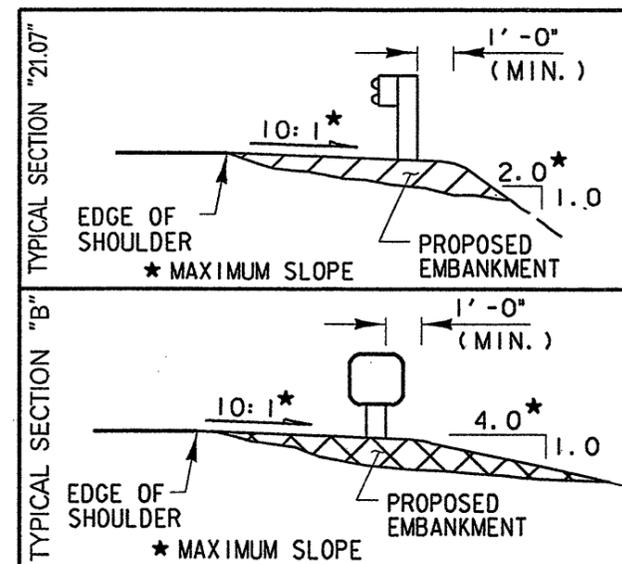
LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.	381.25	450	831.25
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	each	1	2	3
▨	203	EMBANKMENT, AS PER PLAN	cubic yard	7	7	14
Ⓒ	606	GUARDRAIL, TYPE 5	lin. ft.	381.25	450	831.25
Ⓕ	606	ANCHOR ASSEMBLY, TYPE B-98	each	1	1	2
Ⓖ	606	ANCHOR ASSEMBLY, TYPE E-98	each		1	1
Ⓓ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	each	1	2	3
Ⓤ	SPECIAL	RESHAPING BERM	lin. ft.	443.75	587.50	1031.25
Ⓡ	606	GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL	lin. ft.	62.50		62.50
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each	7	8	15

DESIGN AGENCY: DISTRICT THREE PRODUCTION DEPARTMENT
 DATE: REVIEWED: STRUCTURAL FILE NUMBER: 520625J
 DRAWN: RPT TEW
 CHECKED: RPT
 DESIGNED: RPT
 GUARDRAIL DETAIL
 MED-162-STR. 2032 S.L.M.
 MED-162-13.01
 30
 39

DESIGN FILE: I:\projects\336\guardrail.dgn
 WORKSTATION: mschaffc DATE: 03/22/02



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.	75	62.50	137.50
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	each	2	2	4
	203	EMBANKMENT, AS PER PLAN	cubic yard	14	37	51
Ⓒ	606	GUARDRAIL, TYPE 5	lin. ft.	18.75	62.50	81.25
Ⓕ	606	ANCHOR ASSEMBLY, TYPE B-98	each	1	2	3
⓪	606	GUARDRAIL, TYPE 8	lin. ft.	112.50		112.50
Ⓜ	SPECIAL	RESHAPING BERM	lin. ft.	193.75	187.50	381.25
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each	3	3	6



NOTES:

1. GRADE EMBANKMENT AS PER TYPICAL SECTION "B" FOR THE ENTIRE LENGTH OF THE ANCHOR ASSEMBLY, TYPE B-98 AND THE 25 FT. GRADING BEYOND THE GUARDRAIL RUN.
2. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

DATE
REVIEWED
DRAWN
CHECKED
DESIGNED
RPT
RPT
RPT

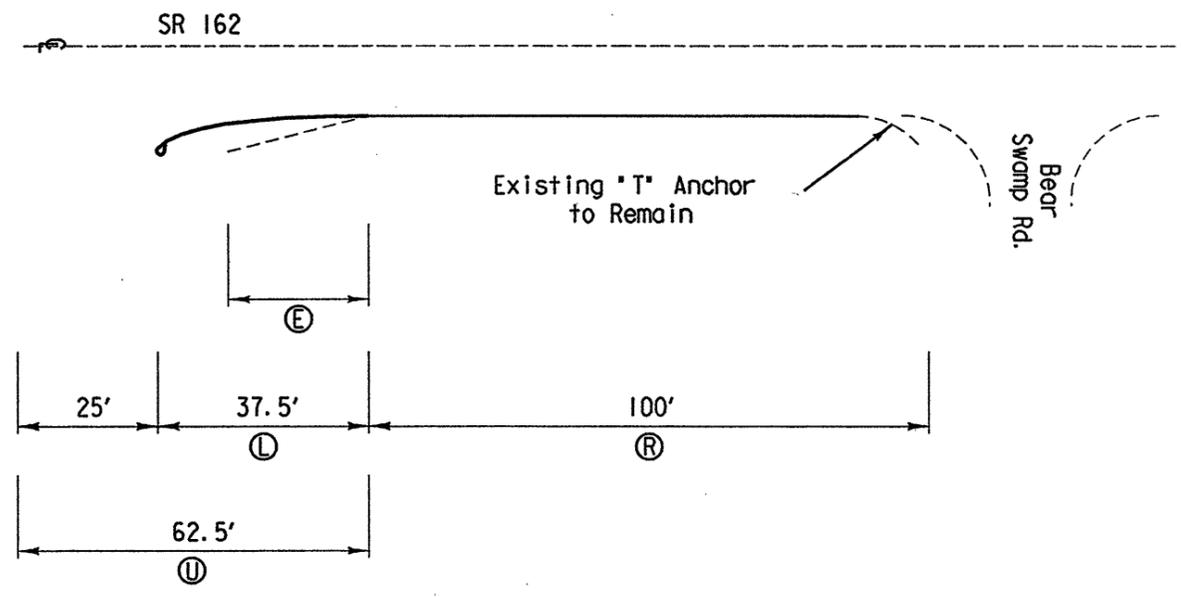
STRUCTURAL FILE NUMBER
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GUARDRAIL DETAIL
MED-162-21.07 S.L.M.

