

STATE OF OHIO
DEPARTMENT OF
TRANSPORTATION

TRU-80-5.20
LIBERTY TOWNSHIP
HUBBARD TOWNSHIP
TRUMBULL COUNTY

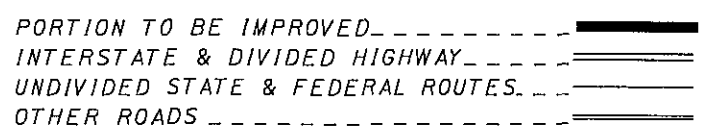
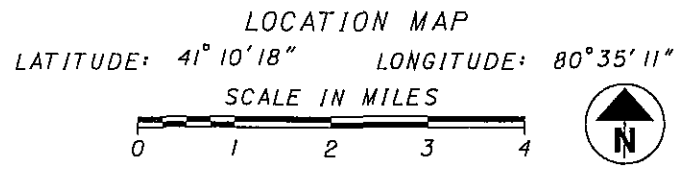
PROJECT DESCRIPTION
INSTALLATION OF EPOXY PAVEMENT MARKING

2005 SPECIFICATIONS
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

EARTH DISTURBED AREAS
PROJECT EDA = N/A (MAINTENANCE PROJECT)
EST. CONTRACTOR EDA = N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EDA = N/A (MAINTENANCE PROJECT)

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



INDEX OF SHEETS:

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TRU - IR 80-5.20
060388 PID - 80793
Dist 4 8/9/2006

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

ENGINEERS SEAL:
STATE OF OHIO
LISA A. BOSE
REGISTERED PROFESSIONAL ENGINEER
E-56841
SIGNED: Lisa A. Bose
DATE: 4/27/06

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
TC-42.20	7-16-04	MT-35.10	4-20-01	800	04/21/06
TC-52.10	4-20-01	MT-95.30	7-16-04	832	4/25/06
TC-52.20	4-20-01	MT-98.12	4-19-02		
TC-71.10	1-21-05	MT-98.13	4-19-02		
TC-72.20	1-21-05	MT-98.14	4-19-02		
TC-73.10	1-19-01	MT-98.15	7-16-04		
		MT-98.16	4-19-02		
		MT-98.17	10-18-02		
		MT-98.18	10-18-02		
		MT-99.20M	1-30-95		
		MT-105.10	10-18-02		
		MT-105.11	10-18-02		
					SPECIAL PROVISIONS

APPROVED:
DATE: 4-27-06 DISTRICT DEPUTY DIRECTOR

APPROVED:
DATE: 6-2-06 DIRECTOR, DEPARTMENT OF TRANSPORTATION

D:\Projects\80793 TRU-80-EPOXY\Epoxy Plan.dgn 01-MAY-2006 6:51AM +perez

FEDERAL PROJECT NO. N/A
PID NO. 80793
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT N/A
TRU-80-5.20
19

LAYOUT AND PRE-MARKING

AT LOCATIONS WHERE THE EXISTING MARKINGS ARE NOT IN PROPER ALIGNMENT THE CONTRACTOR SHALL PRE-MARK THOSE LOCATIONS TO INSURE PROPER PLACEMENT OF THE EPOXY PAVEMENT MARKINGS. NEW AUXILIARY MARKINGS SHALL BE PLACED OVER EXISTING MARKINGS. AT LOCATIONS WHERE EXISTING MARKINGS ARE NO LONGER VISIBLE, THE CONTRACTOR SHALL PRE-MARK THE LOCATIONS PER THESE DRAWINGS. ANY DISCREPANCIES BETWEEN THE PROPOSED AUXILIARY MARKINGS AND THE EXISTING REGULATORY LANE CONTROL SIGNS, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER, PRIOR TO PLACING THE EPOXY MARKINGS.

CLEANING AND SURFACE PREPARATION

SINCE THE MAJORITY OF THE LOCATIONS TO BE STRIPED WITH EPOXY MARKINGS WILL BE PLACED OVER EXISTING MARKINGS, PAVEMENT PREPARATION SHALL INCLUDE THE ABRADING OF ALL EXISTING MARKINGS, TO PROVIDE AN ACCEPTABLE SURFACE FOR THE PLACEMENT OF THE NEW EPOXY MARKINGS, THE COST OF THE ABRADING SHALL BE INCLUDED IN THE UNIT BID COST FOR EACH LINE OR PAVEMENT MARKING.

METHOD OF MEASUREMENT

A DAY'S APPLIED MILEAGE OF LESS THAN 10 MILES OR A DAYS APPLIED QUANTITY OF LESS THAN 5 GALLONS OF MARKING MATERIAL USED TO APPLY OTHER TYPE OF MARKING MAY BE INCLUDED IN THE NEXT DAYS APPLIED MARKINGS FOR THE PURPOSE OF COMPUTING MARKING MATERIAL AND BEAD APPLICATION RATES.

THE QUANTITY OF MARKING MATERIAL USED SHALL BE DETERMINED BY MEASURING THE MARKING MATERIAL BEFORE AND AFTER THE MARKING MATERIAL IS APPLIED. THE CONTRACTOR SHALL PROVIDE MEASUREMENTS WHENEVER REQUESTED BY THE ENGINEER. THE MARKING MATERIAL APPLICATION RATE SHALL BE DETERMINED BY DIVIDING THE TOTAL GALLONS USED BY THE APPROPRIATE MARKING LENGTH AS DETERMINED FROM THE ELECTRICAL COUNTER AS DESCRIBED WITHIN 641.04 .

ANY DETERMINATION OF PAY DEDUCTION RESULTING FROM SHORTAGES IN MARKING QUANTITIES SHALL BE BASED ON THE MEASUREMENTS OBTAINED BY THIS METHOD. THE AMOUNT OF GLASS BEADS APPLIED SHALL BE ASCERTAINED BY THE ENGINEER BY OBSERVATION AND FROM INFORMATION SUPPLIED BY THE CONTRACTOR AS THE QUANTITY USED.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS AND COOPERATE WITH THE CONTRACTORS ON OTHER PROJECTS THAT MAY BE IN FORCE DURING THE LIFE OF THIS CONTRACT. NO WAIVER OF ANY PROVISION OF 105.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATION IS INTENDED.

CONVERSION OF METRIC STANDARD CONSTRUCTION DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE 2005 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSION SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

ITEM 646 EPOXY PAVEMENT MARKINGS, AS PER PLAN

THE EPOXY PAVEMENT MARKING MATERIAL FURNISHED UNDER THESE ITEMS SHALL BE EPOPLEX LS-60 AS FURNISHED BY EPOPLEX, MAPLE SHADE, NEW JERSEY 646 EPOXY PAVEMENT MARKINGS.

ITEM 646 EPOXY PAVEMENT MARKINGS, (ALTERNATE BID)

THE EPOXY PAVEMENT MARKING MATERIAL SHALL BE MARK 55.4 AS FURNISHED BY POLYCARB, CLEVELAND, OHIO. PAYMENT WILL BE AT THE NORMAL CONTRACT PRICE AS SPECIFIED IN ITEM 646.

ITEM 614-MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THIS PLAN, ITEM 614, AND THE OMUTCD NEWEST EDITION LATEST REVISION. THE FLASHING ARROW PANEL, INCLUDING CAUTION BAR MODE, SHALL NOT BE USED ON TWO LANE ROADWAYS. THE TRAIL VEHICLE CLOSEST TO APPROACHING TRAFFIC SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (TMA). THE TMA MUST BRING A VEHICLE WEIGHING ABOUT 1800 TO 4500 LBS. AND TRAVELING AT 60 MPH TO A SAFE, CONTROLLED STOP, PER NCHRP 350 CRITERIA. THE MANUFACTURER'S SPECIFICATION MUST BE FOLLOWED CONCERNING THE SIZE OF THE TRUCK AND THE CONNECTIONS TO THE TMA .

AN EQUAL PRODUCT MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER. THE TMA MUST BRING A VEHICLE WEIGHING BETWEEN 1800 AND 4500 LBS. AND TRAVELING AT 60 MPH TO A SAFE, CONTROLLED STOP, PER NCHRP 350 CRITERIA.

THE MANUFACTURER'S SPECIFICATIONS MUST BE FOLLOWED CONCERNING THE SIZE OF THE TRUCK AND THE CONNECTIONS TO THE TMA. THE TRAIL VEHICLES MUST HAVE ALL THE EQUIPMENT LISTED IN STANDARD DWG. NO. MT-99.20M, DATED 1-30-95.

IN LIEU OF A TMA, LANES MAY BE CLOSED AT THE TIMES PERMITTED BY DISTRICT FOUR'S PERMITTED LANE CLOSURE CHART.

THE CHART CAN BE FOUND AT:

https://dotaw100.dot.state.oh.us/plcm/plcm_web.jsp

THE CONTRACTOR SHALL NOT CLOSE ANY LANES OR OTHERWISE IMPEDE THE FLOW OF TRAFFIC:

A) DURING NATIONAL HOLIDAYS, MOTHERS DAY, EASTER, OR OTHER HOLIDAY WEEKENDS. A "WEEKEND" FOR TRAFFIC CONTROL PURPOSES IS TO BEGIN AT NOON ON THE LAST NORMAL WEEKDAY PRECEEDING THE HOLIDAY WEEKEND AND IS TO END AT NOON ON THE FIRST NORMAL WEEKDAY FOLLOWING THE WEEKEND. A DAY BETWEEN THE HOLIDAY AND SATURDAY OR SUNDAY IS CONSIDERED PART OF THE WEEKEND (i.e., THE FRIDAY AFTER THANKSGIVING).

ALL COSTS ASSOCIATED WITH THE ABOVE SHALL BE INCLUDED UNDER 614-MAINTAINING TRAFFIC.

THE CONTRACTOR SHALL PLACE TWO 48" X 48" DIAMOND SHAPED ADVANCE WARNING SIGNS MOUNTED ON BOTH SIDES OF THE ROADWAY 1500 FEET IN ADVANCE OF THE STARTING POINT. THE LEGEND SHALL SAY "LINE PAINTING" WITH 6 INCH BLACK LETTERS. THE SIGNS' SHEETING SHALL BE ORANGE FLUORESCENT DIAMOND GRADE SHEETING BY 3M OR HIGH PERFORMANCE GRADE FLUORESCENT ORANGE BY STIMSONITE.

A 24" X 18" SIGN SHALL BE MOUNTED DIRECTLY BELOW THE WARNING SIGNS WITH THE LEGEND "NEXT" ON LINE 1 AND "XX" MILES ON LINE 2. THIS SIGN SHALL HAVE THE SAME SHEETING AS THE WARNING SIGNS WITH 6" BLACK LETTERS. THE BLANK AREA SHALL BE FILLED IN TO THE NEAREST MILE, THE NUMBER OF MILES TO BE PAINTED. THESE SIGNS SHALL BE REMOVED WHEN THE PAINTING IS DONE. THE LOCATION AND SIGN SUPPORTS SHALL BE AS PER STANDARD DWG. MT-105.10 AND MT-105.11 DATED 10-18-02. ENTRANCE RAMP AND INTERCHANGE LANE TRAFFIC SHALL RECEIVE INFORMATION ABOUT THE WORK AHEAD EQUAL TO THAT OF MAINLINE TRAFFIC WHEN THE RAMP OR LANE IS LOCATED WITHIN THE BOUNDARIES OF THE INITIAL CONSTRUCTION WARNING SIGNS AND THE PROTECTED ZONE. THE MILEAGE PLAQUE IS NOT REQUIRED ON THE RAMP SIGNS. WORK SHALL BE PERFORMED ONLY AFTER THE APPROPRIATE SIGNS ARE PLACED.

