

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**

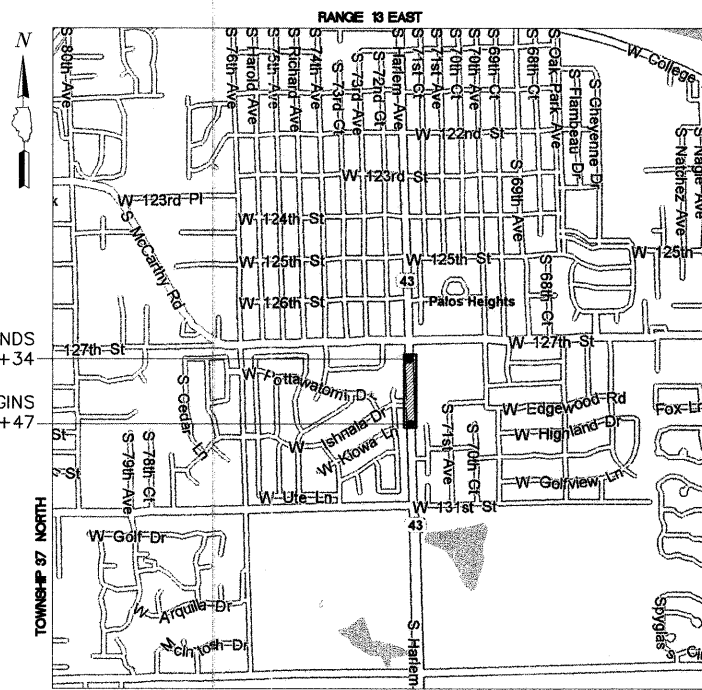
**FAP 348 (ILL RTE 43/HARLEM AVE) AT ISHNALA DRIVE
INTERSECTION IMPROVEMENTS AND
TRAFFIC SIGNAL INSTALLATION
SECTION: 10-00047-00-TL
PROJECT NO. M-9003 (674)
CITY OF PALOS HEIGHTS, ILLINOIS
COOK COUNTY
JOB NO. C-91-693-10**

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	10-00047-00-TL	COOK	30	1
ILLINOIS FED. AID PROJECT			CONTRACT #: 63626	

1. TITLE SHEET
- 2.-3. SUMMARY OF QUANTITIES
4. GENERAL NOTES
5. TYPICAL SECTIONS
6. EXISTING CONDITIONS / DEMOLITION PLAN
7. EXISTING CONDITIONS / DEMOLITION PLAN
8. PLAN AND PROFILE - STA. 91+50 TO STA. 95+50
9. PLAN AND PROFILE - STA. 95+50 TO STA. 99+50
10. PLAN AND PROFILE - STA. 99+50 TO STA. 103+50
11. PAVEMENT MARKING PLAN
12. EROSION CONTROL PLAN
13. EROSION CONTROL DETAILS
- 14.-19. DETAIL SHEETS
20. TRAFFIC SIGNAL INSTALLATION PLAN
ILL RTE 43 (HARLEM AV) AND ISHNALA DRIVE
21. SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION
DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE
ILL RTE 43 (HARLEM AV) AND ISHNALA DRIVE
22. INTERCONNECT PLAN
23. INTERCONNECT SCHEMATIC
24. MAST ARM MOUNTED STREET NAME SIGNS
- 25.-30. DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

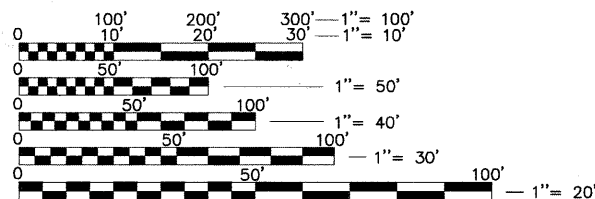


PROJECT LOCATION MAP
(NOT TO SCALE)



PROJECT ENDS
STA. 104+34
PROJECT BEGINS
STA. 92+47

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 BELOW SCALES MAY BE USED.



EXISTING UTILITIES. WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION IS BASED ON RECORD INFORMATION PROVIDED BY THE INDIVIDUAL UTILITY OWNERS AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES, DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES.

CONTRACTOR IS RESPONSIBLE FOR CONTACTING JULIE, AT 1-800-892-0123 AND MUST ACQUIRE A DIG NUMBER A MINIMUM OF 72 HOURS PRIOR TO ANY WORK BEING DONE.

CONTRACT NO. 63626

NOTE: CONSTRUCTION MEANS, METHODS AND JOB SITE SAFETY IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR

PROJECT INFORMATION
LENGTH OF PROJECT = 1187FT (0.22MI)
ADT (IL RTE 43) = 29100 VPD (2009)
ADT (ISHNALA) = <5000 VPD (2009)
POSTED SPEED LIMIT = 35 MPH
DESIGN SPEED = 40 MPH
ROAD CLASSIFICATION = URBAN ARTERIAL

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

APPROVED: October 18, 2011
Robert S. Straz
CITY OF PALOS HEIGHTS

PASSED: NOVEMBER 4, 2011
Christina Christopoulos
DISTRICT ONE ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
BASED ON LIMITED REVIEW: NOVEMBER 4, 2011
Diane M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ONE ENGINEER

DANIEL P. BRINKMAN
062-055293
LICENSED PROFESSIONAL ENGINEER
OF ILLINOIS
[Signature]
10-17-11
FAP 11-20-11

GHA GEWALT HAMILTON ASSOCIATES, INC.

850 Forest Edge Drive • Vernon Hills, IL. 60061
Phone: 847-478-9700 Fax: 847-478-9701

GHA #2806.242

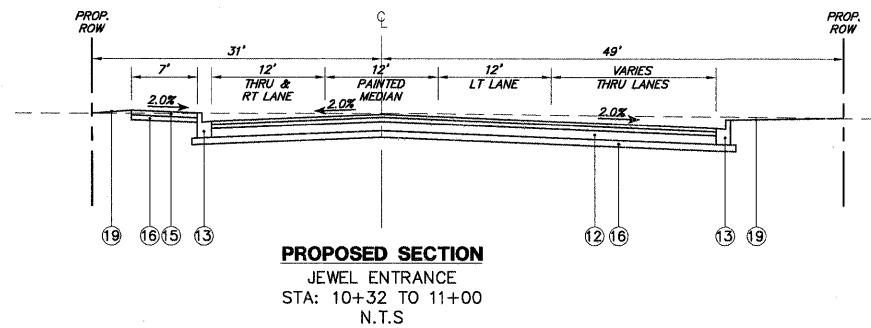
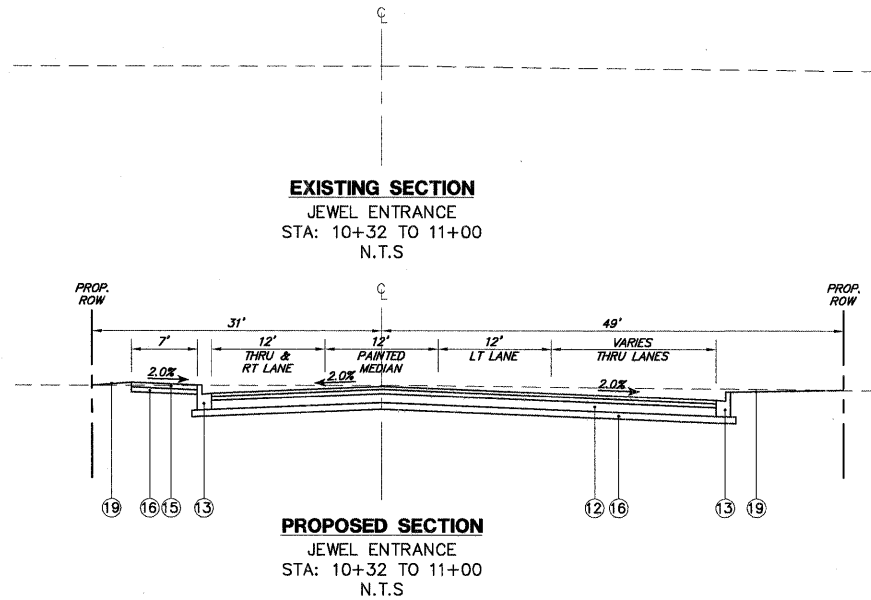
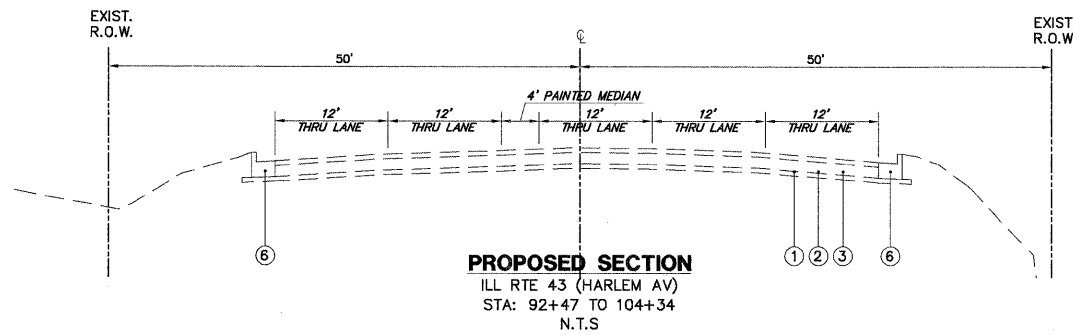
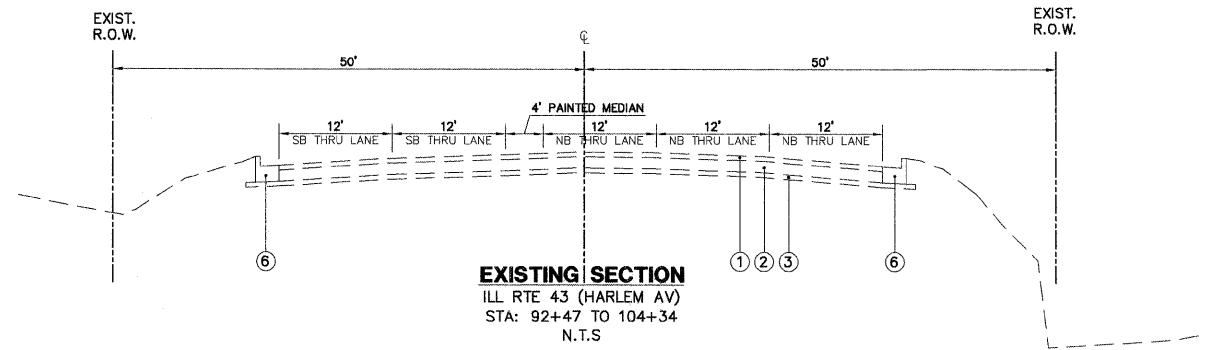
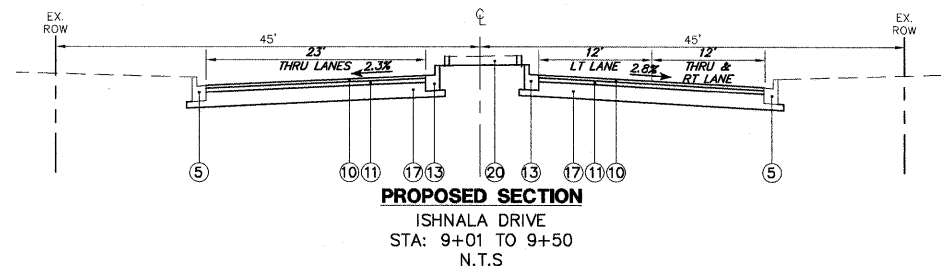
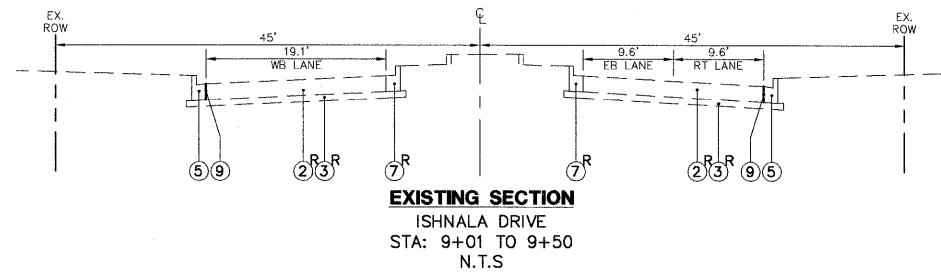
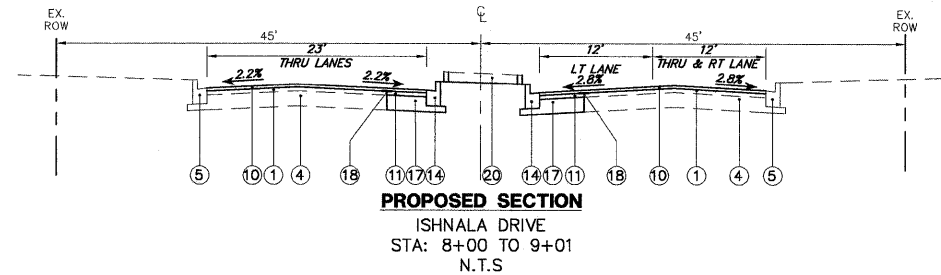
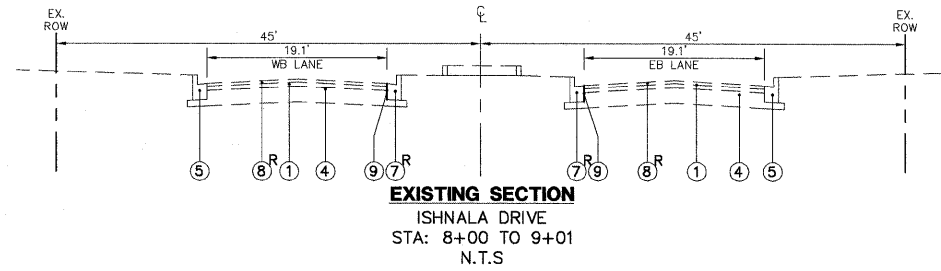
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OF THE STATE OF ILLINOIS**

PROGRAM AND OFFICE ENGINEER: CHARLES F. RIDDLER, P.E. 847-705-4406 SCHAUMBURG, IL

SUMMARY OF QUANTITIES			ILL ROUTE 43 (HARLEM AV) AT ISHNALA DRIVE					
NO.	CODE NO	ITEM DESCRIPTION	UNIT	TOTAL	ROADWAY IMPROVEMENTS TYPE 0004	TRAFFIC SIGNALS TYPE 0021	INTERCONNECT TYPE 0021	TRAINEES TYPE 0042
81.	87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT	EACH	1		1		
82.	87700250	STEEL MAST ARM ASSEMBLY AND POLE, 42 FT	EACH	1		1		
83.	87700270	STEEL MAST ARM ASSEMBLY AND POLE, 46 FT	EACH	2		2		
84.	87800100	CONCRETE FOUNDATION, TYPE A	FOOT	16		16		
85.	87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4		4		
86.	87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	50		50		
87.	87900200	DRILL EXISTING HANDHOLE	EACH	2		1	1	
88.	88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	6		6		
89.	88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4		4		
90.	88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	4		4		
91.	88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4		4		
92.	88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM	EACH	10		10		
93.	88500100	INDUCTIVE LOOP DETECTOR	EACH	8		8		
94.	88600100	DETECTOR LOOP, TYPE I	FOOT	846		846		
95.	88700200	LIGHT DETECTOR	EACH	2		2		
96.	88700300	LIGHT DETECTOR AMPLIFIER	EACH	1		1		
97.	88800100	PEDESTRIAN PUSH-BUTTON	EACH	4		4		
98.	89502350	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	FOOT	1,091		1,091		
* * *	B2005616	TREE, PYRUS CALLERYANA BRADFORD (BRAD FORD CALLERY PEAR), 2" CALIPER, TREE FORM, BALLED AND BURLAPPED	EACH	4	4			
100.	X6063401	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-4.12	FOOT	230	230			
101.	X8570225	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1		1		
102.	X8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	340		340		
* * *	XX006188	REMOVE AND RE-ERECT SEGMENTAL BLOCK RETAINING WALL	FOOT	250	250			
104.	Z0033046	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	1			1	
105.	Z0076600	TRAINEES	HOURL	500				500

* * * SPECIALTY ITEMS

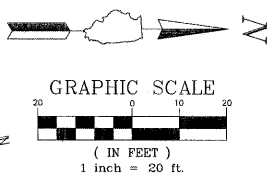
FILE NAME = 2806-240-PR6.dwg	USER NAME = GHA	DESIGNED - BVS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES ILL RTE 43 (HARLEM AVENUE) ROAD IMPROVEMENTS			F.A.P. RTE 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 3
	PLOT SCALE = 1"=1"	DRAWN - BVS	REVISED -		SCALE: N.T.S.	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT # 63626	
	PLOT DATE = 10/17/2011	CHECKED - WCG	REVISED -		GHA #2806.242							
		DATE - 11/10/2011	REVISED -		ILLINOIS FED. AID PROJECT							



PAVING LEGEND	
NO.	DESCRIPTION
①	EXISTING HMA PAVEMENT 4"±
②	EXISTING CONCRETE PAVEMENT, 10"
③	EXISTING SUB-BASE, 4"
④	EXISTING AGGREGATE SUB GRADE 10"
⑤	EXISTING COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.12
⑥	EXISTING COMBINATION CONCRETE CURB AND GUTTER, TYPE B6.24
⑦	EXISTING COMBINATION CONCRETE CURB AND GUTTER, TYPE M3.12
⑧	EXISTING HOT-MIX ASPHALT MILLING, 1 1/2"
⑨	SAWCUT (FULL DEPTH)
⑩	PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 1 1/2"
⑪	PROPOSED HOT-MIX ASPHALT BINDER, IL 19.0 MIX "D", N70, 2"
⑫	PROPOSED HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 11 1/2"
⑬	PROPOSED B6.12 CURB AND GUTTER
⑭	PROPOSED M3.12 CURB AND GUTTER
⑮	PROPOSED P.C.C. SIDEWALK 5"
⑯	PROPOSED SUB-BASE GRANULAR MATERIAL, TYPE B, 6"
⑰	PROPOSED SUB-BASE GRANULAR MATERIAL, TYPE B, 10"
⑱	STRIP REFLECTIVE CRACK CONTROL TREATMENT
⑲	PROPOSED TOPSOIL 4"/SEEDING CLASS 2A/ EROSION CONTROL BLANKET
⑳	LANDSCAPE AREA (TO REMAIN)/ LANDSCAPE SEGMENT BLOCK WALLS TO BE REINSTALLED
Ⓞ	ITEM TO BE REMOVED