MED-162-13.01

DESIGN FILE: I:\projects\13351\guardrail.dgn
WORKSTATION: mschafra DATE: 03/22/02

DESIGN FILE: I:\Projects\1336\guardrail.dgn
 WORKSTATION: mschaffr DATE: 03/22/02



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	each		1	1
Ⓛ	606	ANCHOR ASSEMBLY, TYPE B-98	each		1	1
Ⓤ	SPECIAL	RESHAPING BERM	lin. ft.		62.5	62.5
Ⓡ	606	GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL	lin. ft.		100	100
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each		3	3

NOTES:

1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

DESIGN AGENCY
 DISTRICT THREE
 PRODUCTION DEPARTMENT

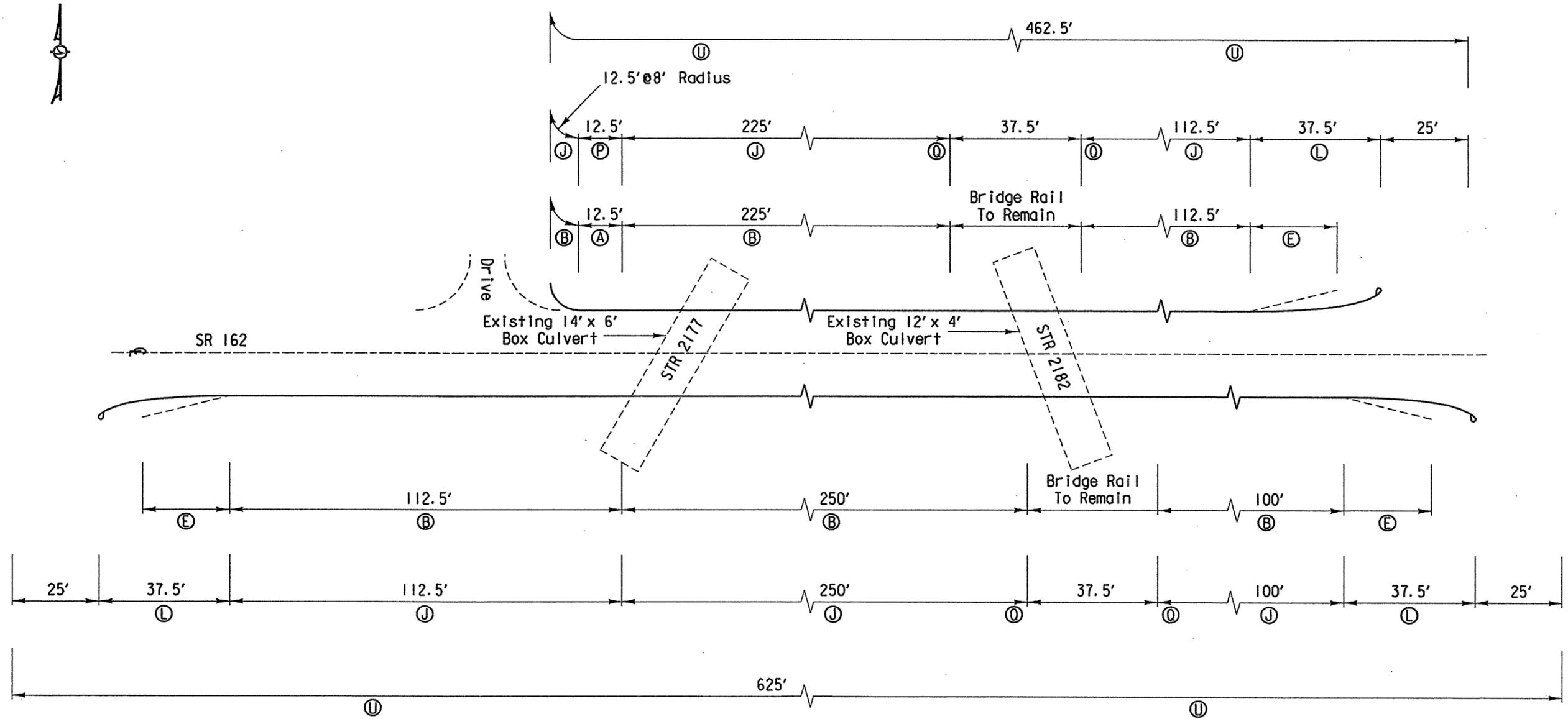
REVIEWED DATE
 STRUCTURAL FILE NUMBER

DRAWN
 REVISIONS
 DESIGNED
 CHECKED
 RPT
 RPT

GUARDRAIL DETAIL
 MED-162-21.614 S.L.M.