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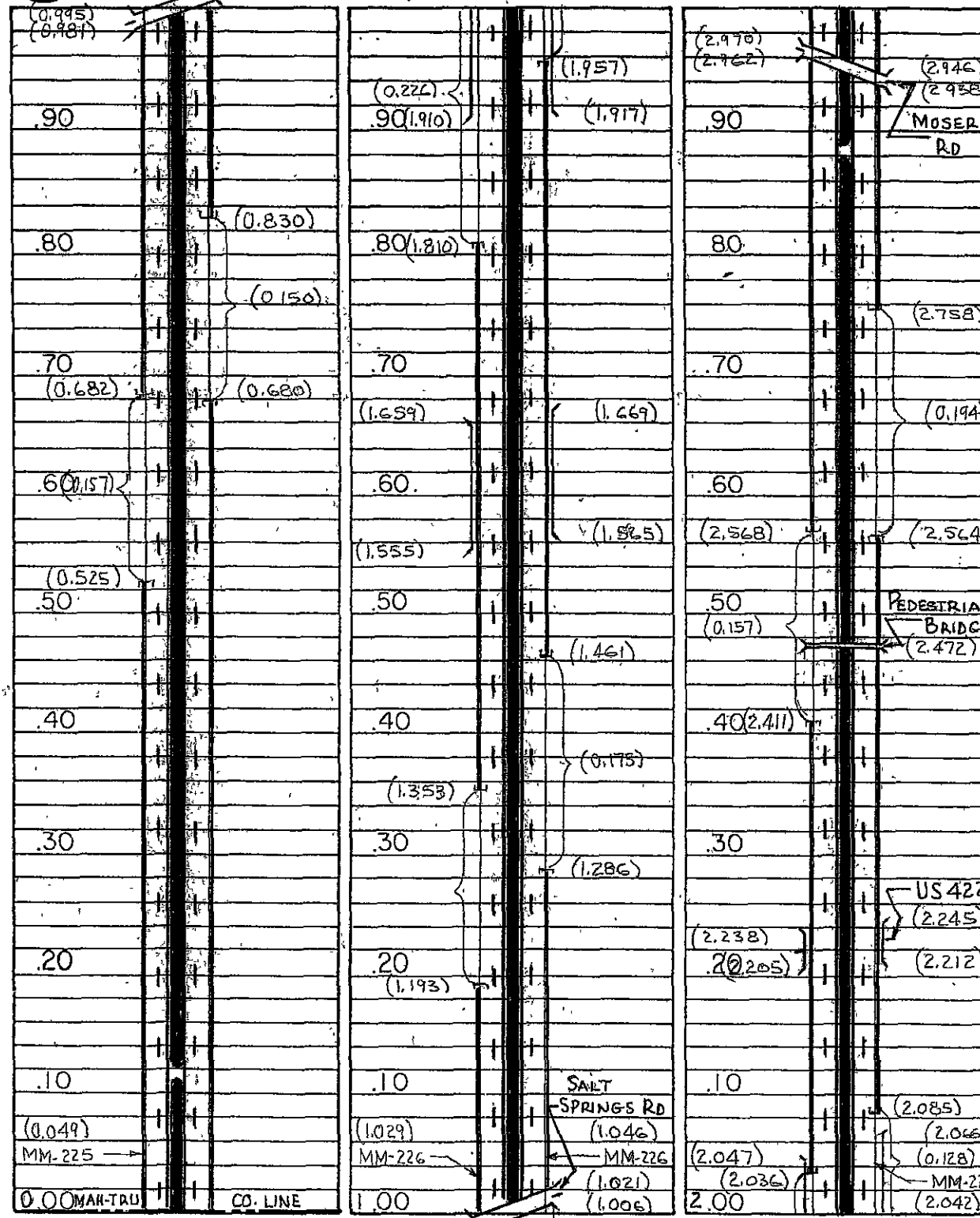
TS 54
DISTRICT 4

Center Line Log Record and Field Sheet
COUNTY TRUMBULL ROUTE 80

SHEET 1 OF 5



Total This Route = Yellow: Solid _____, Yellow: Dash _____, White: Dash _____
Equivalent Yellow _____



Yellow Solid _____ Dash _____ Yellow Solid _____ Dash _____ Yellow Solid _____ Dash _____
TOTAL YELLOW THIS PAGE SOLID _____, DASH _____, EQUIVALENT LINE _____

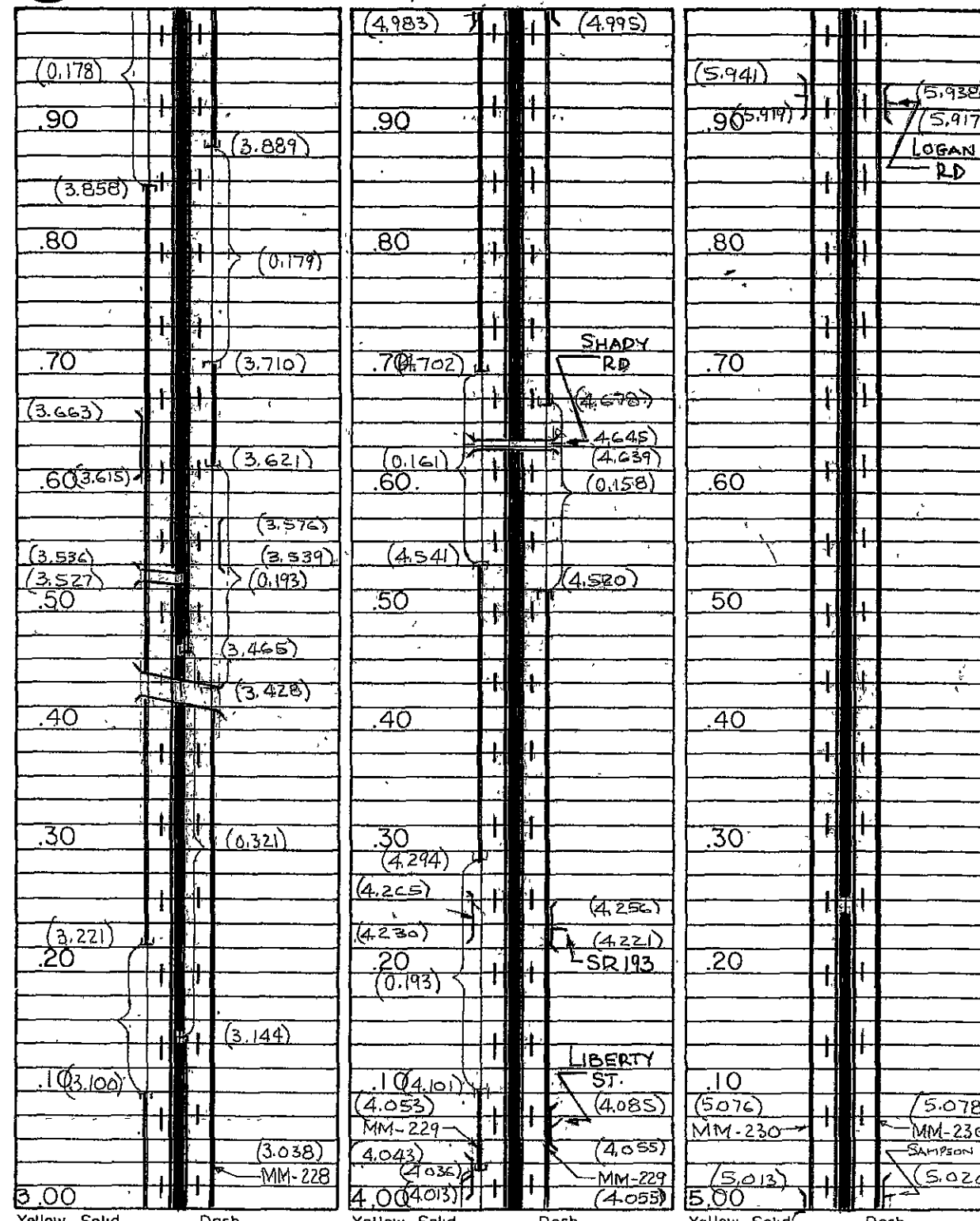
TS 54
DISTRICT 4

Center Line Log Record and Field Sheet
COUNTY TRUMBULL ROUTE 80

SHEET 2 OF 5



Total This Route = Yellow: Solid _____, Yellow: Dash _____, White: Dash _____
Equivalent Yellow _____



Yellow Solid _____ Dash _____ Yellow Solid _____ Dash _____ Yellow Solid _____ Dash _____
TOTAL YELLOW THIS PAGE SOLID _____, DASH _____, EQUIVALENT LINE _____

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CALCULATED
KG
CHECKED
LB

PAVEMENT MARKING DETAILS

TRU-80-5.20

6
19

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TS 54
DISTRICT 4



Center Line Log Record and Field Sheet

COUNTY TRUMBULL ROUTE 80

SHEET 5 OF 5

Total This Route = Yellow: Solid _____, Yellow: Dash _____, White: Dash _____
Equivalent Yellow _____

.90			.90			.90		
.80			.80			.80		
.70			.70			.70		
.60			.60			.60		
.50			.50			.50		
.40			.40			.40		
.30			.30			.30		
.20			.20			.20		
.10			.10			.10		
12.00			.00			.00		

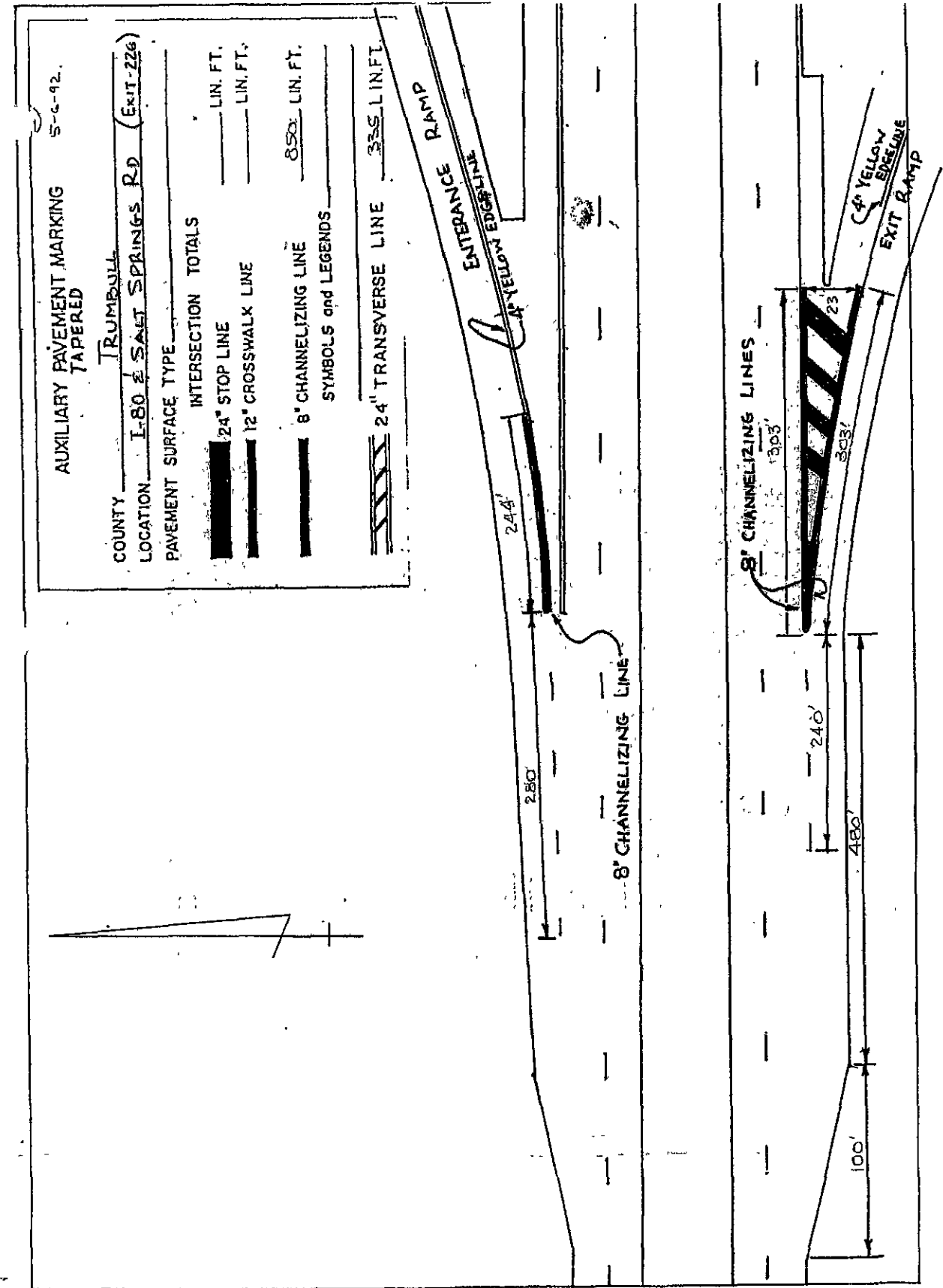
PENNA STATE LINE
OHIO STATE LINE

(12.077) (12.077)

