

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	1
ILLINOIS CONTRACT NO. 62H91				

FOR INDEX OF SHEETS, SEE SHEET NO. 2

THIS PROJECT IS LOCATED IN
UNINCORPORATED AVON TOWNSHIP

PROPOSED HIGHWAY PLANS

FAP ROUTE 333: IL 120
0.25 MILES E OF WILSON RD
SECTION: 2019-011-T

DRAINAGE (DRAIN TILE REPAIR)
LAKE COUNTY

C-91-339-19

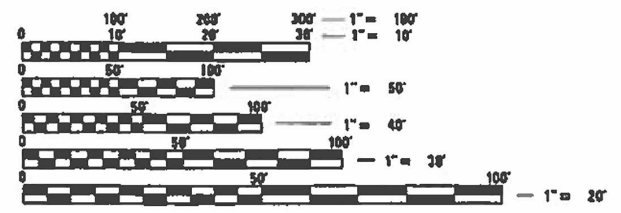
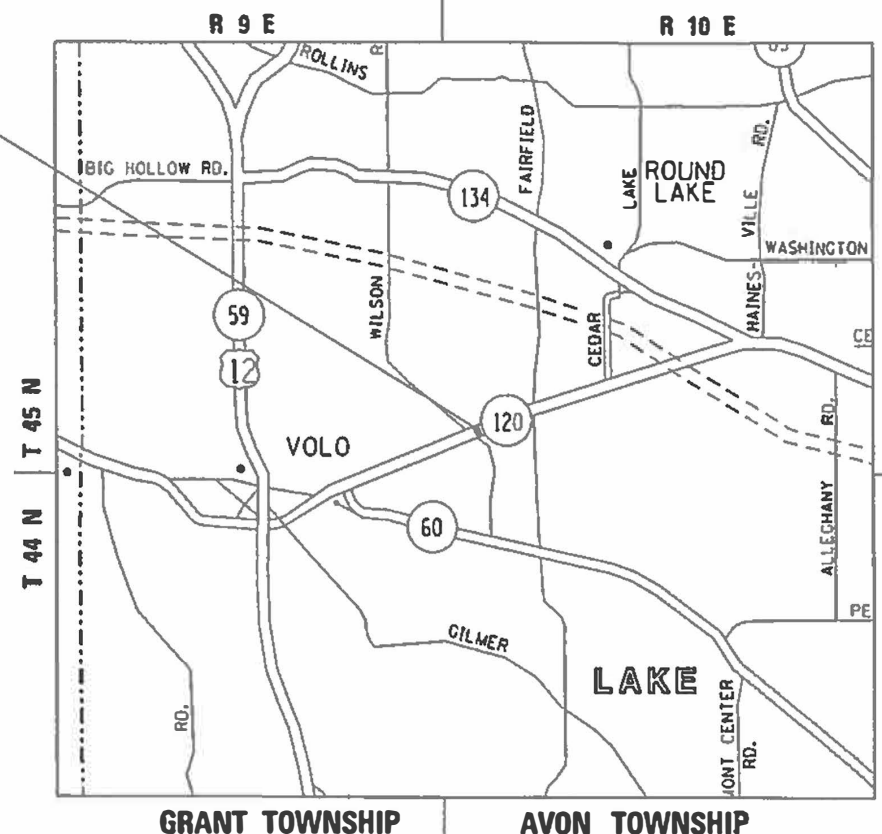
TRAFFIC DATA:

IL 120:

ADT (2017) = 15300
SPEED LIMIT = 50 MPH



PROJECT LOCATION



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 ENGINEER: VESELIN VELICHKOV (847) 705-4432
PROJECT MANAGER: FAWAD AQUEEL (847) 705-4247

CONTRACT NO. 62H91

GROSS & NET LENGTH = 100.0 FT. = 0.019 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED MAY 10 20 19
Anthony J. Remy REGIONAL ENGINEER

June 28 20 19
[Signature] ENGINEER OF DESIGN AND ENVIRONMENT

June 28 20 19
[Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

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STATE STANDARDS

000001-07 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
 482001-02 HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
 602001-02 CATCH BASIN TYPE A
 602406-10 PRECAST MANHOLE TYPE A 6'(1.83 m) DIAMETER
 604001-04 FRAME AND LIDS TYPE 1
 604036-03 GRATE TYPE 8
 701006-05 OFF-RD OPERATIONS, 2L, 2W, 15' (4.5m) TO 24' (600mm) FROM PAVEMENT EDGE
 701201-05 LANE CLOSURE, 2L, 2W, DAY ONLY FOR SPEEDS >45 MPH
 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
 701311-03 LANE CLOSURE 2L, 2W MOVING OPERATIONS - DAY ONLY
 701901-08 TRAFFIC CONTROL DEVICES

GENERAL NOTES:

- BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AVON TOWNSHIP, AND LAKE COUNTY.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT.
- BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES (AND RAISED REFLECTIVE PAVEMENT MARKERS) IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.
- 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 KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
- THE RESIDENT ENGINEER SHALL CONTACT WALTER CZARNY, AREA TRAFFIC FIELD ENGINEER, AT Walter.Czarny@illinois.gov. A MINIMUM OF TWO (2) WEEKS PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
- THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.
- DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
- THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATING NEAR ANY AND ALL EXISTING ITEMS THAT WILL NOT BE REMOVED INCLUDING PREVIOUSLY SEEDED AREAS. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE TO THE SATISFACTION OF THE ENGINEER.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION OF EXISTING PLANT MATERIAL FOR WHICH THE CONTRACT DOES NOT PROVIDE REMOVAL. THE PROTECTION OF EXISTING PLANT MATERIAL AND THE REPAIR OR REPLACEMENT OF EXISTING PLANT MATERIAL DAMAGED BY THE CONTRACTOR SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 201 OF THE STANDARD SPECIFICATIONS.
- PAVEMENT MARKING TAPE, TYPE III SHALL BE USED FOR SHORT TERM PAVEMENT MARKINGS ON ALL FINAL SURFACES.
- FRAMES AND GRATES ADJUSTMENT OF PRIVATE UTILITIES WITHIN THE LIMITS OF THE IMPROVEMENTS SHALL BE DONE BY THEIR RESPECTIVE OWNERS AND ARE NOT PART OF THIS CONTRACT.
- THE GENERAL CONTRACTOR IS REQUIRED TO HIRE AN ENVIRONMENT FIRM TO CONTINUOUSLY MONITOR FOR WORKER SAFETY AND SOIL CONTAMINATION AT SEVERAL LOCATIONS. SEE SPECIAL PROVISION AND SUPPLEMENTAL SPECIFICATIONS FOR DETAILS.
- CONTACT THE IDOT ROADSIDE DEVELOPMENT UNIT AT 847-705-4171 AT LEAST 2 WEEKS PRIOR TO BEGINNING FORESTRY WORK FOR LAYOUT.
- THIS PROJECT REQUIRES A US ARMY CORPS OF ENGINEERS (USACE) 404 PERMIT THAT WILL BE SECURED BY THE DEPARTMENT. AS A CONDITION OF THIS PERMIT, THE CONTRACTOR WILL NEED TO SUBMIT AN IN-STREAM WORK PLAN TO THE DEPARTMENT FOR APPROVAL. GUIDELINES ON ACCEPTABLE IN-STREAM WORK TECHNIQUES CAN BE FOUND ON THE USACE WEBSITE. THE USACE DEFINES AND DETERMINES IN-STREAM WORK. THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLY WITH THE ABOVE PROVISIONS TO PREPARE AND IMPLEMENT AN IN-STREAM WORK PLAN WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICES OF THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED WITH THE EXCEPTION OF COFFERDAMS WHICH WILL BE PAID FOR AS COFFERDMAN (TYPE 1) (IN-STREAM /WETLAND WORK) WITH A BASIS OF PAYMENT OF EACH.

EROSION AND SEDIMENT CONTROL NOTES:

- ALL ESC MEASURES WILL BE MAINTAINED IN ACCORDANCE WITH THE IDOT EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONSTRUCTION INSPECTION AND IDOT'S BEST MANAGEMENT PRACTICES - MAINTENANCE GUIDE: ([HTTP://WWW.IDOT.ILLINOIS.GOV/TRANSPORTATION-SYSTEM/ENVIRONMENT/EROSION-AND-SEDIMENT-CONTROL](http://www.idot.illinois.gov/transportation-system/environment/erosion-and-sediment-control)).
- THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR MAINTENANCE OF ALL SOIL EROSION CONTROL DURING CONSTRUCTION.
- THE CONTRACTOR SHALL CHECK ALL ESC MEASURES WEEKLY AND AFTER EACH RAINFALL, 0.5 INCHES OR GREATER IN A 24 HOUR PERIOD, OR EQUIVALENT SNOWFALL. ADDITIONALLY DURING WINTER MONTHS, ALL MEASURES SHOULD BE CHECKED BY THE CONTRACTOR AFTER EACH SIGNIFICANT SNOWMELT.
- THE CONTRACTOR SHOULD PROVIDE TO THE RE A PLAN TO ENSURE THAT A STABILIZED FLOW LINE WILL BE PROVIDED DURING STORM SEWER CONSTRUCTION. THE USE OF A STABILIZED FLOW LINE BETWEEN INSTALLED STORM SEWER AND OPEN DISTURBANCE WILL REDUCE THE POTENTIAL FOR THE OFFSITE DISCHARGE OF SEDIMENT-BEARING WATERS, ESPECIALLY WHEN RAIN IS FORECASTED, SO THAT FLOW WILL NOT ERODE. LACK OF APPROVED PLAN OR FAILURE TO COMPLY WILL RESULT IN AN ESC DEFICIENCY DEDUCTION.
- ANY LOOSE MATERIAL DEPOSITED IN THE FLOW LINE OF DRAINAGE STRUCTURES, WHICH OBSTRUCTS THE NATURAL FLOW OF WATER, SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. PRIOR TO ACCEPTANCE OF THE IMPROVEMENT, ALL DRAINAGE STRUCTURES SHALL BE FREE OF DIRT AND DEBRIS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS INCIDENTAL.
- TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED IMMEDIATELY UPON COMPLETION OF DISTURBANCE OR IF THE WORK AREA IS TO BE LEFT UNDISTURBED FOR 14 DAYS OR MORE.
- UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR PROLONG FINAL GRADING AND SHAPING SO THAT THE ENTIRE PROJECT CAN BE PERMANENTLY SEEDED AT ONE TIME.
- EROSION CONTROL ITEMS ARE CONSIDERED TO BE A HIGH PRIORITY ON THIS CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE RE.
- "WETLANDS NO INTRUSION" SIGNAGE SHOULD ALSO BE PROVIDED AT THE BOUNDARY OF ALL UN-IMPACTED WETLANDS AND/OR WOUS. THE CONTRACTOR CAN BORROW THE SIGNS FROM THE BUREAU OF MAINTENANCE. WHEN WORK HAS BEEN COMPLETED, THE SIGNS SHALL BE RETURNED TO THE DISTRICT ONE ROADSIDE DEVELOPEMENT UNIT.
- AVOID USING THE INLET AND PIPE PROTECTION SHOWN ON THE HIGHWAY STANDARD SHEETS 280001. STRAW BALES AND SILT FENCE SHOULD NOT BE USED AS INLET AND PIPE PROTECTION. INLET AND PIPE PROTECTION SHOULD BE COMPRISED OF DITCH CHECKS, TEMPORARY SEEDING AND TEMPORARY EROSION CONTROL BLANKET AND WILL BE INSTALLED AT ALL STORM SEWER AND CULVERTS. INLET FILTERS, AS SPECIFIED IN ARTICLE 1081.15(H) OF THE STANDARD SPECIFICATIONS (CURRENT EDITION) WILL BE INSTALLED AT ALL INLETS, CATCH BASINS, AND MANHOLES FOR THE DURATION OF CONSTRUCTION. INLET FILTERS WILL BE CLEANED ON A REGULAR BASIS. ENSURE PROPER QUANTITIES OF INLET FILTERS, DITCH CHECKS, TEMPORARY SEEDING AND TEMPORARY EROSION CONTROL BLANKET ARE INCLUDED IN THE CONTRACT.

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PLOT SCALE = 100,0000 ' / in.	DRAWN -	REVISED -			333	2019-011-T	LAKE	26	2
PLOT DATE = 5/13/2019	CHECKED -	REVISED -			CONTRACT NO. 62H91				
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					ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		0043 100% STATE				
20800150	TRENCH BACKFILL	CU YD	44	44				
21101505	TOPSOIL EXCAVATION AND PLACEMENT	CU YD	71	71				
21400100	GRADING AND SHAPING DITCHES	FOOT	200	200				
25000210	SEEDING, CLASS 2A	ACRE	0.05	0.05				
25000312	SEEDING, CLASS 4A	ACRE	0.05	0.05				
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	9	9				
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	9	9				
25100115	MULCH, METHOD 2	ACRE	0.1	0.1				
28000305	TEMPORARY DITCH CHECKS	FOOT	35	35				
28000400	PERIMETER EROSION BARRIER	FOOT	270	270				
28000500	INLET AND PIPE PROTECTION	EACH	3	3				
28001100	TEMPORARY EROSION CONTROL BLANKET	SO YD	425	425				
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SO YD	14	14				
35101800	AGGREGATE BASE COURSE, TYPE B 6"	SO YD	8	8				
35501316	HOT-MIX ASPHALT BASE COURSE, 8"	SO YD	14	14				

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		0043 100% STATE				
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	2	2				
40700100	BITUMINOUS MATERIALS (TACK COAT)	POUND	10	10				
44000100	PAVEMENT REMOVAL	SO YD	20	20				
48101600	AGGREGATE SHOULDERS, TYPE B 8"	SO YD	5	5				
48203021	HOT-MIX ASPHALT SHOULDERS, 6"	SO YD	4	4				
550A0120	STORM SEWERS, CLASS A, TYPE 1 24"	FOOT	70	70				
55100900	STORM SEWER REMOVAL 18"	FOOT	50	50				
60200805	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 8 GRATE	EACH	1	1				
60223800	MANHOLES, TYPE A, 6'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	1				
* 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	78	78				
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	1	1				
* 66901001	REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	LSUM	1	1				
* 66901002	ON-SITE MONITORING OF REGULATED SUBSTANCES	CAL DA	6	6				

* = SPECIALTY ITEMS
△ = NON-PARTICIPATING WORK (100% STATE)

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL 120(0.25 MIE OF WILSON RD) - DRAIN TILE REPAIR
SUMMARY OF QUANTITIES**

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	3
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 62H91	

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

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		0043 100% STATE				
* 66901003	REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	LSUM	1	1				
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6				
67100100	MOBILIZATION	L SUM	1	1				
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1				
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	33	33				
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	100	100				
78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	100	100				
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	4	4				
X0322918	PROPOSED MANHOLE/CATCH BASIN CONNECTION OVER EXISTING STORM SEWER	EACH	4	4				
X0326954	TEMPORARY FIBER OPTIC CONNECTION	L SUM	1	1				
X0900075	COFFERDAM (TYPE 1) (IN-STREAM/WETLAND WORK)	EACH	1	1				
△ X5537900	STORM SEWERS TO BE CLEANED 15"	FOOT	170	170				
△ X5538000	STORM SEWERS TO BE CLEANED 18"	FOOT	20	20				
△ X5538200	STORM SEWERS TO BE CLEANED 24"	FOOT	80	80				

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		0043 100% STATE				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1				
Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	2	2				
Z0030850	TEMPORARY INFORMATION SIGNING	SO FT	51.4	51.4				

* = SPECIALTY ITEMS
△ = NON-PARTICIPATING WORK (100% STATE)

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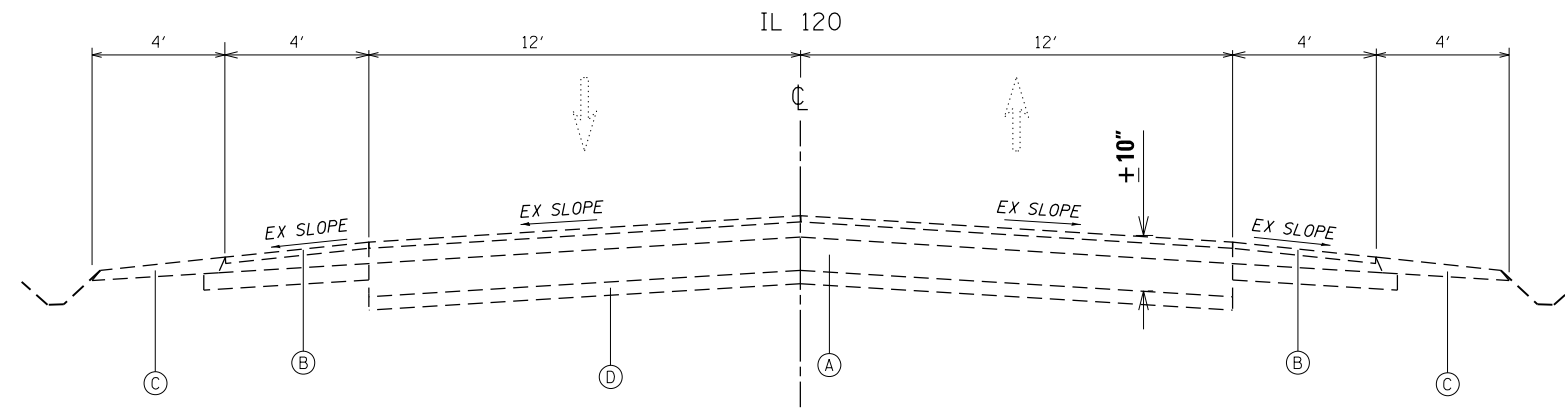
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL 120(0.25 MI E OF WILSON RD) - DRAIN TILE REPAIR
SUMMARY OF QUANTITIES**

