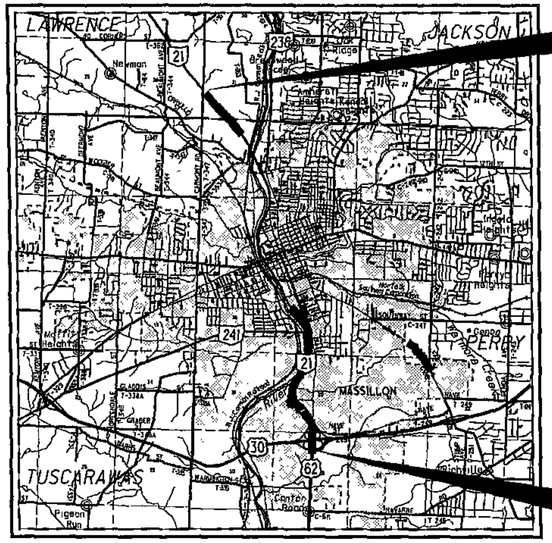


LOCATION MAP

LATITUDE: N41°47'39" LONGITUDE: W81°31'36"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED _____

INTERSTATE & DIVIDED HIGHWAY _____

UNDIVIDED STATE & FEDERAL ROUTES _____

OTHER ROADS _____

STA - SR-21-8.25 PART 1; STA-21-12.
070515 PID - 25433
Dist 4 11/30/2007

DESIGN FUNCTIONAL CLASSIFICATION:
URBAN OTHER FREEWAY AND EXPRESSWAY
NHS PROJECT _____ YES

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: **1-800-925-0988**

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

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

STA-21-8.25
PART 1

CITY OF MASSILLON

PERRY & JACKSON TOWNSHIPS

STARK COUNTY

FOR PART 2 SEE STA-21-12.48

INDEX OF SHEETS:

PROJECT DESCRIPTION

MINOR REHAB/RESURFACING OF PAVEMENT ON S.R. 21 FROM MASSILLON SOUTH LIMITS (SLM 8.25) TO EDWIN AVE. (SLM 10.29) AND SLM 12.78 TO LAWRENCE TOWNSHIP LINE (SLM 13.66) IN STARK COUNTY.

PROJECT EARTH DISTURBED AREA: 0.0 ACRES
ESTIMATED 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 OHIO REVISED CODE.

2005 SPECIFICATIONS

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

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

ENGINEERS SEAL:

STATE OF OHIO · THOMAS POWELL · E-61151 · REGISTERED PROFESSIONAL ENGINEER

SIGNED: _____
DATE: 02-27-07

STANDARD CONSTRUCTION DRAWINGS

BP-2.3	7/16/04	GR-3.2	1/19/07	MT-35.10	4/20/01	TC-41.20	1/19/01				
BP-3.1	7/16/04	GR-3.5	4/18/03	MT-95.30	9/05/06	TC-42.20	7/16/04				
BP-6.1	7/28/00	GR-4.2	1/19/07	MT-95.40	10/20/06	TC-52.10	1/19/07				
		GR-5.1	4/18/03	MT-95.70	4/19/02	TC-52.20	1/19/07				
CB-1.1	7/15/05	GR-5.2	1/16/04	MT-95.82	9/05/06	TC-65.10	1/21/05				
CB-2.1	7/15/05	GR-6.1	4/18/03	MT-98.12	4/19/02	TC-65.11	1/21/05				
				MT-98.13	4/19/02	TC-71.10	1/19/07				
DM-1.1	4/21/06	HW-2.1	4/21/06	MT-98.14	4/19/02	TC-73.10	1/19/01				
DM-1.4	4/21/06			MT-98.15	7/16/04	TC-82.10	4/19/02				
DM-4.1	7/19/02	RM-1.1	4/21/06	MT-98.16	4/19/02	MT-97.10	9/5/06				
DM-4.3	7/19/02	RM-4.2	10/20/06	MT-99.20m	1/30/95						
DM-4.4	7/19/02			MT-100.00	4/19/02						
		AS-1-81	7/19/02	MT-101.20	10/18/02						
GR-1.1	7/16/04	PCB-91	7/19/02	MT-101.70	10/18/02						
GR-2.1	1/16/04	SBR-1-99	7/19/02	MT-105.10	10/18/02						
GR-3.1	1/19/07			MT-105.11	10/18/02						

SUPPLEMENTAL SPECIFICATIONS	
800	10/19/07
832	4/25/06
843	4/18/03
845	1/19/07

SPECIAL PROVISIONS	
NWP-3	2/22/07
NWP-33	2/22/07

APPROVED John Avery
DATE 2/27/07 DISTRICT DEPUTY DIRECTOR

APPROVED James G Beasley
DATE 3-12-07 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E032(185)

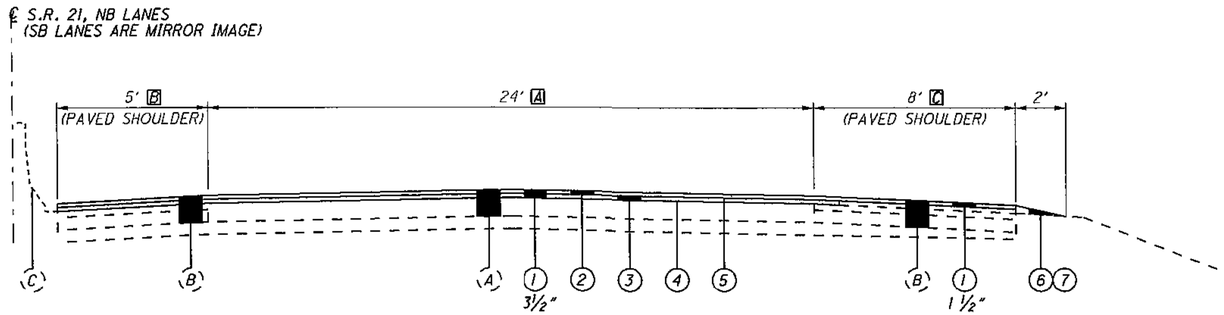
PID NO. 25433

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

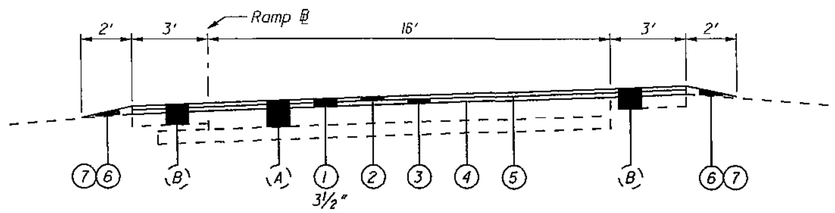
STA-21-8.25

1/4



TYPICAL SECTION - S.R. 21

SLM 8.25 TO SLM 10.29 = 2.04 mi.
SLM 12.78 TO SLM 13.66 = 0.88 mi.
TOTAL = 2.92 mi.



TYPICAL SECTION - RAMPS

LEGEND

(1) 254, PAVEMENT PLANING, ASPHALT CONCRETE
(2) 442, 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN
(3) 442, 2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)
(4) 407, TACK COAT, **702.13**
(5) 407, TACK COAT FOR INTERMEDIATE COURSE
(6) 617, COMPACTED AGGREGATE, AS PER PLAN
(7) 408, PRIME COAT, AS PER PLAN

(A) EXISTING COMPOSITE PAVEMENT
(B) EXISTING SHOULDER PAVEMENT
(C) EXISTING CONCRETE BARRIER OR MEDIAN

NOTES:
A 25.5' SLM 8.25 TO SLM 8.46,
25' SLM 10.24 TO SLM 10.29

B 0' SLM 8.25 TO SLM 8.46,
6' SLM 8.84 TO SLM 9.40,
3' SLM 12.78 TO SLM 13.66

C 4' SLM 8.25 TO SLM 8.46

TYPICAL SECTIONS

STA-21-8.25

2
40

UTILITIES
THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OHIO & GAS PROCEDURES UNDERGROUND PROTECTION SERVICE (OGPUPS), THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEADQUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION IN ALL AREAS.

OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
OGPUPS 1-800-925-0988
ODOT 330-786-3145 KEN GREENE

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

PAVEMENT MARKING LANE WIDTHS
THE NORMAL LANE WIDTH FOR THE PAVEMENT MARKINGS ON THIS PROJECT SHALL BE AS FOLLOWS:

ROUTE	S.L.M. TO S.L.M.	LANE WIDTH
S.R. 21	8.25 TO 10.29	12'
S.R. 21	12.78 TO 13.66	12'
RAMPS		AS PER PROJECT ENGINEER

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

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

GRADING AND FILLING OPERATIONS
THE PLACEMENT OF COMPACTED AGGREGATE SHALL NOT EXTEND PAST THE EXISTING GRADED SHOULDERS. NO EXCAVATION, GRADING, OR FILLING OPERATIONS SHALL BE PERFORMED IN ANY WETLANDS OR STREAMS, UNLESS THE REQUIRED STATE AND/OR FEDERAL PERMITS HAVE BEEN OBTAINED IN ACCORDANCE WITH ALL APPLICABLE STATE AND/OR FEDERAL LAWS AND REGULATIONS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS IN ANY WETLANDS OR STREAMS.

WORK LIMITS
THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONVERSION OF STANDARD CONSTRUCTION DRAWINGS
CONVERT THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

CONVERSIONS WILL BE APPROPRIATELY PRECISE AND REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN
THIS ITEM OF WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 254 IN THE CMS EXCEPT THE DEPTH SHALL VARY FROM 3 1/2" TO THE TOP OF CONCRETE WHICHEVER IS FIRST. THIS WORK SHALL BE PERFORMED SO THAT THE CONCRETE BASE IS NOT DISTURBED. ALL EQUIPMENT, LABOR, TOOLS, AND OTHER INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN
THE REQUIREMENTS OF 442 AND 446 SHALL APPLY; DEVIATIONS FROM THESE ARE AS FOLLOWS:

THE COMBINATION OF NEW AGGREGATES, NEW ASPHALT BINDER, AND RECLAIMED MATERIAL SHALL BE AS REQUIRED TO PRODUCE A COMPOSITION CONTAINING A MINIMUM OF 6.2% NEW ASPHALT BINDER RESULTING IN A MINIMUM TOTAL BINDER OF 6.9%.

THE PERCENTAGE OF RECLAIMED MATERIAL PROPOSED FOR USE SHALL BE INCLUDED IN THE MIX DESIGN PROCESS TO ESTABLISH THE JOB MIX FORMULA (JMF) IN ACCORDANCE WITH 401.04.

MATERIALS:	THE MATERIALS SHALL BE:
AGGREGATES	703.05*

* THE VIRGIN COURSE AGGREGATE PORTION OF THE MIXTURE SHALL BE AIR COOLED BLAST FURNACE SLAG AND MEET THE REQUIREMENTS OF 703.05.

ONLY RECLAIMED PAVEMENT FROM THIS PROJECT OR AN APPROVED EQUAL DETERMINED BY THE DISTRICT ENGINEER OF TESTS WILL BE PERMITTED FOR USE IN THIS ITEM.

THE CONTRACTOR SHALL USE THE APPROPRIATE COUNTY, ROUTE AND SECTION TO OBTAIN TRAFFIC DATA, TO BE USED IN THE DESIGN OF THE JMF, AT THIS WEB SITE LOCATION:
http://www.dot.state.oh.us/techservsite/availpro/Traffic Survey/TSR Report/default.htm

ITEM 408 - PRIME COAT, AS PER PLAN
THE CONTRACTOR WILL APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE COMPLETED COMPACTED AGGREGATE SHOULDER.

THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID PRIME COAT MATERIAL ONTO THE EDGE OF THE PAVEMENT OR EDGELINE. CARE ALSO SHALL BE TAKEN TO AVOID SPRAYING LIQUID PRIME COAT MATERIAL ONTO DRIVEWAY APRONS, MAILBOX APPROACHES OR ANY PEDESTRIAN AREAS. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

ITEM 617 COMPACTED AGGREGATE, AS PER PLAN
IN LOW SHOULDER AREAS EXCEEDING 1", OR AS DIRECTED BY THE ENGINEER, RECYCLED ASPHALT PAVEMENT (RAP) SHALL BE USED IN AREAS ADJACENT TO THE PAVED BERM. THE RAP SHALL HAVE A MINIMUM PG CONTENT OF 4.5% AND MEET THE FOLLOWING GRADATION. ONCE THE STOCKPILE MEETS THE GRADATION, THE PG CONTENT OF THE RAP SHALL BE DETERMINED PER 441.03. THE RAP ANALYSIS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO USE. METHOD OF MEASUREMENT SHALL BE AS PER 617.06. PLACEMENT AND COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 617. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1- 1/2"	100
3/4"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:
1) THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).
THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" 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. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SSS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND SECTION	5/22/00	7/31/00

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).
THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF FOUR 12'-6" 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. NO.	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", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 PLUS EXTRUDER HEAD.
REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.
ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES ABOVE THE GROUND LINE.
PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, 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.

CALCULATED RCB CHECKED TJP

GENERAL NOTES

STA-21-8.25

3
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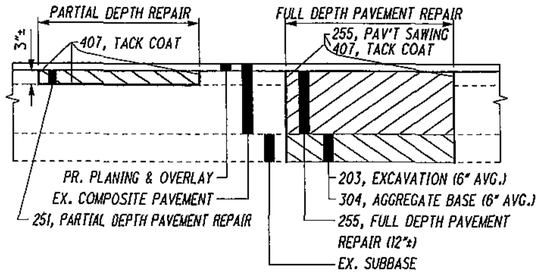


ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 12"± CONCRETE, CLASS FS. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED.

PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS	3222 SQ YD
255, FULL DEPTH PAVEMENT SAWING	9666 FT

ITEM 203 - EXCAVATION

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

203, EXCAVATION	537 CU YD

ITEM 304 - AGGREGATE BASE

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO BACKFILL AREAS WHICH WERE EXCAVATED UNDER ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

304, AGGREGATE BASE	537 CU YD

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THE ITEM SHALL CONSIST OF REPAIRING EXISTING LOCATIONS EXHIBITING SURFACE DETERIORATION AND PLACING 3"± OF ITEM 448 ASPHALT CONCRETE, TYPE 2. THE ASPHALT CONCRETE SHALL BE COMPACTED WITH A TYPE I PNEUMATIC TIRE ROLLER AND A STEEL WHEEL ROLLER AS PER 401.13. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

251, PARTIAL DEPTH PAVEMENT REPAIR	5370 SQ YD

ITEM SPECIAL - MISC.: VERTICAL CLEARANCE

AFTER ALL CONSTRUCTION HAS BEEN COMPLETED, A REGISTERED SURVEYOR WILL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM (AVAILABLE IN THE DISTRICT 4 STRUCTURES AND PAVEMENT OFFICE). THE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT 4 STRUCTURES AND PAVEMENT ENGINEER. THE RECORD SHALL BEAR THE SEAL OF THE LECENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THIS WORK SHALL BE PERFORMED AT THE FOLLOWING STRUCTURES:

STA-21-0839
STA-21-0846
STA-21-0898
STA-21-0992

PAYMENT FOR THIS WORK SHALL BE INCLUDED WITH:

SPECIAL, MISC.: VERTICAL CLEARANCE	4 EACH

CONCRETE BARRIER AND INLET REPLACEMENT

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED TO REPLACE DAMAGED MEDIAN NEW JERSEY SHAPED INLETS AND BARRIER SECTIONS WITHIN THE PROJECT LIMITS. REPLACEMENT SHALL BE AS PER PLAN INSERT SHEETS "NEW JERSEY SHAPED BARRIER" AND "NEW JERSEY SHAPED BARRIER MEDIAN INLETS 3A AND 3B". PROPOSED BARRIER DIMENSIONS SHALL MATCH ADJACENT EXISTING BARRIER SECTIONS.

EXACT LOCATIONS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE PERTINENT BID ITEM.

202, CONCRETE BARRIER REMOVED	60 FT
202, INLET REMOVED	1 EACH
604, INLET, NO. 3A, AS PER PLAN	1 EACH
622, BARRIER, MISC.: CONCRETE BARRIER	60 FT

TYPE A ANCHOR ASSEMBLY REPLACEMENT

THERE ARE 3 LOCATIONS BETWEEN SLM 12.78 AND SLM 13.66 WHERE TYPE A ANCHOR ASSEMBLIES CURRENTLY EXIST ADJACENT TO SR 21. THE FOLLOWING ITEMS WILL BE USED TO REMOVE THE EXISTING ANCHOR ASSEMBLY, TYPE A AND 3 PANELS OF EXISTING GUARDRAIL AND INSTALL A NEW ANCHOR ASSEMBLY, TYPE E-98 AND 1 PANEL GUARDRAIL, TYPE 5 FOR EACH LOCATION:

GUARDRAIL REMOVED, 62.5 FT
BORROW, 2.5 CU YD
GUARDRAIL, TYPE 5, 12.5 FT
ANCHOR ASSEMBLY, TYPE E-98, 1 EACH
BARRIER REFLECTOR, TYPE A, 2 EACH
SEEDING AND MULCHING, 33 SQ YD

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PERTINENT BID ITEM. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

202, GUARDRAIL REMOVED	187.5 FEET
203, BORROW	7.5 CU YD
606, GUARDRAIL, TYPE 5	37.5 FEET
606, ANCHOR ASSEMBLY, TYPE E-98	3 EACH
626, BARRIER REFLECTOR, TYPE A	6 EACH
659, SEEDING AND MULCHING	99 SQ YD
659, COMMERCIAL FERTILIZER	0.01 TON

PROPOSED SIGN PROTECTION

THE PROPOSED SIGN AT SLM 9.61, SR 21 NORTHBOUND SHALL BE PROTECTED BY THE FOLLOWING BID ITEMS. GUARDRAIL OFFSET FROM THE PAVED SHOULDER IS 2'.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PERTINENT BID ITEM. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

606, GUARDRAIL, TYPE 5	137.5 FEET
606, ANCHOR ASSEMBLY, TYPE E-98	1 EACH
606, ANCHOR ASSEMBLY, TYPE T	1 EACH
626, BARRIER REFLECTOR, TYPE A	3 EACH

PAVING UNDER GUARDRAIL

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

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

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

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

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

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

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

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

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING, METHODS:

METHOD A: 1) SET GUARDRAIL POSTS
2) PLACE ITEM 448

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

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

448, 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN	12 CU YD
209, LINEAR GRADING, AS PER PLAN	4 STATION

CALCULATED RCB CHECKED TJP

GENERAL NOTES

STA-21-8.25

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. SR-21: A MINIMUM OF ONE ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.
RAMPS: A MINIMUM OF ONE TEN FOOT LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2211, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE ADDITIONAL NOTE HEREIN.

4. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

5. ALL FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS SHALL BE COMPLETED THE SAME DAY THE EXCAVATION IS MADE.

6. THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE OF THE MILLED SURFACES BY MILLING SLOTS IN THE OUTSIDE SHOULDER AS NEEDED.

7. TRAFFIC SHALL NOT BE MAINTAINED ON ANY MILLED SURFACE. THE LANE SHALL REMAIN CLOSED UNTIL THE RESURFACING IS COMPLETED.

8. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS ONE (1) MILE.

9. ONLY DURING OFF-PEAK PERIODS (ie ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

10. IN ADDITION TO THE REQUIREMENTS OF 614.11 WORK ZONE PAVEMENT MARKINGS, AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH PLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 WORK ZONE PAVEMENT MARKINGS.

11. A QUANTITY OF 20 CU. YDS. OF 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

12. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULLLANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

13. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGN HAS BEEN INCLUDED IN THE PLAN. THIS QUANTITY SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING SIGNS: W8-1 [BUMP], W8-H13 [NO EDGE LINES], W8-11 [UNEVEN LANES]. THESE QUANTITIES SHALL BE AS PER 614.04.

THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT:

PHASE 1 - INTERMEDIATE COURSE
614, WORK ZONE LANE LINE, CLASS II, 6.14 MILE
614, WORK ZONE STOP LINE, CLASS 1, 66 FT
614, WORK ZONE CHANNELIZING LINE, CLASS 1, 3592 FT
614, WORK ZONE MARKING SIGN (BOTH PHASES), 24 EACH

PHASE 2 - SURFACE COURSE
614, WORK ZONE LANE LINE, CLASS II, 6.14 MILE
614, WORK ZONE STOP LINE, CLASS 1, 66 FT
614, WORK ZONE CHANNELIZING LINE, CLASS 1, 3592 FT

TO BE USED AS DIRECTED BY THE ENGINEER
614, WORK ZONE EDGE LINE, CLASS 1, 13.61 MILE

LANE CLOSURES

DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AS PER THE PERMITTED LANE CLOSURE CHART. THE PERMITTED LANE CLOSURE CHART USED FOR THIS PROJECT SHALL BE THE MOST CURRENT CHART AVAILABLE ON THE DATE THIS PROJECT SELLS.

THE CHART CAN BE FOUND AT:
https://dotaw100.dot.state.oh.us/plcm/plcm_web.jsp

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE REQUIREMENTS IN THE CHART, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN THE AMOUNT OF $ 2000 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

START AND INTERIM COMPLETION DATES

NO RESURFACING WORK SHALL BEGIN ON THIS PROJECT UNTIL JULY 1, 2008.

ALL WORK, EXCEPT FOR THE SIGNING, SHALL BE COMPLETED BY OCTOBER 15, 2008.
SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

WINTER TRAFFIC LIMITATIONS (PART 1 ONLY)

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND APRIL 1. NOVEMBER 14 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES AS SPECIFIED IN 108.07 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. THE CONTRACTOR MAY CLOSE LANES PRIOR TO APRIL 1 WITH WRITTEN APPROVAL FROM THE DISTRICT CONSTRUCTION ENGINEER.

TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 632 - DETECTOR LOOP, AS PER PLAN

THE CONTRACTOR SHALL CONTACT THE DISTRICT OFFICE (330-786-3146) THREE WORKING DAYS PRIOR TO ANY PLANING OR TRENCHING AT THE INTERSECTIONS LISTED BELOW. LOOP DETECTORS DISTURBED BY PAVEMENT PLANING OR TRENCHING SHALL BE ABANDONED IN PLACE. THE LOOP DETECTOR WIRE WILL BE CUT INTO THE PAVEMENT AFTER THE PROPOSED SURFACE COURSE HAS BEEN PLACED. EACH DETECTOR SHALL BE REPLACED IN KIND, AT THE SAME LOCATION AS EXISTING. THE QUANTITIES LISTED BELOW HAVE BEEN CARRIED TO THE GENERAL SUMMARY. THE NEW LOOP DETECTOR WIRES SHALL BE RUN INTO THE EXISTING CONTROL BOX OR THE EXISTING PULLBOX. INCLUDED IN THIS ITEM IS THE POURED EPOXY TYPE CABLE SPLICE KIT (CONFORMING TO 725.15E) THAT MUST BE USED IN MAKING THESE CONNECTIONS.

ALL NECESSARY MATERIAL, LABOR, SPLICE KITS AND EQUIPMENT SHALL BE INCIDENTAL TO PAYMENT OF THESE ITEMS.
632 DETECTOR LOOP, AS PER PLAN, 3 EACH

ERIE ST. / RAMP B
1 EACH, 6' X 30'

ERIE ST. / RAMP H
2 EACH, 6' X 50'

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC AS DIRECTED BY ENGINEER FOR THE FOLLOWING TASKS:

1. FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

Canton Patrol Post
4710 Shuffel Road
North Canton, OH 44720
phone: (330) 433-6200

IF AFTER CONTACTING THE OHIO HIGHWAY PATROL, IT IS DETERMINED THAT THEY CANNOT SUPPLY THE LEO, THEN AN AUTHORIZED MUNICIPAL OR COUNTY POLICE OFFICER WITH A MARKED AND FLASHER-LIGHT EQUIPPED OFFICIAL POLICE OR PATROL CAR SHALL BE PROVIDED.

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:
614, LAW ENFORCEMENT OFFICER WITH PATROL CAR,
480 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

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

ADVANCED NOTICE TO PAVE

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

CALCULATED MJH CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAINTENANCE

STA-21-8.25

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, 2 PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS), ON SITE, FOR THE DURATION OF TIME SPECIFIED IN THIS NOTE, EACH SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT HTTP://WWW.DOT.STATE.OH.US/TESTLAB/APPLISTS/MISC/PCMS.HTM THE CLASS 1 UNITS SHALL HAVE A MINIMUM LEGIBILITY DISTANCE OF 1250 FEET.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE PCMS SHOULD NOT BE LOCATED IN THE MEDIAN OF THE HIGHWAY UNLESS IT IS PROTECTED FROM BOTH DIRECTIONS OF TRAFFIC. THE PCMS SHOULD BE LOCATED BEHIND GUARDRAIL WHEREVER POSSIBLE. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE THE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE CONTRACTOR. A LIST OF ALL PROPOSED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION. THE SIGN SHALL HAVE TWO DIFFERENT MEMORIES (PROM AND RAM) AND CAPABILITY TO STORE UP TO 99 MESSAGES IN EACH MEMORY. MESSAGE MEMORY OR PREPROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. IN ORDER TO CONVEY A MAXIMUM OF INFORMATION AT A SINGLE GLANCE, ONLY THREE LINE PRESENTATION FORMATS WITH A MAXIMUM OF SIX MESSAGE PHASES WILL BE PERMITTED. NORMALLY, ONLY A MAXIMUM OF THREE MESSAGE PHASES SHOULD BE EMPLOYED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DE-ACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR AREAS) ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614. THE CONTRACTOR SHALL PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 614.02.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID FOR EACH SIGN MONTH OF ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

614 PORTABLE CHANGEABLE MESSAGE SIGN,
AS PER PLAN, 8 SIGN MONTH

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

OHSAA FOOTBALL STATE FINALS:
NOV. 30 - DEC. 1, 2007
NOV. 28 - 29, 2008

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

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

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL BE ADVISED THAT THERE IS A CURRENT PROJECT UNDER CONSTRUCTION, STA-21-8.98 ODOT PID 23753 WITHIN THE WORK LIMITS OF THIS PROJECT. THE EXISTING PROJECT WILL NOT BE COMPLETE UNTIL JUNE 2009. ALL LANE CLOSURES ON THE CURRENT ODOT PROJECT STA-21-8.98 ODOT PID 23753 SHALL GOVERN OVER LANE RESTRICTION REQUIREMENTS FOR THIS PROJECT. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO AS TO CAUSE NO DELAY OR CONFLICT WITH THE EXISTING PROJECT. COMPENSATION FOR THIS COORDINATION SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS WITHIN THIS CONTRACT.

WEIGHTED CHANNELIZERS

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

THE MARKINGS ON THE WEIGHTED CHANNELIZER SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZER SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON-RETROREFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE. THE WEIGHTED CHANNELIZER SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

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

WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE "TANGENT AREA". THE "TANGENT AREA" IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS.

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

MAXIMUM SPACING OF THE WEIGHTED CHANNELIZER SHALL BE 40 FEET.

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

CONCRETE MEDIAN BARRIER REPLACEMENT

REMOVING, GRADING AND INSTALLING THE REPLACEMENT BARRIER IN A CONTINUOUS OPERATION SHALL BE LIMITED TO 500 LINEAR FEET AND SHALL AT ALL TIMES BE SUBJECT TO THE APPROVAL OF THE ENGINEER. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

CALCULATED M.J.H. CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

STA-21-8.25

GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified herein, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.

2. While the need for certain advisory signing is noted herein, it is not intended that this be indicative of all signing that may be required to advise or warn motorist, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.

3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown herein may be required.

4. The drop-off treatment selected for use at any given location shall be appropriate for the prevailing conditions at the site.

5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing PCB - 91, RM-4.2 and Item 622.

6. When drums are specified for a drop-off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.

7. When W8-9 (Low Shoulder) signs or W8-11 (Uneven Lanes) and R4-9 (Stay in Lane) signs are required, they shall be placed 750' in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the drop-off condition extends more than one-half mile, additional signs shall be erected at intervals of a maximum of one mile.

8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate any difference in elevation between pavements, the Optional Wedge Treatment shall be provided.

9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10', drums may be placed on the opposite level from that of traffic provided the drop-off depth does not exceed 5" and approval is granted by the Project Engineer.

10. Pavement Repairs (or similar work):

   a. Lengths greater than 60 feet - utilize appropriate treatment from Condition I.

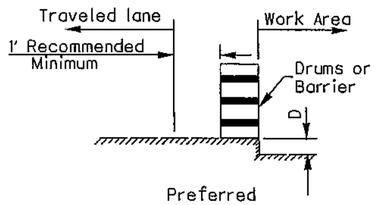
   b. Lengths of 60 feet or less - repairs shall be affected in accordance with Item 255.08. Drums may be used as a separator adjacent to the traveled lane.

CONDITION I

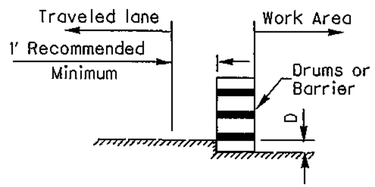
1. These treatments are to be used for resurfacing, pavement planing excavation, etc., between, beside or within traveled lanes.

Distance From Traveled Lane	D (in)	Treatment
1FT-12FT	≤ 1½	Erect W8-11.
1FT-12FT	1½-3	1. Lane closure utilizing drums* as shown below. (use only on 3 or more lanes) - or - 2. Optional Wedge Treatment.
1FT-12FT	3 - 5	Lane closure utilizing drums as shown below
1FT-12FT	5 - 12	Lane closure utilizing portable concrete barrier as shown below.
>12FT-20FT	12 - 24	Lane closure utilizing drums as shown below
>12FT-20FT	>24	Lane closure utilizing portable concrete barrier as shown below.

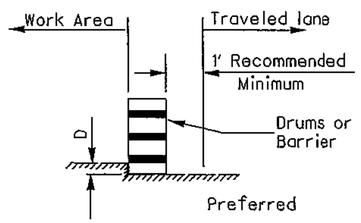
*Cones may be used for daytime only conditions.



Preferred



Acceptable (see note #9)



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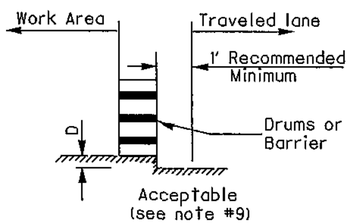


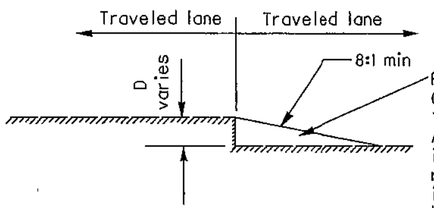
Acceptable (see note #9)

OPTIONAL WEDGE TREATMENT

(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.

2. W8-11 and R4-9 signs required.



Firm and unyielding material (to be removed prior to placing the abutting pavement course) All labor, equipment, materials, and incidentals to provide and subsequently remove the pavement wedge shall be included and paid under the lump sum bid for Item 614- Maintaining Traffic

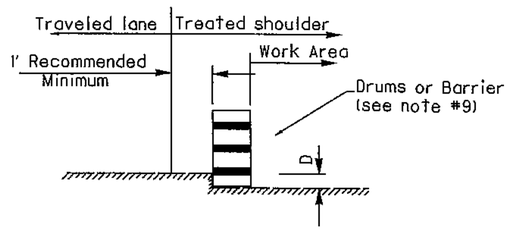
CONDITION II

DROPOFFS WITHIN GRADED SHOULDER AREA
[except for linear grading areas]

The treatments indicated below are for use in conjunction with resurfacing, planing, or excavation within the graded shoulder area.

Distance From Traveled Lane	D (in)	Treatment
1FT-12FT	≤ 1½	1.) If edgelines are present, no treatment necessary. or 2.) Erect W8-11 and R4-9 signs
1FT-12FT	1½- 5	1) If min. lane widths* requirements can be met, maintain lanes utilizing drums as shown below. - or - 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums. (use only on 3 or more lanes) - or - 3) Optional shoulder treatment
>12FT-30FT	<= 24	Shoulder closure utilizing drums as shown below
>12FT-30FT	>24	Shoulder closure utilizing portable concrete barrier as shown below.

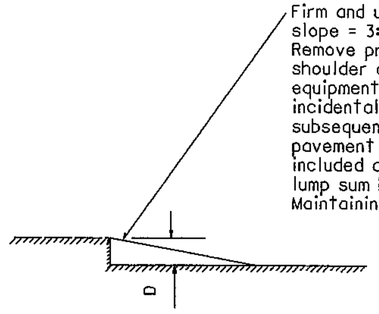
*Minimum lane widths shall be 10' unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment shall not be used within a bituminous shoulder where a hot longitudinal joint per 401.17 is required.

2. W8-9 signs required.



Firm and unyielding material slope = 3:1 or flatter. Remove prior to placing the shoulder course. All labor, equipment, materials and incidentals to provide and subsequently remove the pavement wedge shall be included and paid under the lump sum bid for item 614 - Maintaining Traffic.

