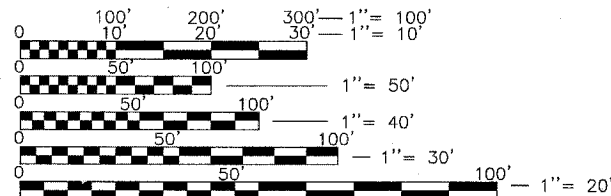


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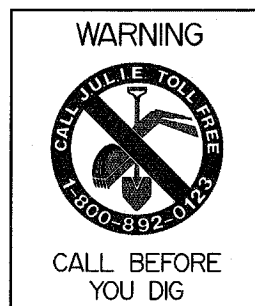
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880006	TRAFFIC SIGNAL MOUNTING DETAILS (REV. 1-1-02)



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.



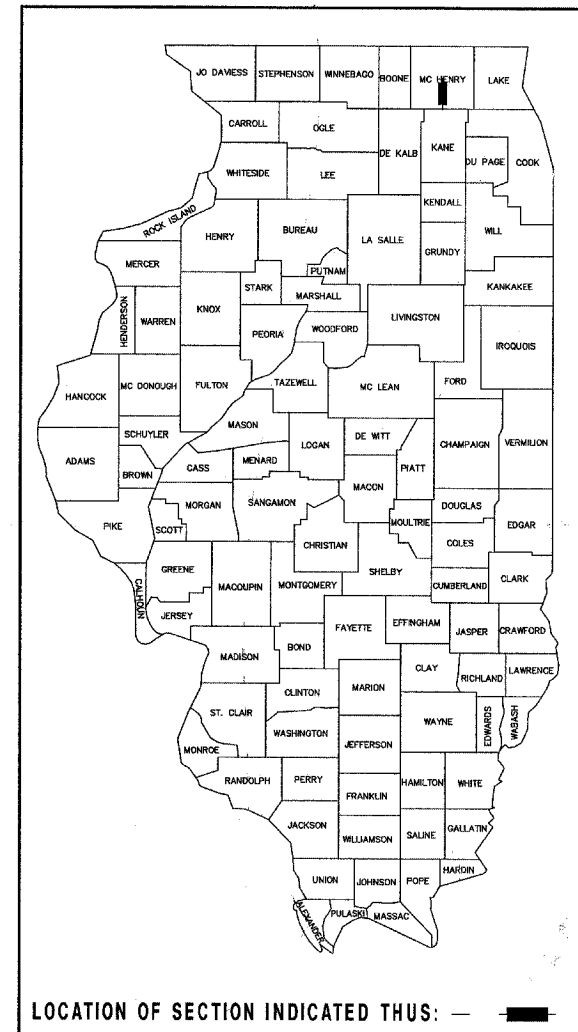
DESIGN DESIGNATION:  
PINGREE ROAD: 1190 (15) ARTERIAL 2.00 (FD-10)  
U.S. ROUTE 14 (NORTHWEST HWY): 2710 (15) SRA 4.51 (FD-10)

TRAFFIC DATA:	2025 ADT	POSTED / DESIGN SPEED
PINGREE ROAD:	19,500	35 / 35
U.S. ROUTE 14 (NORTHWEST HWY):	48,500	35 / 35

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED FEDERAL AID HIGHWAY F.A.U. ROUTE 0126 ( PINGREE ROAD ) AND F.A.P. ROUTE 305 ( NORTHWEST HIGHWAY / U.S. ROUTE 14 ) SECTION 95-00090-00-FP PROJECT M-8003(328) McHENRY COUNTY JOB NUMBER C-91-024-04

## DESCRIPTION OF PROJECT

THIS IMPROVEMENT CONSISTS OF FULL-DEPTH BITUMINOUS PAVEMENT RECONSTRUCTION, FULL-DEPTH BITUMINOUS WIDENING AND RESURFACING, STORM SEWER AND DRAINAGE STRUCTURE ADJUSTMENT AND INSTALLATION, CURB AND GUTTER, SIDEWALK, TRAFFIC SIGNAL MODERNIZATION, STRIPING, LANDSCAPING, WATER MAIN AND SANITARY FORCE MAIN, AND OTHER APPURTENANT WORK NECESSARY TO COMPLETE THE PROJECT SHOWN HEREIN AND AS DESCRIBED IN THE SPECIFICATIONS.



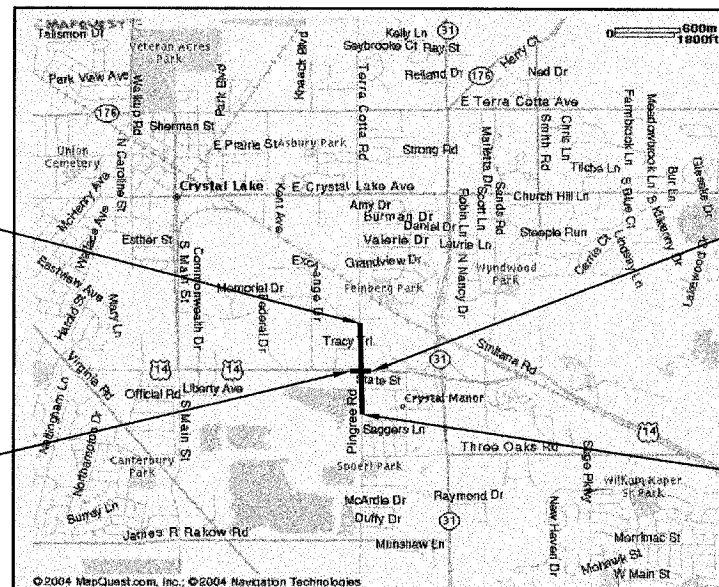
LOCATION OF SECTION INDICATED THUS: —

PINGREE ROAD  
IMPROVEMENT BEGINS  
STATION 186+80.00

U.S. ROUTE 14  
IMPROVEMENT ENDS  
STATION 106+23.00

U.S. ROUTE 14  
IMPROVEMENT BEGINS  
STATION 94+56.00

PINGREE ROAD  
IMPROVEMENT ENDS  
STATION 209+01.00



LOCATION MAP  
SCALE: 1" = 3000'

NET LENGTH OF PINGREE ROAD	=	2,221.00 LIN. FT.	=	( 0.421 MILES)
NET LENGTH OF U.S. ROUTE 14	=	1,167.00 LIN. FT.	=	( 0.221 MILES)
TOTAL LENGTH OF IMPROVEMENT	=	3,388.00 LIN. FT.	=	( 0.642 MILES)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

APPROVED August 27, 2004  
Dele F. Wakefield  
CITY OF CRYSTAL LAKE

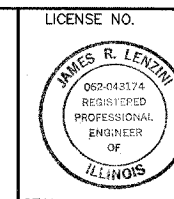
PASSED \_\_\_\_\_ 20\_\_\_\_

DISTRICT ENGINEER OF LOCAL ROADS AND STREETS  
APPROVED September 2, 2004  
Dina O'Keefe / AP  
DISTRICT ENGINEER

DATE: 8/27/04

BY: James R. Lenzi  
JAMES R. LENZI

LICENSE EXPIRES: NOVEMBER 30, 2005



Account Number  
03-10-0110

Hampton  
Lenzi and  
Renwick, Inc.  
Civil Engineers  
Land Surveyors  
380 Shepard Drive  
Elgin, Illinois 60123-70  
847.697.6700



SPECIFICATIONS, STANDARDS, AND SPECIAL PROVISIONS

ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, "ADOPTED JANUARY 1, 2004 (HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS); THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS," ADOPTED JANUARY 1, 2002; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE "STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS", FIFTH EDITION; THE DETAILS IN THE PLANS; AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED AS THE LATEST STANDARD OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

ALL TRAFFIC CONTROL AND OTHER ADVISORY SIGNS NEEDED FOR CONSTRUCTION ARE TO BE FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH ARTICLE 107.14 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL AT ALL TIMES PROVIDE PROTECTION FOR TRAFFIC AS CALLED FOR IN THE APPLICATION OF TRAFFIC CONTROL DEVICES, THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.

UTILITIES

THE CONTRACTOR SHALL COOPERATE WITH THE CITY AND STATE IF ANY UTILITY IMPROVEMENTS ARE REQUIRED BY THE CITY OR STATE WITHIN THE DURATION OF THE CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE OWNERS OF ALL UTILITIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF ALL EXISTING AND PROPOSED UTILITY EQUIPMENT. THE CONTRACTOR SHALL COOPERATE WITH ALL UTILITY OWNERS AS PROVIDED FOR IN THE STANDARD SPECIFICATIONS IF UTILITY RELOCATION, ADJUSTMENT, OR PROTECTION IS NECESSARY.

THE LOCATION OF EXISTING DRAINAGE STRUCTURES, STORM SEWERS, WATER MAINS, SANITARY SEWERS, AND ANY OTHER PUBLIC OR PRIVATE UTILITIES AS SHOWN ON THE PLANS IS APPROXIMATE, AND THEIR EXACT LOCATION IS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THIS WORK SHALL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND AND SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO A CONDITION EQUAL TO THAT EXISTING BEFORE THE DAMAGE INCURRED. THIS WORK SHALL BE ARRANGED BY THE UTILITY COMPANY AND SHALL BE AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL NOTIFY THE CITY OF CRYSTAL LAKE PUBLIC WORKS DEPARTMENT AT (815) 459-2020 48 HOURS IN ADVANCE OF ALL WATER MAIN SHUT DOWNS. UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR OPERATE ANY VALVES OR HYDRANTS.

ANY USE OF CITY WATER SHALL BE METERED WITH A CITY-APPROVED DEVICE OR A METER FROM THE CITY. A NON-REFUNDABLE DEPOSIT WILL BE REQUIRED TO USE THE CITY'S METER.

STAKING

THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL SECTION OR SUBSECTION MONUMENTS, PROPERTY CORNERS, AND REFERENCE MARKERS UNTIL THE OWNER, HIS AGENT, OR AN AUTHORIZED SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATIONS.

ALL RADII FOR PROPOSED CURB AND GUTTER ARE TO THE BACK OF CURB, UNLESS OTHERWISE NOTED. CURB AND GUTTER ELEVATIONS SHOWN AT POINTS OF CURVE, ETC., ARE TOP OF CURB, UNLESS OTHERWISE NOTED.

STRUCTURE OFFSET LOCATIONS GIVEN ON THE DETAILED PLANS ARE TO THE FOLLOWING POINTS: A) FOR STRUCTURES FALLING IN THE CURB LINE--TO THE BACK OF CURB; B) FOR ALL OTHER STRUCTURES--TO THE CENTER OF THE STRUCTURE.

ALL ELEVATIONS ARE ON U.S.G.S. DATUM.

ALL OFFSET LOCATIONS GIVEN ON THE DETAILED PLANS FOR STRUCTURES, BACKS OF CURB, ETC. ARE FROM THE CENTERLINE AS SHOWN ON THE PLANS.

SEWERS AND WATER MAINS

ANY LOOSE MATERIAL DEPOSITED IN THE FLOW LINE OF DRAINAGE STRUCTURES WHICH OBSTRUCTS THE NATURAL FLOW OF WATER SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. PRIOR TO ACCEPTANCE OF THE IMPROVEMENT, ALL DRAINAGE STRUCTURES SHALL BE FREE OF DIRT AND DEBRIS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT.

WHEN EXISTING DRAINAGE FACILITIES ARE DISTURBED, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN IN AN OPERATING CONDITION TEMPORARY OUTLETS AND CONNECTIONS FOR ALL DRAINS, SEWERS, AND CATCH BASINS. THE CONTRACTOR SHALL PROVIDE FACILITIES WHICH HAVE THE CAPACITY TO RECEIVE AND DISCHARGE THE STORM WATER FLOW RATES NORMALLY ACCEPTED AND RELEASED BY EXISTING DRAINAGE FACILITIES. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT.

THE COST OF INTERCONNECTIONS BETWEEN THE PROPOSED AND EXISTING SEWER SYSTEMS AND PROPOSED AND EXISTING WATER MAIN SYSTEMS SHALL BE INCLUDED IN THE VARIOUS UNIT PRICES OF THE ITEMS BEING CONNECTED.

ALL FRAMES, GRATES, LIDS, AND BOXES SCHEDULED TO BE REMOVED FROM EXISTING STRUCTURES SHALL REMAIN THE PROPERTY OF THE CITY OR STATE, AS APPLICABLE. ANY ITEMS DAMAGED DURING REMOVAL SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE. THE COST OF SALVAGING EXISTING FRAMES, GRATES, LIDS, OR BOXES AND/OR STOCKPILING THEM ON THE JOB SITE FOR PICK-UP BY THE CITY OR STATE OR DELIVERY TO THE CITY OR STATE MAINTENANCE YARD SHALL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT.

ALL FRAMES WITH CLOSED LIDS TO BE FURNISHED AS PART OF THIS CONTRACT FOR ANY MANHOLE, CATCH BASIN, INLET, DRY WELL VALVE VAULT, OR METER VAULT SHALL HAVE CAST INTO THE LID ONE OF THE FOLLOWING WORDS: FOR STORM SEWER STRUCTURES--"STORM". FOR SANITARY SEWER STRUCTURES--"SANITARY". FOR WATER SYSTEM STRUCTURES--"WATER". ANY ADDITIONAL COST FOR THIS REQUIREMENT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE FRAME AND CLOSED LID PROVIDED.

FRAME ELEVATIONS GIVEN ON THE PLANS ARE ONLY TO ASSIST THE CONTRACTOR IN DETERMINING THE APPROXIMATE OVERALL HEIGHT OF THE STRUCTURE. FRAMES ON ALL STRUCTURES WILL BE ADJUSTED TO THE FINAL ELEVATION AND CROSS SLOPE OF THE AREA IN WHICH THEY ARE LOCATED.

ALL STORM SEWERS SHALL BE RCCP CLASS IV, WITH RUBBER GASKET JOINTS, UNLESS NOTED OTHERWISE ON THE PLAN.

WATER MAIN SHALL HAVE A MINIMUM COVER OF SIX (6) FEET, AND A MAXIMUM COVER OF (8) EIGHT FEET.

BACKFILL

STORM SEWER, WATER MAIN, AND SANITARY SEWER SHALL BE BACKFILLED IN ACCORDANCE WITH ARTICLE 550.07, METHOD 1 ONLY, OR AS DIRECTED BY THE ENGINEER.

ALL TRENCH BACKFILL QUANTITIES FOR STORM AND SANITARY SEWER AND WATER MAIN HAVE BEEN COMPUTED AND SHALL BE PAID FOR IN ACCORDANCE WITH THE STATE OF ILLINOIS, DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, BUREAU OF CONSTRUCTION TRENCH BACKFILL TABLE.

TRENCH BACKFILL SHALL BE GRADATION CA 6 CRUSHED STONE OR GRAVEL.

SIGNS

THE CONTRACTOR WILL BE REQUIRED TO RELOCATE OR REMOVE AND REPLACE SIGNS WHICH INTERFERE WITH CONSTRUCTION OPERATIONS AND TO TEMPORARILY RESET ALL SUCH SIGNS DURING CONSTRUCTION OPERATIONS. THIS WORK WILL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT.

ALL WORK INVOLVING SIGNS SHALL BE GOVERNED BY THE FOLLOWING REQUIREMENTS:

1. SIGNS SHALL NOT BE MOVED UNTIL PROGRESS OF WORK NECESSITATES IT.
2. EVERY SIGN REMOVED MUST BE RE-ERECTED AT A TEMPORARY LOCATION IN A WORKMANLIKE MANNER AND BE VISIBLE TO TRAFFIC FOR WHICH IT IS INTENDED. ALL SUCH SIGNS MUST BE MAINTAINED STRAIGHT AND CLEAN FOR THE DURATION OF THE TEMPORARY SETTING.
3. ALL SIGNS SHALL BE RE-ERECTED IN PERMANENT LOCATIONS AS THE ROADWAY IS COMPLETED. HORIZONTAL LOCATION FROM THE EDGE OF PAVEMENT SHALL BE AS DESIGNATED BY THE ENGINEER.
4. ALL UNUSED SIGNS WILL BE RETURNED TO THE CITY OR STATE, AS APPLICABLE.
5. LONGER POSTS MAY BE REQUIRED AT SOME TEMPORARY OR PERMANENT SIGN LOCATIONS TO MAINTAIN PROPER SIGN ELEVATIONS.

GENERAL NOTES

MISCELLANEOUS

THE CONTRACTOR SHALL MAINTAIN EXISTING SIDE STREET ACCESS , EXISTING DRIVEWAY ACCESS, AND PEDESTRIAN ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT, UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE ITEM "AGGREGATE FOR TEMPORARY ACCESS".

SAWING OF REMOVAL ITEMS AS NOTED ON THE PLANS, SPECIFIED IN THE STANDARD SPECIFICATIONS, OR AS REQUIRED BY THE ENGINEER SHALL BE INCLUDED IN THE COST OF THE ITEM BEING REMOVED.

AT ALL BUTT JOINT LOCATIONS, THE EXISTING SURFACE SHALL BE CUT TO A MINIMUM THICKNESS OF ONE AND ONE-HALF (1-1/2) INCHES, OR TWO (2) INCHES AS INDICATED ON THE PLANS.

THE THICKNESSES OF BITUMINOUS MIXTURES SHOWN IN THE PLANS ARE NOMINAL. DEVIATIONS MAY OCCUR DUE TO IRREGULARITIES IN THE SURFACES OR BASES ON WHICH THE BITUMINOUS MIXTURES ARE TO BE PLACED.

PROTECTIVE COAT SHALL BE APPLIED TO ALL GUTTER FLAGS, FACE AND TOP OF CURB, P.C.C. SIDEWALK, P.C.C. DRIVEWAY PAVEMENT, AND AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING FRESH CONCRETE FROM DAMAGE AND VANDALISM. ANY DAMAGED OR VANDALIZED CONCRETE SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

ANY SHEETING AND/OR SHORING USED FOR THIS IMPROVEMENT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS CONTRACT.

EXISTING PAVEMENT THICKNESSES SHOWN ON THE PLANS ARE APPROXIMATE, BASED ON AVAILABLE INFORMATION AT THE TIME OF DESIGN. ANY ADDITIONAL COSTS REQUIRED BY THE CONTRACTOR DUE TO THICKNESSES OTHER THAN THOSE SHOWN ON THE PLANS WILL BE INCLUDED IN THE COST OF THE CONTRACT.

WHERE NEW WORK MEETS EXISTING FEATURES TO REMAIN, FIELD CHECK ALL DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH CONSTRUCTION. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

ON SIDE STREETS, THE PROPOSED CURB AND GUTTER SHALL TRANSITION TO THE EXISTING CURB AND GUTTER IN 5 FEET. THIS TRANSITION LENGTH SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED CURB AND GUTTER.

THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH ALL STATE REGULATIONS REGARDING AIR, WATER, AND NOISE POLLUTION. THE CONTRACTOR IS PROHIBITED FROM BURNING ANY MATERIAL WITHIN OR ADJACENT TO THE IMPROVEMENT.

ALL TYPE I AND II BARRICADES SHALL BE WEIGHTED DOWN WITH TWO SANDBAGS EACH. (ONE WEIGHTED SANDBAG ACROSS EACH BOTTOM RAIL). ALL TYPE III BARRICADES SHALL REQUIRE FOUR SANDBAGS EACH.

TYPE "A" CURB RAMPS SHALL BE INSTALLED AT ALL INTERSECTING STREETS AND DRIVEWAYS PER CURRENT IDOT STANDARDS AT LOCATIONS WHERE SIDEWALK IS SHOWN ON PLAN.

THE CONTRACTOR SHALL PREPARE THE SUBGRADE IN ACCORDANCE WITH ARTICLE 301.03 OF THE STANDARD SPECIFICATIONS PRIOR TO THE REMOVAL OF ANY UNSTABLE MATERIALS.

ALL DISTURBED AREAS WITHIN THE PROJECT THAT ARE NOT OTHERWISE SURFACED SHALL BE CLEARED, LAYERED WITH TOPSOIL, AND SEEDED OR SODDED AS SHOWN IN THE PLANS. LIMITS SHOWN ON THE CROSS SECTIONS ARE THE MAXIMUM PAY WIDTHS FOR PAYMENT PURPOSES.

USE A FERTILIZER WITH AN ANALYSIS OF 1:1:1 RATIO AT THE FOLLOWING RATE PER ACRE:

	SEEDING	SODDING
NITROGEN FERTILIZER NUTRIENT	90 LBS.	60 LBS.
PHOSPHORUS FERTILIZER NUTRIENT	90 LBS.	60 LBS.
POTASSIUM FERTILIZER NUTRIENT	90 LBS.	60 LBS.

SUPPLEMENTAL WATERING SHALL BE PERFORMED WHEN DIRECTED BY THE ENGINEER AT A RATE OF 3 GAL PER SQ. YD.

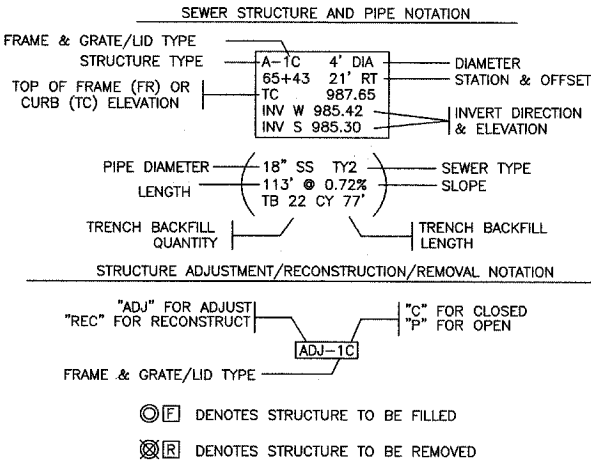
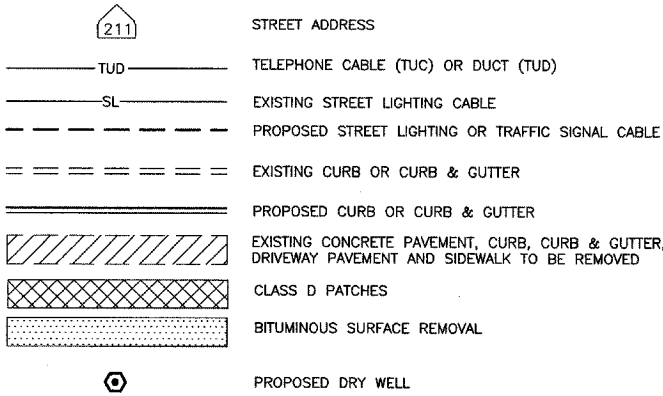
THE CONTRACTOR SHALL DISPOSE OF ALL SIDEWALK, CURB AND GUTTER, PAVEMENT, AND ALL OTHER EXCAVATED MATERIAL NOT FOR SALVAGE AT HIS EXPENSE. ALL EXCESS EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE EACH DAY. NO PAYMENT WILL BE MADE FOR HAULING OR TRUCKING TO DISPOSAL LOCATIONS.

THE CONTRACTOR WILL BE REQUIRED TO TEMPORARILY RESET ALL EXISTING MAILBOXES WHICH INTERFERE WITH CONSTRUCTION OPERATIONS, AND AFTER COMPLETION OF ROADWAY CONSTRUCTION, TO SET THEM IN THEIR PERMANENT LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE IN CONFORMANCE WITH ARTICLE 107.20 OF THE STANDARD SPECIFICATIONS, AND THE COST WILL BE CONSIDERED INCLUDED IN THE CONTRACT.

F.A.U. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHEETS
0126	STATE SECTION 99-00090-00-EP	McHENRY	77
GENERAL NOTES & LEGEND			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			

SUPPLEMENTAL LEGEND

SEE IDOT HIGHWAY STANDARDS FOR ADDITIONAL INFORMATION



BITUMINOUS MIXTURE REQUIREMENT				
ITEM	AC	TYPE	VOIDS	MAX% RAP
BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "D", N70	PG 64-22		4% @ 70 Gyr.	10
BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	PG 64-22		4% @ 50 Gyr.	15
POLYMERIZED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "F", N90	SBS/SBR	PG 70-22	4% @ 90 Gyr.	0
BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19, N70	PG 64-22		4% @ 70 Gyr.	15
BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19, N50	PG 58-22		4% @ 50 Gyr.	25
BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19, N90	SBS/SBR	PG 70-22	4% @ 90 Gyr.	0
BITUMINOUS BASE COURSE SUPERPAVE, 7" & 8-3/4"	PG 58-22		2% @ 50 Gyr.	50
POLYMERIZED LEVELING BINDER (MACHINE METHOD), SUPERPAVE, IL-4.75, N50	SBS/SBR	PG 75-28	2.5% @ 50 Gyr.	0
BITUMINOUS SHOULDER, SUPERPAVE, 6"	PG 58-22		2% @ 30 Gyr.	50
INCIDENTAL BITUMINOUS SURFACING, SUPERPAVE, N50	PG 58-22		2% @ 50 Gyr.	50
CLASS D PATCHES *	PG 64-22		4% @ 70 Gyr.	15

\*THE SPECIAL PROVISION FOR "SUPERPAVE BITUMINOUS CONCRETE MIXTURES" SHALL APPLY TO THIS ITEM.



SUMMARY OF QUANTITIES

F.A.U. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHE SHTS.	NO.
0126	STATE SECTION 95-00090-00-FF	McHENRY	77	3
SUMMARY OF QUANTITIES				
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003(32)				

CODE NO	ITEM	UNIT	TOTAL QUANTITY	FAU 0126 1000-2A	FAP 305 1000-2A	Y031-1F
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	40	40		
20100500	TREE REMOVAL, ACRES	ACRE	0.1	0.1		
20200100	EARTH EXCAVATION	CU YD	17,250	15,980	1,270	
20700420	POROUS GRANULAR EMBANKMENT, SUBGRADE	CU YD	480	480		
20800150	TRENCH BACKFILL	CU YD	1,754	1,373	381	
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	1,420	1,420		
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	8,886	7,608	1,278	
21301084	EXPLORATION TRENCH 84" DEPTH	FOOT	100	70	30	
25000110	SEEDING, CLASS 1A	ACRE	0.7	0.7		
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	131	94	37	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	131	94	37	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	131	94	37	
25100115	MULCH, METHOD 2	ACRE	3.8	3.2	0.6	
25100630	EROSION CONTROL BLANKET	SQ YD	2,760	2,760		
25200110	SODDING, SALT TOLERANT	SQ YD	6,126	4,397	1,729	
25200200	SUPPLEMENTAL WATERING	UNIT	56	40	16	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	373	318	55	
28000300	TEMPORARY DITCH CHECKS	EACH	15	14	1	
28000400	PERIMETER EROSION BARRIER	FOOT	2,710	2,150	560	
28000500	INLET AND PIPE PROTECTION	EACH	48	29	19	
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	10	7	3	
40600300	AGGREGATE (PRIME COAT)	TON	36	25	11	
40600895	CONSTRUCTING TEST STRIP	EACH	1		1	
40600980	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SQ YD	575	175	400	
42001300	PROTECTIVE COAT	SQ YD	3,850	3,520	330	
42400100	PORTLAND CEMENT CONCRETE SIDEWALK 4 INCH	SQ FT	17,748	17,748		
42400410	PORTLAND CEMENT CONCRETE SIDEWALK 8 INCH	SQ FT	1,062	1,062		
42400440	PORTLAND CEMENT CONCRETE SIDEWALK 6 INCH, SPECIAL	SQ FT	650	650		
44000007	BITUMINOUS SURFACE REMOVAL 2"	SQ YD	144	144		
44000030	BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH)	SQ YD	2,973	1497	1476	
44000300	CURB REMOVAL	FOOT	236	53	183	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	2,262	945	1,317	

CODE NO	ITEM	UNIT	TOTAL QUANTITY	FAU 0126 1000-2A	FAP 305 1000-2A	Y031-1F
44201747	CLASS D PATCHES, TYPE IV, 8 INCH	SQ YD	127	127		
44201785	CLASS D PATCHES, TYPE I, 12 INCH	SQ YD	60		60	
44300100	AREA REFLECTIVE CRACK CONTROL TREATMENT	SQ YD	1,490	1,490		
44300200	STRIP REFLECTIVE CRACK CONTROL TREATMENT	FOOT	5,950		5,950	
48202600	BITUMINOUS SHOULDERS SUPERPAVE 8"	SQ YD	407	407		
54213660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	1	1		
550A2320	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 12"	FOOT	799	452	347	
550A2330	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 15"	FOOT	42	42		
550A2520	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 2 12"	FOOT	1,155	608	547	
550A2530	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 2 15"	FOOT	89	89		
55100500	STORM SEWER REMOVAL 12"	FOOT	875	79	796	
55100700	STORM SEWER REMOVAL 15"	FOOT	260	260		
55100900	STORM SEWER REMOVAL 18"	FOOT	130	130		
* 56103000	DUCTILE IRON WATER MAIN 6"	FOOT	54	54		
* 56103200	DUCTILE IRON WATER MAIN 10"	FOOT	94	94		
* 56103300	DUCTILE IRON WATER MAIN 12"	FOOT	563	563		
* 56105100	WATER VALVES 10"	EACH	1	1		
* 56105200	WATER VALVES 12"	EACH	1	1		
* 56109100	TAPPING VALVES AND SLEEVES 12"	EACH	1	1		
* 56300300	ADJUSTING WATER SERVICE LINES	FOOT	14	14		
* 56400100	FIRE HYDRANTS TO BE MOVED	EACH	1	1		
* 56400300	FIRE HYDRANTS TO BE ADJUSTED	EACH	1	1		
* 56400500	FIRE HYDRANTS TO BE REMOVED	EACH	4	4		
* 56400620	FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX	EACH	5	5		
* 56500600	DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED	EACH	1	1		
60107700	PIPE UNDERDRAINS 6"	FOOT	210	190	20	
60201340	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 24 FRAME AND GRATE	EACH	32	21	11	
60208240	CATCH BASINS, TYPE C, TYPE 24 FRAME AND GRATE	EACH	2	2		
60218400	MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	6	3	3	
60219000	MANHOLES, TYPE A, 4'-DIAMETER, TYPE 8 GRATE	EACH	3	3		
60237470	INLETS, TYPE A, TYPE 24 FRAME AND GRATE	EACH	4		4	
60248900	VALVE VAULTS, TYPE A, 5'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	3	3		

CODE NO	ITEM	UNIT	TOTAL QUANTITY	FAU 0126 1000-2A	FAP 305 1000-2A	Y031-1F
60250500	CATCH BASINS TO BE ADJUSTED WITH NEW TYPE 1 FRAME, CLOSED LID	EACH	2	2		
60260050	SANITARY MANHOLES TO BE RECONSTRUCTED	EACH	2	2		
60265900	VALVE VAULTS TO BE ADJUSTED WITH NEW TYPE 1 FRAME, CLOSED LID	EACH	8	7	1	
60266300	VALVE VAULTS TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID	EACH	1	1		
60266500	VALVE VAULTS TO BE REMOVED	EACH	1	1		
60500040	REMOVING MANHOLES	EACH	2	2		
60500050	REMOVING CATCH BASINS	EACH	19	9	10	
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	286	193	93	
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	4,357	3,481	876	
63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	110	110		
70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	0.7	0.3	
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	490	200	290	
70300210	TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	458	270	188	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	18,653	15,325	3,328	
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	3,300	1412	1888	
70300260	TEMPORARY PAVEMENT MARKING - LINE 12"	FOOT	690	540	150	
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	351	169	182	
* 72000100	SIGN PANEL - TYPE 1	SQ FT	146	106	25	15
* 72000200	SIGN PANEL - TYPE 2	SQ FT	30			30
72400100	REMOVE SIGN PANEL ASSEMBLY - TYPE A	EACH	5	5		
72400500	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	EACH	7	4	3	
* 72900100	METAL POST - TYPE A	FOOT	272	247	25	
* 72900200	METAL POST - TYPE B	FOOT	175	96	79	
* 78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	458	270	188	
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	11,483	8,155	3,328	
* 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	3,300	1,412	1,888	
* 78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	690	540	150	
* 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	301	119	182	
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1,770	1,770		
* 81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	527			527
* 81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	55			55
* 81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	71			71

\* DENOTES SPECIALTY ITEMS



SUMMARY OF QUANTITIES

F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHEET
0126	83776	McHENRY	SHTS. NO.
	STATE SECTION		
	95-00090-00-PP		77 4
SUMMARY OF QUANTITIES			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003(328)			

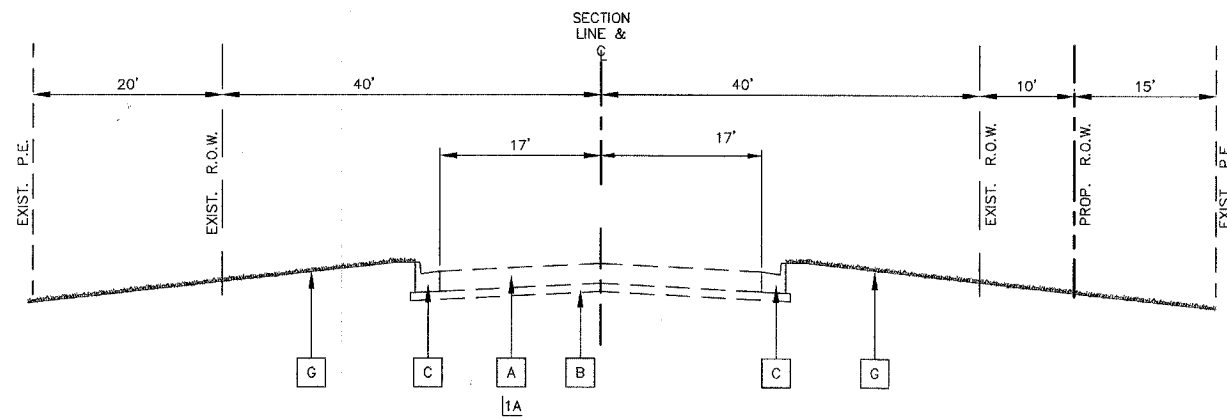
CODE NO	ITEM	UNIT	TOTAL QUANTITY	FAU 0126 1000-2A	FAP 305 1000-2A	Y031-1F
* 81001000	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	31			31
* 81013100	CONDUIT IN TRENCH, 5" DIA, PVC	FOOT	300			300
* 81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	292			292
* 81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	340			340
* 81400100	HANDHOLE	EACH	4			4
* 81400200	HEAVY-DUTY HANDHOLE	EACH	4			4
* 81400300	DOUBLE HANDHOLE	EACH	2			2
* 81500200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	764			764
* 85700300	FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1			1
* 86400100	TRANSCEIVER - FIBER OPTIC	EACH	1			1
* 87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1,420			1420
* 87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1,825			1,825
* 87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	450			450
* 87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	2,460			2,460
* 87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	3,310			3,310
* 87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	137			137
* 87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4			4
* 87700190	STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	1			1
* 87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1			1
* 87700240	STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.	EACH	1			1
* 87700260	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1			1
* 87800100	CONCRETE FOUNDATION, TYPE A	FOOT	16			16
* 87800200	CONCRETE FOUNDATION, TYPE D	FOOT	4			4
* 87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	27			27
* 87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	26			26
* 88200100	TRAFFIC SIGNAL BACKPLATE	EACH	8			8
* 88500100	INDUCTIVE LOOP DETECTOR	EACH	13			13
* 88600100	DETECTOR LOOP, TYPE I	FOOT	1,345			1,345
* 88700200	LIGHT DETECTOR	EACH	2			2
* 88700300	LIGHT DETECTOR AMPLIFIER	EACH	1			1
* 88800100	PEDESTRIAN PUSH-BUTTON	EACH	8			8
* 89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1			1
* 89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1			1
* 89502380	REMOVE EXISTING HANDHOLE	EACH	8			8
* 89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	9			9
* A2000624	TREE, ACER PLATANOIDES (NORWAY MAPLE), 3" CALIPER, BALLED AND BURLAPPED	EACH	5	5		

CODE NO	ITEM	UNIT	TOTAL QUANTITY	FAU 0126 1000-2A	FAP 305 1000-2A	Y031-1F
X0321558	SANITARY MAN-HOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAME, CLOSED LID	EACH	4	4		
X0321720	WATER MAIN REMOVAL	FOOT	570	570		
* X0322033	STORM SEWER (WATER MAIN REQUIREMENTS) 12 INCH	FOOT	442	442		
X0712400	TEMPORARY PAVEMENT	SQ YD	200	200		
X3550400	BITUMINOUS BASE COURSE SUPERPAVE 7"	SQ YD	12,240	12,240		
X3550515	BITUMINOUS BASE COURSE SUPERPAVE 8 3/4"	SQ YD	2,770		2,770	
X4066426	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "D", N70	TON	1,359	1,359		
X4066548	POLYMERIZED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "F", N90	TON	1,272		1,272	
X4066816	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N70	TON	1,731	1,731		
X4066818	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N90	TON	374		374	
X4067100	POLYMERIZED LEVELING BINDER (MACHINE METHOD), SUPERPAVE, IL-4.75, N50	TON	40	40		
X4080020	INCIDENTAL BITUMINOUS SURFACING, SUPERPAVE, N50	TON	86	64	22	
X8700410	ENGINEER'S FIELD OFFICE, TYPE A (SPECIAL)	CAL MO	7	7		
X7015000	CHANGEABLE MESSAGE SIGN	CAL MO	2	2		
* X8050015	SERVICE INSTALLATION - POLE MOUNTED	EACH	1			1
* X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	675			675
* X8730320	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 20 3/C, TWISTED, SHIELDED	FOOT	330			330
* X8800020	SIGNAL HEAD ,LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	2			2
* X8800040	SIGNAL HEAD ,LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2			2
* X8800045	SIGNAL HEAD ,LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	6			6
* X8800070	SIGNAL HEAD ,LED, 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2			2
* X8810610	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	4			4
* X8810620	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	2			2
* XX002856	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM	L SUM	1		1	
XX003503	FLARED END SECTION REMOVAL	EACH	2	2		
XX004852	BITUMINOUS DRIVEWAY PAVEMENT, SUPERPAVE	SQ YD	363	140	223	
* XX005106	PVC CASING PIPE, 18"	FOOT	21	21		
Z0000990	AGGREGATE FOR TEMPORARY ACCESS	TON	900	700	200	
Z0001050	AGGREGATE SUBGRADE 12"	SQ YD	16,150	14,820	1,330	
Z0019500	DRYWELL	EACH	22	8	14	
Z0019600	DUST CONTROL WATERING	UNIT	150	105	45	
* Z0057000	SANITARY SEWER 10"	FOOT	274	274		
Z0076600	TRAINEES	HOURL	1,000			
XX006050	DRYWELLS TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID	EACH	2		2	
XX006051	REMOVING DRYWELLS	EACH	13		13	
* XX006052	SANITARY SEWER REMOVAL (SPECIAL)	FOOT	278	278		
* XX006053	MAINTAIN EXISTING SYSTEM INTERCONNECT	EACH	1			1
XX006054	CUT AND CONNECT SLOTTED DRAIN	EACH	5		5	

\* DENOTES SPECIALTY ITEMS

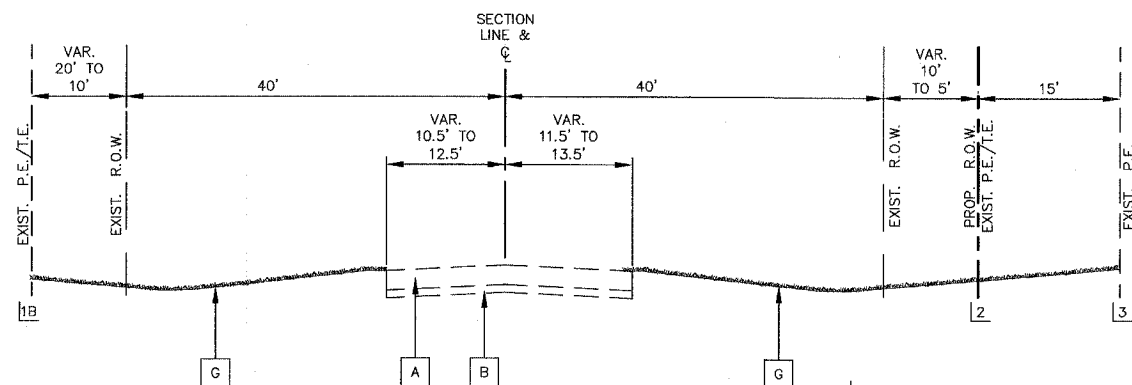


F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHEETS
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-FP			
EXISTING TYPICAL SECTIONS			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			



EXISTING TYPICAL SECTION  
PINGREE ROAD  
STA. 186+80.00 TO STA. 187+14.00

1A EXISTING BITUMINOUS PAVEMENT TO BE REMOVED  
STA. 186+80 TO STA. 204+40 (PAID FOR AS EARTH  
EXCAVATION).

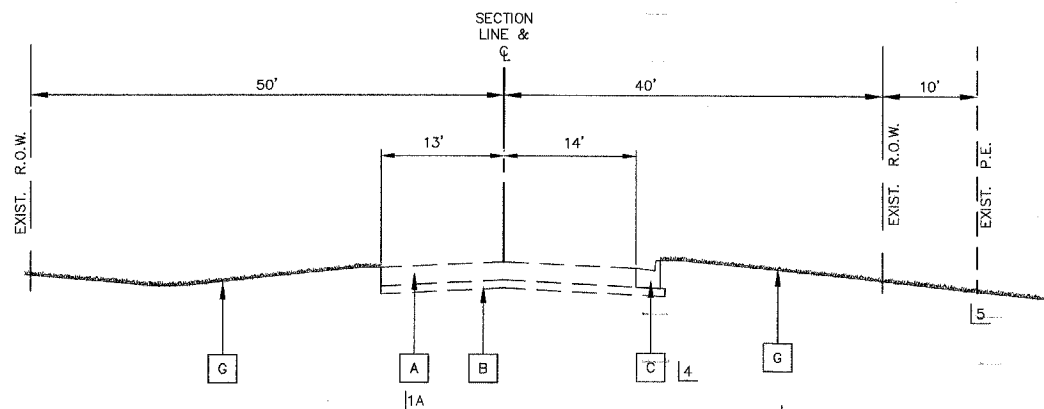


1B 60' LT STA. 187+14 TO STA. 192+55  
50' LT STA. 192+55 TO STA. 198+94

EXISTING TYPICAL SECTION  
PINGREE ROAD  
STA. 187+14.00 TO STA. 200+00.00

2 50' RT PROPOSED R.O.W. STA. 187+14 TO STA. 189+82  
50' RT EXISTING P.E. STA. 189+82 TO STA. 193+19  
45' RT PROPOSED P.E. STA. 193+19 TO STA. 195+83  
50' RT EXISTING T.E. STA. 195+83 TO STA. 199+17

3 STA. 187+14 TO STA. 189+82



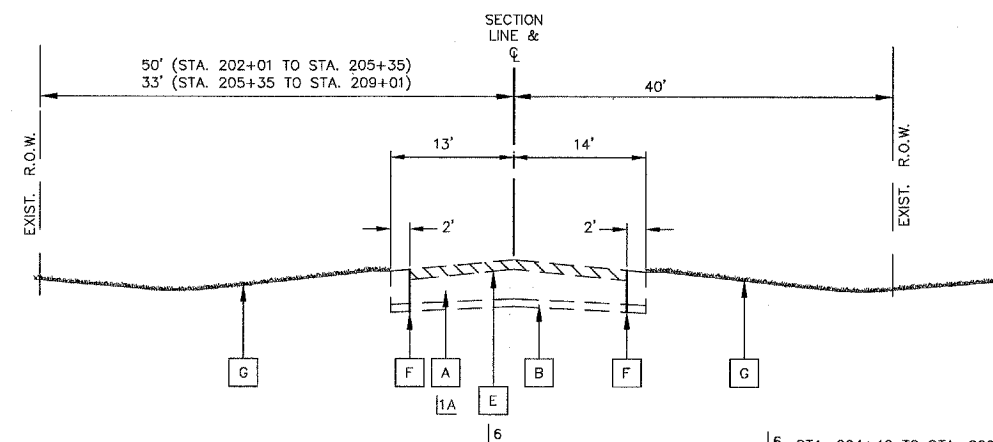
EXISTING TYPICAL SECTION  
PINGREE ROAD  
STA. 200+00.00 TO STA. 202+01.00

4 STA. 200+00 TO STA. 201+79

5 STA. 200+43 TO STA. 201+83

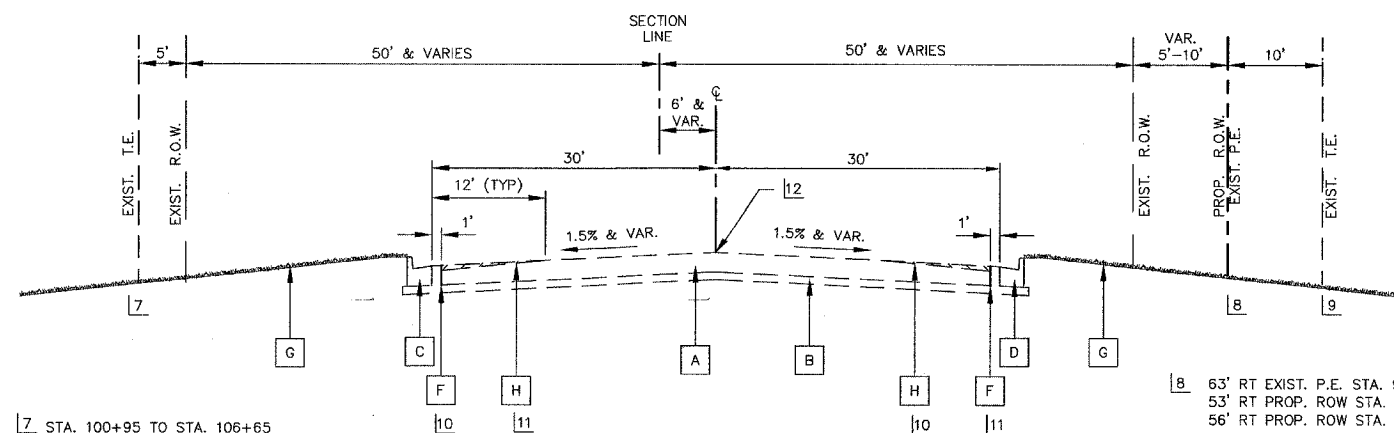
# EXISTING TYPICAL SECTION LEGEND

- A BITUMINOUS PAVEMENT, VARIES 6" TO 11"
- B GRANULAR SUBBASE, VARIES 3" TO 6"
- C CONCRETE CURB AND GUTTER TYPE B-6.12
- D CONCRETE CURB AND GUTTER TYPE B-6.24
- E BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH)  
(VARIES 0" TO 3-1/2")
- F SAWCUT FULL DEPTH
- G EXISTING GROUND
- H BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH)  
(VARIES 0" TO 2")



EXISTING TYPICAL SECTION  
PINGREE ROAD  
STA. 202+01.00 TO STA. 209+01.00

6 STA. 204+40 TO STA. 209+01



EXISTING TYPICAL SECTION  
U.S. ROUTE 14 (NORTHWEST HIGHWAY)  
STA. 94+56.00 TO STA. 106+23.00

8 63' RT EXIST. P.E. STA. 94+90 TO STA. 96+50  
53' RT PROP. ROW STA. 96+50 TO STA. 97+20  
56' RT PROP. ROW STA. 97+20 TO STA. 100+00

9 STA. 95+79 TO STA. 99+53

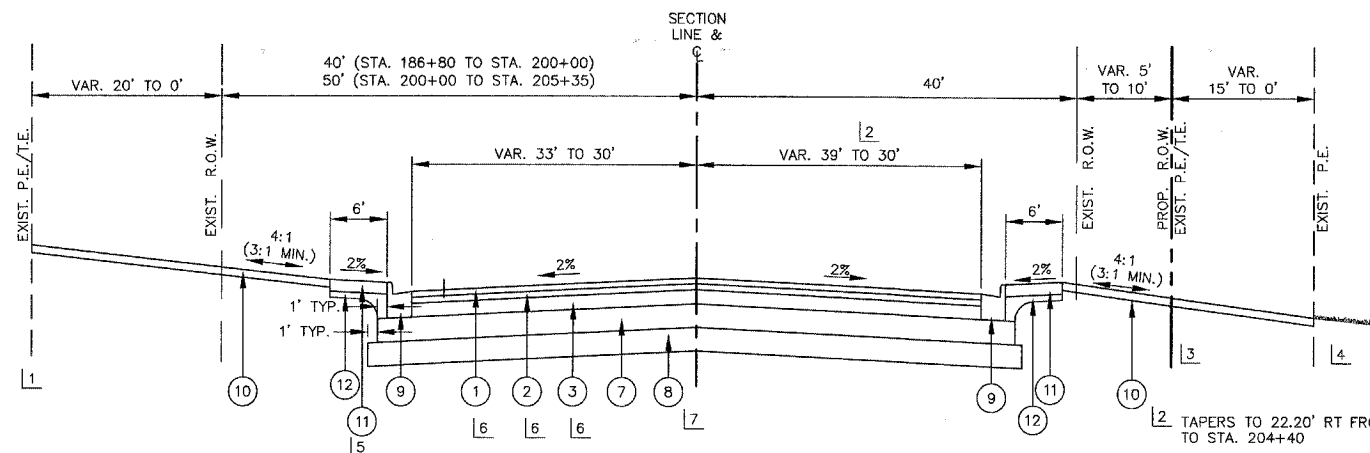
10 STA. 100+00 TO STA. 106+23

11 STA. 94+56 TO STA. 100+00

12 CROWN POINT VARIES 5' TO 8' LT STA. 100+00 TO 106+23

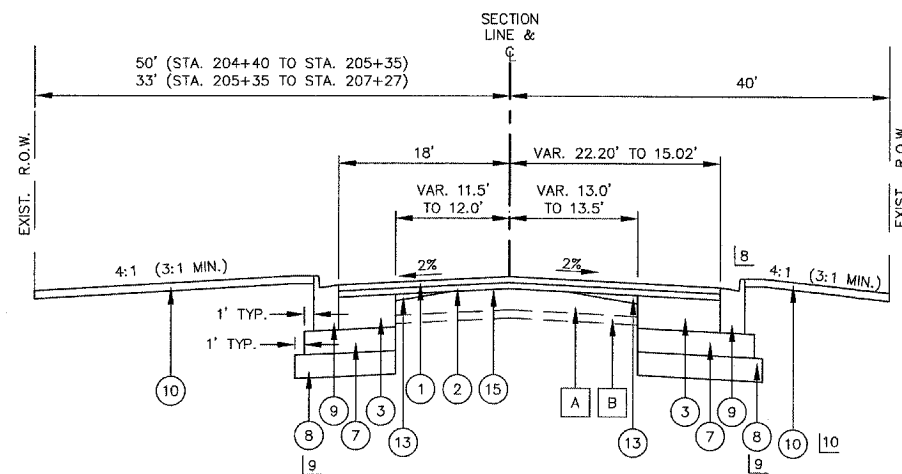


F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTALS SHTS.
0126	83776	McHENRY	77
PROPOSED TYPICAL SECTIONS			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003			



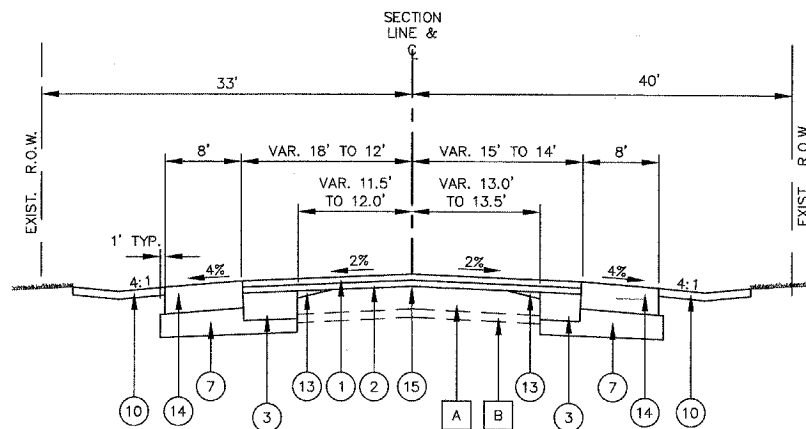
1 60' LT EXISTING P.E. STA. 186+80 TO STA. 192+55  
50' LT EXISTING T.E. STA. 192+55 TO STA. 200+00  
0' STA. 200+00 TO STA. 204+40

PROPOSED TYPICAL SECTION  
PINGREE ROAD  
STA. 186+95.00 TO STA. 204+40.00



PROPOSED TYPICAL SECTION  
PINGREE ROAD  
STA. 204+40.00 TO STA. 207+27.00

8 BIT. SHOULDER, SUPERPAVE, 8"  
STA. 206+08 TO STA. 207+27  
9 STA. 204+40 TO STA. 206+70  
10 SIDEWALK RT TO STA. 205+92



