

# OHIO DEPARTMENT OF TRANSPORTATION

PLAN NO. \_\_\_\_\_



FEDERAL PROJECT NO. **NON - FEDERAL**

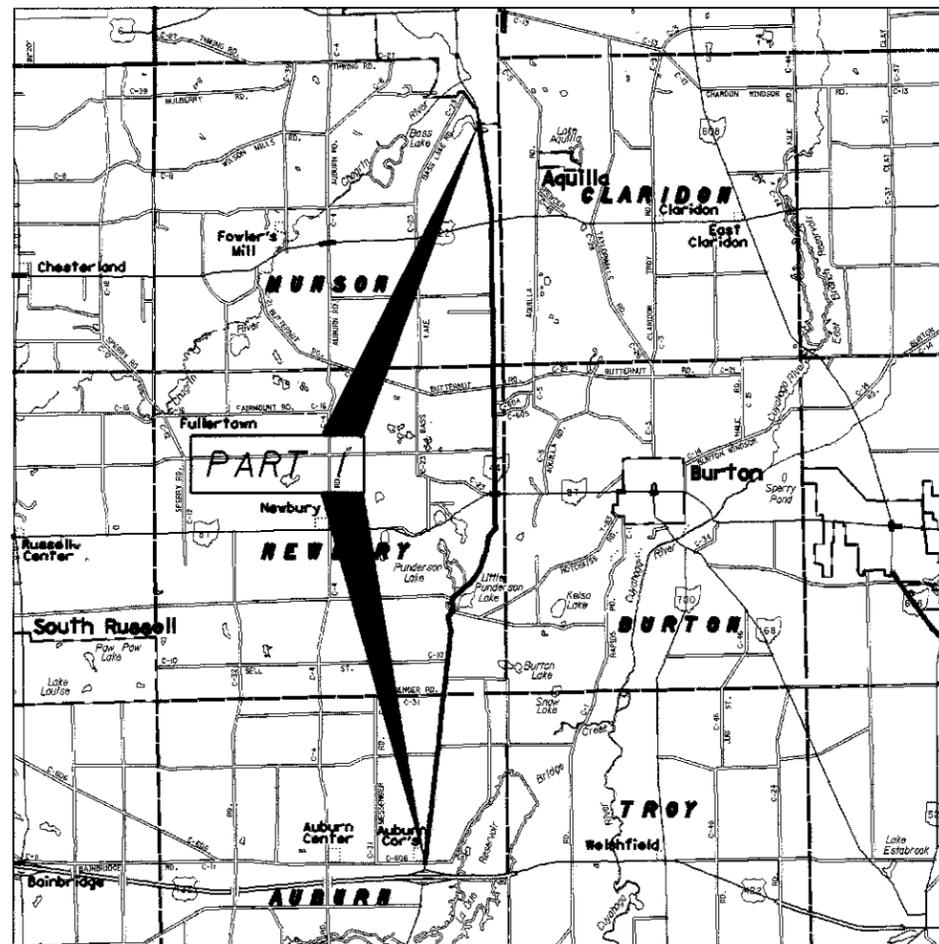
PID NO. **16977**

CONSTRUCTION PROJECT NO. \_\_\_\_\_

RAILROAD INVOLVEMENT **NONE**

GEA-44-4.524

LOCATION MAP



— PORTION TO BE IMPROVED

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI		NET LENGTH KILOMETERS	LOCATION
				BEGIN	END		
I	GEA	SR 44	4.524	4.524	8.533	4.009	AUBURN TOWNSHIP
			TO	8.533	17.603	9.070	NEWBURY TOWNSHIP
			23.690	17.603	23.690	6.087	MUNSON TOWNSHIP

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**PROJECT DESCRIPTION**

Heater recycle existing asphalt surface to a depth of 50 mm and overlay with a 32mm wearing course. Total project length is 19.166 kilometers (11.91 miles). The starting point of this project in S.L.M. is 2.81.

**1997 SPECIFICATIONS**

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety will be as set forth on plans and estimates.



LAT. N 41° 28' 15.39" LONG. W 81° 11' 7.37"

DESIGN DESIGNATION **UNDIVIDED PRINCIPAL ARTERIAL (RURAL)**

Current ADT (1998)	PART I	8736
Design Year ADT (2018)		10660
Design Hourly Volume (2018)		1492
Directional Distribution		50%
Trucks (24 Hour B&C)		11%
Design Speed		40/45/55 MPH
Legal Speed		40/45/55 MPH



**PLAN PREPARED BY:**

OHIO DEPARTMENT OF TRANSPORTATION  
DISTRICT 12  
PRODUCTION DEPARTMENT

STANDARD DRAWINGS		STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
BP-3.1M	10/28/94	TC-65.10M	11/01/95		
BP-4.1M	10/28/94	TC-65.12M	11/01/95	932	10/02/96
DM-1.1M	10/21/97	TC-71.10M	09/01/93		
GR-1.1M	10/21/97	TC-82.10M	11/24/93		
GR-1.2M	01/03/97				
GR-1.3M	11/30/94	MT-97.10M	04/25/94		
GR-2.1M	04/14/98	MT-97.11M	01/30/95		
GR-4.2M	10/21/97	MT-99.10M	01/30/94		

Approved: *[Signature]*  
Date: *12-14-97* District Deputy Director of Transportation

Approved: *[Signature]*  
Date: *12-14-97* Director, Department of Transportation

GEA-44-4.524  
990164  
DIST. 12  
03-17-99  
PID# 16977

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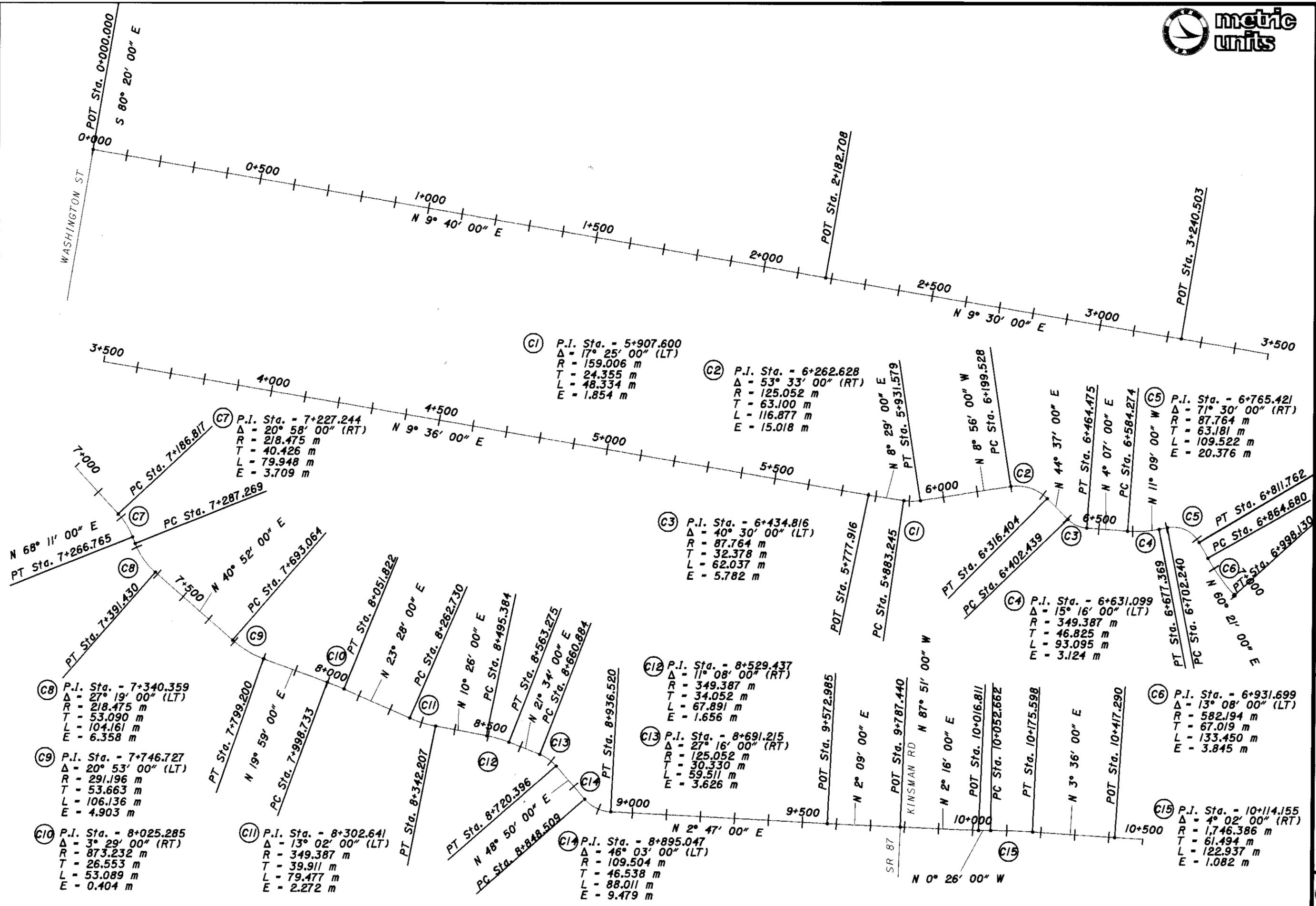


