

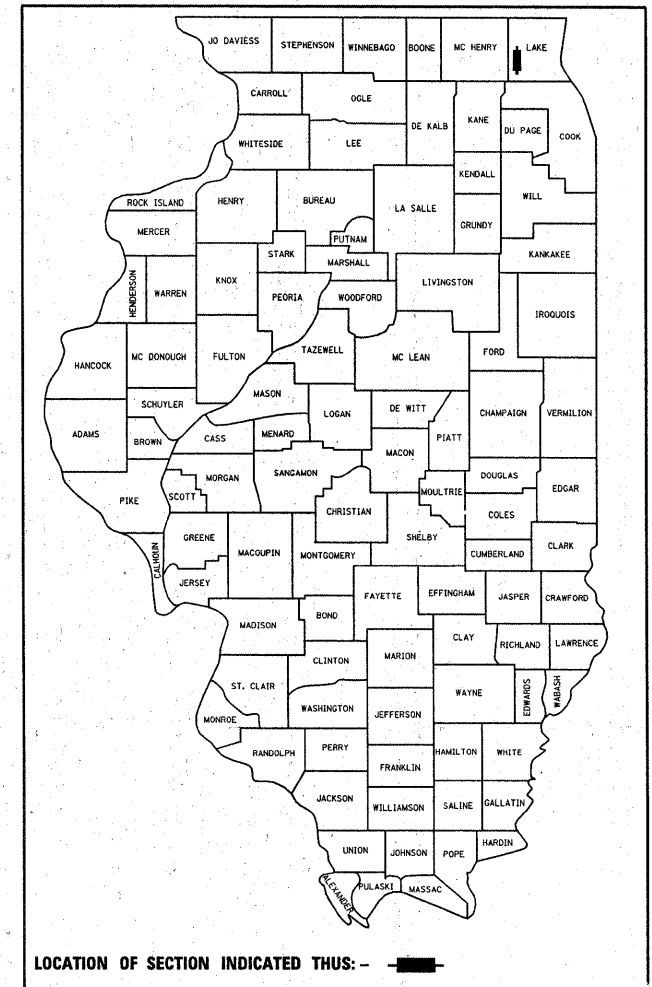
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 334: US 12/ILL 59  
AT BONNER ROAD  
SECTION: OR-N  
CHANNELIZATION  
PROJECT:  
LAKE COUNTY  
C-91-656-10

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	OR-N	LAKE	40	1
		ILLINOIS	CONTRACT NO. 60L20	

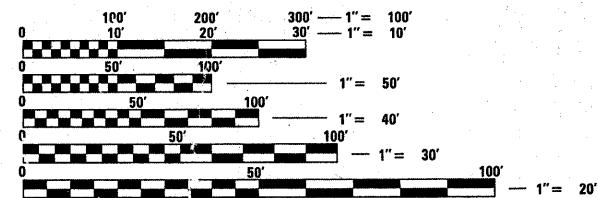
D-91-656-10



FOR INDEX OF SHEETS, SEE SHEET NO. 2

THIS PROJECT IS LOCATED IN THE VILLAGE OF WAUCONDA

CMF-0334(021)

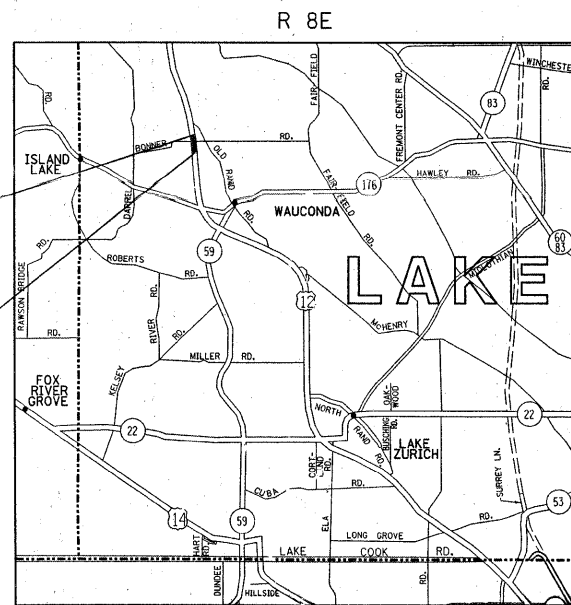


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123 OR 811

PROJECT ENDS  
STA. 520 + 13

PROJECT BEGINS  
STA. 513 + 36.70



WAUCONDA TOWNSHIP



TRAFFIC DATA

ADT (2009) = 31,200  
SPEED LIMIT = 55 MPH

PROJECT ENGINEER: DAN WILGREEN / (847) 705-4240  
PROJECT MANAGER: KEN ENG / (847)-705-4247

GROSS AND NET LENGTH OF PROJECT = 676.30 FT. = 0.13 MILE

CONTRACT NO. 60L20

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED APRIL 20 11  
Diana M. O'Keefe  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 13 20 11  
Scott E. Stitt, P.E.  
ENGINEER OF DESIGN AND ENVIRONMENT

May 13 20 11  
Christine M. Road  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

STATE STANDARDS

GENERAL NOTES

<u>SHEET NO.</u>	<u>DESCRIPTION</u>	<u>STANDARD NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET		
2	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES	000001-06	TYPICAL SYMBOLS, ABBREVIATIONS AND PATTERNS
3-4	SUMMARY OF QUANTITIES	280001-05	TEMPORARY EROSION CONTROL SYSTEMS
5-6	EXISTING AND PROPOSED TYPICAL SECTIONS	442201-03	CLASS C AND D PATCHES
7	SCHEDULE OF QUANTITIES (EARTHWORK) AND HMA MIXTURE TABLE	604001-03	FRAMES AND LIDS TYPE 1
8-9	ALIGNMENT, TIES & BENCHMARKS	701101-02	OFF-RD OPERATIONS, MULTILANE, 15' (4.5m) TO 24" (600 mm) FROM PAVEMENT EDGE
10	EXISTING AND PROPOSED ROADWAY PLAN	701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' (4.5m) AWAY
11	EXISTING AND PROPOSED ROADWAY PROFILE	701422-03	LANE CLOSURE, MULTILANE, FOR SPEEDS ≥ 45 MPH TO 55 MPH
12	EROSION CONTROL NOTES	701601-07	URBAN LANE CLOSURE MULTILANE 1W OR 2W WITH NONTRAVERSABLE MEDIAN
13	EROSION CONTROL PLAN	701701-07	URBAN LANE CLOSURE MULTILANE INTERSECTION
14	EXISTING & PROPOSED DRAINAGE & UTILITY PLAN	701901-01	TRAFFIC CONTROL DEVICES
15	SUE INVESTIGATION OF UNDERGROUND UTILITIES		
16	PROPOSED PAVEMENT MARKING & LANDSCAPING PLAN		
17-28	PROPOSED TRAFFIC SIGNAL PLANS & DETAILS		
29	PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT		
30	BUTT JOINTS AND HOT-MIX ASPHALT TAPER DETAILS		
31	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTION AND DRIVEWAYS		
32	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)		
33	DISTRICT ONE TYPICAL PAVEMENT MARKINGS		
34	TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)		
35	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING		
36	SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS		
37	ARTERIAL ROAD INFORMATION SIGNING		
38-40	EXISTING AND PROPOSED CROSS-SECTIONS		

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS FACILITIES. (48 HOUR NOTIFICATION REQUIRED)

THE CONTRACTOR WILL NOT BE ABLE TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT THE WRITTEN PERMISSION OF THE DEPARTMENT.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE VILLAGE OF WAUCONDA.

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1 1/2 INCHES (40 MM) WHERE THE SPEED LIMIT IS 45 MPH (45 KM/H) OR LESS AND 1 INCH WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH (45 KM/H). WITH WRITTEN APPROVAL FROM THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM IS SLOPED A MINIMUM 1:3 (V:H).

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT AND HOT-MIX ASPHALT TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.

THE RESIDENT ENGINEER SHALL CONTACT MS. DEBBIE HANLON, AREA TRAFFIC FIELD TECHNICIAN, AT (847) 438-2300 A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF FINAL PAVEMENT MARKINGS.

THE RESIDENT ENGINEER SHALL VERIFY ALL EXISTING PAVEMENT MARKINGS BEFORE MILLING.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGGINNING WORK.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTIES AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

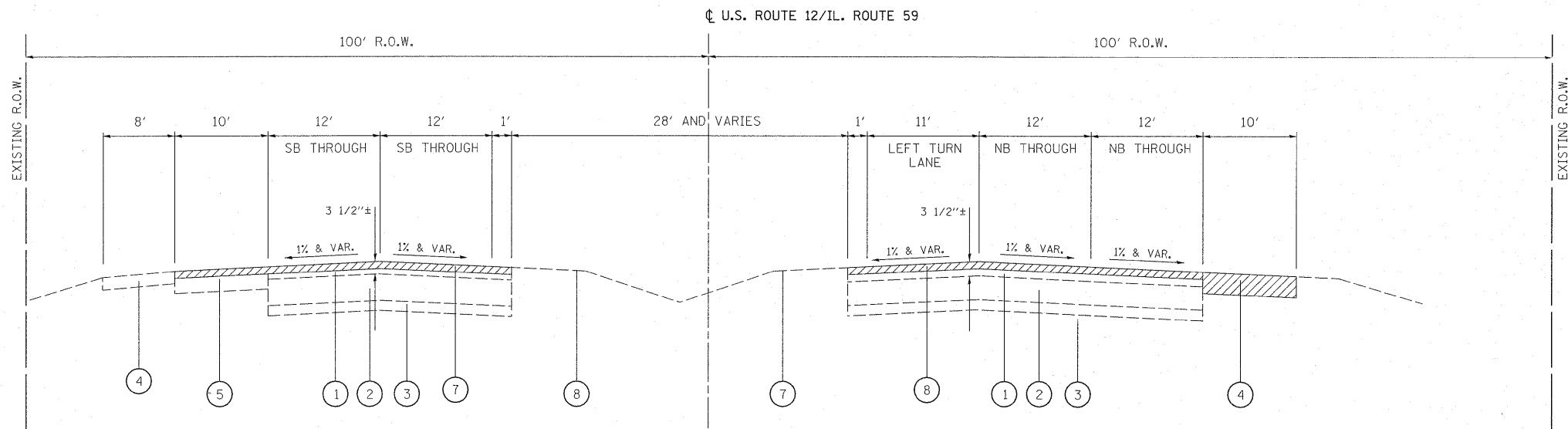
PRIOR TO EMBANKMENT PLACEMENT, ALL VEGETATION, LOOSE MATERIAL, AND UNSTABLE MATERIAL SHOULD BE REMOVED TO DEPTH ENCOUNTERED AND REPLACED WITH SUITABLE EMBANKMENT MATERIAL. ANY EMBANKMENT WIDENING ON EXISTING SLOPES SHOULD BE BENCHED IN ACCORDANCE WITH ARTICLE 205.04 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

FILE NAME =	USER NAME = banks1	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>U.S. ROUTE 12/IL. ROUTE 59 @ BONNER ROAD INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ci:\pw\work\pw\do\banks1\d0156076\p141309-Design.dgn	DRAWN -	REVISED -	334			OR-N	LAKE	40	2	
PLOT SCALE = 50.0000 "/ IN.	CHECKED -	REVISED -	CONTRACT NO. 60L20							
PLOT DATE = 4/4/2011	DATE -	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT	

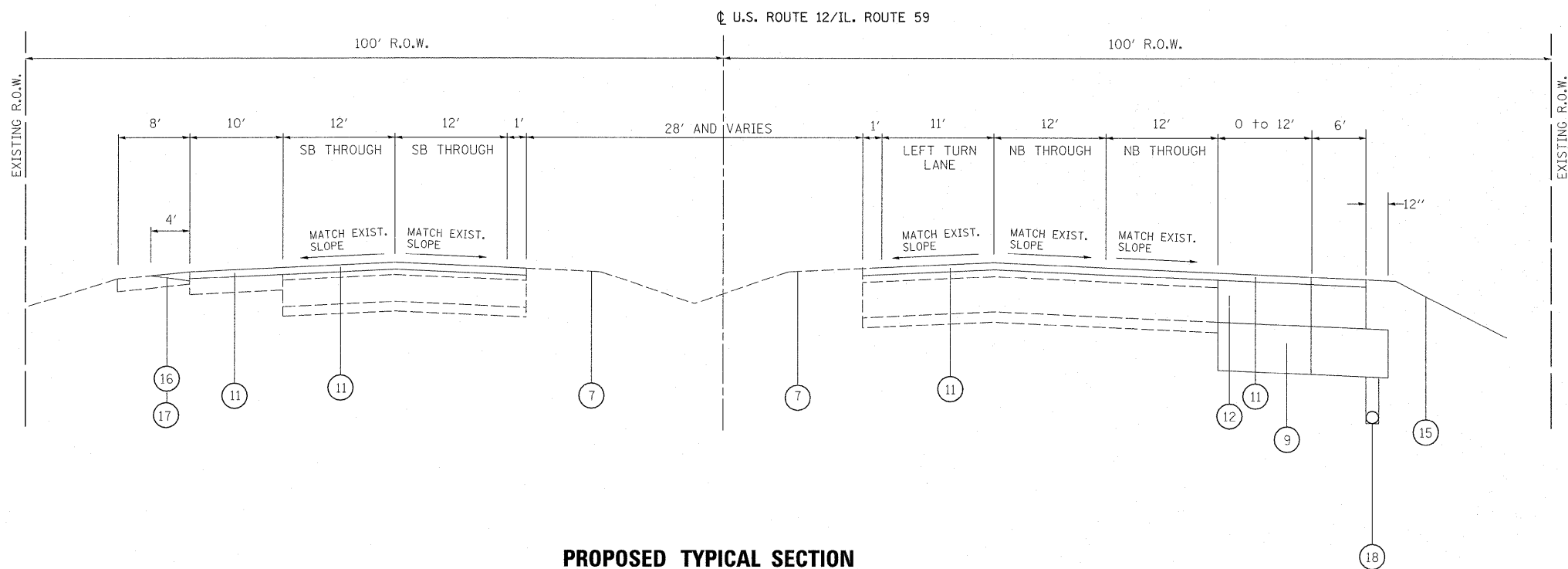


SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE						SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE									
CODE NO	ITEM	UNIT	URBAN TOTAL QUANTITIES	80% FED. 20% STATE	80% FED. 10% STATE 10% LAKE CO.	100% F.P.D.				CODE NO	ITEM	UNIT	URBAN TOTAL QUANTITIES	80% FED. 20% STATE	80% FED. 10% STATE 10% LAKE CO.	100% F.P.D.					
				0004 ROADWAY	0021 TRAFFIC SIGNALS	0021 EVP								0004 ROADWAY	0021 TRAFFIC SIGNALS	0021 EVP					
* 81400200	HEAVY-DUTY HANDHOLE	EACH	6		6					* 88800100	PEDESTRIAN PUSH-BUTTON	EACH	2		2						
* 81400300	DOUBLE HANDHOLE	EACH	1		1					* 89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1		1						
* 81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	881		881					* 89501400	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	2			2					
* 85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1		1					* 89501410	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT	EACH	1			1					
* 86200300	UNINTERRUPTIBLE POWER SUPPLY, EXTENDED	EACH	1		1					* 89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1		1						
* 87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	799		799					* 89502380	REMOVE EXISTING HANDHOLE	EACH	11		11						
* 87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	704		704					* 89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	7		7						
* 87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2858		2858					* X0656300	PAVEMENT REMOVAL AND REPLACEMENT	SO YD	4		4						
* 87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	827		827					X2020110	GRADING AND SHAPING SHOULDERS	UNIT	3	3							
* 87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1770		1770					Δ X5539700	STORM SEWERS TO BE CLEANED	FOOT	760	760							
* 87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	333		333					X6030310	FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)	EACH	1	1							
* 87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	829		829					* X8050015	<del>SERVICE INSTALLATION POLE MOUNTED</del>	EACH	1		1						
* 87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	2		2					* X8730027	<del>ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C</del>	FOOT	829		829						
* 87700270	STEEL MAST ARM ASSEMBLY AND POLE, 46 FT.	EACH	1		1					* X8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	326		326						
* 87700300	STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.	EACH	2		2					Z0001050	AGGREGATE SUBGRADE 12"	SO YD	787	787							
* 87702990	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 54 FT.	EACH	1		1					Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1							
* 87800100	CONCRETE FOUNDATION, TYPE A	FOOT	8		8					Δ Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	1	1							
* 87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4		4					Z0030850	TEMPORARY INFORMATION SIGNING	SO FT	51.4	51.4							
* 87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	58		58					* Z0033050	COAXIAL CABLE IN CONDUIT	FOOT	217		217						
* 88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	8		8					* XX005940	REMOTE CONTROLLED VIDEO SYSTEM	EACH	1		1						
* 88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	6		6					* XX006655	LAYER II (DATA LINK) SWITCH	EACH	1		1						
* 88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2		2					* XX008253	VIDEO ENCODER	EACH	1		1						
* 88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	2		2					* X8730800	ELECTRICAL CABLE IN CONDUIT, VIDEO, NO. 20 4C	FOOT	217		217						
* 88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2		2																
* 88200110	TRAFFIC SIGNAL BACKPLATE, LOUVERED	EACH	10		10																
* 88500100	INDUCTIVE LOOP DETECTOR	EACH	8		8																
* 88600100	DETECTOR LOOP, TYPE I	FOOT	813		813																

Δ NON-PARTICIPATING (100% STATE)  
\* SPECIALTY ITEMS



**EXISTING TYPICAL SECTION**  
**U.S. ROUTE 12/IL. ROUTE 59**  
**STA. 513 + 36.70 TO 517 + 65**



**PROPOSED TYPICAL SECTION**  
**U.S. ROUTE 12/IL. ROUTE 59**  
**STA. 513 + 36.70 TO 517 + 65**

**LEGEND**

- ① EXISTING HMA SURFACE, 3.5±
- ② EXISTING PCC PAVEMENT, 10"
- ③ EXISTING SUBBASE GRANULAR MATERIAL 4"
- ④ EXISTING AGGREGATE SHOULDER
- ⑤ EXISTING HMA SHOULDER
- ⑥ EXISTING CURB & GUTTER, TYPE B-6.12
- ⑦ EXISTING PARKWAY
- ⑧ PROPOSED HMA SURFACE COURSE, REMOVAL, 2"
- ⑨ PROPOSED AGGREGATE SUBGRADE, 12"
- ⑩ PROPOSED SUBBASE GRANULAR MATERIAL, TYPE B, 5"
- ⑪ PROPOSED POLYMERIZED HMA SURFACE COURSE, MIX "F", N90, 2"
- ⑫ PROPOSED HMA BASE COURSE, 11 1/2" (3 LIFTS)
- ⑬ PROPOSED HMA SHOULDER, 8" (2 LIFTS)
- ⑭ PROPOSED AGGREGATE SHOULDER, 6"
- ⑮ PROPOSED FURNISH & PLACE TOPSOIL, 4" CLASS 2A SEED
- ⑯ PROPOSED AGGREGATE WEDGE SHOULDER, TYPE B
- ⑰ PROPOSED GRADING AND SHAPING SHOULDERS
- ⑱ PROPOSED PIPE UNDERDRAINS, 4" STA. 514+75 TO STA. 515+25 RT. 30" BELOW PROPOSED PAVEMENT SURFACE.

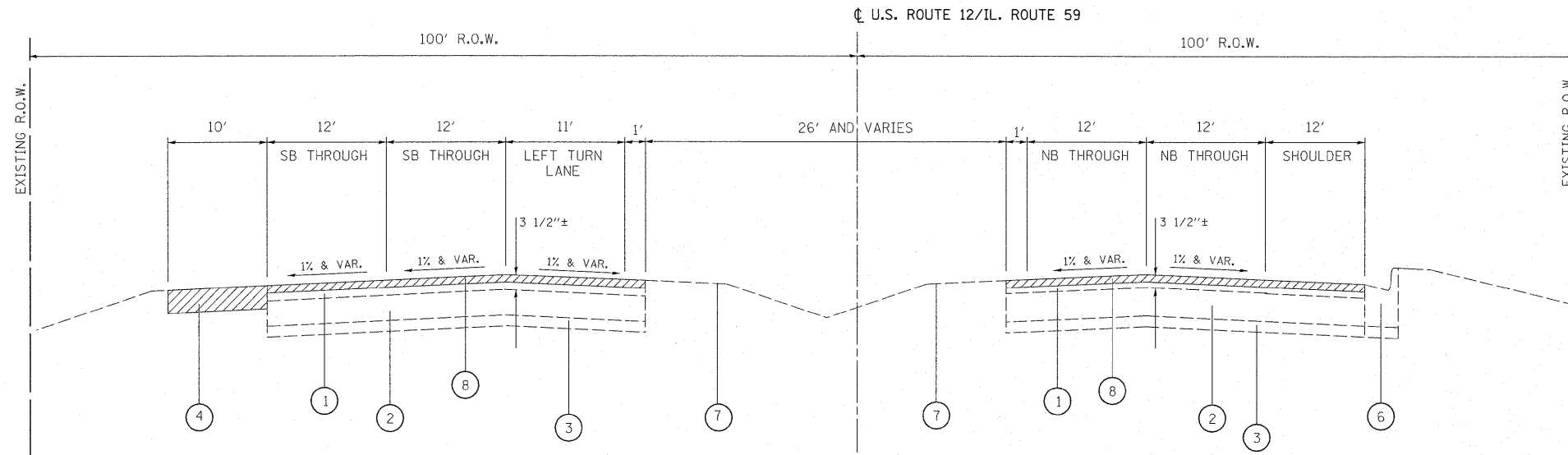
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PLOT DATE = 4/5/2011		DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

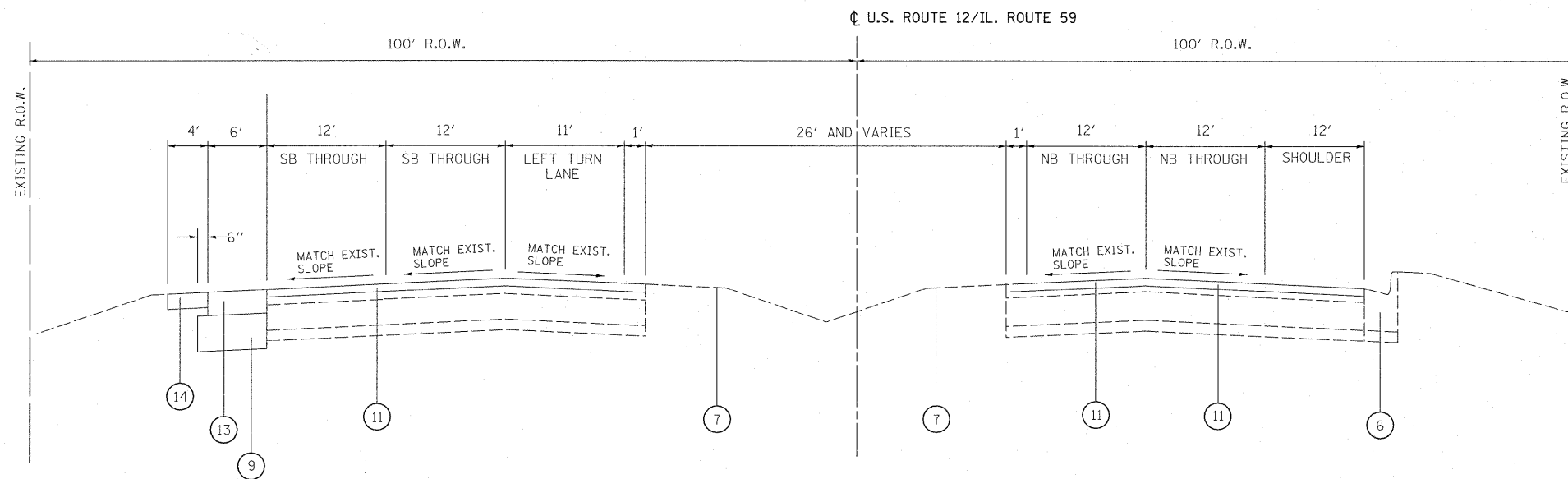
**U.S. ROUTE 12/IL. ROUTE 59 @ BONNER ROAD**  
**EXISTING & PROPOSED TYPICAL SECTIONS**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	OR-N	LAKE	40	5
CONTRACT NO. 60L20				
ILLINOIS FED. AID PROJECT				



**EXISTING TYPICAL SECTION**  
**U.S. ROUTE 12/IL. ROUTE 59**  
**STA. 517+65 TO 520+13**



**PROPOSED TYPICAL SECTION**  
**U.S. ROUTE 12/IL. ROUTE 59**  
**STA. 517+65 TO 520+13**

**LEGEND**

- ① EXISTING HMA SURFACE, 3.5±
- ② EXISTING PCC PAVEMENT, 10"
- ③ EXISTING SUBBASE GRANULAR MATERIAL 4"
- ④ EXISTING AGGREGATE SHOULDER
- ⑤ EXISTING HMA SHOULDER
- ⑥ EXISTING CURB & GUTTER, TYPE B-6.12
- ⑦ EXISTING PARKWAY
- ⑧ PROPOSED HMA SURFACE COURSE, REMOVAL, 2"
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- ⑩ PROPOSED SUBBASE GRANULAR MATERIAL, TYPE B, 5"
- ⑪ PROPOSED POLYMERIZED HMA SURFACE COURSE, MIX "F", N90, 2"
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- ⑰ PROPOSED GRADING AND SHAPING SHOULDERS
- ⑱ PROPOSED PIPE UNDERDRAINS, 4" STA. 514+75 TO STA. 515+25 RT. 30" BELOW PROPOSED PAVEMENT SURFACE.