MED-162-13.01

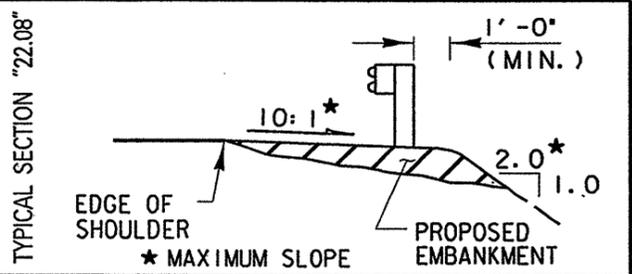
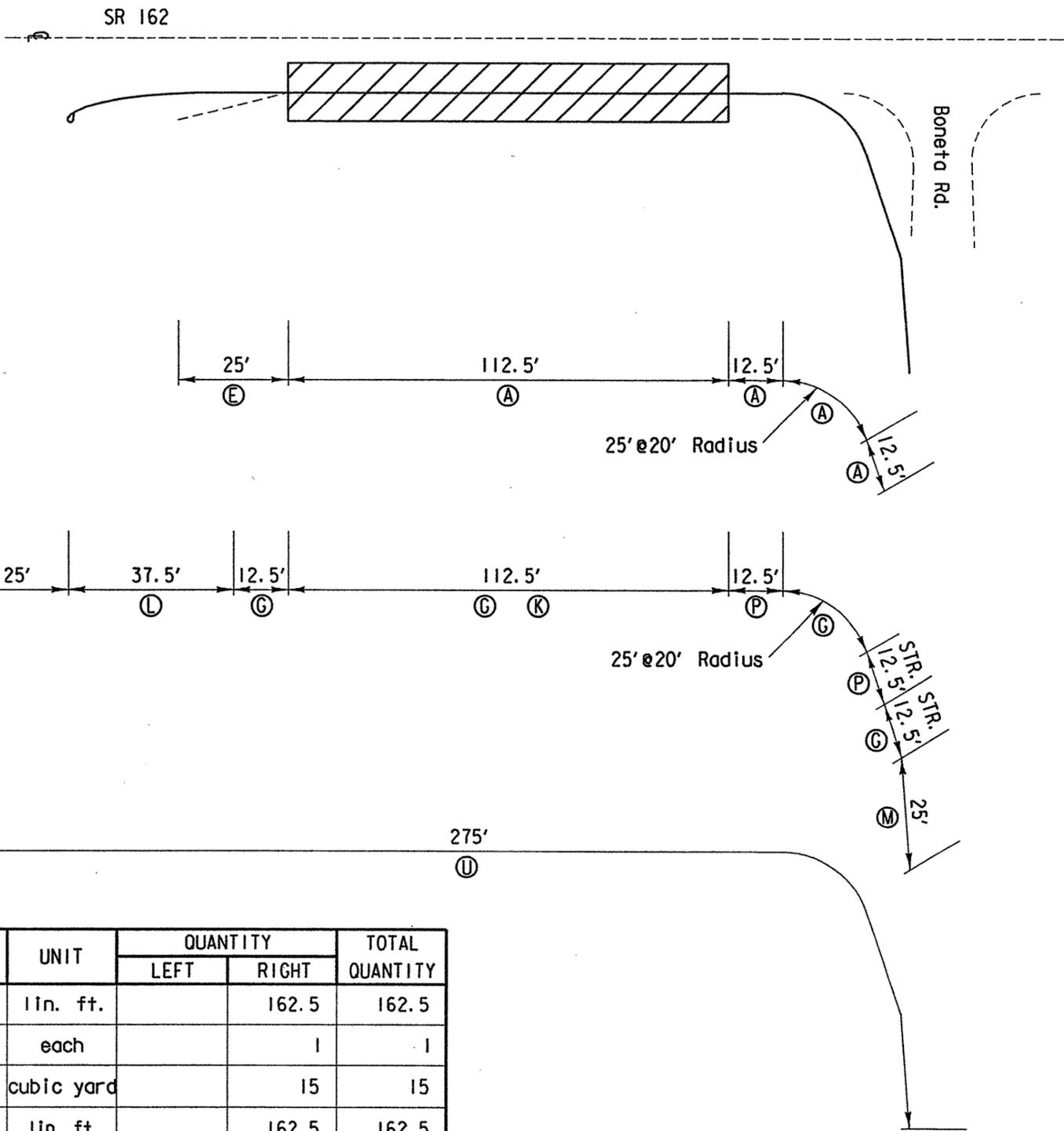
DESIGN FILE: I:\projects\13361\guardrail.dgn
 WORKSTATION: mschar7a DATE: 03/22/02