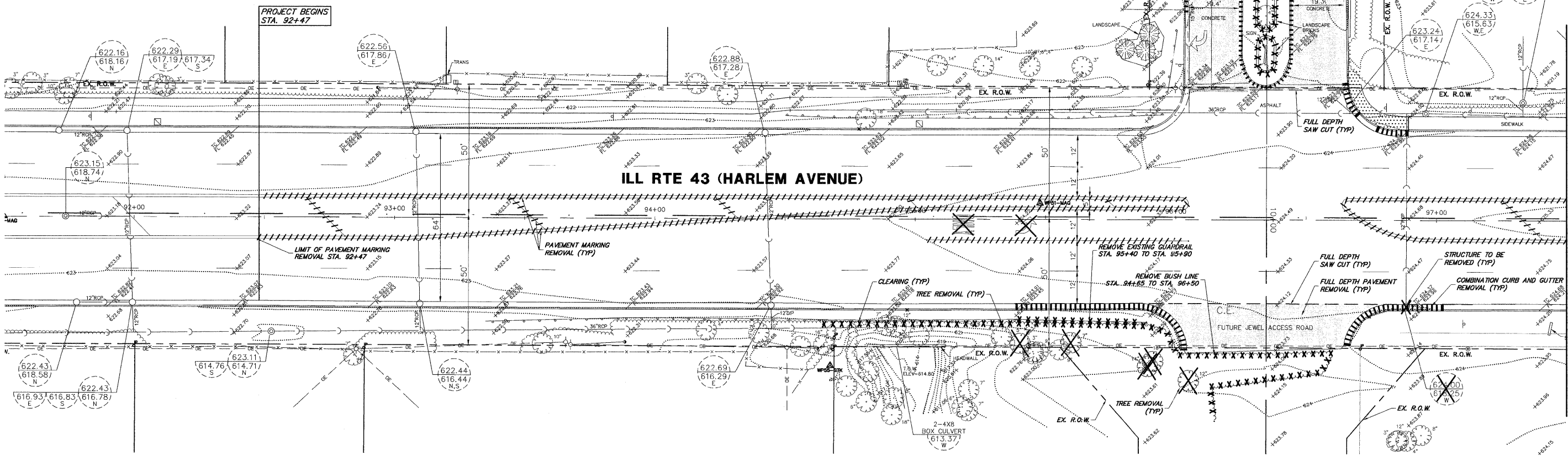
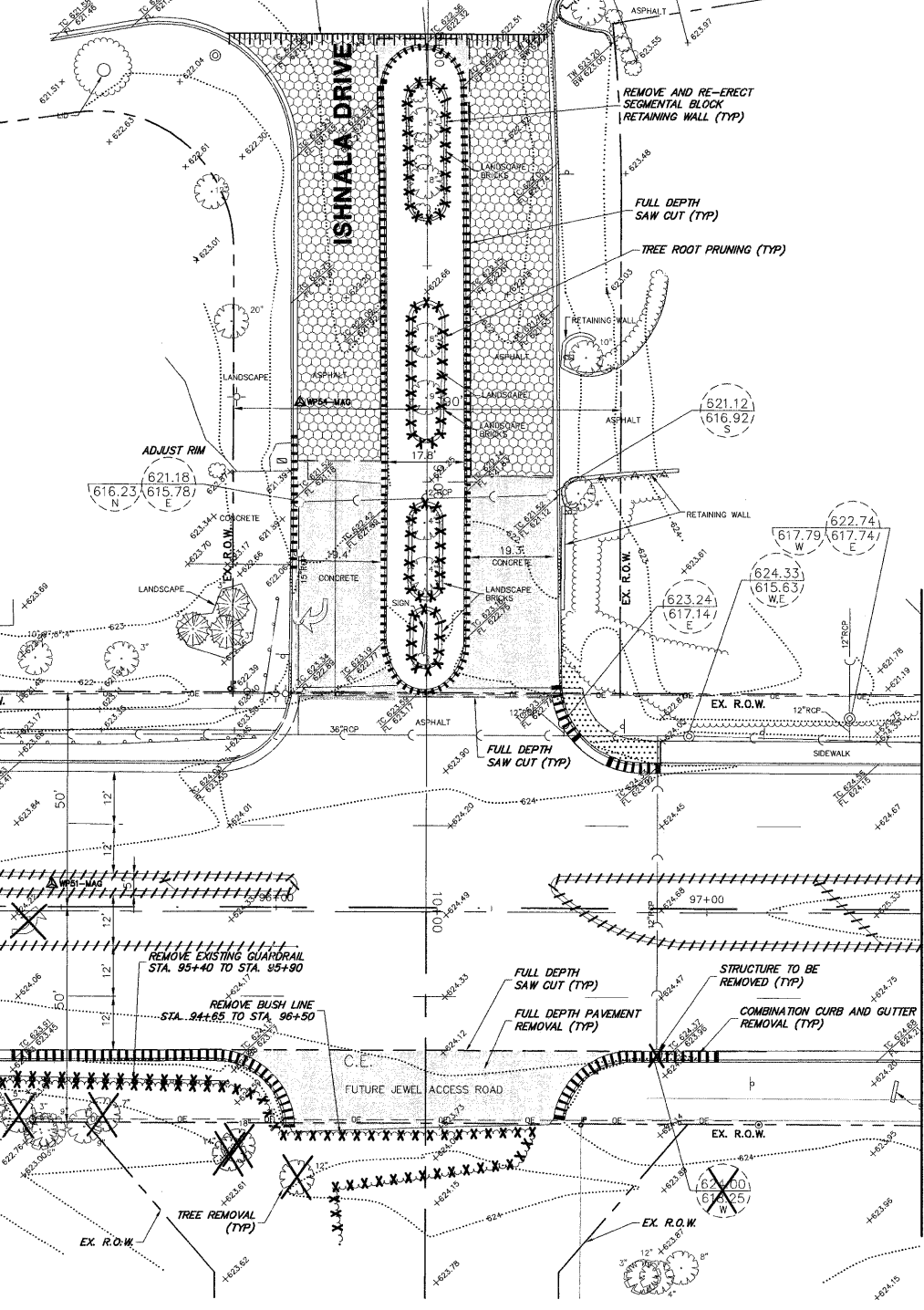
HOT-MIX ASPHALT MIXTURE REQUIREMENTS			
MIXTURE TYPE	AIR VOIDS @ Ndes	DEPTH	LOCATION
HOT-MIX ASPHALT RESURFACING			
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL 9.5 mm)	4% @ 70 GYR	1 1/2"	ISHNALA DR., JEWEL ENTRANCE
HOT-MIX ASPHALT FULL DEPTH PAVEMENT			
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL 9.5 mm)	4% @ 70 GYR	1 1/2"	ISHNALA DR., JEWEL ENTRANCE
HOT MIX ASPHALT BINDER COURSE IL-19, N70	4% @ 70 GYR	B" (FOUR LIFTS)	ISHNALA DR., JEWEL ENTRANCE
MISCELLANEOUS			
HOT MIX ASPHALT BINDER COURSE IL-19, N70	4% @ 70 GYR	2"	ISHNALA DR., TEMPORARY RAMPS

THE UNIT WEIGHT TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SY/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 OTHERWISE MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.
 FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.



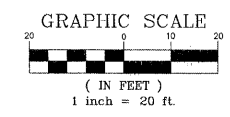
DEMOLITION LEGEND

- PAVEMENT REMOVAL
- HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"
- DRIVEWAY PAVEMENT REMOVAL
- SIDEWALK REMOVAL
- COMBINATION CURB AND GUTTER REMOVAL
- SAW CUT (FULL DEPTH)
- HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT
- PAVEMENT MARKING TO BE REMOVED
- REMOVING CATCH BASINS
- FIRE HYDRANTS TO BE REMOVED
- TREE REMOVAL



MATCH LINE - STA. 97+50
SEE SHEET 7

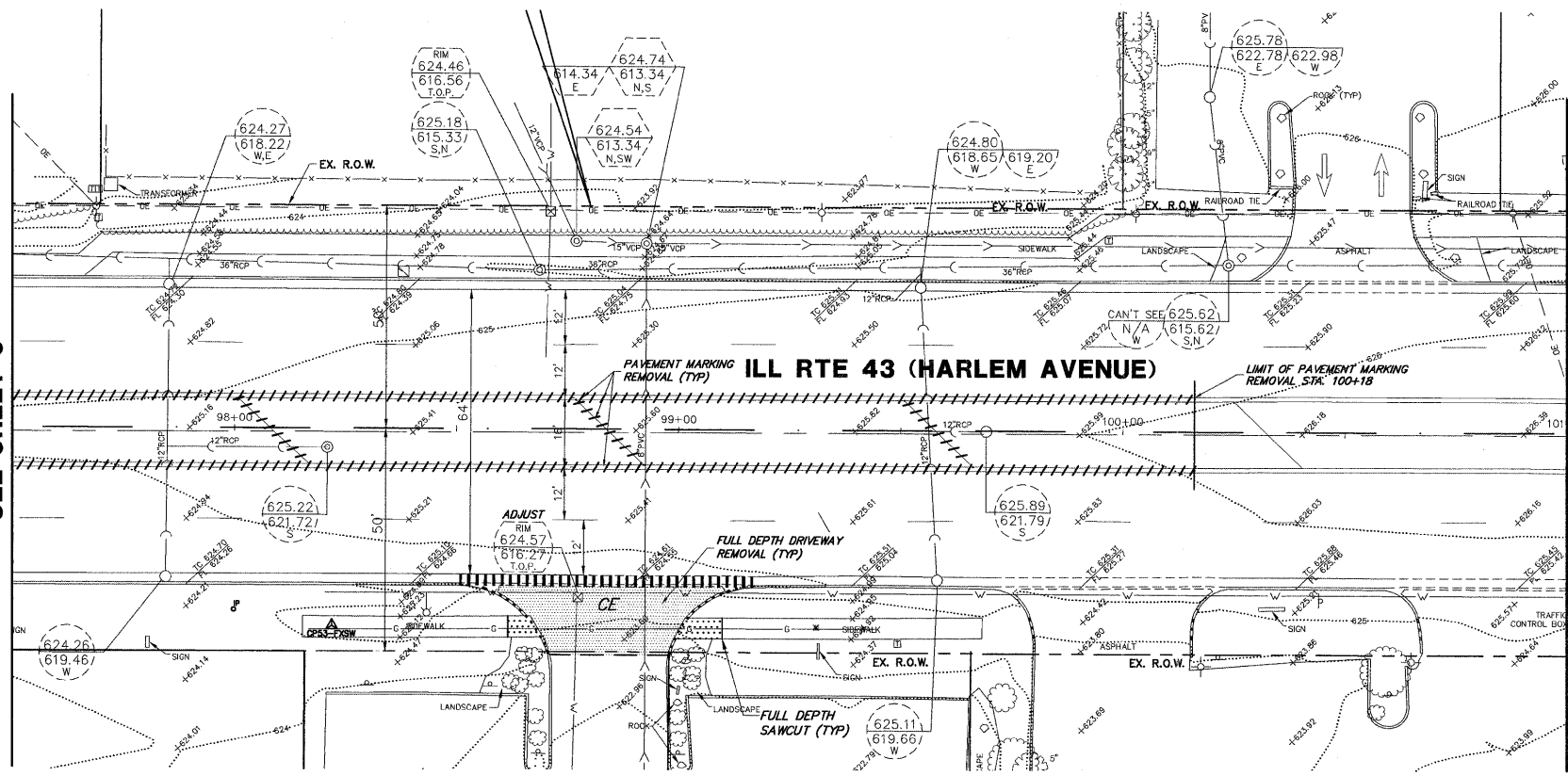
FILE NAME = 2806-240-PR6.dwg	USER NAME = GHA	DESIGNED - BVS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING CONDITIONS / DEMOLITION PLAN ILL RTE 43 (HARLEM AVENUE) ROAD IMPROVEMENTS	FAP RITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 1"=1"	DRAWN - BVS	REVISED -			348	10-00047-00-TL	COOK	30	6
PLOT DATE = 10/17/2011	CHECKED - WCG	DATE - 11/10/2011	REVISED -	SCALE: 1"=20'		SHEET NO. OF SHEETS		STA. 91+50 TO STA. 100+00		CONTRACT # 63626
GHA #2806.242 ILLINOIS FED. AID PROJECT										



DEMOLITION LEGEND

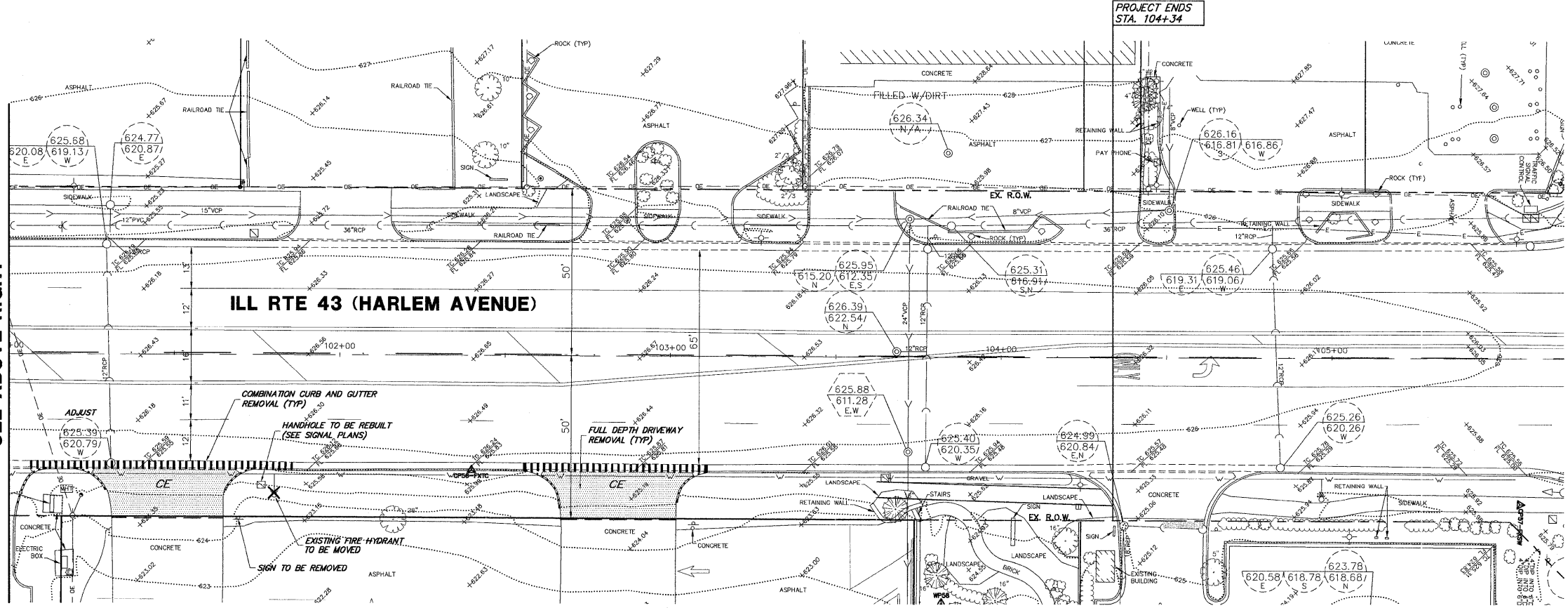
- PAVEMENT REMOVAL
- HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"
- DRIVEWAY PAVEMENT REMOVAL
- SIDEWALK REMOVAL
- COMBINATION CURB AND GUTTER REMOVAL
- SAW CUT (FULL DEPTH)
- HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT
- PAVEMENT MARKING TO BE REMOVED
- REMOVING CATCH BASINS
- FIRE HYDRANTS TO BE REMOVED
- TREE REMOVAL

MATCH LINE - STA. 97+50
SEE SHEET 6



MATCH LINE - STA. 101+00
SEE BELOW LEFT

MATCH LINE - STA. 101+00
SEE ABOVE RIGHT



FILE NAME = 2806-240-PR6.dwg

USER NAME = GHA
PLOT SCALE = 1"=1"
PLOT DATE = 10/17/2011

DESIGNED - BVS
DRAWN - BVS
CHECKED - WCG
DATE - 11/10/2011

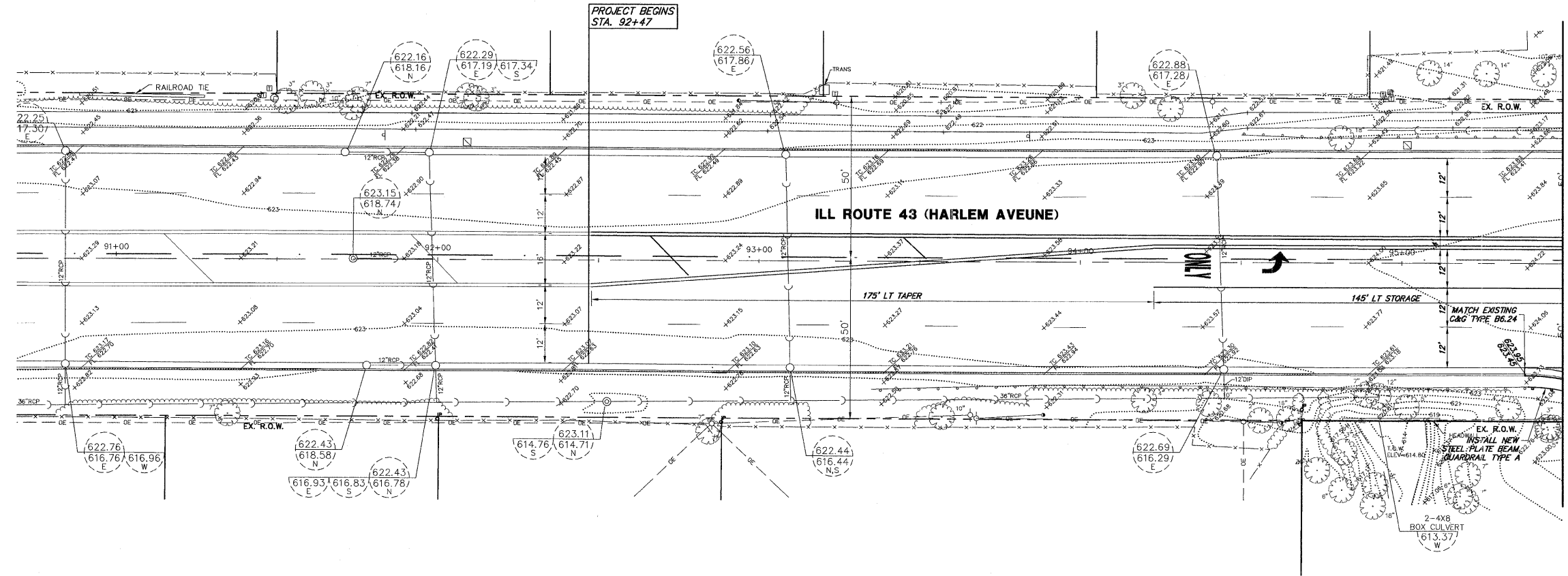
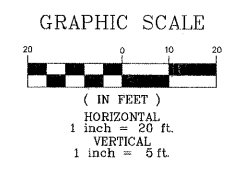
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING CONDITIONS / DEMOLITION PLAN
ILL RTE 43 (HARLEM AVENUE) ROAD IMPROVEMENTS**

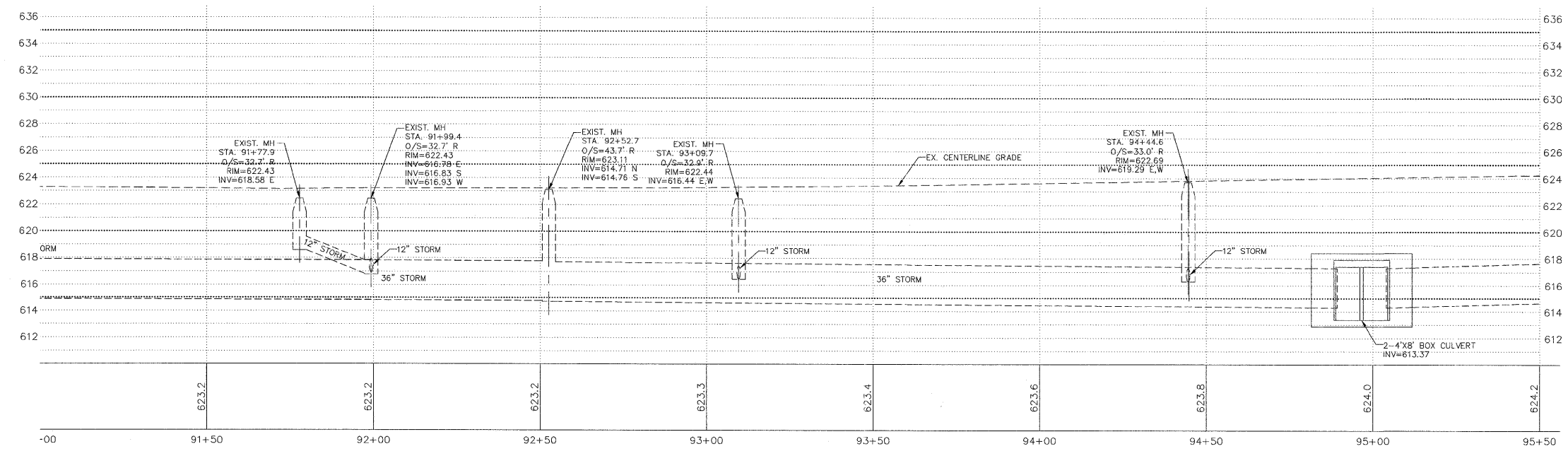
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FAP RTE. 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 7	CONTRACT # 63626	GHA #2806.242
ILLINOIS FED. AID PROJECT						



MATCH LINE - STA. 95+50
SEE SHEET 9

ILL ROUTE 43 (HARLEM AVENUE)