DROPOFFS IN WORK ZONES

STA-21-8.25

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SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								4	5	10	15	21	22						
																		ROADWAY	
														201	11000	LUMP		CLEARING AND GRUBBING	
								60						202	30700	60	FT	CONCRETE BARRIER REMOVED	
								187.5						202	38000	187.5	FT	GUARDRAIL REMOVED	
												120		202	54000	120	EACH	RAISED PAVEMENT MARKER REMOVED	
								1						202	58200	1	EACH	INLET REMOVED	
								537						203	10000	537	CU YD	EXCAVATION	
								8						203	40000	8	CU YD	BORROW	
								4						209	60201	4	STATION	LINEAR GRADING, AS PER PLAN	4
								175						606	13000	175	FT	GUARDRAIL, TYPE 5	
								4						606	22010	4	EACH	ANCHOR ASSEMBLY, TYPE E-98	
								1						606	26500	1	EACH	ANCHOR ASSEMBLY, TYPE T	
								60						622	90000	60	FT	BARRIER, MISC.: CONCRETE BARRIER	
								4						SPEC	69098000	4	EACH	MISC : VERTICAL CLEARANCE	4
													0 5	SPEC	69099000	0 5	ACRE	MISC : CLEARING AND GRUBBING	22
																		EROSION CONTROL	
								99						659	10000	99	SQ YD	SEEDING AND MULCHING	
								0 01						659	20000	0 01	TON	COMMERCIAL FERTILIZER	
								0 02						659	31000	0 02	ACRE	LIME	
								1						659	35000	1	M GAL	WATER	
																		DRAINAGE	
								1						604	14501	1	EACH	INLET, NO 3A, AS PER PLAN	4
																		PAVEMENT	
								5370						251	01000	5370	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR	
										155450				254	01001	155450	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	3
								3222						255	10100	3222	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS	
								9666						255	20000	9666	FT	FULL DEPTH PAVEMENT SAWING	
								537						304	20000	537	CU YD	AGGREGATE BASE	
										23318				407	13900	23318	GALLON	TACK COAT, 702.13	
										5299				407	14000	5299	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
										4428				408	10001	4428	GALLON	PRIME COAT, AS PER PLAN	3
										34977				409	30000	34977	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	
										6478				442	10051	6478	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	3
										7359				442	10150	7359	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)	
								12						448	46061	12	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	4
										615				617	10101	615	CU YD	COMPACTED AGGREGATE, AS PER PLAN	3
																		TRAFFIC CONTROL	
								9						626	00100	9	EACH	BARRIER REFLECTOR, TYPE A	
									3					632	26501	3	EACH	DETECTOR LOOP, AS PER PLAN	5
											5 12			642	00100	5.12	MILE	EDGE LINE, TYPE 1	
											4.38			642	00200	4 38	MILE	LANE LINE, TYPE 1	
											0 03			642	00290	0.03	MILE	CENTER LINE	
											3592			642	00402	3592	FT	CHANNELIZING LINE, TYPE 2	
											66			642	00502	66	FT	STOP LINE, TYPE 2	
											2137			642	00702	2137	FT	TRANSVERSE/DIAGONAL LINE, TYPE 2	
											7			642	01302	7	EACH	LANE ARROW, TYPE 2	
											1.76			644	00100	1.76	MILE	EDGE LINE	
											1.76			644	00200	1 76	MILE	LANE LINE	

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GENERAL SUMMARY

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SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									5	6	21	22	28					
																	TRAFFIC CONTROL	
											120			621	10020	120	EACH	RPM, LOW PROFILE WHITE/RED	
													2	625	32000	2	EACH	GROUND ROD	
													708	630	03100	708	FT	GROUND MOUNTED SUPPORT, NO 3 POST	
													101	630	07000	101	FT	GROUND MOUNTED SUPPORT, W8X18 BEAM	
													57	630	07500	57	FT	GROUND MOUNTED SUPPORT, W10X22 BEAM	
													47	630	07600	47	FT	GROUND MOUNTED SUPPORT, W10X12 BEAM	
													8	630	09000	8	EACH	BREAKAWAY BEAM CONNECTION	
													1	630	20500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12 30, DESIGN 5	
													1	630	20800	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12 30, DESIGN 8	
													33	630	75000	33	EACH	SIGN ATTACHMENT ASSEMBLY	
													7	630	79500	7	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
													661	630	80100	661	SQ FT	SIGN, FLAT SHEET	
													387	630	80200	387	SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET	
													1682	630	80224	1682	SQ FT	SIGN. OVERHEAD EXTRUSHEET	
													8	630	84500	8	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
													2	630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
													129	630	84900	129	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
													4	630	85400	4	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
													48	630	86002	48	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
													8	630	86102	8	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
													14	630	87400	14	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
													5	630	87500	5	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
													2	630	89706	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12 30	
												10		630	89902	10	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC CONTROL ITEM, BEAM SUPPORT FOUNDATION	22
													6	631	94200	6	EACH	REMOVAL OF LUMINAIRE AND DISPOSAL	
													2	631	94304	2	EACH	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	
													4	631	94404	4	EACH	REMOVAL OF BALLAST AND DISPOSAL	
													2	631	94408	2	EACH	REMOVAL OF SIGN WIRING AND DISPOSAL	
													1	631	94412	1	EACH	REMOVAL OF SIGN SERVICE AND DISPOSAL	
																	MAINTENANCE OF TRAFFIC	
									480					614	11100	480	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
									24					614	12460	24	EACH	WORK ZONE MARKING SIGN	
									20					614	13000	20	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
										8				614	18601	8	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN. AS PER PLAN	6
									12 28					614	20400	12 28	MILE	WORK ZONE LANE LINE, CLASS II	
									13 61					614	22000	13 61	MILE	WORK ZONE EDGE LINE, CLASS I	
									7184					614	23000	7184	FT	WORK ZONE CHANNELIZING LINE, CLASS I	
									132					614	26000	132	FT	WORK ZONE STOP LINE, CLASS I	
														SPEC	10810000	LUMP		CPM PROGRESS SCHEDULE	
														614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16020	24	MONTH	FIELD OFFICE, TYPE C	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

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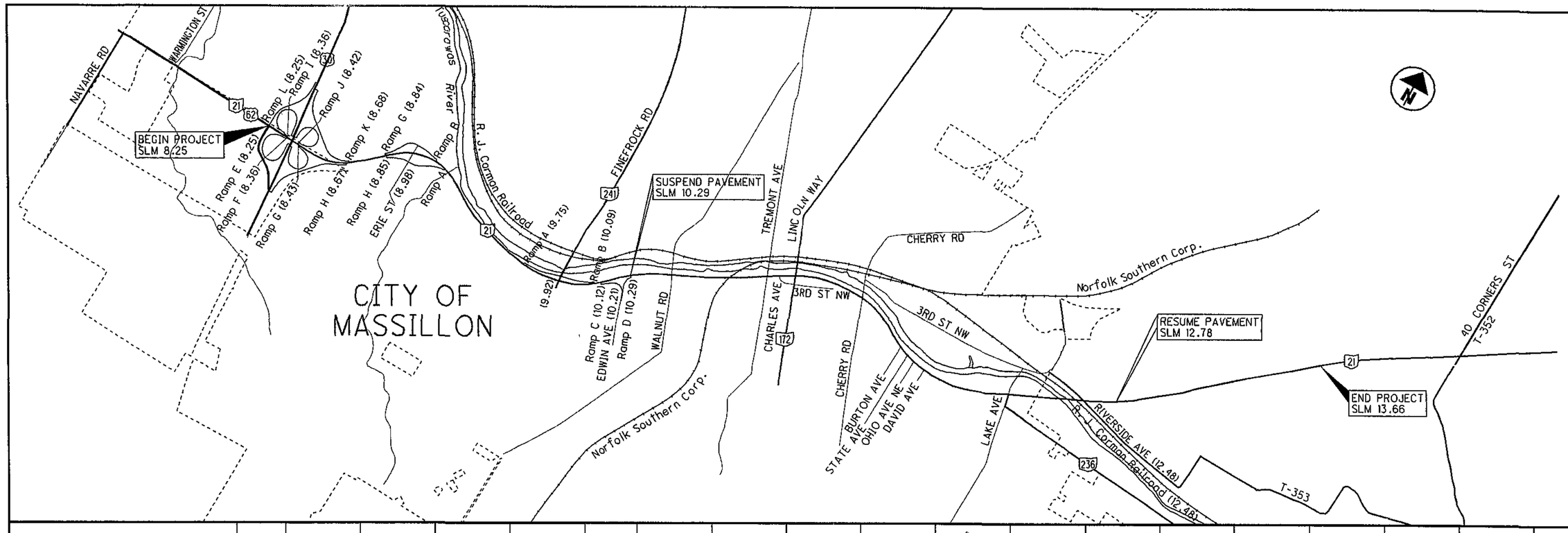
GENERAL SUMMARY

STA-21-8.25



SLM RANGE			ROUTE	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A = D x W / 9	CADD GENERATED AREA (A)	254 PAVEMENT PLANING, ASP CONC., APP A	407 TACK COAT, 702 13 0 15xA	407 TACK COAT FOR INT COURSE 0 04xA	442 (2") INT COURSE, 19mm, TYPE B (446) (2xA)/36	442 (1 1/2") SUR COURSE 12 5mm, TYPE B(446), APP (1 5xA)/36	408 PRIME COAT, APP (0 4x# sides x2xD)/9	617 COMPACTED AGGREGATE APP (# sides x2x2xD)/(12*27)	409 SAWING AND SEALING ASP CONC. PAVEMENT JOINTS D/40xW					
					FT	FT	SQ YD	SQ YD	SQ YD	GAL	GAL	CU YD	CU YD	GAL	CU YD	FT					
8 25	TO	8 46	21	NB/SB	1108 80	53 00	6529.60		6529 60	979 44	261 18	362 76	272 07	197 12	27 38	1635 48					
					1108 80	6 00	739 20		739 20	110 88			30 80								
8 46		8.84	21	NB/SB	2006 40	60.00	13376.00		13376.00	2006 40	535.04	743 11	557 33	356.69	49.54	3711 84					
					2006 40	14 00	3121 07		3121.07	468 16			130 04								
8 84		9 40	21	NB/SB	2956.80	62.00	20369.07		20369 07	3055 36	814 76	1131 61	848 71	525.65	73 01	5617 92					
					2956 80	14 00	4599 47		4599 47	689 92			191 64								
9 40		10 24	21	NB/SB	4435.20	60 00	29568.00		29568 00	4435.20	1182 72	1642 67	1232.00	788.48	109.51	8205.12					
					4435 20	14 00	6899 20		6899 20	1034 88			287 47								
10 24		10 29	21	NB/SB	264.00	62 00	1818.67		1818 67	272 80	72 75	101.04	75.78	46.93	6.52	501 60					
					264 00	14 00	410 67		410 67	61 60			17 11								
12 78		13 66	21	NB/SB	4646 40	56 00	28910 93		28910 93	4336 64	1156 44	1606 16	1204 62	1652 05	229 45	8131 20					
					4646 40	14 00	7227 73		7227 73	1084 16			301 16								
ERIE ST RAMP "A"					965 00	VARIES		2851	2851 00	427 65	114 04	158 39	118 79	171 56	23 83	641 38					
ERIE ST RAMP "B"					420.00	VARIES		1628	1628 00	244 20	65.12	90.44	67 83	74.67	10.37	366.25					
ERIE ST RAMP "G"					718 00	VARIES		2383	2382 89	357 43	95 32	132 38	99 29	127 64	17 73	536 15					
ERIE ST RAMP "H"					455 00	VARIES		2508	2507 94	376 19	100.32	139 33	104 50	80 89	11.23	564 29					
FINEFROCK RD RAMP "A"					745 00	VARIES		1924	1923 61	288 54	76 94	106 87	80 15	132 44	18.40	432 81					
FINEFROCK RD. RAMP "B"					569 00	VARIES		1681	1680.67	252.10	67 23	93.37	70.03	101.16	14 05	378 15					
EDWIN AVE & RAMP "C"					613.00	VARIES		1903	1903.44	285.52	76.14	105 75	79.31	108 98	15 14	428.28					
EDWIN AVE RAMP "D"					355 00	VARIES		868	867 78	130 17	34 71	48 21	36 16	63 11	8 77	195 25					
ACCEL/DECEL						VARIES		16135	16135.00	2420.25	645 40	896 39	672.29			3630 38					
							SUBTOTALS		155449 93	23317 49	5298 10	7358.48	6477 08	4427 38	614 91	34976.09					
							TOTALS CARRIED TO GENERAL SUMMARY		155450	23318	5299	7359	6478	4428	615	34977					

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ASPHALT CONCRETE SHEET

SLM 8.25 TO SLM 10.29 & SLM 12.78 TO SLM 13.66

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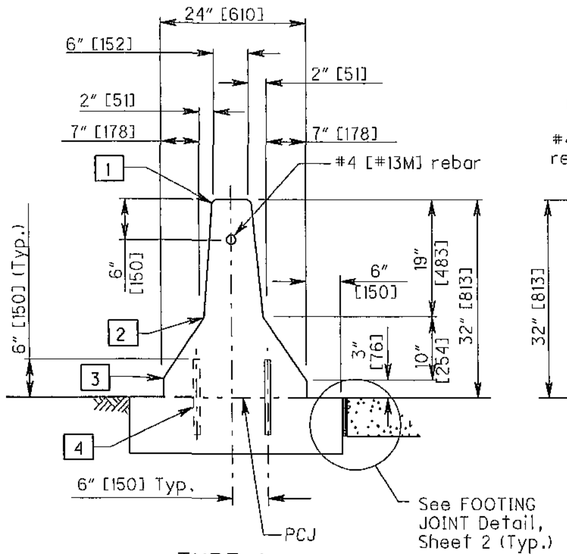
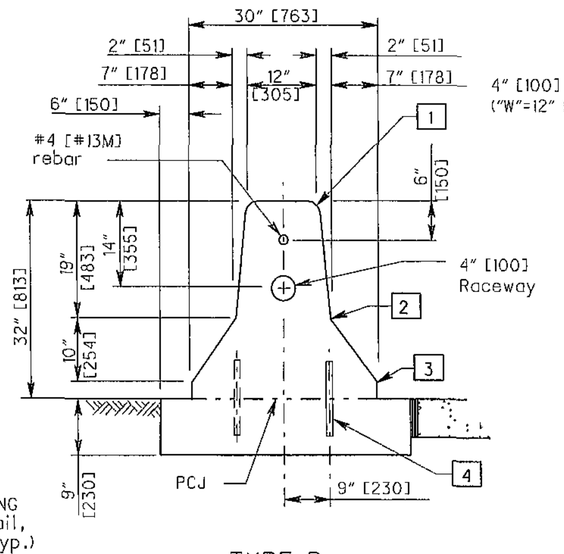
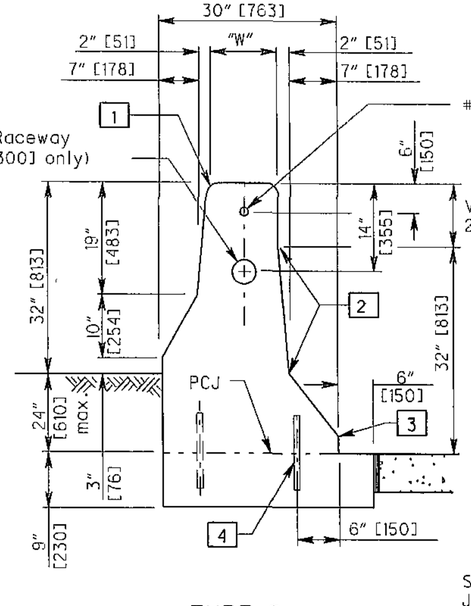


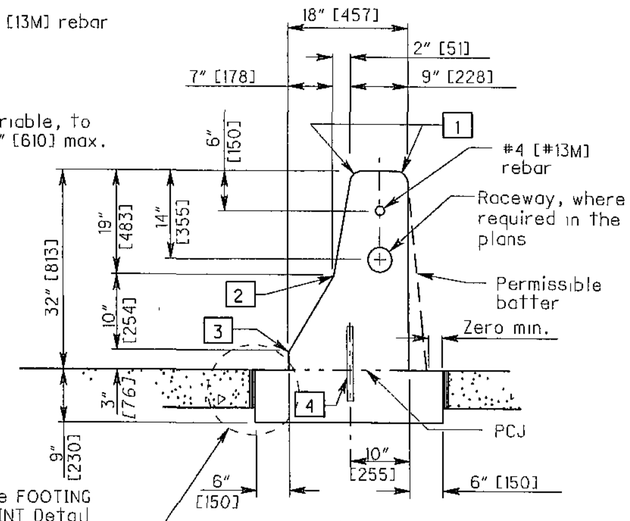
TYPE A



TYPE B



TYPE C

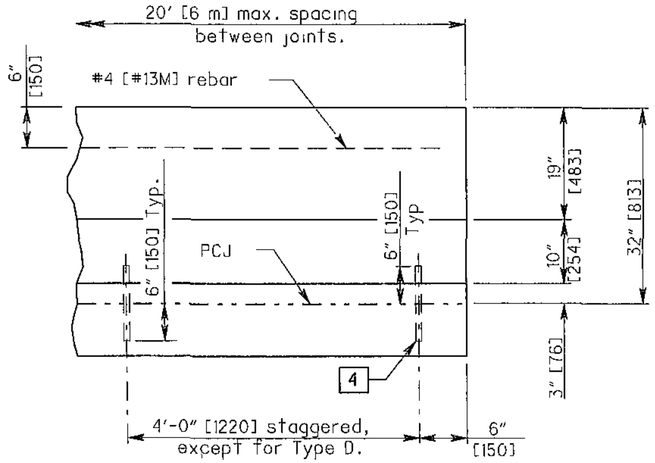


TYPE D

NORMAL SECTIONS

"W" = 6" [152] or 12" [305] barrier width, as specified in the plans

All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted



32" [813-mm] BARRIER

BARRIER ELEVATION

NOTES

JOINTS: Unsealed contraction joints spaced at 20' [6 m] maximum shall be constructed throughout the run of Concrete Barrier except that expansion joints shall be used at the center line of and around each bridge pier column and on either side of overhead sign supports, inlets and light pole foundations If the inlet top is slip formed, the expansion joints adjacent to it may be omitted.

Contraction joints may be constructed with metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing Inserts, tooled joints, and sawed joints shall have a 3" [75] minimum depth. All joints shall be constructed for the full height of the barrier including the footing. Sawing shall be done as soon as curing will allow, to prevent spalling.

FOOTING JOINTS: The vertical walls between the barrier footing and a concrete pavement or concrete base shall be provided with a sealed joint as shown on Sheet 2. Sealing material shall conform to CMS 705.04.

PCJ = Permissible Construction Joint

MEASUREMENT: Item 622, Concrete Barrier, including transitions and pier sections as detailed on the New Jersey Shape Barrier Transition drawing, is paid for in linear feet [meters] as one of the four types (A, B, C or D) or as Type A1 and B1, (for 50" [1270] high barrier), with appropriate deductions for other items such as.

Item 604 - I-3 Median Inlet	20 Lin Ft [6 Meters]
Item 625 - Light Pole Foundation or Pullbox	2.5 Lin. Ft. [1 Meter].
Item 630 - Overhead Sign Support Foundation	10 Lin. Ft. [3 Meters].
Item 630 - Barrier Wall Assembly	10 Lin Ft. [3 Meters].

TRANSITIONS: Linear transitions between the different types of barrier detailed on this Standard Drawing shall occur between contraction joints spaced no closer than 10' [3 m].

RACEWAY: The contractor shall ensure that the electrical raceway is clear of internal obstructions. Cost of the 4" [100] polyvinyl chloride raceway and No 10 AWG copper-clad or aluminum-clad wire if needed for future installation of circuits shall be included in the unit cost per Linear Foot [Meter] for Item 622 - Concrete Barrier, Type ____ .

STATION MARKING: The Station marking shall be impressed in the "green" concrete on both sides at the top of the barrier if specified in the plans. The cost shall be incidental to the unit cost per Linear Foot [Meter] bid for Item 622 - Concrete Barrier, Type ____ .

REFLECTORIZATION: Barrier reflectorization shall be installed in accordance with CMS 626

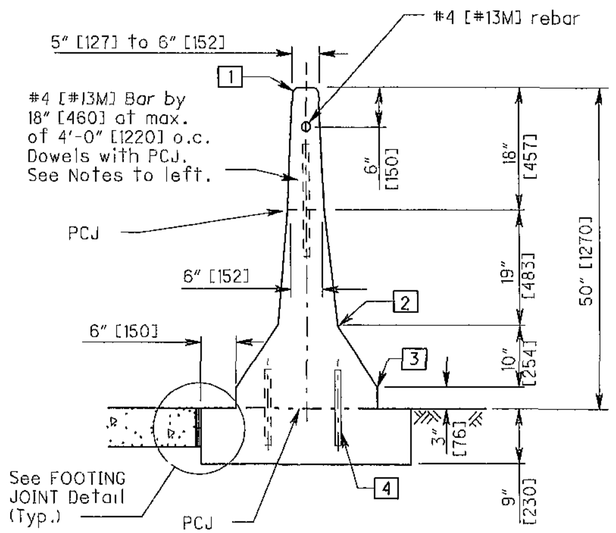
LEGEND

1. 1" [25] radius or ¾" [19] chamfer
2. Permissible 10" [250] radius.
3. Permissible 1" [25] radius
4. #8 [#25M] epoxy coated Deformed Steel Bars, 1'-0" [305] long, spaced 4'-0" [1220] between successive Bars on a staggered pattern except in Type D. Omit Dowels when the top is constructed integrally with the Base.

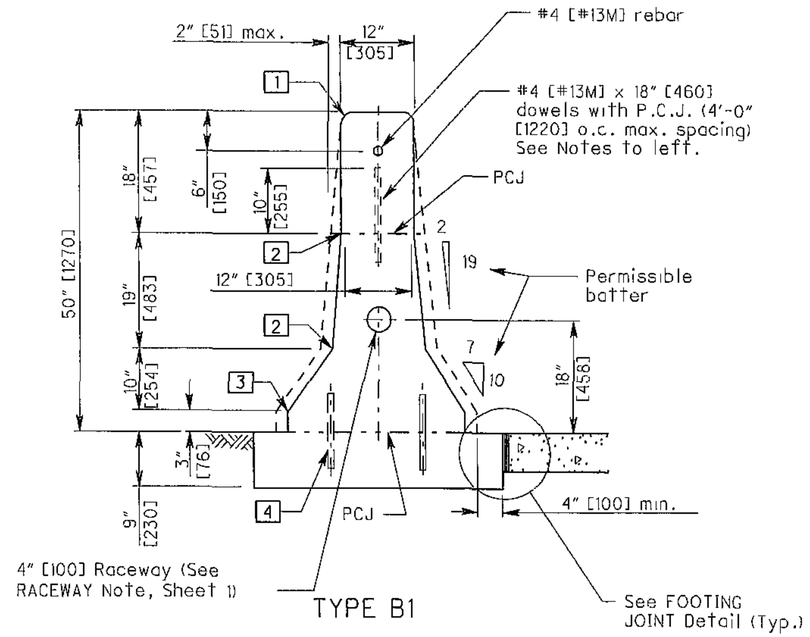
FORMERLY DRAWING RM-4.3M DATED 10-21-97

NEW JERSEY SHAPE BARRIER (Sheet 1 of 2)

STA-21-8.25



TYPE A1

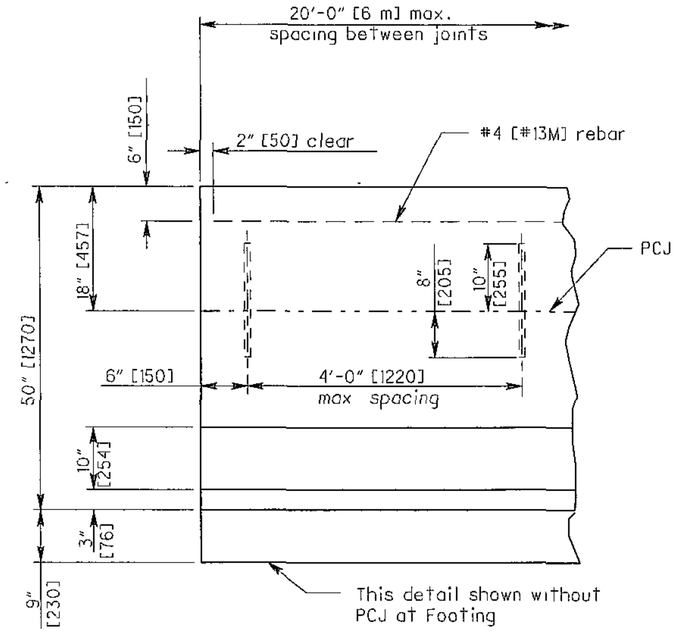


TYPE B1

50" [1270-mm] BARRIERS - TYPICAL SECTIONS

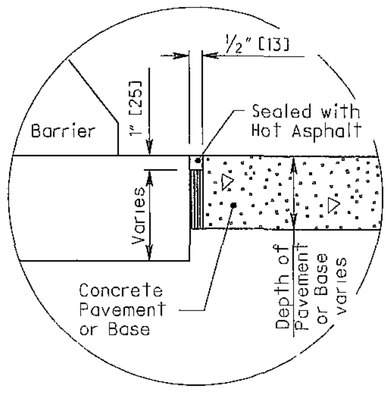
See Type A and Type B Normal Section Details (Sheet 1) for dimensions that are not shown.

All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.



50" [1270-mm] BARRIER

BARRIER ELEVATION



FOOTING JOINT DETAIL

See FOOTING NOTE on Sheet 1.

See FOOTING NOTE on Sheet 1.

NOTES

50" [1270-mm] BARRIER: High barrier shall be built in locations specified in the plans. Construct the lower 32" [813] of the barrier base using the same dimensions as as shown in the corresponding Normal Section on Sheet 1. The upper 18" [457] may be constructed integrally with the bottom, or separately with #4 [#13M] rebar dowels at 4'-0" [1220] maximum spacing.
Start and end dowels 6" [150] from barrier contraction joints.

LEGEND

1. 1" [25] radius or ¾" [19] chamfer.
2. Permissible 10" [250] radius.
3. Permissible 1" [25] radius
4. #8 [#25M] epoxy coated deformed Steel Bars, 1'-0" [305] long, spaced 4'-0" [1220] between successive Bars on a staggered pattern except in Type D. Omit Dowels when the Top is constructed integrally with the Base.

FORMERLY DRAWING RM-4.3M DATED 10-21-97

NEW JERSEY SHAPE BARRIER (Sheet 2 of 2)

STA-21-8.25

12
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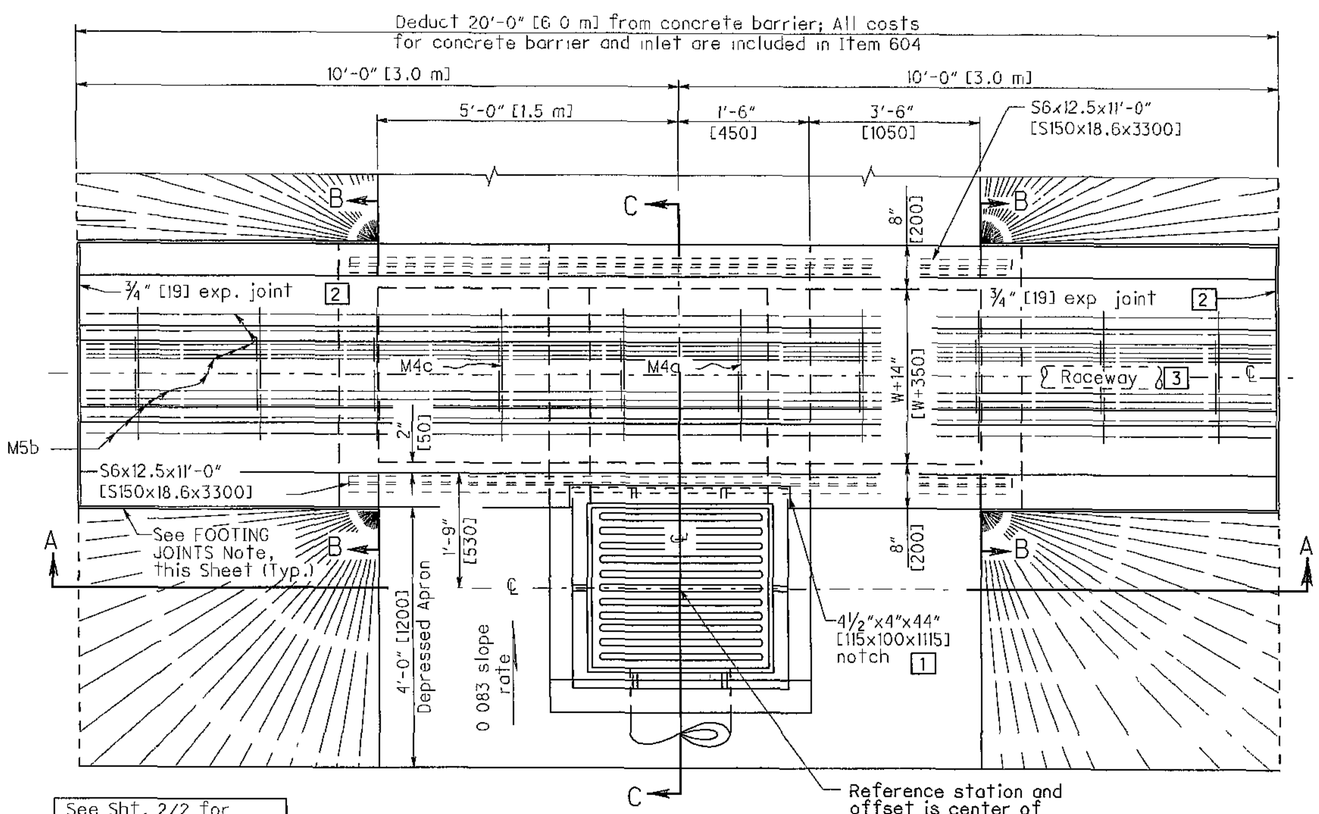

NOTES

GENERAL: For details of concrete barriers, see Plan Insert Sheet "NEW JERSEY SHAPE BARRIER" Minimum weight [mass] of frame and cover shall be 540 lbs [245 kg].

WALLS: The walls between the bottom slab and the upper permissible construction joint may be built of brick, concrete block or cast-in-place concrete, 8" [200] nominal thickness for depths of 12' [3.5 m] or less Precast walls shall have a minimum thickness of 6" [150] and be reinforced sufficiently to permit shipping and handling without damage The unit above the permissible construction joint may be precast or cast-in-place.

HEIGHT: When placed in 50" [1270] high barrier the 30" [763] height shall be made 48" [1220].

CONCRETE: Cast-in-place concrete is to be Class C All precast concrete shall meet the requirements of CMS 706.13. Required markings shall include the inlet number Exposed concrete surfaces of the barrier shall be sealed with an approved sealer.

REINFORCING STEEL: Reinforcing steel shall be epoxy coated in accordance with CMS 509.09.

FOOTING JOINTS: The vertical walls between the barrier footing and a concrete pavement or concrete base shall be provided with a sealed joint as detailed on Plan Insert Sheet "NEW JERSEY SHAPE BARRIER".

STEPS: Steps shall be in accordance with SCD MH-1.1.

GRATE LOCATION: In superelevated curves or at other locations where there is unequal discharge from the directional roadways, the inlet grating shall be located in the roadway which discharges the major flow

INLETS OVER 12 FEET [3.5 m] IN DEPTH: Such inlets shall be precast or cast-in-place concrete; reinforced with #4 [#13M] bars on 12" [300] centers both vertically and horizontally with 2" [50] clearance from the inside wall face.

OPENINGS: Pipe openings shall be the outside diameter of the pipe being supplied plus 2" [50] when fabricated or field cut The interstitial space shall be filled with grout per CMS 601

PCJ: Permissible Construction Joint

STANDARD INLET NUMBERS	
I-3A Type A	(32" [813] Barrier with W=6" [150])
I-3A Type A1	(50" [1270] Barrier with W=6" [150])
I-3B Type B	(32" [813] Barrier with W=12" [300])
I-3B Type B1	(50" [1270] Barrier with W=12" [300])

LEGEND

1. After casting is placed, fill notch with Class C concrete
2. A 1½" [38] minimum exp. joint shall be provided in concrete pavement or concrete shoulders.
3. 4" [100] Lighting raceway, if required elsewhere by the plans.
4. Barrier height equals either 32" [813] or 50" [1270].