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.	12.5		12.5
Ⓑ	202	GUARDRAIL REMOVED FOR REUSE	lin. ft.	350	462.5	812.5
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	each	1	2	3
Ⓝ	606	GUARDRAIL REBUILT, TYPE 5	lin. ft.	350	462.5	812.5
Ⓛ	606	ANCHOR ASSEMBLY, TYPE B-98	each	1	2	3
Ⓟ	606	ANCHOR ASSEMBLY, TYPE T	each	1		1
Ⓞ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	each	2	2	4
Ⓤ	SPECIAL	RESHAPING BERM	lin. ft.	462.5	625	1087.5
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each	6	7	13

NOTES:
 1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

DESIGN AGENCY: DISTRICT THREE PRODUCTION DEPARTMENT
 DATE: _____ REVIEWED: _____
 STRUCTURAL FILE NUMBER: 5206286/5206316
 DRAWN: TEW REVISIONS: _____
 DESIGNED: RPT CHECKED: RPT
 GUARDRAIL DETAIL
 MED-162-2177/2182 S.L.M.
 MED-162-13.01
 33
 39



- NOTES:
- ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
(A)	202	GUARDRAIL REMOVED	lin. ft.		162.5	162.5
(E)	202	ANCHOR ASSEMBLY REMOVED, TYPE A	each		1	1
	203	EMBANKMENT, AS PER PLAN	cubic yard		15	15
(G)	606	GUARDRAIL, TYPE 5	lin. ft.		162.5	162.5
(K)	606	GUARDRAIL POST, 9' foot	each		17	17
(L)	606	ANCHOR ASSEMBLY, TYPE B-98	each		1	1
(M)	606	ANCHOR ASSEMBLY, TYPE A	each		1	1
(P)	606	ANCHOR ASSEMBLY, TYPE T	each		2	2
(U)	SPECIAL	RESHAPING BERM	lin. ft.		275	275
(S)	626	BARRIER REFLECTOR, TYPE A	each		3	3