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SCHEMATIC PLAN  
 STA 0+00 TO 10+500

GEA-44-4.524

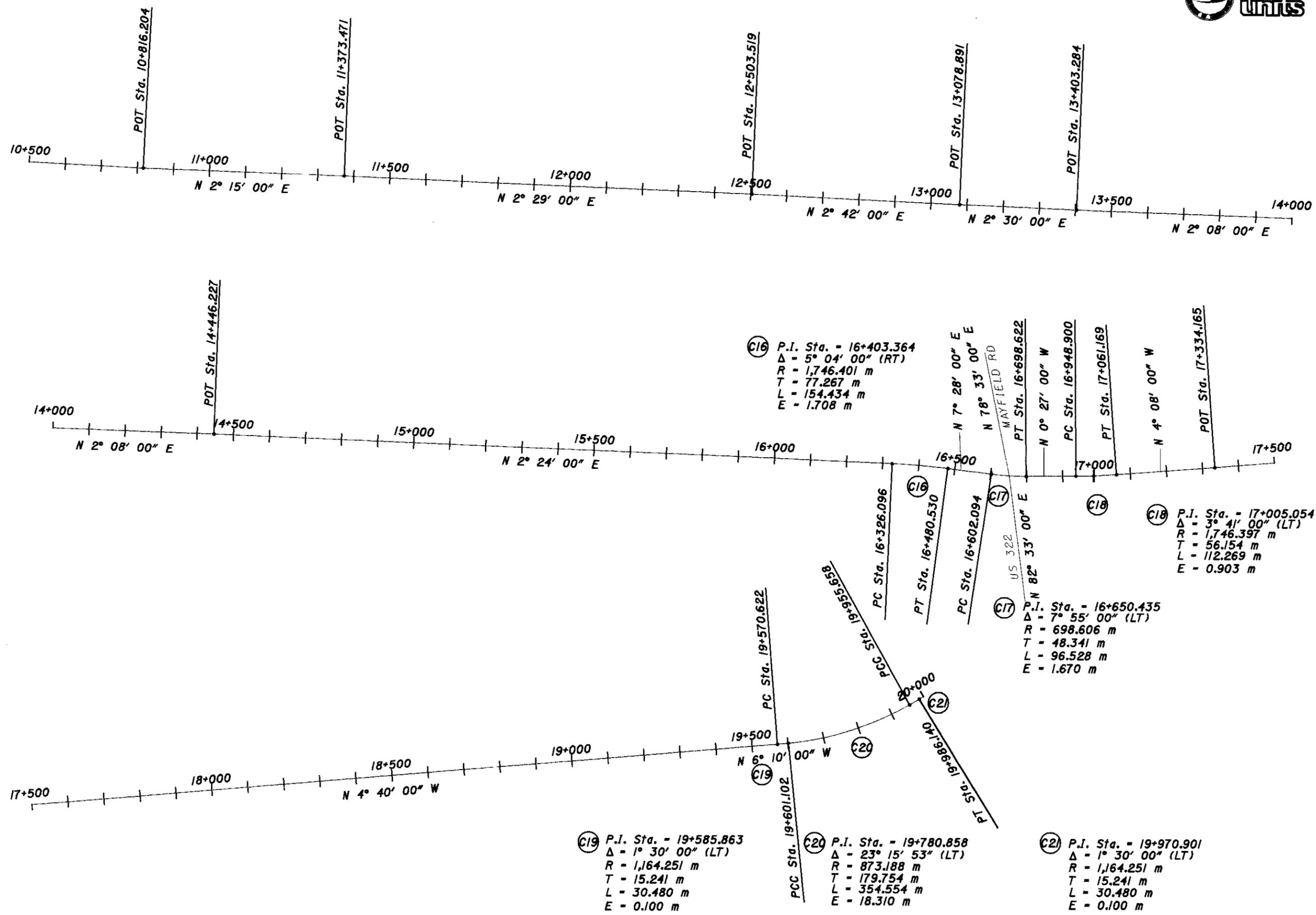


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**SCHEMATIC PLAN  
STA 10+500 TO 20+000**

**GEA-44-4.524**



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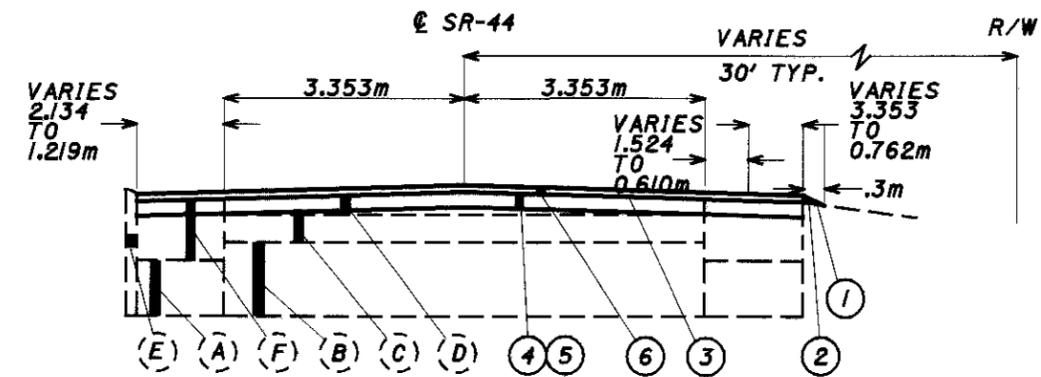


**EXISTING LEGEND**

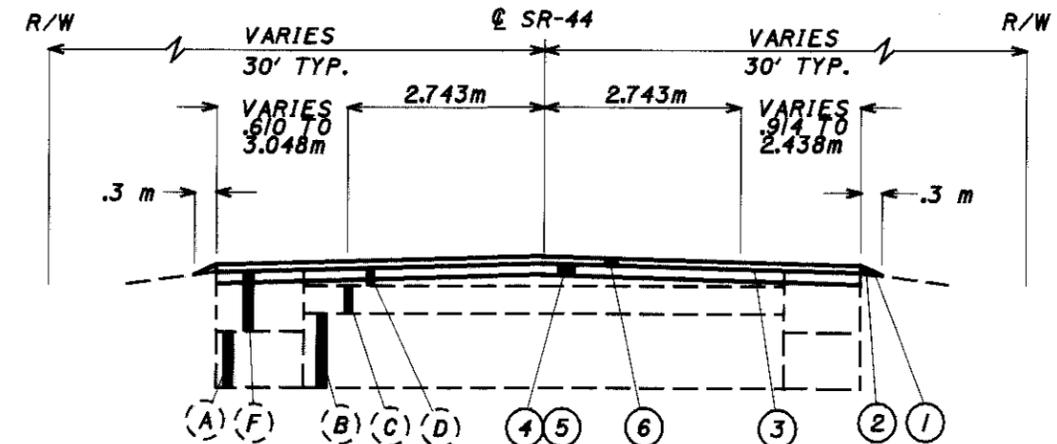
- (A) MACADAM BASE (±203mm)
- (B) BITUMINOUS MACADAM COURSE (±76mm)
- (C) SLAG BASE (±152mm)
- (D) COMPACTED GRANULAR BASE (±127mm)
- (E) CONCRETE BASE (±76mm)
- (F) ASPHALT BASE (±76mm)
- (G) CONCRETE CURB
- (H) ASPHALT CONCRETE (±190mm)
- (I) ASPHALT CONCRETE (±102mm)
- (J) ASPHALT CONCRETE (VARIES ±63 TO ±70mm)

**PROPOSED LEGEND**

- ① ITEM 203 - LINEAR GRADING
- ② ITEM 617 - COMPACTED AGGREGATE, TYPE A
- ③ ITEM 407 - TACK COAT (0.45 LITERS/SQ. M)
- ④ ITEM SPECIAL - ASPHALT CONCRETE PAVEMENT SURFACE HEATER DRUM MIX RECYCLING (50 MM)
- ⑤ ITEM SPECIAL - ASPHALT REJUVENATING AGENT (● .45 LITERS/ SQ. M)
- ⑥ ITEM 448 - 32mm ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64 - 22, AS PER PLAN



SLD 14.311 TO SLD 14.472  
NORTH OF SR-87 INTERSECTION



SLD 14.163 TO SLD 14.311  
SOUTH OF SR-87 INTERSECTION

TYPICAL SECTIONS

GEA-44-4.524

**PROFILE AND ALIGNMENT**

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL HAVE A UNIFORM THICKNESS OF 32 MM.