MM-237 MM-237

Yellow: Solid _____ Dash _____ Yellow: Solid _____ Dash _____ Yellow: Solid _____ Dash _____

TOTAL YELLOW THIS PAGE: SOLID _____ DASH _____ EQUIVALENT LINF _____



CALCULATED
KG
CHECKED
LB

PAVEMENT MARKING DETAILS

TRU-80-5.20

8
19

AUXILIARY PAVEMENT MARKING

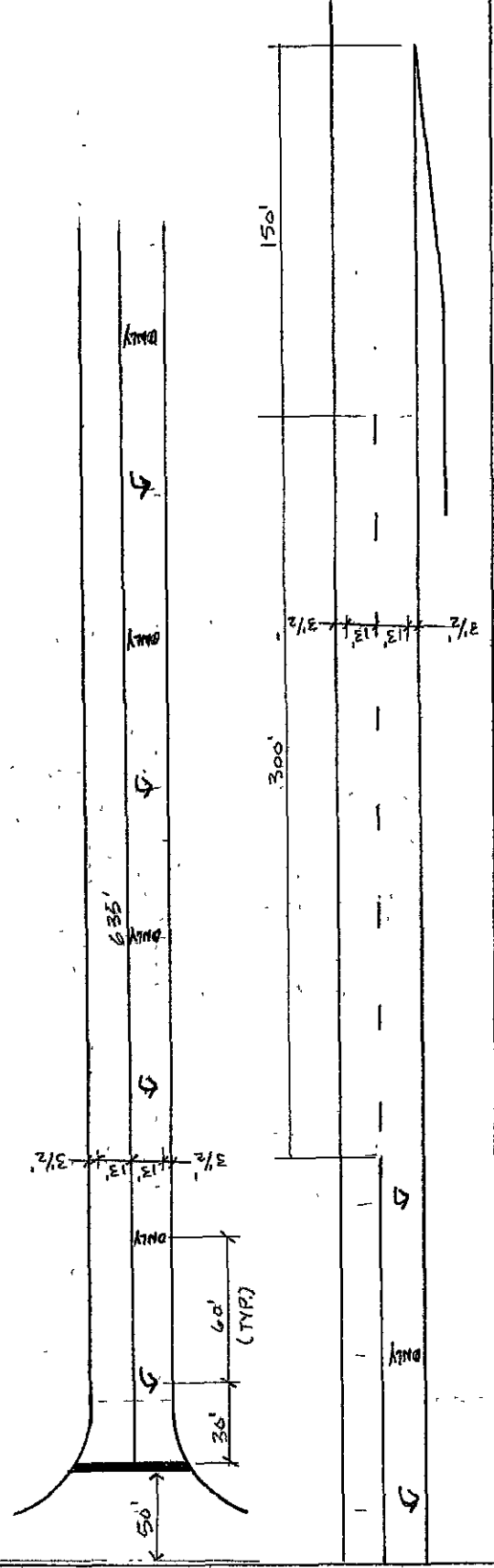
COUNTY TRUMBULL
 LOCATION I-80 EB OFF RAMP @ SALT SPRINGS RD.
 PAVEMENT SURFACE TYPE (0.831)

INTERSECTION TOTALS
 24" STOP LINE 40 LIN. FT.
 12" CROSSWALK LINE LIN. FT.

8" CHANNELIZING LINE 635 LIN. FT.
 SYMBOLS and LEGENDS (6-5)
 S-ONLY'S

24" TRANSVERSE LINE LIN FT.

* MAINTAIN (2) 15' LANES



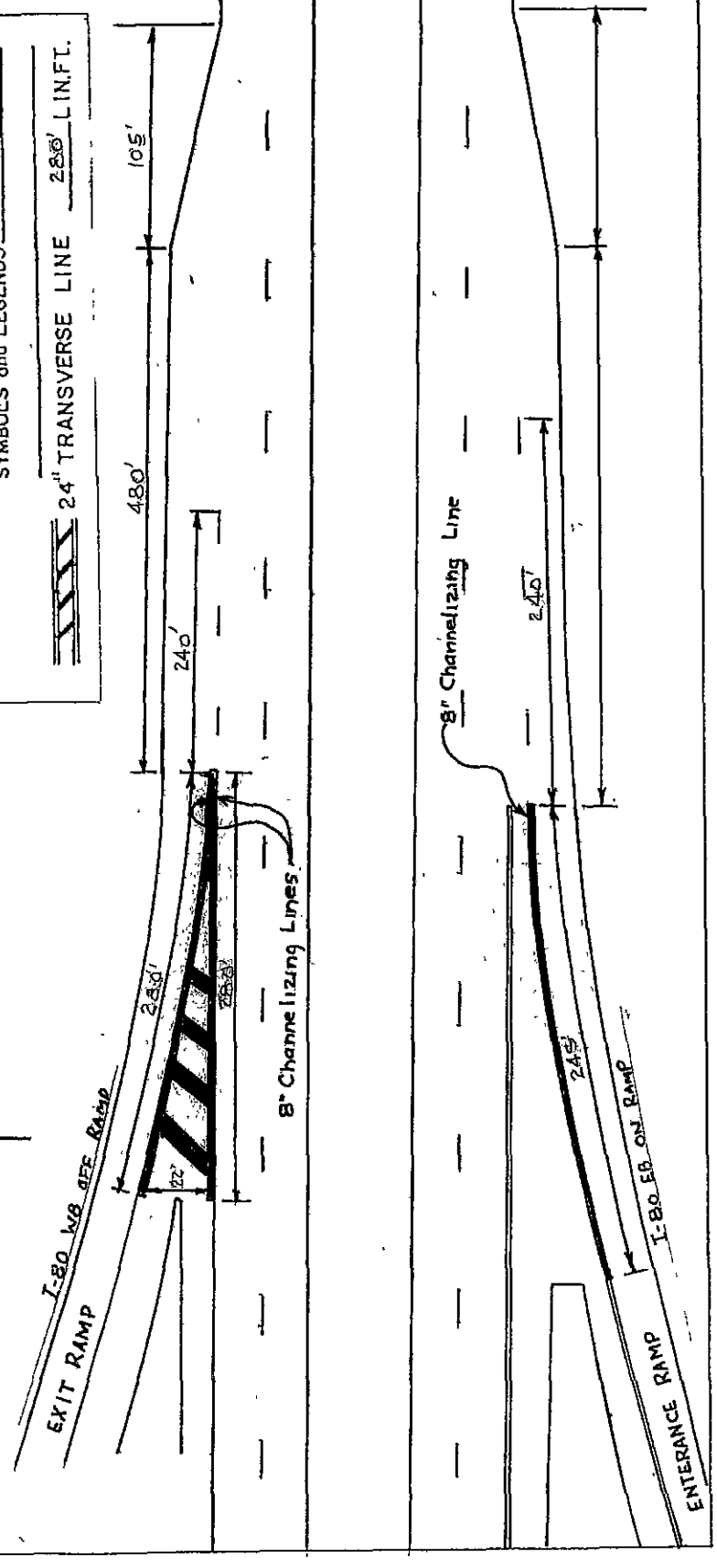
AUXILIARY PAVEMENT MARKING

COUNTY TRUMBULL
 LOCATION I-80 & SALT SPRINGS RD (EXIT 226)
 PAVEMENT SURFACE TYPE

INTERSECTION TOTALS
 24" STOP LINE LIN. FT.
 12" CROSSWALK LINE LIN. FT.

8" CHANNELIZING LINE 805 LIN. FT.
 SYMBOLS and LEGENDS

24" TRANSVERSE LINE 2800 LIN.FT.



AUXILIARY PAVEMENT MARKING

COUNTY Trumbull

LOCATION I-80 WB OFF RAMP @ SALT SPRINGS RD.

PAVEMENT SURFACE TYPE (1.193)

INTERSECTION TOTALS

24" STOP LINE 40 LIN. FT.

12" CROSSWALK LINE LIN. FT.

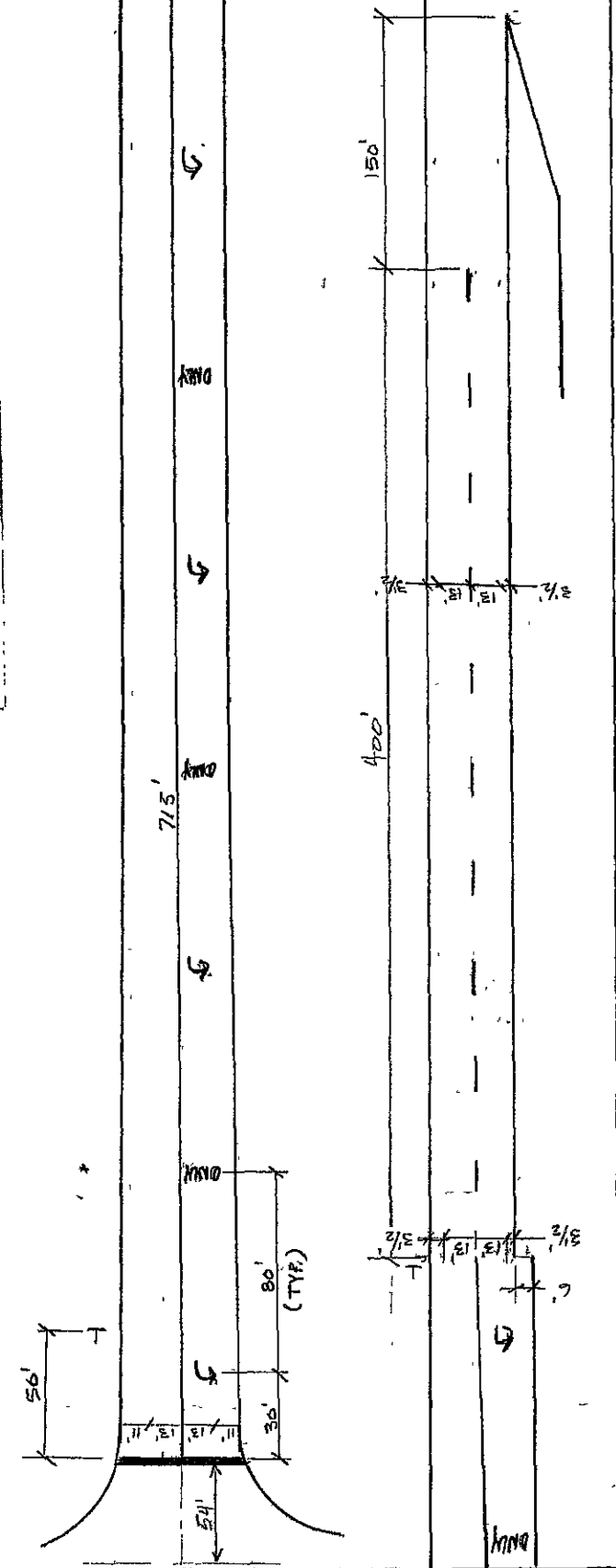
8" CHANNELIZING LINE 715 LIN. FT.

