

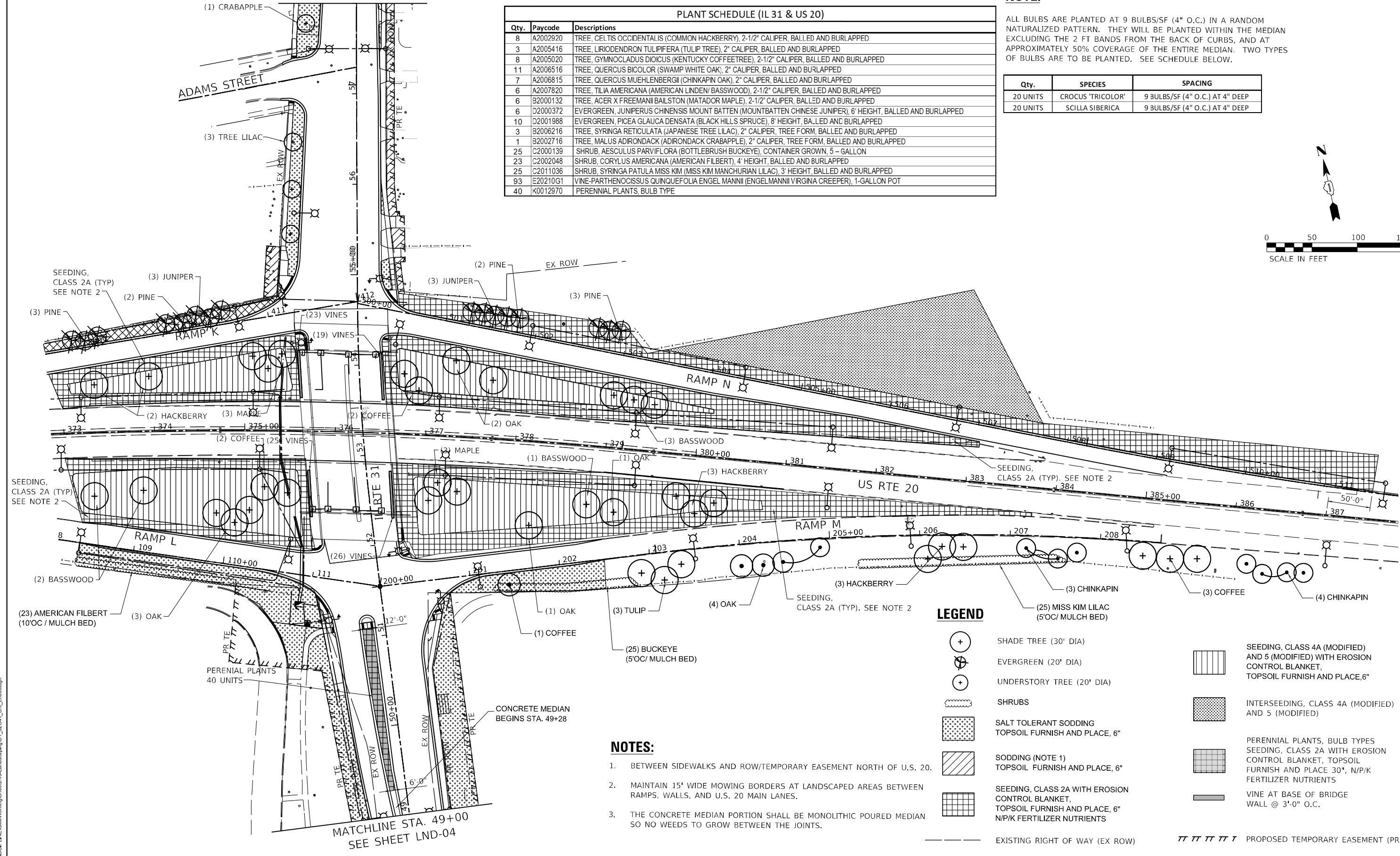
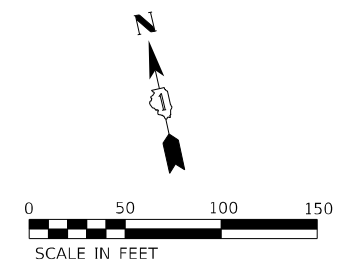
MATCHLINE STA. 58+00  
SEE SHEET LND-04

Qty.	Paycode	Descriptions
8	A2002920	TREE, CELTIS OCCIDENTALIS (COMMON HACKBERRY), 2-1/2" CALIPER, BALLED AND BURLAPPED
3	A2005416	TREE, LIRODENDRON TULIPIFERA (TULIP TREE), 2" CALIPER, BALLED AND BURLAPPED
8	A2005020	TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE), 2-1/2" CALIPER, BALLED AND BURLAPPED
11	A2006516	TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 2" CALIPER, BALLED AND BURLAPPED
7	A2006815	TREE, QUERCUS MUEHLENBERGII (CHINKAPIN OAK), 2" CALIPER, BALLED AND BURLAPPED
6	A2007820	TREE, TILIA AMERICANA (AMERICAN LINDEN/BASSWOOD), 2-1/2" CALIPER, BALLED AND BURLAPPED
6	B2000132	TREE, ACER X FREEMANII BAILSTON (MATADOR MAPLE), 2-1/2" CALIPER, BALLED AND BURLAPPED
6	D2000372	EVERGREEN, JUNIPERUS CHINENSIS MOUNT BATTEN (MOUNTBATTEN CHINESE JUNIPER), 6' HEIGHT, BALLED AND BURLAPPED
10	D2001988	EVERGREEN, PICEA GLAUCA DENSATA (BLACK HILLS SPRUCE), 8' HEIGHT, BALLED AND BURLAPPED
3	B2006216	TREE, SYRINGA RETICULATA (JAPANESE TREE LILAC), 2" CALIPER, TREE FORM, BALLED AND BURLAPPED
1	B2002716	TREE, MALUS ADIRONDACK (ADIRONDACK CRABAPPLE), 2" CALIPER, TREE FORM, BALLED AND BURLAPPED
25	C2000139	SHRUB, AESCULUS PARVIFLORA (BOTTLEBRUSH BUCKEYE), CONTAINER GROWN, 5 - GALLON
23	C2002048	SHRUB, CORYLUS AMERICANA (AMERICAN FILBERT), 4' HEIGHT, BALLED AND BURLAPPED
25	C2011036	SHRUB, SYRINGA PATULA MISS KIM (MISS KIM MANCHURIAN LILAC), 3' HEIGHT, BALLED AND BURLAPPED
93	E20210G1	VINE-PARTHENOISSUS QUINQUEFOLIA ENGEL MANNII (ENGELMANNII VIRGINA CREEPER), 1-GALLON POT
40	K0012970	PERENNIAL PLANTS, BULB TYPE

**NOTE:**

ALL BULBS ARE PLANTED AT 9 BULBS/SF (4" O.C.) IN A RANDOM NATURALIZED PATTERN. THEY WILL BE PLANTED WITHIN THE MEDIAN EXCLUDING THE 2 FT BANDS FROM THE BACK OF CURBS, AND AT APPROXIMATELY 50% COVERAGE OF THE ENTIRE MEDIAN. TWO TYPES OF BULBS ARE TO BE PLANTED. SEE SCHEDULE BELOW.

Qty.	SPECIES	SPACING
20 UNITS	CROCUS 'TRICOLOR'	9 BULBS/SF (4" O.C.) AT 4" DEEP
20 UNITS	SCILLA SIBERICA	9 BULBS/SF (4" O.C.) AT 4" DEEP



**NOTES:**

- BETWEEN SIDEWALKS AND ROW/TEMPORARY EASEMENT NORTH OF U.S. 20.
- MAINTAIN 15' WIDE MOWING BORDERS AT LANDSCAPED AREAS BETWEEN RAMPS, WALLS, AND U.S. 20 MAIN LANES.
- THE CONCRETE MEDIAN PORTION SHALL BE MONOLITHIC Poured MEDIAN SO NO WEEDS TO GROW BETWEEN THE JOINTS.

**LEGEND**

- SHADE TREE (30' DIA)
- EVERGREEN (20' DIA)
- UNDERSTORY TREE (20' DIA)
- SHRUBS
- SALT TOLERANT SODDING TOPSOIL FURNISH AND PLACE, 6"
- SODDING (NOTE 1) TOPSOIL FURNISH AND PLACE, 6"
- SEEDING, CLASS 2A WITH EROSION CONTROL BLANKET, TOPSOIL FURNISH AND PLACE, 6" N/P/K FERTILIZER NUTRIENTS
- EXISTING RIGHT OF WAY (EX ROW)
- PROPOSED RIGHT OF WAY (PR ROW)
- SEEDING, CLASS 4A (MODIFIED) AND 5 (MODIFIED) WITH EROSION CONTROL BLANKET, TOPSOIL FURNISH AND PLACE, 6"
- INTERSEEDING, CLASS 4A (MODIFIED) AND 5 (MODIFIED)
- PERENNIAL PLANTS, BULB TYPES SEEDING, CLASS 2A WITH EROSION CONTROL BLANKET, TOPSOIL FURNISH AND PLACE 30", N/P/K FERTILIZER NUTRIENTS
- VINE AT BASE OF BRIDGE WALL @ 3'-0" O.C.
- PROPOSED TEMPORARY EASEMENT (PR TE)
- PROPOSED PERMANENT EASEMENT (PR PE)

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DATE - 03/24/2023

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**LANDSCAPING PLAN**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	201
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

PLANT SCHEDULE (IL 31, N of US 20- LT)

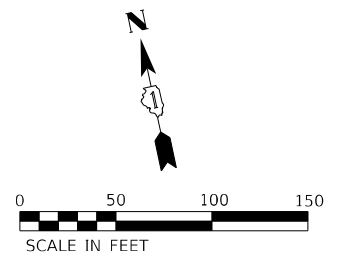
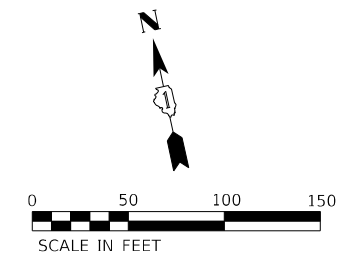
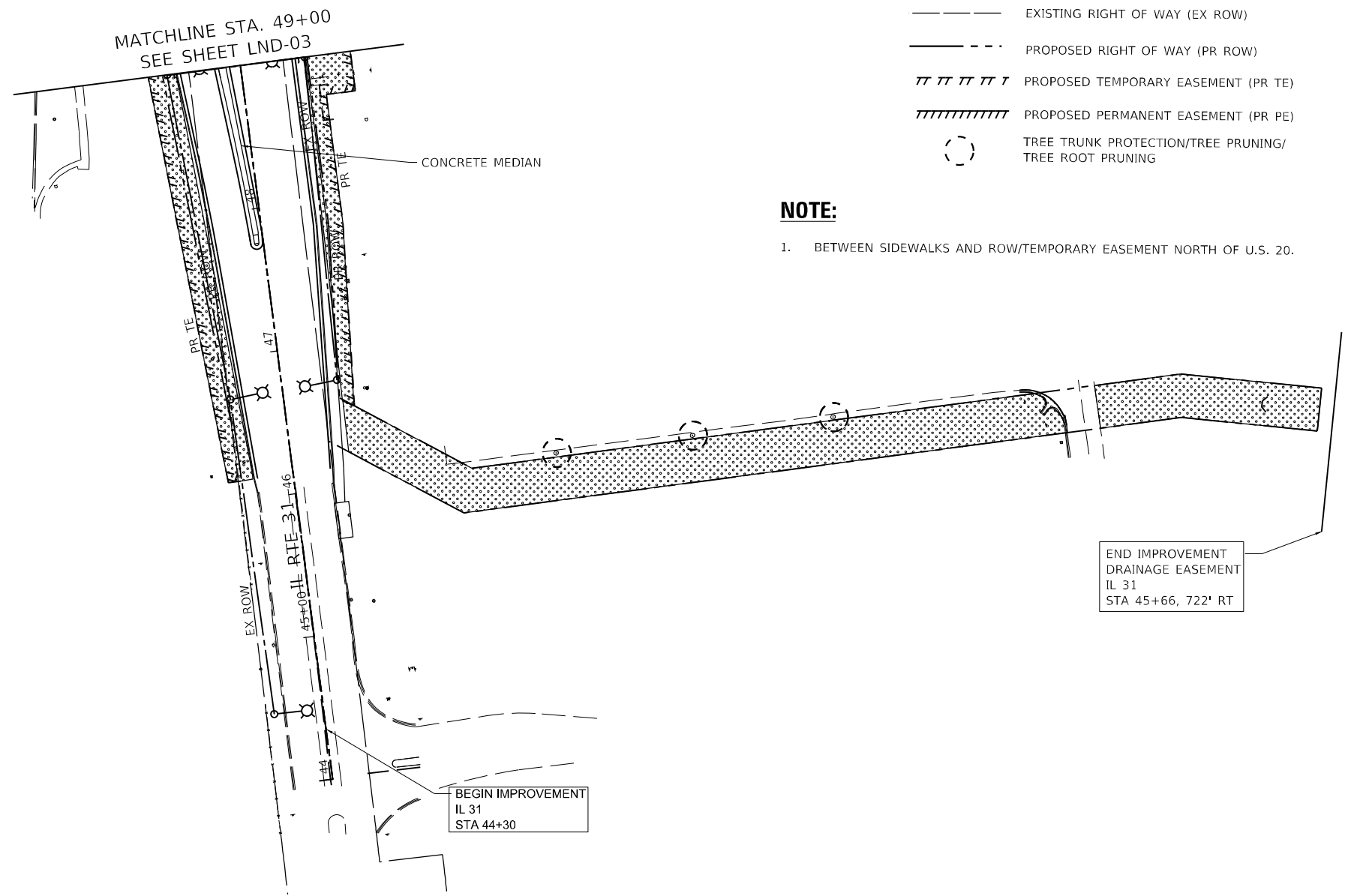
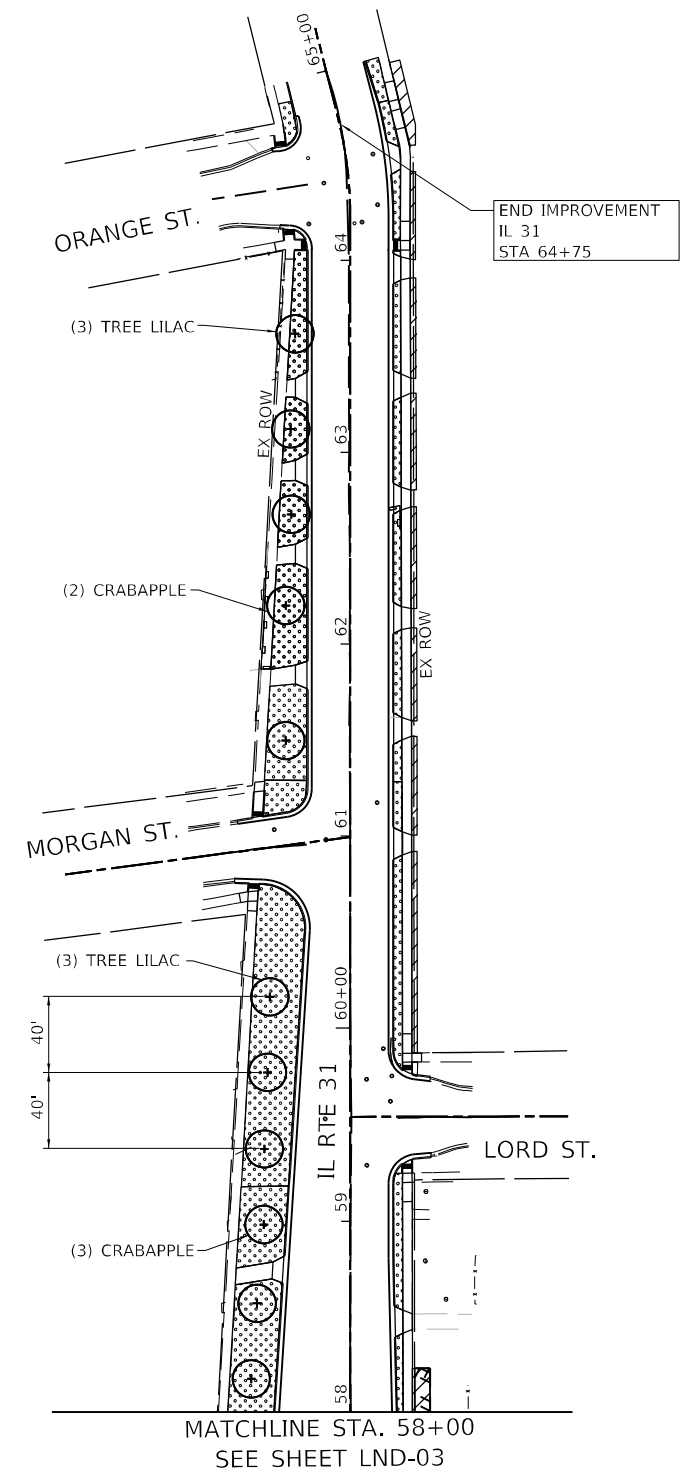
Qty.	Paycode	Descriptions
6	B2006216	TREE, SYRINGA RETICULATA (JAPANESE TREE LILAC), 2" CALIPER, TREE FORM, BALLED AND BURLAPPED
5	B2002716	TREE, MALUS ADIRONDACK (ADIRONDACK CRABAPPLE), 2" CALIPER, TREE FORM, BALLED AND BURLAPPED

LEGEND

- UNDERSTORY TREE (20' DIA)
- SALT TOLERANT SODDING
- SODDING (NOTE 1)
- EXISTING RIGHT OF WAY (EX ROW)
- PROPOSED RIGHT OF WAY (PR ROW)
- PROPOSED TEMPORARY EASEMENT (PR TE)
- PROPOSED PERMANENT EASEMENT (PR PE)
- TREE TRUNK PROTECTION/TREE PRUNING/TREE ROOT PRUNING

NOTE:

- BETWEEN SIDEWALKS AND ROW/TEMPORARY EASEMENT NORTH OF U.S. 20.



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DATE - 03/24/2023	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

LANDSCAPING PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	202
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



# 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			FIBER OPTIC CABLE -NO. 62.5/125, MM12F -NO. 62.5/125, MM12F SM12F -NO. 62.5/125, MM12F SM24F		
WOOD POLE			INTERSECTION ITEM			GROUND ROD -(C) CONTROLLER -(M) MAST ARM -(P) POST -(S) SERVICE		
GUY WIRE			REMOVE ITEM					
SIGNAL HEAD			RELOCATE ITEM					
SIGNAL HEAD WITH BACKPLATE			ABANDON ITEM					
SIGNAL HEAD OPTICALLY PROGRAMMED			CONTROLLER CABINET AND FOUNDATION TO BE REMOVED					
FLASHER INSTALLATION -(FS) SOLAR POWERED			MAST ARM POLE AND FOUNDATION TO BE REMOVED					
PEDESTRIAN SIGNAL HEAD			SIGNAL POST AND FOUNDATION TO BE REMOVED					
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								

TS SHT NO. 1

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

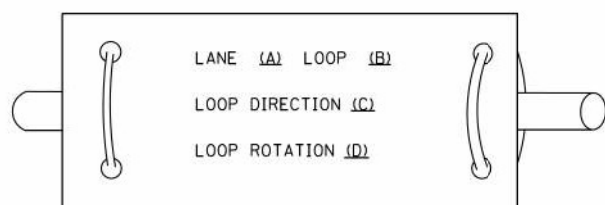
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F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 203
<b>TS-05</b>			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				

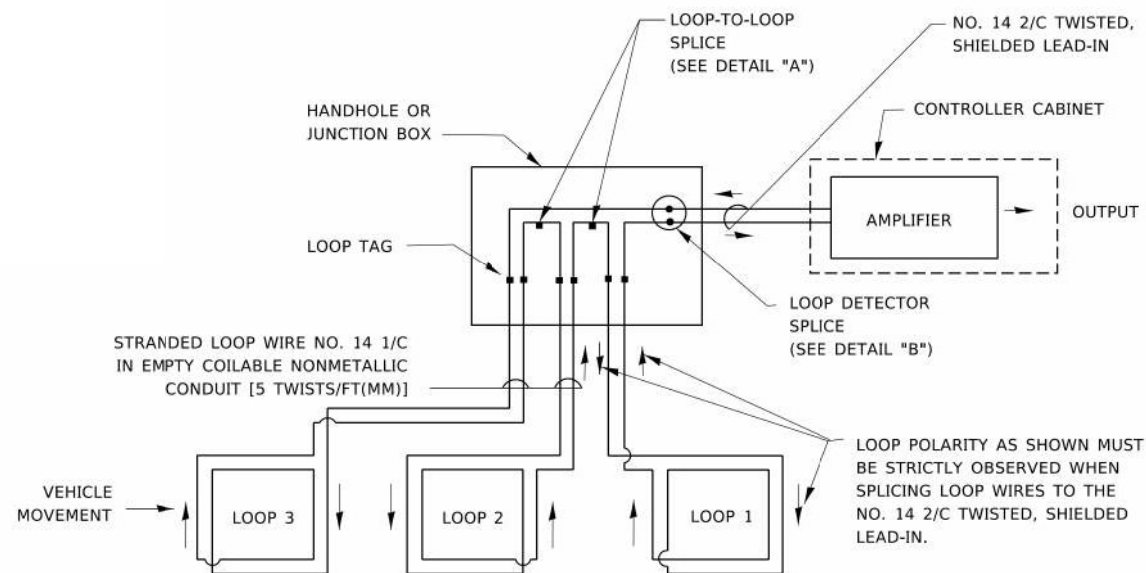
**LOOP DETECTOR NOTES**

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 DIVESHOLES 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**

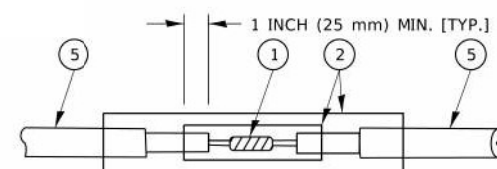


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

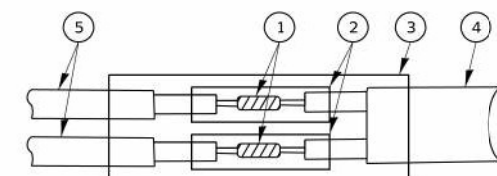


**DETECTOR LOOP WIRING SCHEMATIC**

- 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.

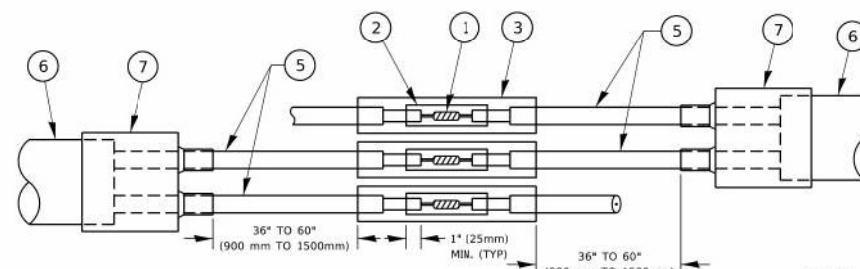


DETAIL "A"  
LOOP-TO-LOOP SPLICE

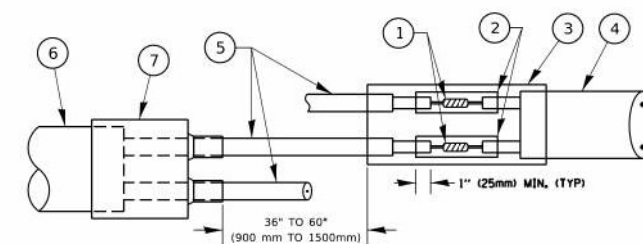


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**TYPE I LOOP**



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**PREFORMED LOOP**

**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. PREFORMED LOOP
- ⑥ XL POLYOLEFIN 2 CONDUCTOR
- ⑦ BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

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PLOT DATE = 3/4/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

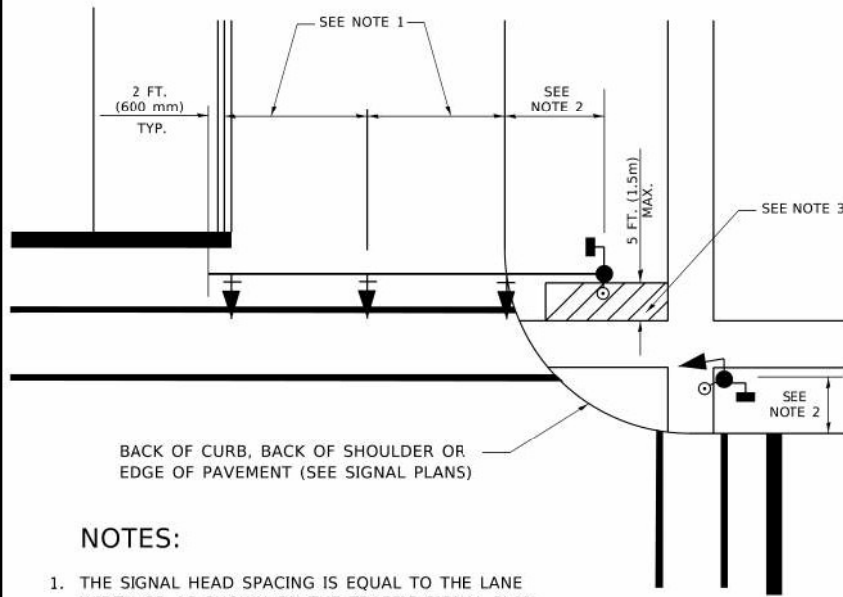
**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 2 OF 7 SHEETS STA. TO STA.

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 204
TS-05			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				

### 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.

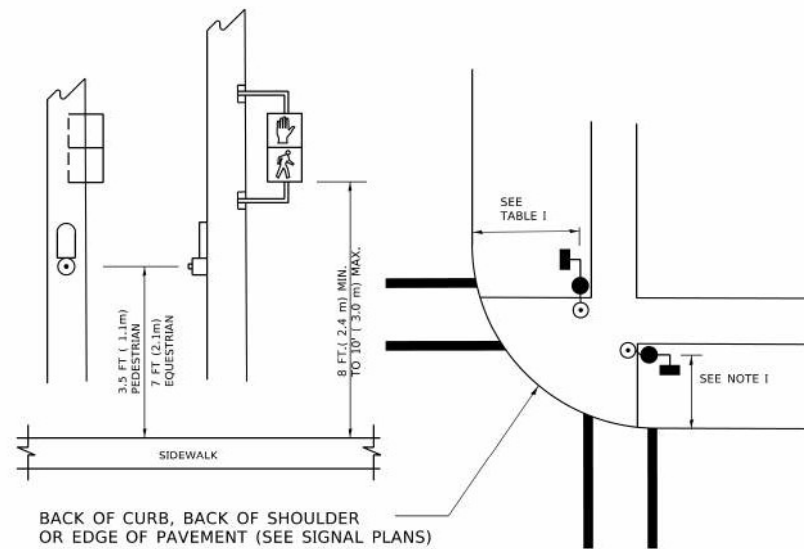


BACK OF CURB, BACK OF SHOULDER OR EDGE OF PAVEMENT (SEE SIGNAL PLANS)

#### 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

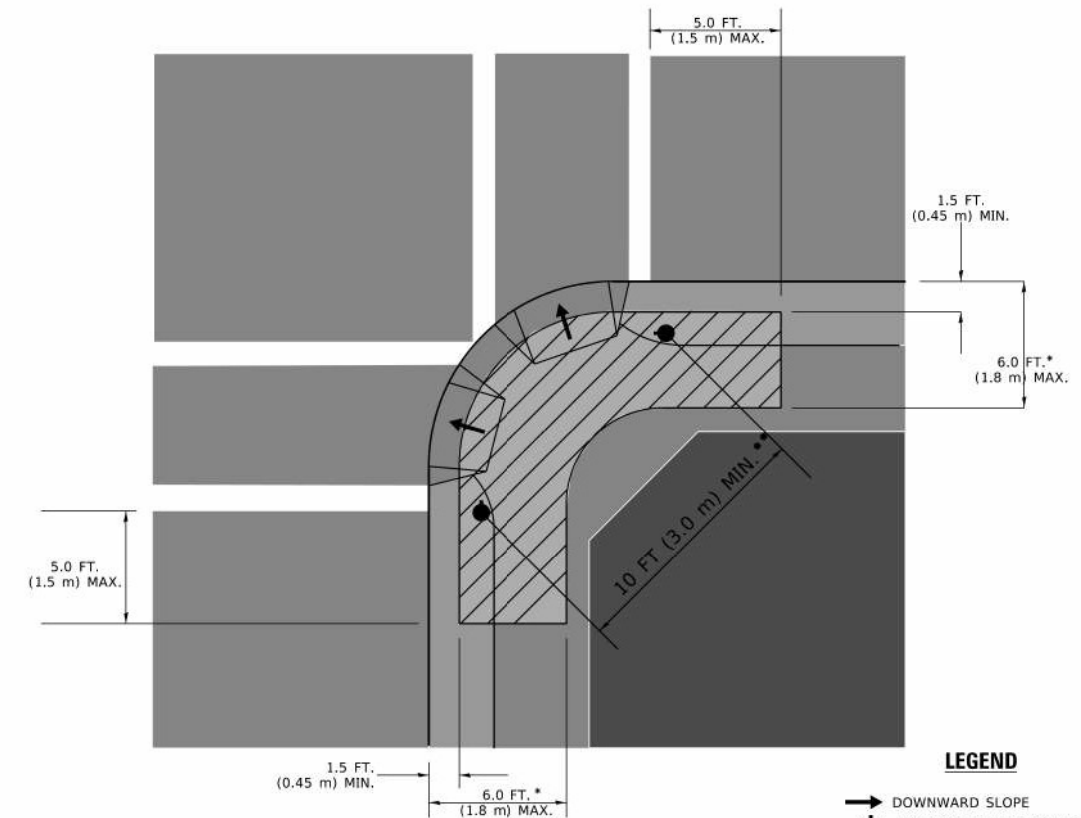


BACK OF CURB, BACK OF SHOULDER OR EDGE OF PAVEMENT (SEE SIGNAL PLANS)

#### 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.

TS SHT NO. 3

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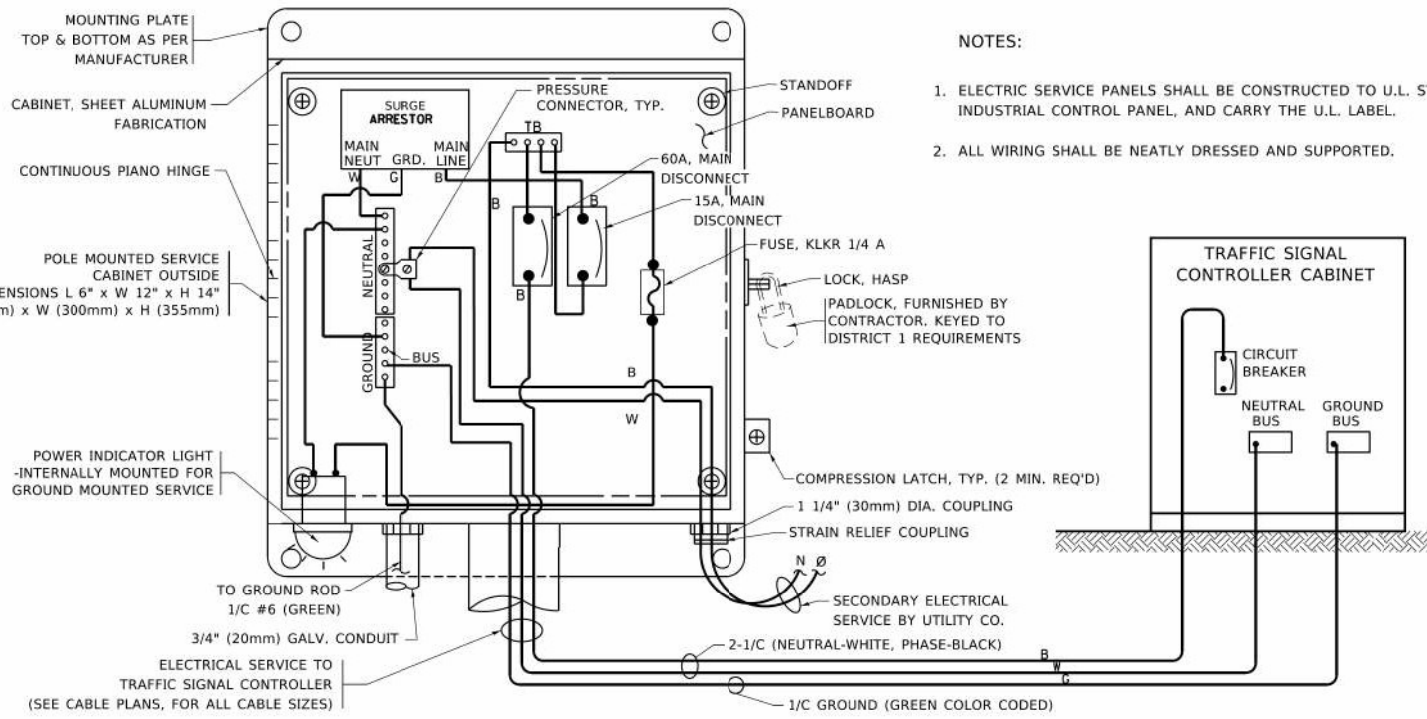
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

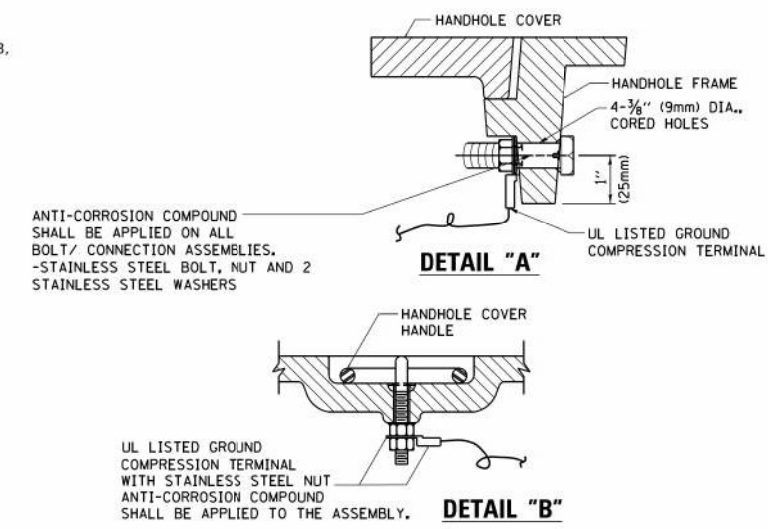
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	8HB-2	KANE	359	205
TS-05			CONTRACT NO. 62641	
ILLINOIS FED. AID PROJECT				



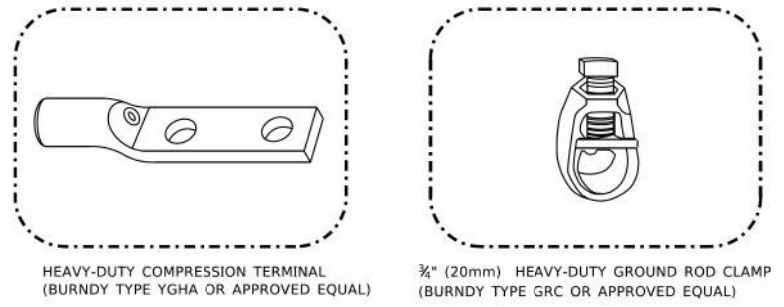


**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



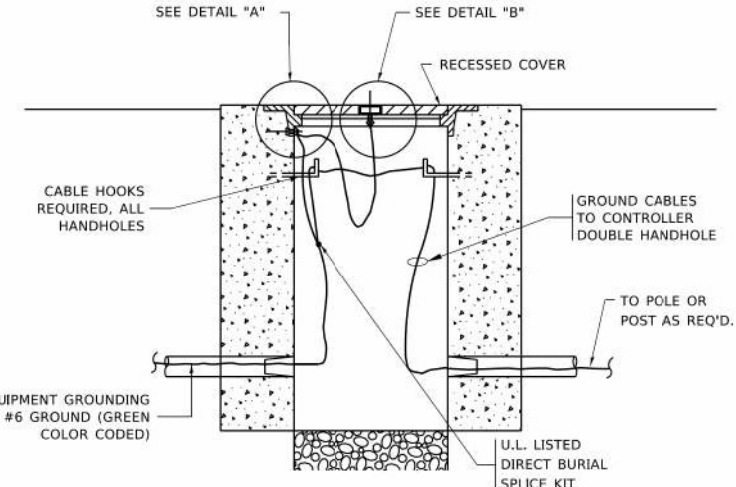
**NOTES:**  
**GROUNDING SYSTEM**

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



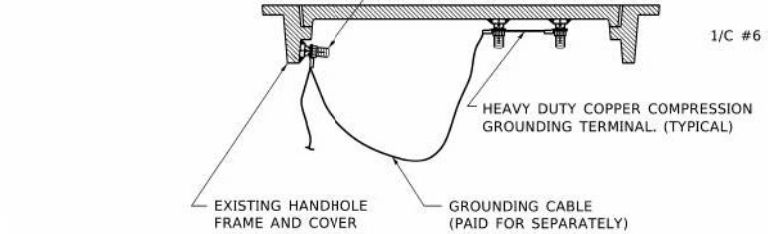
**NOTES:**

- 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.