THE ALIGNMENT AND PROFILE OF SR-44 SHALL NOT BE CHANGED.

**UTILITIES**

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

**Ameritech**  
13630 Lorain Ave. - 4th Floor  
Cleveland, Ohio 44111  
Attn: Shelly Armstrong  
(216) 476-6142  
Fax 476-6013

**Cablevision**  
14300 South Industrial  
Maple Heights, Ohio 44137  
Kip Eiger (216) 663-4003  
Fax (216) 581-3262

**East Ohio Gas Co.**  
1201 East 55th Street  
Cleveland, Ohio 44103  
Attn: Paul Arendash  
(216) 736-6675  
Fax-736-6780

**The Illuminating Co. East**  
7755 Auburn Rd.  
Painesville, Ohio 44077  
Attn: Rich Kerney, Phillip Mullet  
(440) 953-7751 (440) 953-7741  
Fax (440) 953-7750

**MFS Network Technologies**  
5405 Valley Belt Road  
Unit B  
Independence, Ohio 44131  
Gordy Golden  
(216) 351-6030 Fax: 351-2757

**Star Cable**  
4720 Mahoning Ave.  
Youngstown, Ohio 44515  
Tom Beat  
(800) 569-0200

**Western Reserve Telephone (Alltel)**  
245 North Main St.  
Hudson, Ohio 44236  
Attn: Dick Krejci  
(216) 656-8519 Fax: 656-2929

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

**CONTINGENCY QUANTITIES**

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

**MATERIAL DOCUMENTATION**

MATERIAL PAPERWORK SUPPLIED TO ODOT IS REQUIRED TO BE IN THE SAME UNIT OF MEASURE AS CALLED FOR IN THE PLANS.

**WORK LIMITS**

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

**REVIEW OF DRAINAGE FACILITIES**

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

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

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

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 604 PAY ITEMS.

**COOPERATION BETWEEN CONTRACTORS**

IT IS POSSIBLE THAT A CULVERT REPLACEMENT PROJECT (GEA-44-21.120) WILL BE UNDER CONSTRUCTION CONCURRENTLY WITH THIS PROJECT.

THE CULVERT REPLACEMENT PROJECT REQUIRES THE CLOSING OF SR-44 IMMEDIATELY SOUTH OF US-322. TRAFFIC WILL BE DETOURED (SR-87 TO SR-306 TO US-322) AND SR-44 CLOSED AT SLD 21.120 (SLM 13.10) FOR A PERIOD OF TWO WEEKS.

**CASTINGS ADJUSTED TO GRADE, AS PER PLAN**

ALL CASTINGS SHALL BE ADJUSTED TO THE FINISHED ROADWAY ELEVATION BY THE CONTRACTOR. THE TIME BETWEEN ADJUSTING THE CASTINGS AND RESURFACING SHALL BE KEPT TO AN ABSOLUTE MINIMUM. NO ADJUSTING RINGS SHALL BE PERMITTED.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 604 - CATCH BASIN ADJUSTED TO GRADE, APP . . . 5 EA.  
ITEM 604 - MONUMENT BOX ADJUSTED TO GRADE, APP . . . 10 EA.

**ITEM 604 - CATCH BASIN OR MONUMENT BOX RECONSTRUCTED TO GRADE**

THE CONTRACTOR AND FIELD ENGINEER SHALL FIELD CHECK ALL EXISTING CATCH BASINS OR MONUMENT BOXES LOCATED WITHIN THE LIMITS OF THE PROJECT. ANY CATCH BASIN OR MONUMENT BOX FOUND THAT EXHIBITS SUBSTANTIAL DETERIORATION AND REQUIRES MORE WORK THAN IS SPECIFIED UNDER CASTINGS ADJUSTED TO GRADE, SHALL BE RECONSTRUCTED TO GRADE AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 604 - CATCH BASIN, RECONSTRUCTED TO GRADE . . . 1 EA.  
ITEM 604 - MONUMENT BOX, RECONSTRUCTED TO GRADE . . . 5 EA.

**ITEM SPECIAL - MISCELLANEOUS METAL**

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIALS SHALL MEET ITEM 604 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL . . . . . 250 KG.

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

**PLACEMENT/PLANING OF ASPHALT PAVEMENT**

THE CONTRACTOR SHALL SCHEDULE HIS WORK FORCE AND ADJUST WORK LIMITS AS NEEDED IN ORDER TO PAVE/PLANE FULL-WIDTH IN EACH DIRECTION. NO LONGITUDINAL ELEVATION DIFFERENCE SHALL EXIST BETWEEN LANES IN THE SAME DIRECTION AT THE END OF EACH WORK DAY.

LONGITUDINAL ELEVATION DIFFERENCES ARE PERMISSIBLE ONLY AT THE CENTERLINE OF SR-44.

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**PAVEMENT REPAIRS**

THE FOLLOWING QUANTITIES ARE FOR USE AS DIRECTED BY THE ENGINEER FOR THE PURPOSE OF PAVEMENT REPAIR:

ITEM 252 - FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT . . . . . 800 SQ. M.  
 ITEM 253 - PAVEMENT REPAIR, ±130 mm DEPTH : . . . . . 2000 SQ. M.

**ITEM 614 - MAINTAINING TRAFFIC**

GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED REPAIR WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY AFFECTED BY THE WORK DONE UNDER THIS CONTRACT. FURTHERMORE, IN ADDITION TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

**I. NOTIFICATION**

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED OF FUTURE LANE CLOSURES AND TRAFFIC CONSTRICTIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A WRITTEN SCHEDULE TO THE ENGINEER, RESPONSIBLE LAW ENFORCEMENT AGENCIES, AND THE ODOT PUBLIC INFORMATION OFFICE (216-581-2333 EXT 244) INDICATING THE LOCATIONS AND DATES OF THE LANE CLOSURES AT LEAST 3 DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES.

**II. NIGHTTIME WORK (THE HOURS FROM SUNSET TO SUNRISE 9:00 PM - 6:00 AM)**

THE CONTRACTOR IS PERMITTED TO WORK AT NIGHT.

**III. RESTRICTIONS**

1. ALL CLOSURES SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARD CONSTRUCTION DRAWING(S).
2. ALL THROUGH TRAFFIC LANES SHALL BE KEPT OPEN AT ALL TIMES EXCEPT DURING HOURS OF CONSTRUCTION.
3. PEDESTRIAN TRAFFIC SHALL BE PERMITTED ON AT LEAST ONE SIDE AT ALL TIMES.

NOTWITHSTANDING THE ABOVE, NO LANE CLOSURES SHALL OCCUR DURING THE PERIOD BEGINNING AT 12:00 NOON ON THE DAY PRECEDING AND CONTINUING UNTIL NOON ON THE DAY FOLLOWING LEGAL HOLIDAYS AND HOLIDAY WEEKENDS SUCH AS MEMORIAL DAY, FOURTH OF JULY, AND LABOR DAY. FURTHERMORE, NO LANE CLOSURES SHALL BE IMPLEMENTED OR IN PLACE DURING INCREASED TRAFFIC VOLUMES CAUSED BY SPECIAL EVENTS OR WHEN THE ENGINEER DEEMS THE CLIMATOLOGICAL CONDITIONS TOO HAZARDOUS.

**IV. MAINTENANCE OF TRAFFIC SYSTEMS**
**A. WHEN REQUIRED**

WHENEVER ANY PART OF THE TRAVELED SURFACE IS BEING WORKED UPON OR IS OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, HEREINAFTER REFERRED TO AS THE "MANUAL". THE TRAFFIC CONTROL DEVICE SYSTEM SHALL CONSTITUTE THE MINIMUM PROVISIONS FOR TRAFFIC CONTROL FOR EACH PARTICULAR SITUATION. WHENEVER THE ENGINEER DEEMS IT NECESSARY ESPECIALLY WHERE A GRADE, CURVE, OR MERGE CONDITIONS EXISTS, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED.