SYMBOLS and LEGENDS S-5

A-ONLY'S

24" TRANSVERSE LINE LIN. FT.

* MAINTAIN (2) 13' LANES



AUXILIARY PAVEMENT MARKING

COUNTY Trumbull

LOCATION I-80 @ US 422 (EXIT 227)

PAVEMENT SURFACE TYPE

INTERSECTION TOTALS

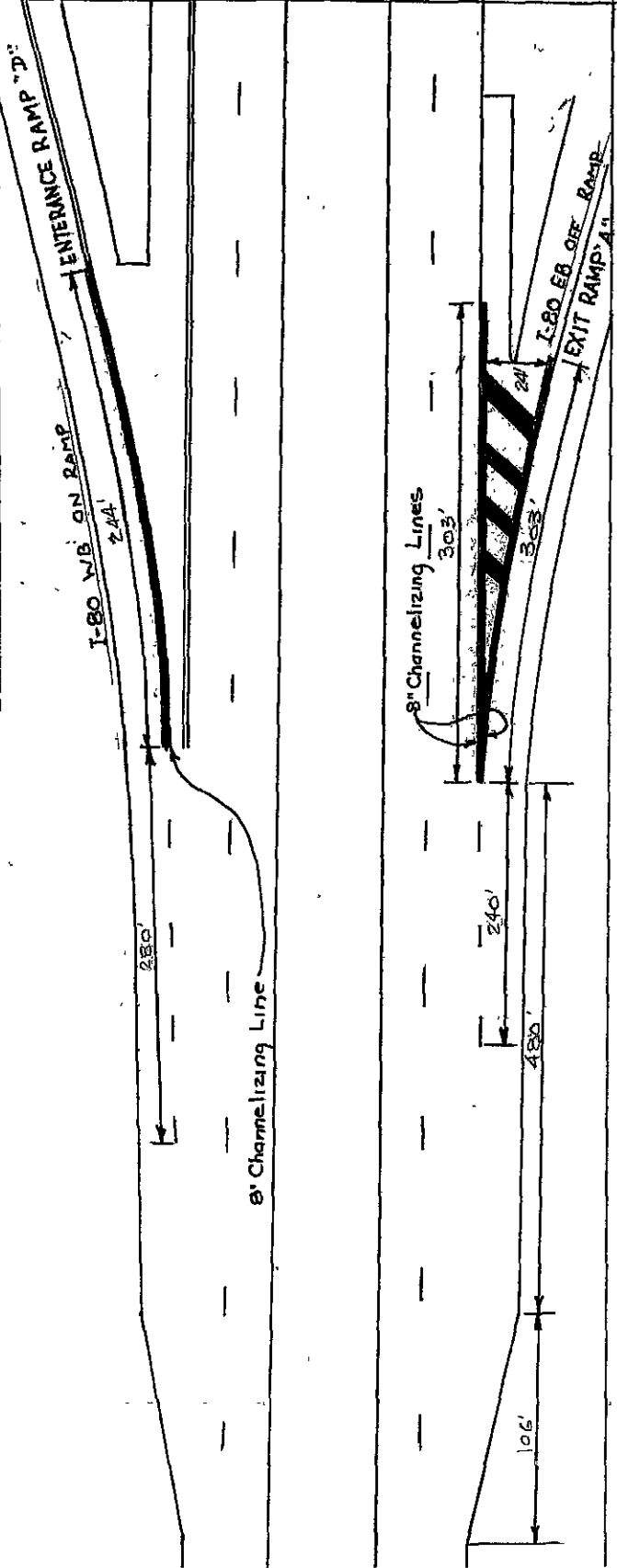
24" STOP LINE LIN. FT.

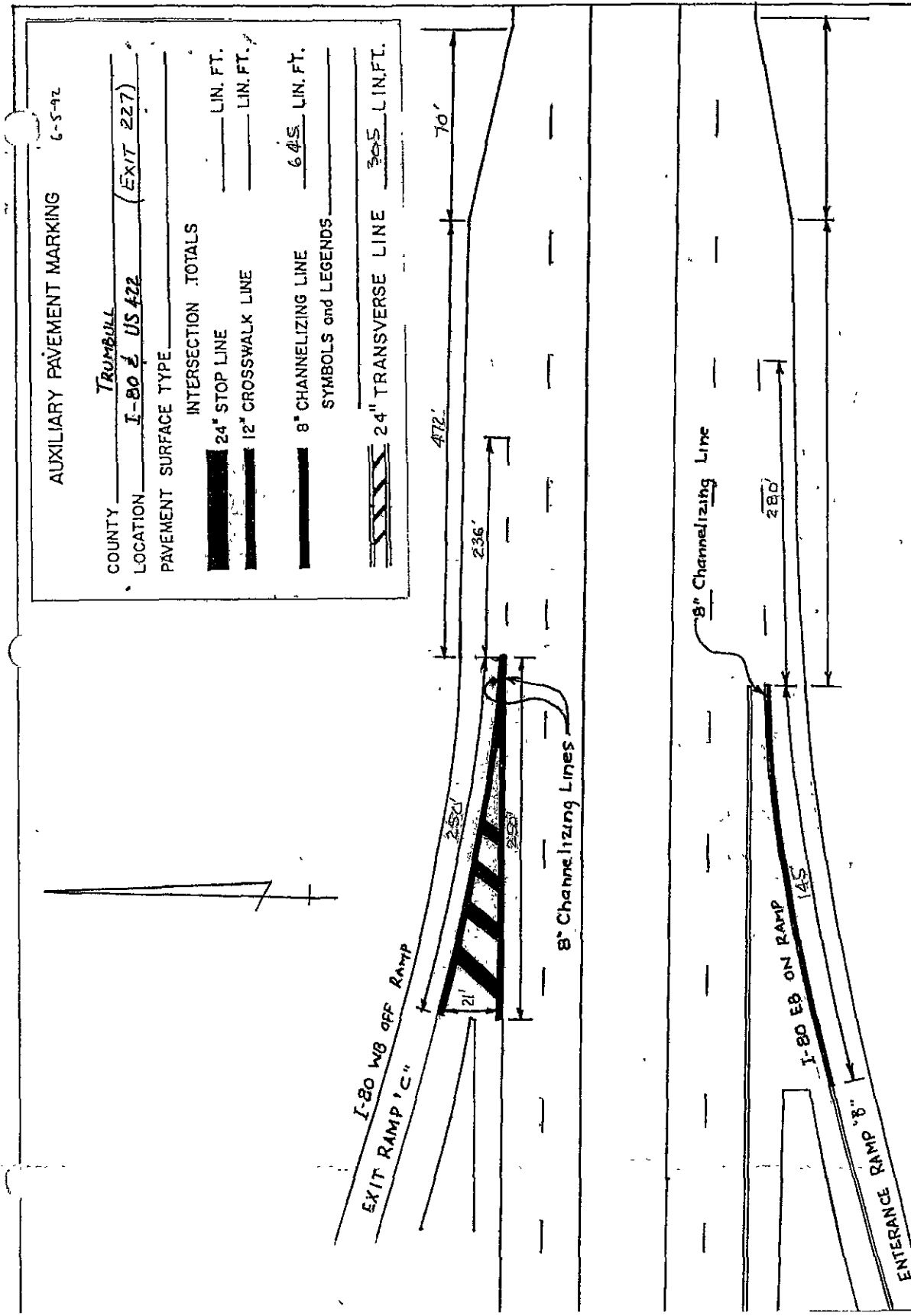
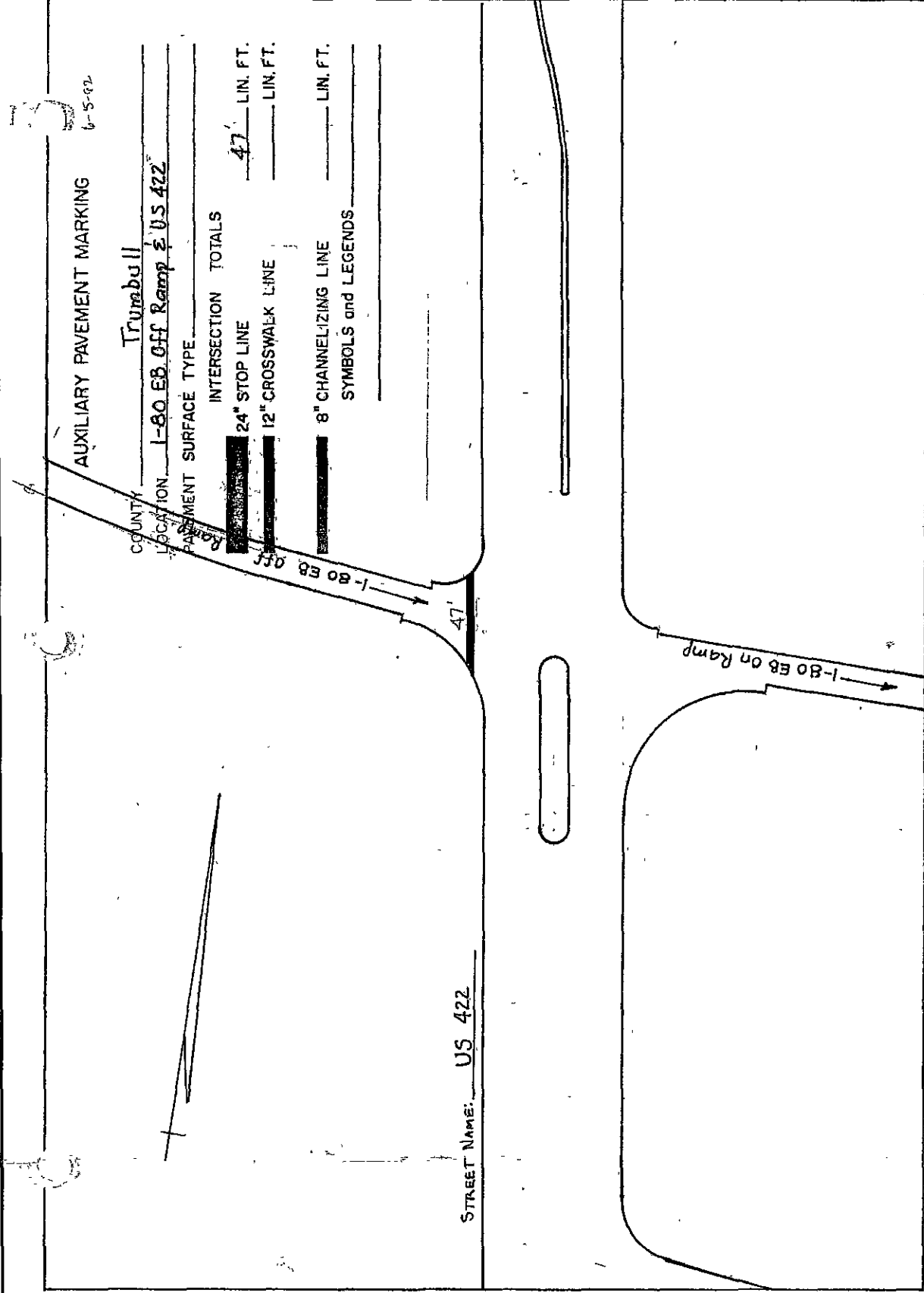
12" CROSSWALK LINE LIN. FT.