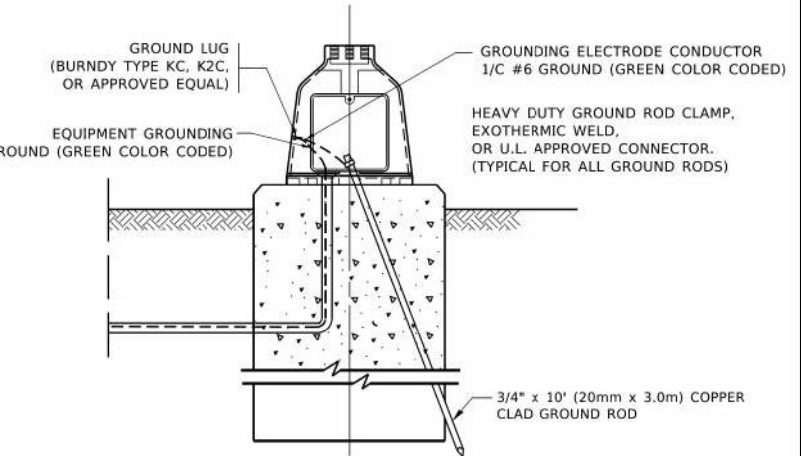


**HANDHOLE COVER & FRAME - GROUNDING DETAIL**  
 (NOT TO SCALE)

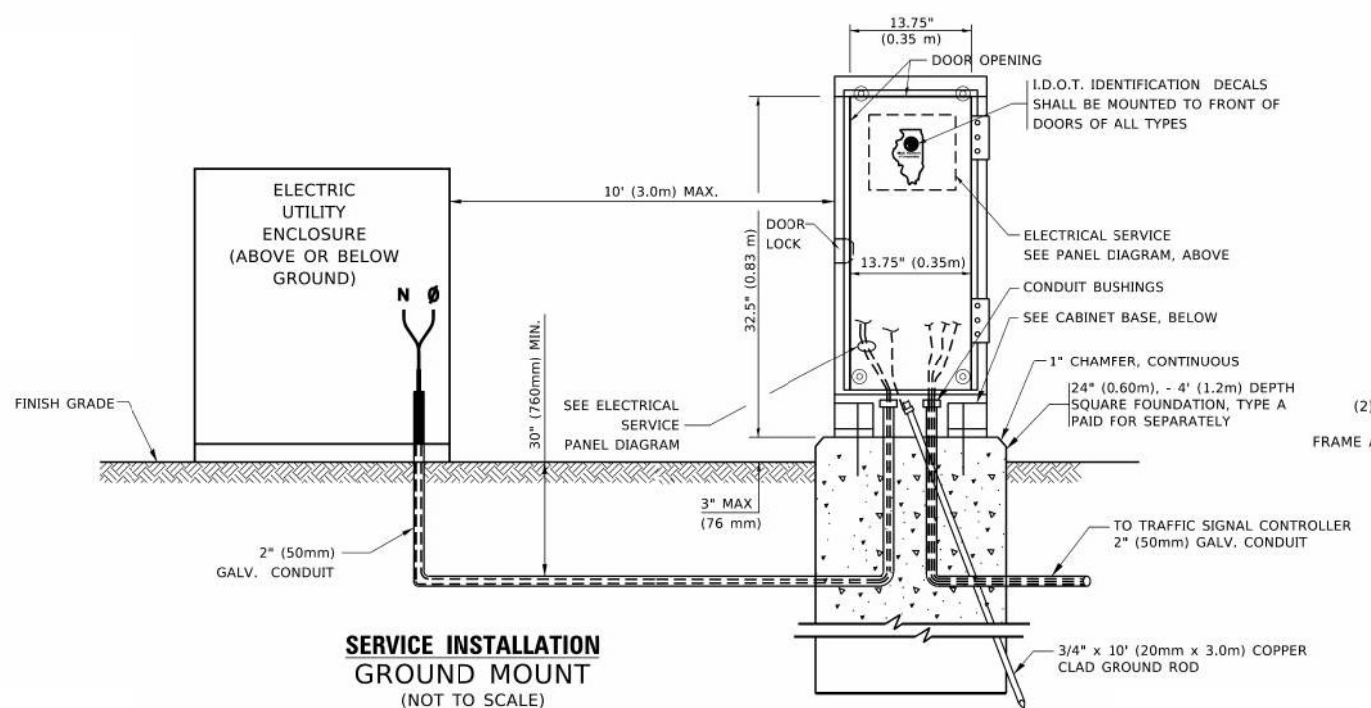
(2) 1/2" x 1 1/4" STAINLESS STEEL BOLT WITH SPLIT LOCK WASHER AND NYLON INSERT LOCKOUT WELDED TO FRAME AND TO COVER. (TYPICAL). ANTI-CORROSION COMPOUND SHALL BE APPLIED TO EACH ASSEMBLY.



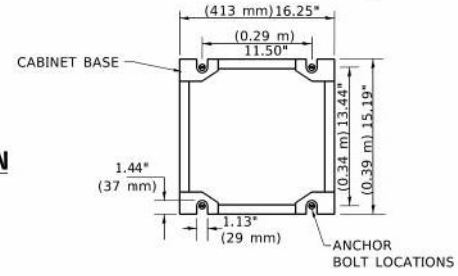
**EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL**  
 (NOT TO SCALE)



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



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



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

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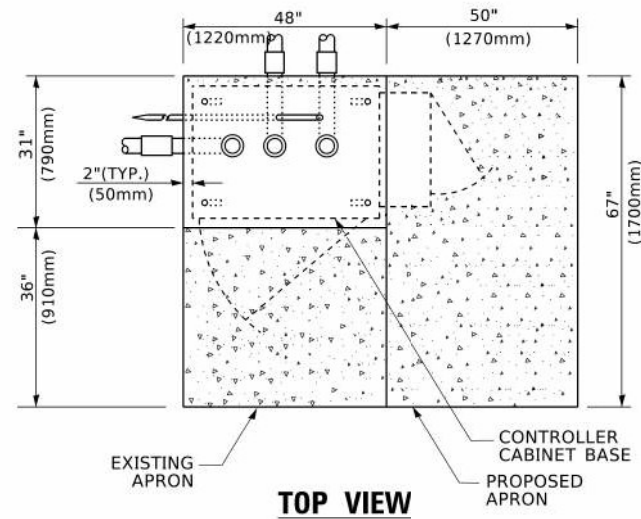
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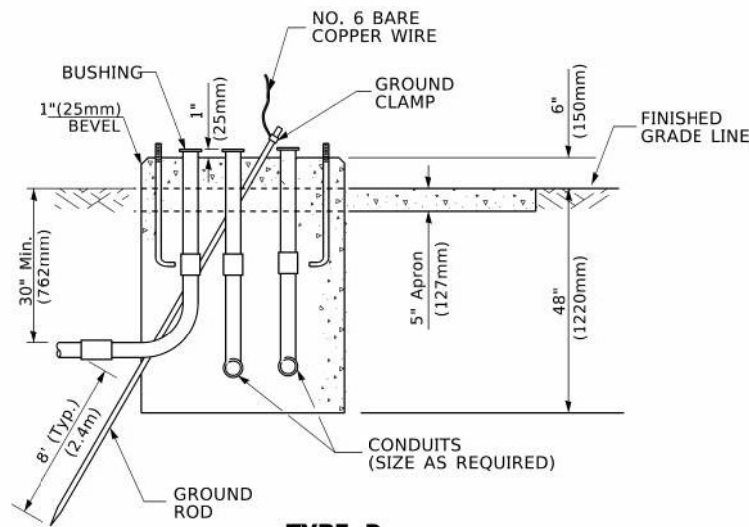
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

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

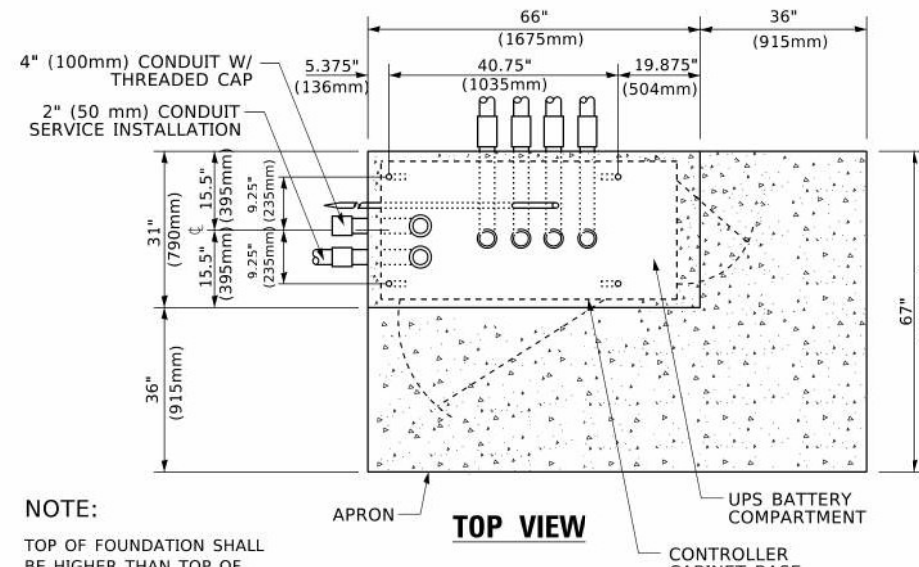
F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 206
<b>TS-05</b>			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				



**TOP VIEW**



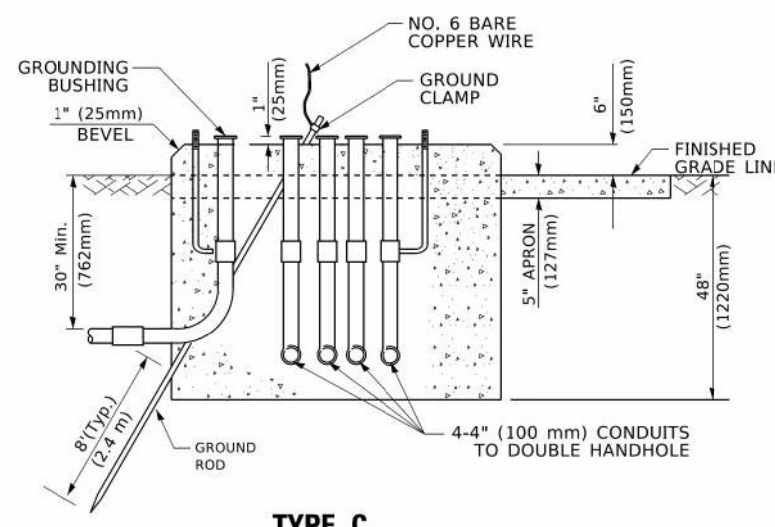
**TYPE D  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**



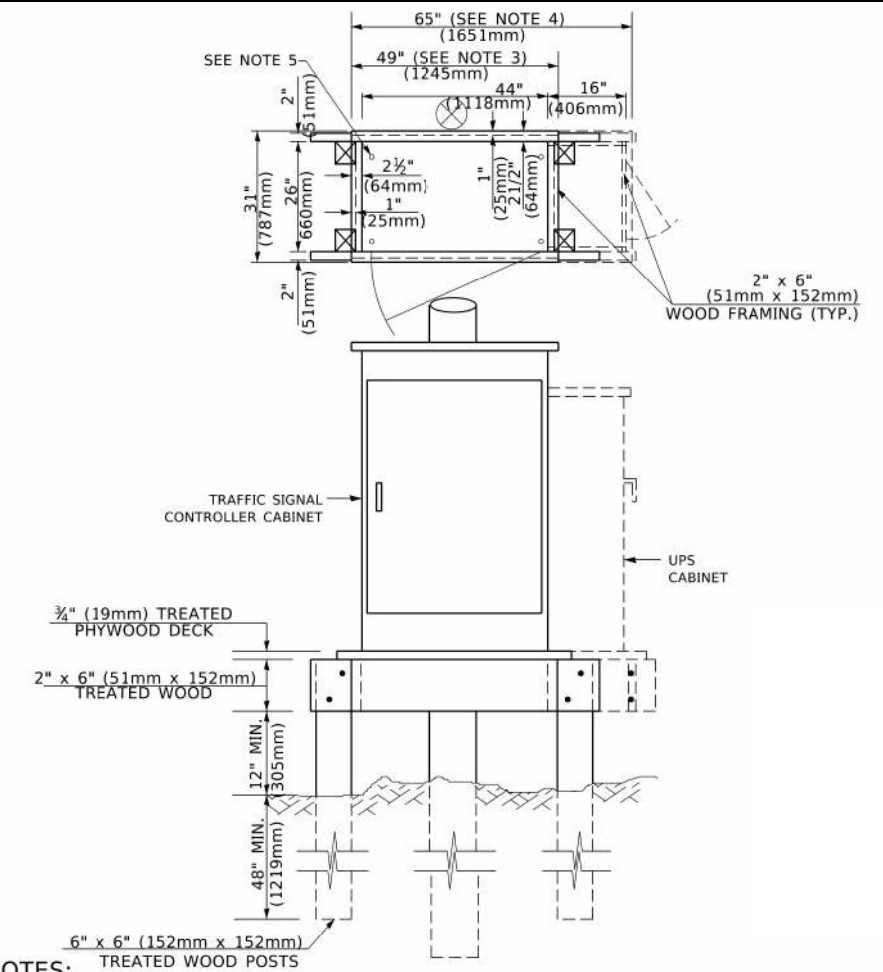
**TOP VIEW**

**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)	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 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.

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

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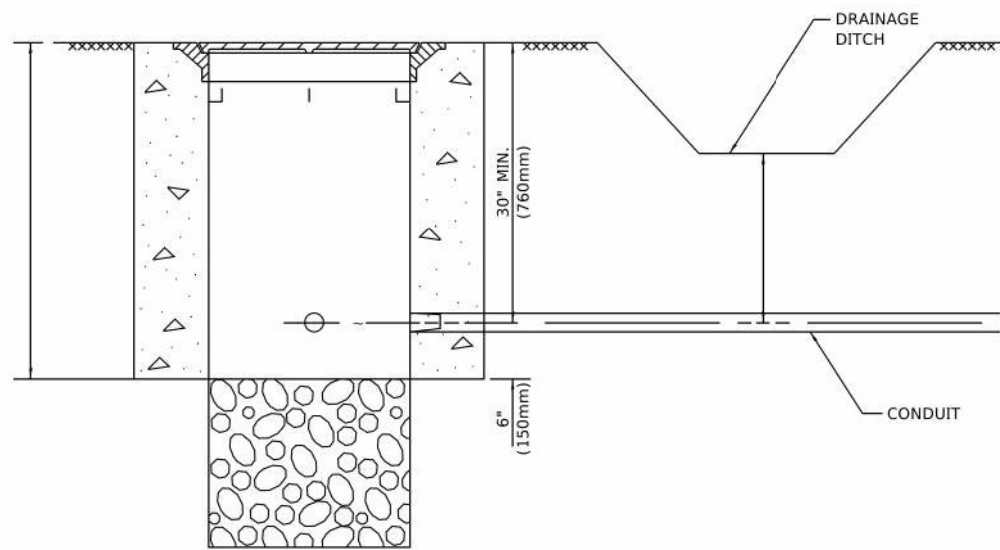
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	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE SHEET 5 OF 7 SHEETS STA. TO STA.

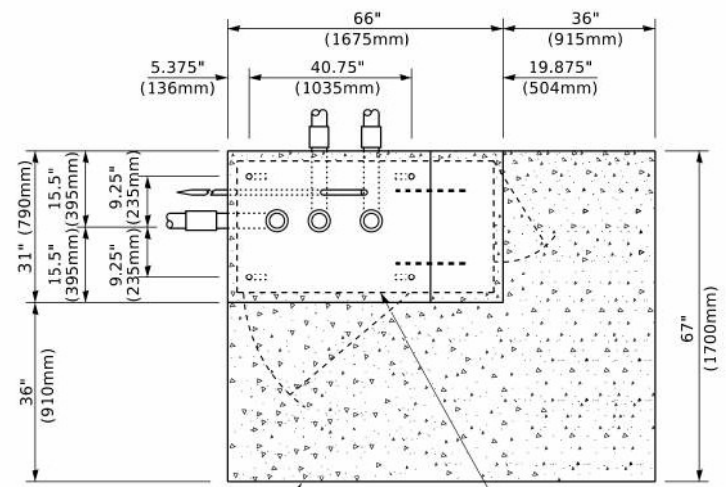
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TS-05			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				



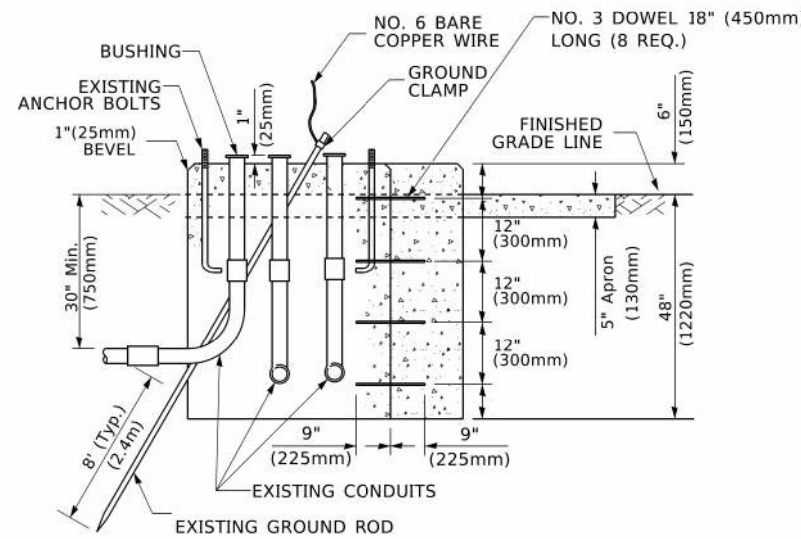
**NOTES:**

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.

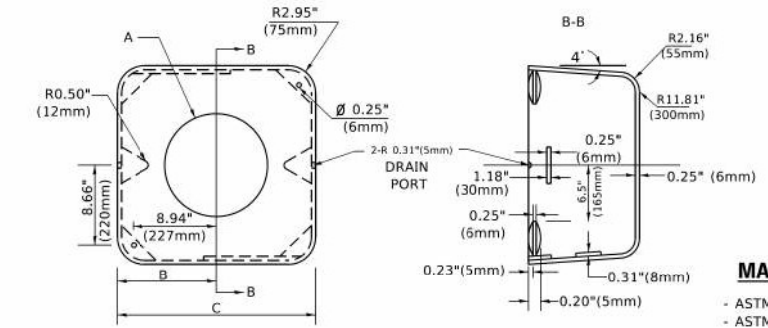
**HANDHOLE WITH MINIMUM CONDUIT DEPTH**  
(NOT TO SCALE)



**TOP VIEW**  
(NOT TO SCALE)



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



**MATERIAL**  
- ASTM A36 STEEL  
- ASTM A-123 HOT DIPPED GALVANIZED

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)

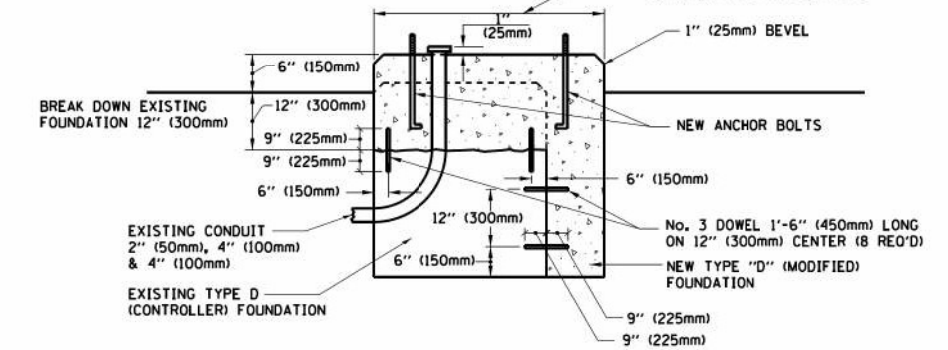
**SHROUD**

**NOTES:**

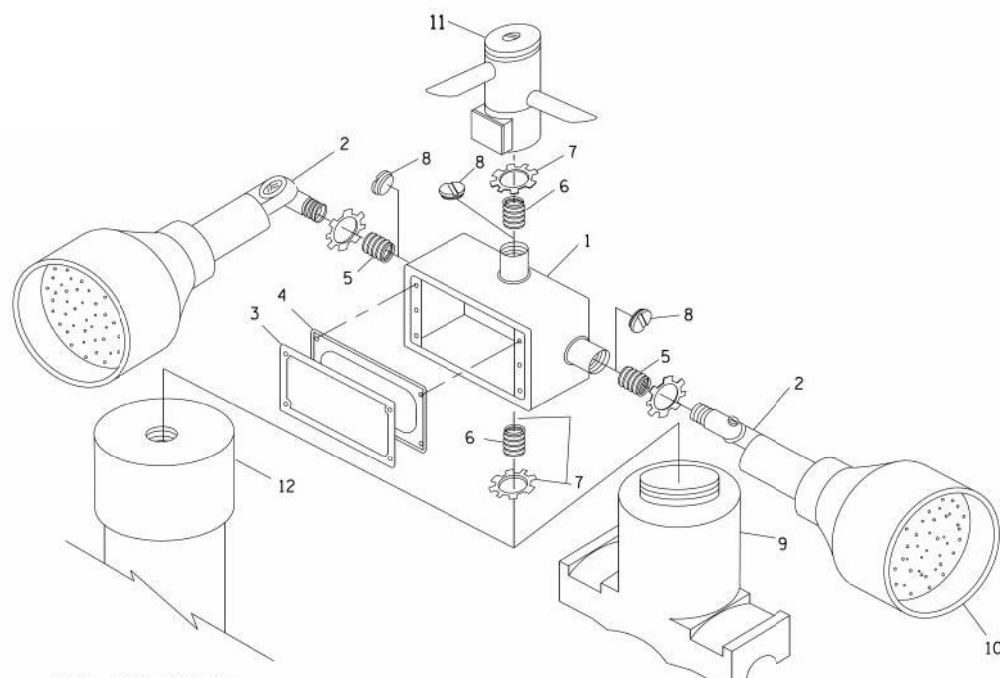
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

**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**

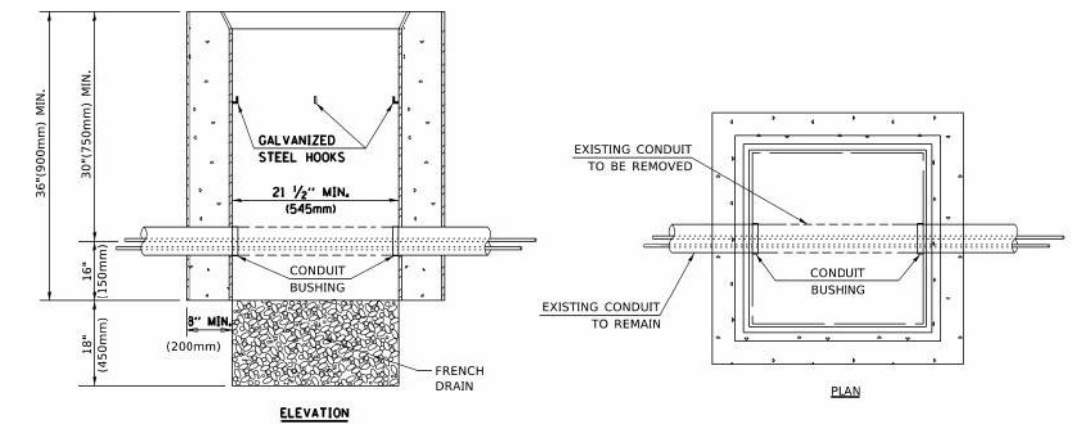


**EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL**

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.



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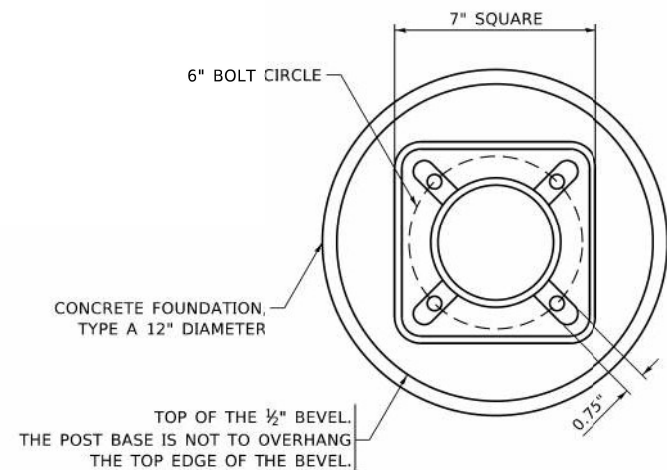
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE			
STANDARD TRAFFIC SIGNAL DESIGN DETAILS			
SCALE: NONE	SHEET 6	OF 7 SHEETS	STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TS-05			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				

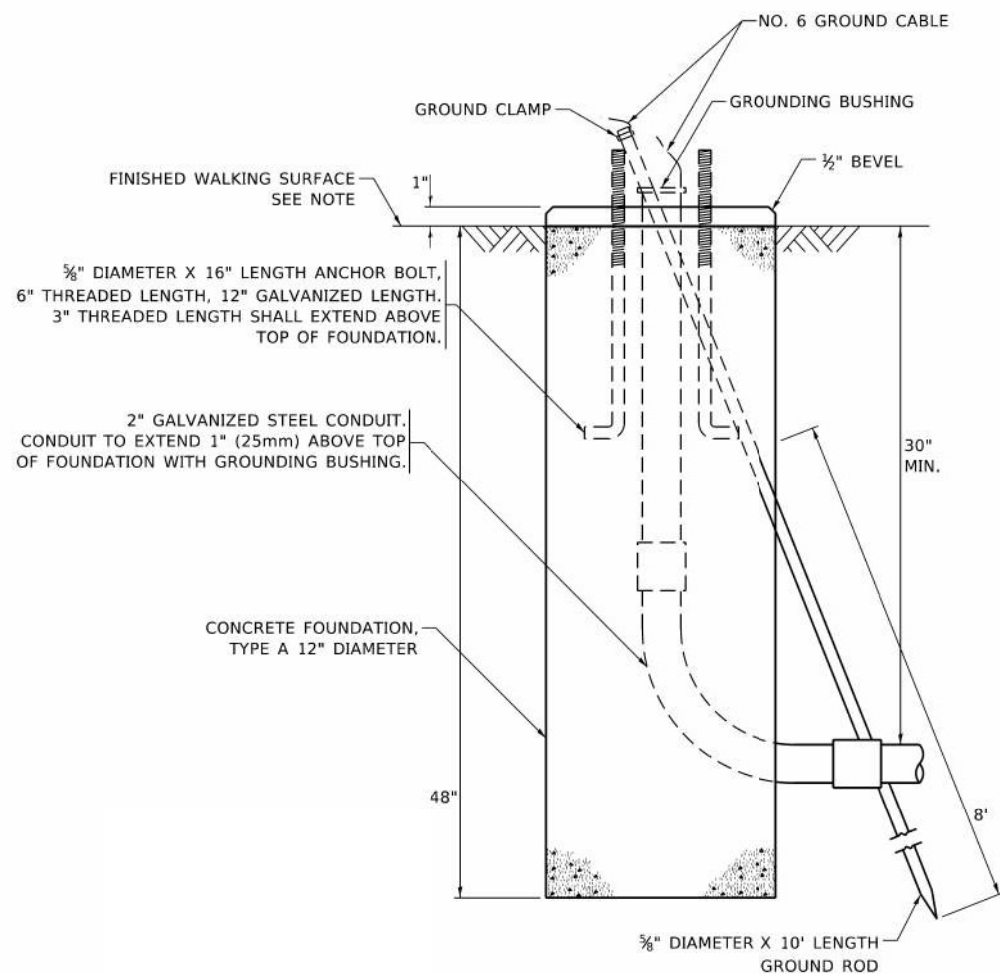




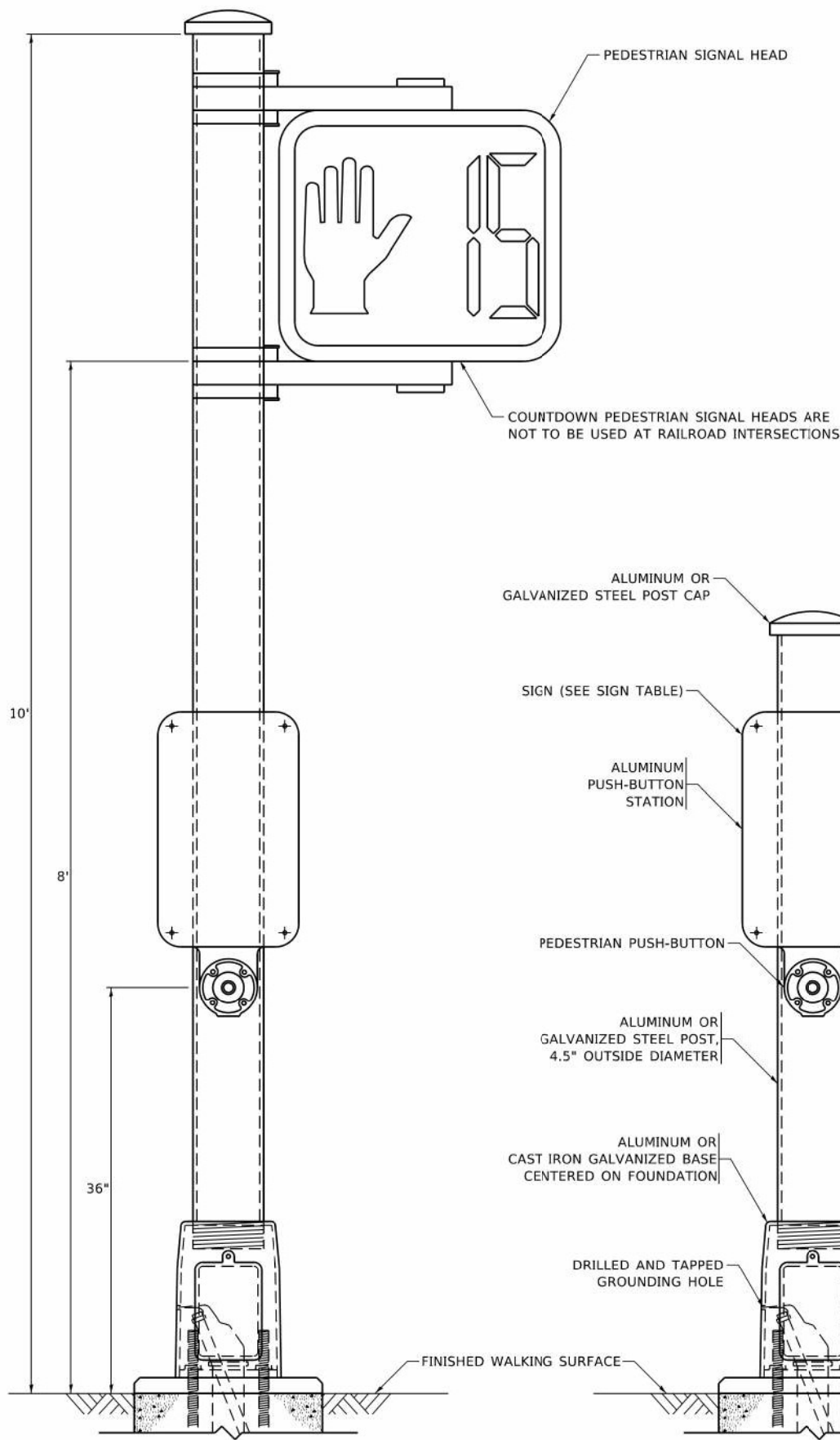
**BOLT PATTERN**

**NOTE:**

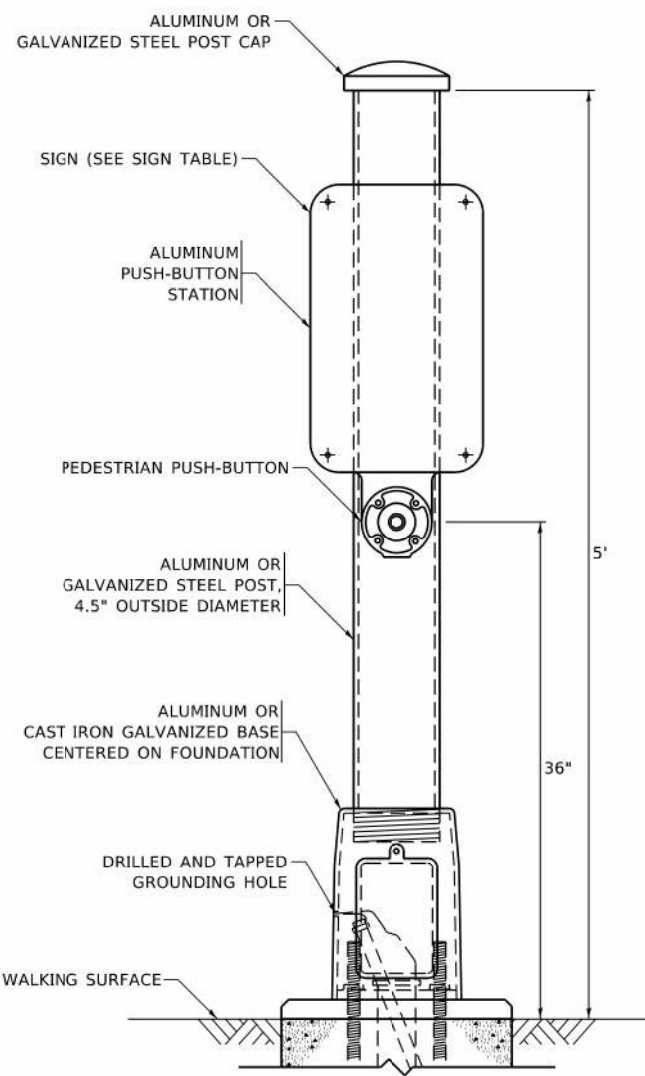
1. IF THE PEDESTRIAN SIGNAL POST FOUNDATION IS INSTALLED WITHIN OR BEHIND A BARRIER CURB, THE TOP OF THE FOUNDATION SHALL BE INSTALLED FLUSH WITH THE TOP OF THE BARRIER CURB.



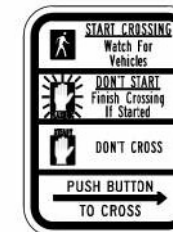
**CONCRETE FOUNDATION,  
TYPE A 12-INCH DIAMETER**



**PEDESTRIAN SIGNAL POST, 10 FT.**



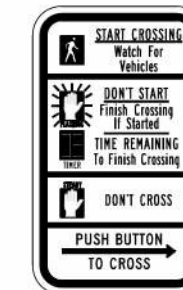
**PEDESTRIAN SIGNAL POST, 5 FT.**



**R10-3b**



**R10-3d**



**R10-3e**

**SIGN TABLE**

SIGN	DIMENSIONS
R10-3b (RAILROAD ONLY)	9" X 12"
R10-3d (RAILROAD ONLY)	9" X 12"
R10-3e	9" X 12"

**NOTES:**

1. THE SIGN PANELS SHALL BE TYPE AP SHEETING.
2. THE ARROW ON SIGNS FOR PUSH-BUTTONS SERVING TWO DIRECTIONS ON THE SAME PHASE SHALL BE BI-DIRECTIONAL.
3. THE SIGN FOR DUAL-CALL PUSH-BUTTONS SHALL HAVE NO ARROW.