**B. CONDITIONS**

DURING ALL PARTS OF THIS PROJECT, FLAGGERS, SIGNING, BARRICADES, FLASHING ARROWS, ETC. SHALL BE LOCATED AS INDICATED IN THE MANUAL OR AS SHOWN IN THE STANDARD DRAWINGS. TWO-WAY TRAFFIC SHALL BE MAINTAINED ON ONE LANE AT LEAST 10' WIDE AT ALL TIMES

**C. ADVANCE WARNING SIGNS**

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE.

**D. FLAGGERS**

AT LEAST TWO FLAGGERS ARE REQUIRED FOR EACH CLOSURE, THE CONTRACTOR SHALL FURNISH ADDITIONAL FLAGGERS AS DIRECTED BY THE ENGINEER.

**E. PROTECTION OF PUBLIC**

PERSONAL CARS SHALL NOT BE PARKED WITHIN THE R/W.

**F. FAILURE TO COMPLY**

IF THERE IS ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, OR WITH THE PROVISIONS OF THE "MANUAL", THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL NOT BE CONSIDERED IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY, IN THE VICINITY OF THE WORK AREA, IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

**V. MAINTENANCE OF TRAFFIC MATERIALS**
**A. SIGNS**

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES SHALL BE AS PROVIDED IN THE "MANUAL", OR IN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT.

**B. SIGN SUPPORTS**

SIGN SUPPORTS SHALL BE OF SUFFICIENT SIZE AND HEIGHT AS TO SUPPORT THE SIGNS AT THE APPROPRIATE HEIGHT. SUPPORTS SHALL BE ADEQUATE IN MASS AND STABILITY TO PREVENT THE SIGNS FROM BEING BLOWN OVER BY WIND OR VEHICULAR GENERATED AIR TURBULENCE.

**C. DRUMS**

DRUMS SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ALL COSTS FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614- MAINTAINING TRAFFIC.

**D. CONES**

CONES SHALL BE LOCATED AS SHOWN IN THE 'MANUAL' AND THE STANDARD DRAWINGS.

**E. FLASHERS**

FLASHERS SHALL BE 12 VOLT BATTERY-OPERATED MODELS WITH 7 INCH DIAMETER YELLOW LENSES ILLUMINATED BY RAPID INTERMITTENT FLASHERS OF SHORT DURATION AND SHALL BE PLACED ON ALL SIGNS AT ALL TIMES AS REQUIRED BY THE 'MANUAL' AND THE STANDARD CONSTRUCTION DRAWINGS.

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**ITEM SPECIAL - ASPHALT CONCRETE PAVEMENT SURFACE HEATER RECYCLING**

**DESCRIPTION.** THIS WORK SHALL CONSIST OF PREPARING THE SURFACE, HEATING, SCARIFYING, MIXING IN HEATED DRUM MIX PLANT, APPLYING REJUVENATING AGENT AND RECOMPACTING THE PAVEMENT SURFACE IN ACCORDANCE WITH SPECIFICATIONS AND DETAILS SHOWN ON THE PLAN.

**MATERIALS.** THE ASPHALT REJUVENATING AGENT SHALL BE COMPOSED OF A PETROLEUM RESIN OIL BASE UNIFORMLY EMULSIFIED WITH WATER. THE MATERIAL SHALL HAVE A RECORD OF SATISFACTORY SERVICE AS AN ASPHALT REJUVENATING AGENT. SATISFACTORY SERVICE BEING BASED ON THE CAPABILITY OF THE MATERIAL TO INCREASE THE DUCTILITY, PENETRATION AND DURABILITY OF THE ASPHALT BINDER IN THE RECYCLED ASPHALT. EACH SHIPMENT DELIVERED TO THE PROJECT SHALL BE ACCOMPANIED BY A LETTER OF COMPLIANCE FROM THE MANUFACTURER THAT CERTIFIES THE MATERIAL CONFORMS TO THE FOLLOWING PHYSICAL PROPERTIES:

PROPERTY	LIMITS	ASTM TEST METHOD
VISCOSITY @ 25C, SFS	20-145	D-244
SIEVE TEST, % BY WEIGHT	0.1 MAX.	D-244 (1)
PARTICLE CHARGE TEST	POSITIVE	D-244
CEMENT MIXING TEST, % BY WEIGHT	1.80 MAX.	D-244
PUMPING STABILITY	(2)	
5 DAY SETTLEMENT TEST, % BY WEIGHT	4.77 MAX.	D-244
RESIDUE, % BY WEIGHT	53 MIN.	D-244 (3)
VISCOSITY @ 60C, CST (4)	990-4100	D-2170
MALTENE DISTRIBUTION RATIO (4) (5)	0.7-1.1	D-2006-70
PC/S RATIO (4) (6)	0.5 MIN.	D-2006-70
ASPHALTENES, % BY WEIGHT (4)	10.8 MAX.	D-2006-70

(1) DISTILLED WATER SHALL BE USED IN PLACE OF THE SODIUM OLEATE SOLUTION.

(2) PUMPING STABILITY IS DETERMINED BY CHARGING 450 ML OF EMULSION INTO AN 1 LITER BEAKER AND CIRCULATING THE EMULSION THROUGH A GEAR PUMP (ROPER 29.B22621) HAVING A 6.35 mm INLET AND OUTLET. THE EMULSION PASSES IF THERE IS NO SIGNIFICANT OIL SEPARATION AFTER CIRCULATING FOR 10 MINUTES.

(3) HEAT THE SAMPLE TO 149 +/- 5C, UNTIL FOAMING CEASES. THEN COOL THE SAMPLE IMMEDIATELY AND CALCULATE THE RESULTS.

(4) TEST IS PERFORMED ON THE RESIDUE FROM THE EMULSION.

(5) THE RATIO IS  $(PC+A1)/(S+A2)$  WHERE:  
 PC-POLAR COMPOUNDS  
 A1-FIRST ACIDAFFINS  
 A2-SECOND ACIDAFFINS  
 S -SATURATED HYDROCARBONS

**EQUIPMENT.** THE EQUIPMENT USED FOR CLEANING THE PAVEMENT SHALL BE CAPABLE OF CLEANING THE PAVEMENT IN ACCORDANCE WITH THIS SPECIFICATION.

THE EQUIPMENT USED FOR HEATING, SCARIFYING AND REMIXING SHALL BE A SELF-CONTAINED, SELF PROPELLED UNIT DESIGNED FOR THIS PURPOSE. THE HEATING UNIT SHALL BE OF THE RADIANT HEAT TYPE, WITH SUFFICIENT CAPACITY TO HEAT THE PAVEMENT MATERIAL AS NECESSARY FOR EFFICIENT SCARIFYING, REMIXING AND RECOMPACTION. DIRECT FLAME HEATING WILL NOT BE PERMITTED. THE HEATING UNIT SHALL HAVE SHUT-OFF CONTROLS CLEARLY IDENTIFIED AND EASILY OPERABLE BOTH FROM THE OPERATOR'S STATION AND FROM THE GROUND. THE SHUT-OFF CONTROL SYSTEM SHALL BE CAPABLE OF REDUCING THE HEATING ELEMENT TEMPERATURE FROM OPERATING TO NEAR AMBIENT IN APPROXIMATELY 30 SECONDS. THE MACHINE SHALL HAVE AN ADJUSTABLE, HEATED SCREED CAPABLE OF PLACING THE MIXTURE TO THE REQUIRED CROSS-SECTION, PROFILE AND ALIGNMENT IN AN ACCEPTABLE, FINISHED CONDITION READY FOR COMPACTION. ADEQUATE PROVISIONS SHALL BE MADE FOR THE SAFETY OF PERSONS IN THE VICINITY OF THE EQUIPMENT, AND FOR PREVENTING DAMAGE TO ADJACENT PROPERTY AND FACILITIES, PUBLIC OR PRIVATE. THE SCARIFYING UNIT SHALL BE CAPABLE OF LOOSENING AND REMIXING THE HEATED PAVEMENT MATERIAL TO THE SPECIFIED DEPTH IN A UNIFORM PATTERN AND IN CONDITION FOR IMMEDIATE RECOMPACTION.