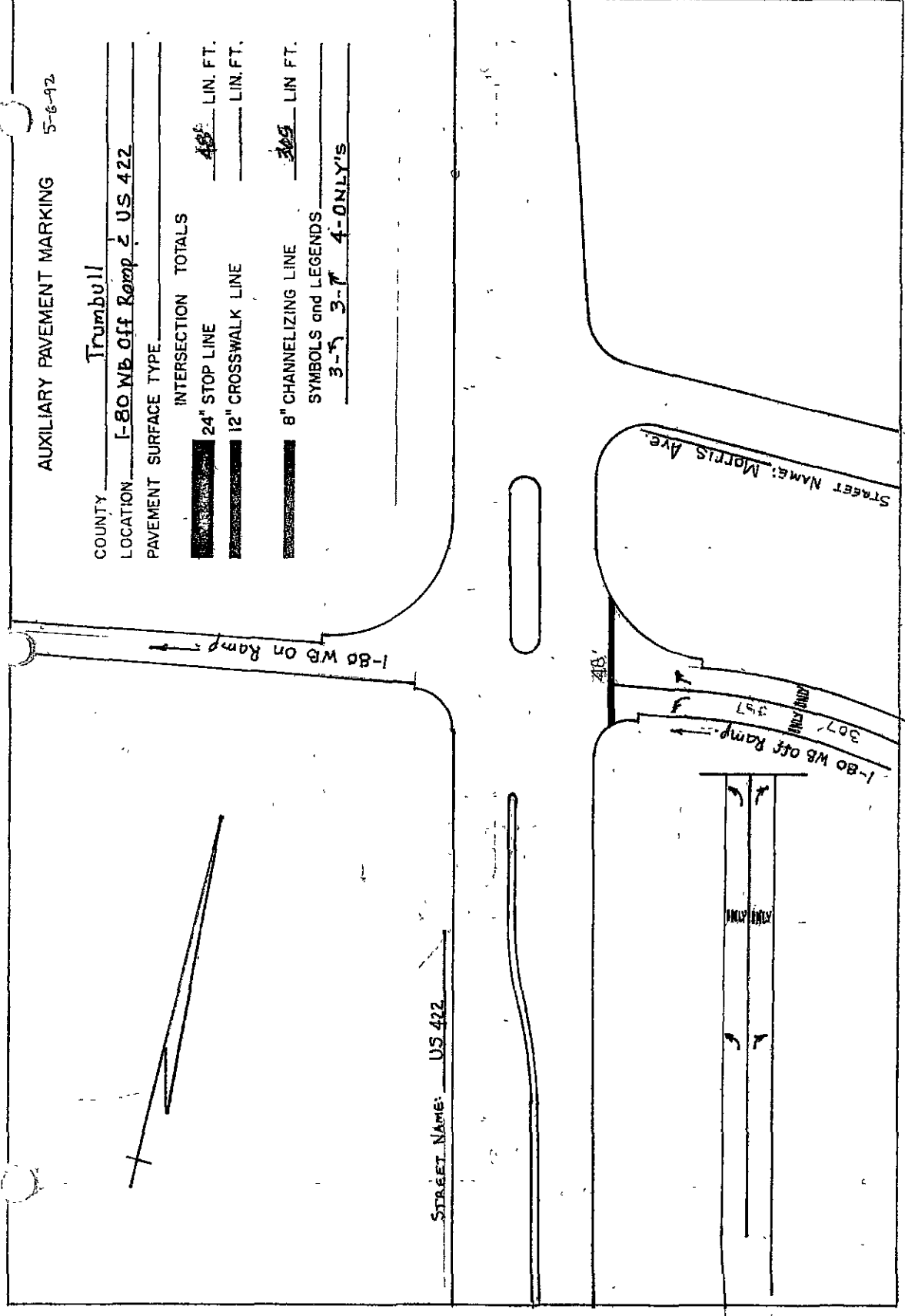
8" CHANNELIZING LINE 850 LIN. FT.

SYMBOLS and LEGENDS

24" TRANSVERSE LINE 335 LIN. FT.







AUXILIARY PAVEMENT MARKING 5-6-92

COUNTY Trumbull

LOCATION I-80 WB off Ramp & US 422

PAVEMENT SURFACE TYPE _____

INTERSECTION TOTALS

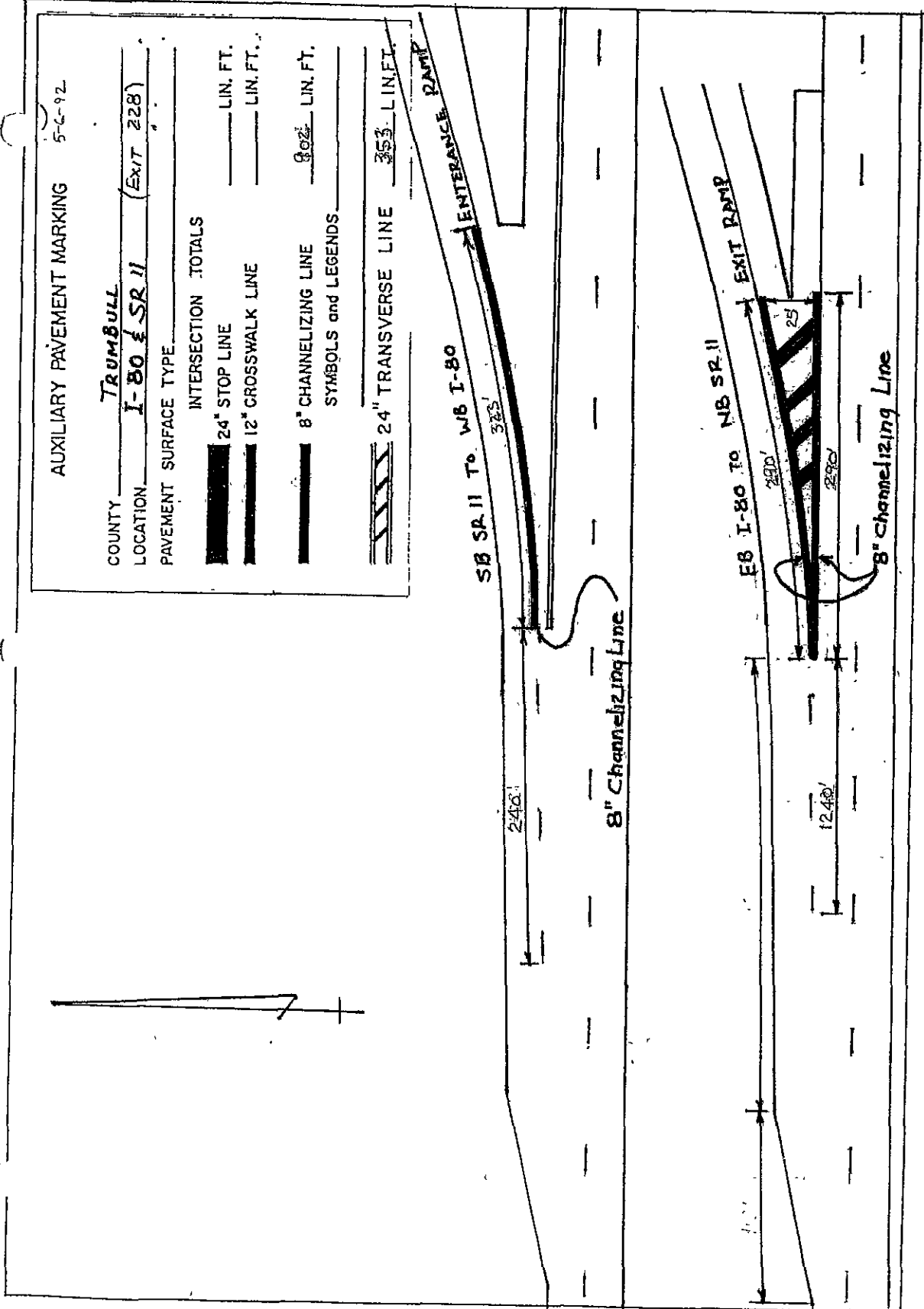
24" STOP LINE _____ LIN. FT. 48

12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE _____ LIN. FT. 309

SYMBOLS and LEGENDS

3-5 3-7 4-ONLY'S



AUXILIARY PAVEMENT MARKING 5-6-92

COUNTY TRUMBULL

LOCATION I-80 & SR 11 (Exit 228)

PAVEMENT SURFACE TYPE _____

INTERSECTION TOTALS

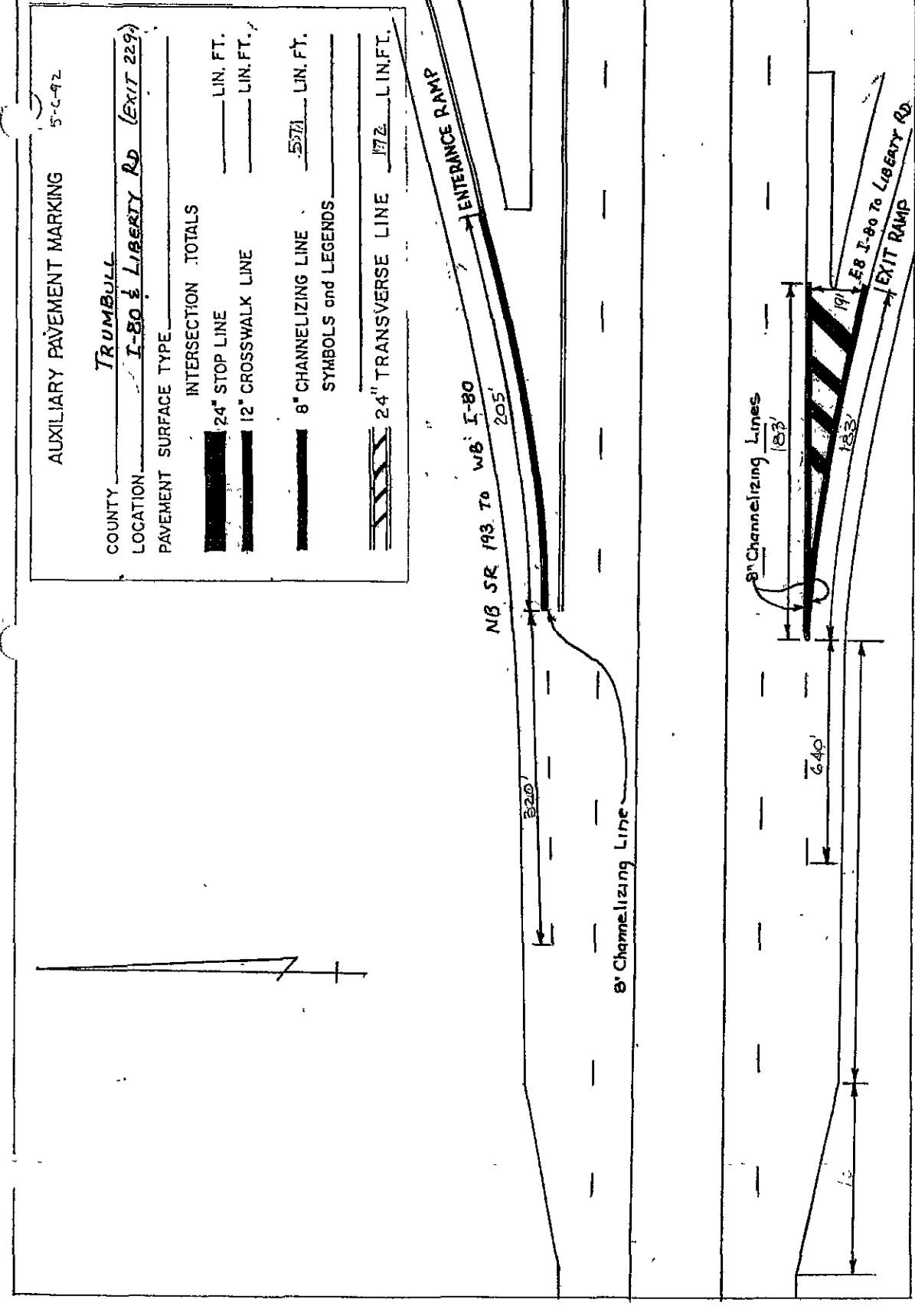
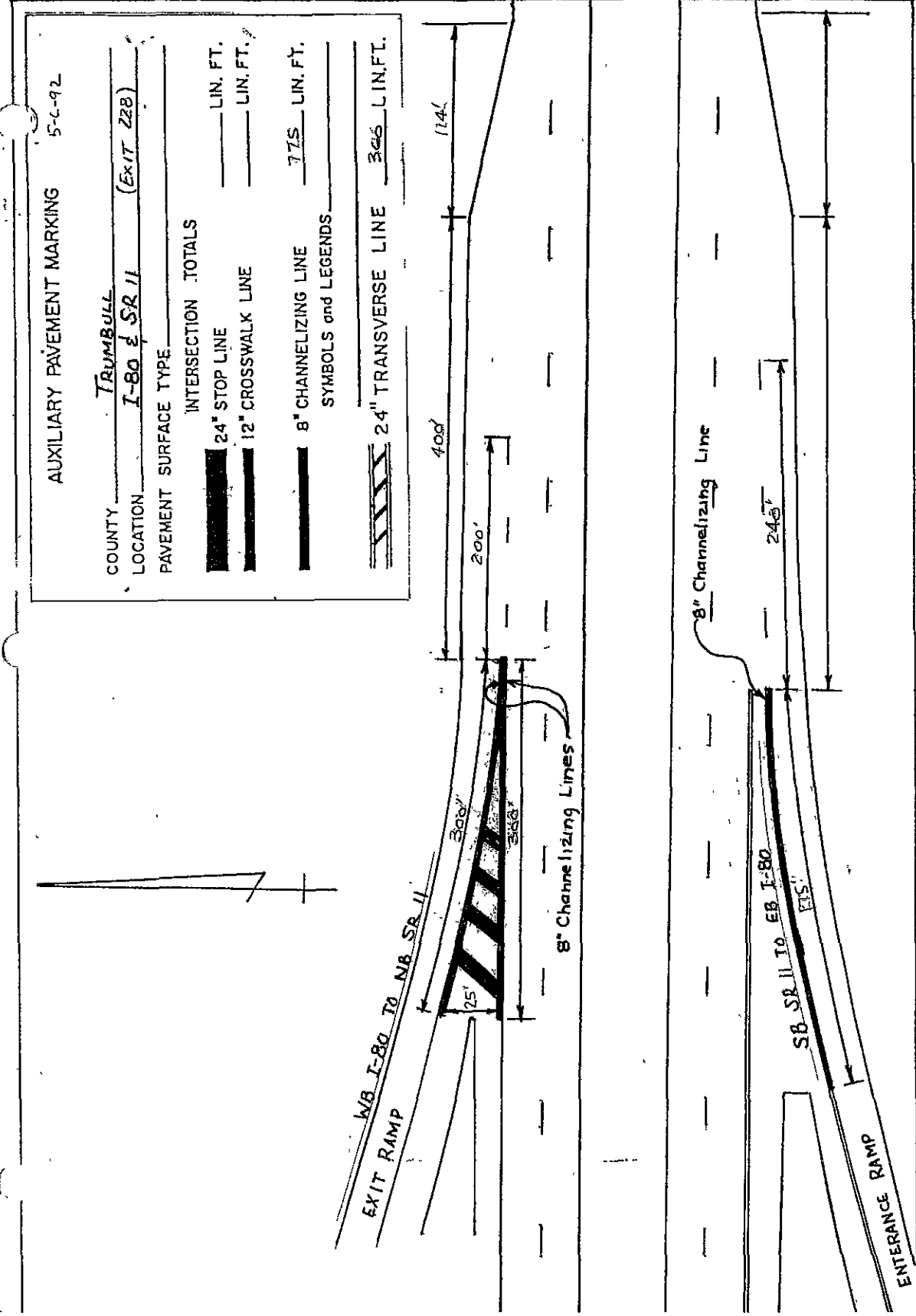
24" STOP LINE _____ LIN. FT.