PROPOSED CONDITIONS LEGEND

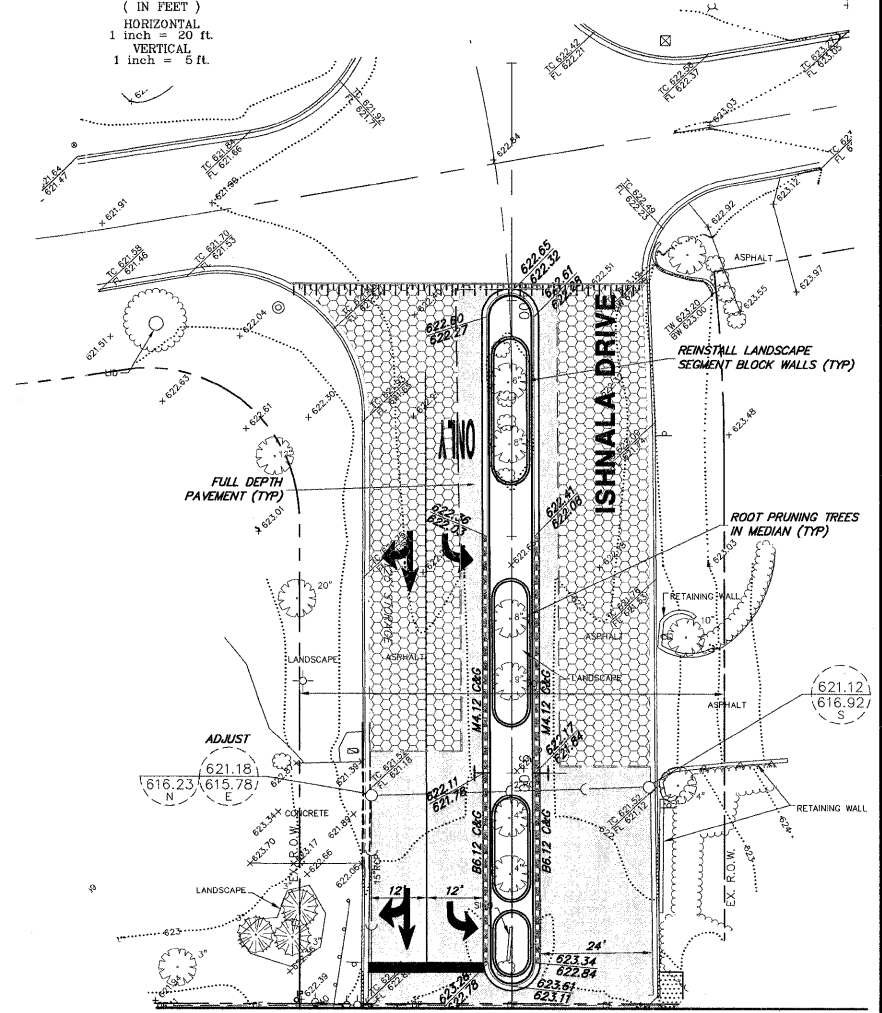
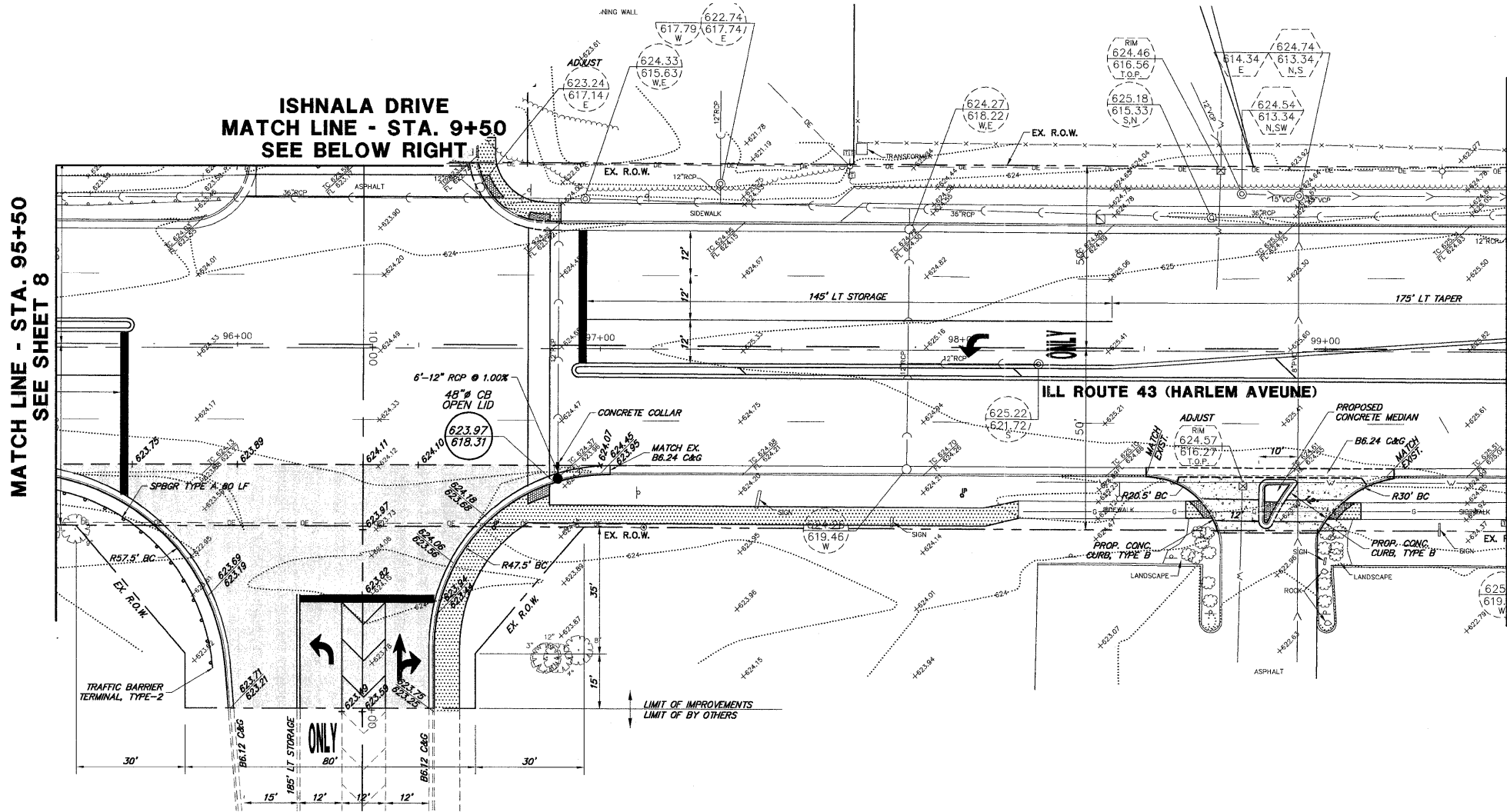
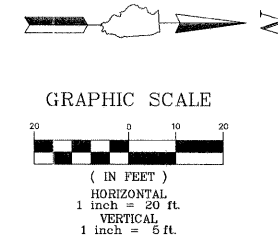
- HOT-MIX ASPHALT PAVEMENT
(SEE TYPICAL SECTION)
- HOT-MIX ASPHALT SURFACE COURSE,
MIX 'D', N70
- PORTLAND CEMENT CONCRETE DRIVEWAY
PAVEMENT, 8 INCH
- PORTLAND CEMENT CONCRETE SIDEWALK,
5 INCH
- COMBINATION CONCRETE CURB AND GUTTER
- COMBINATION CONCRETE CURB AND GUTTER
(DEPRESSED)
- COMBINATION CONCRETE CURB AND GUTTER
(REVERSE PITCH)
- DETECTABLE WARNINGS
(SEE CURB RAMP DETAIL SHEET)

FILE NAME = 2806-240-PR6.dwg	USER NAME = GHA	DESIGNED - BVS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND PROFILE ILL RTE 43 (HARLEM AVENUE) ROAD IMPROVEMENTS	F&P RTE 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 8	
PLOT SCALE = 1"=1"		CHECKED - WCG	REVISED -		SCALE 1"=20'	SHEET NO. OF SHEETS	STA. 91+50 TO STA. 95+50		CONTRACT # 63626		
PLOT DATE = 10/17/2011		DATE - 11/10/2011	REVISED -		GHA #2806.242						
ILLINOIS FED. AID PROJECT											

MATCH LINE - STA. 95+50
SEE SHEET 8

ISHNALA DRIVE
MATCH LINE - STA. 9+50
SEE BELOW RIGHT

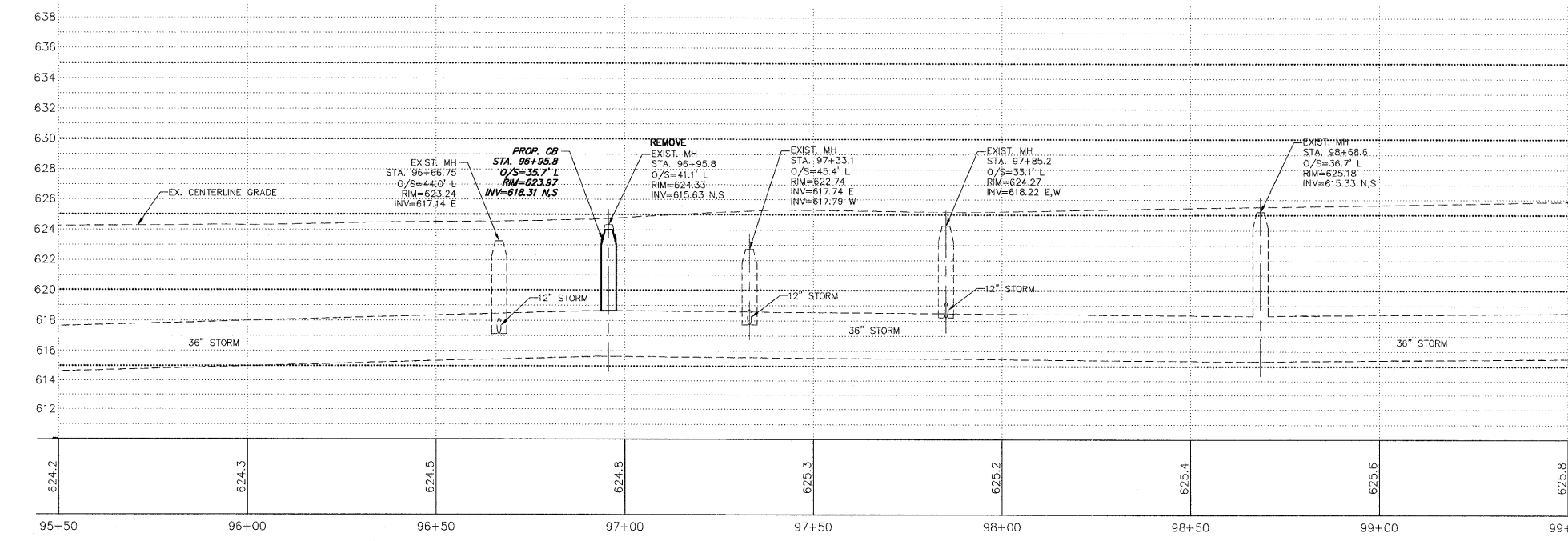
MATCH LINE - STA. 99+50
SEE SHEET 10



MATCH LINE - STA. 9+50
SEE ABOVE LEFT

JEWEL/OSCO SITE ACCESS

ILL ROUTE 43 (HARLEM AVENUE)



PROPOSED CONDITIONS LEGEND

- HOT-MIX ASPHALT PAVEMENT (SEE TYPICAL SECTION)
- HOT-MIX ASPHALT SURFACE COURSE, MIX 'D', N70
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8 INCH
- PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
- COMBINATION CONCRETE CURB AND GUTTER
- COMBINATION CONCRETE CURB AND GUTTER (DEPRESSED)
- COMBINATION CONCRETE CURB AND GUTTER (REVERSE PITCH)
- DETECTABLE WARNINGS (SEE CURB RAMP DETAIL SHEET)

FILE NAME =	2806-240-PR6.dwg
USER NAME =	GHA
DESIGNED -	BVS
DRAWN -	BVS
CHECKED -	WCG
DATE -	11/10/2011

REVISIONS	
REVISED -	
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REVISED -	
REVISED -	

DESIGNED -	BVS
DRAWN -	BVS
CHECKED -	WCG
DATE -	11/10/2011

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PLAN AND PROFILE
ILL RTE 43 (HARLEM AVENUE) ROAD IMPROVEMENTS**

F&P RTE.	348	SECTION	10-00047-00-TL	COUNTY	COOK	TOTAL SHEETS	30	SHEET NO.	9
						CONTRACT #:	63626		

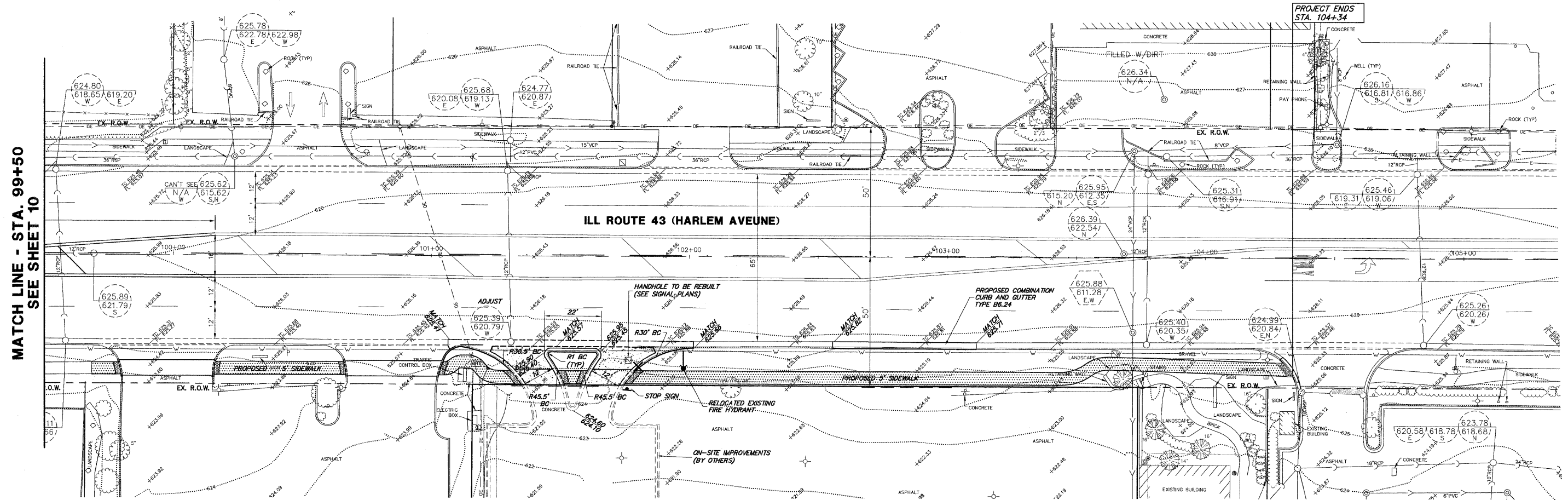
GHA #2806.242

SCALE: 1"=20' SHEET NO. OF SHEETS STA. 95+50 TO STA. 99+50

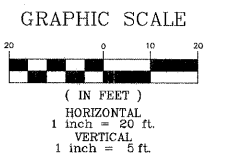
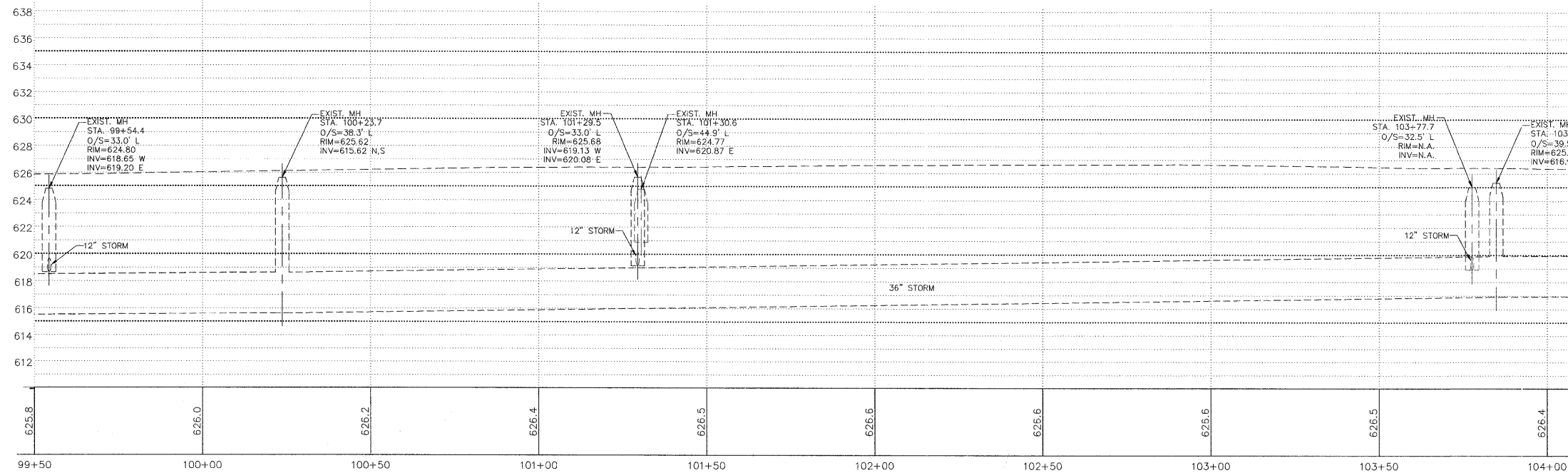
ILLINOIS FED. AID PROJECT

MATCH LINE - STA. 99+50
SEE SHEET 10

PROJECT ENDS
STA. 104+34



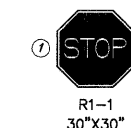
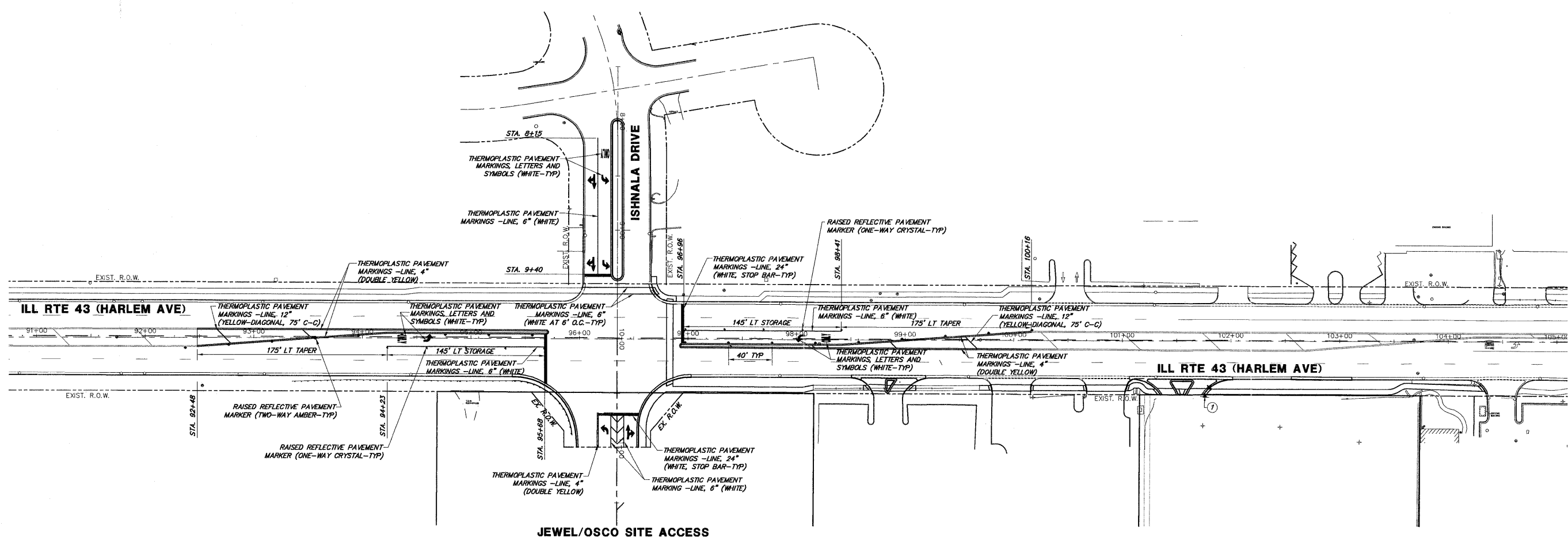
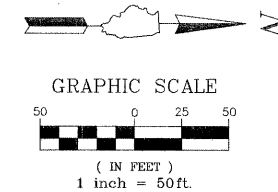
ILL ROUTE 43 (HARLEM AVENUE)



PROPOSED CONDITIONS LEGEND

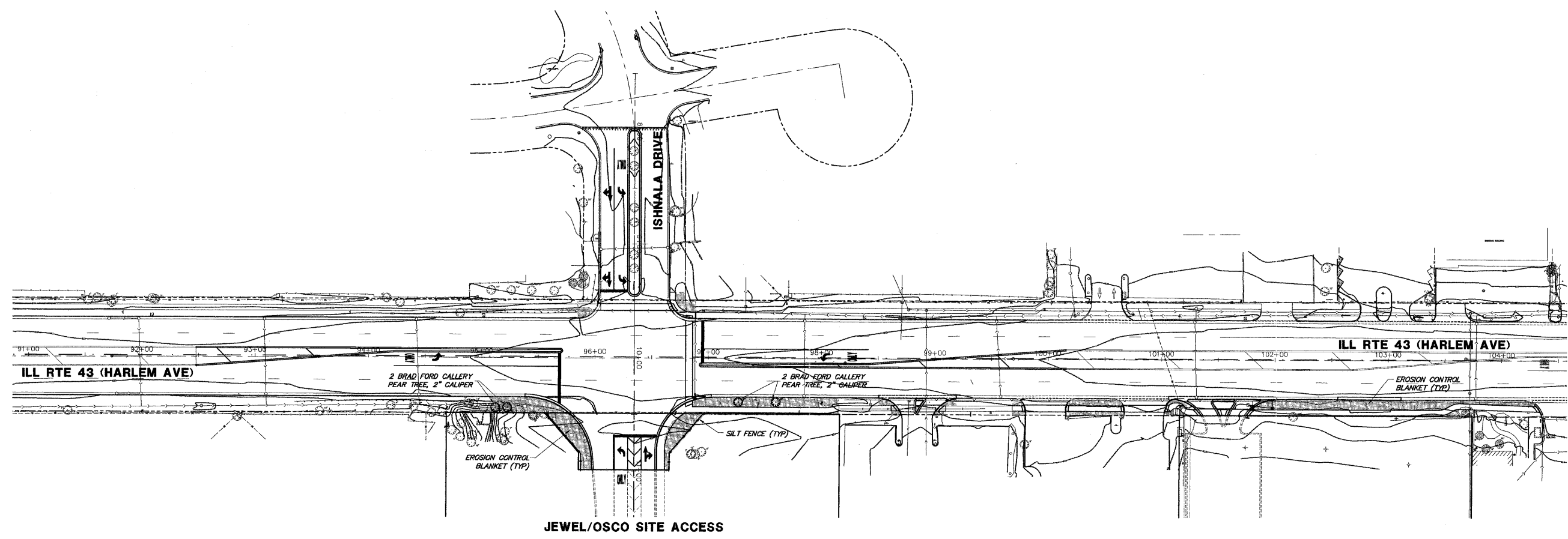
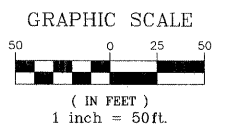
- HOT-MIX ASPHALT PAVEMENT (SEE TYPICAL SECTION)
- HOT-MIX ASPHALT SURFACE COURSE, MIX 'D', N70
- PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8 INCH
- PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
- COMBINATION CONCRETE CURB AND GUTTER
- COMBINATION CONCRETE CURB AND GUTTER (DEPRESSED)
- COMBINATION CONCRETE CURB AND GUTTER (REVERSE PITCH)
- DETECTABLE WARNINGS (SEE CURB RAMP DETAIL SHEET)

FILE NAME = 2806-240-PR6.dwg	USER NAME = GHA	DESIGNED - BVS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND PROFILE ILL RTE 43 (HARLEM AVENUE) ROAD IMPROVEMENTS	FAP RTE 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 10	GH# 2806.242	
PLOT SCALE = 1"=1"		DRAWN - BVS	REVISED -			SCALE: 1"=20'	SHEET NO. OF SHEETS	STA. 99+50	TO STA. 103+50	CONTRACT # 63626	ILLINOIS FED. AID PROJECT	
PLOT DATE = 10/17/2011		CHECKED - WCG	REVISED -									
		DATE - 11/10/2011	REVISED -									



- NOTES:**
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING ANY SIGN DUE TO ROADWAY WIDENING OR REPLACING ANY SIGN DAMAGED DUE TO CONSTRUCTION OPERATIONS.
 2. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
 3. TWO WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKING THE RESIDENT ENGINEER SHALL CONTACT MS. PATRICE HARRIS, AREA TRAFFIC FIELD TECHNICIAN AT 708-597-9800.