TS SHT NO. 7

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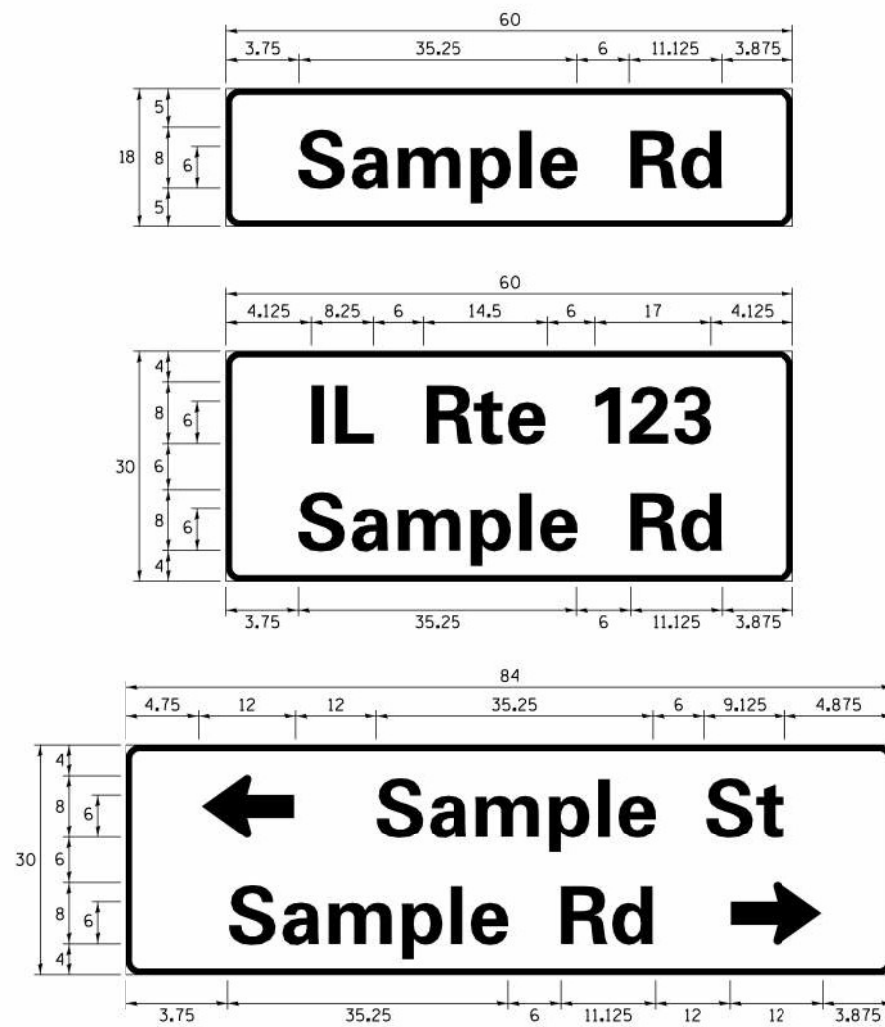
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	8HB-2	KANE	359	209
TS-05		CONTRACT NO. 62G41		
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 SYMBOLOLOGY 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:**

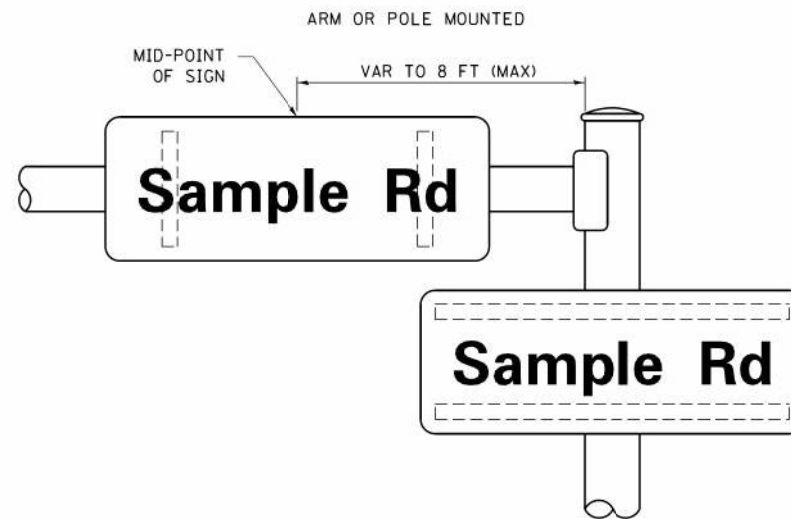
- J.O. HERBERT COMPANY, INC  
MIDLOTHIAN, VA
- WESTERN REMAC, INC.  
WOODRIDGE, IL

**PARTS LISTING:**

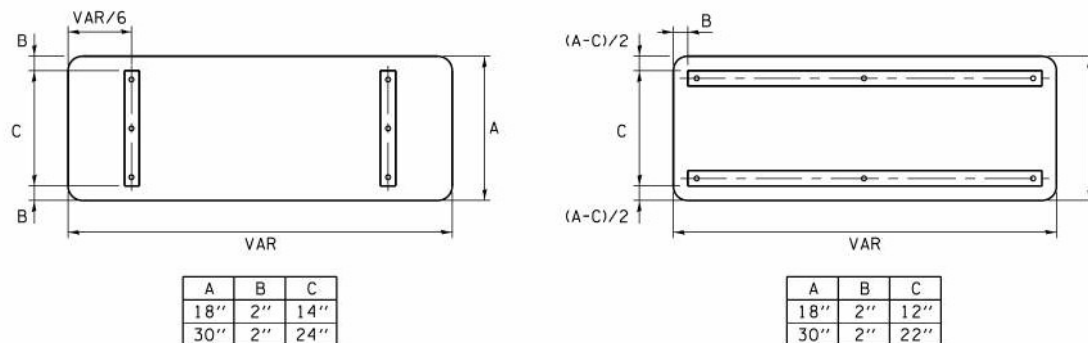
- SIGN CHANNEL PART #HPN053 (MED. CHANNEL)  
1/4" x 14 x 1" H.W.H. #3  
SELF TAPPING WITH NEOPRENE WASHER
- SIGN SCREWS PART #HPN034 (UNIVERSAL)  
CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- BRACKETS

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**



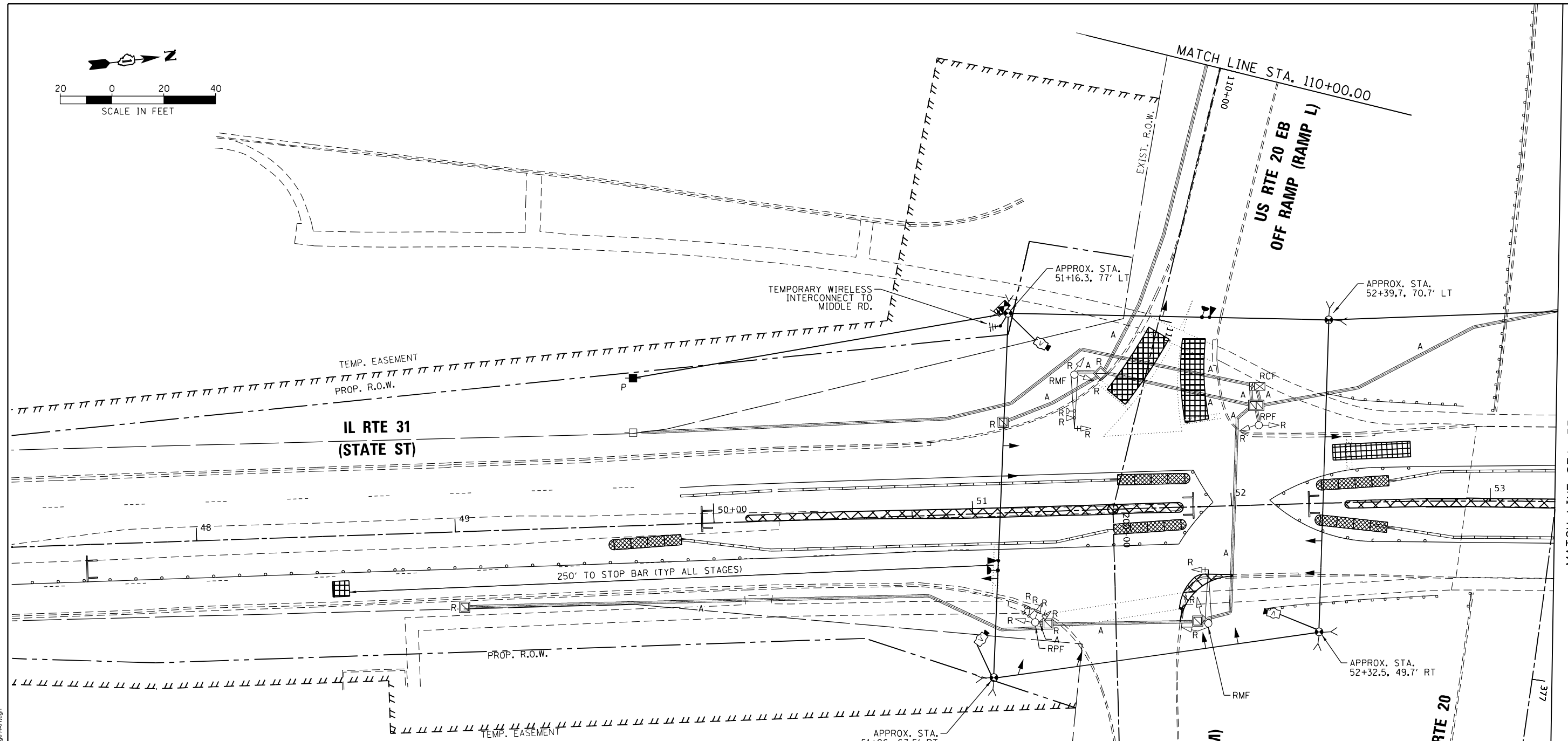
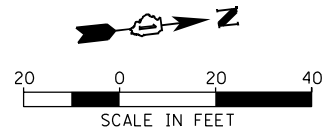
**STANDARD ALPHABETS SPACING CHART**

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

FHWA SERIES "C"				FHWA SERIES "D"			
CHARACTER	LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)	CHARACTER	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

TS SHT NO. 8

FILE NAME =	USER NAME = drvakosgn	DESIGNED - LP/IP	REVISED - LP 07/01/2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS		F.A.U. R.T.E. = 3887	SECTION = 8HB-2	COUNTY = KANE	TOTAL SHEETS = 359	SHEET NO. = 210
PLOT SCALE = 50.0000 ' / ' =	CHECKED - IP	DATE - 10/01/2014	REVISED -	SCALE: SHEET OF SHEETS STA. TO STA.		TS-02		CONTRACT NO. 62G41		ILLINOIS FED. AID PROJECT		



MATCH LINE STA. 53+25

**REMOVAL NOTES**

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

- 1 EACH CONTROLLER AND CABINET AND UNINTERRUPTABLE POWER SUPPLY (COMPLETE)
- 4 EACH ALUMINUM MAST ARM ASSEMBLY AND POST
- 4 EACH TRAFFIC SIGNAL POST
- 10 EACH 3-SECTION SIGNAL HEAD
- 12 EACH 4-SECTION SIGNAL HEAD
- 1 EACH SERVICE INSTALLATION
- 4 EACH TRAFFIC SIGNAL BACKPLATE

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

- AGENCY: CITY OF ELGIN
- 4 EACH CONFIRMATION BEACON
  - 4 EACH LIGHT DETECTOR
  - 1 EACH LIGHT DETECTOR AMPLIFIER

TS SHT NO. 9

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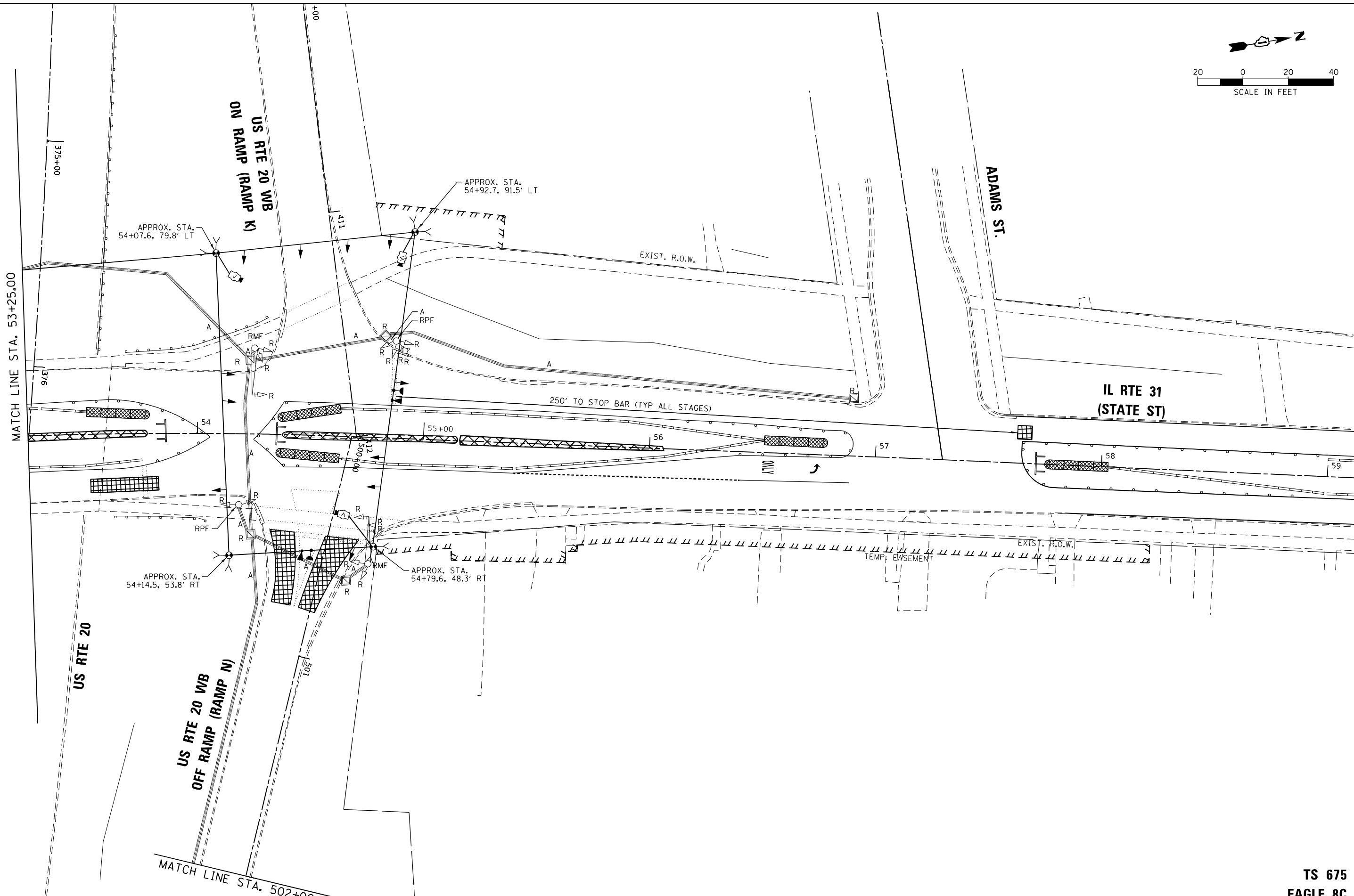
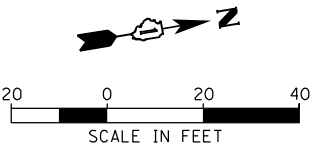
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

PRE-STAGE A  
**TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 1 OF 11)  
IL RTE 31 (STATE ST) AT US RTE 20 RAMPS**

SCALE: 1"=20'      SHEET 1 OF 11 SHEETS      STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 211
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

**TS 675  
EAGLE 8C**



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DATE - 3/16/2023	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PRE-STAGE A  
 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 2 OF 11)  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMPS**

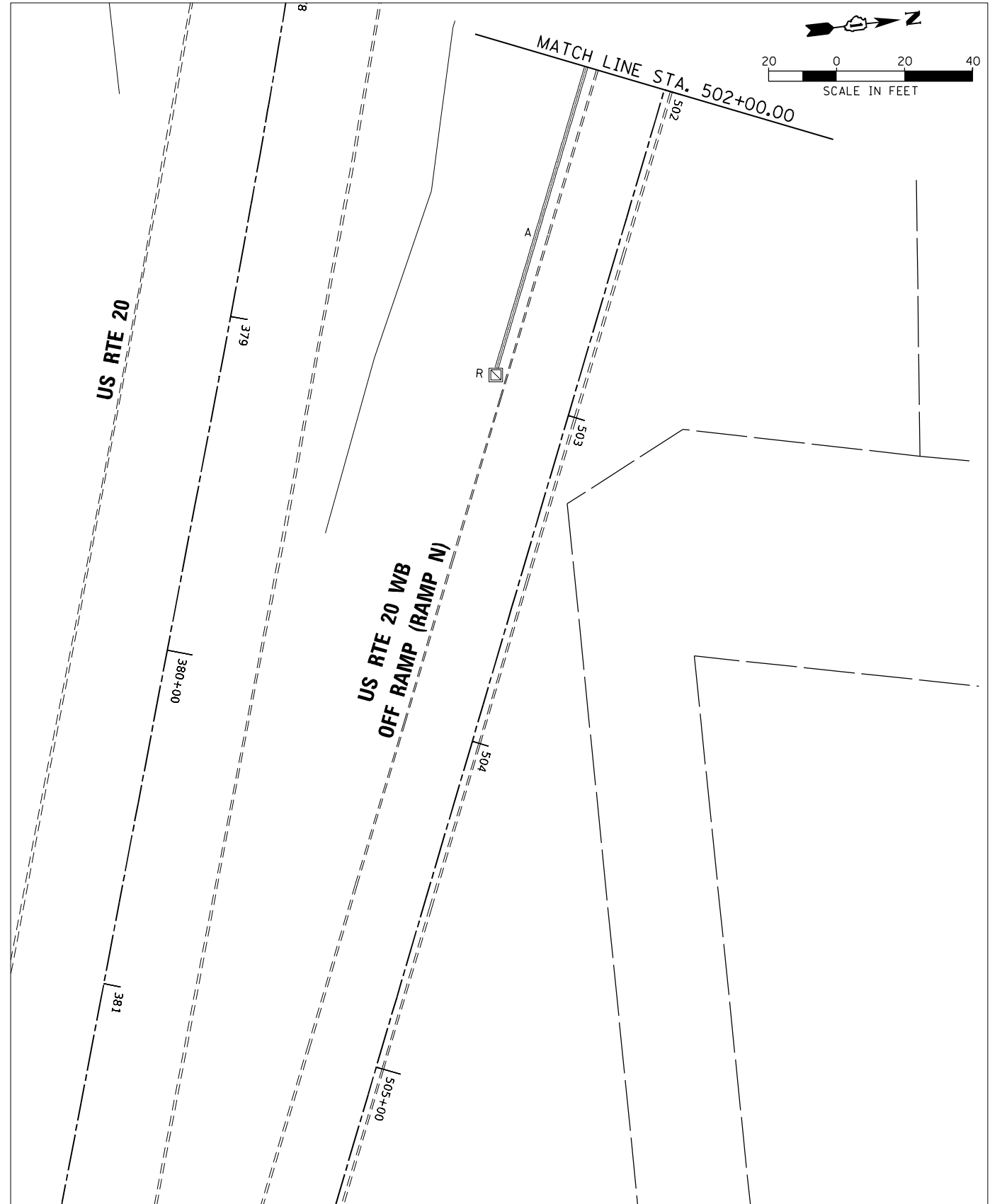
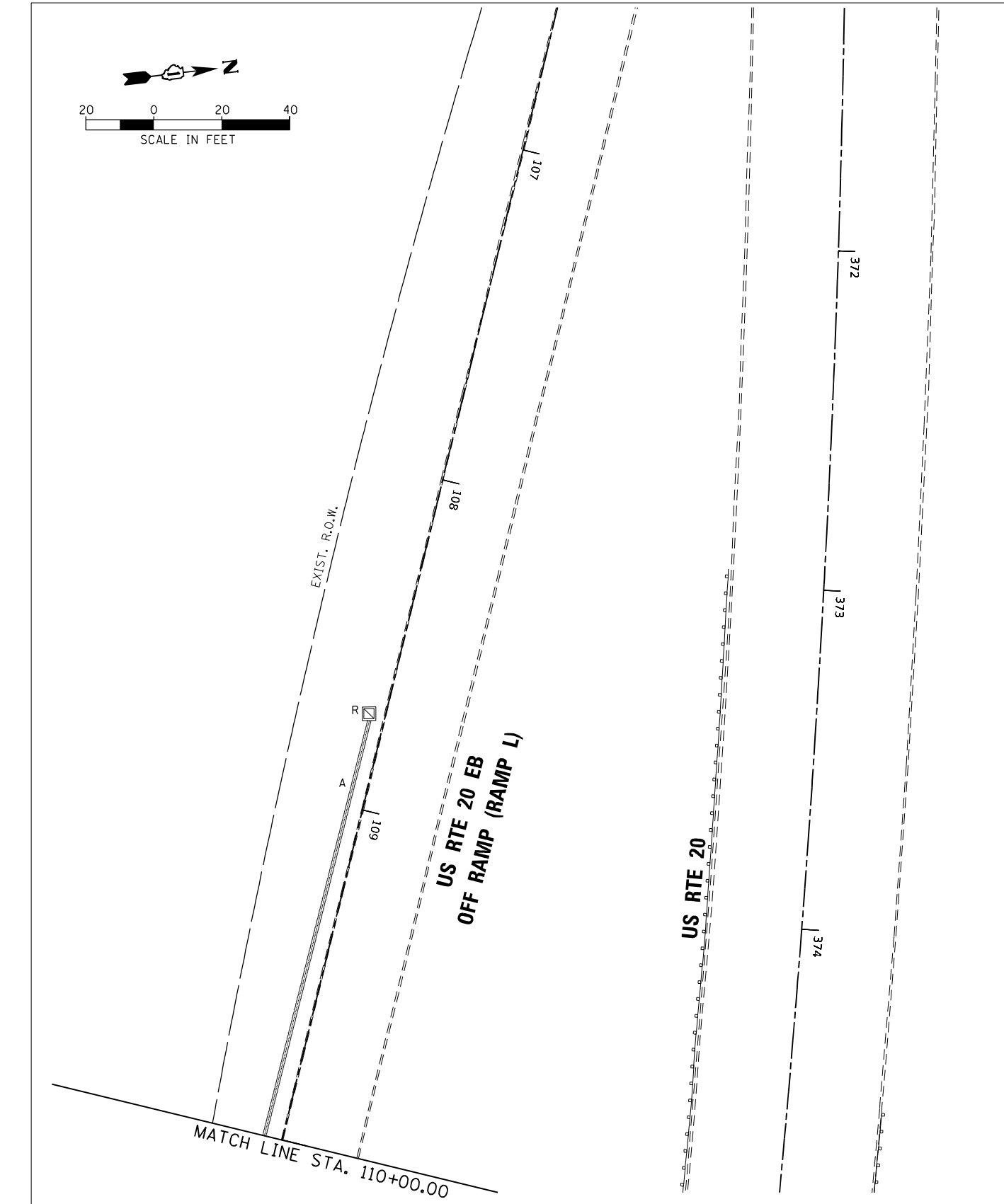
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CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

**TS 675  
 EAGLE 8C**

SCALE: 1"=20' SHEET 2 OF 11 SHEETS STA. TO STA.

TS SHT NO. 11

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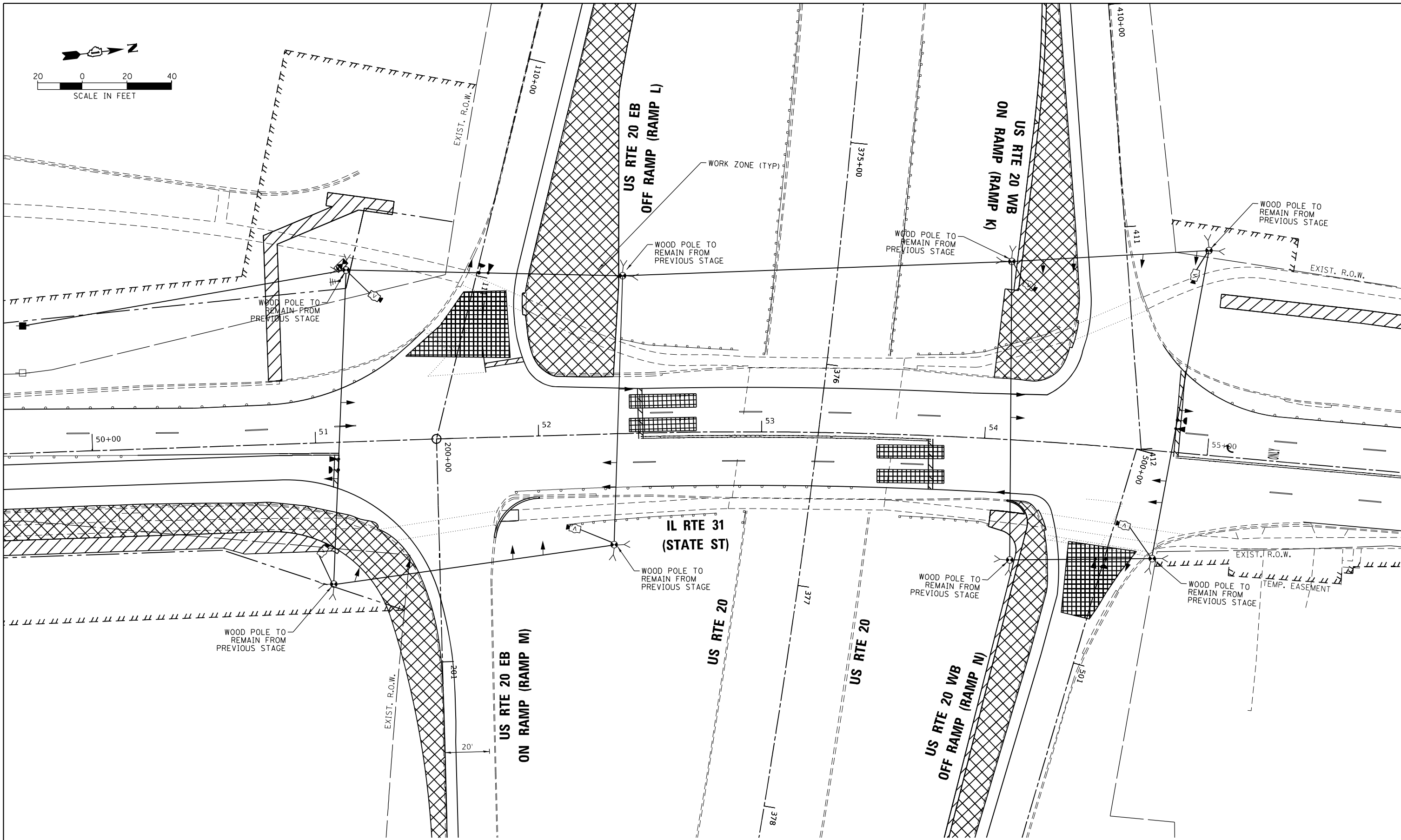
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ALL STAGES  
 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN - ALL STAGES (SHEET 3 OF 11)  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMPS  
 SCALE: 1"=20' SHEET 3 OF 11 SHEETS STA. TO STA.

F.A.U. RTE. 3887	SECTION BHB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 213
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

TS 675  
 EAGLE 8C



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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

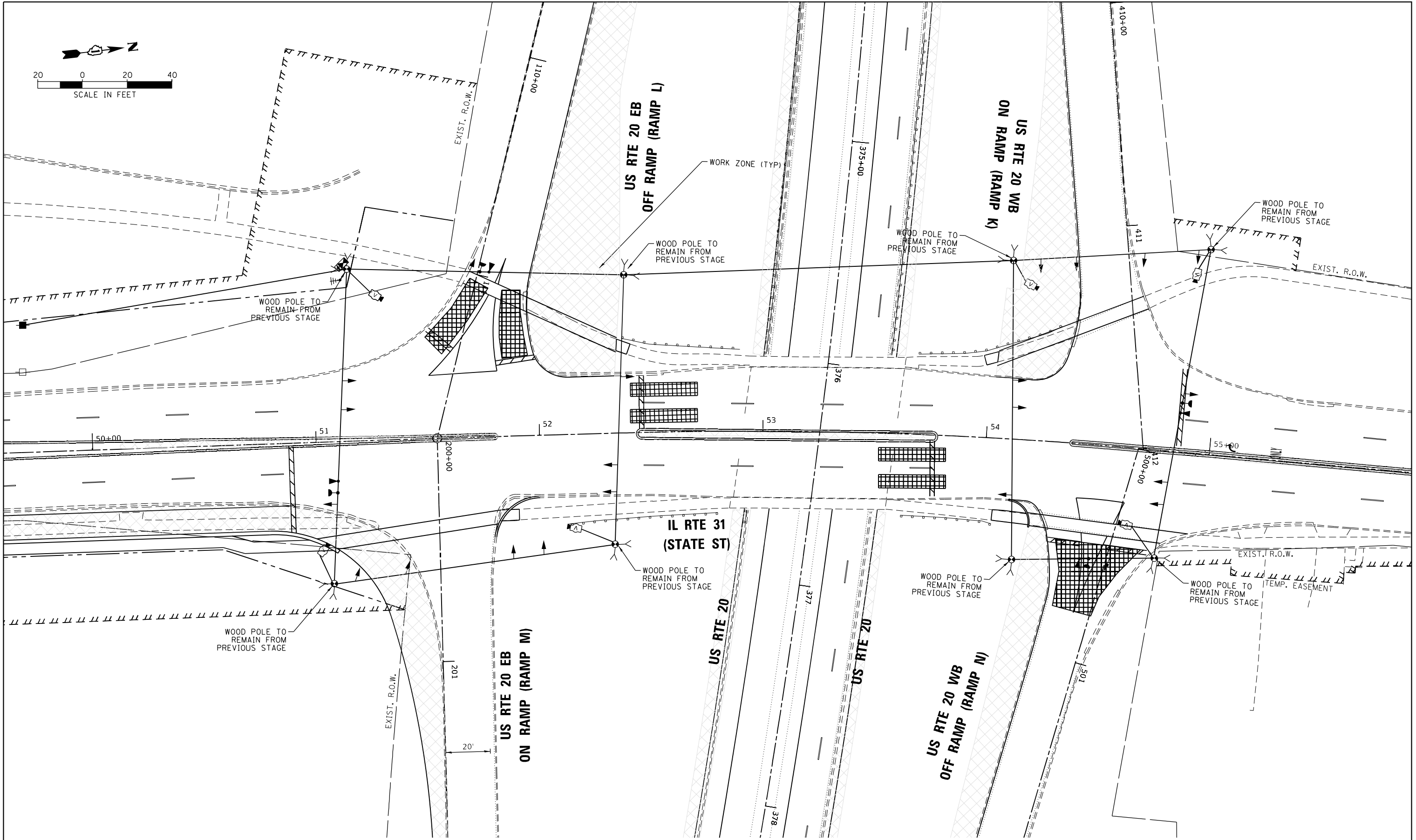
PRE-STAGE B  
**TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 4 OF 11)**  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMPS  
 SCALE: 1"=20'    SHEET 4 OF 11 SHEETS    STA.    TO STA.