THE RECYCLING UNIT SHALL BE CAPABLE OF LOOSENING THE HEATED ASPHALT PAVEMENT TO THE SPECIFIED DEPTH IN A UNIFORM PATTERN, LOADING EXISTING ASPHALT, ADDING HEATED AGGREGATE, ADDING HEATED REJUVENATOR IN THE PROPER AMOUNTS INTO A HEATED MIXING PLANT OF SUFFICIENT SIZE AS TO MIX FOR A MINIMUM OF 30 SECONDS AT 177 DEGREES C, PLACING AND LEVELING RECYCLED ASPHALT PAVEMENT IN CONDITION FOR IMMEDIATE RECOMPACTION. THE APPLICATION OF THE REJUVENATING AGENT AND AGGREGATE SHALL TAKE PLACE PRIOR TO THE MIXING OPERATION TO ALLOW FOR PREBLENDING. THE RATE OF APPLICATION SHALL BE HYDROSTATICALLY CONTROLLED AND METERED TO MAINTAIN THE SPECIFIED APPLICATION RATE FOR CHANGES IN THE OPERATING SPEED OF THE RECYCLER. A METER SHALL BE INCORPORATED INTO THE DISTRIBUTION SYSTEM FOR RECORDING THE QUALITY OF ASPHALT REJUVENATING AGENT APPLIED TO THE RECYCLED PAVEMENT MIXTURE. THE MIXING SHALL TAKE PLACE IN A HEATED ROTATING DRUM MIX PLANT FOR AT LEAST 30 SECONDS AT 177 DEGREES C, AND IN SUCH A MANNER AS TO ENSURE COMPLETE BLENDING. COMPACTION EQUIPMENT SHALL BE ROLLERS MEETING THE REQUIREMENTS OF 401.11.

**WEATHER LIMITATIONS.** SURFACE HEATER IN-PLACE DRUM MIX RECYCLING SHALL BE PERFORMED ONLY WHEN THE WEATHER IS DRY, THERE IS NO FREE WATER ON THE PAVEMENT, AND THE ATMOSPHERIC TEMPERATURE IS OVER 4 DEGREES C AND RISING.

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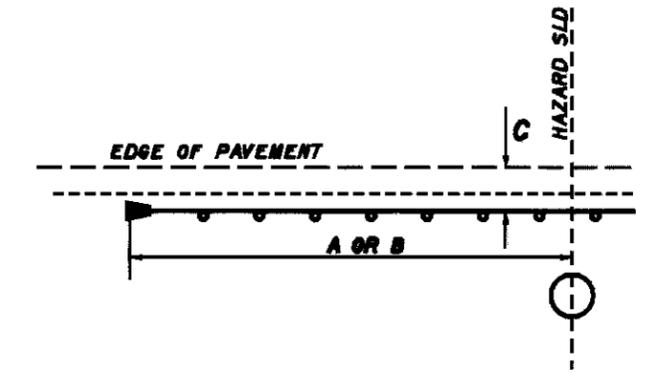
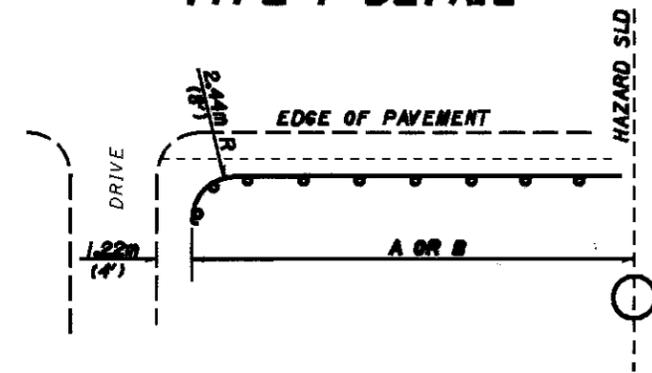
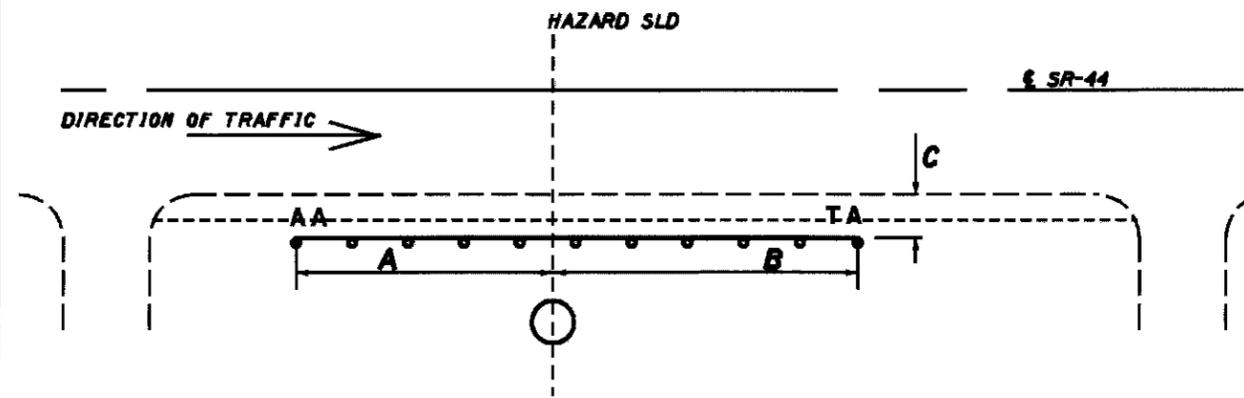




**TYPICAL**

**TYPE T DETAIL**

**TYPE E DETAIL**



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 PLOTTED FROM: sbl\lorincz\p\d\169777\169777.dgn  
 169777GRA.DGN  
 PLOT SUBMITTED: 04-DEC-1998 14:24

DESIGN SPEED	REFERENCE NO.	SIDE	EXISTING S.L.D. AT BEGINNING	S.L.D. AT HAZARD	EXISTING S.L.D. AT END	PROPOSED					PROPOSED S.L.D. AT BEGINNING	PROPOSED S.L.D. AT END	APPROACH ANCHOR ASSEMBLY AA TYPE	TRAILING ANCHOR ASSEMBLY TA TYPE	202		606				626					
						A	B	C	A	B					GUARDRAIL REMOVED	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE A	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, TYPE T	BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR SPACING					
						METER	METER	METER	FEET	FEET					METER	METER	EACH	EACH	EACH	EACH	METER					
40	GR-1	RT	10.75		10.83						10.75	10.83	A	A	83.82	68.58	2				6	15				
40	GR-2	LT	10.83		10.75						10.83	10.75	A	A	83.82	68.58	2				6					
40	GR-3	LT	11.01		10.94						11.01	10.94	A	A	76.20	60.96	2				6					
40	GR-4	LT	11.20		11.10						11.20	11.10	A	A	102.87	87.63	2				7					
40	GR-5	LT	11.46		11.36						11.46	11.36	A	A	99.06	83.82	2				7					
40	GR-6	RT	11.41		11.44						11.41	11.44	A	A	30.48	15.24	2				3					
40	GR-7	LT	11.72		11.46						11.72	11.46	A	A	266.70	251.46	2				18					
40	GR-8	LT	11.84		11.75						11.84	11.75	A	A	99.06	83.82	2				7					
40	GR-9	LT	12.21		12.15						12.21	12.15	A	A	64.77	49.53	2				5	↓				
55	GR-10	RT	14.42		14.47						14.42	14.48	E	T	45.72	34.29			1	1	3	30				
55	GR-11	RT	14.61		14.66						14.56	14.66	T	T	45.72	91.44				2	4					
55	GR-12	RT	14.73		14.84						14.73	14.85	T	T	91.44	133.35				2	5					
55	GR-13	LT	14.84		14.66						14.84	14.65	E	T	186.69	186.69			1	1	7					
55	GR-14	RT		16.50		14.02	45.57	1.52	46	149.5	16.48	16.55	T	E	38.10	41.91			1	1	3					
55	GR-15	RT		16.93		64.77	2.44	1.37	212.5	8	16.88	16.93	E	T	41.91	49.53			1	1	3					
55	GR-16	LT		16.93		93.88	34.29	1.52	308	112.5	17.03	16.88	T	E	57.15	110.49			1	1	5					
45	GR-17	RT		17.32		84.73	38.40	1.52	278	126	17.23	17.36	T	T	57.15	118.11				2	4					
45	GR-18	LT		17.32											53.34											
45	GR-19	RT	17.78		17.83	62.48	36.58	1.37	205	120	17.72	17.85	E	E	57.15	68.58			2		4					
55	GR-20	LT		20.97		13.72	53.49	1.83	45	175.5	21.02	20.92	T	E	64.77	49.53			1	1	3					
55	GR-21	RT		20.97		76.81	47.55	1.98	252	156	20.89	21.02	E	T	99.06	106.68			1		5					
55	GR-22	RT			21.08	15.85	14.33	1.98	52	47	21.05	21.08	T	T	30.48	22.86				2	3					
55	GR-23	LT			21.08	14.33	15.85	1.83	47	52	21.08	21.05	T	T	30.48	22.86				2	3	↓				
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>															1805.94	1805.94	18	9	17	117						