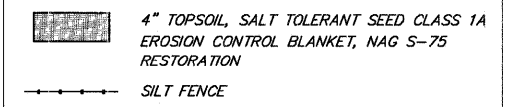
FILE NAME = 2806-240-PR6.dwg	USER NAME = GHA	DESIGNED - BVS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING PLAN ILL RTE 43 (HARLEM AVENUE) ROAD IMPROVEMENTS			F&P RTE. 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 11
	PLOT SCALE = 1"=1"	DRAWN - BVS	REVISED -		SCALE: 1"=50'	SHEET NO. OF SHEETS	STA. 91+00 TO STA. 104+50	ILLINOIS FED. AID PROJECT				
	PLOT DATE = 10/17/2011	CHECKED - WCG	REVISED -					CONTRACT #: 63626				
		DATE - 11/10/2011	REVISED -					GHA #2806.242				



EROSION CONTROL NOTES

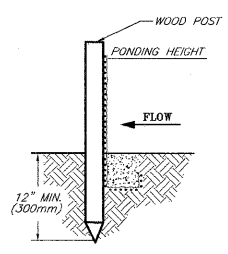
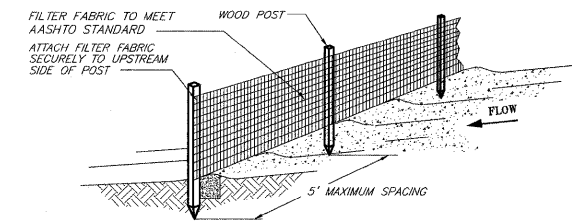
1. THIS PLAN IS EXPRESSLY MADE A PORTION OF THE CONTRACT FOR THE EARTHWORK, PAVING, UNDERGROUND, BUILDING CONTRACTORS, AND LANDSCAPE CONTRACTORS WHO ARE SUBJECT TO THE PROVISIONS OF THE PLAN.
2. THIS PLAN WILL FOLLOW STANDARDS AND RECOMMENDATIONS IN ACCORDANCE WITH THE "STANDARD AND SPECIFICATIONS FOR SOIL, EROSION AND SEDIMENTATION CONTROL," LATEST EDITION, PUBLISHED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, AND "PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL," (GREENBOOK, LATEST EDITION) BY THE "NORTHEASTERN ILLINOIS SOIL EROSION AND SEDIMENTATION CONTROL STEERING COMMITTEE". ALL CONSTRUCTION WILL ADHERE TO THE REQUIREMENTS SET FORTH IN THE IEPA'S NEW CONSTRUCTION SITE ACTIVITIES NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER PERMIT.
3. THE PURPOSE OF THIS PLAN IS TO MINIMIZE AND TO CONTROL THE SOIL EROSION AND RESULTANT SEDIMENTATION, WHICH ARE RELATED TO THE DEVELOPMENT OF THE SITE. ALTHOUGH MOST OF THE MEASURES ARE TEMPORARY IN NATURE, THEY ALL TARGET THE LONG-RANGE CONTROL OF EROSION AND SEDIMENTATION IN DOWNSTREAM AREAS. THE SPECIFIC COMPONENTS OF THIS PLAN ARE DIRECTED TOWARD ALL AREA IMPROVEMENTS. ALL AREAS USED BY THE CONTRACTOR'S OPERATIONS ARE SUBJECT TO THE PROVISIONS OF THIS PLAN. THIS INCLUDES BOTH ACTIVE CUT/FILL ZONES AS WELL AS STOCK PILES AND STAGING AREAS.
4. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL DEVICES.
5. THE CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL TO INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE A STORM THAT IS OF 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL.
6. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS SHALL BE INSPECTED TO ASCERTAIN WHETHER SOIL CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING. SUTTON ROAD WILL BE KEPT FREE OF STONE, MUD, SILT, ETC. AT ALL TIMES.
7. THE CONTRACTOR SHALL PREPARE A WRITTEN REPORT SUMMARIZING THE SCOPE OF EACH INSPECTION, NAMES AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF A STORMWATER POLLUTION PREVENTION PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PARAGRAPH IV.D.4.B OF THE NPDES PERMIT NUMBER ILR100000 WHICH SHALL BE MADE AND RETAINED AS PART OF THE STORMWATER POLLUTION PREVENTION PLAN FOR AT LEAST 3 YEARS AFTER THE DATE OF THE INSPECTION.
8. THE CONTRACTOR SHALL RETAIN A COPY OF EACH REPORT AND SHALL UPON REQUEST PROVIDE COPIES OF THESE REPORTS TO THE IEPA, THE CITY, OR THE ENGINEER. EACH INSPECTION SHALL INCLUDE PHOTOS OF THE EROSION CONTROL DEVICES DOCUMENTING THE PRESENCE AND EFFECTIVENESS OF THE DEVICES.
9. TO MINIMIZE THE EXTENT OF SOIL EXPOSED AT ANY GIVEN TIME, THE CONSTRUCTION ACTIVITIES WILL BE PHASED IN THE FOLLOWING MANNER.
 - A. PRIOR TO ANY EXCAVATION ON-SITE, TOED & REINFORCED SILT FENCE WILL BE INSTALLED AROUND THE PERIMETER OF THE AREAS TO BE DISTURBED AS SHOWN ON THIS PLAN.
 - B. UPON COMPLETION OF GRADING OPERATIONS, ALL DISTURBED AREAS WILL BE SPREAD WITH TOPSOIL AND SEEDED OR SOODED IMMEDIATELY. EROSION CONTROL BLANKET (NORTH AMERICAN GREEN P-150 OR M-BFM) WILL BE UTILIZED ON ALL SLOPES 3:1 OR STEEPER OVER SEED IMMEDIATELY TO STABILIZE THE SOIL AND PROMOTE THE CATCHMENT OF GRASS.
11. ANY REQUIRED DRAINAGE CHANNELS MUST BE CONSTRUCTED SO THE CHANNEL FLOWS WILL NOT CAUSE EROSION OF EXCAVATED MATERIAL. OVERFLOW DRAINAGE CHANNELS AS NOTED ON THE PLANS SHALL BE RESTORED WITH TOPSOIL, SEED, AND NAG P-150 EROSION CONTROL BLANKET.
12. PUMPS MAY BE USED AS BYPASS DEVICES, BUT IN NO CASE WILL THE WATER BE DIVERTED OUTSIDE THE PROJECT LIMIT.
13. DURING PERIODS OF EXTENDED DRY WEATHER, THE CONTRACTOR SHALL KEEP A WATER TRUCK ON-SITE FOR THE PURPOSE OF WATERING DOWN SOIL WHICH MAY OTHERWISE BECOME AIRBORNE.

EROSION CONTROL LEGEND



FILE NAME = 2806-240-PR6.dwg	USER NAME = GHA	DESIGNED - BVS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EROSION CONTROL PLAN ILL RTE 43 (HARLEM AVENUE) ROAD IMPROVEMENTS			FAP RTE 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 12
	PLOT SCALE = 1"=1"	DRAWN - BVS	REVISED -		SCALE: 1"=50'	SHEET NO. OF SHEETS	STA. 91+00 TO STA. 104+50	CONTRACT #: 63626				
	PLOT DATE = 10/17/2011	CHECKED - WCG	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE - 11/10/2011	REVISED -									

GHA #2806.242



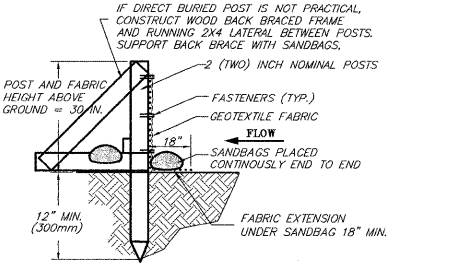
TRENCH DETAIL

1. SET POSTS AND EXCAVATE OR SLIT-TRENCH A 6-INCH DEEP TRENCH UPSLOPE ALONG THE LINE OF THE POST
2. ATTACH GEOTEXTILE FILTER FABRIC TO EACH POST WITH A MINIMUM OF 3 (THREE) FASTENERS PER POST AND EXTEND TO THE BOTTOM OF THE TRENCH. ACCEPTABLE FASTENERS INCLUDE STAPLES, ZIP-TIES, OR WIRE TIES.
3. BACKFILL AND COMPACT THE EXCAVATED SPOIL MATERIALS

NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
4. FABRIC AND INSTALLATION SHALL MEET THE REQUIREMENTS OF ASSHTO STANDARD SPECIFICATION M-288-00.

SILT FENCE INSTALLATION DETAIL

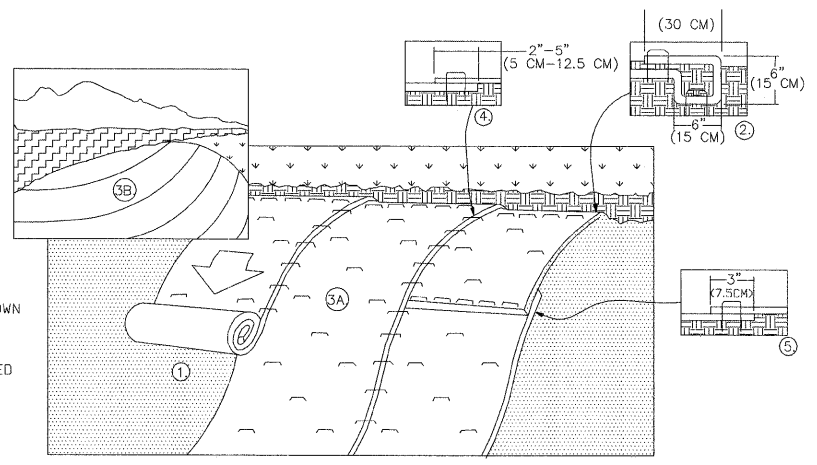


INSTALLATION WITHOUT TRENCHING

Geotextile Requirement	Test Method	MARV
Grab Strength	ASTM D 4632	
-Machine direction		550 N
-X-machine direction		450 N
Permittivity	ASTM D 4491	0.05 sec-1
Apparent opening size*	ASTM D 4751	0.60 mm
Ultraviolet stability (retained strength)	ASTM D 4355	70% after 500 hours

Note:
Value for apparent opening size represents maximum average roll value.

STAPLE PLACEMENTS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SEE STAPLE PATTERN GUIDES FOR ACTUAL RECOMMENDED PLACEMENTS.

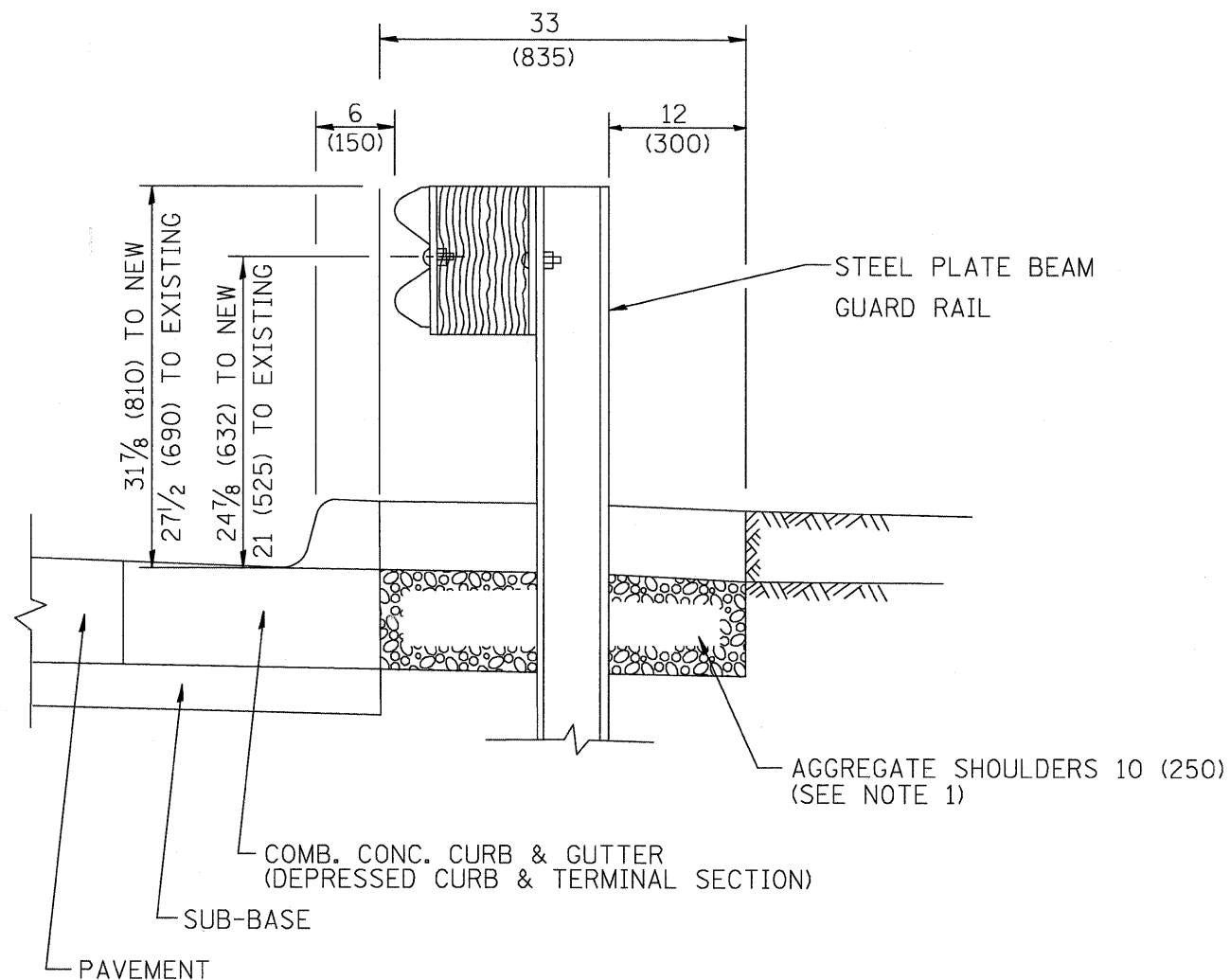


1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
 3. ROLL THE RECP'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
 5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.
- NOTE:
*IN LOOSE SOIL, CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

EROSION CONTROL BLANKET SLOPE INSTALLATION

SEDIMENTATION AND EROSION CONTROL NOTES

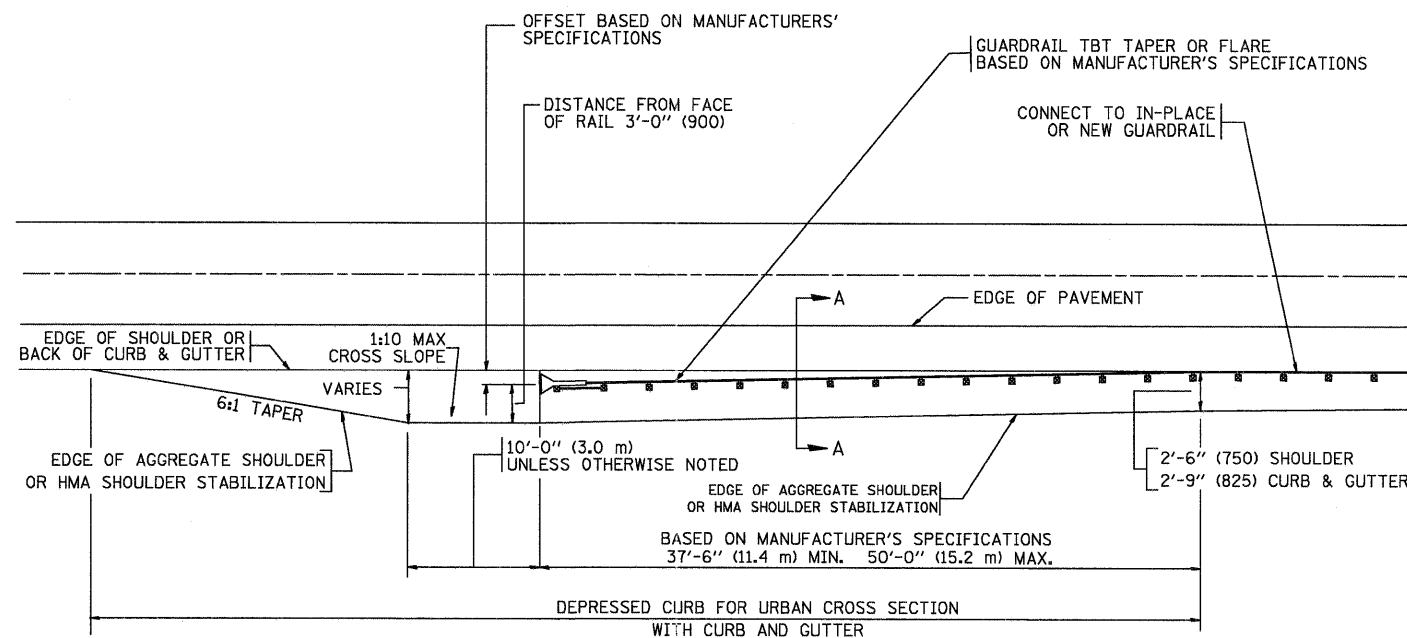
- A. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
- B. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.
- C. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE, OR REDISTURBANCE.
- D. AREAS OF ENBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3H:1V SHALL BE STABILIZED WITH SOD, MAT OR BLANKET IN COMBINATION WITH SEEDING.
- E. EROSION CONTROL BLANKET SHALL BE REQUIRED ON ALL INTERIOR DETENTION BASIN SIDE SLOPES BETWEEN NORMAL WATER LEVEL AND HIGH WATER LEVEL.
- F. ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED, BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.
- G. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.
- H. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE AND REPAIR.
- I. A STABILIZED MAT OF AGGREGATE UNDERLAIN WITH FILTER CLOTH (OR OTHER APPROPRIATE MEASURE) SHALL BE LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA. ANY SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
- J. SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD PRONE AREA OR A DESIGNATED BUFFER PROTECTING WATERS OF THE UNITED STATES.
- K. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (e.g. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURES).
- L. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER.



SECTION A-A

- NOTES:
1. THE AGGREGATE SHOULDER, 10" OR HMA SHOULDER, 6" (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
 2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
 3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

**DETAILS FOR STEEL PLATE BEAM
GUARD RAIL ADJACENT TO CURB AND GUTTER
[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]**



**DEPRESSED CURB AND GUTTER AND
SHOULDER TREATMENT AT TBT TY. 1 SPL.**

BASIS OF PAYMENT: HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDERS 6" (150 mm)".

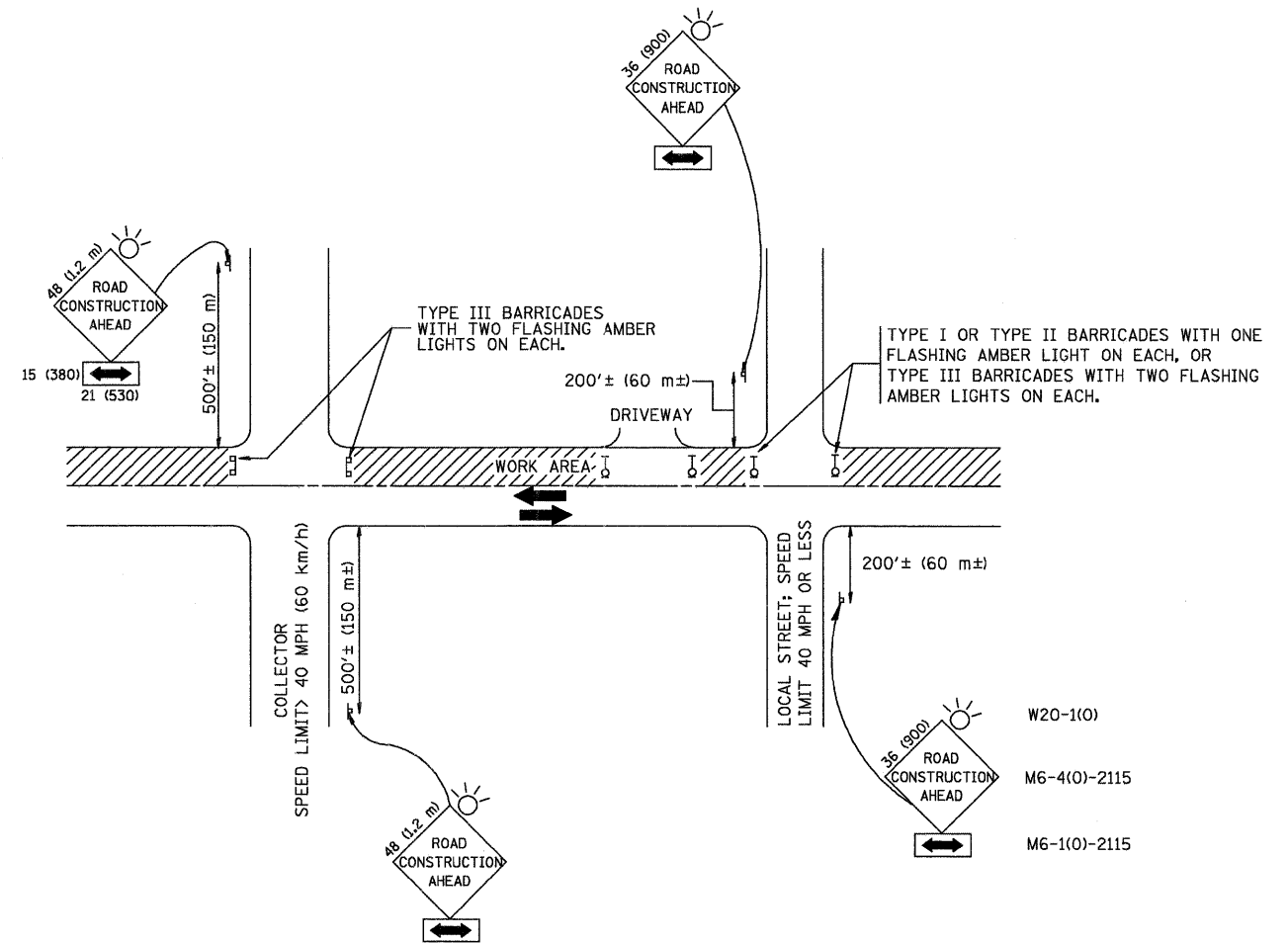
STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = 2806-240-PR6.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - M. DE YONG	REVISED - E. GOMEZ 08-28-00	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS FOR DEPRESSED CURB & GUTTER AND SHOULDER TREATMENT AT TBT TY 1 SPL.	F.A.P. RATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. BORO 01-01-07			348	10-00047-00-TL	COOK	30	14
		CHECKED -	REVISED - R. BORO 12-08-2008			BD600-10 (BD 34)		CONTRACT #:		63626
		DATE - 09-22-90	REVISED - R. BORO 09-14-2009			SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		STA. TO STA.