12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE _____ LIN. FT. 302

SYMBOLS and LEGENDS

24" TRANSVERSE LINE _____ LIN. FT. 353



AUXILIARY PAVEMENT MARKING 5-6-92

COUNTY TRUMBULL

LOCATION I-80 EB OFF RAMP & LIBERTY-JONES Rd

PAVEMENT SURFACE TYPE _____

INTERSECTION TOTALS _____

24" STOP LINE _____ 38 LIN. FT.

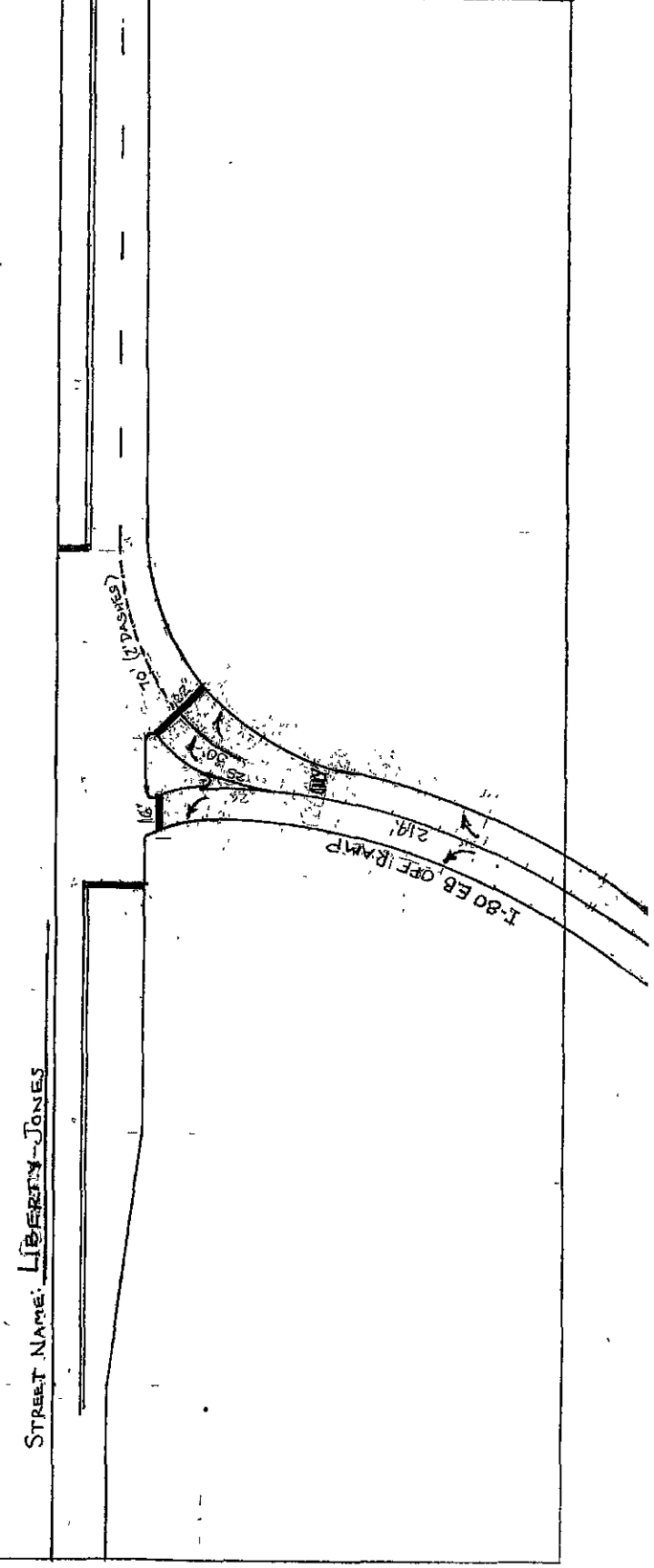
12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE _____ 274 LIN. FT.

SYMBOLS and LEGENDS _____

2'-7" 1-ONLY 70'-2' DASHES _____

24" TRANSVERSE LINE _____ LIN. FT.



AUXILIARY PAVEMENT MARKING 5-6-92

COUNTY TRUMBULL

LOCATION I-80 & SR 193 (EXIT 229)

PAVEMENT SURFACE TYPE _____

INTERSECTION TOTALS _____

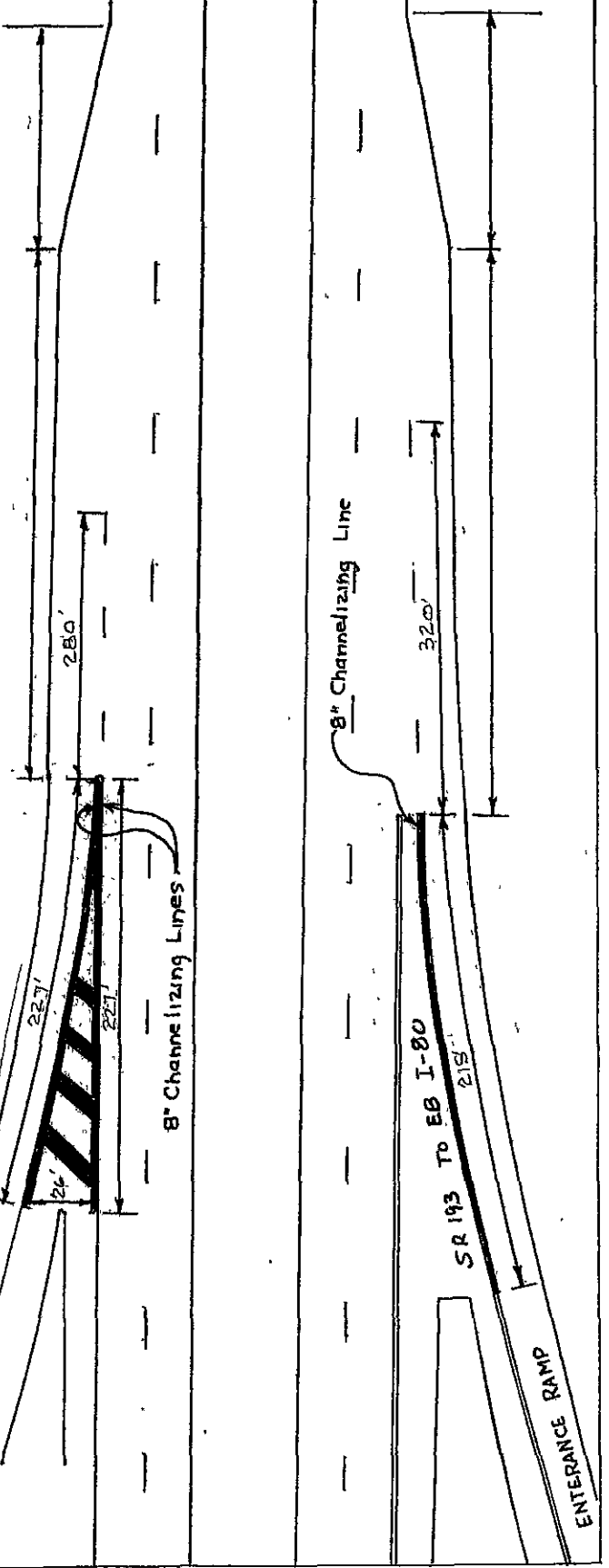
24" STOP LINE _____ LIN. FT.

12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE _____ 669 LIN. FT.

SYMBOLS and LEGENDS _____

24" TRANSVERSE LINE _____ 252 LIN. FT.