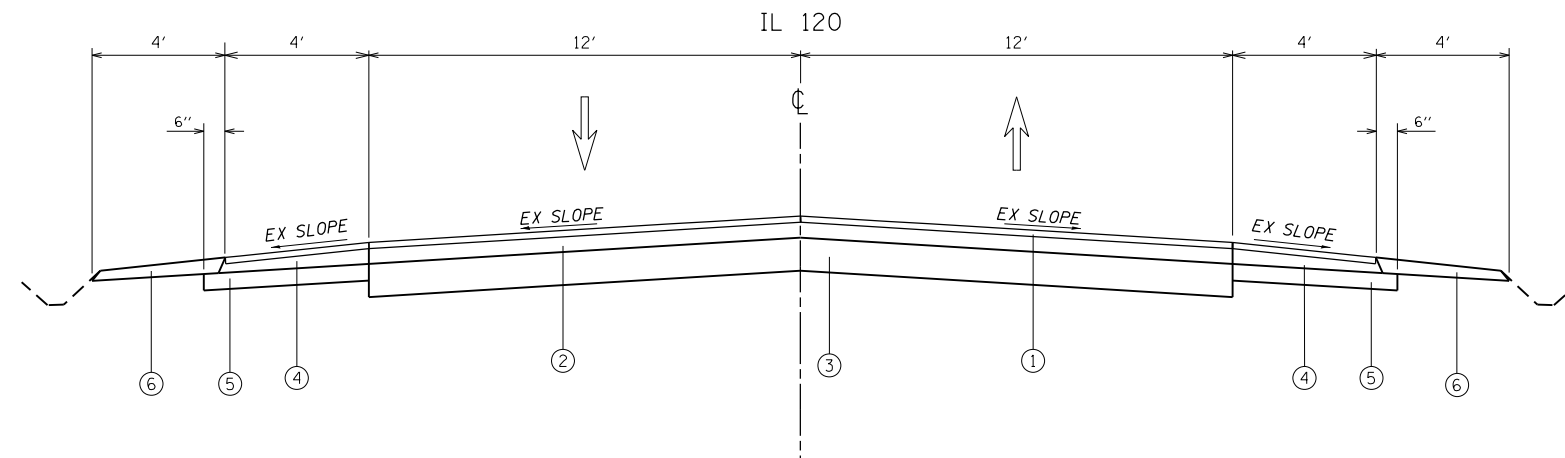
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	4
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 62H91	

LEGEND:

- Ⓐ EXISTING PAVEMENT
- Ⓑ EXISTING SHOULDER
- Ⓒ EXISTING AGGREGATE SHOULDER
- Ⓓ EXISTING BASE COURSE.
- ① PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 2"
- ② PROPOSED HOT-MIX ASPHALT BASE COURSE, 8"
- ③ PROPOSED AGGREGATE SUBGRADE IMPROVEMENT, 12"
- ④ PROPOSED HOT-MIX ASPHALT SHOULDERS, 6"
- ⑤ PROPOSED AGGREGATE BASE COURSE, TYPE B, 6"
- ⑥ PROPOSED AGGREGATE SHOULDER, TYPE B 8"



EXISTING TYPICAL SECTION



PROPOSED TYPICAL SECTION

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		QUALITY MANAGEMENT PROGRAM (QMP)
MIXTURE TYPE	AIR VOIDS @ Ndes	
PAVEMENT RESURFACING		
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", (IL 9.5 mm), N70, 2"	4% AT 70 GYR	QC/QA
HOT-MIX ASPHALT BASE COURSE, 8"(HOT-MIX ASPHALT BINDER IL-19.0)	4% AT 70 GYR.	QC/QA
HMA SHOULDER 6"		
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", IL 9.5 mm, N70, 2"	4% AT 70 GYR.	QC/QA
HOT-MIX ASPHALT BINDER COURSE IL-19.0, N70; 4"	4% AT 70 GYR.	QC/QA
QMP DESIGNATION: QUALITY CONTROL/QUALITY ASSURANCE (QC/QA); QUALITY CONTROL FOR PERFORMANCE (QCP)		

NOTE 1: THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN.

NOTE 2: THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 76-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS. FOR USE OF RECYCLED MATERIALS SEE SPECIAL PROVISIONS.

NOTE 3: QUALITY MANAGEMENT PROGRAM (QMP) IDENTIFIES THE PARTICULAR QUALITY CONTROL SPECIFICATION THAT APPLIES TO THE HMA MIXTURE.

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

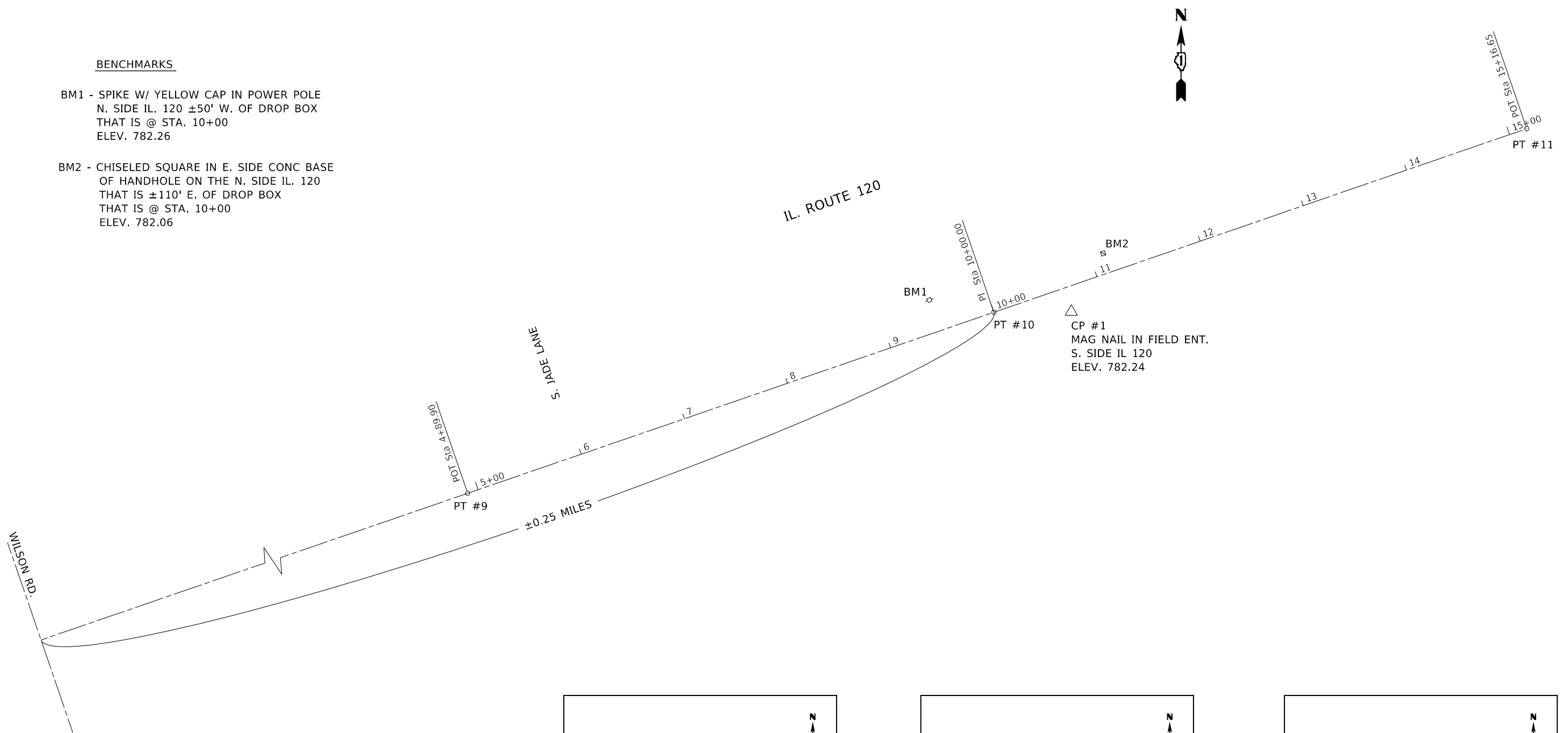
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TYPICAL SECTIONS**

SCALE: SHEET OF SHEETS STA. TO STA.

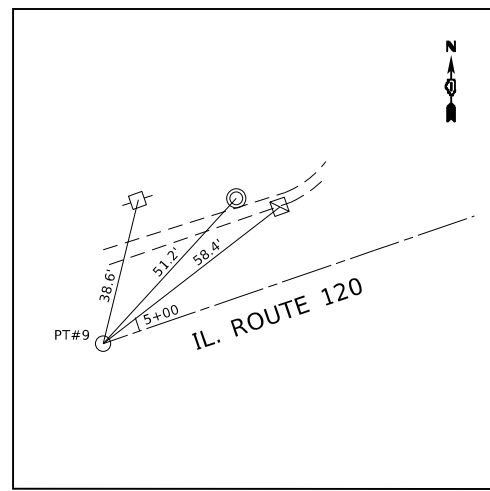
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	5
CONTRACT NO. 62H91				
ILLINOIS		FED. AID PROJECT		

BENCHMARKS

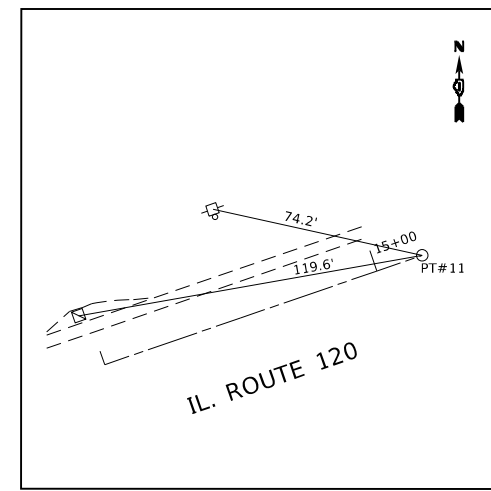
- BM1 - SPIKE W/ YELLOW CAP IN POWER POLE
N. SIDE IL. 120 ±50' W. OF DROP BOX
THAT IS @ STA. 10+00
ELEV. 782.26
- BM2 - CHISELED SQUARE IN E. SIDE CONC BASE
OF HANDHOLE ON THE N. SIDE IL. 120
THAT IS ±110' E. OF DROP BOX
THAT IS @ STA. 10+00
ELEV. 782.06



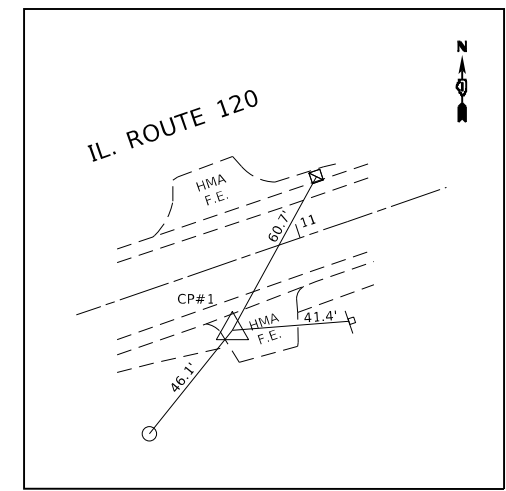
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PT# 10	N 2064129.69	E 1042155.68	STA. 10+00.00
PT# 11	N 2064297.94	E 1042644.17	STA. 15+16.65



PT #9
MAG NAIL Ç IL 120 (WEST)
N 2063963.87
E 1041673.28



PT #11
MAG NAIL Ç IL 120 (EAST)
N 2064297.94
E 1042644.17



CP #1
MAG NAIL IN FIELD ENT.
S. SIDE IL 120
N 2064130.18
E 1042226.70
ELEV. 782.2415

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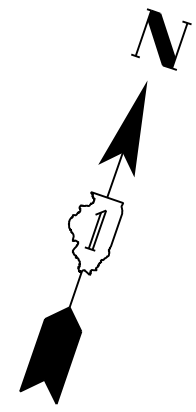
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ALIGNMENT, TIES AND BENCHMARKS
IL. ROUTE 120 (0.25 MILES EAST OF WILSON RD.)**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	6
CONTRACT NO. 62H91				
ILLINOIS FED. AID PROJECT				



**IMPROVEMENT BEGINS
STA. 9 + 50**

**IMPROVEMENT ENDS
STA. 10 + 50**

IL. ROUTE 120

SITE W1 (NO PERMANENT IMPACT)
POTENTIAL WETLAND (NO PERMANENT IMPACT)

EXIST. DROP BOX
RIM 780.1
INV S 776.8
INV NE 776.7 (INTO DRAIN TILE)
STORM SEWER TO BE
CLEANED 24"

STORM SEWER REMOVAL, 18"
STORM SEWER TO BE CLEANED, 15"

INV. 777.2
INV. 777.2

EXIST. R.O.W.

15" CMP

EXIST. DROP BOX
RIM 780.4
INV N 777.4

APPROXIMATE LOCATION OF
18" CLAY DRAIN TILE

TEL
SITE W1 (0.0045 ac. PERMANENT IMPACT)

EXIST. R.O.W.

INV. 783.9

PAVEMENT REMOVAL

EXIST. 10 FT 18" STORM SEWER STUB INSTALLED
BY LAKE COUNTY EXTENDS FROM EXIST. CATCH
BASIN TO EXIST. R.O.W.

EXIST. CATCH BASIN
RIM 782.1
INV S 775.8±
STRUCTURE IS FILLED WITH WATER
NW INVERT NOT FOUND

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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

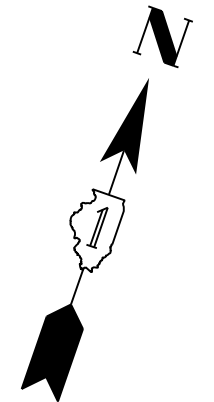
**EXISTING DRAINAGE PLAN
IL. ROUTE 120 (0.25 MILES EAST OF WILSON RD.)**
SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	7
CONTRACT NO. 62H91				
ILLINOIS FED. AID PROJECT				

**IMPROVEMENT BEGINS
STA. 9 + 50**

**IMPROVEMENT ENDS
STA. 10 + 50**

IL. ROUTE 120



SITE W1 (NO PERMANENT IMPACT)

POTENTIAL WETLAND (NO PERMANENT IMPACT)

INLET & PIPE PROTECTION

EXIST. R.O.W.

10+00

SITE W1 (0.0045 ac. PERMANENT IMPACT)

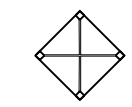
EXIST. R.O.W.

INLET & PIPE PROTECTION

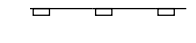
Seeding Art. 250.07

4A	Low Profile Native Grass 6/, 8/	Andropogon Scoparius (Little Blue Stem) 5/ Bouteloua Curtipendula (Side-Oats Grama) 5/ Elymus Canadensis (Canada Wild Rye) 5/ Sporobolus Heterolepis (Prairie Dropseed) 5/ Annual Ryegrass Oats, Spring Perennial Ryegrass	5 (5) 5 (5) 1 (1) 0.5 (0.5) 25 (25) 25 (25) 15 (15)
----	---------------------------------	--	---

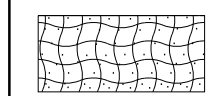
LEGEND



INLET & PIPE PROTECTION



PERIMETER EROSION BARRIER



EROSION CONTROL BLANKET AND SEEDING, TYPE 2A & 4A

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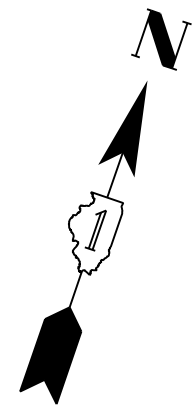
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PLOT DATE = 5/13/2019	DATE -	REVISOR -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EROSION CONTROL PLAN
IL. ROUTE 120 (0.25 MILES EAST OF WILSON RD.)**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	8
CONTRACT NO. 62H91				
ILLINOIS FED. AID PROJECT				



**IMPROVEMENT BEGINS
STA. 9 + 50**

**IMPROVEMENT ENDS
STA. 10 + 50**

IL. ROUTE 120

GRADING & SHAPING
DITCHES -
IF REQUIRED

SITE W1 (NO PERMANENT IMPACT)

POTENTIAL WETLAND (NO PERMANENT IMPACT)

PROP. MANHOLE, TYPE A, 6' DIA.
TYPE 1 FRAME, CLOSED LID
STA. 10+07, 28.3' LT
RIM=780.1
INV W=776.7± INV NW=775.5± (18" EX. S.S.)
INV E=775.5± (18" EX. S.S.) INV SE=775.5 (24" PR. S.S.)
MAINTAIN EXIST. CONNECTIONS TO
EXIST. DROP BOX AND 15" CMP

EXIST. R.O.W.

10+00

SITE W1 (0.0045 ac. PERMANENT IMPACT)

EXIST. R.O.W.