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 214
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	



TS SHT NO. 13

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PRE-STAGE C  
 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 5 OF 11)  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMPS

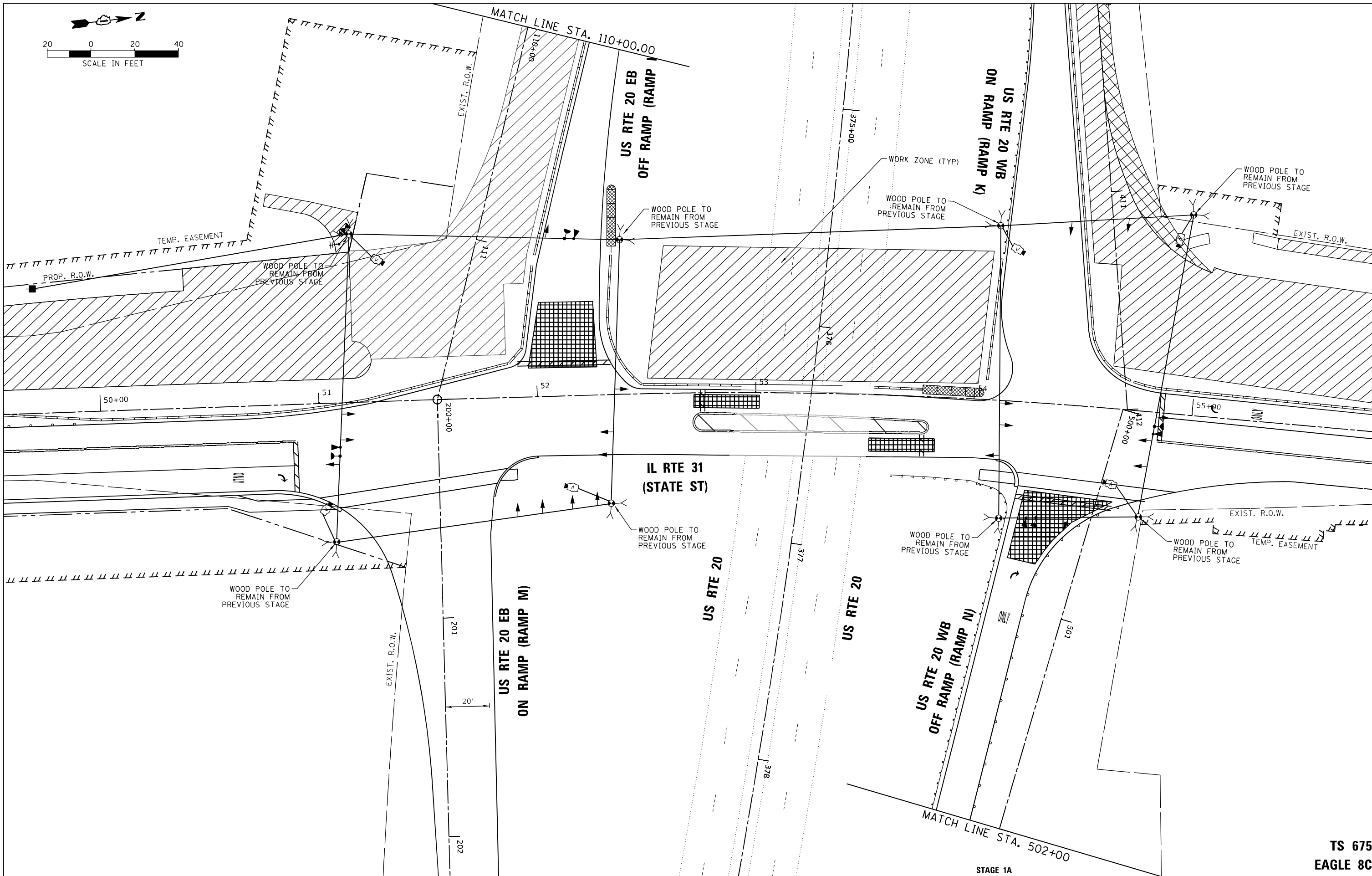
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 SHEET 5 OF 11 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	BHB-2	KANE	359	215
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

TS 675  
 EAGLE 8C

TS SHT NO. 14

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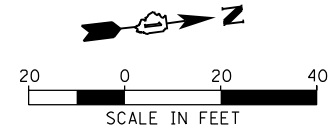
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 6 OF 11)  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMP**

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 216
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

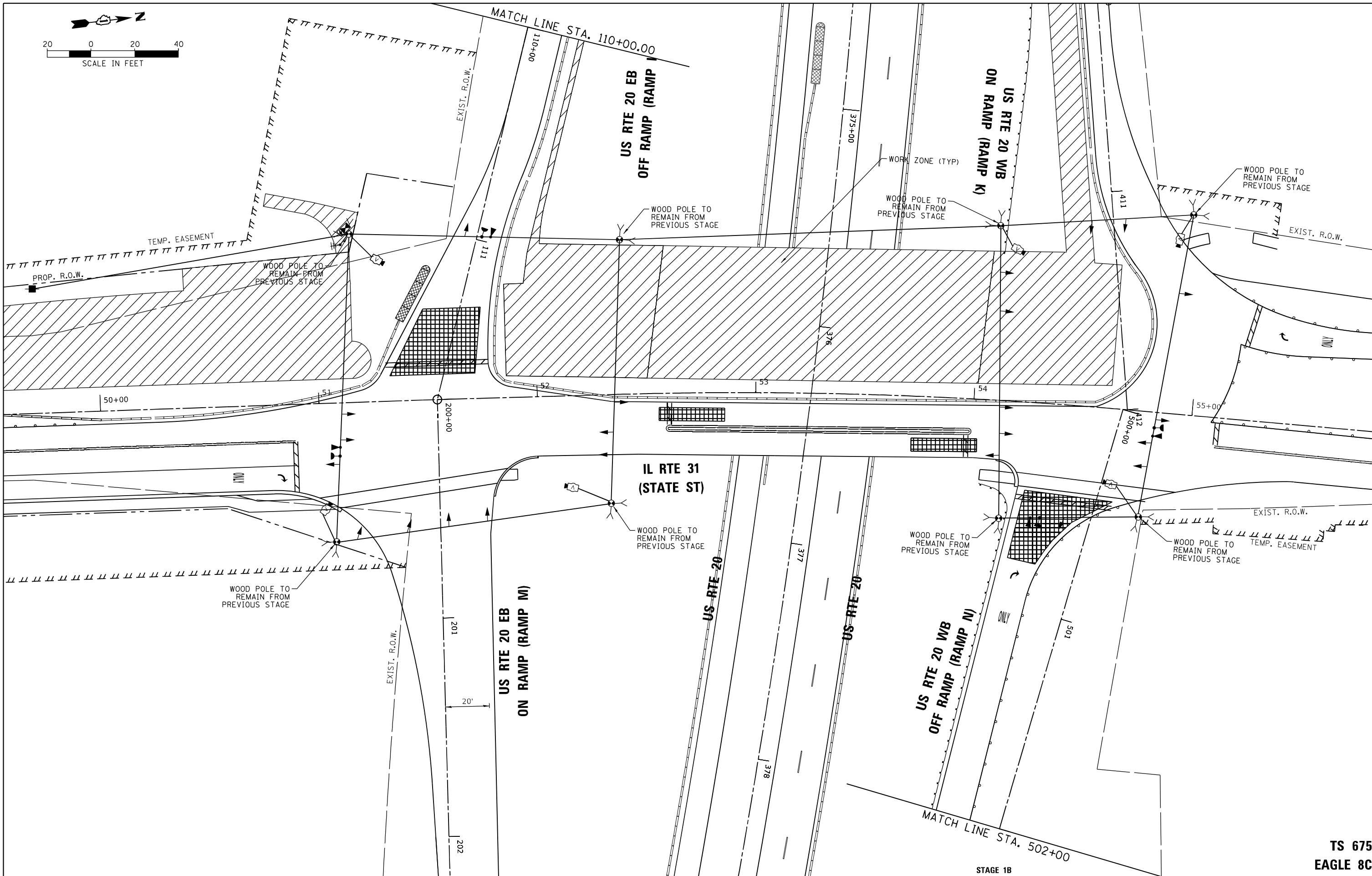
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**TS 675  
 EAGLE 8C**



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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 7 OF 11)  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMP**

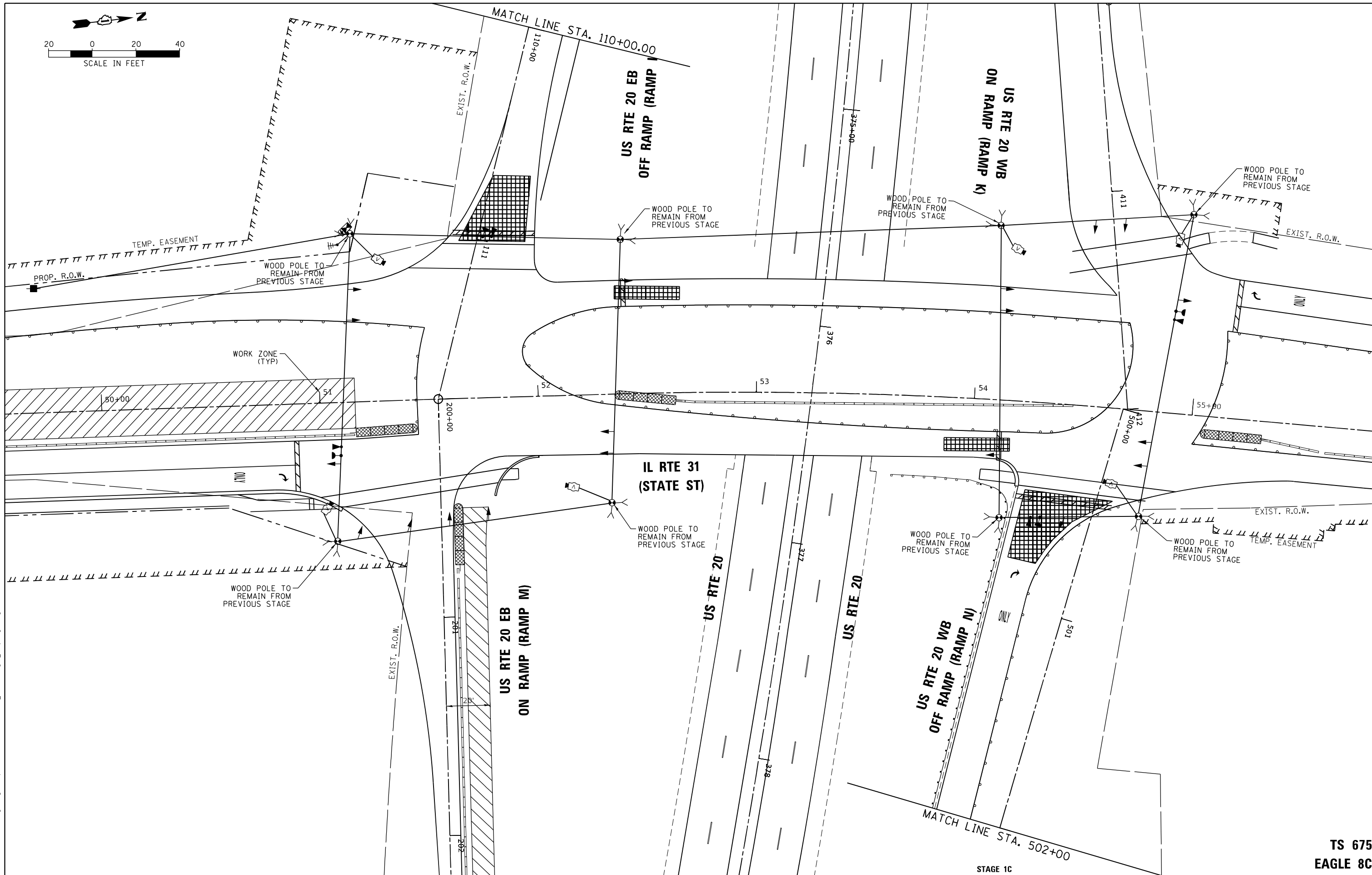
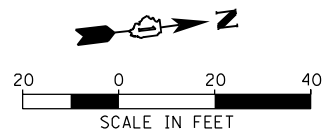
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CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

SCALE: 1"=20' SHEET 7 OF 11 SHEETS STA. TO STA.

**TS 675  
 EAGLE 8C**

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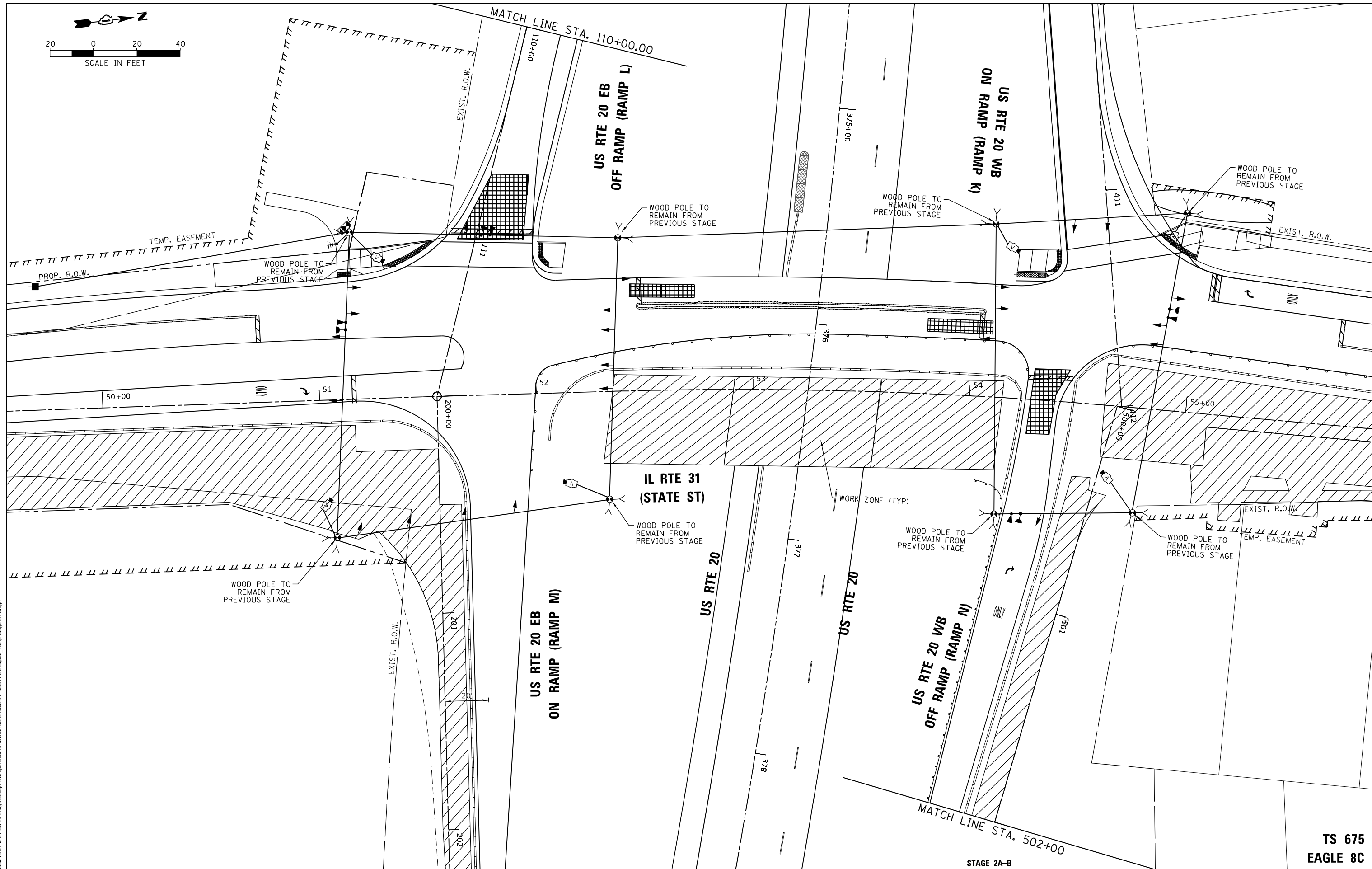
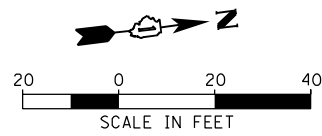
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 8 OF 11)  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMPS  
 SCALE: 1"=20'

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 218
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

TS 675  
 EAGLE 8C



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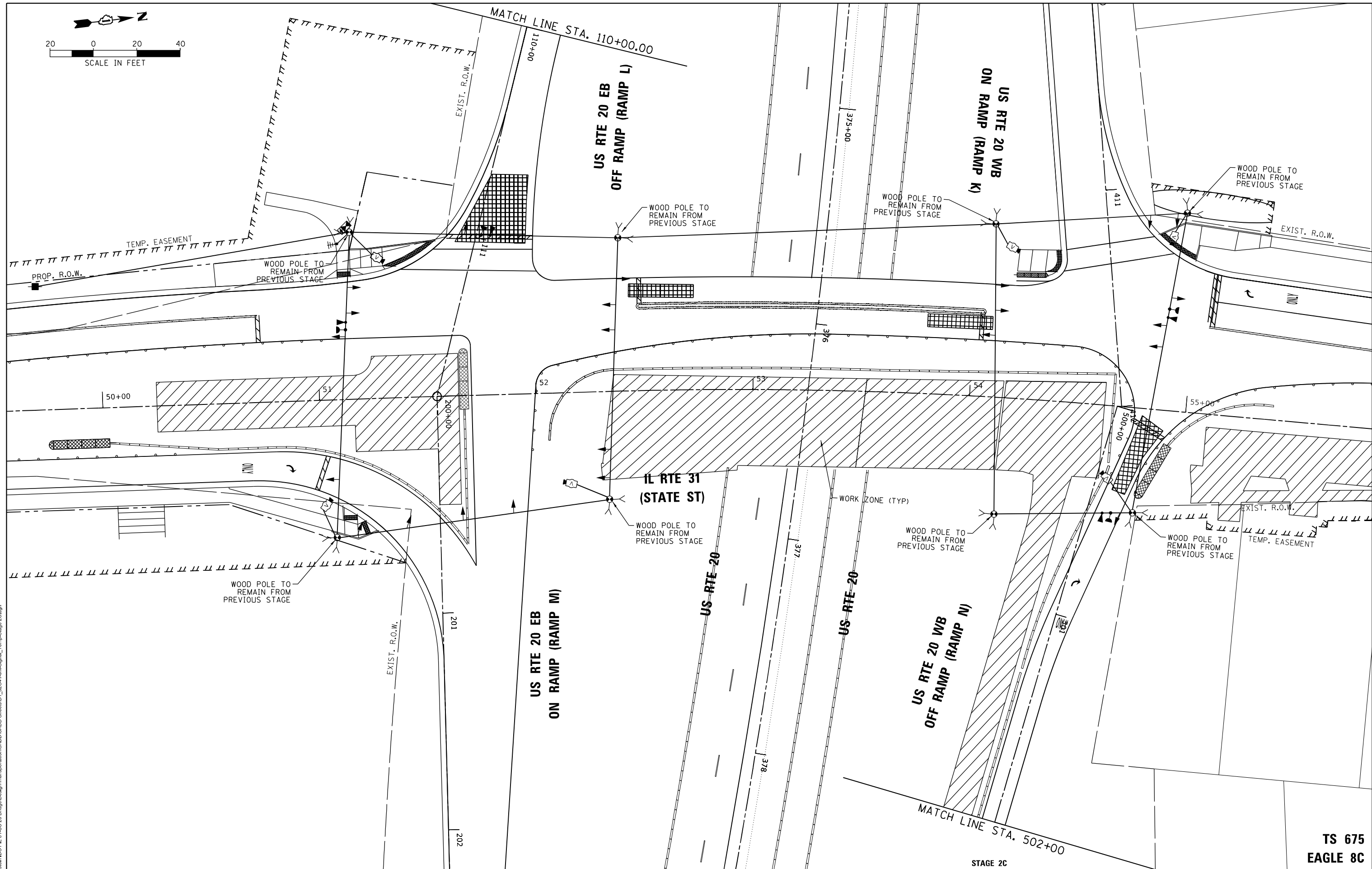
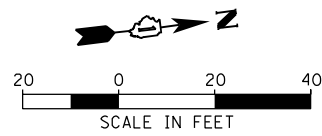
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 9 OF 11)  
IL RTE 31 (STATE ST) AT US RTE 20 RAMPS  
SCALE: 1"=20' SHEET 9 OF 11 SHEETS STA. TO STA.

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 219
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

TS 675  
EAGLE 8C



TS SHT NO. 18

3/16/2023 10:09:18 AM  
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DATE - 3/16/2023	REVISD -

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DATE - 3/16/2023	REVISD -

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DATE - 3/16/2023	REVISD -

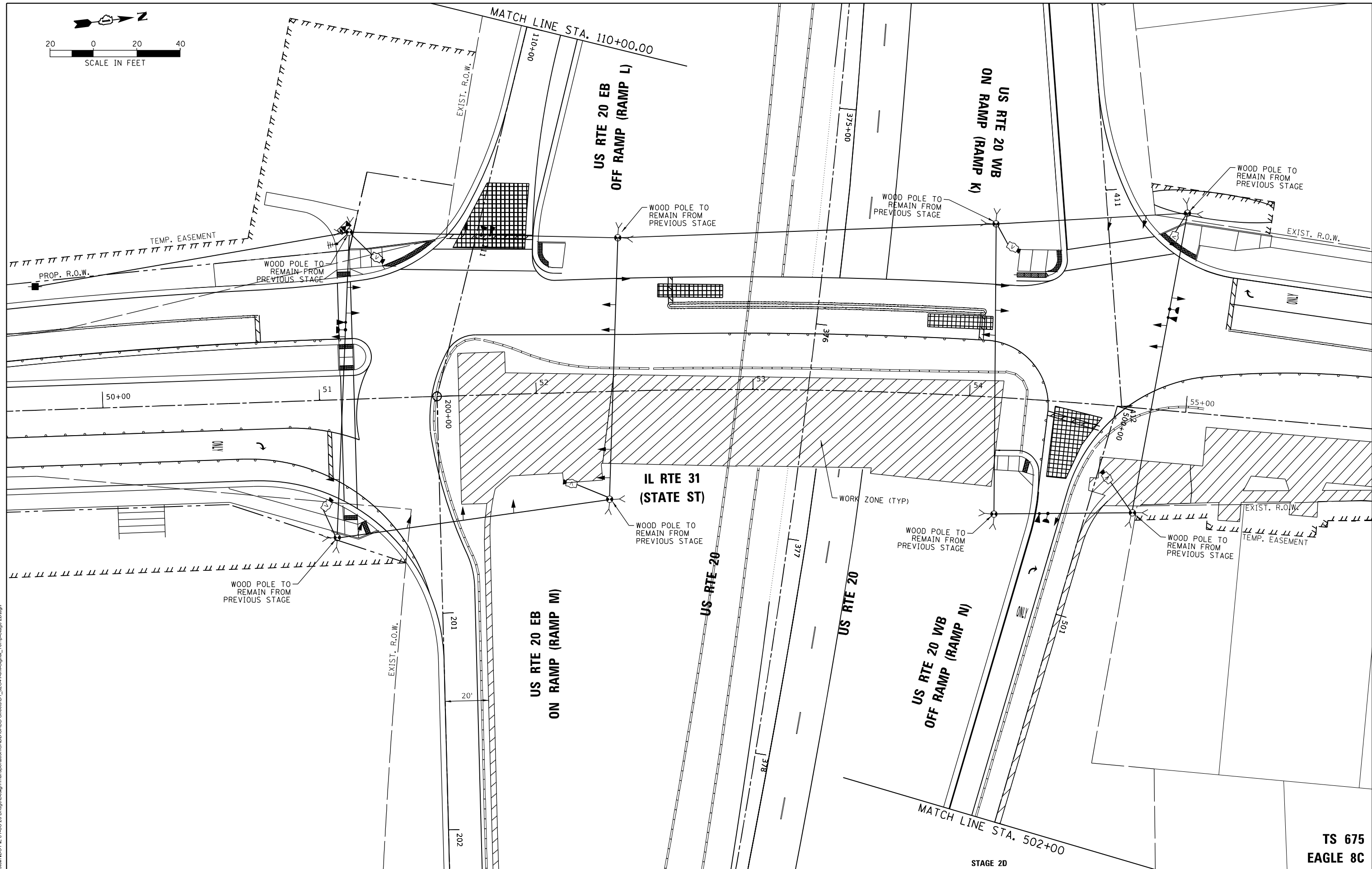
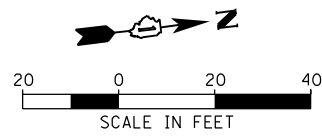
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 10 OF 11)  
IL RTE 31 (STATE ST) AT US RTE 20 RAMPS  
SCALE: 1"=20' SHEET 10 OF 11 SHEETS STA. TO STA.

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 220
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

TS 675  
EAGLE 8C





TS SHT NO. 19

3/16/2023 10:09:49 AM \\MS\_201919-19-188-Ensteh\IDOT\_IL\_31-US\_20\_Bridge\Design\Transportation\CADD\CADD Sheets\11\_62G41-11-11-Signal\_Temp-Stage\_2D.dgn



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CHECKED - TB	REVISED -
DATE - 3/16/2023	REVISED -

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DRAWN - JPS	REVISED -
CHECKED - TB	REVISED -
DATE - 3/16/2023	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 11 OF 11)  
IL RTE 31 (STATE ST) AT US RTE 20 RAMPS  
SCALE: 1"=20' SHEET 11 OF 11 SHEETS STA. TO STA.

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 221
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

TS 675  
EAGLE 8C

**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	29	11	50	159.5
(YELLOW)	29	20	5	29.0
(GREEN)	34	12	45	183.6
PERMISSIVE ARROW	-	10	10	-
PED. SIGNAL	-	20	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				647.1

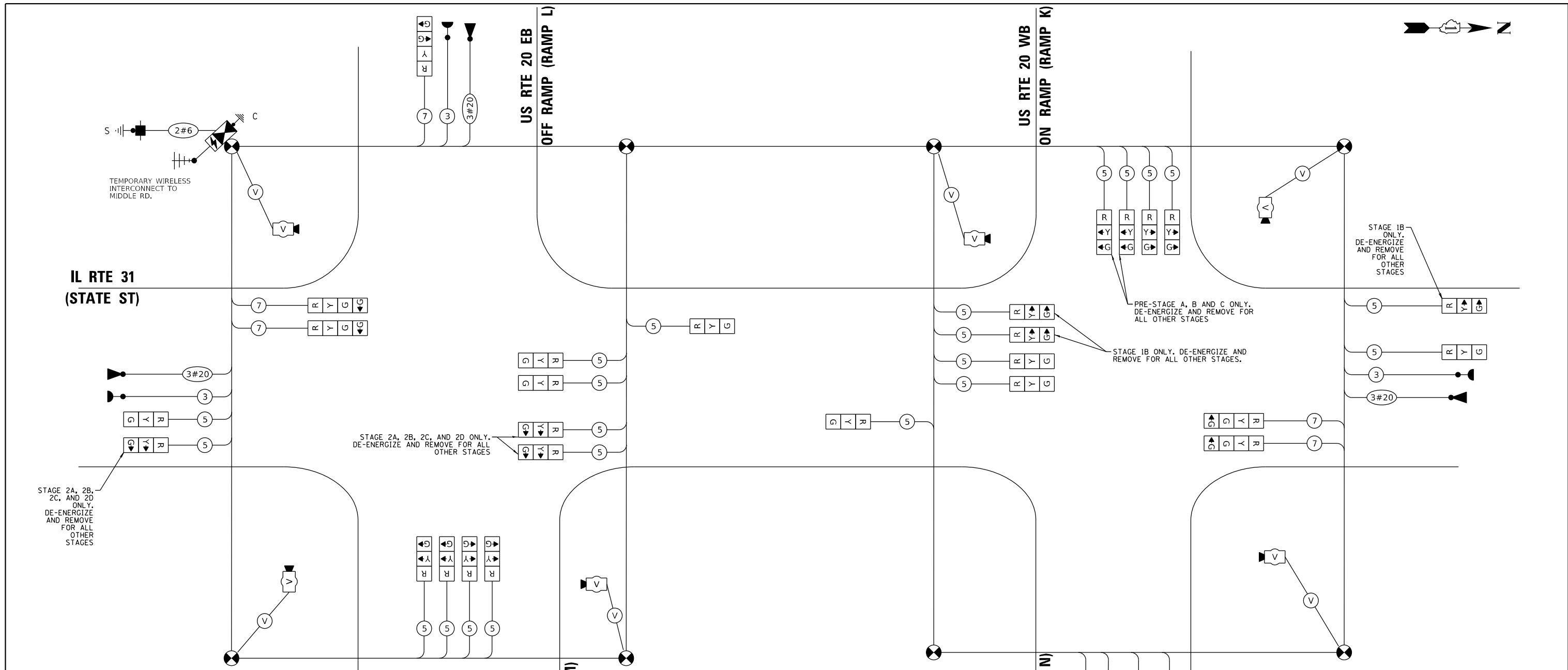
ENERGY COSTS TO:  
 IDOT DISTRICT 1  
 201 W. CENTER CT.  
 SCHAUMBURG, IL 60196  
 ENERGY SUPPLY: CONTACT: CARLO CAVALLARO  
 PHONE: (630) 669-3068  
 COMPANY: COMMONWEALTH EDISON  
 ACCOUNT NUMBER: 08850-59370

DESIGNED - DDL	REVISED - _____
DRAWN - JPS	REVISED - _____
CHECKED - TB	REVISED - _____
DATE - 3/16/2023	REVISED - _____

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL CABLE PLAN  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMPS  
 SCALE: N.T.S. SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	8HB-2	KANE	359	222
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



**CABLE PLAN**  
 (NOT TO SCALE)

NOTE: THE CONTROLLER AND CABINET SHALL BE NEW, BUILT, TESTED AND APPROVED BY THE CONTROLLER EQUIPMENT VENDOR, IN THE VENDOR'S DISTRICT ONE FACILITY, PRIOR TO FIELD INSTALLATION. IDOT PERSONNEL SHALL BE PRESENT DURING THE TESTING AT THE VENDOR'S FACILITY.

### SEQUENCE OF OPERATION

MOVEMENT	US RTE 20 EB RAMP		IL 31		US RTE 20 WB RAMP																				F L A S H										
	1	2A	2B	2C	2D	3A	3B	4	5A	5B	5C	5D	6A	6B	7	8A	8B	8C	8D	9A	9B	10	11A	11B		12A	12B	12C	12D						
PHASE	1*							2						3						4															
INTERVAL	1							4						3						2															
CHANGE TO	2 OR 3							1* OR 4						3						1*						2 OR 3									
SIGNALS AT EB US RTE 20 EXIT AND ENTRANCE RAMP (SOUTH INTERSECTION)	IL 31 NB NEAR AND FAR SIGNALS	R	R	R	R	R	R	R	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	IL 31 NB RIGHT TURN LANE NEAR AND FAR SIGNALS (STAGE 2 ONLY)	/	/	/	/	/	/	/	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	/	/	R	R	R	R	R	R	R	R	R	R	R
	US 20 EB EXIT RAMP NEAR SIGNAL	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R
	US 20 EB EXIT RAMP FAR RIGHT 2 SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R
	US 20 EB EXIT RAMP FAR LEFT 2 SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R
	IL 31 SB NEAR SIGNAL	G	G	G	Y	R	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	G	G	Y	R	R	R	R	R	R
	IL 31 SB FAR SIGNALS	G	G	G	Y	R	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	G	G	Y	R	R	R	R	R	R
		G	G	G	Y	R	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	G	G	Y	R	R	R	R	R	R
SIGNALS AT WB US RTE 20 EXIT AND ENTRANCE RAMP (NORTH INTERSECTION)	IL 31 SB NEAR AND FAR SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	Y	R	R	R	R	R	R	R	R	
	IL 31 SB RIGHT TURN LANE NEAR AND FAR SIGNALS (STAGE 1B ONLY)	/	/	/	/	/	/	/	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	/	/	Y	R	R	R	R	R	R	R	R	
	US 20 WB EXIT RAMP NEAR SIGNAL (PRE-STAGE ONLY)	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	US 20 WB EXIT RAMP NEAR SIGNAL (STAGES 1 AND 2 ONLY)	/	/	/	/	/	/	/	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	/	/	G	G	Y	R	R	R	R	R	R
	US 20 WB EXIT RAMP FAR RIGHT 2 SIGNALS (PRE-STAGE ONLY)	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	US 20 WB EXIT RAMP FAR RIGHT 2 SIGNALS (STAGES 1 AND 2 ONLY)	/	/	/	/	/	/	/	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	/	/	G	G	Y	R	R	R	R	R	R
	US 20 WB EXIT RAMP FAR LEFT 2 SIGNALS (PRE-STAGE ONLY)	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
		G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
IL 31 NB NEAR SIGNAL	R	R	R	R	R	R	R	G	G	G	Y	R	G	G	G	G	G	Y	R	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	
IL 31 NB FAR SIGNALS	R	R	R	R	R	R	R	G	G	G	Y	R	G	G	G	G	G	Y	R	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	

• PHASE 1 TO BE USED IN PRE-STAGES ONLY.

IDOT SHALL BE PRESENT WHEN ANY PHASING CHANGES ARE MADE FOR A NEW STAGE.

	DESIGNED - DDL	REVISED - _____	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TEMPORARY SEQUENCE OF OPERATION (SHEET 1 OF 2)</b> <b>IL RTE 31 (STATE ST) AT US RTE 20 RAMPS</b>				F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 223
	DRAWN - JPS CHECKED - TB PLOT SCALE = 40.0000' / in. PLOT DATE = 3/16/2023	REVISED - _____ REVISED - _____ REVISED - _____		SCALE: N.T.S.	SHEET 1 OF 2 SHEETS	STA. TO STA.	CONTRACT NO. 62G41 ILLINOIS FED. AID PROJECT					

# EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION

																						PREEMPTOR NUMBER 3	PREEMPTOR NUMBER 4	PREEMPTOR NUMBER 5	PREEMPTOR NUMBER 6	CLEAR TO NORMAL SEQUENCE									
		1*					4					7					10					10	10	10											
		1A	1B	1C	1D	1E	1F	1G	1H	1J	1K	1L	1M	1N	1P	1Q	1R	1S	1T	1U	1V	1W	1X	1Y	1Z	1AA	1BB	1CC	3 OR 4	5	2	3	4	5	
		2	1C	1D	1E	3 OR 4	1G	5	1J	1K	1L	2 OR 5	3	1P	4	1R	1S	1T	2 OR 5	1V	3	4	1Y	2	1AA	1BB	1CC	3 OR 4	5						
SIGNALS AT EB US RTE 20 EXIT AND ENTRANCE RAMP (SOUTH INTERSECTION)	IL 31 NB NEAR AND FAR SIGNALS	R	R	R	R	R	R	R	Y	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
	IL 31 NB RIGHT TURN LANE NEAR AND FAR SIGNALS (STAGE 2 ONLY)								Y	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
	US 20 EB EXIT RAMP NEAR SIGNAL	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	R	R	R	Y	R	G	R	R	R	R	R	R	R	R	R	R	R	R	
	US 20 EB EXIT RAMP FAR RIGHT 2 SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	R	R	R	Y	R	G	R	R	R	R	R	R	R	R	R	R	R	R	
	US 20 EB EXIT RAMP FAR LEFT 2 SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	R	R	R	Y	R	G	R	R	R	R	R	R	R	R	R	R	R	R	
	IL 31 SB NEAR SIGNAL	G	G	G	Y	R	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	G	Y	R	G	G	R	R	R	G	
	IL 31 SB FAR SIGNALS	G +G	G +G	G +G	Y	R	G +G	G +G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G +G	G +G	G +G	G +G	Y	R	G +G	G +G	R	R	R	G +G	
SIGNALS AT WB US RTE 20 EXIT AND ENTRANCE RAMP (NORTH INTERSECTION)	IL 31 SB NEAR AND FAR SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	R	Y	R	R	R	R	R	R	R	G		
	IL 31 SB RIGHT TURN LANE NEAR AND FAR SIGNALS (STAGE 1B ONLY)												R	R	R	R	R	R	R	R	R	Y	R	Y	R	R	R	R	R	R	R	R	G		
	US 20 WB EXIT RAMP NEAR SIGNAL (PRE-STAGES ONLY)	G +G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	
	US 20 WB EXIT RAMP NEAR SIGNAL (STAGES 1 AND 2 ONLY)												R	R	R	R	R	R	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	Y	
	US 20 WB EXIT RAMP FAR RIGHT 2 SIGNALS (PRE-STAGES ONLY)	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G
	US 20 WB EXIT RAMP FAR RIGHT 2 SIGNALS (STAGES 1 AND 2 ONLY)												R	R	R	R	R	R	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	Y	
	US 20 WB EXIT RAMP FAR LEFT 2 SIGNALS (PRE-STAGES ONLY)	G	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G
	IL 31 NB NEAR SIGNAL	R	R	R	R	R	R	R	G	G	Y	R	G	G	G	G	G	Y	R	G	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R
	IL 31 NB FAR SIGNALS	R	R	R	R	R	R	R	G +G	G +G	Y	R	G +G	G +G	G +G	G +G	G +G	Y	R	G +G	G +G	G +G	R	R	R	R	R	R	R	R	R	R	R	R	R

EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY A DIFFERENT EMERGENCY VEHICLE INTERVAL AFTER EMERGENCY VEHICLE INTERVAL 2, 3, 4, OR 5 IS TERMINATED.

\* PHASE 1 TO BE USED IN PRE-STAGES ONLY.

TS SHT NO. 22

3/16/2023 10:11:08 AM  
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DESIGNED - DDL  
DRAWN - JPS  
CHECKED - TB  
DATE - 3/16/2023

REVISED - \_\_\_\_\_  
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REVISED - \_\_\_\_\_

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

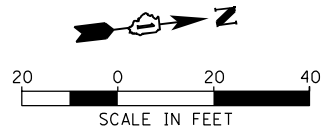
TEMPORARY EMERGENCY VEHICLE  
PREEMPTION SEQUENCE OF OPERATION (SHEET 2 OF 2)  
IL RTE 31 (STATE ST) AT US RTE 20 RAMPS

SCALE: N.T.S. SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.U. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.  
3887 8HB-2 KANE 359 224  
CONTRACT NO. 62G41

ILLINOIS FED. AID PROJECT

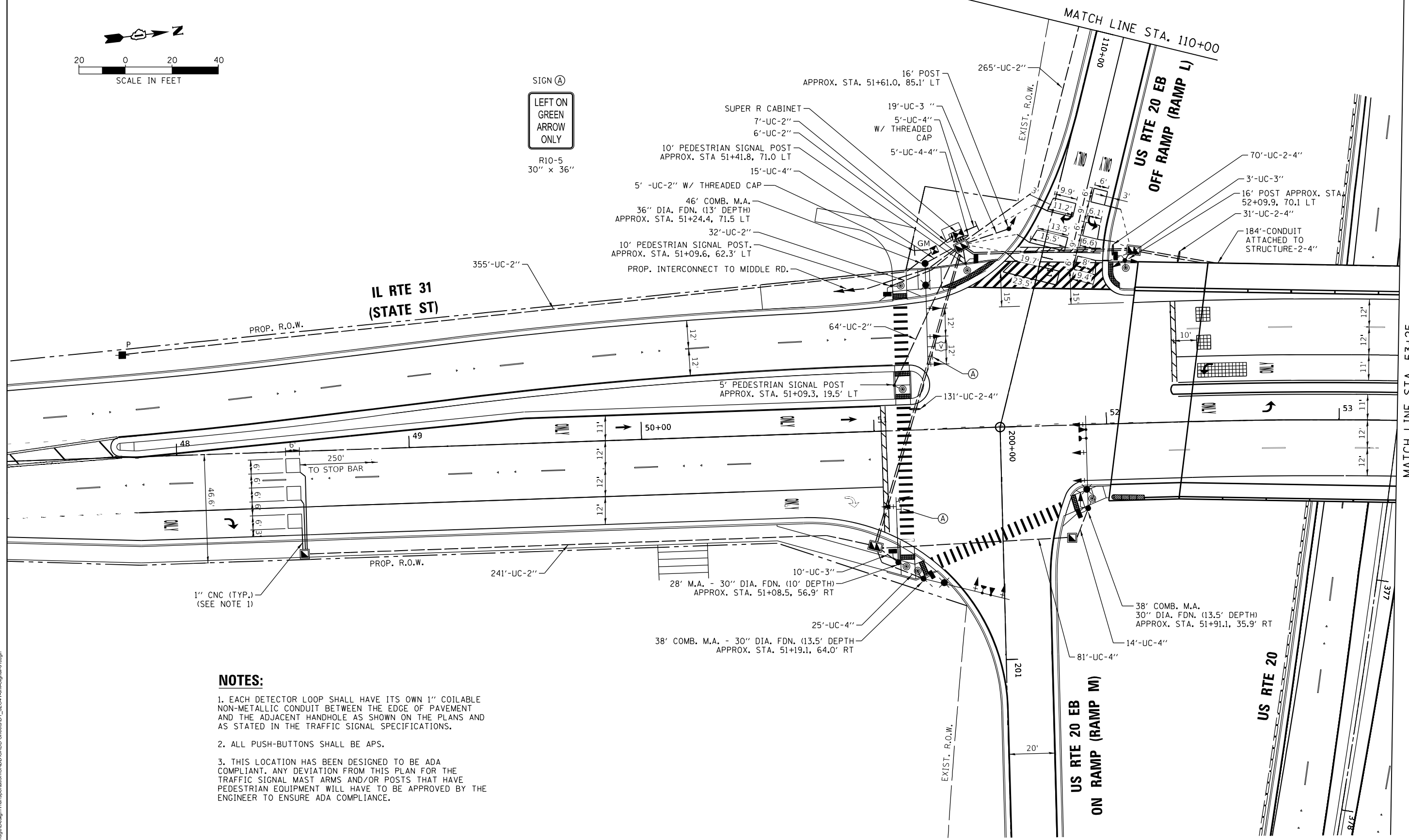
TS 675  
EAGLE 8C



SIGN (A)



R10-5  
30" x 36"



**NOTES:**

1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.
2. ALL PUSH-BUTTONS SHALL BE APS.
3. THIS LOCATION HAS BEEN DESIGNED TO BE ADA COMPLIANT. ANY DEVIATION FROM THIS PLAN FOR THE TRAFFIC SIGNAL MAST ARMS AND/OR POSTS THAT HAVE PEDESTRIAN EQUIPMENT WILL HAVE TO BE APPROVED BY THE ENGINEER TO ENSURE ADA COMPLIANCE.