FILE NAME = P141309-Design.dgn	USER NAME = banks1	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>U.S. ROUTE 12/IL. ROUTE 59 @ BONNER ROAD</b> <b>EXISTING &amp; PROPOSED TYPICAL SECTIONS</b>				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -						334	OR-N	LAKE	40	6
	PLOT DATE = 4/2/2011	CHECKED -	REVISED -		SCALE: NONE	SHEET NO.	OF	SHEETS	STA.	TO	STA.	CONTRACT NO. 60L20	
											ILLINOIS FED. AID PROJECT		

**SCHEDULE OF QUANTITIES (EARTHWORK)**

1	2	3	4	5	6	7
IL 176	Earth Excavation (Cu. Yd.)	Unsuitable Material (Cu. Yd.)	Embankment (Cu. Yd.)	Adjustment for Shrinkage (Cu. Yd.)	Furnished Excavation (Cu. Yd.)	Top Soil Furnish and Place (Sq. Yd.)
IL 59/US 12 (Sta. 513+36 to Sta. 516+61) Right Turn Lane and HMA Shoulder	304.48	205.15	122.86	258.81	135.95	1,205.00
IL 59/US 12 (Sta. 513+36 to Sta. 516+40) Median Ditch Grading	0.00	22.50	0.00	0.00	0.00	203.00
IL 59/US 12 (Sta. 517+63 to Sta. 520+13) HMA and Aggregate Shoulder	69.35	49.56	0.00	58.95	58.95	0.00
<b>TOTAL</b>	<b>373.83</b>	<b>277.21</b>	<b>122.86</b>	<b>317.76</b>	<b>194.90</b>	<b>1,408.00</b>

Column 1: Location from plans	Column 5: Earth excavation that is to be used as fill
Column 2: Cut quantities after unsuitable material is removed	material in the embankment, shrinkage factor was determined to be 15%
Column 3: Material that is determined to be either unstable or unsuitable from use in embankment. (Aggregate shoulder and topsoil excavated at 6" average depth)	Column 6: Column 5 - Column 4, Positive Quantity = extra excavation, negative quantity = furnished excavation needed.
Column 4: Fill quantities after unsuitable material is removed	Column 7: Topsoil furnish and place = Area of seeding

HOT-MIX ASPHALT MIXTURE REQUIREMENTS	
MIXTURE TYPE	AIR VOIDS(%)
<b>PAVEMENT RESURFACING AND WIDENING</b>	
POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90 (IL-9.5MM)	4% @ 90 GYR.
HMA BASE COURSE, (POLYMERIZED HMA BINDER IL-19mm), 11 1/2"	4% @ 90 GYR.
<b>SHOULDERS</b>	
HOT-MIX ASPHALT SHOULDER, 8" (HMA BINDER IL-9.5mm)	2% @ 30 GYR.
<b>PATCHING</b>	
CLASS D PATCHES (HMA BINDER IL-19 mm)	4% @ 70 GYR.
HMA REPLACEMENT OVER PATCHES (HMA BINDER IL-19mm)	4% @ 70 GYR.

**NOTE:**

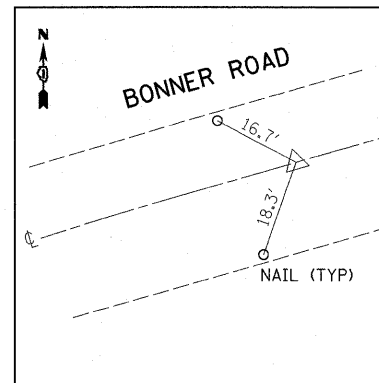
THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT QUANTITIES IS 112 LBS./SQ. YD./IN.

THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 70-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS

CONTRACTOR SHALL PATCH BEFORE MILLING

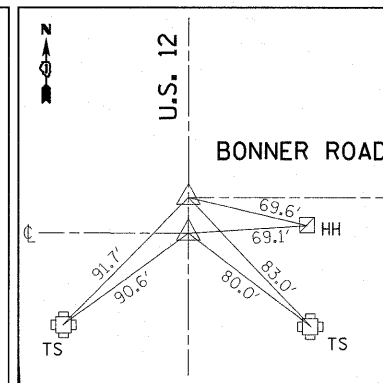






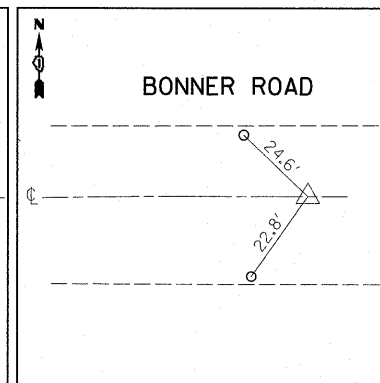
**PT #116 BEGIN (BONNER)**

STA. 200+00  
N 2043107.1030  
E 1029264.7443



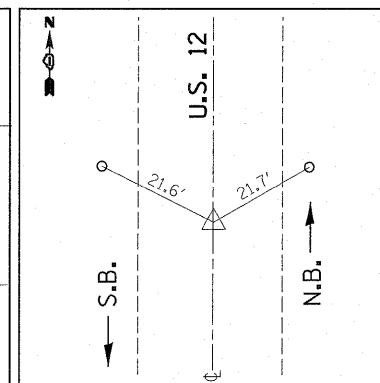
**PT #600 & 601 (JOG)**

600 N 2043794.8475  
E 1032588.4282  
601 N 2043797.7288  
E 1032588.2871



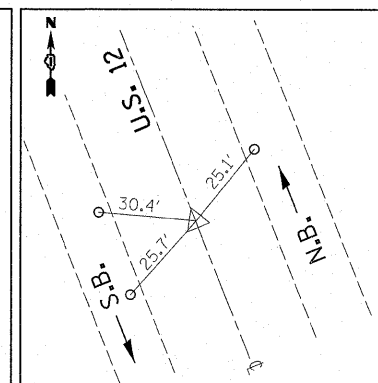
**PT #128 END (BONNER)**

STA. 253+70.12  
N 2043788.0511  
E 1034514.5524



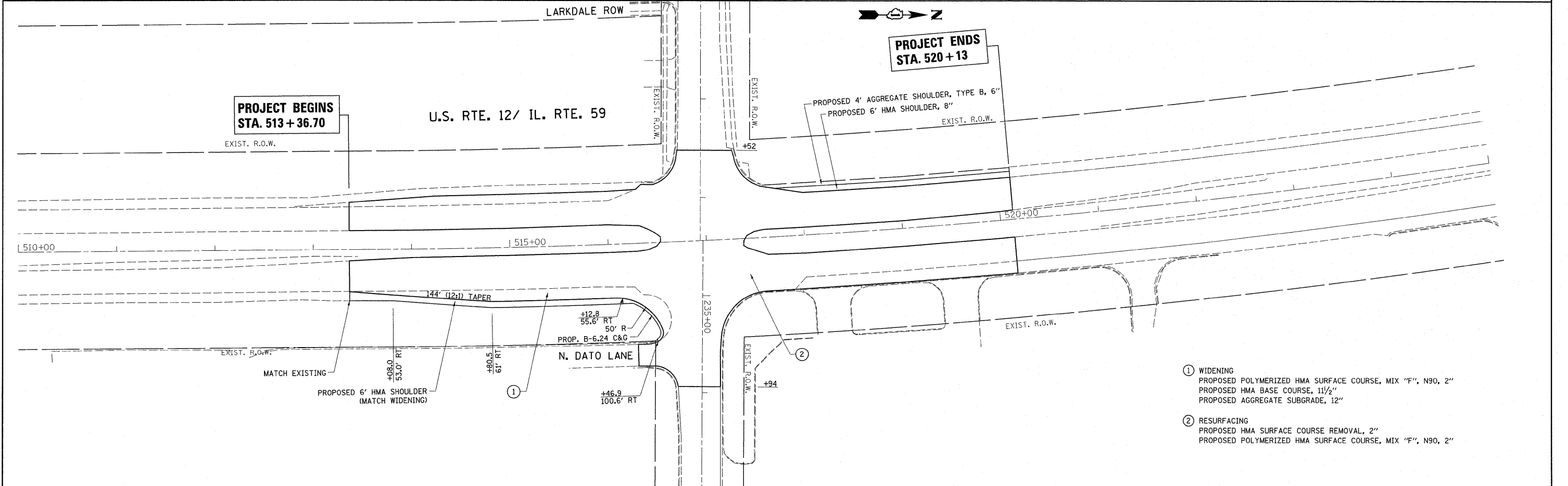
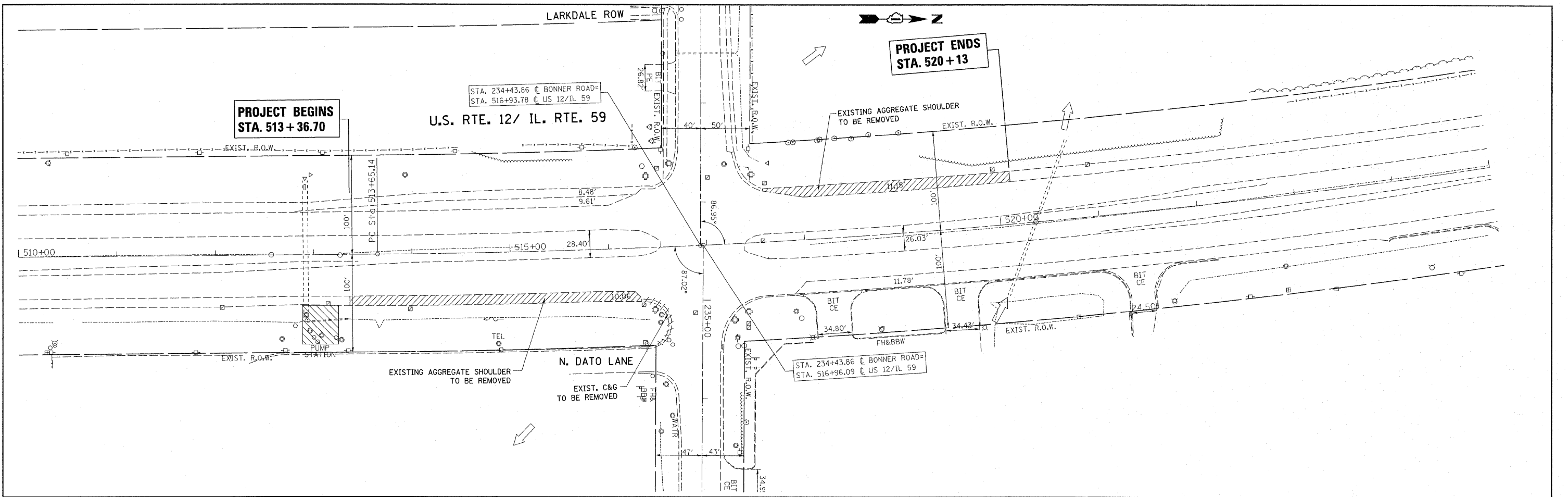
**PT #102 BEGIN (US 12)**

MAG NAIL  
STA. 243+51/36' R  
N 2042101.2631  
E 1032608.0100



**PT #111 END (US 12)**

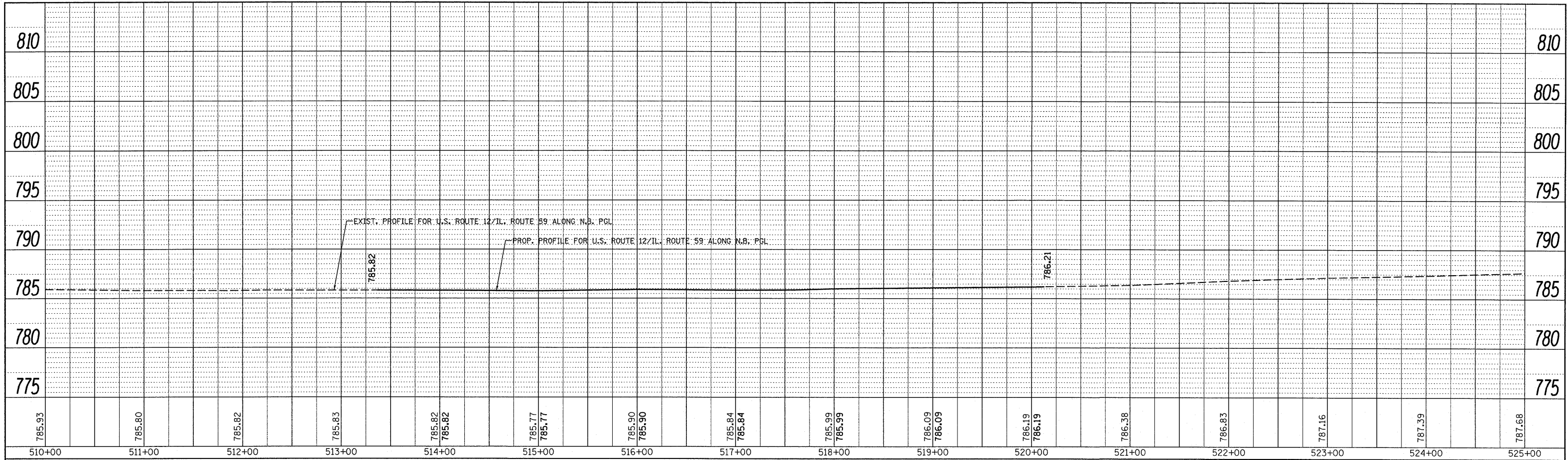
STA. 546+01.02  
N 2046637.9475  
E 1032015.8463



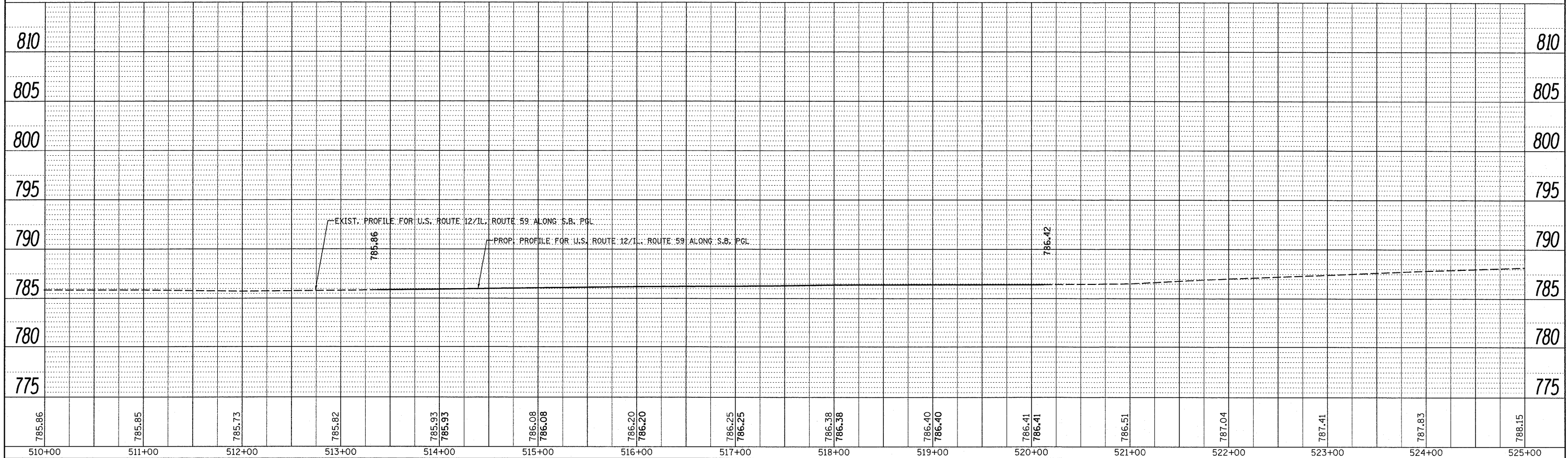
- ① WIDENING  
 PROPOSED POLYMERIZED HMA SURFACE COURSE, MIX "F", N90, 2"  
 PROPOSED HMA BASE COURSE, 1 1/2"  
 PROPOSED AGGREGATE SUBGRADE, 12"
- ② RESURFACING  
 PROPOSED HMA SURFACE COURSE REMOVAL, 2"  
 PROPOSED POLYMERIZED HMA SURFACE COURSE, MIX "F", N90, 2"

FILE NAME = P141309-shr-plan.dgn	USER NAME = banks1	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>U.S. ROUTE 12 /IL. ROUTE 59 @ BONNER ROAD EXISTING &amp; PROPOSED ROADWAY PLAN</b>			F.A.P. RTE. 334	SECTION OR-N	COUNTY LAKE	TOTAL SHEETS 40	SHEET NO. 10
	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -		SCALE: 1"= 50'	SHEET NO.	OF	SHEETS	STA. 510+00.00	TO STA. 525+00.00	CONTRACT NO. 60L20	
	PLOT DATE = 4/4/2011	CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE	REVISED -									

PLAN	SURVEYED	BY	DATE
NO.	ALIGNED		
	CHECKED		
	BY		
	NOTE BOOK		
	NO.		
	FILE NAME		



PROFILE	SURVEYED	BY	DATE
NO.	ALIGNED		
	CHECKED		
	BY		
	NOTE BOOK		
	NO.		
	FILE NAME		



FILE NAME =	USER NAME = banks1	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>U.S. ROUTE 12 /IL. ROUTE 59 @ BONNER ROAD</b> <b>EXISTING &amp; PROPOSED ROADWAY PROFILE</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
es:\pwr\work\pwr\dot\banks1\0156005\141309	ht-plan.dgn	DRAWN -	REVISED -			334	OR-N	LAKE	40	11
PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -	REVISED -			CONTRACT NO. 60L20				
PLOT DATE = 4/4/2011	DATE -	REVISED -	REVISED -			ILLINOIS FED. AID PROJECT				

THE CONTRACTOR WILL BE REQUIRED TO IMPLEMENT AND MAINTAIN EROSION CONTROL MEASURES IMMEDIATELY AFTER STRIPPING OF EXISTING VEGETATION.

NO RUNOFF FROM STRIPPED AREAS WILL LEAVE THE SITE OTHER THAN THROUGH SEDIMENTATION/STILLING BASINS. THE CONTRACTOR WILL ADJUST HIS OPERATIONS AND IMPLEMENT EROSION CONTROL MEASURES ACCORDINGLY.

THE CONTRACTOR SHALL SURROUND ALL EARTH STOCKPILES WITH SILT FENCE AND SHALL BE PAID FOR AS PERIMETER EROSION BARRIER, EROSION CONTROL MEASURES SHALL BE INSPECTED BY THE CONTRACTOR AND ENGINEER WITHIN 24 HOURS OR ANY STORM EXCEEDING 0.5 INCH OF PRECIPITATION.

STOCKPILES OF SOIL AND OTHER BUILDING MATERIALS TO REMAIN IN PLACE MORE THAN THREE (3) DAYS SHALL BE FURNISHED WITH EROSION AND SEDIMENT CONTROL MEASURES (I.E. PERIMETER SILT FENCE). STOCKPILES TO REMAIN IN PLACE FOR 21 DAYS OR MORE SHALL RECEIVE TEMPORARY SEEDING.

ALL CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM STORM WATER PERMIT.

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PREVENT POLLUTION OF STORM WATER AND SHALL FOLLOW IEPA & IDOT CONSTRUCTION MEMORANDUM NO. 95-60.

THE CONTRACTOR SHALL APPLY TEMPORARY EROSION CONTROL SEEDING TO ALL ERODIBLE BARE EARTH AREAS WITHIN THE CONTRACT LIMITS EACH WEEK, REGARDLESS OF WEATHER CONDITIONS OR PROGRESS OF THE WORK. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, ERODIBLE EMBANKMENT AND EXCAVATION AREAS WHERE WORK IS IN PROGRESS SHALL BE INCLUDED ON THE AREAS TO BE SEEDED. SEE SPECIAL PROVISION FOR TEMPORARY EROSION CONTROL SEEDING.

REFER TO LANDSCAPING PLAN FOR AREA TO BE SEEDED.

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS IN THE ILLINOIS URBAN MANUAL REVISED FEBRUARY 2002.

A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ALL ADJACENT STREETS MUST BE KEPT CLEAR OF DEBRIS, INSPECTED DAILY AND CLEANED WHEN NECESSARY.

ALL EROSION CONTROL MEASURES MUST BE INSPECTED WEEKLY AND AFTER EACH 1/2 " RAIN EVENT.

PRIORITY SHALL BE GIVEN TO THE COMPLETION AND STABILIZATION OF THE DETENTION AREAS. WORK IN THESE AREAS SHALL NOT BE PROLONGED IN ATTEMPT THAT ALL FINAL GRADING AND STABILIZATION CAN TAKE PLACE AT ONE TIME.

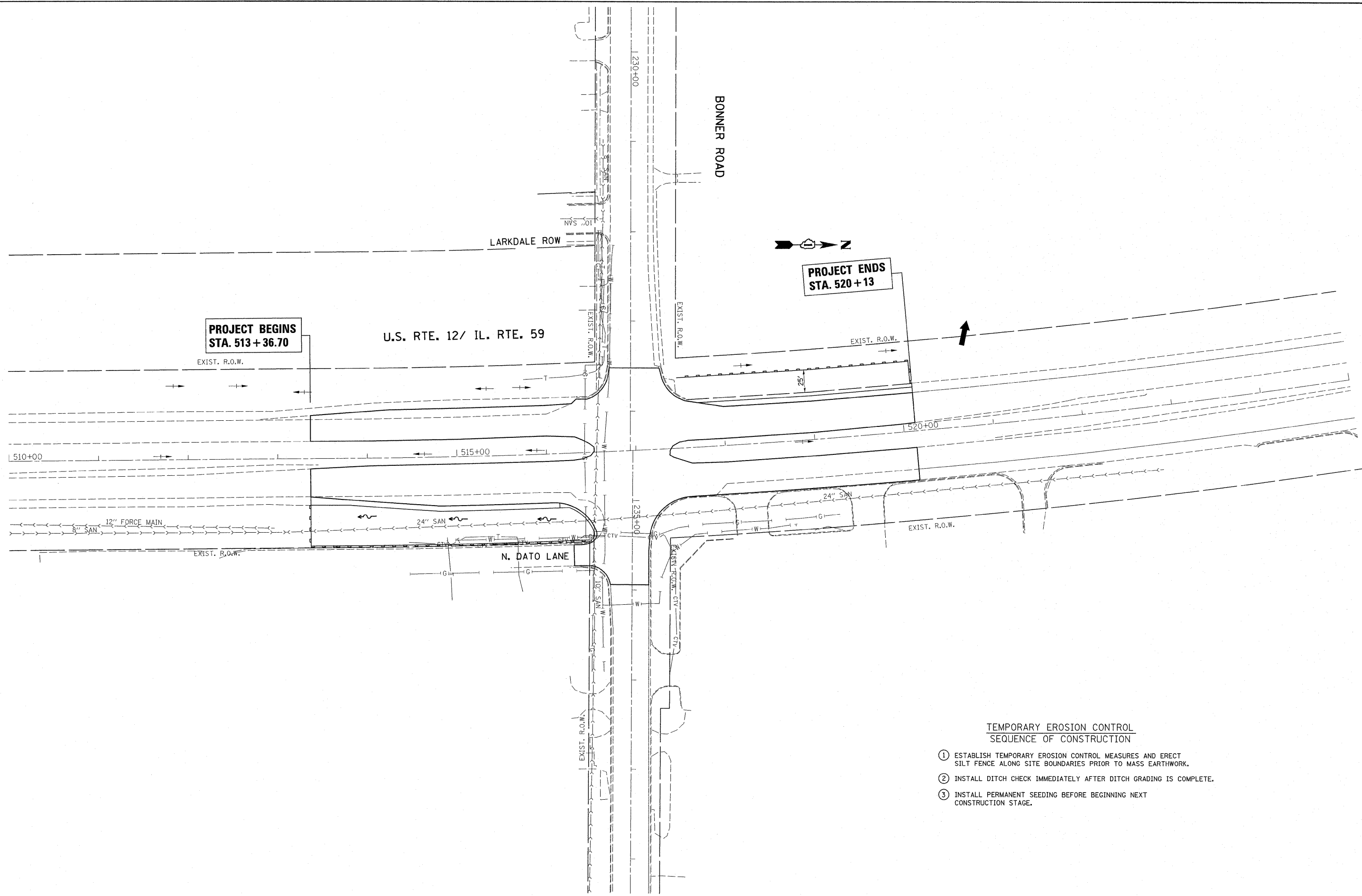
THE CONDITION OF THE CONSTRUCTION SITE FOR WINTER SHUTDOWN SHALL BE ADDRESSED EARLY IN THE FALL GROWING SEASON SO THAT SLOPES AND OTHER BARE EARTH AREAS MAY BE STABILIZED WITH TEMPORARY AND/OR PERMANENT VEGETATIVE COVER FOR PROPER EROSION AND SEDIMENT CONTROL.

SILT FENCE IS TO BE INSTALLED FOLLOWING THE COMPLETION AND STABILIZATION OF THE STORM WATER FACILITIES AND IS TO REMAIN IN PLACE UNTIL THE CONTRIBUTING AREA IS STABILIZED.

IN AREAS WHERE WORK IS COMPLETE, PERMANENT STABILIZATION SHALL OCCUR WITHIN 7 DAYS OF COMPLETION.

COMPLETED SLOPES SHALL BE SEEDED AND MULCHED (OR BLANKETED, IF APPLICABLE) AS THE EXCAVATION PROCEEDS TO THE EXTENT CONSIDERED DESIRABLE AND PRACTICAL. PERMANENT SEEDING SHALL BE USED WHENEVER POSSIBLE. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR PROLONG FINAL GRADING AND SHAPING SO THAT THE ENTIRE PROJECT CAN BE PERMANENTLY SEEDED AT ONE TIME. NO WORK SHALL BE PERFORMED IN FLOWING WATER. WATER IN AND NEAR THE CRITICAL AREAS SHOULD BE ISOLATED FROM CONCENTRATED FLOWS OR STREAM FLOW. THE STREAM BANKS SHOULD BE STABILIZED AT THE END OF EACH DAY. ONCE WORK IN THIS AREA BEGINS, PRIORITY SHALL BE GIVEN TO THE COMPLETION OF THE WORK AND FINAL STABILIZATION OF ALL DISTURBED AREAS.

FILE NAME =	USER NAME = banks1	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>U.S. ROUTE 12/IL. ROUTE 59 @ BONNER ROAD EROSION CONTROL NOTES</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\pw_work\p14130\banks1\0156076\PI4130	-Design.dgn	DRAWN -	REVISED -			334	OR-N	LAKE	40	12
PLOT SCALE = 50,0000 ' / IN.	CHECKED -	REVISED -				CONTRACT NO. 60L20				
PLOT DATE = 4/6/2011	DATE -	REVISED -				SCALE:	SHEET NO.	OF	SHEETS	STA.