PROPOSED TYPICAL SECTION  
PINGREE ROAD  
STA. 207+27.00 TO STA. 209+01.00

2 TAPERS TO 22.20' RT FROM STA. 202+28 TO STA. 204+40  
3 50' RT PROPOSED R.O.W. STA. 186+80 TO STA. 189+82  
50' RT EXISTING P.E. STA. 189+82 TO STA. 193+19  
45' RT EXISTING P.E. STA. 193+19 TO STA. 195+83  
50' RT EXISTING P.E. STA. 200+43 TO STA. 201+83  
4 STA. 187+14 TO STA. 189+82  
5 SIDEWALK LT STA. 186+95 TO STA. 203+66  
6 AT U.S. ROUTE 14 INTERSECTION  
STA. 198+78 TO STA. 201+18  
USE 4-5-6  
7 STA. 203+50 TO STA. 204+40

#### PAVEMENT DESIGN INFORMATION

PINGREE ROAD

CLASS I ROAD

2015 ADT 16150

STRUCTURAL DESIGN TRAFFIC

PV 15340 (95%)

SU 485 (3%)

MU 325 (2%)

PAVEMENT DESIGN

SSR POOR

TF 2.00

AC 20 (PG 64-22)

AC MIX TEMP 76°F

MODULUS 650 KSI

AC MICROSTRAIN 85

PAVEMENT THICKNESS REQUIRED 10-1 1/2"

PAVEMENT THICKNESS PROVIDED 11"

U.S. ROUTE 14 (NORTHWEST HIGHWAY)

CLASS I ROAD

2015 ADT 36500

STRUCTURAL DESIGN TRAFFIC

PV 34675 (95%)

SU 1095 (3%)

MU 730 (2%)

PAVEMENT DESIGN

SSR POOR

TF 4.51

AC 20 (SBS PG 70-22)

AC MIX TEMP 76°F

MODULUS 650 KSI

AC MICROSTRAIN 65

PAVEMENT THICKNESS REQUIRED 12-1 1/2"

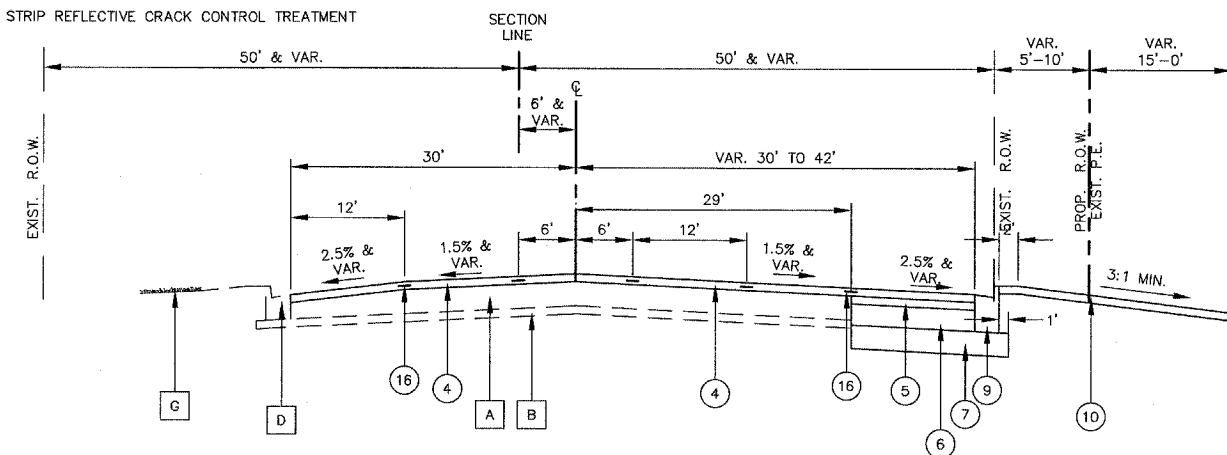
PAVEMENT THICKNESS PROVIDED 13"

#### PROPOSED TYPICAL SECTION LEGEND

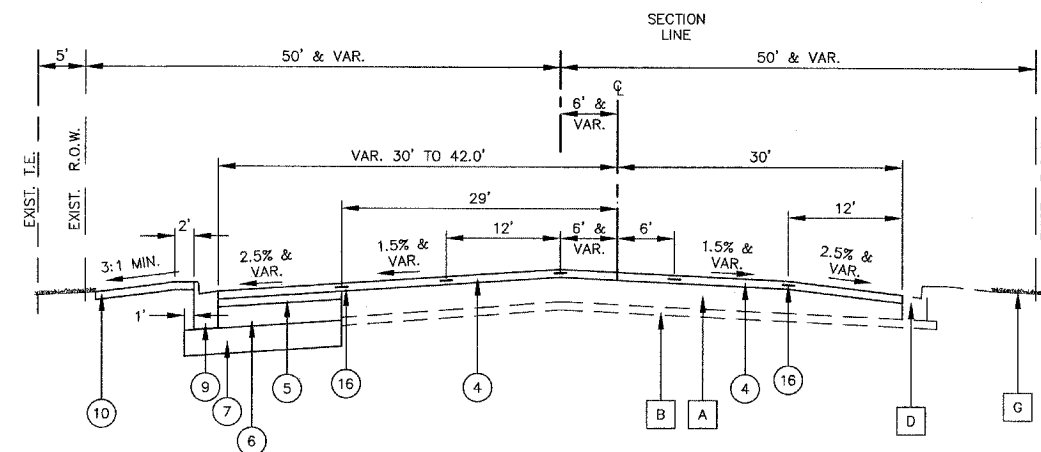
- 1 BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "D", N70, 1-3/4"
- 2 BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19, N70, 2-1/4"
- 3 BITUMINOUS BASE COURSE, SUPERPAVE, 7"
- 4 POLYMERIZED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "F", N90, 2"
- 5 BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19, N90, 2-1/4"
- 6 BITUMINOUS BASE COURSE, SUPERPAVE, 8-3/4"
- 7 AGGREGATE SUBGRADE, 12"
- 8 POROUS GRANULAR EMBANKMENT, SUBGRADE, 12" (STA. 203+50 TO STA. 206+70)
- 9 COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24
- 10 TOPSOIL FURNISH AND PLACE, 4" AND SEEDING CLASS 1A/SODDING, SALT TOLERANT
- 11 PORTLAND CEMENT CONCRETE SIDEWALK, 4"
- 12 2" (MIN.) SUBBASE GRANULAR MATERIAL, TYPE C-FILL BACK OF CURB VOID (INCLUDED IN COST OF P.C.C. SIDEWALK, 4")
- 13 POLYMERIZED LEVELING BINDER (MACHINE METHOD), SUPERPAVE, IL 4.75, N50, (VARIABLE DEPTH)
- 14 BITUMINOUS SHOULDERS, SUPERPAVE, 8"
- 15 AREA REFLECTIVE CRACK CONTROL TREATMENT
- 16 STRIP REFLECTIVE CRACK CONTROL TREATMENT

#### EXISTING TYPICAL SECTION LEGEND

- A BITUMINOUS PAVEMENT, VARIES 6" TO 11"
- B GRANULAR SUBBASE, VARIES 3" TO 6"
- C CONCRETE CURB AND GUTTER TYPE B-6.12
- D CONCRETE CURB AND GUTTER TYPE B-6.24
- E BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH) (VARIES 0" TO 3-1/2")
- F SAWCUT FULL DEPTH
- G EXISTING GROUND
- H BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH) (VARIES 0" TO 2")



PROPOSED TYPICAL SECTION  
U.S. ROUTE 14 (NORTHWEST HIGHWAY)  
STA. 94+56.00 TO STA. 100+00.00



PROPOSED TYPICAL SECTION  
U.S. ROUTE 14 (NORTHWEST HIGHWAY)  
STA. 100+00.00 TO STA. 106+23.00



# SCHEDULE OF QUANTITIES

F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHEETS
0126	83776	McHENRY	77
STATE SECTION 95-00080-00-FP			
SCHEDULE OF QUANTITIES			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003(3)			

STRUCTURE ADJUSTMENT, REMOVAL, AND FILL												
LOCATION	REF	CB ADJ NEW T1F CL (EACH)	SAN MH ADJ NEW T1F CL (EACH)	SAN MH RECON (EACH)	VV ADJ NEW T1F CL (EACH)	VV RECON NEW T1F CL (EACH)	VV REM (EACH)	REM MH (EACH)	REM CB (EACH)	FES REM (EACH)	DW RECON NEW T1F CL (EACH)	REM DW (EACH)
PINGREE ROAD												
186+99	18 LT								1			
186+99	31 LT							1				
186+99	18 RT								1			
187+65	31 LT									1		
188+25	17 LT				1							
189+44	20 LT				1							
189+61	60 RT		1									
189+71	16 LT		1									
189+71	49 LT				1							
193+05	20 LT						1					
193+38	34 RT			1								
195+39	26 RT									1		
196+31	21 RT							1				
196+43	36 RT			1								
196+53	22 LT				1							
196+65	39 RT	1										
196+87	39 RT	1										
197+46	30 LT								1			
197+51	21 RT								1			
198+12	19 LT				1							
200+71	20 RT				1							
200+75	32 LT					1						
200+84	18 RT				1							
202+17	18 RT		1									
204+04	16 RT		1									
U.S. ROUTE 14 (NORTHWEST HIGHWAY)												
96+39	44 RT								1		1	
96+40	31 RT								1			1
97+61	41 RT								1			
97+62	31 RT								1			
98+67	31 RT								1			
98+69	42 RT											1
100+65	34 LT											1
100+71	32 LT								1			
100+73	31 RT								1			
100+80	29 RT				1							
101+20	36 LT											1
101+53	36 LT											1
101+85	36 LT											1
102+08	34 LT											1
102+56	32 LT								1			
102+56	32 RT								1			
102+69	34 LT											1
103+39	34 LT											1
103+56	32 RT								1			
103+67	32 LT								1			
103+89	38 LT								1			
104+13	34 LT											1
104+37	32 RT								1			
104+38	32 LT								1			
104+61	34 LT											1
104+92	36 LT											1
105+25	32 LT								1			
105+35	36 LT											1
105+35	32 RT								1			
106+31	32 RT								1			
106+40	34 LT										1	
TOTAL		2	4	2	8	1	1	2	19	2	2	13

PLAN ALLOWANCE		
ITEM	QUANTITY	UNITS
EXPLORATION TRENCH 84" DEPTH	100	FOOT
INCIDENTAL BITUMINOUS SURFACING, SUPERPAVE, N50	80	TON
SHORT-TERM PAVEMENT MARKING	490	FOOT
AGGREGATE FOR TEMPORARY ACCESS	900	TON
DUST CONTROL WATERING	150	UNIT
TREE, ACER PLATANOIDES (NORWAY MAPLE), 3" CALIPER, B&B	5	EACH
TEMPORARY PAVEMENT (8" THICKNESS)	200	SQ. YD.

TRENCH BACKFILL	
APPLICATION	TRENCH BACKFILL (CU YD)
STORM SEWERS	791
DUCTILE IRON WATER MAIN	642
SANITARY SEWER	321
TOTAL	1754

STORM SEWER STRUCTURES								
LOCATION	REF	CB TA 4' DIA T24F&G (EACH)	CB TC T24F&G (EACH)	MH TA 4' DIA T1F CL (EACH)	MH TA 4' DIA T8G (EACH)	INL TA T24F&G (EACH)	DRYWELL 6' DIA T1F (EACH)	PRC FES 15" (EACH)
PINGREE ROAD								
187+72	36 LT	1						
187+72	42 RT	1						
187+72	54 RT				1			
187+82	36 LT	1						
187+82	42 RT	1						
188+85	72 LT							1
188+85	55 LT			1				
300+56	21 LT	1						
300+56	22 RT	1						
190+30	32 LT	1						
190+30	C.L.			1				
190+30	35 RT	1						
192+80	30 LT	1						
192+90	C.L.			1				
192+93	41 RT	1						
183+43	41 RT	1						
197+40	47 RT				1			
197+55	30 LT	1						
197+55	30 RT	1						
197+66	30 LT	1						
197+68	30 RT	1						
202+22	30 LT	1						
202+20	30 RT	1						
202+30	33 RT						1	
202+90	34 RT						1	
203+45	30 LT	1						
203+50	27 RT		1					
203+50	35 RT						1	
204+00	35 RT						1	
204+50	35 RT						1	
204+55	28 LT						1	
205+05	21 LT		1					
205+05	23 RT	1						
205+05	35 RT						1	
205+60	35 RT						1	
206+62	21 LT	1						
206+62	36 RT			1				
206+72	21 LT	1						
U.S. ROUTE 14 (NORTHWEST HIGHWAY)								
96+45	37 RT	1						
97+50	49 RT						1	
97+60	45 RT	1						
98+15	49 RT						1	
98+80	49 RT						1	
98+90	45 RT	1						
100+70	48 LT	1						
100+73	34 RT	1						
100+78	42 RT						1	
100+90	54 LT						1	
102+45	39 RT						1	
102+50	45 LT				1			
102+56	37 LT			1				
102+56	32 RT	1						
103+28	39 RT						1	
103+56	32 RT	1						
103+57	37 LT			1				
103+75	45 LT					1		
103+95	39 RT						1	
104+37	32 RT	1						
104+39	37 LT			1				
104+40	45 LT				1			
104+45	39 RT						1	
104+50	45 LT				1			
105+23	39 LT	1						
105+28	39 RT						1	
105+35	32 RT	1						
105+40	49 LT						1	
105+75	49 LT						1	
106+10	49 LT						1	
106+31	33 RT	1						
106+40	36 RT						1	
TOTAL		32	2	6	3	4	22	1

STORM SEWER REMOVAL			
LOCATION	SS REM 12" (FOOT)	SS REM 15" (FOOT)	SS REM 18" (FOOT)
PINGREE ROAD			
186+99 31' LT - 189+99 18' LT	13		
186+99 18' LT - 186+99 18' RT	36		
186+99 31' LT - 187+61 31' LT	30		
186+65 77' LT - 188+65 35' RT			112
195+41 24' RT - 196+31 21' RT		90	
196+31 21' RT - 197+50 21' RT		119	
197+46 30' LT - 197+50 21' RT		51	
197+40 47' LT - 197+46 30' LT			18
U.S. ROUTE 14 (NORTHWEST HIGHWAY)			
96+39 44' RT - 96+40 31' RT	13		
96+39 44' RT - 97+61 41' RT	122		
97+61 41' RT - 97+62 31' RT	10		
97+61 41' RT - 98+89 42' RT	128		
98+89 42' RT - 98+87 31' RT	11		
100+85 34' LT - 100+71 32' LT	6		
100+85 34' LT - 101+20 35' LT	55		
101+20 35' LT - 101+53 35' LT	23		
101+53 35' LT - 101+85 34' LT	32		
101+85 34' LT - 102+08 34' LT	23		
102+08 34' LT - 102+69 34' LT	61		
102+56 32' LT - 102+69 34' LT	13		
102+69 34' LT - 103+39 34' LT	70		
103+39 34' LT - 103+57 32' LT	18		
103+39 34' LT - 104+13 34' LT	74		
104+13 34' LT - 104+38 32' LT	25		
104+38 32' LT - 104+61 34' LT	23		
104+61 34' LT - 105+35 36' LT	43		
105+25 32' LT - 105+35 36' LT	10		
100+73 - 106+31 RT REM CB	36		
TOTAL	875	260	130

TREE REMOVAL			
LOCATION	REF	TREE REM 6-15 (UNIT)	TREE REM ACRES (ACRE)
197+09	34' RT	14	
197+69	33' RT	14	
198+27	34' RT	12	
204+50, 40' RT TO			0.1
206+50, 40' RT			
TOTAL		40	0.1

EARTHWORK			
LOCATION	EARTH EXCAVATION (CU YD)	EMBANKMENT ADJUSTED FOR SHRINKAGE 15% (CU YD)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CU YD)
PINGREE ROAD			
186+80 TO 190+50	1240	1380	-140
190+50 TO 195+50	8630	170	8460
195+50 TO 201+50	3110	60	3050
201+50 TO 206+50	2300	170	2130
206+50 TO 209+01	440	20	420
U.S. ROUTE 14 (NORTHWEST HIGHWAY)			
94+56 TO 100+00	480	180	300
100+00 TO 106+23	790	90	700
COG CIRCLE			
300+75 TO 301+50	260	20	240
TOTAL	17250	2090	15160



TOPSOIL, SEEDING, AND SODDING							
LOCATION	REF.	TOPSOIL F&P, 4" (SQ YD)	SEEDING CL 1A (ACRE)	EROS CONTR BLANKET (SQ YD)	SODDING SALT TOL (SQ YD)	MULCH METHOD 2 (ACRE)	TEMPEROS CONTR SEED (POUND)
PINGREE ROAD							
186+80 TO COG CIRCLE	LT	650	0.14	650		0.26	26
COG CIRCLE TO 190+50	LT	140			140	0.06	6
186+80 TO 190+50	RT	755	0.02	67	688	0.41	41
190+50 TO 195+50	LT	948			948	0.44	44
190+50 TO TRACY TRAIL	RT	511			511	0.24	24
TRACY TRAIL TO 195+50	RT	223			223	0.16	16
195+50 TO PLAZA ENTRANCE	LT	39			39	0.01	1
195+50 TO PLAZA ENTRANCE	RT	34			34	0.02	2
PLAZA ENTRANCE TO U.S. 14	LT	571			571	0.25	25
PLAZA ENTRANCE TO U.S. 14	RT	447			447	0.21	21
U.S. 14 TO A.T.C. DRIVE	LT	102			102	0.04	4
A.T.C. DRIVE TO 201+50	LT	24			24	0.02	2
U.S. 14 TO 201+50	RT	140			140	0.11	11
201+50 TO A.T.C. DRIVE	LT	34			34	0.03	3
A.T.C. DRIVE TO STATE STREET	LT	250			250	0.13	13
STATE STREET TO 206+50	LT	560	0.12	560		0.17	17
201+50 TO 206+50	RT	654	0.14	654		0.27	27
206+50 TO 209+01	LT	340	0.08	340		0.12	12
206+50 TO 209+01	RT	489	0.11	489		0.15	15
U.S. ROUTE 14 (NORTHWEST HIGHWAY)							
95+88 TO 99+00	RT	412			412	0.25	25
101+00 TO 101+38	RT	27			27	0.01	1
101+00 TO ENTRANCE	LT	232			232	0.08	8
ENTRANCE ISLAND	LT	55			55	0.01	1
ENTRANCE TO 106+45	LT	552			552	0.10	10
102+35 TO 106+80	RT	451			451	0.10	10
COG CIRCLE							
300+75 TO 301+30	LT	123			123	0.04	4
300+75 TO 301+30	RT	123			123	0.04	4
TOTAL		8886	0.61	2760	6126	3.73	373
NITROGEN FERTILIZER NUTRIENTS		131 POUNDS					
PHOSPHORUS FERTILIZER NUTRIENTS		131 POUNDS					
POTASSIUM FERTILIZER NUTRIENTS		131 POUNDS					
SUPPLEMENTAL WATERING		56 UNITS (3 GAL/SQ YD, 3 WATERINGS)					

BITUMINOUS SURFACE REMOVAL AND PAVEMENT PATCH					
LOCATION	BIT SURF REM BUTT JT (SQ YD)	BIT SURF REM 2" (SQ YD)	BIT SURF REM VAR DEPTH (SQ YD)	CL D PATCH TY IV, 8" (SQ YD)	CL D PATCH TY I, 12" (SQ YD)
PINGREE ROAD					
186+80 TO 186+95			57		
COG CIRCLE	85				
E. PLAZA ENTRANCE		75			
W. PLAZA ENTRANCE		54			
STATE STREET		15			
204+40 TO 208+71			1150		
208+71 TO 209+01	90				
202+21				34	
203+48				31	
205+05				31	
206+62				31	
STAGE 1 CONST.			290		
U.S. ROUTE 14 (NORTHWEST HIGHWAY)					
94+56 TO 94+86	200				
94+86 TO 96+20			179		
94+86 TO 99+25			586		
STR REMOVALS					60
100+60 TO 105+93			711		
105+93 TO 106+23	200				
TOTAL	575	144	2973	127	60

ROADWAY QUANTITIES												
LOCATION	POROUS GRAN EMB SUBGR (CU YD)	GEOTECH FAB F/GR STAB (SQ YD)	AGG SUBGRADE 12" (SQ YD)	BIT BASE SUPER 7" (SQ YD)	BIT BASE SUPER 8-3/4" (SQ YD)	BIT BIND SUPER IL-19.0 N70 (TON)	BIT BIND SUPER IL-19.0 N90 (TON)	P LEV BIND MM SUPER IL-4.75 N50 (TON)	BIT SURF SUPER "D" N70 (TON)	P BIT SURF SUPER "F" N90 (TON)	BIT SHLD SUPER 8" (SQ YD)	AGG PRIME CT (TON)
PINGREE ROAD												
186+80 TO 190+50			3270	2960		407			317			5
190+50 TO 195+50			3720	3330		450			350			5
195+50 TO 201+50			4740	2630	1770	355	239		276	372		8
201+50 TO 206+50	460	1370	2580	2240		371		20	289		37	4
206+50 TO 209+01	20	50	250	845		114		20	88		370	2
U.S. ROUTE 14 (NORTHWEST HIGHWAY)												
94+56 TO 99+00			500			370	50			402		5
101+00 TO 106+23			830			630	85			498		6
COG CIRCLE												
300+75 TO 301+50			260	235		34			39			1
TOTAL	480	1420	16150	12240	2770	1731	374	40	1369	1272	407	36

## SCHEDULE OF QUANTITIES

SIDEWALK				
LOCATION	REF	PCC SIDEWALK 4" (SQ FT)	PCC SIDEWALK 8" (SQ FT)	PCC SIDEWALK 6" SPECIAL (SQ FT)
PINGREE ROAD				
186+95 TO COG CIRCLE	LT	1416	264	
COG CIRCLE TO 190+50	LT	408		
186+95 TO 190+50	RT	1962	264	
190+50 TO 195+50	LT	3000		
190+50 TO TRACY TRAIL	RT	1434		
TRACY TRAIL TO 195+50	RT	1212		
195+50 TO PLAZA ENTRANCE	LT	102		
195+50 TO PLAZA ENTRANCE	RT	138		
PLAZA ENTRANCE TO U.S. 14	LT	1800		
PLAZA ENTRANCE TO U.S. 14	RT	1314		650
U.S. 14 TO A.T.C. DRIVE	LT	396		
A.T.C. DRIVE 201+06	LT		180	
A.T.C. DRIVE 201+06 TO 201+50	LT	150		
U.S. 14 TO 201+50	RT	702		
DRIVE 201+73	RT		240	
201+50 TO A.T.C. DRIVE 202+02	LT	408		
A.T.C. DRIVE 202+02	LT		114	
A.T.C. DRIVE 202+02 TO STATE STREET	LT	912		
DRIVE 201+73 TO 205+92	RT	2394		
TOTAL		17748	1062	650

CURB AND GUTTER					
LOCATION	REF	CURB REM (FOOT)	COMB C&G REM (FOOT)	COMB CONC C&G TY B-6.12 (FOOT)	COMB CONC C&G TY B-6.24 (FOOT)
PINGREE ROAD					
186+80 TO 190+50	LT		38		350
186+80 TO 190+50	RT		35		356
190+50 TO 195+50	LT				500
190+50 TO 195+50	RT				502
195+50 TO 201+50	LT	33	409	63	
195+50 TO 201+50	RT		276		603
201+50 TO 206+50	LT	80	29	40	505
201+50 TO 206+50	RT				443
206+50 TO 207+27	LT				62
AROUND THE CLOCK PARKING LOT	-	90		90	
U.S. ROUTE 14 (NORTHWEST HIGHWAY)					
95+88 TO 99+00	RT		312		215
98+92 TO 99+00	LT		8		8
101+00 TO 105+92	LT		838	38	494
101+00 TO 106+42	RT	53	159	55	159
COG CIRCLE					
300+50 TO 301+30	LT		80		80
300+50 TO 301+30	RT		78		80
TOTAL		236	2262	286	4357

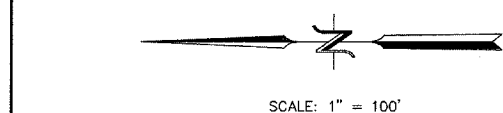
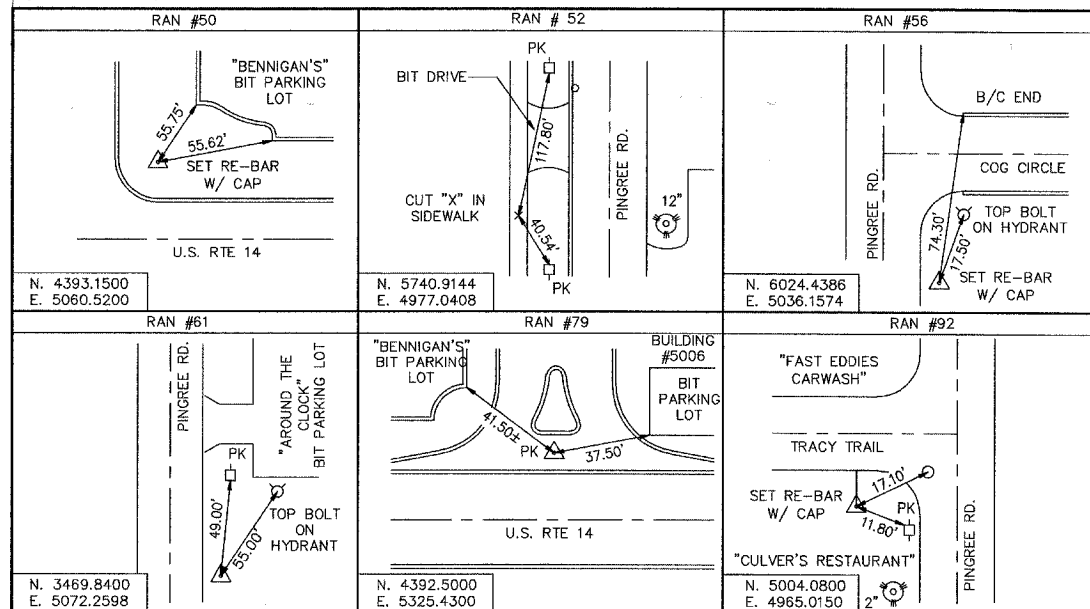
WATER MAIN APPURTENANCES											
LOCATION	REF	WATER VALVE 10" (EACH)	WATER VALVE 12" (EACH)	TAP VALVE & SLEEVE 12" (EACH)	VV TA 5 DIA T1F CL (EACH)	FH TO BE MOVED (EACH)	FH TO BE ADJ (EACH)	FH TO BE REM (EACH)	FH WITH AUX V & VB (EACH)	ADJ WATER SERV LINES (FOOT)	DOM WATER SERV BOX ADJ (EACH)
190+07	35' LT							1			
190+40	19' LT			1	1						
190+55	39' LT								1		
192+74	42' RT	1			1						
193+00	39' LT								1		
193+55	24' LT							1			
195+40	39' LT								1		
195+50	34' LT		1		1						
197+00	25' LT							1			
197+00	39' LT								1		
201+98	29' RT							1			
202+05	37' RT								1		
202+15	45' LT						1				
203+17	23' RT									14	1
204+60	26' RT					1					
TOTAL		1	1	1	3	1	1	4	5	14	1

WATER MAIN				
LOCATION	D I WM 6" (FOOT)	D I WM 10" (FOOT)	D I WM 12" (FOOT)	TRENCH BACKFILL (CU YD)
190+40 19' LT - 190+50 34' LT			23	21.5
190+55 34' LT - 190+55 39' LT	5			5.5
190+50 34' LT - 195+50 34' LT			500	465.7
192+74 34' LT - 192+74 42' RT		76		74.8
193+00 34' LT - 193+00 39' LT	5			4.7
193+10 34' LT - 193+05 50' LT		18		5.4
195+40 34' LT - 195+40 39' LT	5			4.7
195+50 34' LT - 195+85 20' LT			40	32.6
197+00 20' LT - 197+00 39' LT	19			19.3
201+98 28' RT - 202+05 37' RT	20			7.6
TOTAL	54	94	563	641.8

DRIVEWAYS		
LOCATION	REF	BIT DRIVEWAY PAVT SUPER (SQ YD)
PINGREE ROAD		
201+06	LT	38
201+73	RT	72
202+02	LT	30
U.S. ROUTE 14		
101+12 (INCL A.T.C. PARKING LOT)	RT	95
102+73	LT	33
103+46	LT	39
103+66	RT	56
TOTAL		363

SIGNING							
LOCATION	REF	SIGN PANEL TYPE 1 (SQ FT)	SIGN PANEL TYPE 2 (SQ FT)	REM SIGN PANEL ASSY TYPE A (EACH)	REL SIGN PANEL ASSY TYPE A (EACH)	METAL POST TY A (FOOT)	METAL POST TY B (FOOT)
PINGREE ROAD							
186+15	20 RT	7.5				25	
189+40	52 LT	3.5			1		14
189+04	20 LT			1			
189+95	63 LT			1			
190+00	17 RT			1			
191+25	40 RT	10.7				30	
191+10	39 LT	6.3					13
192+15	38 LT	10.7				30	
193+45	40 RT	8.8					14
193+71	22 LT			1			
195+30	38 LT	6.3					13
195+68	40 LT				1		14
196+44	40 RT				1		14
196+90	37 LT	7.5				25	
198+45	38 LT	9.0				28	
201+00	39 RT	9.0				28	
203+63	40 LT	3.5			1	28	
204+10	33 LT			1			
204+45	24 LT	6.0					14
208+10	30 RT	9.0				28	
209+00	22 LT	7.5				25	
U.S. ROUTE 14 (NORTHWEST HIGHWAY)							
94+50	35 LT				1		14
97+20	50 RT	6.3					13
98+80	36 LT				1	25	</





STA. 175+00  
N 6846.58  
E 5012.63

STA. 180+00  
N 6346.58  
E 5013.30

STA. 183+62.80 PINGREE ROAD  
STA. 250+00.00 CONGRESS PARKWAY  
N 5983.78  
E 5013.78

STA. 183+51.17 PINGREE ROAD  
STA. 250+00.00 RICKERT ROAD  
N 5995.41  
E 5013.76

STA. 185+00  
N 5846.59  
E 5013.96

STA. 189+69.95 PINGREE ROAD  
STA. 300+00.00 COG CIRCLE  
N 5376.63  
E 5014.58

STA. 190+00  
N 5346.59  
E 5014.62

STA. 195+00  
N 4846.59  
E 5015.29

STA. 193+18.84 PINGREE ROAD  
STA. 277+50.00 TRACY TRAIL  
N 5027.74  
E 5015.05

STA. 200+00.00 PINGREE ROAD  
STA. 100+00.00 U.S. ROUTE 14

STA. 200+00  
N 4346.59  
E 5016.19

STA. 205+00  
N 3847.06  
E 5037.90

STA. 203+86.01 PINGREE ROAD  
Q STATE STREET  
N 3960.95  
E 5032.96

# BENCHMARKS:

BM "4": SQUARE CUT ON THE NORTHEAST CORNER OF CONCRETE SLAB ON THE NORTH SIDE OF THE PUMP HOUSE LOCATED JUST NORTH OF CONGRESS PARKWAY ON THE WEST SIDE OF PINGREE ROAD.  
ELEVATION: 896.30

BM "D": NORTHWEST BOLT ON FIRST FIRE HYDRANT SOUTH OF RICKERT ROAD ON THE EAST SIDE OF PINGREE ROAD.  
ELEVATION: 903.79

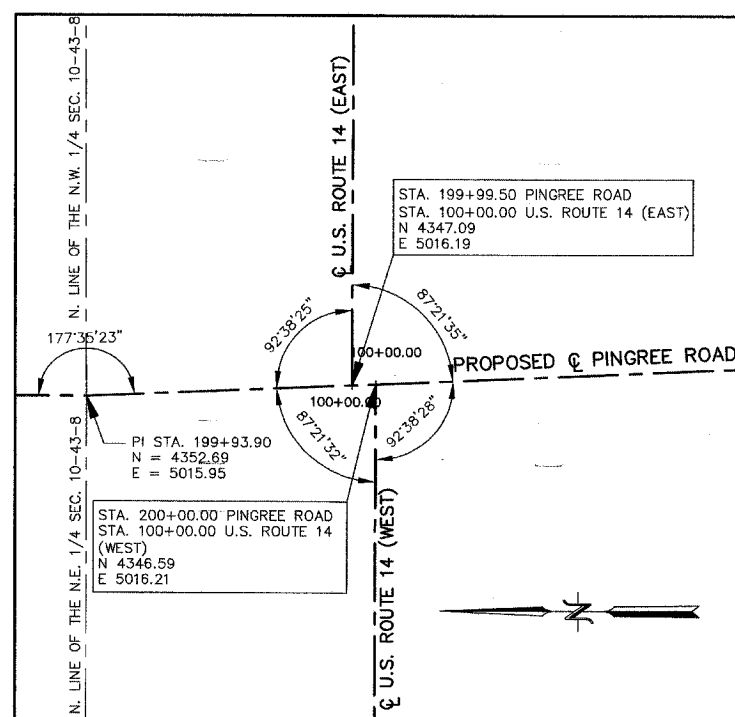
BM "E": WEST BOLT ON FIRE HYDRANT LOCATED ON THE SOUTHEAST CORNER OF COG CIRCLE AND PINGREE ROAD.  
ELEVATION: 905.49

BM "F": NORTHWEST BOLT ON FIRE HYDRANT ON THE EAST SIDE OF PINGREE ROAD ACROSS FROM TRACY TRAIL.  
ELEVATION: 925.31

BM "G": NORTHWEST BOLT ON FIRST FIRE HYDRANT LOCATED NORTH OF U.S. ROUTE 14 ON THE EAST SIDE OF PINGREE ROAD.  
ELEVATION: 919.22

BM "H": NORTHWEST BOLT ON FIRE HYDRANT ACROSS FROM STATE STREET ON THE WEST SIDE OF PINGREE ROAD. (SECOND FIRE HYDRANT SOUTH OF U.S. ROUTE 14)  
ELEVATION: 916.01

BM "I": NORTHWEST BOLT ON THIRD FIRE HYDRANT SOUTH OF U.S. ROUTE 14 ON THE WEST SIDE OF PINGREE ROAD.  
ELEVATION: 916.62



DETAIL "A"

## EXISTING U.S. ROUTE 14 CENTER LINE CURVE DATA - CURVE #3

P.I. STA. 106+49.96  
Δ = 01°-37'-40"  
D = 00°-32'-33"  
R = 10560.00'  
T = 150.01'  
L = 300.00'  
E = 1.07'  
P.C. STA. 104+99.96  
P.T. STA. 107+99.96

## EXISTING U.S. ROUTE 14 CENTER LINE CURVE DATA - CURVE #2

P.I. STA. 96+99.96  
Δ = 02°-50'-14"  
D = 01°-25'-07"  
R = 4038.79'  
T = 100.02'  
L = 200.00'  
E = 1.24'  
P.R.C. STA. 95+99.96  
P.T. STA. 97+99.96

## EXISTING U.S. ROUTE 14 CENTER LINE CURVE DATA - CURVE #1

P.I. STA. 94+99.96  
Δ = 02°-46'-55"  
D = 01°-23'-28"  
R = 4118.95'  
T = 100.02'  
L = 199.98'  
E = 1.21'  
P.C. STA. 93+99.96  
P.R.C. STA. 95+99.96



## CONSTRUCTION STAGING NOTES

### STAGE 1A OPERATIONS

1. PLACE CHANGEABLE SIGNS AT A) NORTHEAST CORNER PINGREE ROAD AND U.S. ROUTE 14 FOR NORTHBOUND TRAFFIC, AND B) SOUTHWEST CORNER PINGREE ROAD AND COG CIRCLE FOR SOUTHBOUND TRAFFIC, A MINIMUM OF 14 DAYS PRIOR TO PINGREE ROAD CLOSURE AND DETOUR.
2. ESTABLISH DETOUR PER PLAN FOR PINGREE ROAD BETWEEN U.S. ROUTE 14 AND CONGRESS PARKWAY.
3. INSTALL EROSION CONTROL ITEMS PER PLAN.
4. INSTALL TEMPORARY SIGNAL EQUIPMENT PER PLAN.

### STAGE 1

1. PLACE TEMPORARY PAVEMENT MARKINGS FOR STAGE 1 OPERATIONS ON PINGREE ROAD, SOUTH OF U.S. ROUTE 14.
2. ADJUST TEMPORARY SIGNAL EQUIPMENT FOR STAGE 1 OPERATIONS.
3. REMOVE CHANGEABLE MESSAGE SIGNS PLACED IN STAGE 1A WITH CLOSURE OF PINGREE ROAD BETWEEN U.S. ROUTE 14 AND CONGRESS PARKWAY.
4. COMMENCE WORK ON PINGREE ROAD BETWEEN U.S. ROUTE 14 AND CONGRESS PARKWAY. MAINTAIN DETOUR FOR PINGREE ROAD WITH LOCAL ACCESS ONLY WITHIN THIS SECTION OF PINGREE ROAD.
5. INSTALL MAINLINE STORM SEWER ALONG WEST SIDE OF PINGREE ROAD SOUTH OF U.S. ROUTE 14, INCLUDING LATERALS FROM MAINLINE TO EAST SIDE OF PINGREE ROAD. FOR TRAFFIC CONTROL, UTILIZE IDOT STANDARD 701006 FOR MAINLINE SEWER, AND IDOT STANDARD 701201 FOR LATERALS. EXCAVATION FOR STORM SEWER ALONG THE WEST SIDE OF PINGREE ROAD SHALL BE COMPLETED PRIOR TO EXCAVATION FOR ROADWAY ON THE EAST SIDE, IN ACCORDANCE WITH ARTICLE 701.04(b).
6. SOUTH OF U.S. ROUTE 14, CONSTRUCT ONE (1) NORTHBOUND LANE OF PINGREE ROAD TO THE BITUMINOUS BINDER COURSE INCLUDING ROADWAY WIDENING SOUTH OF STATE STREET.
7. COMMENCE WORK ON U.S. ROUTE 14 WITH FULL DEPTH ROADWAY WIDENING TO CONSTRUCT RIGHT-TURN LANE.
8. TRANSITION EXISTING PAVEMENT TO PROPOSED EDGE OF PAVEMENT FOR STAGE 2 TRAFFIC FLOW, SOUTH OF U.S. ROUTE 14, USING BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH) AND TEMPORARY PAVEMENT.

### STAGE 2

1. PLACE TEMPORARY PAVEMENT MARKINGS FOR STAGE 2 OPERATIONS ON PINGREE ROAD, SOUTH OF U.S. ROUTE 14.
2. ADJUST TEMPORARY SIGNAL EQUIPMENT FOR STAGE 2 OPERATIONS.
3. MAINTAIN DETOUR FOR PINGREE ROAD BETWEEN U.S. ROUTE 14 AND CONGRESS PARKWAY.
4. SOUTH OF U.S. ROUTE 14, CONSTRUCT TWO (2) SOUTHBOUND LANES OF PINGREE ROAD TO THE BITUMINOUS BINDER COURSE INCLUDING ROADWAY WIDENING SOUTH OF STATE STREET.

### STAGE 3

1. PLACE TEMPORARY PAVEMENT MARKINGS FOR STAGE 3 OPERATIONS ON PINGREE ROAD, SOUTH OF U.S. ROUTE 14.
2. ADJUST TEMPORARY SIGNAL EQUIPMENT FOR STAGE 3-4 OPERATIONS.
3. MAINTAIN DETOUR FOR PINGREE ROAD BETWEEN U.S. ROUTE 14 AND CONGRESS PARKWAY.
4. BETWEEN U.S. ROUTE 14 AND STATE STREET, CONSTRUCT CENTER TURN LANE AND ONE (1) NORTHBOUND LANE OF PINGREE ROAD TO THE BITUMINOUS BINDER COURSE.

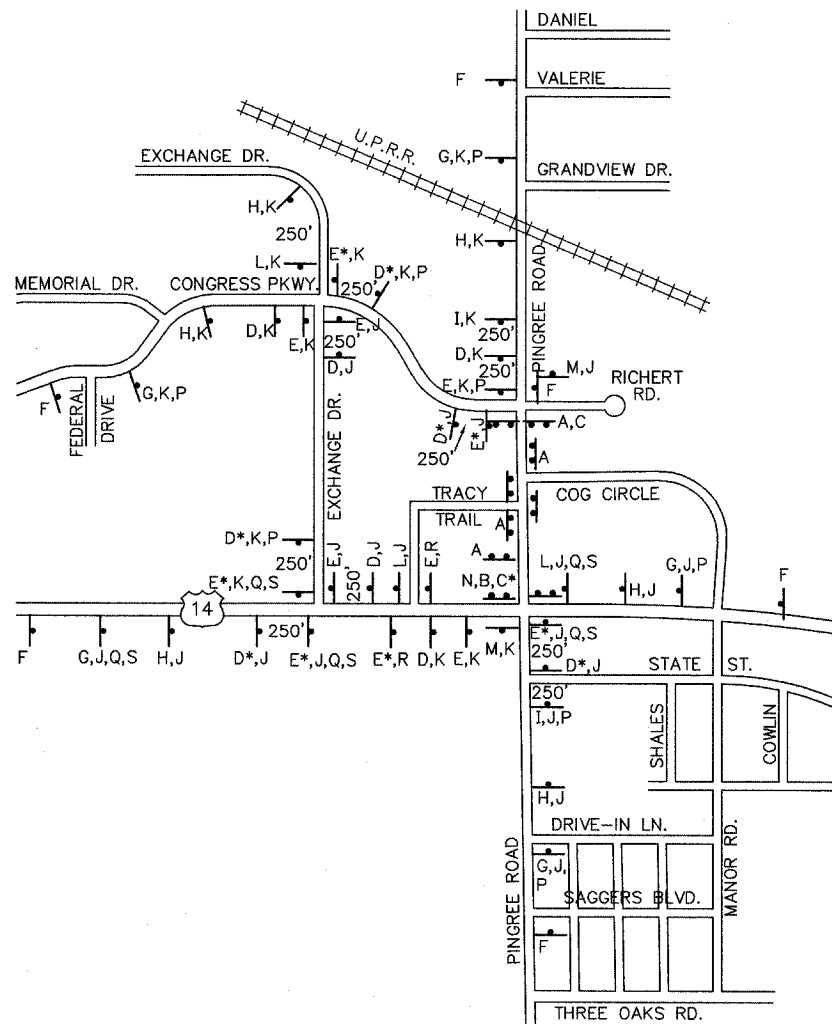
### STAGE 4

1. MILL BITUMINOUS SURFACE ON U.S. ROUTE 14 AND PLACE BITUMINOUS SURFACE COURSE ON U.S. ROUTE 14 AND PINGREE ROAD. UTILIZE SHORT-TERM PAVEMENT MARKINGS AND IDOT STANDARD 701306 FOR TRAFFIC CONTROL.
2. INSTALL PERMANENT TRAFFIC SIGNALS, PAVEMENT MARKINGS, AND SIGNING.
3. FINAL GRADE, PLACE TOPSOIL, SEED AND SOD.

## TRAFFIC CONTROL AND PROTECTION GENERAL NOTES

1. TRAFFIC CONTROL AND PROTECTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, CONTRACT SPECIAL PROVISIONS, CONSTRUCTION STAGING AND DETOUR PLANS, AND AS DIRECTED BY THE ENGINEER. TRAFFIC CONTROL SHOWN IN THE CONSTRUCTION STAGING PLAN REPRESENTS A GUIDE FOR THE SAFE MANAGEMENT OF TRAFFIC DURING THE PROSECUTION OF THE WORK. MODIFICATIONS MAY BE NECESSARY DUE TO LOCAL CONDITIONS AT THE TIME OF CONSTRUCTION. ANY PROPOSED CHANGES BY THE CONTRACTOR TO THESE TRAFFIC CONTROL PLANS SHALL BE APPROVED BY THE ENGINEER PRIOR TO BEING IMPLEMENTED. ANY MODIFICATIONS OR ADDITIONS REQUIRED BY THE ENGINEER WILL BE INCLUDED IN THE COST OF THE TRAFFIC CONTROL AND PROTECTION, SPECIAL, UNLESS A SEPARATE PAY ITEM HAS BEEN ESTABLISHED FOR THE WORK.
2. ANY EXISTING OR TEMPORARY PAVEMENT MARKINGS WHICH CONFLICT WITH MARKINGS REQUIRED FOR A GIVEN CONSTRUCTION STAGE SHALL BE REMOVED ACCORDING TO SECTION 783 OF THE STANDARD SPECIFICATIONS.
3. PINGREE ROAD SOUTH OF U.S. ROUTE 14 SHALL HAVE A MINIMUM OF ONE THROUGH LANE OPEN IN EACH DIRECTION DURING NON-WORKING HOURS. NO LANE CLOSURES ON U.S. ROUTE 14 WILL BE ALLOWED DURING NON-WORKING HOURS.
4. ACCESS TO ADJACENT PROPERTIES AND SIDE STREETS SHALL BE MAINTAINED AT ALL TIMES, EXCEPT AS NOTED HEREIN OR APPROVED BY THE ENGINEER. NO TEMPORARY ACCESS TO TRACY TRAIL OR COG CIRCLE SHALL BE REQUIRED WHILE PINGREE ROAD NORTH OF U.S. ROUTE 14 IS CLOSED TO THRU TRAFFIC.
5. PERMANENT TRAFFIC SIGNAL WORK MAY PROCEED DURING ANY CONSTRUCTION STAGE AS LONG AS THAT WORK DOES NOT INTERFERE WITH WORK REQUIRED IN THAT PARTICULAR STAGE OR SUBSEQUENT STAGES.
6. TEMPORARY PAVEMENT MARKING APPLIED TO FINAL PAVEMENT SURFACES AND EXISTING PAVEMENT SURFACES TO REMAIN SHALL BE PAVEMENT MARKING TAPE, TYPE III.

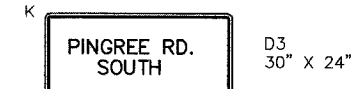
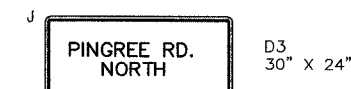
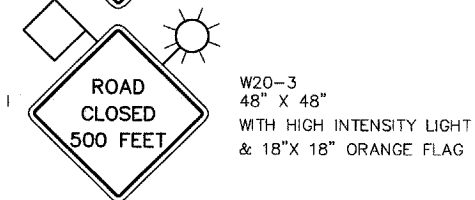
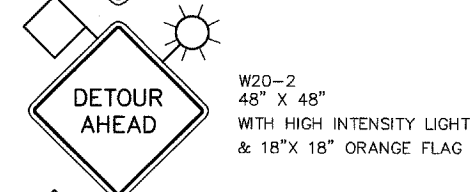
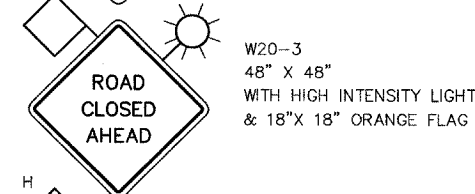
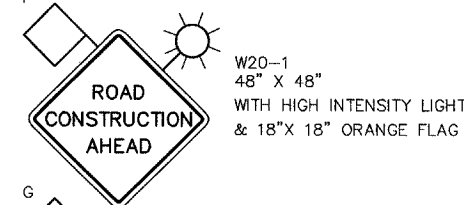
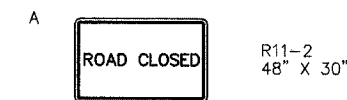
## PINGREE ROAD DETOUR



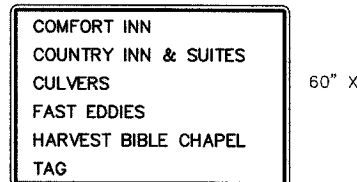
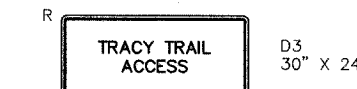
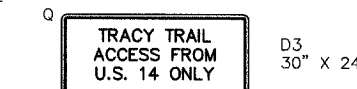
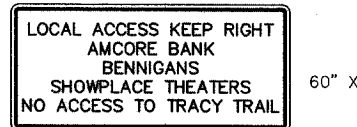
NOTE: SIGN SPACING = 500 FEET (TYP), UNLESS NOTED OTHERWISE OR AS DIRECTED BY THE ENGINEER.