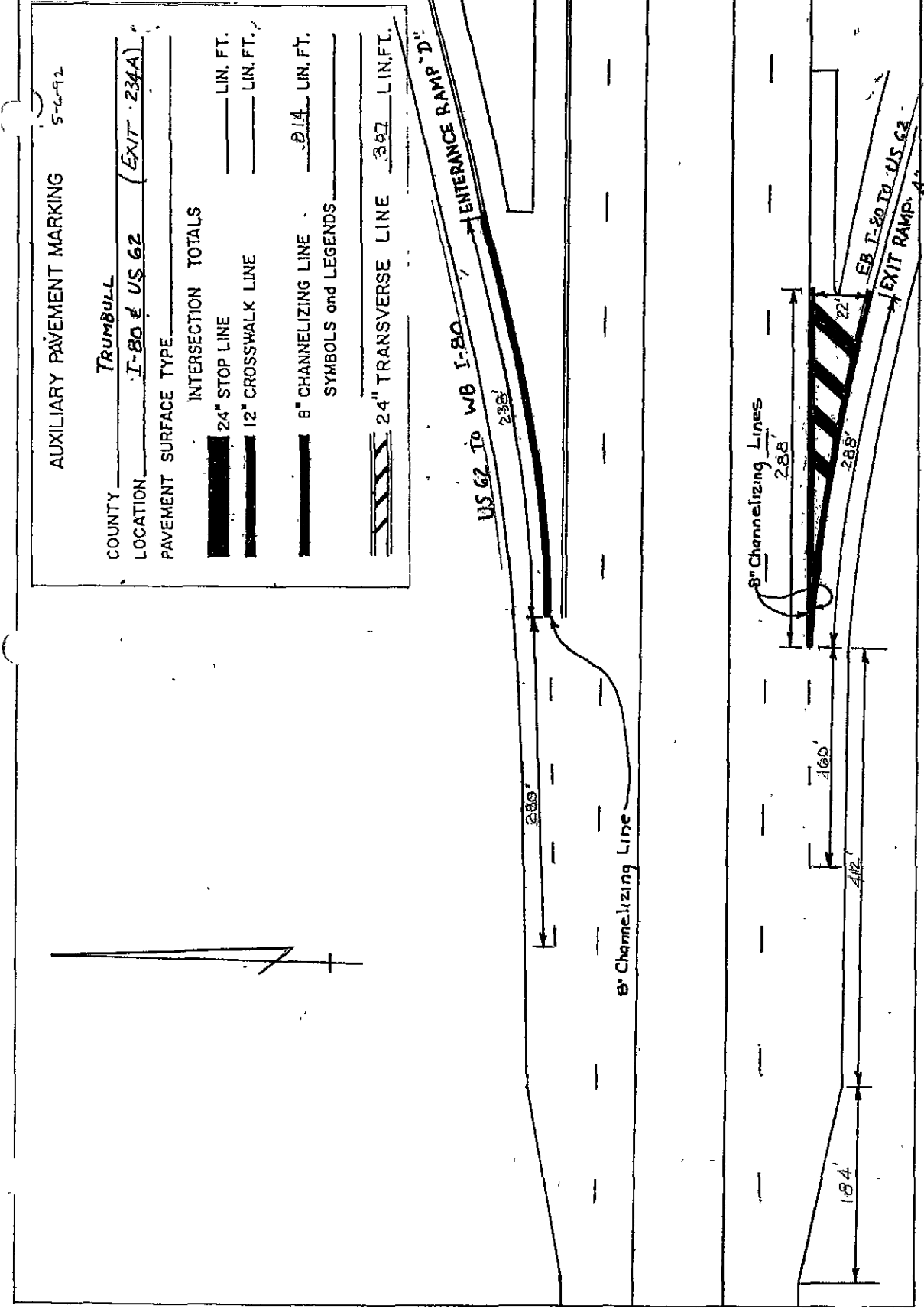
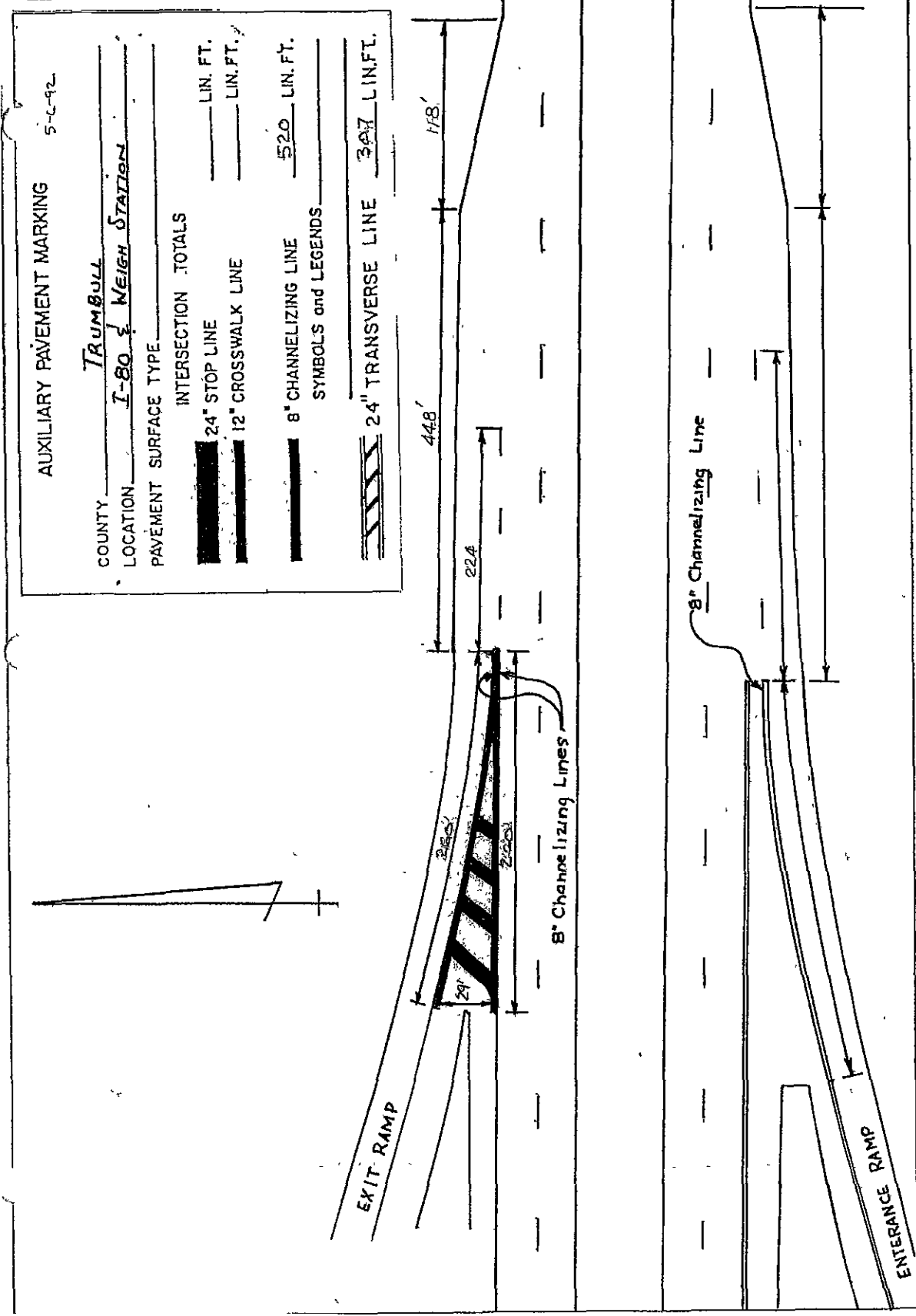
AUXILIARY PAVEMENT MARKING 5-2-92

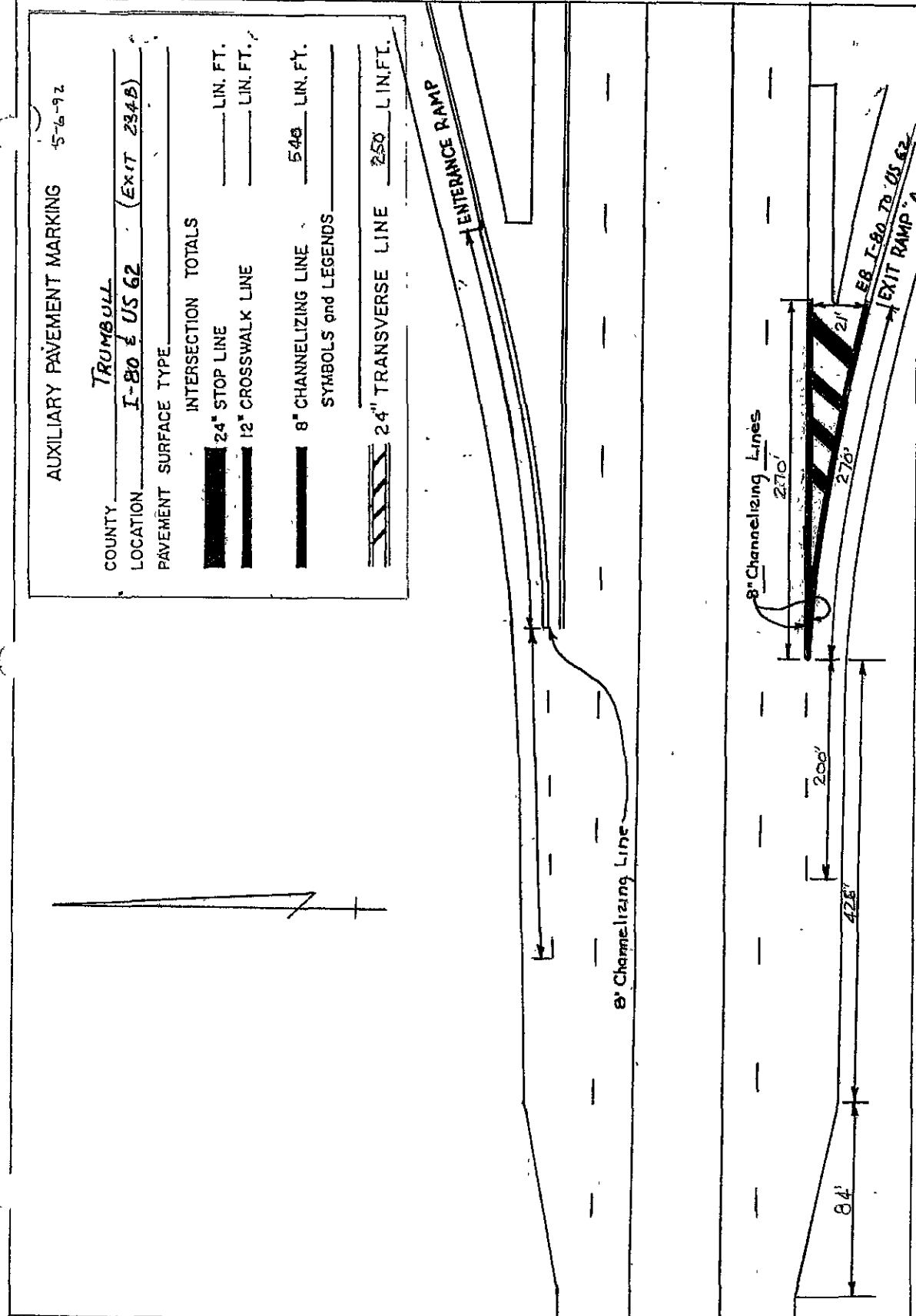
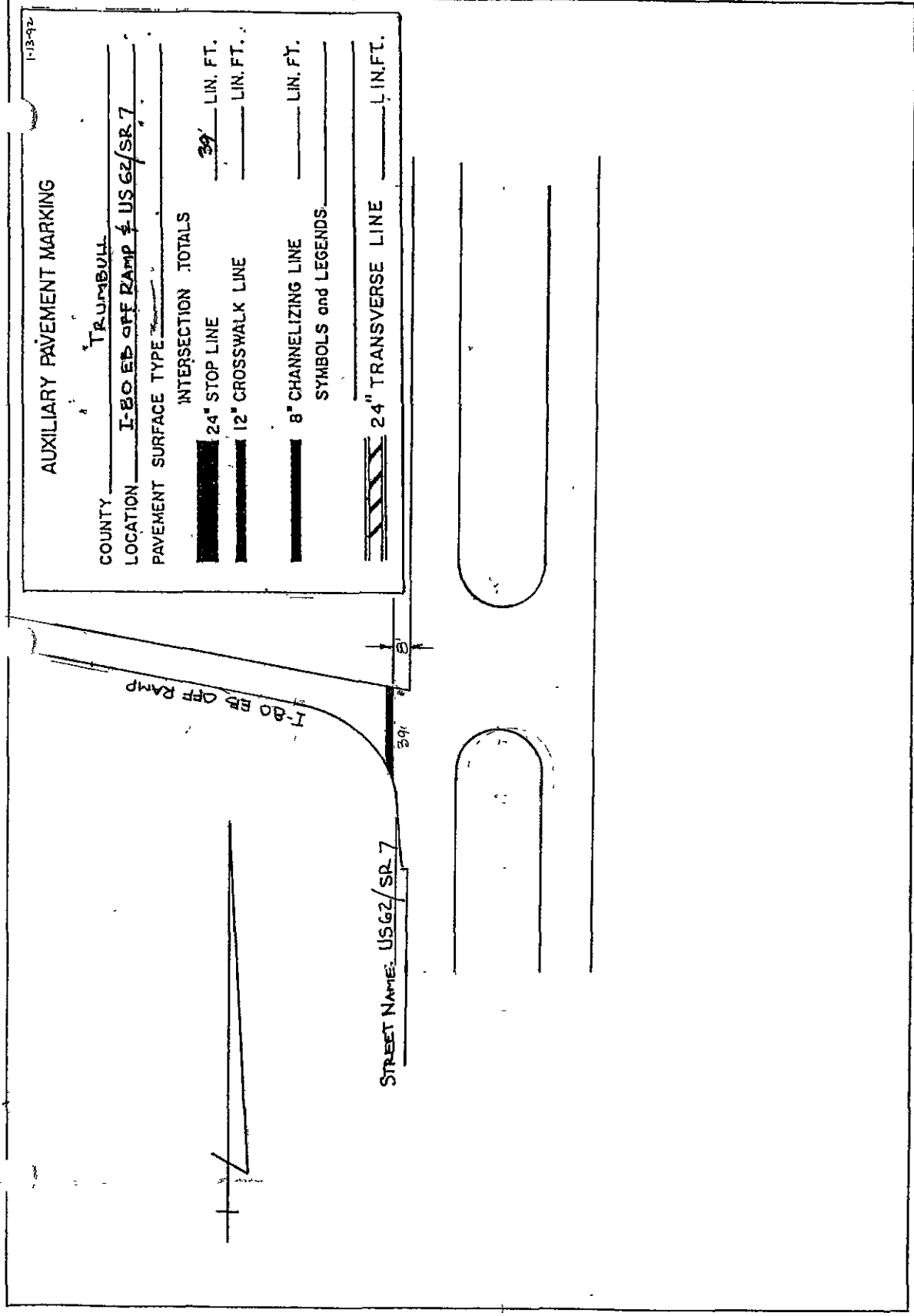
COUNTY TRUMBULL
 LOCATION I-80 WB OFF RAMP & SR 193
 PAVEMENT SURFACE TYPE _____
 INTERSECTION TOTALS _____ LIN. FT.
 24" STOP LINE _____ LIN. FT.
 12" CROSSWALK LINE _____ LIN. FT.
 8" CHANNELIZING LINE _____ LIN. FT.
 SYMBOLS and LEGENDS _____
 24" TRANSVERSE LINE _____ LIN. FT.