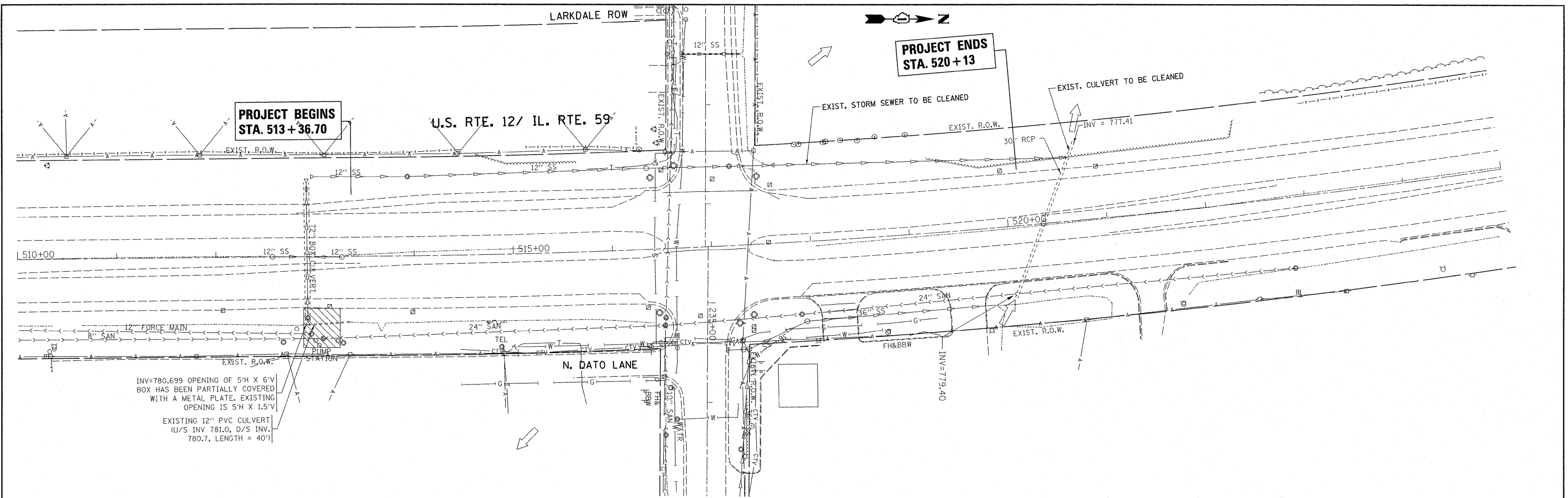


**PROJECT ENDS  
STA. 520 + 13**

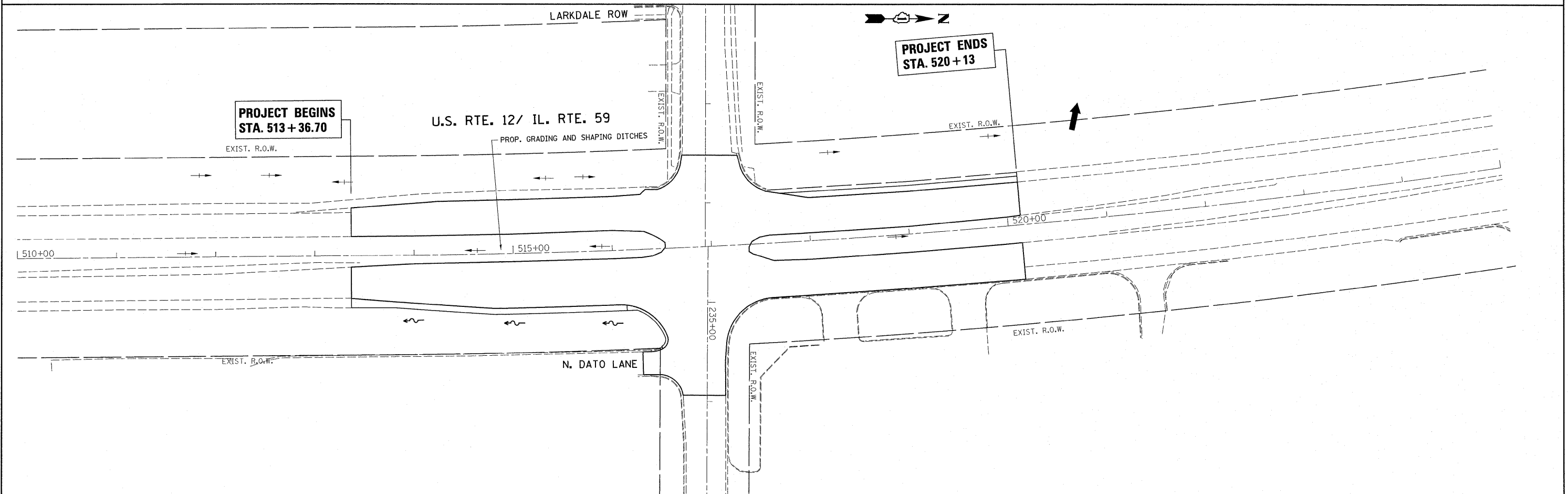
**PROJECT BEGINS  
STA. 513 + 36.70**

- TEMPORARY EROSION CONTROL  
SEQUENCE OF CONSTRUCTION**
- ① ESTABLISH TEMPORARY EROSION CONTROL MEASURES AND ERECT SILT FENCE ALONG SITE BOUNDARIES PRIOR TO MASS EARTHWORK.
  - ② INSTALL DITCH CHECK IMMEDIATELY AFTER DITCH GRADING IS COMPLETE.
  - ③ INSTALL PERMANENT SEEDING BEFORE BEGINNING NEXT CONSTRUCTION STAGE.

FILE NAME = P141309-sht-eros.dgn	USER NAME = banks1	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>U.S. ROUTE 12/IL. ROUTE 59 @ BONNER ROAD EROSION CONTROL PLAN</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -		SCALE: 1" = 50'	SHEET NO.	OF	SHEETS	STA. 507+00.00 TO STA. 522+00.00	334	OR-N	LAKE	40 / 13
	PLOT DATE = 4/4/2011	DATE -	REVISED -		CONTRACT NO. 60L20 ILLINOIS FED. AID PROJECT								



INV=780.699 OPENING OF 5'H X 6'V BOX HAS BEEN PARTIALLY COVERED WITH A METAL PLATE. EXISTING OPENING IS 5'H X 1.5'V  
 EXISTING 12" PVC CULVERT (U/S INV 781.0, D/S INV. 780.7, LENGTH = 40')



FILE NAME = P141309-shd-drain.dgn

USER NAME = banksl  
 PLOT SCALE = 50.0000' / IN.  
 PLOT DATE = 4/4/2011

DESIGNED -  
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 CHECKED -  
 DATE -

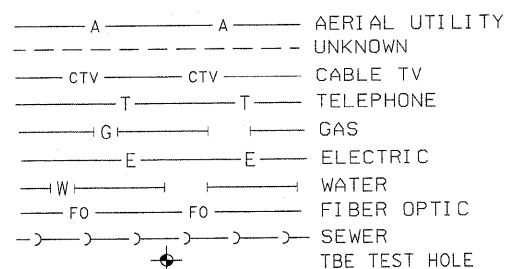
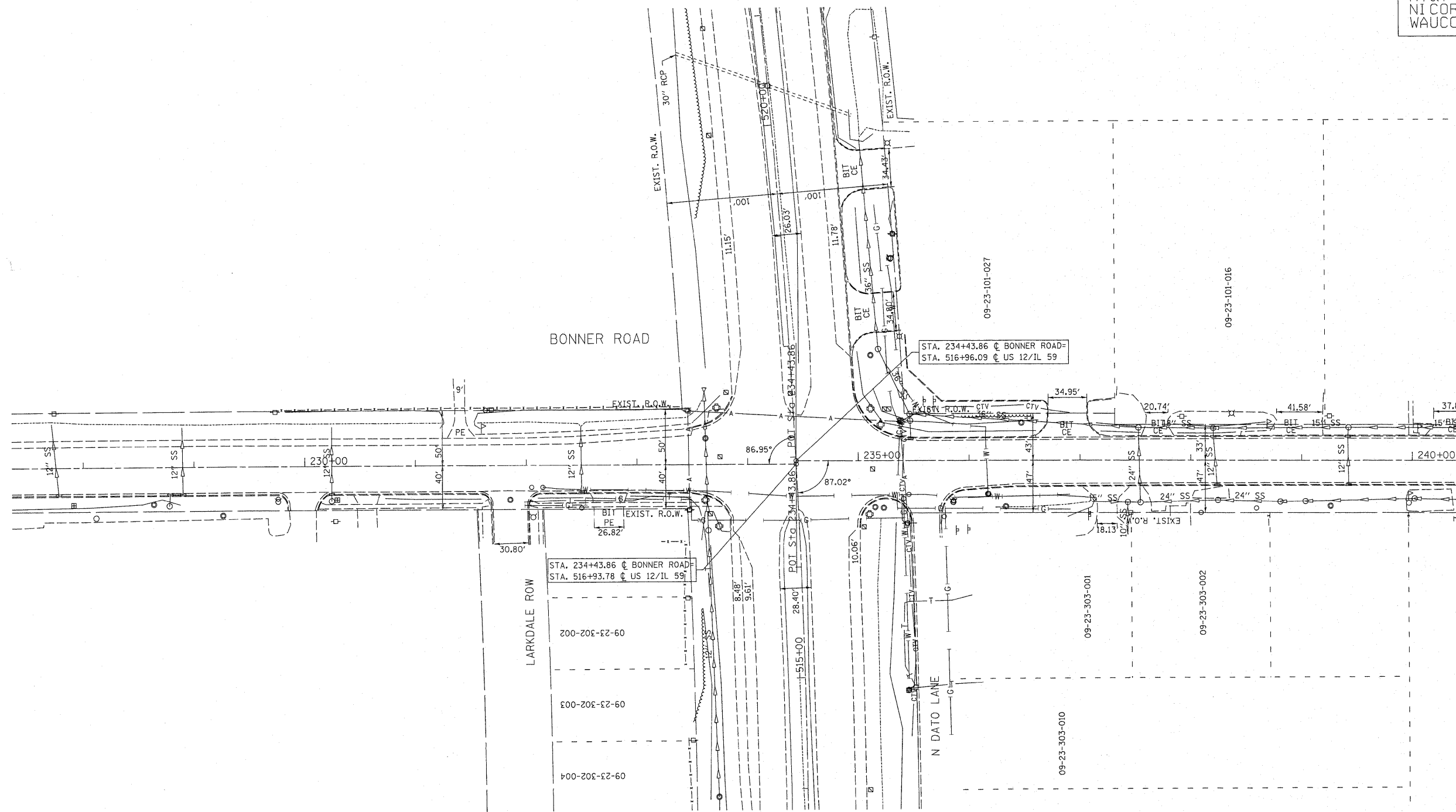
REVISED -  
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

U.S. ROUTE 12/IL. ROUTE 59 @ BONNER ROAD  
 EXISTING & PROPOSED DRAINAGE AND UTILITY PLAN  
 SCALE: 1" = 50' SHEET NO. OF SHEETS STA. 510+00.00 TO STA. 525+00.00

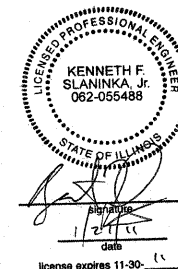
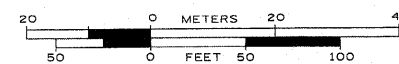
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	OR-N	LAKE	14	14
CONTRACT NO. 60L20				
ILLINOIS FED. AID PROJECT				

UTILITY OWNERS  
 COMED = ELECTRIC  
 COMCAST = CABLE TV  
 AT&T = TELEPHONE  
 NICOR = GAS  
 WAUCONDA = WATER



Utilities shown on these plans as depicted in the legend have been investigated by Cardno TBE in accordance with SUE Industry Standards. All other information shown has been provided to Cardno TBE by others. TBE's SUE field investigation was performed 1/19/11 through 1/24/11. Changes to utilities after 1/24/11 may have been made and therefore may result in variances from this plan. Consideration should be given to updating this plan if deemed advisable prior to final design and construction.

ALL UTILITIES SHOWN QUALITY LEVEL "B" UNLESS NOTED OTHERWISE.



TBE Job No. IL09510427  
 SUE Plan Page: 1 of 1

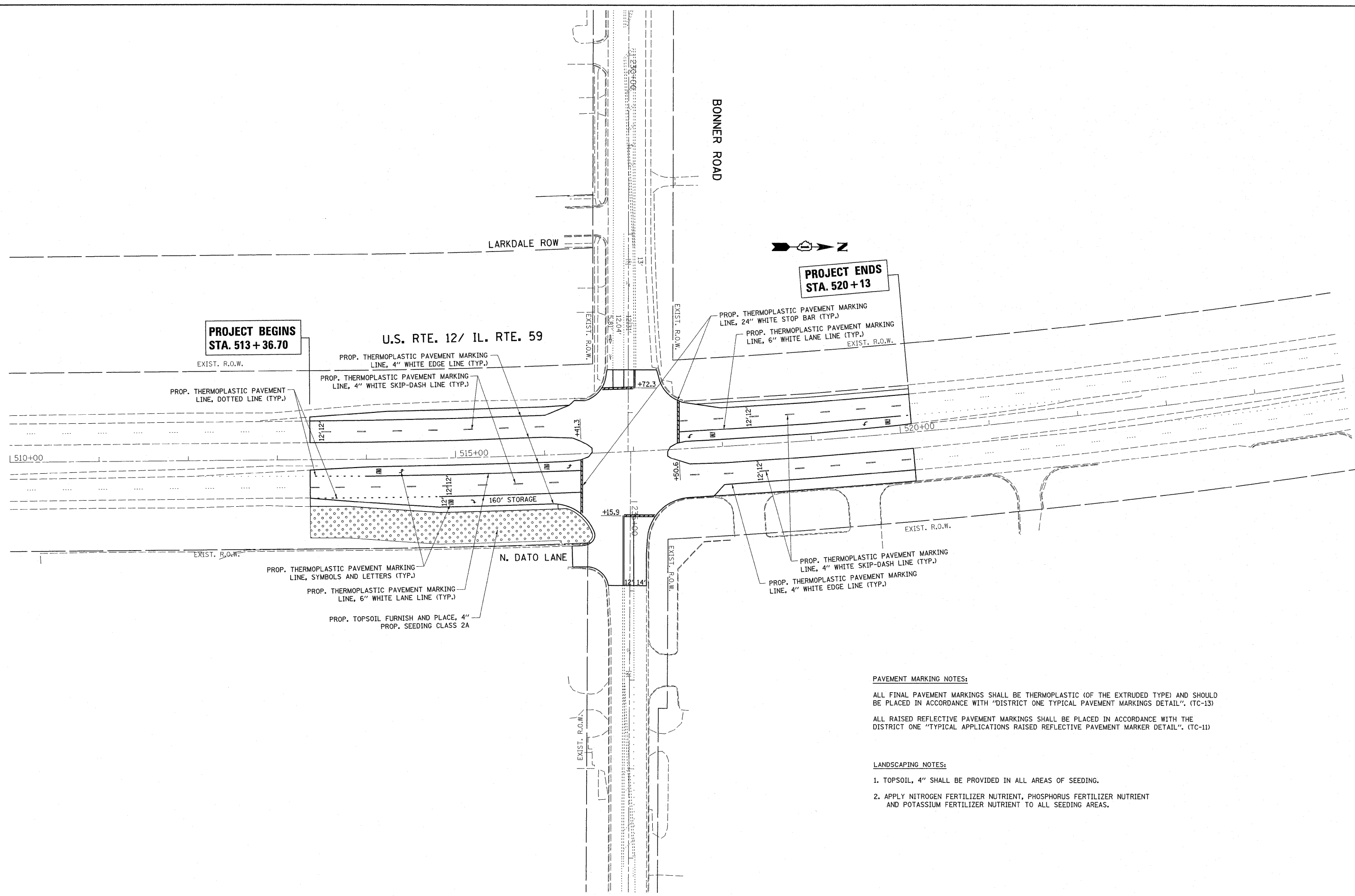
Utility Quality Level "A" : Test Hole  
 Utility Quality Level "B" : Designating  
 Utility Quality Level "C" : Research with Survey  
 Utility Quality Level "D" : Records Research

DESIGNED	ER	REVISED
DRAWN	KLC	REVISED
CHECKED	KS	REVISED
DATE	1/27/11	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

US RT. 12/L RT. 59 at Bonner Road  
 Wauconda, IL

F.A.D. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	OR-N	Lake	40	15
FED. ROAD DIST. NO.		ILLINOIS IDOT Project No.		



**PROJECT ENDS  
STA. 520 + 13**

**PROJECT BEGINS  
STA. 513 + 36.70**

**PAVEMENT MARKING NOTES:**  
 ALL FINAL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC (OF THE EXTRUDED TYPE) AND SHOULD BE PLACED IN ACCORDANCE WITH 'DISTRICT ONE TYPICAL PAVEMENT MARKINGS DETAIL'. (TC-13)  
 ALL RAISED REFLECTIVE PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE DISTRICT ONE 'TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKER DETAIL'. (TC-11)

**LANDSCAPING NOTES:**  
 1. TOPSOIL, 4" SHALL BE PROVIDED IN ALL AREAS OF SEEDING.  
 2. APPLY NITROGEN FERTILIZER NUTRIENT, PHOSPHORUS FERTILIZER NUTRIENT AND POTASSIUM FERTILIZER NUTRIENT TO ALL SEEDING AREAS.

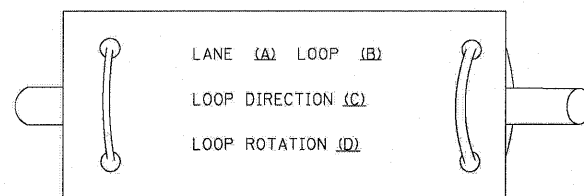
FILE NAME = P141309-shr-pmk.dgn	USER NAME = banks1	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>U.S. ROUTE 12/ IL. ROUTE 59 @ BONNER ROAD PAVEMENT MARKING &amp; LANDSCAPING PLAN</b>			F.A.P. RTE: 334	SECTION OR-N	COUNTY LAKE	TOTAL SHEETS 40	SHEET NO. 16
	PLOT SCALE = 50.0000' / 1" IN.	CHECKED -	REVISED -		SCALE: 1" = 50'			SHEET NO. OF SHEETS	STA. 507+00.00 TO STA. 522+00.00	ILLINOIS FED. AID PROJECT		
	PLOT DATE = 4/4/2011	DATE -	REVISED -					CONTRACT NO. 60L20				



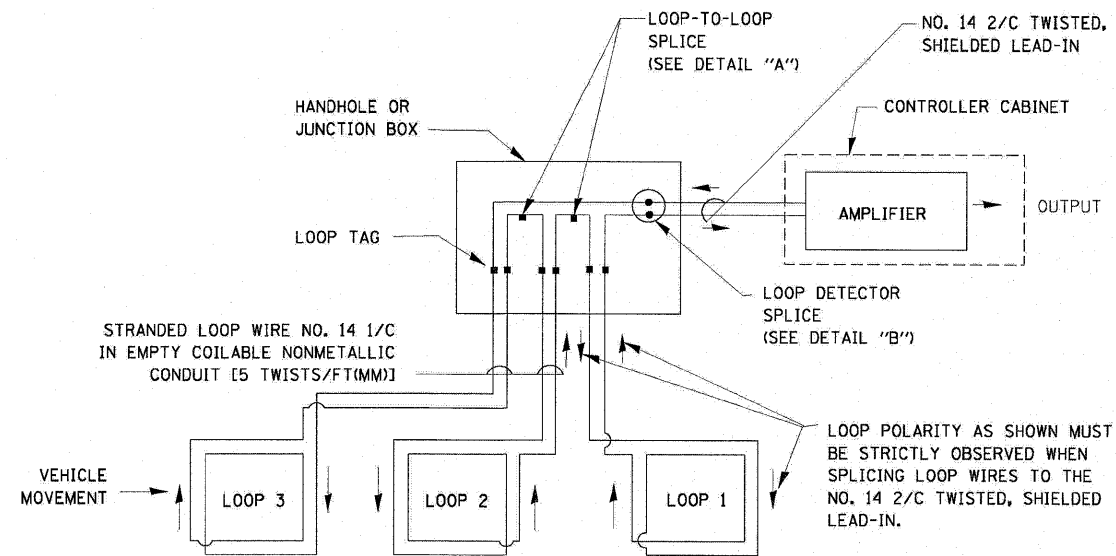
### LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT 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

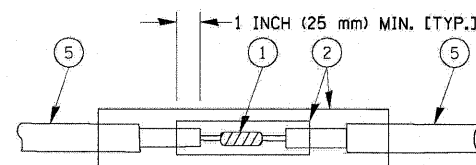


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

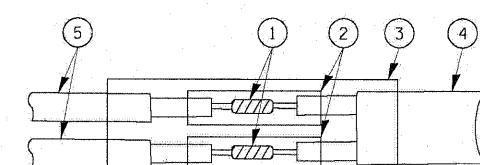


#### DETECTOR LOOP WIRING SCHEMATIC

- 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.

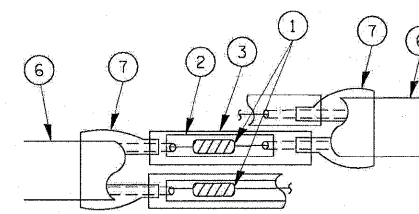


DETAIL "A"  
LOOP-TO-LOOP SPLICE

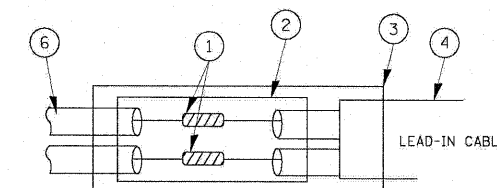


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

#### TYPE I LOOP



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

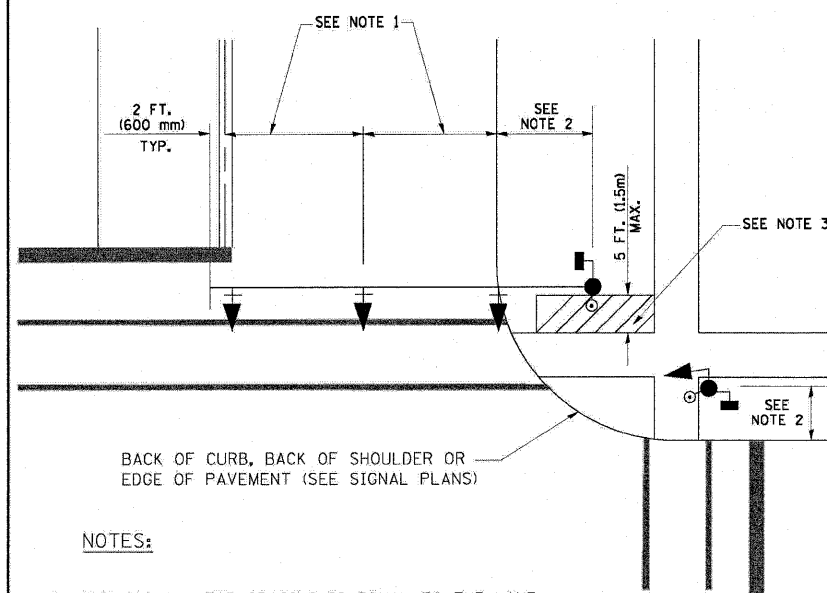
#### LOOP DETECTOR SPLICE

- 1 WESTERN UNION 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.
- 6 PRE-FORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS, TYCO CBR-2 OR APPROVED EQUAL

FILE NAME =	USER NAME = \$USER\$	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BONNER ROAD @ US ROUTE 12 / IL ROUTE 59 DISTRICT ONE - STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
\$FILEL\$		DRAWN -	REVISED -			334	DR-N	LAKE	40	17	
		CHECKED -	REVISED -			SCALE: N.T.S. SHEET NO. 1 OF 6 SHEETS STA. TO STA.		CONTRACT NO. 60L20		ILLINOIS FED. AID PROJECT	
		DATE -	REVISED -								

**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST**

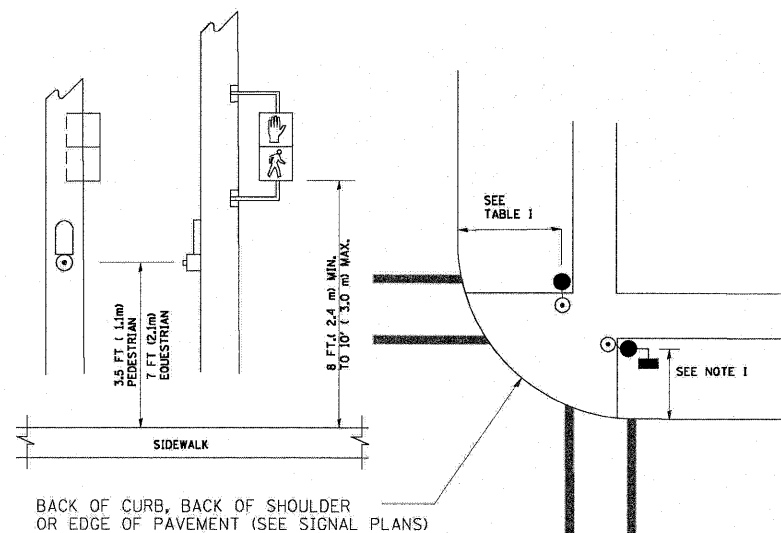
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



**NOTES:**

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

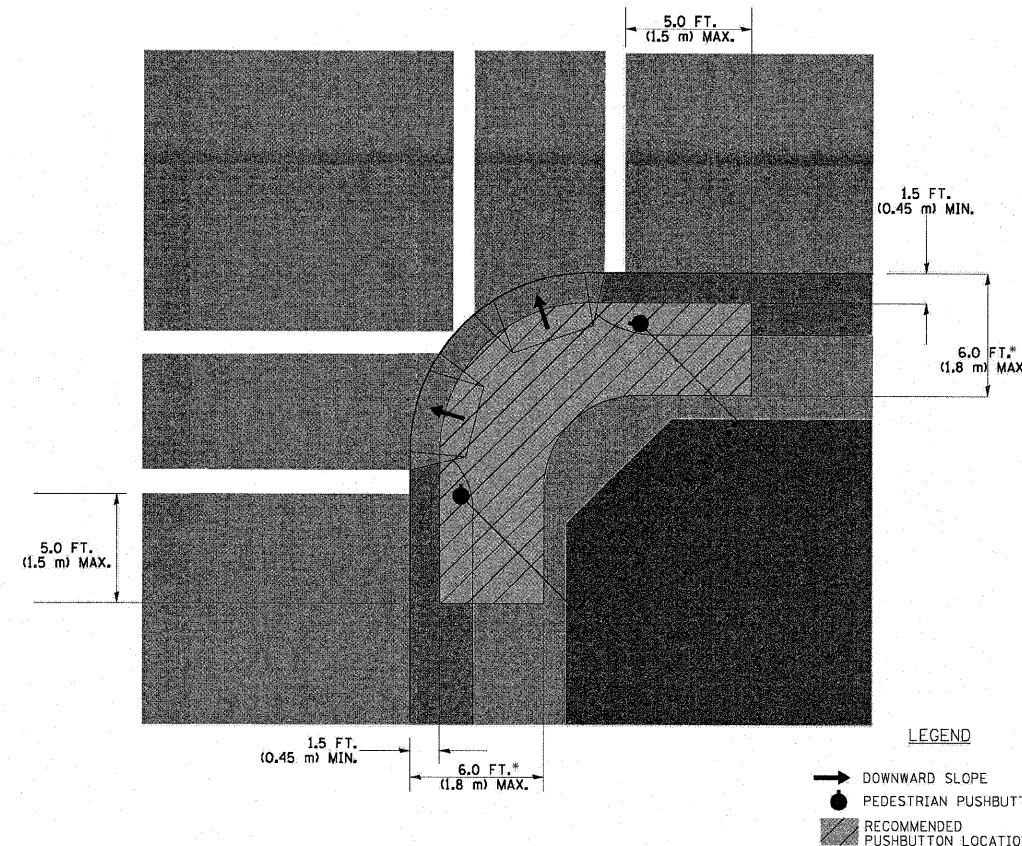
**PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST**



**NOTES:**

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

**RECOMMENDED PUSHBUTTON LOCATIONS**



- \* WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- \*\* WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