## DETOUR PLAN LEGEND

- G,J SIGN DESCRIPTION (SEE BELOW)
- SIGN
- TYPE III BARRICADE WITH 2 HIGH INTENSITY WARNING LIGHTS & SIGNS AS NOTED



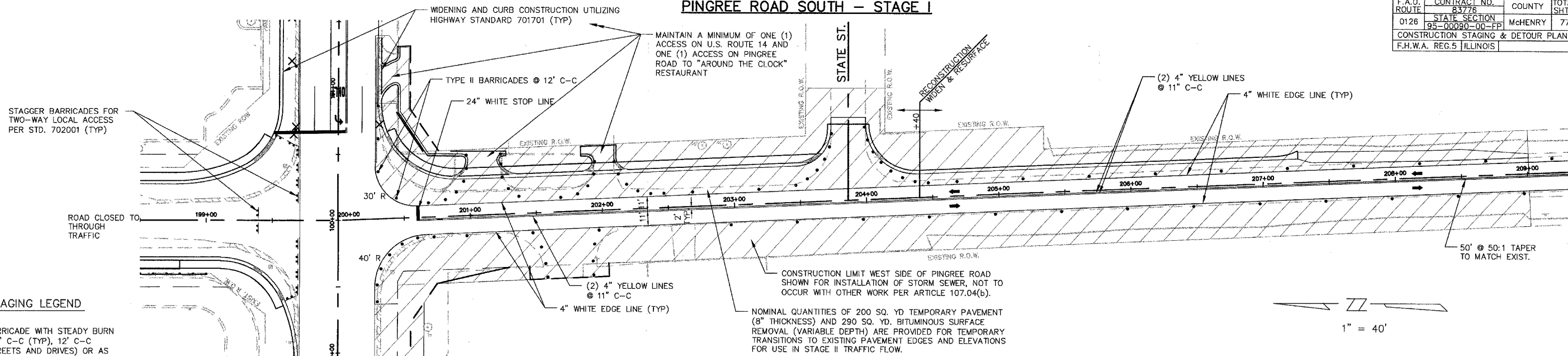
F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHTS.
0126	83776	McHENRY	77
CONSTRUCTION STAGING & DETOUR PLAN			M-8003
F.H.W.A. REG.5 ILLINOIS			





F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHTS.
0128	83776	McHENRY	77
STATE SECTION	95-00090-00-FP		
CONSTRUCTION STAGING & DETOUR PLAN			
F.H.W.A. REG.5 ILLINOIS			

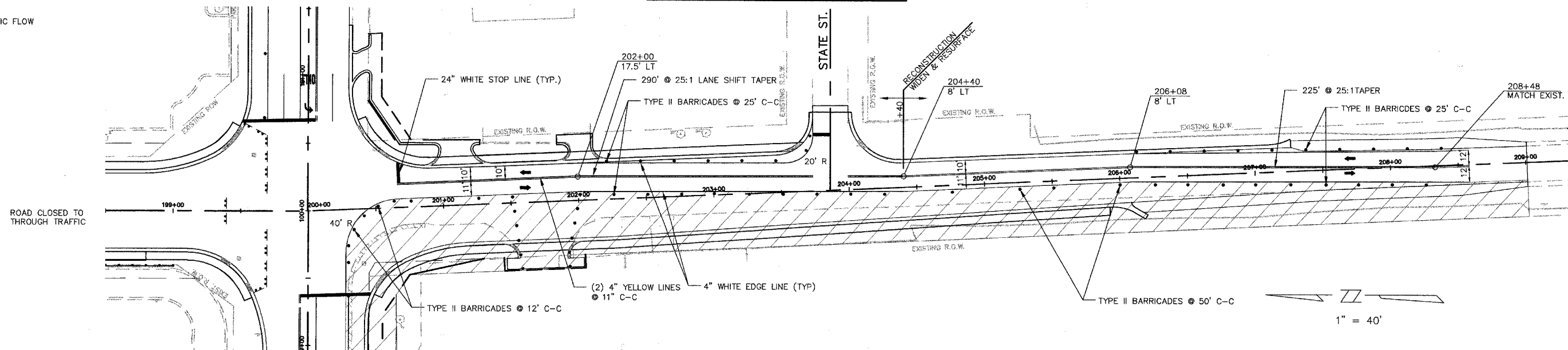
### PINGREE ROAD SOUTH - STAGE I



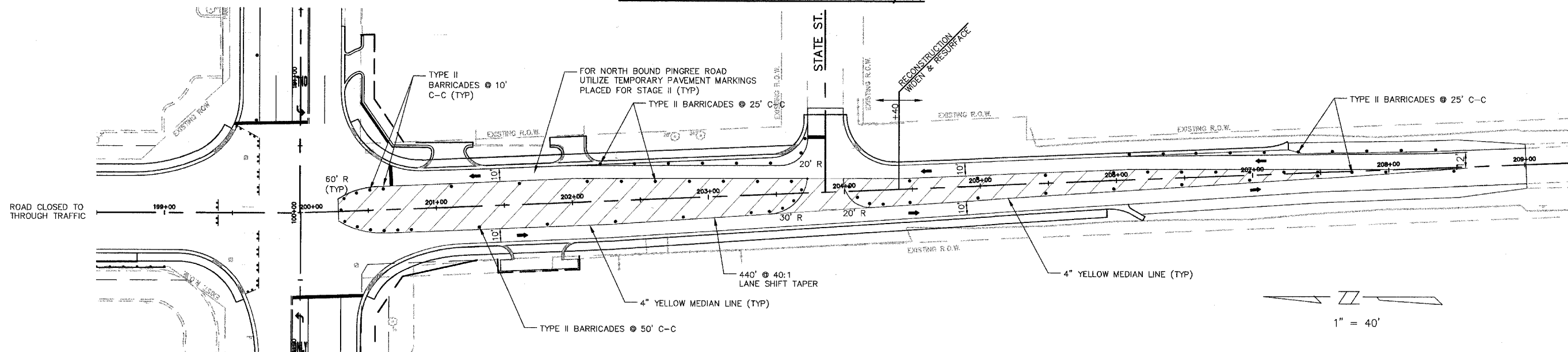
#### CONSTRUCTION STAGING LEGEND

- TYPE II BARRICADE WITH STEADY BURN LIGHT @ 50' C-C (TYP), 12' C-C (CROSS STREETS AND DRIVES) OR AS NOTED
- CONSTRUCTION LIMIT
- DIRECTION OF TRAFFIC FLOW
- TYPE III BARRICADE

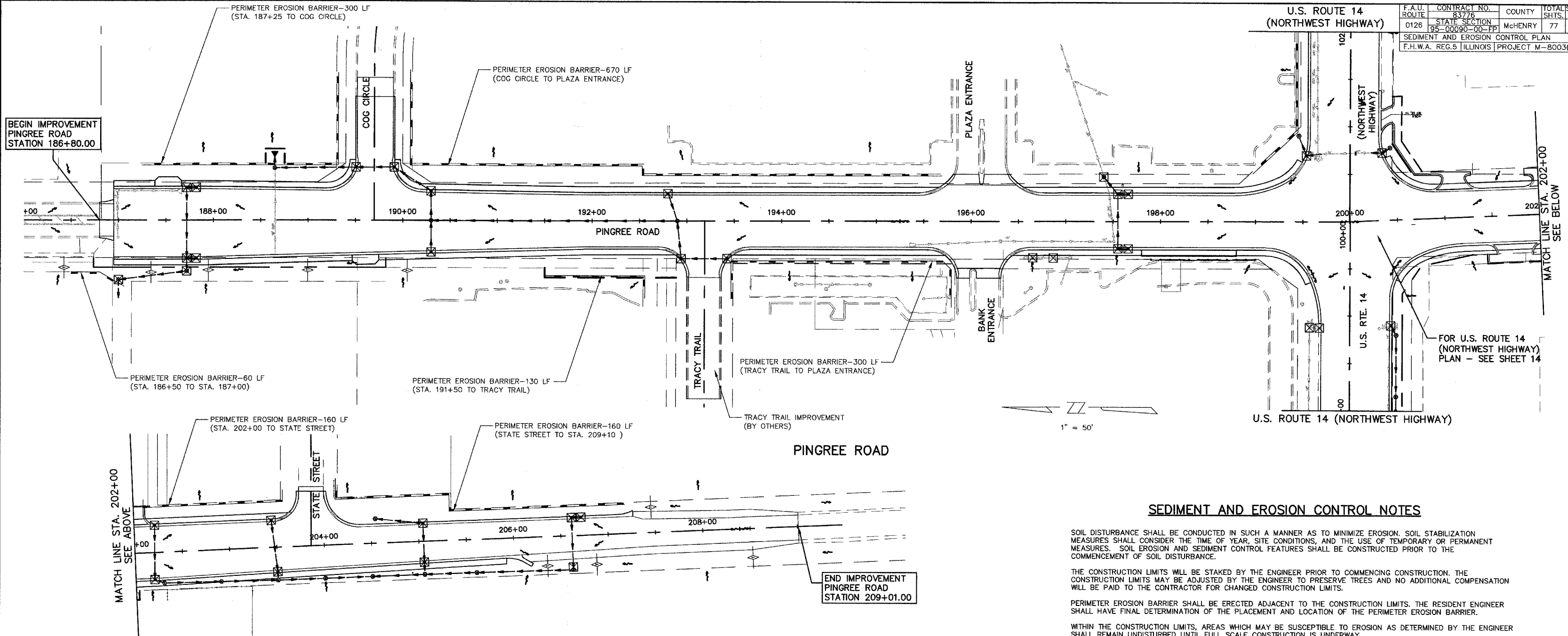
### PINGREE ROAD SOUTH - STAGE II



### PINGREE ROAD SOUTH - STAGE III / IV

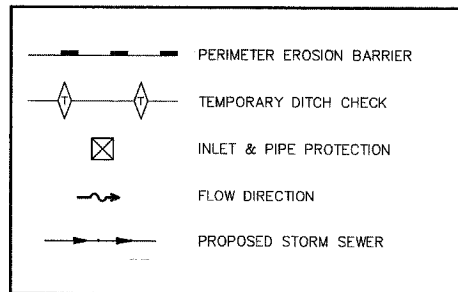






F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHTS.
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-PP			
SEDIMENT AND EROSION CONTROL PLAN			
F.H.W.A. REG.5 ILLINOIS PROJECT M-80033			

#### SEDIMENT AND EROSION CONTROL LEGEND

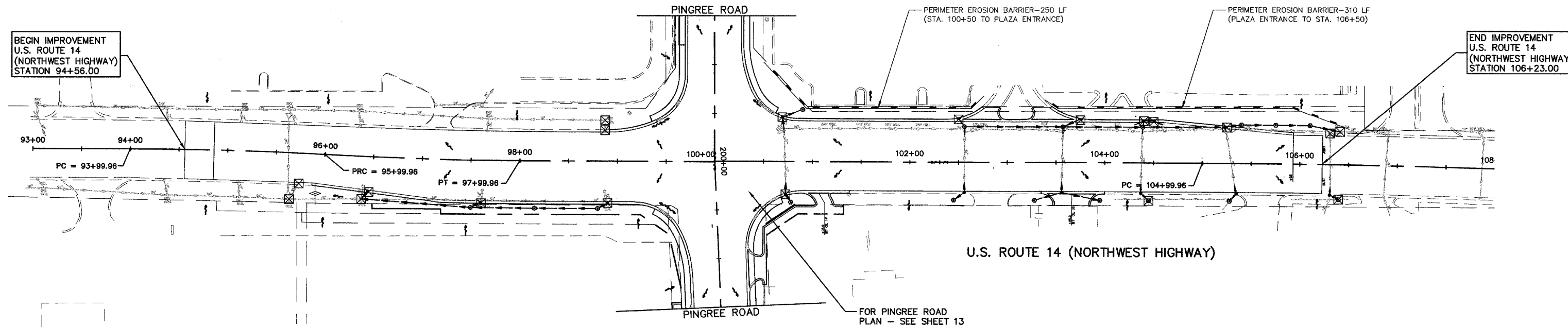
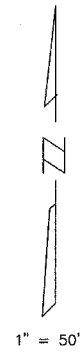


#### SEDIMENT AND EROSION CONTROL NOTES

- SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS, AND THE USE OF TEMPORARY OR PERMANENT MEASURES. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF SOIL DISTURBANCE.
- THE CONSTRUCTION LIMITS WILL BE STAKED BY THE ENGINEER PRIOR TO COMMENCING CONSTRUCTION. THE CONSTRUCTION LIMITS MAY BE ADJUSTED BY THE ENGINEER TO PRESERVE TREES AND NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR CHANGED CONSTRUCTION LIMITS.
- PERIMETER EROSION BARRIER SHALL BE ERECTED ADJACENT TO THE CONSTRUCTION LIMITS. THE RESIDENT ENGINEER SHALL HAVE FINAL DETERMINATION OF THE PLACEMENT AND LOCATION OF THE PERIMETER EROSION BARRIER.
- WITHIN THE CONSTRUCTION LIMITS, AREAS WHICH MAY BE SUSCEPTIBLE TO EROSION AS DETERMINED BY THE ENGINEER SHALL REMAIN UNDISTURBED UNTIL FULL SCALE CONSTRUCTION IS UNDERWAY.
- DITCH CHECK INSTALLATION SHALL OCCUR IMMEDIATELY UPON DITCHES BEING DISTURBED AND SHALL NOT BE PROLONGED UNTIL DITCHES ARE FINAL GRADED.
- DISTURBED AREAS SHALL BE PERMANENTLY SEEDED OR SODDED IMMEDIATELY AFTER GRADING. IF NOT, THEY SHALL BE TEMPORARILY SEEDED WITHIN 14 CALENDAR DAYS FROM DISTURBANCE OR RE-DISTURBANCE.
- SEDIMENT COLLECTED DURING CONSTRUCTION AND MAINTENANCE OF THE VARIOUS TEMPORARY EROSION CONTROL SYSTEMS SHALL BE DISPOSED OF ON THE SITE ON A REGULAR BASIS AS DIRECTED BY THE ENGINEER. THIS COST SHALL BE INCLUDED IN THE COST OF THE EROSION CONTROL PAY ITEM.
- SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA ON SITE. THIS COST SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE CONTRACT.
- DURING DE-WATERING OPERATIONS, DISCHARGES SHALL BE PUMPED INTO SEDIMENT BASINS OR SILT TRAPS. DE-WATERING DIRECTLY INTO FIELD TILES OR STORMWATER STRUCTURES IS PROHIBITED.
- THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM.
- ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN. PRIOR TO APPROVAL AND USE, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER CERTIFICATION BY THE PRODUCER STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE MANUFACTURER INSTALLATION PROCEDURES TO THE ENGINEER.
- THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING AGENCY.
- ALL ITEMS SHALL BE CONSTRUCTED AS SHOWN ON STANDARD 280001, THE PLAN DETAILS, AND AS DIRECTED BY THE ENGINEER. MAINTENANCE AND CLEANING OF THE EROSION CONTROL ITEMS SHALL BE INCLUDED IN THE RESPECTIVE EROSION CONTROL PAY ITEM. FAILURE TO MAINTAIN ANY EROSION CONTROL PAY ITEM AS DIRECTED BY THE ENGINEER WILL REQUIRE THE ENGINEER TO FILE AN INCIDENT OF NON-COMPLIANCE (ION) WITH THE ILLINOIS EPA.
- CONSTRUCTION EQUIPMENT SHALL BE STORED, FUELED AND WASHED ONLY AT DESIGNATED LOCATIONS. ALL NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL AND OTHER POLLUTANT IN ACCORDANCE WITH EPA WATER QUALITY REGULATIONS. LEAKING EQUIPMENT OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.
- SEE CROSS SECTIONS FOR GRADING, SEEDING, AND SODDING LIMITS.

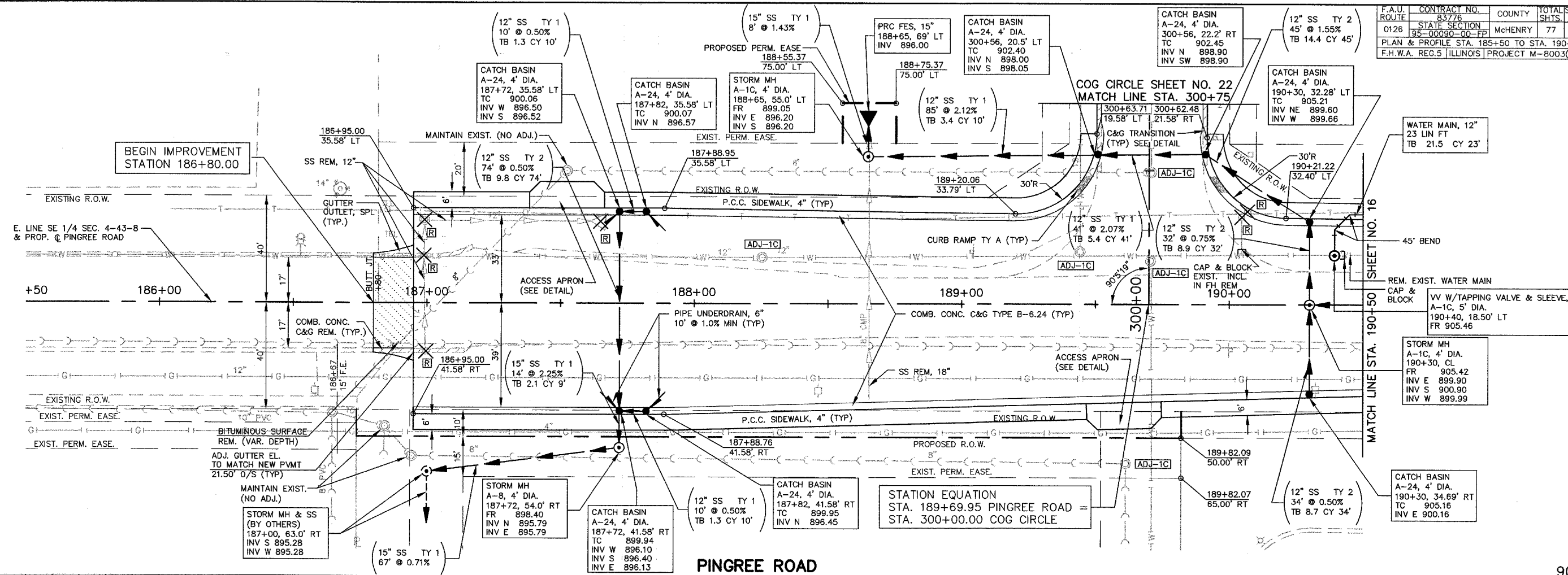


F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHTS.
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-FP			
SEDIMENT AND EROSION CONTROL PLAN			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003(			

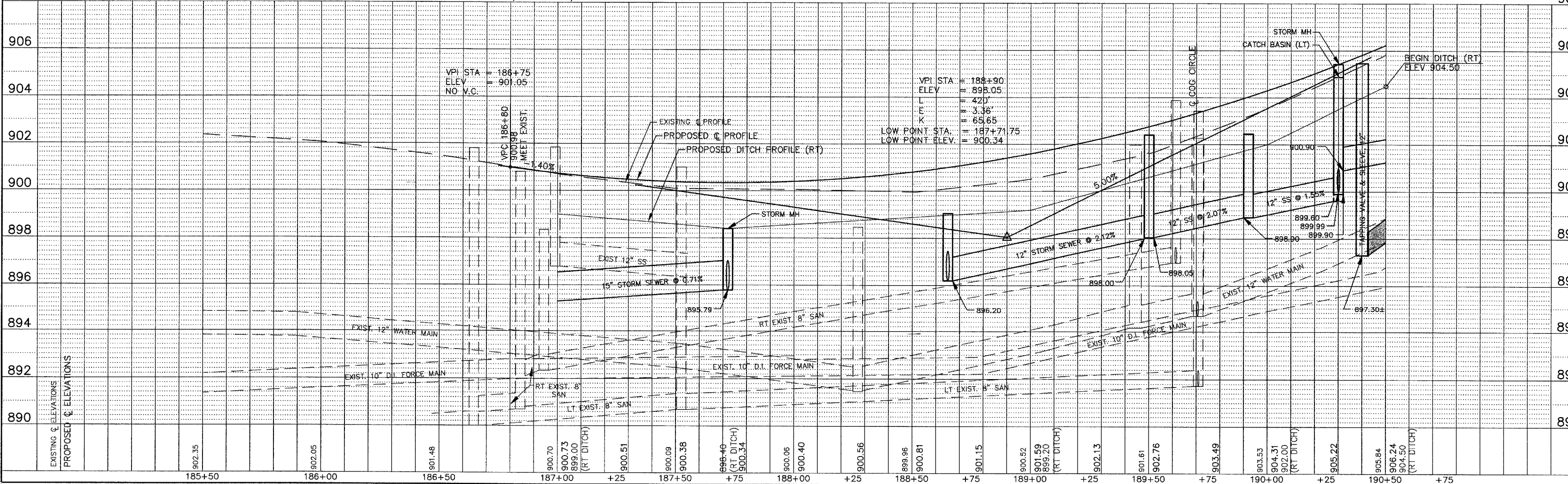


FOR SEDIMENT AND EROSION CONTROL NOTES AND LEGEND  
SEE SHEET 13

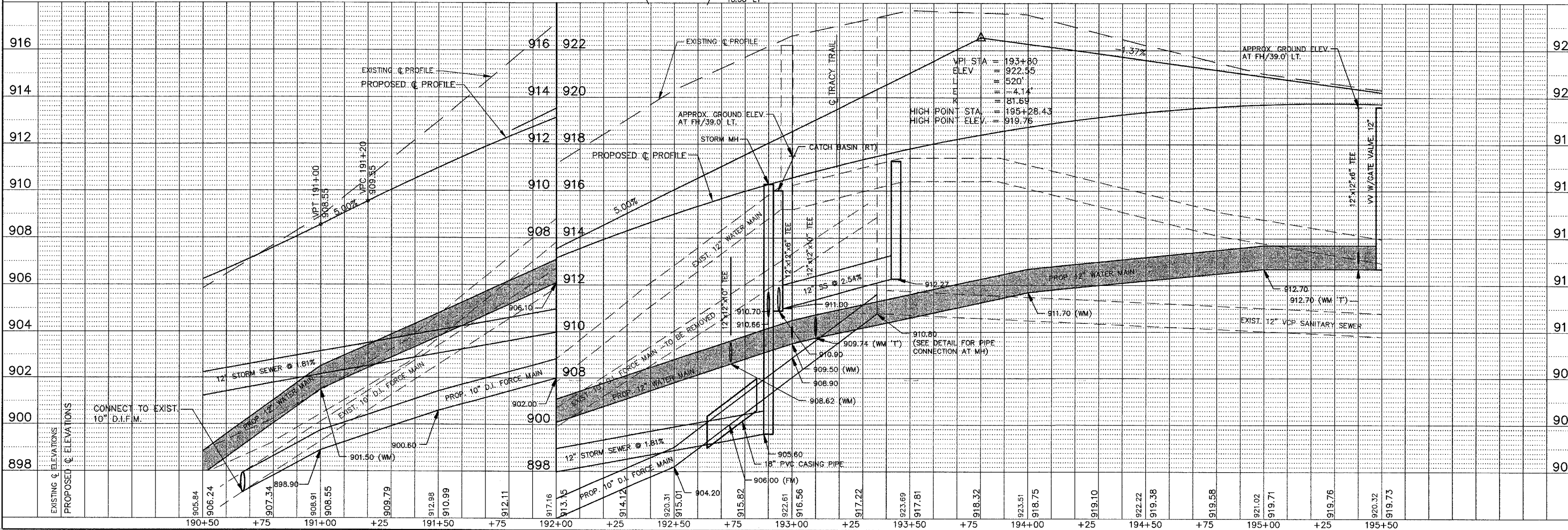




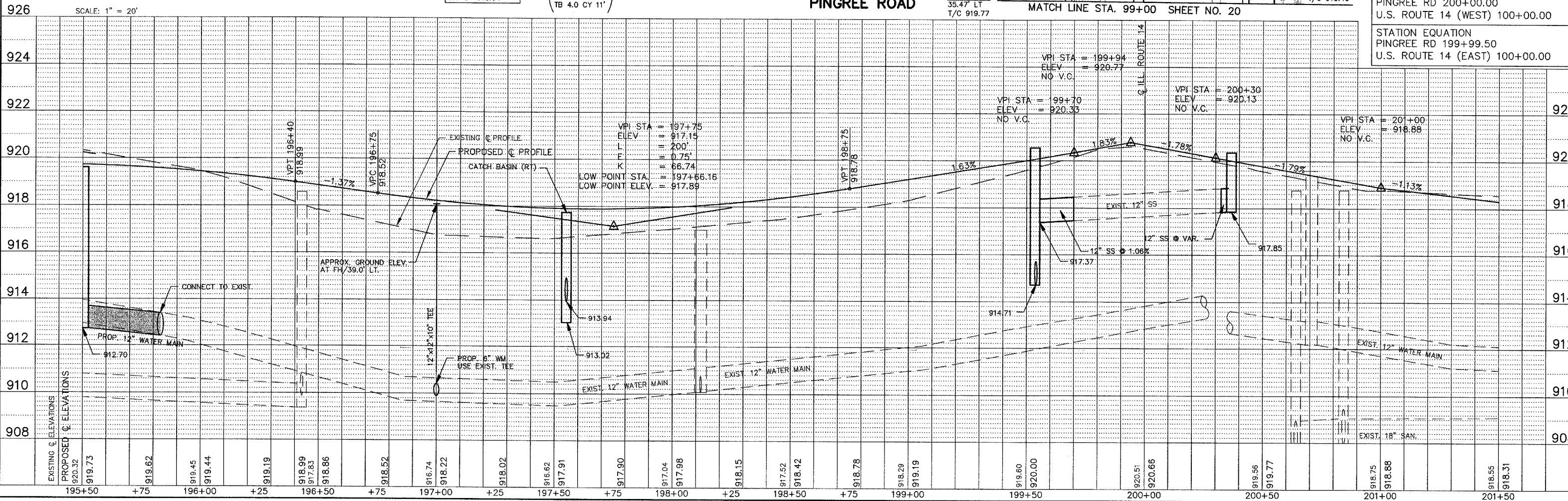
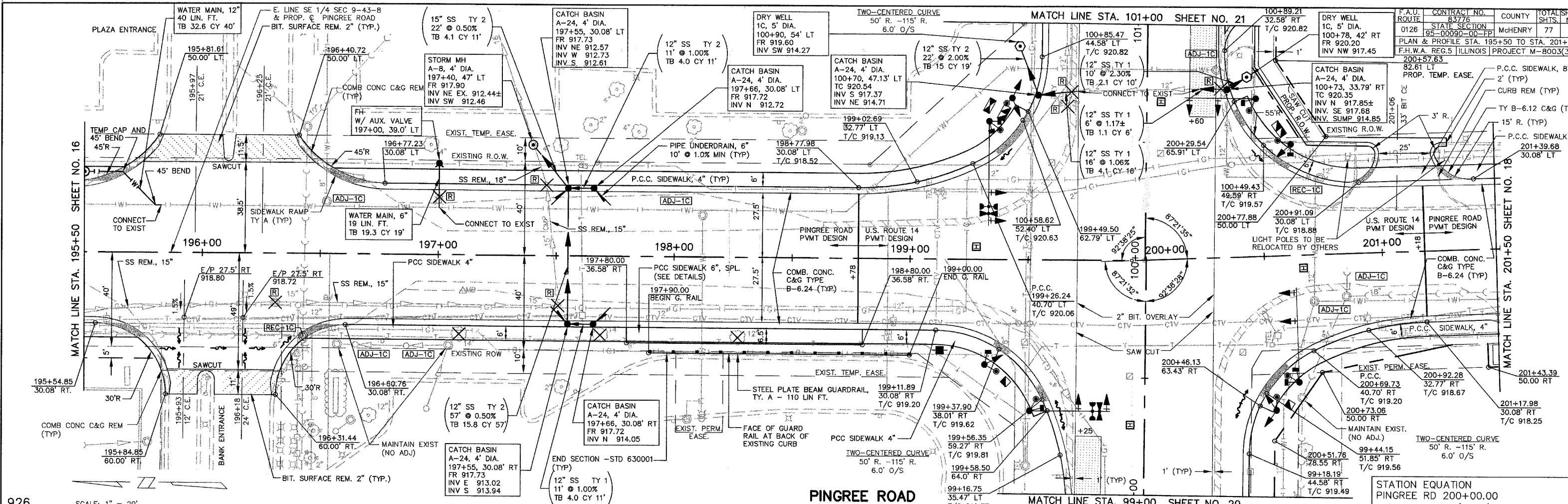
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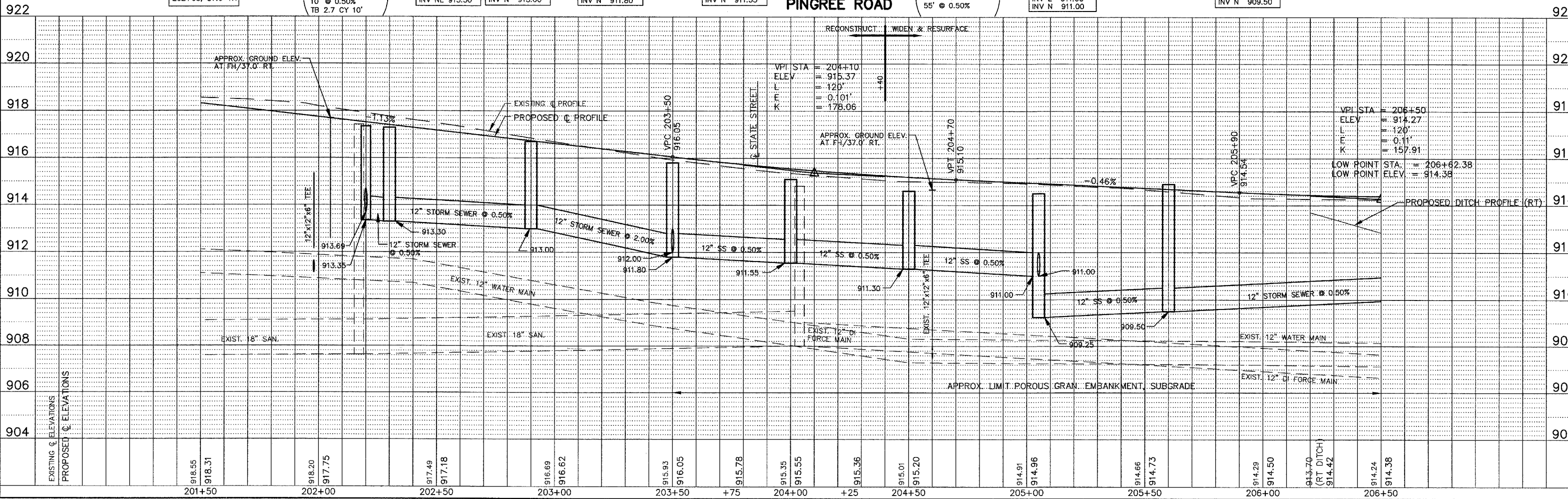
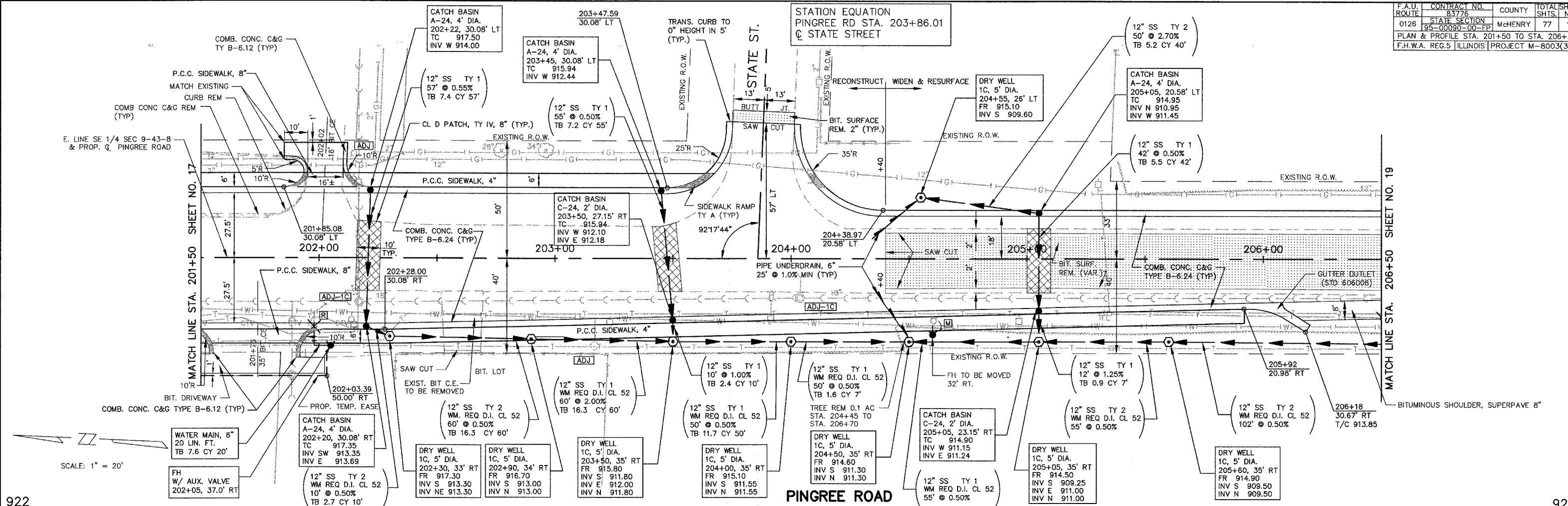




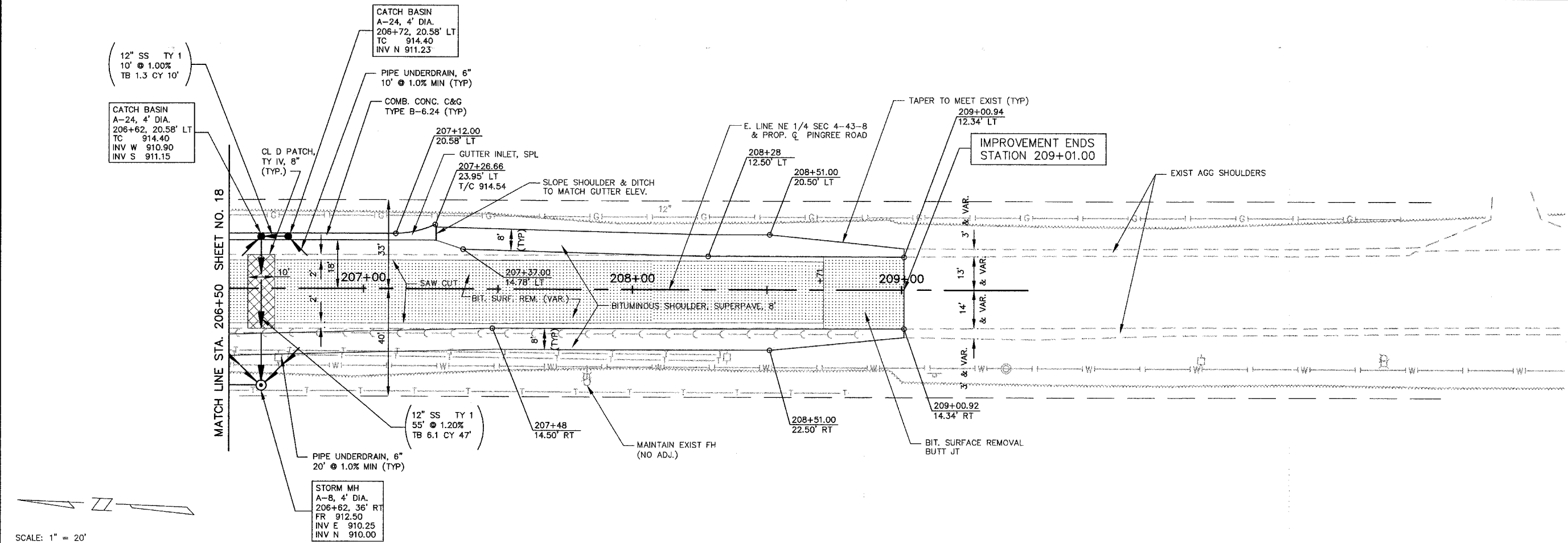




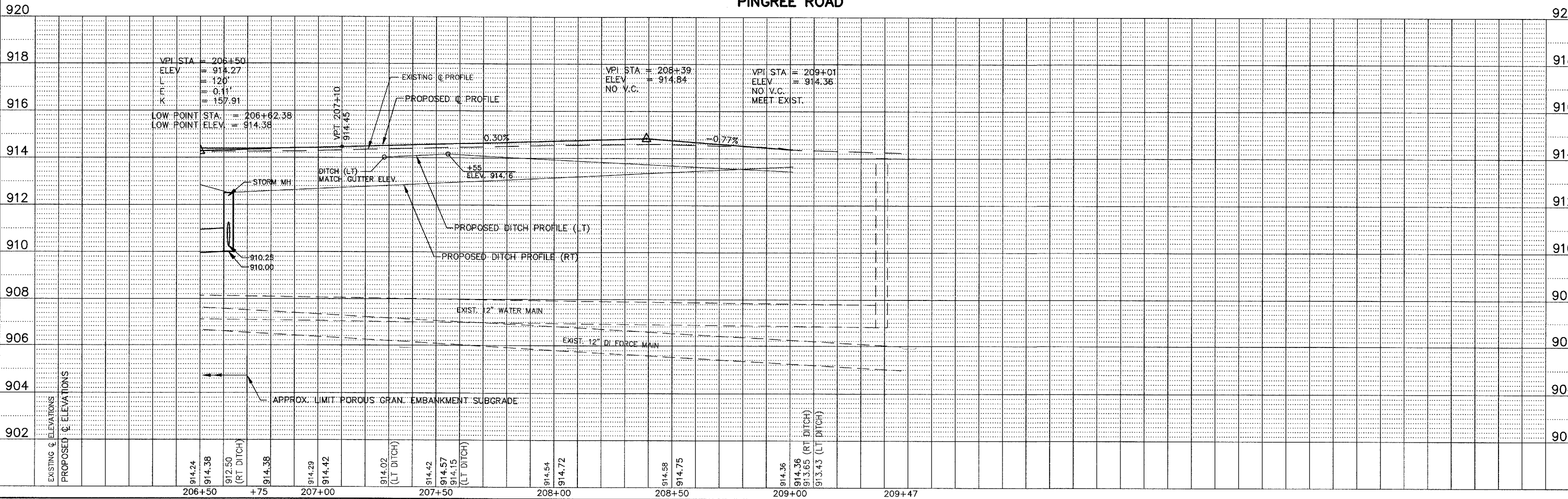




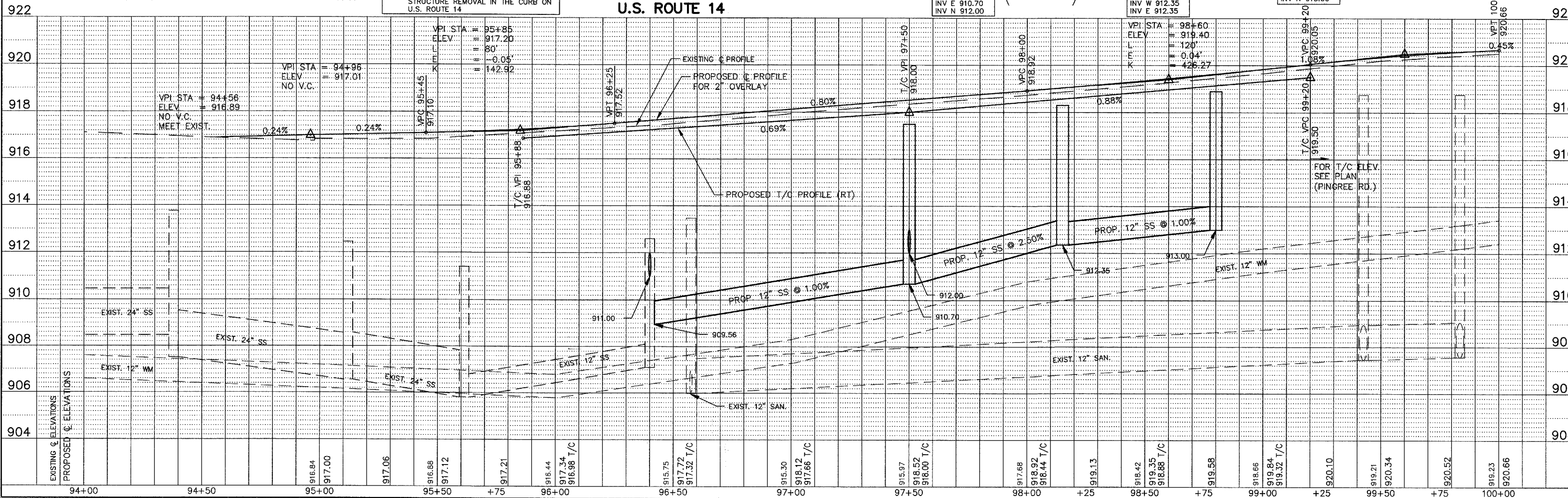




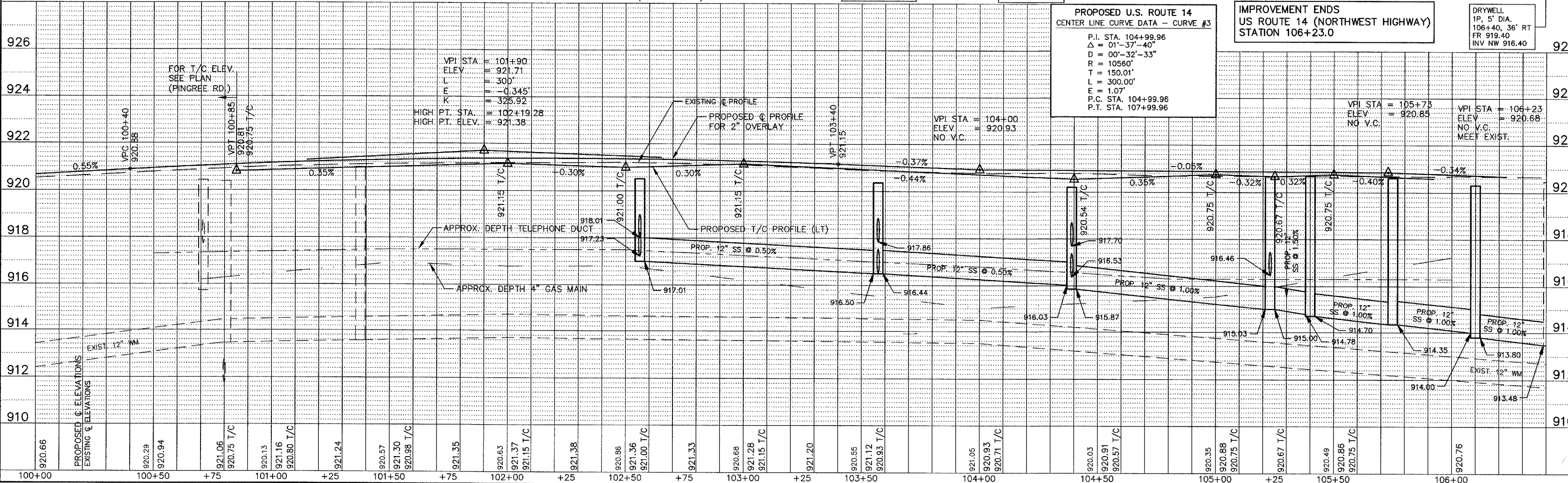
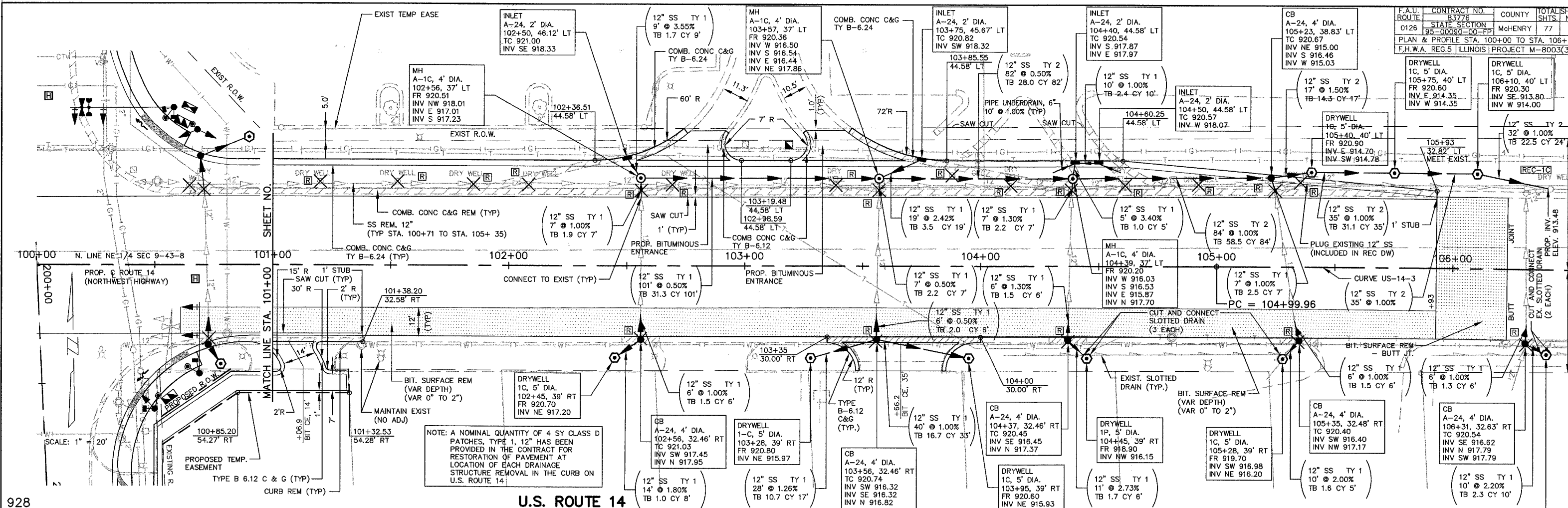
PINGREE ROAD



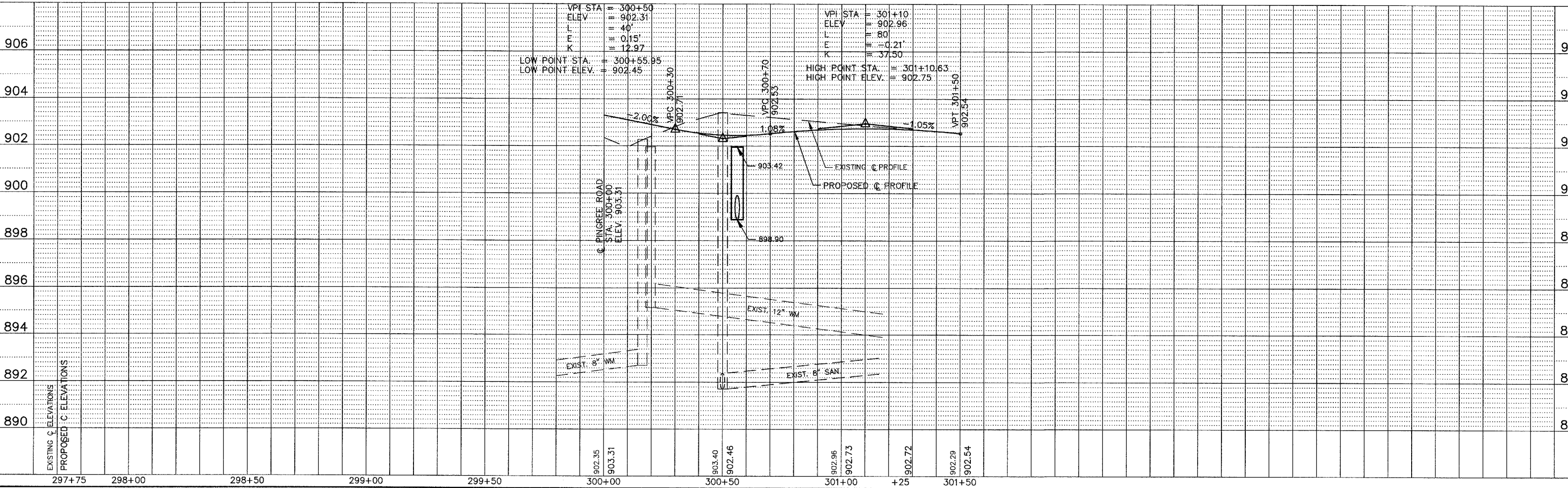
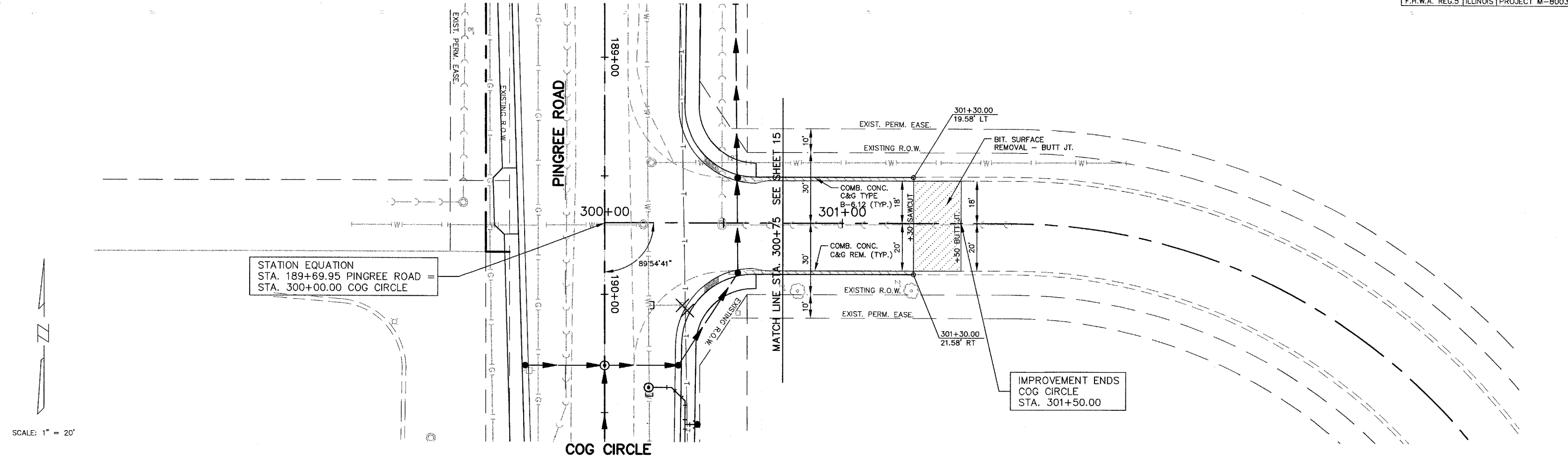


















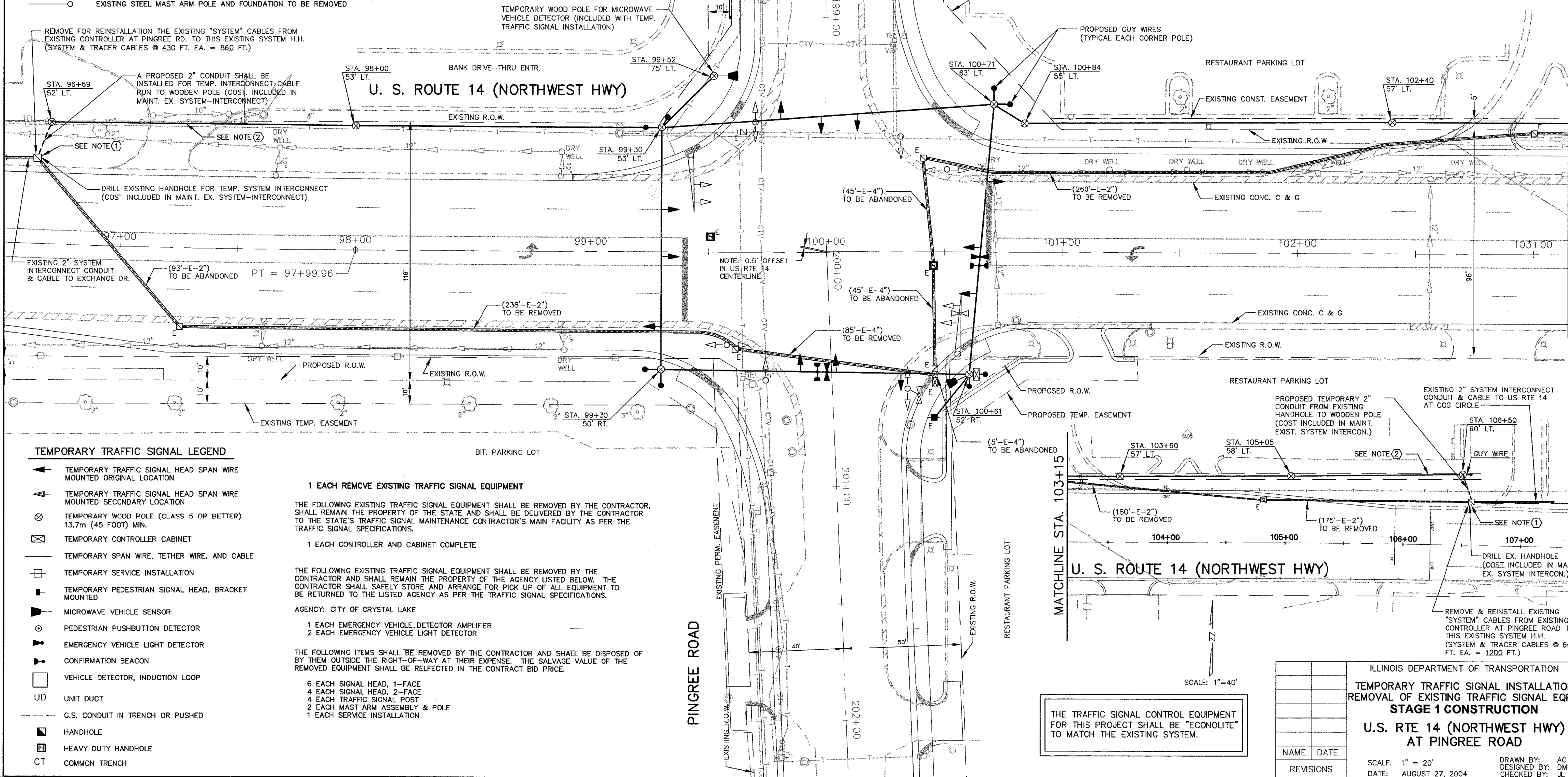
# EXISTING EQUIPMENT TO BE REMOVED LEGEND

- ◀ EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ◀ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ◀ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- ◀ EXISTING HANDHOLE TO BE REMOVED
- ◀ EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ◀ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ◀ EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ◀ CONFIRMATION BEACON TO BE REMOVED
- ◀ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ◀ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHTS.
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-FP			
TEMPORARY TRAFFIC SIGNALS			
F.H.W.A. REG. 5 ILLINOIS PROJECT M-8003 (3)			

## CONSTRUCTION NOTES

- 1 BOTH THE EXISTING FIBER-OPTIC INTERCONNECT CABLE AND THE TRACER CABLE SHALL BE PULLED BACK TO THIS HANDHOLE AND STORED/PROTECTED FOR REINSTALLATION IN NEW CONDUITS OF PERMANENT SIGNALS. THIS WORK SHALL BE INCLUDED IN "MAINTAIN EXISTING SYSTEM INTERCONNECT".
- 2 CONTRACTOR SHALL PROVIDE A TEMP. FIBER-OPTIC CABLE ON WOOD POLES FROM PROPOSED TEMP. CONTROLLER CABINET TO EXISTING "SYSTEM" HANDHOLE. A TEMPORARY CABLE SPLICE WILL BE PERMITTED ONLY TO THE EXISTING END OF THE ORIGINAL INTERCONNECT CABLE AS STORED AT THE HANDHOLE. THIS WORK SHALL BE INCLUDED IN ITEM FOR "MAINTAIN EXISTING SYSTEM INTERCONNECT".



## TEMPORARY TRAFFIC SIGNAL LEGEND

- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◀ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 13.7m (45 FOOT) MIN.
- ◀ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ◀ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- MICROWAVE VEHICLE SENSOR
- PEDESTRIAN PUSHBUTTON DETECTOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- UD UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY DUTY HANDHOLE
- CT COMMON TRENCH

## 1 EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

## 1 EACH CONTROLLER AND CABINET COMPLETE

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

AGENCY: CITY OF CRYSTAL LAKE

- 1 EACH EMERGENCY VEHICLE DETECTOR AMPLIFIER
- 2 EACH EMERGENCY VEHICLE LIGHT DETECTOR

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 6 EACH SIGNAL HEAD, 1-FACE
- 4 EACH SIGNAL HEAD, 2-FACE
- 4 EACH TRAFFIC SIGNAL POST
- 2 EACH MAST ARM ASSEMBLY & POLE
- 1 EACH SERVICE INSTALLATION

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING SYSTEM.