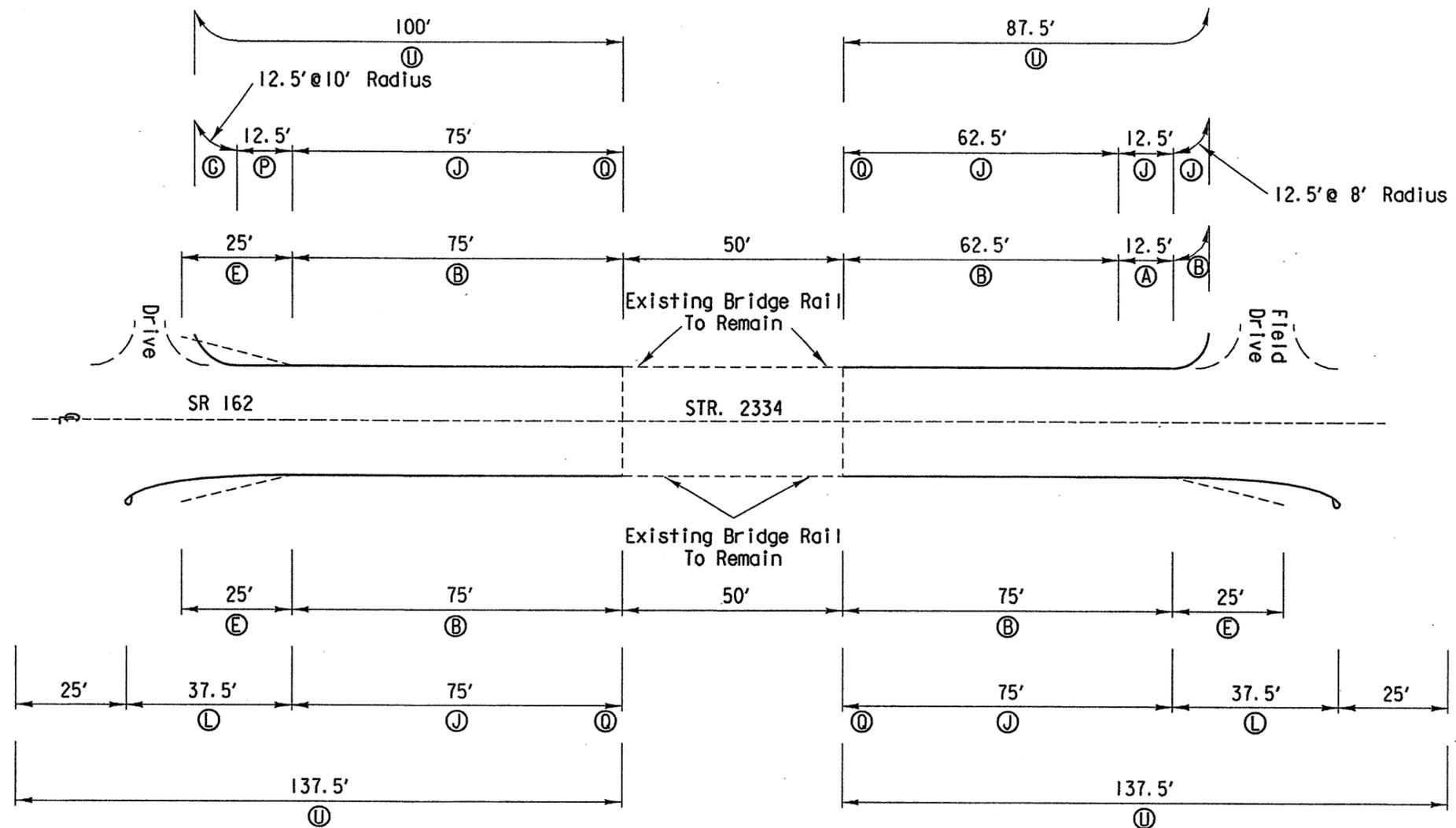
DESIGN AGENCY
 DISTRICT THREE
 PRODUCTION DEPARTMENT

REVIEWED DATE
 STRUCTURAL FILE NUMBER
 DRAWN
 T E W
 REVISED
 DESIGNED
 R P T
 CHECKED
 R P T

GUARDRAIL DETAIL
 MED-162-22.08 S.L.M.

MED-162-13.01

DESIGN FILE: i:\projects\1336\guardrail.dgn
 WORKSTATION: mschfra
 DATE: 03/22/02

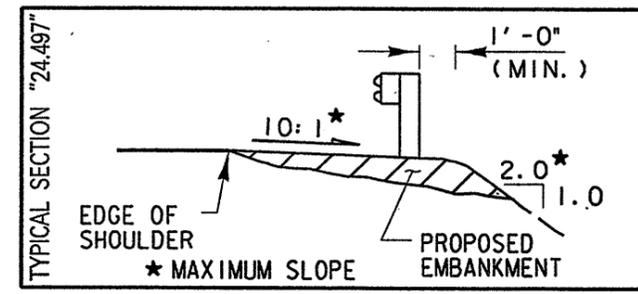
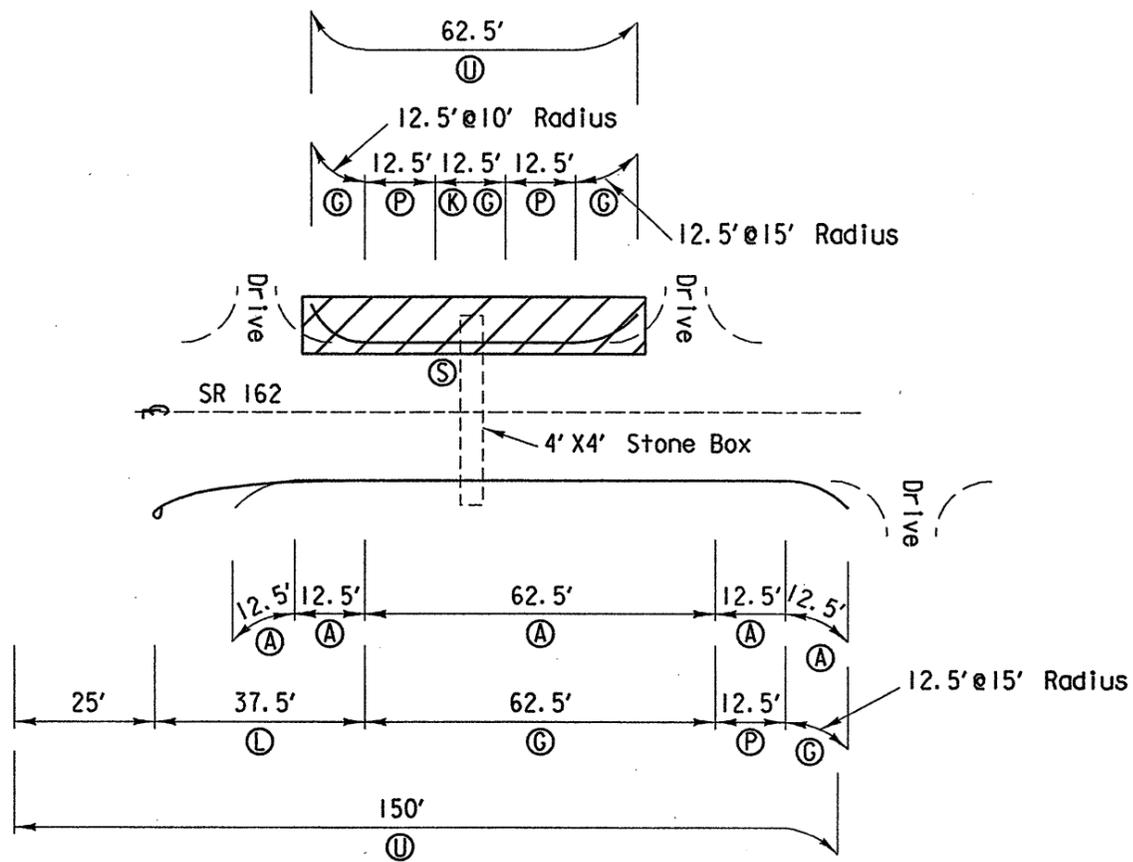


LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.	12.5		12.5
Ⓑ	202	GUARDRAIL REMOVED FOR REUSE	lin. ft.	150	150	300
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	each	1	2	3
Ⓒ	606	GUARDRAIL, TYPE 5	lin. ft.	12.5		12.5
Ⓙ	606	GUARDRAIL REBUILT, TYPE 5	lin. ft.	150	150	300
Ⓛ	606	ANCHOR ASSEMBLY, TYPE B-98	each		2	2
Ⓟ	606	ANCHOR ASSEMBLY, TYPE T	each	2		2
Ⓠ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	each	2	2	4
Ⓤ	SPECIAL	RESHAPING BERM	lin. ft.	187.5	275	462.5
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each	4	4	8

NOTES:
 1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

DESIGN FILE: I:\projects\1336\guardrail.dgn
 WORKSTATION: mscharra DATE: 03/22/02

DESIGN FILE: I:\projects\1356\guardrail.dgn
 WORKSTATION: mschfrd DATE: 03/22/02

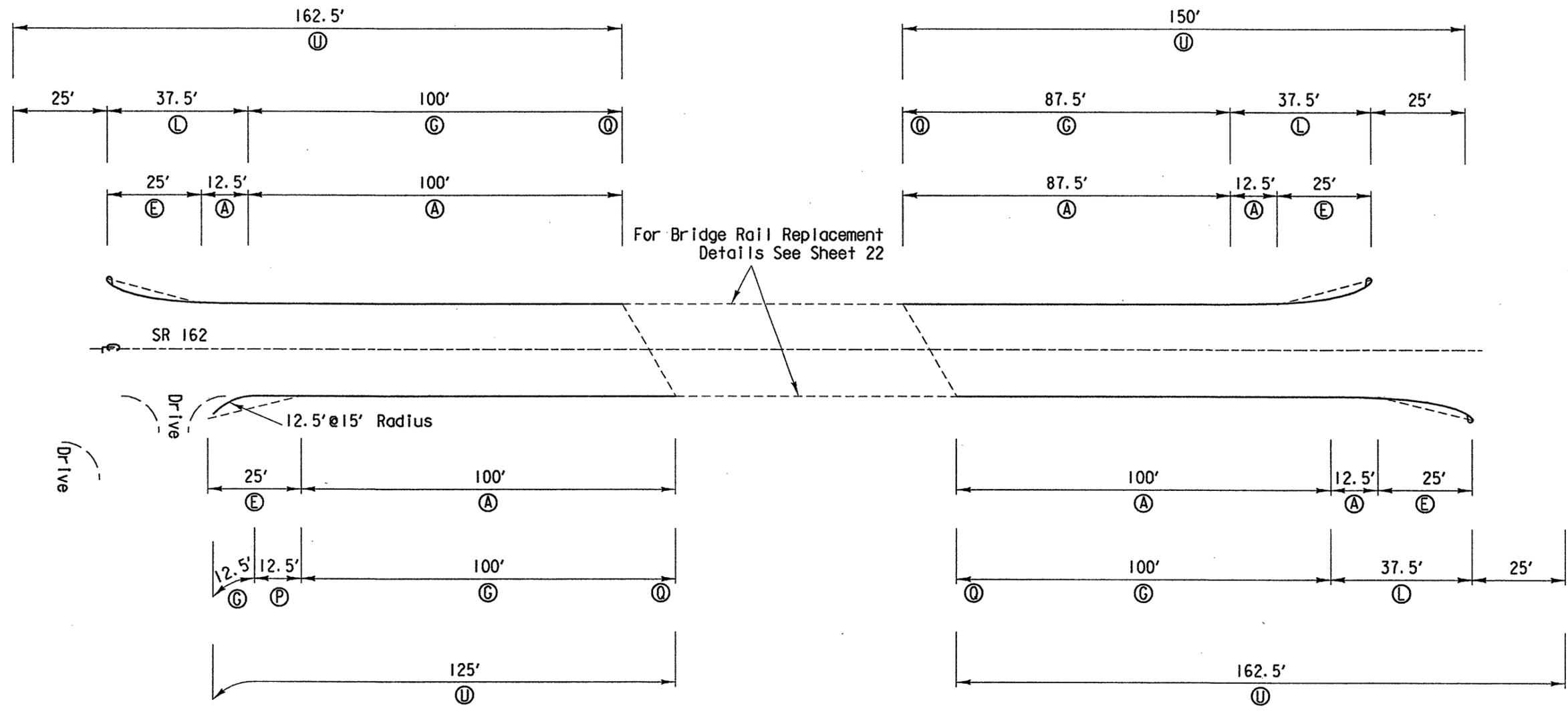


LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.		112.5	112.5
	203	EMBANKMENT, AS PER PLAN	cubic yard	15		15
Ⓒ	606	GUARDRAIL, TYPE 5	lin. ft.	37.5	75	112.5
Ⓚ	606	GUARDRAIL POST, 9' foot	each	1		1
Ⓛ	606	ANCHOR ASSEMBLY, TYPE B-98	each		1	1
Ⓟ	606	ANCHOR ASSEMBLY, TYPE T	each	2	1	3