**NOTES:**

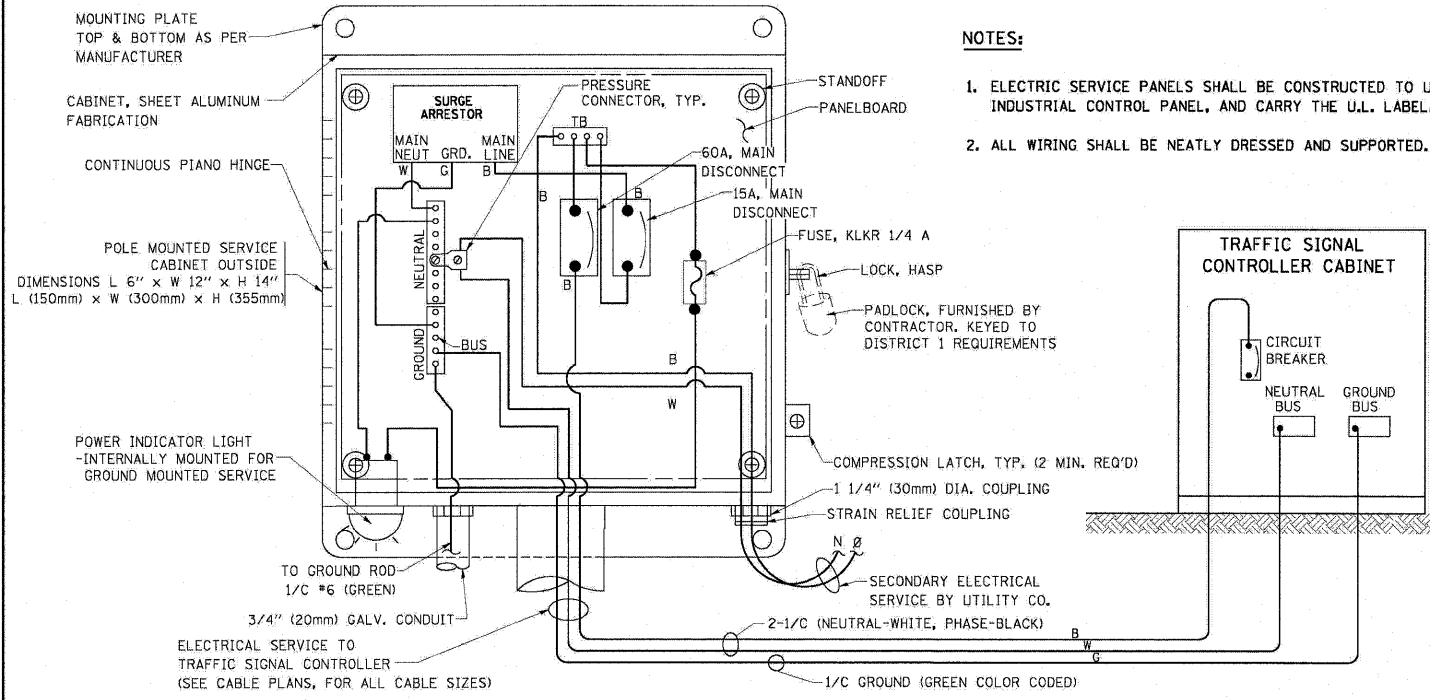
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

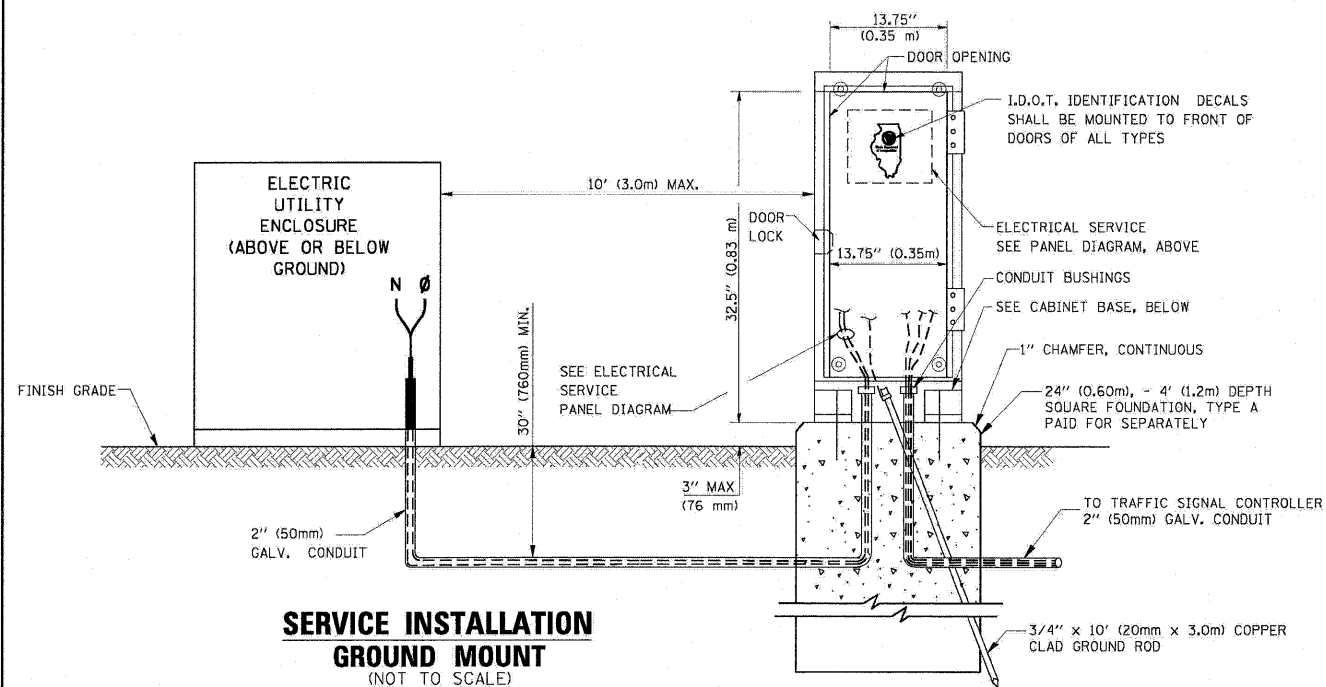
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

**NOTES:**

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

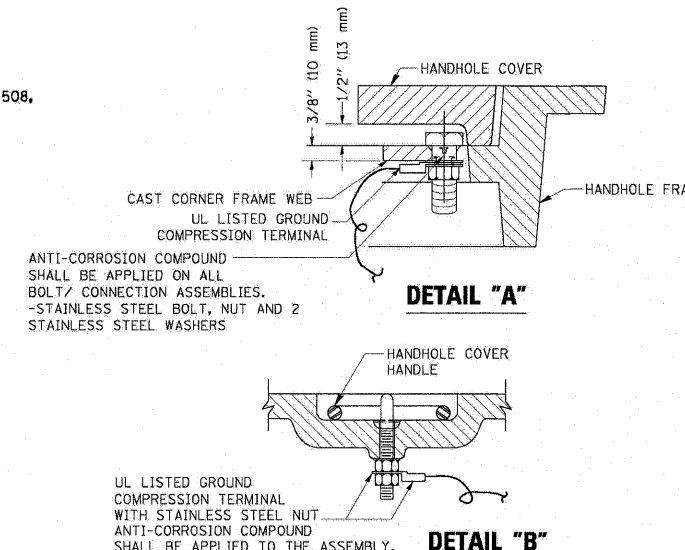
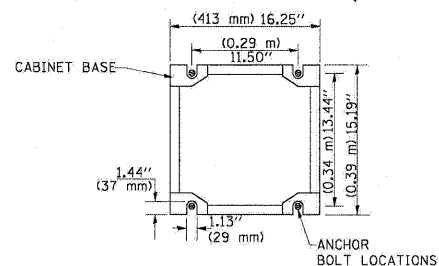


**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)

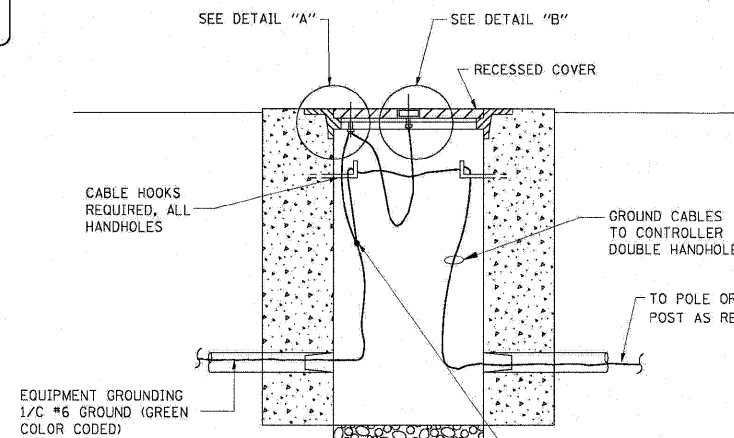


**SERVICE INSTALLATION GROUND MOUNT**  
 (NOT TO SCALE)

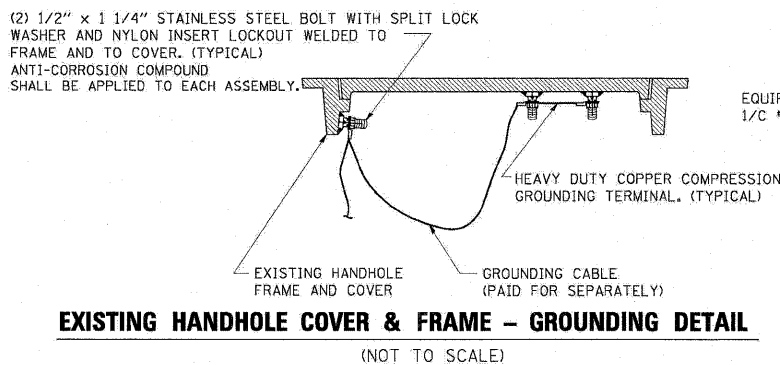
**CABINET - BASE BOLT PATTERN**  
 (NOT TO SCALE)



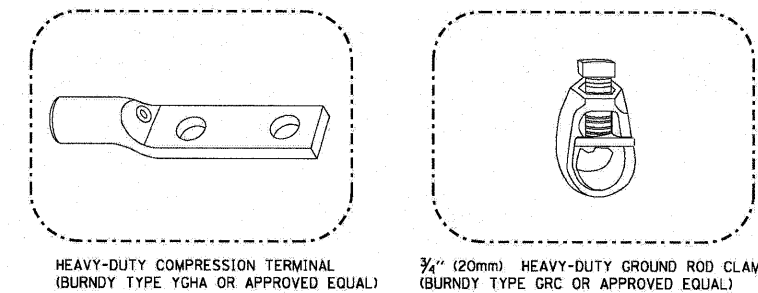
- NOTES:**
- GROUNDING SYSTEM**
- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED 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.



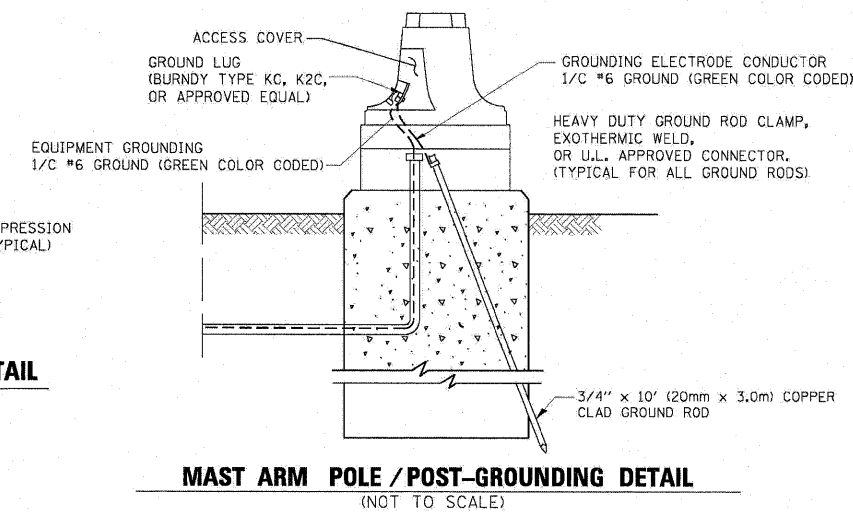
**HANDHOLE COVER & FRAME - GROUNDING DETAIL**  
 (NOT TO SCALE)



**EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL**  
 (NOT TO SCALE)

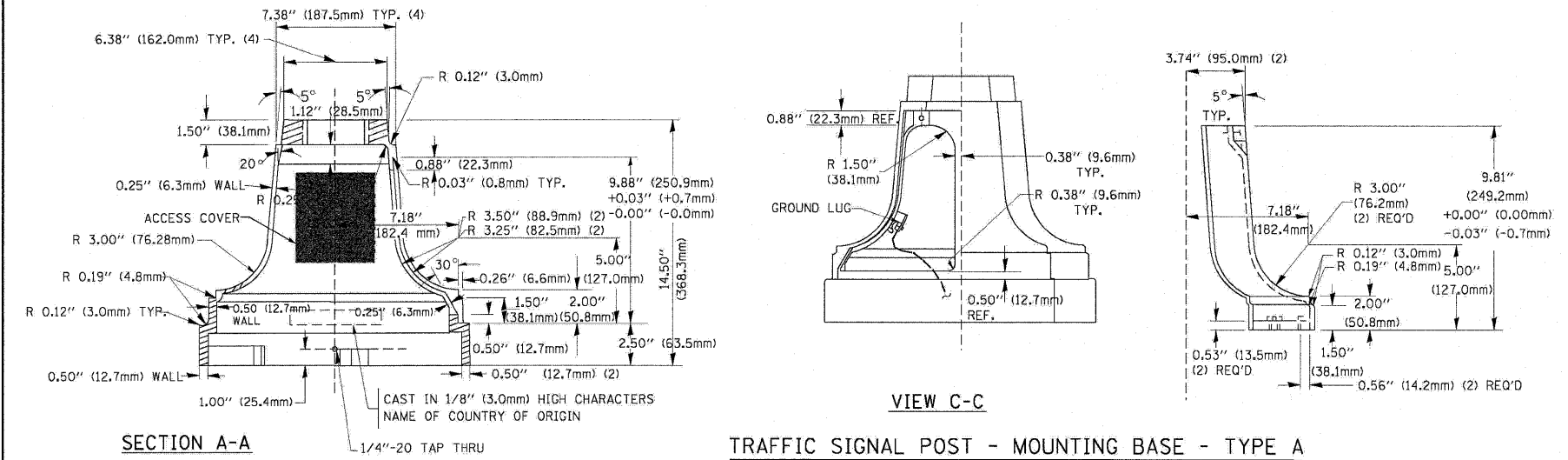
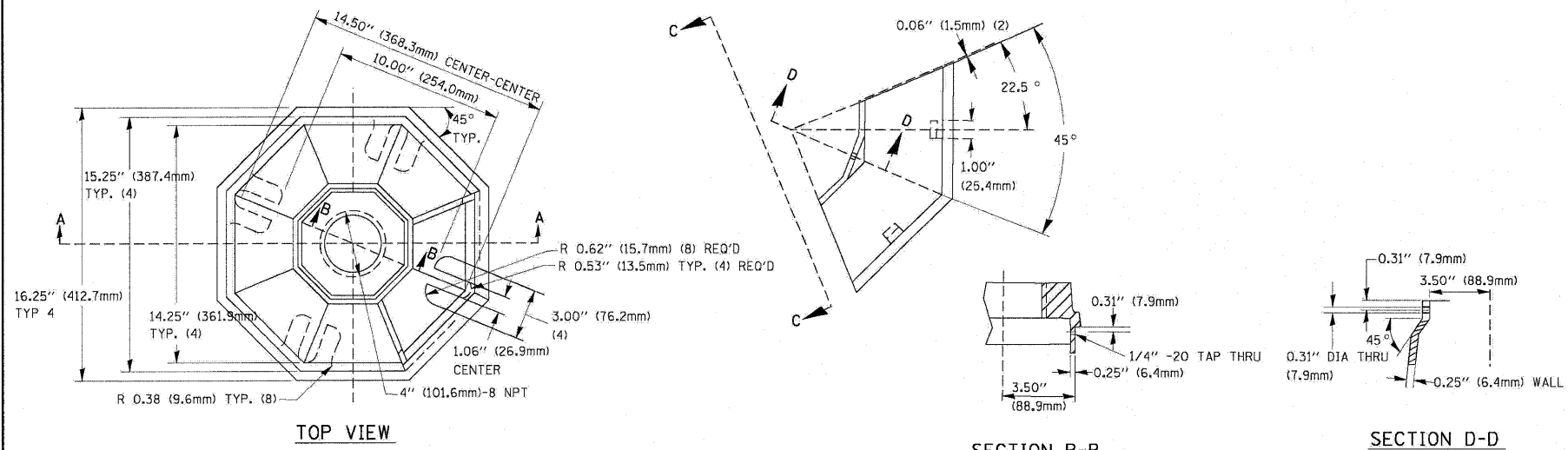


- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.

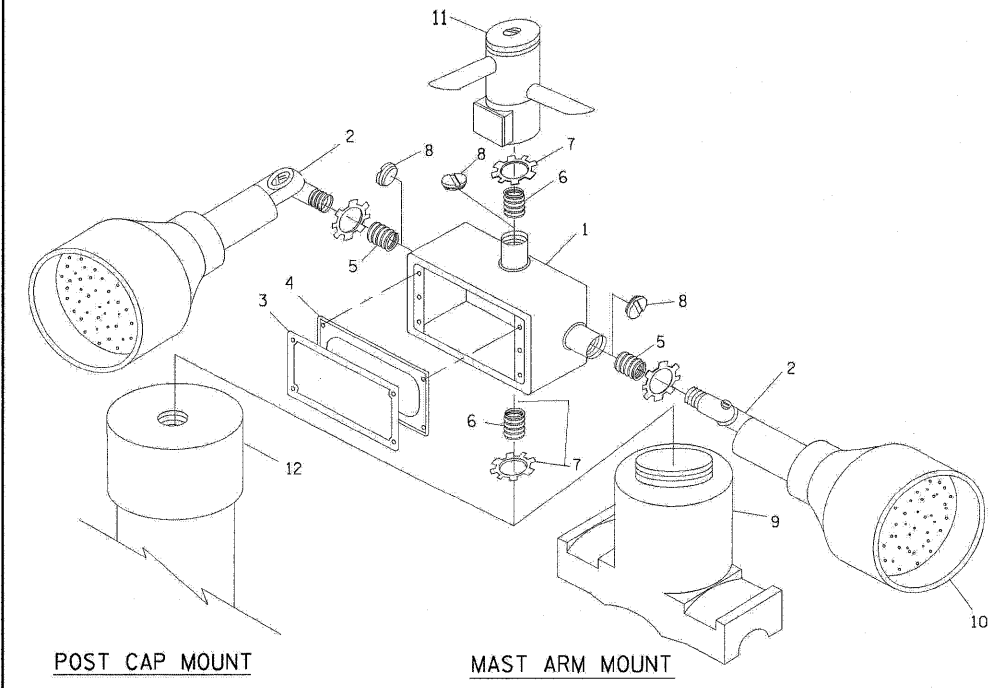


**MAST ARM POLE /POST-GROUNDING DETAIL**  
 (NOT TO SCALE)

FILE NAME =	USER NAME = \$USER\$	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BONNER ROAD @ US ROUTE 12 / IL ROUTE 59 DISTRICT ONE - STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.P. RTE.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
\$FILEL\$	PLDT SCALE = \$SCALE\$	DRAWN -	REVISED -			334	OR-N	LAKE	10	19	
	PLDT DATE = \$DATE\$	CHECKED -	REVISED -			CONTRACT NO. 60L20					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE: N.T.S.	SHEET NO. 3 OF 6 SHEETS	STA. TO STA.				



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

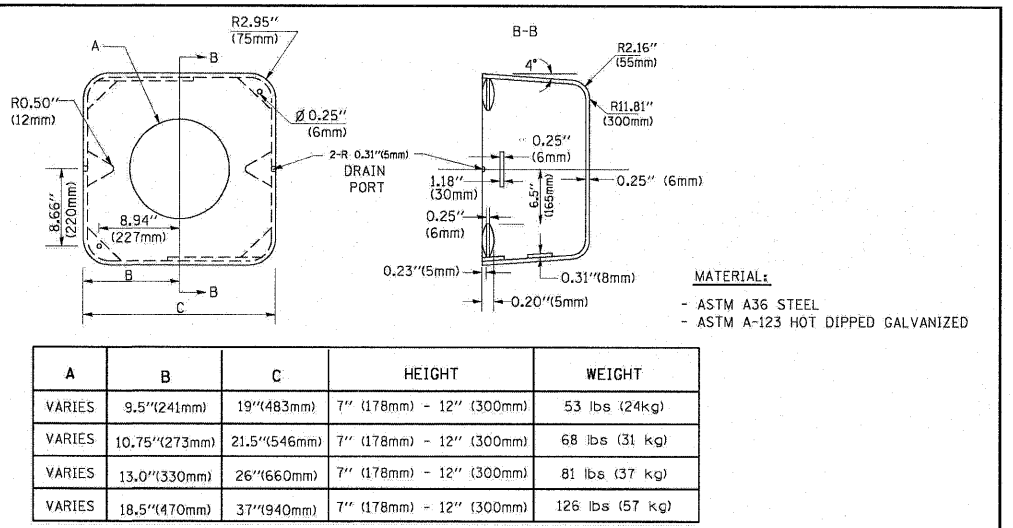


ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4" (19 mm) CLOSE NIPPLE
7	3/4" (19 mm) LOCKNUT
8	3/4" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

- NOTES:**
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
  - ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
 ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
 ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
  - WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.

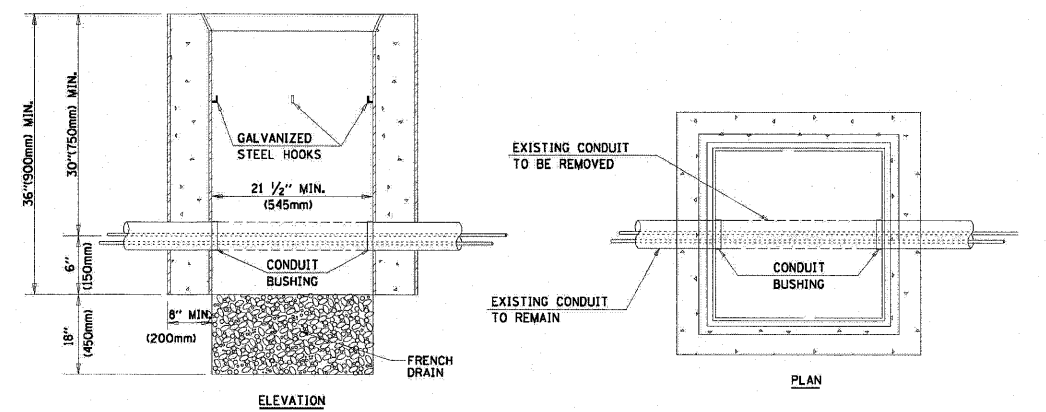
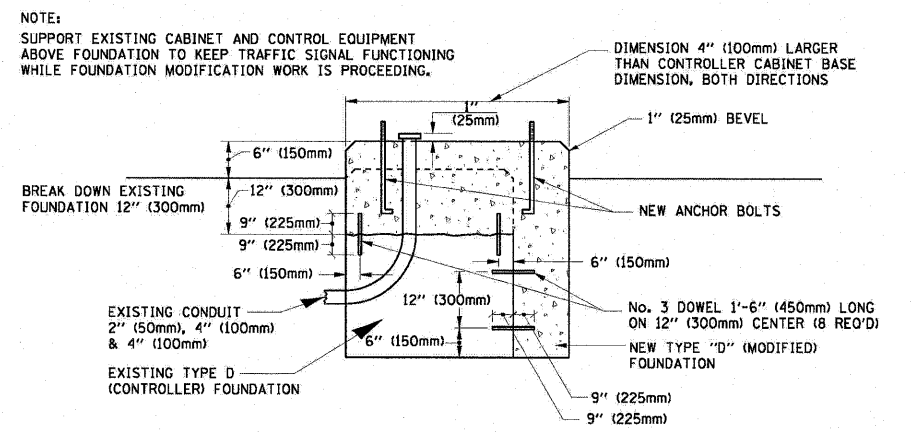
EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

FILE NAME =	USER NAME = \$USER\$	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BONNER ROAD @ US ROUTE 12 / IL ROUTE 59 DISTRICT ONE - STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
\$FILEL\$		DRAWN -	REVISED -			334	OR-N	LAKE	40	20	
		CHECKED -	REVISED -			CONTRACT NO. 60L20					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE: N.T.S.	SHEET NO. 4 OF 6 SHEETS	STA.	TO STA.			



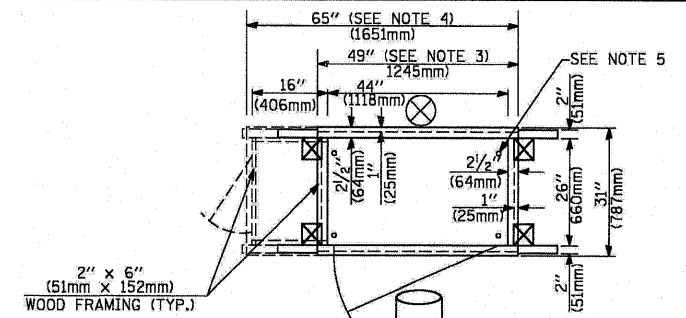
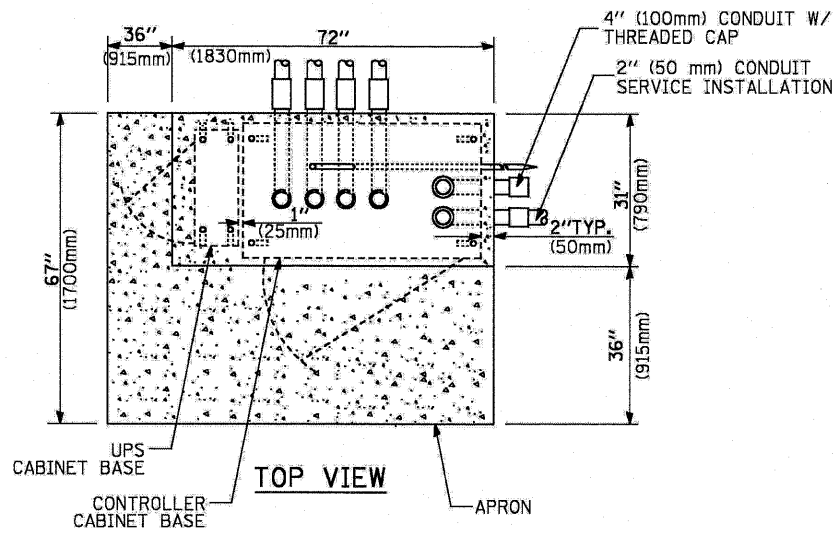
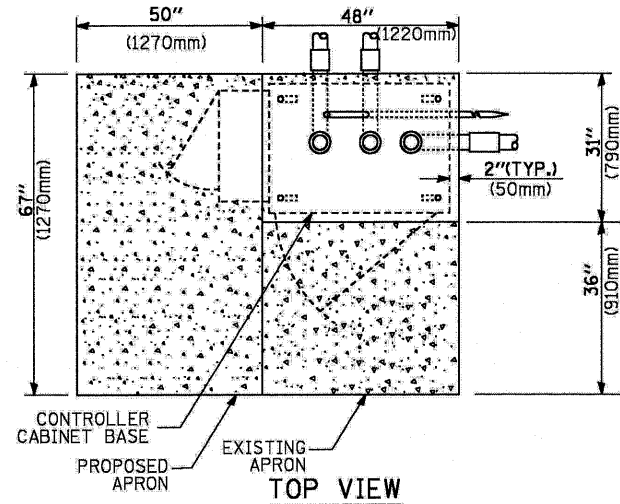
A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5" (241mm)	19" (483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIABLES	10.75" (273mm)	21.5" (546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIABLES	13.0" (330mm)	26" (660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIABLES	18.5" (470mm)	37" (940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

- NOTES:**
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
  - THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
  - THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.