ILLINOIS DEPARTMENT OF TRANSPORTATION	
TEMPORARY TRAFFIC SIGNAL INSTALLATION	
REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT	
STAGE 1 CONSTRUCTION	
U.S. RTE 14 (NORTHWEST HWY) AT PINGREE ROAD	
NAME	DATE
REVISIONS	
SCALE: 1" = 20'	
DATE: AUGUST 27, 2004	
DRAWN BY: AC	
DESIGNED BY: DM	
CHECKED BY: JL	



FOR TEMPORARY TRAFFIC SIGNAL CABLE PLAN,  
CONTROLLER SEQUENCE, AND EMERGENCY  
VEHICLE PREEMPTION SEQUENCE, SEE SHEET 27

U. S. ROUTE 14 (NORTHWEST HWY)

NORTH LEG BARRICADED AND SIGNED  
"ROAD CLOSED TO THRU TRAFFIC"  
FOR DETAILS SEE CONSTRUCTION STAGING PLAN

NOTE: 0.5' OFFSET  
IN US RTE 14 CENTERLINE

# TEMPORARY TRAFFIC SIGNAL LEGEND

- ▲ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ▲ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 13.7m (45 FOOT) MIN.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊞ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- MICROWAVE VEHICLE SENSOR
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ▶ EMERGENCY VEHICLE LIGHT DETECTOR
- ▶ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- UD UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY DUTY HANDHOLE
- CT COMMON TRENCH

BIT. PARKING LOT

PINGREE ROAD

RESTAURANT PARKING LOT

THE TRAFFIC SIGNAL CONTROL EQUIPMENT  
FOR THIS PROJECT SHALL BE "ECONOLITE"  
TO MATCH THE EXISTING SYSTEM.

ILLINOIS DEPARTMENT OF TRANSPORTATION	
TEMPORARY TRAFFIC SIGNAL INSTALLATION STAGE 2 CONSTRUCTION	
U.S. RTE 14 (NORTHWEST HWY) AT PINGREE ROAD	
NAME	DATE
REVISIONS	
SCALE: 1" = 20'	
DATE: AUGUST 27, 2004	
DRAWN BY: AC	
DESIGNED BY: DM	
CHECKED BY: JL	



F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHTS
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-FP			
TEMPORARY TRAFFIC SIGNALS			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003			

FOR TEMPORARY TRAFFIC SIGNAL CABLE PLAN,  
CONTROLLER SEQUENCE, AND EMERGENCY  
VEHICLE PREEMPTION SEQUENCE, SEE SHEET 27

U. S. ROUTE 14 (NORTHWEST HWY)

NORTH LEG BARRICADED AND SIGNED  
"ROAD CLOSED TO THRU TRAFFIC"  
FOR DETAILS SEE CONSTRUCTION STAGING PLAN

NOTE: 0.5' OFFSET  
IN US RTE 14 CENTERLINE

SECONDARY LOCATIONS  
SEE NOTE ①

SECONDARY LOCATIONS  
SEE NOTE ①

TEMPORARY TRAFFIC SIGNAL LEGEND

- ▲ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ▲ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 13.7m (45 FOOT) MIN.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- MICROWAVE VEHICLE SENSOR
- PEDESTRIAN PUSHBUTTON DETECTOR
- ▼ EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- UD UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY DUTY HANDHOLE
- CT COMMON TRENCH

CONSTRUCTION NOTES

- ① IF THE COMPLETED ROADWAYS ARE OPENED TO TRAFFIC PRIOR TO TURN-ON OF THE PERMANENT TRAFFIC SIGNALS THEN THE TEMPORARY SIGNAL HEADS ON PINGREE RD SHALL BE POSITIONED AS SHOWN FOR SECONDARY TEMPORARY SIGNAL HEAD LOCATIONS.

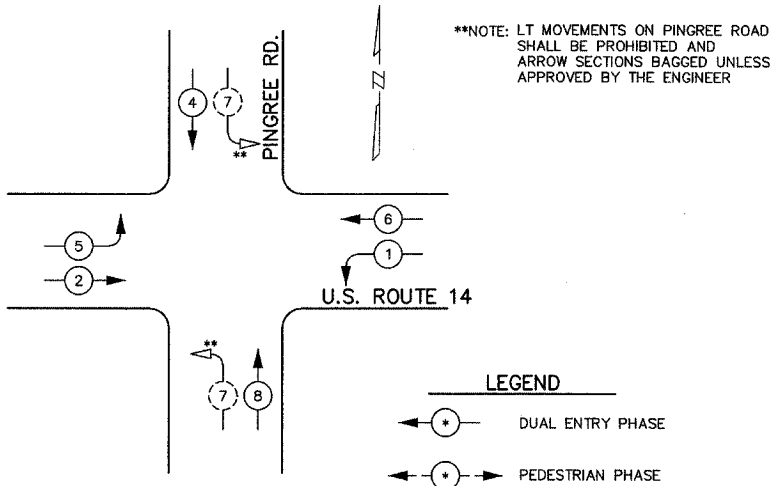
THE TRAFFIC SIGNAL CONTROL EQUIPMENT  
FOR THIS PROJECT SHALL BE "ECONOLITE"  
TO MATCH THE EXISTING SYSTEM.

ILLINOIS DEPARTMENT OF TRANSPORTATION	
TEMPORARY TRAFFIC SIGNAL INSTALLATION	
STAGE 3 CONSTRUCTION	
U.S. RTE 14 (NORTHWEST HWY) AT PINGREE ROAD	
NAME	DATE
REVISIONS	
SCALE: 1" = 20'	
DATE: AUGUST 27, 2004	
DRAWN BY: DESIGNED BY: CHECKED BY:	



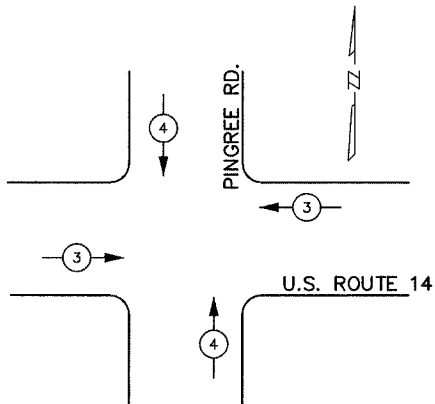
F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHEETS
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-FP			
TEMPORARY TRAFFIC SIGNALS			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			

### TEMPORARY TRAFFIC SIGNAL CONTROLLER SEQUENCE



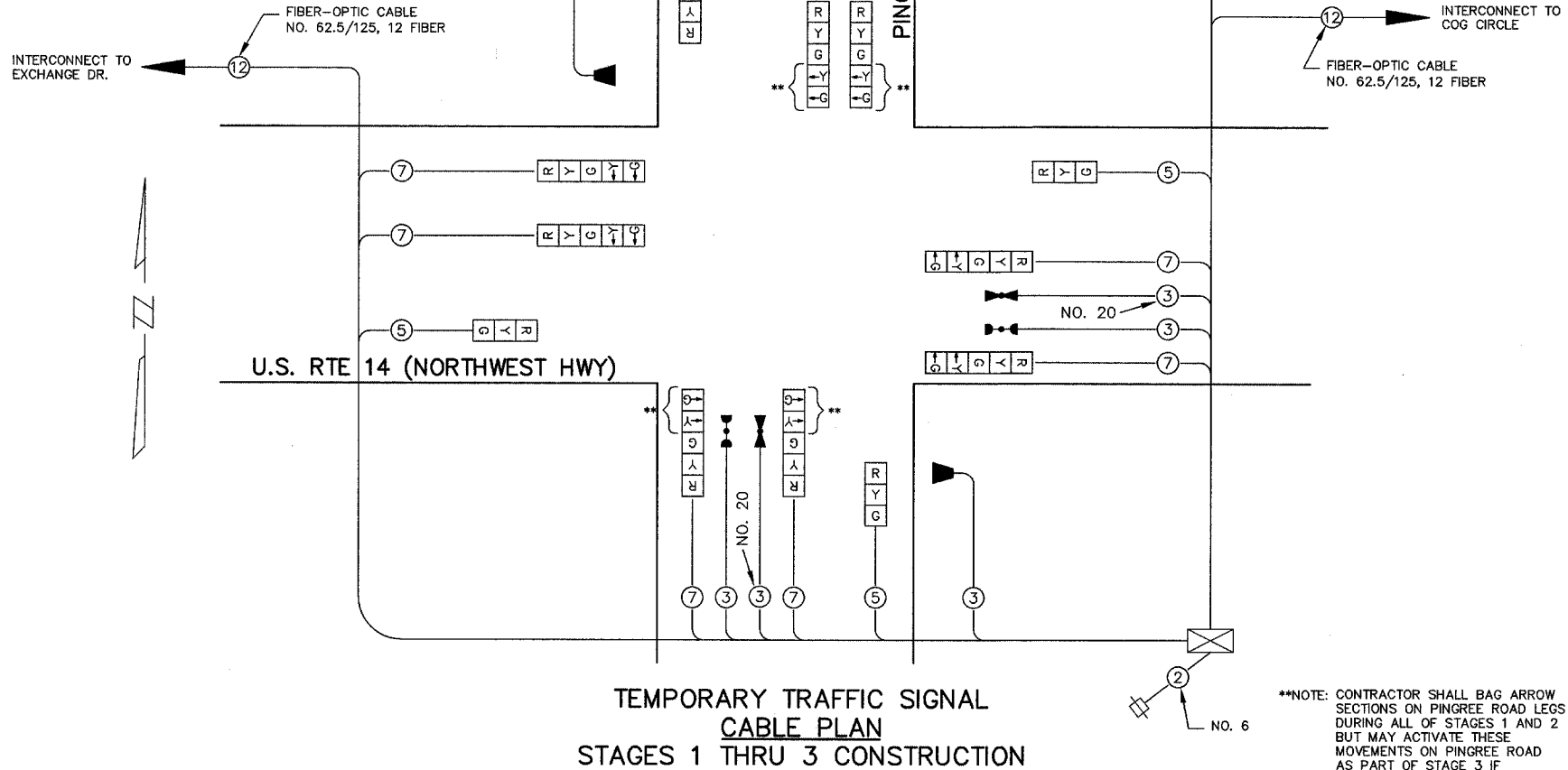
### PHASE DESIGNATION DIAGRAM STAGES 1 THRU 3 CONSTRUCTION

### TEMPORARY TRAFFIC SIGNAL EMERGENCY VEHICLE PREEMPTION SEQUENCE STAGES 1 AND 3 CONSTRUCTION



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	→	↑

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	x WATTAGE		% OPERATION	
SIGNAL (RED)	12	135	17	0.50	810.0
	(YELLOW)	12	135	0.25	405.0
	(GREEN)	12	135	0.25	405.0
ARROW	16	135	12	0.10	216.0
CONTROLLER	1	100	100	1.00	100.0
ENERGY COSTS TO: (EXIST. SERVICE DROP) TOTAL =					1936.0
CITY OF CRYSTAL LAKE 100 W. MUNICIPAL COMPLEX CRYSTAL LAKE, IL					
ENERGY SUPPLY		CONTACT: RICK CORRENTI PHONE: (815) 480-2283 COMPANY: COM-ED, ROCKFORD			



### TEMPORARY CABLE PLAN LEGEND

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300mm)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PUSHBUTTON DETECTOR
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- MICROWAVE VEHICLE SENSOR
- FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 12 FIBER

### NOTES FOR TEMPORARY TRAFFIC SIGNALS

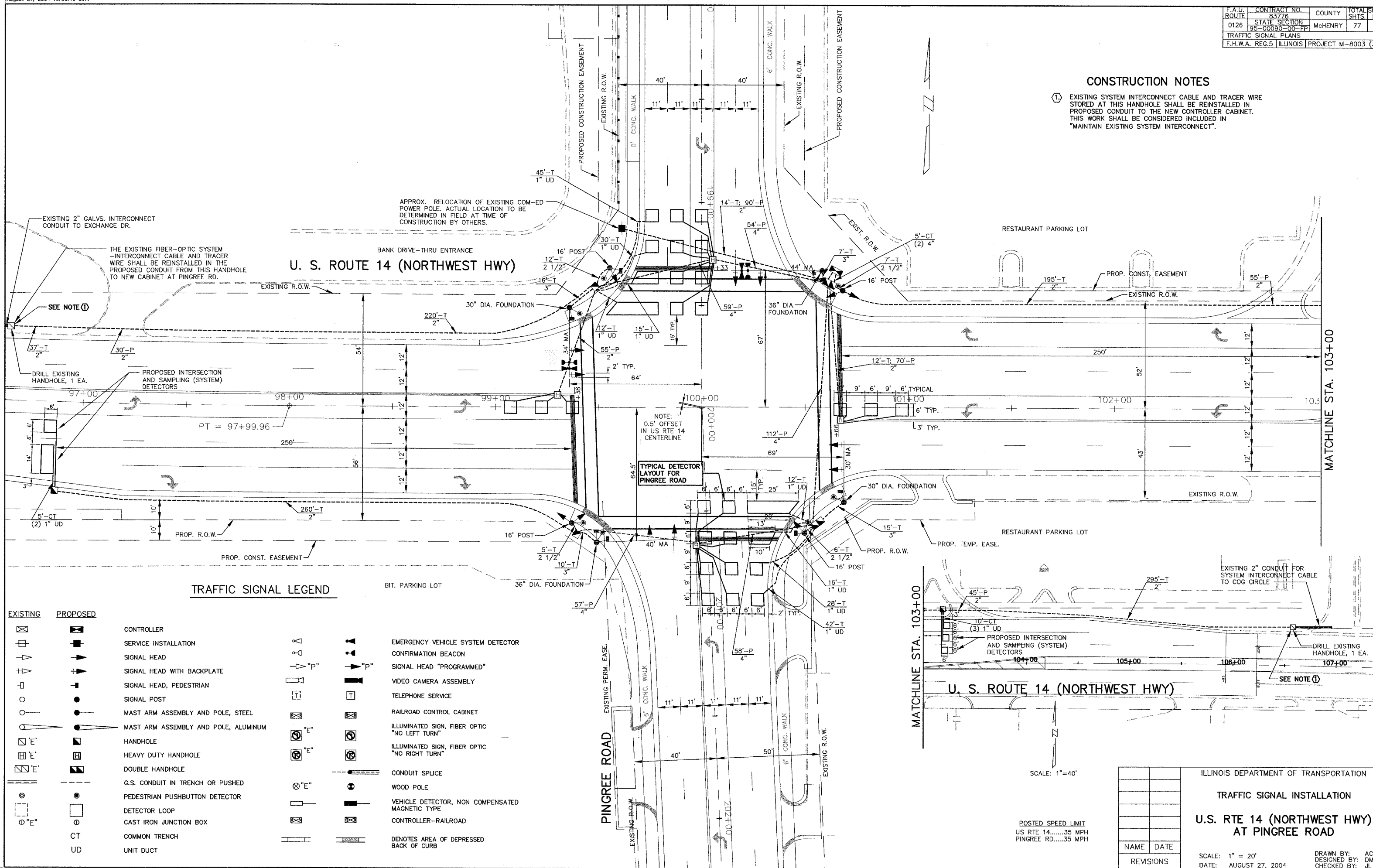
- ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
- ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1. INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE PROJECT.
- ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12" (300mm). HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
- ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
- ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
- THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING SYSTEM.

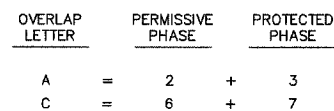
ILLINOIS DEPARTMENT OF TRANSPORTATION	
TEMPORARY TRAFFIC SIGNAL CABLE PLAN	
PHASE DESIGNATION DIAGRAM, & TEMPORARY SIGNAL NOTES	
STAGE 1 THRU 3 CONSTRUCTION	
U.S. RTE 14 (NORTHWEST HWY)	
AT PINGREE ROAD	
NAME	DATE
REVISIONS	
SCALE: NONE	
DATE: AUGUST 27, 2004	
DRAWN BY: AC	
CHECKED BY: DM	
JL	



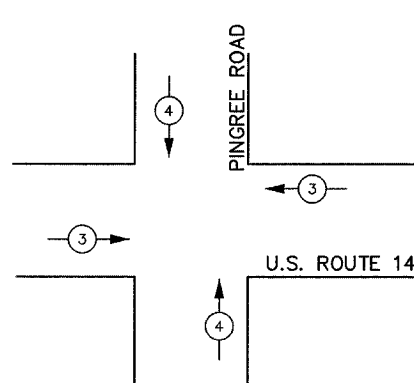
1. EXISTING SYSTEM INTERCONNECT CABLE AND TRACER WIRE STORED AT THIS HANDHOLE SHALL BE REINSTALLED IN PROPOSED CONDUIT TO THE NEW CONTROLLER CABINET. THIS WORK SHALL BE CONSIDERED INCLUDED IN "MAINTAIN EXISTING SYSTEM INTERCONNECT".







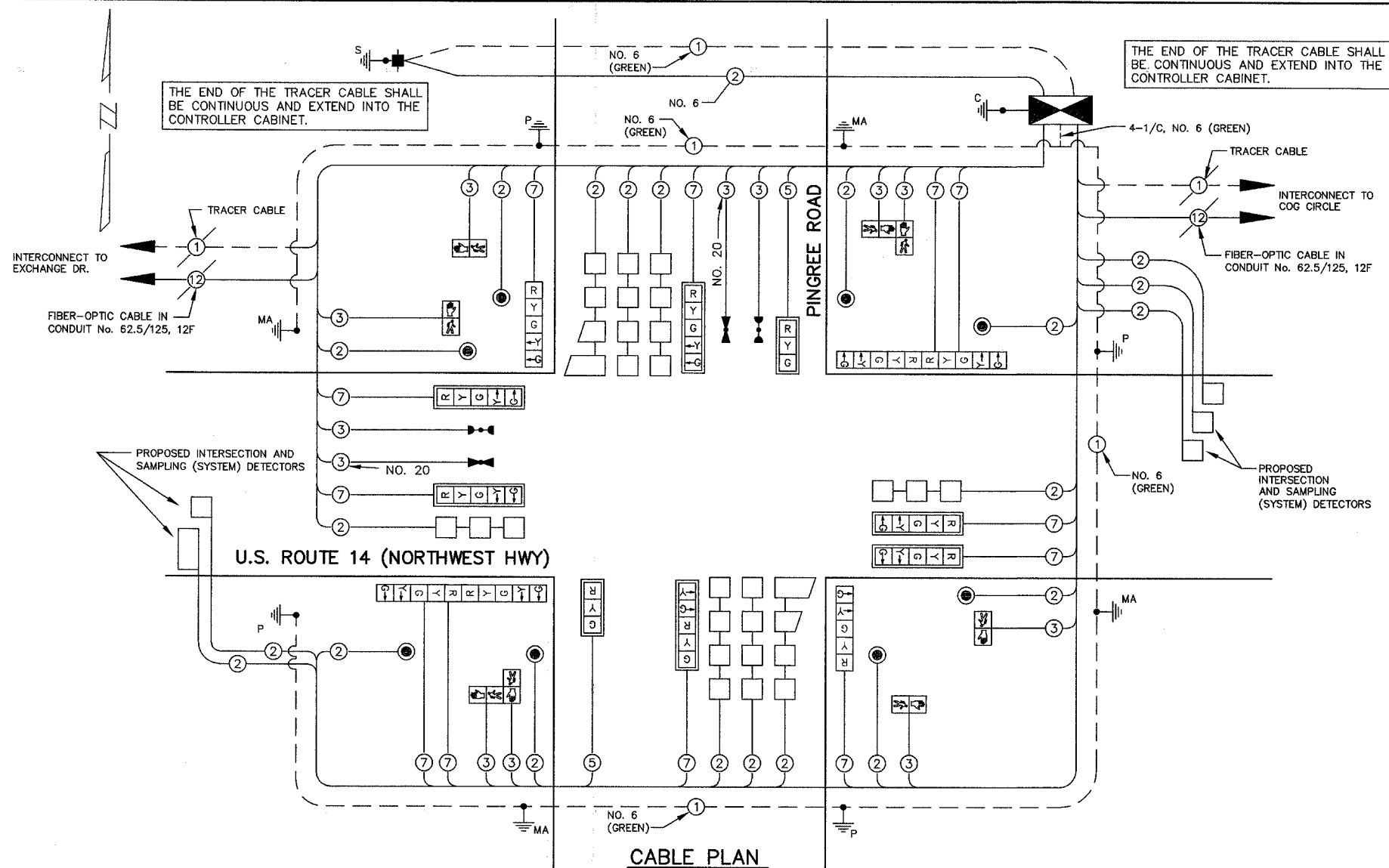
## EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↓ ↑

I.D.O.T					TOTAL WATTAGE
TRAFFIC SIGNAL INSTALLATION					
ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	x WATTAGE		% OPERATION	
		INCAND.	LED		
SIGNAL (RED)	14	<del>495</del>	17	0.50	119.0
(YELLOW)	14	<del>495</del>	25	0.25	87.5
(GREEN)	14	<del>495</del>	15	0.25	52.5
ARROW	10	<del>495</del>	12	0.10	12.0
PED. SIGNAL	8	<del>00</del>	25	1.00	200.0
CONTROLLER	1	<del>490</del>	100	1.00	100.0
ENERGY COSTS TO: (EXIST. SERVICE DROP)					TOTAL = 519.0
CITY OF CRYSTAL LAKE 100 W. MUNICIPAL COMPLEX					
ENERGY SUPPLY	CONTACT:	RICK CORRENTI			
	PHONE:	(815) 490-2283			
	COMPANY:	COM-ED, ROCKFORD			

FOUNDATION	DEPTH FT. (m)	CABLE SLACK	FT. (m)	VERTICAL CABLE	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		(6m+L-0.6m)
< 30" MA 30" (750mm) Dia.	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
< 40" MA 30" (750mm) Dia.	13.5 (4.1)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
< 40 MA 36" (900mm) Dia.	11 (3.4)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
< 50" MA 36" (900mm) Dia.	13 (4.0)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
> 50" MA 36" (900mm) Dia.	15 (4.6)			POST MOUNTED	6 (1.8)



## SCHEDULE OF QUANTITIES



















































ITEM	UNIT	QUANTITY
SIGN PANEL - TYPE 1	SQ.FT.	15
SIGN PANEL - TYPE 2	SQ.FT.	30
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	52
CONDUIT IN TRENCH, 2-1/2" DIA., GALVANIZED STEEL	FOOT	58
CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	7
CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	3
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	270
CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	34
HANDHOLE	EACH	
HEAVY-DUTY HANDHOLE	EACH	
DOUBLE HANDHOLE	EACH	
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	68
FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	
TRANSCEIVER - FIBER OPTIC	EACH	
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	142
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	182
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	45
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	246
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	331
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	11
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	67
ELECTRIC CABLE IN CONDUIT NO. 20 3C, TWISTED, SHIELDED	FOOT	336
TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.	EACH	
STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	
STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	

ITEM	UNIT	QUANTITY
STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.	EACH	
STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	
CONCRETE FOUNDATION, TYPE A	FOOT	
CONCRETE FOUNDATION, TYPE D	FOOT	
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	
TRAFFIC SIGNAL BACKPLATE	EACH	
INDUCTIVE LOOP DETECTOR	EACH	
DETECTOR LOOP, TYPE I	FOOT	13
LIGHT DETECTOR		
LIGHT DETECTOR AMPLIFIER	EACH	
PEDESTRIAN PUSHBUTTON	EACH	
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	
MAINTAIN EXISTING SYSTEM INTERCONNECT	EACH	
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	
REMOVE EXISTING HANDHOLE	EACH	
REMOVE EXISTING CONCRETE FOUNDATION	EACH	
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	
SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	
PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED	EACH	
PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED	EACH	
SERVICE INSTALLATION, POLE MOUNT		
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM	L SUM	

## CABLE PLAN LEGEND

### EXISTING

### PROPOSED

		8" (200mm) TRAFFIC SIGNAL SECTION
		12" (300mm) TRAFFIC SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE CONNECTION
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		VEHICLE DETECTOR, INDUCTION LOOP
		DENOTES NUMBER OF CONDUCTORS ALL CABLE NO. 14 EXCEPT AS INDICATED ALL LOOP DETECTOR CABLE TO BE SHIELDED
		VIDEO CAMERA ASSEMBLY
		SIGNAL FACE WITH BACK PLATE, "P" INDICATES PROGRAMMED HEAD.
		
		RAILROAD CONTROL CABINET
		
		
		
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
		GROUND ROD AT POST OR MAST ARM POLE
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN)
		FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125, 24 FIBER (MM12F & SM12F)

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING SYSTEM.

			ILLINOIS DEPARTMENT OF TRANSPORTATION
			CABLE PLAN
			PHASE DESIGNATION DIAGRAM
			SCHEDULE OF QUANTITIES
NAME	DATE		
REVISIONS			
		SCALE: 1" = 20'	DRAWN BY: AC
		DATE: AUGUST 27, 2004	CHECKED BY: DMH

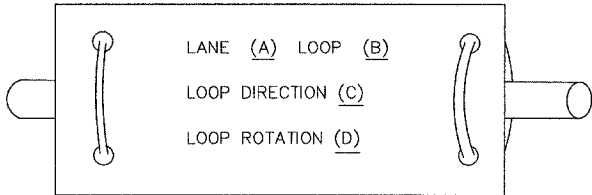


F.A.U. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHEET SHTS.	NO.
0126	STATE SECTION 95-00090-00-FP	McHENRY	77	30
TRAFFIC SIGNAL DESIGN DETAILS				
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (328)				

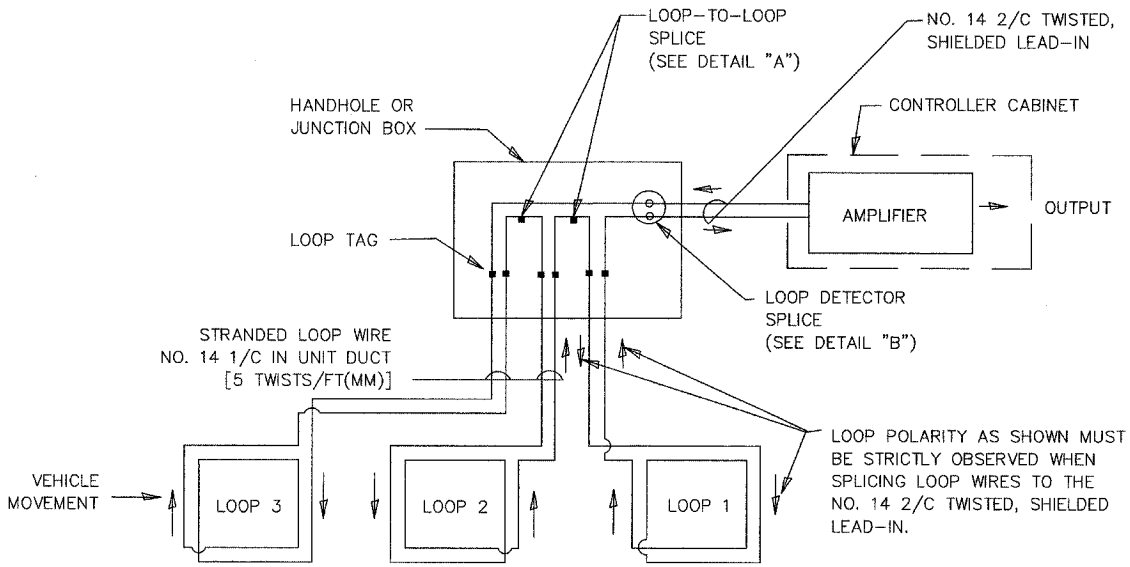
LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

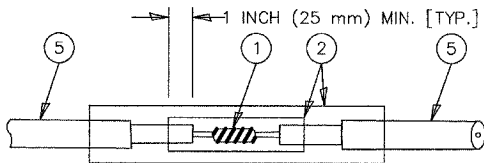


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

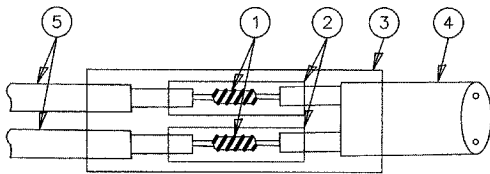


DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

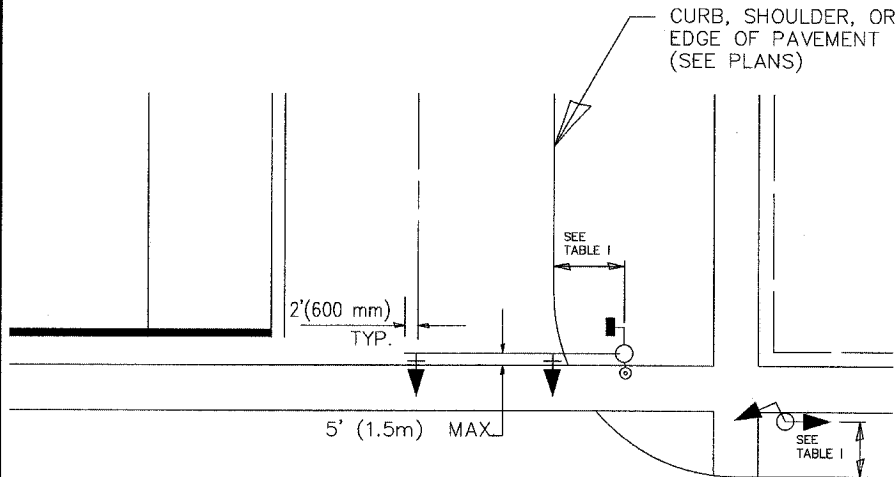
- ① WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- ② WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- ③ WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- ④ NO. 14 2/C TWISTED, SHIELDED CABLE.
- ⑤ LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

		ILLINOIS DEPARTMENT OF TRANSPORTATION	
		DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS	
NAME	DATE	VERT. SCALE: NONE	DRAWN BY: RWP
REVISIONS		HORZ. DATE: 1-01-02	DESIGNED BY: DAD
			CHECKED BY: DAZ
			SHEET 1 OF 4

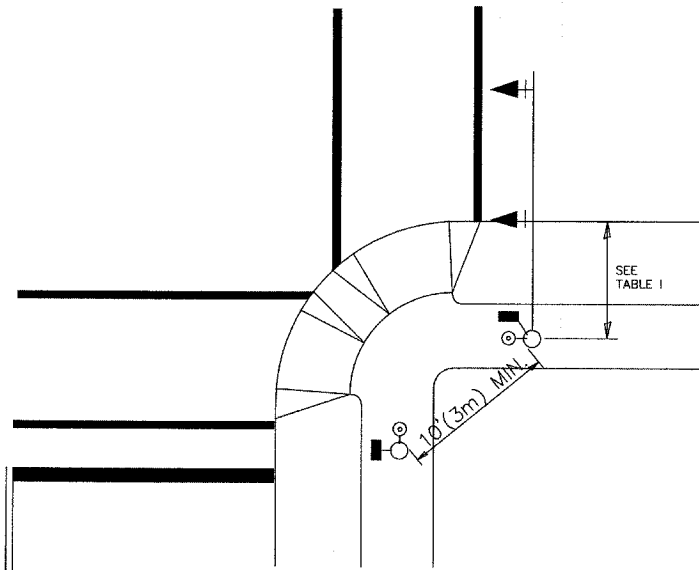


TRAFFIC SIGNAL MAST ARM AND POST

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



PEDESTRIAN SIGNAL PUSHBUTTON



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

NOTES:

- AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.  
  
AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.  
  
PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:  
  
A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.  
B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.  
C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.  
D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).  
E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK
- PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

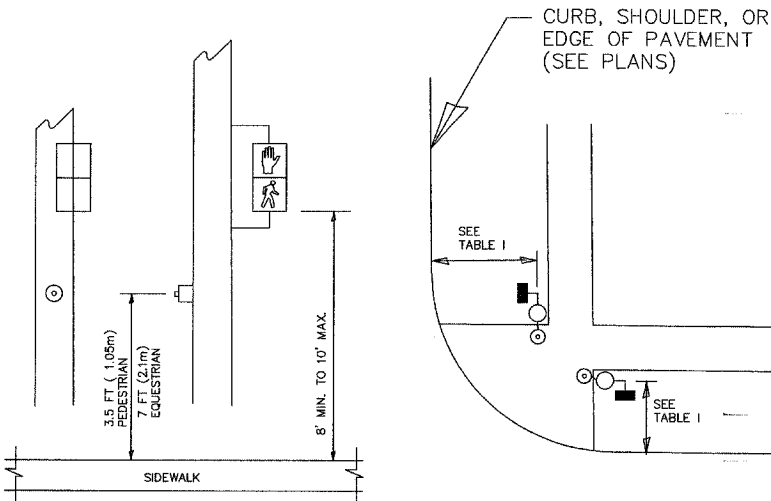
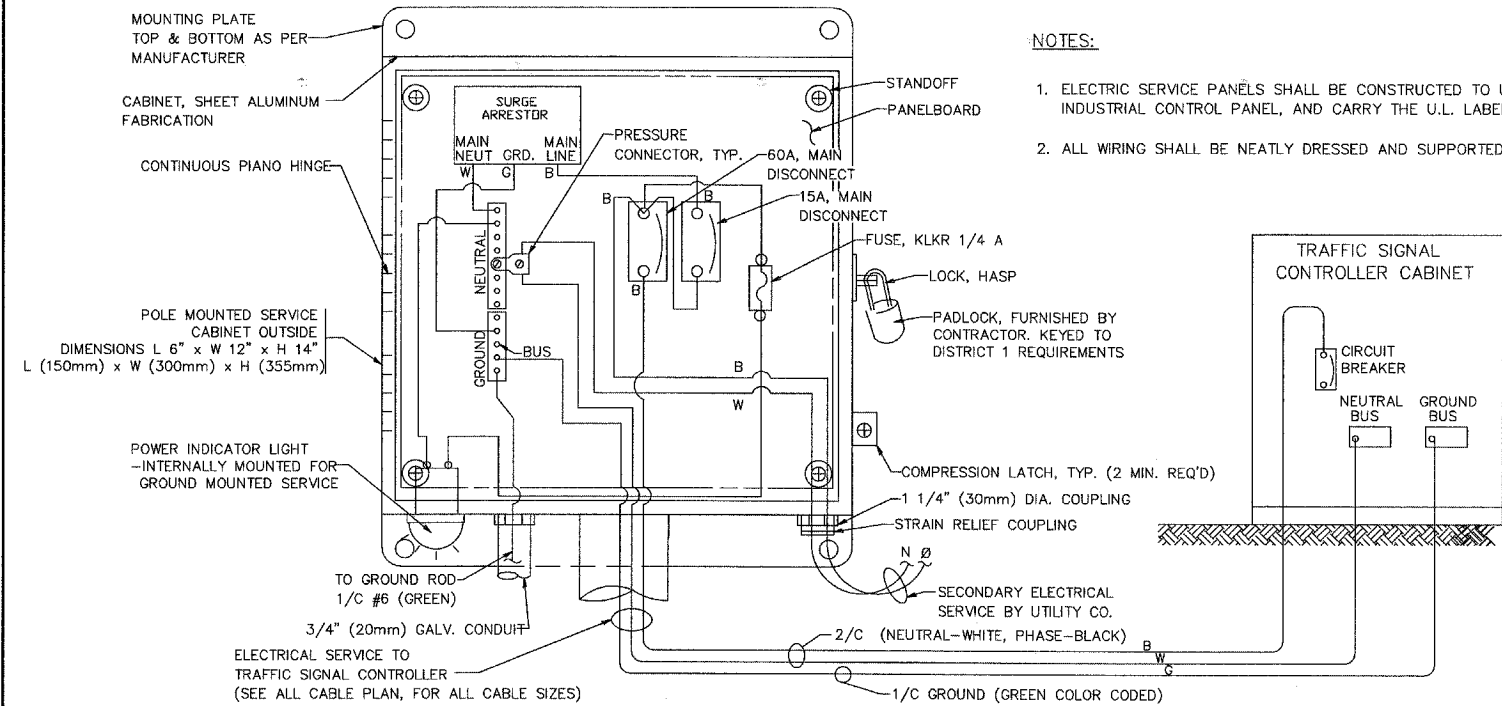


TABLE I

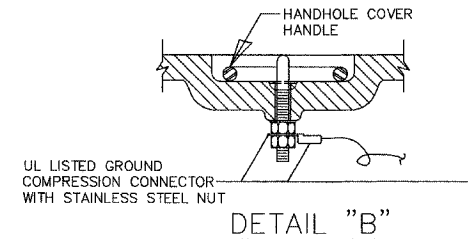
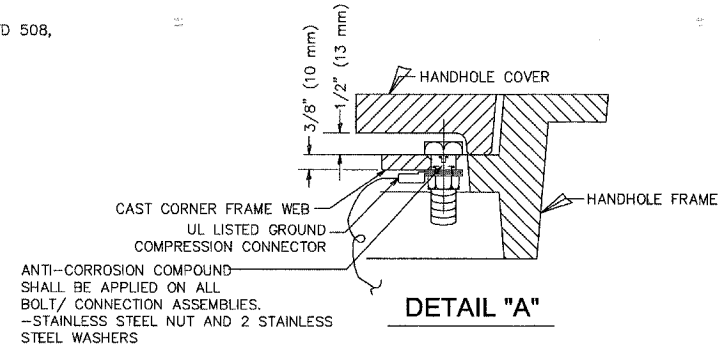
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN PUSHBUTTON	SEE NOTE 1	SEE NOTE 1

		ILLINOIS DEPARTMENT OF TRANSPORTATION	
		DISTRICT ONE	
		STANDARD TRAFFIC SIGNAL	
		DESIGN DETAILS	
NAME	DATE	VERT. SCALE: NONE	DRAWN BY: RWP
REVISIONS		HORZ. SCALE: 1-01-02	DESIGNED BY: DAD
			CHECKED BY: DAZ
			SHEET 2 OF 4

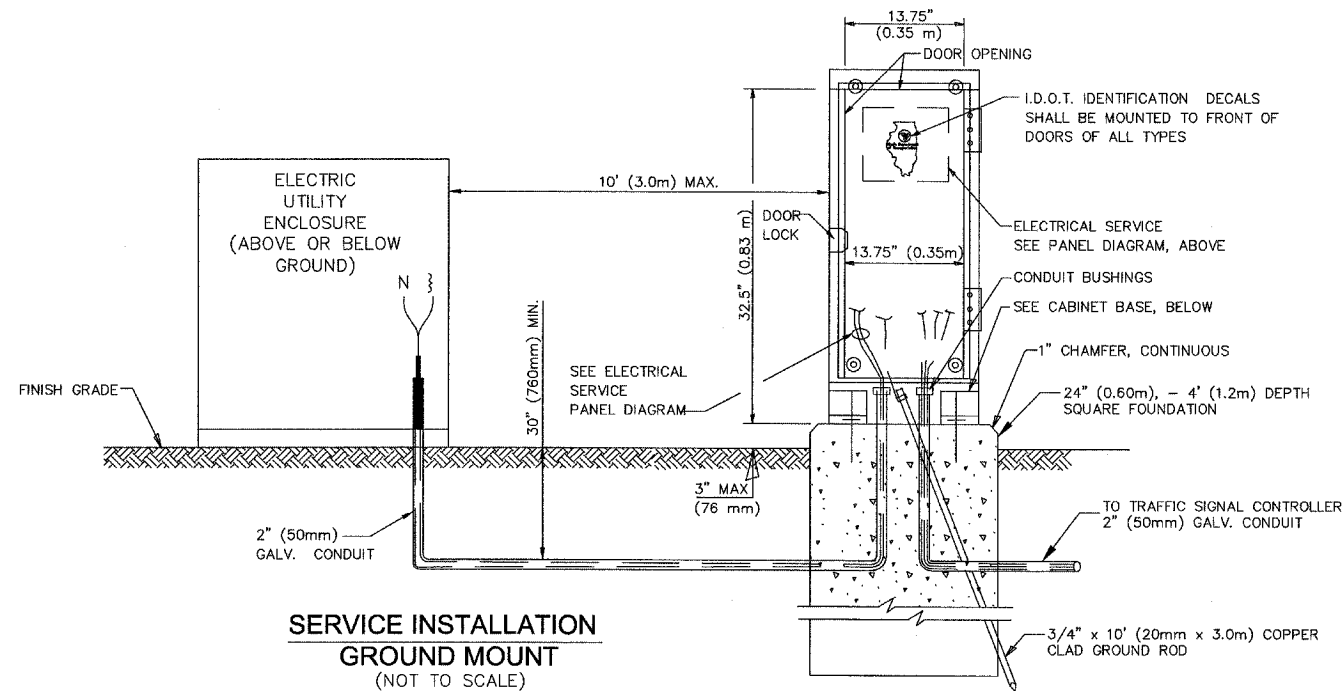




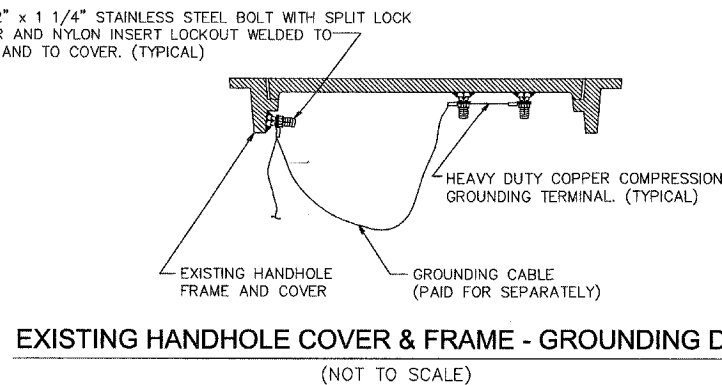
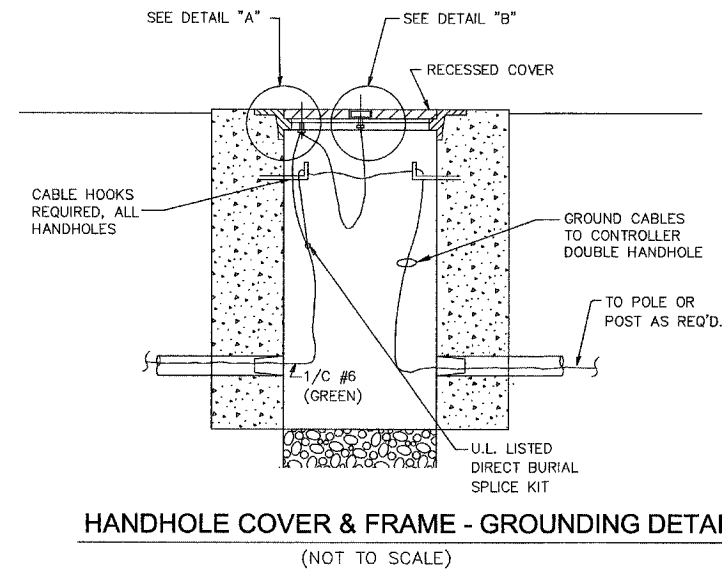
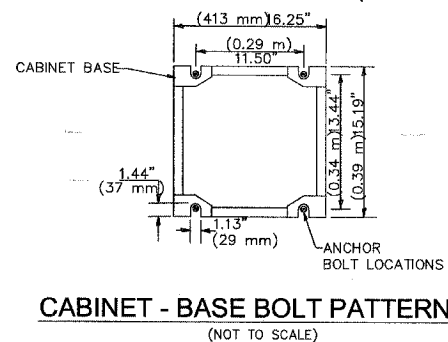
- NOTES:
- ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
  - ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.



**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN) (NOT TO SCALE)**

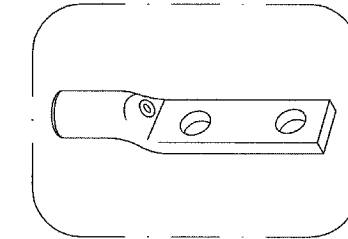


**SERVICE INSTALLATION GROUND MOUNT (NOT TO SCALE)**

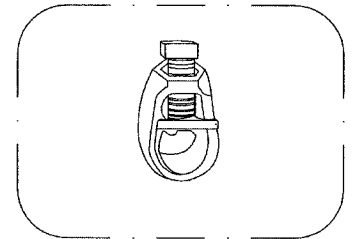


**NOTES:**  
**GROUNDING SYSTEM**

- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
- THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
- ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
- THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



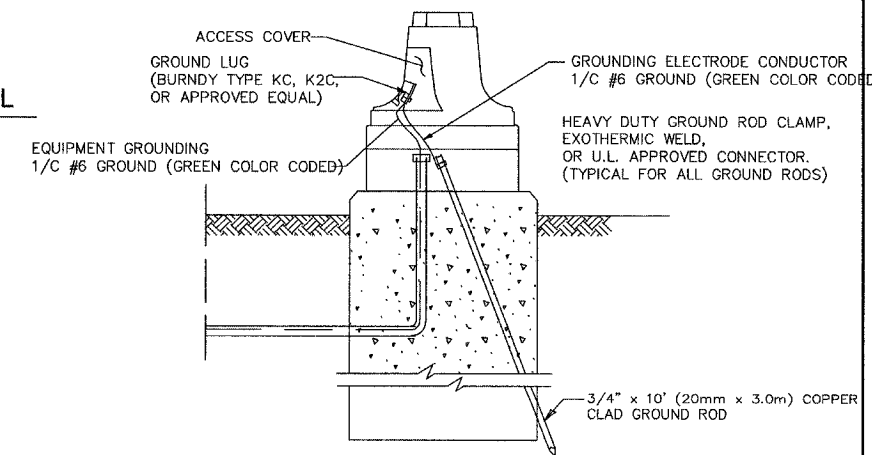
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EUAL)

**NOTES:**

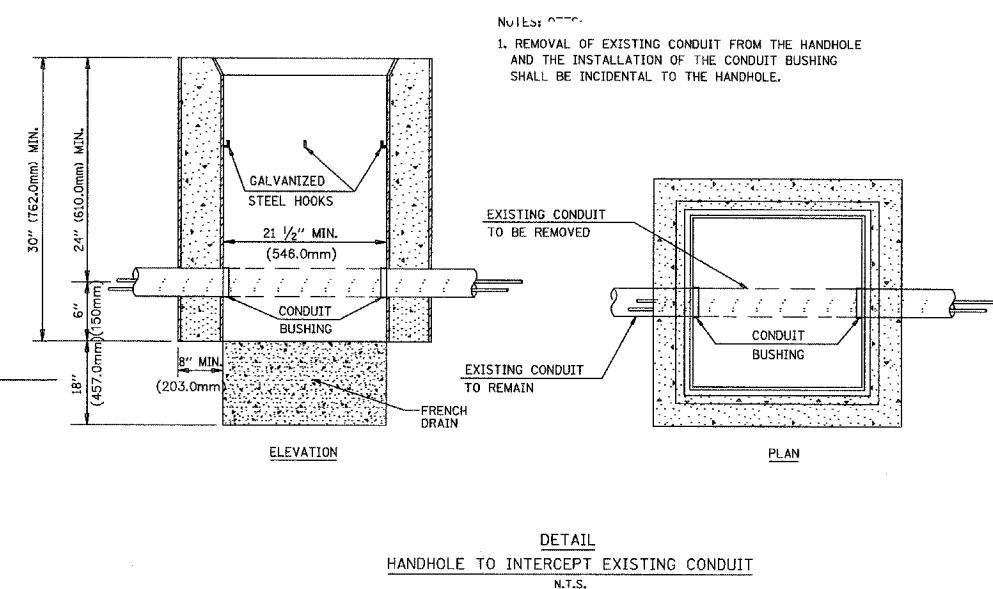
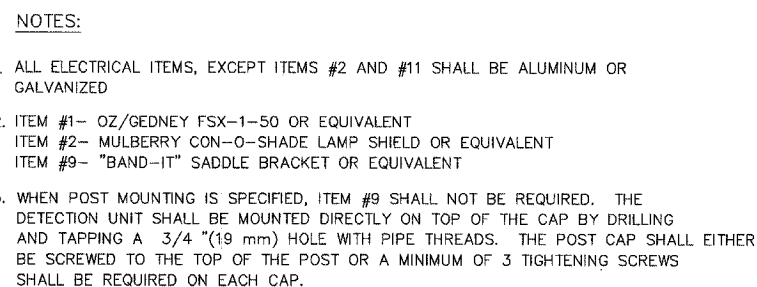
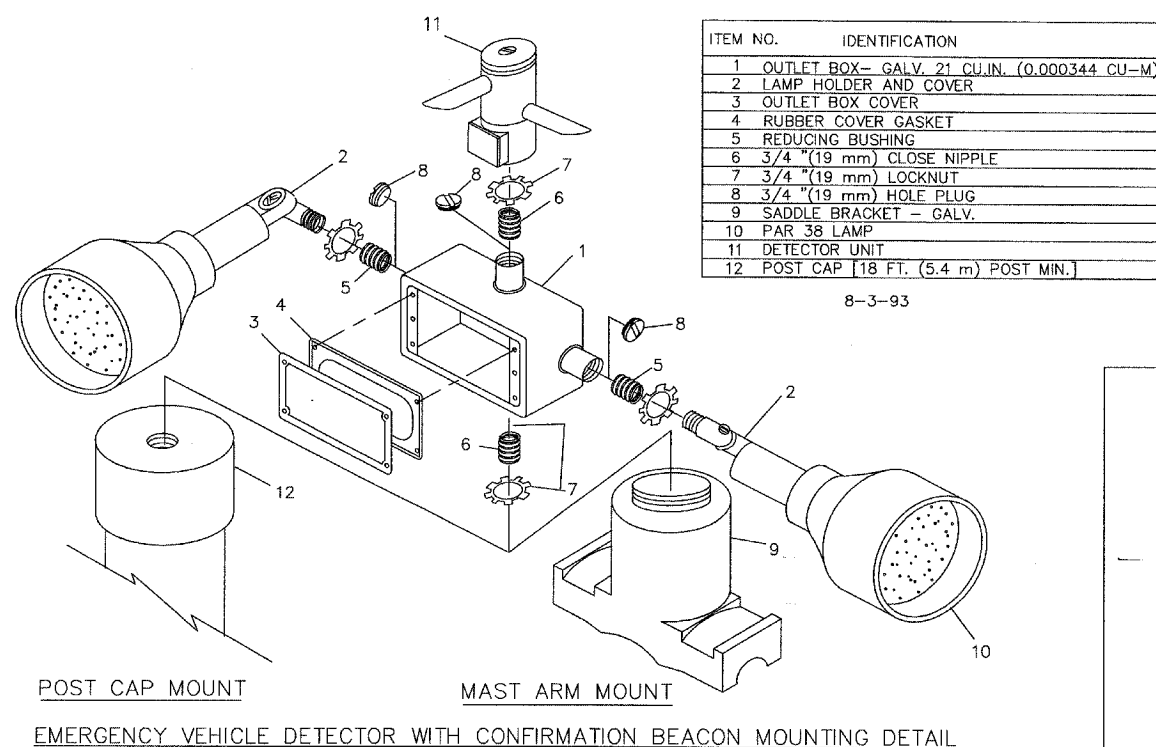
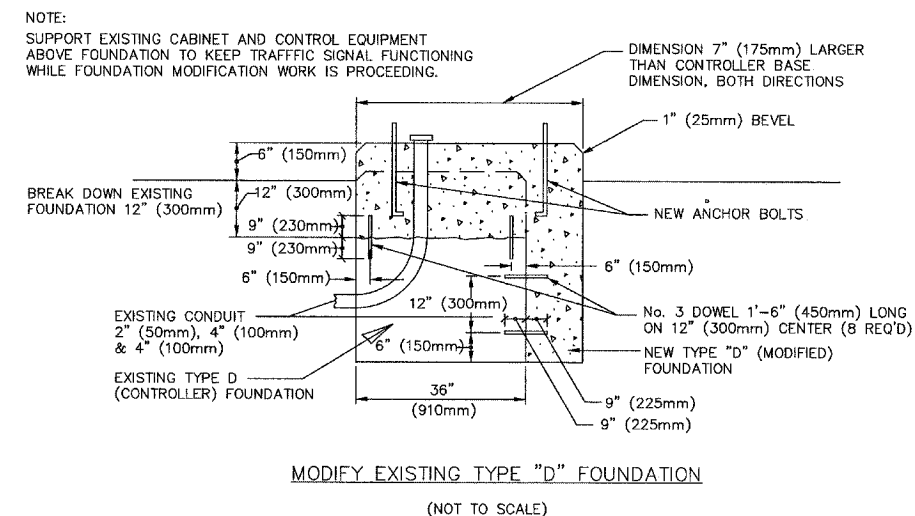
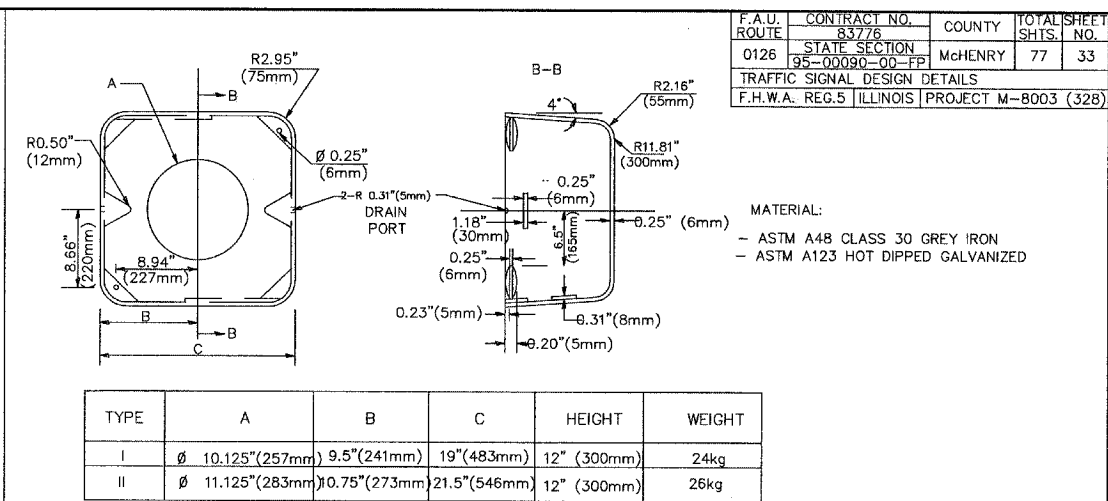
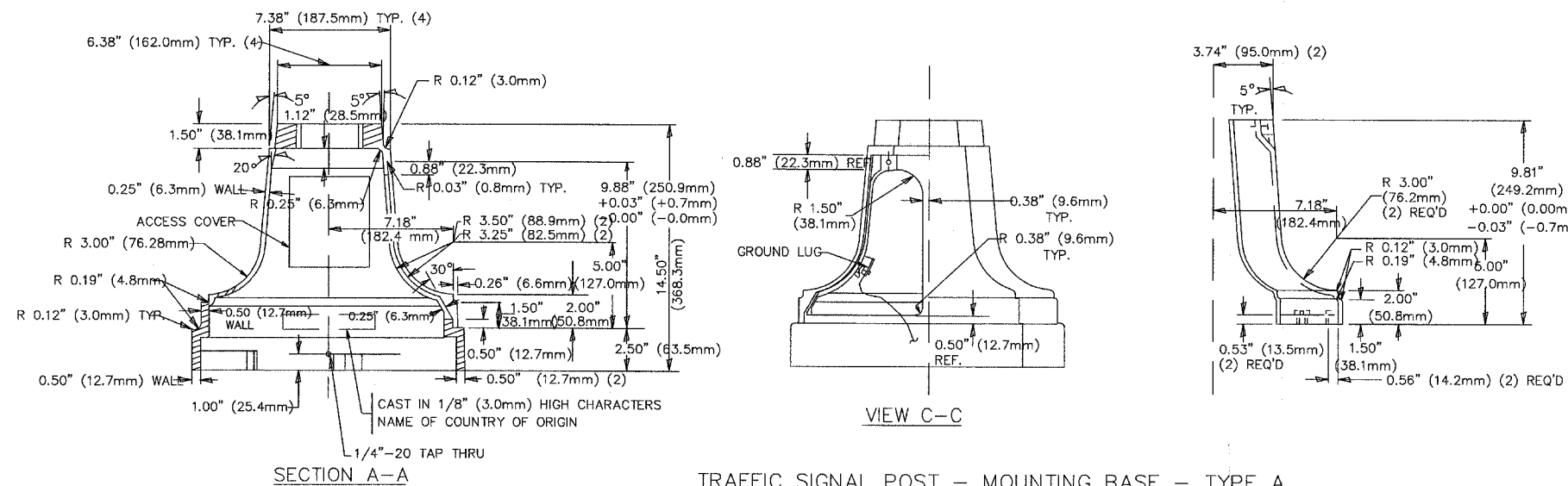
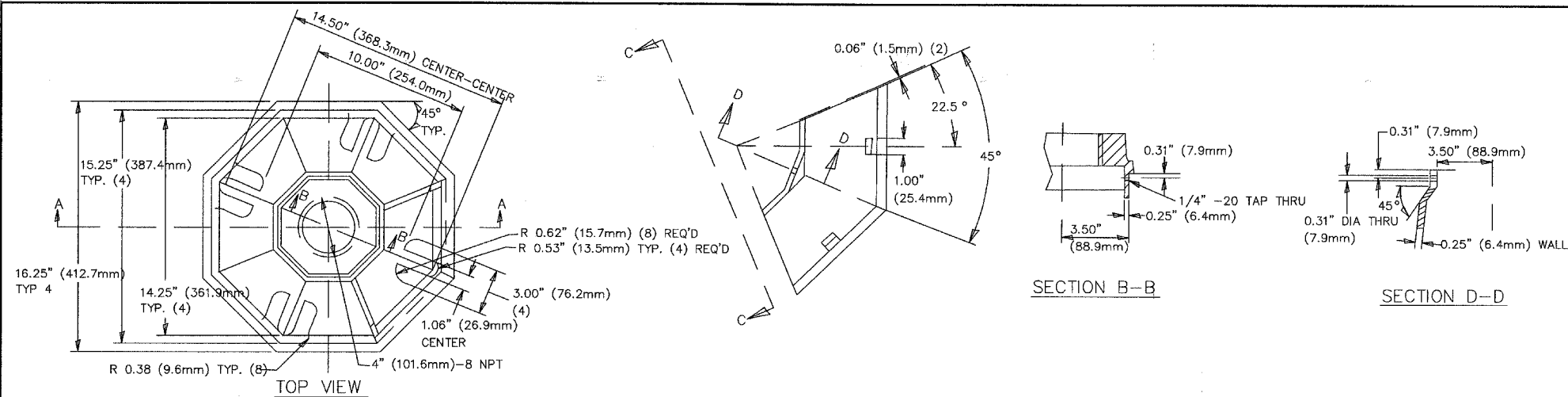
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