GRADING & SHAPING DITCHES - IF REQUIRED

MAINTAIN OVERFLOW DITCH

GRADING & SHAPING DITCHES - IF REQUIRED

PROP. STORM SEWERS, CLASS A, TYPE 1, 24"

PROP. CATCH BASIN, TYPE A,
4' DIA, TYPE 8 GRATE
STA. 10+25.5, 37.7' RT
RIM=782.2
INV SE=775.6±
INV NW=775.6

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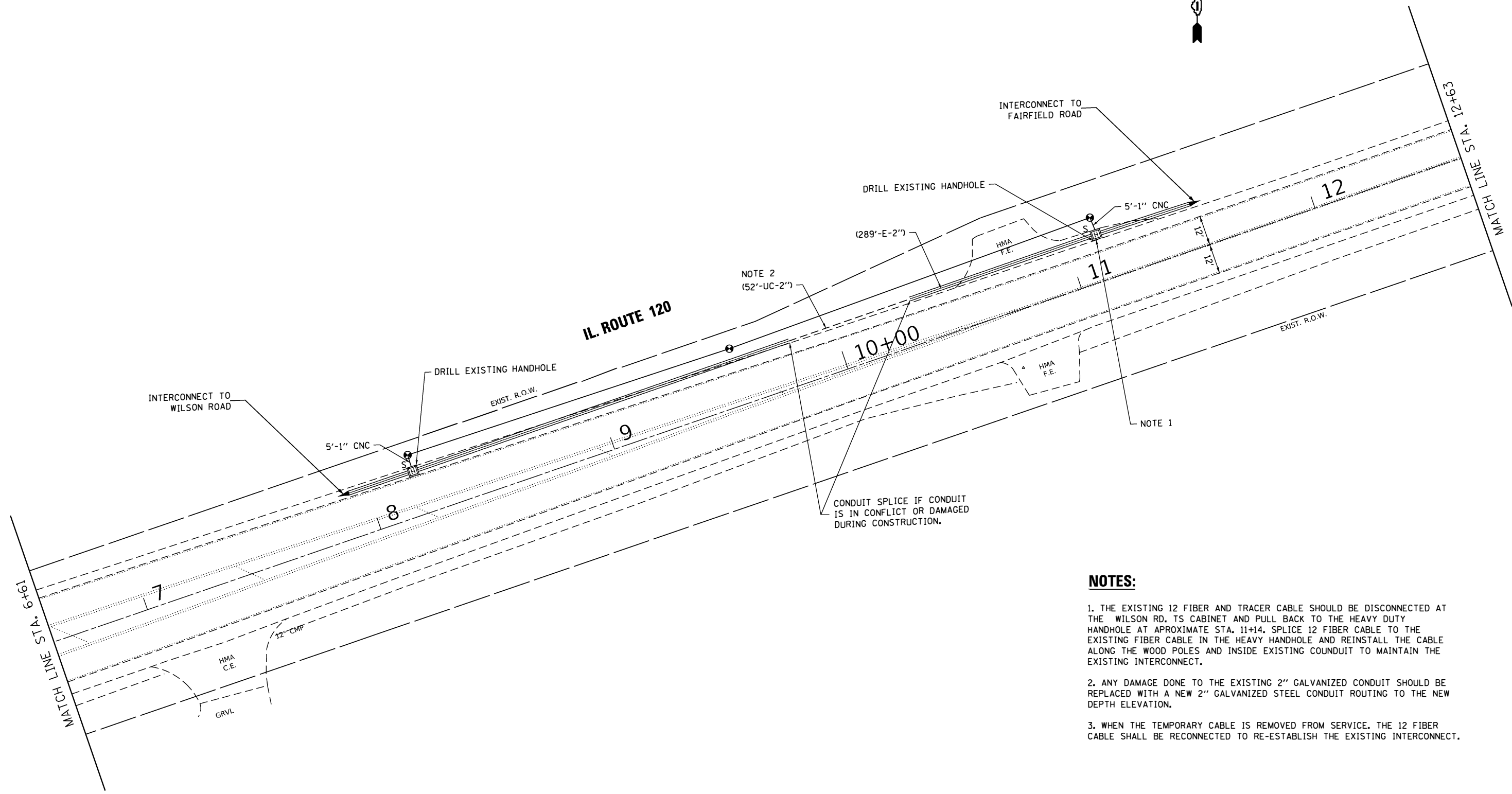
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PROPOSED DRAINAGE PLAN
IL. ROUTE 120 (0.25 MILES EAST OF WILSON RD.)**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	9
CONTRACT NO. 62H91				
ILLINOIS FED. AID PROJECT				



NOTES:

1. THE EXISTING 12 FIBER AND TRACER CABLE SHOULD BE DISCONNECTED AT THE WILSON RD. TS CABINET AND PULL BACK TO THE HEAVY DUTY HANDHOLE AT APPROXIMATE STA. 11+14. SPLICE 12 FIBER CABLE TO THE EXISTING FIBER CABLE IN THE HEAVY HANDHOLE AND REINSTALL THE CABLE ALONG THE WOOD POLES AND INSIDE EXISTING CONDUIT TO MAINTAIN THE EXISTING INTERCONNECT.
2. ANY DAMAGE DONE TO THE EXISTING 2" GALVANIZED CONDUIT SHOULD BE REPLACED WITH A NEW 2" GALVANIZED STEEL CONDUIT ROUTING TO THE NEW DEPTH ELEVATION.
3. WHEN THE TEMPORARY CABLE IS REMOVED FROM SERVICE, THE 12 FIBER CABLE SHALL BE RECONNECTED TO RE-ESTABLISH THE EXISTING INTERCONNECT.

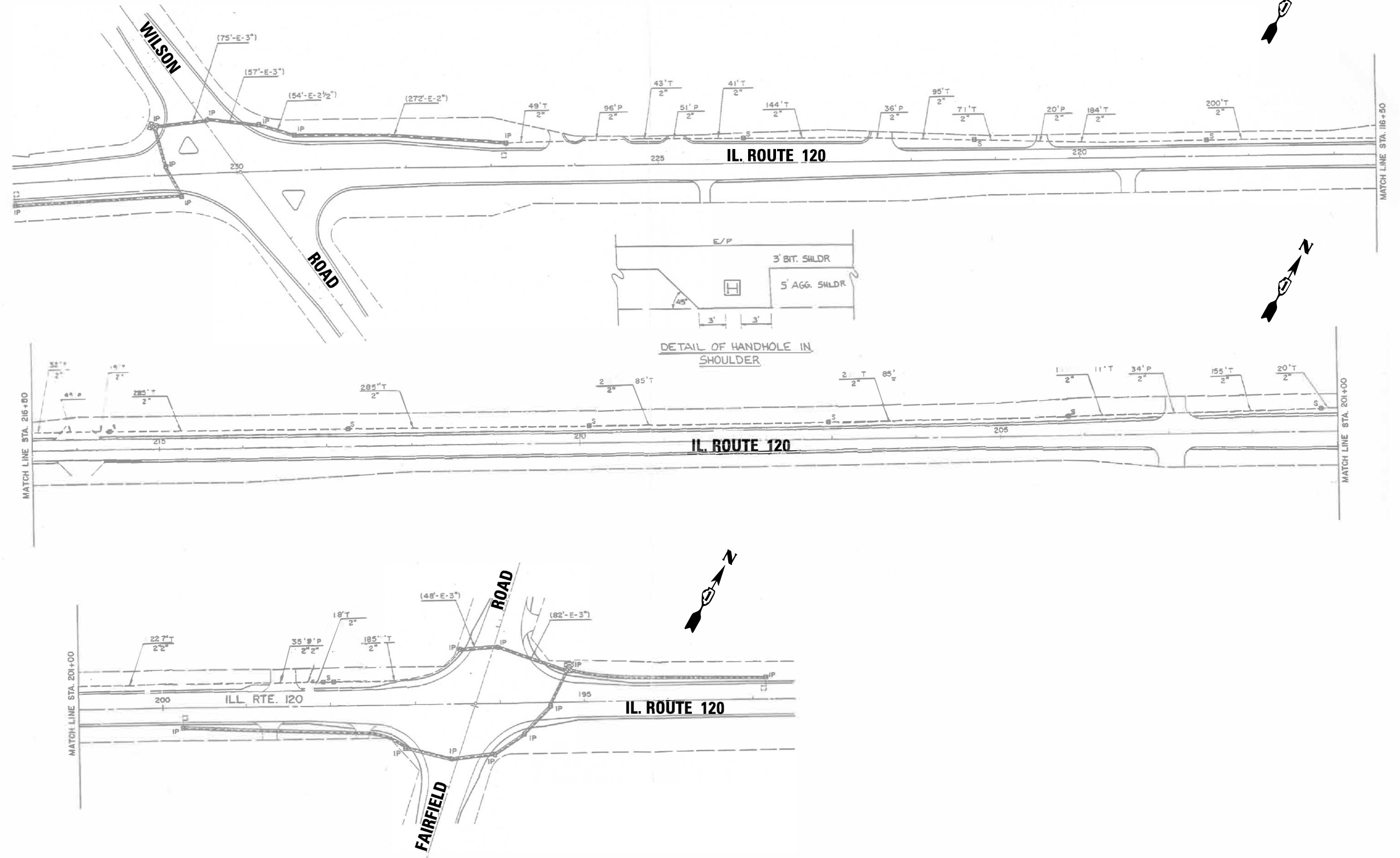
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PLOT DATE = 5/2/2019		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL. RTE. 120 (0.25 MILES EAST OF WILSON RD.) TEMPORARY INTERCONNECT PLAN			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2012-011-T	LAKE	26	10
CONTRACT NO. 62H91				
ILLINOIS FED. AID PROJECT				



FOR INFORMATION ONLY

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL. RTE. 120 (0.25 MILES EAST OF WILSON RD.)				
TEMPORARY INTERCONNECT PLAN				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2012-011-T	LAKE	26	11
CONTRACT NO. 62H91				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES:

- SUBSURFACE UTILITIES SHOWN ARE DEPICTED IN ACCORDING TO "CI/ASCE 38-02 STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".
- AN ATTEMPT TO ACHIEVE QL-B DATA WAS MADE FOR ALL UTILITIES WITHIN THE PROJECT LIMITS.
- THE LOCATION OF UTILITIES DELINEATED ON THESE DRAWINGS HAS BEEN ESTABLISHED BY THE USE OF DESIGNATING EQUIPMENT. THESE LINES HAVE NOT BEEN UNCOVERED TO VERIFY EXACT LOCATIONS.
- THE ACCURACY OF THE LOCATION OF UTILITY LINES DEPICTED ON THESE PLANS CAN BE INFLUENCED BY FACTORS BEYOND SAM, LLC'S CONTROL, SUCH AS CONDUCTIVITY OF MATERIALS AND THEIR SURROUNDINGS, ELECTRICAL INTERFERENCE, SOIL MOISTURE CONTENT, PROXIMITY OF OTHER UNDERGROUND UTILITIES OR STRUCTURES, DEPTH OF UTILITY, ETC. AND THEREFORE, ONLY THE ACCURACY OBTAINED BY ACTUAL EXCAVATION CAN BE GUARANTEED TO APPLICABLE ENGINEERING AND/OR SURVEYING STANDARDS.
- SAM WILL NOT BE RESPONSIBLE FOR ANY OMISSION OF UTILITY INFORMATION THAT IS NOT OBTAINABLE VIA ELECTROMAGNETIC, SONIC, OR ACOUSTICAL DESIGNATING METHODS.
- LINE SIZES ARE FROM BEST AVAILABLE RECORDS AND/OR ABLE TO MEASURE IN TEST HOLE INUNDATED WITH WATER.
- THE USE OF OR RELIANCE UPON THESE PLANS DOES NOT RELIEVE THE CONTRACTOR FROM THEIR DUTY TO COMPLY WITH APPLICABLE UTILITY DAMAGE PREVENTION LAWS AND REGULATIONS, INCLUDING, BUT NOT LIMITED TO, GIVING NOTIFICATION TO UTILITY OWNER'S "ONE-CALL" CENTERS BEFORE EXCAVATION.
- THE WORK PERFORMED WAS FOR ONLY THE SCOPE IN THE AGREEMENT BETWEEN SURVEYING AND MAPPING, LLC AND IDOT EXECUTED ON 11/01/2018.
- FIELD INVESTIGATION WAS COMPLETED ON 11/07/2018, PRIOR TO RECEIVING ALL THE UTILITY RECORDS.
- FOR INFORMATION ON EACH TEST HOLE, SEE COMPLETED TEST HOLE REPORT.

UTILITY QUALITY LEVELS:

A PROFESSIONAL OPINION OF THE QUALITY AND RELIABILITY OF UTILITY INFORMATION. SUCH RELIABILITY IS DETERMINED BY THE MEANS AND METHODS OF THE PROFESSIONAL. EACH OF THE FOUR EXISTING UTILITY DATA QUALITY LEVELS IS ESTABLISHED BY DIFFERENT METHODS OF DATA COLLECTION AND INTERPRETATION.

QUALITY LEVEL D (QL-D)

THE COLLECTION OF EXISTING UTILITY RECORD INFORMATION (AS-BUILTS) FROM UTILITY PROVIDERS, MUNICIPALITIES, COUNTIES, AND OTHER AGENCIES WITHIN THE AREA OF INVESTIGATION. THESE UTILITIES COULD INCLUDE: ELECTRICAL, TELEPHONE, CABLE TV, FIBER OPTIC, GAS, PETROLEUM, WATER, WASTEWATER, STEAM, AND STORM DRAIN SYSTEMS.

QUALITY LEVEL C (QL-C)

INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.

QUALITY LEVEL B (QL-B)

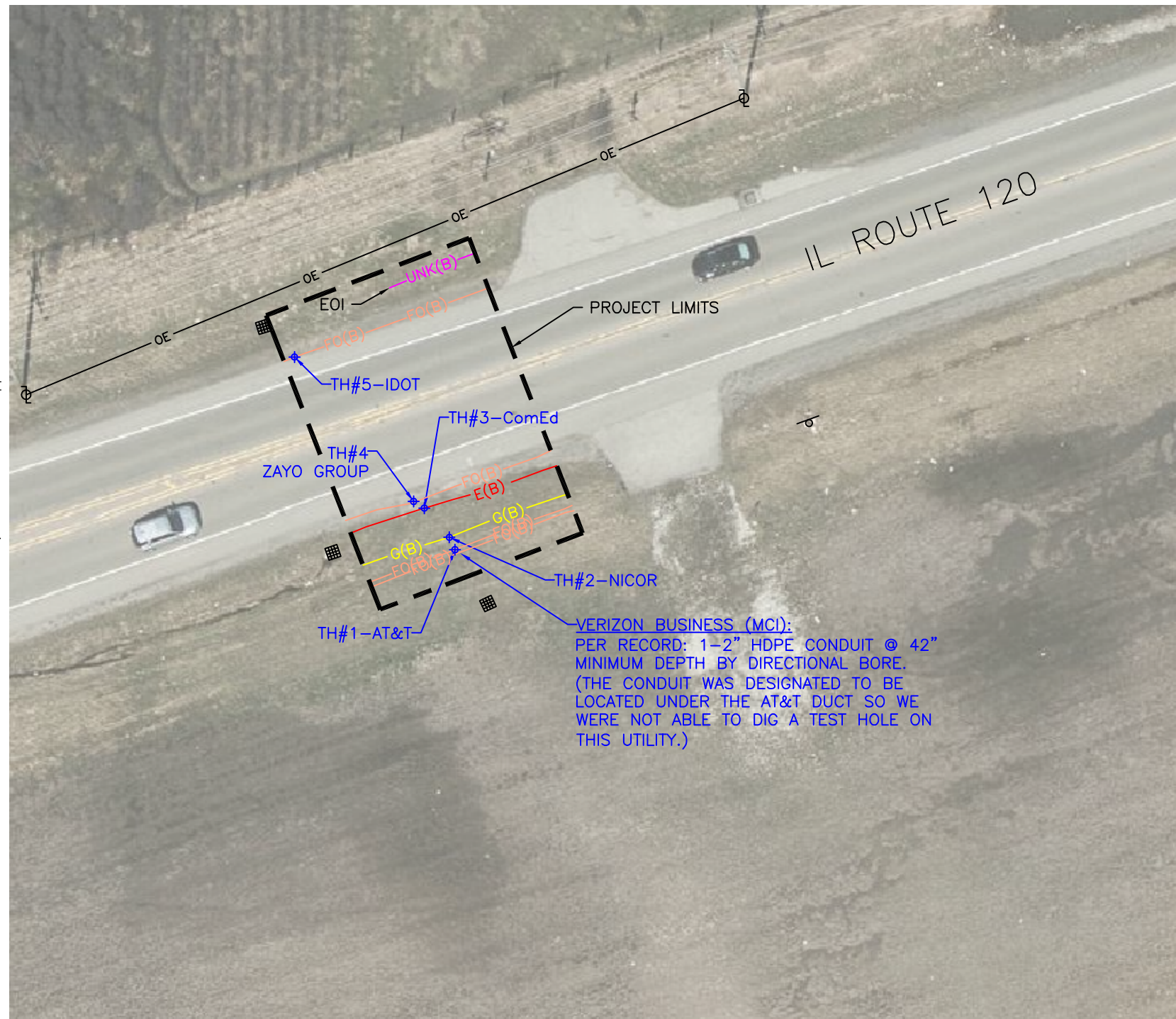
DESIGNATING IS TO INDICATE, BY MARKING WITH PAINT, THE PRESENCE AND APPROXIMATE HORIZONTAL LOCATION OF SUBSURFACE UTILITIES USING GEOPHYSICAL PROSPECTING TECHNIQUES INCLUDING, WITHOUT LIMITATIONS, ELECTROMAGNETIC, SONIC AND ACOUSTICAL TECHNIQUES.

QUALITY LEVEL A (QL-A)

PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATION OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES, USUALLY AT A SPECIFIC POINT. MINIMALLY INTRUSIVE EXCAVATION EQUIPMENT IS TYPICALLY USED TO MINIMIZE THE POTENTIAL FOR UTILITY DAMAGE. A PRECISE HORIZONTAL AND VERTICAL LOCATION, AS WELL AS OTHER UTILITY ATTRIBUTES, IS SHOWN ON PLAN DOCUMENTS.

LINestyle KEY:

	QL-B	QL-C	QL-D
BURIED ELECTRIC	E(B)	E(C)	E(D)
BURIED FIBER OPTIC	FO(B)	FO(C)	FO(D)
BURIED GAS	G(B)	G(C)	G(D)
BURIED UNKNOWN	UNK(B)	UNK(C)	UNK(D)



VERIZON BUSINESS (MCI):
 PER RECORD: 1-2" HDPE CONDUIT @ 42" MINIMUM DEPTH BY DIRECTIONAL BORE. (THE CONDUIT WAS DESIGNATED TO BE LOCATED UNDER THE AT&T DUCT SO WE WERE NOT ABLE TO DIG A TEST HOLE ON THIS UTILITY.)

UTILITY OWNERS:

ComEd
 Tim Tamason—Public Relocation
 Crystal Lake Office
 5100 S. State Rt. 31
 Crystal Lake, IL 60012
 (815) 477-5258

Zayo Group
 Tim Payment—OSP Director
 810 Jorie Blvd., Oak Brook, IL 60523
 (630) 203-8003

Nicor Gas
 Bruce Koppang
 DOT—Liaison—Engineering
 1844 Ferry Road
 Naperville, IL 60563
 (630) 388-3046

LCDOT
 Lake County Division Of Transportation
 600 W. Winchester Road
 Libertyville, IL 60048
 (847) 377-7400

Illinois Department of Transportation—District 1
 Sudud Mahmoud
 Region One Utilities Coordinator
 Bureau of Design
 201 Center Court
 Schaumburg, IL 60196
 (847) 705-4258

Verizon Enterprise Solutions
 400 International Parkway,
 Richardson, TX 75081
 Dean Boyers
 Global Access and Transport Engineering
 Engr. III Spec., Documentation
 (469) 886-4238

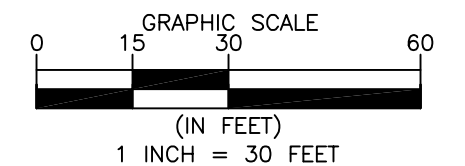
SYMBOL LEGEND:

- MARKER
- ELECTRIC POWER POLE
- INLET GRATE
- TEST HOLE

ABBREVIATIONS:

- EOI END OF ELECTRONIC DESIGNATING INFORMATION
- FO FIBER OPTIC
- OE OVERHEAD ELECTRIC
- UNK UNKNOWN
- G GAS
- E ELECTRIC

DATUM NOTE
 ALL BEARINGS AND COORDINATES ARE BASED ON THE ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983, U.S. SURVEY FEET.



SCOTT A. WECHTER
 PROJECT MANAGER SAM, LLC

I, SCOTT A. WECHTER, CERTIFY TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION THAT THE UTILITY INFORMATION DEPICTED BY SAM, LLC ON THIS PLAN SHEET WAS OBTAINED AND COMPILED UNDER MY DIRECT SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, HAS BEEN ACCURATELY PREPARED USING ACCEPTED PRACTICES AND PROCEDURES.