Ⓤ	SPECIAL	RESHAPING BERM	lin. ft.	62.5	150	212.5
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each	3	3	6

NOTES:
 1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

DESIGN AGENCY: DISTRICT THREE PRODUCTION DEPARTMENT
 DATE: _____ REVIEWED: _____ STRUCTURAL FILE NUMBER: _____
 DRAWN: RPT TEW REVISION: _____
 DESIGNED: RPT CHERED CHECKED: RPT
 GUARDRAIL DETAIL
 MED-162-24.497 S.L.M.
 MED-162-13.01
 36
 39

DESIGN FILE: I:\projects\13361\guardrail.dgn
 WORKSTATION: mscharf DATE: 03/22/02



For Bridge Rail Replacement
 Details See Sheet 22

SR 162

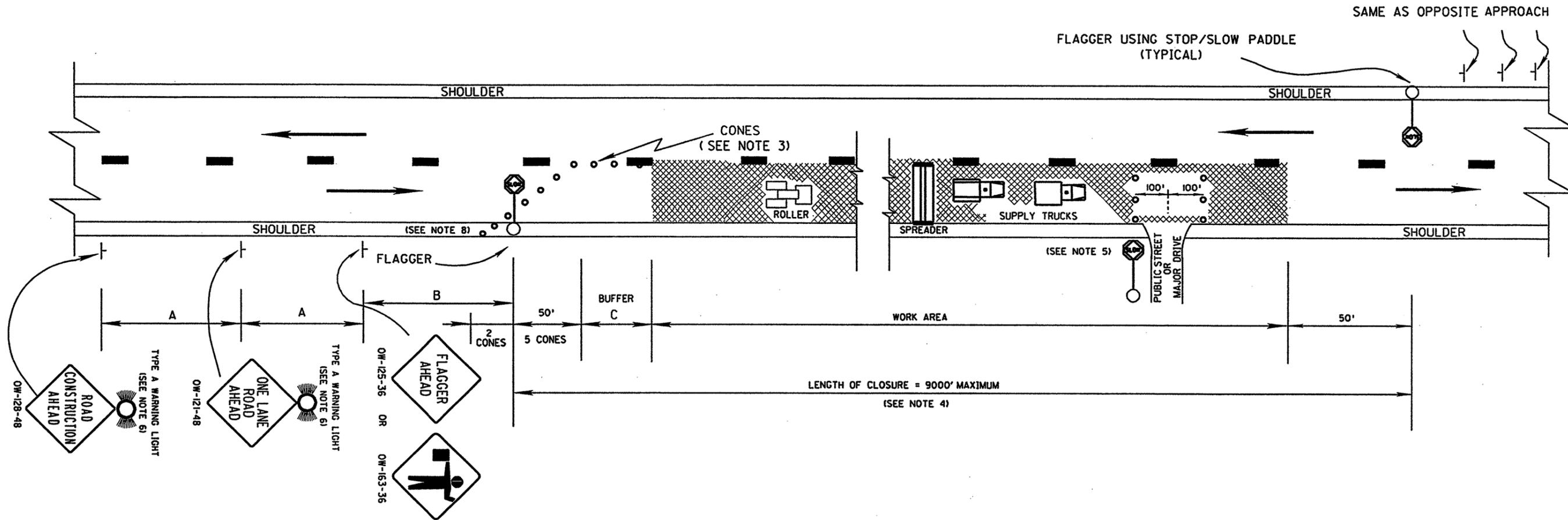
Drive
 12.5' @ 15' Radius

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	lin. ft.	212.5	212.5	425
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	each	2	2	4
Ⓒ	606	GUARDRAIL, TYPE 5	lin. ft.	187.5	212.5	400
⒴	606	ANCHOR ASSEMBLY, TYPE B-98	each	2	1	3
Ⓗ	606	ANCHOR ASSEMBLY, TYPE T	each		1	1
Ⓓ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	each	2	2	4
Ⓚ	SPECIAL	RESHAPING BERM	lin. ft.	312.5	287.5	600
Ⓢ	626	BARRIER REFLECTOR, TYPE A	each	5	5	10

NOTES:
 1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEETS 24, 25.