**MAST ARM POLE / POST-GROUNDING DETAIL (NOT TO SCALE)**

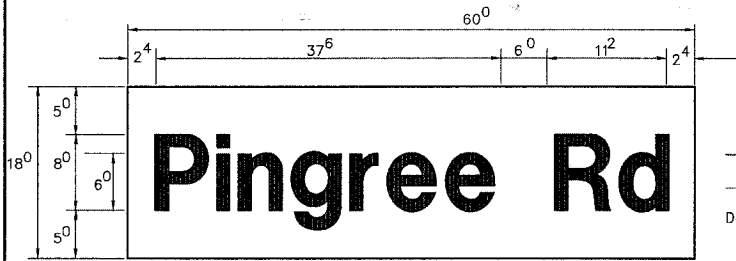
ILLINOIS DEPARTMENT OF TRANSPORTATION		DISTRICT ONE	
		STANDARD TRAFFIC SIGNAL	
		DESIGN DETAILS	
NAME	DATE	VERT. SCALE: NONE	DRAWN BY: RWP
REVISIONS		HORZ. DATE: 1-01-02	DESIGNED BY: DAD
			CHECKED BY: DAZ
			SHEET 3 OF 4





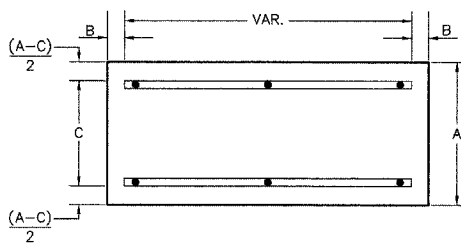


PANEL SIGN DESIGN TYPE 1



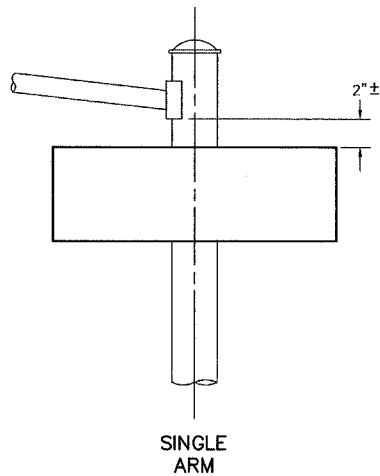
7.5 Sq. Ft. each  
2 Required  
Design Series D

SUPPORTING CHANNELS

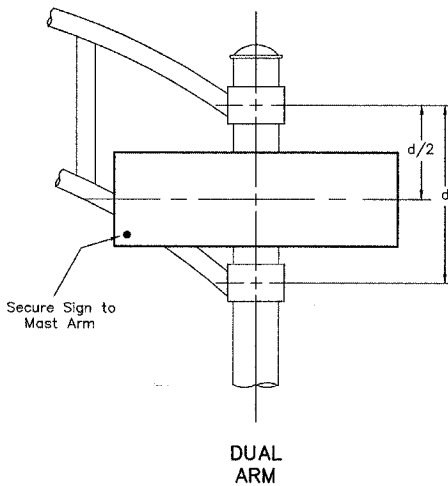


A	B	C
18"	2"	12"
30"	2"	22"

SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM  
shall be used. See Note #5



SINGLE ARM



DUAL ARM

GENERAL NOTES

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001 THROUGH 834011, AS APPLICABLE, PLUS A 2'-6" BY 6'-0" SIGN PANEL MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
- THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0"
- ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
  - A.K.T. CORPORATION, SCHAUMBURG, IL
  - AMERICAN FABRICATION CO., CHICAGO HEIGHTS, IL
  - TUCKER COMPANY, INC., WAUWATOSA, WI
  - WESTERN TRAFFIC CONTROL, INC., CICERO, IL

PARTS LISTING:  
SIGN CHANNEL PART #HPN053 (MED. CHANNEL)  
SIGN SCREWS 1/4" - 14 X 1" H.W.H. #3  
SELF TAPPING WITH NEOPREAN WASHER  
BRACKETS PART #HPN034 (UNIVERSAL)  
CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.

EXAMPLE, 2<sup>③</sup> DENOTES 3/8"

UPPER CASE TO LOWER CASE SPACING CHART  
8 - 6 INCH SERIES "C & D"

FIRST LETTER	SECOND LETTER															
	a c d e		b h i k l		f w		j		s t		v y		x		z	
	g	o	q	m	n	p	r	u								
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
A W X	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
B	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>
C E G	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
D O Q R	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
F	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>4</sup>	1 <sup>5</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>
H I M N	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>2</sup>	2 <sup>4</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>
J U	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>0</sup>	2 <sup>1</sup>
K L	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
P	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
S	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
T	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>6</sup>	1 <sup>7</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
V	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
Y	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>4</sup>	1 <sup>5</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>5</sup>	0 <sup>7</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>
Z	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>2</sup>	2 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>0</sup>	2 <sup>1</sup>

LOWER CASE TO LOWER CASE SPACING CHART  
6" SERIES "C & D"

FIRST LETTER	SECOND LETTER															
	a c d e		b h i k l		f w		j		s t		v y		x		z	
	g	o	q	m	n	p	r	u								
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
a d h g i j	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>2</sup>	2 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>
l m n q u																
b f k o p s	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
c e	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
r	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>3</sup>	0 <sup>3</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>
t z	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
v y	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>
w	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
x	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>

NUMBER TO NUMBER SPACING CHART  
8 INCH SERIES "C & D"

FIRST NUMBER	SECOND NUMBER															
	0		1		2		3		4		5		6		7	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>
1	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>
2 3 4	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>
5	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>
6	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>
7	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>
8	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>

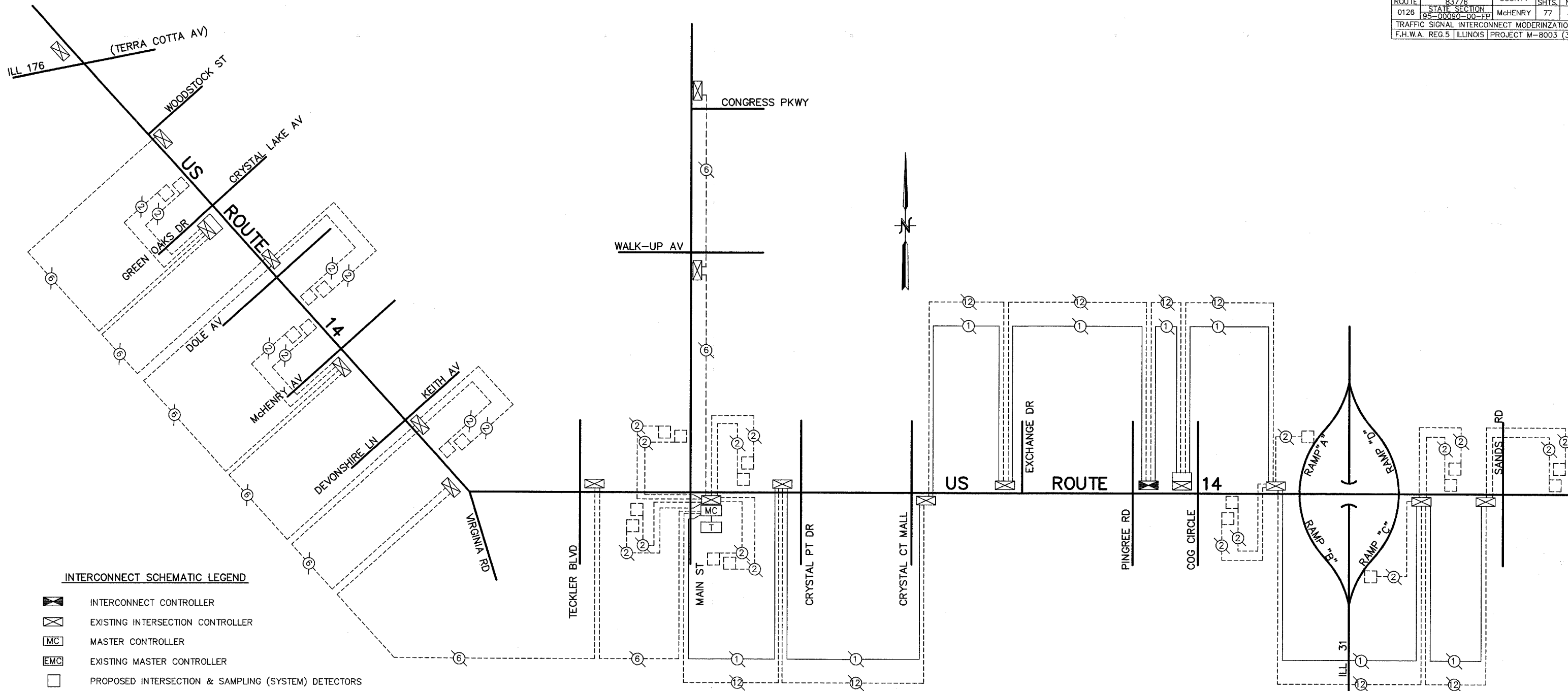
UPPER AND LOWER CASE  
LETTER WIDTHS

L E T T E R S	6 INCH UPPER CASE LETTERS		8 INCH UPPER CASE LETTERS		L E T T E R S	6 INCH LOWER CASE LETTERS	
	SERIES		SERIES			SERIES	
	C	D	C	D		C	D
A	3 <sup>6</sup>	5 <sup>0</sup>	5 <sup>0</sup>	6 <sup>5</sup>	a	3 <sup>5</sup>	4 <sup>2</sup>
B	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	b	3 <sup>5</sup>	4 <sup>2</sup>
C	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	c	3 <sup>5</sup>	4 <sup>1</sup>
D	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	d	3 <sup>5</sup>	4 <sup>2</sup>
E	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	e	3 <sup>5</sup>	4 <sup>2</sup>
F	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	f	2 <sup>3</sup>	2 <sup>6</sup>
G	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	g	3 <sup>5</sup>	4 <sup>2</sup>
H	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	h	3 <sup>5</sup>	4 <sup>2</sup>
I	0 <sup>7</sup>	0 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	i	1 <sup>1</sup>	1 <sup>1</sup>
J	3 <sup>0</sup>	3 <sup>6</sup>	4 <sup>0</sup>	5 <sup>0</sup>	j	2 <sup>0</sup>	2 <sup>2</sup>
K	3 <sup>2</sup>	4 <sup>1</sup>	4 <sup>3</sup>	5 <sup>4</sup>	k	3 <sup>5</sup>	4 <sup>2</sup>
L	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	l	1 <sup>1</sup>	1 <sup>1</sup>
M	3 <sup>7</sup>	4 <sup>5</sup>	5 <sup>1</sup>	6 <sup>1</sup>	m	6 <sup>0</sup>	7 <sup>0</sup>
N	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	n	3 <sup>5</sup>	4 <sup>2</sup>
O	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>	o	3 <sup>6</sup>	4 <sup>3</sup>
P	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	p	3 <sup>5</sup>	4 <sup>2</sup>
Q	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>	q	3 <sup>5</sup>	4 <sup>2</sup>
R	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	r	2 <sup>6</sup>	3 <sup>2</sup>
S	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	s	3 <sup>6</sup>	4 <sup>2</sup>
T	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	t	2 <sup>7</sup>	3 <sup>2</sup>
U	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	u	3 <sup>5</sup>	4 <sup>2</sup>
V	3 <sup>5</sup>	4 <sup>4</sup>	4 <sup>7</sup>	6 <sup>0</sup>	v	4 <sup>2</sup>	4 <sup>7</sup>
W	4 <sup>4</sup>	5 <sup>2</sup>	6 <sup>0</sup>	7 <sup>0</sup>	w	5 <sup>5</sup>	6 <sup>4</sup>
X	3 <sup>4</sup>	4 <sup>0</sup>	4 <sup>5</sup>	5 <sup>3</sup>	x	4 <sup>4</sup>	5 <sup>1</sup>
Y	3 <sup>6</sup>	5 <sup>0</sup>	5 <sup>0</sup>	6 <sup>6</sup>	y	4 <sup>6</sup>	5 <sup>3</sup>
Z	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	z	3 <sup>6</sup>	4 <sup>3</sup>

NUMBER	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
1	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>
2	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
3	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
4	3 <sup>5</sup>	4 <sup>3</sup>	4 <sup>7</sup>	5 <sup>7</sup>
5	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
6	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
7	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
8	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
9	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
0	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>



F.A.D.	CONTRACT NO.	COUNTY	TOTAL SH.
ROUTE	83776		
0126	STATE SECTION	McHENRY	77
	95-00090-00-FP		
TRAFFIC SIGNAL INTERCONNECT MODERNIZATION			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			



INTERCONNECT SCHEMATIC LEGEND

- INTERCONNECT CONTROLLER
- EXISTING INTERSECTION CONTROLLER
- MASTER CONTROLLER
- EXISTING MASTER CONTROLLER
- PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- EXISTING INTERSECTION & SAMPLING (SYSTEMS) DETECTORS
- INTERCONNECT CABLE - NO. 62.5/125  
12F FIBER OPTIC CABLE
- INTERCONNECT CABLE - NO. 18  
3 PAIR TWISTED, SHIELDED
- LOOP DETECTOR CABLE - 2/C TWISTED, SHIELDED
- EXISTING INTERCONNECT CABLE - NO. 62.5/125  
12F FIBER OPTIC CABLE
- EXISTING INTERCONNECT CABLE - NO. 18  
3 PAIR TWISTED, SHIELD
- EXISTING LOOP DETECTOR CABLE - 2/C TWISTED, SHIELDED
- TELEPHONE CONNECTION
- PROPOSED TRACER CABLE NO. 10 1C
- EXISTING INTERSECTION LOOP DETECTORS AND  
PROPOSED SAMPLING (SYSTEM) DETECTORS
- EXISTING TELEPHONE CONNECTION
- EXISTING TRACER CABLE 1/C (AS SPECIFIED)

TRAFFIC SIGNAL SYSTEM INTERCONNECT  
SCHEMATIC

MASTER CONTROLLER INTERSECTION MONITORING SCHEDULE

CHANNEL 1  
(HARDWARE CABLE)

US 14 & WOODSTOCK ST  
US 14 & GREEN OAKS/CRYSTAL LAKE AV  
US 14 & DOLE AV  
US 14 & McHENRY AV  
US 14 & DEVONSHIRE LN/KEITH AV  
US 14 & VIRGINIA RD  
US 14 & TECKLER BLVD  
MAIN ST & WALK-UP AV

CHANNEL 2  
(FIBER OPTIC CABLE)

US 14 & MAIN ST  
US 14 & CRYSTALL POINT DR  
US 14 & CRYSTAL COURT MALL  
US 14 & EXCHANGE DR  
US 14 & PINGREE RD  
US 14 & COG CIRCLE  
US 14 & ILL 31 WESTSIDE RAMPS  
US 14 & ILL 31 EASTSIDE RAMPS  
US 14 & SANDS RD

THE TRAFFIC SIGNAL CONTROL  
EQUIPMENT FOR THIS PROJECT  
SHALL BE "ECONOLITE" TO  
MATCH THE EXISTING ADJACENT  
SYSTEM.

FOR INFORMATIONAL PURPOSES ONLY

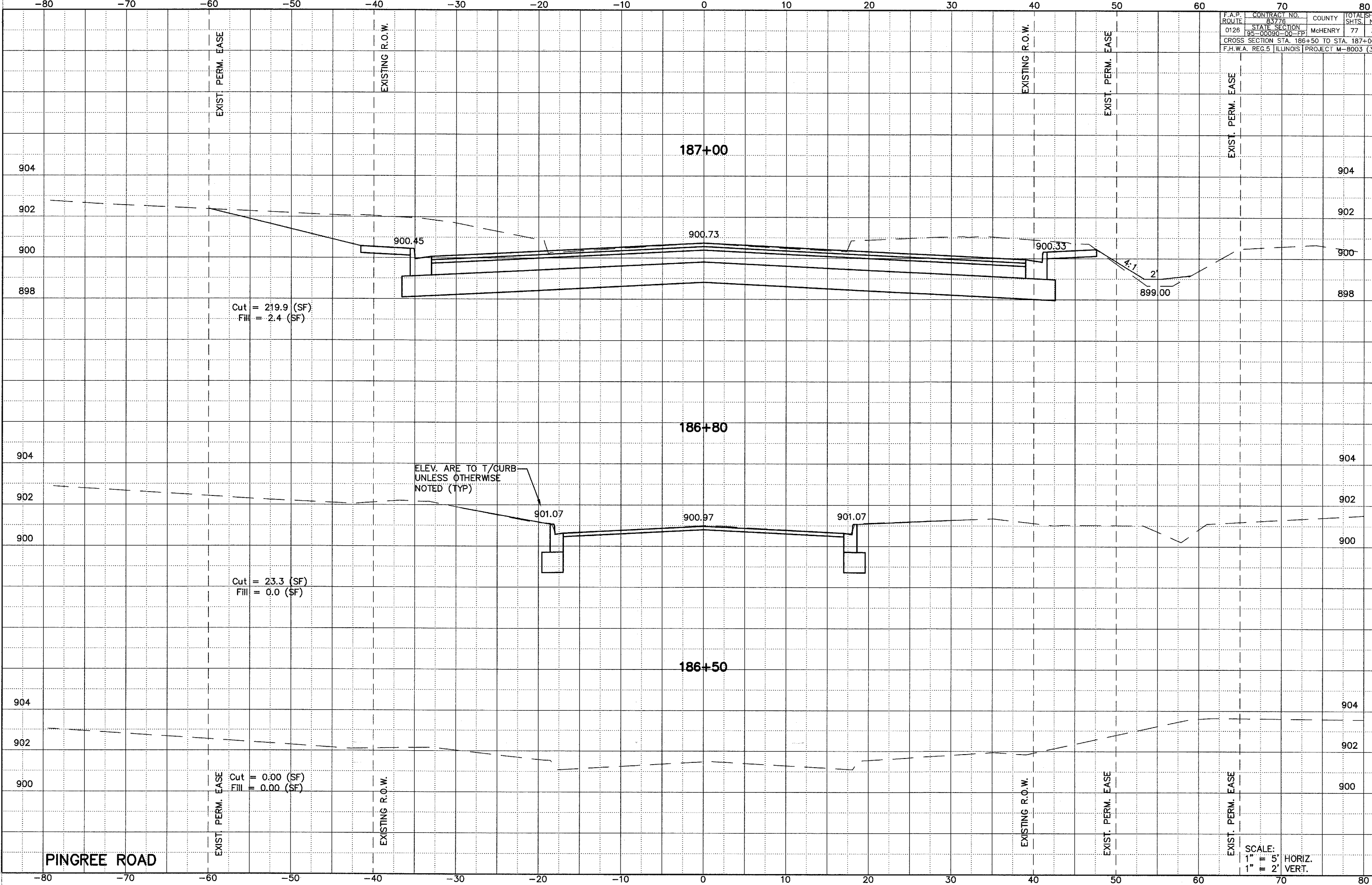
6/1/04	HLR
NAME	DATE
REVISIONS	

DIVISION OF TRANSPORTATION  
TRAFFIC SIGNAL SYSTEM  
INTERCONNECT

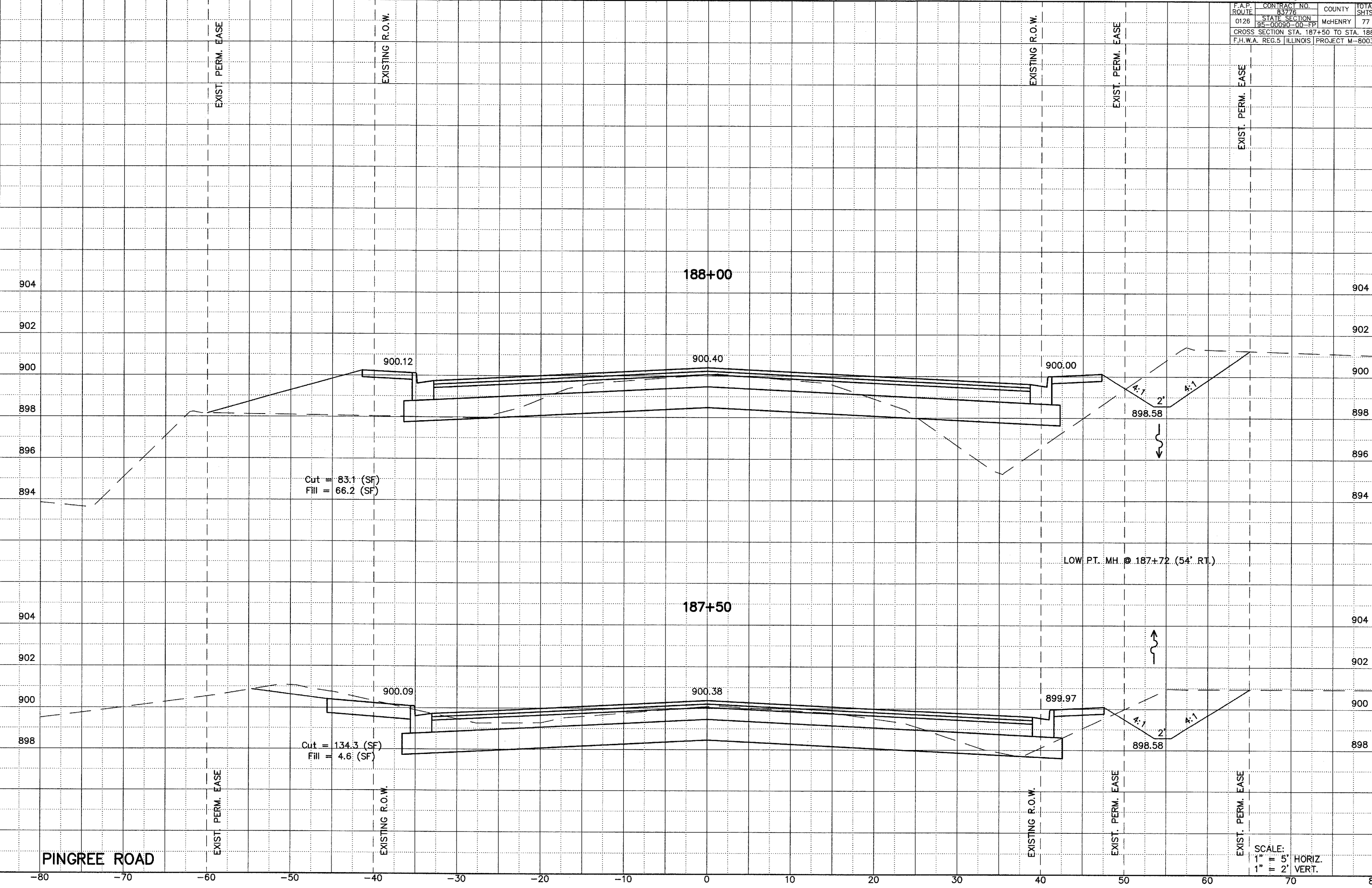
US ROUTE 14  
(ILLINOIS 176 TO SANDS RD)

SCALE: NONE  
DATE: August 27, 2004  
DRAWN BY: RLS  
CHECKED BY: DMH

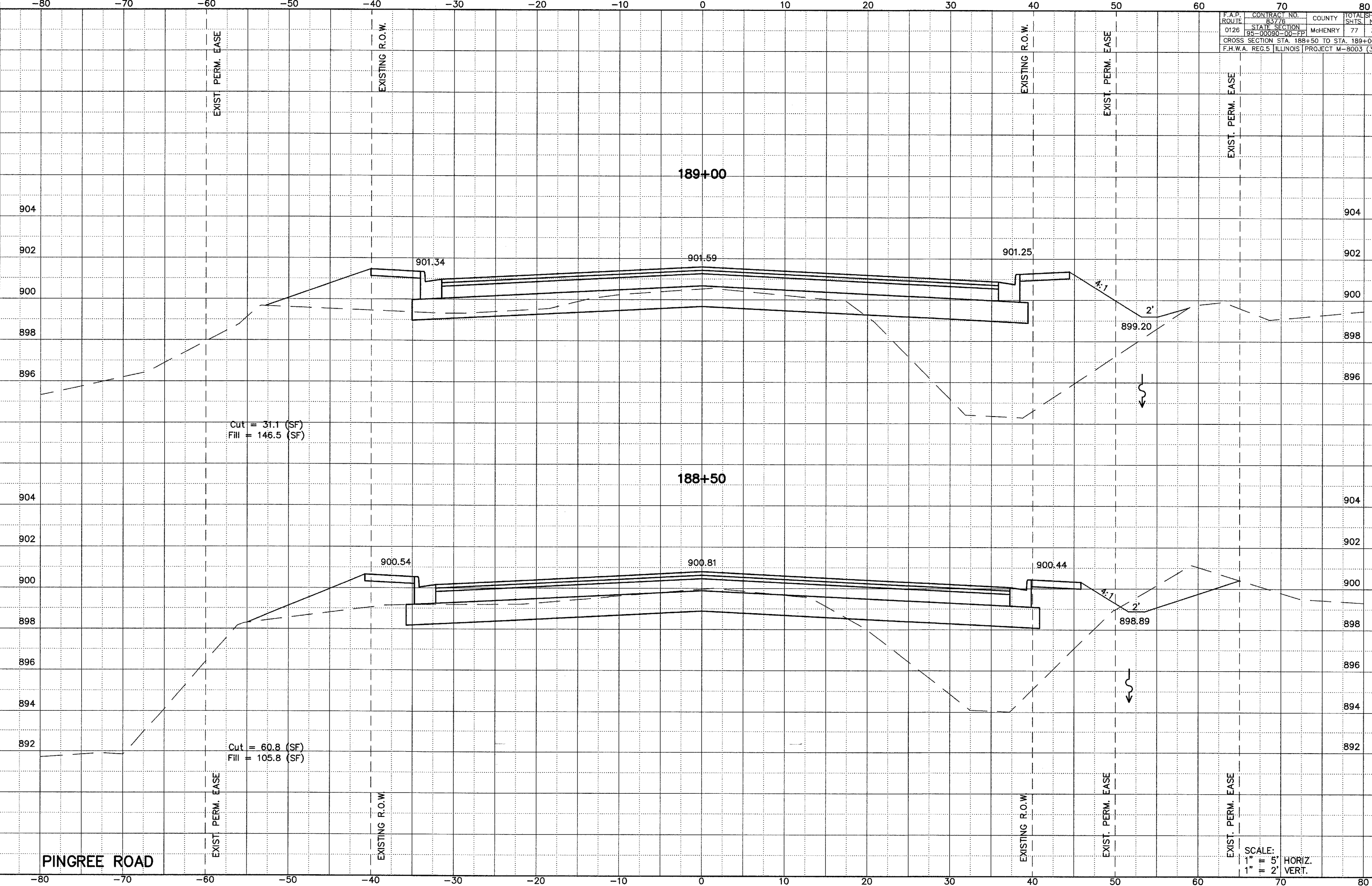










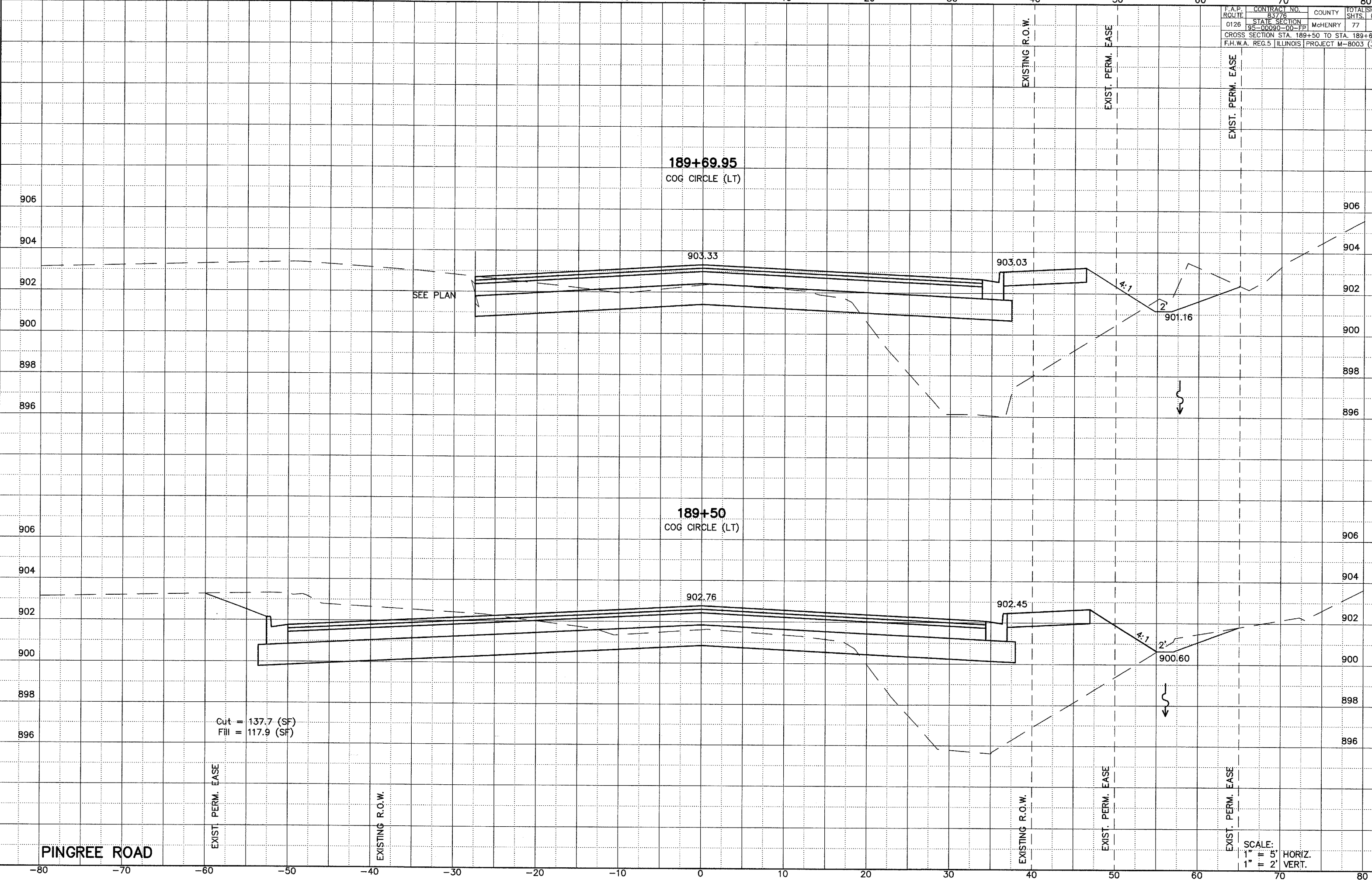


F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHITS.
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-FP			
CROSS SECTION STA. 188+50 TO STA. 189+00			
F.H.W.A. REG. 5 ILLINOIS PROJECT M-8003 (3)			

SCALE:  
1" = 5' HORIZ.  
1" = 2' VERT.

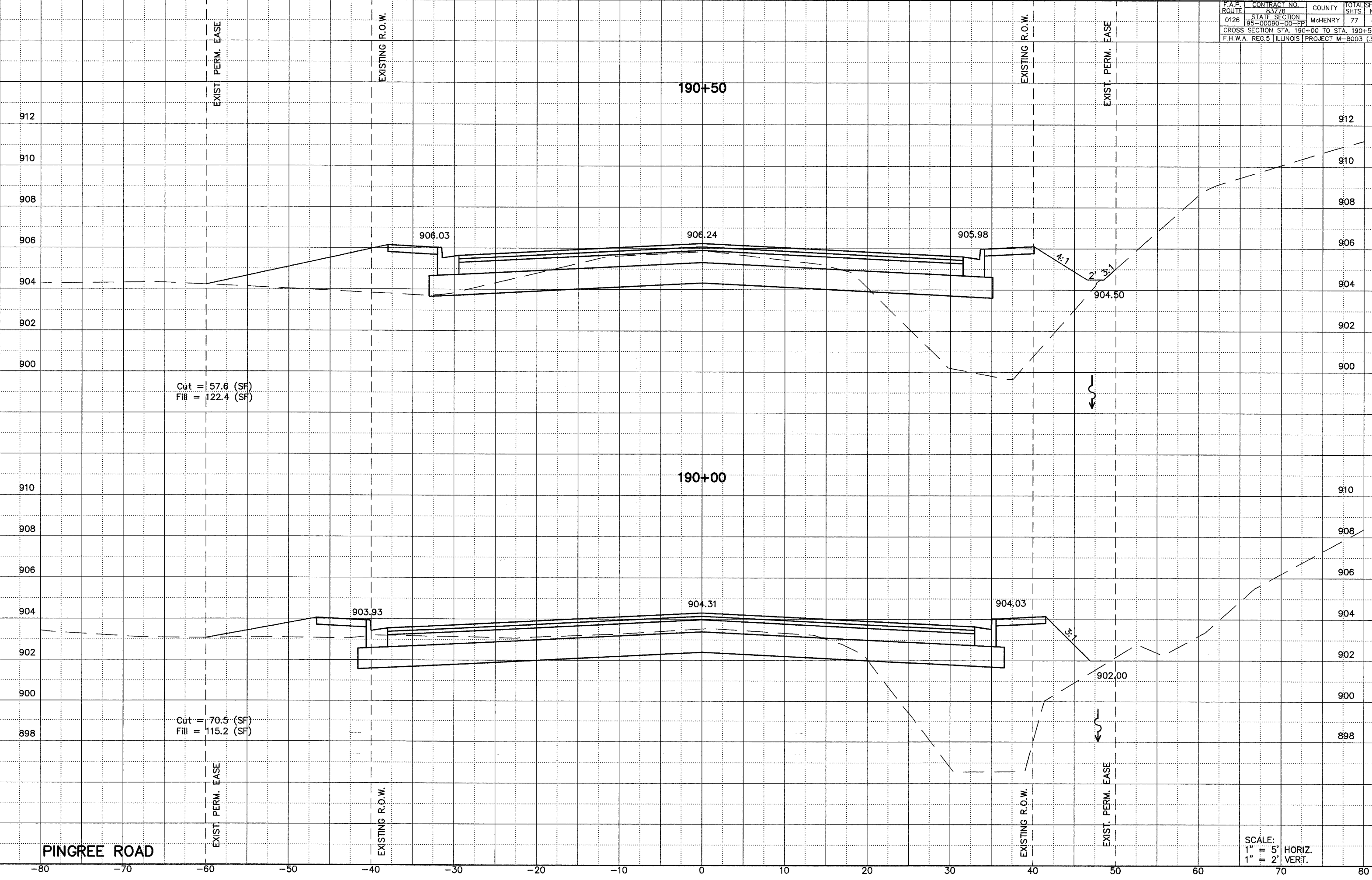


F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTALS
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-PP			
CROSS SECTION STA. 189+50 TO STA. 189+6			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (			

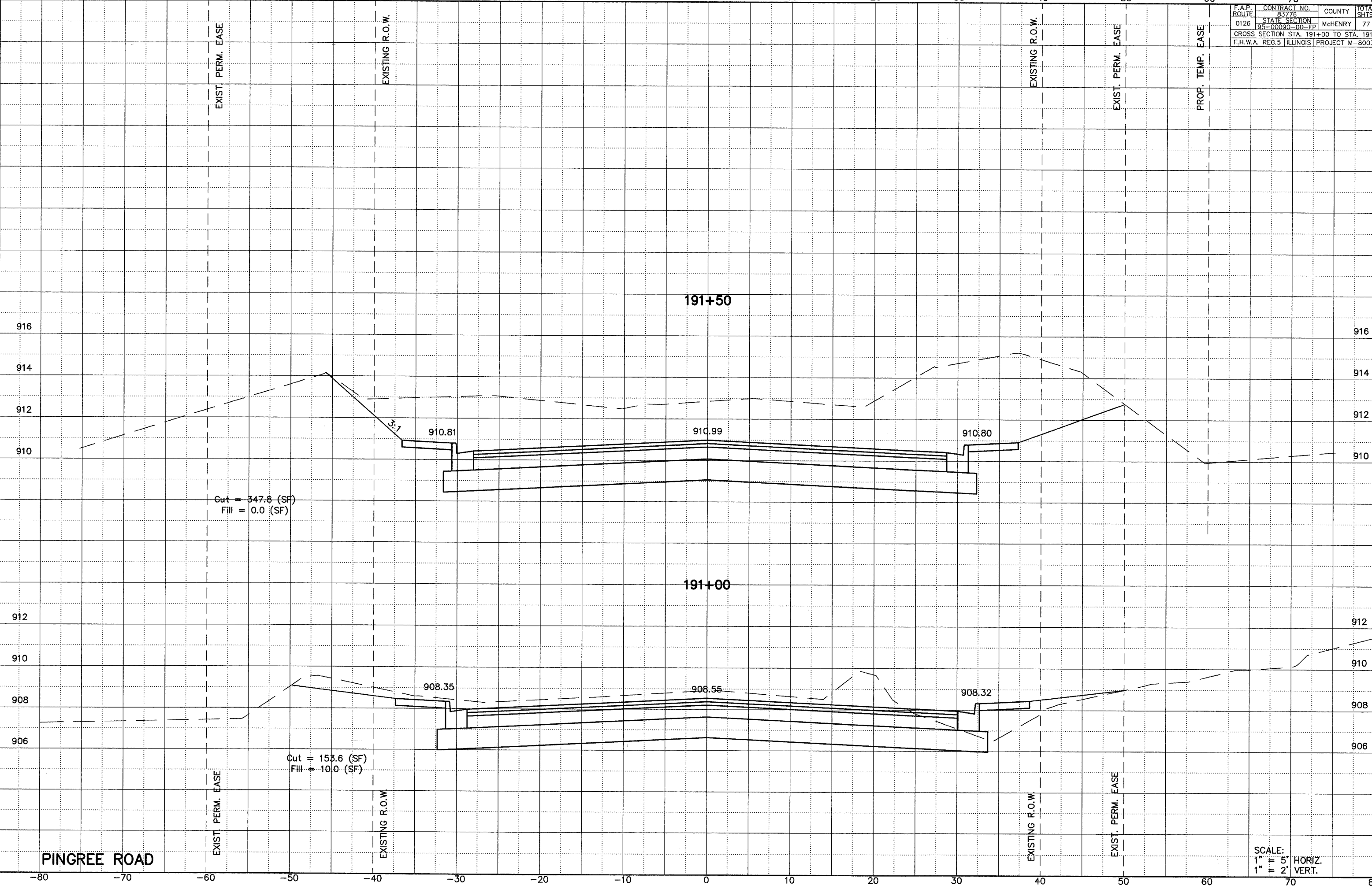




F.A.P. ROUTE	CONTRACT NO. 83778	COUNTY	TOTAL SF SHTS.
0126	STATE SECTION 95-00090-00-EP	McHENRY	77
CROSS SECTION STA. 190+00 TO STA. 190+50			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			



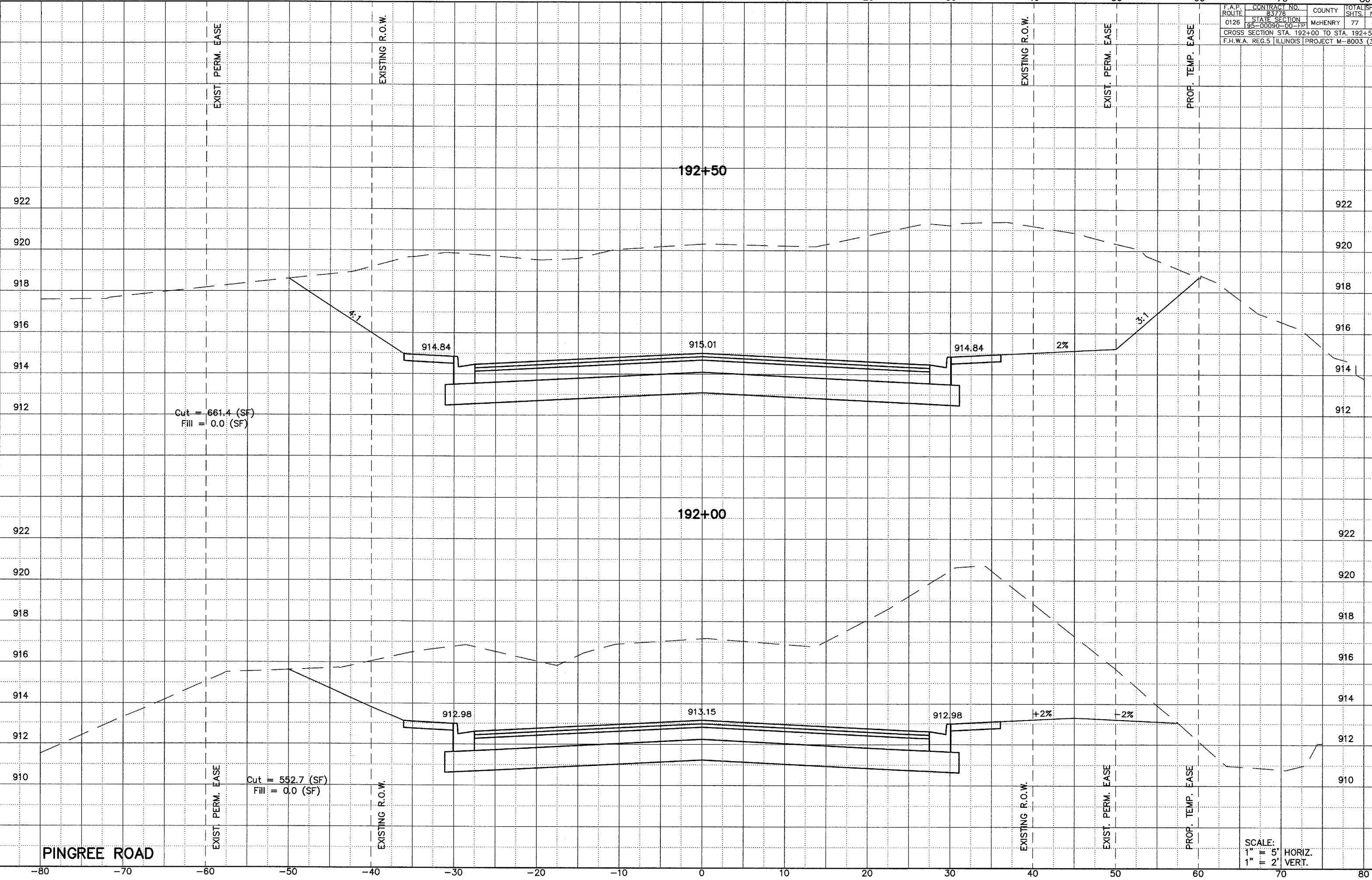




F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SH.
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-PP			
CROSS SECTION STA. 191+00 TO STA. 191+50			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			

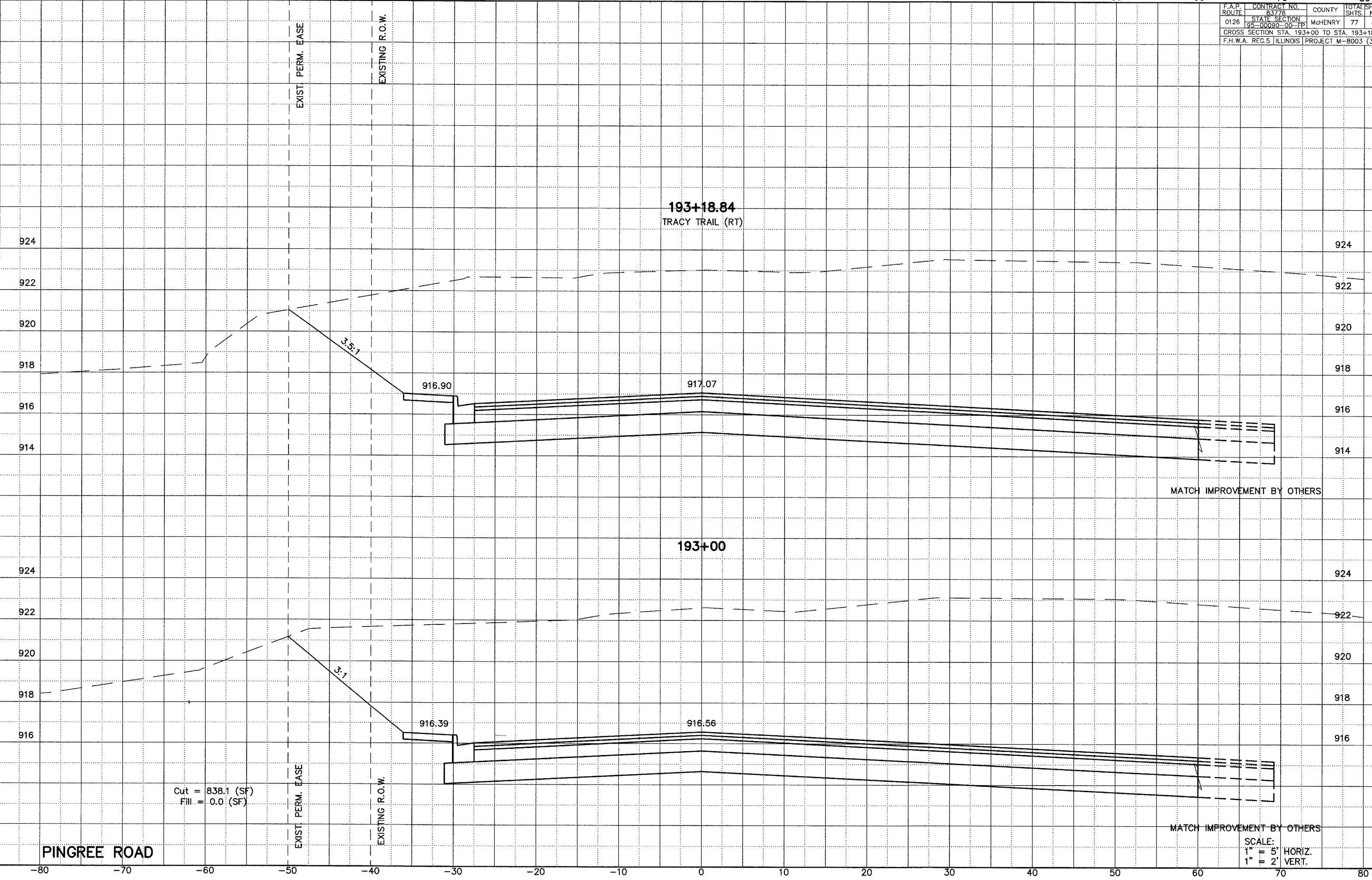


F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SF SHITS
0126	STATE SECTION 95-00090-00-EP	McHENRY	77
CROSS SECTION STA. 192+00 TO STA. 192+50			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3			