TS SHT NO. 23

3/16/2023 10:11:53 AM  
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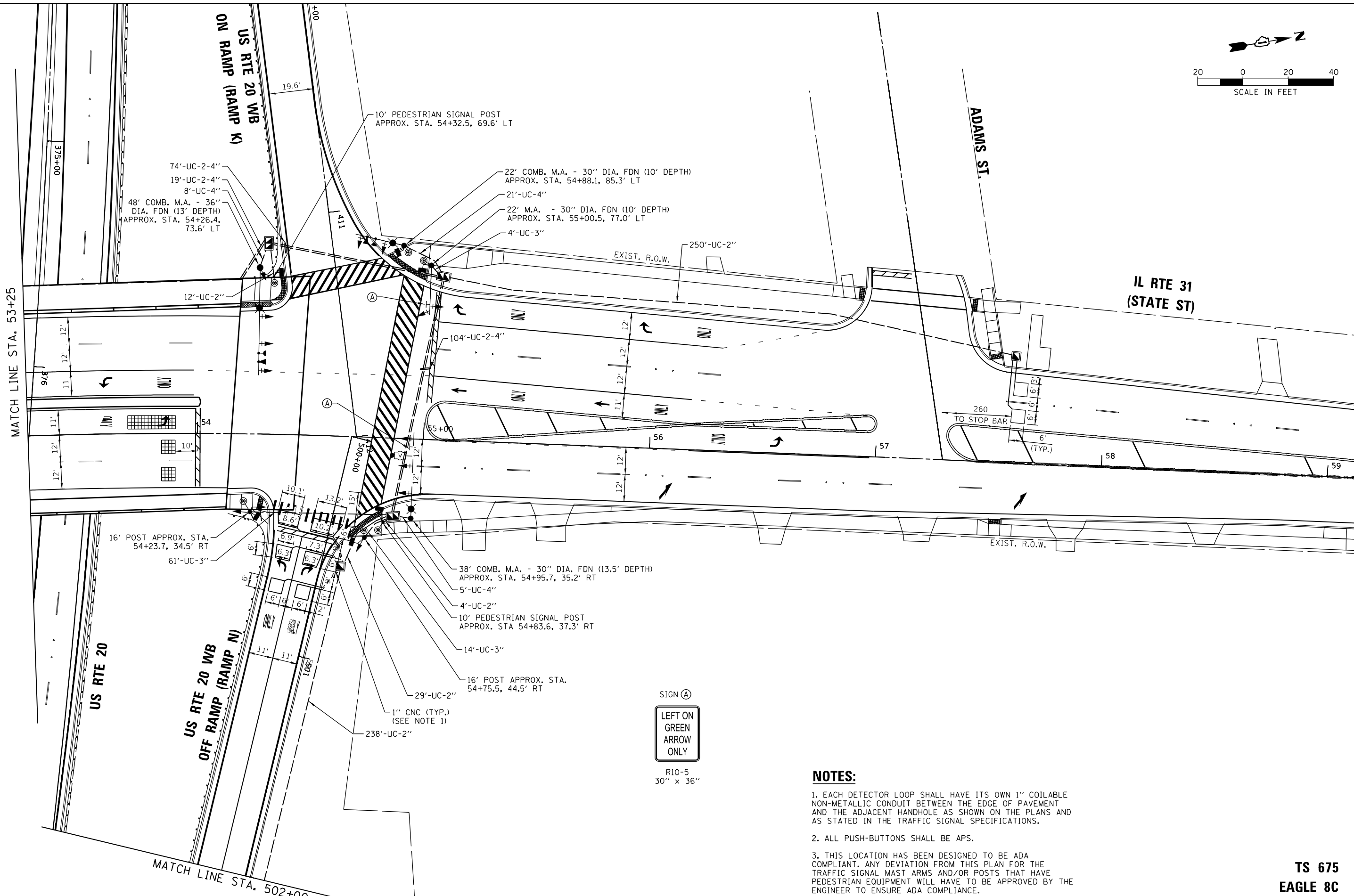
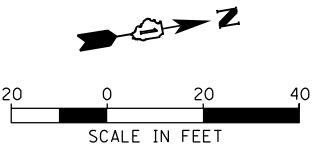
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DRAWN - JPS	REVISED - _____
CHECKED - TB	REVISED - _____
DATE - 3/16/2023	REVISED - _____

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN (SHEET 1 OF 3)			
IL RTE 31 (STATE ST) AT US RTE 20 RAMPS			
SCALE: 1"=20'	SHEET 1	OF 3 SHEETS	STA. TO STA.

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 225
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

TS 675  
EAGLE 8C



SIGN (A)

LEFT ON GREEN ARROW ONLY

R10-5  
30" x 36"

**NOTES:**

1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.
2. ALL PUSH-BUTTONS SHALL BE APS.
3. THIS LOCATION HAS BEEN DESIGNED TO BE ADA COMPLIANT. ANY DEVIATION FROM THIS PLAN FOR THE TRAFFIC SIGNAL MAST ARMS AND/OR POSTS THAT HAVE PEDESTRIAN EQUIPMENT WILL HAVE TO BE APPROVED BY THE ENGINEER TO ENSURE ADA COMPLIANCE.

TS SHT NO. 24

3/16/2023 10:12:20 AM  
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DRAWN - JPS	REVISED -
CHECKED - TB	REVISED -
DATE - 3/16/2023	REVISED -

DESIGNED - DDL	REVISED -
DRAWN - JPS	REVISED -
CHECKED - TB	REVISED -
DATE - 3/16/2023	REVISED -

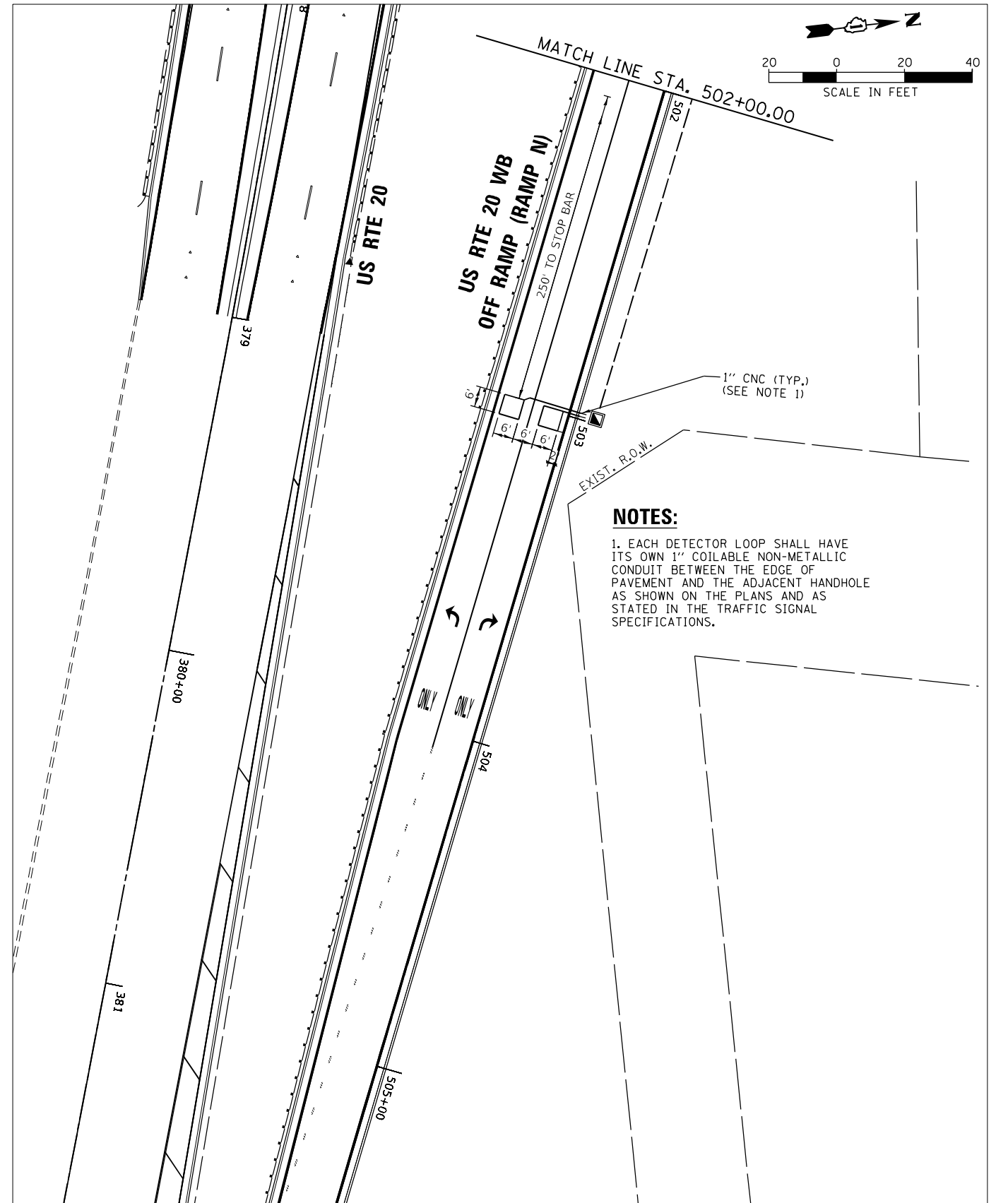
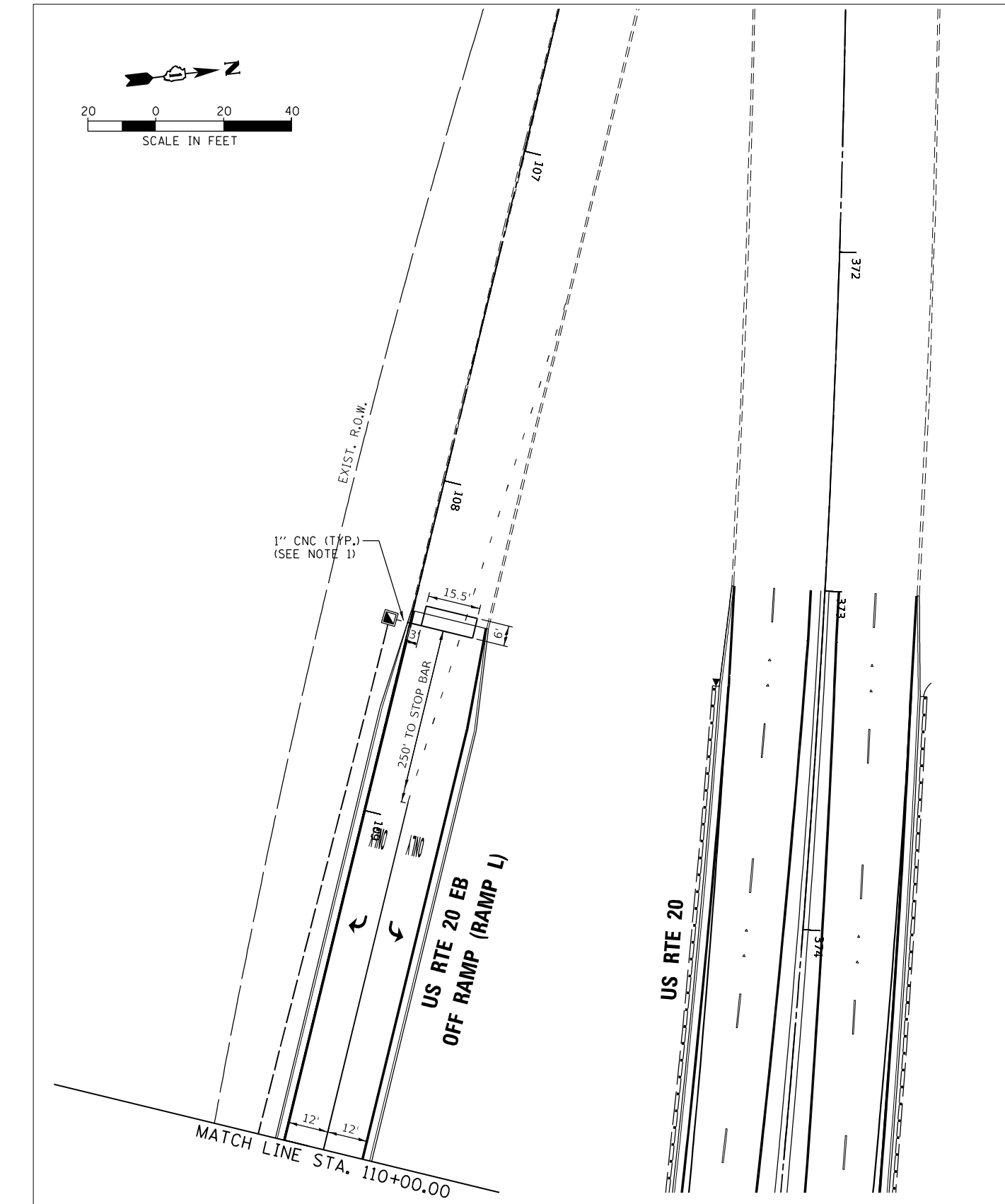
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN (SHEET 2 OF 3)  
IL RTE 31 (STATE ST) AT US RTE 20 RAMPS  
SCALE: 1"=20' SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	BHB-2	KANE	359	226
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

TS 675  
EAGLE 8C





**NOTES:**  
 1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.



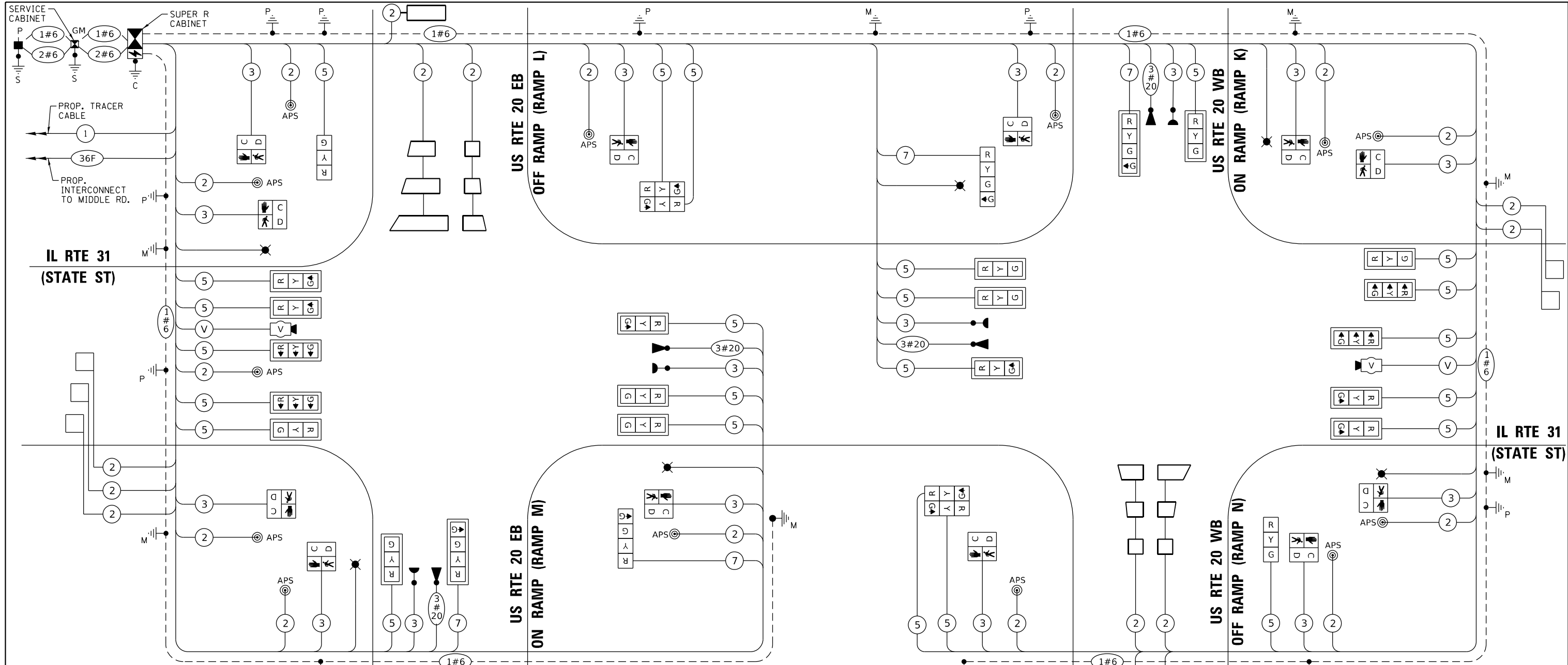
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DRAWN - JPS	REVISED -
CHECKED - TB	REVISED -
DATE - 3/16/2023	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN (SHEET 3 OF 3)			
IL RTE 31 (STATE ST) AT US RTE 20 RAMPS			
SCALE: 1"=20'	SHEET 3	OF 3 SHEETS	STA. TO STA.

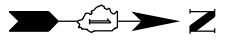
F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 227
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

TS 675  
 EAGLE 8C



**CABLE PLAN**  
(NOT TO SCALE)

NOTE: THE CONTROLLER AND CABINET SHALL BE NEW, BUILT, TESTED AND APPROVED BY THE CONTROLLER EQUIPMENT VENDOR, IN THE VENDOR'S DISTRICT ONE FACILITY, PRIOR TO FIELD INSTALLATION. IDOT PERSONNEL SHALL BE PRESENT DURING THE TESTING AT THE VENDOR'S FACILITY.



**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	28	11	50	154.0
(YELLOW)	28	20	5	28.0
(GREEN)	32	12	45	172.8
PERMISSIVE ARROW	-	10	10	-
PED. SIGNAL	12	20	100	240.0
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	-	150	100	-
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				719.8

ENERGY COSTS TO:  
**IDOT DISTRICT 1**  
 201 W. CENTER CT.  
 SCHAUMBURG, IL 60196  
 ENERGY SUPPLY: CONTACT: CARLO CAVALLARO  
 PHONE: 630-669-3068  
 COMPANY: COMMONWEALTH EDISON  
 ACCOUNT NUMBER: 08850-59370



DESIGNED - DDL	REVISED -
DRAWN - JPS	REVISED -
CHECKED - TB	REVISED -
DATE - 3/16/2023	REVISED -

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

**TRAFFIC SIGNAL CABLE PLAN**  
**IL RTE 31 (STATE ST) AT US RTE 20 RAMPS**  
 SCALE: N.T.S. SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 228
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

**SEQUENCE OF OPERATION**

MOVEMENT	US RTE 20 EB RAMP		IL 31				US RTE 20 WB RAMP												FLASH																																								
	1	2A	2B	3A	3B	3C	4A	4B	4C	5	6A	6B	6C	7A	7B	7C	8A	8B		8C	9	10A	10B	10C	11A	11B	11C	12A	12B	12C	13	14A	14B	14C	15A	15B	15C	16A	16B	16C																			
PHASE	1									2								3								4																																	
INTERVAL																																																											
CHANGE TO	2									3								4								1								2								3																	
SIGNALS AT EB US RTE 20 EXIT AND ENTRANCE RAMP (SOUTH INTERSECTION)	R	R	R	R	R	R	R	R	R	G	G	Y	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R											
IL 31 NB NEAR RIGHT, RIGHT AND MIDDLE MAST ARM SIGNALS	R	R	R	R	R	R	R	R	R	G	G	Y	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R									
IL 31 NB LEFT MAST ARM SIGNAL, FAR LEFT SIGNAL	R	R	R	R	R	R	R	R	R	G	G	Y	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R									
US 20 EB EXIT RAMP RIGHT MAST ARM SIGNAL, NEAR RIGHT SIGNAL	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R									
US 20 EB EXIT RAMP FAR LEFT, LEFT MAST ARM SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R								
IL 31 SB MIDDLE AND RIGHT MAST ARM SIGNALS, NEAR RIGHT SIGNAL	G	G	G	G	G	G	G	Y	R	G	G	G	G	G	G	G	G	Y	R	G	G	G	G	G	G	G	G	G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
IL 31 SB FAR LEFT, LEFT MAST ARM SIGNALS	+G	+Y	+R	+G	+G	+G	+G	+Y	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R								
PEDESTRIAN SIGNALS CROSSING RAMP WEST SIDE OF IL 31	P	P	P	P	P	P	FH	H	H	P	P	P	P	P	P	P	P	FH	H	H	P	P	P	P	P	P	P	P	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	D								
PEDESTRIAN SIGNALS CROSSING RAMP EAST SIDE OF IL 31	H	H	H	H	H	H	H	H	H	P	FH	H	H	FH	H	H	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	A									
PEDESTRIAN SIGNALS CROSSING IL 31 SOUTH SIDE OF RAMP	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	R								
SIGNALS AT WB US RTE 20 EXIT AND ENTRANCE RAMP (NORTH INTERSECTION)	R	R	R	R	R	R	R	R	R	G	G	Y	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R							
IL 31 SB NEAR RIGHT, MIDDLE AND RIGHT MAST ARM SIGNALS	R	R	R	R	R	R	R	R	R	G	G	Y	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R						
IL 31 SB LEFT MAST ARM SIGNAL, FAR LEFT SIGNAL	R	R	R	R	R	R	R	R	R	G	G	Y	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R						
US 20 WB EXIT RAMP RIGHT MAST ARM SIGNAL, NEAR RIGHT SIGNAL	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R							
US 20 WB EXIT RAMP FAR LEFT, LEFT MAST ARM SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R							
IL 31 NB MIDDLE AND RIGHT MAST ARM SIGNALS, NEAR RIGHT SIGNAL	G	G	G	G	Y	R	G	G	G	G	G	G	G	G	Y	R	G	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R								
IL 31 NB FAR LEFT, LEFT MAST ARM SIGNALS	+G	+Y	+R	+G	+Y	+R	+G	+G	+G	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R	+R									
PEDESTRIAN SIGNALS CROSSING RAMP WEST SIDE OF IL 31	H	H	H	H	H	H	H	H	H	P	FH	H	H	FH	H	H	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	D								
PEDESTRIAN SIGNALS CROSSING RAMP EAST SIDE OF IL 31	P	P	P	FH	H	H	P	P	P	P	P	P	P	FH	H	H	P	P	P	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	A								
PEDESTRIAN SIGNALS CROSSING IL 31 NORTH SIDE OF RAMP	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	P	FH	H	H	FH	H	H	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	R

•• FLASHING "H" IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN INTERVAL CLEARANCE  
 P = ILLUMINATED PERSON = WALK  
 FH = ILLUMINATED FLASHING HAND = FLASHING DON'T WALK  
 H = ILLUMINATED SOLID HAND = DON'T WALK

NOTE: THE CONTROLLER SHALL BE CAPABLE OF PROVIDING TRAILING OVERLAPS IF THEY ARE TO BE IMPLEMENTED IN THE FUTURE (PHASE 2 TO 3 OR 4, PHASE 3 TO 4, AND PHASE 4 TO 3).



DESIGNED - DDL	REVISED -
DRAWN - JPS	REVISED -
CHECKED - TB	REVISED -
DATE - 3/16/2023	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SEQUENCE OF OPERATION (SHEET 1 OF 2)  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMPS

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 229
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

SCALE: N.T.S. SHEET 1 OF 2 SHEETS STA. TO STA.

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EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION																														PREEMPTOR NUMBER 3	PREEMPTOR NUMBER 4	PREEMPTOR NUMBER 5	PREEMPTOR NUMBER 6	CLEAR TO NORMAL SEQUENCE																			
CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER			1			1			5			5			5			9			9			13			13			13																							
EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION NUMBER			1A	1B	1C	1D	1E	1F	1G	1H	1J	1K	1L	1M	1N	1P	1O	1R	1S	1T	1U	1V	1W	1X	1Y	1Z	1AA	1BB	1CC	1DD	1EE	1FF	1GG		1HH	2	3	4	5														
CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER			1B	1C	2 or 5	1E	1F	3 or 4	1H	1J	2	1L	1M	3	1P	1O	4	1S	1T	5	2	1W	1X	3 or 4	1Z	1AA	5	1CC	1DD	2 or 5	1FF	1GG	3	4																			
SIGNALS AT EB US RTE 20 EXIT AND ENTRANCE RAMP(S) (SOUTH INTERSECTION)	IL 31 NB NEAR RIGHT, RIGHT AND MIDDLE MAST ARM SIGNALS			R	R	R	R	R	R	G	Y	R	G	G	G	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R	R	◇								
	IL 31 NB LEFT MAST ARM SIGNAL, FAR LEFT SIGNAL			R	R	R	R	R	R	G	Y	R	G	G	G	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R	R	◇					
	US 20 EB EXIT RAMP RIGHT MAST ARM SIGNAL, NEAR RIGHT SIGNAL			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	G									R	R	G	R	◇					
	US 20 EB EXIT RAMP FAR LEFT, LEFT MAST ARM SIGNALS			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	G									R	R	G	R	◇					
	IL 31 SB MIDDLE AND RIGHT MAST ARM SIGNALS, NEAR RIGHT SIGNAL			G	G	G	G	Y	R	G	G	G	G	Y	R	G	Y	R	G	G	G	G	G	Y	R	G	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R	R	G	◇					
	IL 31 SB FAR LEFT, LEFT MAST ARM SIGNALS			G	G	G	G	Y	R	G	G	G	G	Y	R	G	Y	R	G	G	G	G	G	Y	R	G	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R	R	G	◇					
	PEDESTRIAN SIGNALS CROSSING RAMP WEST SIDE OF IL 31			FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	◇			
	PEDESTRIAN SIGNALS CROSSING RAMP EAST SIDE OF IL 31			H	H	H	H	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	◇	
PEDESTRIAN SIGNALS CROSSING IL 31 SOUTH SIDE OF RAMP			H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	H	H	◇		
SIGNALS AT WB US RTE 20 EXIT AND ENTRANCE RAMP(S) (NORTH INTERSECTION)	IL 31 SB NEAR RIGHT, MIDDLE AND RIGHT MAST ARM SIGNALS			R	R	R	R	R	R	G	Y	R	G	Y	R	G	Y	R	G	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	◇				
	IL 31 SB LEFT MAST ARM SIGNAL, FAR LEFT SIGNAL			R	R	R	R	R	R	G	Y	R	G	Y	R	G	Y	R	G	G	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	◇	
	US 20 WB EXIT RAMP RIGHT MAST ARM SIGNAL, NEAR RIGHT SIGNAL			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R	R	R	◇	
	US 20 WB EXIT RAMP FAR LEFT AND LEFT MAST ARM SIGNALS			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R	R	R	◇	
	IL 31 NB MIDDLE AND RIGHT MAST ARM SIGNALS AND NEAR RIGHT SIGNAL			G	Y	R	G	G	G	G	Y	R	G	G	G	G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	R	◇	
	IL 31 NB FAR LEFT AND LEFT MAST ARM SIGNALS			G	Y	R	G	G	G	G	Y	R	G	G	G	G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	R	◇	
	PEDESTRIAN SIGNALS CROSSING RAMP WEST SIDE OF IL 31			H	H	H	H	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	◇
	PEDESTRIAN SIGNALS CROSSING RAMP EAST SIDE OF IL 31			FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	H	H	H	H	H	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	FH	H	H	H	H	◇	
PEDESTRIAN SIGNALS CROSSING IL 31 NORTH SIDE OF RAMP			H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	◇	

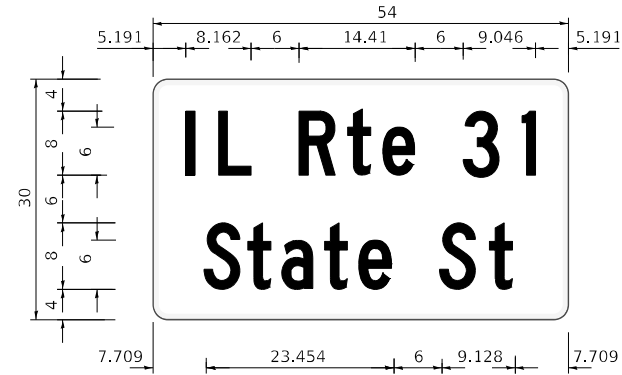
◇ EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY A DIFFERENT EMERGENCY VEHICLE INTERVAL AFTER EMERGENCY VEHICLE TERMINATED.

	DESIGNED - DDL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION (SHEET 2 OF 2) IL RTE 31 (STATE ST) AT US RTE 20 RAMPS			F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 230	CONTRACT NO. 62G41 ILLINOIS FED. AID PROJECT
	DRAWN - JPS CHECKED - TB PLOT SCALE = 48.0000' / in. PLOT DATE = 3/16/2023	REVISED - REVISED - REVISED - REVISED -		SCALE: N.T.S. SHEET 2 OF 2 SHEETS STA. TO STA.								

**SCHEDULE OF QUANTITIES**

**SIGN PANEL – TYPE 1 OR TYPE 2**

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	11.25	2	ZZ	2

NOTE: FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGN DETAILS

ITEM DESCRIPTION	UNITS	TOTAL QTY.
SIGN PANEL - TYPE 1	SQ FT	30.0
SIGN PANEL - TYPE 2	SQ FT	22.5
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1,508
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	111
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	1,052
CONDUIT ATTACHED TO STRUCTURE, 4" DIA., GALVANIZED STEEL	FOOT	368
HANDHOLE	EACH	6
DOUBLE HANDHOLE	EACH	6
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	4,076
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	5,577
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	8,729
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1,427
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	5,920
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	415
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	2,607
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4
STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 28 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 22 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 38 FT.	EACH	3
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 46 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 48 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	20
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	70.5
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	26
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	18
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	6
SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED	EACH	2
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	12
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	20
INDUCTIVE LOOP DETECTOR	EACH	12
DETECTOR LOOP, TYPE I	FOOT	799
LIGHT DETECTOR	EACH	4
LIGHT DETECTOR AMPLIFIER	EACH	1
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	12
REMOVE EXISTING DOUBLE HANDHOLE	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	1,519
FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET (SPECIAL)	EACH	1
SERVICE INSTALLATION, GROUND MOUNTED, METERED	EACH	1
PEDESTRIAN SIGNAL POST, 10 FT.	EACH	4
PEDESTRIAN SIGNAL POST, 5 FT.	EACH	1
VIDEO VEHICLE DETECTION SYSTEM, SINGLE APPROACH	EACH	2
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1
ACCESSIBLE PEDESTRIAN SIGNALS	EACH	12
CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER	FOOT	20

TS SHT NO. 29

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DESIGNED - DDL	REVISOR - _____
DRAWN - JPS	REVISOR - _____
CHECKED - TB	REVISOR - _____
DATE - 3/16/2023	REVISOR - _____

DESIGNED - DDL	REVISOR - _____
DRAWN - JPS	REVISOR - _____
CHECKED - TB	REVISOR - _____
DATE - 3/16/2023	REVISOR - _____

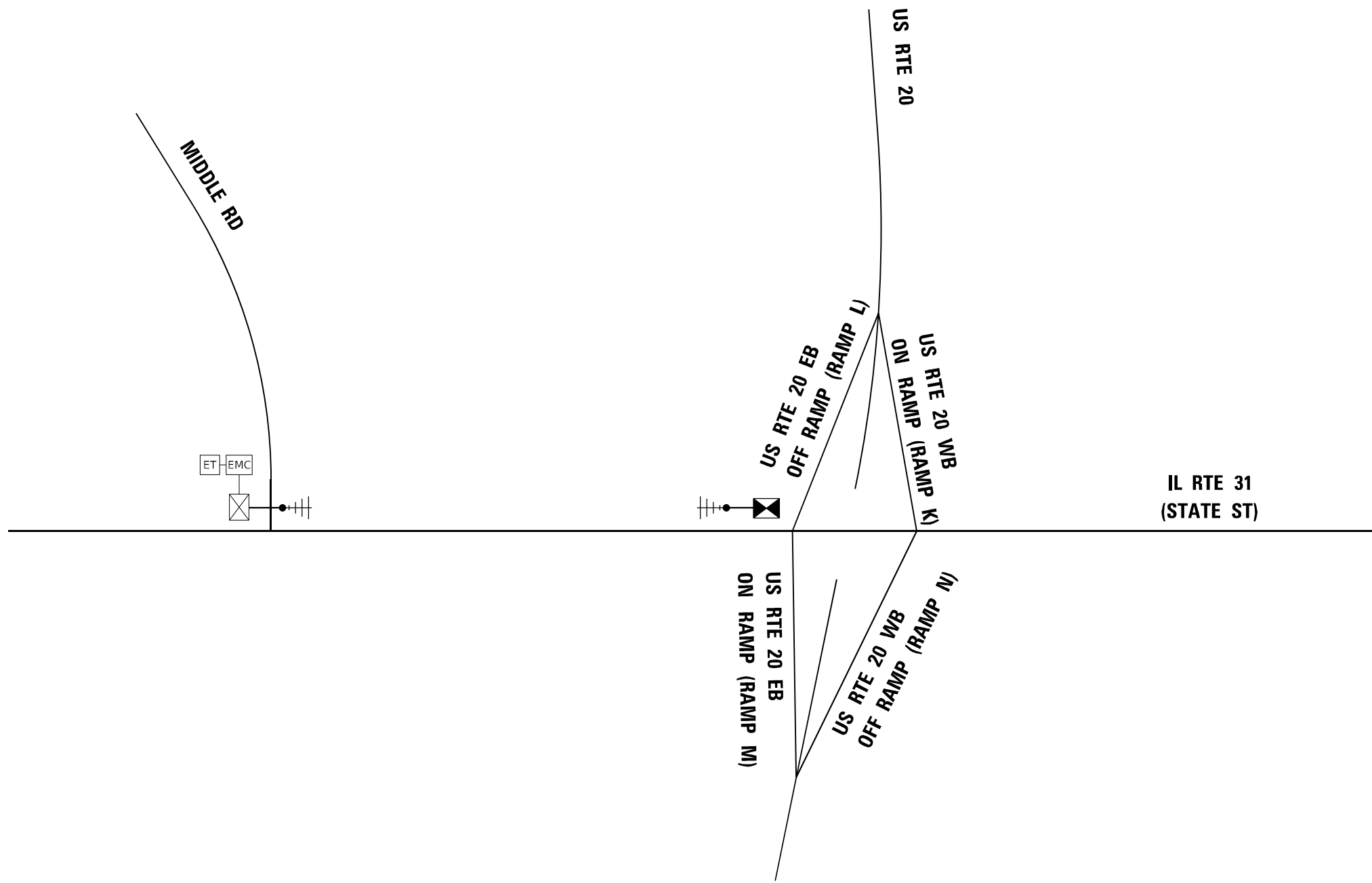
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**MAST ARM MOUNTED STREET NAME SIGNS  
 AND SCHEDULE OF QUANTITIES  
 IL RTE 31 (STATE ST) AT US RTE 20 RAMPS**

SCALE: N.T.S. SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	BHB-2	KANE	359	231
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

**TS 675  
 EAGLE 8C**



TS SHT NO. 30

3/16/2023 10:15:07 AM  
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DESIGNED - DDL	REVISED - _____
DRAWN - JPS	REVISED - _____
CHECKED - TB	REVISED - _____
DATE - 3/16/2023	REVISED - _____

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TEMPORARY INTERCONNECT SCHEMATIC  
 IL RTE 31 (STATE ST) – MIDDLE ROAD TO US RTE 20 RAMPS

SCALE: N.T.S. SHEET 1 OF 1 SHEETS STA. TO STA.