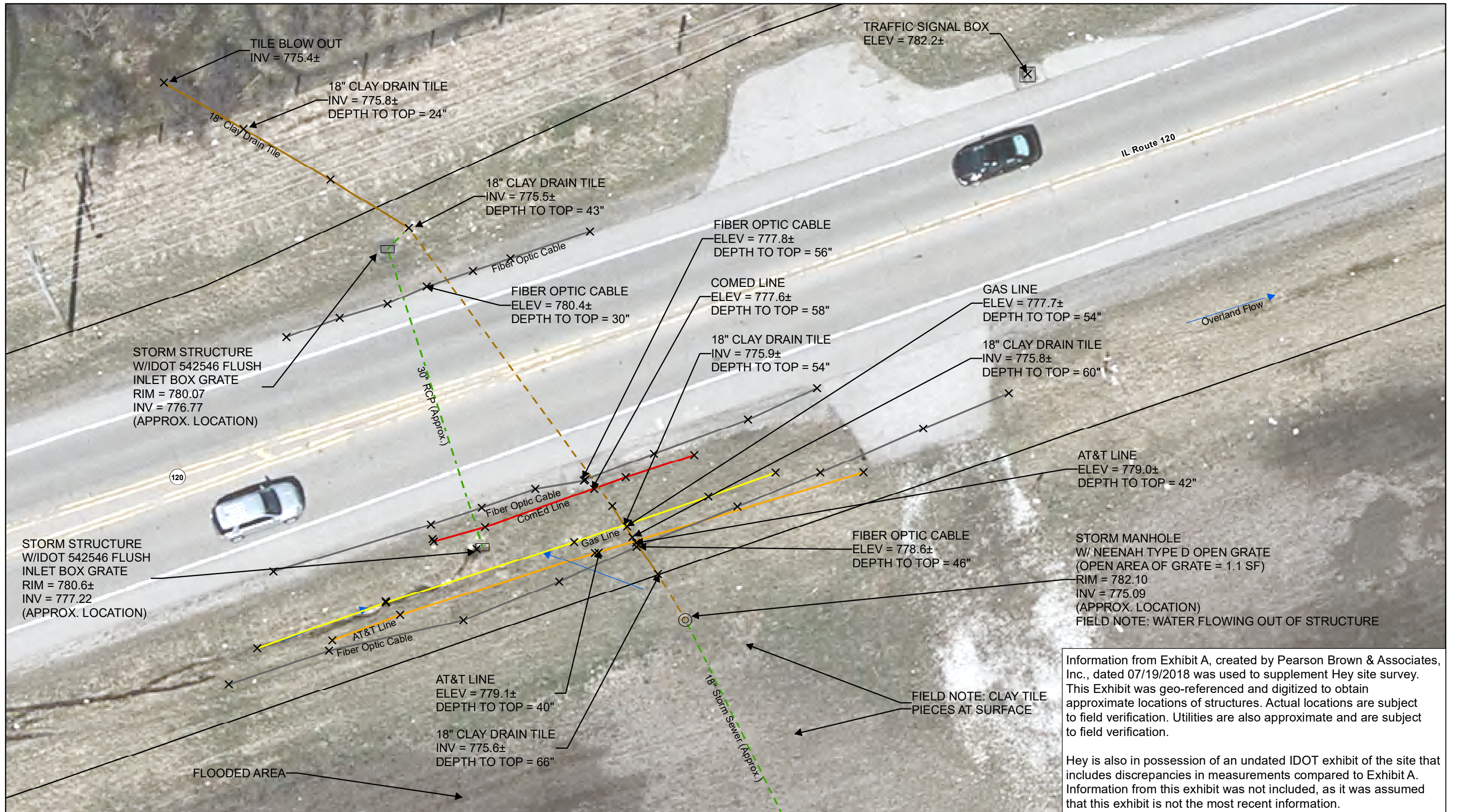
1224 FERN RIDGE PARKWAY SUITE 110 ST. LOUIS, MISSOURI 63141
 OFFICE: 314.576.9878
 EMAIL: info@sam.biz

CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION
 SAM#:46623
 SCALE:1"-30'
 DATE:11/13/2018
 PROJECT MANAGER: SCOTT WECHTER
 PROJECT SURVEYOR: ANDY WESELY
 TECHNICIAN: CORY SLATTEN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	13
CONTRACT NO. 62H91				
ILLINOIS FED. AID PROJECT				

IL ROUTE 120 (0.25 MILES EAST OF WILSON RD.)

SHEET OF SHEETS STA. TO STA.



Information from Exhibit A, created by Pearson Brown & Associates, Inc., dated 07/19/2018 was used to supplement Hey site survey. This Exhibit was geo-referenced and digitized to obtain approximate locations of structures. Actual locations are subject to field verification. Utilities are also approximate and are subject to field verification.

Hey is also in possession of an undated IDOT exhibit of the site that includes discrepancies in measurements compared to Exhibit A. Information from this exhibit was not included, as it was assumed that this exhibit is not the most recent information.

Prepared by:

Hey and Associates, Inc.
Engineering, Ecology and Landscape Architecture

Scale:



Project Number: 18-0435

Orientation:



Date: 11/8/2018

Legend:

- X Hey Site Survey
- ⊙ Storm Manhole
- Drop Box
- Traffic Signal Box
- ▶ Overland Flow
- 18" Clay Drain Tile
- Clay Drain Tile (Approx.)
- Storm Sewer (Approx.)
- AT&T Line
- ComEd Line
- Fiber Optic Cable
- Gas Line
- Lake Co GIS Parcel Boundaries

Project Name:

Rt. 120 and Wilson
Drainage Investigation

Prepared For:

LCSMC

Information about exhibit:

2017 Lake Co Aerial

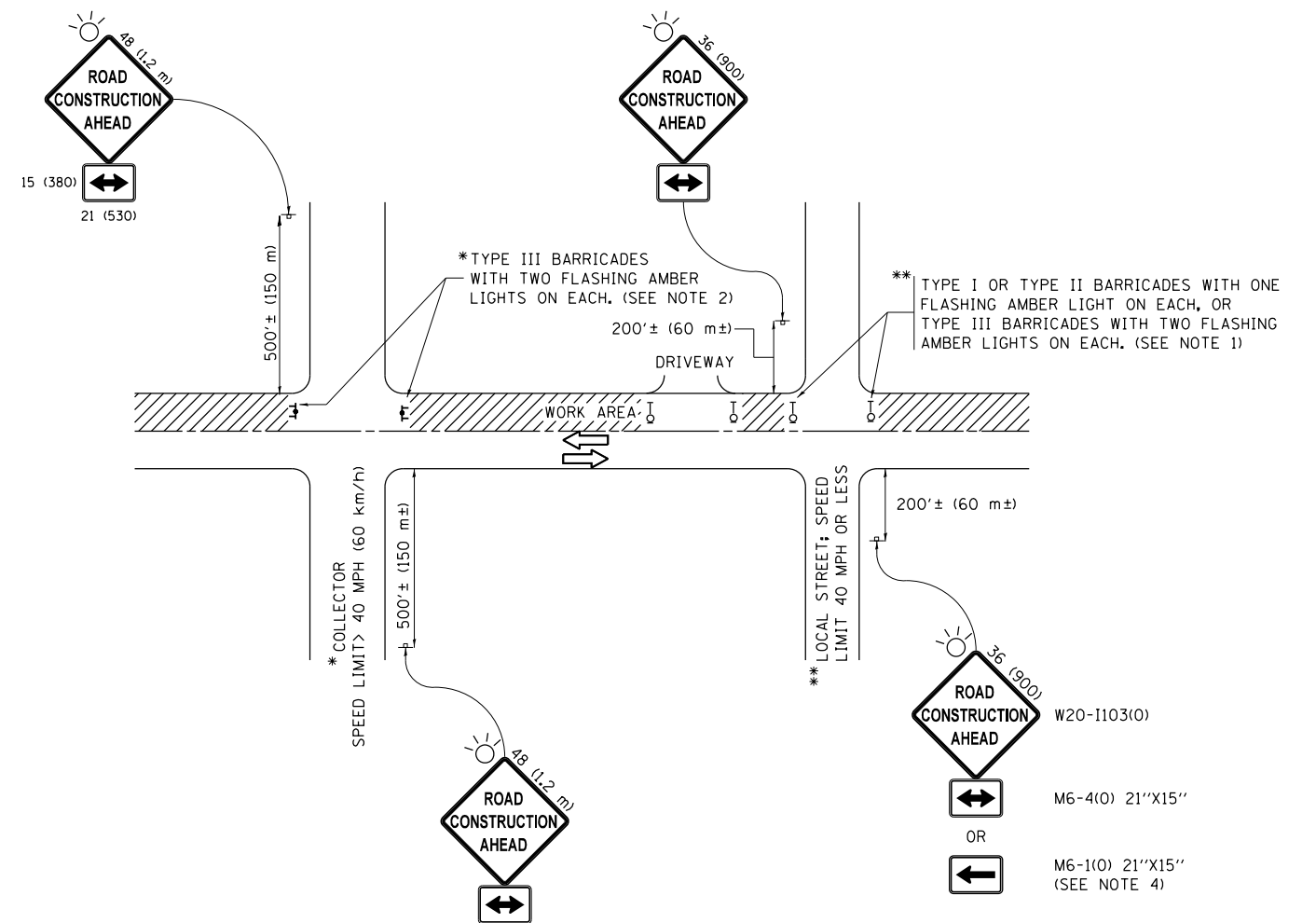
Exhibit Title:

Tile and Utility Survey

Exhibit:

1

F.A.P. RTE		SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333		2019-011-T	LAKE	26	14
SHEET		OF	SHEETS	STA.	TO STA.
IL. ROUTE 120 (0.25 MILES EAST OF WILSON RD.)		ILLINOIS		FED. AID PROJECT	



NOTES:

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 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. 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.
4. 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).
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

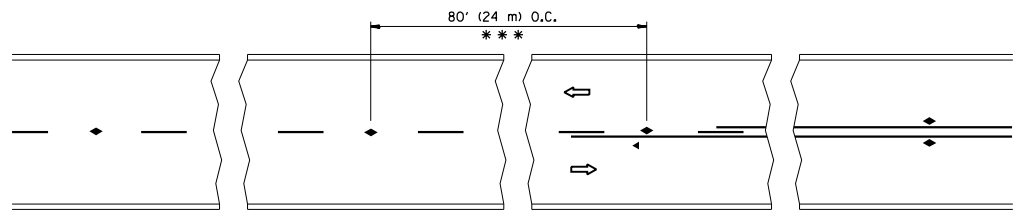
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	PLOT DATE = 5/13/2019	DATE - 06-89	REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

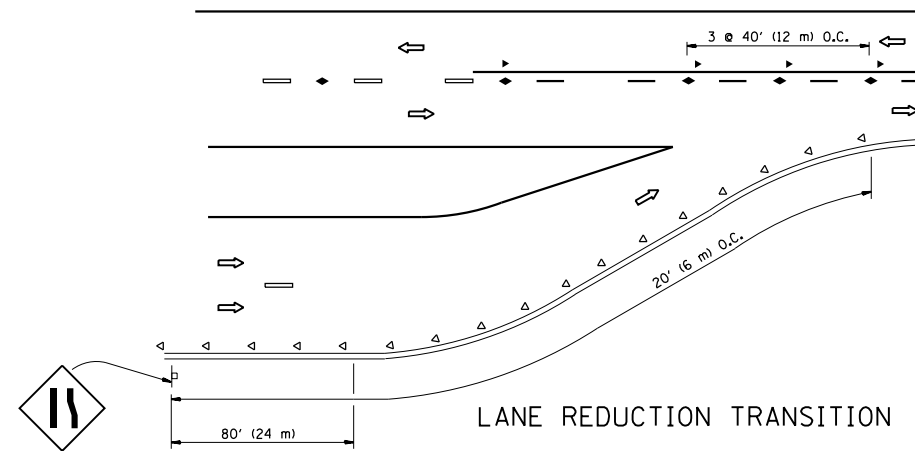
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-10			CONTRACT NO. 62H91	
ILLINOIS FED. AID PROJECT				

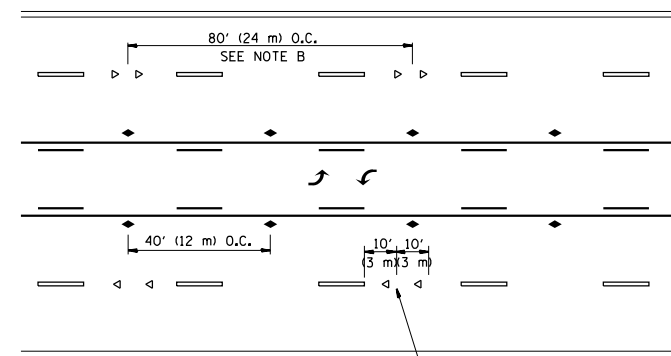


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

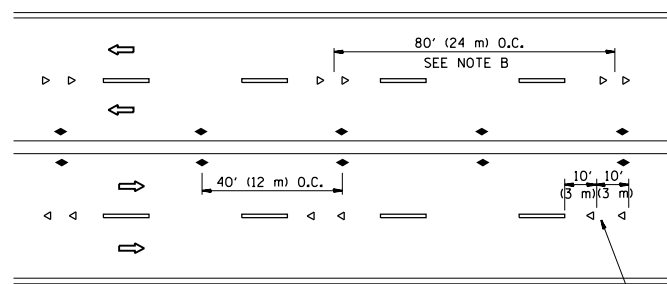
TWO-LANE/TWO-WAY



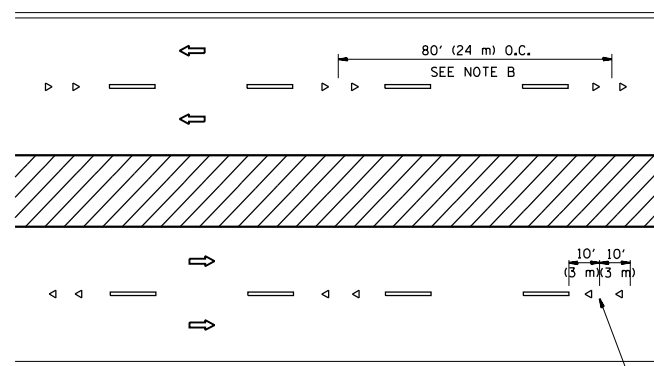
LANE REDUCTION TRANSITION



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

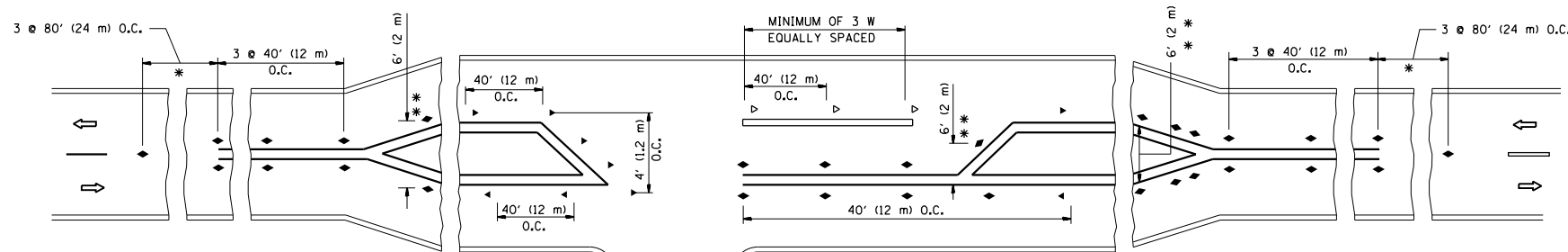
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

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

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

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

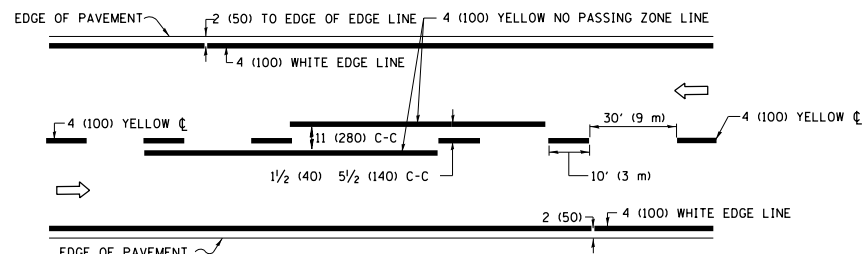
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	PLOT SCALE = 100.0000' / in.	DATE -	REVISED - T. RAMMACHER 01-06-00
	PLOT DATE = 5/13/2019		REVISED - C. JUCIUS 09-09-09

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

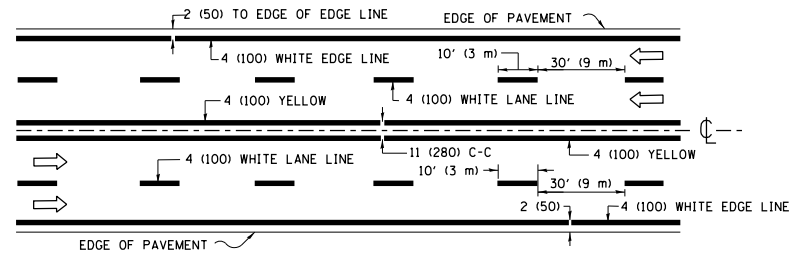
TYPICAL APPLICATIONS
 RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

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

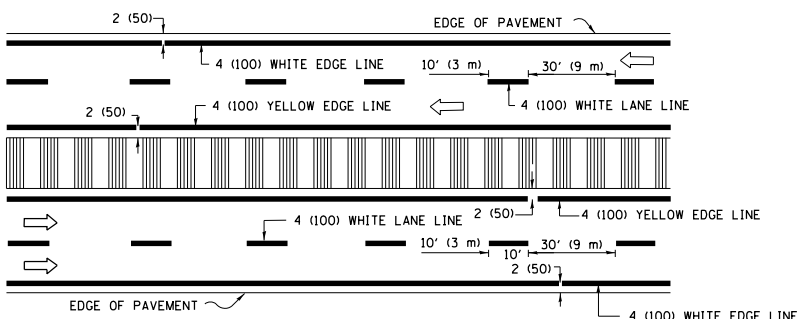
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	16
TC-11		CONTRACT NO. 62H91		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY

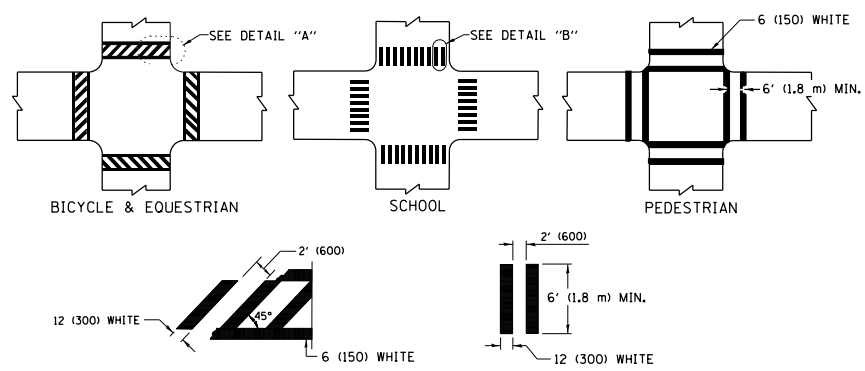


MULTI-LANE UNDIVIDED



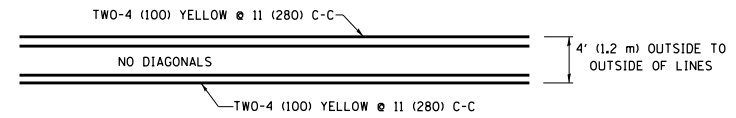
MULTI-LANE DIVIDED WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING

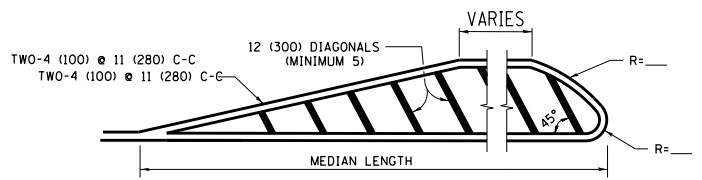


TYPICAL CROSSWALK MARKING

* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES

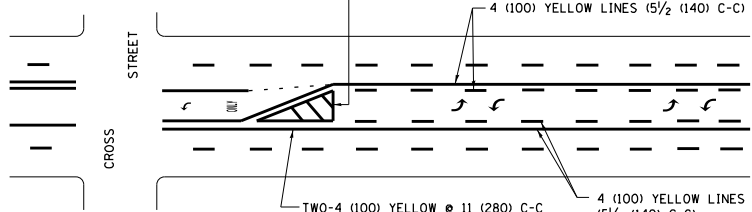


4' (1.2 m) WIDE MEDIANS ONLY



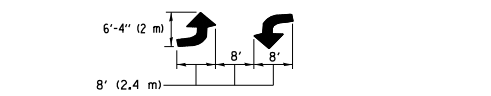
MEDIANS OVER 4' (1.2 m) WIDE

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))



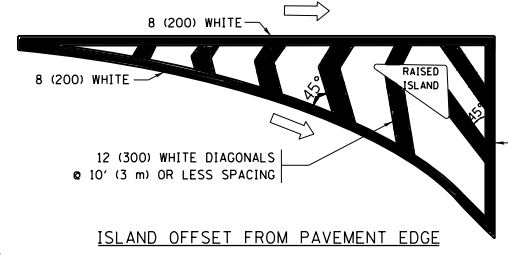
**MEDIAN WITH TWO-WAY LEFT TURN LANE
TYPICAL PAINTED MEDIAN MARKING**

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.

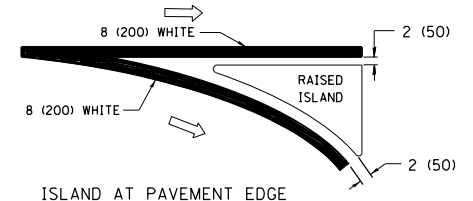


**TYPICAL LEFT (OR RIGHT) TURN LANE
TYPICAL TURN LANE MARKING**

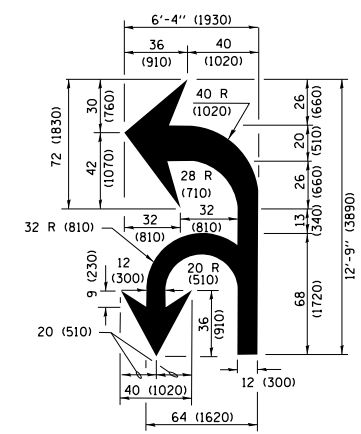
FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".



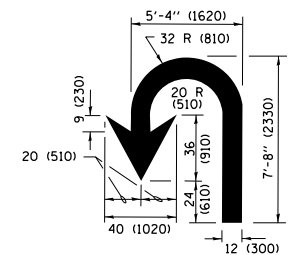
ISLAND OFFSET FROM PAVEMENT EDGE



**ISLAND AT PAVEMENT EDGE
TYPICAL ISLAND MARKING**



COMBINATION LEFT AND U-TURN



U-TURN

LANE REDUCTION TRANSITION

* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

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 MEDIANS IN YELLOW
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 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; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	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 ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	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))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

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.

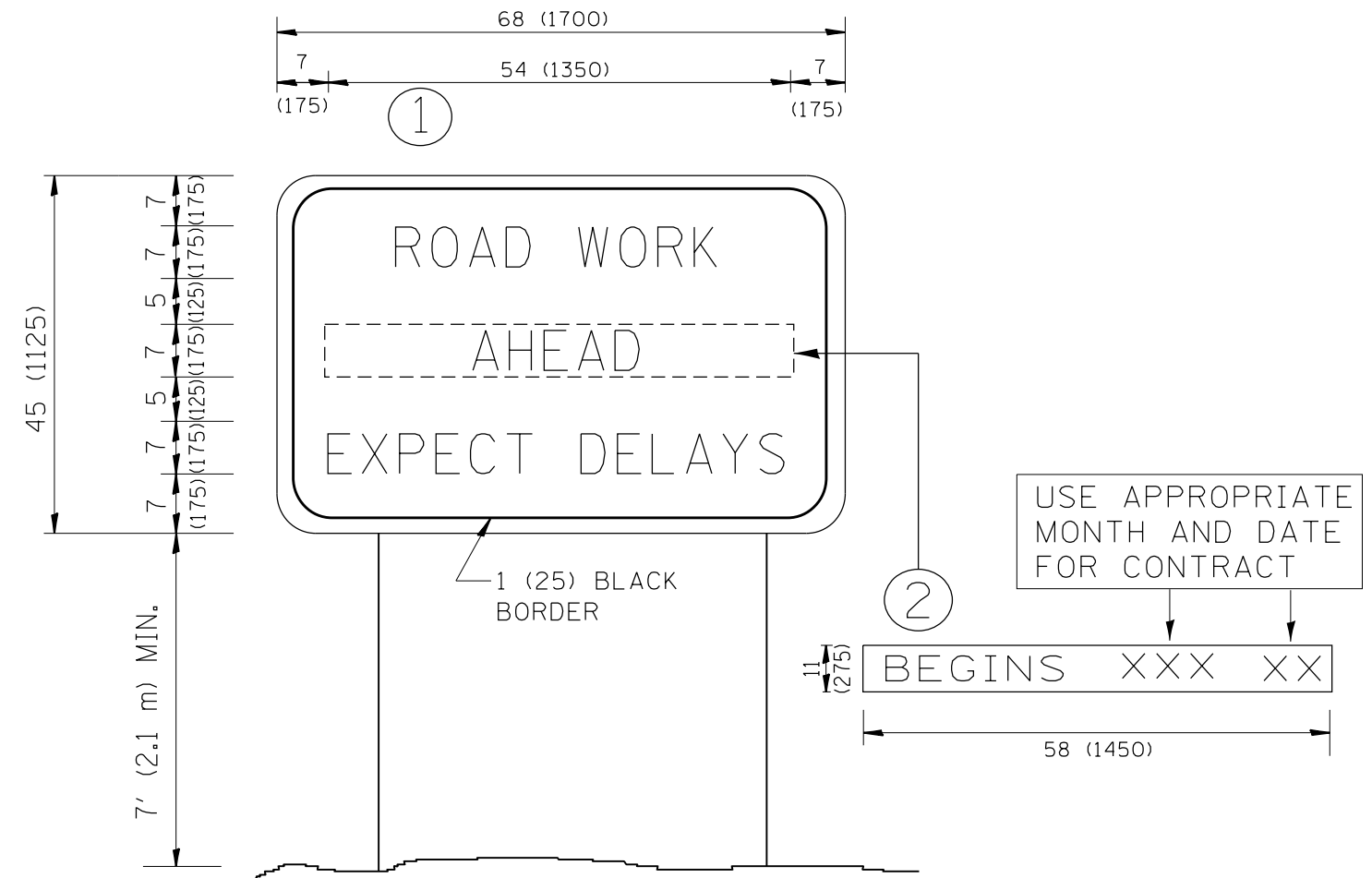
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	PLOT DATE = 5/13/2019		REVISED - C. JUCIUS 04-12-16

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE
TYPICAL PAVEMENT MARKINGS**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	17
TC-13		CONTRACT NO. 62H91		
ILLINOIS FED. AID PROJECT				



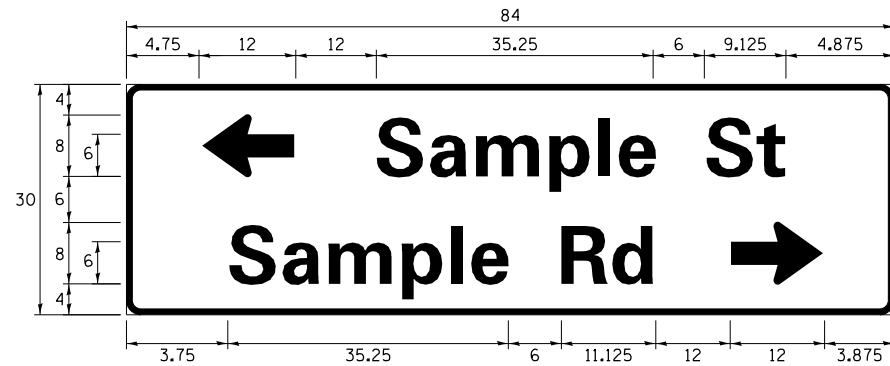
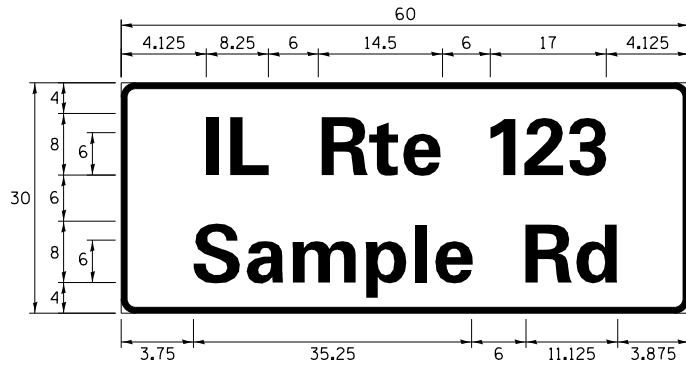
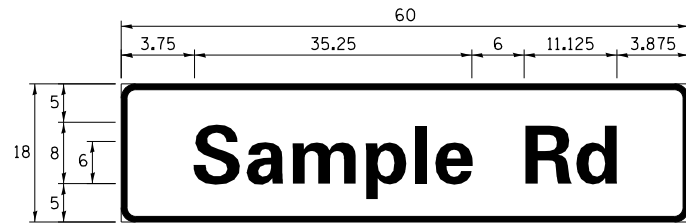
NOTES:

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 =	USER NAME = lababidm	DESIGNED -	REVISED - R. MIRS 09-15-97	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ARTERIAL ROAD INFORMATION SIGN	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - T. RAMMACHER 02-02-99	TC-22			CONTRACT NO. 62H91				
PLOT DATE = 5/13/2019	DATE -	REVISED - C. JUCIUS 01-31-07	SCALE: NONE			SHEET NO. 1 OF 1 SHEETS		STA. TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT

SIGN PANEL – TYPE 1 OR TYPE 2



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D OR C	-	1 OR 2	ZZ	-

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE

COMMON STREET NAME ABBREVIATIONS AND WIDTHS

NAME	ABBREVIATION	WIDTH (INCH)	
		SERIES "C"	SERIES "D"
AVENUE	Ave	15.000	18.250
BOULEVARD	Blvd	17.125	20.000
CIRCLE	Cir	11.125	13.000
COURT	Ct	8.250	9.625
DRIVE	Dr	8.625	10.125
HIGHWAY	Hwy	18.375	22.000
ILLINOIS	IL	7.000	8.250
LANE	Ln	9.125	10.750
PARKWAY	Pkwy	23.375	27.375
PLACE	Pl	7.125	7.750
ROAD	Rd	9.625	11.125
ROUTE	Rte	12.625	14.500
STREET	St	8.000	9.125
TERRACE	Ter	12.625	14.625
TRAIL	Tr	7.750	9.125
UNITED STATES	US	10.375	12.250

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 CONSIST OF A WHITE LEGEND AND BORDER (TYPE ZZ SHEETING) ON A GREEN BACKGROUND (TYPE ZZ SHEETING)
- THE SIGN LENGTH SHALL BE IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHALL NOT EXCEED 8'-0". ALL BORDERS SHALL BE 3/4" WIDE. CORNER RADIUS SHALL BE 1-7/8". THE SPACING BETWEEN THE WORDS SHOULD BE 6", IF POSSIBLE, BUT MAY BE REDUCED TO 5" WHEN SPACING IS CRITICAL. A MINIMUM OF 2-1/2" SHALL BE INCLUDED BETWEEN THE WORD AND THE RIGHT AND LEFT EDGES OF THE SIGN.
- A PREFERRED METHOD FOR THE SIGN DESIGN IS TO USE SERIES "D" LETTER ON A ONE-LINE SIGN 18" IN HEIGHT AND A MAXIMUM OF 8'-0" IN WIDTH. IF SERIES "D" DOES NOT FIT ON A 8'-0" SIGN, THEN SERIES "C" SHOULD BE TRIED. IF SERIES "C" DOES NOT FIT ON A 8'-0" SIGN, A 30" HIGH TWO-LINE SIGN CAN BE USED. THE CROSSROAD DESIGNATION AS TO STREET, AVENUE, ETC. SHOULD BE SPELLED OUT ON THE SECOND LINE, IF THE ABBREVIATION CANNOT FIT ON THE FIRST LINE.
- LED ILLUMINATED STREET NAME SIGNS CAN BE USED IN PLACE OF REGULAR SIGN PANELS BUT ANY SPECIAL WORDING AND SYMBOLGY MUST BE APPROVED BY THE DEPARTMENT. GENERAL DESIGN REQUIREMENT AS LISTED ABOVE (COLOR, FONT, SIZE, ETC.) MUST BE FOLLOWED.
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS.

LOCAL SUPPLIERS:

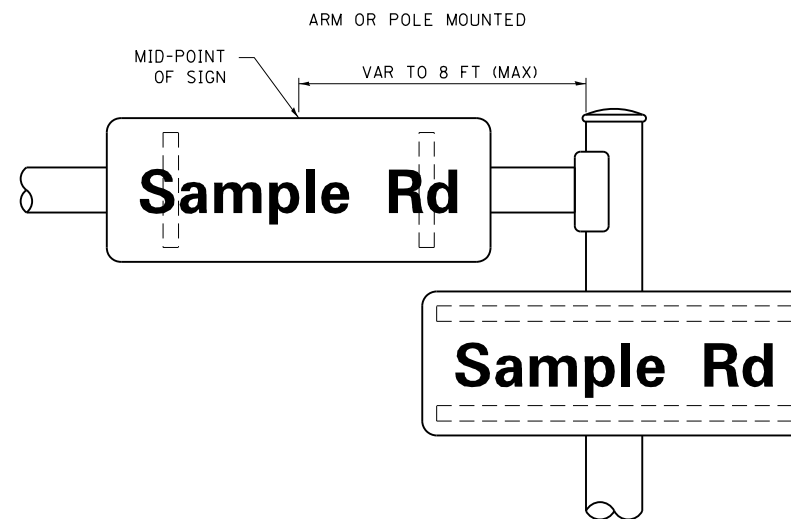
- J.O. HERBERT COMPANY, INC
MIDLOTHIAN, VA
- WESTERN REMAC, INC.
WOODRIDGE, IL

PARTS LISTING:

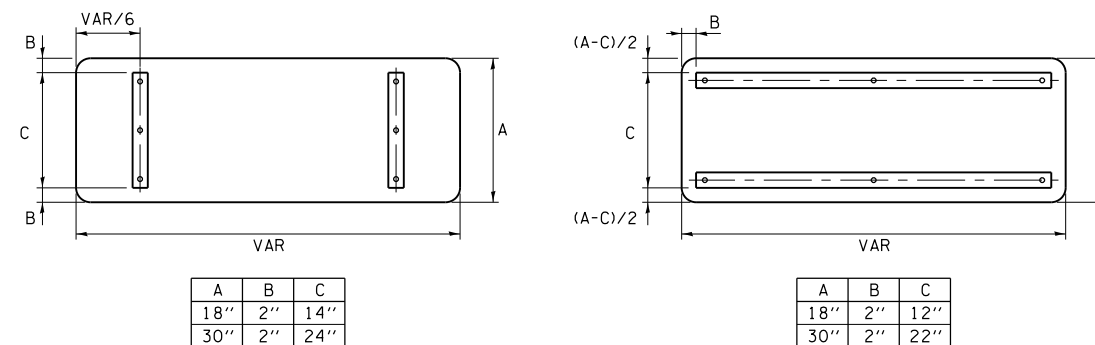
- SIGN CHANNEL PART *HPN053 (MED. CHANNEL)
SIGN SCREWS 1/4" x 14 x 1" H.W.H. #3
SELF TAPPING WITH NEOPRENE WASHER
PART *HPN034 (UNIVERSAL)
- BRACKETS CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