GUARDRAIL SUBSUMMARY

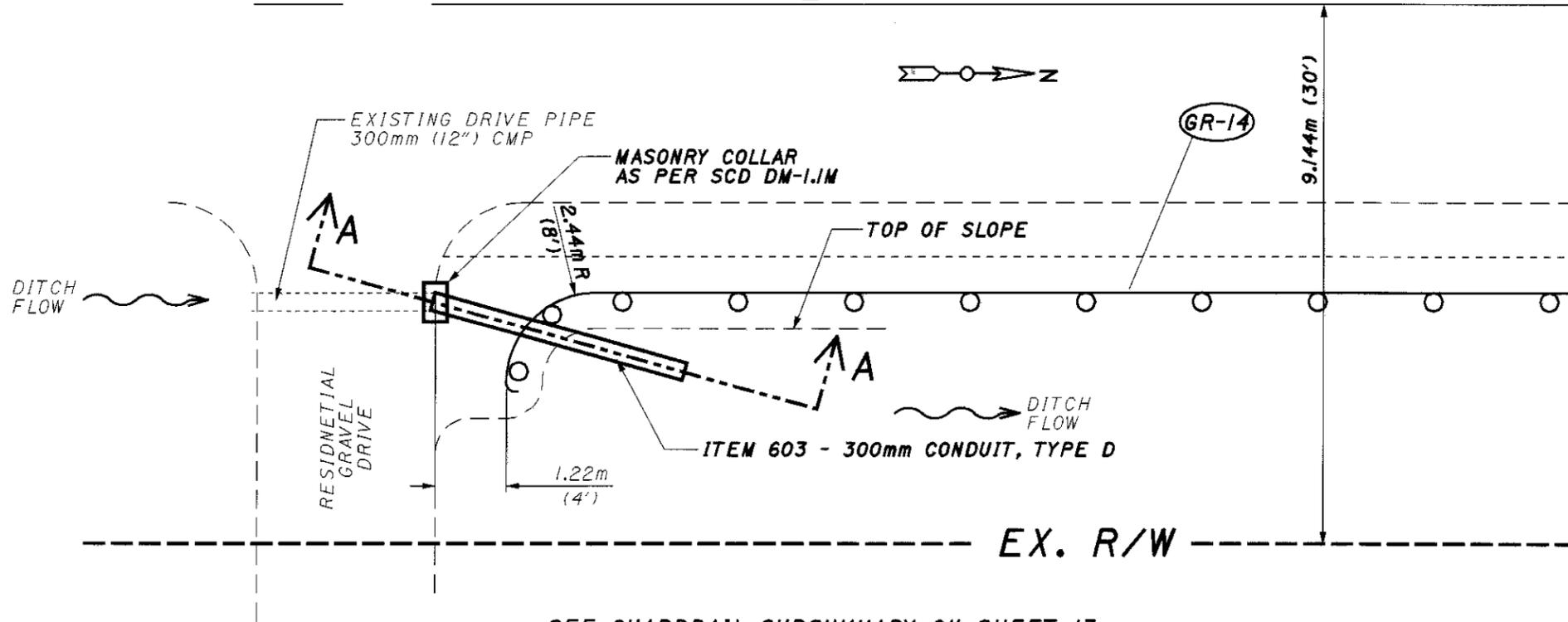
GEA-44-4.524

# DRIVE PIPE EXTENSION DETAILS FOR GR-14

SR-44

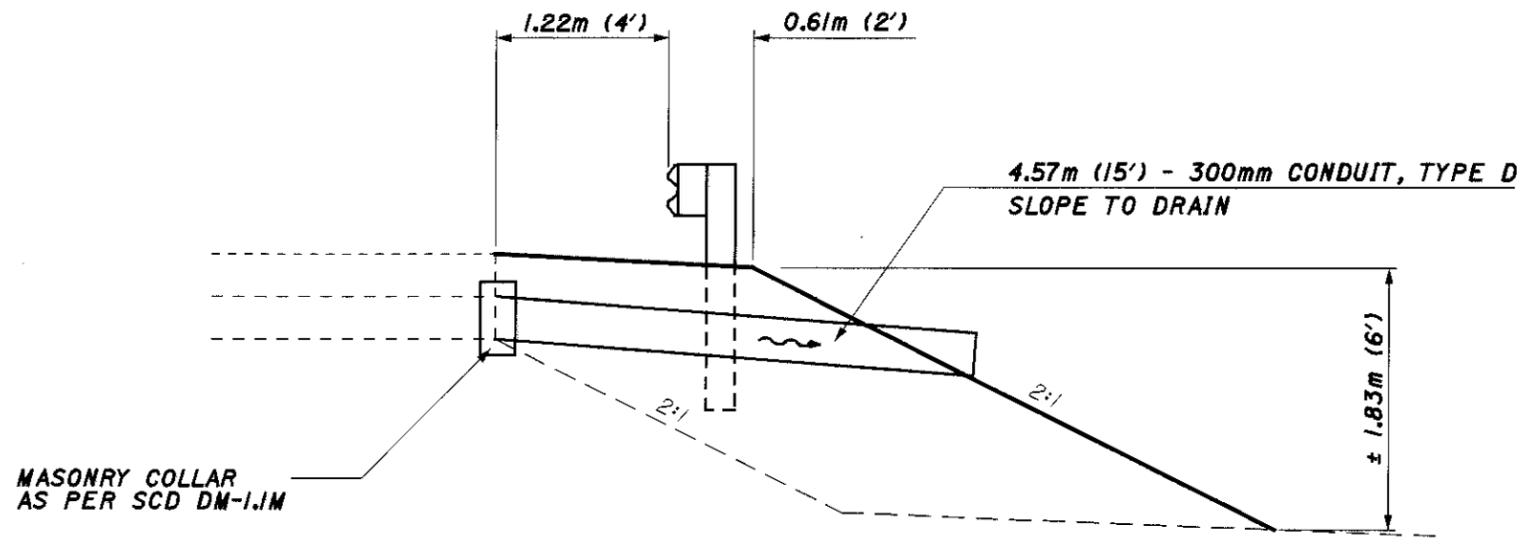


CHECKED  
CALCULATED



SEE GUARDRAIL SUBSUMMARY ON SHEET 13 FOR ADDITIONAL DETAILS.

ESTIMATED QUANTITIES	
ITEM 203 - EMBANKMENT	38 C.M.
ITEM 603 - 300mm, TYPE D	4.5 M.
ITEM 667 - SEEDING AND JUTE MATTING	45 S.M.

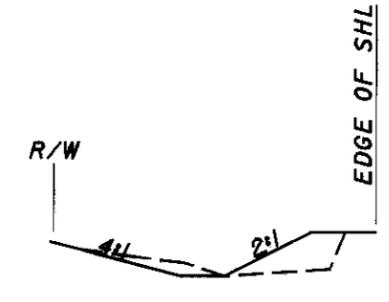


SECTION A-A

## DITCH REPAIR SLD ±17.0 (LT)



STA. 0+005



STA. 0+000  
SLD ±17.0 (LT)