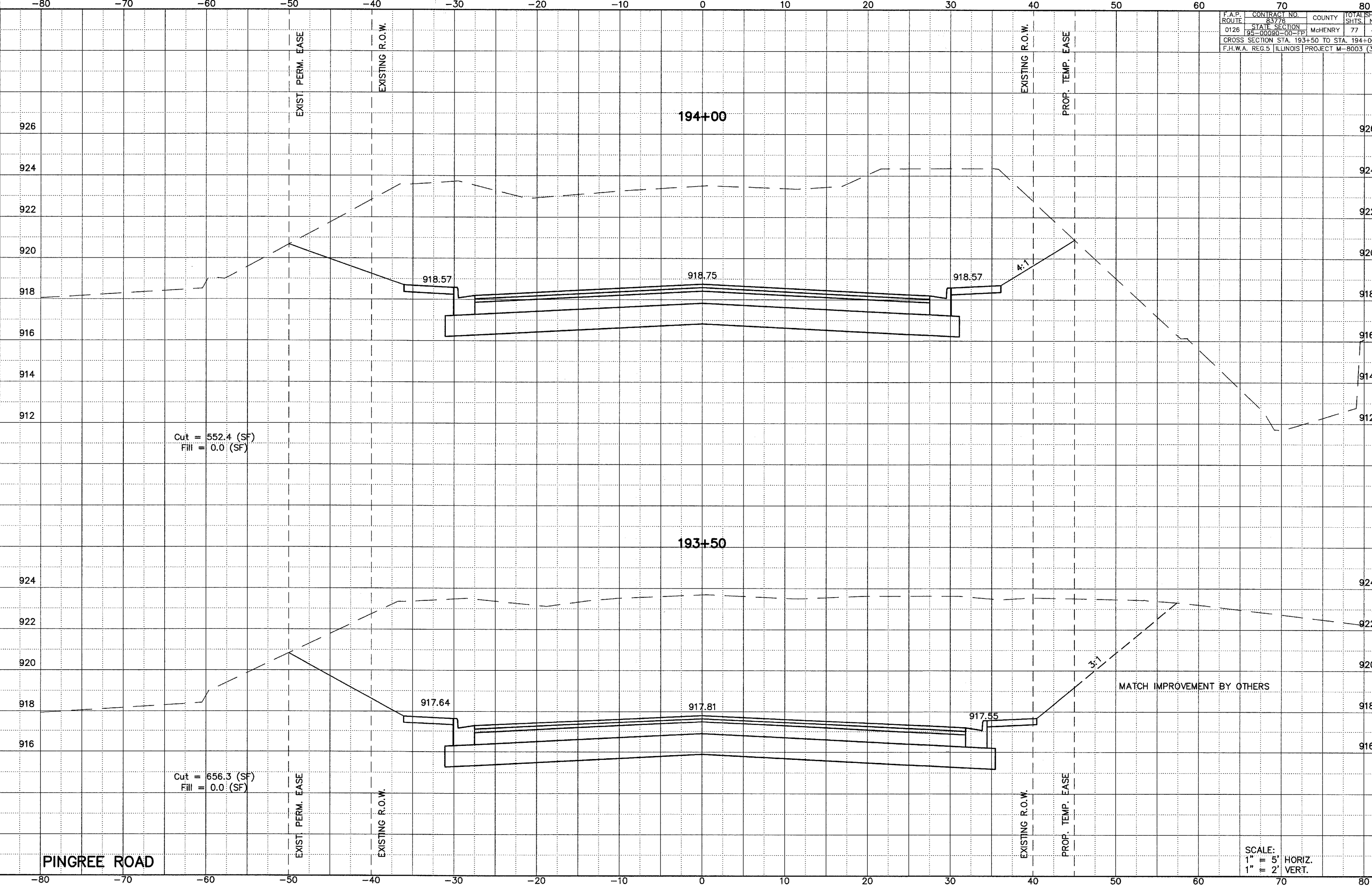




F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SH. SHTS. / M
0126	STATE SECTION 95-00090-00-FP	McHENRY	77
CROSS SECTION STA. 193+00 TO STA. 193+10			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			

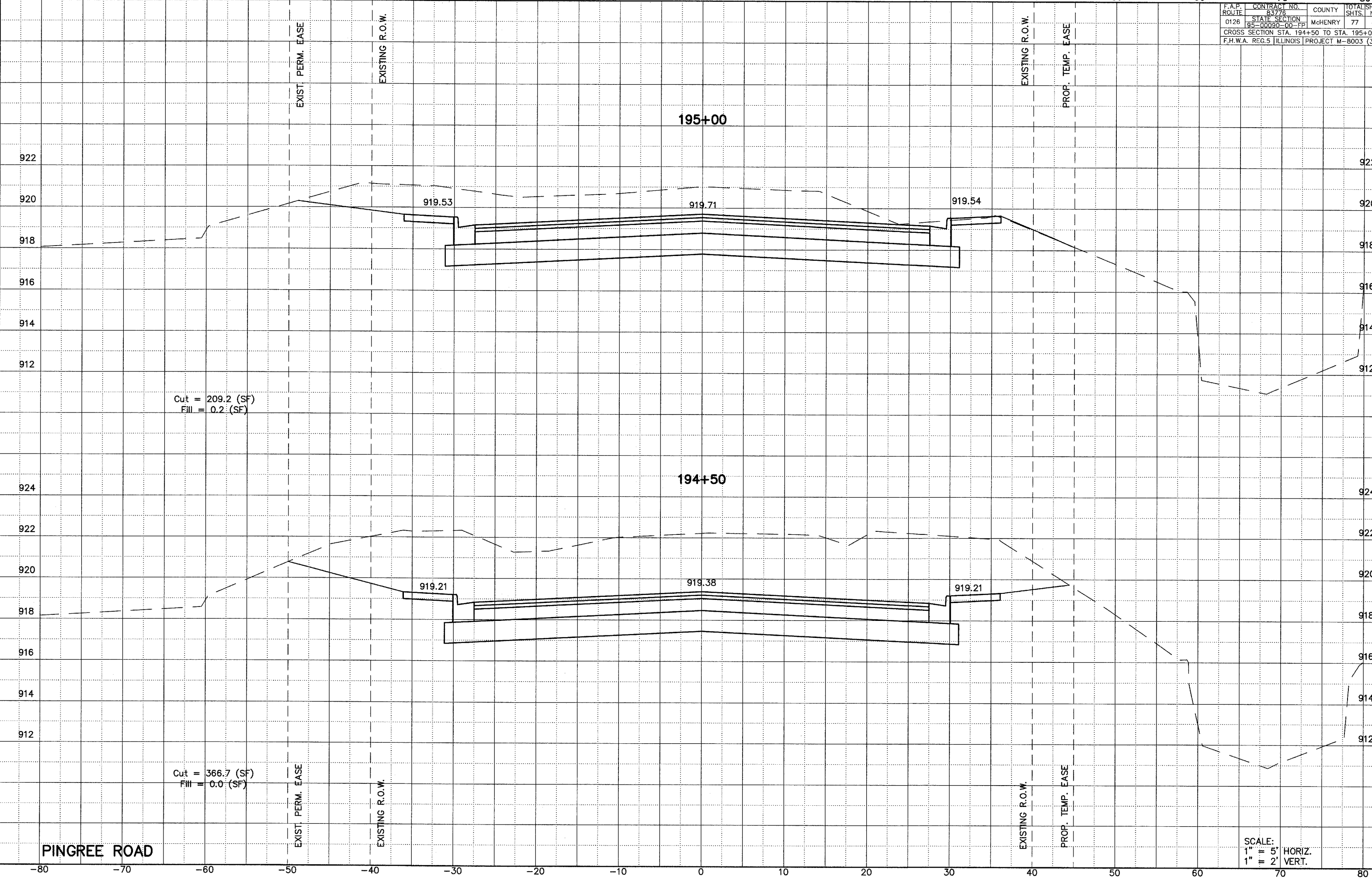




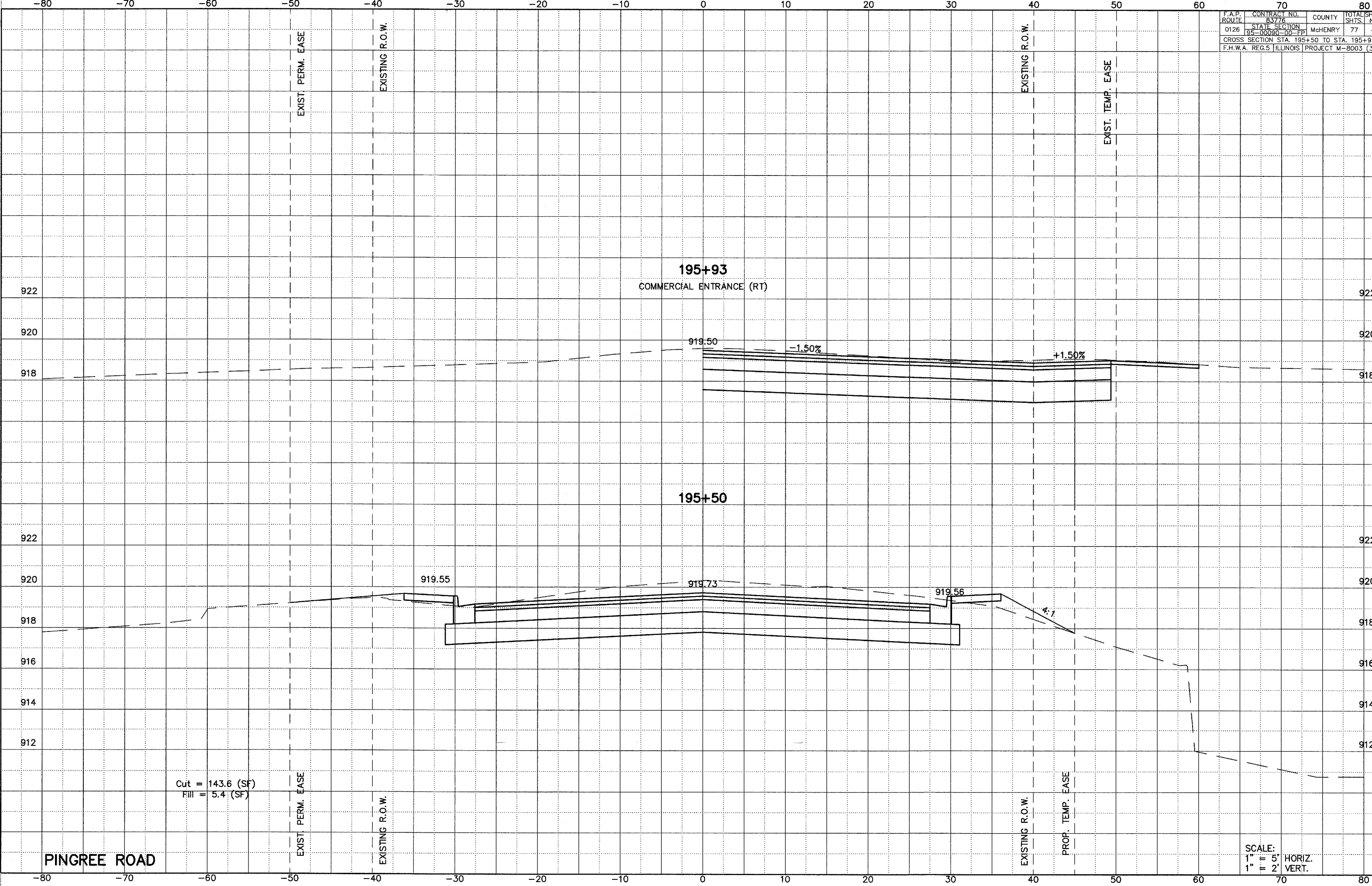




F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHTS. 77
0126	STATE SECTION 95-00090-00-FP	McHENRY	
CROSS SECTION STA. 194+50 TO STA. 195+00			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			





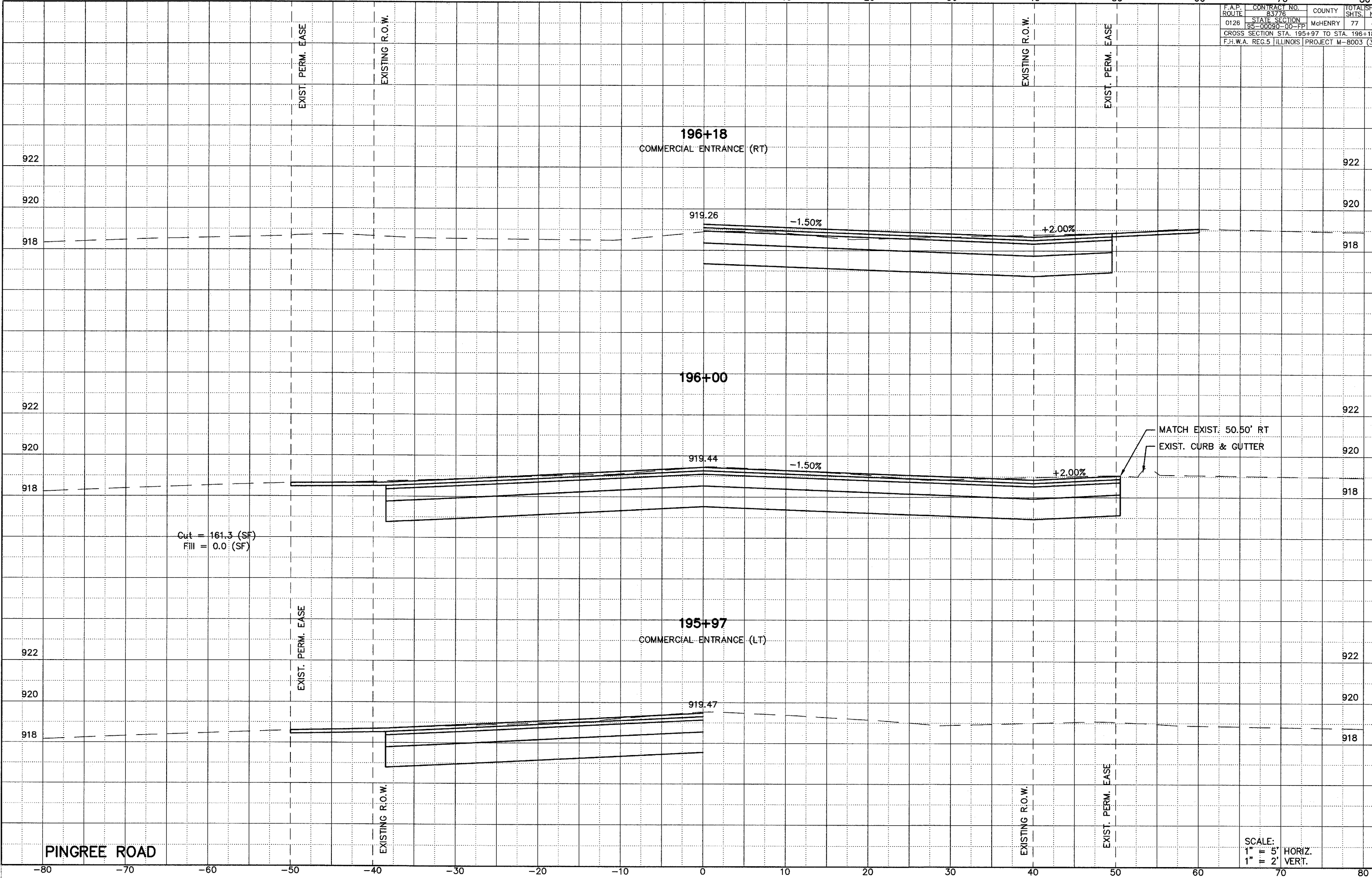


P.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SH.
0126	83776	McHENRY	77
STATE SECTION	95-00090-00-EP		
CROSS SECTION STA. 195+50 TO STA. 195+93			
F.H.W.A. REG. 5	ILLINOIS	PROJECT M-8003	(3)

SCALE:  
1" = 5' HORIZ.  
1" = 2' VERT.



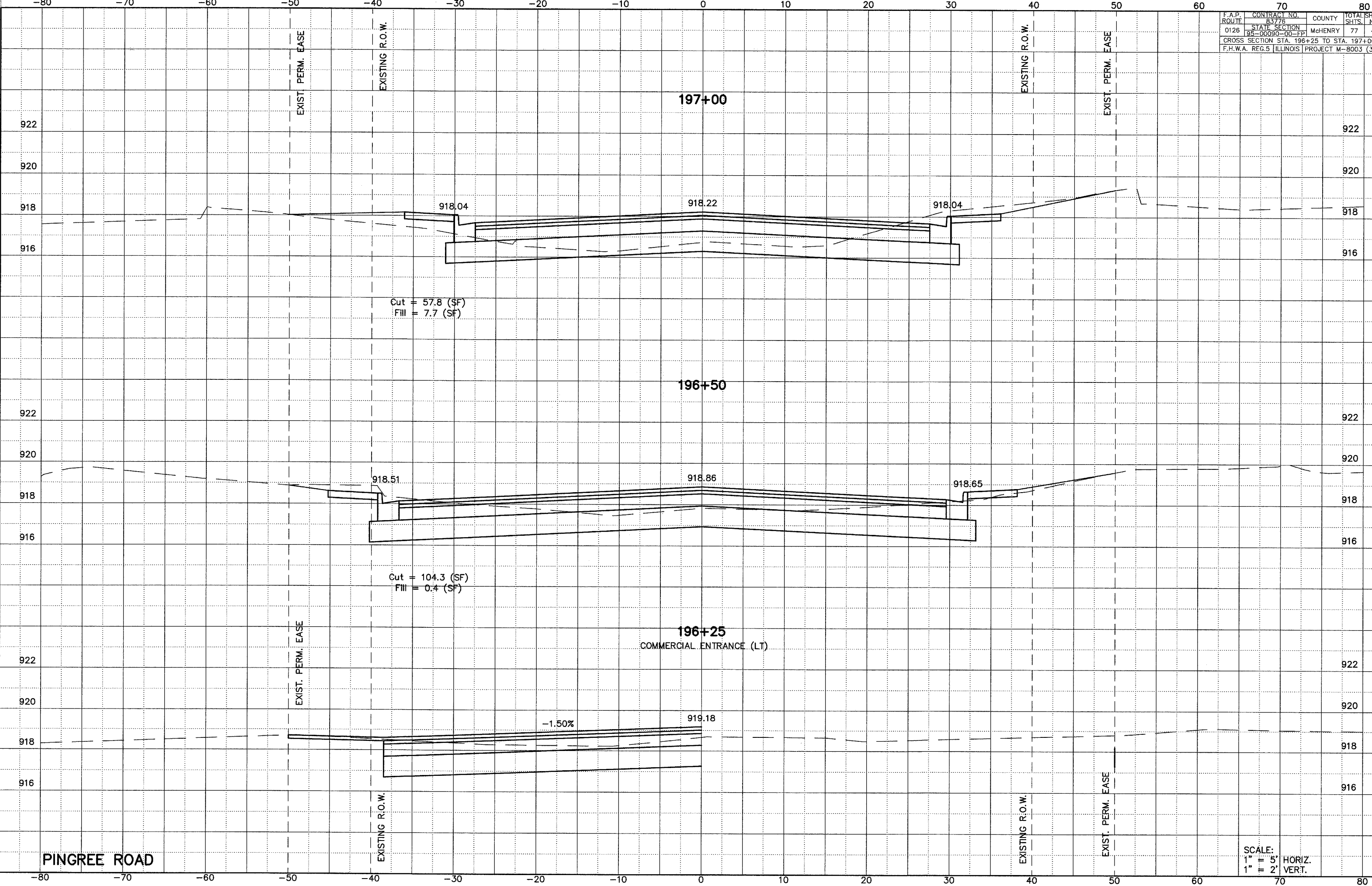
F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHTS.
0126	STATE SECTION 95-00090-00-EP	McHENRY	77
CROSS SECTION STA. 195+97 TO STA. 196+18			
F.H.W.A. REG. 5 ILLINOIS PROJECT M-8003 (3)			



PINGREE ROAD

SCALE:  
1" = 5' HORIZ.  
1" = 2' VERT.

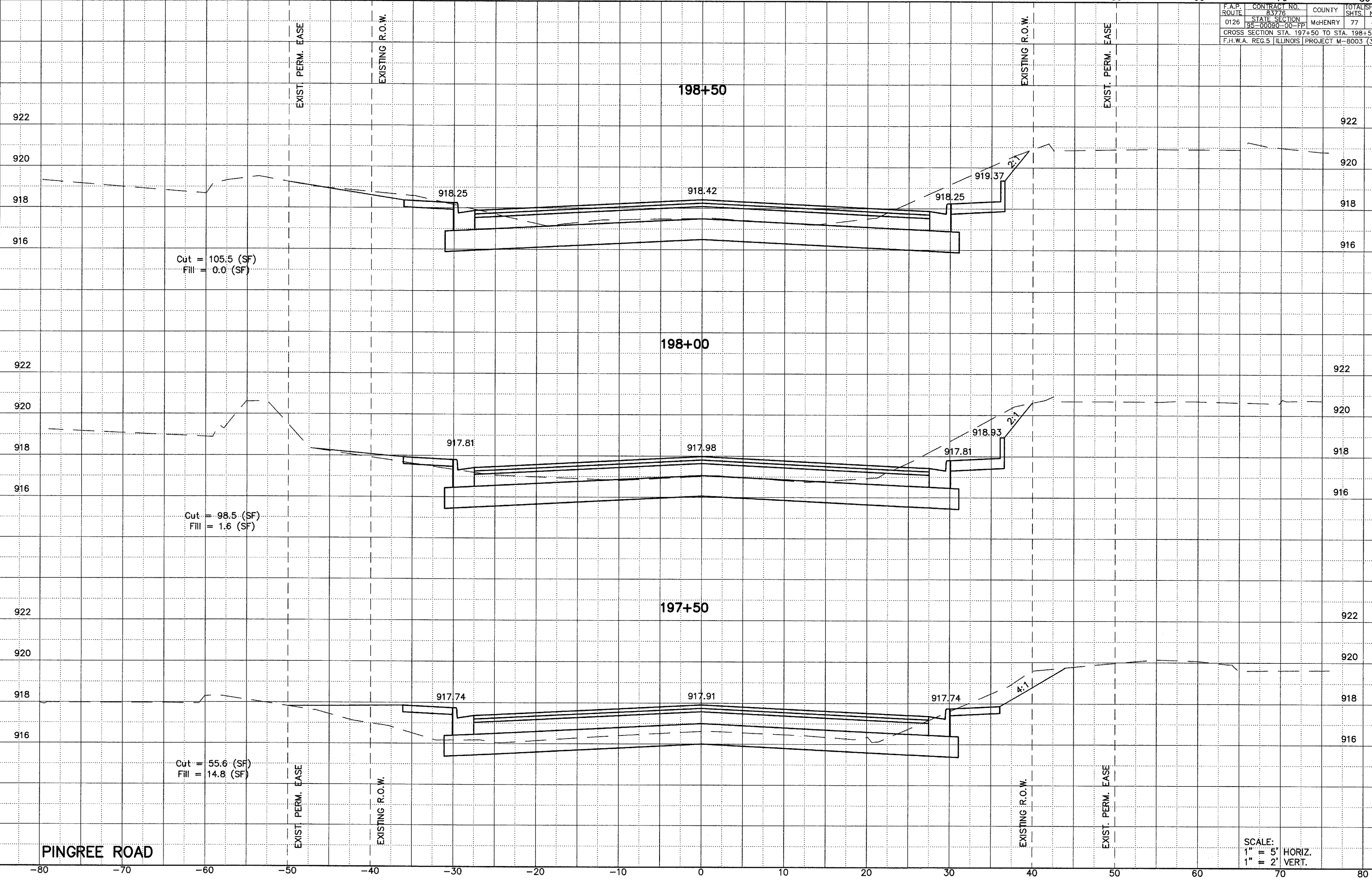




F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SH.
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-FP			
CROSS SECTION STA. 196+25 TO STA. 197+00			
F.H.W.A. REG. 5 ILLINOIS PROJECT M-8003 (3)			

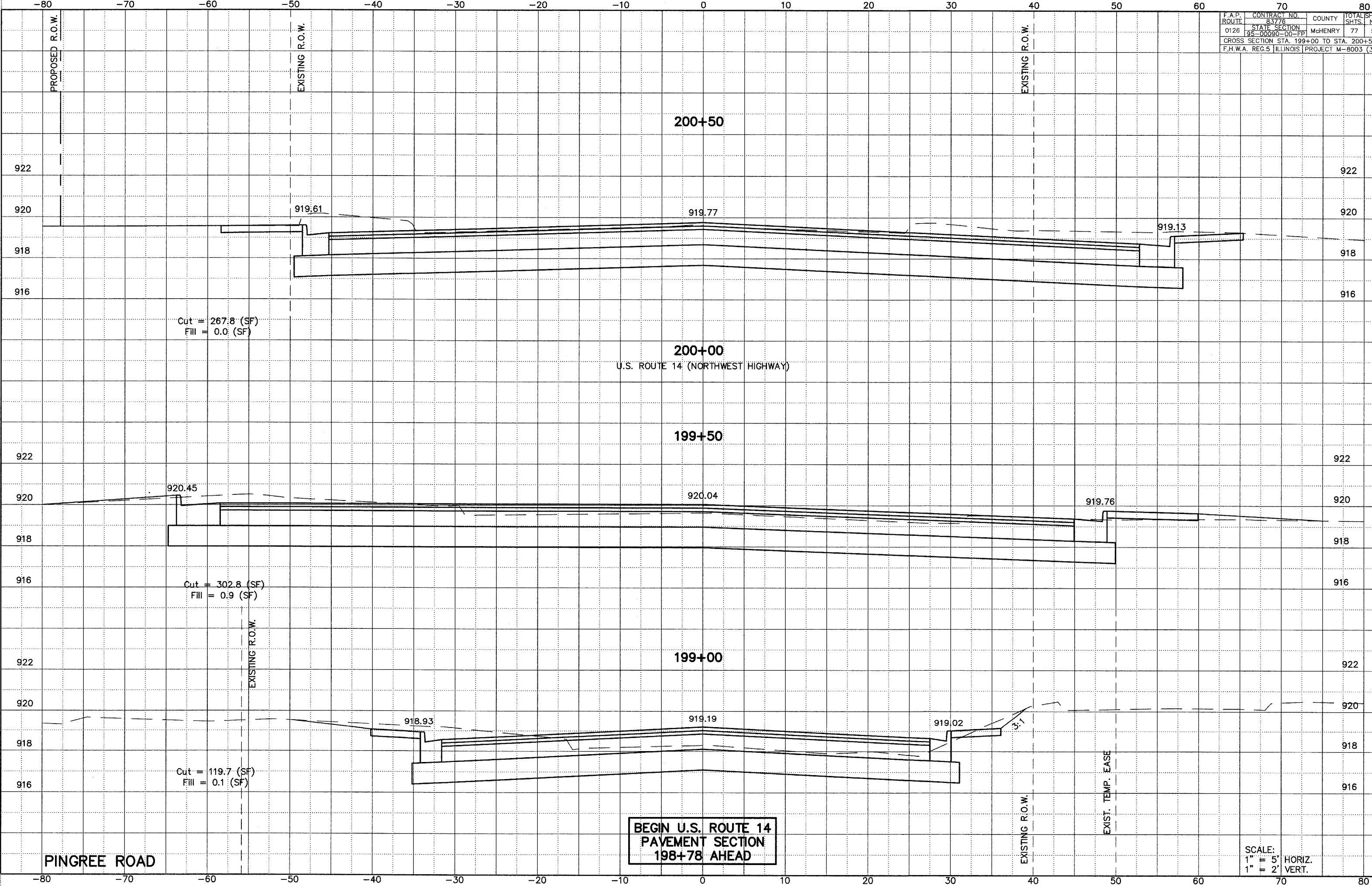
SCALE:  
1" = 5' HORIZ.  
1" = 2' VERT.



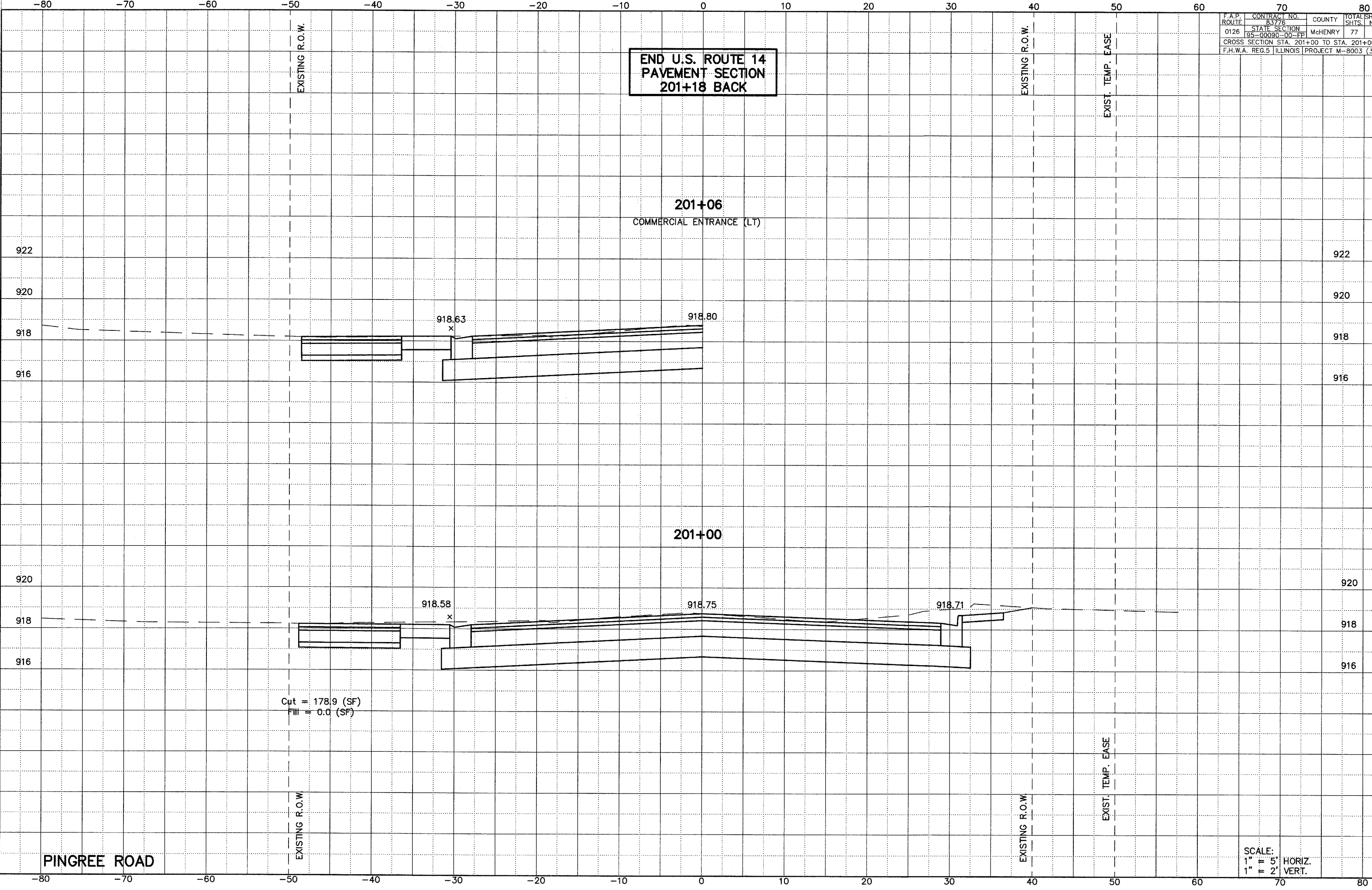


F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHTS.
0126	83776	McHENRY	77
STATE SECTION 35-00090-00-EP			
CROSS SECTION STA. 197+50 TO STA. 198+50			
F.H.W.A. REG. 5 ILLINOIS PROJECT M-8003 (3)			





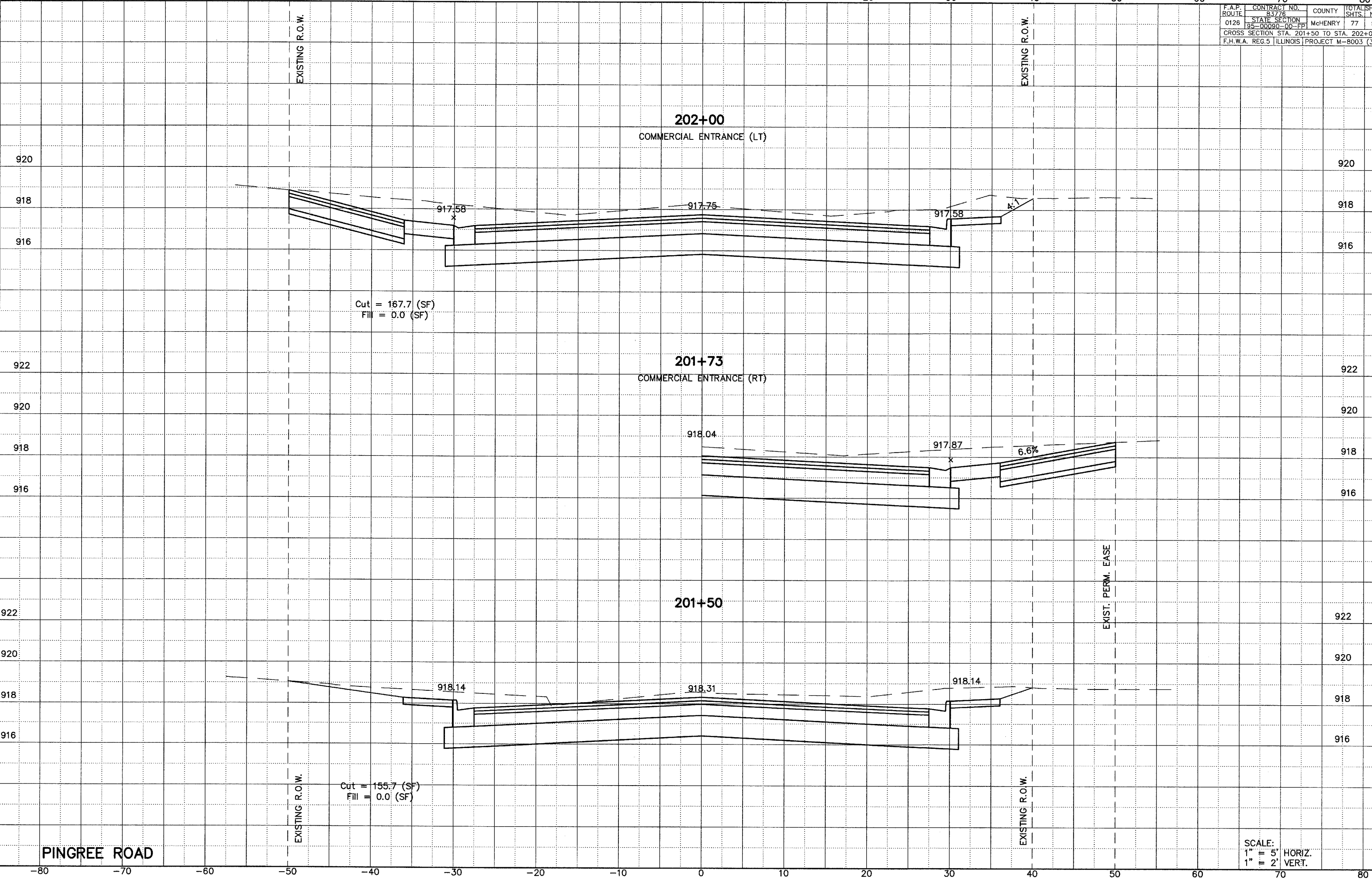




F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SH. SHTS.
0126	83776	McHENRY	77
STATE SECTION 95-00090-00-PP			
CROSS SECTION STA. 201+00 TO STA. 201+06			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			

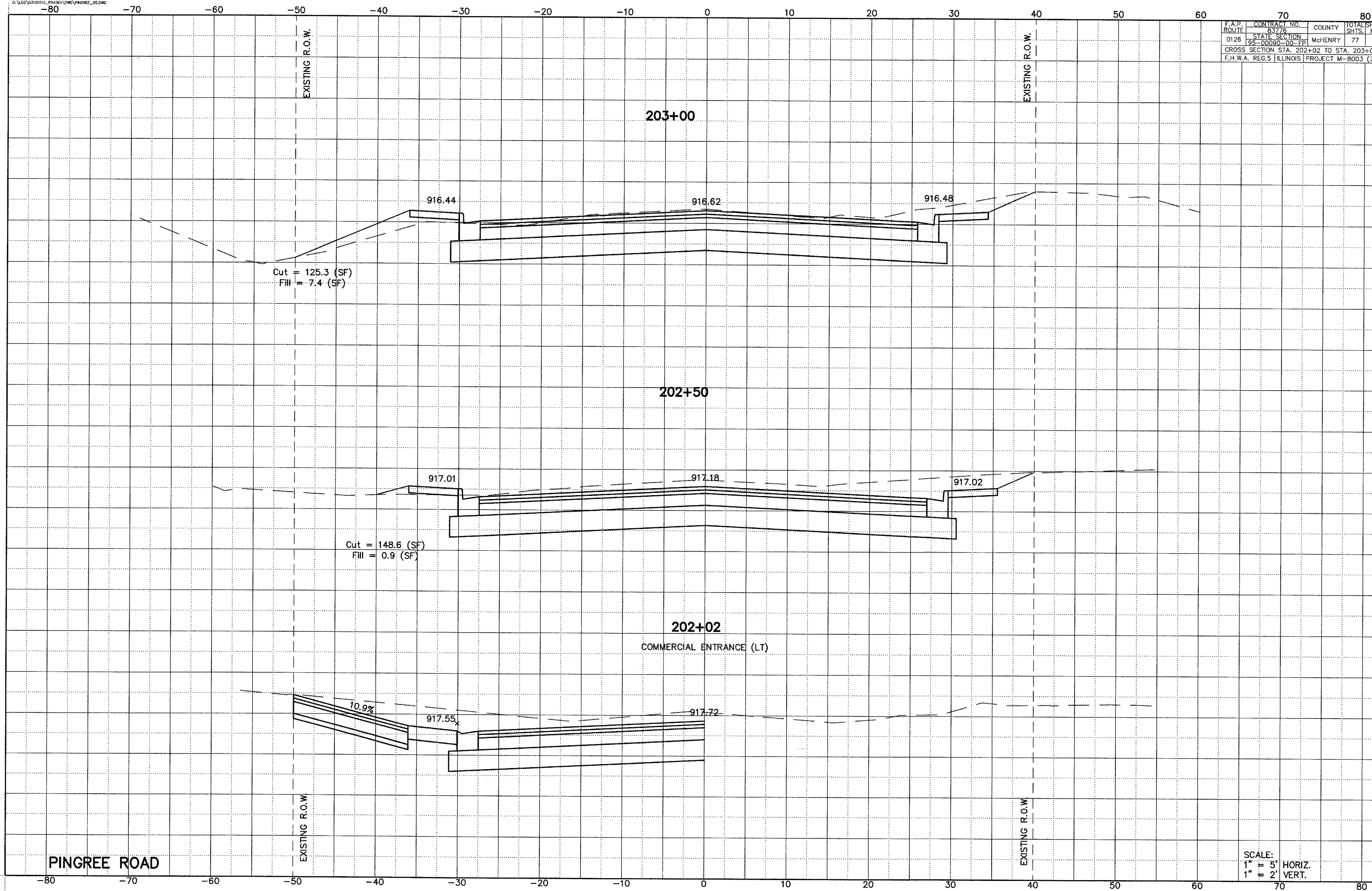


F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHEETS 77
0126	STATE SECTION 95-00080-00-FP	McHENRY	
CROSS SECTION STA. 201+50 TO STA. 202+00			
F.H.W.A. REG. 5 ILLINOIS PROJECT M-8003 (3)			



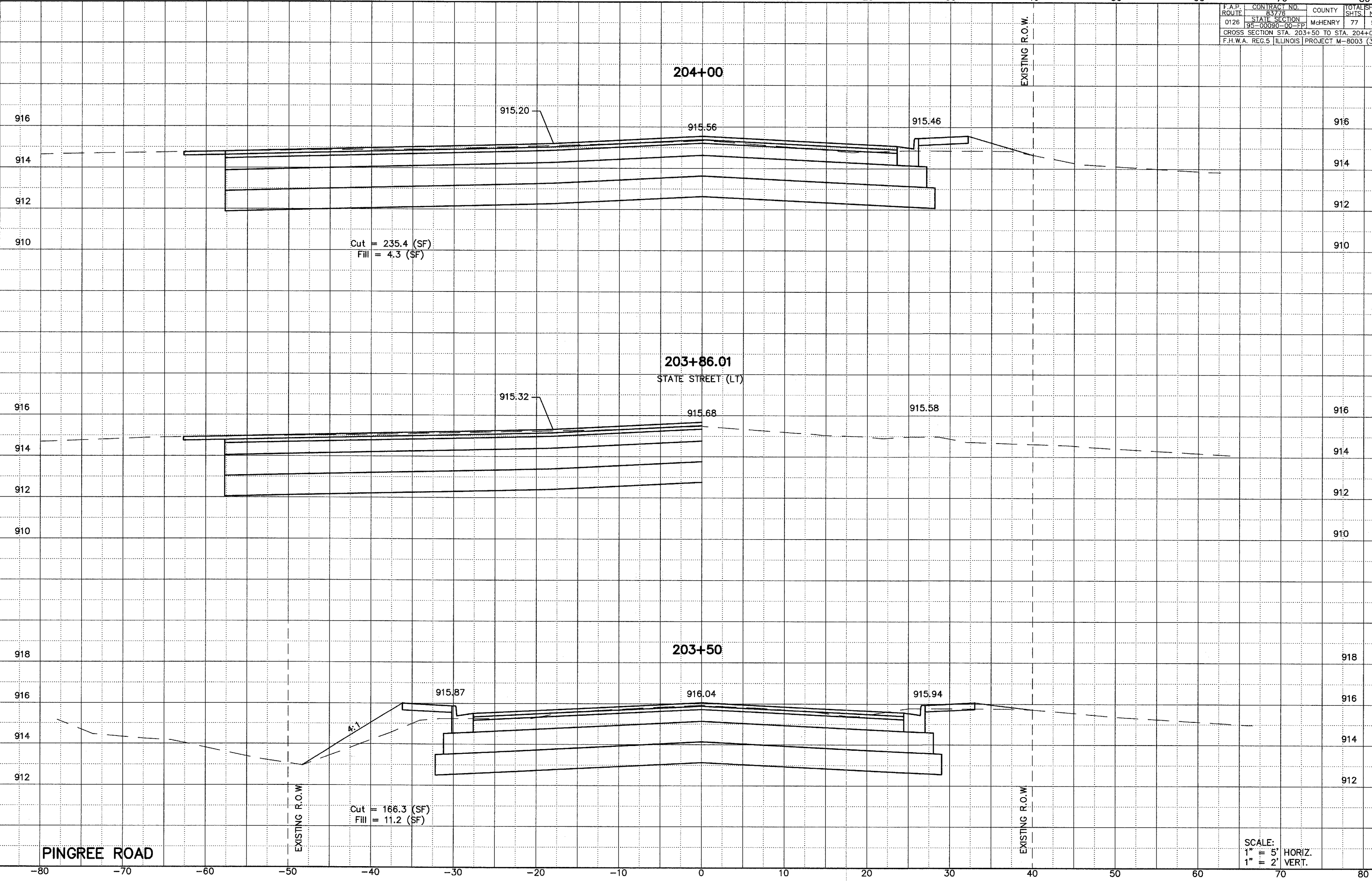


F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHTS.
0126	STATE SECTION 95-00090-00-FP	McHENRY	77
CROSS SECTION STA. 202+02 TO STA. 203+00			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			





F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHTS.
0126	83778	McHENRY	77
STATE SECTION 95-00090-00-EP			
CROSS SECTION STA. 203+50 TO STA. 204+00			
F.H.W.A. REG. 5 ILLINOIS PROJECT M-8003 (2)			





-80

-70

-60

-50

-40

-30

-20

-10

0

10

20

30

40

50

60

70

80

F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTALS SHTS.
0126	STATE SECTION 99-00090-00-FF	MCHEMRY	77
CROSS SECTION STA. 204+50 TO STA. 205+50			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (			

EXISTING R.O.W.

EXISTING R.O.W.

205+50

918

918

916

916

914

914

912

912

Cut = 58.8 (SF)  
Fill = 6.2 (SF)

914.75

914.73

914.72

205+00

916

916

914

914

912

912

910

910

Cut = 62.8 (SF)  
Fill = 9.3 (SF)

914.98

914.96

914.92

204+50

918

918

916

916

914

914

912

912

Cut = 57.1 (SF)  
Fill = 20.9 (SF)

915.22

915.20

915.14

PINGREE ROAD

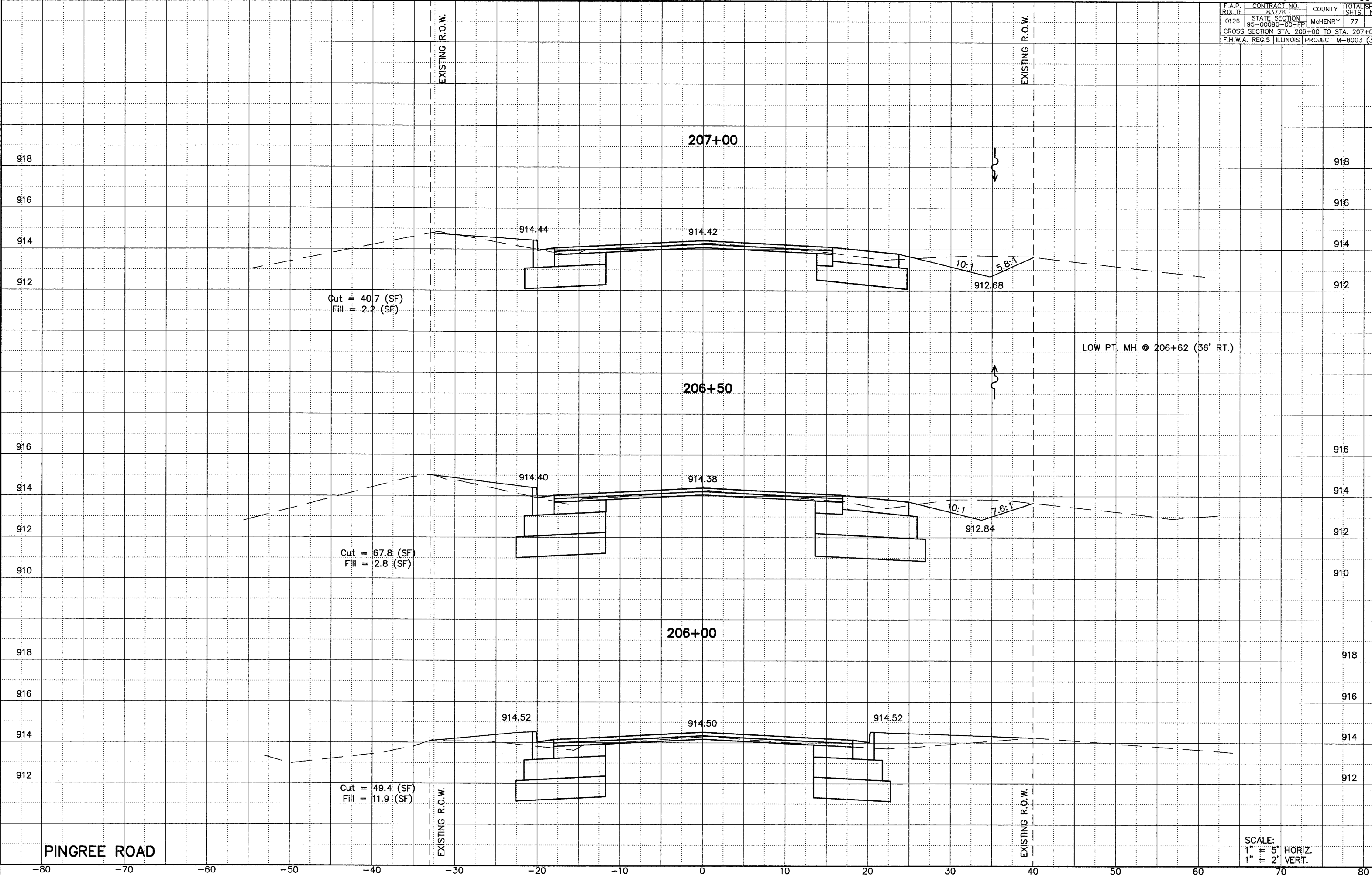
EXISTING R.O.W.

EXISTING R.O.W.

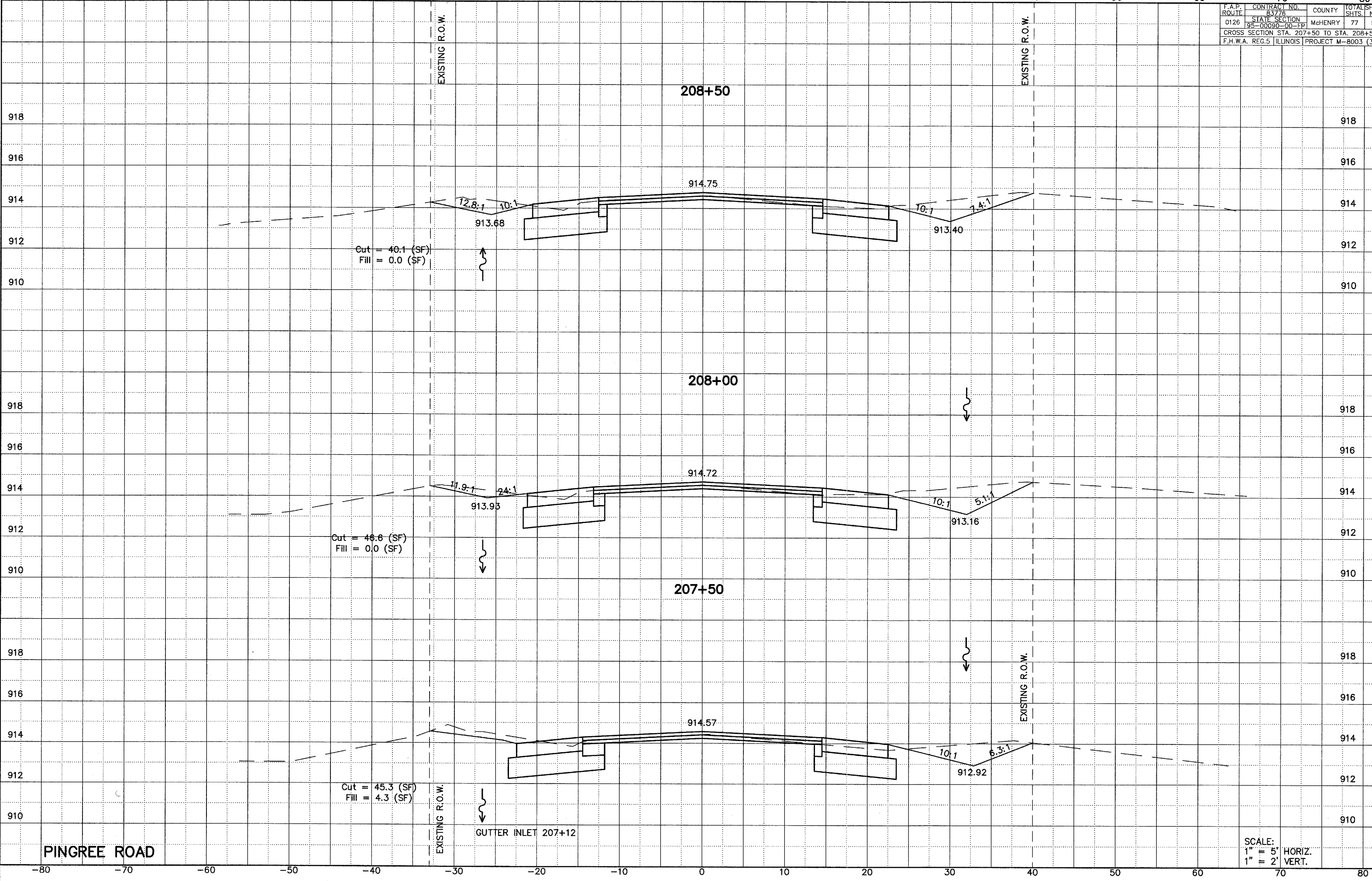
EXISTING R.O.W.

SCALE:  
1" = 5' HORIZ.  
1" = 2' VERT.