- NOTES:**
- HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
  - REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

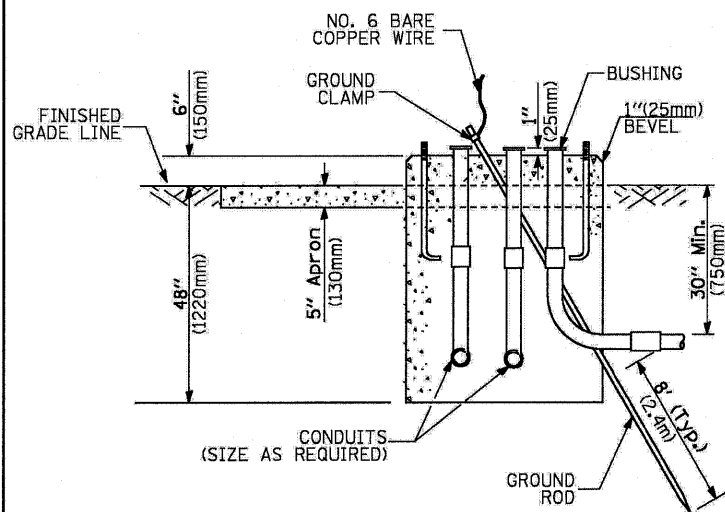
HANDHOLE TO INTERCEPT EXISTING CONDUIT



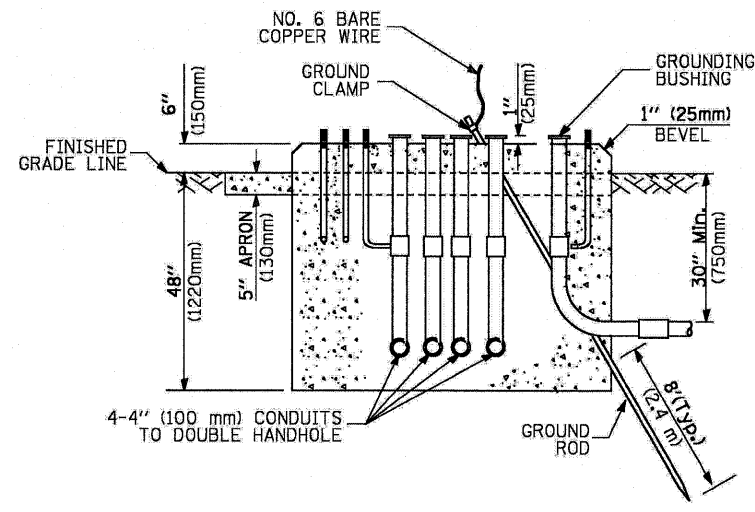
**NOTES:**

1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

**TEMPORARY SIGNAL CONTROLLER  
WOOD SUPPORT PLATFORM**



**TYPE D  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**



**TYPE C  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

**CABLE SLACK**

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

**VERTICAL CABLE LENGTH**

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

**DEPTH OF FOUNDATION**

MAST ARM LENGTH	FOUNDATION DEPTH	FOUNDATION DIAMETER	SPIRAL DIAMETER	QUANTITY OF REBARS	SIZE OF REBARS
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 55' (16.8 m) and up to 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

**NOTES:**

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
4. For mast arm assemblies with dual arms refer to state standard 878001.

**DEPTH OF MAST ARM FOUNDATIONS, TYPE E**

# TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S	S	ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I	IP	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM	R			SIGNAL POST AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	RL			INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
GUY WIRE				ABANDON ITEM	A			SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				EXISTING INTERSECTION LOOP DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				PREFORMED SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID							
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER							
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT							
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER							
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED							
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)							
MICROWAVE VEHICLE SENSOR											
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											

## RAILROAD SYMBOLS

	EXISTING	PROPOSED
RAILROAD CONTROL CABINET		
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		

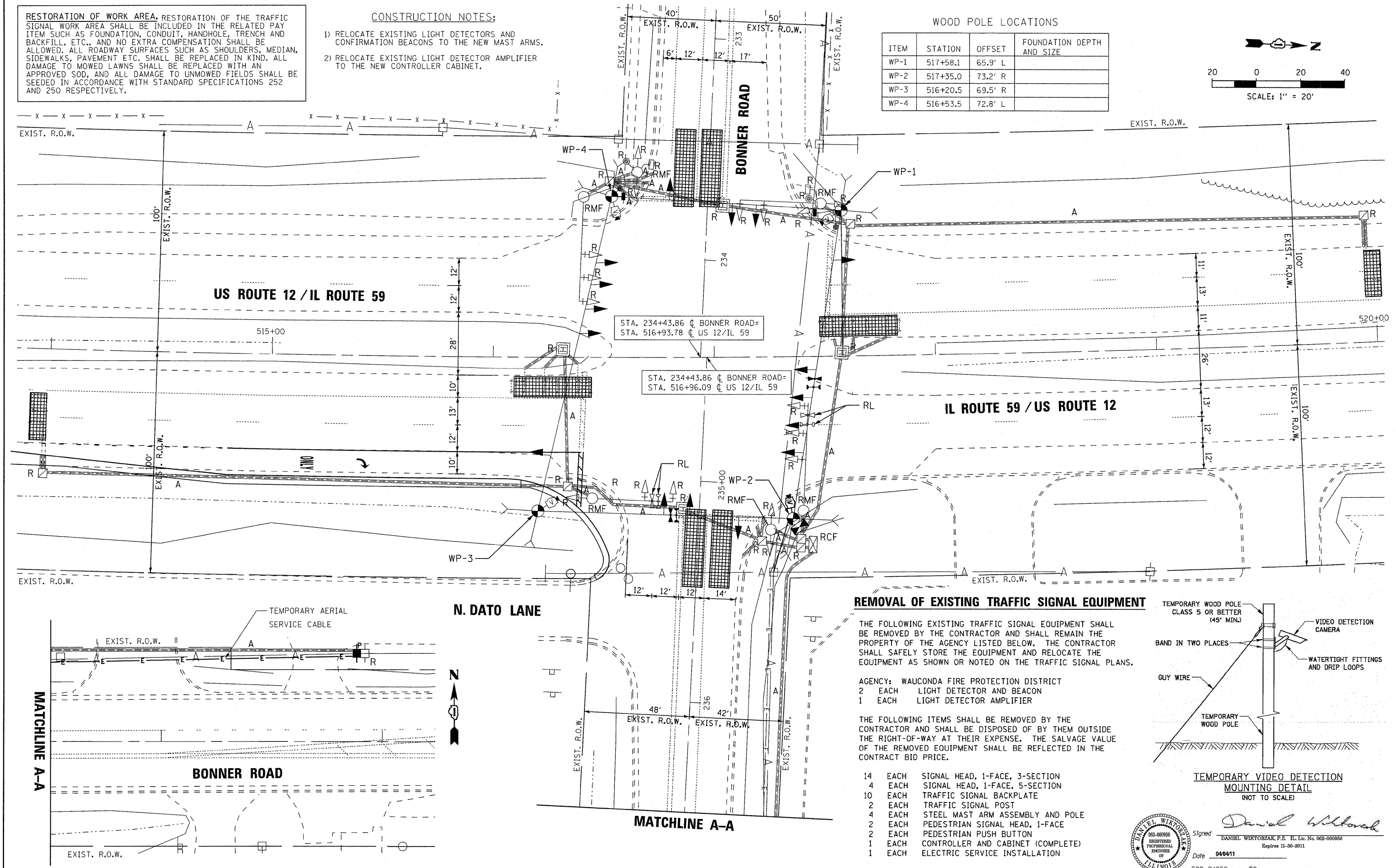
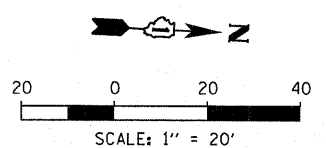
**RESTORATION OF WORK AREA.** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**CONSTRUCTION NOTES:**

- 1) RELOCATE EXISTING LIGHT DETECTORS AND CONFIRMATION BEACONS TO THE NEW MAST ARMS.
- 2) RELOCATE EXISTING LIGHT DETECTOR AMPLIFIER TO THE NEW CONTROLLER CABINET.

**WOOD POLE LOCATIONS**

ITEM	STATION	OFFSET	FOUNDATION DEPTH AND SIZE
WP-1	517+58.1	65.9' L	
WP-2	517+35.0	73.2' R	
WP-3	516+20.5	69.5' R	
WP-4	516+53.5	72.8' L	



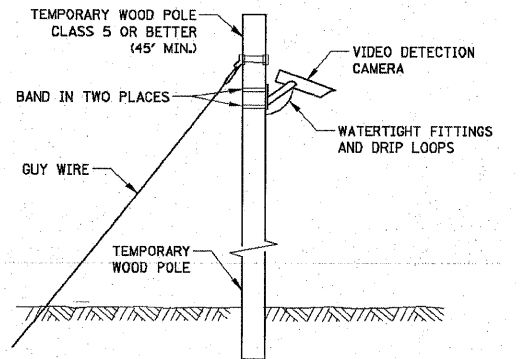
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

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 THE EQUIPMENT AND RELOCATE THE EQUIPMENT AS SHOWN OR NOTED ON THE TRAFFIC SIGNAL PLANS.

- AGENCY: WAUCONDA FIRE PROTECTION DISTRICT
- 2 EACH LIGHT DETECTOR AND BEACON
  - 1 EACH LIGHT DETECTOR AMPLIFIER

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.

- 14 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 4 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 10 EACH TRAFFIC SIGNAL BACKPLATE
- 2 EACH TRAFFIC SIGNAL POST
- 4 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 2 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 2 EACH PEDESTRIAN PUSH BUTTON
- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH ELECTRIC SERVICE INSTALLATION

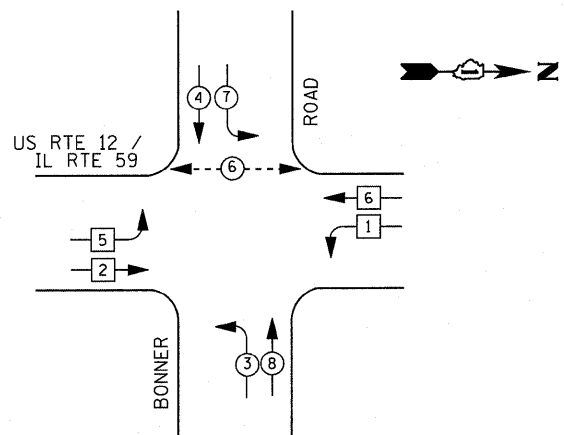


**TEMPORARY VIDEO DETECTION MOUNTING DETAIL**  
 (NOT TO SCALE)

Signed *Daniel Wirtorzak*  
 DANIEL WIRTORZAK, P.E., IL. Lic. No. 062-060850  
 Expires 11-30-2011  
 Date 04/04/11  
 FOR PAGES \_\_\_\_ TO \_\_\_\_

FILE NAME =	USER NAME = \$USERS	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BONNER ROAD @ US ROUTE 12 / IL ROUTE 59 EXISTING TRAFFIC SIGNAL EQUIPMENT REMOVAL AND TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN</b>	F.A.P. R.F.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
\$FILEL\$	PLOT SCALE = \$SCALES	DRAWN -	REVISED -			334	OR-N	LAKE	40	23	
	PLOT DATE = \$DATES	CHECKED -	REVISED -			CONTRACT NO. 60L20					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

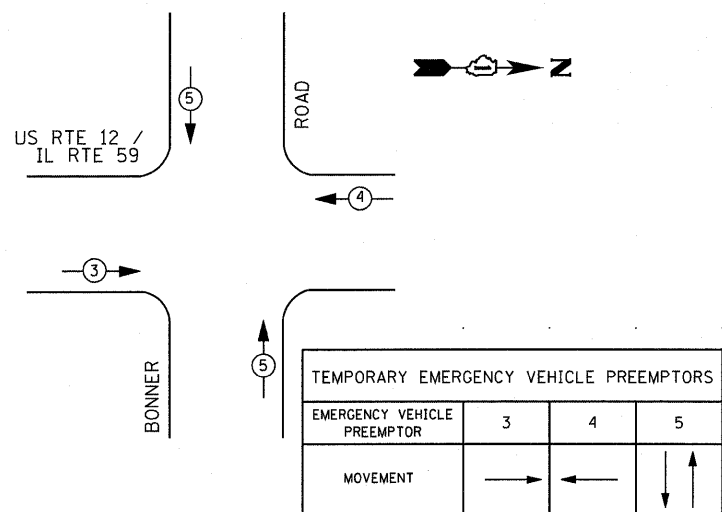
**TEMPORARY CONTROLLER SEQUENCE**



TEMPORARY PHASE DESIGNATION DIAGRAM

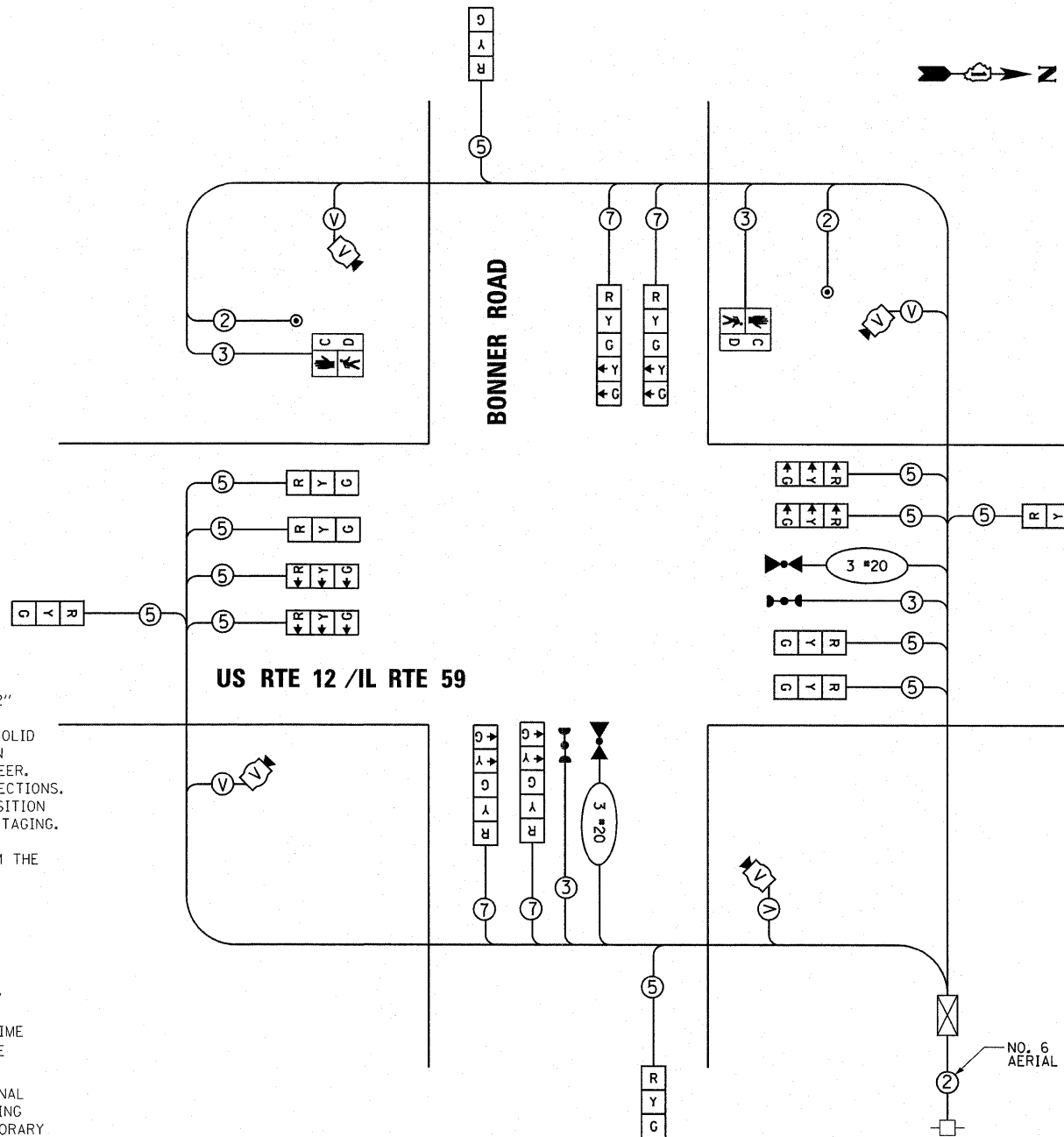
- LEGEND**
- ⊙ \* DUAL ENTRY PHASE
  - ⊙ \* SINGLE ENTRY PHASE
  - ⊙ \* PEDESTRIAN PHASE
  - \* NUMBER REFERS TO ASSOCIATED PHASE
  - ⊙ \* OL OVERLAP

**TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**NOTES FOR TEMPORARY TRAFFIC SIGNALS**

- 1) ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
- 2) 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 TS2 CABINET, ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
- 3) ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT RAILROAD INTERSECTIONS. 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.
- 4) 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.
- 5) ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
- 6) 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.
- 7) UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEM SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.
- 8) TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
- 9) DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
- 10) WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE CAMERAS.



TEMPORARY CABLE PLAN

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL
		INCAND.	LED		
SIGNAL (RED)	12		17	0.50	102.00
(YELLOW)	12		25	0.25	75.00
(GREEN)	12		15	0.25	45.00
ARROW	20		12	0.10	24.00
PED. SIGNAL	2		25	1.00	50.00
CONTROLLER	1		100	1.00	100.00
ILLUM. SIGN				0.05	--
VIDEO SYSTEM	1		150	1.00	150.00
FLASHER LED					
TOTAL =					546.00

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT MARTY RUBIN  
 PHONE (847) 608-2400  
 COMPANY COMED

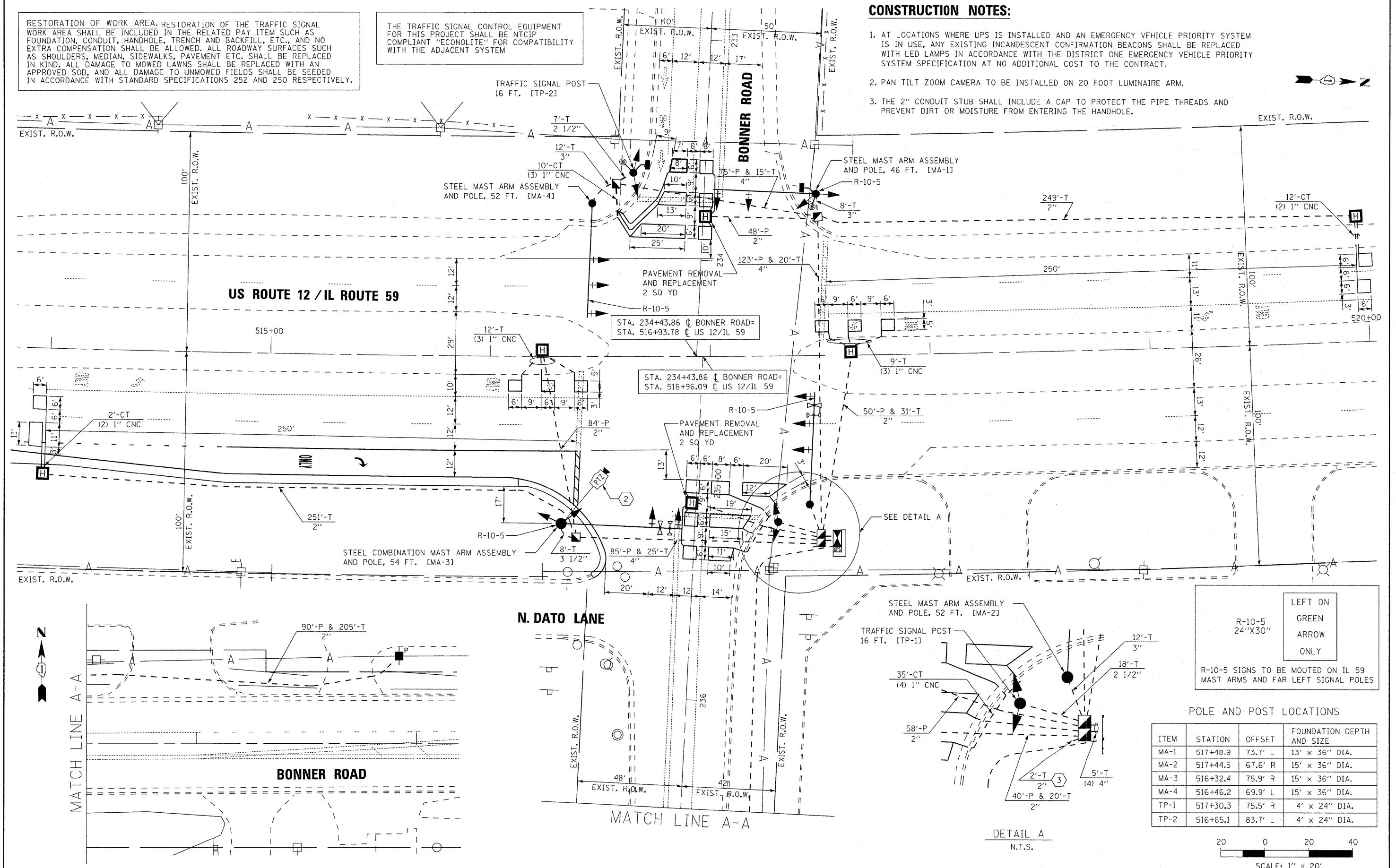


RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE NTCIP COMPLIANT "ECONOLITE" FOR COMPATIBILITY WITH THE ADJACENT SYSTEM

**CONSTRUCTION NOTES:**

1. AT LOCATIONS WHERE UPS IS INSTALLED AND AN EMERGENCY VEHICLE PRIORITY SYSTEM IS IN USE, ANY EXISTING INCANDESCENT CONFIRMATION BEACONS SHALL BE REPLACED WITH LED LAMPS IN ACCORDANCE WITH THE DISTRICT ONE EMERGENCY VEHICLE PRIORITY SYSTEM SPECIFICATION AT NO ADDITIONAL COST TO THE CONTRACT.
2. PAN TILT ZOOM CAMERA TO BE INSTALLED ON 20 FOOT LUMINAIRE ARM.
3. THE 2" CONDUIT STUB SHALL INCLUDE A CAP TO PROTECT THE PIPE THREADS AND PREVENT DIRT OR MOISTURE FROM ENTERING THE HANDHOLE.



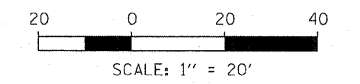
LEFT ON  
 GREEN  
 ARROW  
 ONLY

R-10-5  
 24"X30"

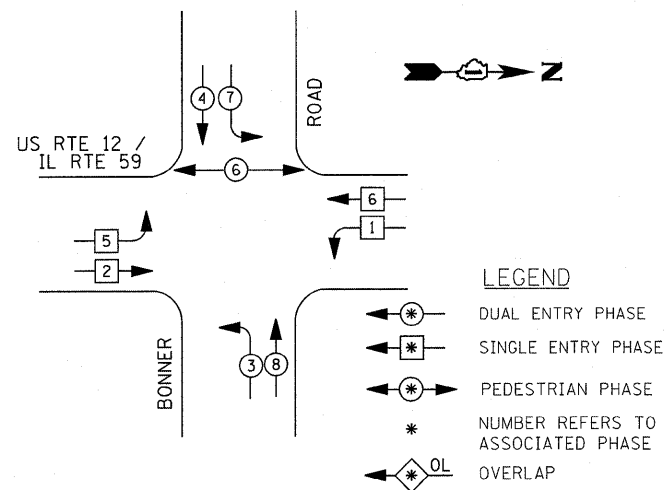
R-10-5 SIGNS TO BE MOUNTED ON IL 59  
 MAST ARMS AND FAR LEFT SIGNAL POLES

POLE AND POST LOCATIONS

ITEM	STATION	OFFSET	FOUNDATION DEPTH AND SIZE
MA-1	517+48.9	73.7' L	13' x 36" DIA.
MA-2	517+44.5	67.6' R	15' x 36" DIA.
MA-3	516+32.4	75.9' R	15' x 36" DIA.
MA-4	516+46.2	69.9' L	15' x 36" DIA.
TP-1	517+30.3	75.5' R	4' x 24" DIA.
TP-2	516+65.1	83.7' L	4' x 24" DIA.



**CONTROLLER SEQUENCE**

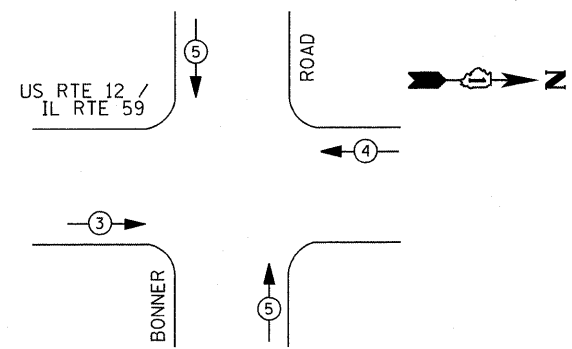


AT LOCATIONS WHERE UPS IS INSTALLED AND EMERGENCY VEHICLE PRIORITY SYSTEM IS IN USE, ANY EXISTING INCANDESCENT CONFIRMATION BEACONS SHALL BE REPLACED WITH LED LAMPS IN ACCORDANCE WITH THE DISTRICT ONE EMERGENCY VEHICLE PRIORITY SYSTEM SPECIFICATION AT NO ADDITIONAL COST TO THE CONTRACT.