FORMERLY DRAWING 1-2 1 DATED 7-19-02

NEW JERSEY SHAPE BARRIER MEDIAN INLETS 3A & 3B (Sheet 1 of 2)

STA-21-8.25

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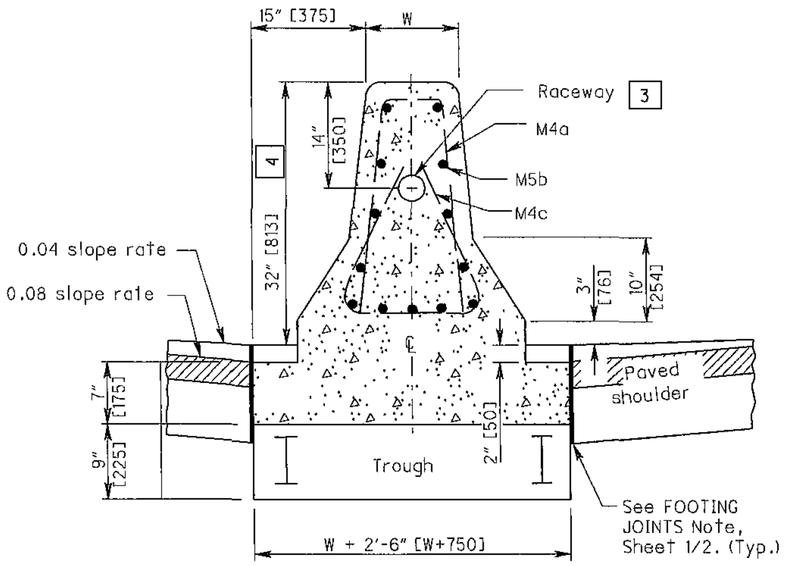
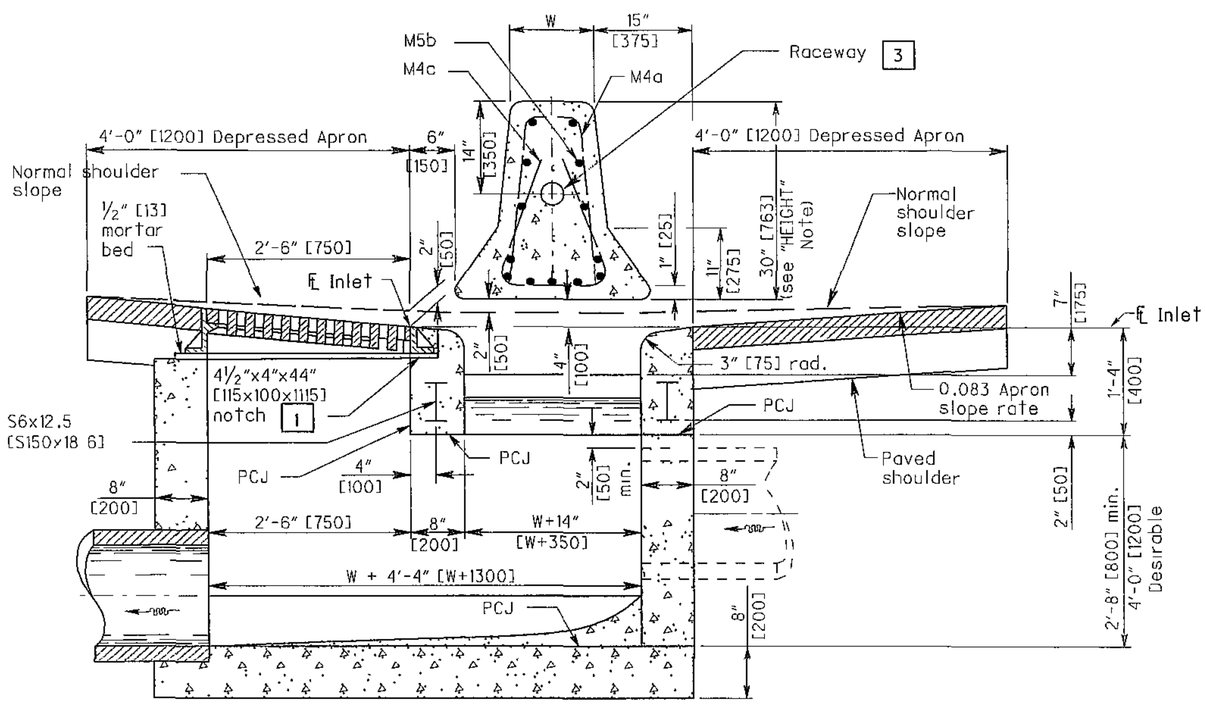
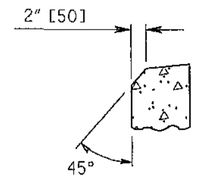


SECTION B-B
(See Sht. 1/2)

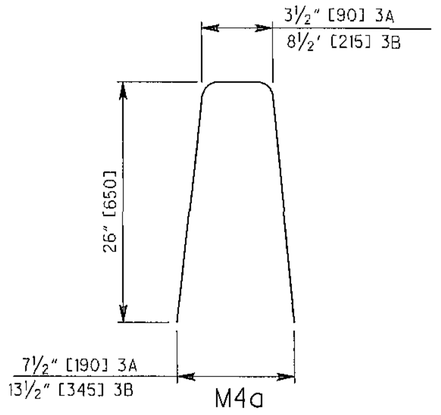


SECTION C-C
(See Sht. 1/2.)

See Sheet 1 of 2 for NOTES and LEGEND



ALTERNATE
SPILLWAY SHAPE

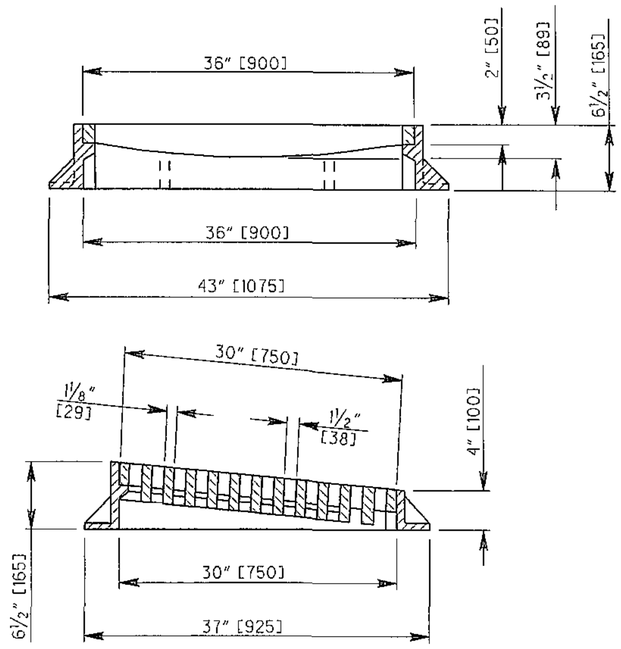


BENDING DIAGRAM

REINFORCING STEEL LIST

INLET NO.	W	M4a #4 [#13M]		M5b #5 [#16M]		M4c #4 [#13M]		S6x12.5 [S150x18.6]	
		No.	Length	No.	Length	No.	Length	No.	Length
I-3A	6" [150]	10	4'-6" [1370]	13	19'-8" [5900]	10	3'-1" [940]	2	11'-0" [3300]
I-3B	12" [300]	10	5'-0" [1525]	13	19'-8" [5900]	10	4'-6" [1370]	2	11'-0" [3300]

Included for estimating purposes only. The cost of furnishing and placing all reinforcing steel shall be included in Item 604 for payment.



CASTING DETAILS

FORMERLY DRAWING 1-2.1 DATED 7-19-02 -

NEW JERSEY SHAPE BARRIER MEDIAN INLETS 3A & 3B (Sheet 2 of 2)

STA-21-8.25

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PAVEMENT MARKING SUB-SUMMARY

CALCULATED TJD
CHECKED

CENTER LINE

GENERAL SPEC: 640
MATERIAL TYPE 642 - PAINT & 644 - THERMOPLASTIC

CTY	ROUTE	TRU LOG	FROM	TRU LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
STA	21	0 00	NB RAMP @ EDWIN AVE	0 03	NB RAMP @ EDWIN AVE	0 03	0 06	ITEM 642
TOTAL ITEM 642						0.03	0.06	

LANE LINE

CTY	ROUTE	TRU LOG	FROM	TRU LOG	TO	TOTAL MILES	4" LANE LINE DASHED	4" LANE LINE SOLID	COMMENTS
STA	21	8 25	US 30 EB RAMPS	10 29	SR 21 NB ON RAMP FROM EDWIN AVE	4.38			INCLUDES RAMPS, ITEM 642
STA	21	12 78	0 3 MILE NORTH RIVERSIDE AVE	13 66	0.7 MILE SOUTH FORTY CORNERS RD	1.76			ITEM 644
TOTAL ITEM 642						4.38			
TOTAL ITEM 644						1.76			

EDGE LINE

CTY	ROUTE	TRU LOG	FROM	TRU LOG	TO	WHITE EDGE LINE TOTAL	WHITE EDGE LINE HIGHWAY	WHITE EDGE LINE RAMP	YELLOW EDGE LINE TOTAL	YELLOW EDGE LINE HIGHWAY	YELLOW EDGE LINE RAMP	COMMENTS
STA	21	8 25	US 30 EB RAMPS	10 29	SR 21 NB ON RAMP FROM EDWIN AVE	5 12	4.08	1.04	4 97	4 08	0 89	ITEM 642
STA	21	12 78	0 3 MILE NORTH RIVERSIDE AVE.	13 66	0 7 MILE SOUTH FORTY CORNERS RD	1 76	1 76		1 76	1 76		ITEM 644
TOTAL ITEM 642						5.12	4.08	1.04	4.97	4.08	0.89	
TOTAL ITEM 644						1.76	1.76		1.76	1.76		

AUXILIARY

CTY	ROUTE LOCATION	TRU LOG	CHANNEL LINE FT	STOP LINE FT	TRANSVERSE DIAGONAL LINES WHITE FT	TRANSVERSE DIAGONAL LINES YELLOW FT	CROSS WALK LINES FT	WORD ON PVMT ONLY 72" EACH	WORD ON PVMT ONLY 96" EACH	LANE ARROWS TURN LEFT EACH	LANE ARROWS TURN RIGHT EACH	LANE ARROWS THRU EACH	LANE ARROWS COMB. EACH	SYMBOL MARKINGS RxR EACH	SYMBOL MARKINGS SCHOOL 72" EACH	SYMBOL MARKINGS SCHOOL 96" EACH	ISLAND MARKING SQ FT	DOTTED LINES FT	COMMENTS
STA	SR 21NB TO ERIE ST	8 860	348		261														ITEM 642
STA	SR 21SB FROM ERIE ST	8 860	271																ITEM 642
STA	SR 21NB FROM ERIE ST	9 170	400																ITEM 642
STA	SR 21SB TO ERIE ST	9 090	422		316														ITEM 642
STA	SR 21SB FROM FINEFROCK	9 170	300																ITEM 642
STA	SR 21SB TO FINEFROCK	10 040	604		453														ITEM 642
STA	SR 21NB TO EDWIN AVE	10 170	320		240														ITEM 642
STA	SR 21NB FROM EDWIN AVE.	10.270	200																ITEM 642
STA	SR 21NB @ ERIE ST.		250	50	450					3									ITEM 642
STA	SR 21 SB @ ERIE ST		477	16	417					4									ITEM 642
TOTAL ITEM 642			3592	66	2137					7									

STA-21-8.25

TS 54
DISTRICT 4

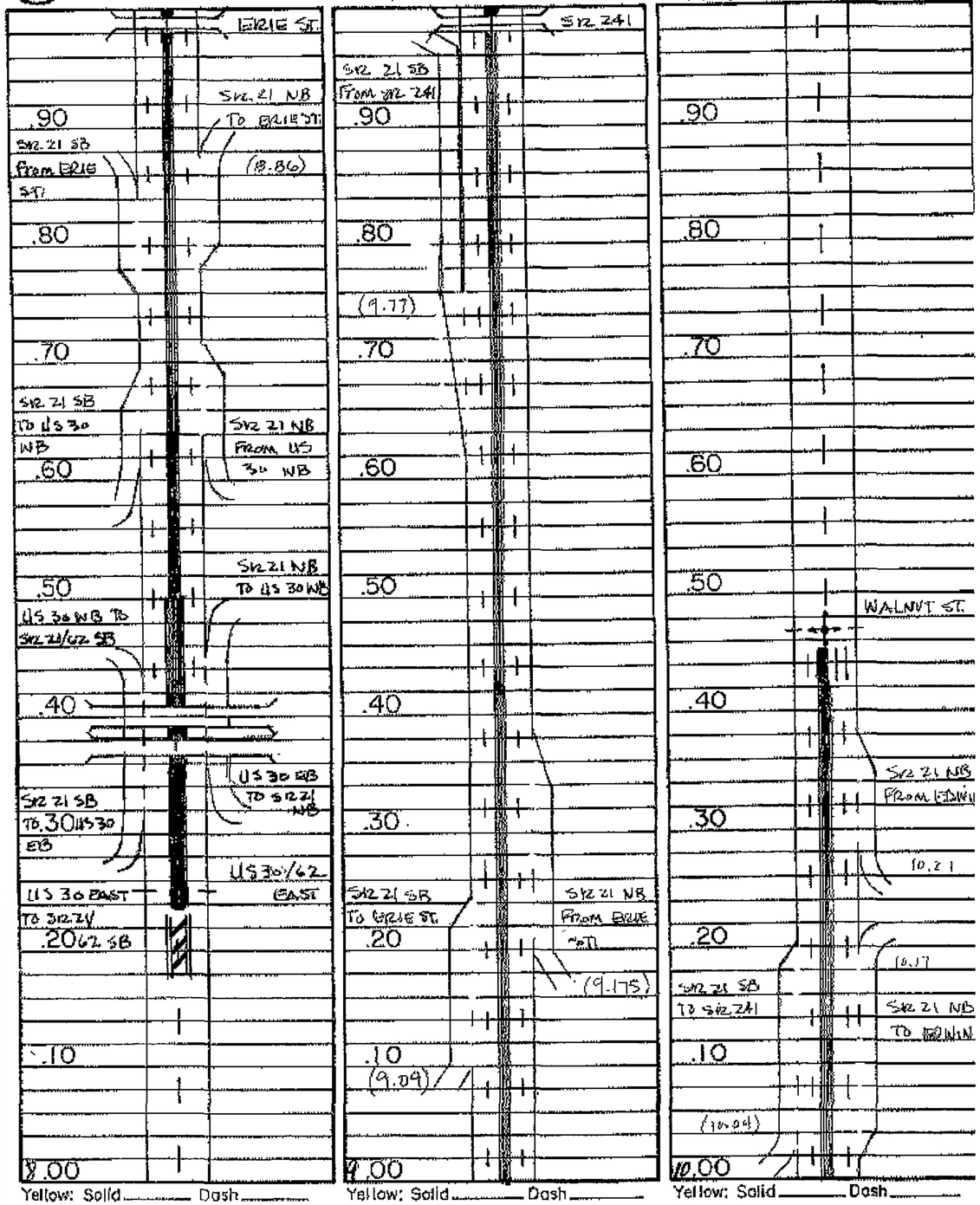
N

Center Line Log Record and Field Sheet

COUNTY STARK ROUTE 21

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

N

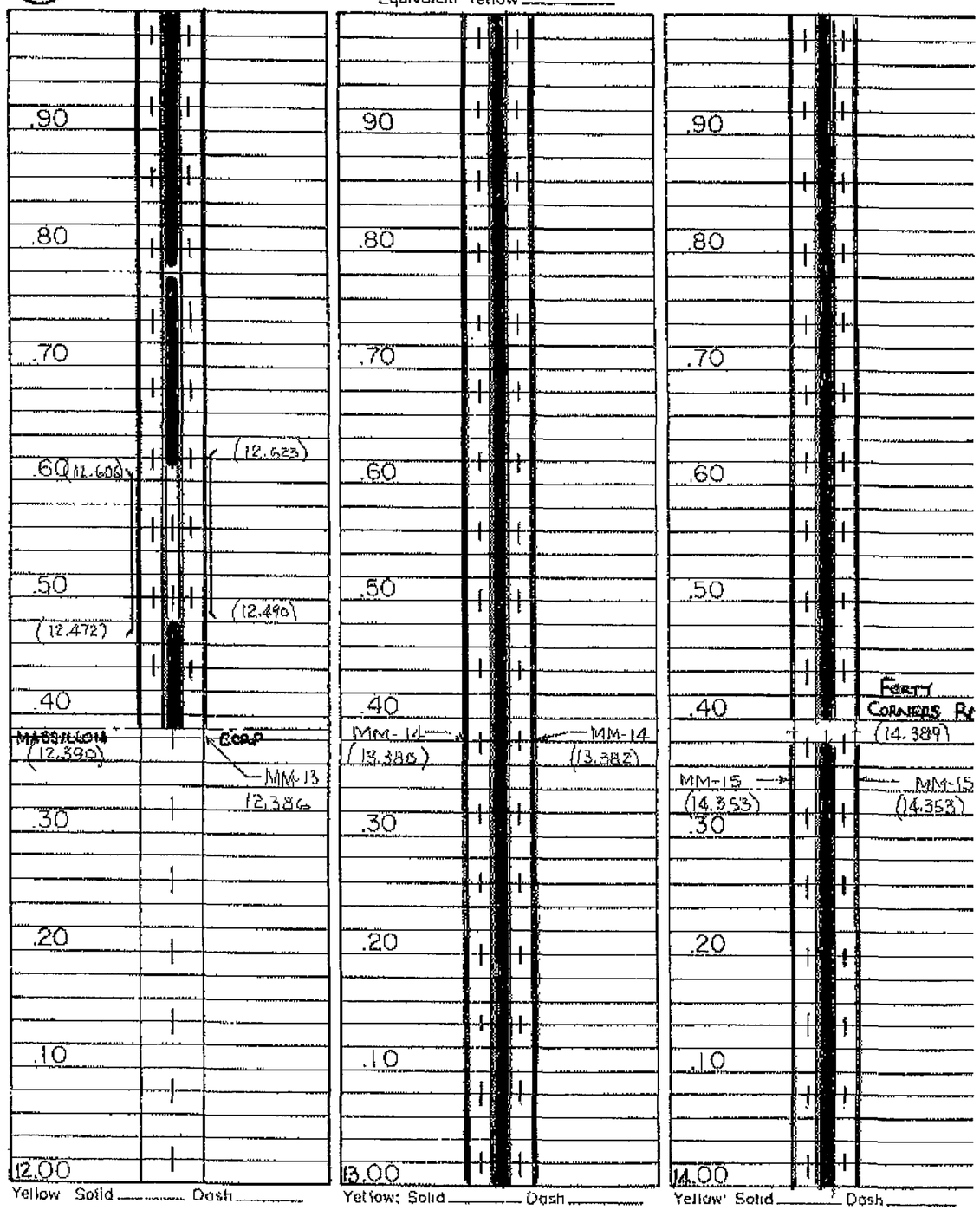
Center Line Log Record and Field Sheet

SHEET 3 OF 6

COUNTY STARK ROUTE 21

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 _____

PAVEMENT MARKING DETAILS

STA-21-8.25

16
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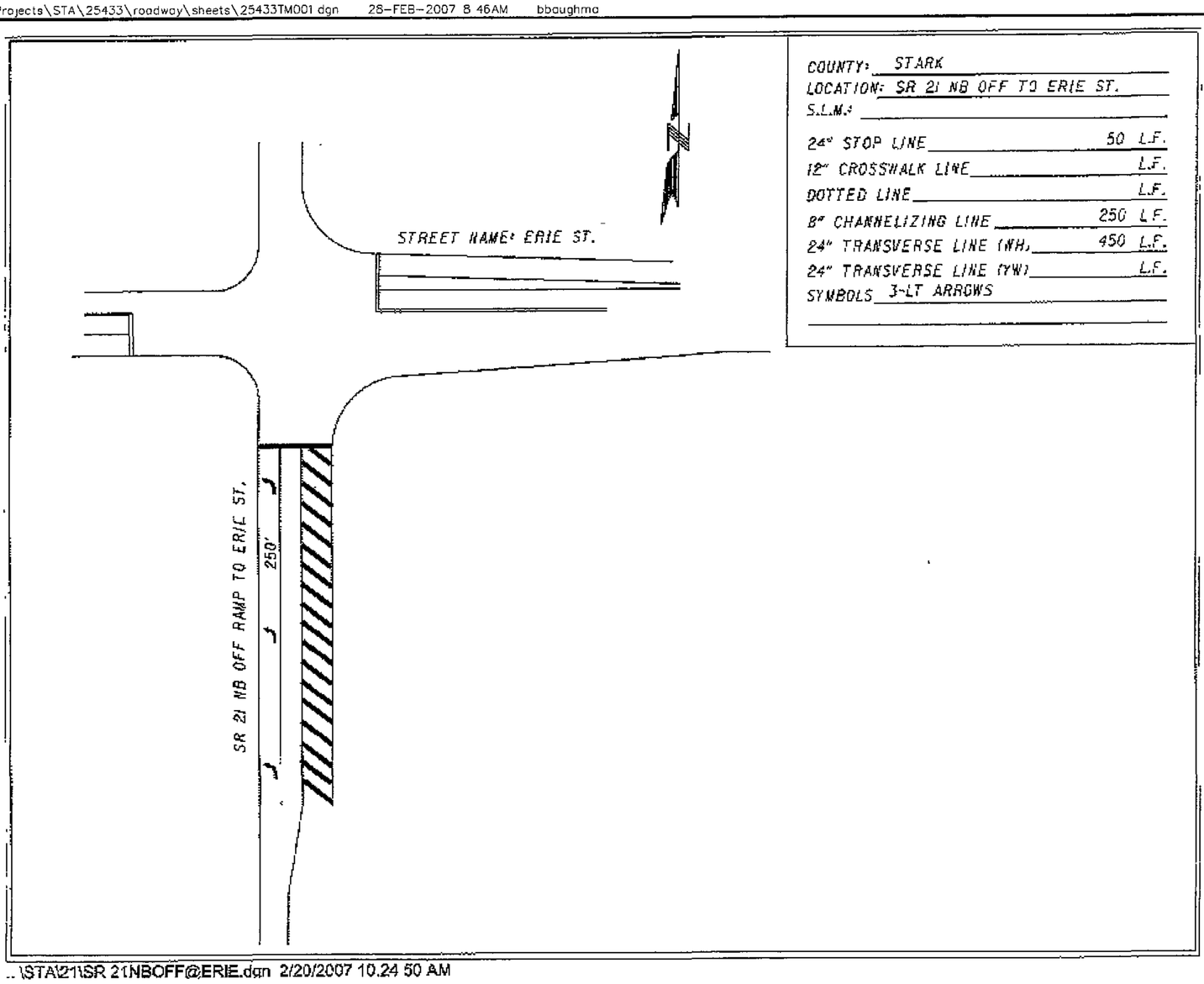

COUNTY: STARK
LOCATION: SR 21 NB OFF TO ERIE ST.
S.L.M.:

24" STOP LINE	50 L.F.
12" CROSSWALK LINE	L.F.
DOTTED LINE	L.F.
8" CHANNELIZING LINE	250 L.F.
24" TRANSVERSE LINE (WH)	450 L.F.
24" TRANSVERSE LINE (YW)	L.F.
SYMBOLS	3-LT ARROWS

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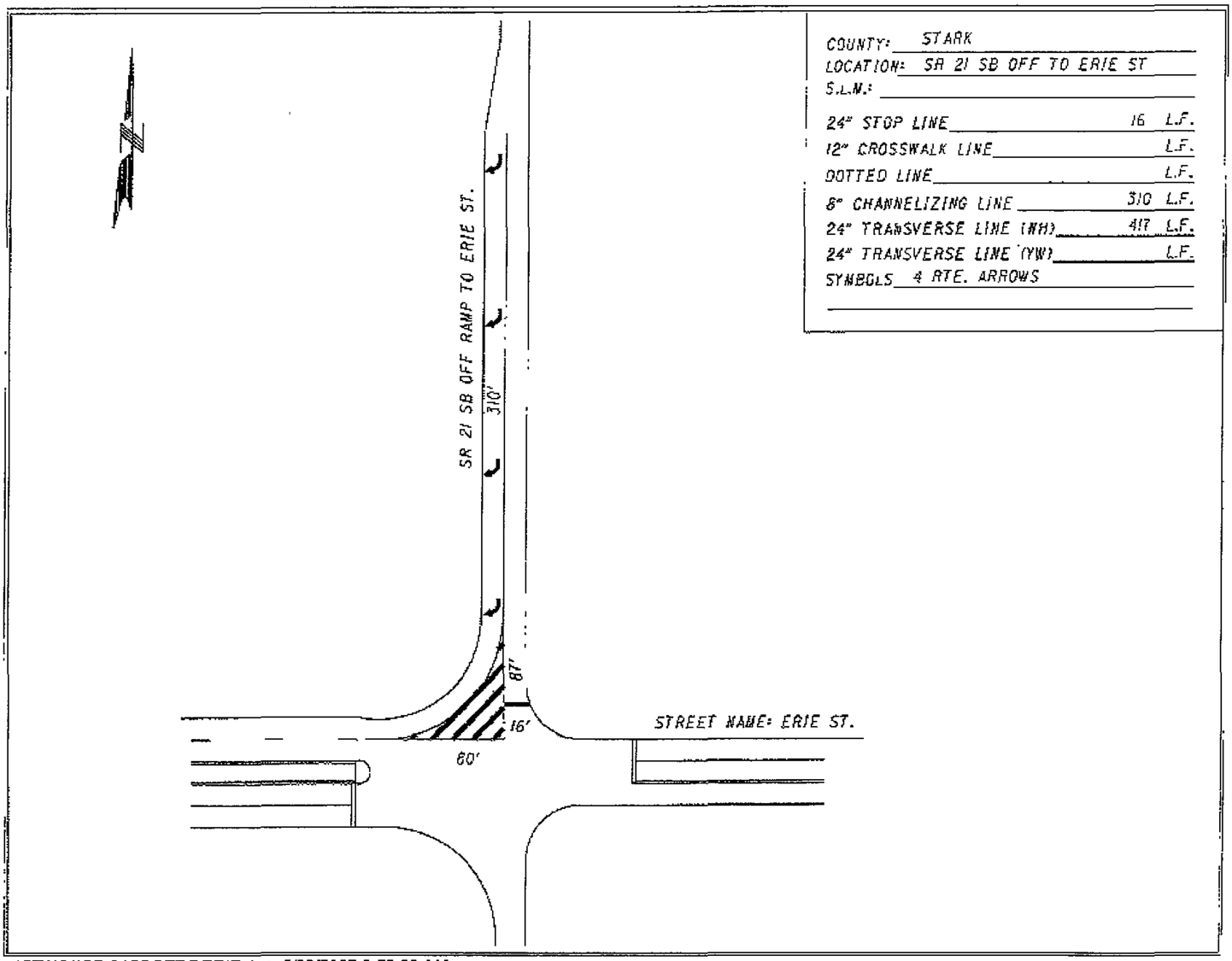

COUNTY: STARK
LOCATION: SR 21 SB OFF TO ERIE ST
S.L.M.:

24" STOP LINE	16 L.F.
12" CROSSWALK LINE	L.F.
DOTTED LINE	L.F.
8" CHANNELIZING LINE	310 L.F.
24" TRANSVERSE LINE (WH)	417 L.F.
24" TRANSVERSE LINE (YW)	L.F.
SYMBOLS	4 RTE. ARROWS

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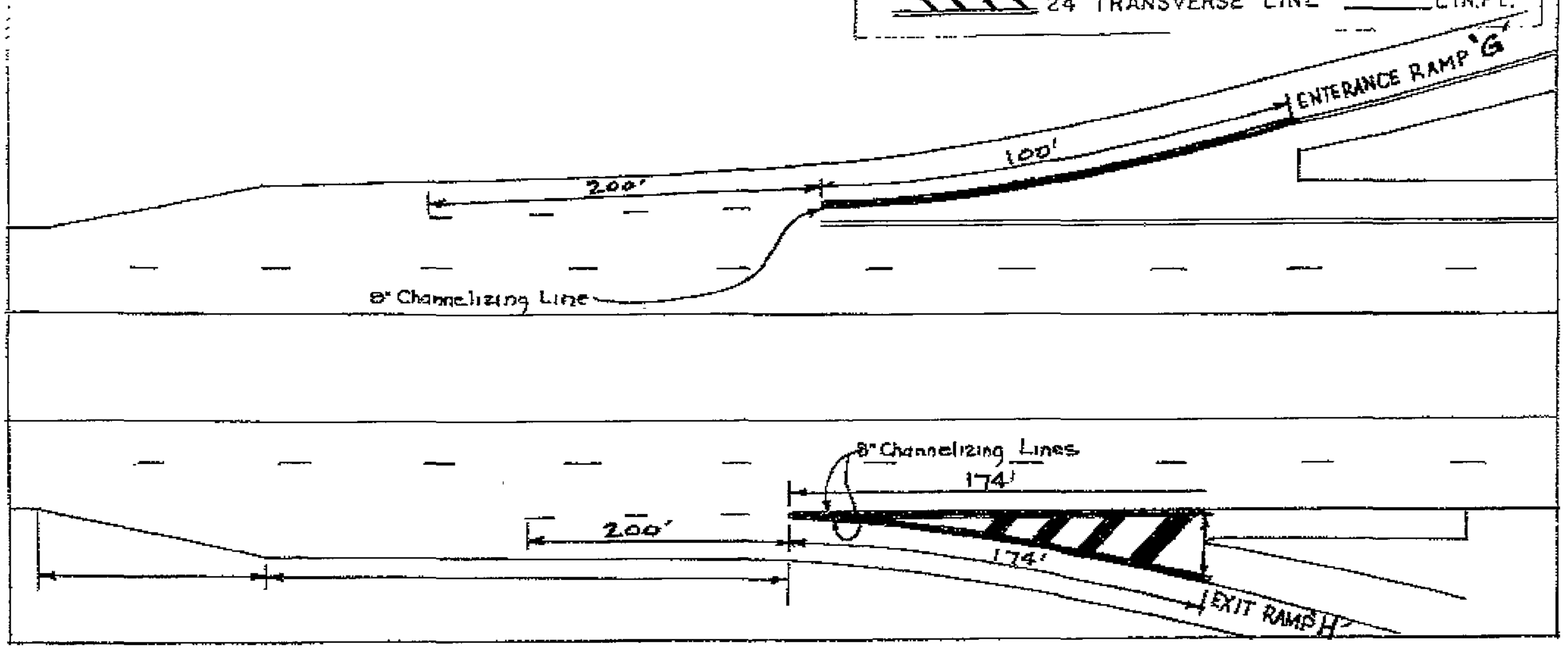
AUXILIARY PAVEMENT MARKING

COUNTY STARK
LOCATION SR 21 @ ERIE ST
PAVEMENT SURFACE TYPE

INTERSECTION TOTALS

24" STOP LINE ____ LIN. FT.
12" CROSSWALK LINE ____ LIN. FT.
8" CHANNELIZING LINE ____ LIN. FT.
SYMBOLS and LEGENDS

24" TRANSVERSE LINE ____ LIN. FT.



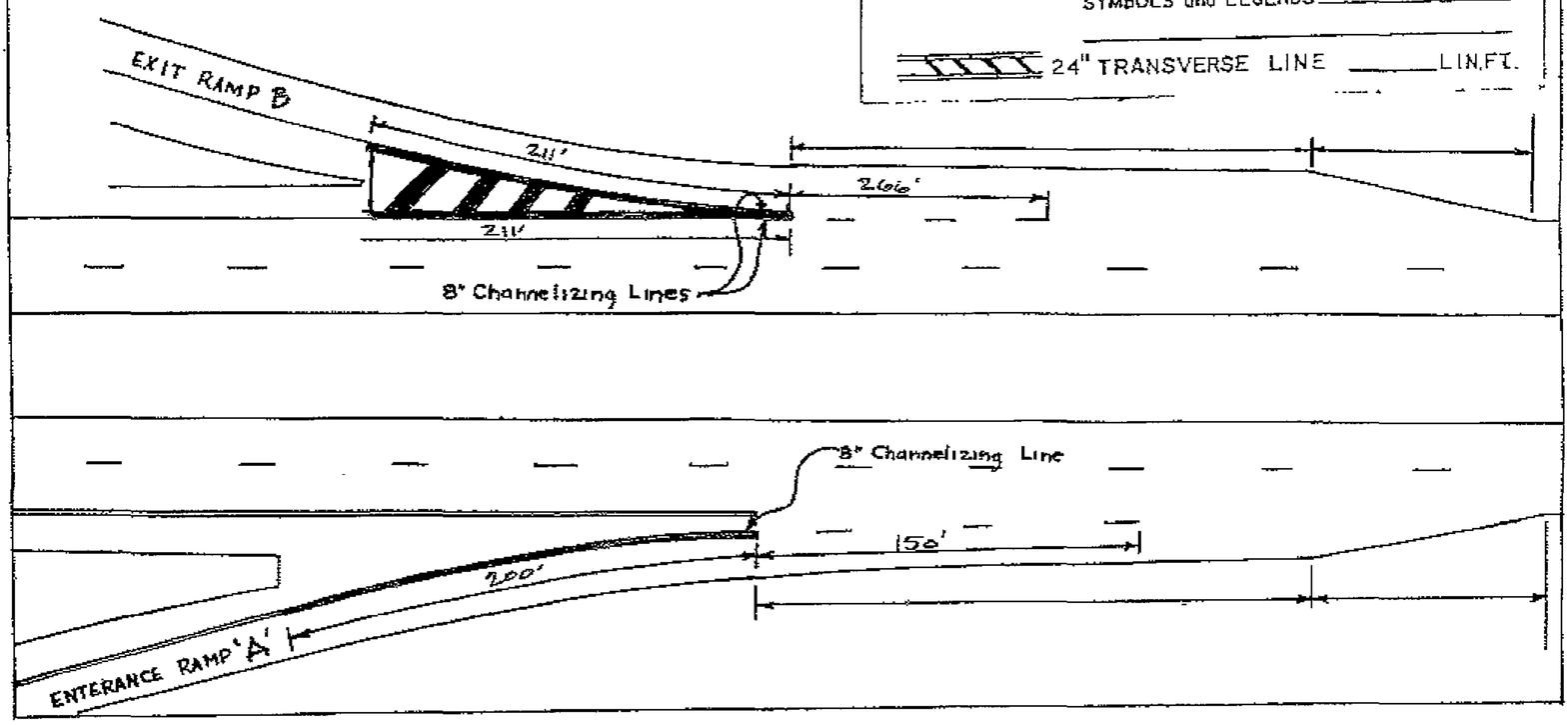
AUXILIARY PAVEMENT MARKING

COUNTY STARK
LOCATION SR 21 @ ERIE ST
PAVEMENT SURFACE TYPE

INTERSECTION TOTALS

24" STOP LINE ____ LIN. FT.
12" CROSSWALK LINE ____ LIN. FT.
8" CHANNELIZING LINE ____ LIN. FT.
SYMBOLS and LEGENDS

24" TRANSVERSE LINE ____ LIN. FT.