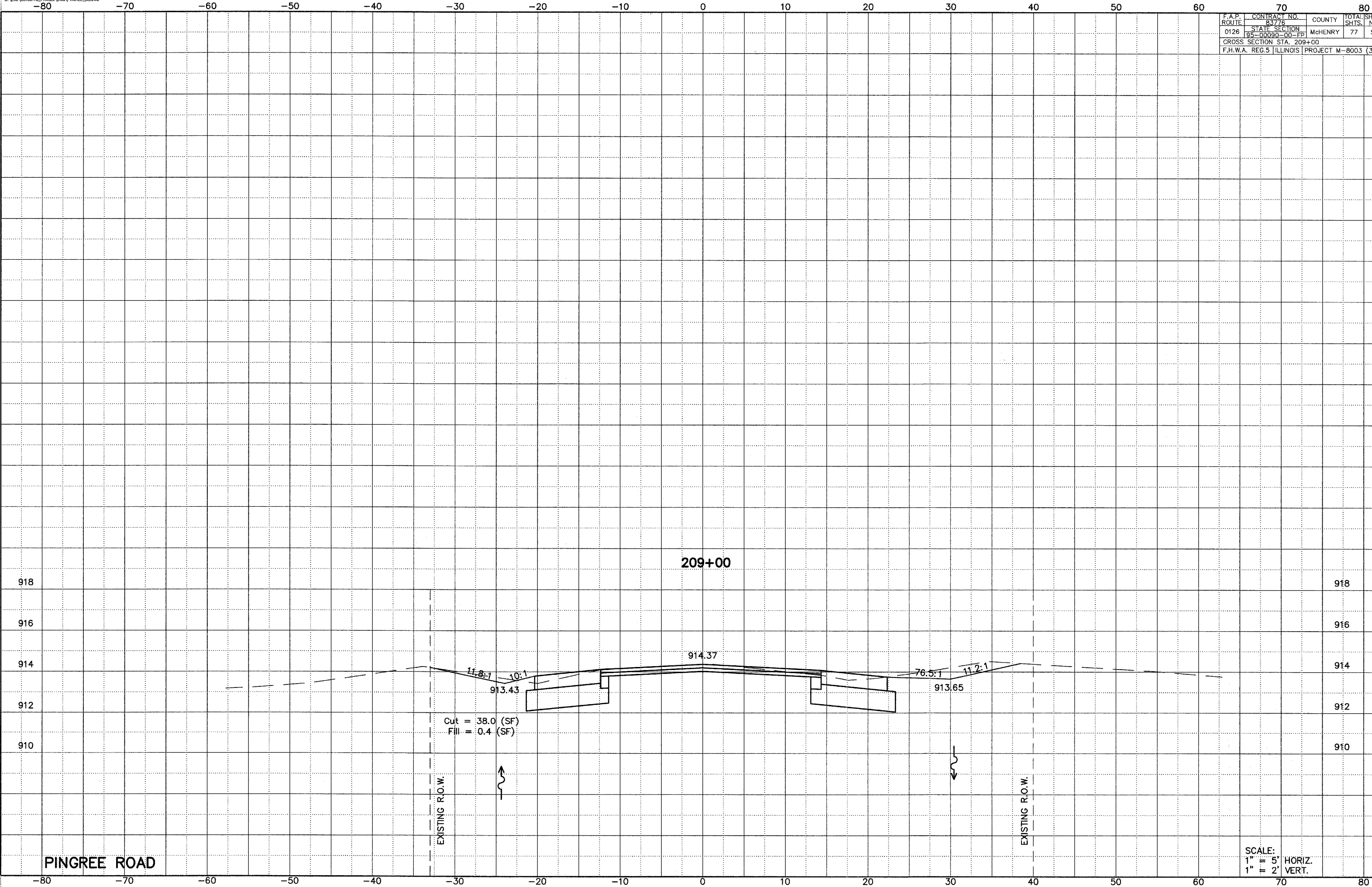


PINGREE ROAD

SCALE:  
1" = 5' HORIZ.  
1" = 2' VERT.

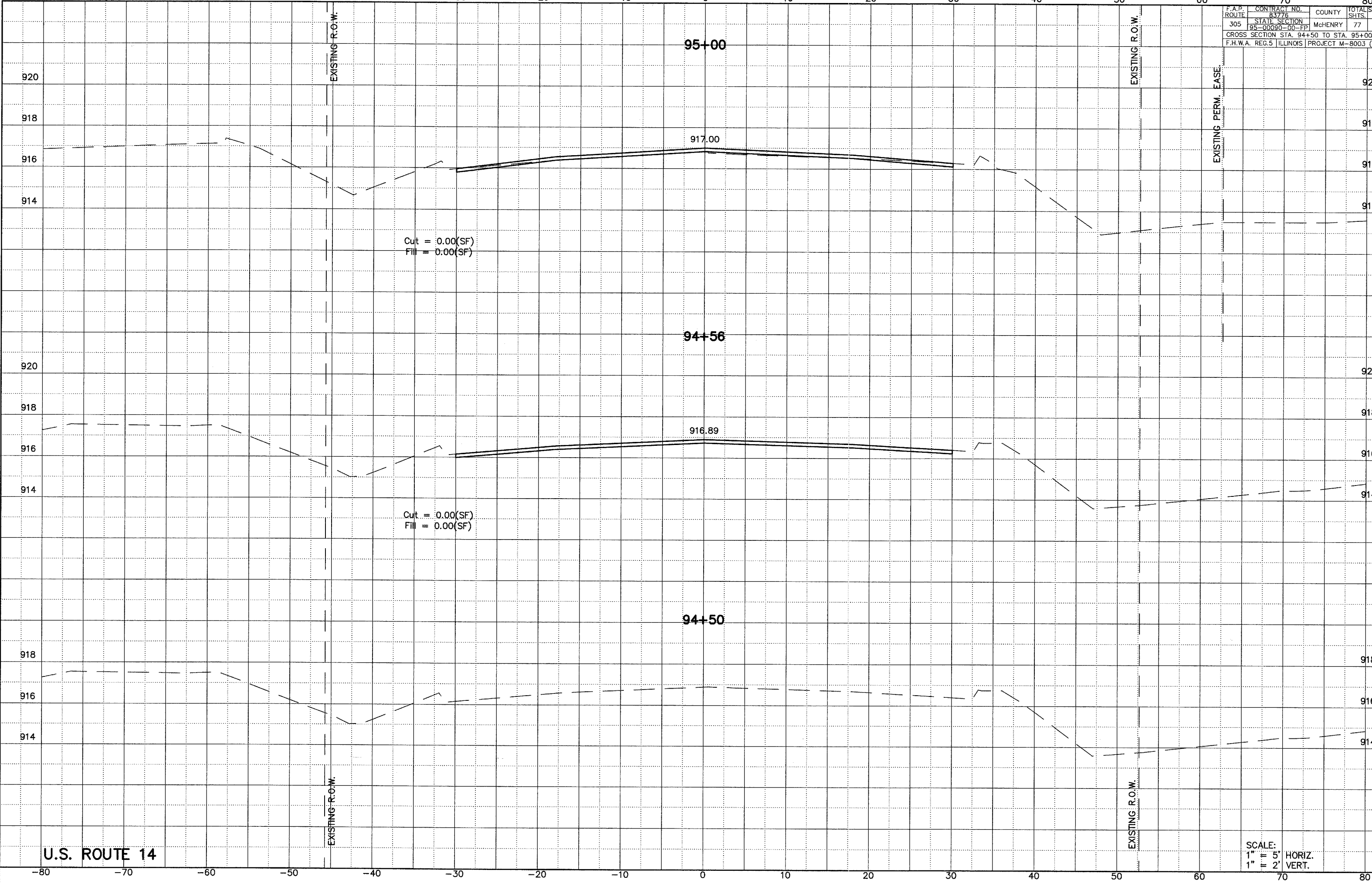


F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SH. 77
0126	STATE SECTION 95-00090-00-EP	McHENRY	5
CROSS SECTION STA. 209+00			
F.H.W.A. REG. 5 ILLINOIS PROJECT M-8003 (3			

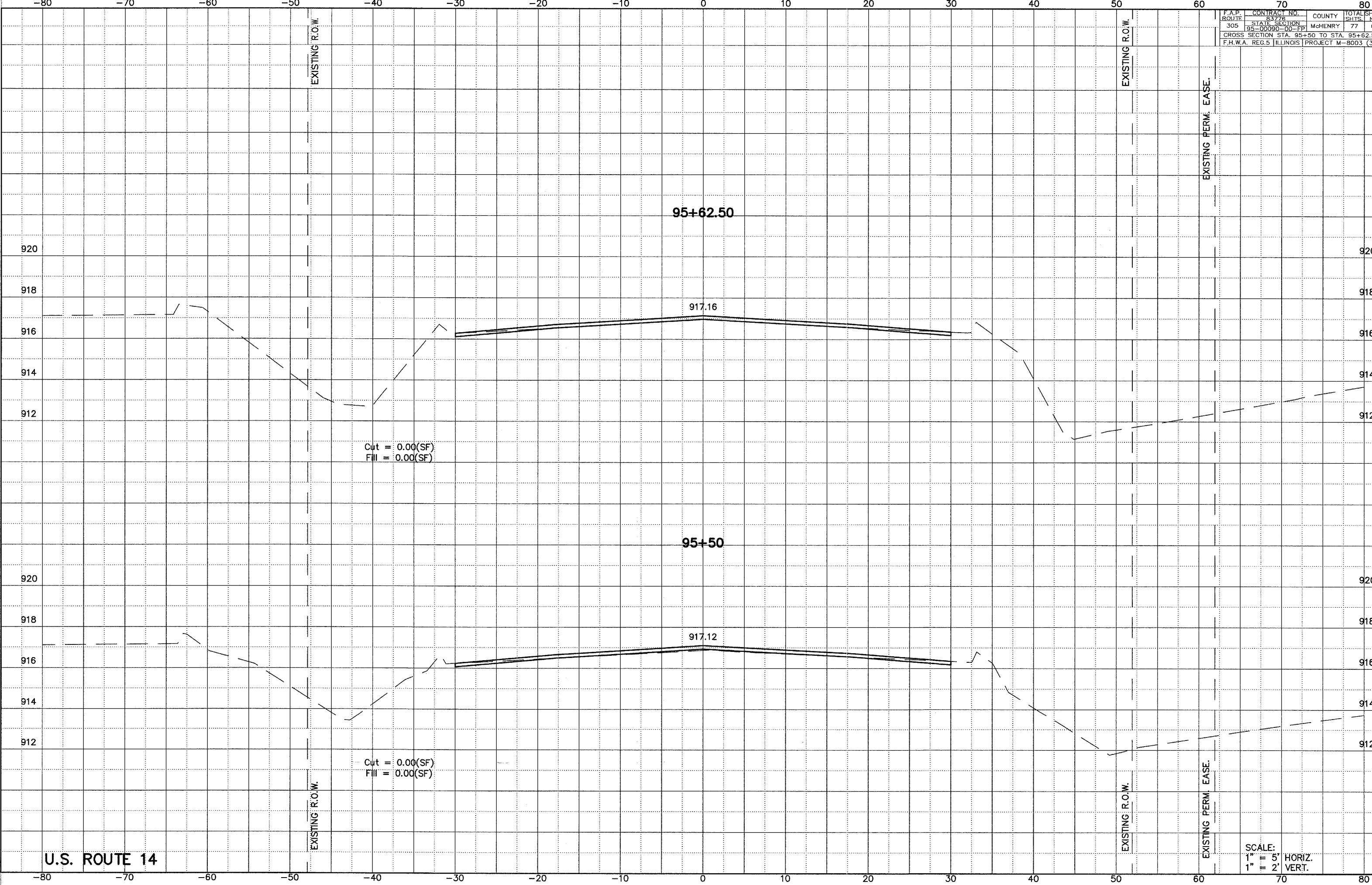




F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHTS.
305	STATE SECTION 95-00090-00-FF	McHENRY	77
CROSS SECTION STA. 94+50 TO STA. 95+00			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (			



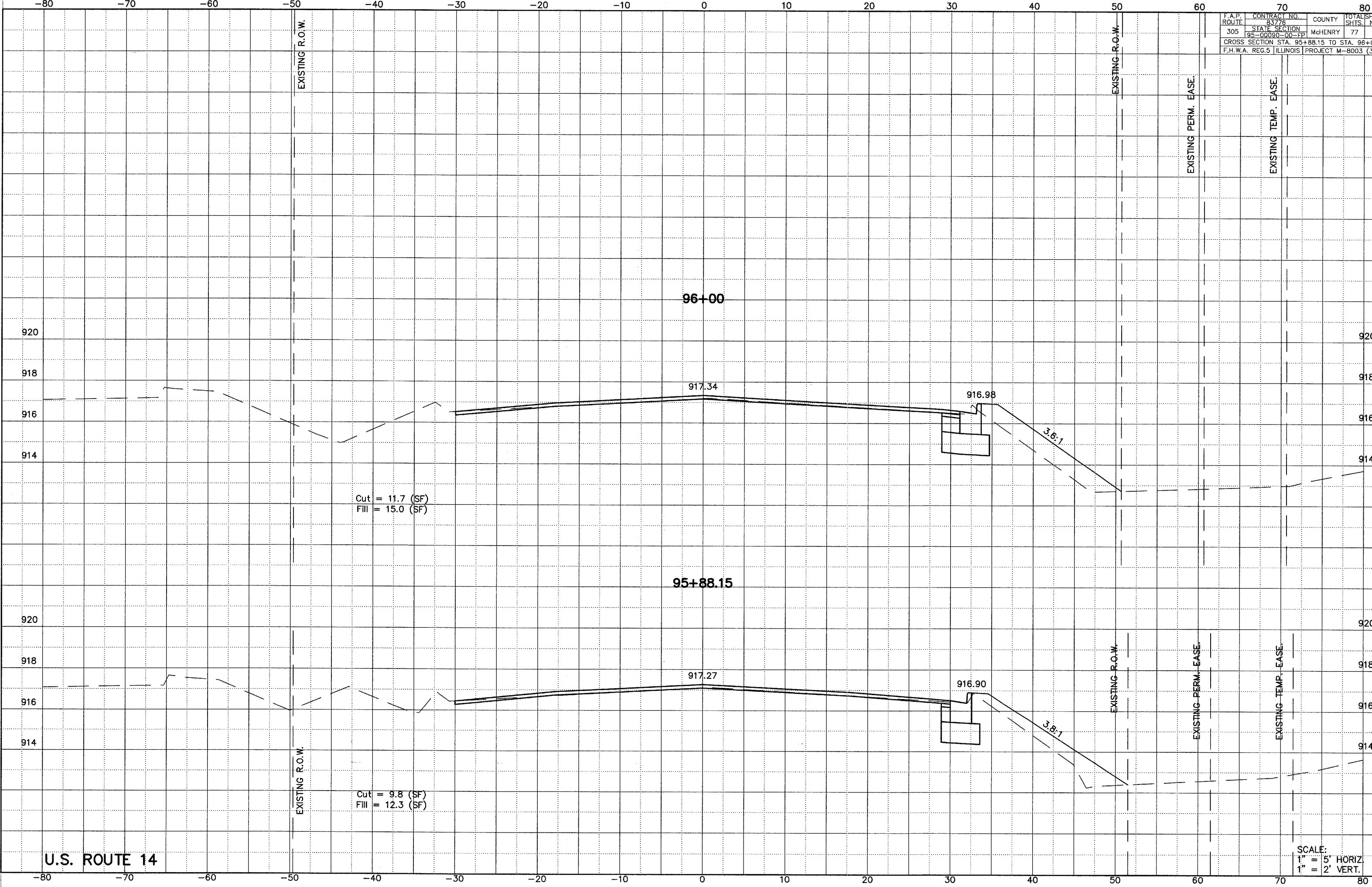




F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SH.
305	83278	McHENRY	77
STATE	SECTION		
95-00090-00-PP			
CROSS SECTION STA. 95+50 TO STA. 95+62.50			
F.H.W.A. REG. 5	ILLINOIS	PROJECT M-8003	(3)

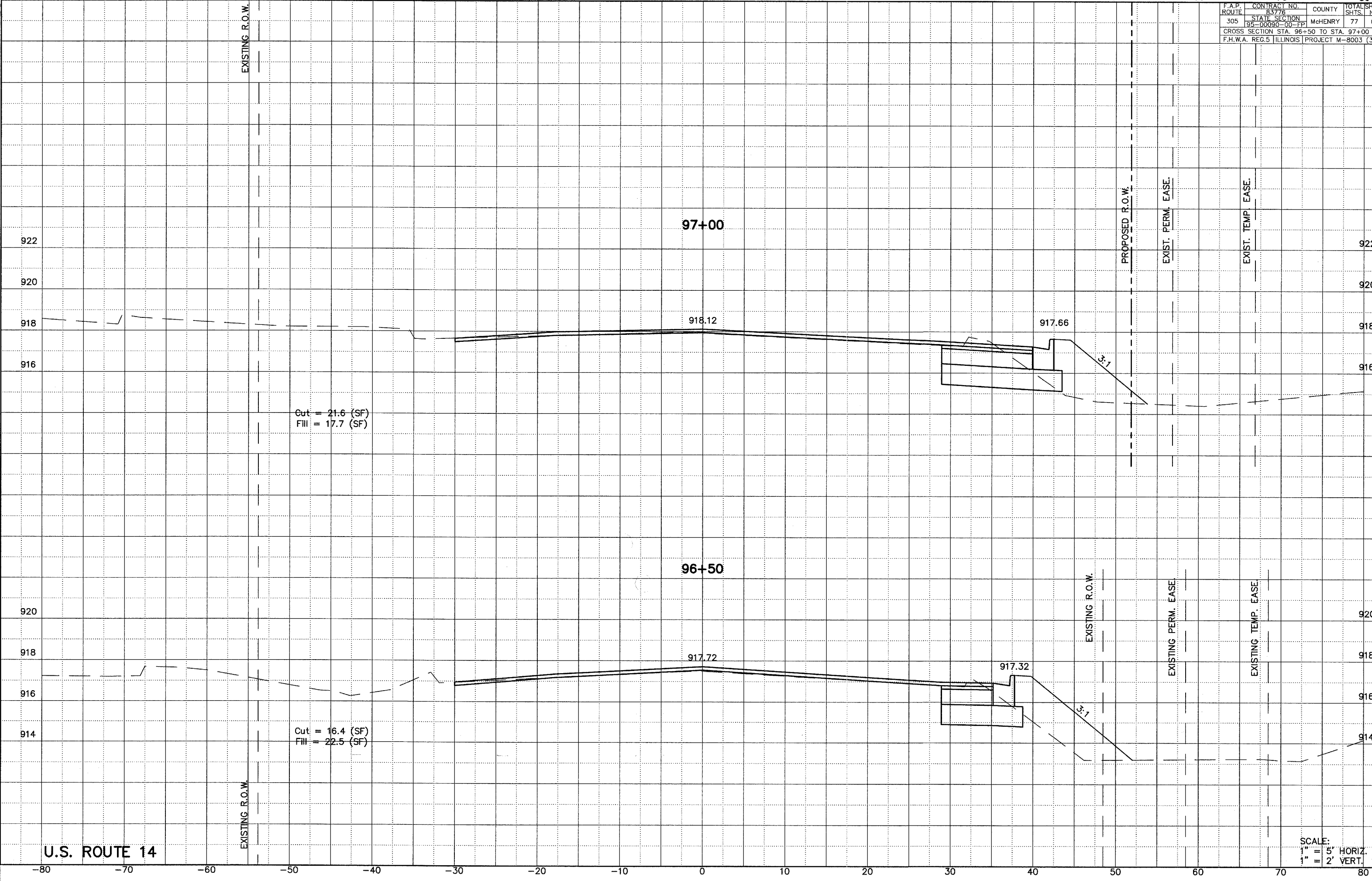
SCALE:  
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1" = 2' VERT.



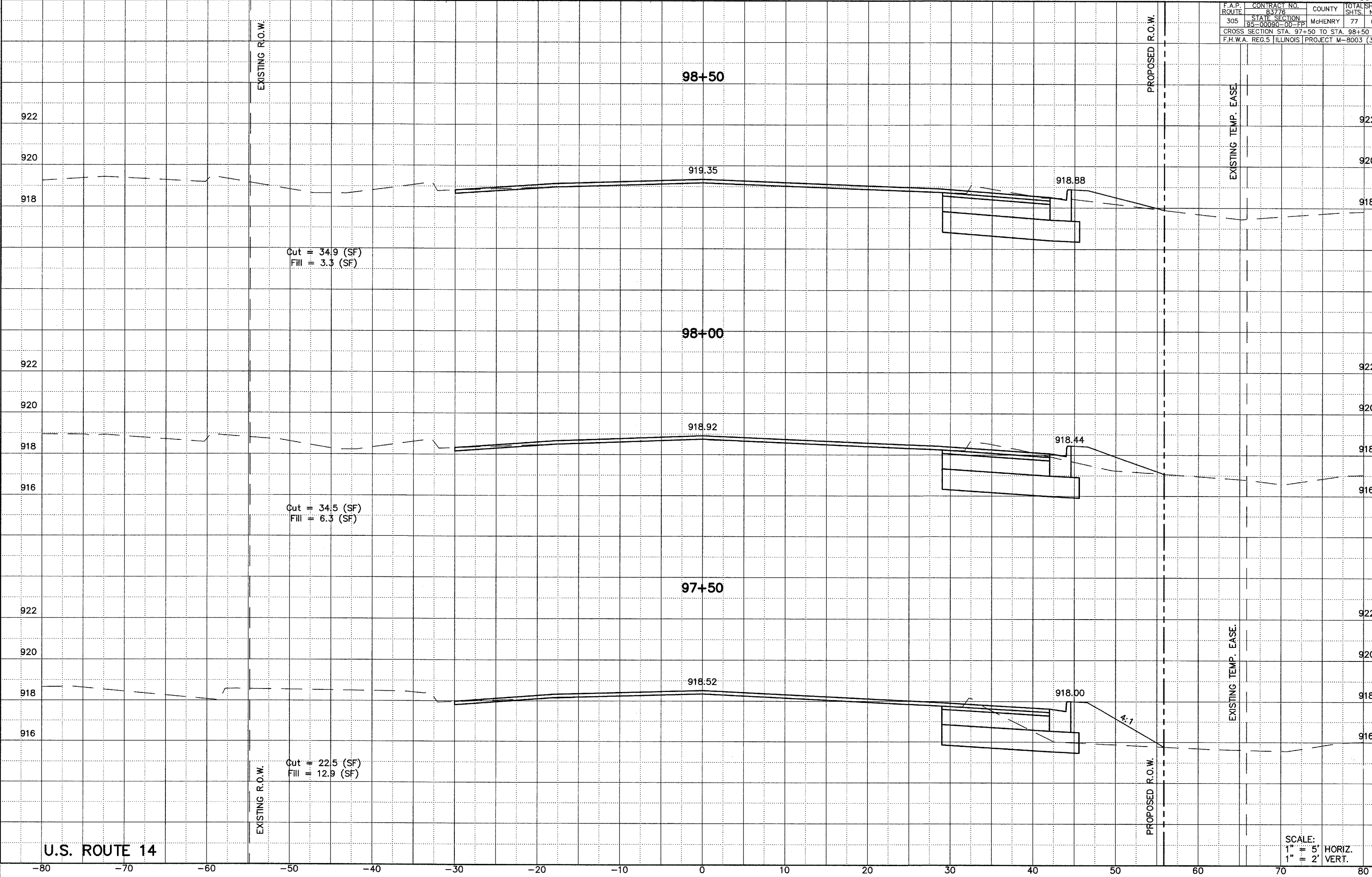




F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SH.
305	83776	McHENRY	77
STATE SECTION 95-00090-00-EP			
CROSS SECTION STA. 96+50 TO STA. 97+00			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3)			



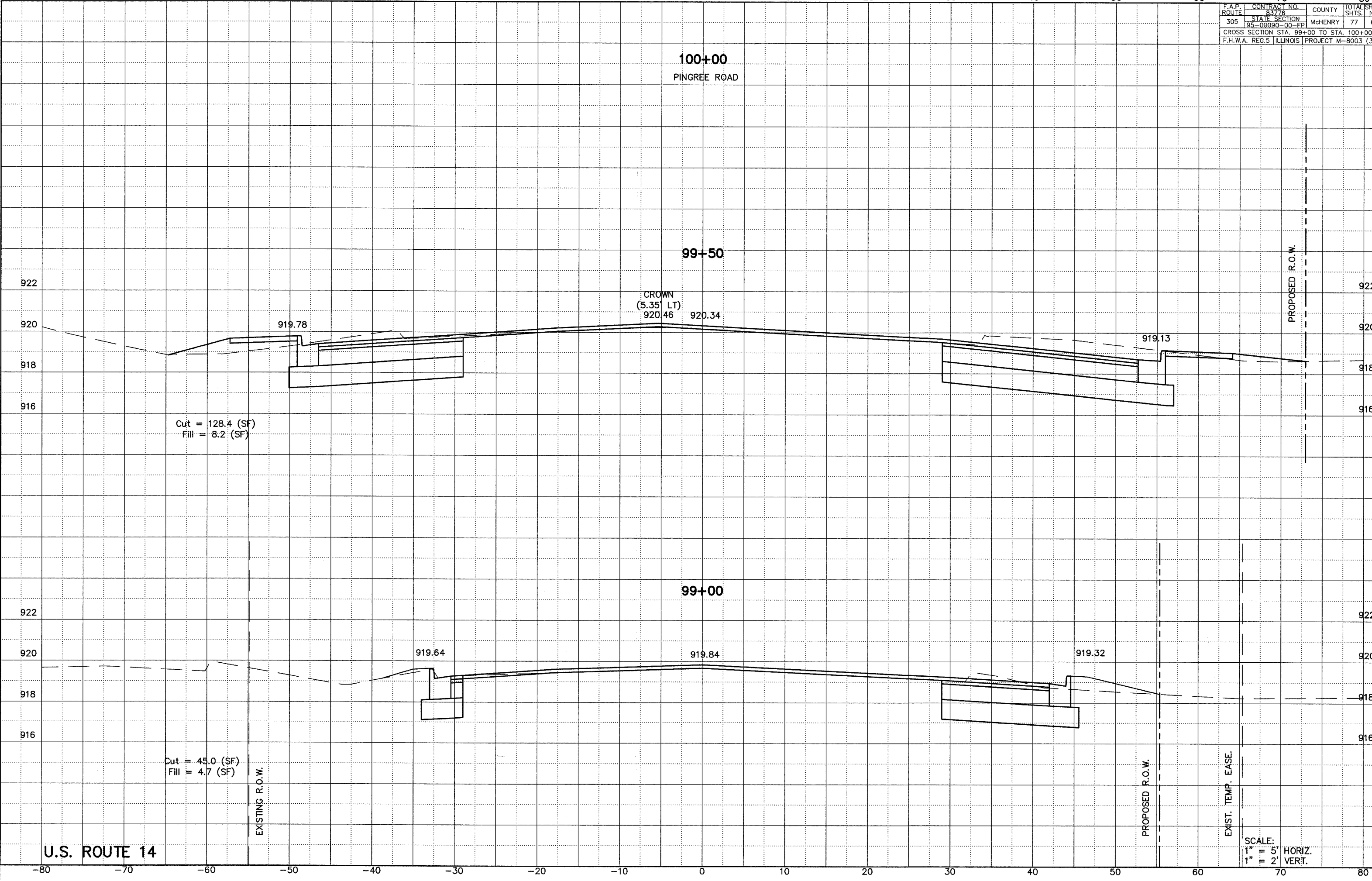




F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SH.
305	83776	McHENRY	77
STATE SECTION 95-00090-00-EP			
CROSS SECTION STA. 97+50 TO STA. 98+50			
F.H.W.A. REG. 5 ILLINOIS PROJECT M-8003 (3)			

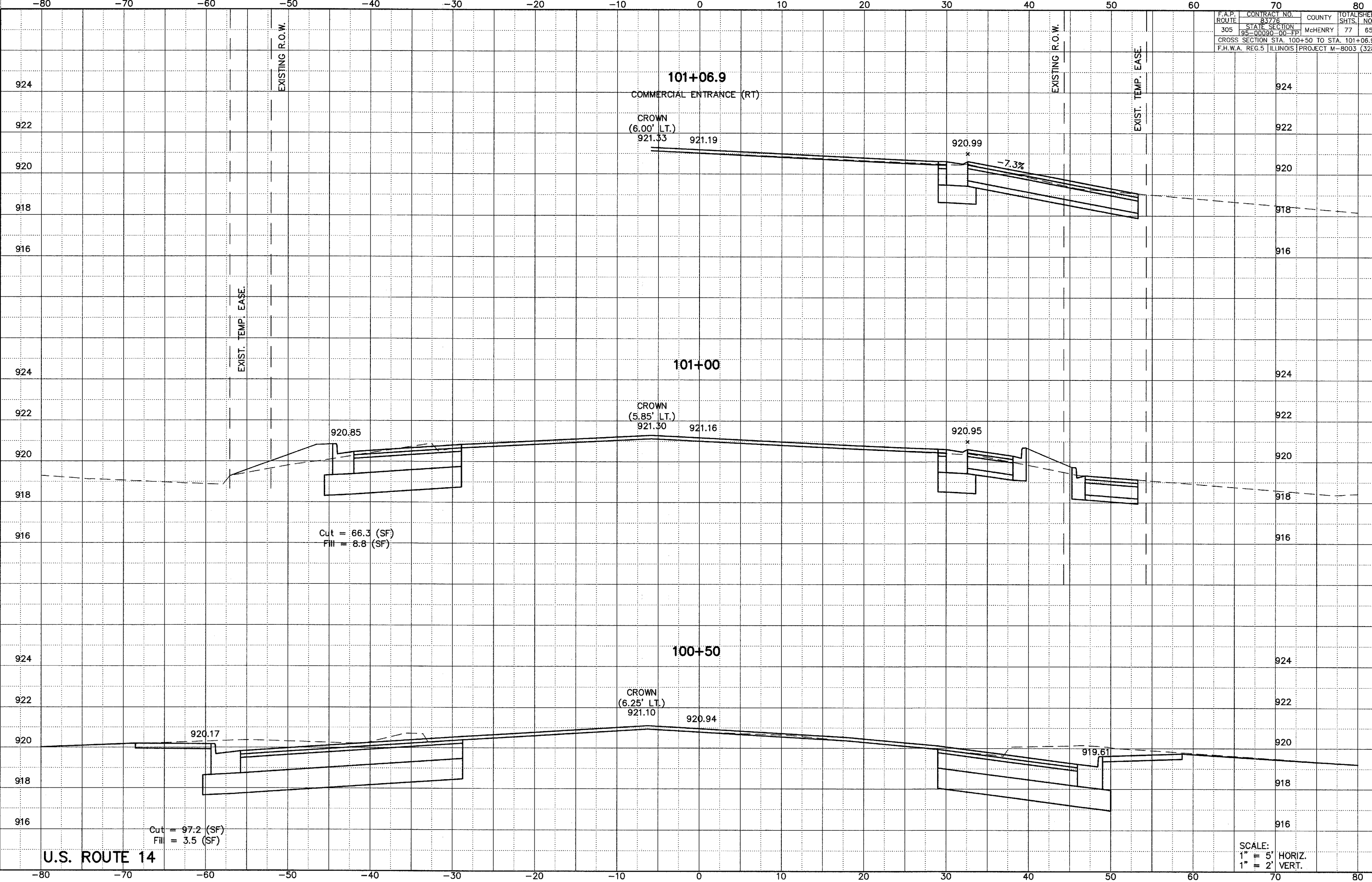


F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SH.
305	STATE SECTION 85-00090-00-EP	McHENRY	77
CROSS SECTION STA. 99+00 TO STA. 100+00			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (3			



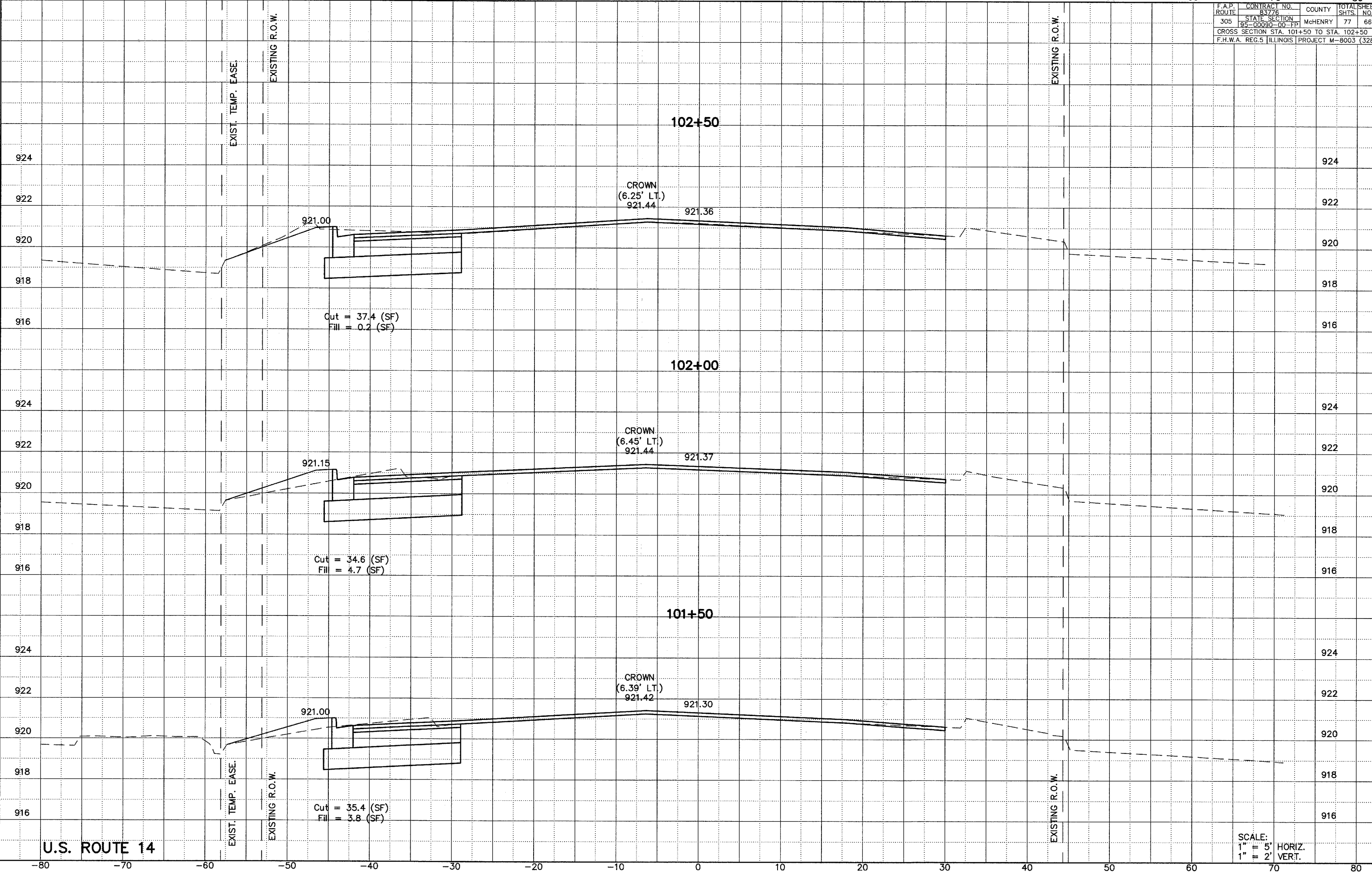


F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHEETS 77	SHEET NO. 65
305	95-00090-00-EP	McHENRY		
CROSS SECTION STA. 100+50 TO STA. 101+06.9				
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (328)				

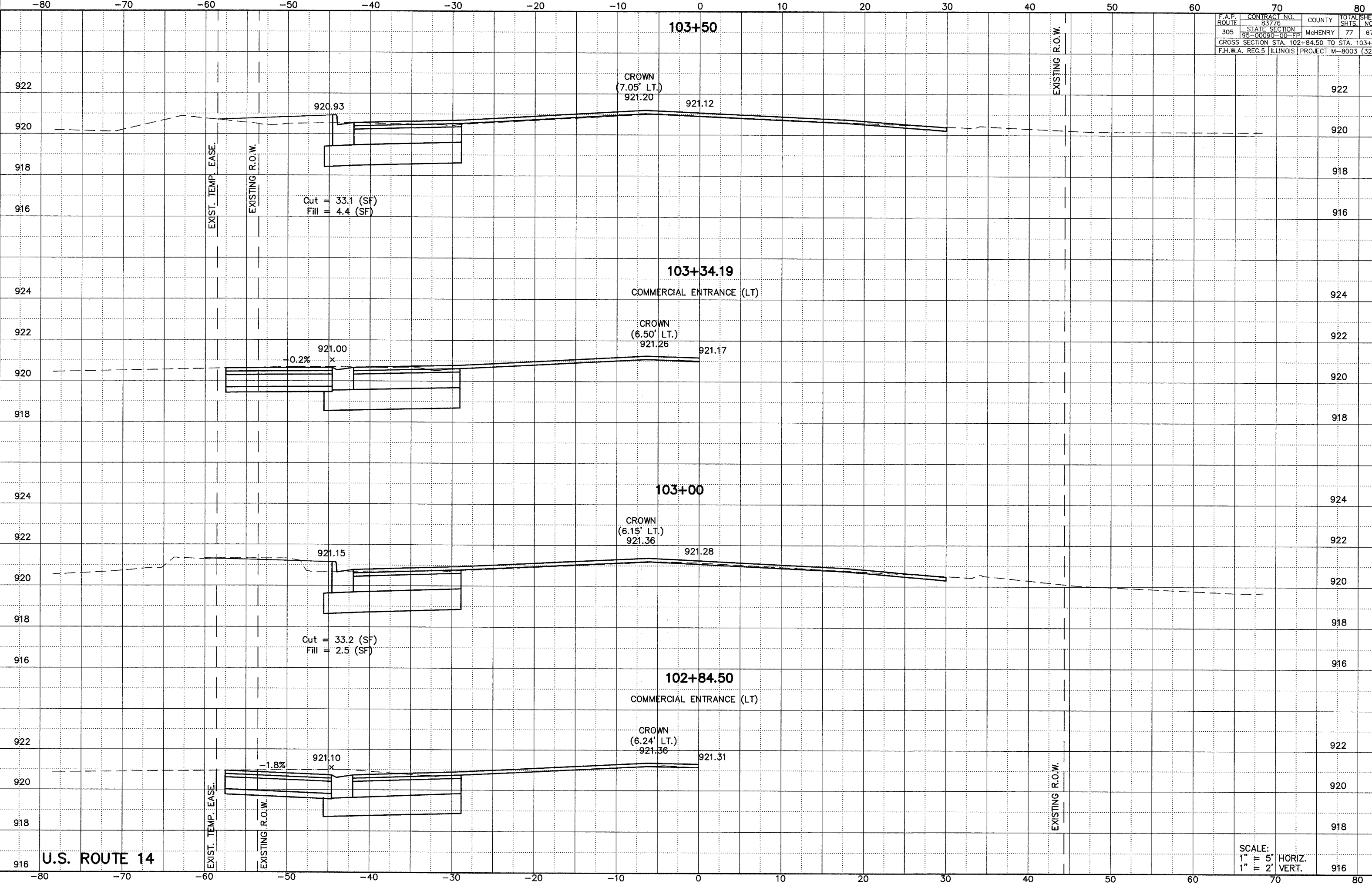




F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHEETS 77	NO. 66
305	STATE SECTION 95-00090-00-EP	McHENRY		
CROSS SECTION STA. 101+50 TO STA. 102+50				
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (328)				

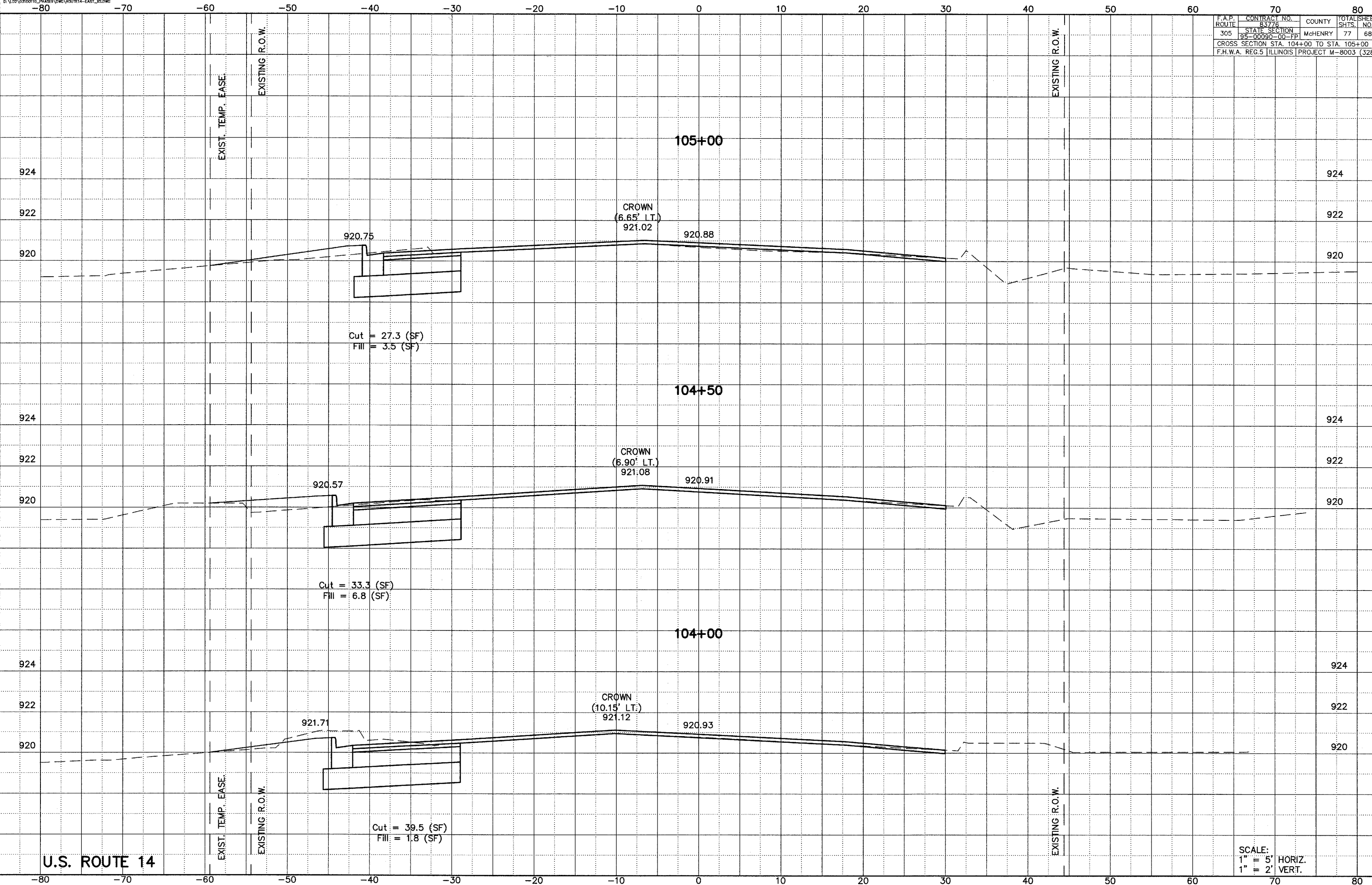








F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHEET NO.
305	95-00090-00-EP	McHENRY	77
CROSS SECTION STA. 104+00 TO STA. 105+00			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (328)			





F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHEETS
305	83776	McHENRY	77
STATE SECTION 95-00090-00-EP			69
CROSS SECTION STA. 105+50 TO STA. 106+50			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003 (328			

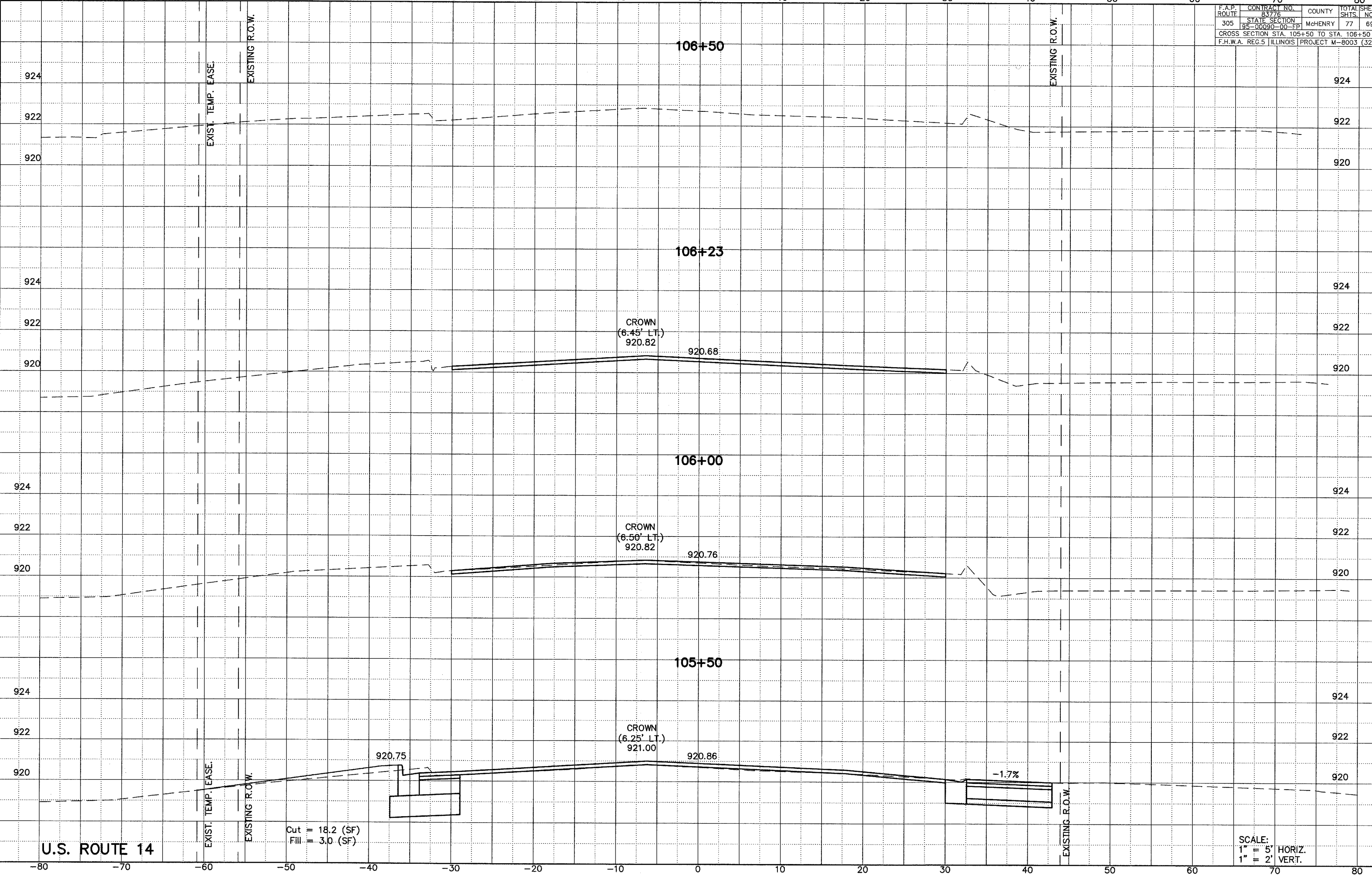






Diagram illustrating the proposed sewer lateral installation within an existing sewer lateral. The diagram shows the proposed sewer lateral (shaded area) and the existing sewer lateral (unshaded area). The existing pipe is to be cut flush. The proposed sand bedding is shown around the proposed lateral. The existing sand bedding is shown around the existing lateral. Dimensions are provided for the bedding and the gap between the pipes.

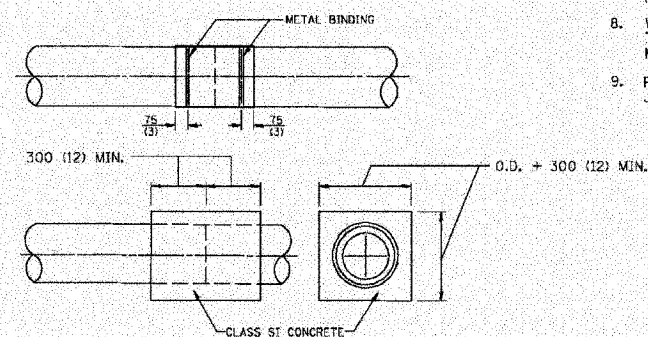
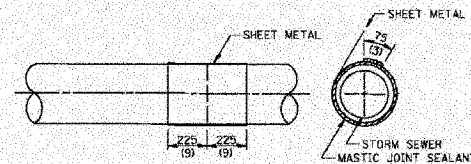
Labels:

- MASTIC JOINT SEALANT
- EXISTING PIPE TO BE CUT FLUSH
- PROPOSED SEWER LATERAL
- EXISTING SEWER LATERAL
- PROPOSED SAND BEDDING
- EXISTING SAND BEDDING

Dimensions:

- 150 (6)
- 150 (6)
- 150 (6)
- 100 (12)
- 350 (12)

Note: \*150(6)



DETAIL "B"

Diagram illustrating a proposed lateral sewer connection to an existing sewer. The diagram shows a cross-section of the existing sewer (labeled "EXIST. SEWER") and the proposed lateral sewer (labeled "PROPOSED LATERAL (300 (12) OR LESS)"). The connection is made using a mortar joint (labeled "MORTAR"). The diagram shows the lateral sewer pipe being installed into the existing sewer, with the mortar joint filling the space between the pipe and the existing sewer wall.