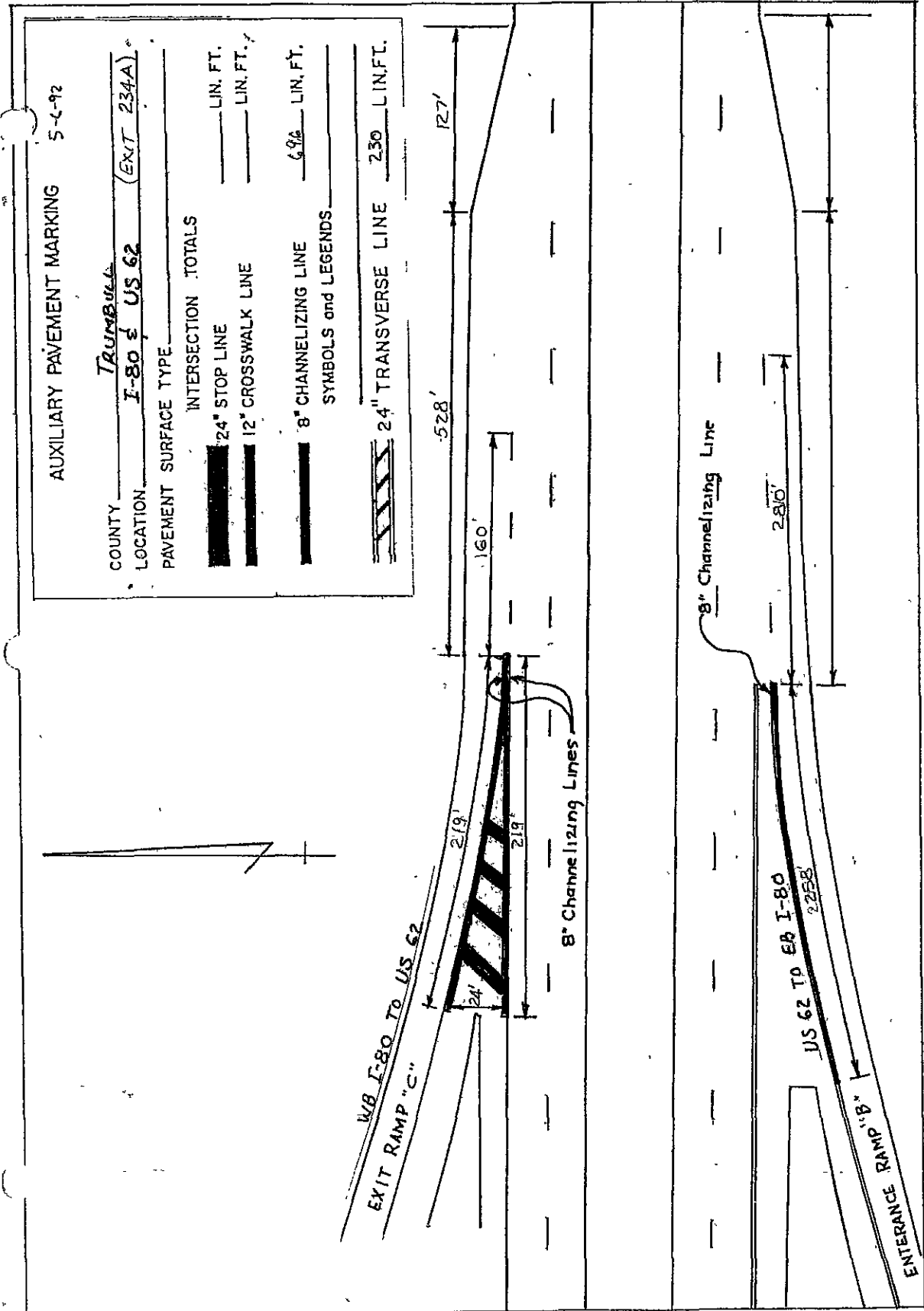
STREET NAME: SR 193

AUXILIARY PAVEMENT MARKING 5-2-92

COUNTY TRUMBULL
 LOCATION I-80 & WEIGH STATION
 PAVEMENT SURFACE TYPE _____
 INTERSECTION TOTALS _____ LIN. FT.
 24" STOP LINE _____ LIN. FT.
 12" CROSSWALK LINE _____ LIN. FT.
 8" CHANNELIZING LINE _____ 235 LIN. FT.
 SYMBOLS and LEGENDS _____
 24" TRANSVERSE LINE _____ LIN. FT.







AUXILIARY PAVEMENT MARKING 5-C-92

COUNTY TRUMBULL

LOCATION I-80 & US 62 (EXIT 234A)

PAVEMENT SURFACE TYPE _____

INTERSECTION TOTALS

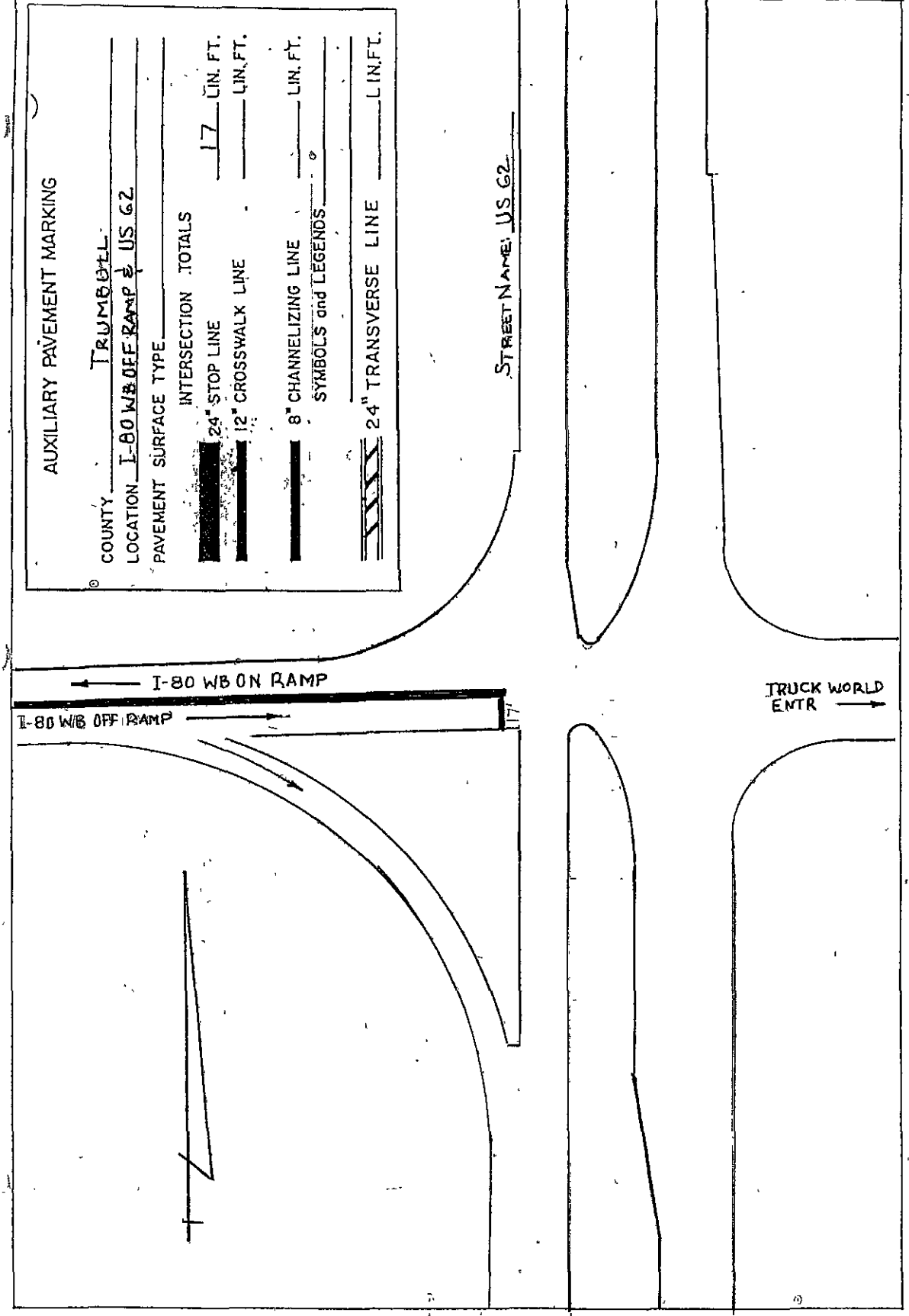
24" STOP LINE _____ LIN. FT.

12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE 696 LIN. FT.

SYMBOLS and LEGENDS _____

24" TRANSVERSE LINE 230 LIN. FT.



AUXILIARY PAVEMENT MARKING

COUNTY TRUMBULL

LOCATION I-80 WB OFF RAMP & US 62

PAVEMENT SURFACE TYPE _____

INTERSECTION TOTALS

24" STOP LINE 17 LIN. FT.

12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE _____ LIN. FT.

SYMBOLS and LEGENDS _____

24" TRANSVERSE LINE _____ LIN. FT.

STREET NAME: US 62