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

MOUNTING LOCATION



SUPPORTING CHANNELS



STANDARD ALPHABETS SPACING CHART

(8") UPPER CASE AND (6") LOWER CASE

CHARACTER	FHWA SERIES "C"			CHARACTER	FHWA SERIES "D"		
	LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)		LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)
A	0.240	5.122	0.240	A	0.240	6.804	0.240
B	0.880	4.482	0.480	B	0.960	5.446	0.400
C	0.720	4.482	0.720	C	0.800	5.446	0.800
D	0.880	4.482	0.720	D	0.960	5.446	0.800
E	0.880	4.082	0.480	E	0.960	4.962	0.400
F	0.880	4.082	0.240	F	0.960	4.962	0.240
G	0.720	4.482	0.720	G	0.800	5.446	0.800
H	0.880	4.482	0.880	H	0.960	5.446	0.960
I	0.880	1.120	0.880	I	0.960	1.280	0.960
J	0.240	4.082	0.880	J	0.240	5.122	0.960
K	0.880	4.482	0.480	K	0.960	5.604	0.400
L	0.880	4.082	0.240	L	0.960	4.962	0.240
M	0.880	5.284	0.880	M	0.960	6.244	0.960
N	0.880	4.482	0.880	N	0.960	5.446	0.960
O	0.720	4.722	0.720	O	0.800	5.684	0.800
P	0.880	4.482	0.720	P	0.960	5.446	0.240
Q	0.720	4.722	0.720	Q	0.800	5.684	0.800
R	0.880	4.482	0.480	R	0.960	5.446	0.400
S	0.480	4.482	0.480	S	0.400	5.446	0.400
T	0.240	4.082	0.240	T	0.240	4.962	0.240
U	0.880	4.482	0.880	U	0.960	5.446	0.960
V	0.240	4.962	0.240	V	0.240	6.084	0.240
W	0.240	6.084	0.240	W	0.240	7.124	0.240
X	0.240	4.722	0.240	X	0.400	5.446	0.400
Y	0.240	5.122	0.240	Y	0.240	6.884	0.240
Z	0.480	4.482	0.480	Z	0.400	5.446	0.400
a	0.320	3.842	0.640	a	0.400	4.562	0.720
b	0.720	4.082	0.480	b	0.800	4.802	0.480
c	0.480	4.002	0.240	c	0.480	4.722	0.240
d	0.480	4.082	0.720	d	0.480	4.802	0.800
e	0.480	4.082	0.320	e	0.480	4.722	0.320
f	0.320	2.480	0.160	f	0.320	2.882	0.160
g	0.480	4.082	0.720	g	0.480	4.802	0.800
h	0.720	4.082	0.640	h	0.800	4.722	0.720
i	0.720	1.120	0.720	i	0.800	1.280	0.800
j	0.000	2.320	0.720	j	0.000	2.642	0.800
k	0.720	4.322	0.160	k	0.800	5.122	0.160
l	0.720	1.120	0.720	l	0.800	1.280	0.800
m	0.720	6.724	0.640	m	0.800	7.926	0.720
n	0.720	4.082	0.640	n	0.800	4.722	0.720
o	0.480	4.082	0.480	o	0.480	4.882	0.480
p	0.720	4.082	0.480	p	0.800	4.802	0.480
q	0.480	4.082	0.720	q	0.480	4.802	0.800
r	0.720	2.642	0.160	r	0.800	3.042	0.160
s	0.320	3.362	0.240	s	0.320	3.762	0.240
t	0.080	2.882	0.080	t	0.080	3.202	0.080
u	0.640	4.082	0.720	u	0.720	4.722	0.800
v	0.160	4.722	0.160	v	0.160	5.684	0.160
w	0.160	7.524	0.160	w	0.160	9.046	0.160
x	0.000	5.202	0.000	x	0.000	6.244	0.000
y	0.160	4.962	0.160	y	0.160	6.004	0.160
z	0.240	3.362	0.240	z	0.240	4.002	0.240
1	0.720	1.680	0.880	1	0.800	2.000	0.960
2	0.480	4.482	0.480	2	0.800	5.446	0.800
3	0.480	4.482	0.480	3	1.440	5.446	0.800
4	0.240	4.962	0.720	4	0.160	6.004	0.960
5	0.480	4.482	0.480	5	0.800	5.446	0.800
6	0.720	4.482	0.720	6	0.800	5.446	0.800
7	0.240	4.482	0.720	7	0.560	5.446	0.560
8	0.480	4.482	0.480	8	0.800	5.446	0.800
9	0.480	4.482	0.480	9	0.800	5.446	0.800
0	0.720	4.722	0.720	0	0.800	5.684	0.800
-	0.240	2.802	0.240	-	0.240	2.802	0.240

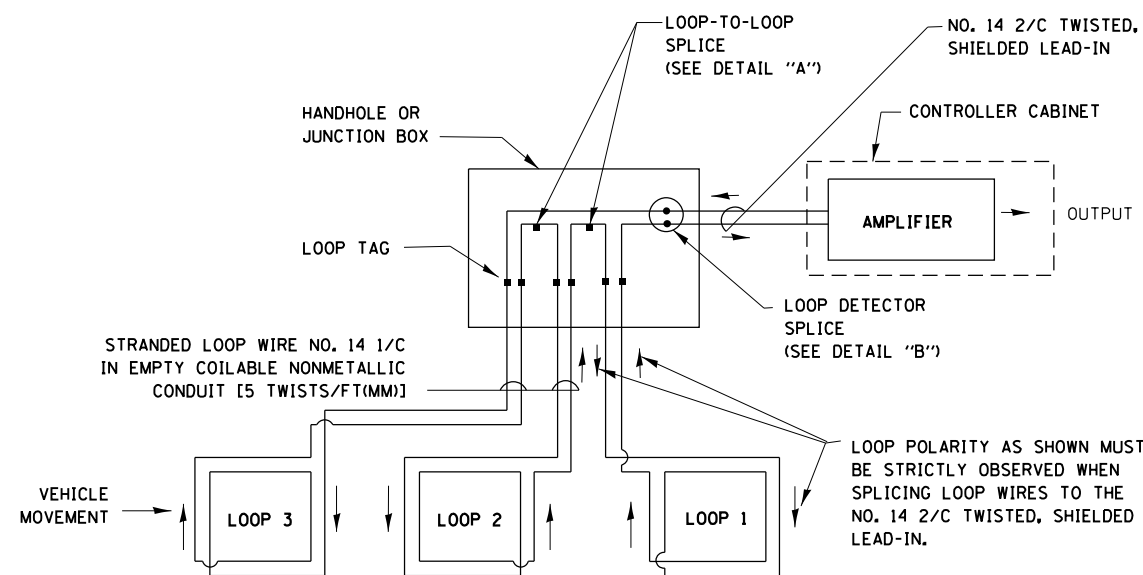
TRAFFIC SIGNAL LEGEND

(NOT TO SCALE)

ITEM	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED
CONTROLLER CABINET			HANDHOLE -SQUARE -ROUND	 	 	SIGNAL HEAD -(P) PROGRAMMABLE SIGNAL HEAD		
COMMUNICATION CABINET			HEAVY DUTY HANDHOLE -SQUARE -ROUND	 	 	SIGNAL HEAD WITH BACKPLATE -(P) PROGRAMMABLE SIGNAL HEAD -(RB) RETROREFLECTIVE BACKPLATE		
MASTER CONTROLLER			DOUBLE HANDHOLE			PEDESTRIAN SIGNAL HEAD AT RAILROAD INTERSECTIONS		
MASTER MASTER CONTROLLER			JUNCTION BOX			PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER		
UNINTERRUPTABLE POWER SUPPLY			RAILROAD CANTILEVER MAST ARM			ILLUMINATED SIGN "NO LEFT TURN"/"NO RIGHT TURN"		
SERVICE INSTALLATION -(P) POLE MOUNTED			RAILROAD FLASHING SIGNAL			NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE. ALL DETECTOR LOOP CABLE TO BE SHIELDED		
SERVICE INSTALLATION -(G) GROUND MOUNTED -(GM) GROUND MOUNTED METERED	 	 	RAILROAD CROSSING GATE			GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN)		
TELEPHONE CONNECTION			RAILROAD CROSSBUCK			ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1/C		
STEEL MAST ARM ASSEMBLY AND POLE			RAILROAD CONTROLLER CABINET			COAXIAL CABLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE			UNDERGROUND CONDUIT (UC), GALVANIZED STEEL			VENDOR CABLE		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE			TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE			COPPER INTERCONNECT CABLE, NO. 18, 3 PAIR TWISTED, SHIELDED		
SIGNAL POST -(BM) BARREL MOUNTED - TEMPORARY			SYSTEM ITEM	S	SP	FIBER OPTIC CABLE -NO. 62.5/125, MM12F -NO. 62.5/125, MM12F SM12F -NO. 62.5/125, MM12F SM24F		
WOOD POLE			INTERSECTION ITEM	I	IP	GROUND ROD -(C) CONTROLLER -(M) MAST ARM -(P) POST -(S) SERVICE		
GUY WIRE			REMOVE ITEM		R			
SIGNAL HEAD			RELOCATE ITEM		RL			
SIGNAL HEAD WITH BACKPLATE			ABANDON ITEM		A			
SIGNAL HEAD OPTICALLY PROGRAMMED			CONTROLLER CABINET AND FOUNDATION TO BE REMOVED		RCF			
FLASHER INSTALLATION -(FS) SOLAR POWERED			MAST ARM POLE AND FOUNDATION TO BE REMOVED		RMF			
PEDESTRIAN SIGNAL HEAD			SIGNAL POST AND FOUNDATION TO BE REMOVED		RPF			
PEDESTRIAN PUSH BUTTON -(APS) ACCESSIBLE PEDESTRIAN PUSH BUTTON			DETECTOR LOOP, TYPE I					
RADAR DETECTION SENSOR			PREFORMED DETECTOR LOOP					
VIDEO DETECTION CAMERA			SAMPLING (SYSTEM) DETECTOR					
RADAR/VIDEO DETECTION ZONE			INTERSECTION AND SAMPLING (SYSTEM) DETECTOR					
PAN, TILT, ZOOM (PTZ) CAMERA			QUEUE AND SAMPLING (SYSTEM) DETECTOR					
EMERGENCY VEHICLE LIGHT DETECTOR			WIRELESS DETECTOR SENSOR					
CONFIRMATION BEACON			WIRELESS ACCESS POINT					
WIRELESS INTERCONNECT								
WIRELESS INTERCONNECT RADIO REPEATER								

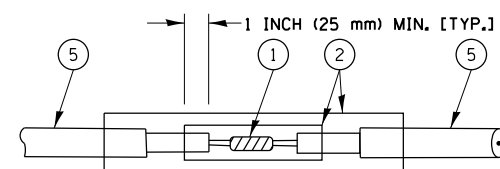
LOOP DETECTOR NOTES

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.

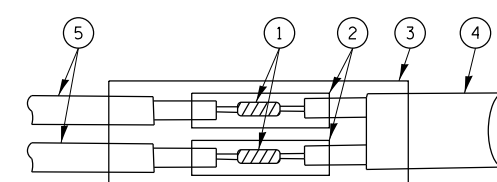


DETECTOR LOOP WIRING SCHEMATIC

- 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.



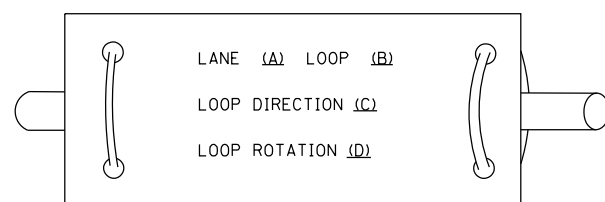
**DETAIL "A"
LOOP-TO-LOOP SPLICE**



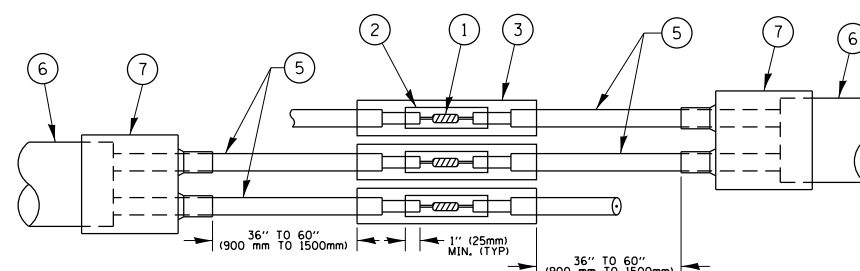
**DETAIL "B"
LOOP-TO-CONTROLLER SPLICE**

TYPE I LOOP

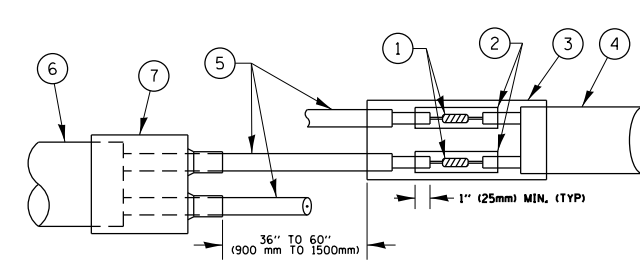
LOOP LEAD-IN CABLE TAG



- 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.



**DETAIL "A"
LOOP-TO-LOOP SPLICE**

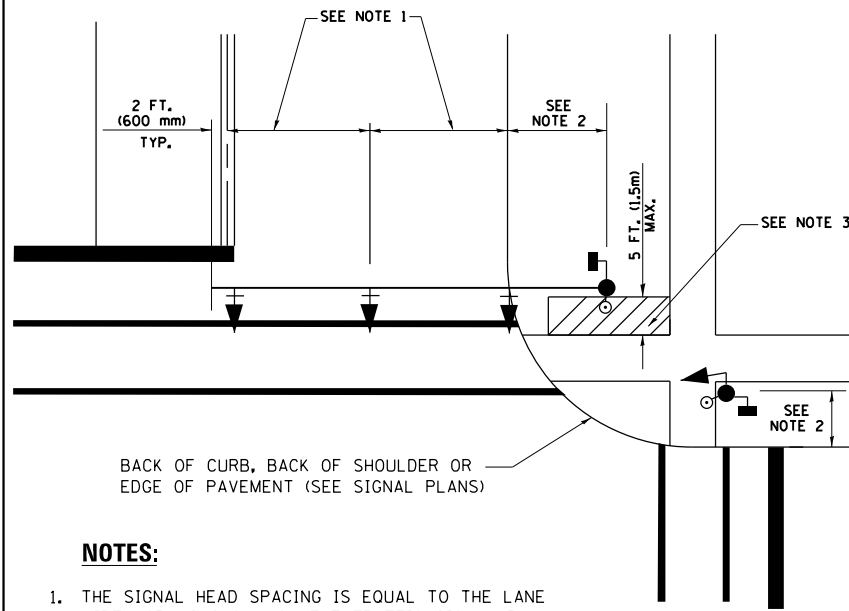


**DETAIL "B"
LOOP-TO-CONTROLLER SPLICE**

LOOP DETECTOR SPLICE

- ① WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH, THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- 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

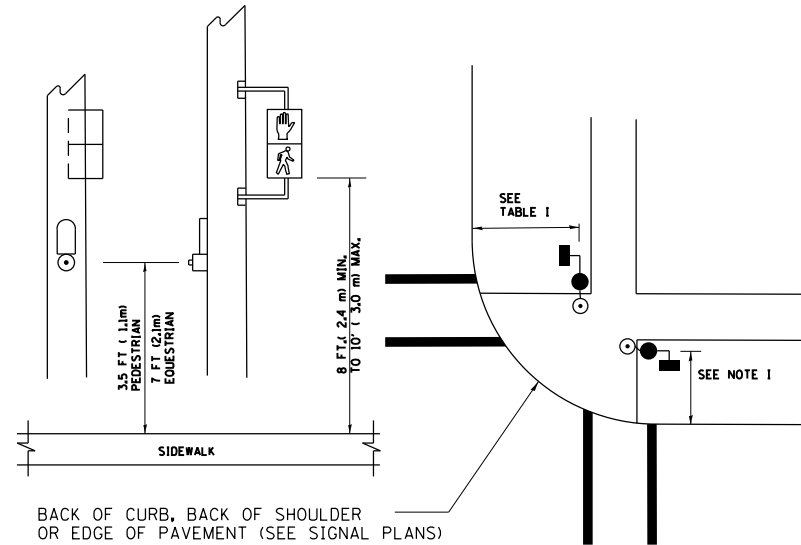
**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR
FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN
WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.**



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."

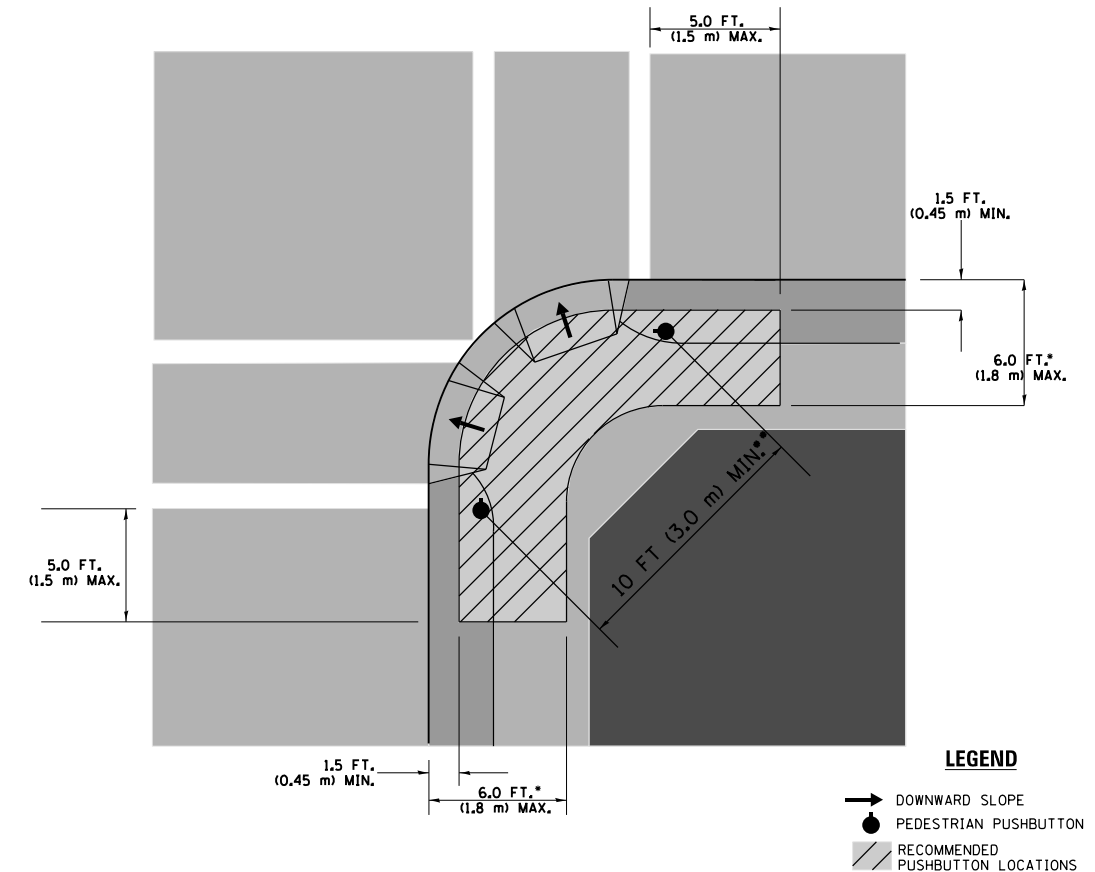
**PEDESTRIAN SIGNAL POST
AND
PEDESTRIAN PUSH BUTTON POST**



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:

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.