AUXILIARY PAVEMENT MARKING

COUNTY STARK

LOCATION SR 21 @ SR 241

PAVEMENT SURFACE TYPE

INTERSECTION TOTALS

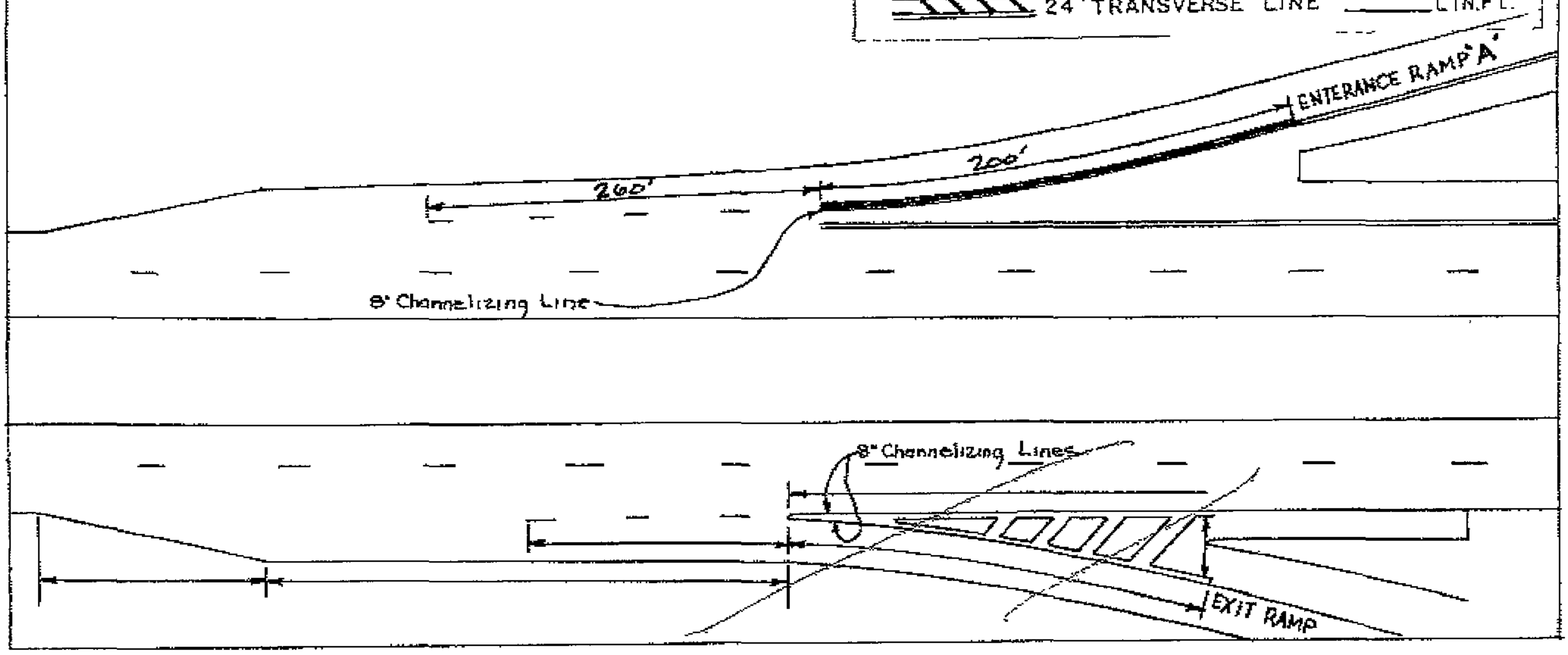
24" STOP LINE _____ LIN. FT.

12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE _____ LIN. FT.

SYMBOLS and LEGENDS

24" TRANSVERSE LINE _____ LIN. FT.



AUXILIARY PAVEMENT MARKING TAPERED

COUNTY Stark

LOCATION SR 21 @ SR 241

PAVEMENT SURFACE TYPE

INTERSECTION TOTALS

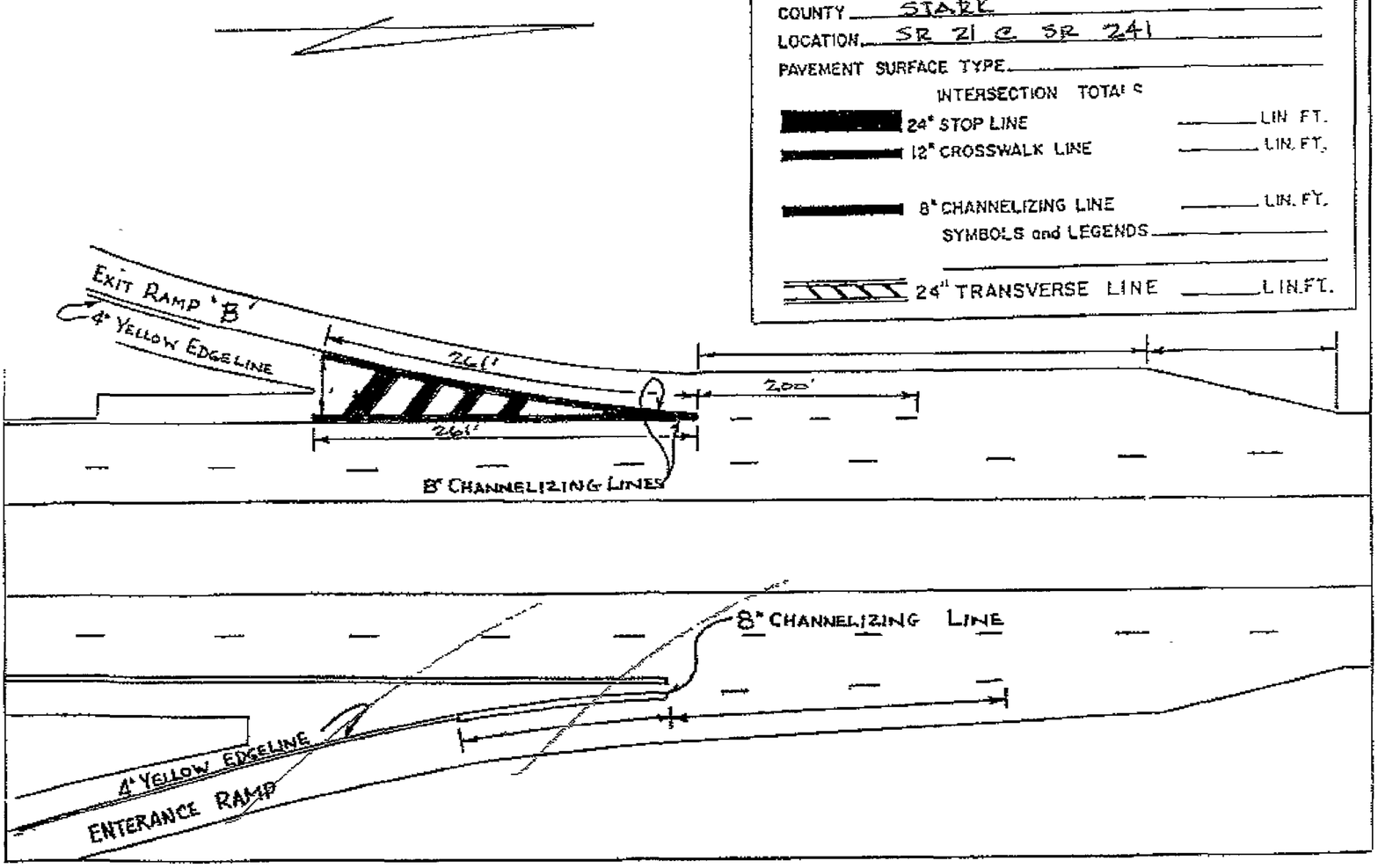
24" STOP LINE _____ LIN. FT.

12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE _____ LIN. FT.

SYMBOLS and LEGENDS

24" TRANSVERSE LINE _____ LIN. FT.



AUXILIARY PAVEMENT MARKING

COUNTY STARK

LOCATION SR 21 @ EDWIN AVE.

PAVEMENT SURFACE TYPE _____

INTERSECTION TOTALS

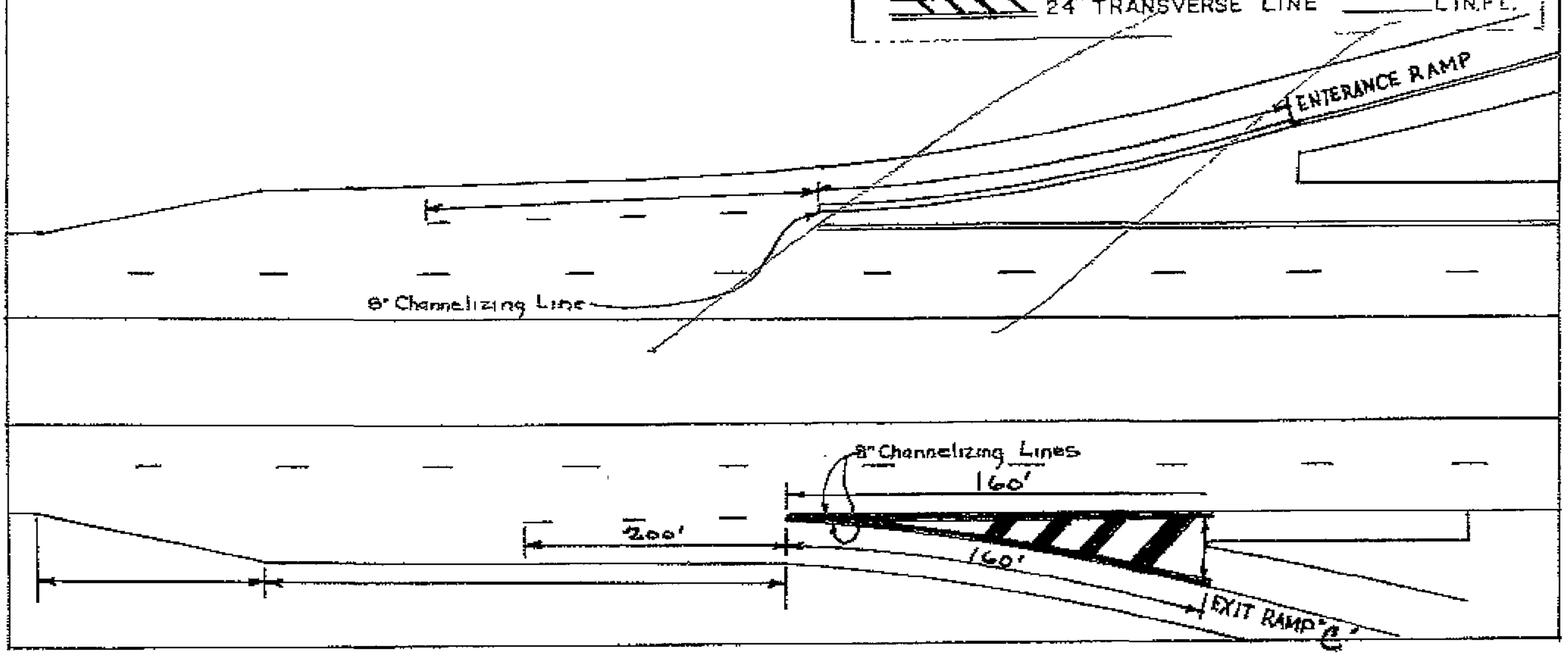
24" STOP LINE _____ LIN. FT.

12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE _____ LIN. FT.

SYMBOLS and LEGENDS _____

24" TRANSVERSE LINE _____ LIN. FT.



AUXILIARY PAVEMENT MARKING TAPERED

COUNTY STARK

LOCATION SR 21 @ EDWIN AVE.

PAVEMENT SURFACE TYPE _____

INTERSECTION TOTALS

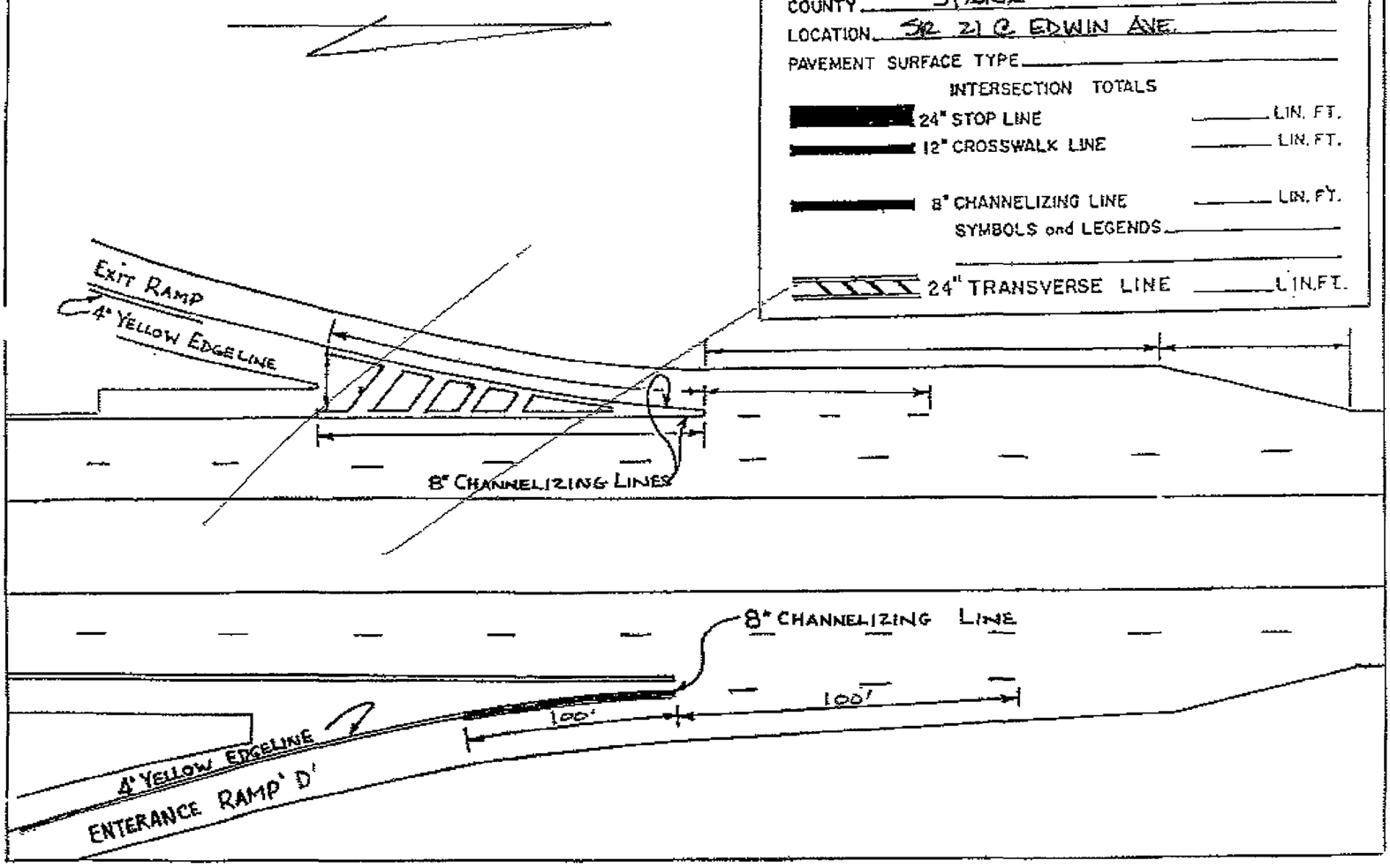
24" STOP LINE _____ LIN. FT.

12" CROSSWALK LINE _____ LIN. FT.

8" CHANNELIZING LINE _____ LIN. FT.

SYMBOLS and LEGENDS _____

24" TRANSVERSE LINE _____ LIN. FT.



RPM REPLACEMENT / REMOVAL

STANDARD CONSTRUCTION DWG.	
TC-65.10 1-21-05	
TC-65.11 1-21-05	

CALCULATED KG | CHECKED DY

LOCATION				ITEM 202	ITEM 621				
COUNTY	ROUTE	SECTION (S.L.M.) FROM	SECTION (S.L.M.) TO	RAISED PAVEMENT MARKER REMOVED	RPM LOW PROFILE YELLOW/ YELLOW	RPM LOW PROFILE WHITE/ RED	RPM LOW PROFILE ONE-WAY WHITE	RPM LOW PROFILE YELLOW/ RED	REMARKS
SUM	21	12.78	13.66	120		120			SR 21 NB. AND SB. FROM RESUME WORK TO END PROJECT (LANE LINE)
TOTAL				120		120			TOTALS CARRIED TO GENERAL SUMMARY

RAISED PAVEMENT MARKER SUB SUMMARY

SUM-21-8.25

SIGN PLACEMENT

THE EXACT LOCATIONS OF SIGNS ARE TO BE STAKED AND CHECKED BY THE ENGINEER PRIOR TO PLACEMENT TO INSURE CLEARANCE OF DRIVES, ROADWAYS AND OTHER OBSTACLES. IF THERE ARE ANY CONFLICTS, THEY SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS IS INCIDENTAL TO ALL 630 ITEMS.

ENDANGERED SPECIES HABITAT - INDIANA BAT

THIS PROJECT IS WITHIN THE RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND MAY IMPACT SUMMER ROOSTING AND BROOD-REARING HABITAT FOR THIS SPECIES. THE SUMMER ROOSTING AND BROOD-REARING HABITAT FOR THE INDIANA BAT CONSISTS OF LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES. THEREFORE, ANY UNAVOIDABLE CUTTING OF TREES AND/OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES SHALL BE PERFORMED ONLY AFTER SEPTEMBER 15 AND BEFORE APRIL 15 WHEN THE SPECIES WOULD NOT BE USING SUCH HABITAT

ITEM 690 - SPECIAL, MISC.: CLEARING AND GRUBBING

THIS ITEM IS INTENDED TO BE USED TO CLEAR ALL GROWTH IN FRONT OF HIGHWAY SIGNS THAT MAY IMPEDE ITS VIEWING BY MOTORISTS.

IN ADDITION TO THE REQUIREMENTS OF 201, THE CONTRACTOR WILL REMOVE STUMPS AT LEAST 6 INCHES BELOW GROUND SURFACE AND THE WORK WILL NOT INCLUDE SCALPING. THE AREA TO BE CLEARED AND GRUBBED WILL BE DELINEATED IN THE WORK ORDER.

THE FOLLOWING IS AN ESTIMATED QUANTITY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE ABOVE WORK:

ITEM 690-SPECIAL, MISC.; CLEARING AND GRUBBING 0.5 ACRE.

PAYMENT WILL BE AT THE UNIT BID PRICE PER ACRE CLEARED AND GRUBBED AND WILL INCLUDE BACKFILLING HOLES AND REMOVING ALL TREES AND STUMPS.

ITEM 630 - REMOVAL OF MISC. TRAFFIC CONTROL ITEM, BEAM SUPPORT FOUNDATION

THE CONTINGENCY QUANTITY HAS BEEN PROVIDED FOR THIS WORK TO BE USED FOR REMOVAL OF BEAM SUPPORT FOUNDATIONS, AS DIRECTED BY THE ENGINEER, WHERE EVER NEEDED THROUGHOUT THE PROJECT.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:
ITEM 630 - REMOVAL OF MISC TRAFFIC CONTROL ITEM, BEAM SUPPORT FOUNDATION - 10 EACH

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CALCULATED CX CHECKED KPW

TRAFFIC CONTROL GENERAL NOTES

STA-21-8.25

REF NO	SHEET NO	SLM	SIDE	CODE * PLYWOOD # YELLOW/GREEN ## WHITE ON BROWN	SIZE (INCHES)	625	630																								631					
						GROUND ROD	GROUND MOUNTED SUPPORT, NO. 3 POST			GROUND MOUNTED SUPPORT, W8X18 BEAM	GROUND MOUNTED SUPPORT, W10X22 BEAM	GROUND MOUNTED SUPPORT W10X12 BEAM		BREAKAWAY BEAM CONNECTION	OVERHEAD SIGN SUPPORT, TYPE TC-12 30, DESIGN 5	OVERHEAD SIGN SUPPORT, TYPE TC-12 30, DESIGN 8	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF BALLAST AND RDISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL
						EA	FT			FT	FT	FT		EA	EA	EA	EA	EA	SF	SF	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
	29			**SR 21**																															
1		8 25	LT	M3-3-30	30 X 15		13 75											3 13						1		1									
			LT	M1-5-2-30	30 X 30													6 25						1											
2		8 25	LT	M3-4-30	30 X 15		13.75											3.13						1		1									
			LT	M1-4-2-30	30 X 30													6 25						1											
3		8 25	RT	M2-H6-168	168 X 120	1									1					140		1					1		1						
4		8 43	LT	M4-1-30	30 X 15		16 5											3 13						1		1									
			LT	M3-3-30	30 X 15													3.13						1											
			LT	M1-1-2-30	30 X 30													6 25						1											
			LT	M6-2R-24	24 X 18													3						1											
5		8.46	RT	M3-4-30																				1		1									
			RT	M1-4-2-30																				1											
			RT	M5-1R-24																				1											
6		8 67	LT	E6-H2-252	252 X 96												4			168							1								
			LT	E1-H1-240	240 X 108												4			180							1								
			LT	E1-H3-168	168 X 96												3			112							1								
7		8 75	LT	M3-4-30																				1		1									
			LT	M1-4-2-30																				1											
			LT	M5-1R-24																				1											
8		8.75	RT	M3-1-30	30 X 15													3 13						1		1									
			RT	M1-5-2-30	30 X 30													6 25						1											
8A		8 83	RT	E1-H1-180	180 X 144												3			180							1								
9		8 88	RT	M4-1-30	30 X 15		16.5											3.13																	
			RT	M3-1-30	30 X 15													3 13																	
			RT	M1-1-2-30	30 X 30													6 25																	
10		9.08	LT	M4-1-30	30 X 15		16 5											3 13																	
			LT	M3-3-30	30 X 15													3 13						1		1									
			LT	M1-1-2-30	30 X 30													6 25						1											
11		9 13	LT	E1-H1-120	120 X 108												2			90							1								
12		9 31	RT	M3-1-30	30 X 15		13.75											3 13																	
			RT	M1-5-2-30	30 X 30													6 25																	
12A		9.41	RT	R2-1-36	36 X 48		14											12						1		2									
							14																												
TOTALS CARRIED TO SHEET 28						1	119	0	0	0	0	0	0	0	1	0	16	0	90	0	870	0	1	19	0	9	0	6	0	1	0	0			

I:\Projects\STA\25433\roadway\sheets\signs\25433gs001.dgn 28-FEB-2007 8:46AM bbaughma

CALCULATED ALP
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SR 21 SUM-SUMMARY

STA-21-8.25

REF NO	SHEET NO	SLM	SIDE	CODE * PLYWOOD # YELLOW/GREEN ## WHITE ON BROWN	SIZE (INCHES)	625	630																								631					
						GROUND ROD	GROUND MOUNTED SUPPORT, NO 3 POST			GROUND MOUNTED SUPPORT, W8X18 BEAM	GROUND MOUNTED SUPPORT, W10X22 BEAM	GROUND MOUNTED SUPPORT W10X12 BEAM		BREAKAWAY BEAM CONNECTION	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 5	OVERHEAD SIGN SUPPORT TYPE TC-12.30, DESIGN 8	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY POLE MOUNTED	SIGN, FLAT SHEET	SIGN GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF BALLAST AND RDISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL
						EA	FT			FT	FT	FT		EA	EA	EA	EA	EA	SF	SF	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
	29			**SR 21**																															
13		9 49	LT	M3-3-30	30 X 15		13 75												3 13					1		1								
			LT	M1-5-2-30	30 X 30														6.25					1										
14		9 55	LT	E1-H1-120	120 X 108												2				90								1					
15		9 61	RT	E1-H1-180	180 X 144	1										1					180		1											
	30																																		
16		10 01	LT	M4-1-30	30 X 15		16 5												3 13					1		1								
			LT	M3-3-30	30 X 15														3 13					1										
			LT	M1-1-2-30	30 X 30														6 25					1										
			LT	M6-3-24	24 X 18														3					1										
17		10 10	LT	E1-H1-132	132 x 144												2				132								1					
			LT	E1-H3-156	180 X 72												3				90								1					
18		10 11	RT	E1-H3-216	216 X 120												3				180								1					
19		10 20	LT	E1-H3																									1		1	1		
20		10 40	LT	E1-H1-156	156 X 108						26 5			2						135		2			1		2							
											30 1																							
21		10 43	LT	M3-3-30	30 X 15		13.75												3 13					1		1								
			LT	M1-5-2-30	30 X 30														6.25					1										
22		10 45	LT	M1-5-2-24	24 X 24		13 25												4					1		1								
			LT	M6-4-21	21 X 15														2.19					1										
23		10.47	RT	M1-5-2-24	24 X 24		13 25												4					1		1								
			RT	M6-4-21	21 X 15														2.19					1										
24		10.48	RT	M3-1-30	30 X 15		13.75												3 13					1		1								
			RT	M1-5-2-30	30 X 30														6 25					1										
	31																																		
25		10.65	RT	M4-5-30	30 X 15														3 13					1										
			RT	M1-5-3-30	24 X 30														5					1										
			RT	M4-5-24	12 X 24														2					1										
			RT	M8-H3-24	24 X 24														4					1										
			RT	M5-1R-21	21 X 15														2.19					1										
26		10 86	RT	M4-5-30	30 X 15														3 13					1										
			RT	M1-5-3-30	24 X 30														5					1										
			RT	M5-1R-24	24 X 18														3					1										
27		10 94	LT	M3-3-30	30 X 15		13.75												3 13					1		1								
			LT	M1-5-2-30	30 X 30														6 25					1										
TOTALS CARRIED TO SHEET 28						1	98	0	0	0	57	0	0	2	0	1	10	0	93	135	672	2	1	24	1	7	2	5	0	1	1				

CALCULATED ALP
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SR 21 SUM-SUMMARY

STA-21-8.25

REF NO	SHEET NO	SLM	SIDE	CODE * PLYWOOD # YELLOW/GREEN ## WHITE ON BROWN	SIZE (INCHES)	625	630																						631				
						GROUND ROD	GROUND MOUNTED SUPPORT, NO 3 POST			GROUND MOUNTED SUPPORT W8X18 BEAM	GROUND MOUNTED SUPPORT, W10X22 BEAM	GROUND MOUNTED SUPPORT W10X12 BEAM		BREAKAWAY BEAM CONNECTION	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 5	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF BALLAST AND RDISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL
						EA	FT			FT	FT	FT		EA	EA	EA	EA	EA	SF	SF	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
	31			**SR 21**																													
28		10 96	LT	M4-5-30	30 X 15														3 13														
			LT	M1-5-3-30	24 X 30														5														
			LT	M6-1L-24	24 X 18														3														
			LT	M8-H3-24	24 X 24														4					1									
			LT	M6-1L-21	21 X 15														2 19					1									
29		10.97	LT	M4-5-30	30 X 15		15.25												3.13					1		1							
			LT	M1-4-2-30	30 X 30														6.25					1									
			LT	M6-1L-24	24 X 18														3					1									
30		10 97	LT	M1-5-2-30	30 X 30		14												6.25					1		1							
			LT	M6-4-24	24 X 18														3					1									
31		10 98	LT	M2-1																				1		1							
			LT	M1-5-3																				1									
			LT	M6-1L																				1									
32		10.98	RT	M2-H8-66	66 X 36		13												16 5					1		2							
							13																										
33		10 98	RT	M3-1-30	30 X 15		13 75												3 13					1		1							
			RT	M1-5-2-30	30 X 30														6 25					1									
34		11.11	LT	M4-5-30	30 X 15														3 13					1									
			LT	M1-5-3-30	24 X 30														5					1									
			LT	M5-1R-24	24 X 18														3					1									
			LT	M4-5-24	12 X 24														2					1									
			LT	M8-H3-24	24 X 24														4					1									
			LT	M5-1R-21	21 X 15														2 19					1									
35		11 19	LT	M2-H3-120	120 X 108					23.3				2						90		2			1		2						
										22 1																							
36		11 36	LT	M3-3-30	30 X 15		13.75												3.13					1		1							
			LT	M1-5-2-30	30 X 30														6.25					1									
	32																																
37		11 40	RT	M1-5-2-24	24 X 24		13 25												4					1		1							
			RT	M6-4-21	21 X 15														2 19					1									
38		11.42	RT	M3-1-30	30 X 15		13.75												3 13					1		1							
			RT	M1-5-2-30	30 X 30														6 25					1									
39		11 77	RT	M2-H2A-108	108 X 108							23		2						81		2			1		2						
												23.1																					
				TOTALS CARRIED TO SHEET 28		0	110	0	0	46	0	47	0	4	0	0	0	0	110	171	0	4	0	25	2	9	4	0	0	0	0	0	0	0	0

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SR 21 SUM-SUMMARY

STA-21-8.25

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REF NO	SHEET NO	SLM	SIDE	CODE * PLYWOOD # YELLOW/GREEN ## WHITE ON BROWN	SIZE (INCHES)	625	630																						631					
						GROUND ROD	GROUND MOUNTED SUPPORT, NO 3 POST			GROUND MOUNTED SUPPORT, W8X18 BEAM	GROUND MOUNTED SUPPORT, W10X22 BEAM	GROUND MOUNTED SUPPORT, W10X12 BEAM		BREAKAWAY BEAM CONNECTION	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 5	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF BALLAST AND RDISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL
						EA	FT			FT	FT	FT		EA	EA	EA	EA	EA	SF	SF	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
	32			**SR 21**																														
40		12 01	LT	M2-1-21	21 X 15														2 19					1										
			LT	M1-5-3-30	24 X 30														5					1										
			LT	M5-1R-24	24 X 18														3					1										
			LT	M4-5-24	12 X 24														2					1										
			LT	M8-H3-24	24 X 24														4					1										
			LT	M5-1R-21	21 X 15														2.19					1										
41		12 23	LT	M3-3-30	30 X 15		13 75												3 13					1		1								
			LT	M1-5-2-30	30 X 30														6 25					1										
42		12.25	LT	M3-1																								1						
			LT	M1-5-3-30	24 X 30													1	5										1						
			LT	M6-1L-24	24 X 18													1	3										1						
43		12 25	RT	M1-5-2-24	24 X 24		13 25												4					1		1								
			RT	M6-4-21	21 X 15														2 19					1										
44		12 27	RT	M1-5-2-24	24 X 24		13 25												4					1		1								
			RT	M6-4-21	21 X 15														2.19					1										
45		12 27	RT	M3-1-30	30 X 15													1	3.13																
			RT	M1-5-3-30	30 X 37 5													1	7 81																
			RT	M6-1R-21	21 X 15													1	2 19																
46		12 27	RT	M3-1																				1										
			RT	M1-5-3																				1										
			RT	M6-1R																				1										
47		12.28	RT	M3-1-30	30 X 15		13 75												3 13					1		1								
			RT	M1-5-2-30	30 X 30														6 25					1										
48		12.34	LT	M1-5-3																				1		1								
			LT	M6-1L																				1										
48A		12 38	RT	I-H2E-40	40 X 20		12												20					1		2								
							12																											
49		12.39	LT	M4-5-24																				1										
			LT	M8-H3-24																				1										
			LT	M5-1L-21																				1										
50		12 47	LT	M2-1-21	21 X 15		15												2 19					1		1								
			LT	M1-5-3-30	24 X 30														5					1										
			LT	M5-1L-24	24 X 18														3					1										
TOTALS CARRIED TO SHEET 28						0	93	0	0	0	0	0	0	0	0	0	0	5	101	0	0	0	0	26	0	8	0	0	3	0	0	0	0	0