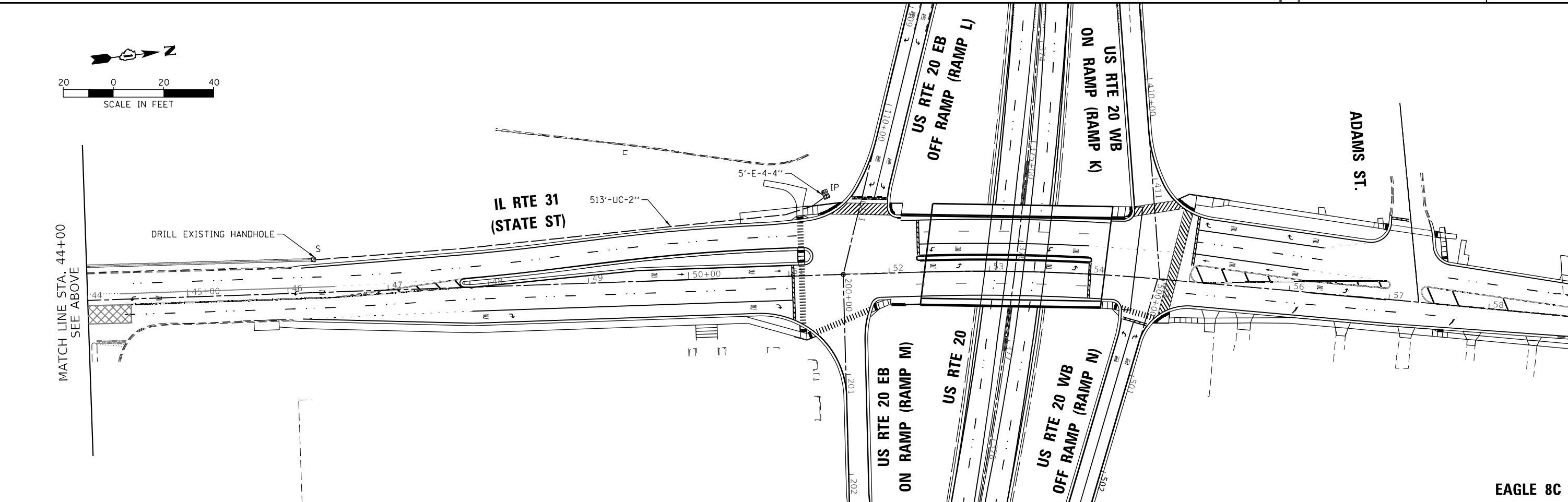
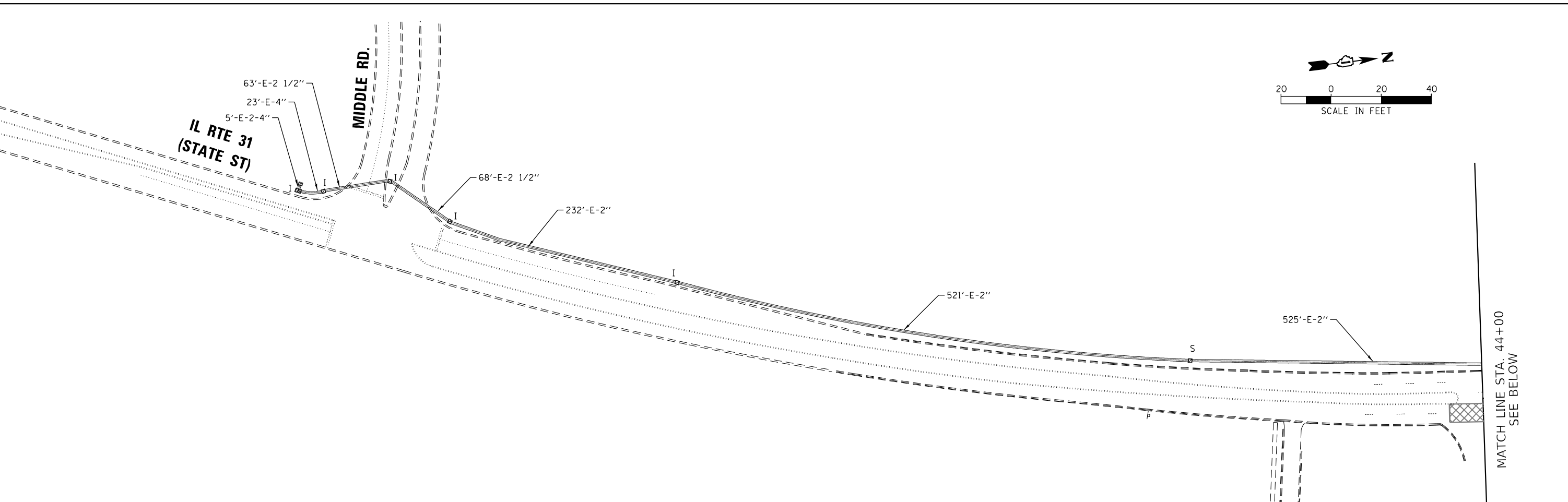
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	BHB-2	KANE	359	232
CONTRACT NO. 62641				
ILLINOIS FED. AID PROJECT				

EAGLE 8C



TS SHT NO. 31

3/16/2023 10:15:53 AM  
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CHECKED - TB	REVISED -
DATE - 3/16/2023	REVISED -

DESIGNED - DDL	REVISED -
DRAWN - JPS	REVISED -
CHECKED - TB	REVISED -
DATE - 3/16/2023	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PROPOSED INTERCONNECT PLAN  
 IL RTE 31 (STATE ST) - MIDDLE RD TO US RTE 20 RAMPS**

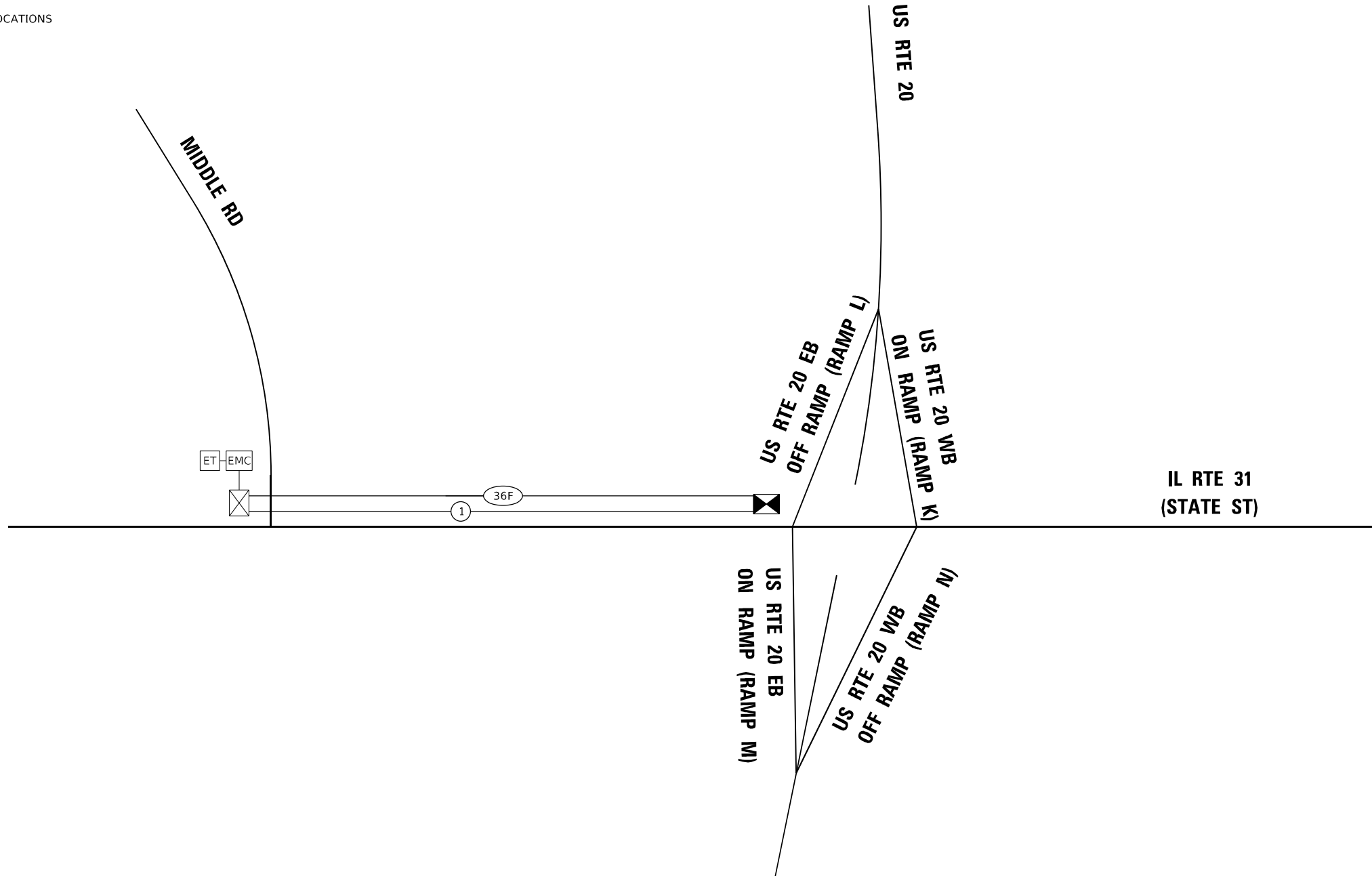
SCALE: 1"=50'    SHEET 1 OF 1 SHEETS    STA. TO STA.

F.A.U. RTE. 3887	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 233
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

**EAGLE 8C**

NOTES:

- 1. THE SCAT CONSULTANT WILL DETERMINE THE LOCATIONS OF THE SYSTEM DETECTORS.



**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNITS	TOTAL QTY
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	513
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	2,052
DRILL EXISTING HANDHOLE	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	3,000
* ROD AND CLEAN EXISTING CONDUIT	FOOT	1,046
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F	FOOT	2,052
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	1

\* NOMINAL QUANTITY TO BE USED AS NEEDED AND AS APPROVED BY THE ENGINEER

TS SHT NO. 32

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DESIGNED - DDL	REVISED - _____
DRAWN - JPS	REVISED - _____
CHECKED - TB	REVISED - _____
DATE - 3/16/2023	REVISED - _____

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED INTERCONNECT SCHEMATIC  
AND SCHEDULE OF QUANTITIES**  
IL RTE 31 (STATE ST) – MIDDLE RD TO US RTE 20 RAMPS  
SCALE: N.T.S. SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	BHB-2	KANE	359	234
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				











**EAGLE 8C**

**BILL OF MATERIALS**

**LIGHTING GENERAL NOTES**

- THE ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST CODES, STANDARDS AND THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, LATEST EDITIONS.
- THE CONTRACTOR SHALL CONTACT THE CITY OF ELGIN AND THE IDOT DISTRICT ONE ELECTRICAL MAINTENANCE CONTRACTOR TO LOCATE ELECTRICAL EQUIPMENT AND UNDERGROUND CABLES.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MARK THE PROPOSED LOCATIONS OF ALL LIGHT POLES AND LIGHTING CONTROLLERS AND FOR EXAMINATION AND CONFIRMATION WITH THE RESIDENT ENGINEER.
- THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO AUGURING FOR LIGHT POLE FOUNDATIONS. THE EXACT LOCATIONS FOR ALL ITEMS SHALL BE CONFIRMED WITH THE RESIDENT ENGINEER PRIOR TO STARTING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OF FINISHED GRADE. THE RESIDENT ENGINEER MAY ASSIST THE CONTRACTOR, AS APPLICABLE. BUT THE RESPONSIBILITY FOR COORDINATING THE FINISHED GRADE ELEVATION WITH THE TOP OF FOUNDATION HEIGHTS AND THE LIGHT SHALL REMAIN WITH THE CONTRACTOR.
- NO POLES SHALL BE ERECTED UNTIL THE RESPECTIVE FOUNDATIONS HAVE CURED, AS APPROVED BY THE ENGINEER.
- CONDUIT AND UNIT DUCT MUST BE POSITIONED IN THE FIELD TO AVOID CONFLICT WITH TREES, BUSHES, DRAINS, OTHER UTILITIES AND LANDSCAPING.
- THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE ANY LIGHT STANDARD IS ERECTED.
- ANY DAMAGE TO PAVEMENT, SIDEWALK, CURB OR ANY OTHER SURFACES NOT SPECIFICALLY TO BE REMOVED AND REPLACED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST AND REPLACEMENT SHALL MEET THE APPROVAL OF THE ENGINEER.
- COORDINATE WITH TRAFFIC SIGNAL PLANS FOR EXACT LOCATIONS OF COMBINATION POLES, COMBINATION POLES, MAST ARM, AND WIRING FOR THE COMBINATION LIGHTING WILL BE PAID FOR UNDER TRAFFIC SIGNAL PAY ITEMS.
- OFFSET CALL OFF FOR PROPOSED LIGHT POLES ARE FROM THE EDGE OF PAVEMENT (EOP).
- LIGHTPOLE IDENTIFICATION LABEL SHALL BE PROVIDED AS PER ARTICLE 1069.06 TO THE PROPOSED LIGHT POLE.
- ALL UNDERGROUND UNIT DUCT SHALL BE 30 INCHES MINIMUM BELOW GRADE PER IDOT SECTION 810. UNIT DUCT MUST BE POSITIONED IN THE FIELD TO AVOID CONFLICT WITH UNDERDRAINS AND UNDERGROUND UTILITIES.
- FOR COMED SERVICE, CONTACT: VERA JACKSON (224)-276-1466, VERA.JACKSON@COMED.COM, AT COMED.

**LEGEND**

-  PROPOSED UNDERPASS LUMINAIRE
-  EXISTING ROADWAY LUMINAIRE
-  PROPOSED COMBINATION TRAFFIC SIGNAL AND LIGHTING UNIT  
LUMINAIRE ROADWAY LED, DESIGNATION H  
TYPE II DISTRIBUTION  
12 FT. MAST ARM  
LUMINAIRE POWERED THROUGH TRAFFIC SIGNAL CONTROLLER  
(SEE TRAFFIC SIGNAL PLANS)
-  PROPOSED ROADWAY LIGHTING UNIT  
LUMINAIRE ROADWAY LED, DESIGNATION H UNO  
TYPE II DISTRIBUTION  
PROPOSED ALUMINUM POLE, CLASS 4, 47.5 FT MOUNTING HEIGHT,  
12 FT. MAST ARM
-  PROPOSED UNIT DUCT IN UNDERGROUND CONDUIT,  
SIZE AND TYPE AS NOTED
-  PROPOSED UNIT DUCT, SIZE AND TYPE AS NOTED  
ON LIGHTING PLANS
-  CONDUIT ATTACHED TO STRUCTURE UNO
-  PROPOSED LIGHTING CONTROLLER
-  JUNCTION BOX ATTACHED TO STRUCTURE,  
SIZE AND TYPE AS NOTED ON DRAWINGS
-  ELECTRIC UTILITY SERVICE, GROUND MOUNTED

Description	Unit	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	1
ELECTRIC UTILITY SERVICE CONNECTION	L SUM	2
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	70
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	1,026
CONDUIT ATTACHED TO STRUCTURE, 1" DIA., PVC COATED GALVANIZED STEEL	FOOT	505
CONDUIT ATTACHED TO STRUCTURE, 3" DIA., PVC COATED GALVANIZED STEEL	FOOT	16
CONDUIT EMBEDDED IN STRUCTURE, 2" DIA., PVC	FOOT	336
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6" X 6" X 4"	EACH	8
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"	EACH	8
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 18" X 18" X 8"	EACH	2
UNIT DUCT, 600V, 3-1C NO.6, 1/C NO.8 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	8,239
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	512
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 2	FOOT	40
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 10	FOOT	478
LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION H	EACH	41
LUMINAIRE, LED, UNDERPASS, SUSPENDED, OUTPUT DESIGNATION D	EACH	8
LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 100AMP	EACH	1
LIGHT POLE, ALUMINUM, 47.5 FT. M.H., 12 FT. MAST ARM	EACH	41
LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	507
BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	41
REMOVAL OF LIGHTING UNIT, SALVAGE	EACH	10
REMOVAL OF POLE FOUNDATION	EACH	10
REMOVAL OF LIGHTING CONTROLLER	EACH	1
REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1
REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1
LUMINAIRE SAFETY CABLE ASSEMBLY	EACH	41
LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	FOOT	26

**ABBREVIATIONS**

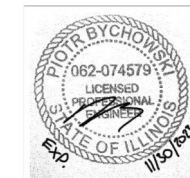
ABBREVIATION	DESCRIPTION
AC	AERIAL CABLE
ATC	ATTACHED TO STRUCTURE
BOC	BACK OF CURB
CKT	CIRCUIT
DIA	DIAMETER
EIS	EMBEDDED IN STRUCTURE
EOP	EDGE OF PAVEMENT
FOC	FACE OF CURB
GND	GROUND
GSC	GALVANIZED STEEL CONDUIT
JB	JUNCTION BOX
LED	LIGHT EMITTING DIODE
MA	MAST ARM
MH	MOUNTING HEIGHT
NO. #	NUMBER
P	PROPOSED
PVC	POLYVINYL CHLORIDE
PVCC RGC	PVC COATED RIGID GALVANIZED CONDUIT
R	EXISTING UNIT TO BE REMOVED
RR	EXISTING UNIT TO BE REMOVED AND RELOCATED
RGC	RIGID GALVANIZED CONDUIT
SS	STAINLESS STEEL
STA	STATION
TEMP	TEMPORARY
T/F	TOP OF FOUNDATION
UD	UNIT DUCT
UNO	UNLESS NOTED OTHERWISE
UGC, GS	UNDERGROUND CONDUIT, GALVANIZED STEEL
WP	WOOD POLE

**IDOT STANDARD DETAILS**

DETAIL NUMBER	DETAIL NAME
BE-215	LIGHTING CONTROLLER, SINGLE DOOR
BE-240	COMBINATION LIGHTING, TRAFFIC SIGNAL SCHEMATIC
BE-301	LIGHT POLE FOUNDATION 40' - 47 1/2' M.H, 15" BOLT CIRCLE
BE-310	LIGHT POLE FOUNDATION OFFSET 40' - 47.5' MH 15" BOLT CIRCLE
BE-400	ALUMINUM LIGHT POLE 47.5' MOUNTING HEIGHT
BE-701	LUMINAIRE SAFETY CABLE ASSEMBLY
BE-702	MISCELLANEOUS ELECTRICAL DETAILS, SHEET A
BE-703	MISCELLANEOUS ELECTRICAL, DETAILS SHEET B
BE-901	SUSPENDED MOUNT LED UNDERPASS LUMINAIRE INSTALLATION DETAILS

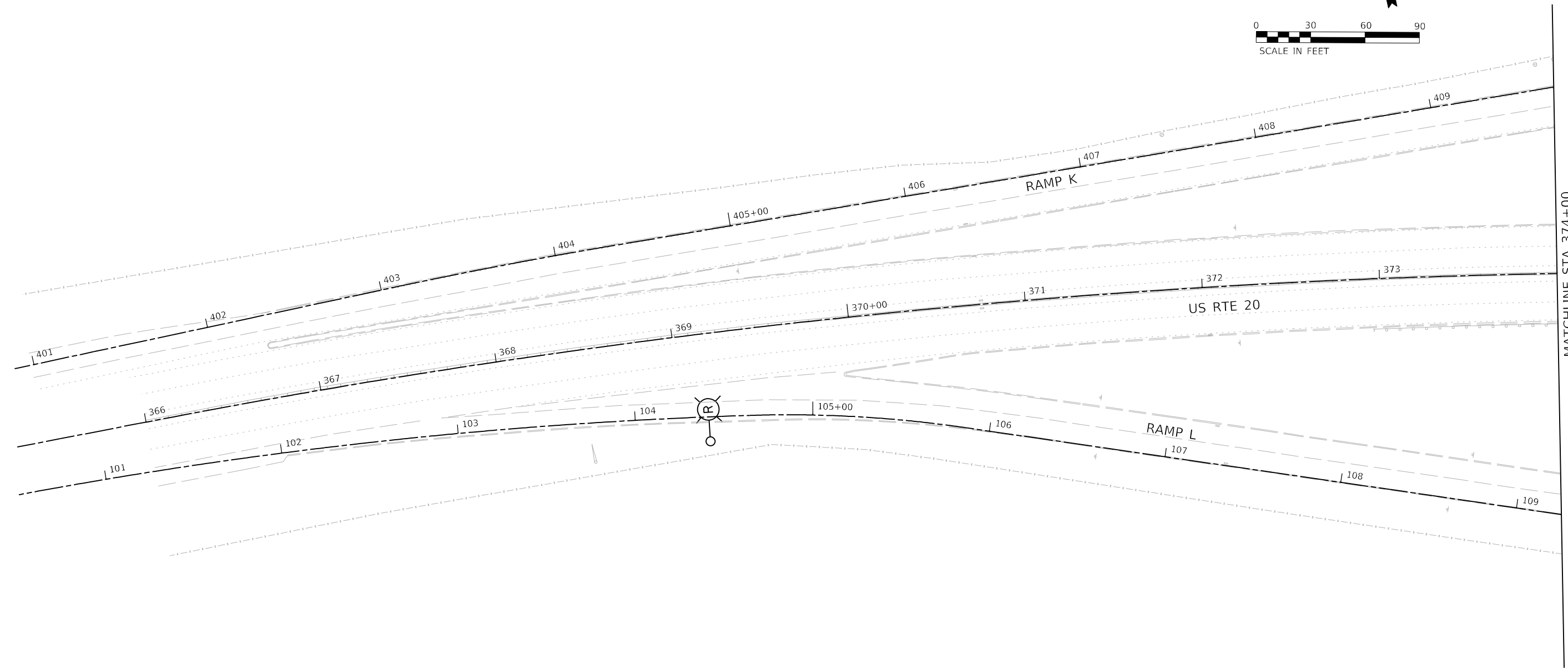
**IDOT STANDARD DETAIL NOTES**

- DEFER TO INFORMATION INDICATED ON DESIGN DRAWINGS WHERE DISCREPANCIES EXIST AMONGST DETAILS AND INFORMATION ON DRAWINGS.



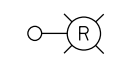
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	PLOT SCALE -	CHECKED - BG			REVISED -	SCALE: NONE	SHEET 1 OF 8 SHEETS	STA. 0 TO STA. 0	CONTRACT NO. 62G41
PLOT DATE = 3/23/2023	DATE - 03/24/2023	REVISED -	ILLINOIS FED. AID PROJECT						



MATCHLINE STA 374+00  
SEE SHEET 237

**LEGEND**



EXISTING LIGHTING UNIT TO BE REMOVED

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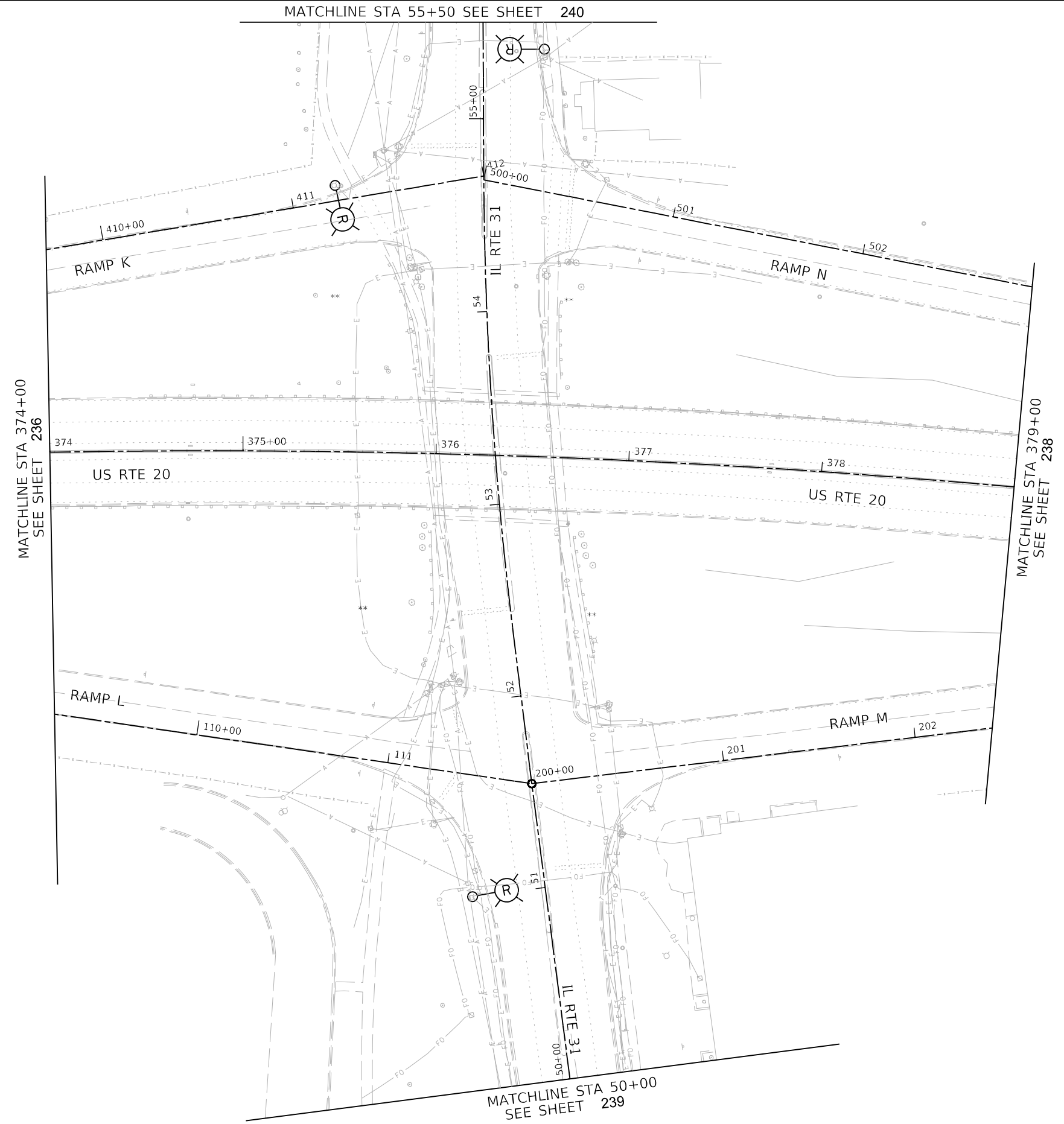
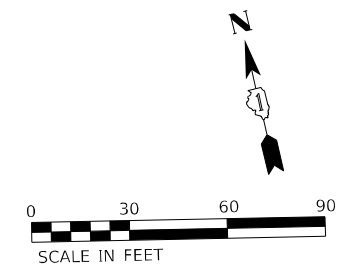
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED REMOVAL LIGHTING PLAN**

SCALE: SHEET 1 OF 5 SHEETS STA. 365+00 TO STA. 374+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	236
CONTRACT NO. 62641				
ILLINOIS FED. AID PROJECT				

MATCHLINE STA 55+50 SEE SHEET 240



MATCHLINE STA 374+00  
SEE SHEET 236

MATCHLINE STA 379+00  
SEE SHEET 238

MATCHLINE STA 50+00  
SEE SHEET 239

**KEYED NOTES**

- 1 COORDINATE EXACT ROUTING AND SERVICE REQUIREMENTS OF NEW ELECTRICAL SERVICE WITH COMED.

**LEGEND**

EXISTING LIGHTING UNIT TO BE REMOVED

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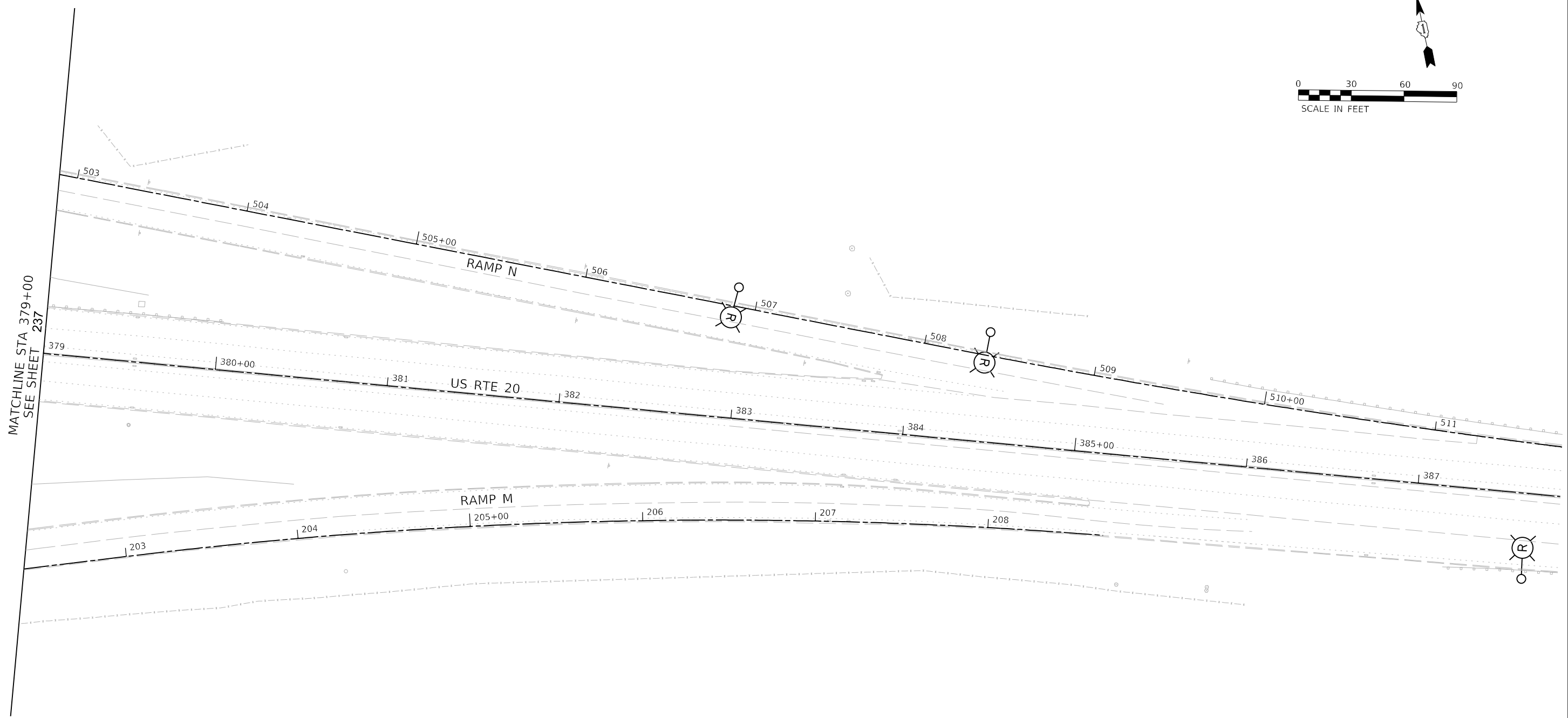
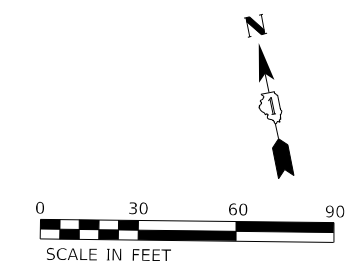
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DRAWN - DR	REVISED -
CHECKED - BF	REVISED -
DATE - 03/24/2023	REVISED -


**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED REMOVAL LIGHTING PLAN**

SCALE: SHEET 2 OF 5 SHEETS STA. 374+00 TO STA. 379+00


F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	237
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



MATCHLINE STA 379+00  
SEE SHEET 237

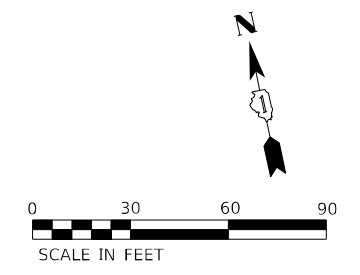
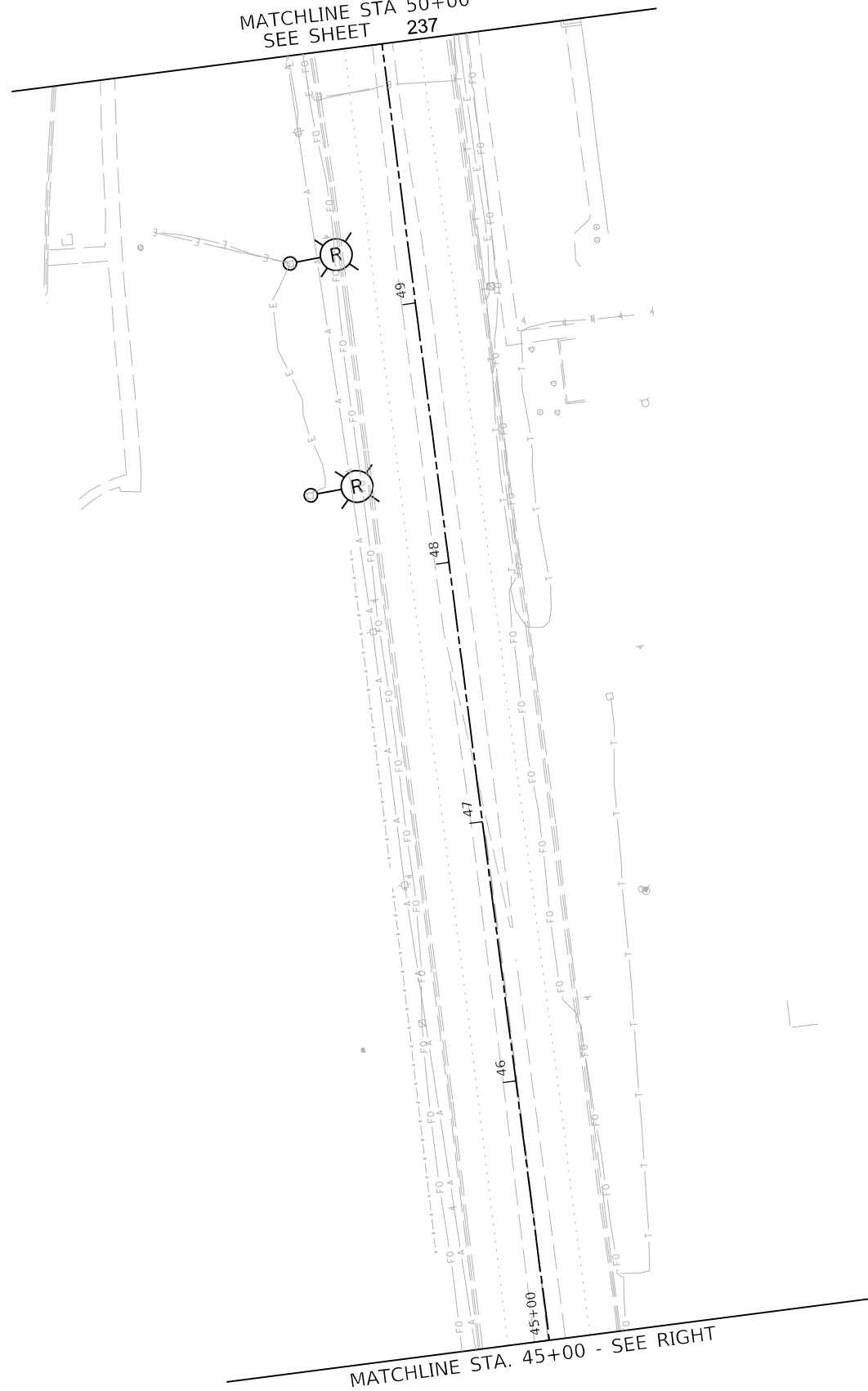
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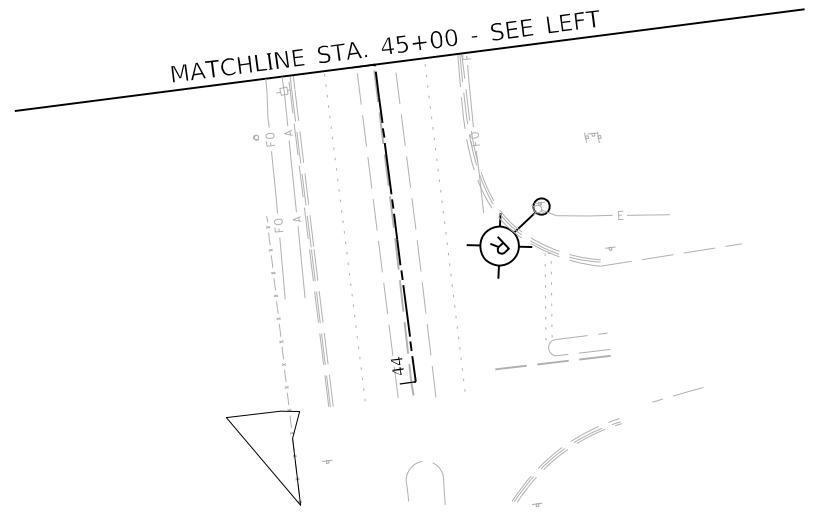
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	DRAWN - DR	REVISED -					345A	8HB-2	KANE	359	238
	CHECKED - BF	REVISED -					CONTRACT NO. 62641				
PLOT SCALE = 60.0000' / in.	DATE - 03/24/2023	REVISED -	SCALE:	SHEET 3 OF 5 SHEETS	STA. 379+00 TO STA. 387+00	ILLINOIS FED. AID PROJECT					