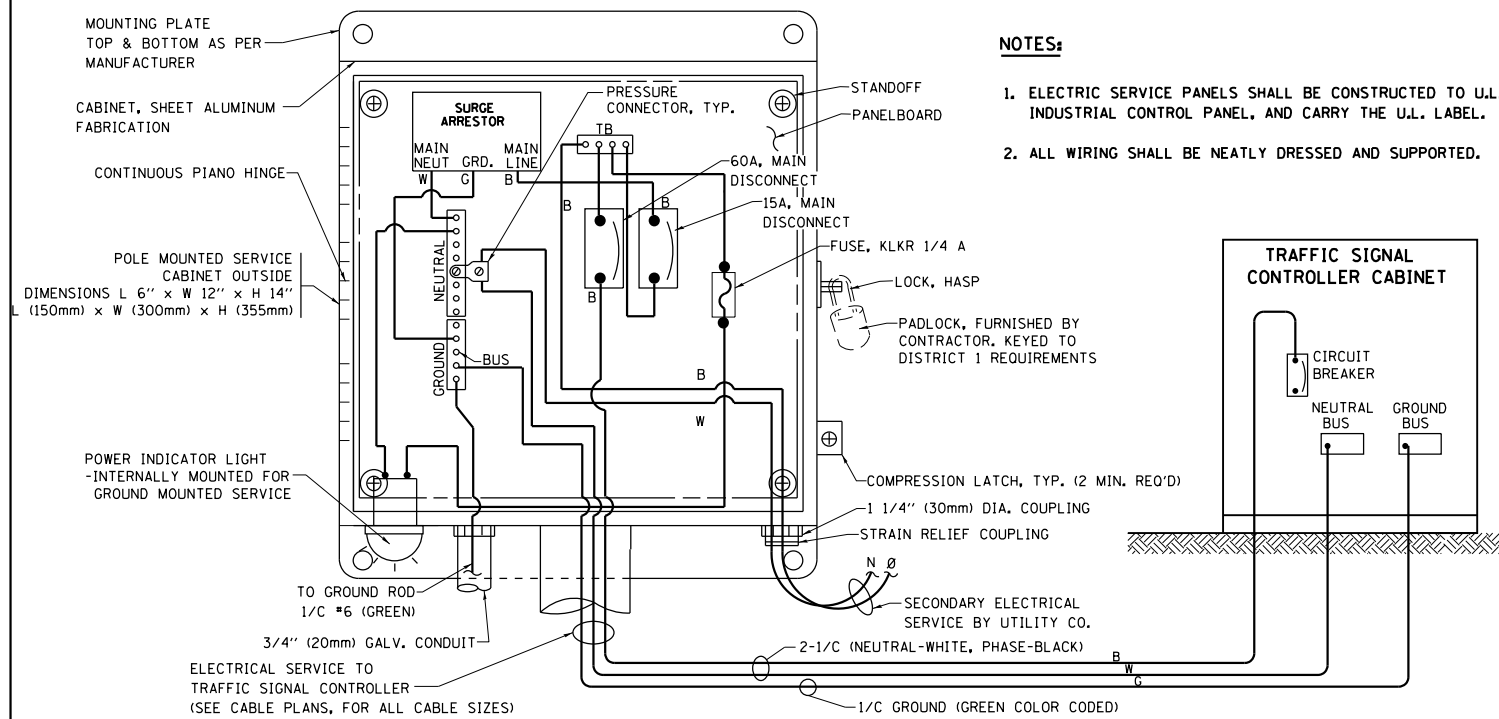
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

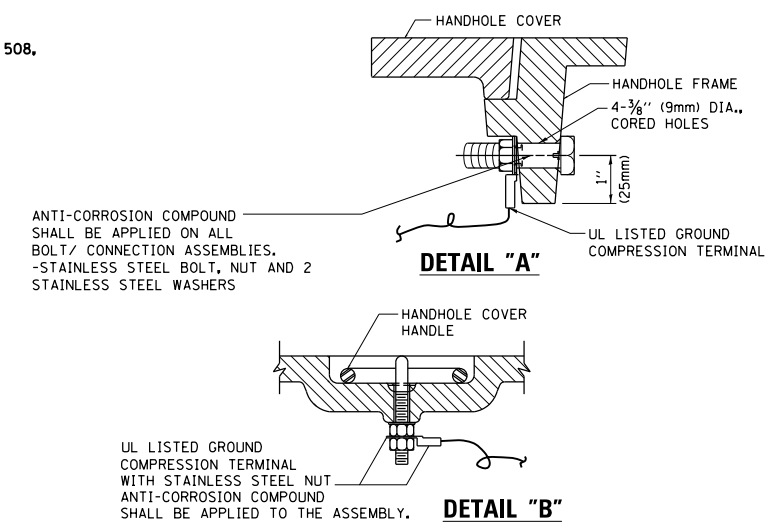
**DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 3 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	22
TS-05		CONTRACT NO. 62H91		
ILLINOIS FED. AID PROJECT				

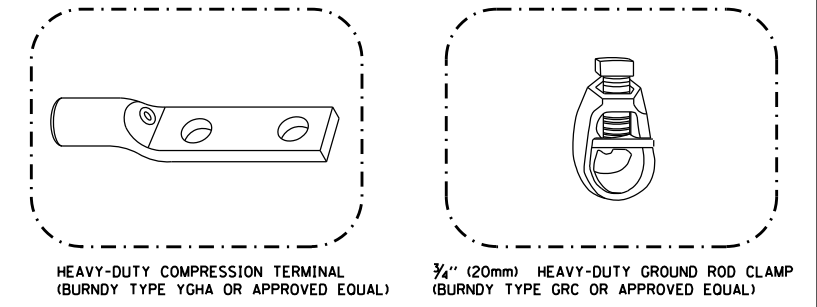
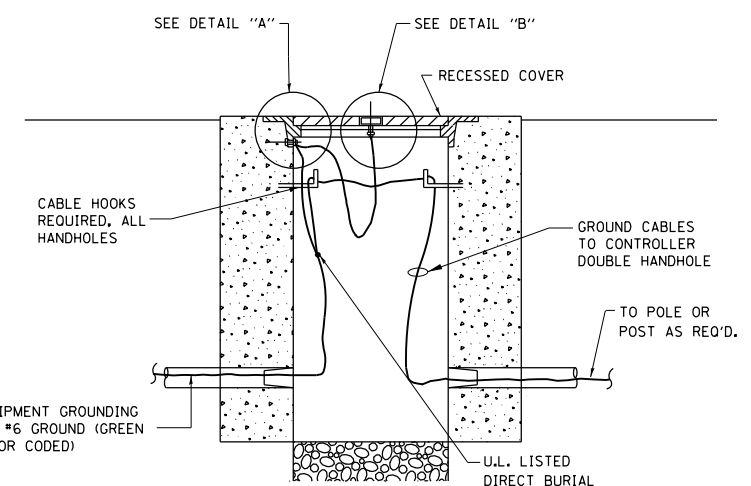


**ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
(NOT TO SCALE)**

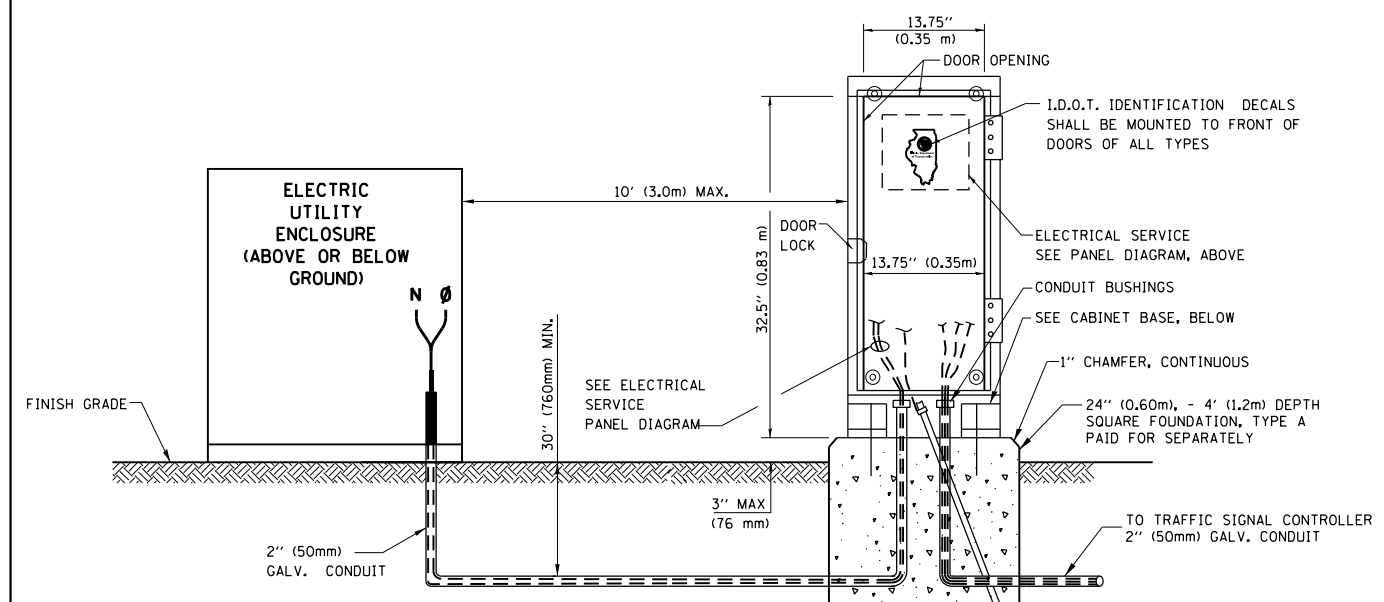
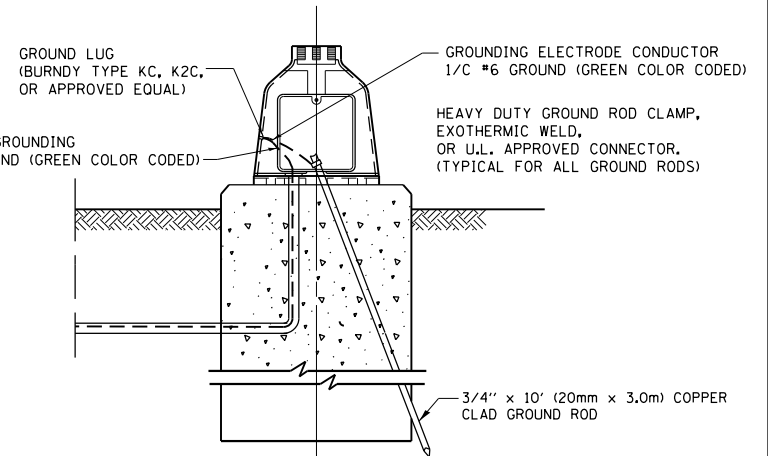
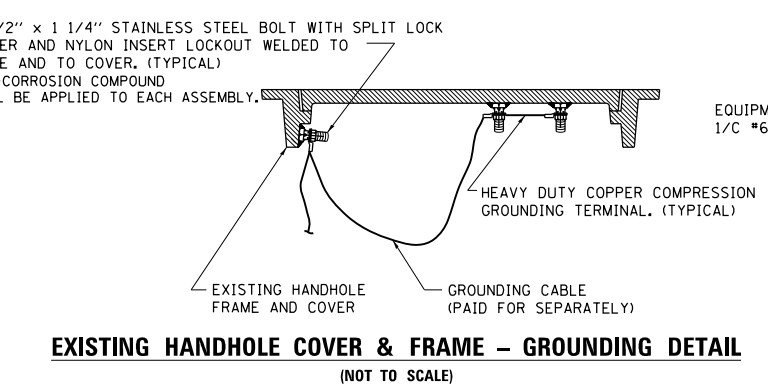


**NOTES:
GROUNDING SYSTEM**

1. 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 ENCLOSED. 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.
2. 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.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

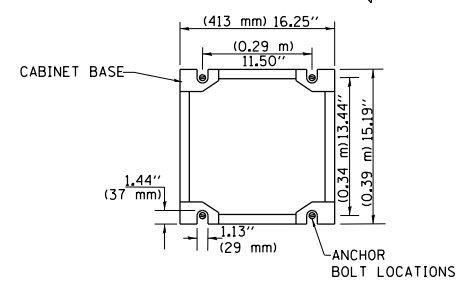


- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
 - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



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

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

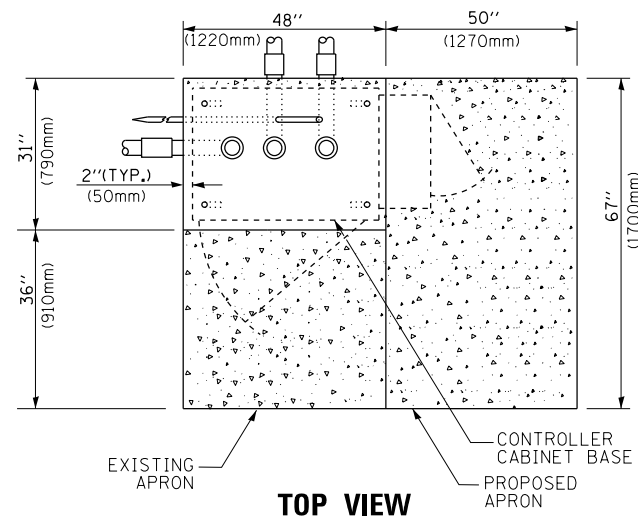


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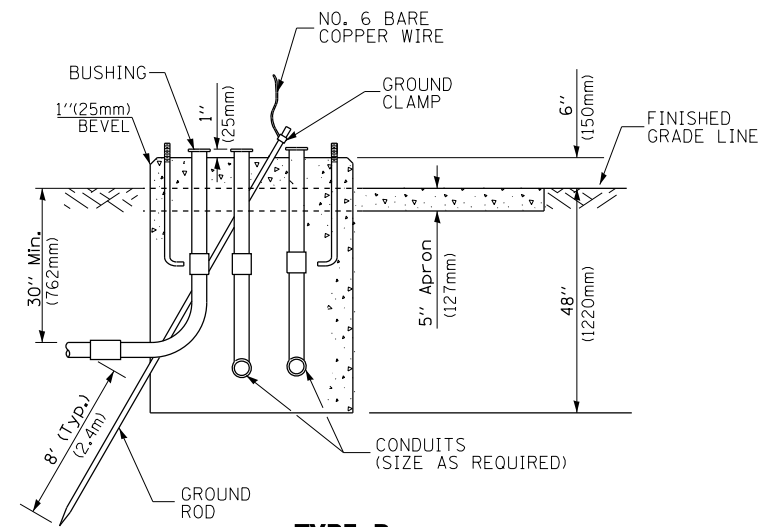
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE			
STANDARD TRAFFIC SIGNAL DESIGN DETAILS			
SCALE: NONE	SHEET 4	OF 7 SHEETS	STA. TO STA.

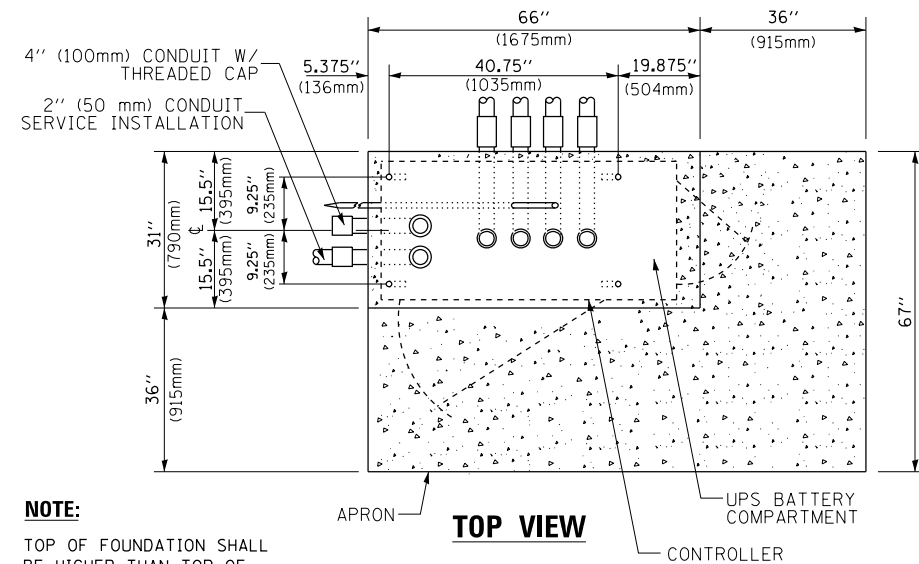
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333	2019-011-T	LAKE	26	23
TS-05		CONTRACT NO.	62H91	
ILLINOIS FED. AID PROJECT				