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SR 21 SUM-SUMMARY

STA-21-8.25

REF NO	SHEET NO	SLM	SIDE	CODE * PLYWOOD # YELLOW/GREEN ## WHITE ON BROWN	SIZE (INCHES)	625	630																								631				
						GROUND ROD	GROUND MOUNTED SUPPORT, NO. 3 POST			GROUND MOUNTED SUPPORT W8X18 BEAM	GROUND MOUNTED SUPPORT, W10X22 BEAM	GROUND MOUNTED SUPPORT. W10X12 BEAM		BREAKAWAY BEAM CONNECTION	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 5	OVERHEAD SIGN SUPPORT. TYPE TC-12.30, DESIGN 8	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL TYPE TC-12.30	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF BALLAST AND RDISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL
						EA	FT			FT	FT	FT		EA	EA	EA	EA	EA	SF	SF	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
	32			**SR 21**																														
51		12 47	LT	M4-5-24	12 X 24		15												2															
			LT	M8-H3-24	24 X 24														4															
			LT	M5-1R-21	21 X 15														2 19															
52		12.64	LT	W3-3-36	36 X 36												1		1						1				1					
			RT	W3-3-36	36 X 36												1		1						1				1					
	33																																	
53		12 77	LT	M2-H2A-108	108 X 108					26 28 1				2						81		2			1		2							
54		12 78	LT	W3-5-36	36 X 36		13												9						1		1							
55		12 79	MED	R3-4-36	36 X 36		13												9						1		1							
			MED	R3-H4A-24	24 X 30														5						1									
56		12.80	MED	R3-4-36	36 X 36		13												9						1		1							
			MED	R3-H4A-24	24 X 30														5						1									
57		12 98	RT	R2-H2B-36	36 X 72		16 16												18						1		2							
58		13.00	RT	D10-4H-12	12 X 12		9												1															
59		13 00	LT	D10-4H-12	12 X 12		9												1															
60		13 02	LT	R2-1-36	36 X 48		14 14												12						1		2							
			RT	R2-1-36	36 X 48		14 14												12						1		2							
61		13 06	RT	I-H2E-40	40 X 20		12 12												20						1		2							
62		13.09	LT	I-H2E-40	40 X 20		12 12												20						1		2							
63		13.38	RT	D10-H4																					1		1							
			LT	D10-H4																					1		1							
	35			**INDIAN RIVER RD**																														
64		4 88	LT	M2-1-21	21 X 15		13 25												2.19															
			LT	M1-5-2-24	24 X 24														4															
65		4 92	LT	M2-H7-66	66 X 36		13 13												16 5															
TOTALS CARRIED TO SHEET 28						0	248	0	0	55	0	0	0	2	0	0	0	2	154	81	0	2	0	14	1	15	2	0	2	0	0	0	0	0	0

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REF NO	SHEET NO	SLM	SIDE	CODE * PLYWOOD # YELLOW/GREEN ## WHITE ON BROWN	SIZE (INCHES)	625	630																						631				
						GROUND ROD	GROUND MOUNTED SUPPORT, NO 3 POST			GROUND MOUNTED SUPPORT W8X18 BEAM	GROUND MOUNTED SUPPORT, W10X22 BEAM	GROUND MOUNTED SUPPORT, W10X12 BEAM		BREAKAWAY BEAM CONNECTION	OVERHEAD SIGN SUPPORT, TYPE TC-12 30, DESIGN 5	OVERHEAD SIGN SUPPORT TYPE TC-12.30, DESIGN 8	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF BALLAST AND RDISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL
						EA	FT			FT	FT	FT		EA	EA	EA	EA	EA	SF	SF	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
	35			**INDIAN RIVER RD**																														
66		4 95	LT	M4-5-24	12 X 24														2					1										
			LT	M1-4-2-24	24 X 24														4					1										
			LT	M6-1L-21	21 X 15														2 19					1										
			LT	M3-3-24	12 X 24														2					1										
			LT	M1-5-2-24	24 X 24														4					1										
			LT	M6-1L-21	21 X 15														2 19					1										
67		4 97	LT	M4-5-24	12 X 24														2					1										
			LT	M1-4-2-24	24 X 24														4					1										
			LT	M6-1R-21	21 X 15														2 19					1										
			LT	M2-H7-66	66 X 36														16 5					1										
				ERIE ST																														
68	35	5 03	LT	M3-1-24	12 X 24														2					1										
			LT	M1-5-2-24	24 X 24														4					1										
			LT	M6-1L-21	21 X 15														2 19					1										
69		5 12	RT	M2-1-21	21 X 15		13 25												2.19															
			RT	M1-5-2-24	24 X 24														4															
70		5 08	RT	M2-H7-66	66 X 36		13												16 5															
							13																											
71		5.03	RT	M4-5-24	12 X 24														2					1										
			RT	M1-4-2-24	24 X 24														4					1										
			RT	M6-3-21	21 X 15														2 19					1										
			RT	M2-H7-66	66 X 36														16 5					1										
	36			**RAMP C**																														
72		10.19	RT	M1-5-3-30	24 X 30														5					1										
			RT	M6-4-24	24 X 18														3					1										
				RAMP B																														
73		10 00	LT	M1-5-3-30	24 X 30														5					1										
			LT	M6-4-24	24 X 18														3					1										
				OBERLIN AVE																														
74		4 10	LT	M2-H6-144	144 X 60											3				60														
75		4.16	LT	M2-H6-96	96 X 60											2				40						1			2	1	2	1	1
			LT	M2-H6-96	96 X 60											2				40						1			2	1	2	1	
				TOTAL SHEET 23		1	119				57			2	1		16		90		870		1	19		9		6		1	1			
				TOTAL SHEET 24		1	98									1	10		93	135	672	2	1	24	1	7	2	5		1	1			
				TOTAL SHEET 25			110			46		47		4					110	171		4		25	2	9	4							
				TOTAL SHEET 26			93											5	101					26		8			3					
				TOTAL SHEET 27			248			55				2				2	154	81		2		14	1	15	2		2					
TOTALS CARRIED TO GENERAL SUMMARY						2	708	0	0	101	57	47	0	8	1	1	33	7	661	387	1682	8	2	129	4	48	8	14	5	2	6	2	4	2	1

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SR 21 SUM-SUMMARY

STA-21-8.25

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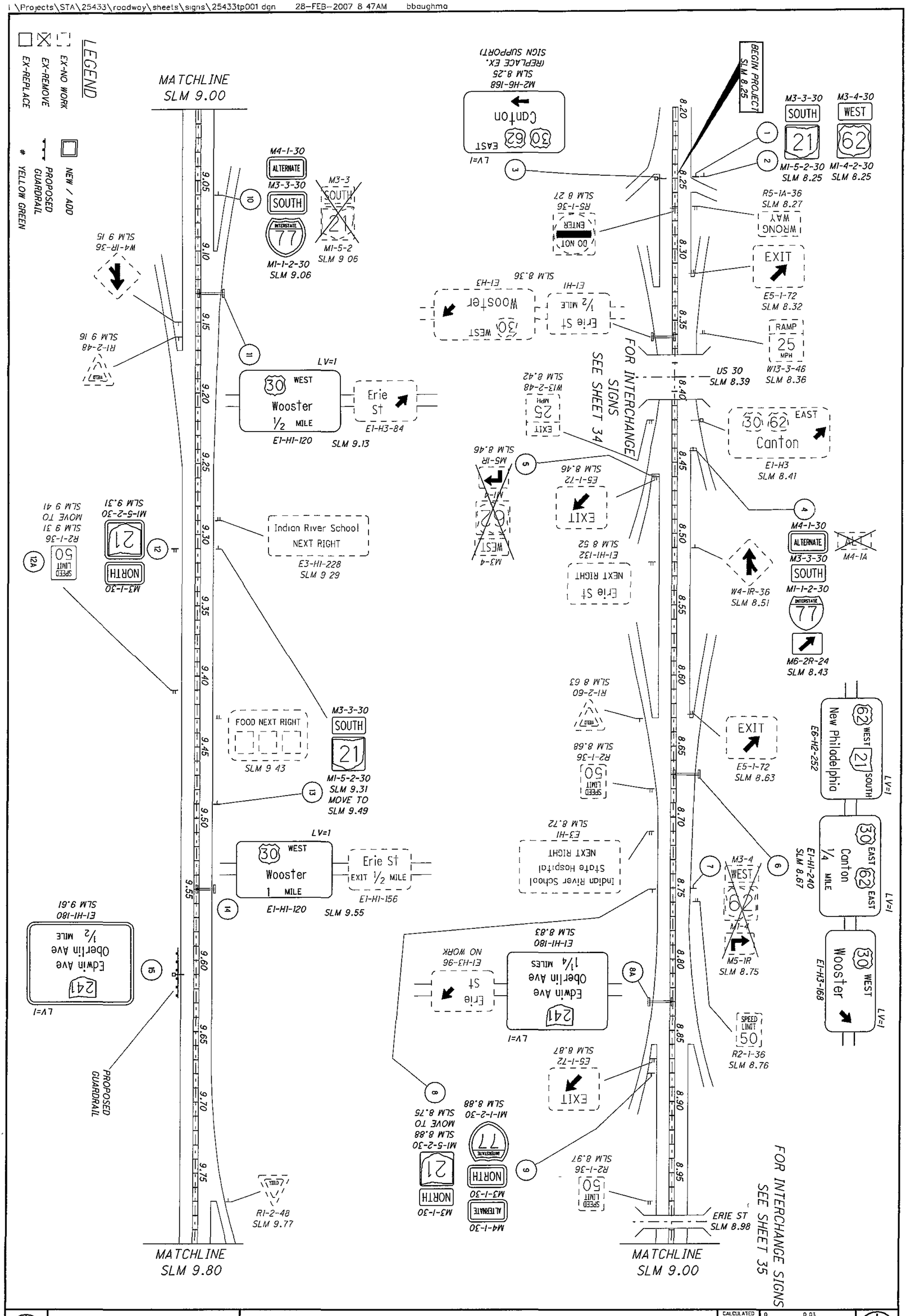


29/40	STA-21-8.25	SIGNING PLAN	CALCULATED CX CHECKED KPW	HORIZONTAL SCALE IN FEET

LEGEND

EX-NO WORK
EX-REMOVE
EX-REPLACE
NEW / ADD
PROPOSED GUARDRAIL
* YELLOW GREEN

MATCHLINE SLM 9.80

W4-1R-36 SLM 9.86

SR 241J SLM 9.92

FOR INTERCHANGE SIGNS SEE SHEET 36

M4-1-30 ALTERNATE
M3-3-30 SOUTH
M1-1-2-30 INTERSTATE 77
M6-3-24 SLM 10.01
M4-1A

W3-3-48 SLM 10.07

EXIT
E5-1-72 SLM 10.05

30 62 Wooster Canton 1/2 MILES E1-H1-132 SLM 10.10 LV=1

EXIT 1 MILE Erie St E1-H1-132

241 Oberlin Ave E1-H3-180 LV=1

W3-3-48 SLM 10.11

E1-H3-216 241 Erie St Oberlin Ave LV=1

E1-H1-120 Walnut Rd 1/4 MILE

W13-3-48 SLM 10 13 RAMP 25 MPH

W4-1R-36 SLM 10 21

241 Oberlin Ave E1-H3 SLM 10.20

E8-H5-96 SLM 10 22 Kennedy Way

R1-2-48 SLM 10.27 TRAFFIC

W2-1-48 SLM 10.29

SPEED LIMIT 50 R2-1-36 SLM 10.36

241 Oberlin Ave 1/4 MILE E1-H1-156 SLM 10.40 LV=1

Oberlin Ave EXIT 1/4 MILE

R3-H8CG-48 SLM 10.37 ONLY

R3-H8CG-48 SLM 10.45 ONLY

M3-3-30 SOUTH
21
M1-5-2-30 SLM 10.43

LEFT TURN SIGNAL ON MAST-ARM R10-10L-24 SLM 10 45

D3-H3 SLM 10.40 WALNUT ROAD

D3-H2 SLM 10.47 WALNUT ROAD

WALNUT ROAD D3-H2 SLM 10.45

Walnut Rd SLM 10.46

M1-5-2-24 M6-4-21 SLM 10.47

M1-5-2-24 M6-4-21 SLM 10.45

R3-H8DA-54 SLM 10.47 ONLY ONLY ONLY ONLY

R10-10L-24 SLM 10.47 LEFT TURN SIGNAL ON MAST-ARM

M1-5-2-30 SLM 10.48

R2-1-36 SLM 10.55 SPEED LIMIT 50

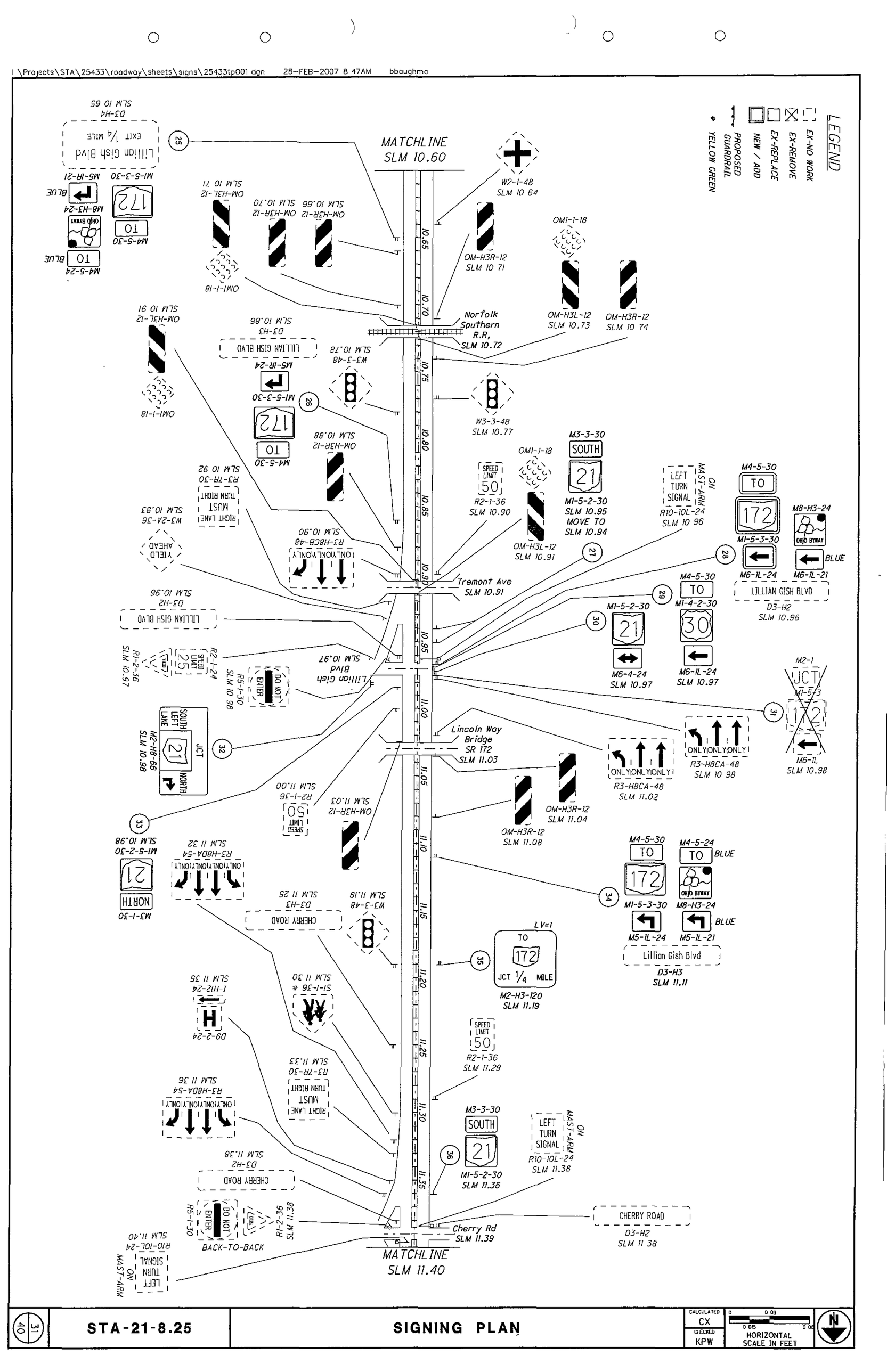
R3-H8DA-54 SLM 10 53 ONLY ONLY ONLY ONLY

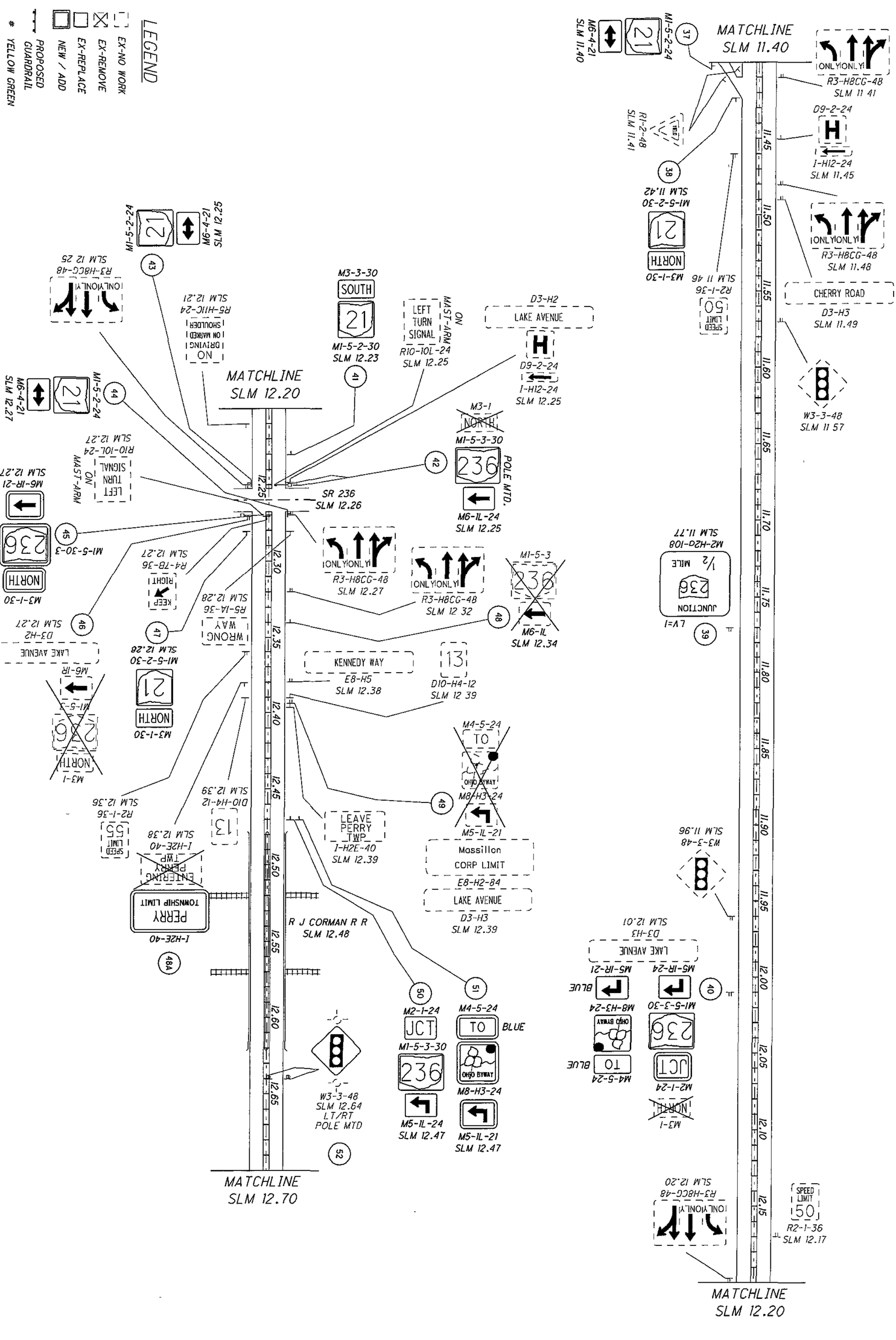
21 NORTH M3-1-30

MATCHLINE SLM 10.60

WALNUT ROAD D3-H3 SLM 10.56

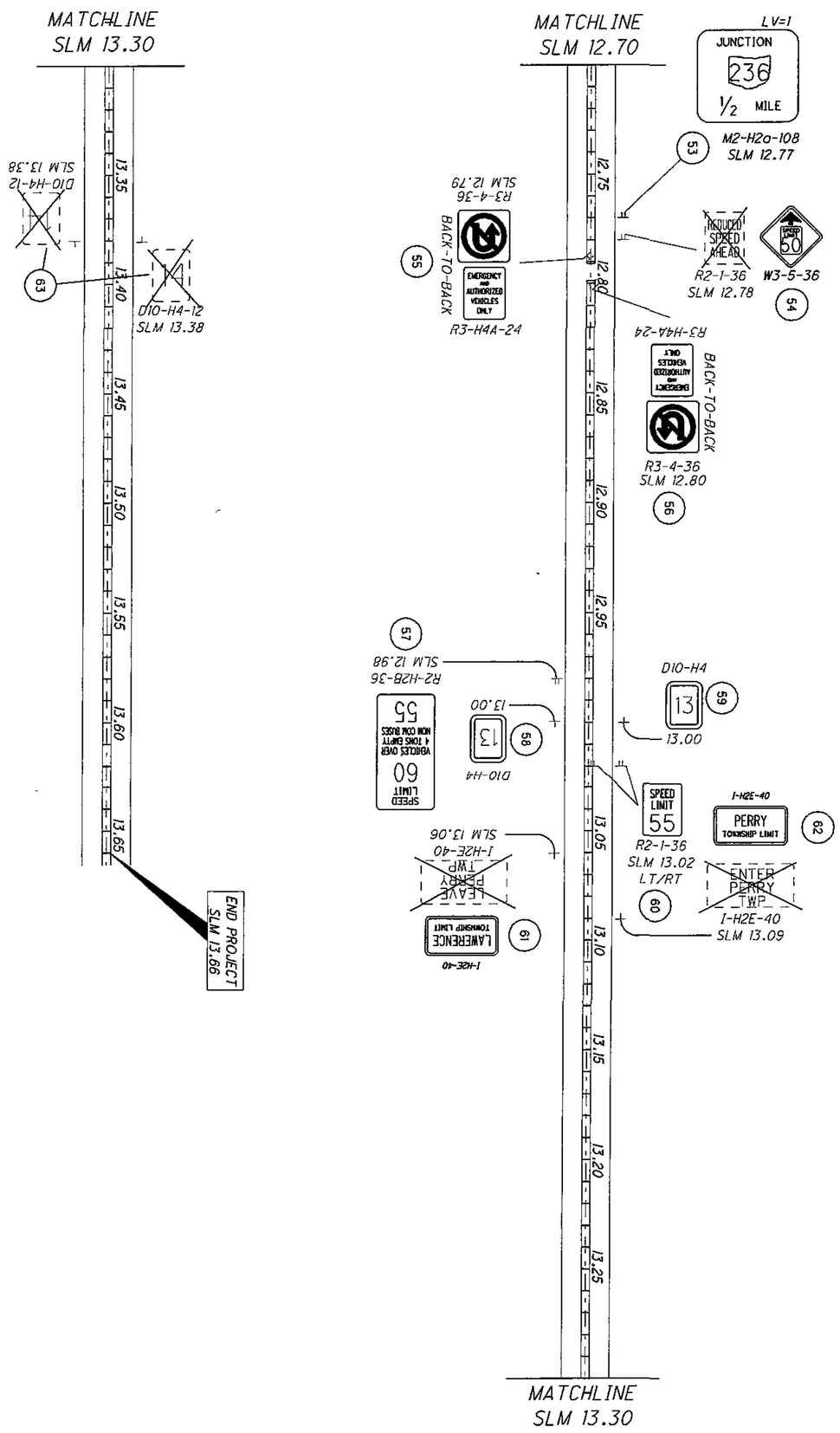
30/40	STA-21-8.25	SIGNING PLAN	CALCULATED CX / CHECKED KPW	0 0.03 0.015 0.05 HORIZONTAL SCALE IN FEET


LEGEND
EX-NO WORK
EX-REMOVE
EX-REPLACE
NEW / ADD
PROPOSED GUARDRAIL
* YELLOW GREEN
MATCHLINE SLM 10.60
MATCHLINE SLM 11.40
Norfolk Southern R.R, SLM 10.72
Tremont Ave SLM 10.91
Lincoln Way Bridge SR 172 SLM 11.03
Cherry Rd SLM 11.39
Lillian Gish Blvd SLM 10.97
LILLIAN GISH BLVD
CHERRY ROAD
Lillian Gish Blvd
D3-H2 SLM 10.96
D3-H3 SLM 11.11
D3-H2 SLM 11.38
W2-1-48 SLM 10.64
OM-H3R-12 SLM 10.71
OM-H3R-12 SLM 10.66
OM-H3R-12 SLM 10.70
OM-H3L-12 SLM 10.71
OM1-1-18
OM-H3L-12 SLM 10.73
OM-H3R-12 SLM 10.74
OM-H3L-12 SLM 10.91
OM-H3R-12 SLM 10.88
OM-H3L-12 SLM 10.91
OM-H3L-12 SLM 10.91
W3-3-48 SLM 10.77
W3-3-48 SLM 10.78
M3-3-30 SOUTH 21 M1-5-2-30 SLM 10.95 MOVE TO SLM 10.94
R2-1-36 SLM 10.90
R10-10L-24 SLM 10.96
M4-5-30 TO 172 M1-5-3-30 M6-1L-24
M8-H3-24 OHIO BYWAY BLUE M6-1L-21
M4-5-30 TO M1-4-2-30 30 M6-1L-24 SLM 10.97
M1-5-2-30 21 M6-4-24 SLM 10.97
M2-1 JCT M1-5-3 M6-1L SLM 10.98
R3-H8CA-48 SLM 10.98
R3-H8CA-48 SLM 11.02
OM-H3R-12 SLM 11.04
OM-H3R-12 SLM 11.08
R2-1-36 SLM 11.00
OM-H3R-12 SLM 11.03
M2-H8-66 SLM 10.98
M3-1-30 SLM 10.98
R3-H8DA-54 SLM 11.32
W3-3-48 SLM 11.19
M4-5-30 TO 172 M1-5-3-30 M5-1L-24
M4-5-24 TO BLUE OHIO BYWAY M8-H3-24 BLUE M5-1L-21
LV=1 TO 172 JCT 1/4 MILE M2-H3-120 SLM 11.19
R2-1-36 SLM 11.29
R3-7R-30 SLM 11.33
R3-H8DA-54 SLM 11.36
M3-3-30 SOUTH 21 M1-5-2-30 SLM 11.36
LEFT TURN SIGNAL ON MAST-ARM R10-10L-24 SLM 11.38
S1-1-36 # SLM 11.30
I-H12-24 SLM 11.35
D9-2-24
R5-1-30 DO NOT ENTER BACK-TO-BACK
R1-2-36 SLM 11.38
R10-10L-24 SLM 11.40
LEFT TURN SIGNAL ON MAST-ARM
D3-H4 SLM 10.65
EXIT 1/4 MILE
M1-5-3-30 M5-1R-21 BLUE
M4-5-30 TO 172 OHIO BYWAY
M8-H3-24 BLUE
M4-5-24 TO BLUE
M3-3-30 SOUTH 21 M1-5-2-30 SLM 10.88
M5-1R-24
M1-5-3-30
M4-5-30 TO 172
M3-3-48 SLM 10.78
M3-3-30 SOUTH 21 M1-5-2-30 SLM 10.90
R2-1-36 SLM 10.90
R10-10L-24 SLM 10.96
M4-5-30 TO 172 M1-5-3-30 M6-1L-24
M8-H3-24 OHIO BYWAY BLUE M6-1L-21
M4-5-30 TO M1-4-2-30 30 M6-1L-24 SLM 10.97
M1-5-2-30 21 M6-4-24 SLM 10.97
M2-1 JCT M1-5-3 M6-1L SLM 10.98
R3-H8CA-48 SLM 10.98
R3-H8CA-48 SLM 11.02
R2-1-36 SLM 11.00
M2-H8-66 SLM 10.98
M3-1-30 SLM 10.98
R3-H8DA-54 SLM 11.32
M4-5-30 TO 172 M1-5-3-30 M5-1L-24
M4-5-24 TO BLUE OHIO BYWAY M8-H3-24 BLUE M5-1L-21
LV=1 TO 172 JCT 1/4 MILE M2-H3-120 SLM 11.19
R2-1-36 SLM 11.29
R3-7R-30 SLM 11.33
R3-H8DA-54 SLM 11.36
M3-3-30 SOUTH 21 M1-5-2-30 SLM 11.36
LEFT TURN SIGNAL ON MAST-ARM R10-10L-24 SLM 11.38
S1-1-36 # SLM 11.30
I-H12-24 SLM 11.35
D9-2-24
R5-1-30 DO NOT ENTER BACK-TO-BACK
R1-2-36 SLM 11.38
R10-10L-24 SLM 11.40
LEFT TURN SIGNAL ON MAST-ARM


LEGEND
EX-NO WORK
EX-REMOVE
EX-REPLACE
NEW / ADD
PROPOSED GUARDRAIL
YELLOW GREEN
MATCHLINE SLM 11.40
MATCHLINE SLM 12.20
MATCHLINE SLM 12.70
SR 236 SLM 12.26
CHERRY ROAD
LAKE AVENUE
KENNEDY WAY
LEAVE PERRY TWP
Massillon CORP LIMIT
PERRY TOWNSHIP LIMIT
R J CORMAN R R SLM 12.48
POLE MTD.
SPEED LIMIT 50