DETAIL "C"

## NOTES

## MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

## CONSTRUCTION METHODS

- I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.
- II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:
- A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 675 (27) OR SMALLER SEE DETAIL "A" AND "B".
  - B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 750 (30) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

## GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS; THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER  
WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED  
STORM SEWER.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETAIL OF STORM SEWER  
CONNECTION TO EXISTING SEWER

REVISIONS	
NAME	DATE
M. DE YONG	07/25/90
M. DE YONG	02/05/92
M. DE YONG	05/08/92
R. SHAH	09/09/94
R. SHAH	10/25/94
R. SHAH	06/12/96

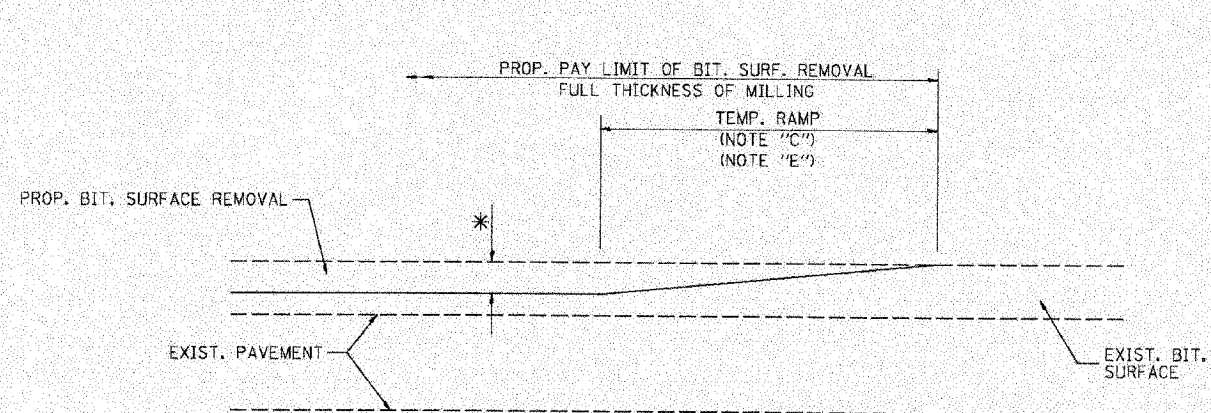
SCALE: NONE  
DATE 10/18/2002

DRAWN BY CADD  
CHECKED BY

BD500-01 (BD-7)

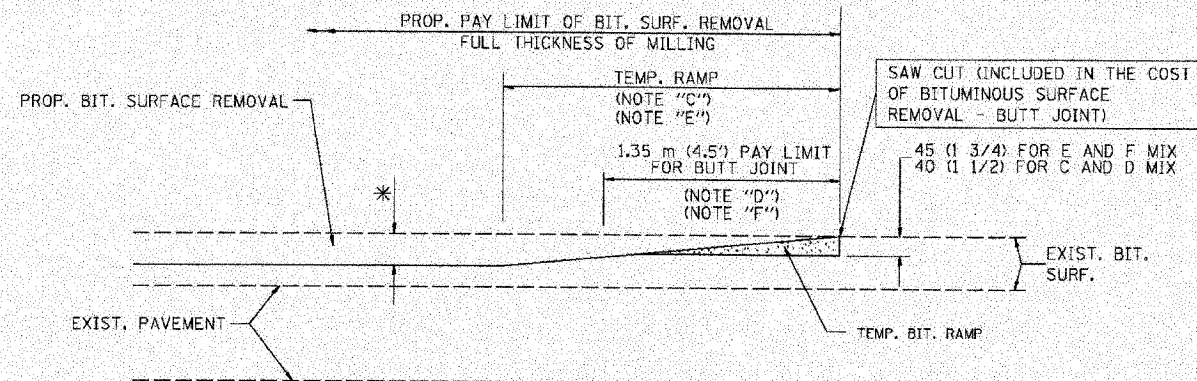


F.A.P. ROUTE	CONTRACT NO.	COUNTY	TOTAL SHITS
305	83776	McHENRY	77
DISTRICT 1 STANDARDS			
F.H.W.A. REG.5 ILLINOIS PROJECT M-800			



MILLED TEMPORARY RAMP  
(FOR BUTT JOINT AND BIT. TAPER SEE DETAIL BELOW)

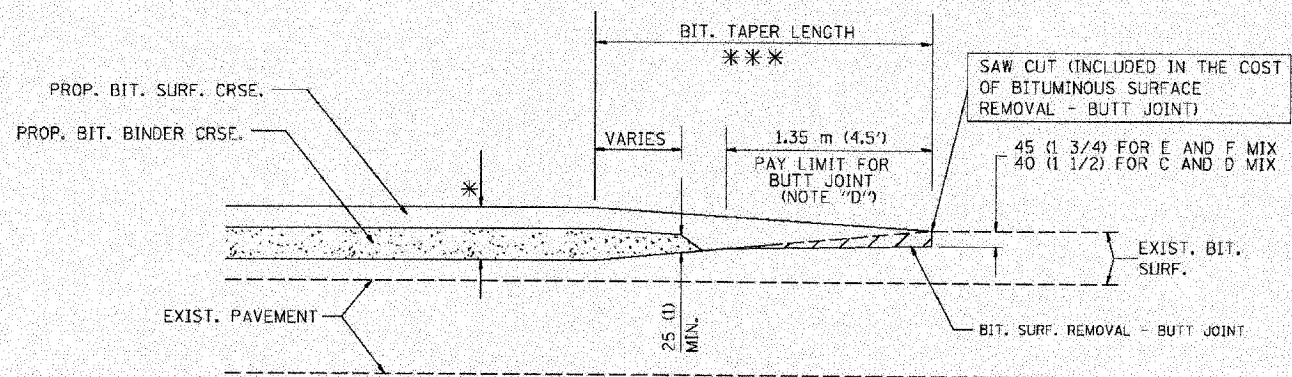
### OPTION 1



BITUMINOUS CONSTRUCTED TEMPORARY RAMP  
(FOR BUTT JOINT AND BIT. TAPER SEE DETAIL BELOW)

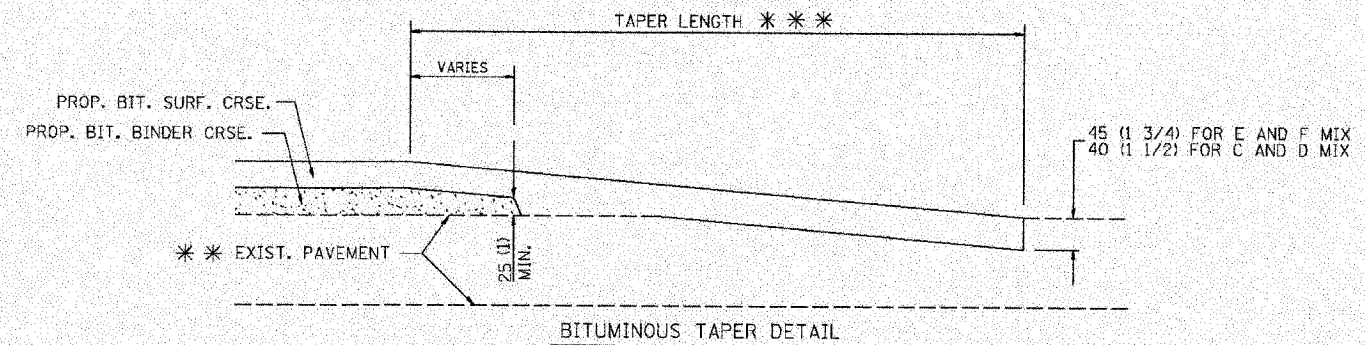
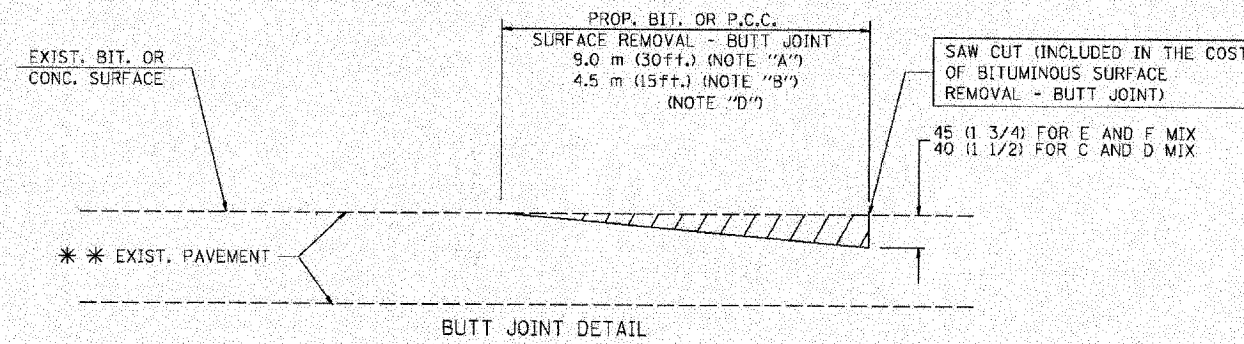
### OPTION 2

### TYPICAL TEMPORARY RAMP



BUTT JOINT AND  
BITUMINOUS TAPER

### TYPICAL BUTT JOINT AND BITUMINOUS TAPER FOR MILLING AND RESURFACING



### TYPICAL BUTT JOINT AND BITUMINOUS TAPER FOR RESURFACING ONLY

\*\*\* PC CONCRETE, BITUMINOUS OR BITUMINOUS RESURFACED PAVEMENT.

### NOTES

- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
- B: MINOR SIDE ROADS.
- C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING BITUMINOUS SURFACE.
- D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED BITUMINOUS COURSES.
- E: TAPER THE TEMP. RAMP AT A RATE OF 900 (3 ft.) PER INCH OF MILLING THICKNESS.
- F: INSTALLATION AND REMOVAL OF THE 1.35 m (4.5') TEMP. BIT. RAMP WILL BE PAID AS "BITUMINOUS SURFACE REMOVAL - BUTT JOINT".
- G: SEE ARTICLE 406.18 AND 406.24 OF THE STANDARD SPECIFICATIONS FOR "BITUMINOUS AND PCC SURFACE REMOVAL, BUTT JOINT".
- \*\*\* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

\*\*\* 6.1 m (20') PER 25 (1) RESURFACING (NOTE 'A')  
3.0 m (10') PER 25 (1) RESURFACING (NOTE 'B')

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

ILLINOIS DEPARTMENT OF TRANSPORTATION

### BUTT JOINT AND BITUMINOUS TAPER DETAILS

### BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR PER SQUARE METER (SQUARE YARD.) AS "BITUMINOUS SURFACE REMOVAL - BUTT JOINT" OR AS "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

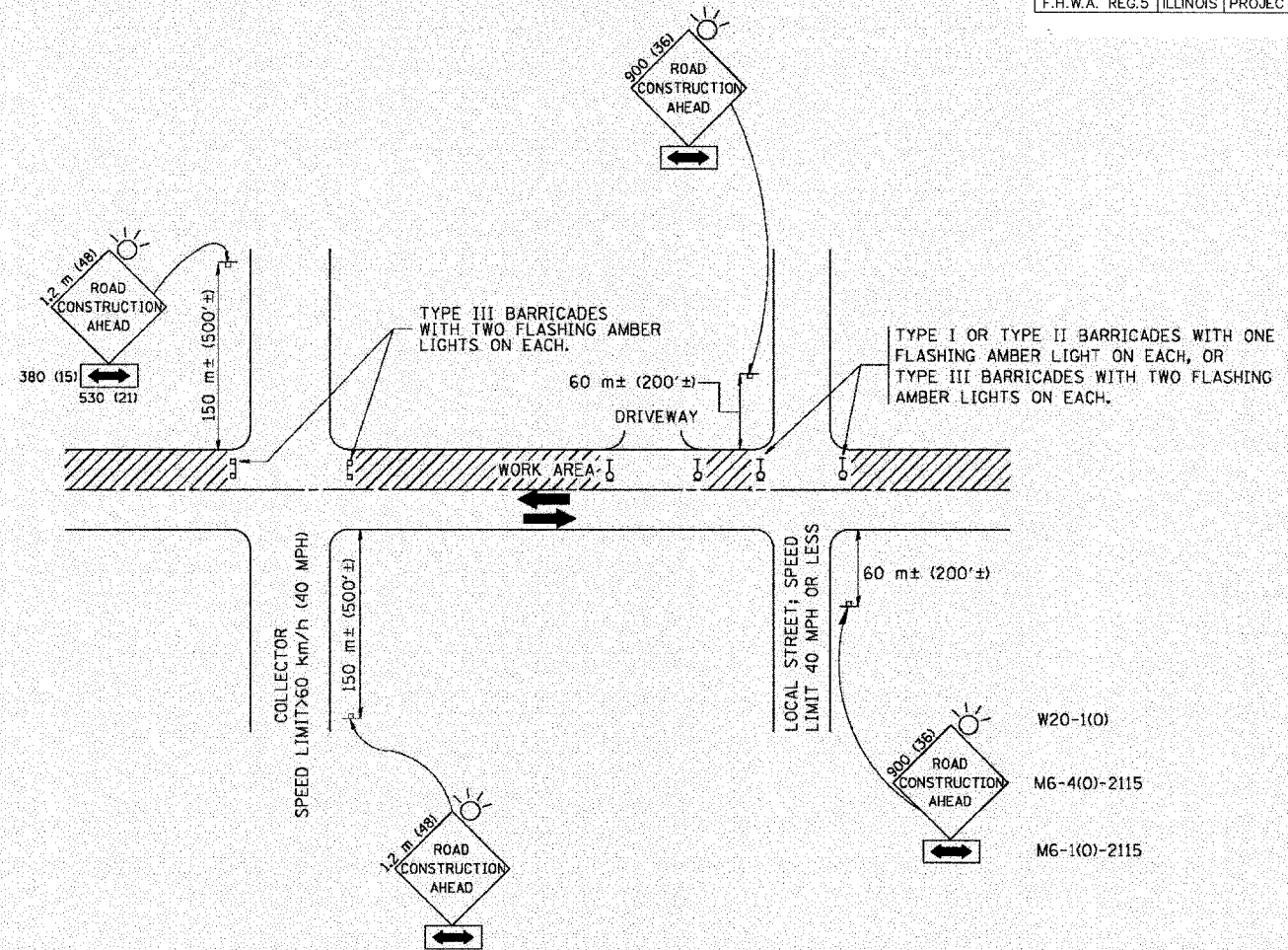
REVISIONS	
NAME	DATE
M. DE YONG	6-13-90
M. DE YONG	7-3-90
M. DE YONG	3-27-92
R. SHAH	09/09/94
R. SHAH	10/25/94
A. ABBAS	03/21/97
M. GOMEZ	04/06/01

SCALE: NONE  
DATE PLOTTED: 10/18/2002

DRAWN BY  
CHECKED BY  
BD400-05 (VI-BD)



F.A.P. ROUTE	CONTRACT NO. 83776	COUNTY	TOTAL SHES
305	STATE SECTION 95-00090-00-FF	McHENRY	77
DISTRICT 1 STANDARDS			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003			



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

- SIDE ROAD WITH A SPEED LIMIT OF 60 km/h (40 MPH) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - ONE **ROAD CONSTRUCTION AHEAD** SIGN 900x900 (36x36) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 60 m (200') IN ADVANCE OF THE MAIN ROUTE.
  - THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
- SIDE ROAD WITH A SPEED LIMIT GREATER THAN 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - ONE **ROAD CONSTRUCTION AHEAD** SIGN 1.2 m x 1.2 m (48x48) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 150 m (500') IN ADVANCE OF THE MAIN ROUTE.
  - THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
- WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

- USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

REVISIONS	
NAME	DATE
LHA	6/89
T. RAMMACHER	09/08/94
J. OBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION  
TRAFFIC CONTROL AND PROTECTION  
FOR  
SIDE ROADS, INTERSECTIONS, AND  
DRIVEWAYS

SCALE: VERT.  
HORIZ.  
DATE 10/18/2002

DRAWN BY  
CHECKED BY  
TC-10





TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	100 (4)	SKIP-DASH	YELLOW	3 m (10') LINE WITH 9 m (30') SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 100 (4)	SOLID	YELLOW	280 (11) C-C
NO PASSING ZONE LINES; FOR ONE DIRECTION FOR BOTH DIRECTIONS	100 (4) 2 @ 100 (4)	SOLID SOLID	YELLOW YELLOW	140 (5½) C-C FROM SKIP-DASH CENTERLINE 280 (11) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	100 (4) 125 (5) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	3 m (10') LINE WITH 9 m (30') SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	600 (2') LINE WITH 1.8 m (6') SPACE
EDGE LINES	100 (4)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	150 (6) LINE; FULL SIZE LETTERS & SYMBOLS (2.4 m (8'))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 100 (4) EACH DIRECTION  2.4 m (8') LEFT ARROW	SKIP-DASH AND SOLID  IN PAIRS	YELLOW  WHITE	3 m (10') LINE WITH 9 m (30') SPACE FOR SKIP-DASH; 140 (5½) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE  SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 150 (6) 300 (12) @ 45° 300 (12) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 1.8 m (6') APART 600 (2') APART 600 (2') APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	600 (24)	SOLID	WHITE	PLACE 1.2 m (4') IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 100 (4) WITH 300 (12) DIAGONALS @ 45°  NO DIAGONALS USED FOR 1.2 m (4') WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC  WHITE; ONE WAY TRAFFIC	280 (11) C-C FOR THE DOUBLE LINE  SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	200 (8) WITH 300 (12) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS; 4.5 m (15') C-C (LESS THAN 50 km/h (30 MPH)) 6 m (20') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 9 m (30') C-C (OVER 70 km/h (45 MPH))
RAILROAD CROSSING	600 (24) TRANSVERSE LINES; "RR" IS 1.8 m (6') LETTERS; 400 (16) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=0.33m <sup>2</sup> (3.6 SQ. FT.) EACH "X"=5.0 m <sup>2</sup> (54.0 SQ. FT.)
SHOULDER DIAGONALS	300 (12) @ 45°	SOLID	WHITE - RIGHT  YELLOW - LEFT	15 m (50') C-C (LESS THAN 50 km/h (30 MPH)) 25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 45 m (150') C-C (OVER 70 km/h (45 MPH))

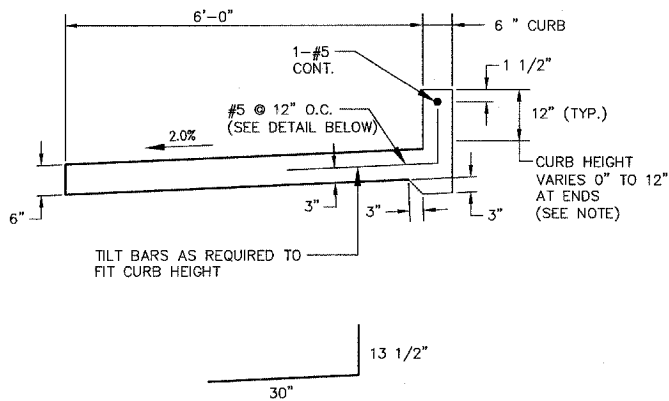
All dimensions are in millimeters (inches) unless otherwise shown.

REVISIONS	
NAME	DATE
EVERS	03-19-90
T. RAMMACHER	10-27-94
ALEX HOUSEH	10-09-96
ALEX HOUSEH	10-17-96
T. RAMMACHER	01-06-00

# DISTRICT ONE TYPICAL PAVEMENT MARKINGS

DRAWN BY CADD  
CHECKED BY

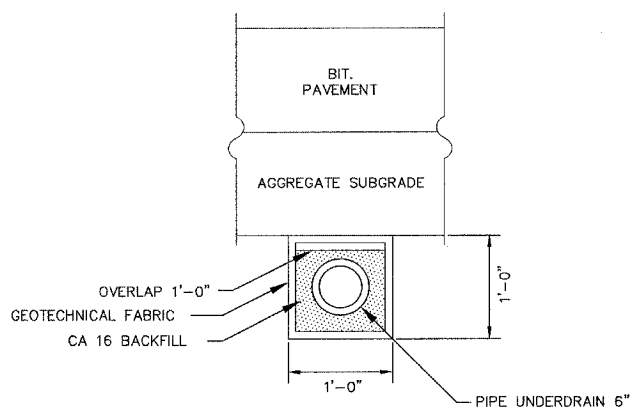
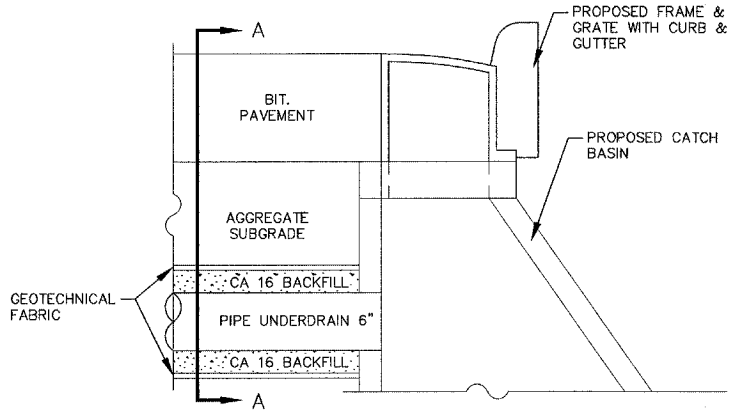




NOTE: TAPER CURB HEIGHT FROM 0" TO 12" WITHIN 5' TRANSITION (5:1 SLOPE)

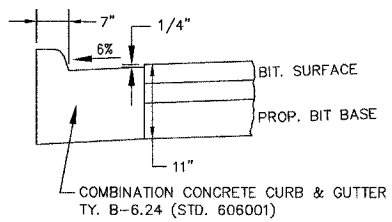
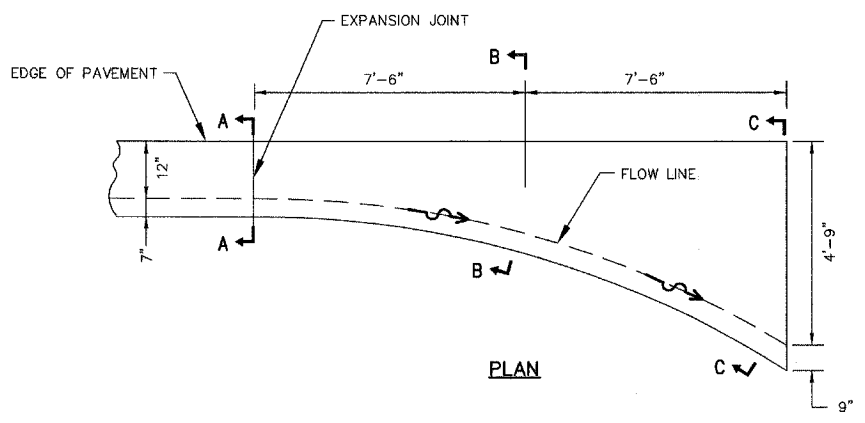
**PORTLAND CEMENT CONCRETE SIDEWALK,  
6 INCH SPECIAL DETAIL**

(N.T.S.)

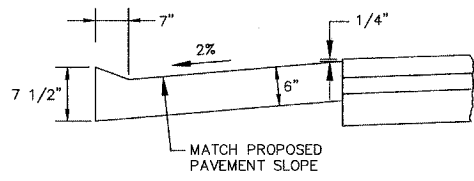


**PIPE UNDERDRAIN, 6" DETAIL**

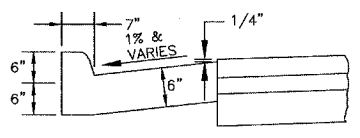
(N.T.S.)



**SECTION A-A**



**SECTION C-C**

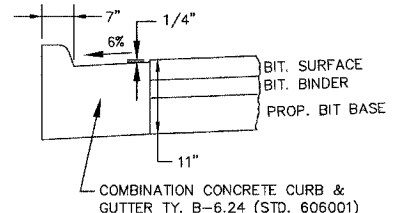
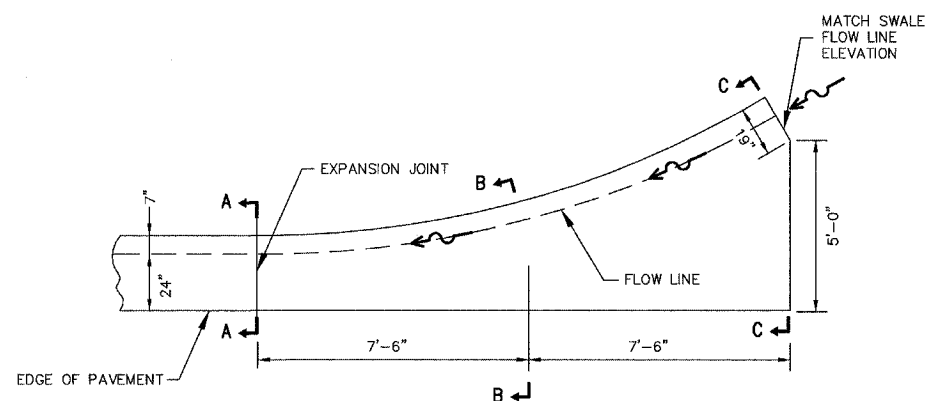


**SECTION B-B**

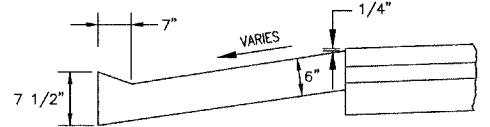
**GUTTER OUTLET, SPECIAL DETAIL**

(N.T.S.)

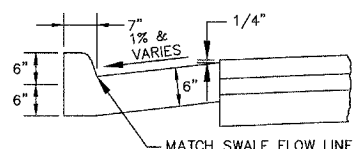
NOTE: GUTTER OUTLET PAID FOR AS COMB. CONC. CURB & GUTTER TY B-6.24



**SECTION A-A**



**SECTION C-C**

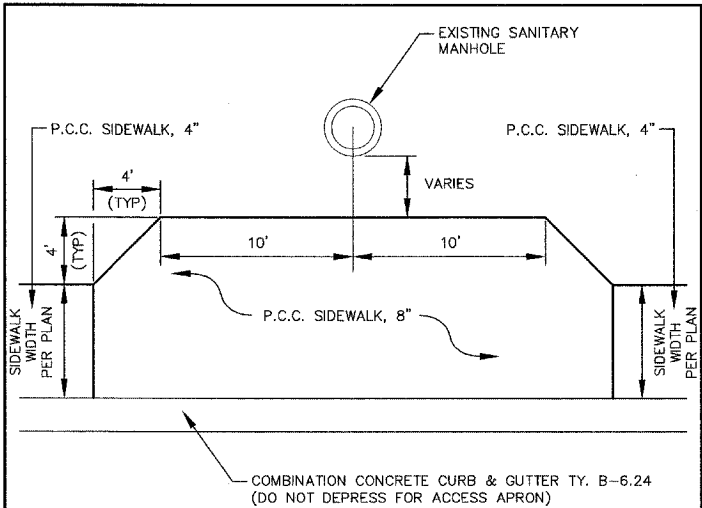


**SECTION B-B**

**GUTTER INLET, SPECIAL DETAIL**

(N.T.S.)

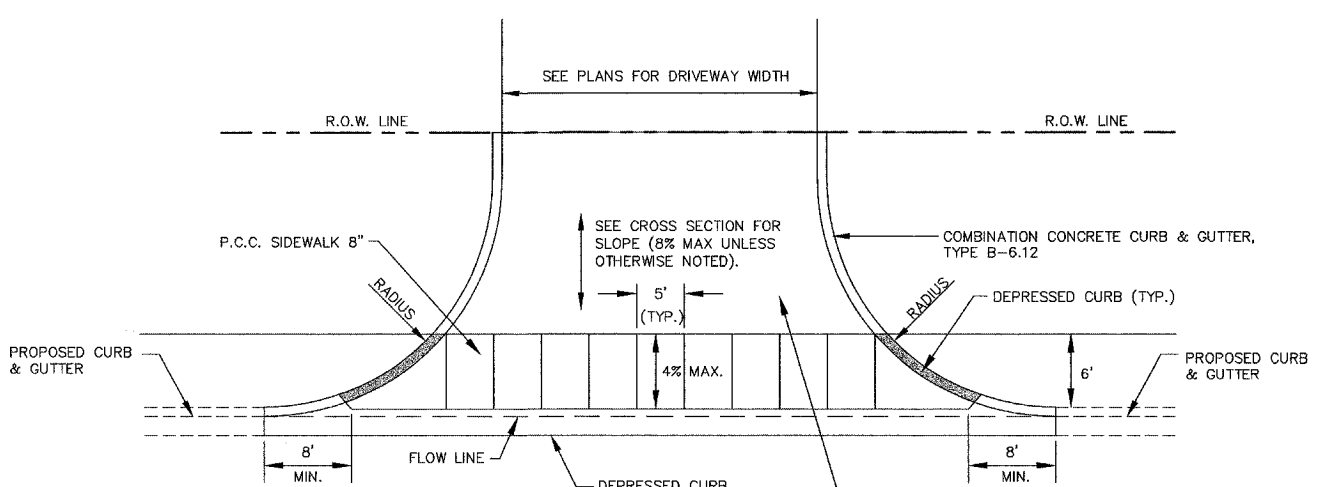
NOTES:  
GUTTER INLET TO BE FORMED AND PLACED FOLLOWING PLACEMENT OF BITUMINOUS BASE COURSE.  
GUTTER INLET PAID FOR AS COMB. CONC. CURB & GUTTER TY B-6.24.



NOTE: CONSTRUCTION OF ACCESS APRON WILL BE PAID FOR AS P.C.C. SIDEWALK, 8"

**ACCESS APRON DETAIL**

(N.T.S.)



**COMMERCIAL DRIVEWAY**

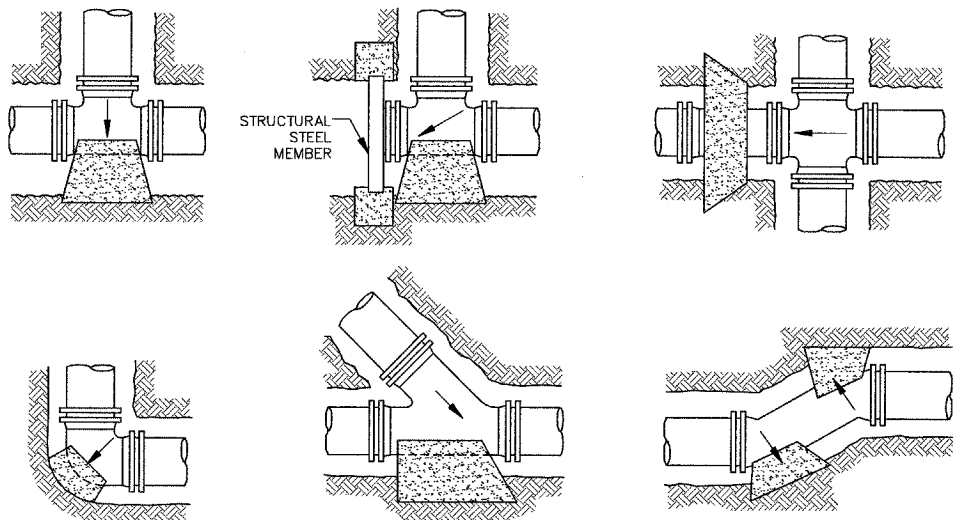
BITUMINOUS DRIVEWAY PAVEMENT, SUPERPAVE

(N.T.S.)

BITUMINOUS DRIVEWAY PAVEMENT, SUPERPAVE  
3" SUBBASE GRAN. MATERIAL, TYPE C, GRAD. CA-6  
7" BIT. BASE COURSE, SUPERPAVE  
2" BIT. CONC. BINDER COURSE, SUPERPAVE, IL-19, N50  
2" BIT CONC. SURFACE COURSE, SUPERPAVE, MIX "C", N50

F.A.U. ROUTE	CONTRACT NO.	COUNTY	TOTALS SHTS.
0126	83776	McHENRY	77
SPECIAL DETAILS			
F.H.W.A. REG.5 ILLINOIS PROJECT M-8003			



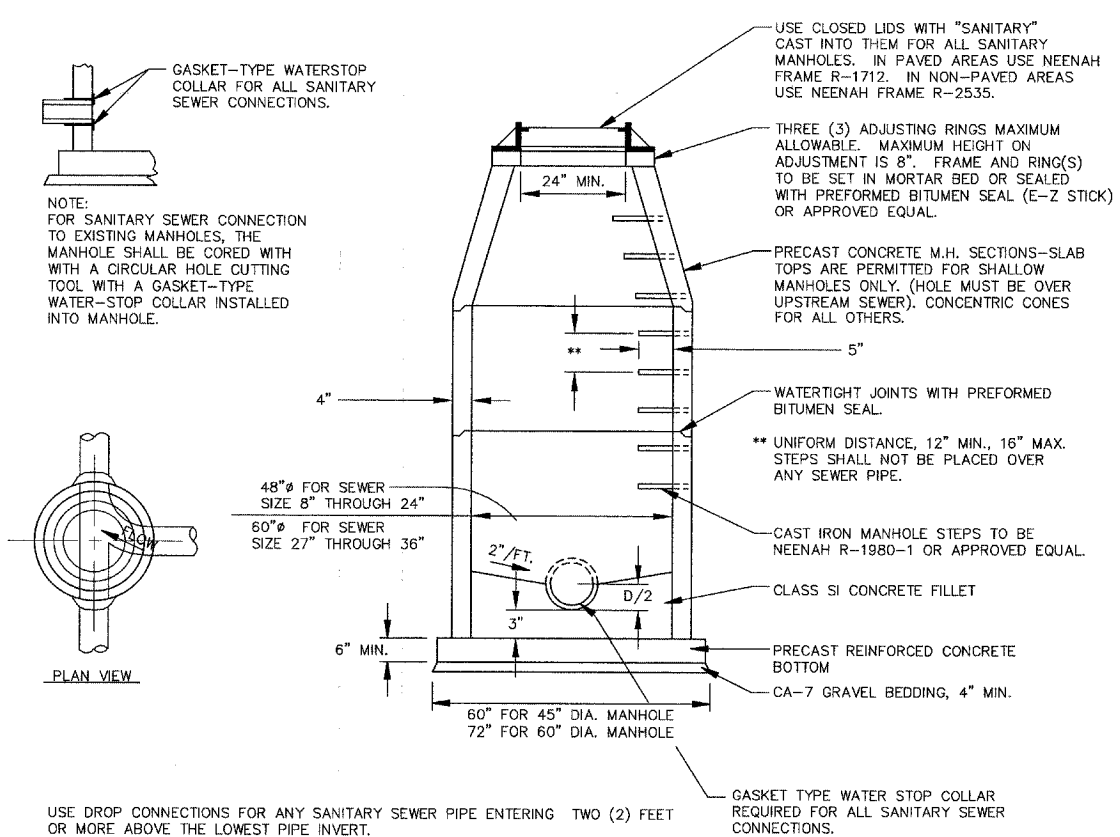


BEARING AREA IN SQ. FT. [SQ. METERS]					
PIPE SIZE	TEE/PLUG	90°	45°	22 1/2°	11 1/4°
6"	4"	2"	1"	1"	1"
8"	6"	4"	3"	1"	1"
10"	7"	5"	3"	2"	1"
12"	8"	6"	4"	3"	2"
14"	12"	9"	6"	4"	3"
16"	15"	12"	7"	5"	3"
18"	18"	15"	9"	5"	4"
24"	40"	30"	15"	10"	5"

ALL BLOCKING SHALL BE POURED CONCRETE AGAINST UNDISTURBED EARTH.  
ALL BENDS OR ELBOWS GREATER THAN 11-1/4° SHALL HAVE THRUST BLOCKING.  
ALTERNATIVELY, "MEGA-LUG" JOINT RESTRAINTS CAN BE USED WITH APPROVAL OF THE ENGINEER.

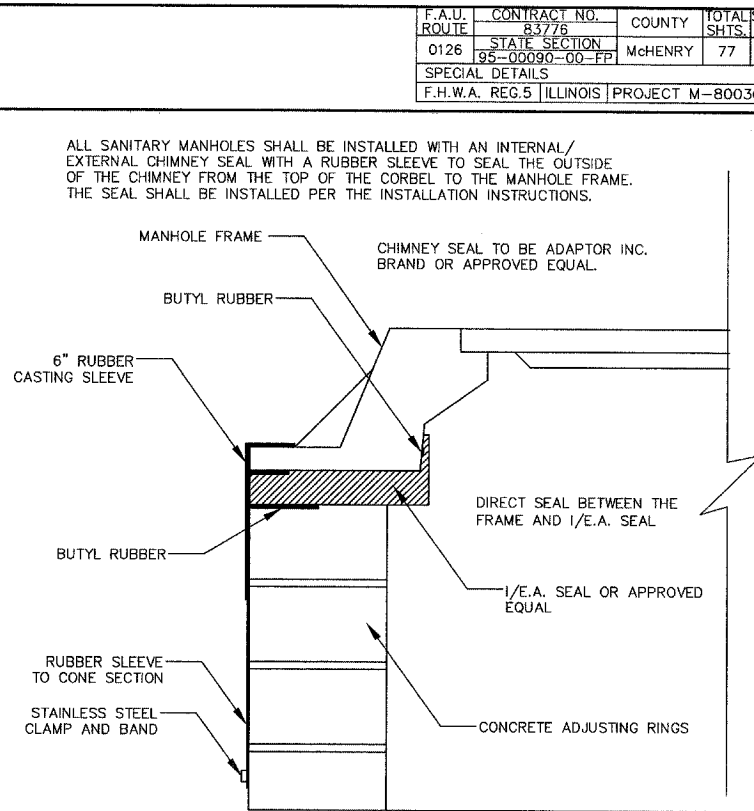
### THRUST BLOCK INSTALLATION

(N.T.S.)



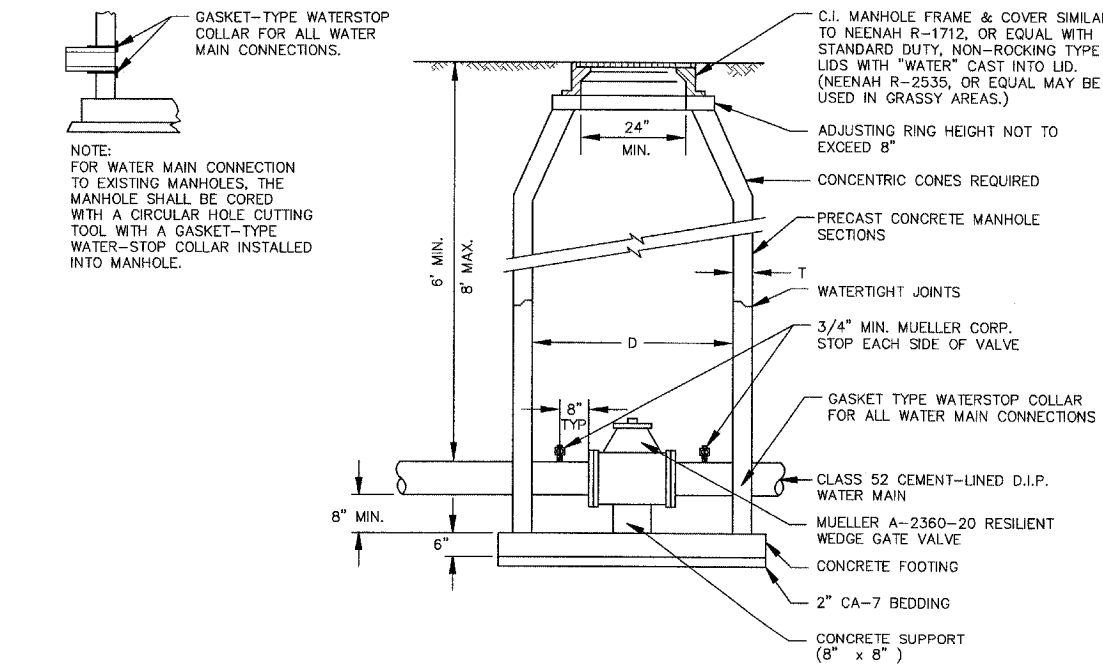
### STANDARD SANITARY MANHOLE DETAIL

(N.T.S.)



### INTERNAL / EXTERNAL CHIMNEY SEAL - I / E.A. SEAL

(N.T.S.)

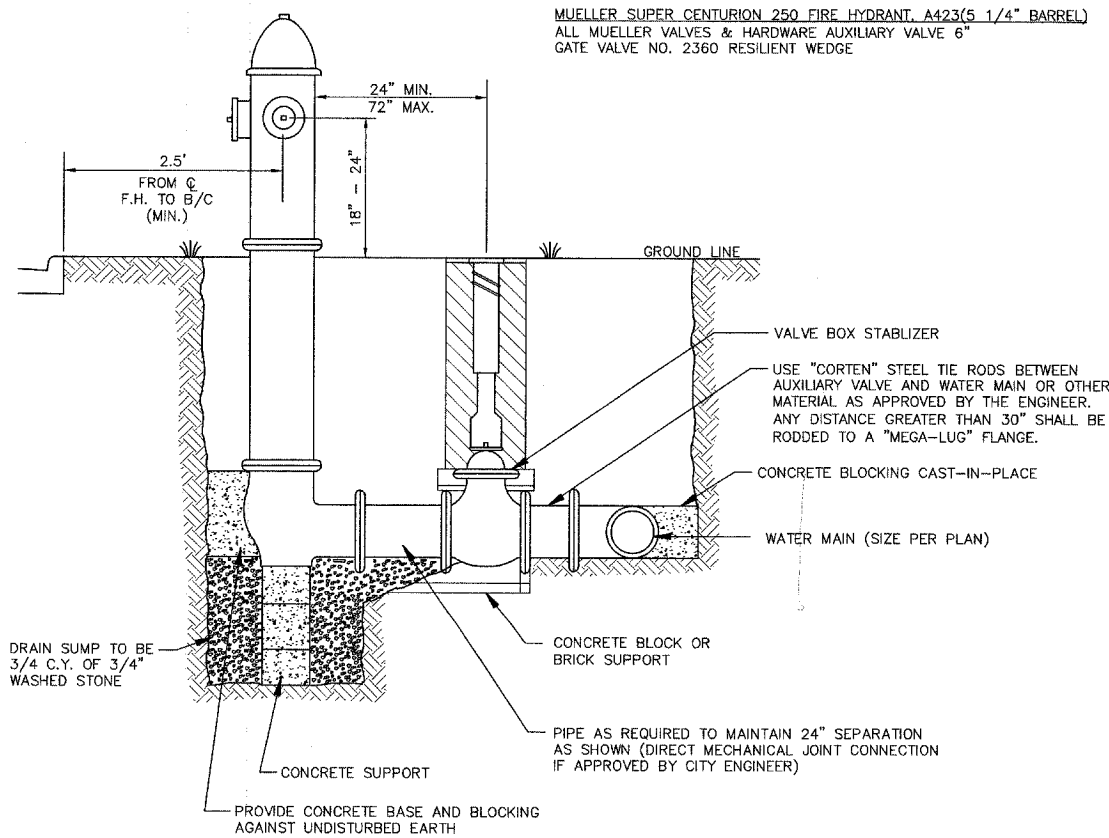


NOTES  
DRAIN FOR VALVE VAULT SHALL BE CONSTRUCTED ONLY WHEN SHOWN ON THE PLANS.  
FRAME AND RING(S) TO BE SET IN MORTAR BED OR SEALED WITH A PREFORMED BITUMEN SEAL (E-Z STICK OR APPROVED EQUAL).  
FOR PRESSURE CONNECTION, SEE SEPARATE DETAIL.

DIAMETER OF WATER MAIN	D	T
8" AND OVER	5'-0"	5"

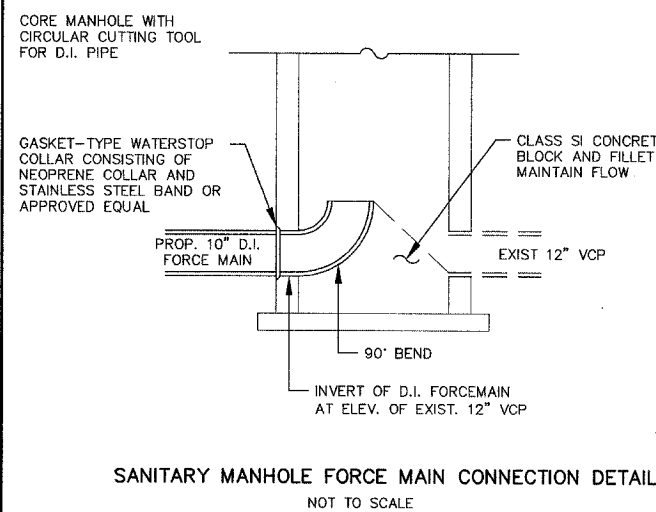
### STANDARD VALVE VAULT

(N.T.S.)



### FIRE HYDRANT DETAIL

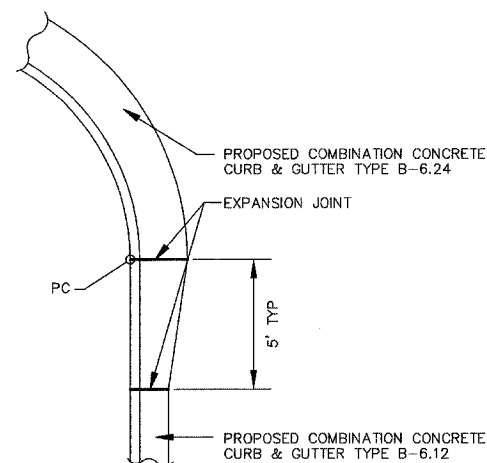
(N.T.S.)



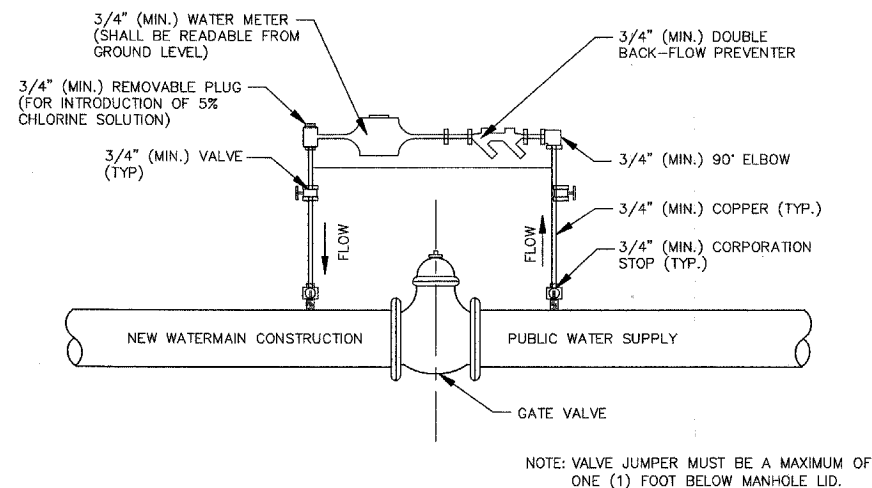
### SANITARY MANHOLE FORCE MAIN CONNECTION DETAIL

NOT TO SCALE

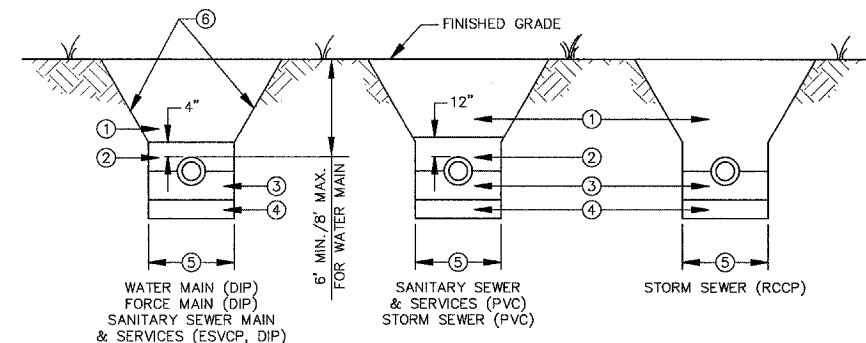




CURB AND GUTTER TRANSITION DETAIL  
(N.T.S.)

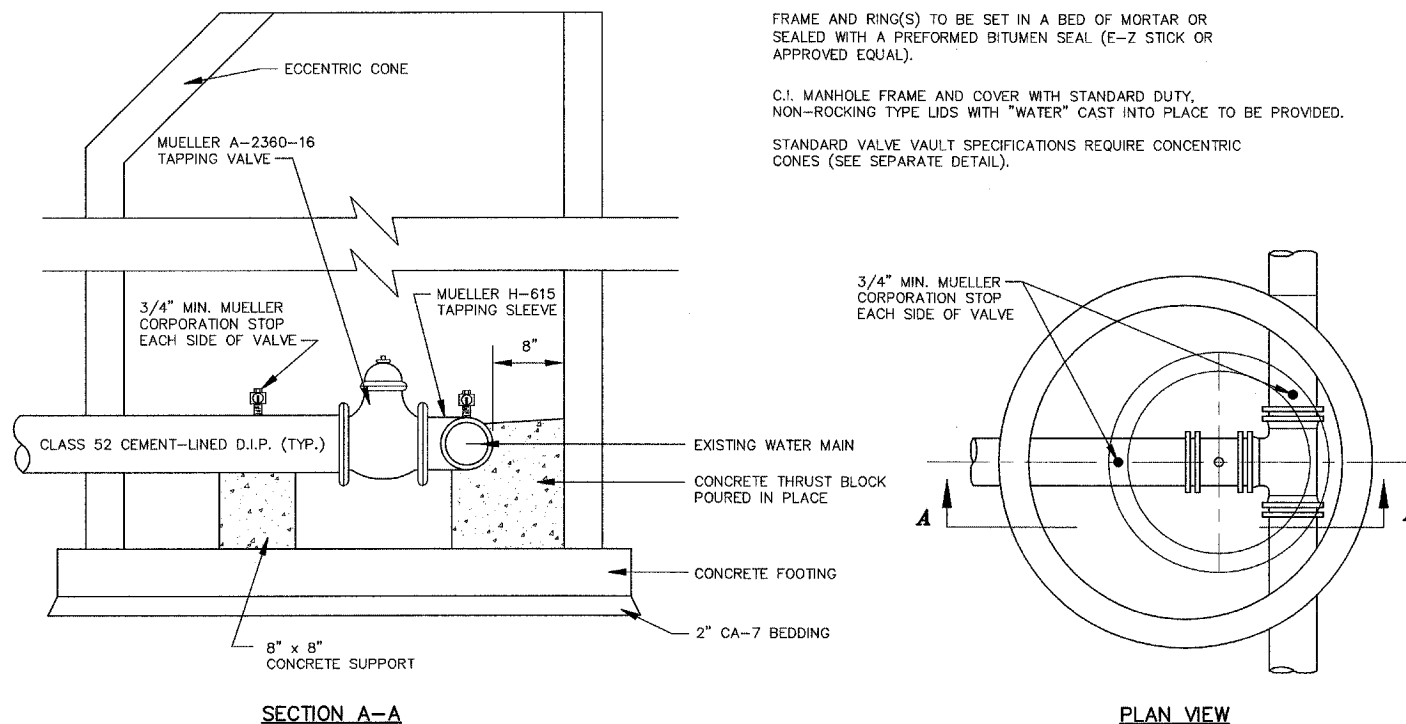


STANDARD WATER VALVE JUMPER DETAIL  
(N.T.S.)

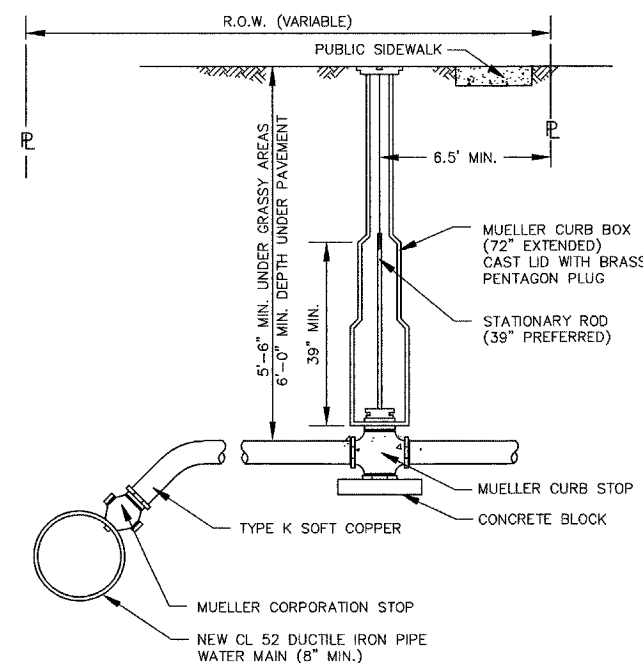


- ① TRENCH BACKFILL TO SUBGRADE AND WITHIN 2' OF PROPOSED PAVEMENT, CURB AND GUTTER OR SIDEWALK. TRENCH BACKFILL MATERIAL SHALL BE IDOT APPROVED GRADATION CA-6, CRUSHED STONE OR GRUSHED GRAVEL COMPACTED TO 90% OF MODIFIED PROCTOR DENSITY. ALTERNATE TRENCH BACKFILL SPECIFICATIONS REQUIRE APPROVAL OF THE CITY ENGINEER. IN NON-STRUCTURAL AREAS, BACKFILL WITH APPROVED EXCAVATED MATERIALS.
- ② INITIAL BACKFILL TO DEPTH AS INDICATED. MATERIAL SHALL BE IDOT APPROVED GRADATION CA-6, CRUSHED STONE OR GRAVEL INCLUDED IN TRENCH BACKFILL QUANTITY AT STRUCTURAL OR NON-STRUCTURAL AREAS.
- ③ PIPE BEDDING SHALL BE ANGULAR GRANULAR MATERIAL IDOT GRADATION CA-7 OR CA-11 FROM 4" BELOW PIPE TO HORIZONTAL CENTER OF PIPE.
- ④ UNSUITABLE MATERIAL TO BE REMOVED WHERE DIRECTED BY THE ENGINEER AND REPLACED WITH COMPACTED SUITABLE MATERIAL.
- ⑤ TRENCH WIDTH: PIPE O.D. + 18", WHEN TRENCH ≤ 5'-0"  
PIPE O.D. + 36", WHEN TRENCH > 5'-0"
- ⑥ CONTRACTOR SHALL COMPLY WITH THE LATEST OSHA STANDARDS INCLUDING, BUT NOT LIMITED TO: SLOPING AND BENCHING TRENCH WALLS, TRENCH SUPPORT AND SHORING SYSTEMS, SHIELD SYSTEMS, AND HAZARDOUS ATMOSPHERES.

TYPICAL TRENCH CROSS SECTION  
(N.T.S.)



WATER MAIN PRESSURE CONNECTION DETAIL  
(N.T.S.)



WATER SERVICE INSTALLATION DETAIL  
(N.T.S.)

PART DESCRIPTION	MUELLER CAT. NO.	SERVICE SIZE	MAIN SIZE	INLET		OUTLET	
				AWWA TAPER	COMP	AWWA TAPER	COMP
CORP STOP	H-15013	1 1/2"-2"	8"+	X	X		X
	H015008	3/4"-1"	8"+	X	X		X
DOUBLE STRAP BRASS SERVICE SADDLE	H-16123	1 1/2"-2"	4"			X	
	H-16126	1 1/4"-2"	6"			X	
	H-16130	1 1/4"-2"	8"			X	
	H-16134	1 1/2"-2"	10"			X	
	H-16137	1 1/4"-2"	12"			X	
CURB STOP	H-15155	3/4"-2"			X		X
	H-25155	1 1/4"-2"			X		X
CURB BOX	H-10300	3/4"-1 1/2"					
	H-10300-99002	2"					
STATIONARY ROD	84247	1 1/4"					
	84338	1 1/2"					
	84139	2"					

1. NO CORPORATION STOPS, COPPER SERVICE, OR CURB BOXES MAY BE LOCATED UNDER PAVED AREAS INCLUDING DRIVES AND SIDEWALKS.
2. ALL WATER MAIN HARDWARE SHALL BE MUELLER.
3. SERVICE TO BE CONTINUOUS WITHOUT JOINTS FROM CORPORATION STOP TO CURB STOP.
4. MULTIPLE TAPS INTO MAIN SHALL BE NO CLOSER THAN 2' APART.
5. TRENCH FROM MAIN TO BACK OF SIDEWALK TO BE COMPACTED TRENCH BACKFILL.
6. NO FLARE FITTINGS WILL BE ACCEPTED
7. ALL ADJUSTMENTS TO TO BE MADE WITH GALVANIZED PIPE AND COUPLINGS (SCREWED ON)