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDD IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**PHASE DESIGNATION DIAGRAM**

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

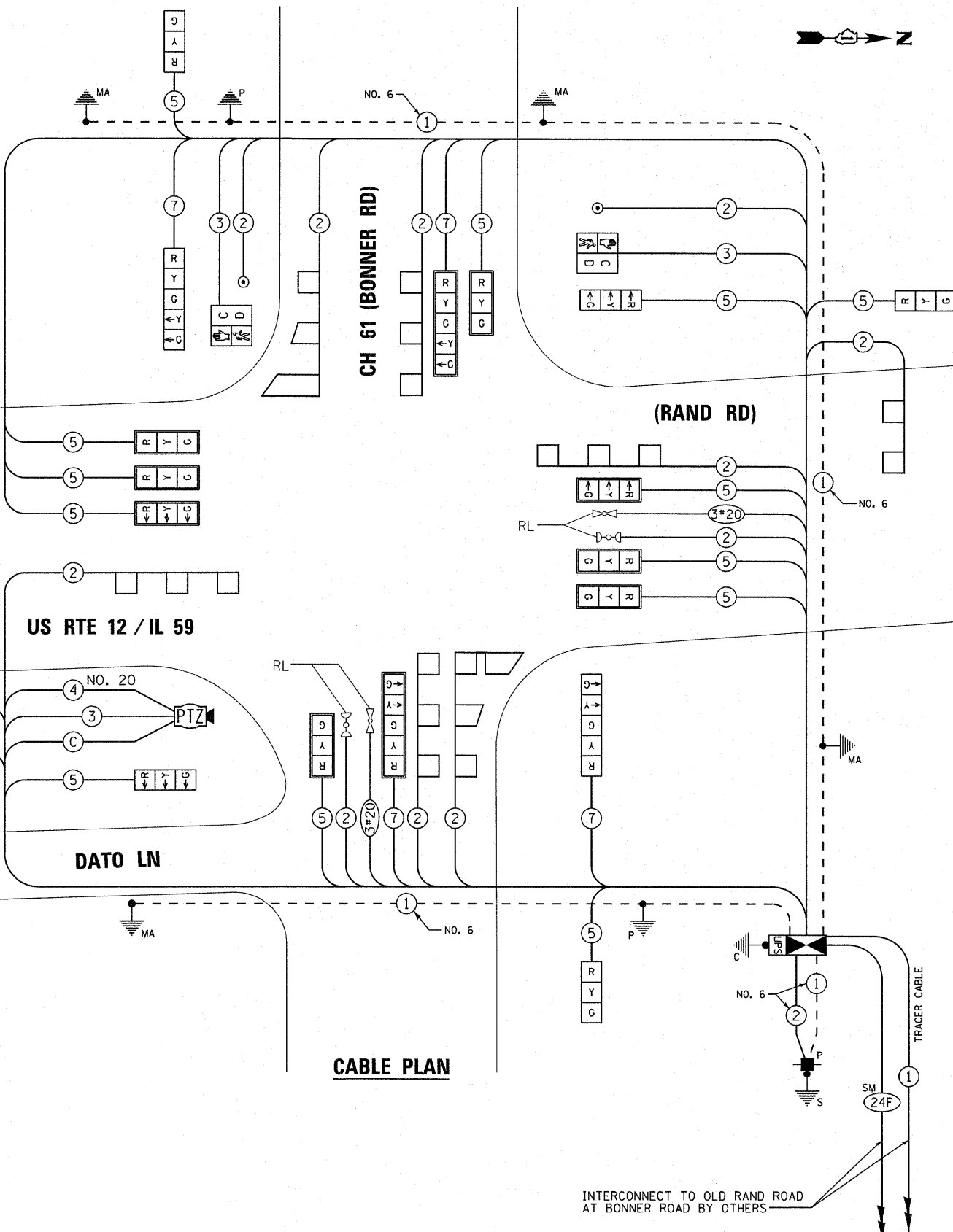


EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↕

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
35	SQ FT	SIGN PANEL - TYPE 1
35	SQ FT	SIGN PANEL - TYPE 2
741	FOOT	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
25	FOOT	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL
32	FOOT	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL
8	FOOT	CONDUIT IN TRENCH, 3 1/2" DIA., GALVANIZED STEEL
80	FOOT	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
312	FOOT	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
283	FOOT	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
3	EACH	HANDHOLE
6	EACH	HEAVY-DUTY HANDHOLE
1	EACH	DOUBLE HANDHOLE
881	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL UNINTERRUPTIBLE POWER SUPPLY, EXTENDED
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, EXTENDED
799	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C
704	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C
2858	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C
827	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C
1770	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
333	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
2	EACH	TRAFFIC SIGNAL POST, 16 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 46 FT.
2	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.
1	EACH	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 54 FT.
8	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
58	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
8	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
10	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED
8	EACH	INDUCTIVE LOOP DETECTOR
813	FOOT	DETECTOR LOOP, TYPE I
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION
2	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
11	EACH	REMOVE EXISTING HANDHOLE
7	EACH	REMOVE EXISTING CONCRETE FOUNDATION
4	SO YD	PAVEMENT REPLACEMENT, BITUMINOUS
1	EACH	SERVICE INSTALLATION - POLE MOUNTED
829	FOOT	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C
326	FOOT	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED
217	FOOT	ELECTRIC CABLE IN CONDUIT, COAXIAL
1	EACH	REMOTE-CONTROLLED VIDEO SYSTEM
1	EACH	LAYER II (DATA LINK) SWITCH
1	EACH	VIDEO ENCODER
217	FOOT	VIDEO CABLE IN CONDUIT, NO. 20 4C FOR VIDEO

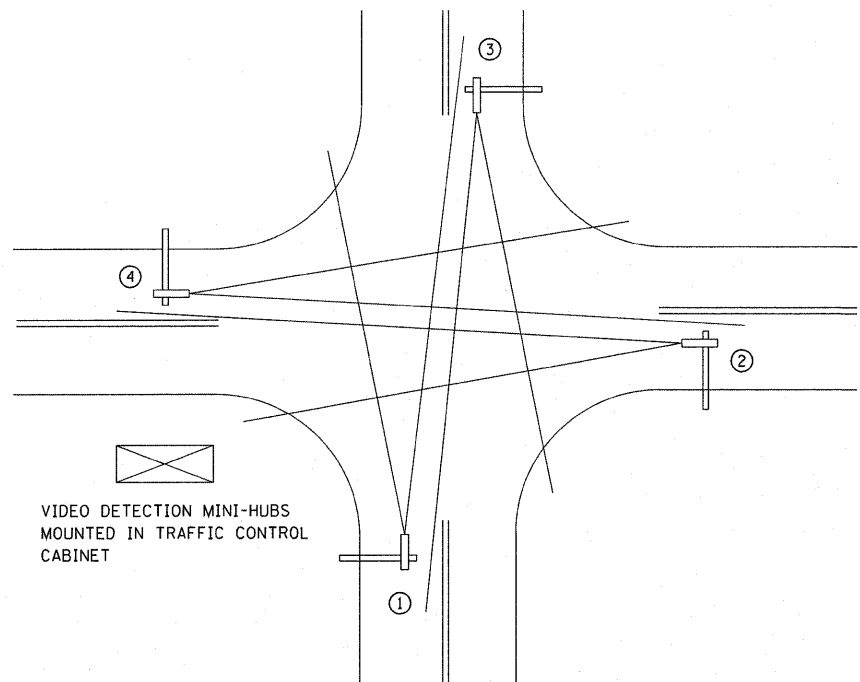
\* - 100% COST TO THE WAUCONDA FIRE PROTECTION DISTRICT



**CABLE PLAN**

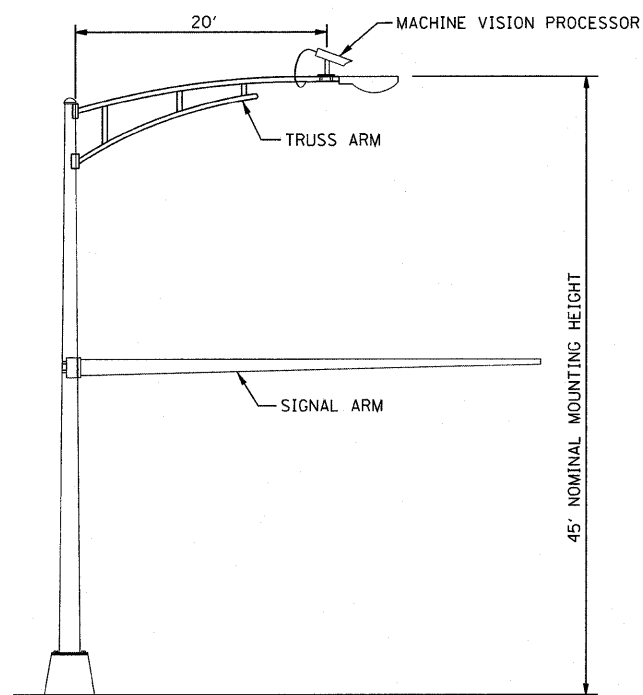
I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. OF LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	14	17	0.50		119.00
(YELLOW)	14	25	0.25		87.50
(GREEN)	14	15	0.25		52.50
ARROW	20	12	0.10		24.00
PED. SIGNAL	2	25	1.00		50.00
CONTROLLER	1	100	1.00		100.00
ILLUM. SIGN	-	25	0.05		
VIDEO SYSTEM	-	150	1.00		150.00
FLASHER			0.50		
ENERGY COSTS TO:			TOTAL =		583.00

**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
 DIVISION OF HIGHWAY/DISTRICT 1  
 201 WEST CENTER COURT/SCHAUMBURG, ILLINOIS 60196-1096  
 ENERGY SUPPLY: CONTACT: MARTY RUBIN  
 PHONE: (847) 608-2400  
 COMPANY: COMED

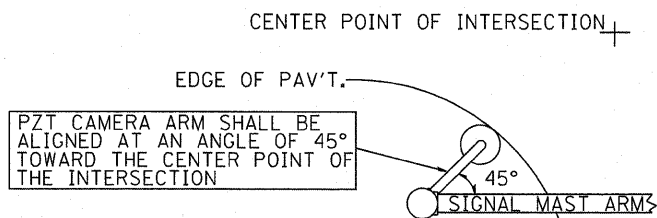


**TYPICAL VIDEO VEHICLE DETECTION SYSTEM**  
 (NOT TO SCALE)

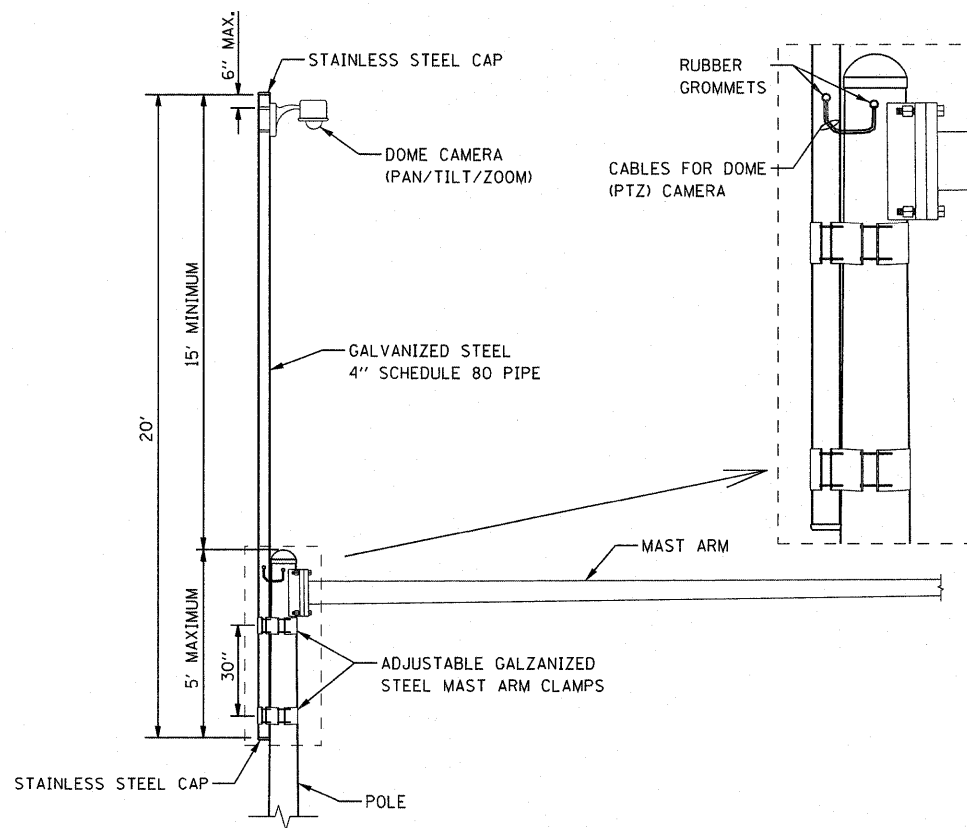
(4) MACHINE VISION PROCESSOR ASSEMBLIES AND BRACKETS ① ② ③ ④  
 POWER CABLE TO EACH MACHINE VISION PROCESSOR (24 VAC)



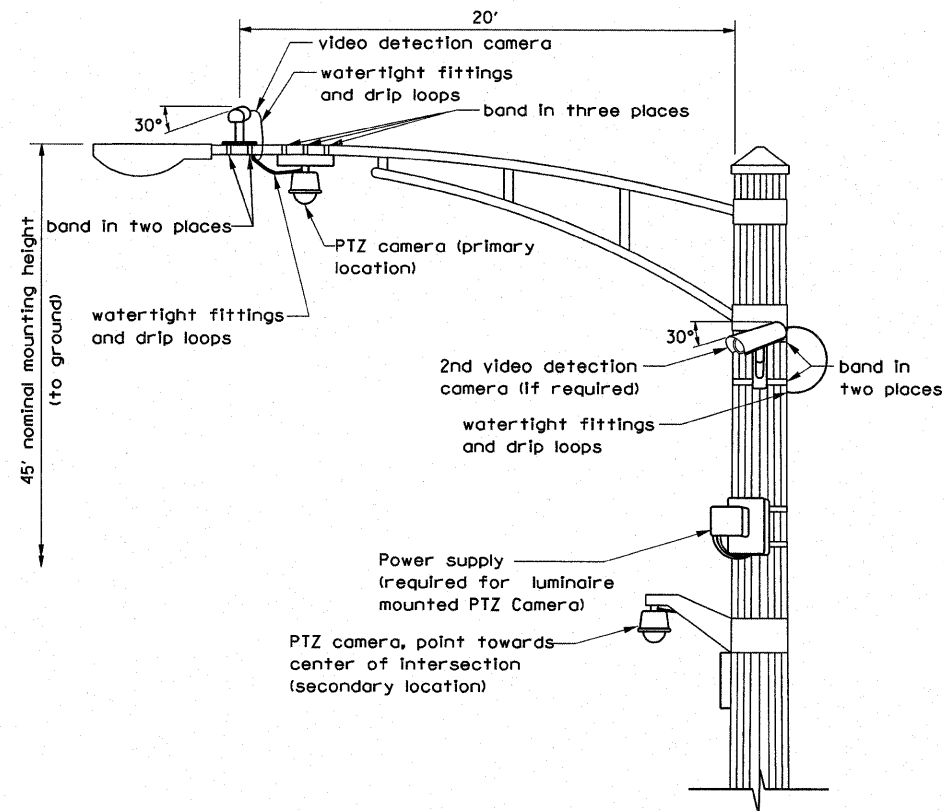
**COMBINATION MAST ARM ASSEMBLY AND POLE DIMENSIONS**  
 (NOT TO SCALE)



**IMAGE SENSOR MOUNTING DETAILS**  
 (NO SCALE)



**CAMERA MOUNTING ASSEMBLY DETAIL**  
 (NOT TO SCALE)



**VIDEO DETECTION CAMERA(S) AND DOME (PTZ) CAMERA MOUNTING DETAIL**  
 (NOT TO SCALE)

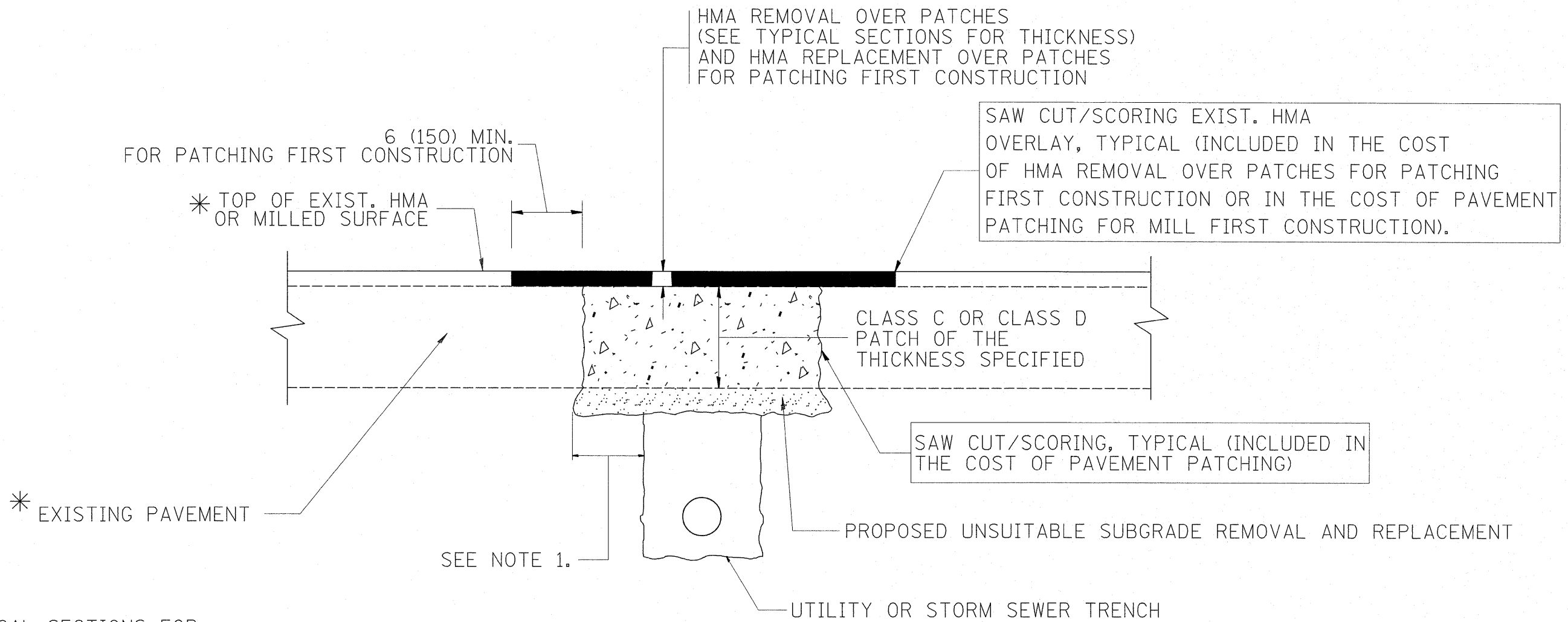
- NOTES FOR SINGLE, DUAL AND MULTIPLE MVP MOUNTING:
- MOUNT LUMINAIRE MOUNTING BRACKET AS HIGH AS POSSIBLE.
  - AIM BRACKET TOWARD DIRECTION OF TRAFFIC TO BE DETECTED.
  - MOUNT MACHINE VISION PROCESSOR AIMING DOWN AT 30 DEGREE ANGLE.

REVISIONS	DATE	Lake County Division of Transportation	APPROVED BY: A. KHAWAJA
Mounting Details Revised	5/1/08		DATE: APRIL 1, 2007
2nd Camera Locat. added	1/14/09		
VIDEO DETECTION DETAILS			

REVISIONS / REMARKS								ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS										
NO.	DESCRIPTION	DATE	BY					DESIGNED -	REVISOR -	DATE	BY	DESIGNED -	REVISOR -	DATE	BY							
FILE NAME: #FILE#				USER NAME: #USER#	DESIGNED -	REVISOR -	VIDEO DETECTION DETAILS				CH61	334	OR-N	LAKE	40	27						
#FILE#				PLOT SCALE: #SCALE#	CHECKED -	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION										BONNER ROAD @ US ROUTE 12 / IL ROUTE 59				F.A.P. RTE.	SECTION
				PLOT DATE: #DATE#	DATE -	REVISOR -	VIDEO DETECTION DETAILS				SCALE: N.T.S.				SHEET NO. OF SHEETS STA. TO STA.				CONTRACT NO. 60L20			

006801





\* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

**NOTES:**

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

**SEQUENCE OF CONSTRUCTION (PATCHING FIRST)**

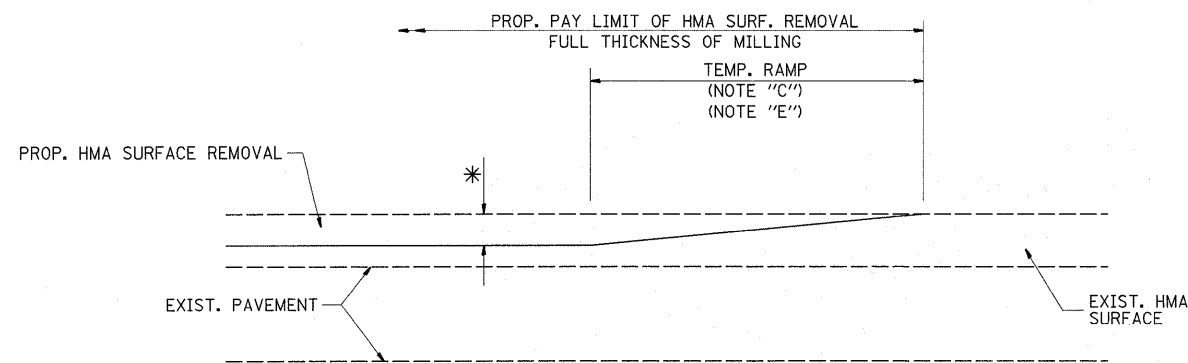
1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

**SEQUENCE OF CONSTRUCTION (MILLING FIRST)**

1. MILL HMA FIRST IF THERE IS AT LEAST 4 1/2 INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

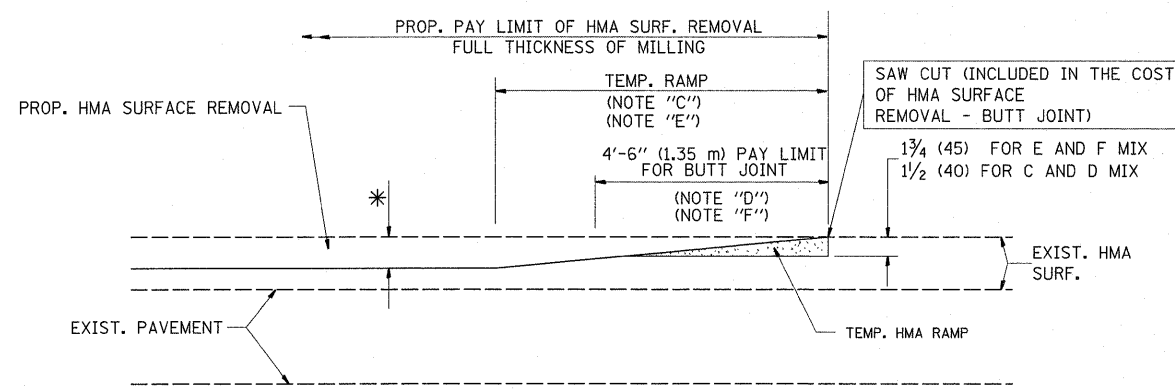
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = banks1	DESIGNED - R. SHAH	REVISED - A. ABBAS 04-27-98	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT</b>			F.A.P. RTE. 334	SECTION OR-N	COUNTY LAKE	TOTAL SHEETS 40	SHEET NO. 29
cr:\pw_work\pwidot\banks1\0156076\01st5.dgn		DRAWN -	REVISED - R. BORO 01-01-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	<b>BD400-04 (BD-22)</b>		CONTRACT NO. 60L20	
		CHECKED -	REVISED - R. BORO 09-04-07		FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT							
		DATE - 10-25-94	REVISED - K. ENG 10-27-08									



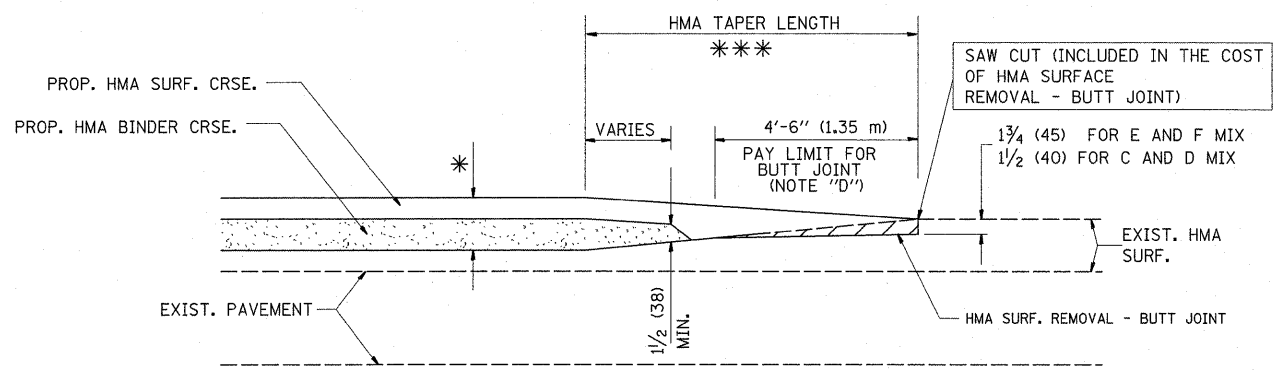
MILLED TEMPORARY RAMP  
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

**OPTION 1**



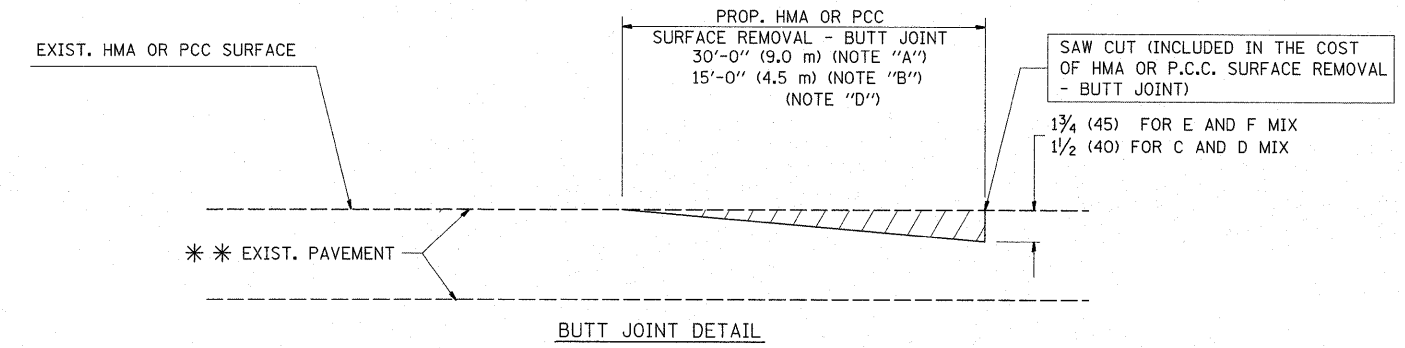
HMA CONSTRUCTED TEMPORARY RAMP  
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