LEGEND

EX-NO WORK
EX-REMOVE
EX-REPLACE
NEW / ADD
PROPOSED GUARDRAIL
YELLOW GREEN



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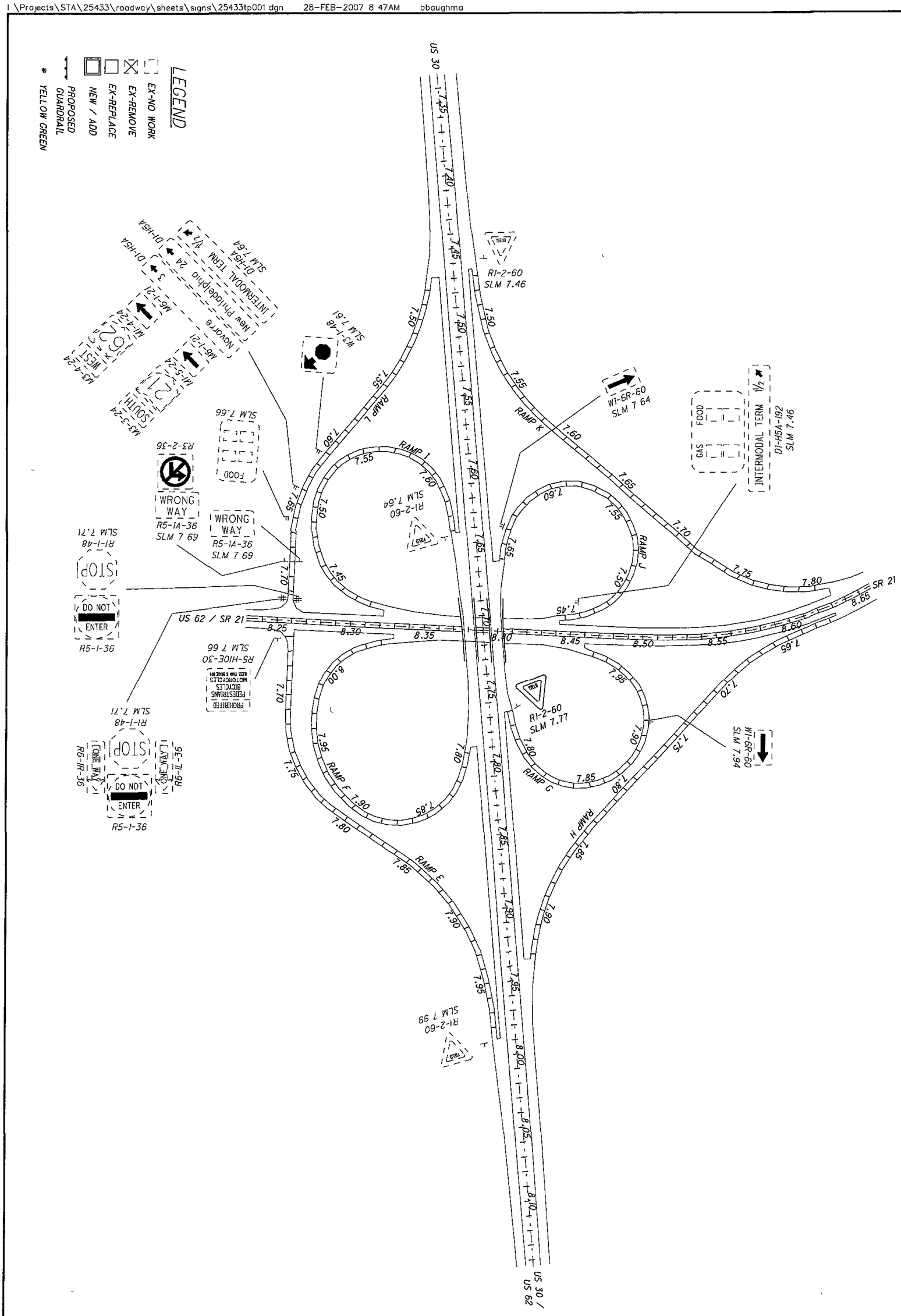
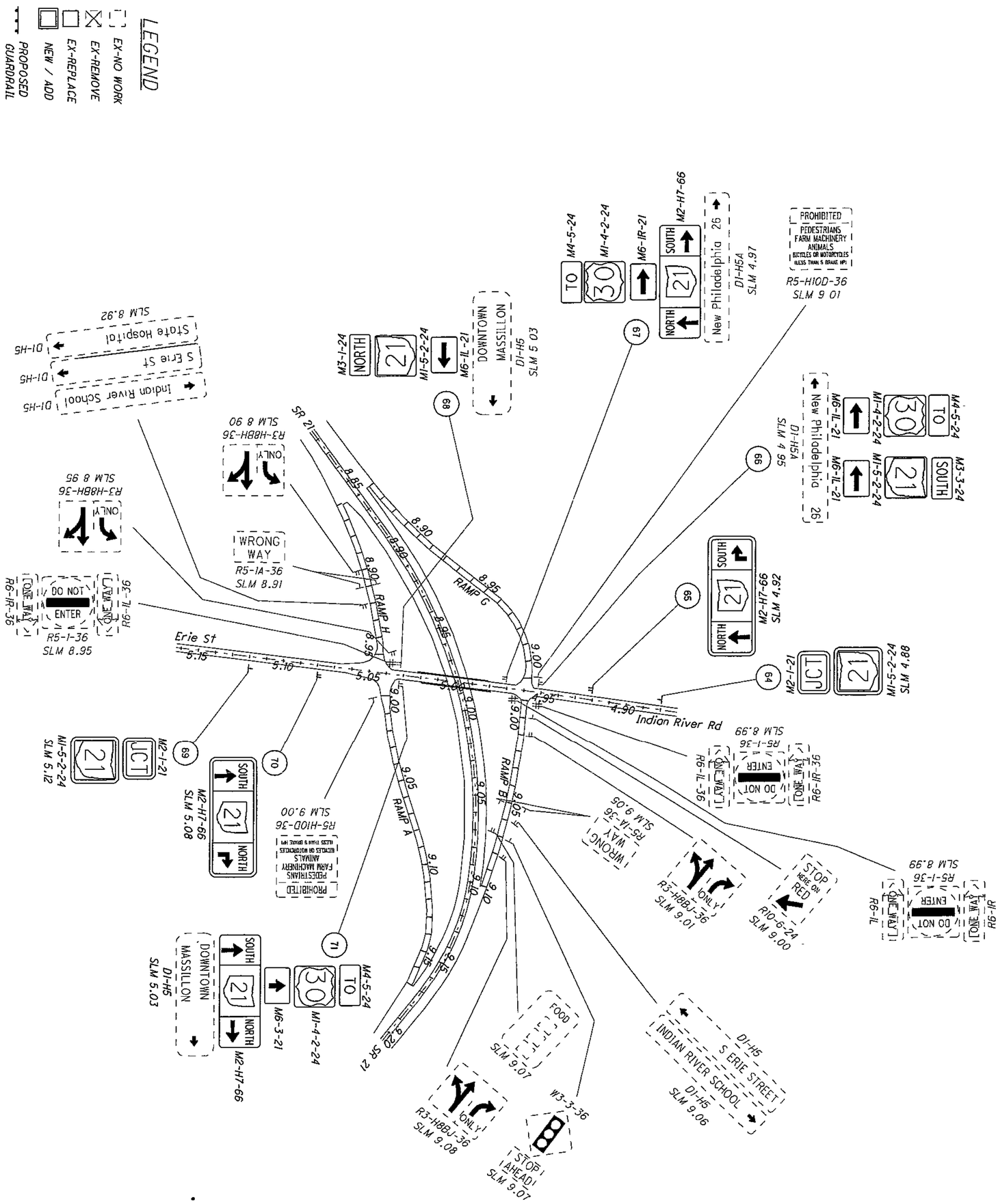
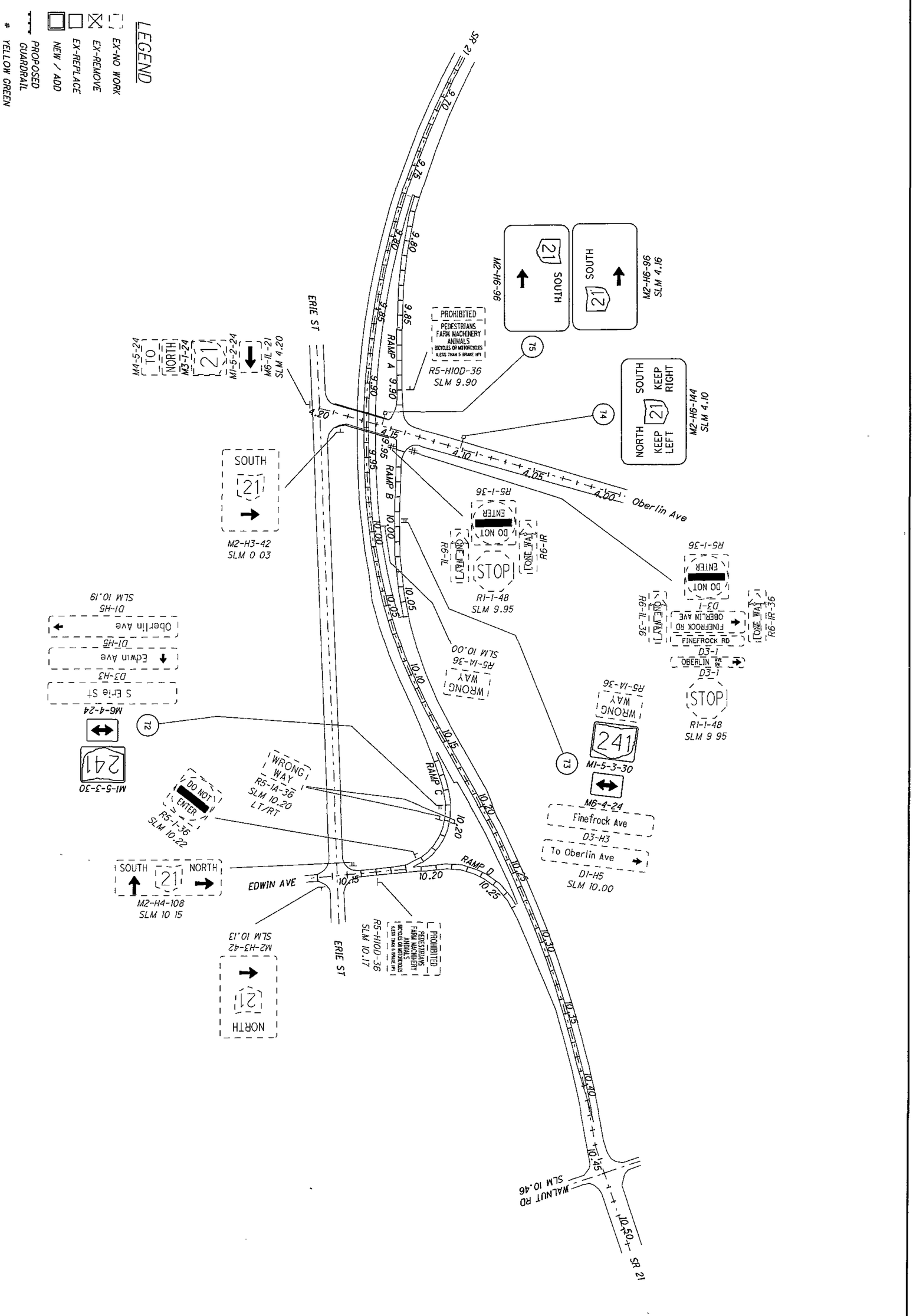
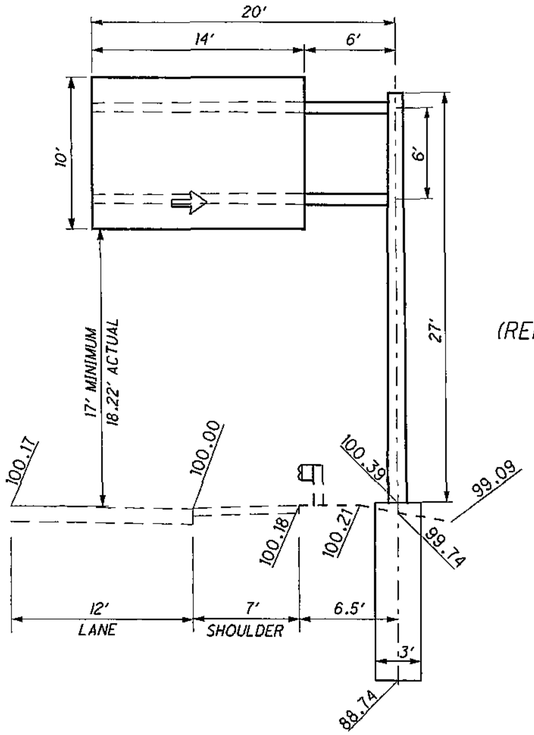


34/40	STA-21-8.25	SIGNING PLAN	CALCULATED CX / CHECKED KPW	0 0.03 / 0.015 0.06 HORIZONTAL SCALE IN FEET

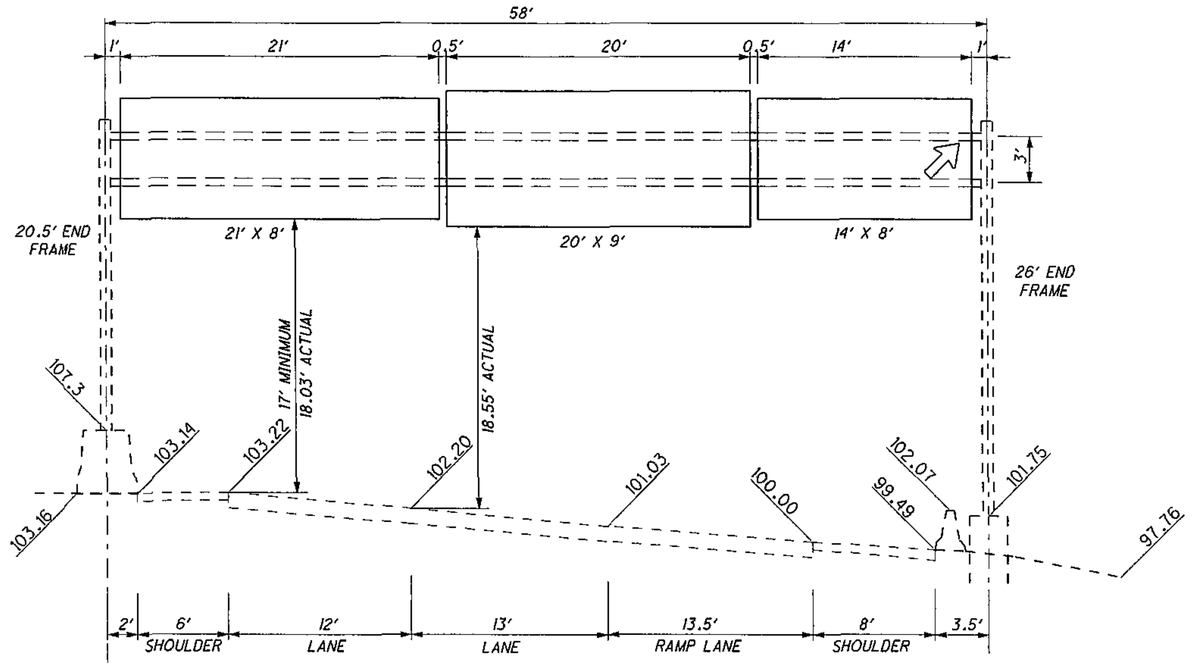

LEGEND
EX-NO WORK
EX-REMOVE
EX-REPLACE
NEW / ADD
PROPOSED GUARDRAIL
* YELLOW GREEN
Erie St
Indian River Rd
SR 21
RAMP A
RAMP B
RAMP G
RAMP H
WRONG WAY
R5-1A-36
SLM 8.91
DO NOT ENTER
R5-1-36
SLM 8.95
ONLY
R3-H8BH-36
SLM 8 90
SLM 8.92
State Hospital
S Erie St
Indian River School
DOWNTOWN MASSILLON
D1-H5
SLM 5 03
M3-1-24
NORTH
M1-5-2-24
M6-1L-21
M4-5-24
TO
M1-4-2-24
M6-1R-21
M2-H7-66
SOUTH
NORTH
New Philadelphia 26
D1-H5A
SLM 4.97
PROHIBITED
PEDESTRIANS
FARM MACHINERY
ANIMALS
BICYCLES OR MOTORCYCLES
R5-H10D-36
SLM 9 01
New Philadelphia 26
SLM 4.95
M3-3-24
SOUTH
M2-H7-66
SLM 4.92
M2-1-21
JCT
M1-5-2-24
SLM 4.88
SLM 8.99
R5-1-36
R6-1L-36
R6-1R-36
SLM 9.05
R5-1A-36
R5-H10D-36
SLM 9.00
R3-H8BJ-36
SLM 9.01
R10-6-24
SLM 9.00
STOP HERE ON RED
SLM 8.99
R5-1-36
R6-1L
R6-1R
M2-1-21
JCT
M1-5-2-24
SLM 5.12
M2-H7-66
SLM 5.08
M6-3-21
M1-4-2-24
M4-5-24
TO
M2-H7-66
DOWNTOWN MASSILLON
D1-H5
SLM 5.03
FOOD
SLM 9.07
R3-H8BJ-36
SLM 9.08
W3-3-36
STOP AHEAD
SLM 9.07
D1-H5
S ERIE STREET
INDIAN RIVER SCHOOL
D1-H5
SLM 9.06



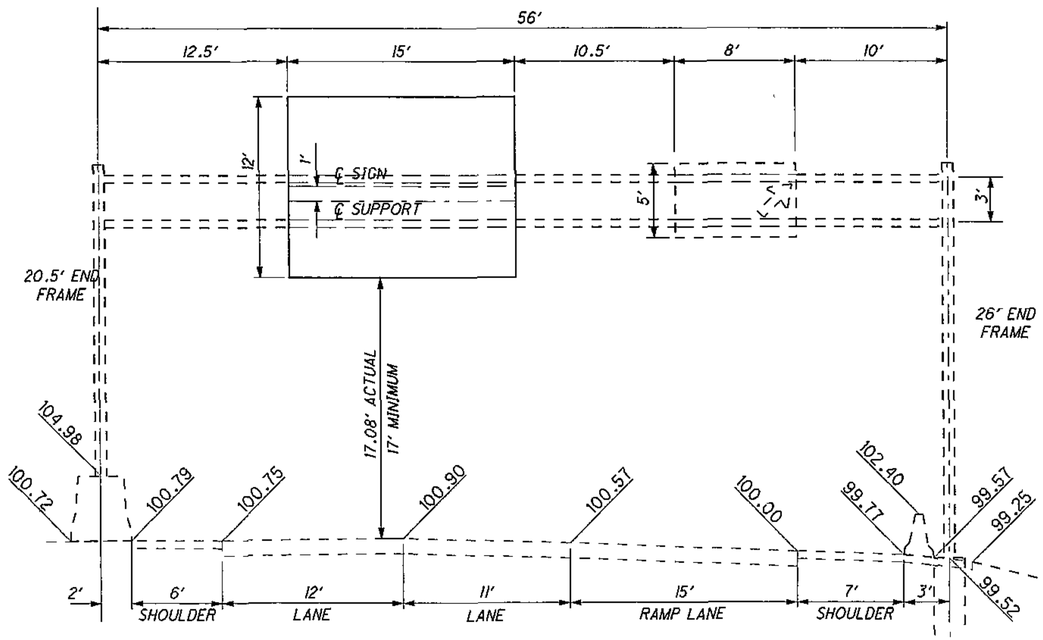
36/40	STA-21-8.25	SIGNING PLAN	CALCULATED CX / CHECKED KPW	0 0.03 0.015 0.05 HORIZONTAL SCALE IN FEET



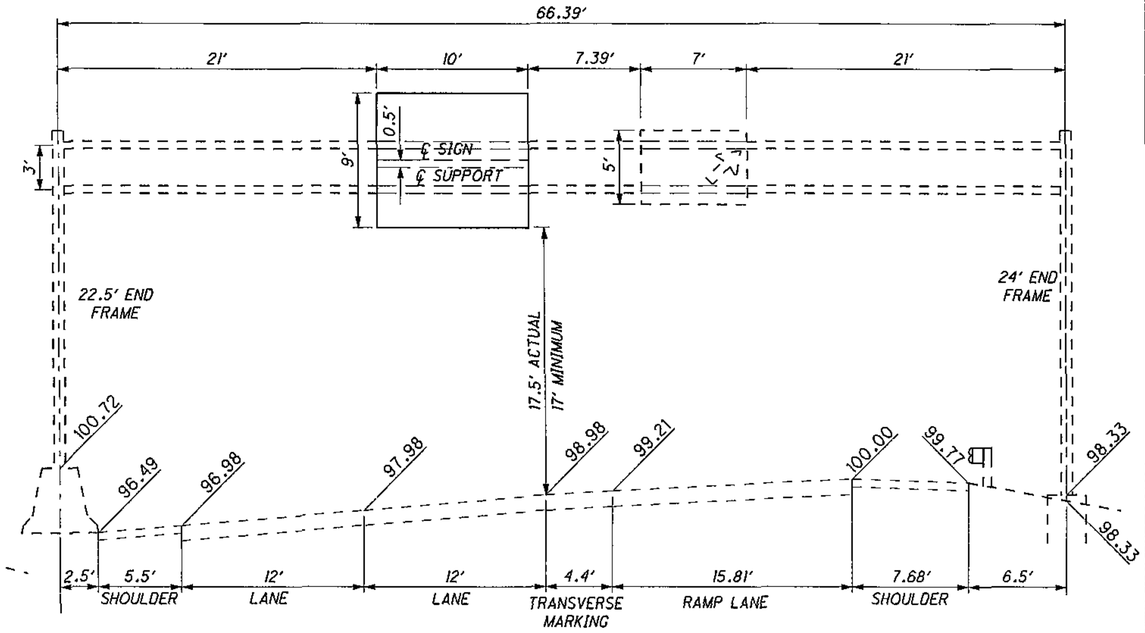
SIGN No. 3
SLM 8.25, SR 21 NB
TC-12.30, DESIGN 5
POLE = 27'
ARM = 20'
(REPLACE EXISTING SIGN SUPPORT)



SIGN No. 6
SLM 8.67, SR 21 SB & RAMP "K"
EXISTING TC-7.65, DESIGN 6



SIGN No. 8
SLM 8.83, US 21 NB & RAMP "H"
EXISTING TC-7.65, DESIGN 6



SIGN No. 11
SLM 9.13, US 21 SB & RAMP "B"
EXISTING TC-7.65, DESIGN 6

CALCULATED CX
CHECKED KPW

ELEVATION VIEWS

STA-21-8.25

37
40

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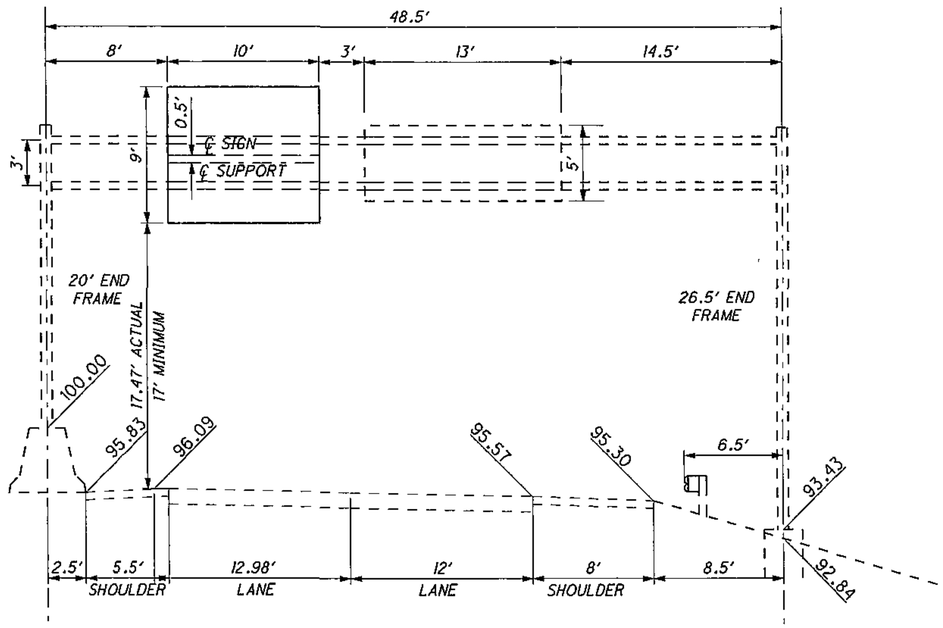
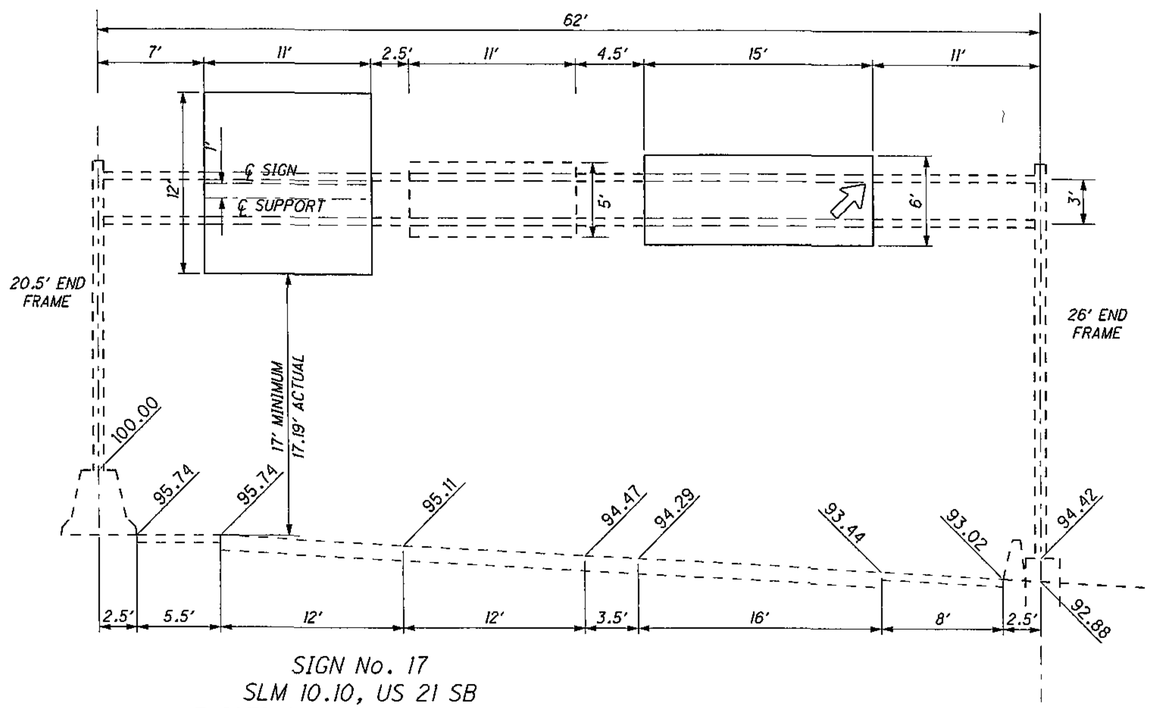
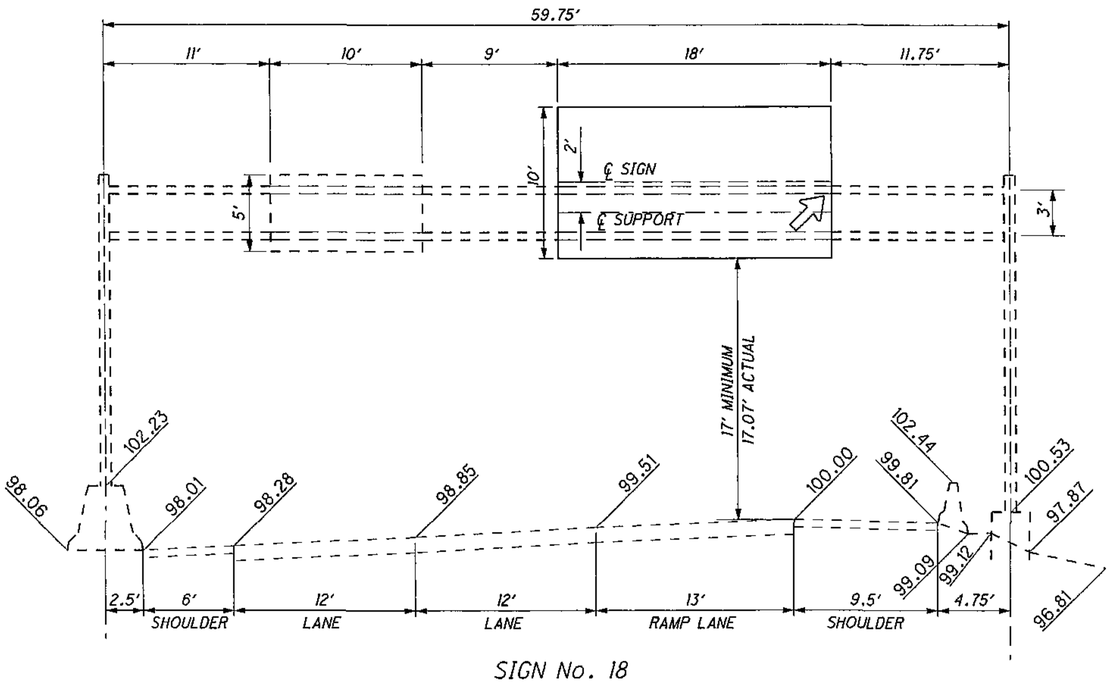


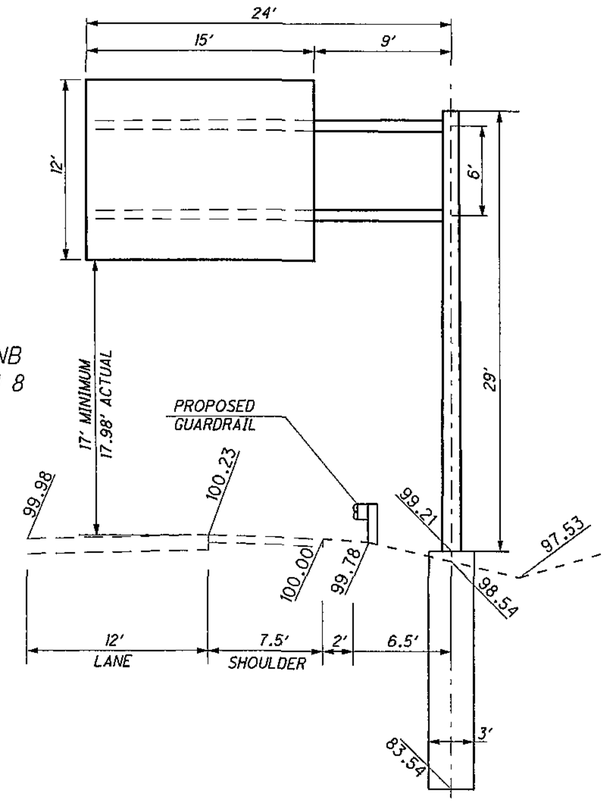
SIGN No. 14
SLM 9.55, US 21 SB
EXISTING TC-7.65, DESIGN 6



SIGN No. 17
SLM 10.10, US 21 SB
EXISTING TC-7.65, DESIGN 6



SIGN No. 18
SLM 10.11, US 21 NB
TC-7.65, DESIGN 6

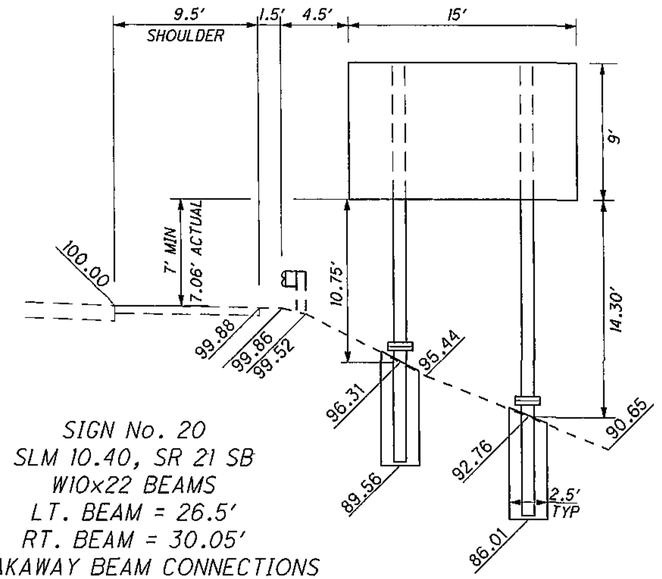


SIGN No. 15
SLM 9.61, SR 21 NB
TC-12.30, DESIGN 8
POLE = 29'
ARM = 24'

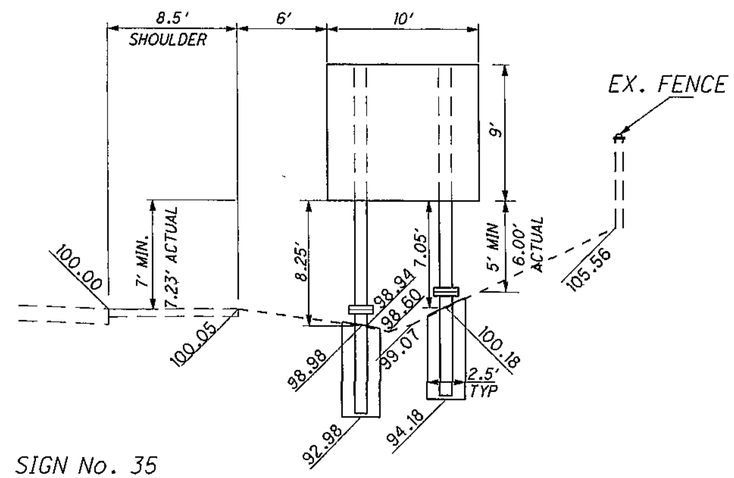
CALCULATED CX
CHECKED KPW

ELEVATION VIEWS

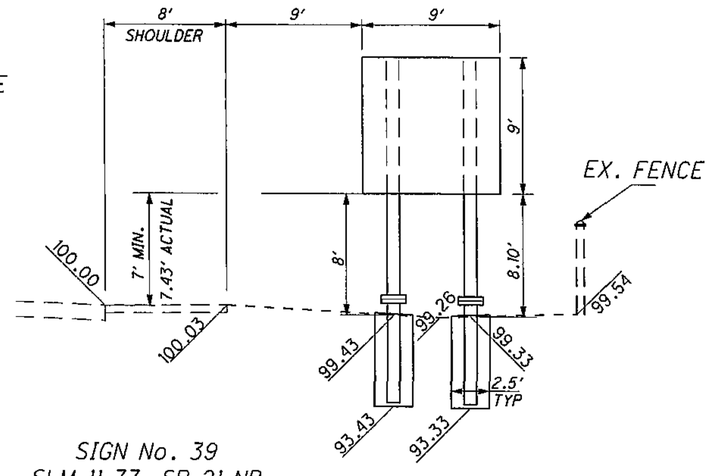
STA-21-8.25



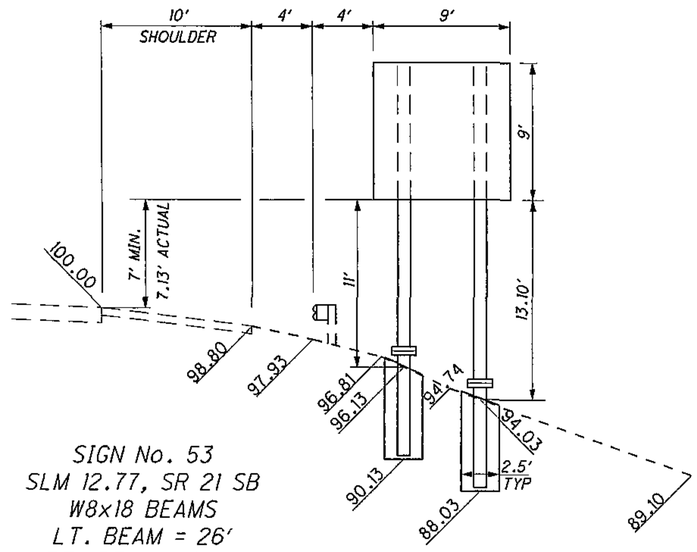
SIGN No. 20
SLM 10.40, SR 21 SB
W10x22 BEAMS
LT. BEAM = 26.5'
RT. BEAM = 30.05'
BREAKAWAY BEAM CONNECTIONS



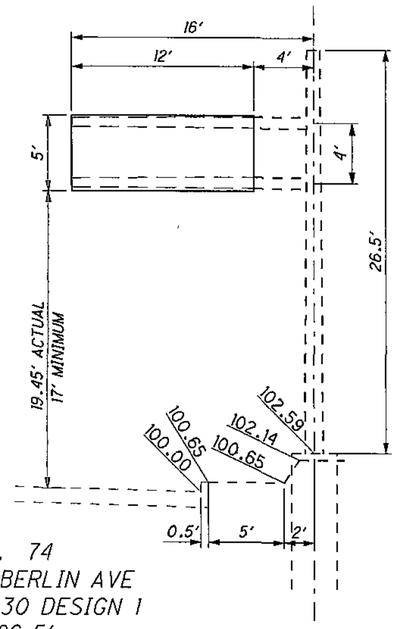
SIGN No. 35
SLM 11.19, SR 21 SB
W8x18 BEAMS
LT. BEAM = 23.25'
RT. BEAM = 22.05'
BREAKAWAY BEAM CONNECTIONS