GHA #2806.242

FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT



W20-1(0)
M6-4(0)-2115
M6-1(0)-2115

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.

FILE NAME = 2806-240-PR6.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
	PLOT SCALE = 1" = .0833'	DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT DATE = 10/17/2011	CHECKED -	REVISED - A. HOUSEH 10-15-96
		DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

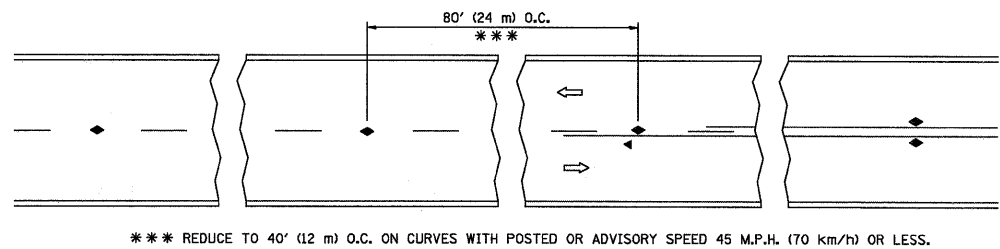
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

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

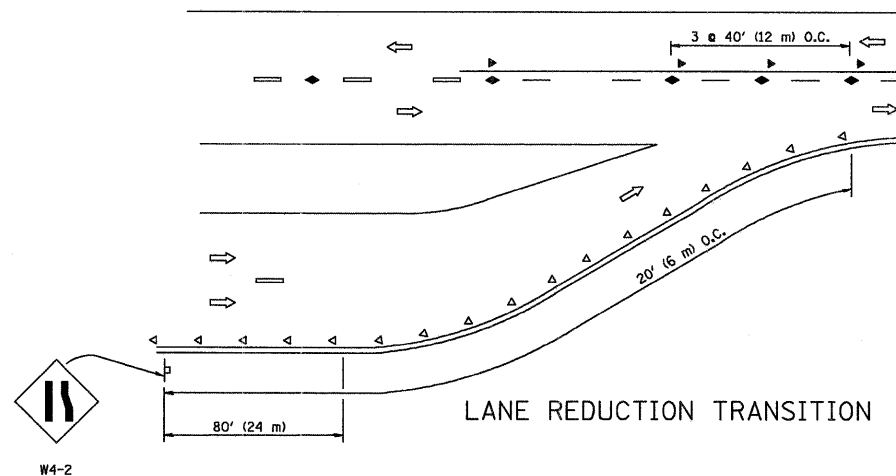
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	10-00047-00-TL	COOK	30	15
TC-10			CONTRACT #:	63626
<small>FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT</small>				

GHA #2806.242

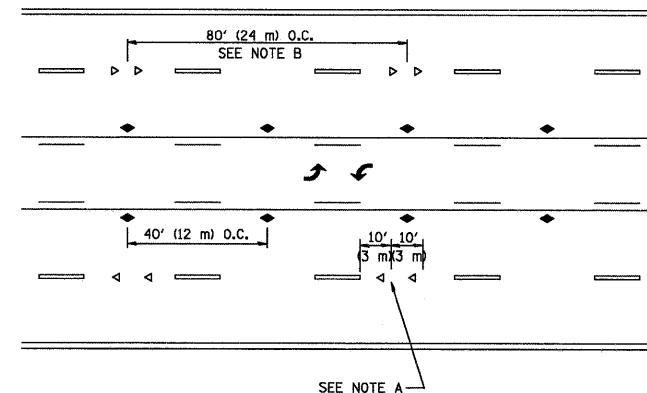


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

TWO-LANE/TWO-WAY

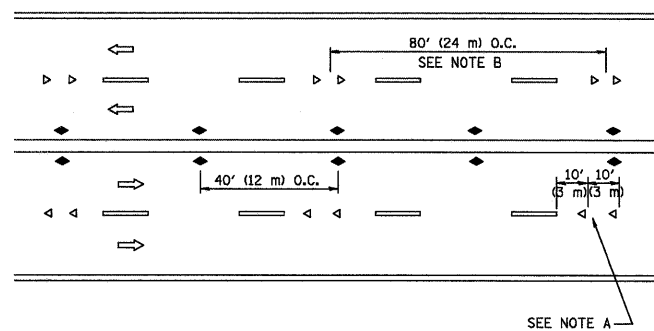


LANE REDUCTION TRANSITION



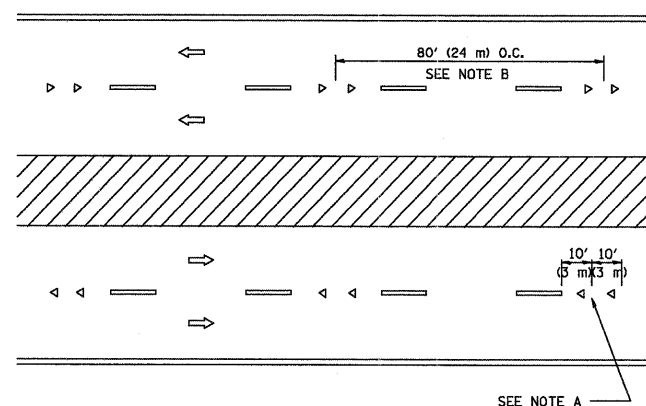
SEE NOTE A

TWO-WAY LEFT TURN



SEE NOTE A

MULTI-LANE/UNDIVIDED



SEE NOTE A

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

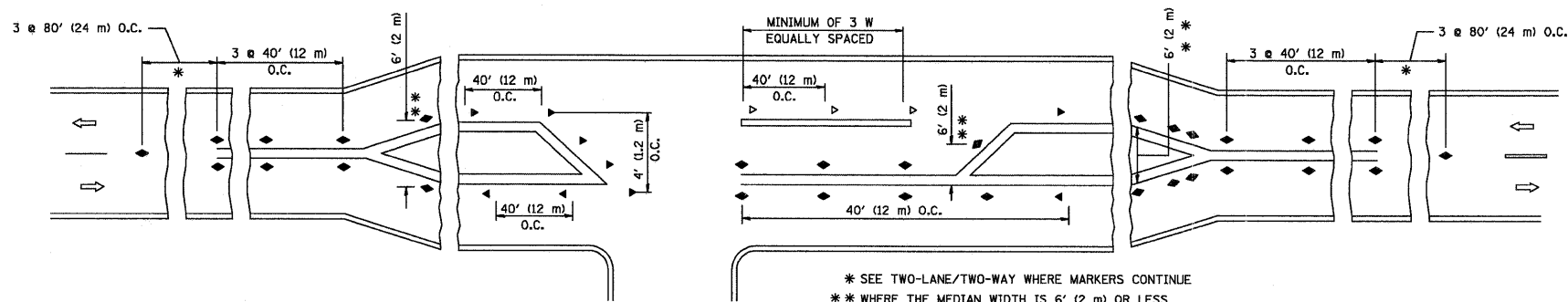
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

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 SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.

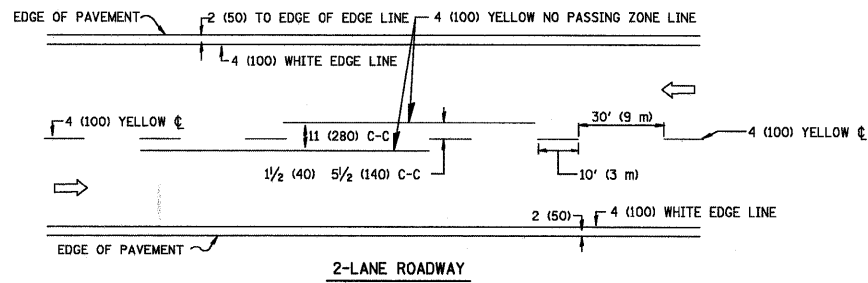


* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

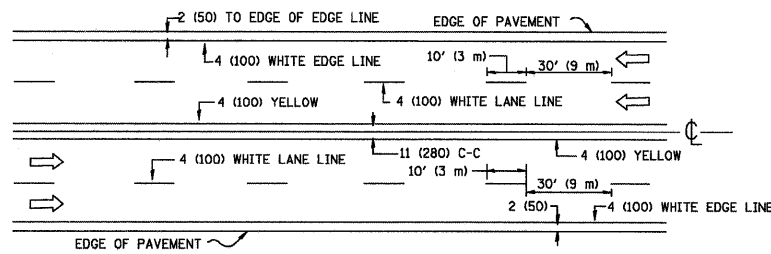
LEFT TURN

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

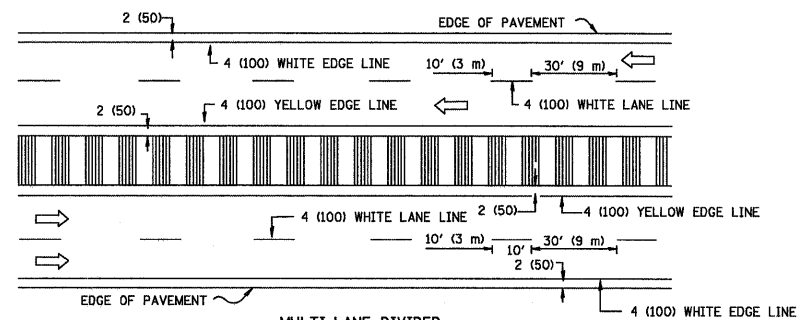
FILE NAME = 2806-240-PR6.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - DRAWN - CHECKED - DATE -	REVISED - T. RAMMACHER 09-19-94 REVISED - T. RAMMACHER 03-12-99 REVISED - T. RAMMACHER 01-06-00 REVISED - C. JUCIUS 09-09-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLow RESISTANT)	F&P RTE. 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 16	CONTRACT #: 63626
PLOT SCALE = 1" = .0833'		PLOT DATE = 10/17/2011	SCALE: N.A.			SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		GHA #2806.242	



2-LANE ROADWAY



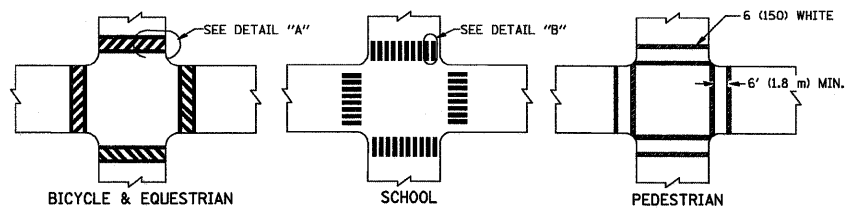
MULTI-LANE UNDIVIDED



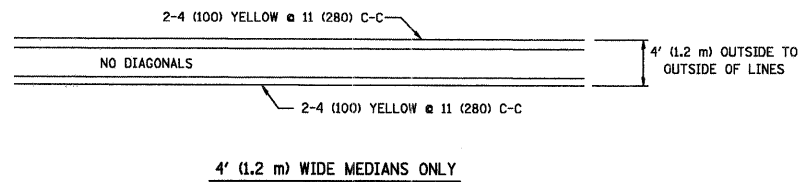
MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

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

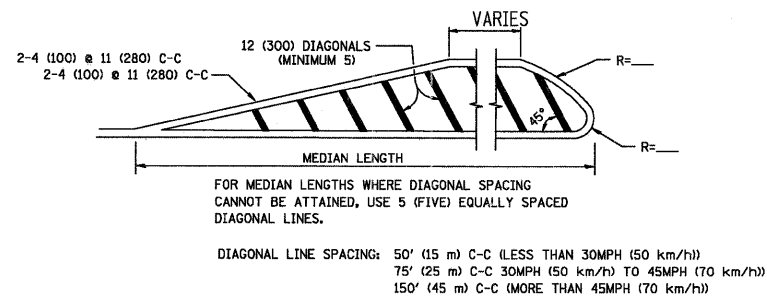
TYPICAL LANE AND EDGE LINE MARKING



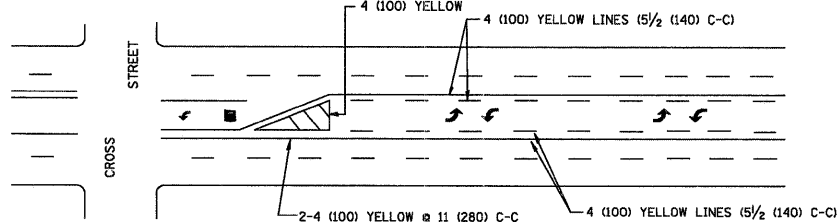
TYPICAL CROSSWALK MARKING



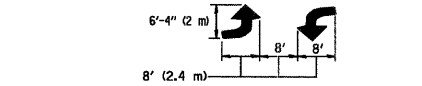
4' (1.2 m) WIDE MEDIANS ONLY



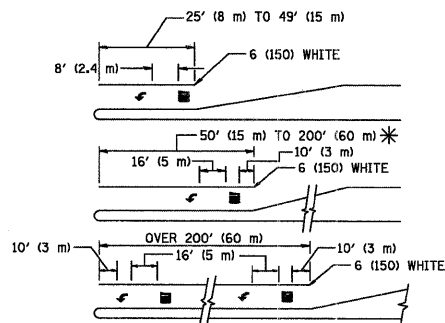
MEDIANS OVER 4' (1.2 m) WIDE



TYPICAL PAINTED MEDIAN MARKING



MEDIAN WITH TWO-WAY LEFT TURN LANE

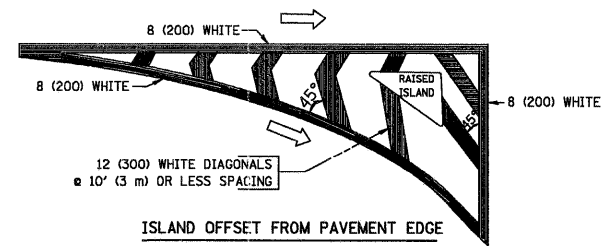


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED. AREA = 15.6 SQ. FT. (1.5 m²) AREA = 20.8 SQ. FT. (1.9 m²)

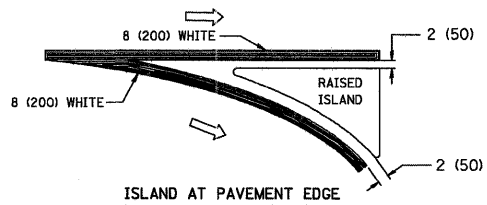
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

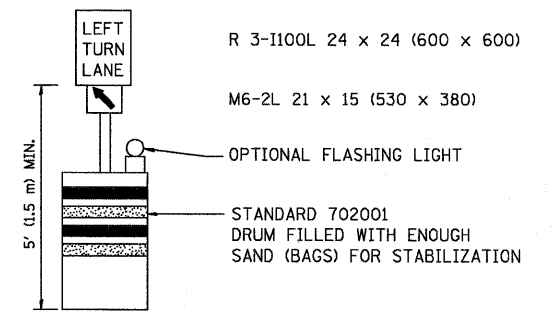
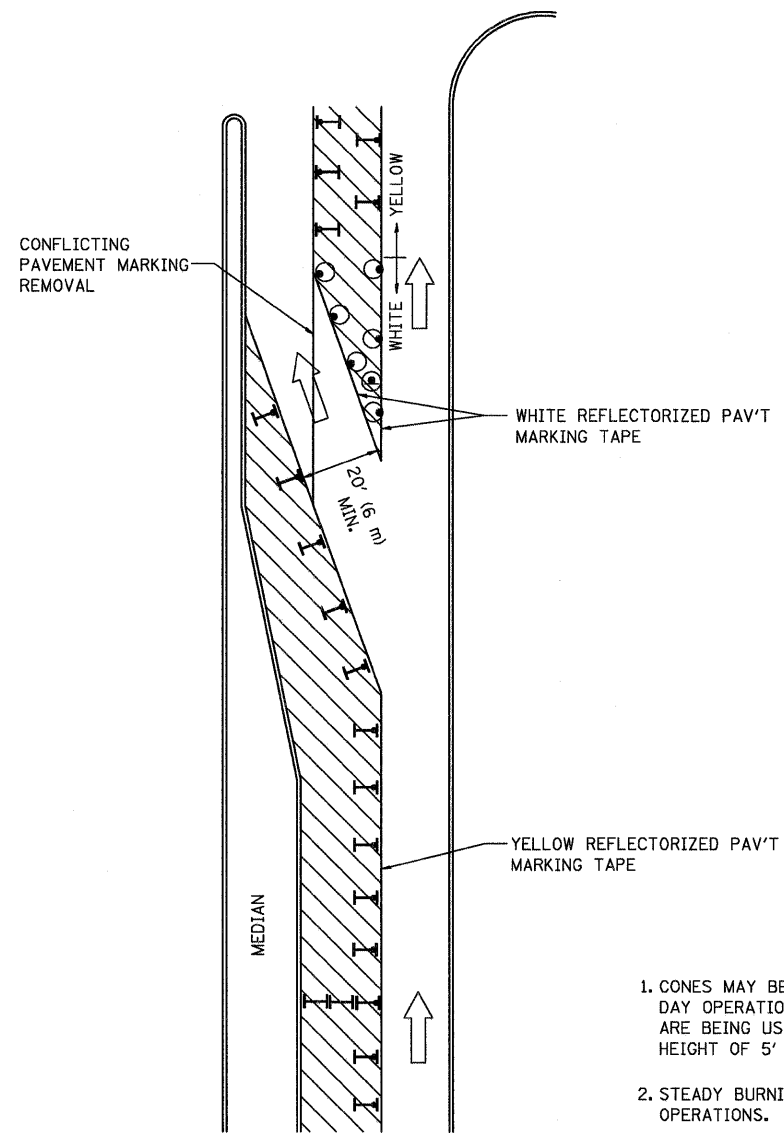
TYPICAL ISLAND MARKING

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	4 (100)	SOLID	YELLOW	5 1/2 (140) C-C FROM SKIP-DASH CENTERLINE
NO PASSING ZONE LINES: FOR BOTH DIRECTIONS	2 & 4 (100)	SOLID	YELLOW	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	SKIP-DASH AND SOLID	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5 1/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
	8' (2.4m) LEFT ARROW	IN PAIRS	WHITE	SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN)	2 & 6 (150)	SOLID	WHITE	NOT LESS THAN 6' (1.8 m) APART
A. DIAGONALS (BIKE & EQUESTRIAN)	12 (300) @ 45°	SOLID	WHITE	2' (600) APART
B. LONGITUDINAL BARS (SCHOOL)	12 (300) @ 90°	SOLID	WHITE	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°	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
	NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS			
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 ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)
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.







TYPICAL PAVEMENT MARKINGS



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 BT 725 IS REQUIRED.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

LEGEND

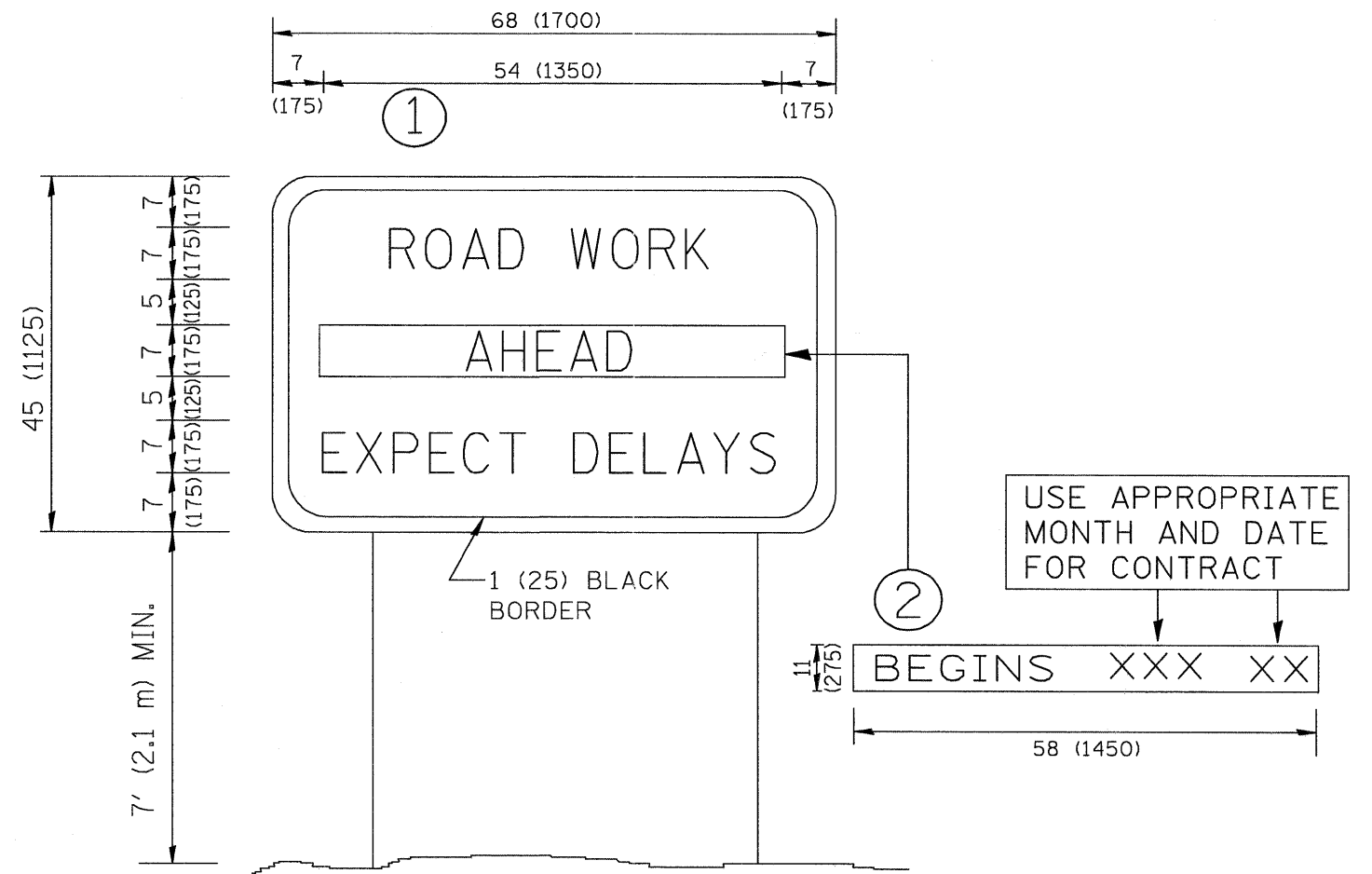
-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

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

FILE NAME = 2806-240-PR6.dwg	USER NAME = ZACH WALLSTEN	REVISED - T. RAMMACHER 09-08-94	REVISED - R. BORO 09-14-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)	F&P R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 1" = .0833'	REVISED - A. HOUSEH 11-07-95	REVISED -			348	10-00047-00-TL	COOK	30	18
PLOT DATE = 10/17/2011	REVISED - T. RAMMACHER 01-06-00	REVISED -	REVISED -	SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	TC-14 CONTRACT #: 63626		

GHA #2806.242

FED. ROAD DIST. NO. 1 | ILLINOIS FED. AID PROJECT

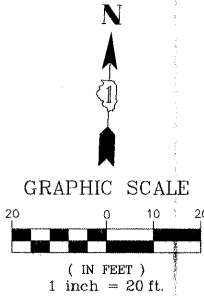


NOTES:

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.