**OPTION 2**  
**TYPICAL TEMPORARY RAMP**

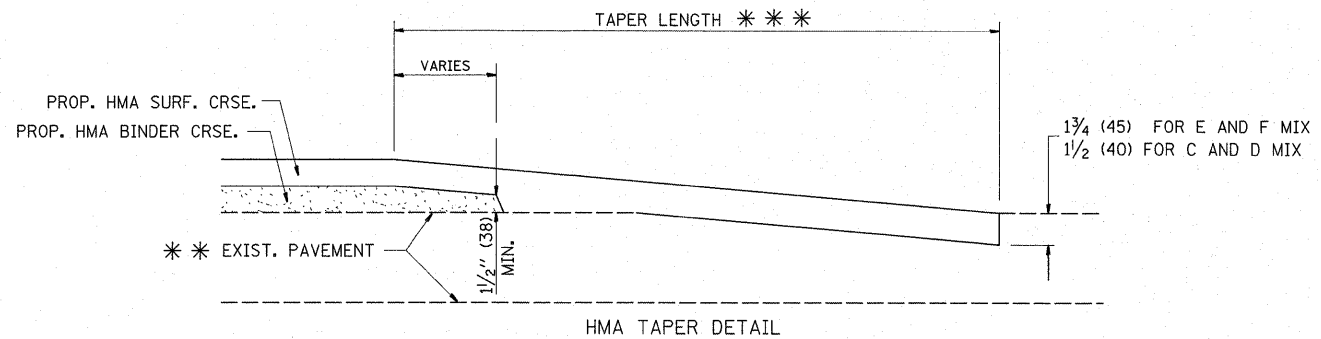


BUTT JOINT AND  
HMA TAPER

**TYPICAL BUTT JOINT AND HMA TAPER  
FOR MILLING AND RESURFACING**



BUTT JOINT DETAIL



HMA TAPER DETAIL

**TYPICAL BUTT JOINT AND HMA TAPER  
FOR RESURFACING ONLY**

\*\*\* PC CONCRETE, HMA OR HMA 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 HMA SURFACE.
  - D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
  - E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
  - F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
  - G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- \* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- \*\*\* 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")  
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

**BASIS OF PAYMENT:**

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

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

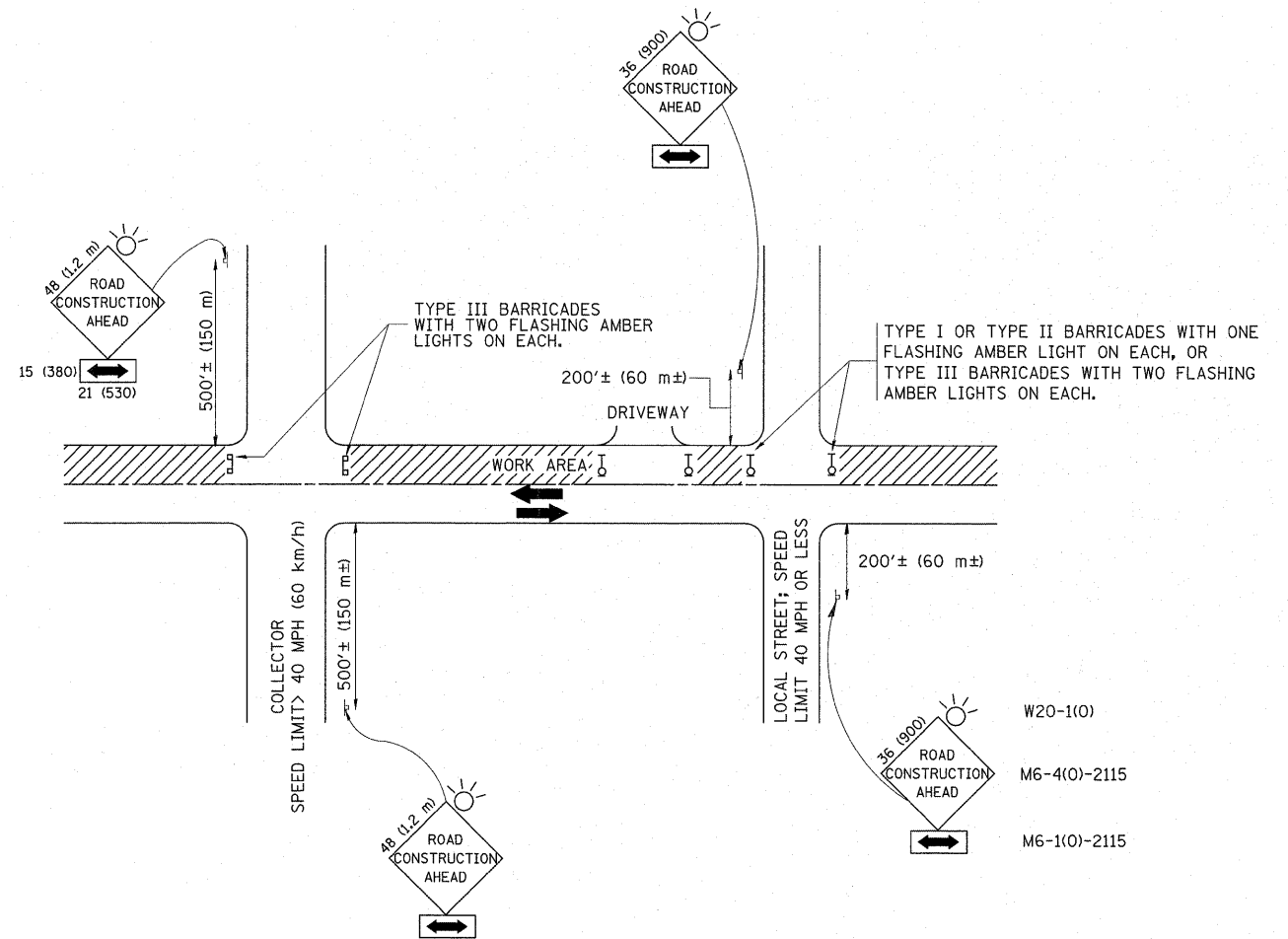
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PLOT SCALE = 50.0000 / IN.		CHECKED -	REVISED - M. GOMEZ 04-06-01
PLOT DATE = 4/4/2011		DATE - 06-13-90	REVISED - R. BORO 01-01-07

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BUTT JOINT AND  
HMA TAPER DETAILS**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	OR-N	LAKE	40	30
BD400-05 BD32			CONTRACT NO. 60L20	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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

NOTES:

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

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) 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.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) 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.
3. 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.

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

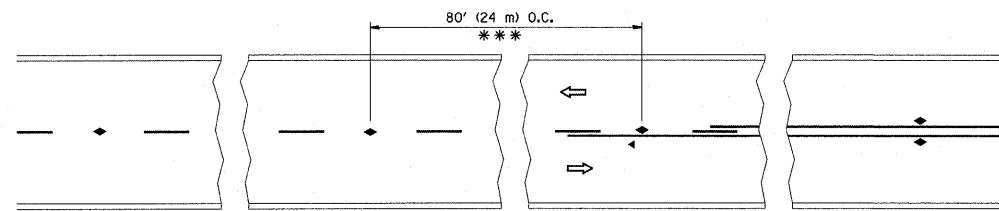
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	PLOT SCALE = 50.0000 / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 4/4/2011	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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

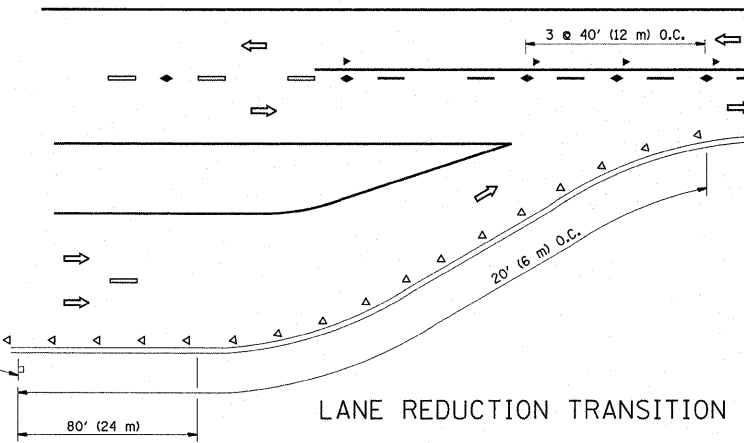
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-10			CONTRACT NO. 60L20	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

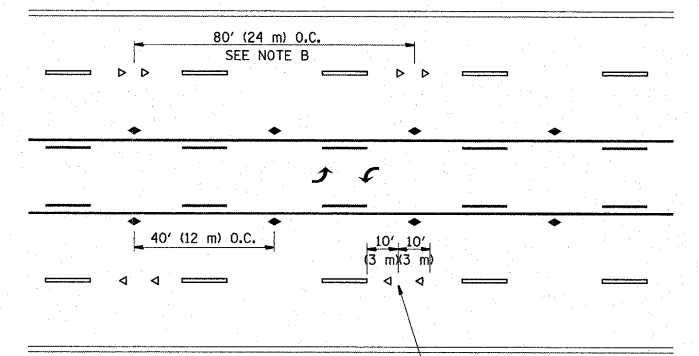


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

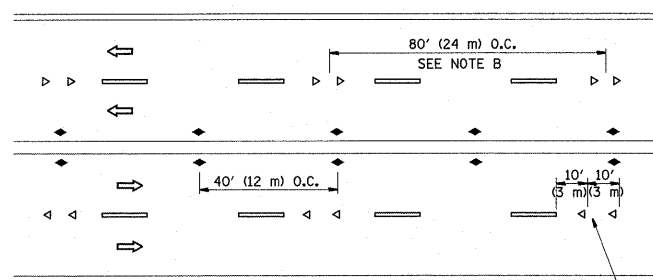
TWO-LANE/TWO-WAY



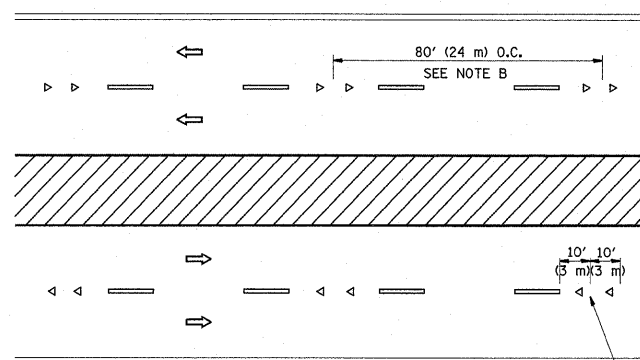
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

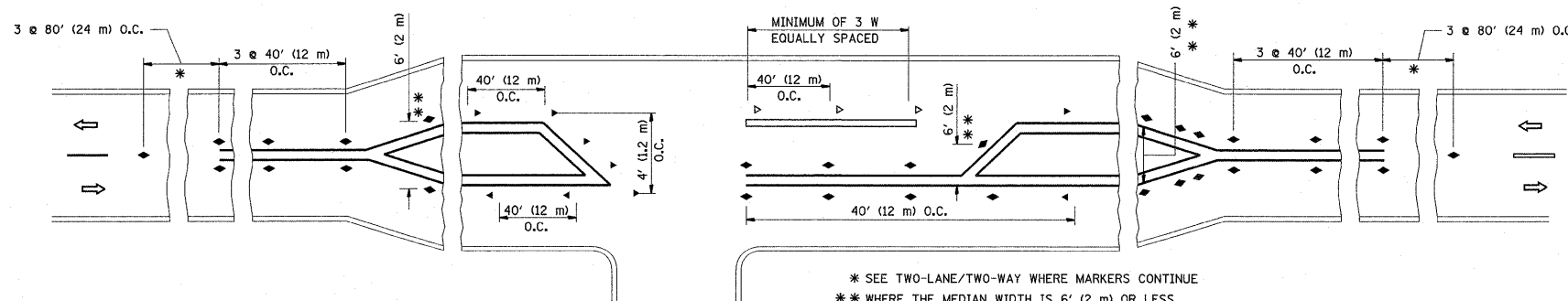
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.

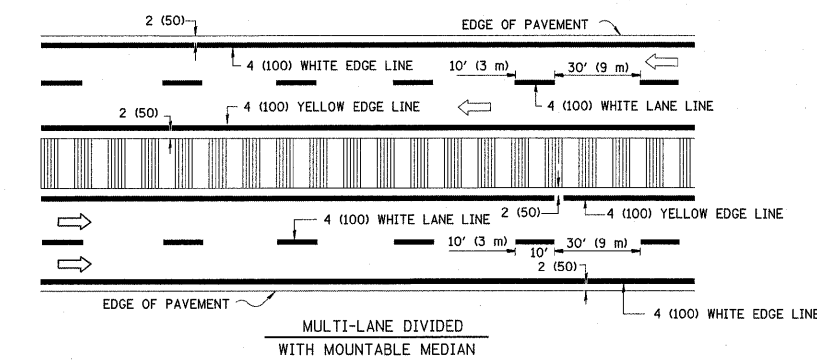
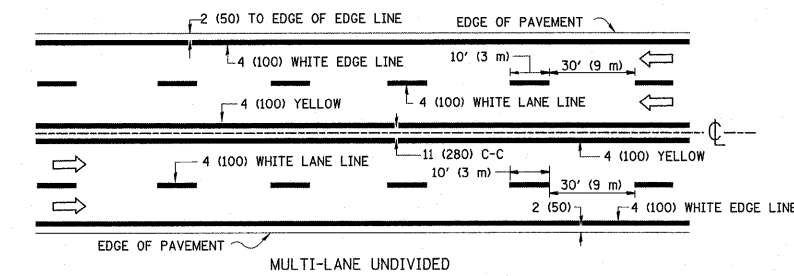
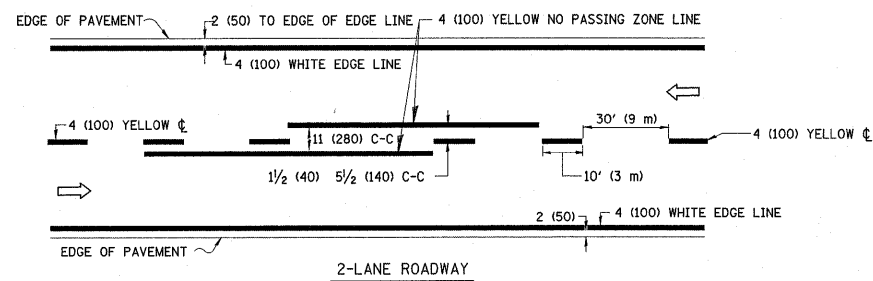


LEFT TURN

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

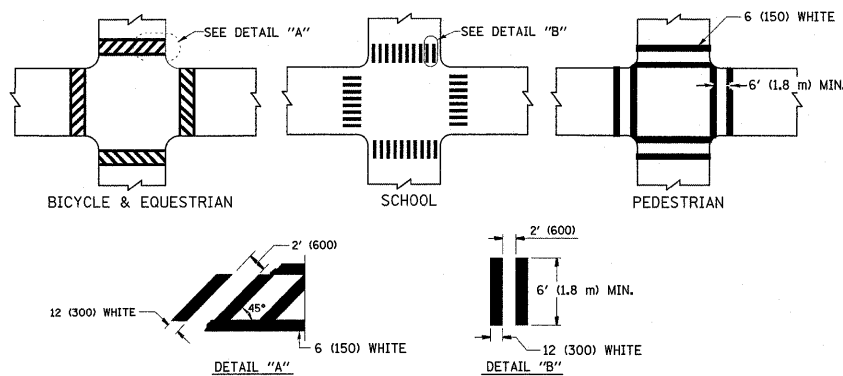
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ci:\pw_work\pwidot\banks1\d0156076\Dist5.dgn		DRAWN -	REVISED - T. RAMMACHER 03-12-99		<b>RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)</b>			334	OR-N	LAKE	40	32	
		CHECKED -	REVISED - T. RAMMACHER 01-06-00		SCALE: NONE	SHEET NO. 1	OF 1	SHEETS	STA.	TO STA.	<b>TC-11</b>		CONTRACT NO. 60L20
		DATE -	REVISED - C. JUCIUS 09-09-09										FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT



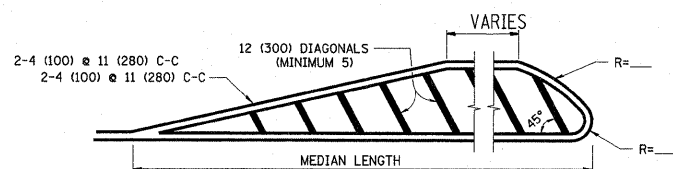
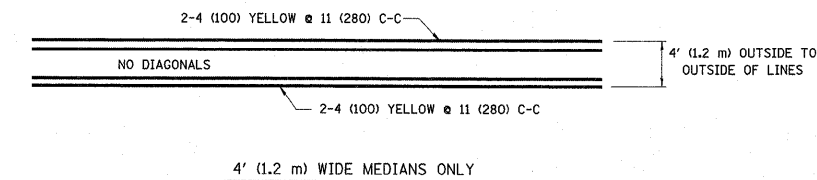


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

**TYPICAL LANE AND EDGE LINE MARKING**

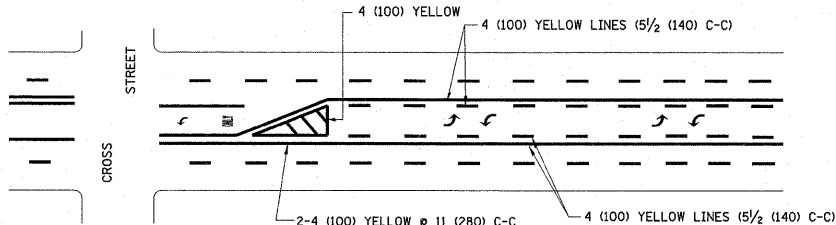


**TYPICAL CROSSWALK MARKING**

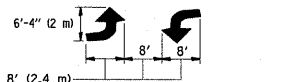


FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.  
 DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))  
 75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)  
 150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

**MEDIANS OVER 4' (1.2 m) WIDE**

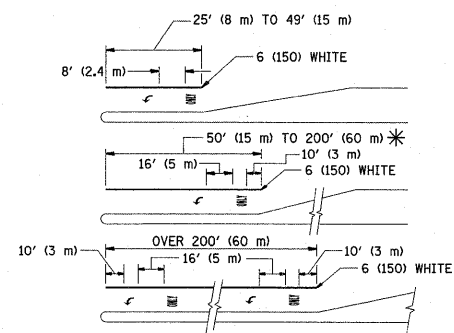


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



**MEDIAN WITH TWO-WAY LEFT TURN LANE**

**TYPICAL PAINTED MEDIAN MARKING**

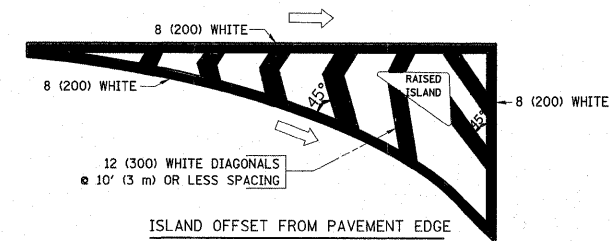


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  
 AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

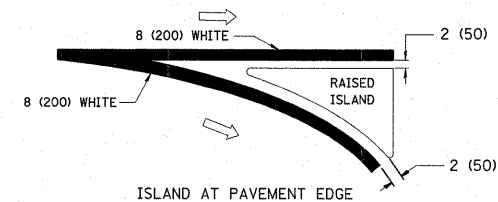
\* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

**TYPICAL LEFT (OR RIGHT) TURN LANE**

**TYPICAL TURN LANE MARKING**



**ISLAND OFFSET FROM PAVEMENT EDGE**



**ISLAND AT PAVEMENT EDGE**

**TYPICAL ISLAND MARKING**

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

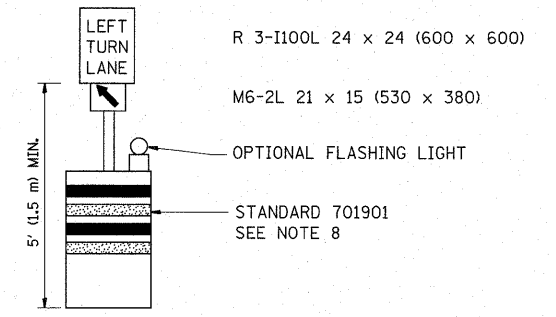
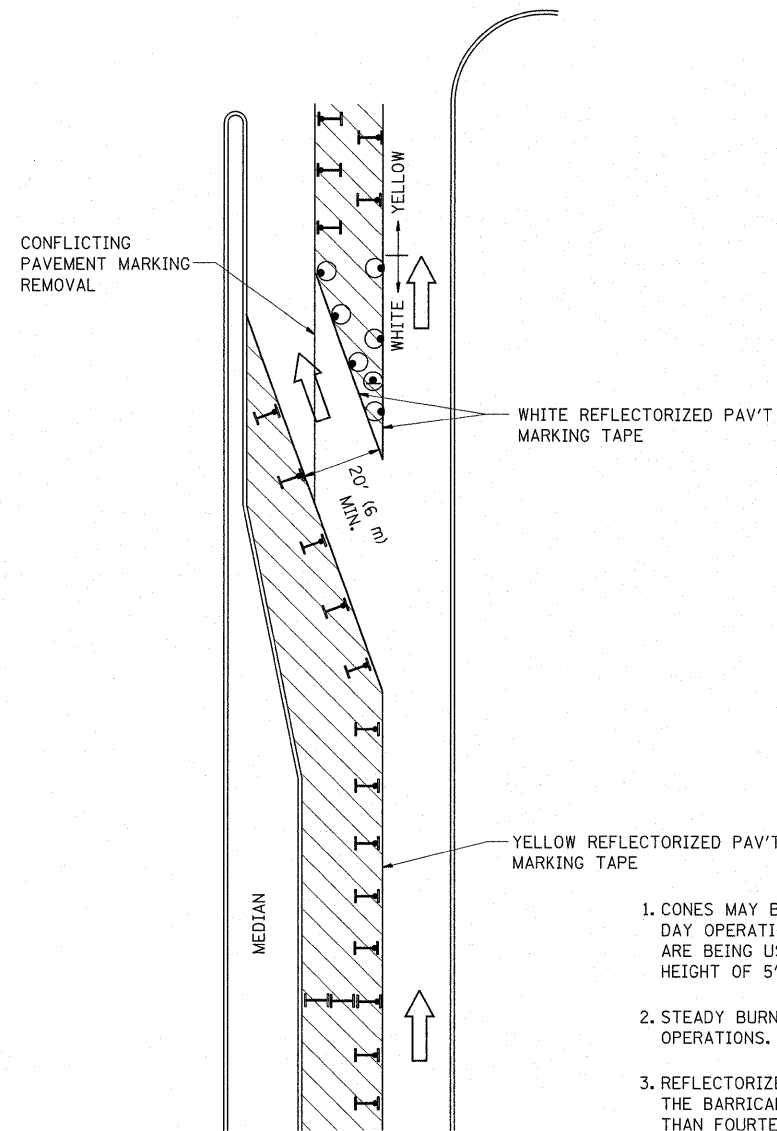
FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

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	PLOT SCALE = 50.0000 / IN.	CHECKED -	REVISED -
	PLOT DATE = 4/4/2011	DATE - 03-19-90	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TYPICAL PAVEMENT MARKINGS		334	OR-N	LAKE	40	33
SCALE: NONE		TC-13		CONTRACT NO. 60L20		
SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

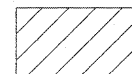







**GENERAL NOTES**

1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM OPER 725 IS REQUIRED.
8. IF A DRUM OR TYPE II BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHR 350 PREQUIREMENTS.
9. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

**LEGEND**

-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

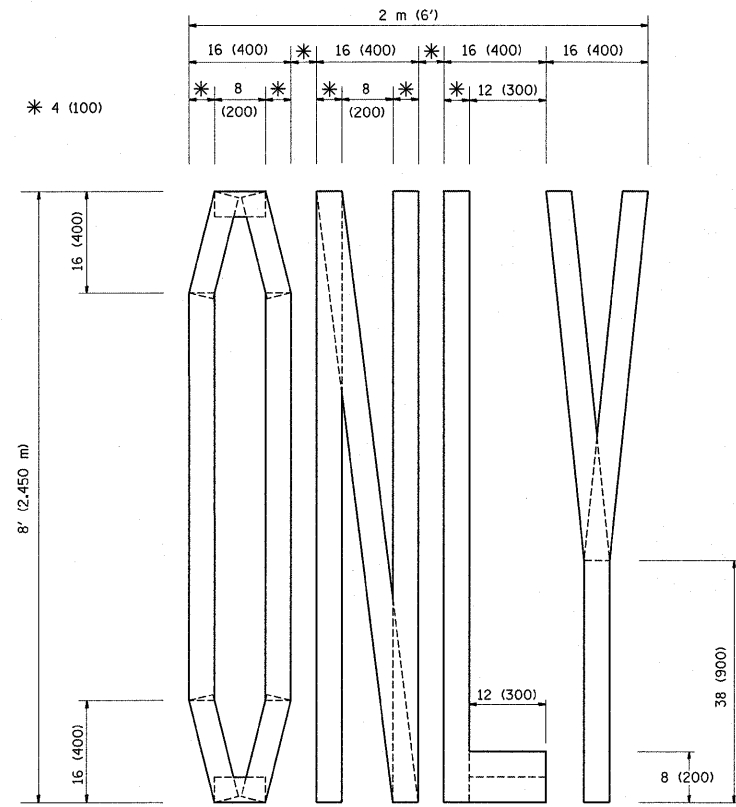
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

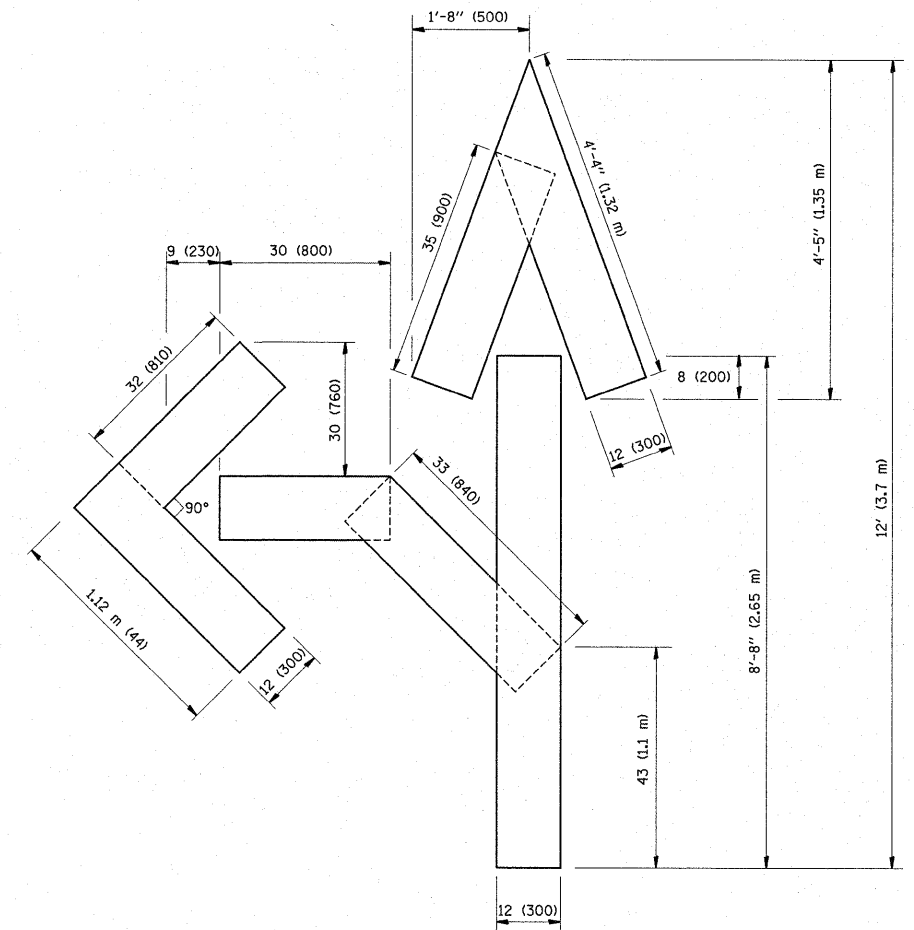
**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS  
(TO REMAIN OPEN TO TRAFFIC)**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