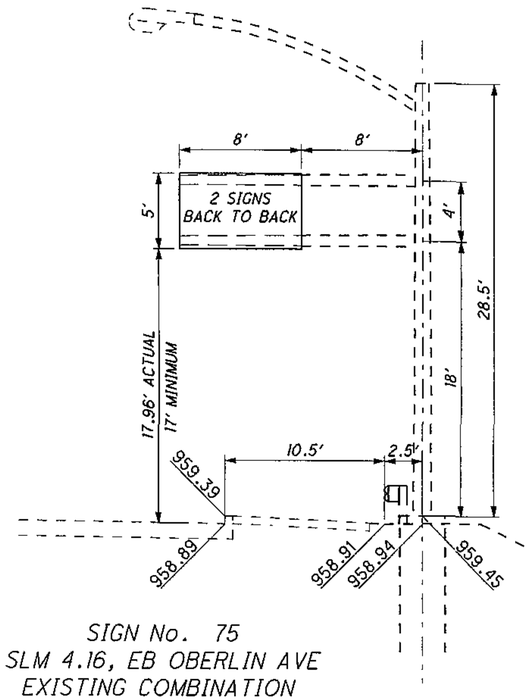
SIGN No. 39
SLM 11.77, SR 21 NB
W10x12 BEAMS
LT. BEAM = 23'
RT. BEAM = 23.1'
BREAKAWAY BEAM CONNECTIONS



SIGN No. 53
SLM 12.77, SR 21 SB
W8x18 BEAMS
LT. BEAM = 26'
RT. BEAM = 28.1'
BREAKAWAY BEAM CONNECTIONS



SIGN No. 74
SLM 4.10, EB OBERLIN AVE
EXISTING TC-12.30 DESIGN 1
POLE = 26.5'
ARM = 16'



SIGN No. 75
SLM 4.16, EB OBERLIN AVE
EXISTING COMBINATION
12.24 DESIGN 3 MOD
POLE = 28.5'
ARM = 16'

CALCULATED CX
CHECKED KPW

ELEVATION VIEWS

STA-21-8.25

39
40

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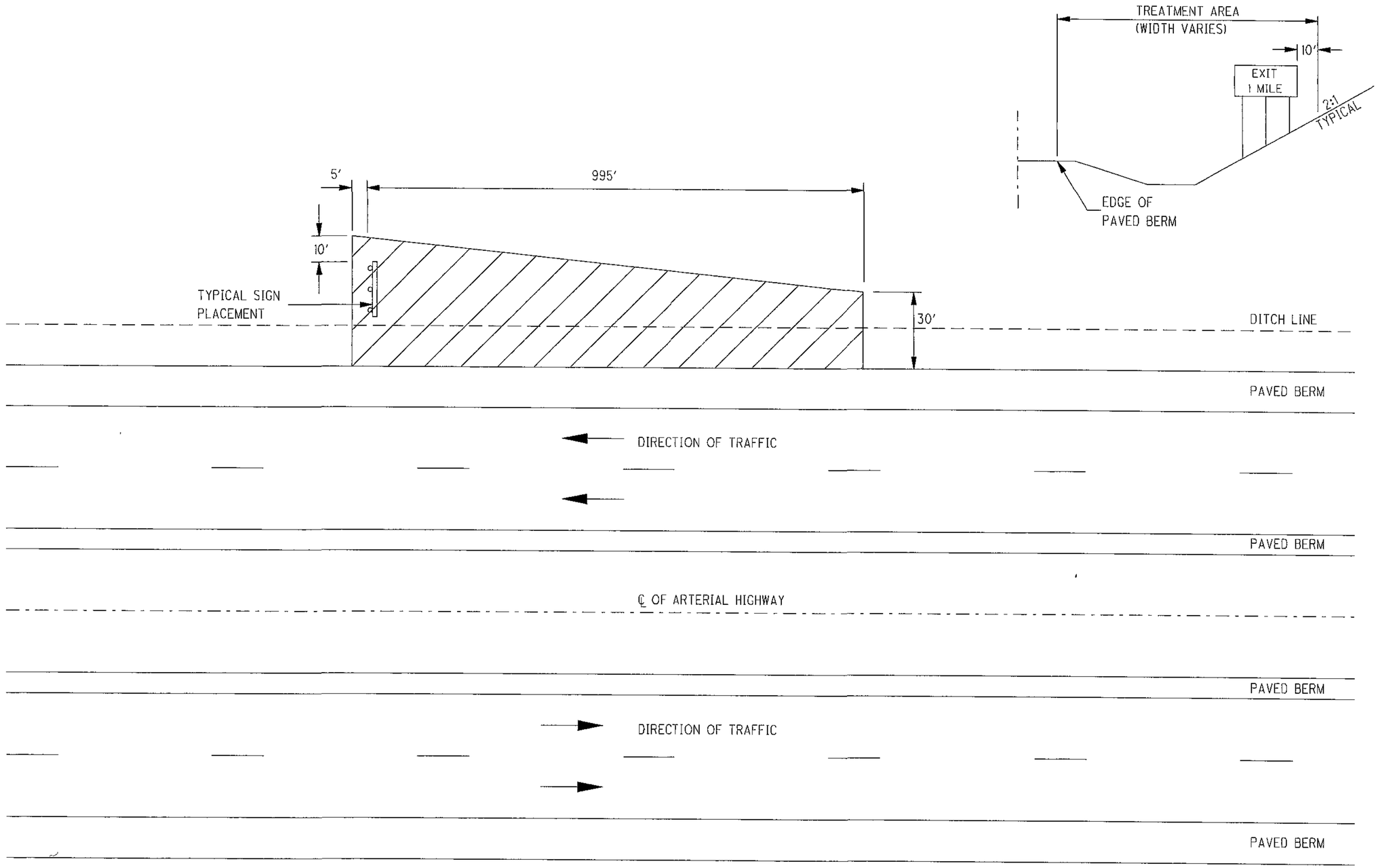


* CLEAR SIGHT AREA

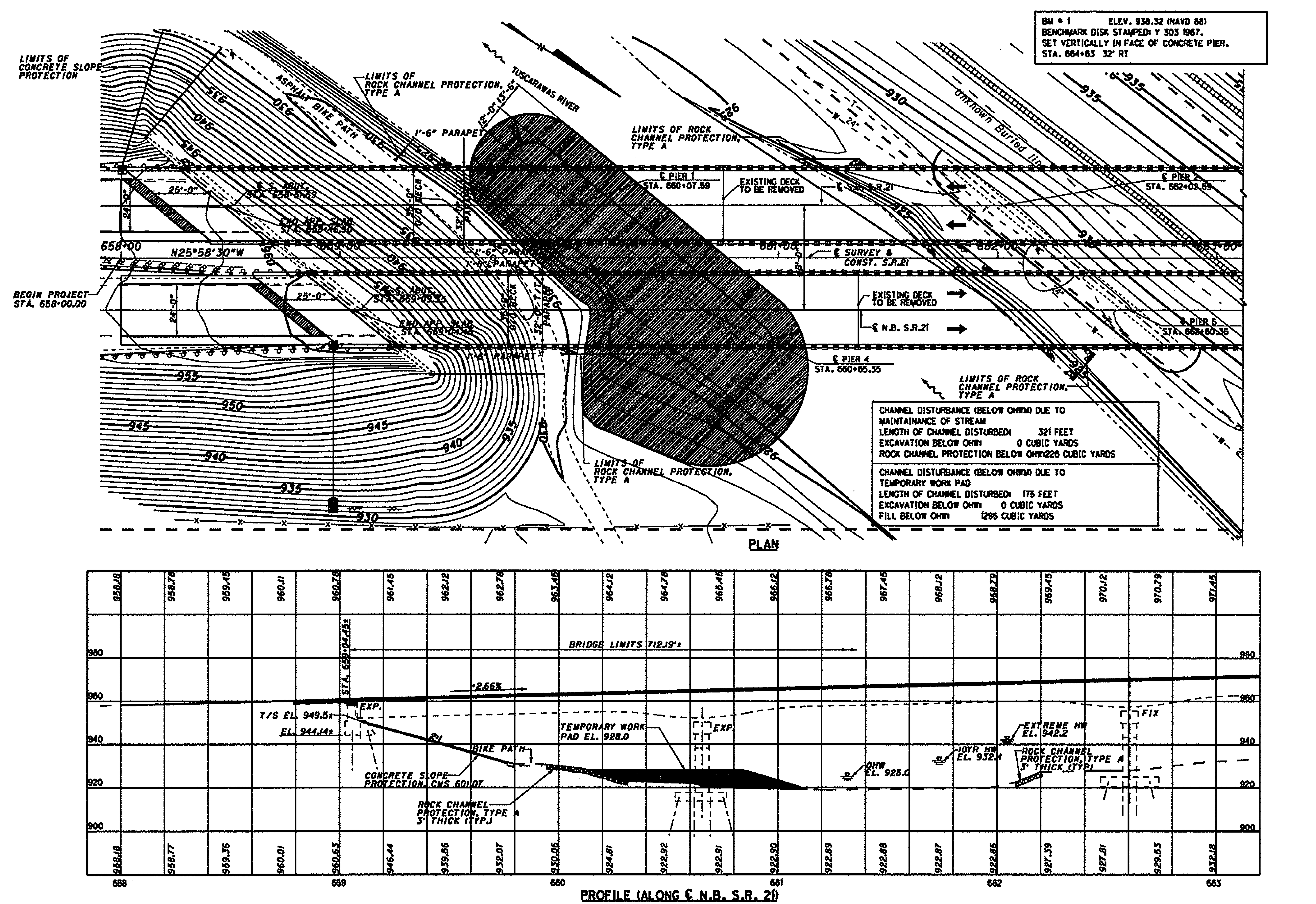
+ PAY QUANTITY IS BASED ONLY ON ACTUAL AREAS MEASURED WHERE BRUSH CUTTING HAS BEEN PERFORMED WITHIN THE CLEAR SIGHT AREA.

HORIZONTAL SCALE IN FEET
0

CALCULATED CX
CHECKED KPW

BRUSH CUT AND TREATED DETAIL

STA-21-8.25


BM # 1 ELEV. 938.32 (NAVD 88)
BENCHMARK DISK STAMPED: Y 303 1967.
SET VERTICALLY IN FACE OF CONCRETE PIER.
STA. 664+63 32' RT
LIMITS OF CONCRETE SLOPE PROTECTION
LIMITS OF ROCK CHANNEL PROTECTION, TYPE A
TUSCARAWAS RIVER
ASPHALT BIKE PATH
1'-6" PARAPET
LIMITS OF ROCK CHANNEL PROTECTION, TYPE A
Unknown Buried line
℄ PIER 1 STA. 660+07.59
EXISTING DECK TO BE REMOVED
℄ S.B. S.R.21
℄ PIER 2 STA. 662+02.59
END APP. SLAB
N25°58'30"W
BEGIN PROJECT STA. 658+00.00
℄ SURVEY & CONST. S.R.21
EXISTING DECK TO BE REMOVED
℄ N.B. S.R.21
℄ PIER 4 STA. 660+65.35
℄ PIER 5 STA. 662+60.35
LIMITS OF ROCK CHANNEL PROTECTION, TYPE A
CHANNEL DISTURBANCE (BELOW OHWM) DUE TO MAINTAINANCE OF STREAM
LENGTH OF CHANNEL DISTURBED: 321 FEET
EXCAVATION BELOW OHW: 0 CUBIC YARDS
ROCK CHANNEL PROTECTION BELOW OHW: 226 CUBIC YARDS
CHANNEL DISTURBANCE (BELOW OHWM) DUE TO TEMPORARY WORK PAD
LENGTH OF CHANNEL DISTURBED: 175 FEET
EXCAVATION BELOW OHW: 0 CUBIC YARDS
FILL BELOW OHW: 1295 CUBIC YARDS
LIMITS OF ROCK CHANNEL PROTECTION, TYPE A
PLAN
BRIDGE LIMITS 712.19'±
STA. 659+04.45±
+2.66%
T/S EL. 949.5±
EL. 944.14±
EXP.
TEMPORARY WORK PAD EL. 928.0
BIKE PATH
CONCRETE SLOPE PROTECTION, CMS 601.07
ROCK CHANNEL PROTECTION, TYPE A 3' THICK (TYP.)
OHW EL. 925.0
10YR HW EL. 932.4
EXTREME HW EL. 942.2
ROCK CHANNEL PROTECTION, TYPE A 3' THICK (TYP.)
FIX
PROFILE (ALONG ℄ N.B. S.R. 21)

STA-21-1248
PID 25455

TEMPORARY WORK PLAN 2
BRIDGE NO. STA-21-1248
OVER TUSCARAWAS RIVER, R.J. CORMAN R.R., AND T.R. 35.5

STARK COUNTY
STA. 658+75.47 TO
STA. 665+87.67

DESIGNED CLB | DRAWN CLB | REVIEWED --- | DATE -/-/04
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SPECIAL PROVISIONS

WATERWAY PERMITS FOR

CRS: STA-21-12.48 (PID: 25433)

U.S. ARMY CORPS OF ENGINEERS
PERMIT NUMBER: NWP #3/#33, 2007-129-TUS STA-21-12.48

OHIO EPA
PERMIT NUMBER: NA

EFFECTIVE DATE: 02-22-2007

NATIONWIDE PERMIT #3 - MAINTENANCE

Activities related to:
(i) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable, structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards which are necessary to make repair, rehabilitation, or replacement, are permitted, provided the adverse environmental effects resulting from such repair, rehabilitation, or replacement are minimal. Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. This NWP authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the District Engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(ii) Discharges of dredged or fill material, including excavation, into all waters of the United States to remove accumulated sediments and debris in the vicinity of, and within, existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and the placement of new or additional rip rap to protect the structure, provided the permittee notifies the District Engineer in accordance with General Condition 13. The removal of sediment is limited to the minimum necessary to restore the waterway in the immediate vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend further than 200 feet in any direction from the structure. The placement of rip rap must be the minimum necessary to protect the structure or to ensure the safety of the structure. All excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the District Engineer under separate authorization. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the District Engineer.

(iii) Discharges of dredged or fill material, including excavation, into all waters of the United States for activities associated with the restoration of upland areas damaged by a storm, flood, or other discrete event, including the construction, placement, or installation of upland protection structures and minor dredging to remove obstructions in water of the US. (Uplands lost as a result of a storm, flood, or other discrete event can be replaced without a Section 404 permit provided the uplands are

restored to their original pre-event location. This NWP is for the activities in waters of the US associated with the replacements of the uplands.) The permittee must notify the District Engineer, in accordance with General Condition 13, within 12 months of the date of the damage and the work must commence, or be under contract to commence, within two years of the date of the damage. The permittee should provide evidence, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration. The restoration of the damaged areas cannot exceed the contours, or ordinary high water mark, that existed before the damage. The District Engineer retains the right to determine the extent of the pre-existing conditions and the extent of any restoration work authorized by this permit. Minor dredging to remove obstructions from the adjacent waterbody is limited to 50 cubic yards below the plane of the ordinary high water mark, and is limited to the amount necessary to restore the pre-existing bottom contours of the waterbody. The dredging may not be done primarily to obtain fill for any restoration activities. The discharge of dredged or fill material and all related work needed to restore the upland must be part of a single and complete project. This permit cannot be used in conjunction with NWP 18 or NWP 19 to restore damaged upland areas. This permit cannot be used to reclaim historic lands lost, over an extended period, to normal erosion processes.

This permit does not authorize maintenance dredging for the primary purpose of navigation and beach restoration. This permit does not authorize new stream channelization or stream relocation projects. Any work authorized by this permit must not cause more than minimal degradation of water quality, more than minimal changes to the flow characteristics of the stream, or increase flooding (See General Conditions 9 and 21).

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure of fill that does not qualify for the Section 404(f) exemption for maintenance

Nationwide 3 Specific Regional Conditions

i. Notification required prior to the use of vertical sheet piling and closed structures in the special habitat waters of Lake Erie (See General Conditions, Critical Resource waters (1)).

ii. The Pre-Construction Notification (PCN) for activities involving the removal of accumulated sediments and debris in the vicinity of existing structures, to restore the waterway to the approximate dimensions that existed when the structure was built, must include evidence of such dimensions. If this information is not available, the PCN must include evidence of the existing depths immediately outside the proposed work area.

WATER QUALITY CERTIFICATION

Pursuant to Section 401 of the Clean Water Act, the Ohio Environmental Protection Agency hereby certifies that activities authorized by these Permits, undertaken in accordance with all of the special and general conditions listed below, will comply with the applicable provisions of the Clean Water Act and applicable Ohio water quality standards. Those NWPs with no special Water Quality Certification (WQC) conditions remain subject to general WQC conditions unless otherwise indicated (Reference 1 below).

Water Quality Certification – Special Conditions:

The Ohio State Certification General Limitations and Conditions apply to this nationwide permit.

Ohio State Water Quality Certification Special Conditions and Limitations:

1. Total surface water and vegetation impacts on either side of the replacement structure shall be limited to the greater of 25 feet beyond the structure, or 25 feet beyond the toe of the slope of the structure's approach embankment. [Where the use of a crane is necessary to conduct a maintenance activity, total impacts shall not exceed 50 feet on either side of the structure or approach embankment]. In either case, total impacts, including the structure, shall not exceed 200 feet [except for stabilization projects] Width shall be measured at the structure's narrowest point as it crosses the waterbody, and be measured parallel to stream flow.

2. Culvert replacement:
   a. This Certification shall only authorize minor deviations from the existing structure's centerline and minor deviations in culvert dimensions, unless these deviations are necessary to follow current safety standards.

3. Bridge Replacement:
   a. This Certification shall only authorize minor deviations from the existing structure's centerline, unless these deviations are necessary to follow current safety standards.
   b. Bridge replacements shall not result in additional lanes unless necessary to follow current safety standards.

4. Maintenance or repair of existing fills (stabilization projects):
   a. Impacts from maintenance or repair of existing fills shall not exceed the dimensions of the fill prior to the damage; and
   b. This nationwide shall not authorize the replacement of existing structures that are open to the flow of water with structures that are not open to the flow of water.

5. For replacement vertical bulkheads, the following conditions apply:
   a. For ship channels and harbors adjacent to federal navigation channels within the following harbors: Sandusky Harbor, Huron Harbor, Vermilion Harbor, Lorain Harbor, Conneaut Harbor, Port Clinton Harbor, Rocky River Harbor, Cleveland Harbor, Fairport Harbor, Ashtabula Harbor, and Toledo Harbor, 1,000 feet of existing vertical bulkheads may be replaced if recessed areas for aquatic habitat, or other aquatic habitat improvements, are incorporated within the design and construction of the replacement vertical bulkhead;
   b. For all other areas, except Lake Erie, Lake Erie Islands, or Sandusky Bay, up to 1,000 feet of existing vertical bulkheads may be replaced. Toe stone shall be placed at the base of these replacement vertical bulkheads except in areas where the shoreline is composed of bedrock and slopes are predominately greater than 75 percent;

c Replacement vertical bulkheads are not to be placed more than one foot waterward of the intersection of the ordinary high water level of the waterbody and the existing shoreline;

d. Minor dredging necessary for the installation of the replacement vertical bulkhead is authorized;

e. Placement of fill between the replacement vertical bulkhead and existing shoreline is authorized, and

f. Toe stone shall be placed at the base of these replacement vertical bulkheads except in areas where the original shoreline is composed of bedrock and slopes are predominately greater than 75 percent or where the placement of toe stone would interfere with shipping activity When required, toe stone shall be placed at an average rate of one-third the total height of the replacement vertical bulkhead at a 2:1 slope.

6. Removal of accumulated sediment.

a. Removal of accumulated sediment shall occur only once per year, except in cases of emergency situations which threaten life of property.

B. Removal of accumulated sediments shall be limited to low-flow conditions whenever practicable, except in cases of emergency situations which threaten life or property.

NATIONWIDE PERMIT #33 - TEMPORARY CONSTRUCTION, ACCESS and DEWATERING

Temporary structures, work and discharges, including cofferdams, necessary for construction activities or access fills or dewatering of construction sites; provided that the associated primary activity is authorized by the Corps of Engineers or the USCG, or for other construction activities not subject to the Corps or USCG regulations. Appropriate measures must be taken to maintain near normal downstream flows and to minimize flooding. Fill must be of materials, and placed in a manner, that will not be eroded by expected high flows. The use of dredged material may be allowed if it is determined by the District Engineer that it will not cause more than minimal adverse effects on aquatic resources. Temporary fill must be entirely removed to upland areas, or dredged material returned to its original location, following completion of the construction activity, and the affected areas must be restored to the pre-project conditions. Cofferdams cannot be used to dewater wetlands or other aquatic areas to change their use. Structures left in place after cofferdams are removed require a Section 10 permit if located in navigable waters of the U.S. (See 33 CFR part 322). The permittee must notify the District Engineer in accordance with the "Notification" General Condition. The notification must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources. The District Engineer will add Special Conditions, where necessary, to ensure environmental adverse effects is minimal. Such conditions may include: limiting the temporary work to the minimum necessary; requiring seasonal restrictions; modifying the restoration plan; and requiring alternative construction methods (e.g. construction mats in wetlands where practicable.). **(Sections 10 and 404)**

WATER QUALITY CERTIFICATION

Pursuant to Section 401 of the Clean Water Act, the Ohio Environmental Protection Agency hereby certifies that activities authorized by these Permits, undertaken in accordance with all of the special and general conditions listed below, will comply with the applicable provisions of the Clean Water Act and applicable Ohio water quality standards. Those NWPs with no special Water Quality Certification (WQC) conditions remain subject to general WQC conditions unless otherwise indicated (Reference 1 below).

Water Quality Certification – Special Conditions:

The Ohio State Certification General Limitations and Conditions apply to this nationwide permit.

Ohio State Certification Special Limitations and Conditions:

1) Temporary shall be defined as less than one year in duration,
2) This Nationwide Permit does not authorize construction, or maintenance, or modification of marina basins;
3) This Nationwide Permit does not authorize activities in special aquatic sites as defined in 40 CFR 230.3(q-1);
4) This Nationwide Permit shall not authorize temporary construction access and dewatering associated with mining activities.

NATIONWIDE PERMIT CONDITIONS

GENERAL CONDITIONS:
The following general conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation. No activity may cause more than a minimal adverse effect on navigation.

2. Proper Maintenance. Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.

3. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

4. Aquatic Life Movements. No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species which normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

5. Equipment. Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.

6. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions which may have been added by the division engineer (see 33 CFR 330.4(e) and with any case specific conditions added by the Corps or by the State or tribe in its section 401 Water Quality Certification and Coastal Zone management Act consistency determination

7. Wild and Scenic Rivers No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

8. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

9. Water Quality

(a) In certain States and tribal lands an individual Section 401 water quality certification must be obtained or waived (see 33 CFR 330.4(c)).

(b) For NWPs 12, 14, 17, 18, 32, 39, 40, 42, 43, and 44, where the State or tribal 401 certification (either generically or individually) does not require or approve water quality management measures, the permittee must provide water quality management measures that will ensure that the authorized work does not result in more than minimal degradation of water quality (or the Corps determines that compliance with state or local standards, where applicable, will ensure no more than minimal adverse effect on water quality). An important component of water quality management includes stormwater management that minimizes degradation of the downstream aquatic system, including water quality (refer to General Condition 21 for stormwater management requirements). Another important component of water quality management is the establishment and maintenance of vegetated buffers next to open waters, including streams (refer to General Condition 19 for vegetated buffer requirements for the NWPs). This condition is only applicable to projects that have the potential to affect water quality. While appropriate measures must be taken, in most cases it is not necessary to conduct detailed studies to identify such measures or to require monitoring.

10. Coastal Zone Management. In certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see Section 330.4(d)).

11. Endangered Species.

(a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which is likely to destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the FWS or NMFS, the District Engineer may add species-specific regional endangered species conditions to the NWPs.

(b) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the National Marine Fisheries Service (NMFS), both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their World Wide Web pages at
http://www.fws.gov/r9endspp/endspp.html and
http://www.nmfs.noaa.gov/prot_res/overview/es.html, respectively.

12. Historic properties. No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the District Engineer has complied with the provisions of 33 CFR Part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the notification must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

13. Notification.

(a) Timing. where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a preconstruction notification (PCN) as early as possible. The District Engineer must determine if the PCN is complete within 30 days of the date of receipt and can request the additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the District Engineer that the activity may proceed under the NWP with any special conditions imposed by the District or Division Engineer; or

(2) If notified in writing by the District or Division Engineer that an individual permit is required; or

(3) Unless 45 days have passed from the District Engineer's receipt of the complete notification and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Notification: The notification must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), Regional General Permit(s), or Individual Permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) For NWPs 7, 12, 14, 18, 21, 34, 38, 39, 40, 41, 42, and 43, the PCN must also include a delineation of affected special aquatic sites, including wetlands, vegetated shallows (e.g., submerged aquatic vegetation, seagrass beds), and riffle and pool complexes (see paragraph 13(f));

(5) For NWP 7 (Outfall Structures and Maintenance), the PCN must include information regarding the original design capacities and configurations of those areas of the facility where maintenance dredging or excavation is proposed.

(6) For NWP 14 (Linear Transportation Crossings), the PCN must include a compensatory mitigation proposal to offset permanent losses of waters of the US and a statement describing how temporary losses of waters of the US will be minimized to the maximum extent practicable;

(7) For NWP 21 (Surface Coal Mining Activities), the PCN must include an Office of Surface Mining (OSM) or state-approved mitigation plan, if applicable. To be authorized by this NWP, the District Engineer must determine that the

activity complies with the terms and conditions of the NWP and that the adverse environmental effects are minimal both individually and cumulatively and must notify the project sponsor of this determination in writing;

(8) For NWP 27 (Stream and Wetland Restoration Activities), the PCN must include documentation of the prior condition of the site that will be reverted by the permittee.

(9) For NWP 29 (Single-Family Housing), the PCN must also include:

(i) Any past use of this NWP by the individual permittee and/or the permittee's spouse;

(ii) A statement that the single-family housing activity is for a personal residence of the permittee;

(iii) A description of the entire parcel, including its size, and a delineation of wetlands. For the purpose of this NWP, parcels of land measuring 1/4 acre or less will not require a formal on-site delineation However, the applicant shall provide an indication of where the wetlands are and the amount of wetlands that exists on the property. For parcels greater than 1/4 acre in size, formal wetland delineation must be prepared in accordance with the current method required by the Corps. (See paragraph 13(f));

(iv) A written description of all land (including, if available, legal descriptions) owned by the prospective permittee and/or the prospective permittee's spouse, within a one mile radius of the parcel, in any form of ownership (including any land owned as a partner, corporation, joint tenant, co-tenant, or as a tenant-by-the-entirety) and any land on which a purchase and sale agreement or other contract for sale or purchase has been executed;

(10) For NWP 31 (Maintenance of Existing Flood Control Facilities), the prospective permittee must either notify the District Engineer with a PCN prior to each maintenance activity or submit a five year (or less) maintenance plan. In addition, the PCN must include all of the following:

(i) Sufficient baseline information identifying the approved channel depths and configurations and existing facilities. Minor deviations are authorized, provided that the approved flood control protection or drainage is not increased;

(ii) A delineation of any affected special aquatic sites, including wetlands; and,

(iii) Location of the dredged material disposal site;

(11) For NWP 33 (Temporary Construction, Access, and Dewatering), the PCN must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources;

(12) For NWPs 39, 43, and 44, the PCN must also include a written statement to the District Engineer explaining how avoidance and minimization for losses of waters of the US were achieved on the project site;

(13) For NWP 39 and NWP 42, the PCN must include a compensatory mitigation proposal to offset losses of waters of the US or justification explaining why

compensatory mitigation should not be required. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;
(14) For NWP 40 (Agricultural Activities), the PCN must include a compensatory mitigation proposal to offset losses of waters of the US. This NWP does not authorize the relocation of greater than 300 linear-feet of existing serviceable drainage ditches constructed in non-tidal streams unless, for drainage ditches constructed in intermittent non-tidal streams, the District Engineer, waives this criterion in writing, and the District Engineer has determined that the project complies with all terms and conditions of this NWP, and that any adverse impacts of the project on the aquatic environment are minimal, both individually and cumulatively;
(15) For NWP 43 (Stormwater Management Facilities), the PCN must include, for the construction of new stormwater management facilities, a maintenance plan (in accordance with state and local requirements, if applicable) and a compensatory mitigation proposal to offset losses of waters of the US. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;
(16) For NWP 44 (Mining Activities), the PCN must include a description of all waters of the US adversely affected by the project, a description of measures taken to minimize adverse effects to waters of the US, a description of measures taken to comply with the criteria of the NWP, and a reclamation plan (for all aggregate mining activities in isolated waters and non-tidal wetlands adjacent to headwaters and any hard rock/mineral mining activities);
(17) For activities that may adversely affect Federally-listed endangered or threatened species, the PCN must include the name(s) of those endangered or threatened species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work; and
(18) For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

(c) Form of Notification: The standard Individual Permit application form (Form ENG 4345) may be used as the notification but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(18) of General Condition 13. A letter containing the requisite information may also be used.

(d) District Engineer's Decision. In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may submit a proposed mitigation plan with the PCN to expedite the process. The District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary. The District Engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the District Engineer will expeditiously review the proposed mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant The response will state that the project can proceed under the terms and conditions of the NWP. If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then the District Engineer will notify the applicant either:

(1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an Individual Permit;
(2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or
(3) that the project is authorized under the NWP with specific modifications or conditions.

Where the District Engineer determines that mitigation is required in order to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitgation plan is required under item (2) above, no work in waters of the US will occur until the District Engineer has approved a specific mitigation plan.

(e) Agency Coordination: The District Engineer will consider any comments from Federal and State agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level. For activities requiring notification to the District Engineer that result in the loss of greater than ½ acre of waters of the US, the District Engineer will provide

immediately (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy to the appropriate Federal or state offices (USFWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 15 calendar days before making a decision on the notification. The District Engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The District Engineer will indicate in the administrative record associated with each notification that the resource agencies' concerns were considered. As required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, the District Engineer will provide a response to NMFS within 30 days of receipt of any Essential Fish Habitat conservation recommendations. Applicants are encouraged to provide the Corps multiple copies of notifications to expedite agency notification.

(f) Wetland Delineations: Wetland Delineations must be prepared in accordance with the current method required by the Corps (For NWP 29 see paragraph (b)(9)(iii) for parcels less than 1/4-acre in size). The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 45-day period will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

14. Compliance Certification. Every permittee who has received NWP verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter and will include:

(a) A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions;

(b) A statement that any required mitigation was completed in accordance with the permit conditions, and

(c) The signature of the permittee certifying the completion of the work and mitigation .

15. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the US authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit (e.g. if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the US for the total project cannot exceed 1/3-acre).

16. Water Supply Intakes. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in the proximity of a public water supply intake except where the activity is for repair of the public water supply intake structures or adjacent bank stabilization.

17. Shellfish Beds. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4.

18. Suitable Material. No activity, including structures and work in navigable waters of the US discharges of dredged or fill material, may consist of unsuitable material (e.g. trash, debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the CWA).

19. Mitigation. The District Engineer will consider the factors discussed below when determining the acceptability of appropriate and practicable mitigation necessary to offset adverse affects on the aquatic environment that are more than minimal.

(a) The project must be designed and constructed to avoid and minimize adverse effects to waters of the US to the maximum extent practicable at the project site (i.e., on-site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland impacts requiring a PCN, unless the District Engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. Consistent with National policy, the District Engineer will establish a preference for restoration of wetlands as compensatory mitigation, with preservation used only in exceptional circumstances.

(d) Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the NWPs. For example, 1/4-acre of wetlands cannot be created to change a 3/4-acre loss of wetlands to a ½-acre loss associated with NWP 39 verification. However, ½-acre of created wetlands can be used to reduce the impacts of a ½-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with NWPs.

(e) To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purposes. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferably in the same watershed;

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., easements, deed restrictions) of vegetated buffers to open waters. In many cases, vegetated buffers will be the only compensatory mitigation required. Vegetated buffers should consist of native species. The width of the vegetated buffers required will address documented water quality or aquatic habitat loss concerns. Normally, the vegetated buffer will be 25 to 50 feet wide on each side of the stream, but the District Engineer may require slightly wider vegetated buffers to address documented water quality or habitat loss concerns. Where both wetlands and open

waters exist on the project site, the Corps will determine the appropriate compensatory mitigation (e.g., stream buffers or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where vegetated buffers are determined to be the most appropriate form of compensatory mitigation, the District Engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland impacts.

(g) Compensatory mitigation proposals submitted with the "notification" may be either conceptual or detailed. If conceptual plans are approved under the verification, then the Corps will condition the verification to require detailed plans be submitted and approved by the Corps prior to construction of the authorized activity in waters of the US.

(h) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases that require compensatory mitigation, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

20. Spawning Areas. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., excavate, fill, or smother downstream by substantial turbidity) of an important spawning area are not authorized.

21. Management of Water Flows. To the maximum extent practicable, the activity must be designed to maintain preconstruction downstream flow conditions (e.g., location, capacity, and flow rates). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters) and the structure or discharge of dredged or fill material must withstand expected high flows. The activity must, to the maximum extent practicable, provide for retaining excess flows from the site, provide for maintaining surface flow rates from the site similar to preconstruction conditions, and provide for not increasing water flows from the project site, relocating water, or redirecting water flow beyond preconstruction conditions. Stream channelizing will be reduced to the minimal amount necessary, and the activity must, to the maximum extent practicable, reduce adverse effects such as flooding or erosion downstream and upstream of the project site, unless the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow. This condition is only applicable to projects that have the potential to affect waterflows. While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.

22. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to the acceleration of the passage of water, and/or the restricting its flow shall be minimized to the maximum extent practicable. This includes structures and work in navigable waters of the US, or discharges of dredged or fill material.