TOP VIEW

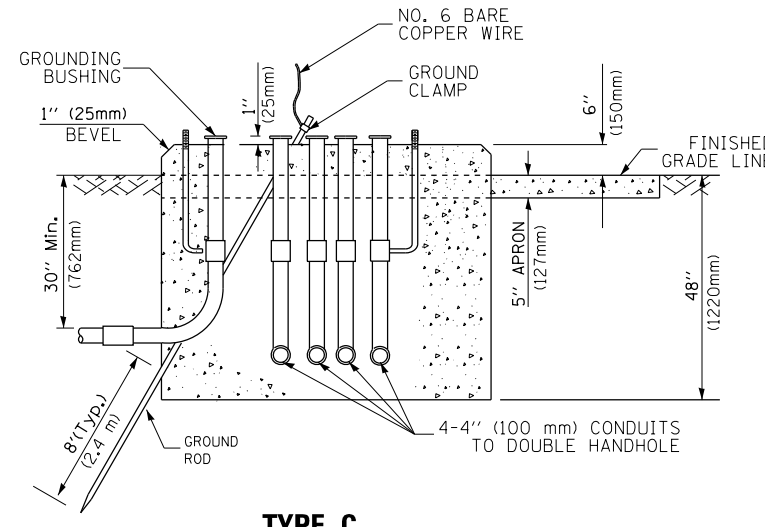


**TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET**

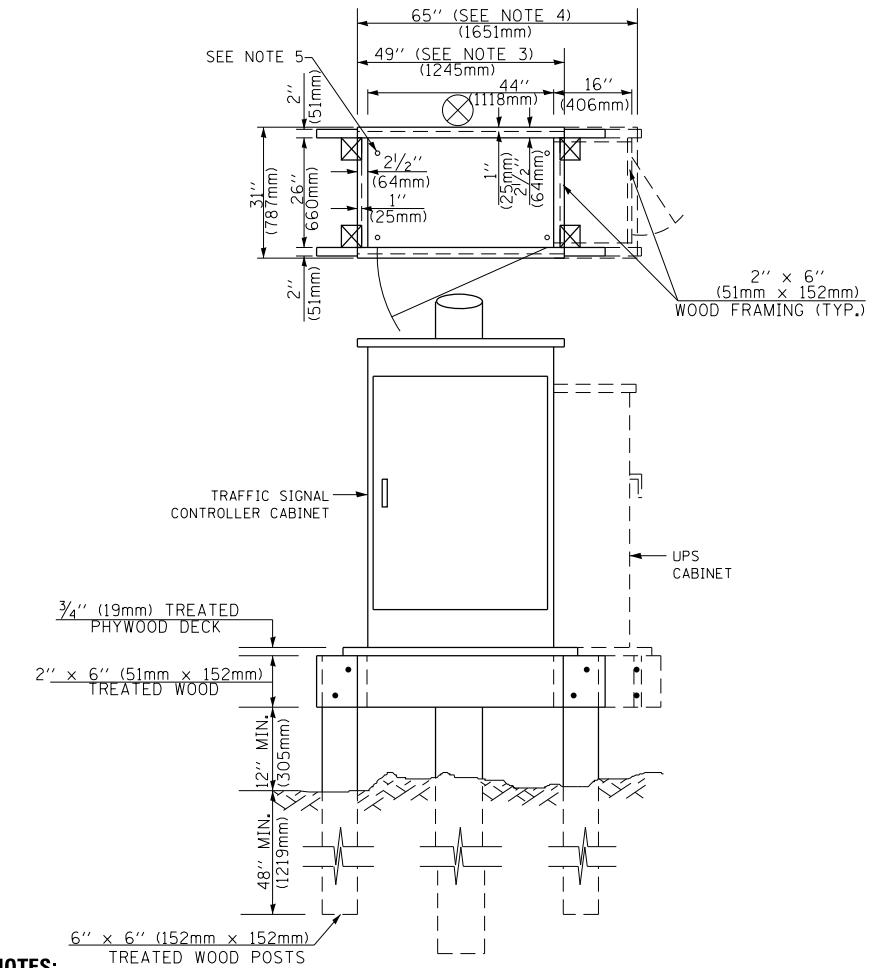


TOP VIEW

NOTE:
TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE



**TYPE C
FOR GROUND MOUNTED
SUPER P (TYPE IV) AND SUPER R (TYPE V)
CONTROLLER CABINETS**



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)

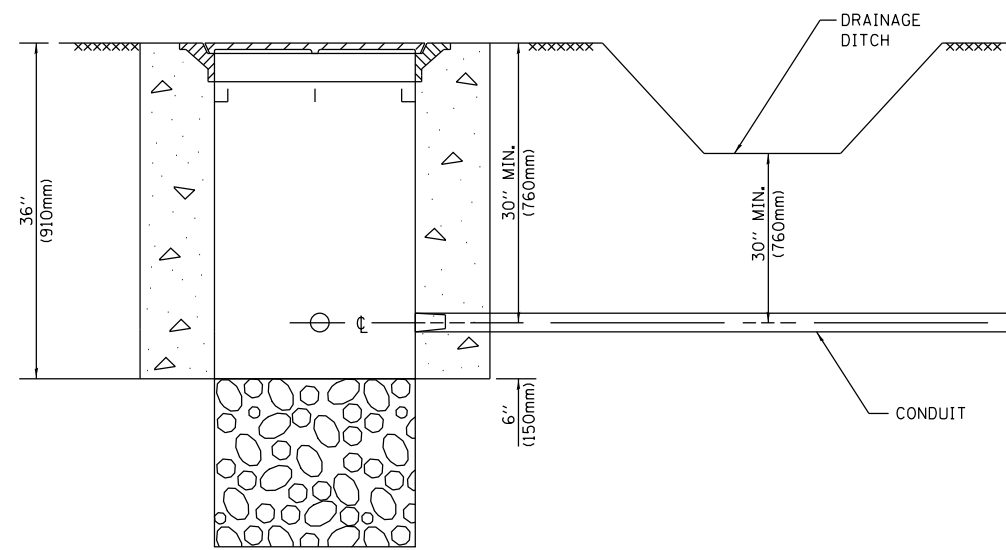
DEPTH OF FOUNDATION

MAST ARM LENGTH	① 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)	24" (600mm)	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 less than 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..

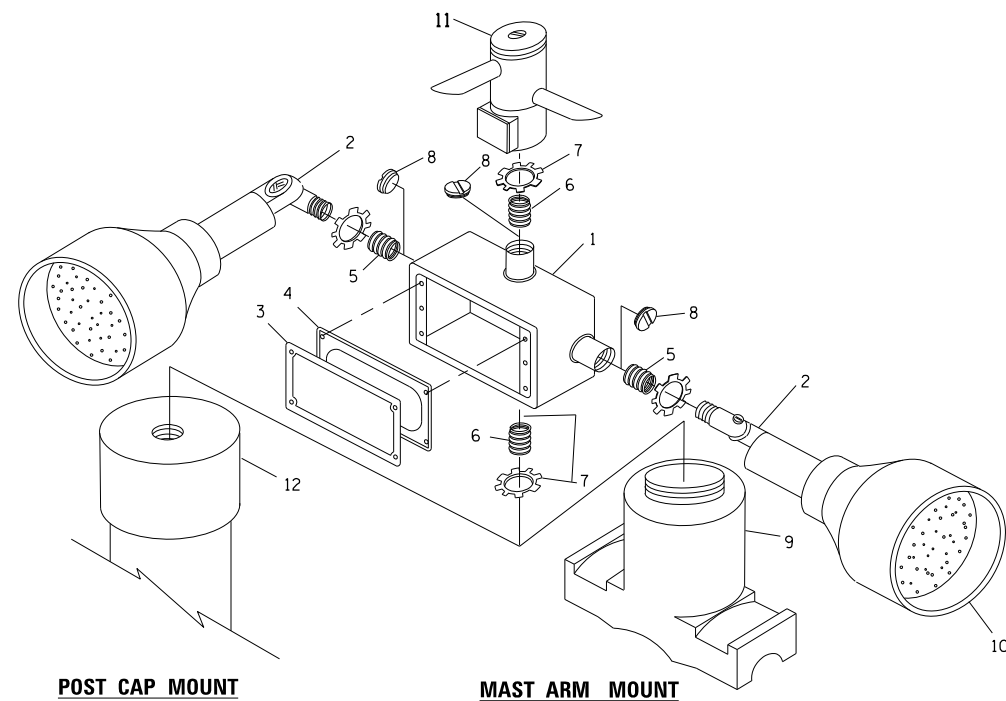
DEPTH OF MAST ARM FOUNDATIONS, TYPE E



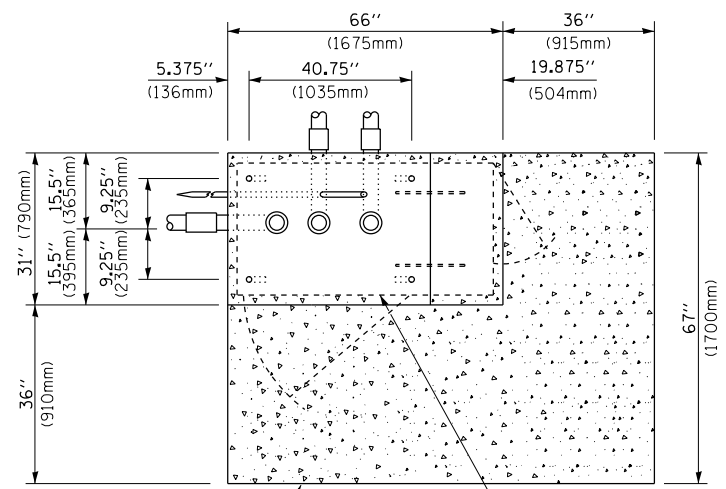
NOTES:

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

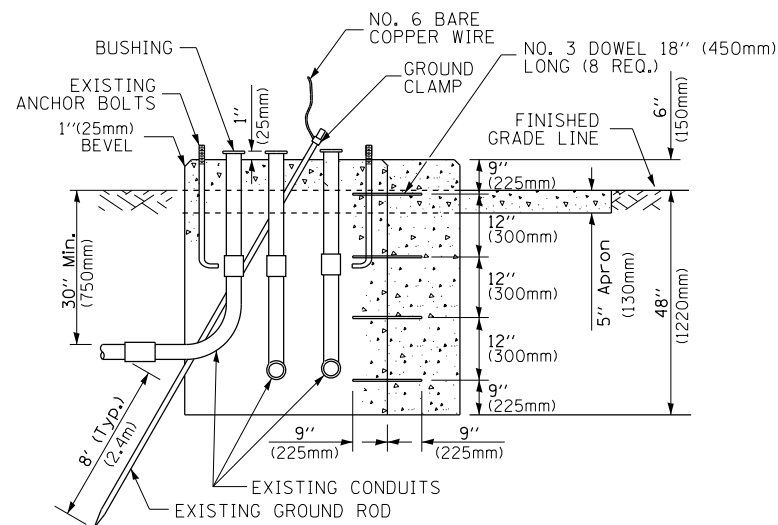
HANDHOLE WITH MINIMUM CONDUIT DEPTH
(NOT TO SCALE)



EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL



TOP VIEW
(NOT TO SCALE)

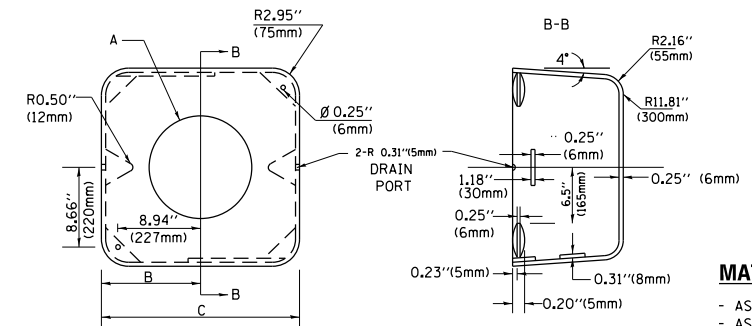


MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION
(NOT TO SCALE)

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:

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. 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
3. 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.



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)

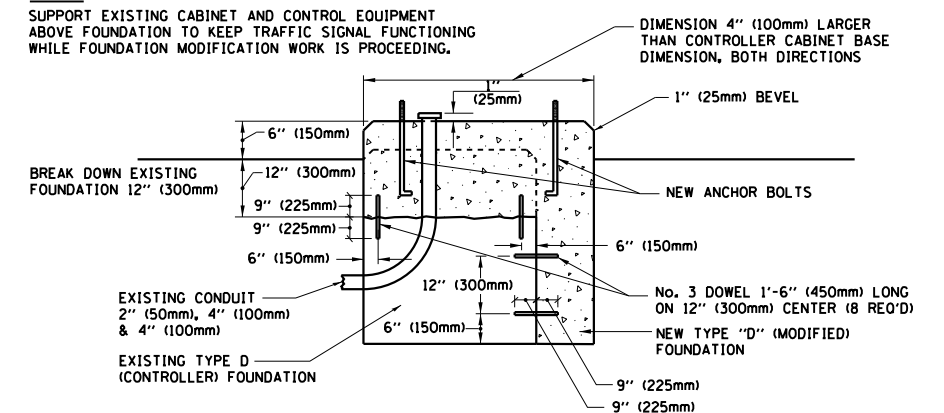
SHROUD

NOTES:

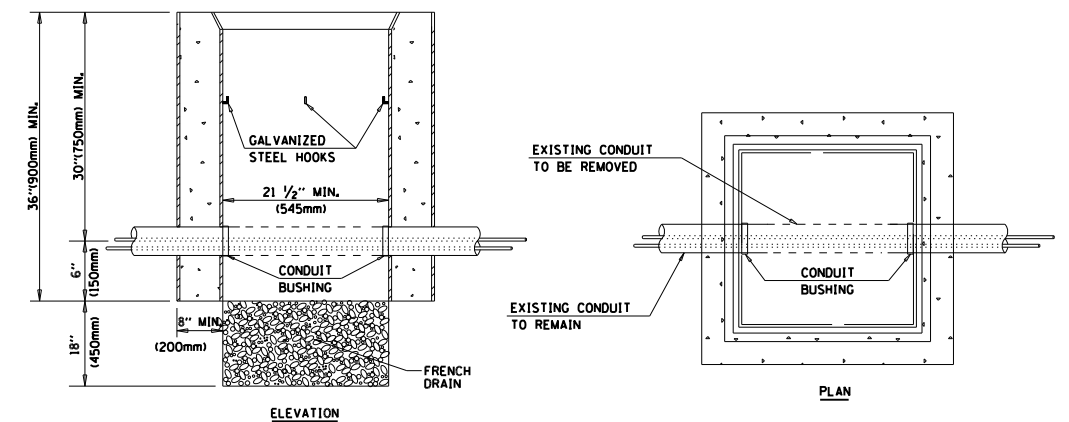
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

NOTE:

SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION



NOTES:

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

HANDHOLE TO INTERCEPT EXISTING CONDUIT

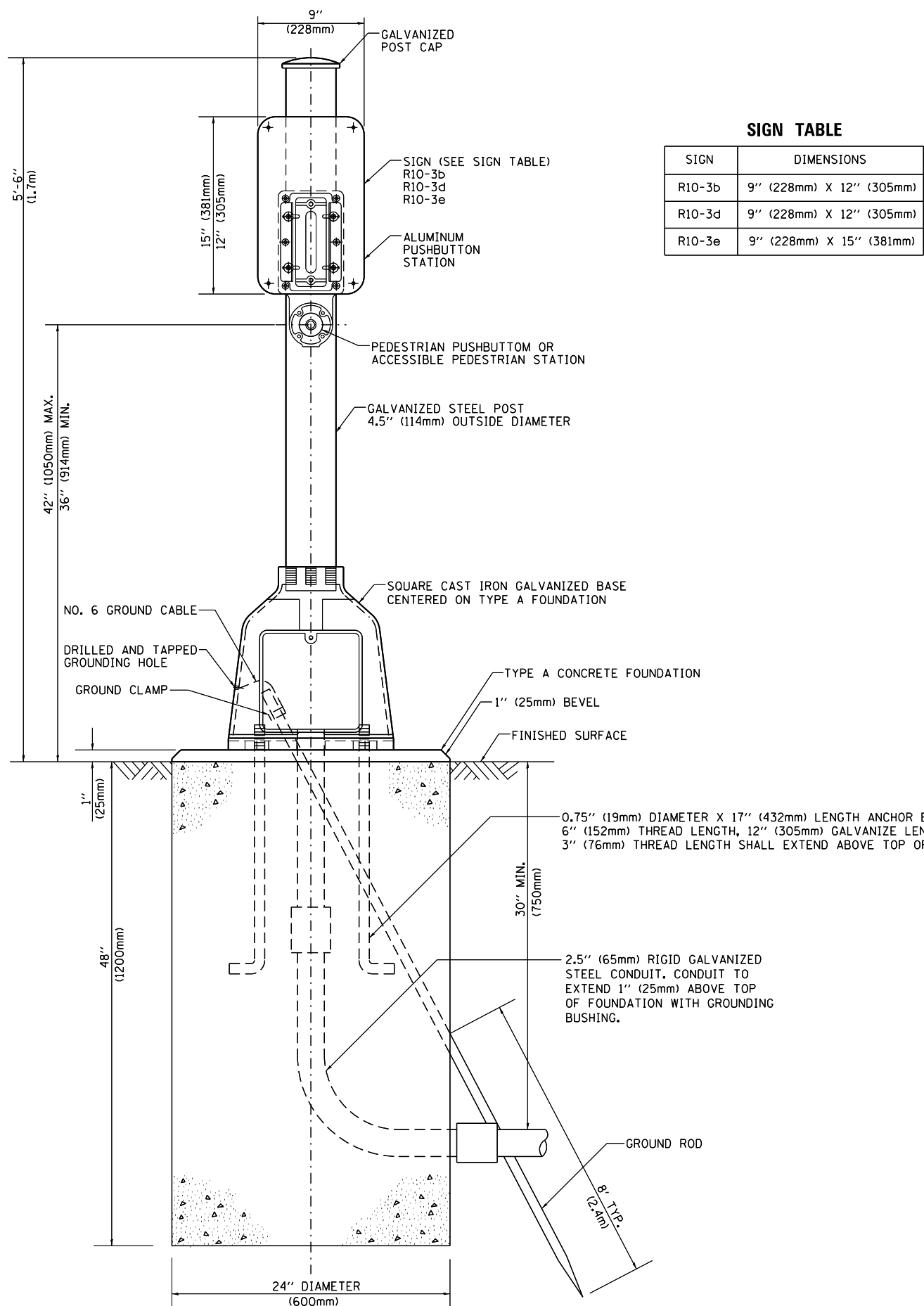
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	PLOT DATE = 5/13/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

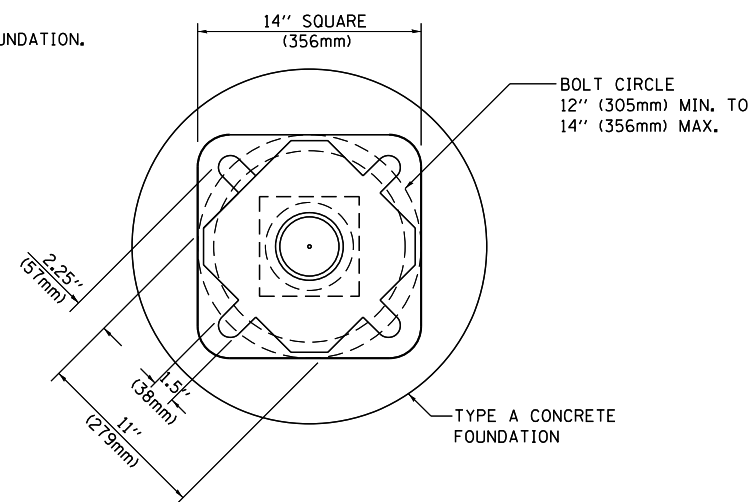
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
333	2019-011-T	LAKE	26	25
TS-05		CONTRACT NO. 62H91		
ILLINOIS FED. AID PROJECT				



SIGN TABLE

SIGN	DIMENSIONS
R10-3b	9" (228mm) X 12" (305mm)
R10-3d	9" (228mm) X 12" (305mm)
R10-3e	9" (228mm) X 15" (381mm)



BOLT PATTERN

PEDESTRIAN PUSH BUTTON POST, TYPE A

FILE NAME =	USER NAME = lababidm	DESIGNED -	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 7 OF 7 SHEETS STA. TO STA.

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