MATCHLINE STA 50+00  
SEE SHEET 237



MATCHLINE STA. 45+00 - SEE LEFT



**LEGEND**

 EXISTING LIGHTING UNIT TO BE REMOVED

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CHECKED - BF	REVISED -
DATE - 03/24/2023	REVISED -

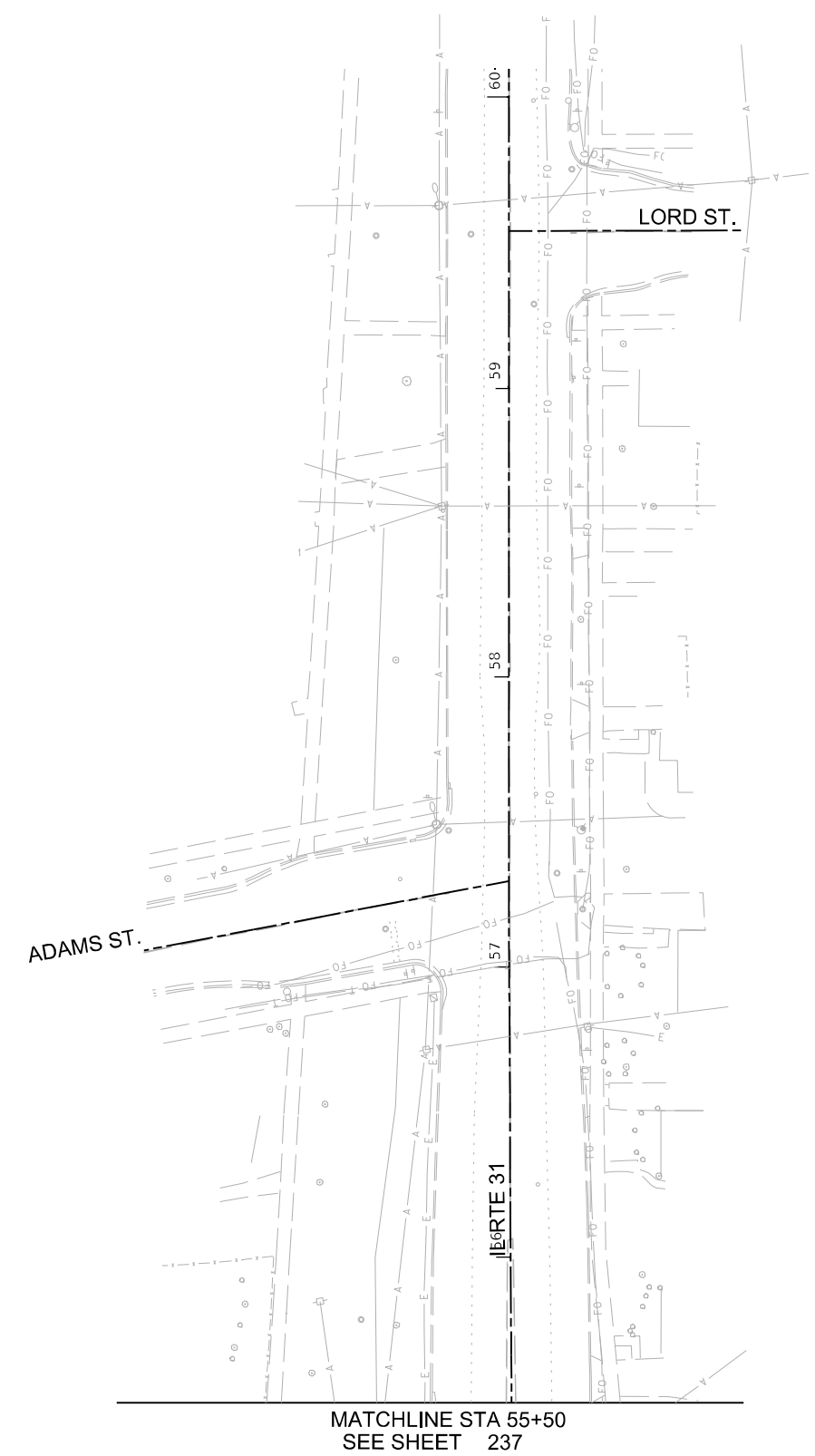
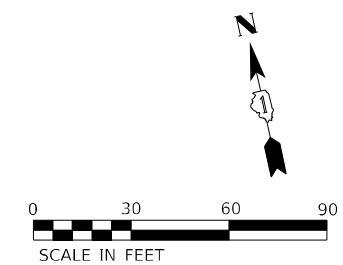
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CHECKED - BF	REVISED -
DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED REMOVAL LIGHTING PLAN**

SCALE: SHEET 4 OF 5 SHEETS STA. 45+00 TO STA. 50+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	239
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



MATCHLINE STA 55+50  
SEE SHEET 237

**LEGEND**

 EXISTING LIGHTING UNIT TO BE REMOVED

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CHECKED - BF	REVISED -
DATE - 03/24/2023	REVISED -

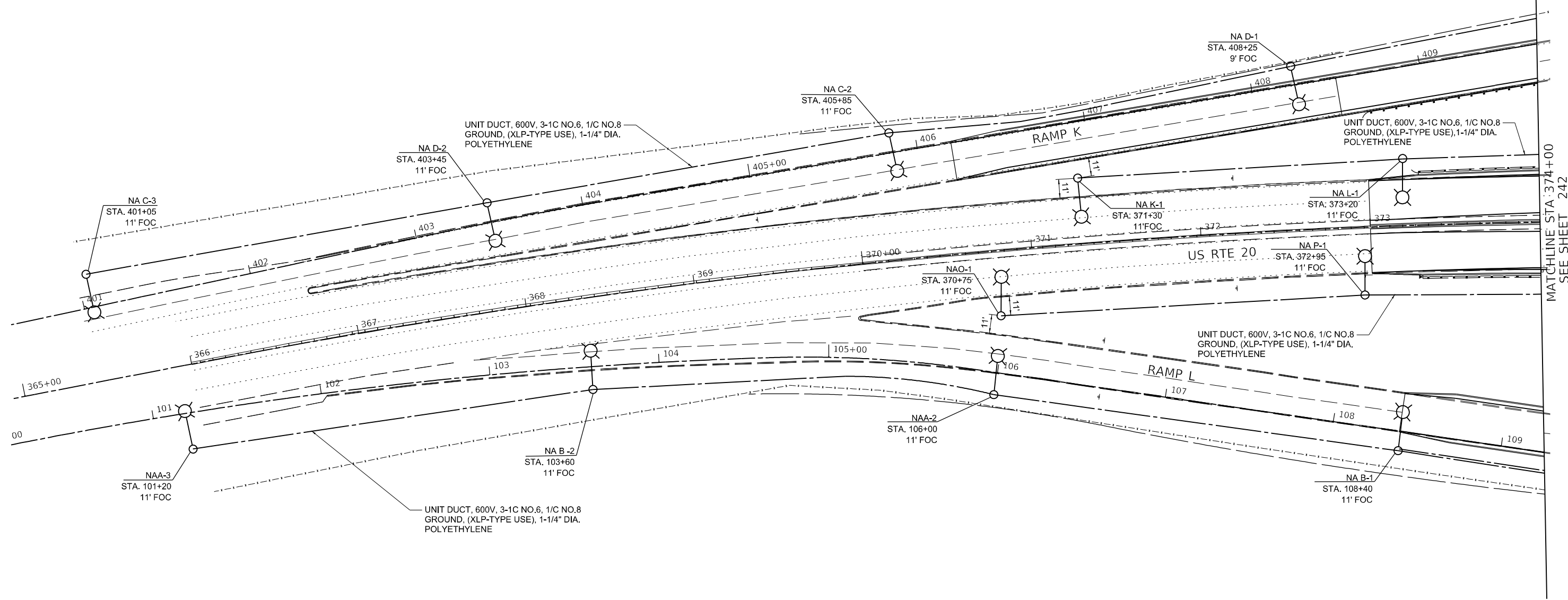
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DRAWN - DR	REVISED -
CHECKED - BF	REVISED -
DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED REMOVAL LIGHTING PLAN**

SCALE: SHEET 5 OF 5 SHEETS STA. 55+50 TO STA. 60+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	240
CONTRACT NO. 62641				
ILLINOIS FED. AID PROJECT				



MATCHLINE STA: 374+00  
SEE SHEET 242

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CHECKED - BF	REVISED -
DATE - 03/24/2023	REVISED -

UNIT DUCT, 600V, 3-1C NO.6, 1/C NO.8 GROUND, (XLP-TYPE USE), 1-1/4" DIA. POLYETHYLENE
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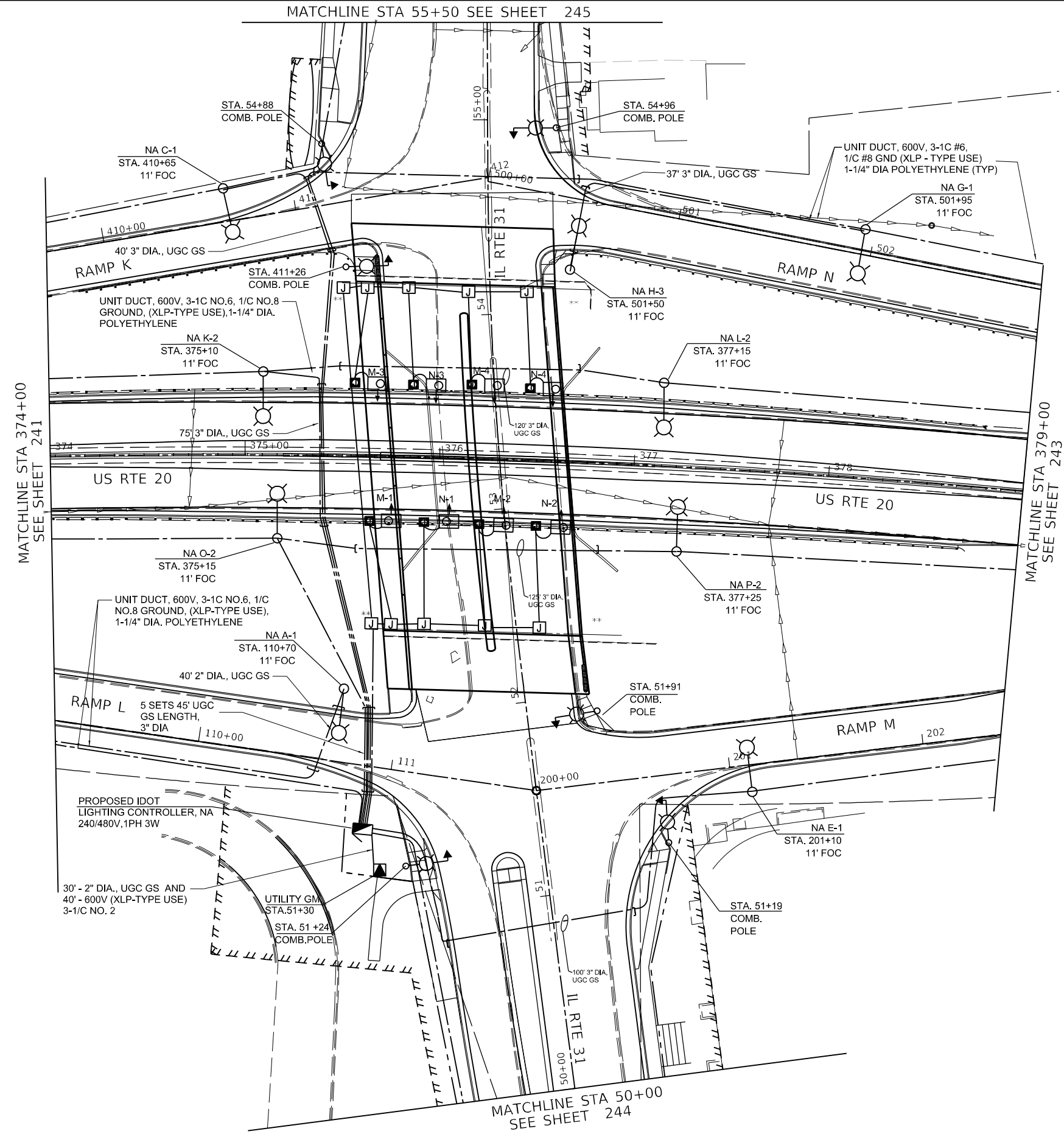
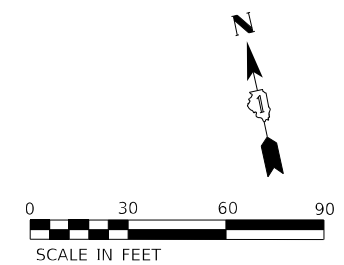
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN**

SCALE: SHEET 2 OF 8 SHEETS STA. 365+00 TO STA. 374+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	241
CONTRACT NO. 62641				
ILLINOIS FED. AID PROJECT				

MATCHLINE STA 55+50 SEE SHEET 245



MATCHLINE STA 374+00  
SEE SHEET 241

MATCHLINE STA 379+00  
SEE SHEET 243

MATCHLINE STA 50+00  
SEE SHEET 244

**GENERAL NOTES**

- A. REFER TO TRAFFIC SIGNAL PLANS FOR CIRCUITRY ASSOCIATED WITH COMBINATION TRAFFIC SIGNAL POLES
- B. RIGID GALVANIZED STEEL (RGS) CONDUIT WITH THREADED COUPLINGS SHALL BE INSTALLED UNDER PAVEMENT AND SHALL EXTEND NOTLESS THAN 2 FEET ON EITHER SIDE OF THE CROSSING
- C. REFER TO ENLARGED UNDERPASS DRAWINGS FOR ADDITIONAL INFORMATION

**KEYED NOTES**

- 1. COORDINATE EXACT ROUTING AND SERVICE REQUIREMENTS OF NEW ELECTRICAL SERVICE WITH COMED.

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CHECKED - BF	REVISED -
DATE - 03/24/2023	REVISED -

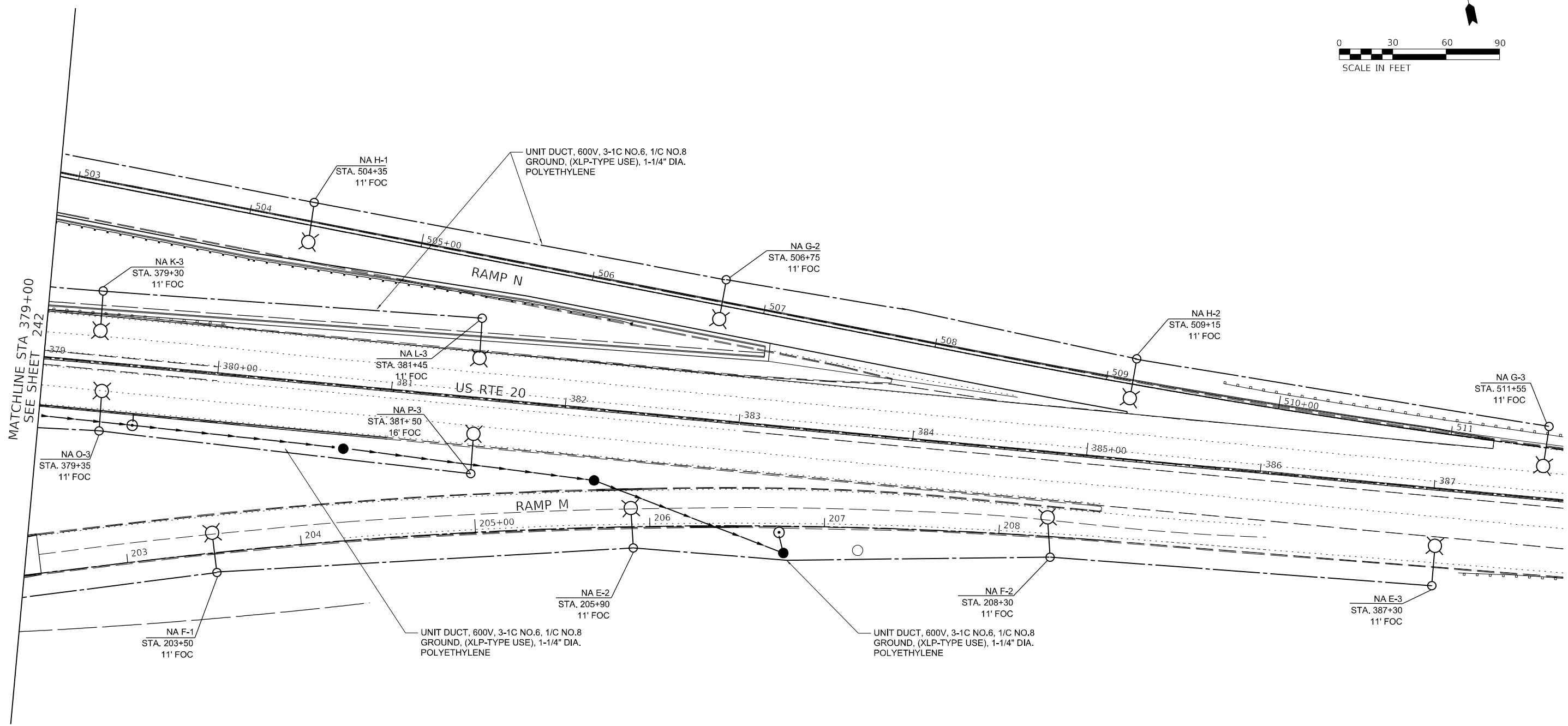
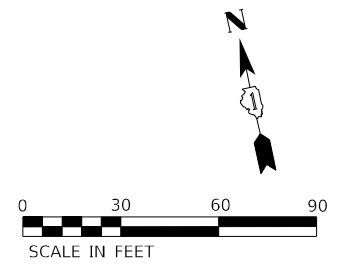
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CHECKED - BF	REVISED -
DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN**

SCALE: SHEET 3 OF 8 SHEETS STA. 374+00 TO STA. 379+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	242
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



MATCHLINE STA 379+00  
SEE SHEET 242



PLOT SCALE = 60.0000' / in.  
PLOT DATE = 3/23/2023

DESIGNED - CG  
DRAWN - DR  
CHECKED - BF  
DATE - 03/24/2023

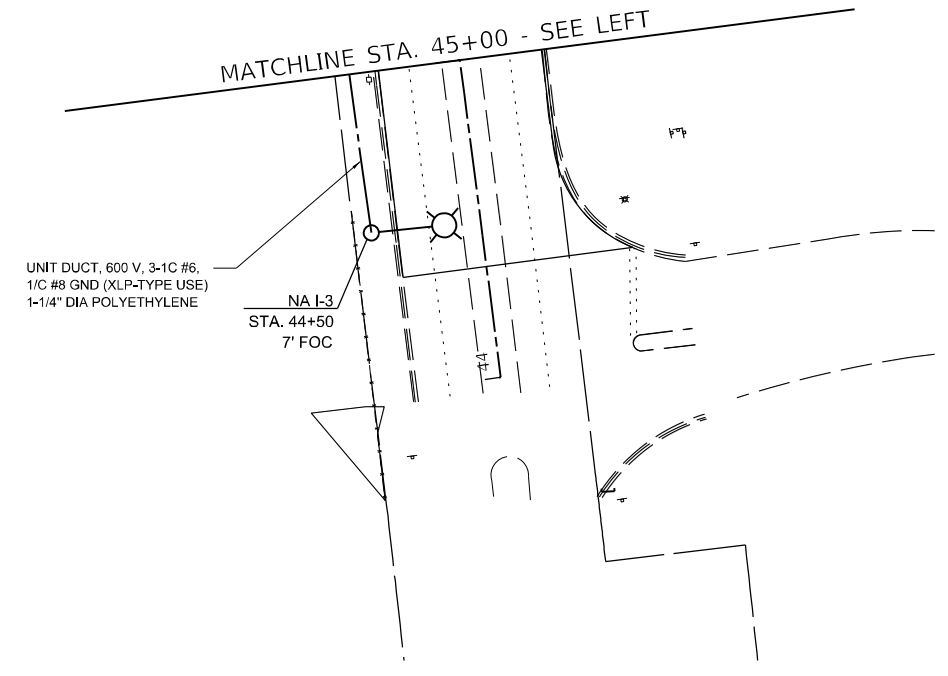
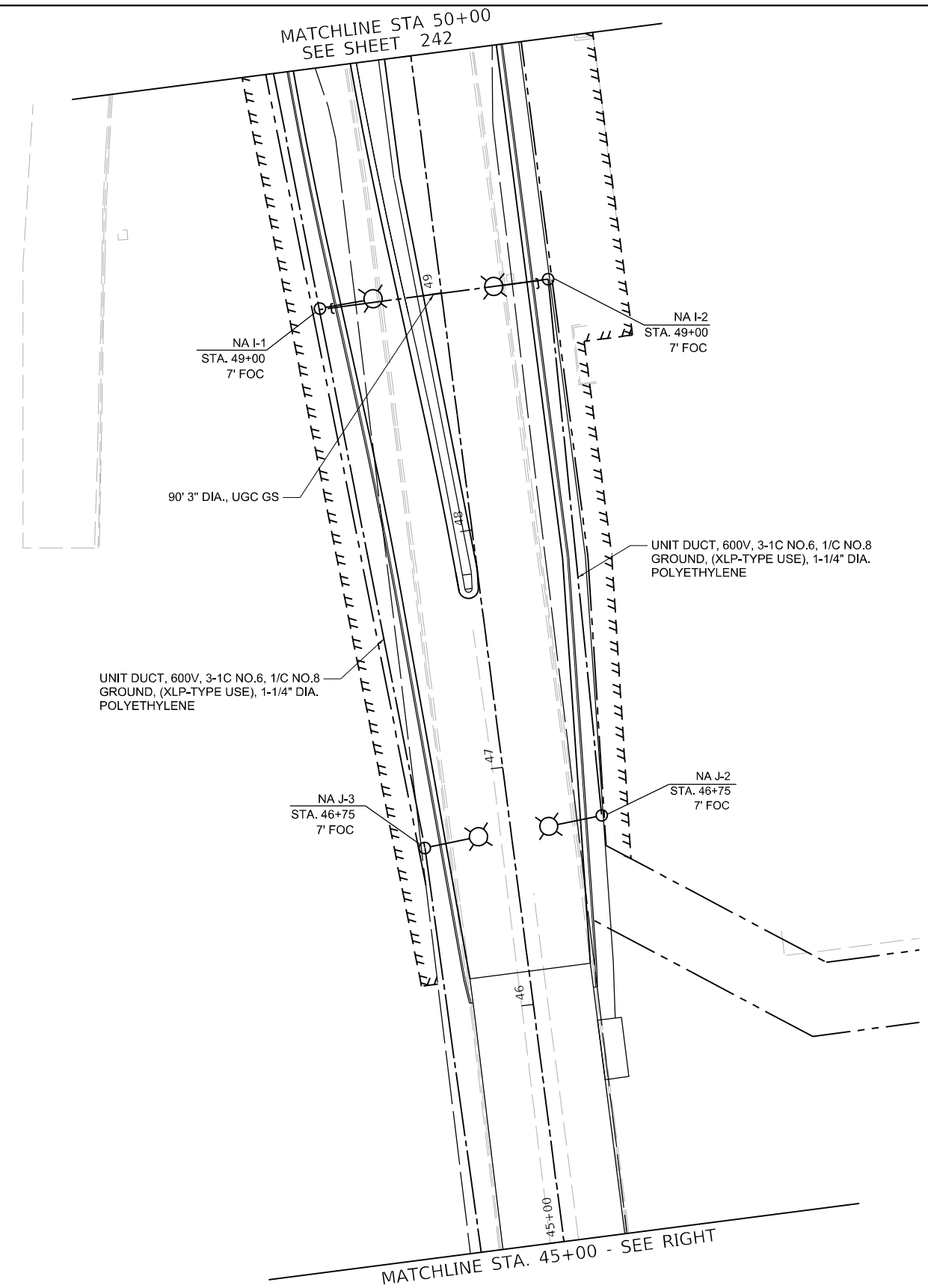
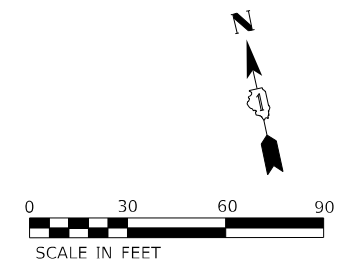
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN**

SCALE: SHEET 4 OF 8 SHEETS STA. 379+00 TO STA. 387+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	243
CONTRACT NO. 62641				
ILLINOIS FED. AID PROJECT				



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DATE - 03/24/2023	REVISED -

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DRAWN - DR	REVISED -
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DATE - 03/24/2023	REVISED -

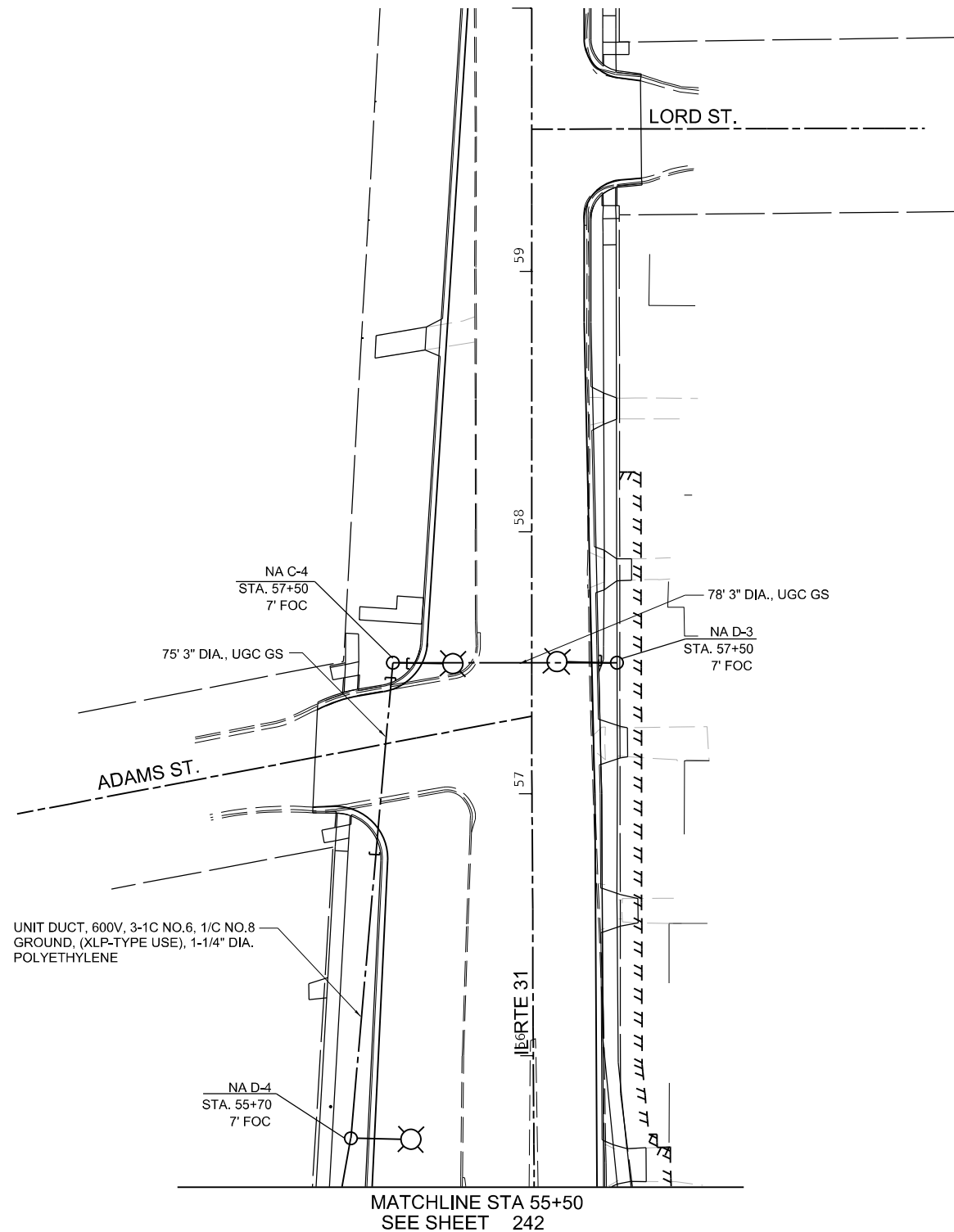
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN**

SCALE: SHEET 5 OF 8 SHEETS STA. 45+00 TO STA. 50+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	244
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				





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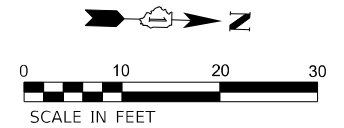
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DATE - 03/24/2023	REVISED -

DESIGNED - CG	REVISED -
DRAWN - DR	REVISED -
CHECKED - BF	REVISED -
DATE - 03/24/2023	REVISED -

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

**PROPOSED LIGHTING PLAN**  
 SCALE: SHEET 6 OF 8 SHEETS STA. 55+50 TO STA. 60+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	245
CONTRACT NO. 62641				
ILLINOIS FED. AID PROJECT				



**GENERAL NOTES:**

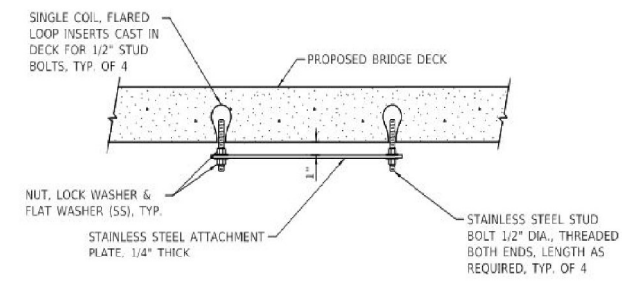
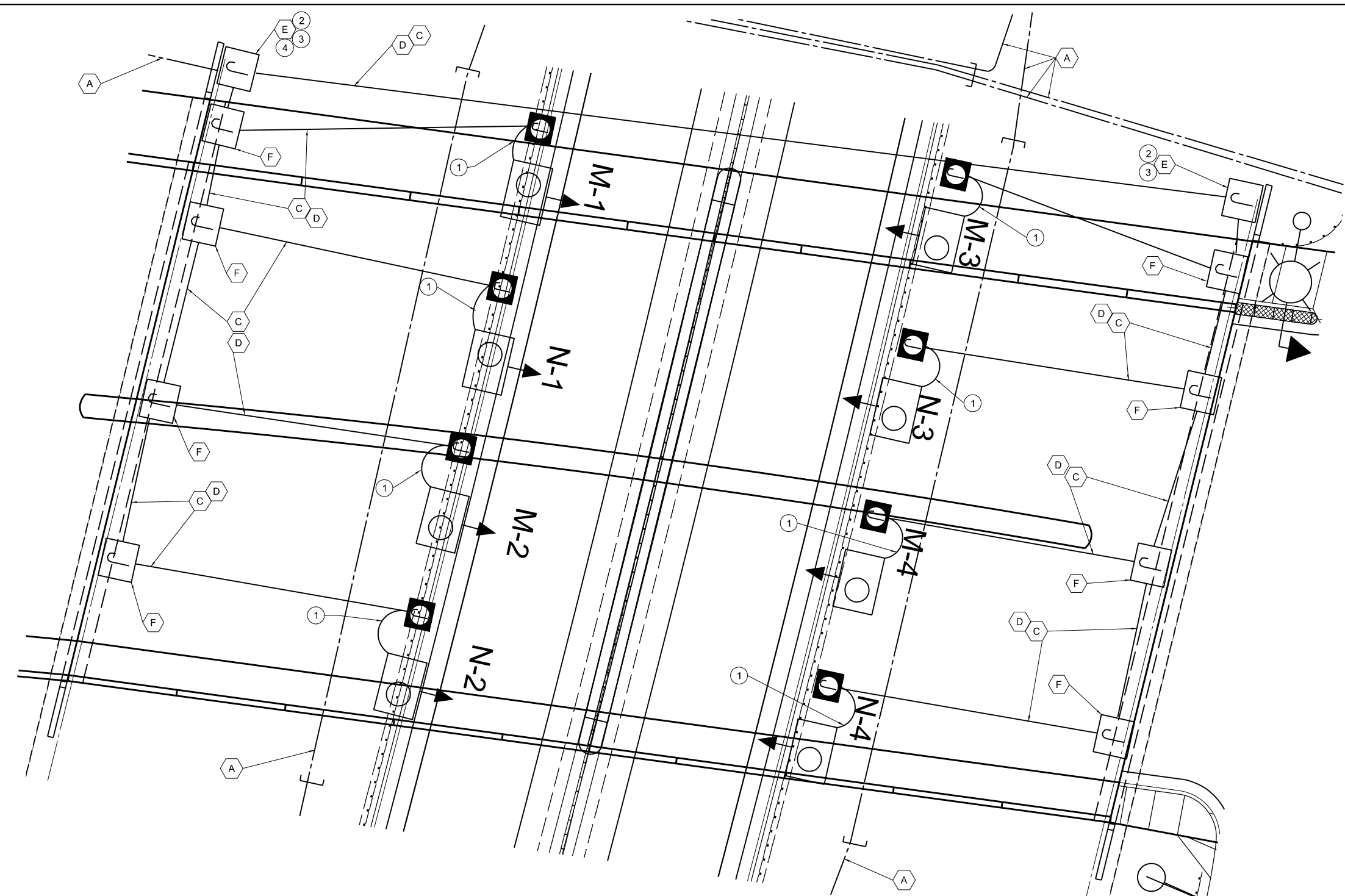
1. ALL PROPOSED UNDERPASS LUMINAIRES TO BE MOUNTED OR SUSPENDED AT 16'-0" ABOVE THE ROAD.
2. PROPOSED UNDERPASS LUMINAIRES SHALL BE LOCATED AS CLOSE TO, BUT NO GREATER THAN, 10' FROM EDGE OF THE PROPOSED BRIDGE STRUCTURE. LUMINAIRES SHALL BE CENTERED BETWEEN STRUCTURAL BEAMS USING ATTACHMENT PLATE HANGER DETAIL.
3. CIRCUITS M AND N SHALL BE MULTIWIRE BRANCH CIRCUITS. CIRCUITS M AND N SHALL BE ON SEPARATE PHASES AND SHALL BE PROVIDED WITH A SIMULTANEOUS DISCONNECTING MEANS PER NEC 210 BY THE CONTRACTOR.
4. ALL PROPOSED UNDERPASS LUMINAIRE, LED, IS SUSPENDED WITH OUTPUT D AND ARE CONNECTED TO JUNCTION BOXES USING 3-1/C NO. 10 AND 1/C NO. 10 GND CABLE IN CONDUIT.