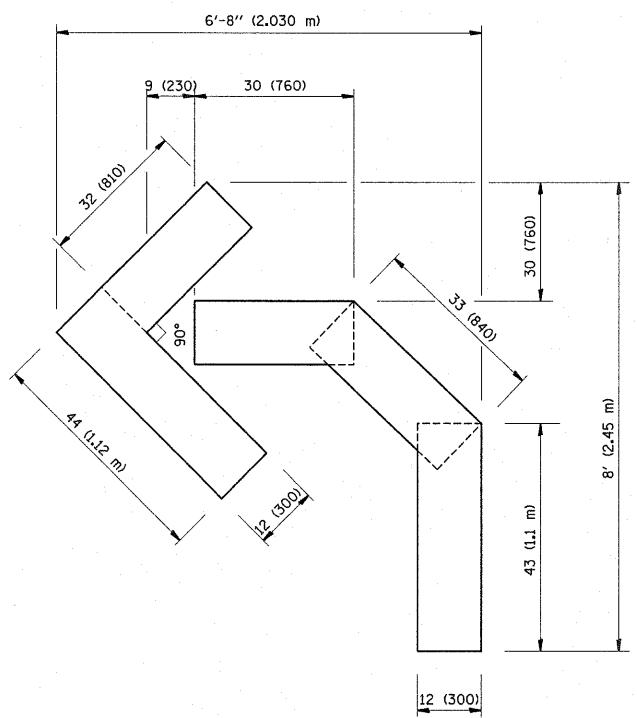
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	OR-N	LAKE	40	34
TC-14		CONTRACT NO. 60L20		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



QUANTITY  
 4 (100) LINE = 64.1 ft. (19.7 m)  
 21.1 sq. ft. (1.97 sq. m)



QUANTITY  
 4 (100) LINE = 82.5 ft. (25.3 m)  
 27.5 sq. ft. (2.53 sq. m)



QUANTITY  
 4 (100) LINE = 45.5 ft. (13.9 m)  
 15.2 sq. ft. (1.39 sq. m)

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

FILE NAME =	USER NAME = banks1	DESIGNED -	REVISED -T. RAMMACHER 06-05-96
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PLOT SCALE = 50.0000 / IN.		CHECKED -	REVISED -T. RAMMACHER 03-02-98
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

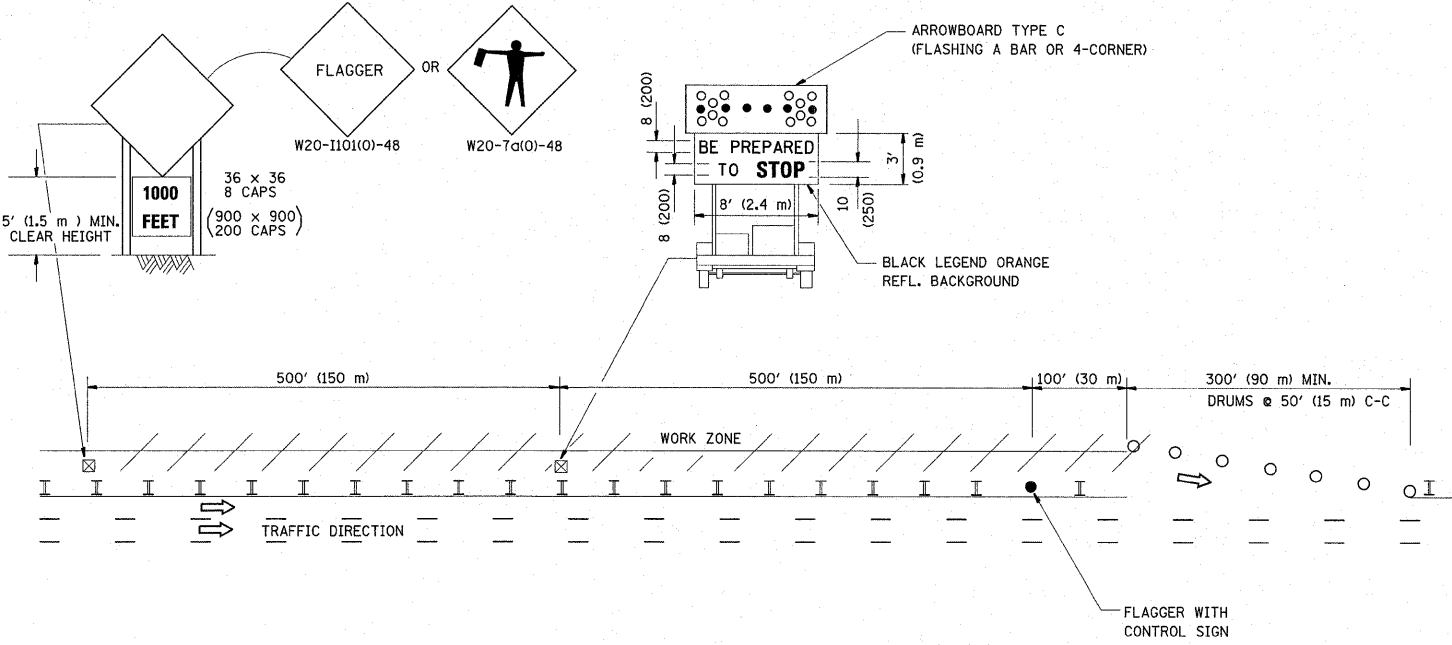
PAVEMENT MARKING LETTERS AND SYMBOLS  
 FOR TRAFFIC STAGING

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-16		CONTRACT NO. 60L20		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

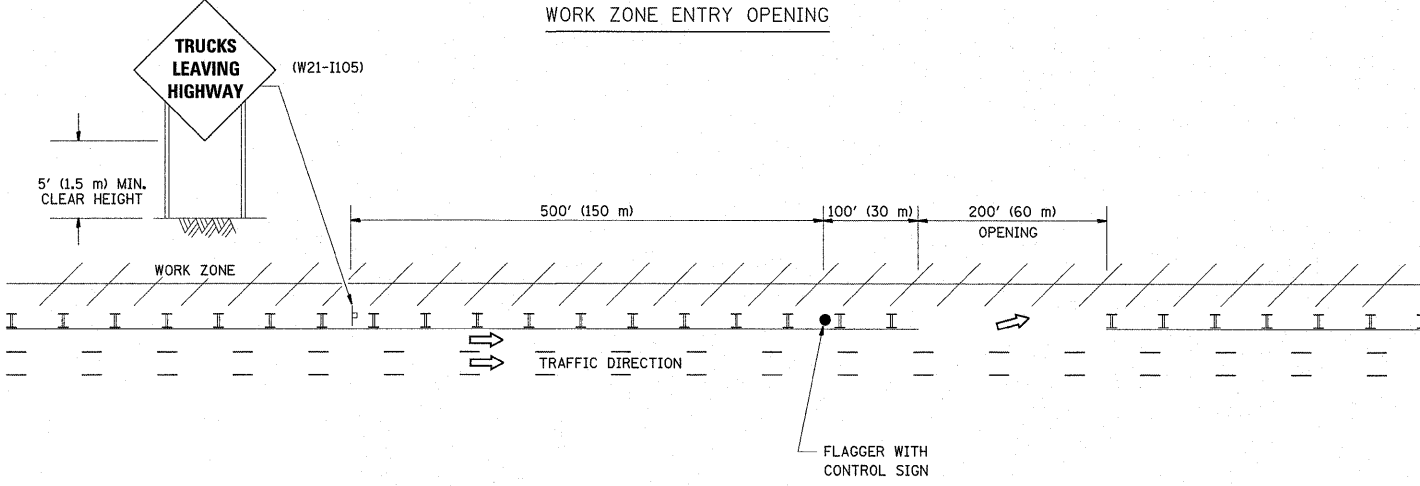
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



- NOTES:
1. THE ARROWBOARD, THE FLAGGER AHEAD SIGN AND THE TRUCKS LEAVING HIGHWAY SIGN SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
  2. WORK ZONE EXIT OPENINGS SHOULD BE A MINIMUM OF ONE HALF MILE APART.
  3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
  4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS

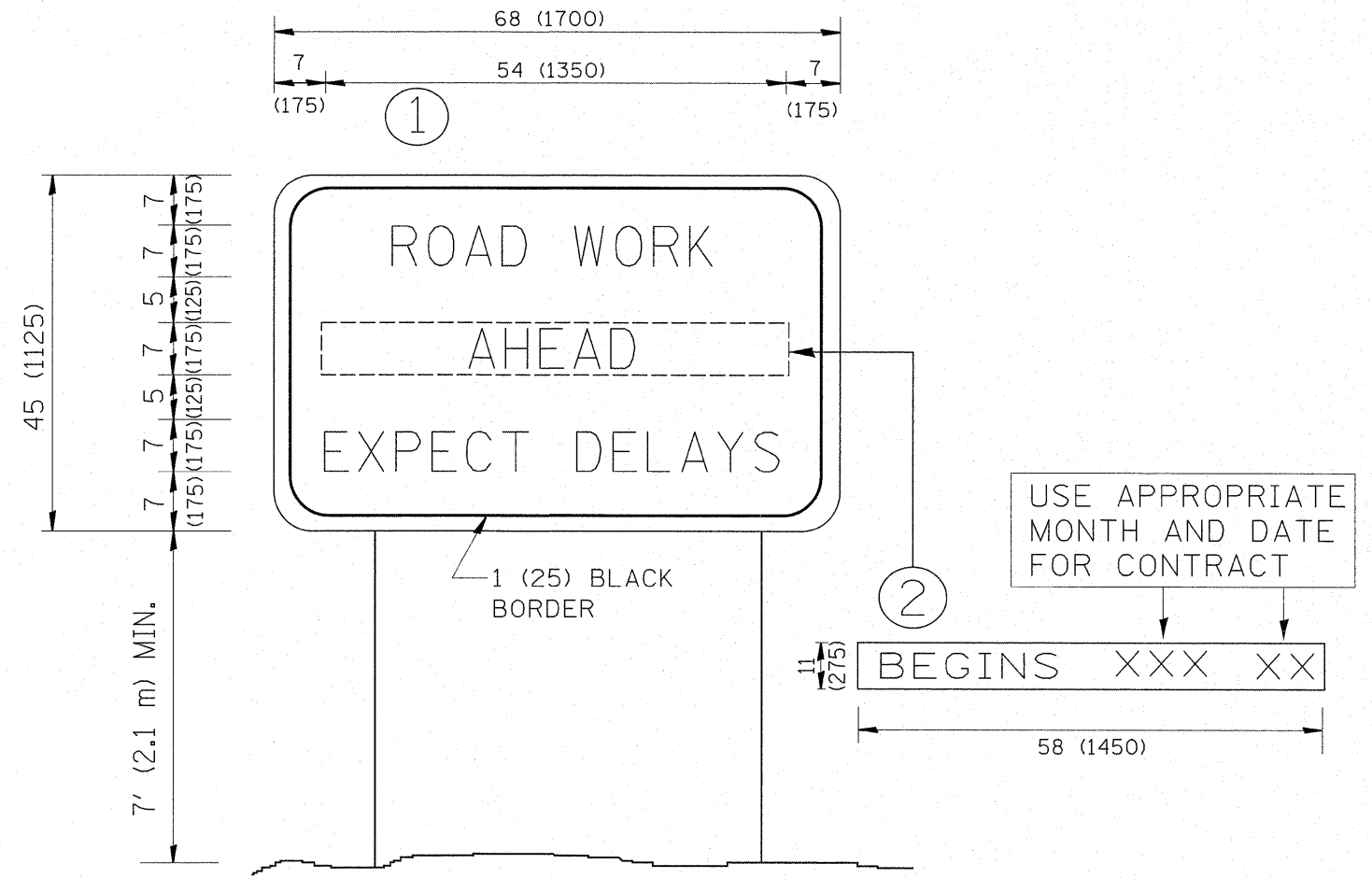
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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		CHECKED -	REVISED - S.P.B. 01-07
		DATE -	REVISED - S.P.B. 12-09

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SIGNING FOR FLAGGING OPERATIONS  
AT WORK ZONE OPENINGS  
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	OR-N	LAKE	40	36
TC-18		CONTRACT NO. 60L20		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

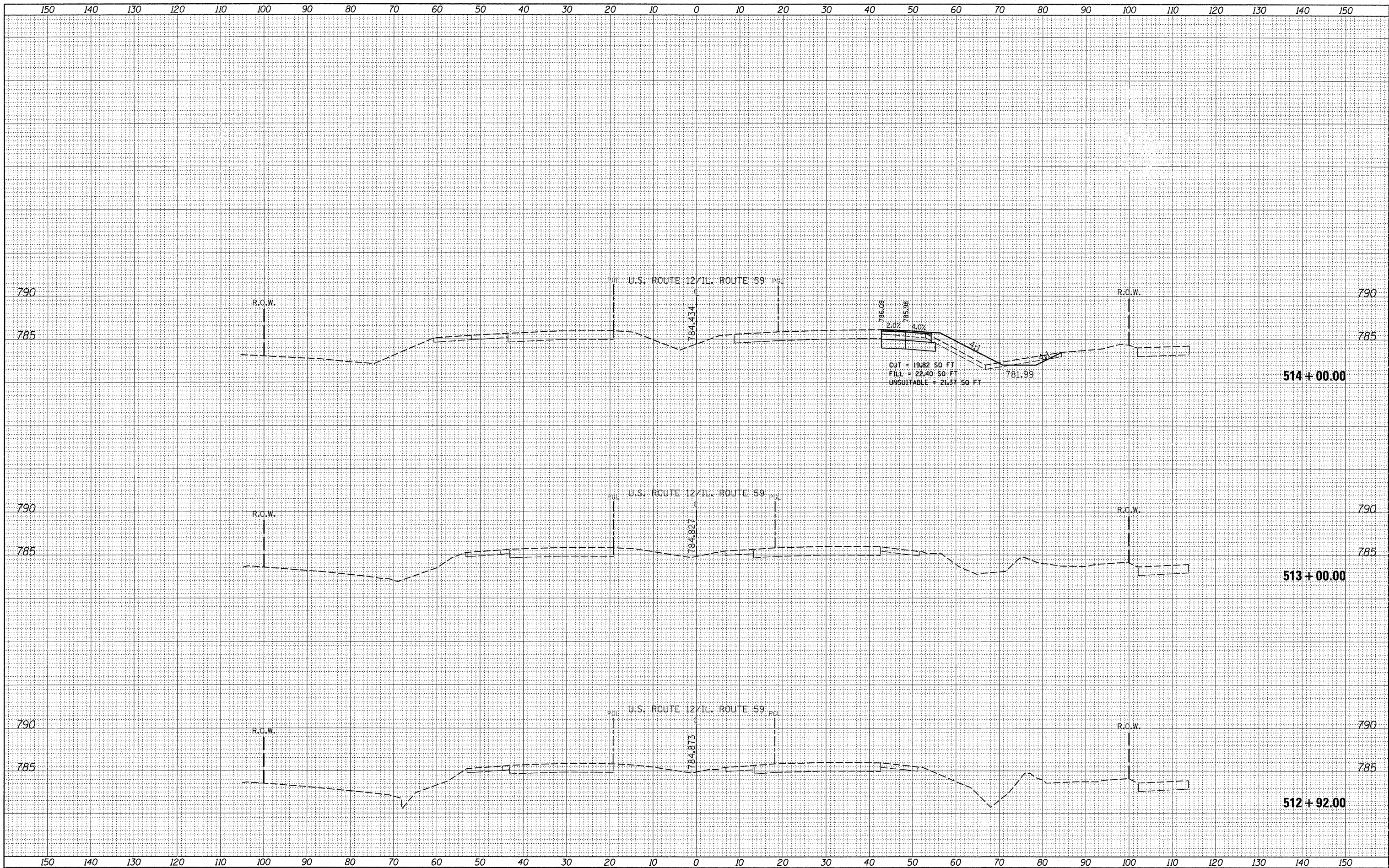
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		CHECKED -	REVISED - T. RAMMACHER 02-02-99
		DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD  
INFORMATION SIGN**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	OR-N	LAKE	40	37
TC-22			CONTRACT NO. 60L20	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



DATE	
BY	
SURVEYED	
TEMPLATE	
AREAS CHECKED	
NO.	

DATE	
BY	
SURVEYED	
TEMPLATE	
AREAS CHECKED	
NO.	

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USER NAME = banks

DESIGNED -  
DRAWN -  
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

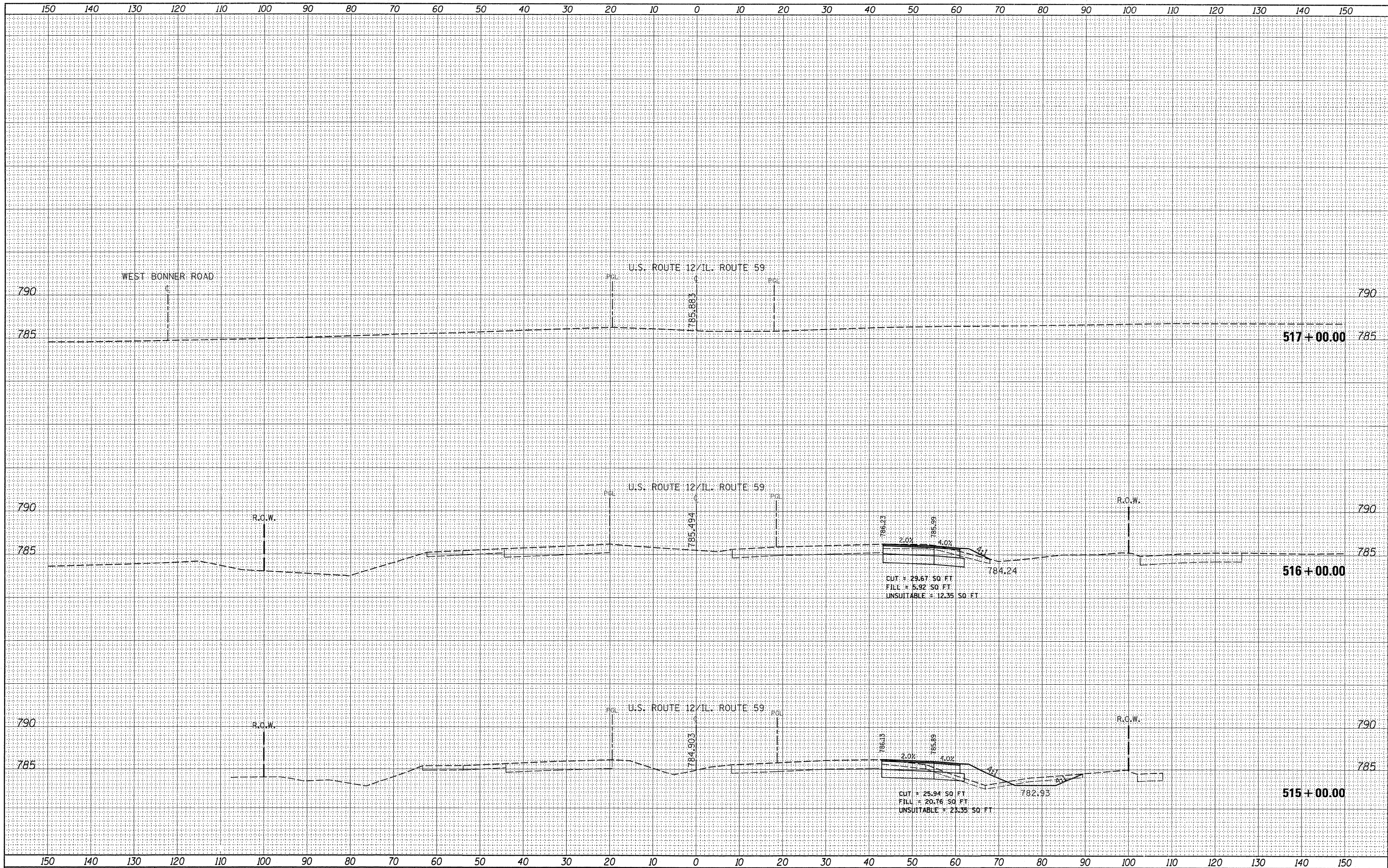
**U.S. ROUTE 12/IL. ROUTE 59 CROSS SECTIONS**

SCALE: SHEET NO. OF SHEETS STA. 512+92.00 TO STA. 514+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
334	OR-N	LAKE	40	38
CONTRACT NO. 60L20			ILLINOIS FED. AID PROJECT	

FINAL SURVEY	DATE
SURVEYED BY	
NOTE BOOK NO.	
TEMPLATE NO.	
AREAS CHECKED	

ORIGINAL SURVEY	DATE
SURVEYED BY	
NOTE BOOK NO.	
TEMPLATE NO.	
AREAS CHECKED	



FILE NAME = P141309-sht-vssht-US12-Design.dgn

USER NAME = banks

PLOT SCALE = 10.0000' / IN.

PLOT DATE = 4/5/2011

DESIGNED -

DRAWN -

CHECKED -

DATE -

REVISED -

REVISED -

REVISED -

REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

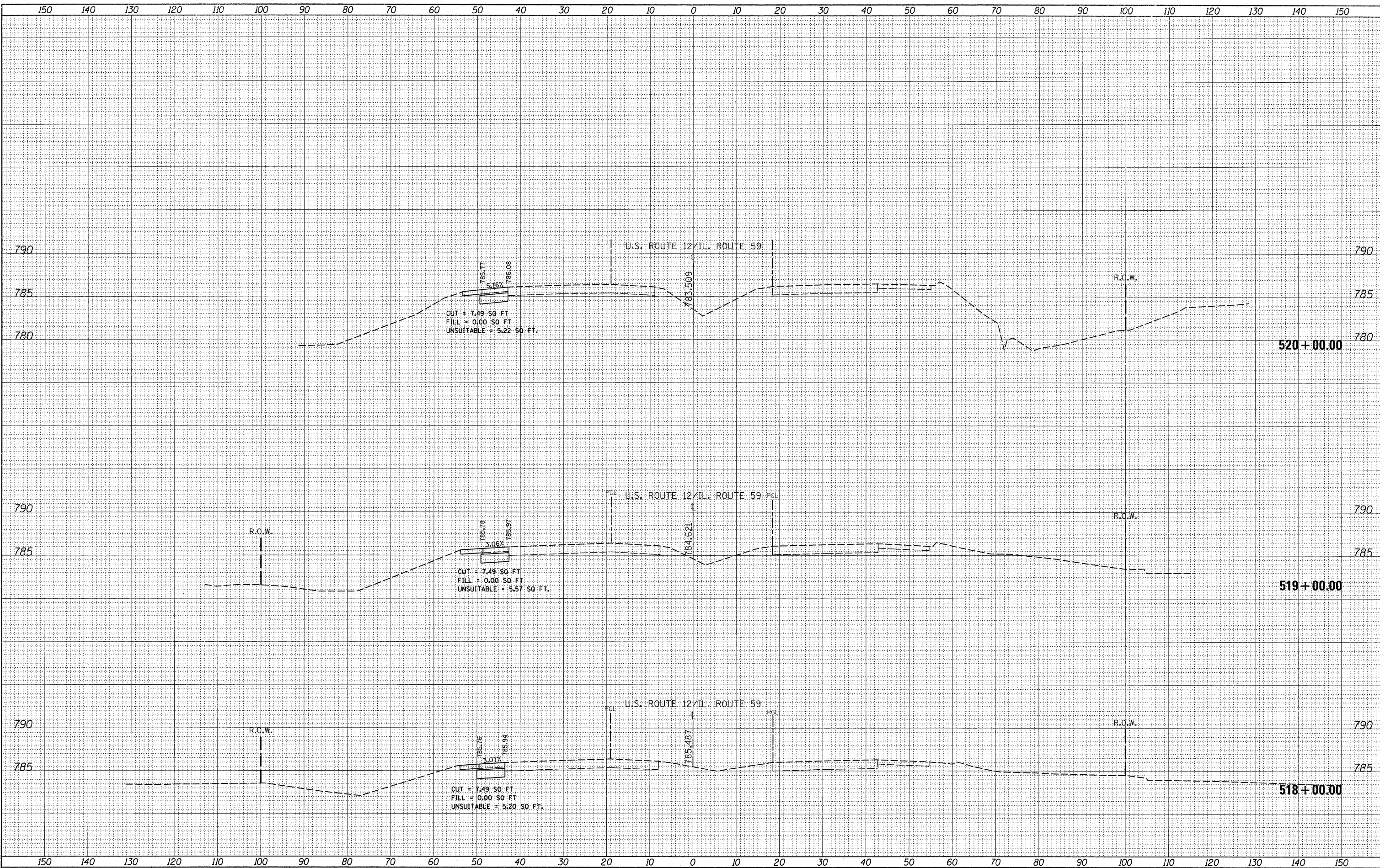
**U.S. ROUTE 12/IL. ROUTE 59 CROSS SECTIONS**

SCALE: SHEET NO. OF SHEETS STA. 515+00.00 TO STA. 517+00.00

F.A.P. RTE. 334	SECTION OR-N	COUNTY LAKE	TOTAL SHEETS 40	SHEET NO. 39
CONTRACT NO. 60L20			ILLINOIS FED. AID PROJECT	

FINAL SURVEY BY DATE  
 SURVEYED BY DATE  
 NOTE BOOK NO.  
 TEMPLATE AREAS CHECKED

ORIGINAL SURVEY BY DATE  
 SURVEYED BY DATE  
 NOTE BOOK NO.  
 TEMPLATE AREAS CHECKED



FILE NAME = P141309-sht-xssht-US12-Design.dgn

USER NAME = banks

DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE -

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**U.S. ROUTE 12/IL. ROUTE 59 CROSS SECTIONS**

SCALE: SHEET NO. OF SHEETS STA. 518+00.00 TO STA. 520+00.00

F.A.P. RTE. 334	SECTION OR-N	COUNTY LAKE	TOTAL SHEETS 40	SHEET NO. 40
CONTRACT NO. 60L20			ILLINOIS FED. AID PROJECT	