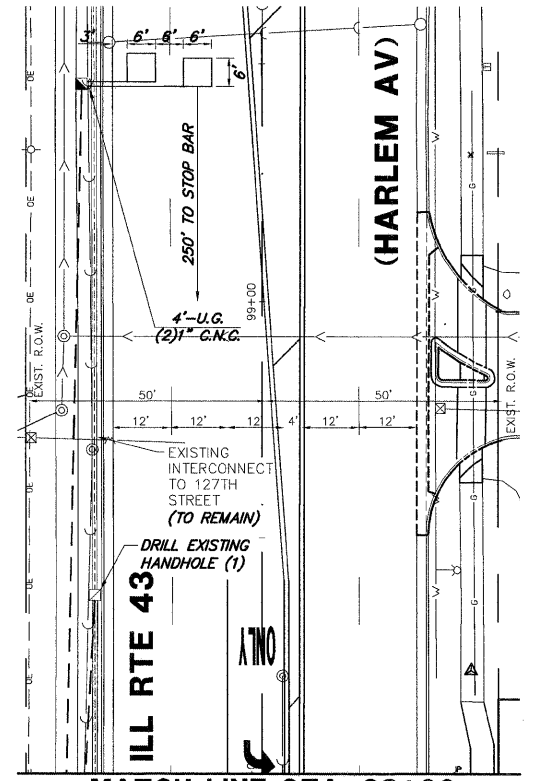
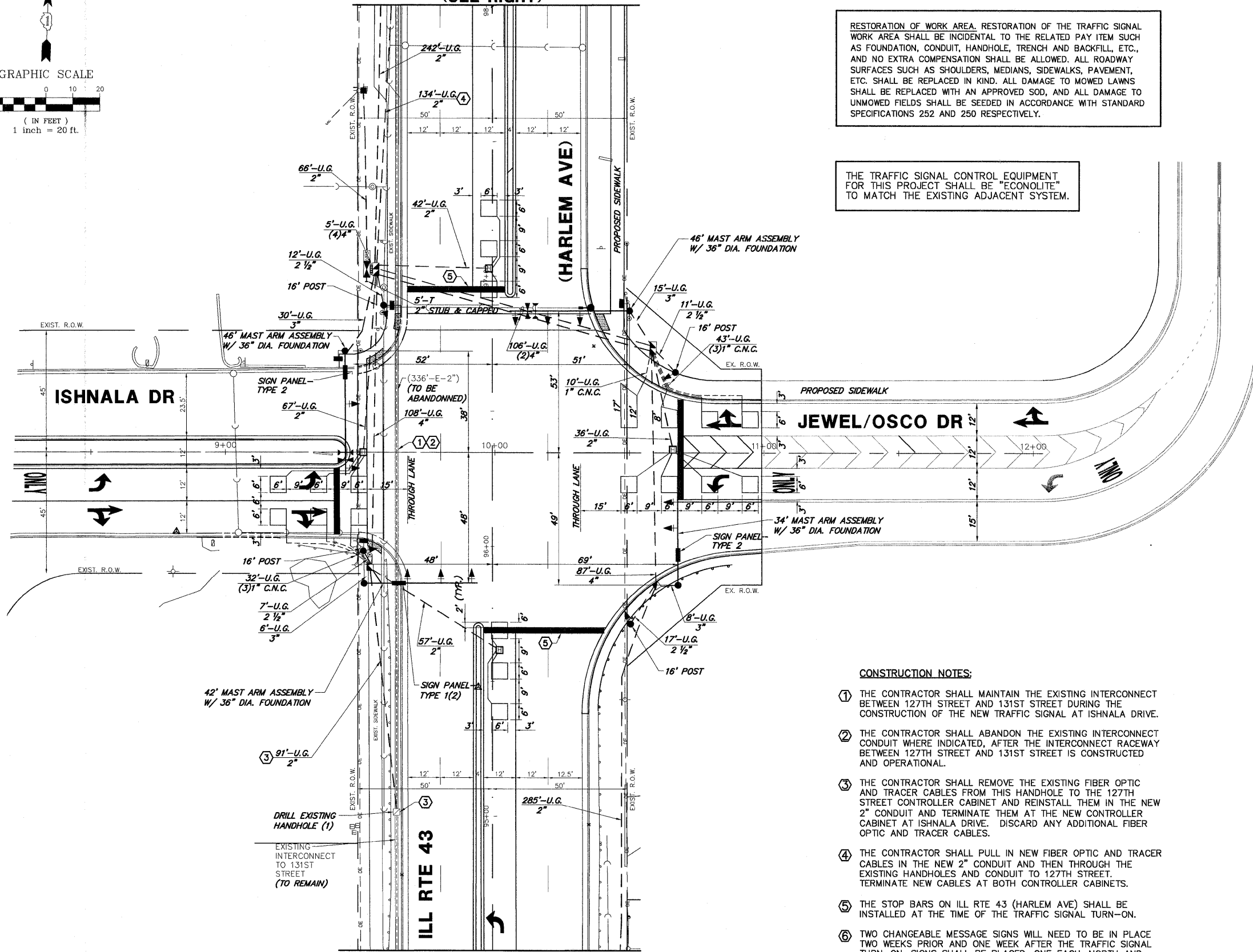
FILE NAME = 2806-240-PR6.dwg	USER NAME = ZACH WALLSTEN	DESIGNED -	REVISED - R. MIRS 09-15-97	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ARTERIAL ROAD INFORMATION SIGN	F.A.P. RTE. 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 19	GHA #2806.242
PLOT SCALE = 1" = .0833'	CHECKED -	REVISED - R. MIRS 12-11-97	TC-22			CONTRACT #:	63626				
PLOT DATE = 10/17/2011	DATE -	REVISED - T. RAMMACHER 02-02-99	SCALE: NONE			SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	
		REVISED - C. JUCIUS 03-31-07									



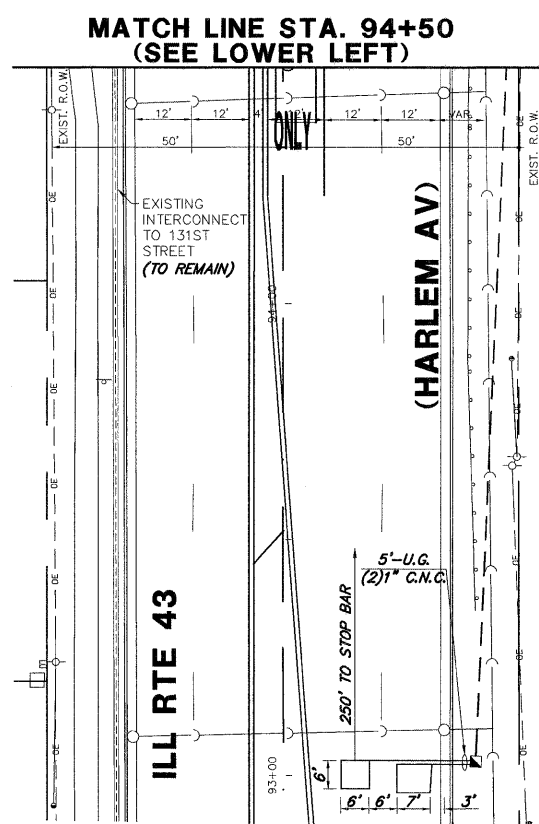
MATCH LINE STA. 98+00
(SEE RIGHT)

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO 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, MEDIANS, 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 "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.



MATCH LINE STA. 98+00
(SEE UPPER LEFT)



MATCH LINE STA. 94+50
(SEE LOWER LEFT)

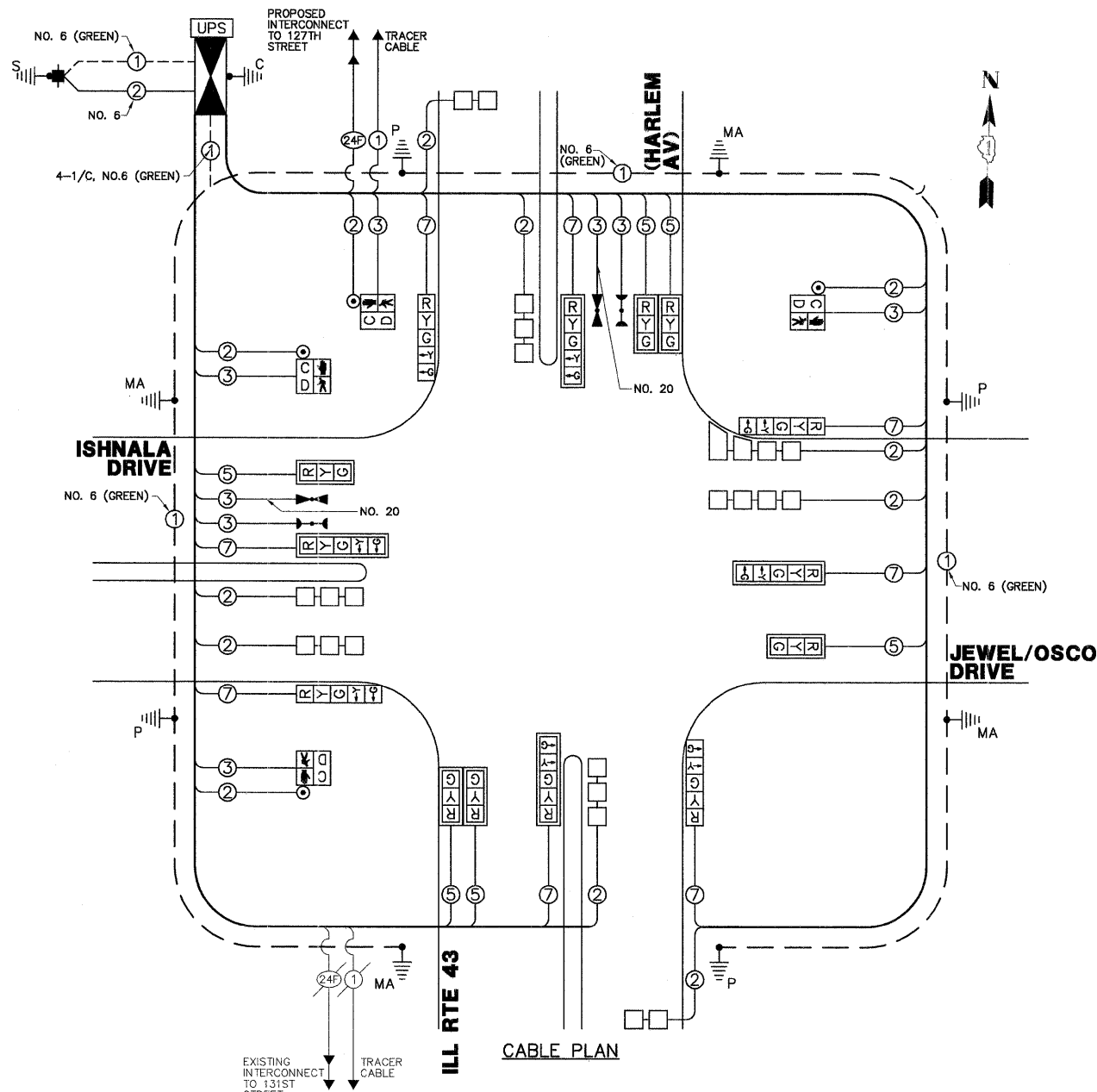
- CONSTRUCTION NOTES:**
- ① THE CONTRACTOR SHALL MAINTAIN THE EXISTING INTERCONNECT BETWEEN 127TH STREET AND 131ST STREET DURING THE CONSTRUCTION OF THE NEW TRAFFIC SIGNAL AT ISHNALA DRIVE.
 - ② THE CONTRACTOR SHALL ABANDON THE EXISTING INTERCONNECT CONDUIT WHERE INDICATED, AFTER THE INTERCONNECT RACEWAY BETWEEN 127TH STREET AND 131ST STREET IS CONSTRUCTED AND OPERATIONAL.
 - ③ THE CONTRACTOR SHALL REMOVE THE EXISTING FIBER OPTIC AND TRACER CABLES FROM THIS HANDHOLE TO THE 127TH STREET CONTROLLER CABINET AND REINSTALL THEM IN THE NEW 2" CONDUIT AND TERMINATE THEM AT THE NEW CONTROLLER CABINET AT ISHNALA DRIVE. DISCARD ANY ADDITIONAL FIBER OPTIC AND TRACER CABLES.
 - ④ THE CONTRACTOR SHALL PULL IN NEW FIBER OPTIC AND TRACER CABLES IN THE NEW 2" CONDUIT AND THEN THROUGH THE EXISTING HANDHOLES AND CONDUIT TO 127TH STREET. TERMINATE NEW CABLES AT BOTH CONTROLLER CABINETS.
 - ⑤ THE STOP BARS ON ILL RTE 43 (HARLEM AVE) SHALL BE INSTALLED AT THE TIME OF THE TRAFFIC SIGNAL TURN-ON.
 - ⑥ TWO CHANGEABLE MESSAGE SIGNS WILL NEED TO BE IN PLACE TWO WEEKS PRIOR AND ONE WEEK AFTER THE TRAFFIC SIGNAL TURN-ON. SIGNS SHALL BE PLACED, ONE EACH, NORTH AND SOUTH OF ISHNALA ON ILL RTE 43.

FILE NAME = 2806-240-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC SIGNAL INSTALLATION PLAN ILL RTE 43 (HARLEM AVE) & ISHNALA DR	F.A.P. RTE. 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 20	CONTRACT # 63626		
PLOT SCALE = 1"=1"	DATE = 11/10/2011	DRAWN - ZCW	REVISED -			SCALE: 1"=20'	SHEET NO. OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT				
		CHECKED - KLB	REVISED -										
		DATE = 11/10/2011	REVISED -										

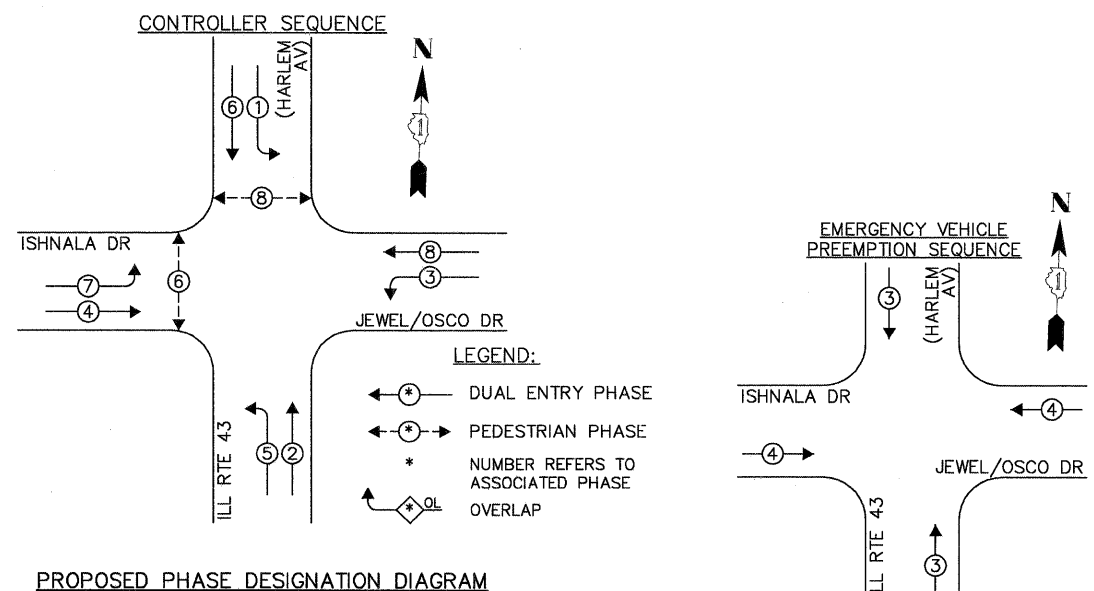
GHA #2806.242

SCHEDULE OF QUANTITIES
ILL ROUTE 43 (HARLEM AV) AT ISHNALA DRIVE

NO.	QUANT.	UNIT	DESCRIPTION
1.	1.50	CAL MO	CHANGEABLE MESSAGE SIGN
2.	15.00	SQ FT	SIGN PANEL - TYPE 1
3.	25.00	SQ FT	SIGN PANEL - TYPE 2
4.	1	EACH	SERVICE INSTALLATION - POLE MOUNTED
5.	861	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
6.	53	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.
7.	65	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.
8.	467	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.
9.	4	EACH	HANDHOLE
10.	4	EACH	HEAVY-DUTY HANDHOLE
11.	2	FOOT	DOUBLE HANDHOLE
12.	1	EACH	UNINTERRUPTIBLE POWER SUPPLY, EXTENDED
13.	1	EACH	TRANSCIVER - FIBER OPTIC
14.	427	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
15.	802	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
16.	1,201	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
17.	1,535	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
18.	1,639	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
19.	88	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
20.	592	FOOT	ELECTRIC CABLE IN CONDUIT EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C
21.	4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT
22.	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT
23.	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 42 FT
24.	2	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 46 FT
25.	16	FOOT	CONCRETE FOUNDATION, TYPE A
26.	4	FOOT	CONCRETE FOUNDATION, TYPE C
27.	50	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
28.	1	EACH	DRILL EXISTING HANDHOLE
29.	6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
30.	4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
31.	4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
32.	4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
33.	10	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
34.	8	EACH	INDUCTIVE LOOP DETECTOR
35.	846	FOOT	DETECTOR LOOP, TYPE I
36.	2	EACH	LIGHT DETECTOR
37.	1	EACH	LIGHT DETECTOR AMPLIFIER
38.	4	EACH	PEDESTRIAN PUSH-BUTTON
39.	1,091	FOOT	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT
40.	1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
41.	340	FOOT	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED



- CONSTRUCTION NOTES:**
- THE CONTRACTOR SHALL MAINTAIN THE EXISTING INTERCONNECT BETWEEN 127TH STREET AND 131ST STREET DURING THE CONSTRUCTION OF THE NEW TRAFFIC SIGNAL AT ISHNALA DRIVE.
 - THE CONTRACTOR SHALL ABANDON THE EXISTING INTERCONNECT CONDUIT WHERE INDICATED, AFTER THE INTERCONNECT RACEWAY BETWEEN 127TH STREET AND 131ST STREET IS CONSTRUCTED AND OPERATIONAL.
 - THE CONTRACTOR SHALL REMOVE THE EXISTING FIBER OPTIC AND TRACER CABLES FROM THIS HANDHOLE TO THE 127TH STREET CONTROLLER CABINET AND REINSTALL THEM IN THE NEW 2" CONDUIT AND TERMINATE THEM AT THE NEW CONTROLLER CABINET AT ISHNALA DRIVE. DISCARD ANY ADDITIONAL FIBER OPTIC AND TRACER CABLES.
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 - THE STOP BARS ON ILL RTE 43 (HARLEM AVE) SHALL BE INSTALLED AT THE TIME OF THE TRAFFIC SIGNAL TURN-ON.
 - TWO CHANGEABLE MESSAGE SIGNS WILL NEED TO BE IN PLACE TWO WEEKS PRIOR AND ONE WEEK AFTER THE TRAFFIC SIGNAL TURN-ON. SIGNS SHALL BE PLACED, ONE EACH, NORTH AND SOUTH OF ISHNALA ON ILL RTE 43.