STA. 0-005

END AREA	VOLUME	
	CUT	FILL
0	0	0
0.5	0.5	1.3
0.2	0.5	0
0.5	0.5	1.3
0	0	0
<b>TOTALS</b>	<b>1.0</b>	<b>2.6</b>

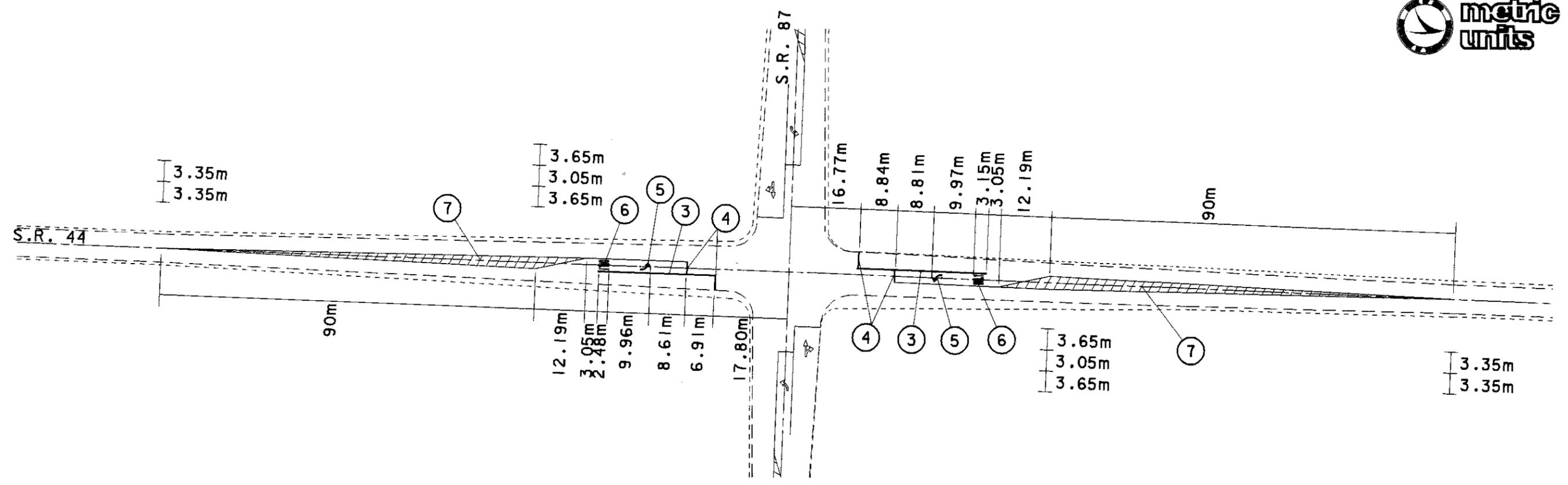
MISCELLANEOUS DETAILS

GEA-44-4.524

14  
20

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 PLOTTED AT: 16977gma.dgn  
 PLOT SUBMITTED: 04-DEC-1998 08:00  
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PLOTTED BY: jgrmovse  
 PLOTTED: 169777tca.dgn  
 PLOT SUBMITTED: 04-DEC-1998 08:01  
 169777tca.dgn

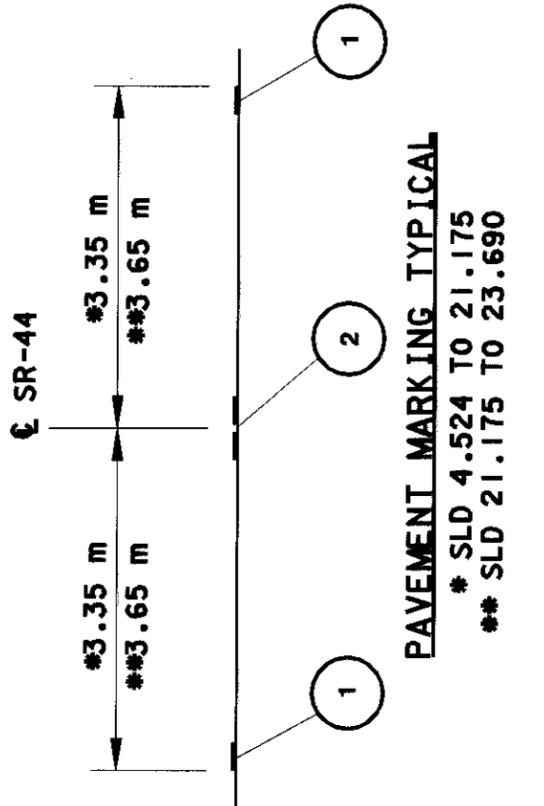


**SR-44 AND SR-87 INTERSECTION DETAIL**

\* THIS QUANTITY PROVIDED FOR REPLACEMENT OF STOP BARS ON SIDE ROADS WHICH ARE DESTROYED BY BUTT JOINT PLANING.

**TRAFFIC CONTROL QUANTITIES**

SHEET NO.	LOG POINT TO LOG POINT		LENGTH	642						
				EDGE LINE, TYPE 2 (1)	CENTER LINE, TYPE 2 (2)	CHANNELIZING LINE, TYPE 2 (3)	STOP LINE, TYPE 2 (4)	LANE ARROW, TYPE 2 (5)	WORDS ON PAVEMENT, 1800 MM, TYPE 2 (6)	TRANSVERSE, LINE, 610mm 3.65m c/c (7)
			KM	KM	KM	METER	METER	EACH	EACH	METER
	<b>PAVEMENT MARKINGS</b>									
	4.524	21.175	16.65	33.30	16.65					
	21.175	23.690	2.515	5.03	2.515					
	<b>INTERSECTIONS</b>									
	KINSMAN (SR-87)					58.73	13.40	2	2	116.0
	MAYFIELD (US-322)						7.31			
	<b>*CONTINGENCY</b>						79.0			
	<b>TOTALS</b>			<b>38.33</b>	<b>19.165</b>	<b>58.73</b>	<b>99.71</b>	<b>2</b>	<b>2</b>	<b>116.0</b>