23. Waterfowl Breeding Areas. Activities, including structures and work in navigable waters

of the US or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

24. Removal of Temporary Fills. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

25. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the District Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Except as noted below, discharges of dredged or fill material into waters of the US are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, and 44 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the US may be authorized by the above NWPs in National Wild and Scenic Rivers if the activity complies with General Condition 7. Further, such discharges may be authorized in designated critical habitat for Federally listed threatened or endangered species if the activity complies with General Condition 11 and the USFWS or the NMFS has concurred in a determination of compliance with this condition.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with General Condition 13, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The District Engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

26. Fills Within 100-Year Floodplains. For purposes of this General Condition, 100-year floodplains will be identified through the existing Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps or FEMA-approved local floodplain maps.

(a) Discharges in Floodplain; Below Headwaters. Discharges of dredged or fill material into waters of the US within the mapped 100-year floodplain, below headwaters (i.e., five cfs), resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, 43, and 44.

(b) Discharges in Floodway; Above Headwaters. Discharges of dredged or fill material into waters of the US within the FEMA or locally mapped floodway, resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, and 44.

(c) The permittee must comply with any applicable FEMA-approved state or local floodplain management requirements.

27. Construction Period. For activities that have not been verified by the Corps and the project

was commenced or under contract to commence by the expiration date of the NWP (or modification or revocation date), the work must be completed within 12-months after such date (including any modification that affects the project). For activities that have been verified and the project was commenced or under contract to commence within the verification period, the work must be completed by the date determined by the Corps. For projects that have been verified by the Corps, an extension of a Corps approved completion date may be requested. This request must be submitted at least one month before the previously approved completion date.

FURTHER INFORMATION

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other Federal, state, or local permits, approvals, or authorizations required by law
3. NWPs do not grant any property rights or exclusive privileges
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

DEFINITIONS

Best Management Practices (BMPs): BMPs are policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural. A BMP policy may affect the limits on a development.

Compensatory Mitigation: For purposes of Section 10/404, compensatory mitigation is the restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands and/or other aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Creation: The establishment of a wetland or other aquatic resource where one did not formerly exist.

Enhancement: Activities conducted in existing wetlands or other aquatic resources that increase one or more aquatic functions.

Ephemeral Stream: An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Farm Tract: A unit of contiguous land under one ownership that is operated as a farm or part of a farm.

Flood Fringe: That portion of the 100-year floodplain outside of the floodway (often referred to as "floodway fringe").

Floodway: The area regulated by Federal, state, or local requirements to provide for the discharge of the base flood so the cumulative increase in water surface elevation is no more than a designated amount (not to exceed one foot as set by the National Flood Insurance Program) within the 100-year floodplain.

Independent Utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent Stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water from stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of Waters of the US: Waters of the US that include the filled area and other waters that are permanently adversely affected by flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent above-grade, at-grade, or below-grade fills that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the US is the threshold measurement of the impact to existing waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and values. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Impacts to ephemeral streams are not included in the linear foot measurement of loss of stream bed for the purpose of determining compliance with the linear foot limits of NWPs 39, 40, 42, and 43. Water of the US temporarily filled, flooded, excavated, or drained, but restored to preconstruction contours and elevations after construction, are not included in the measurement of loss of waters of the US.

Non-tidal Wetland: A non-tidal wetland is a wetland (i.e., a water of the US) that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open Water: An area that, during a year with normal patterns of precipitation, has standing or flowing water for sufficient duration to establish an ordinary high water mark. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. The term "open water" includes rivers, streams, lakes, and ponds. For the purposes of the NWPs, this term does not include ephemeral

waters.

Perennial Stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Permanent Above-grade Fill: A discharge of dredged or fill material into waters of the US, including wetlands, that results in a substantial increase in ground elevation and permanently converts part or all of the waterbody to dry land. Structural fills authorized by NWPs 3, 25, 36, etc. are not included.

Preservation: The protection of ecologically important wetlands or other aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection and/or enhancement of the overall aquatic ecosystem.

Restoration: Re-establishment of wetland and/or other aquatic resource characteristics and function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.

Riffle and Pool Complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Single and Complete Project: The term single and complete project is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers (see definition of independent utility). For linear projects, the single and complete project (i.e., a single and complete crossing) will apply to each crossing of a separate water of the US (i.e., a single waterbody) at that location. An exception is for linear projects crossing a single waterbody several times at separate and distant locations: each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies.

Stormwater Management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater Management Facilities: Stormwater management facilities are those facilities,

including but not limited to, stormwater retention and detention ponds and BMPs, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff

Stream Bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream Channelization: The manipulation of a stream channel to increase the rate of water flow through the stream channel Manipulation may include deepening, widening, straightening, armoring, or other activities that change the stream cross-section or other aspects of stream channel geometry to increase the rate of water flow through the stream channel. A channelized stream remains a water of the US, despite the modifications to increase the rate of water flow.

Tidal Wetland: A tidal wetland is a wetland (i.e , water of the US) that is inundated by tidal waters. The definition of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328 3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line (i.e., spring high tide line) and are inundated by tidal waters two times per lunar month, during spring high tides.

Vegetated Buffer: A vegetated upland or wetland area next to rivers, streams, lakes, or other open waters which separates the open water from developed areas, including agricultural land. Vegetated buffers provide a variety of aquatic habitat functions and values (e.g., aquatic habitat for fish and other aquatic organisms, moderation of water temperature changes, and detritus for aquatic food webs) and help improve or maintain local water quality. A vegetated buffer can be established by maintaining an existing vegetated area or planting native trees, shrubs, and herbaceous plants on land next to open-waters. Mowed lawns are not considered vegetated buffers because they provide little or no aquatic habitat functions and values. The establishment and maintenance of vegetated buffers is a method of compensatory mitigation that can be used in conjunction with te restoration, creation, enhancement, or preservation of aquatic habitats to ensure that activities authorized by NWPs result in minimal adverse effects to the aquatic environment. (See General Condition 19.)

Vegetated Shallows: Vegetated shallows are special aquatic sties under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: A waterbody is any area that in a normal year has water flowing or standing above

ground to the extent that evidence of an ordinary high water mark is established. Wetlands contiguous to the waterbody are considered part of the waterbody.

REGIONAL GENERAL CONDITIONS

1. Notifications for all Nationwide permits should include a location map (USGS topographical map) and project drawings on 8.5" x 11" paper.

2. Nationwide Permits shall not authorize any activity which impact bogs and/or fens.

3. No Nationwide permit may be used in Lake Erie for purposes of diverting water from the Great Lakes.

4. In order to determine if a project meets the terms and conditions of the Ohio EPA's 401 water quality certification, two copies of the following information is necessary:

(a) All wetland delineations must include the latest approved version of the Ohio Rapid Assessment Method (ORAM) for wetland evaluation, long form. (This will assist OEPA in determining the category of wetland the applicant proposes to impact.)

(b) Photographs of the wetland.

NOTE: This information is in addition to the required information listed under General Condition 13 (Notification) of the NWP.

5. Notification is required for all work in the following designated Critical Resource Waters:

Special Habitat water of Lake Erie: Special habitat waters of Lake Erie including the shoreline, off shore islands, rock outcrops, and adjacent waters within the boundaries defined as 82 22' 30" West Longitude, 83 07' 30" West Longitude, 41 33' 00" North Latitude and 42 00' 00" North Latitude.

Piping Plover Critical Habitat: In Ohio, two areas have been designated critical habitat for the piping plover (Charadrius melodus) and are defined as lands 0.62 miles inland from normal high water line. Unit OH-1, extends from the mouth of Sawmill Creek to the western property boundary of Sheldon Marsh State Natural Area, Erie County, encompassing approximately 2.0 miles. Unit OH-2, extends from the eastern boundary line of Headland Dunes Nature Preserve to the western boundary of the Nature Preserve and Headland Dunes State Park, Lake County, encompassing approximately 0.5 mile.

Big and Little Darby Creeks (National Wild and Scenic River System): Big Darby Creek from Champaign-Union County line downstream to the Conrail railroad trestle and from the confluence with the Little Darby Creek downstream to the Scioto River. Little

Darby Creek from the Lafayette-Plain City Road Bridge downstream to within 0.8 mile from the confluence with Big Darby Creek. Total designation is approximately 82 miles.

Little Beaver Creek (National Wild and Scenic River System): Little Beaver Creek main stem, from the confluence of West Fork with Middle Fork near Williamsport to mouth; North Fork from confluence of Brush Run and North Fork to confluence of North Fork with main stem at Fredericktown; Middle Fork from vicinity of Co. Rd. 901 (Elkton Road) bridge crossing to confluence of Middle Fork with West Fork near Williamsport; West Form from vicinity of Co. Rd. 914 (Y-Camp Road) bridge crossing east to confluence of West Fork with Middle Fork near Williamsport. Total designation is 33 miles

Little Miami River: (Scenic component of the National System from Clifton to Foster) The portion from Foster to the Ohio River was designated a Recreational component of the National System. Total designation is 92 miles.

6. Notification is required for all activities in state Wild and Scenic Rivers (see list below). The following are **State Wild and Scenic Rivers**:

Little Miami River - Clermont County line at Loveland to headwaters, including North Fork, Clermont County line at Loveland to confluence with East Fork and from the confluence with East Fork to Ohio River Miles designated (approximate): 105

Sandusky River - US Rt. 30 in Upper Sandusky to Roger Young Memorial Park in Fremont. Miles designated (approximate): 65

Olentangy River - Delaware Dam to Old Wilson Road in Worthington. Miles designated (approximate): 22

Little Beaver Creek - Wild segments - West Fork from 1/4 mile downstream from Twp. Rd. 914 to confluence with Middle Fork. North Fork from Twp. Rd. 952 to confluence with Little Beaver Creek. Little Beaver Creek from confluence of West and Middle Forks downstream to 3/4 mile north of Grimm's Bridge. Scenic segments - North Fork from Ohio-Pennsylvania line downstream to Jackman Road. Middle Fork from Elkton Rd. (Twp. Rd. 901) downstream to confluence with West Fork. Little Beaver Creek from 3/4 mile north of Grimm's Bridge downstream to the Ohio-Pennsylvania line. Miles designated (approximate): Wild 20, Scenic 16

Grand River - Wild segment - from Harpersfield covered bridge downstream to Norfolk and Western Railroad trestle south of Painesville. Scenic segment - from St. Rt. 322 bridge in Ashtabula County downstream to Harpersfield covered bridge. Miles designated (approximate): Scenic 33, Wild 23

Upper Cuyagoga River - Troy-Burton Township line in Geauga County to US Rt. 14.

Miles designated (approximate): 25

Maumee River - Scenic segment - Ohio-Indiana line to St. Rt. 24 bridge west of Defiance. Recreational segment - St. Rt. 24 bridge west of Defiance to US Rt. 25 bridge near Perrysburg. Miles designated (approximate): Scenic 43, Recreational 53.

Stillwater River System - Recreational segment - Englewood dam to confluence with Great Miami River. Scenic segments - Stillwater River from Riffle Road bridge in Darke Co. to Englewood dam. Greenville Creek from the Ohio-Indiana state line to the confluence with the Stillwater. Miles designated (approximate): Scenic 83, Recreational 10

Chagrin River - Aurora Branch from St. Rt. 82 bridge downstream to confluence with Chagrin. Chagrin River from confluence with Aurora Branch downstream to St. Rt. 6 bridge. East Branch from Heath Road bridge downstream to confluence with Chagrin. Miles designated (approximate). 49

Big and Little Darby Creeks - Big Darby Creek from the Champaign-Union County line downstream to the U.S. Rt. 40 Bridge, from the northern boundary of Battelle-Darby Creek Metro Park to the confluence with the Little Darby Creek downstream to the Scioto River. Little Darby Creek from the Lafayette-Plain City Road Bridge downstream to the confluence with Big Darby Creek. Miles designated (approximate): 84

Kokosing River - Knox/Morrow County line to confluence with Mohican River. North Branch of Kokosing from confluence with East Branch downstream to confluence with main stem. Miles designated (approximate): 48

OHIO STATE CERTIFICATION GENERAL LIMITATIONS AND CONDITIONS (WATER QUALITY CERTIFICATION)

1. Streams

a) Temporary or permanent impacts to intermittent and perennial streams for any single and complete project are limited to a maximum of two hundred (200) linear feet [except for NWPs 3, 12, 21, 27, and 41];

b) Temporary or permanent impacts to ephemeral streams for any single and complete project are limited to a maximum of three hundred (300) linear feet [except for NWPs 3, 12, 21, 27, and 41];

c) Temporary or permanent impacts to Exceptional Warmwater Habitat (EWH), Cold Water Habitat (CWH), Seasonal Salmonid (SS), or any equivalent designation, or with an antidegradation category of State Resource Water, Superior High Quality Water (except as it applies to Lake Erie), Outstanding National Resource Waters, or Outstanding High

Quality Waters are prohibited [except for NWP 3 and maintenance activities covered under NWP 7, 12, and 33];

d) Temporary or permanent impacts to the designated portions of national or state scenic rivers are prohibited [except for NWP 3 and maintenance activities under NWP 12];

e) Stream reconstruction activities shall adhere to natural channel design techniques;

f) Off-site stream or buffer improvements and/or mitigative measures required by the Corps:

i. In order of priority, these measures shall focus on 1) the stream segment being impacted, 2) upstream segments and tributaries, 3) the receiving stream. The measures should, to the extent practicable, consider the causes and sources of impairment of the stream where the measures would be undertaken if the stream is listed as impaired in the most recent final report submitted to the United States environmental protection agency by the director of Ohio EPA to fulfill the requirements of Section 303(d) of the Clean Water Act. The current list of impaired streams, as of the date of this certification, can be found on the Ohio EPA web site at (Tables 1 through 6):
http://www.epa.state.oh.us/dsw/tmdl/303dnotc.html

ii. If the applicant cannot find appropriate mitigation on streams listed in section a) above, mitigation shall be in the Ohio EPA 8-digit watershed.

g) On-site stream or buffer improvements and/or mitigative measures required by the Corps:

i. Vegetative buffers on both stream banks an appropriate length; and

ii. A minimum width of 25 feet for preservation of existing vegetative buffers; or
iii. A minimum width of 50 feet for re-vegetating buffers cleared during construction.

h) Compensatory mitigation for linear projects (e.g., highways) in streams may be mitigated for by the following, in descending order of practicability:

i. Stream impacts associated with a linear project may be mitigated on-site, defined as within one mile of the linear project, in each Ohio EPA 8-digit watershed as shown in OAC 3745-1-54(F)(2); or
ii. Stream impacts associated with a linear project may be mitigated at a single stream mitigation location or stream mitigation bank (if and when such a bank is established), acceptable to the director, within each Ohio EPA 8-digit watershed in which the impacts occur; or
iii. If no stream mitigation bank, acceptable to the director, is located within the Ohio EPA 8-digit watershed in which the impact occurs, then mitigation may occur in another Ohio EPA 8-digit watershed impacted by the linear project; at a

single stream mitigation location, or a stream mitigation bank acceptable to the director; or
iv. In no stream mitigation bank exists within any of the watersheds connected with the linear project, then mitigation should occur within the watershed in which the largest impacts (in terms of area) occur.

2. Wetlands

a) Temporary or permanent impacts to Category 3 wetlands are prohibited.

b) Temporary or permanent impacts to Category 1 and 2 wetlands for any single and complete project are limited to a maximum total of ½ acre [except for NWP 21 & 27].

c) Wetland mitigation shall adhere to the requirements set forth in Ohio EPA's Wetland Water Quality Standards (OAC 3745-1-50 through 54). [In the event that suitable mitigation cannot be located on-site (within one mile) or within the watershed, mitigation may be located outside of the watershed if there are significant ecological reasons to do so].

3. General

a) Impacts shall be measured linearly from upstream to downstream, including the length of stream impoundments, when calculating the total length of stream impacts [except for NWP 12, for which impacts shall be measured bank-to-bank].

b) NWPs cannot be combined to increase any of the aforementioned limitations.

c) Authorization under this Certification does not relieve the permittee from the responsibility of obtaining any other federal, state or local permits, approvals or authorizations required by law including without limitation, National Pollutant Discharge Elimination System (NPDES) permits or Permits to install (PTIs).

d) In order to control pollution of public waters by soil sediment from accelerated stream channel erosion and flood plain erosion caused by accelerated stormwater runoff from development areas, permittees shall comply with Ohio Administrative Code 1501:15-1-05 Stream Channel and Floodplain Erosion, or successor rule, as applicable to the project pursuant to OAC 1501:15-1-02.

e) OAC 1501:15-1-05 states that the peak rates of runoff from an area after development may be no greater than the peak rates of runoff from the same area before development for all twenty-four-hour storms from one to one-hundred-year frequency.

f) Locally required post development stormwater ponds shall incorporate specific design features for water quality such as those listed in Chapter One of the Ohio Department of Natural Resource's *Rainwater and Land Development: Ohio's Standards for Stormwater Management, Land Development and Urban Stream Protection, 2nd Ed. Mecklenburg.*

Dan. Ohio Department of Natural Resources, Division of Soil and Water Conservation. 1996 (or successor document), to the extent allowed by local stormwater requirements. These features include: infiltration trenches, extended detention, wet pools, forebays, aquatic benches and wetlands, optimum flow length, reverse flow pipe, optimum pool depth, shading and buffer plants, and runoff reuse.

g) The Best Management Practices (BMPs) listed below shall be utilized with all NWPs when applicable.

i. The filling of, and discharge of dredged material into, Category 3 wetlands is prohibited under this permit;
ii. Only suitable material, free of toxic contaminants in other than trace quantities, shall be used as fill material;
iii. The use of asphalt and rubber tires as fill is prohibited under this permit;
iv. All hydric topsoil removed from a trench shall be separated and saved for later placement as the topmost backfill layer when the trench is refilled;
v. The stockpiling of side-cast dredged material in wetlands in excess of three (3) months is prohibited;
vi. The applicant will comply with all requirements for final stabilization of the site contained in applicable NPDES construction stormwater permits for the site;
vii. Vegetated buffer strips extending to the top of both stream banks and beyond as stipulated by the Corps or Ohio EPA, using native tree and shrub species with rapid growth characteristics, shall be planted as soon as practicable after impacting stream channel slopes;
viii. Impacts to surface water buffer vegetation shall be minimized to the maximum extent practicable;

ix. Excavating equipment shall not be placed below the Ordinary High Water Mark (OHWM) of any surface water, except when no other alternative is practicable. When no other alternative is practicable to placing excavating equipment below the OHWM, entry to surface waters shall be through a single point of access per stream bank whenever practicable to minimize disturbance to buffer vegetation;
x. In-stream activities shall not result in the permanent destabilization of the stream banks or stream bed so that aquatic habitat from turbidity, erosion or scouring is minimized;
xi. In-stream work shall be conducted during low-flow conditions whenever practicable in order to minimize adverse impacts to water quality away from the project site, except in cases of emergency situations which threaten life or property;
xii. All dredged material placed at an upland site shall be controlled so that sediment runoff to remaining streams and wetlands is minimized to the maximum extent practicable; and
xiii. Disturbed areas shall be controlled so that sediment runoff to remaining streams and wetlands is minimized to the maximum extent practicable.

INFORMATION ON NATIONWIDE PERMIT VERIFICATION

Verification of the applicability of this Nationwide permit is valid for two years from the date of affirmation unless the Nationwide permit is modified, suspended or revoked. This verification will remain valid for two years if during this two year period the Nationwide permit is reissued without modification or your activity complies with any subsequent permit modification. Please note that if you commence or are under contract to commence this activity in reliance of your permit prior to the date this Nationwide permit is suspended or revoked, or is modified such that your activity no longer complies with the terms and conditions, you have twelve months from the date of permit modification, expiration, or revocation to complete the activity under the present terms and conditions of this permit, unless this permit has been subject to the provisions of discretionary authority.

It is your responsibility to remain informed of changes to the Nationwide Permit program. A public notice announcing any changes will be issued when they occur. Finally, note that if your activity is not undertaken within the two year period or the project specifications have changed, you must immediately notify this office to determine the need for further approval or reverification.

Possession of this permit does not obviate you of the need to contact all appropriate state and/or local government officials to insure that the project complies with their requirements.

DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHTH STREET
HUNTINGTON, WEST VIRGINIA 25701-2070

REPLY TO
ATTENTION OF:

February 15, 2007

Operations and Readiness Division
Regulatory Branch
Tuscarawas River – 2007-129-TUS
STA-21-12.48, PID: 25433

Timothy M. Hill
Ohio Department of Transportation
Office of Environmental Services
Post Office Box 899
Columbus, Ohio 43216

Dear Mr. Hill:

I refer to your permit application and plans received in this office on January 24, 2007 requesting authorization for the temporary and permanent placement of fill material into waters of the United States to construct a causeway and work pad for the rehabilitation of the twin bridge structures (RJ Corman Railroad & Township Road 353) over the Tuscarawas River in the City of Massillon, Stark County, Ohio.

Work associated with this proposal would require the temporary placement of 1,295 cubic yards of clean non-erodible granular material below the ordinary high water mark (OHWM) for the construction of an access causeway and work pad. This temporary fill would impact approximately 0.32 acres of the Tuscarawas River. The causeway and work pad would be removed following completion of the project and the stream bottom would be restored to its pre-construction contours. In addition, the proposal would require the permanent placement of 226 cubic yards of rock channel protection into 0.03 acres of the Tuscarawas River for erosion control around the structures.

The Corps of Engineers' authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328. Navigable waters, their tributaries and adjacent wetlands are waters of the United States subject to the provisions of Section 404 of the Clean Water Act. The determination of jurisdiction for streams is based on the presence of an OHWM. The Corps regulates streams up to the point where they no longer exhibit an OHWM. The Corps is also directed under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) to regulate all work or structures in or affecting the course, condition or capacity of navigable waters of the U.S. The Tuscarawas River is a navigable water of the United States.

It has been determined the proposal meets the criteria of Nationwide Permits (NWP) 3 and 33 (attached), under the January 15, 2002 Federal Register, Final Notice of Issuance and Modification of Nationwide Permits (67 FR 2020) **provided you abide by the attached Special Conditions.** The Ohio Environmental Protection Agency (OEPA) has issued the required water quality certification for these Nationwide Permits.

This verification is valid until the NWPs are modified, reissued, or revoked. All of the existing NWPs are scheduled to be modified, issued or revoked prior to March 18, 2007. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a Public Notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWPs to complete the activity under the present terms and conditions of these nationwide permits.

In view of the above, your project is permitted subject to the terms and conditions of the enclosed material. It is your responsibility to ensure that your work conforms to all conditions listed within the enclosed material. Please be aware this nationwide permit authorization does not obviate the requirement to obtain state or local assent required by law for the activity.

Upon completion of the work, the attached certification must be signed and returned to this office. If you have any questions concerning the above, please contact Peter Clingan at 614-692-4654.

Sincerely,

Lee A. Pittman
Regulatory Project Manager
North Regulatory Section

Enclosures

Copy Furnished w/o enclosures.

Ms. Mary Knapp
U.S. Fish and Wildlife Service
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127

Mr. Mark Epstein
Ohio Historic Preservation Office
567 East Hudson Street
Columbus, Ohio 43211-1030

Mr. Ric Queen
Ohio Environmental Protection Agency
Division of Surface Water
Post Office Box 1049
Columbus, Ohio 43215

Mr. Arthur Coleman
Ohio Environmental Protection Agency
Division of Surface Water
Post Office Box 1049
Columbus, Ohio 43215

Mr. Michael Pettegrew
Office of Environmental Services
Ohio Department of Transportation
Post Office Box 899
Columbus, Ohio 43216-0899

Mr. Donald Rostofer
Office of Environmental Services
Ohio Department of Transportation
Post Office Box 899
Columbus, Ohio 43216-0899

SPECIAL CONDITIONS OF THE PERMIT ISSUED TO
THE OHIO DEPARTMENT OF TRANSPORTATION
STA-21-12.48, PID: 25433
Tuscarawas River: 2007-129-TUS

1. Work shall be performed in accordance with the attached drawings and maps labeled 2007-129-TUS, STA-21-12.48, PID: 25433, Sheets 1-3.

2. All stream work must be conducted during low flow periods to minimize impacts to the aquatic environment.

3. All temporary fill material placed into waters of the United States must be removed immediately upon completion of construction and disposed of at a contained upland site. The placement of the temporary fill shall not exceed a period of one year from the date of first discharge Upon removal, the Tuscarawas River bottom shall be restored to its pre-construction contours to the maximum extent practicable.

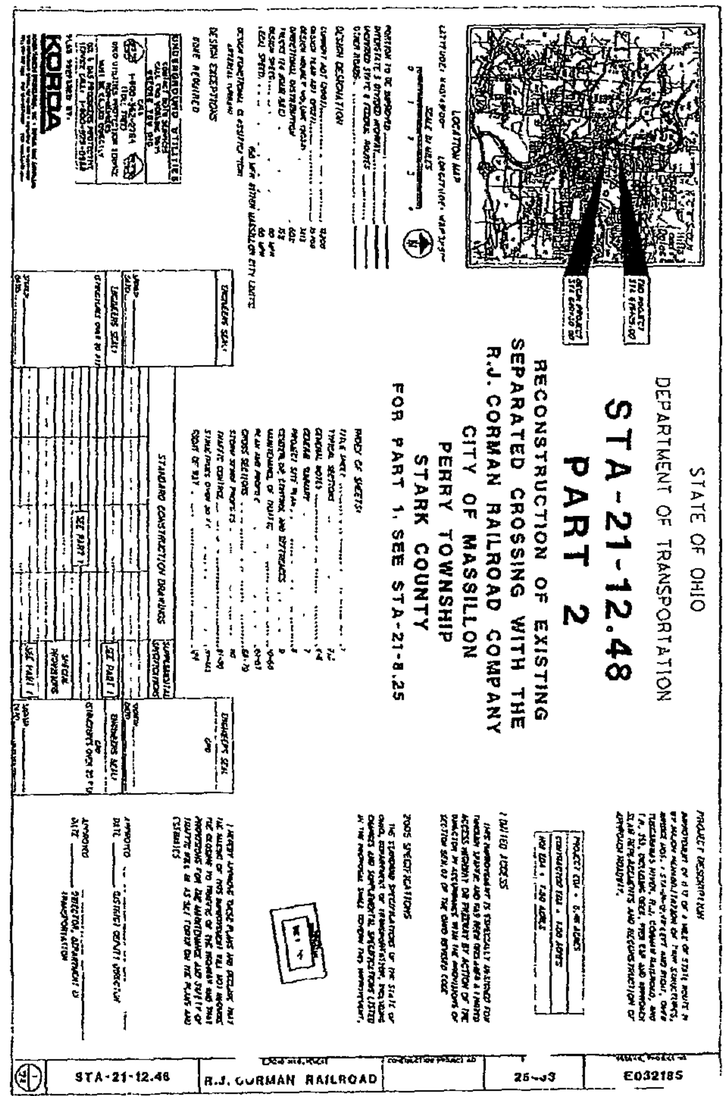
4. Appropriate site specific best management practices for sediment and erosion control will be fully implemented during construction activities at the site. All disturbed areas associated with the temporary and permanent stream crossings will be seeded and/or revegetated with native species and approved seed mixes (where practicable) after completion of construction activities for stabilization and to help preclude the establishment of non-native invasive species.

5. If any archeological sites or human remains are uncovered during construction, you will cease all work immediately and contact this office, the Ohio Historic Preservation Office at 614-298-2000. In addition, should human remains be uncovered, also contact the Stark County Sheriff's office at 330-430-3800.

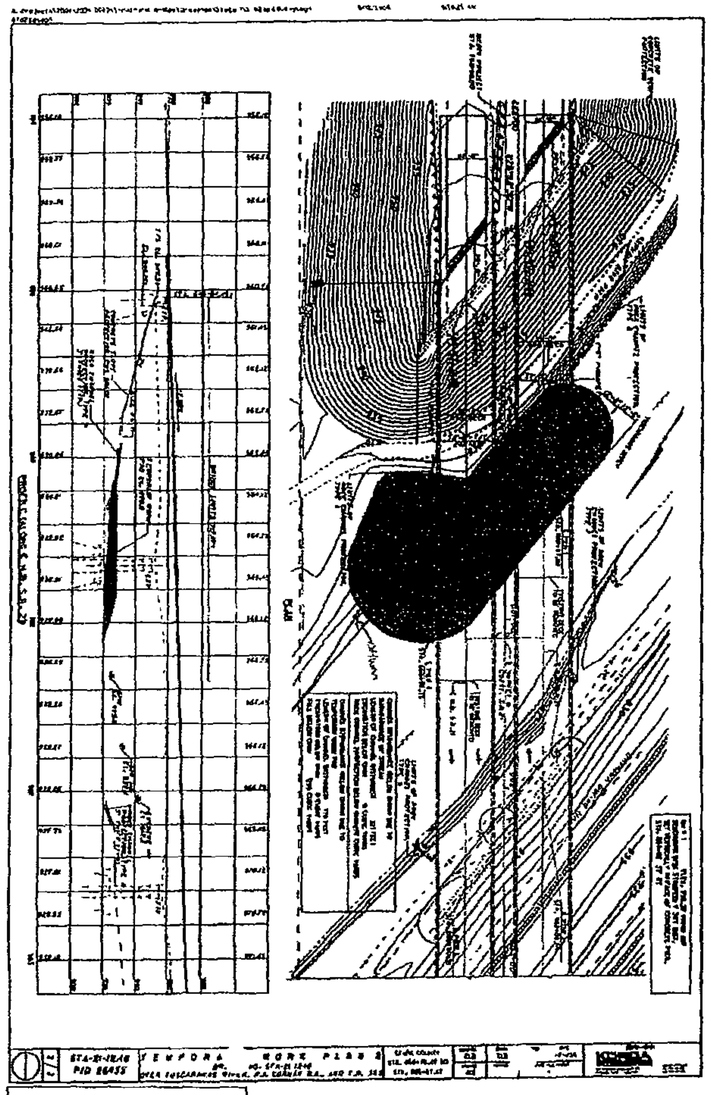
6. **Prior to removal of bridge structures**, the underside of the bridge must be carefully examined for the presence of bats, especially between April 15 and September 15. If any bats are found roosting on the underside of the bridge, you will immediately contact the United States Fish and Wildlife Service, Reynoldsburg Field Office at (614) 469-6923.

7. If any changes in the location and plans of the work are found necessary, revised plans must be submitted to this office for approval as required by law, before the work can commence.

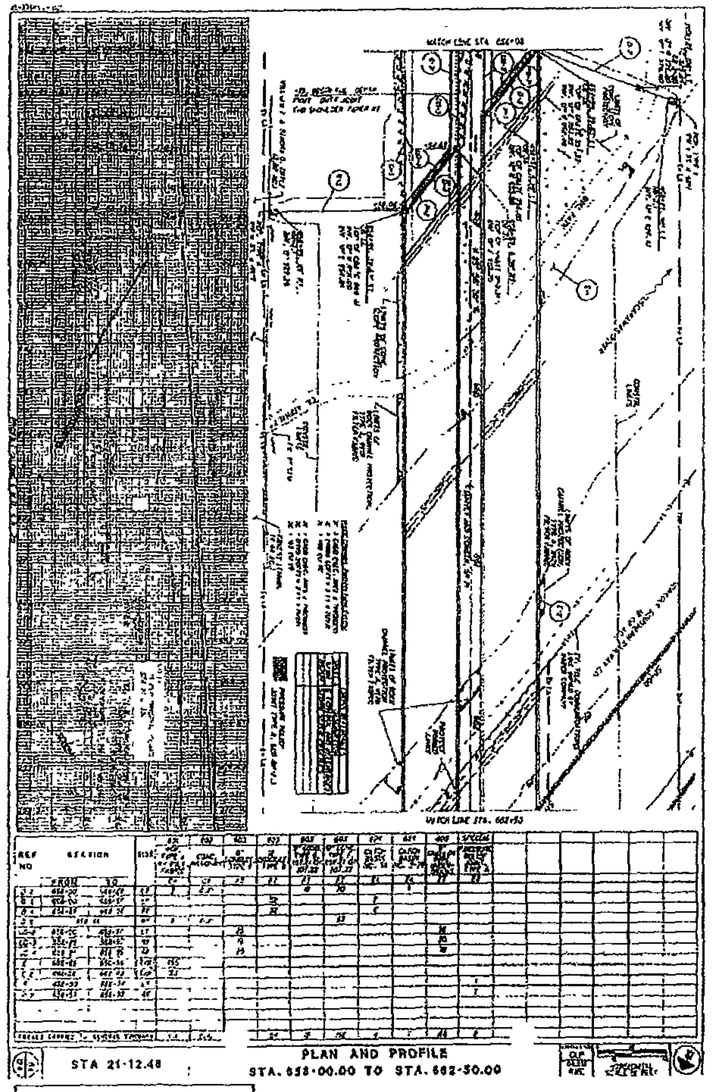
8. Enclosed are copies of Nationwide Permits 3 and 33, which shall be kept at the site during construction.



2007-129-TUS
STA-21-12.48, PID: 25433
Sheet 1 of 3



2007-129-TUS
STA-21-12.48, PID: 25433
Sheet 2 of 3



2007-129-TUS
STA-21-12.48, PID. 25433
Sheet 3 of 3

US Army Corps of Engineers
Huntington District

Permit Number: 2007-129-TUS

Name of Permittee: Ohio Department of Transportation

Date of Issuance: February 15, 2007

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Huntington District
Ohio Regulatory Transportation Office
Building 10, Section 10
3990 East Broad Street
Columbus, Ohio 43218-3990

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____

Signature of Permittee Date