I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	INCAND.	WATTAGE	L.E.D. % OPERATION	
SIGNAL (RED)	14	135	17	0.50	119.0
SIGNAL (YELLOW)	14	135	25	0.10	35.0
SIGNAL (GREEN)	14	135	15	0.40	84.0
ARROW	16	135	12	0.10	19.2
PED.SIGNAL	4	90	25	1.00	100.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	-	-	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	-	-	150	1.00	-
BATTERY BACKUP	1	-	25	1.00	25.0
TOTAL =					482.2

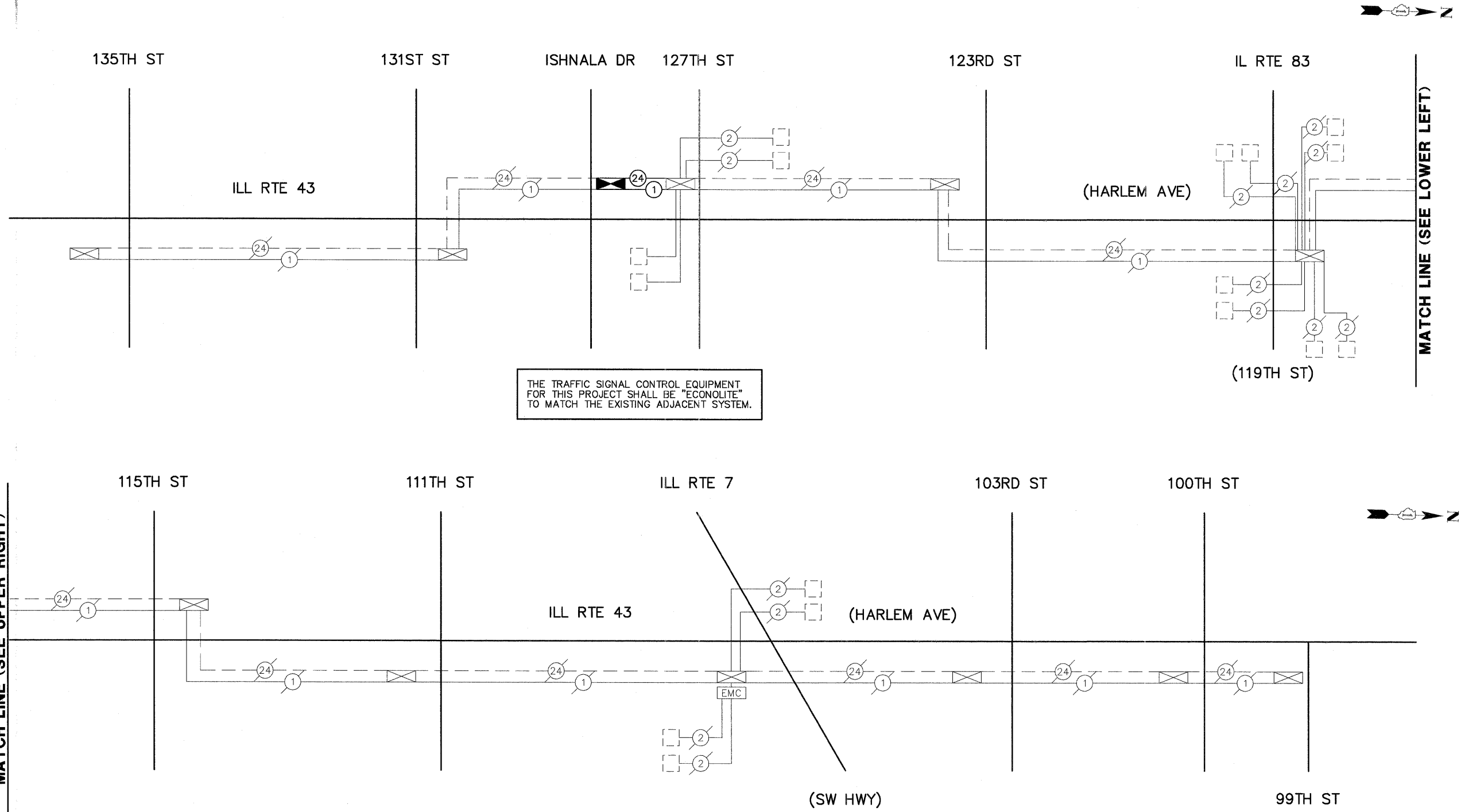
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO 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, MEDIANS, 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.

SCHEDULE OF QUANTITIES

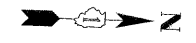
INTERCONNECT - ILL RTE 43 FROM 135TH ST TO 99TH ST

NO.	QUANT.	UNIT	DESCRIPTION
1.	1	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606
2.	1	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
3.	1	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801
4.	1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
5.	991	FOOT	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F
6.	991	FOOT	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
7.	1	EACH	DRILL EXISTING HANDHOLE
8.	1	EACH	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2

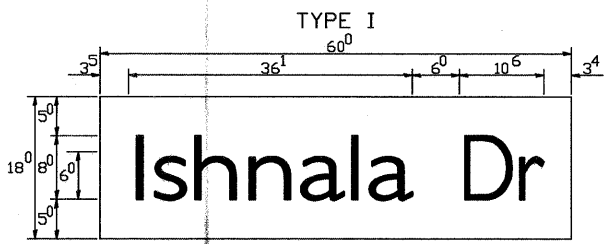


MATCH LINE (SEE UPPER RIGHT)

MATCH LINE (SEE LOWER LEFT)



FILE NAME = 2806-240-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INTERCONNECT SCHEMATIC & SCHEDULE OF QUANTITIES ILL RTE 43 (HARLEM AVE) & ISHNALA DR	FAP RTE. 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 23	GHA #2806.242 CONTRACT #: 63626 ILLINOIS FED. AID PROJECT
PLOT SCALE = 1"=1"	CHECKED - KLB	REVISED -	SCALE N.A.			SHEET NO. OF SHEETS	STA. TO STA.				
PLOT DATE = 11/10/2011	DATE - 11/10/2011	REVISED -									

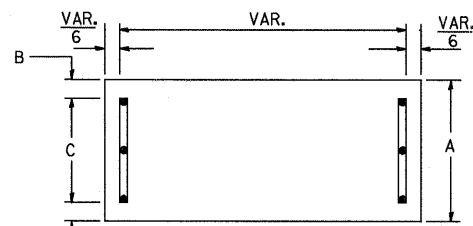


— Sq. M. each
 7.5 Sq. Ft. each
 2 Required
 Design Series D

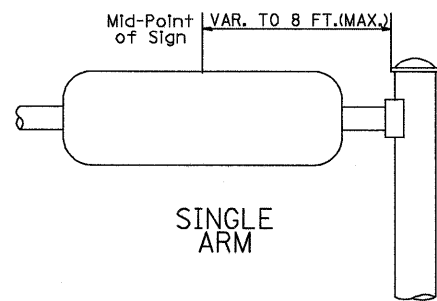


— Sq. M. each
 12.5 Sq. Ft. each
 2 Required
 Design Series D

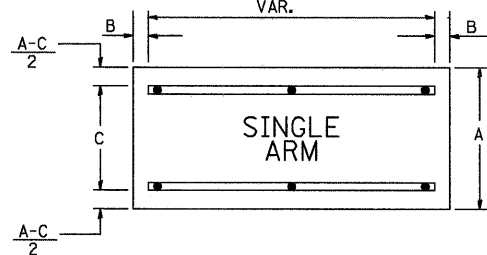
SUPPORTING CHANNELS



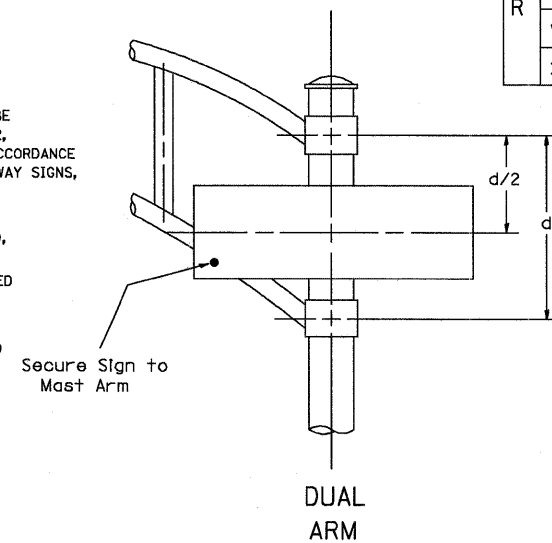
A	B	C
18"	2"	14"



SUPPORTING CHANNELS



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



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

Upper Case To Lower Case
 Spacing Chart 8-6 Inch Series "C & D"

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

EXAMPLE, 2³ DENOTES 3"

UPPER AND LOWER CASE
 LETTER WIDTHS

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

Lower Case To Lower Case
 Spacing Chart 6 Inch Series "C & D"

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

Number To Number
 Spacing Chart 8 Inch Series "C & D"

SERIES	SECOND NUMBER																			
	0		1		2		3		4		5		6		7		8		9	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ⁶	1 ⁷
1	2 ⁰	2 ¹	2 ⁰	2 ¹	2 ⁰	2 ¹	1 ⁶	1 ⁷	1 ⁴	1 ⁵	2 ⁰	2 ¹	2 ⁰	2 ¹	1 ⁴	1 ⁵	2 ⁰	2 ¹	2 ⁰	2 ¹
2 3 4	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵
5	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ¹	1 ²	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ⁴	1 ⁵
6	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵
7	1 ²	1 ⁴	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ²	1 ⁵	0 ⁵	0 ⁶	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴
8	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ²	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ⁴	1 ⁵

NUMBER	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
1	1 ²	1 ⁴	1 ⁵	2 ⁰
2	3 ²	4 ⁰	4 ³	5 ³
3	3 ²	4 ⁰	4 ³	5 ³
4	3 ⁵	4 ³	4 ⁷	5 ⁷
5	3 ²	4 ⁰	4 ³	5 ³
6	3 ²	4 ⁰	4 ³	5 ³
7	3 ²	4 ⁰	4 ³	5 ³
8	3 ²	4 ⁰	4 ³	5 ³
9	3 ²	4 ⁰	4 ³	5 ³
0	3 ⁴	4 ²	4 ⁵	5 ⁵

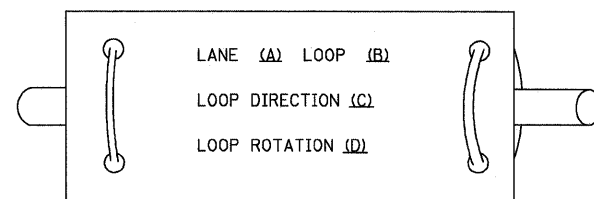
GENERAL NOTES

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 8'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED

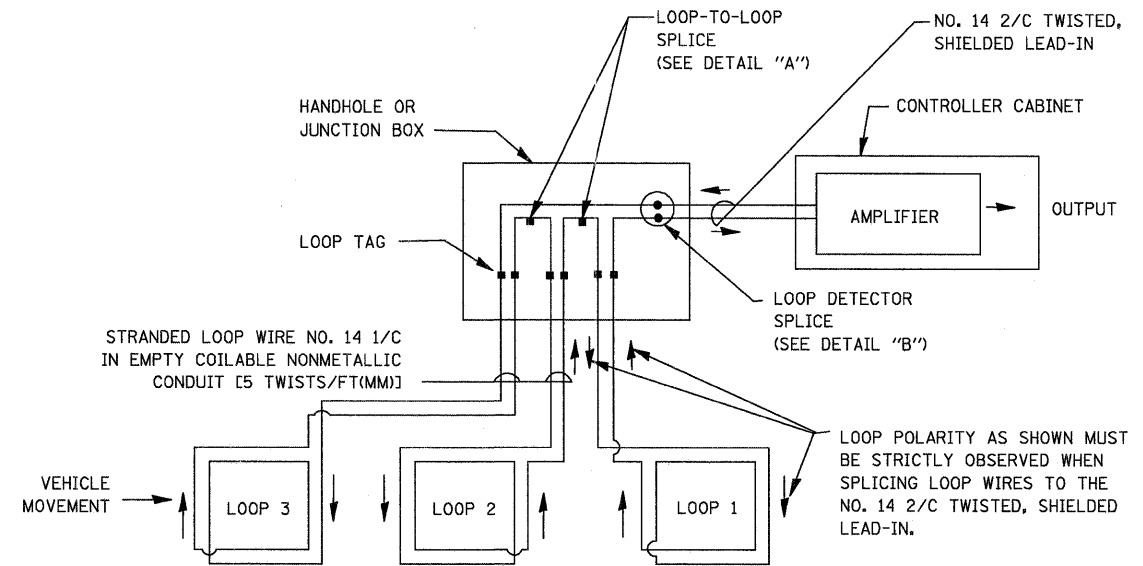
LOOP DETECTOR NOTES

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

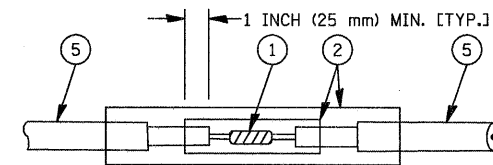


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

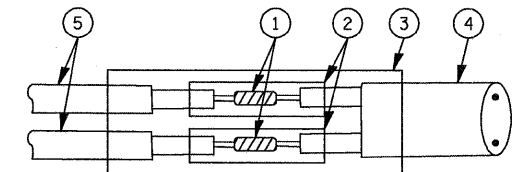


DETECTOR LOOP WIRING SCHEMATIC

- 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.

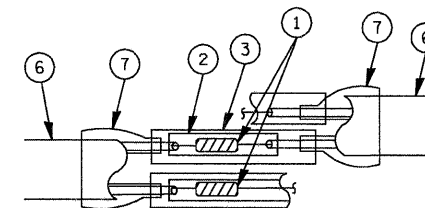


DETAIL "A"
LOOP-TO-LOOP SPLICE

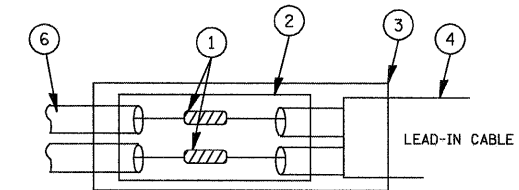


DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

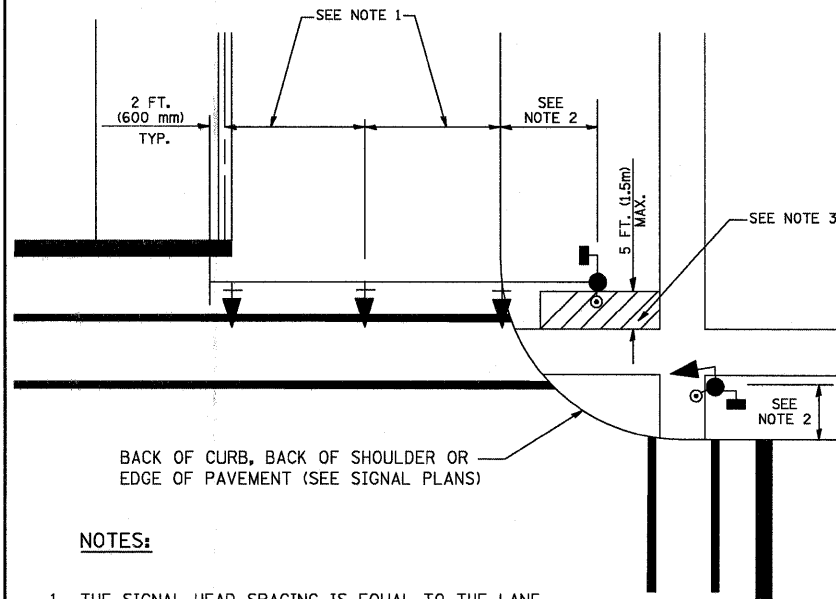
LOOP DETECTOR SPLICE

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

FILE NAME = 2806-240-TR2.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - DAD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS		F&P RTE 348	SECTION 10-00047-00-TL	COUNTY COOK	TOTAL SHEETS 30	SHEET NO. 25	GHA #2806.242
	PLOT SCALE = 1" = .08'	CHECKED - DAD	REVISED -				SCALE: NONE SHEET NO. 1 OF 6 SHEETS STA. TO STA.		TS-05		CONTRACT #: 63626	
PLOT DATE = 11/10/2011	DATE - 10-28-09	REVISED -	REVISED -									

TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

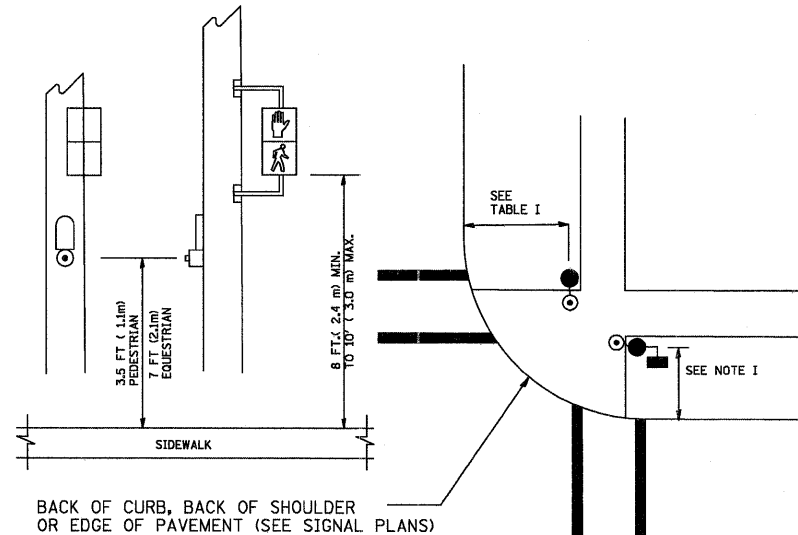
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



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."

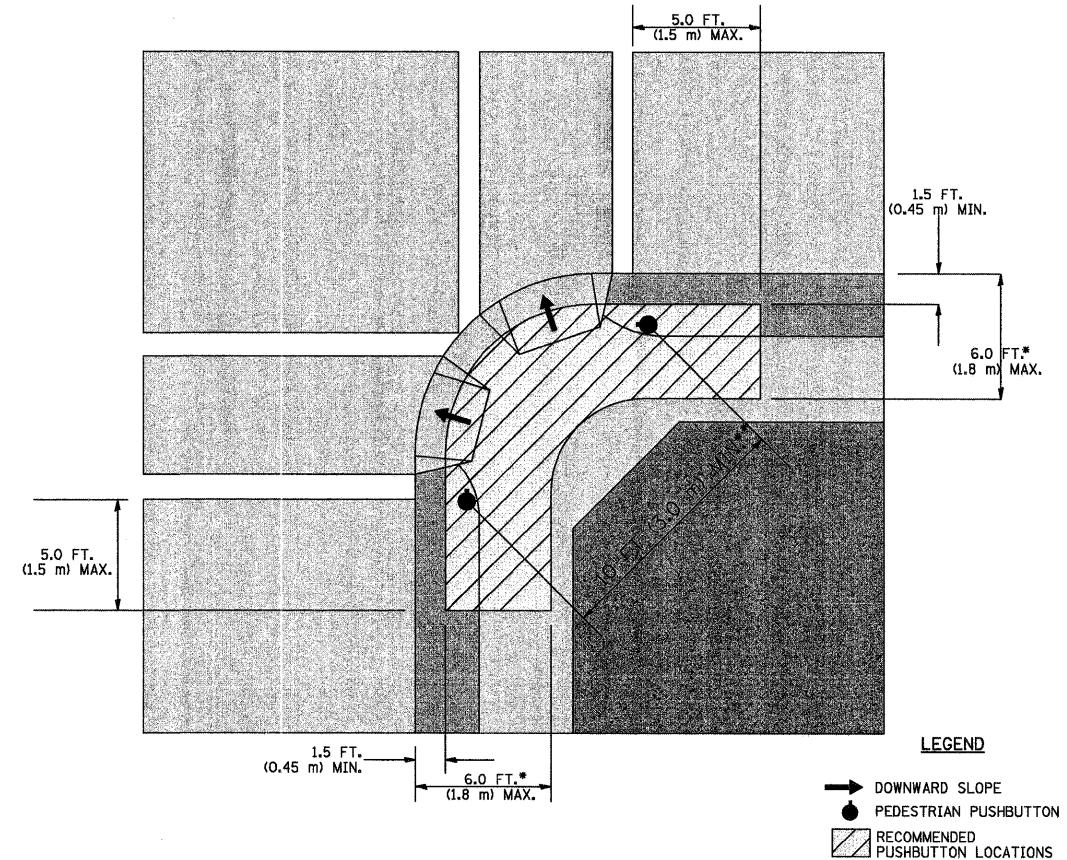
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



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



LEGEND

- DOWNWARD SLOPE
- PEDESTRIAN PUSHBUTTON
- ▨ 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:

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.

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.

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.

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.

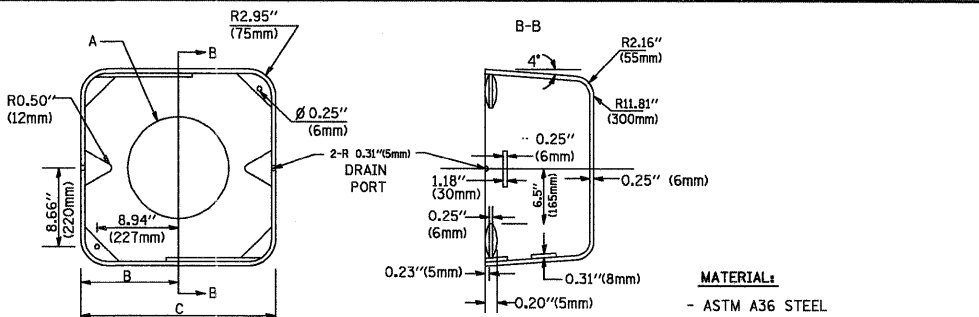
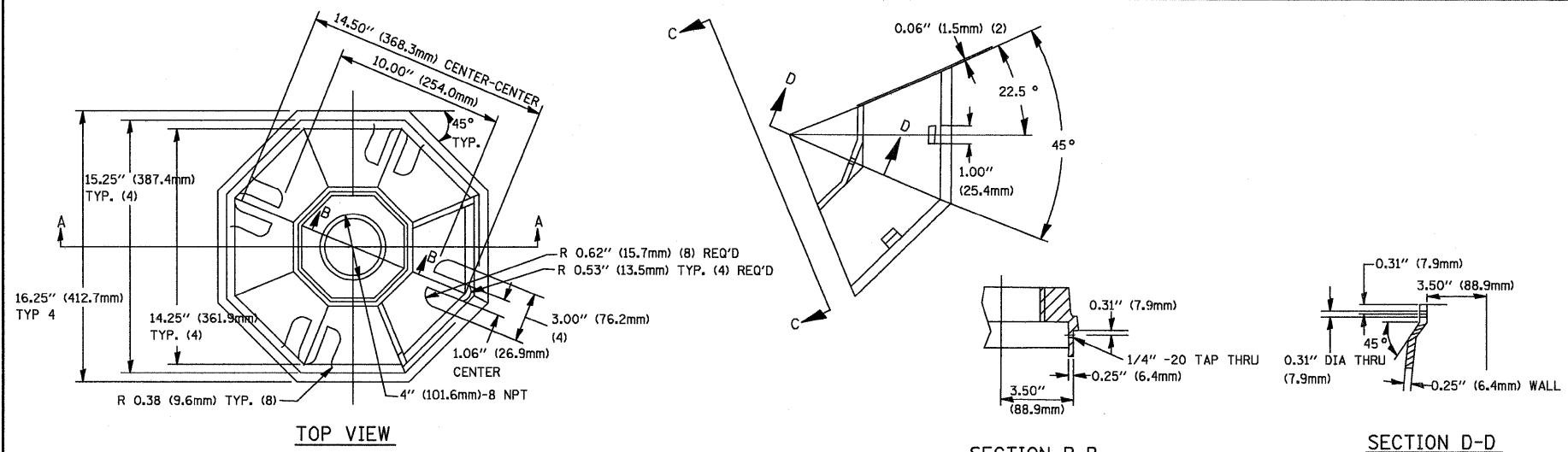
THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

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.