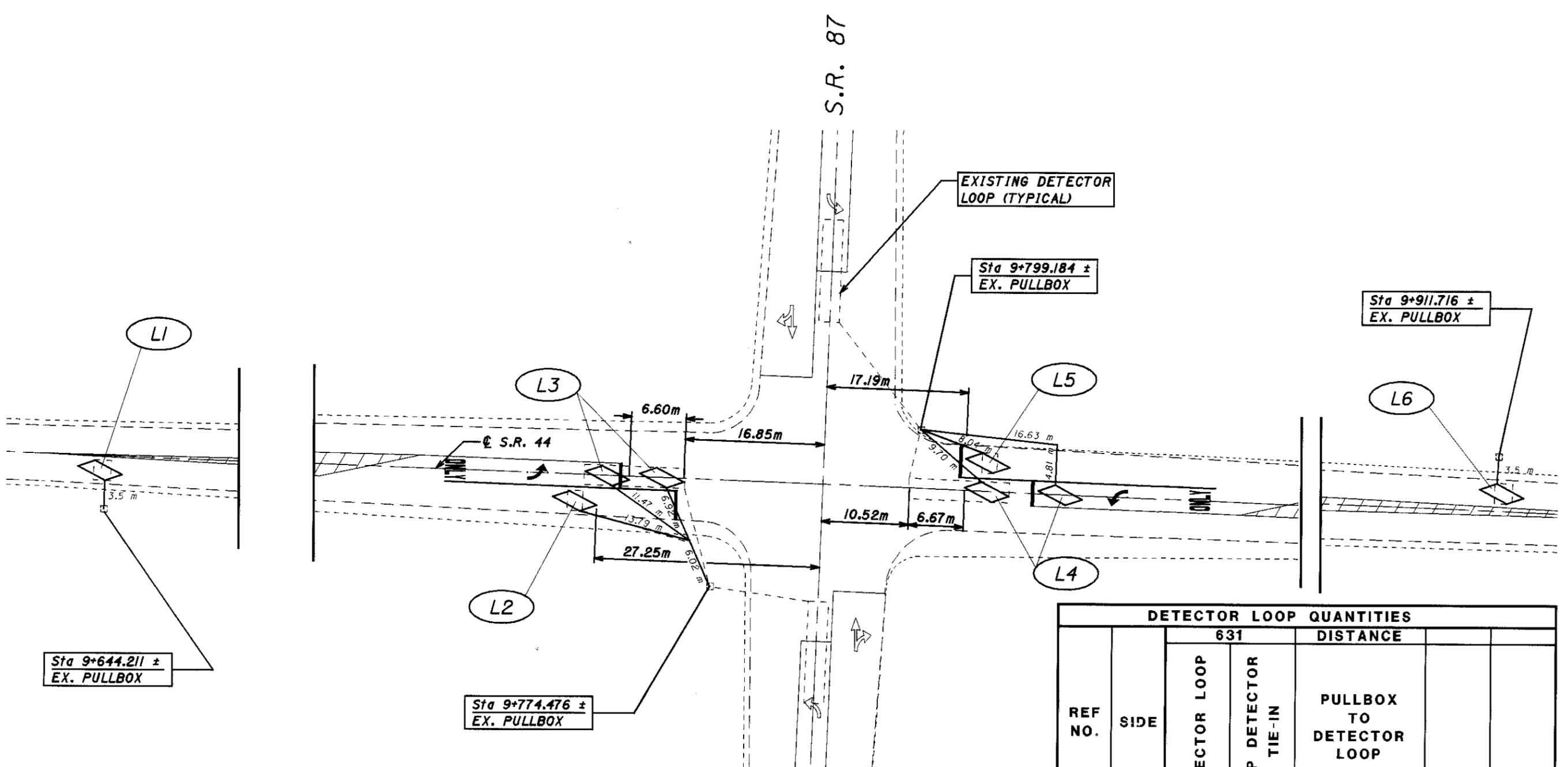


PAVEMENT MARKINGS

GEA-44-4.524



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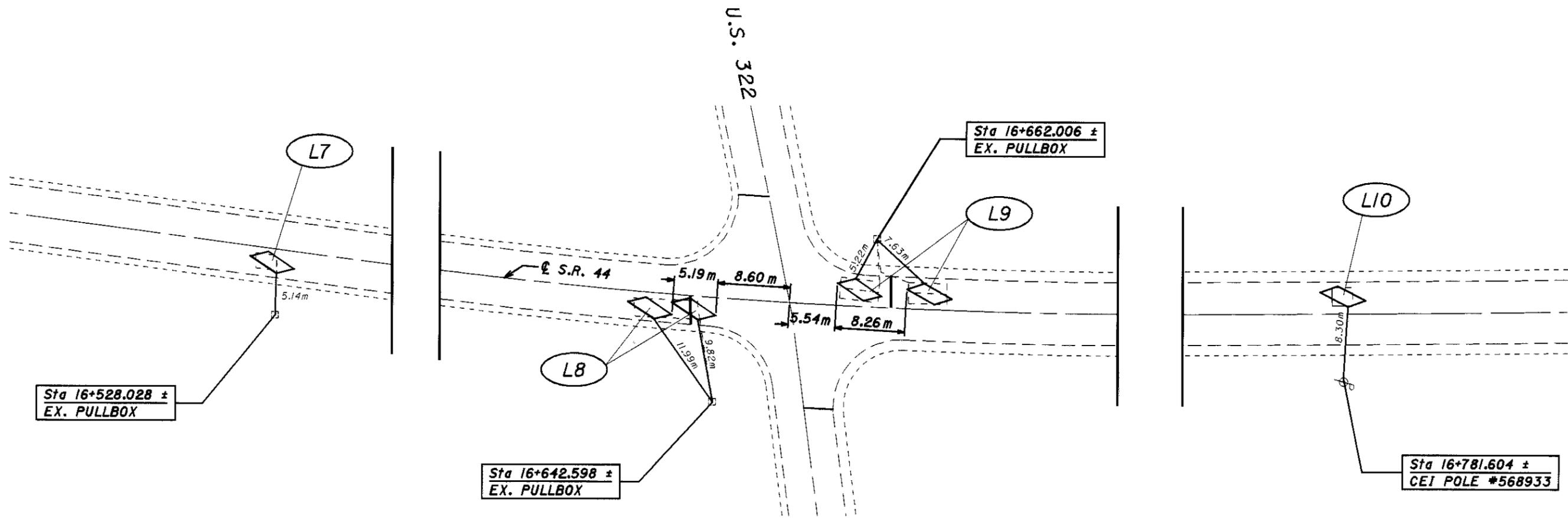
ALL LOOPS TO BE THE ANGULAR DESIGN DETECTION LOOP AS DETAILED IN SCD TC-82.10M.

THE DIMENSIONS ON THIS SHEET ARE PROVIDED FOR ESTIMATING PURPOSES ONLY. CONTACT MR. TOM ROSS, OF THE DISTRICT 12 HIGHWAY MANAGEMENT DEPARTMENT AT 216-581-2100 EXT. 297, FOR DETAILED INFORMATION REGARDING THE LAYOUT/INSTALLATION OF THE DETECTOR LOOPS.

DETECTOR LOOP QUANTITIES				
REF NO.	SIDE	631		DISTANCE
		DETECTOR LOOP	LOOP DETECTOR TIE-IN	PULLBOX TO DETECTOR LOOP *
		EACH	EACH	METER
L1	RT	1	1	3.5
L2	RT	1	1	19.8
L3	CL	2	2	17.5/13.0
L4	CL	2	2	4.8/16.6
L5	LT	1	1	8.0
L6	LT	1	1	3.5
TOTAL		8	8	86.7

\* - FOR INFORMATION ONLY, NOT A PAY ITEM.

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 PLOTTED FROM: sbjlorincz\p16977\Bddqnb\16977qic.dgn  
 PLOT SUBMITTED: 04-DEC-1998 08:02  
 16977qic.dgn



ALL LOOPS TO BE THE ANGULAR DESIGN  
DETECTION LOOP AS DETAILED IN  
SCD TC-82.10M.

THE DIMENSIONS ON THIS SHEET ARE PROVIDED  
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EXT. 297, FOR DETAILED INFORMATION REGARDING  
THE LAYOUT/INSTALLATION OF THE DETECTOR LOOPS.

DETECTOR LOOP QUANTITIES						
REF NO.	SIDE	631		DISTANCE		
		DETECTOR LOOP	LOOP DETECTOR TIE-IN	PULLBOX TO DETECTOR LOOP *		
		EACH	EACH	METER		
L7	RT	1	1	5.1		
L8	RT	2	2	12.0/9.8		
L9	LT	2	2	5.2/7.6		
L10	LT	1	1	8.3		
TOTAL		6	6	48		

\* - FOR INFORMATION ONLY, NOT A PAY ITEM.



# Location Sub-Summary



Detail	
1	Mainline Undivided
1	Typical Spacing
2	Tapered Accel. Lane
3	Deceleration Lane

Detail	
4	Parallel Acceleration Lane
5	Multilane Divided/Expressway
6	Stop Approach
7	1 Lane Appr. w/ Lt. Turn Lane

Detail	
8	Thru Approach
9	2 Lane Appr. w/ Lt. Turn Lane
10	4 Lane Div. to 2 lane Trans.
11	4 Lane Undiv. to 2 lane Trans.

Detail	
12	Two Lane Narrow Bridge
13	Two Way Left Turn
14	One Lane Bridge
15	Horizontal Curve
16	Horizontal Curve Alternate
17	Stop Approach Alternate
Gap	Centerline at 24 m Typical

\* - AVAILABLE FROM ODOT WITH REFLECTOR INSTALLED IN RPM CASTING.  
 \*\* - BLANK CASTING PROVIDED BY ODOT. CONTRACTOR TO PROVIDE PRISMATIC RETROREFLECTOR

LOCATION NUMBER	LOCATION				DETAIL	ITEM 202 RPM REMOVED	ITEM 621			PRISMATIC RETRO-REFLECTOR COLORS						REMARKS
	COUNTY	ROUTE	STRAIGHT LINE DISTANCE				RPM	RPM CASTING **	PRISMATIC RETRO REFLECTOR	ONE-WAY		TWO-WAY				
			FROM	TO						WHITE *	YELLOW	WHITE/WHITE	YELLOW/YELLOW *	WHITE/RED *	YELLOW/RED	
	GEA	SR44	12.323	12.787		20	20					20				
	GEA	SR44	12.787	12.866	16	7	7					7				
	GEA	SR44	12.866	13.019		7	7					7				
	GEA	SR44	13.019	13.087	16	6	6					6				
	GEA	SR44	13.087	13.185		5	5					5				
	GEA	SR44	13.185	13.244	16	5	5					5				
	GEA	SR44	13.244	13.373		6	6					6				
	GEA	SR44	13.373	13.461	16	8	8					8				
	GEA	SR44	13.461	14.062		26	26					26				
	GEA	SR44	AT SR 87		6,7	43	83			32		43	8			
	GEA	SR44	14.560	20.926		266	266					266				
	GEA	SR44	AT US 322		6	21	53			32		21				
	GEA	SR44	21.424	23.690		95	95					95				
TOTALS THIS SHEET						515	587			64		515	8			
TOTALS FROM SHEET 18						363	363					363				
TOTALS CARRIED TO GENERAL SUMMARY						878	950			64		878	8			

TRAFFIC CONTROL RPM LOCATION SUB-SUMMARY (m)

GEA-44-4.524

PLOT SUBMITTED:04-DEC-1998 08:53

RPM SUB.dgn

RPM SUB.dgn

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PLOTTER: jgrnovse