DESIGN AGENCY: DISTRICT THREE PRODUCTION DEPARTMENT
 DATE: _____ REVIEWED: _____ STRUCTURAL FILE NUMBER: 5206391
 DRAWN: RPT/TEW CHECKED: RPT
 GUARDRAIL DETAIL
 MED-162-2565 S.L.M.
 MED-162-13.01
 37
 39

DESIGN FILE: i:\projects\1336\pavmark\typdet.dgn
 WORKSTATION: mschofra DATE: 03/22/02



GENERAL NOTES:

1. THE LOCATION OF THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT.
2. FLAGGERS, ONE FOR EACH DIRECTION, SHALL BE USED TO CONTROL TRAFFIC CONTINUOUSLY FOR AS LONG AS A ONE LANE OPERATION IS IN EFFECT. THE FLAGGERS SHALL BE ABLE TO COMMUNICATE WITH EACH OTHER AT ALL TIMES.
3. CONES ON THE TAPERS SHALL BE SPACED AT 10' CENTER TO CENTER. CONES IN THE BUFFER SHALL BE SPACED AT 40' CENTER TO CENTER. CONES SHALL HAVE A MINIMUM HEIGHT OF 28" AND SHALL BE SAFELY STABILIZED TO PREVENT THEM FROM BLOWING OVER. CLOSURES AT NIGHT SHALL USE DRUMS RATHER THAN CONES.
4. IT IS REQUIRED THAT THE LENGTH OF CLOSURE BE KEPT TO A MINIMUM AT ALL TIMES, AS DIRECTED BY THE ENGINEER.

WHEN THE AMBIENT TEMPERATURE EXCEEDS 80° F, THE ENGINEER MAY INCREASE THE MAXIMUM ALLOWABLE LENGTH OF CLOSURE TO ALLOW FOR SUFFICIENT COOLING OF NEW PAVEMENT.

THE ENGINEER MAY SHORTEN THE MAXIMUM ALLOWABLE LENGTH OF CLOSURE TO RELIEVE EXCESSIVE TRAFFIC BACKUPS OR TO IMPROVE TRAFFIC OPERATION.

4. ALL TRAFFIC CONTROL SIGNS, CONES (OR DRUMS), AND THE FLAGGER SHALL BE MOVED FORWARD AS A GROUP BEFORE THE CLOSURE REACHES THE MAXIMUM ALLOWABLE LENGTH. ONLY ONE SIDE OF THE ROAD SHALL BE CLOSED AT ANY TIME.

5. WITHIN THE LENGTH OF CLOSURE, PROVISION SHALL BE MADE TO CONTROL TRAFFIC ENTERING FROM INTERSECTING STREETS AND MAJOR DRIVES AS NECESSARY TO PREVENT WRONG WAY MOVEMENTS AND TO KEEP VEHICLES OFF OF NEW PAVEMENT NOT READY FOR TRAFFIC. AS A MINIMUM, THE CONTRACTOR SHALL:

- A) PROVIDE AN ADDITIONAL FLAGGER AT EVERY PUBLIC STREET INTERSECTION AND MAJOR DRIVEWAY OR -
- B) PLACE A ROW OF 3 CONES ACROSS THE CLOSED LANE APPROXIMATELY 100' ON EACH SIDE OF THE INTERSECTION OR DRIVEWAY.

ROWS OF CONES MAY BE MOVED OFF THE ROAD TO ALLOW PASSAGE OF ROLLERS, PAVING SPREADER OR SUPPLY TRUCKS BUT SHALL BE MOVED BACK ONTO THE ROAD WHEN THE ACTIVITY HAS PASSED.

6. THE TYPE A FLASHING WARNING LIGHTS ARE REQUIRED ON THE OW-128 AND THE OW-121 SIGNS WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.

7. ADEQUATE AREA ILLUMINATION OF EACH FLAGGER STATION SHALL BE PROVIDED AT NIGHT BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINAIRES OR 250 WATT MINIMUM MERCURY LUMINAIRES. LUMINAIRES SHALL BE LOCATED ADJACENT TO ONE FLAGGER STATION FOR EACH DIRECTION OF TRAFFIC.

8. TWO (2) CONES REQUIRED ON PAVED SHOULDER.

MINIMUM DISTANCE (FEET)	A MINIMUM	B RANGE	C MINIMUM
URBAN	200	200 TO 350	100
RURAL	500	500 TO 1000	200

REVISED BY: _____ DATE: _____

209711

PLAN INSERT SHEET

WCC

FLAGGER CLOSING 1 LANE OF A 2 LANE HIGHWAY FOR PAVING OPERATIONS

MED-162-13.01

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calculated

checked