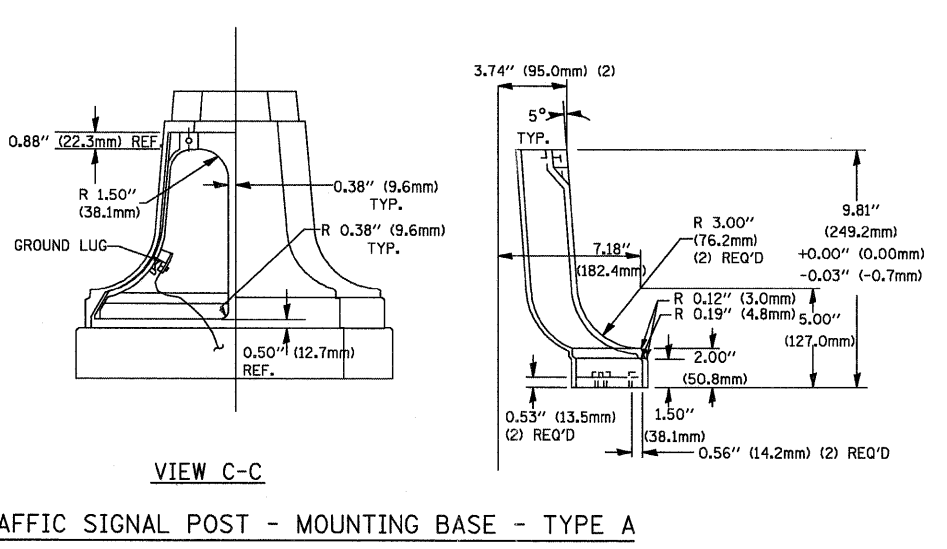
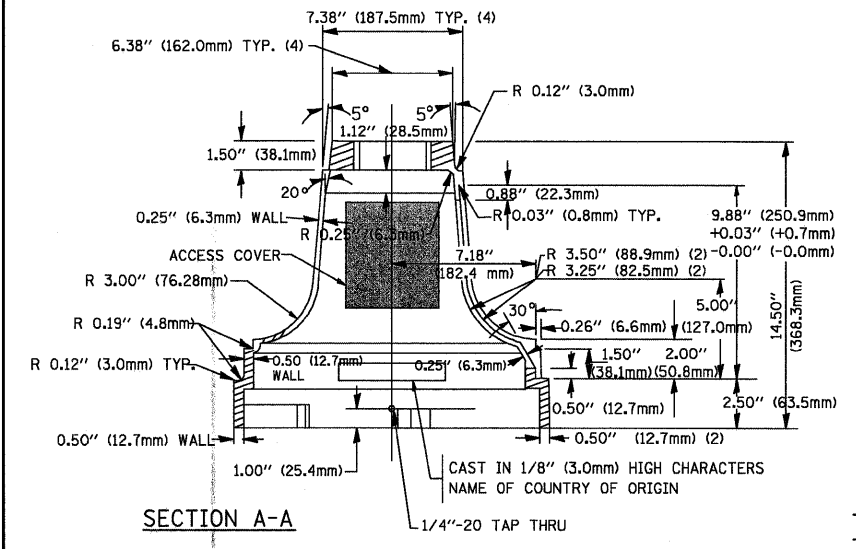
NOTES:

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 AFFECT 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.

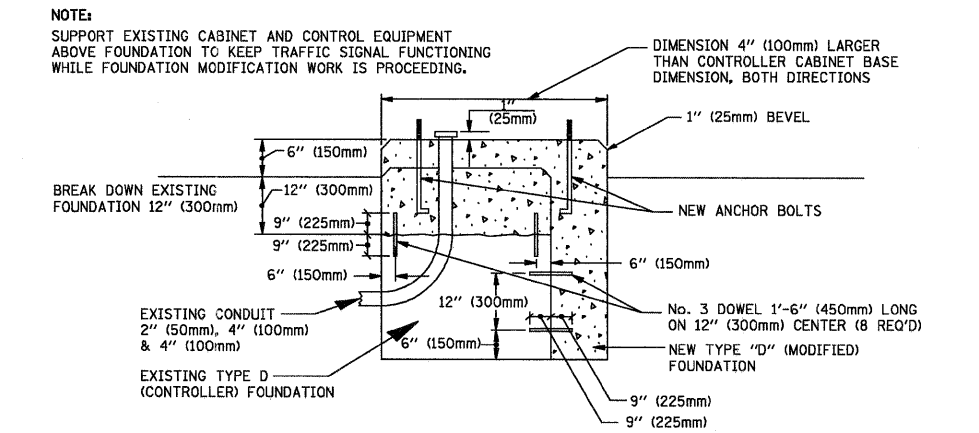


	A	B	C	HEIGHT	WEIGHT
VARIES	9.5\"(241mm)	19\"(483mm)	7\"(178mm) - 12\"(300mm)	53 lbs (24kg)	
VARIES	10.75\"(273mm)	21.5\"(546mm)	7\"(178mm) - 12\"(300mm)	68 lbs (31 kg)	
VARIES	13.0\"(330mm)	26\"(660mm)	7\"(178mm) - 12\"(300mm)	81 lbs (37 kg)	
VARIES	18.5\"(470mm)	37\"(940mm)	7\"(178mm) - 12\"(300mm)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

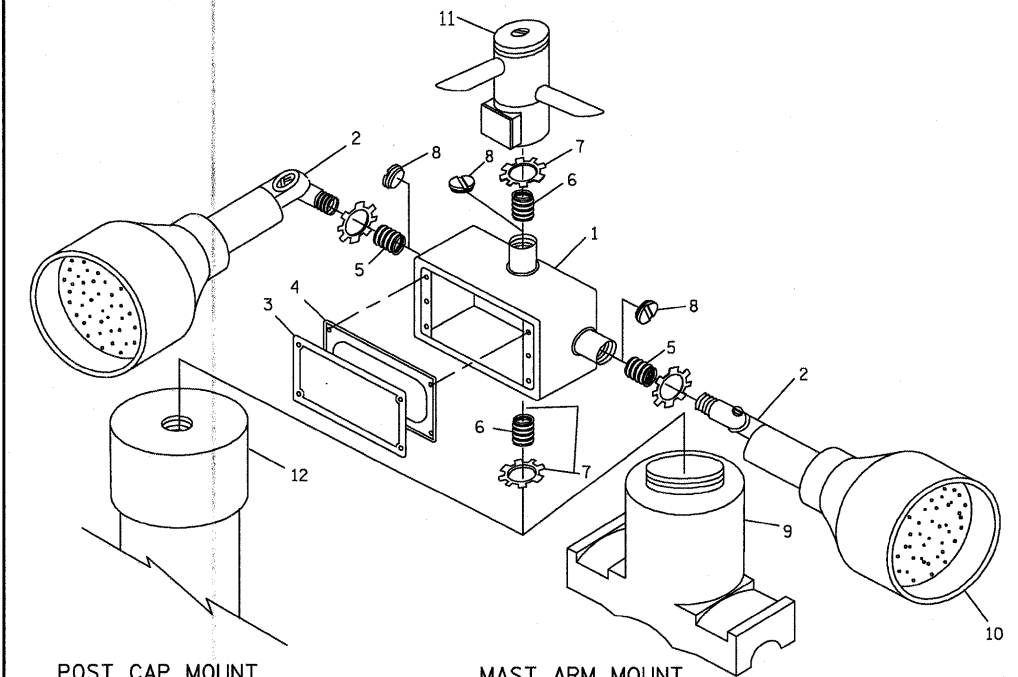
- NOTES:**
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
 - THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
 - THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST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



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

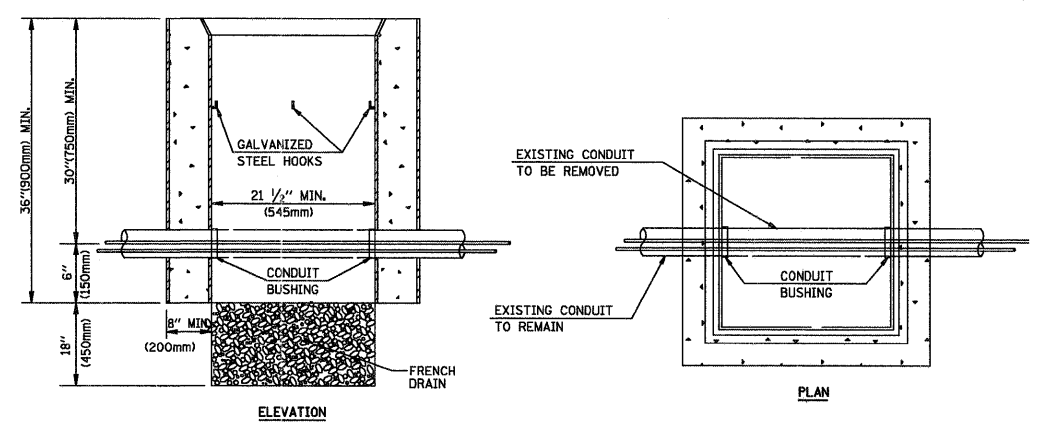


MODIFY EXISTING TYPE "D" FOUNDATION



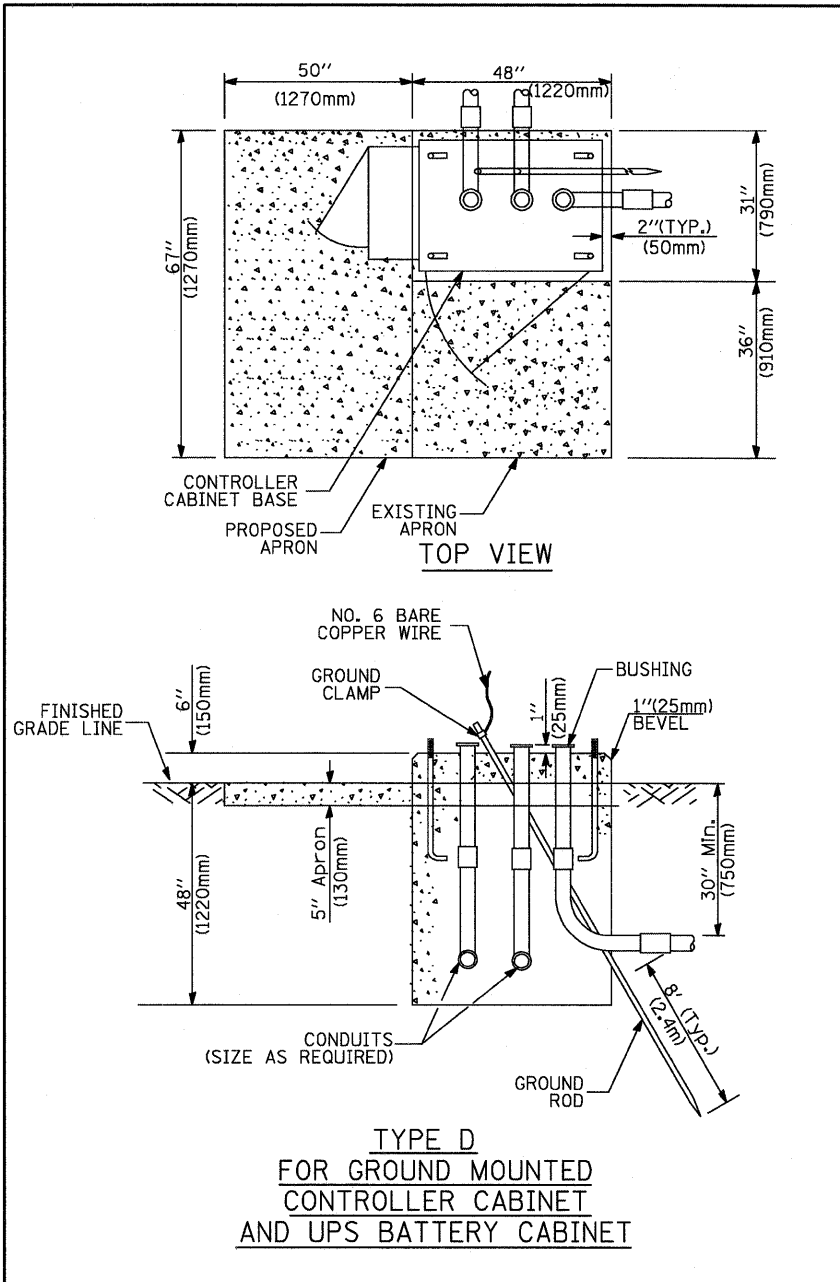
ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.00344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
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-0-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.

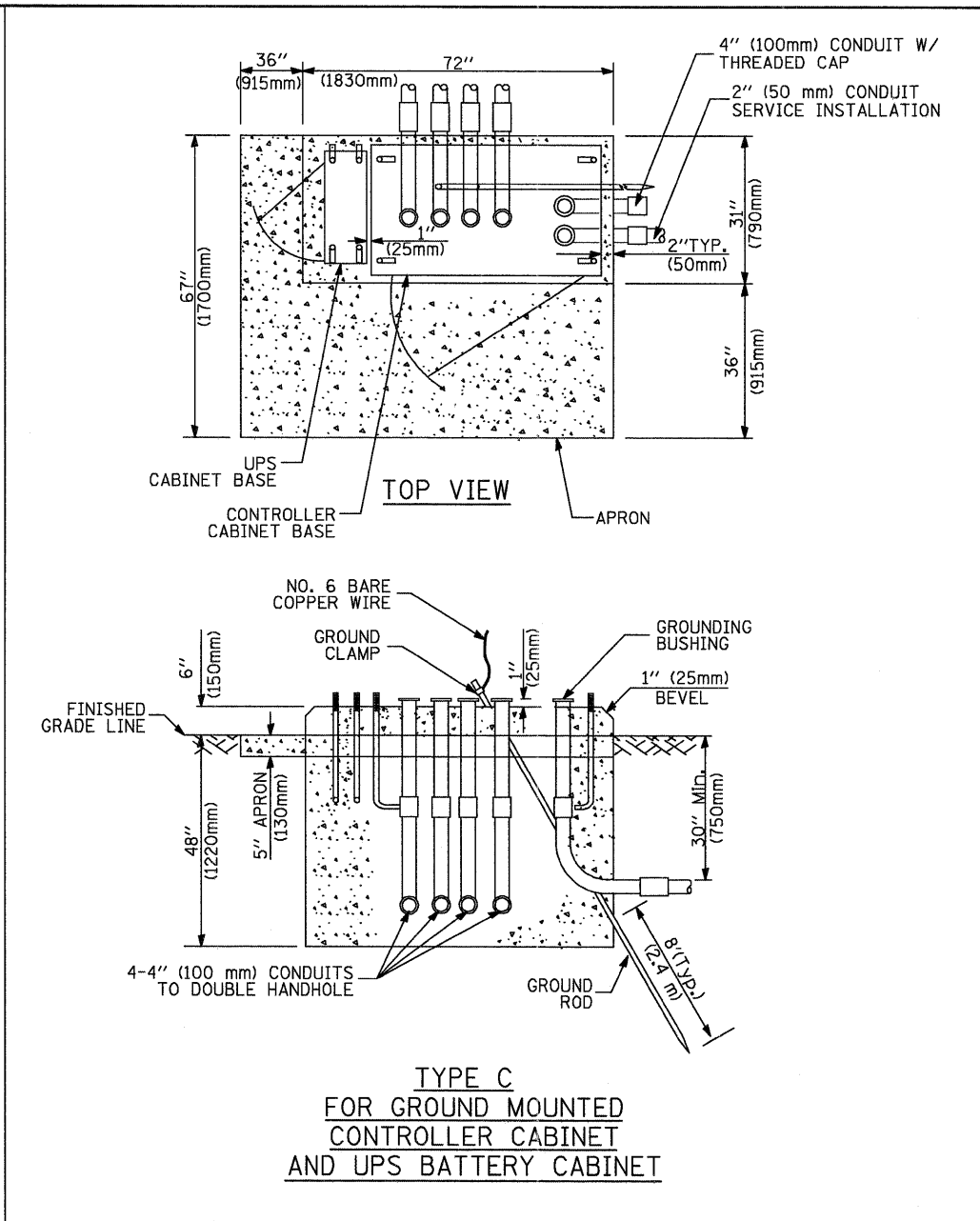


- NOTES:**
- HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
 - REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

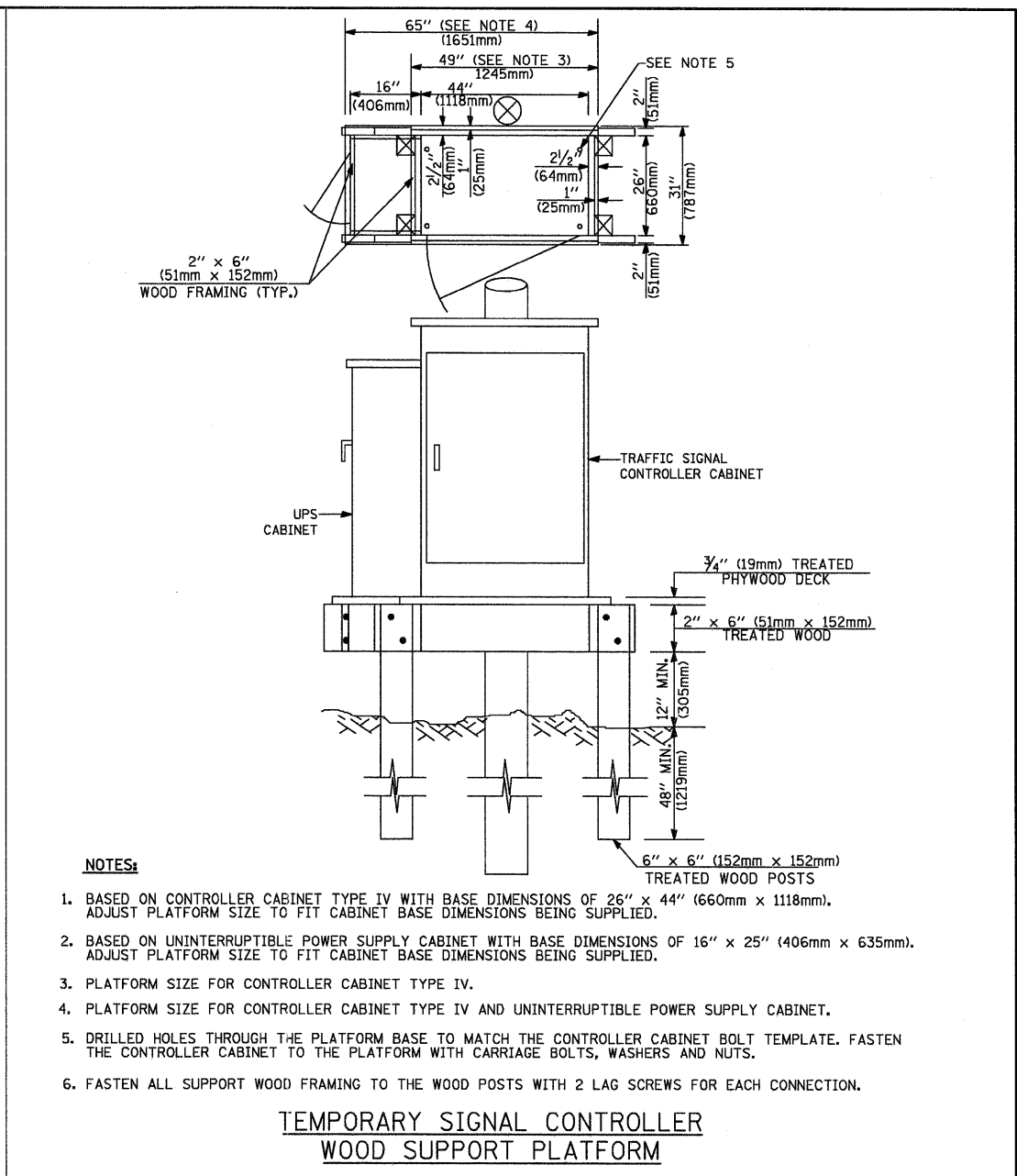
HANDHOLE TO INTERCEPT EXISTING CONDUIT



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



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



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**

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)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and up to 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m) and up to 85' (25.9 m)	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, MM12F				
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)				
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE				
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED				
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S	S	STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED				
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I	IP	ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED				
SIGNAL POST				REMOVE ITEM	R			STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED				
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	RL			SIGNAL POST AND FOUNDATION TO BE REMOVED				
GUY WIRE				ABANDON ITEM	A			INTERSECTION & SAMPLING (SYSTEM) DETECTOR				
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				SAMPLING (SYSTEM) DETECTOR				
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				EXISTING INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR				
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR				
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR				
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED SAMPLING (SYSTEM) DETECTOR				
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				RAILROAD SYMBOLS				
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID				EXISTING		PROPOSED		
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER				RAILROAD CONTROL CABINET				
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT				RAILROAD CANTILEVER MAST ARM				
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER				FLASHING SIGNAL				
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED				CROSSING GATE				
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)				CROSSBUCK				
MICROWAVE VEHICLE SENSOR												
VIDEO DETECTION CAMERA												
VIDEO DETECTION ZONE												
PAN, TILT, ZOOM CAMERA												
WIRELESS DETECTOR SENSOR												
WIRELESS ACCESS POINT												