**TAGGED NOTES:**

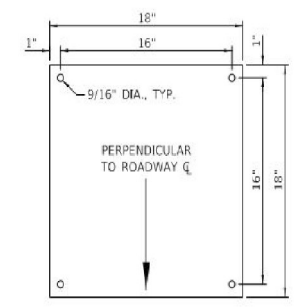
- ① PROVIDE 1" LTFMC (6 FOOT MAXIMUM) FOR FINAL CONNECTION TO LUMINAIRES.
- ② SEE IDOT ELECTRICAL DETAIL FOR ADDITIONAL INFORMATION ON UNDERGROUND TO ABOVEGROUND CONDUIT TRANSITIONS.
- ③ INSTALL FUSEHOLDER WITH 30 AMP FUSES AND NEUTRAL SLUG INSIDE THE JUNCTION BOX
- ④ USE 3" DIA PVCC RGC TO BE CLAMPED TO STRUCTURE TO REACH GROUND

**CABLE AND CONDUIT DESCRIPTION:**

- A UNIT DUCT, 600V, 3-1C NO.6, 1/C NO.8 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE. (REFER TO SHEET 3 OF 8).
- B 2 SETS OF 3-1/C NO. 8 AND 1/C NO. 8 GND CABLE IN CONDUIT
- C 4-1/C NO. 10 AND 1/C NO. 10 GND CABLE IN CONDUIT
- D CONDUIT ATTACHED TO STRUCTURE, 1 1/4" DIA., PVC COATED GALVANIZED STEEL
- E JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 18" X 18" X 8"
- F JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"
- G JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6" X 6" X 4"



**ATTACHMENT PLATE HANGER DETAIL**



**ATTACHMENT PLATE DETAIL**

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


**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED UNDERPASS LIGHTING PLAN**

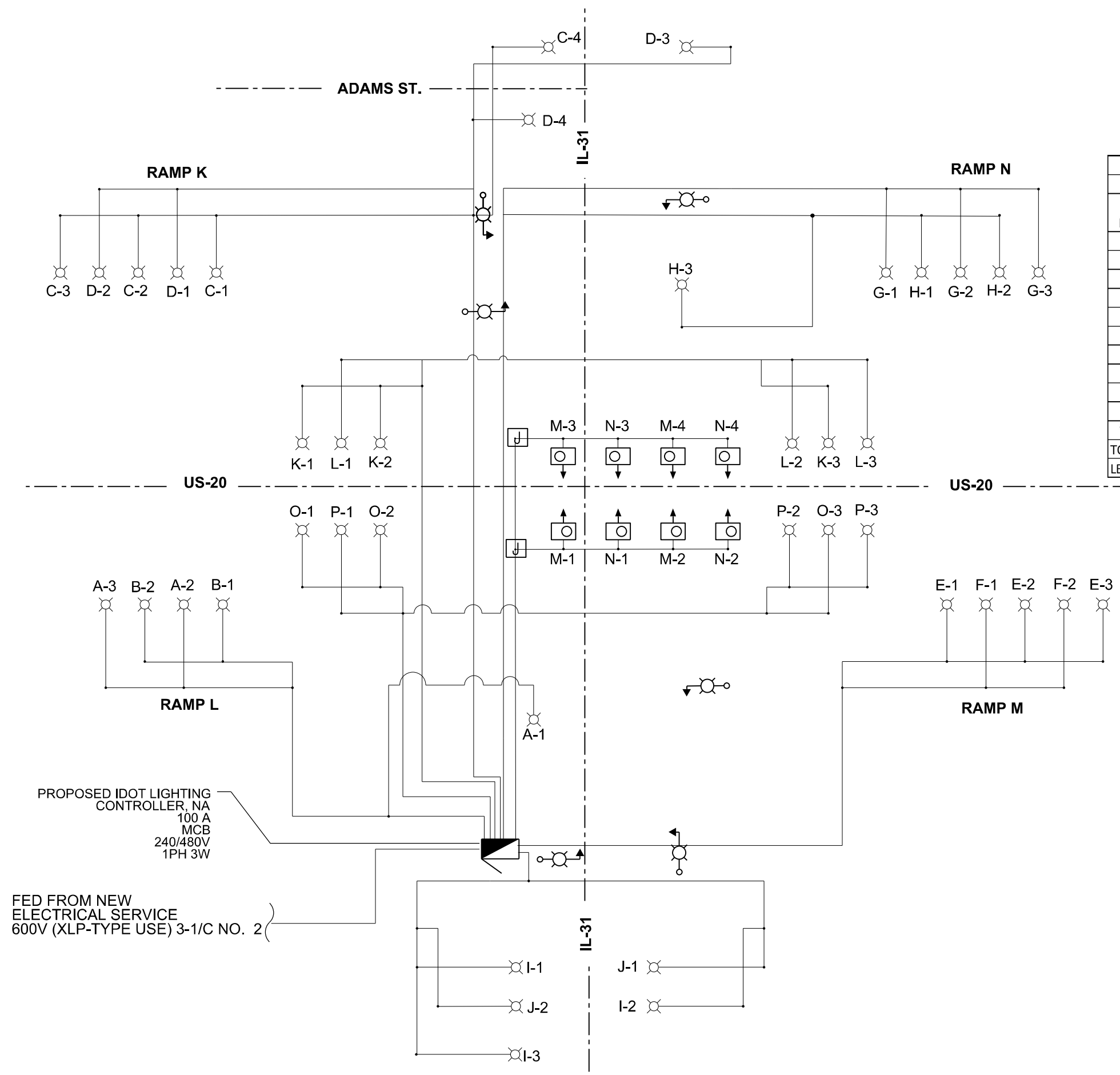
SCALE: SHEET 7 OF 8 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	246
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

**LEGEND**

-  PROPOSED LED UNDERPASS LUMINAIRE
-  PROPOSED LED ROADWAY LUMINAIRE  
OUTPUT DESIGNATION G UNO
-  PROPOSED LIGHTING CONTROLLER
-  PROPOSED COMBINATION LUMINAIRE  
ROADWAY OUTPUT DESIGNATION H

LOAD TABLE							
LIGHTING CONTROLLER "NA", 240/480V, 1-Φ, 3- WIRE							
RED PHASE	NO. LUM.*	AMPS	WATTS	BLACK PHASE	NO. LUM.*	AMPS	WATTS
A	3-222W	2.8	666	B	2-222W	1.9	444
C	4-222W	3.7	888	D	4-222W	3.7	888
E	3-222W	2.8	666	F	2-222W	1.9	444
G	3-222W	2.8	666	H	3-222W	2.8	666
I	3-222W	2.8	666	J	2-222W	1.9	444
K	3-222W	2.8	666	L	3-222W	2.8	666
M	4-78W	1.3	312	N	4-78W	1.3	312
O	3-222W	2.8	666	P	3-222W	2.8	666
TOTAL							
TOTAL		21.8	5196			19.1	4530
TOTAL CONNECTED LOAD CAPACITY (W)				9726			
LED U1 = 78 W, LED F1 = 222 W							



PROPOSED IDOT LIGHTING CONTROLLER, NA  
100 A MCB  
240/480V  
1PH 3W

FED FROM NEW ELECTRICAL SERVICE  
600V (XLP-TYPE USE) 3-1/C NO. 2

**GENERAL NOTES**

1. LETTER ADJACENT TO FIXTURE REPRESENTS THE CIRCUIT NUMBER.

L2006

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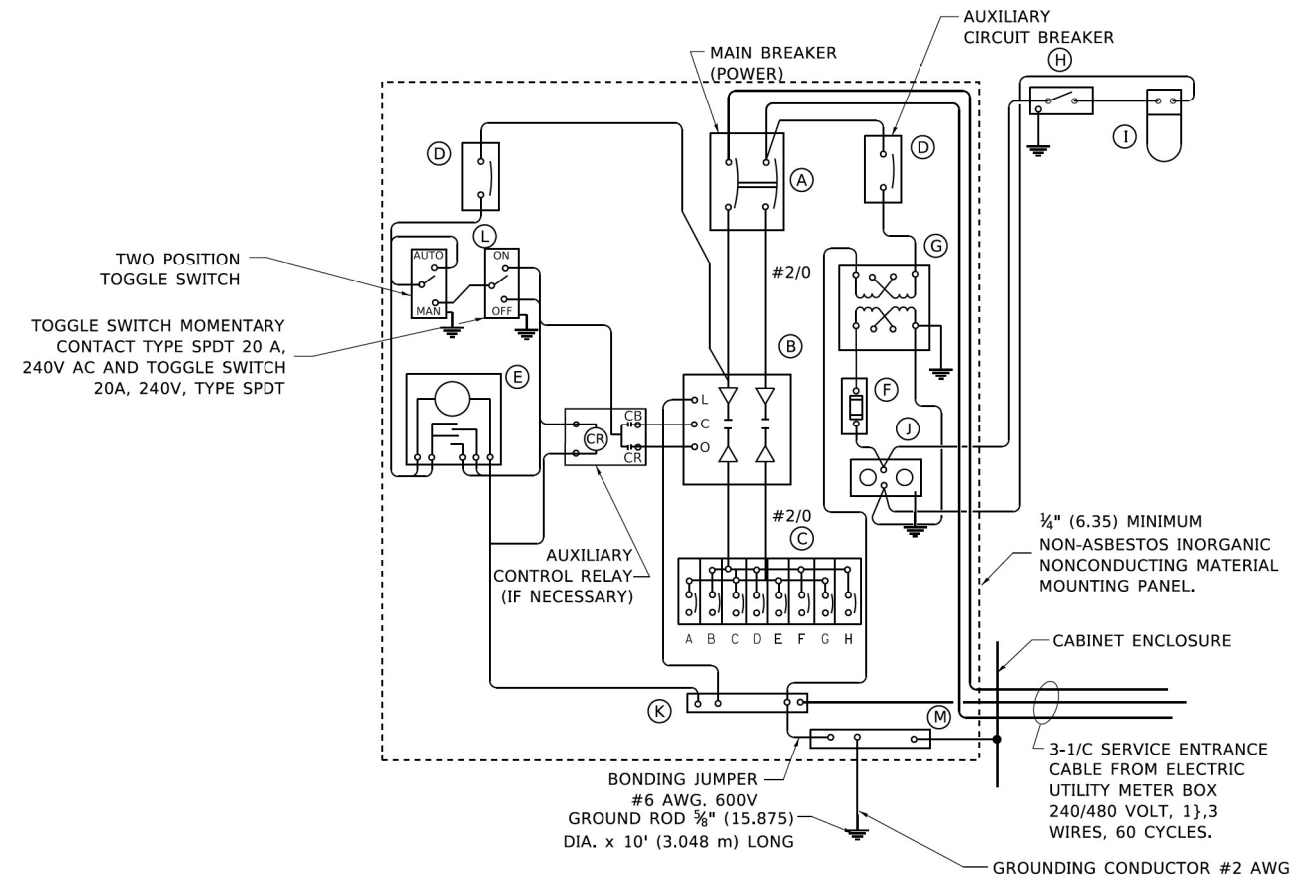
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US 20 (LAKE ST.) AT IL 31 (STATE ST.)  
PROPOSED SINGLE LINE DIAGRAM**

SCALE: SHEET 8 OF 8 SHEETS STA. TO STA.

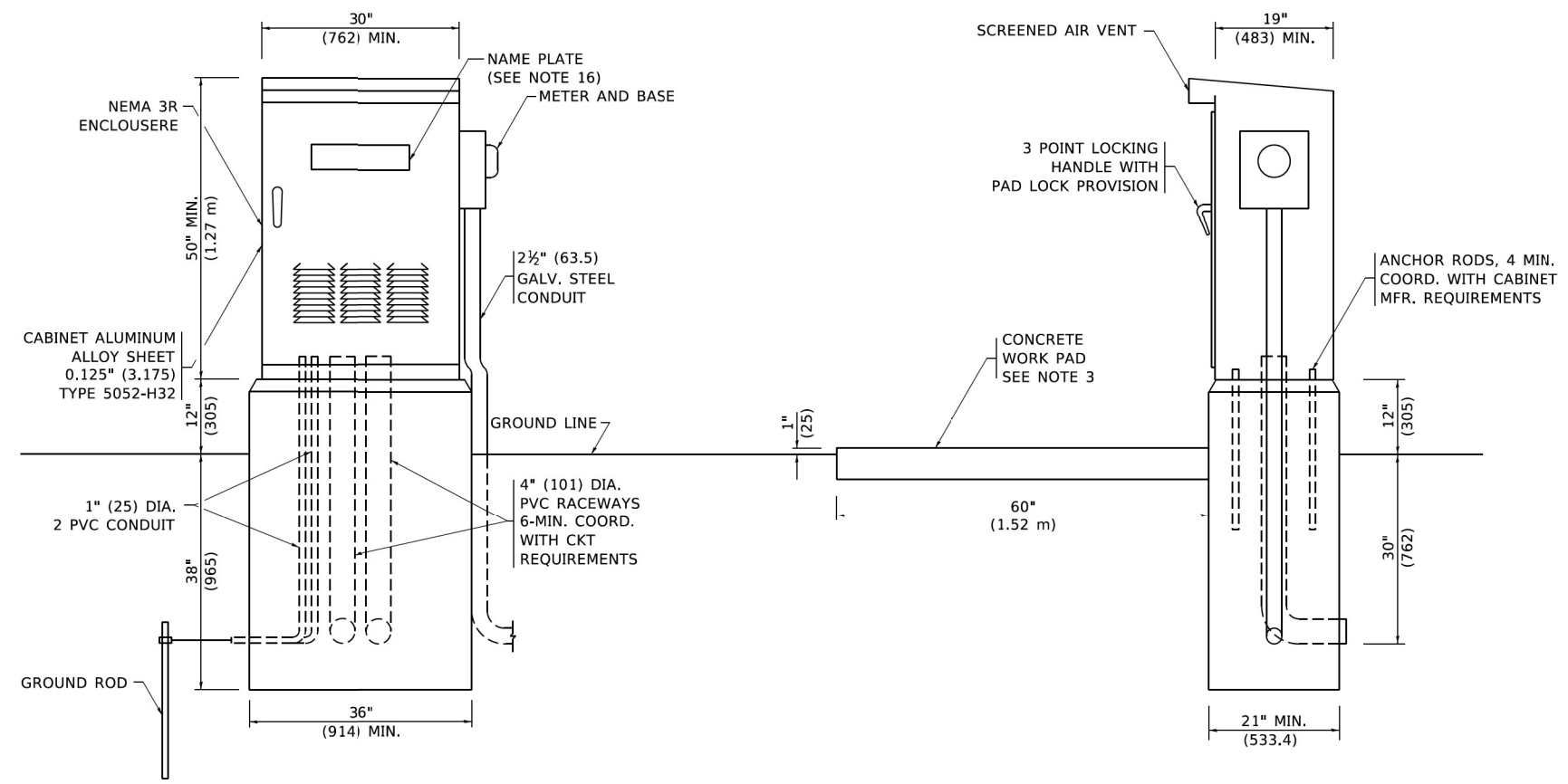
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	8HB-2	KANE	359	247
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	



**PANEL WIRING DIAGRAM**

**PANEL EQUIPMENT**

BILL OF MATERIAL		
ITEM	QUANTITY	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT 100 AMP. FRAME, 100 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22000 AMP. AT 480 VOLT.
B	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 100 AMP., 600 VOLTS CONTROL CIRCUIT 240 VOLT.
C	8	CIRCUIT BREAKERS, 1 POLE, 100AMP. FRAME, 50 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-10,000 AMP. AT 240 V.
D	2	CONTROL CIRCUIT-CIRCUIT BREAKER. 1 POLE, 240 V., 100 AMP. FRAME, 15 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-5000 AMP. AT 240 V.
E	1	ASTRONOMIC MICROPROCESSOR-BASED 2-CHANNEL CONTROLLER (TIME SWITCH).
F	1	20 AMP, 120 VOLT FUSE.
G	1	1.5 KVA, SINGLE PHASE, ENCAPSULATED TRANSFORMER 240 X 480 / 120 X 240 VOLT, 60 Hz.
H	1	SPST 20A SWITCH ON DOOR, TO TURN LIGHT ON WHEN DOOR IS OPEN,
I	1	INCANDESCENT LIGHTING FIXTURE ENCLOSED AND GASKETED WITH 60 WATT, 120 V. LAMP.
J	1	20 AMP, 120 VOLT, DUPLEX RECEPTACLE, GFCI.
K	1	COPPER GROUND BUS 1#4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND 4 SPARE LUGS
L	1	TOGGLE SWITCHES MOUNTED IN 4" (101.6) X 4" (101.6 mm) BOX.
M	1	COPPER GROUND BUS 1#4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS.



**NOTES**

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- FOUNDATION SIZE SHALL BE COORDINATED WITH CABINET SIZE AND MFR.
- IN FRONT OF CONTROL CABINET DOOR, REMOVE VEGETATION AND 2" (50.8 mm) TOP SOIL, LEVEL THE AREA AND ON TOP, PLACE LENGTH WISE PARALLEL TO CONTROL CABINET, A CONCRETE PAD 36" (914.4 mm) x 60" (18.288 m) x 4" (101 mm) MIN. SIZE. THE COST OF LABOR AND MATERIALS ARE INCLUDED IN THE COST OF THE CONTROLLER.
- DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
- DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP THE BOTTOM.
- DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 1#4" (6.35 mm) DIA. STAINLESS STEEL HINGE PIN.
- ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
- CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
- METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET, NEAR TO THE SERVICE POLE.
- CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED.  
R = RED      BL = BLUE = WHITE  
B = BLACK    Y = YELLOW    G = GREEN
- PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
- ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
- THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL".
- 12" (304.8) X 16" (406.4 mm) STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.

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PLLOT DATE =	3/23/2023

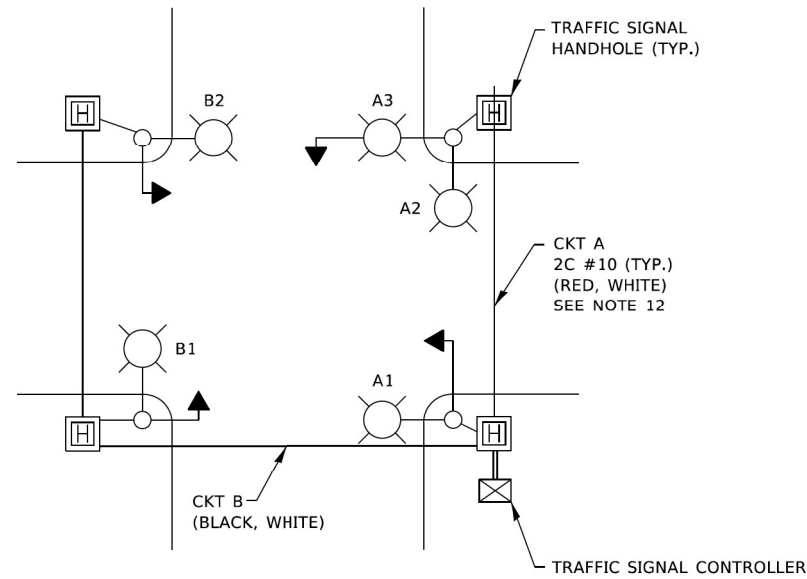
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**LIGHTING CONTROLLER  
SINGLE DOOR**

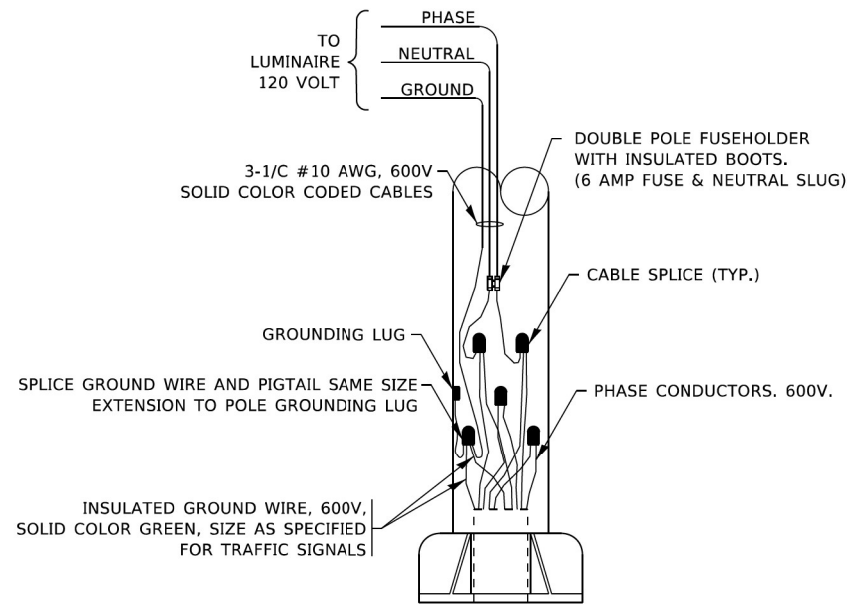
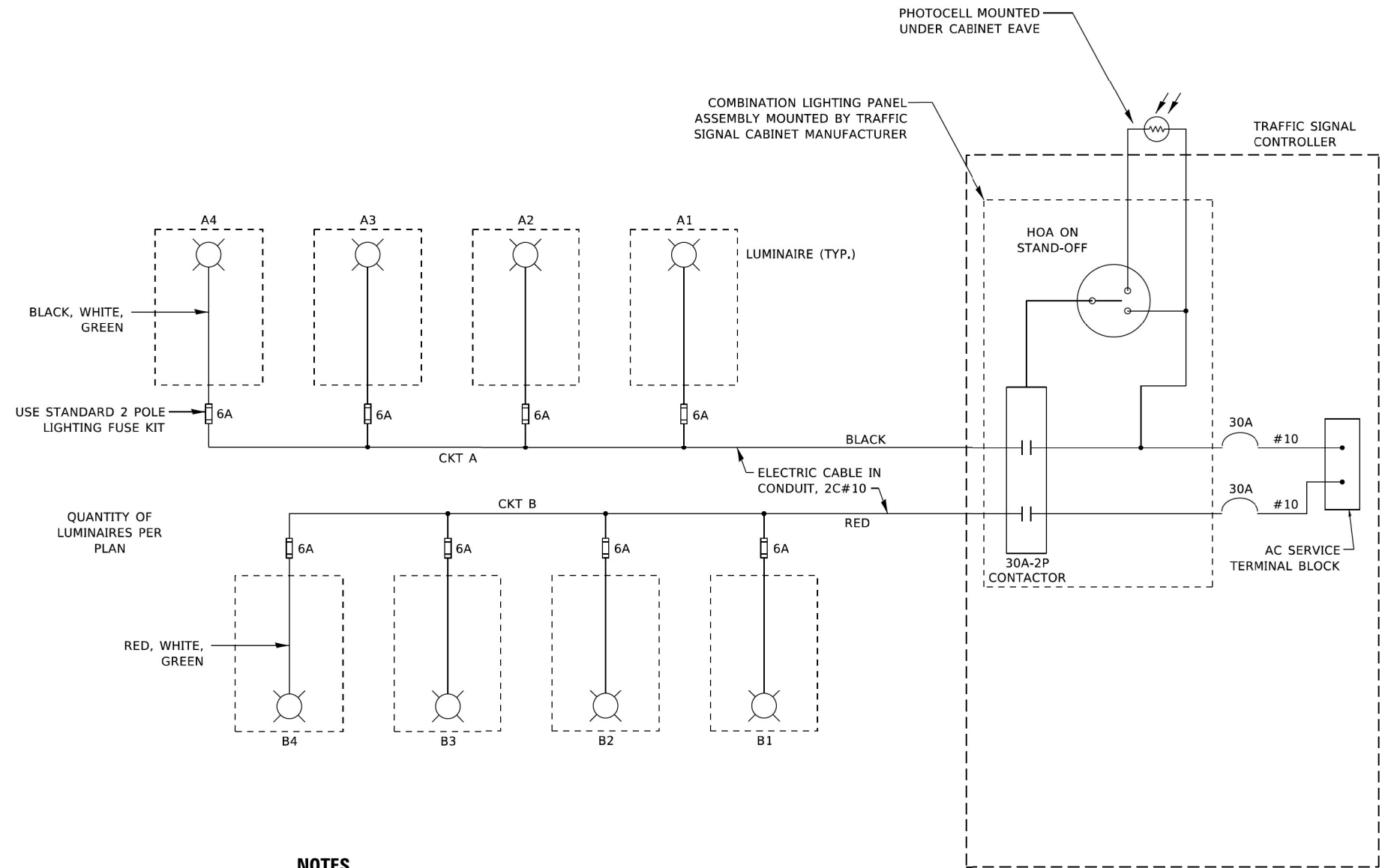
SCALE: NONE SHEET OF SHEETS STA. TO STA.

F.A.U. RT.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	248
	BE-215		CONTRACT NO. 62G41	

ILLINOIS FED. AID PROJECT



**TYPICAL LIGHTING CIRCUIT**  
(NOT TO SCALE)



**COMBINATION POLE WIRING DETAIL**  
(NOT TO SCALE)

**NOTES**

- 4 LUMINAIRES PER CIRCUIT, MAXIMUM.
- TWO #10 (XLP-TYPE USE) CABLES TO BE USED FOR LIGHTING CIRCUITS.
- ROUTE LIGHTING CIRCUITS IN TRAFFIC SIGNAL CONDUIT SYSTEM.
- ALL SPLICES AND CONNECTIONS FOR ROADWAY LIGHTING SHALL BE AT POLE BASE ONLY.
- FOR LIGHTING CIRCUITS, CONNECT TWO CIRCUIT BREAKERS TO AC SERVICE TERMINAL BLOCK.
- ALL WIRING SHALL BE NEATLY DRESSED, IDENTIFIED BY TAGS, AND SUPPORTED. (UNDERGROUND SPLICING OF LIGHTING CONDUCTORS IS NOT PERMITTED).
- THE H.O.A. SWITCH SHALL BE LABELED AS "LIGHTING CONTROL" WITH THE POSITIONS "AUTO", "OFF" AND "TEST" WITH ENGRAVED NAME PLATES.
- LIGHTING CONNECTED TO UPS BYPASS CIRCUIT.
- COMBINATION LIGHTING MUST BE INSTALLED PRIOR TO SIGNAL TURN ON.
- LUMINAIRE VOLTAGE SHALL BE 120V
- POLE WIRING & FUSE KITS ARE INCLUDED IN THE LUMINAIRE PAY ITEM.
- THE UNDERGROUND EQUIPMENT GROUND WIRE IS SHOWN IN THE TRAFFIC SIGNAL PLANS AND IS INCLUDED IN THE SIGNAL PLANS. IT IS SHARED GROUND BETWEEN SIGNALS AND LIGHTING.

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DATE - 03/24/2023	REVISED -

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DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

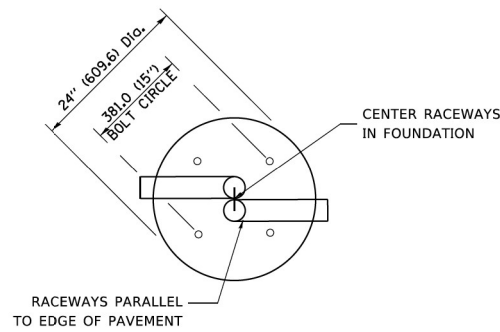
**COMBINATION LIGHTING, TRAFFIC SIGNAL SCHEMATIC**

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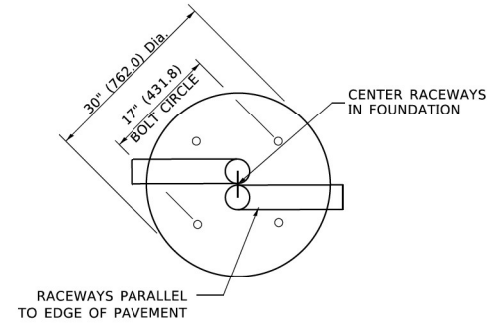
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	249
BE-240			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				

**LIGHT POLE FOUNDATION DEPTH TABLE**  
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

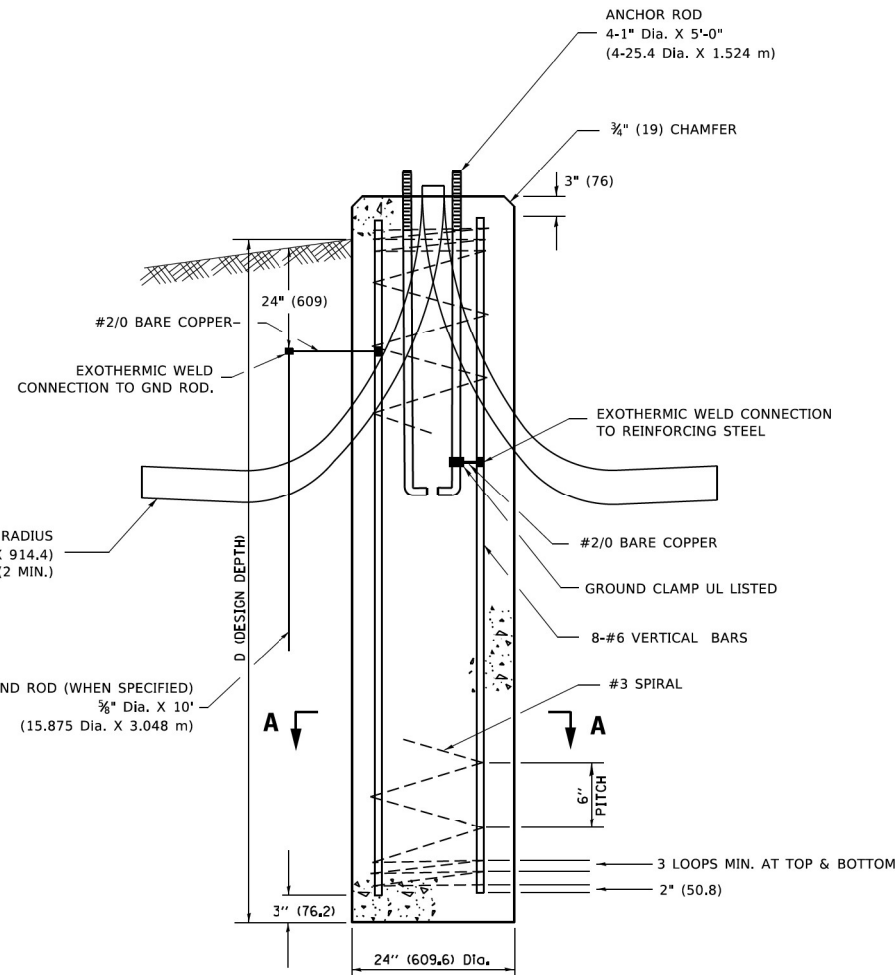
SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Qu = 0.375 TON/SQ. FT.	13'-0" (3.96 m)	15'-0" (4.57 m)
MEDIUM CLAY Qu = 0.75 TON/SQ.FT.	9'-6" (2.93 m)	10'-9" (3.23 m)
STIFF CLAY Qu = 1.50 TON/SQ. FT.	7'-0" (2.13 m)	8'-0" (2.44 m)
LOOSE SAND φ = 34°	9'-0" (2.74 m)	10'-0" (3.05 m)
MEDIUM SAND φ = 37.5°	8'-3" (2.52 m)	9'-0" (2.74 m)
DENSE SAND φ = 40°	7'-9" (2.36 m)	9'-0" (2.74 m)



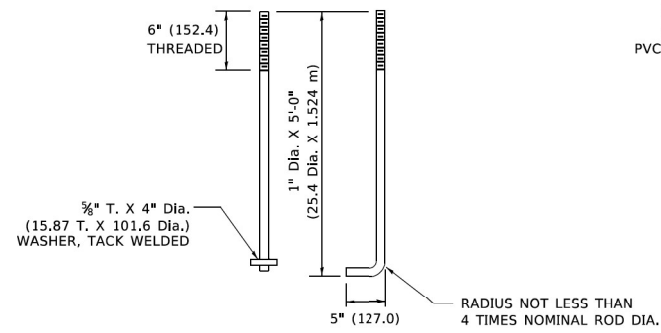
**TOP VIEW**



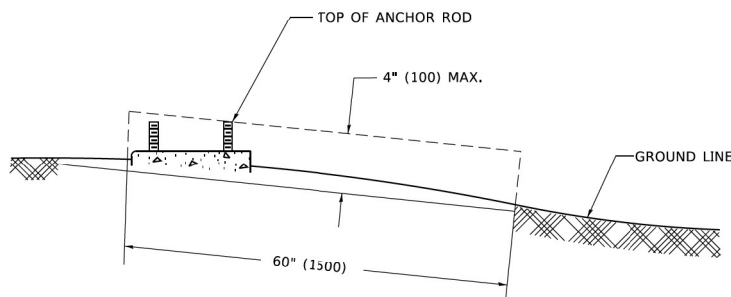
**TOP VIEW**



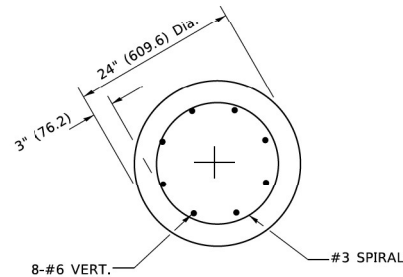
**FOUNDATION DETAIL**



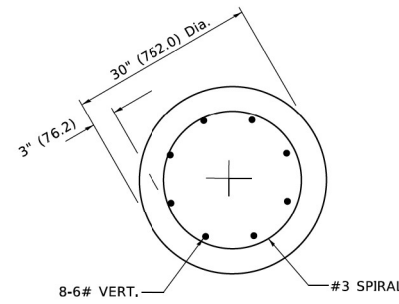
**ANCHOR ROD DETAIL**



**FOUNDATION EXTENSION DETAIL**



**SECTION A-A**



**SECTION A-A**

**NOTES**

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3#4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM(6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 23#4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.

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DATE - 03/24/2023	REVISED -

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

**LIGHT POLE FOUNDATION**  
**40' (12.192m) TO 47 1/2' (14.478m) M.H. 15" 381mm) BOLT CIRCLE**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	250
BE-301			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				

SCALE: NONE SHEET OF SHEETS STA. TO STA.



FOUNDATION DESIGN TABLE

TYPE OF SOIL	DESIGN DEPTH OF FOUNDATION		REINFORCEMENT IN FOUNDATION			
	SINGLE ARM D	TWIN ARM D	SINGLE ARM		TWIN ARM	
			VERT BARS	SPIRAL	VERT BARS	SPIRAL
SOFT CLAY	13'-0" (3.962 m)	15'-0" (4.572 m)	8-#6X12'-6" (3.810 m)	#3X122' (37.186 m)	8-#6X14'-3" (4.343 m)	#3X141' (42.977 m)
MEDIUM CLAY	9'-6" (2.896 m)	10'-9" (3.277 m)	8-#6X9'-0" (2.743 m)	#3X90' (27.432 m)	8-#6X10'-0" (3.048 m)	#3X100' (30.480 m)
STIFF CLAY	7'-0" (2.134 m)	8'-0" (2.438 m)	8-#6X6'-6" (1.981 m)	#3X66' (20.112 m)	8-#6X7'-6" (2.286 m)	#3X76' (23.165 m)
LOOSE SAND	9'-0" (2.743 m)	10'-0" (3.048 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)	8-#6X9'-6" (2.896 m)	#3X94' (28.651 m)
MEDIUM SAND	8'-3" (2.515 m)	9'-0" (2.743 m)	8-#6X8'-0" (2.438 m)	#3X78' (23.774 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)
DENSE SAND	7'-9" (2.362 m)	9'-0" (2.743 m)	8-#6X7'-6" (2.286 m)	#3X73' (22.250 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)
ROCK OR SOLIDIFIED SLAG	5'-0" (1.524 m)	5'-0" (1.524 m)	NONE	NONE	NONE	NONE

BILL OF MATERIAL

MARK	NO.	SIZE	LENGTH	SHAPE
a	10	6	SEE BELOW	—
s	12	4	8'-0" (2.438 m)	□
s <sub>1</sub>	3	3	7'-6" (2.286 m)	□
v <sub>1</sub>	8	6	2'-9" (0.838 m)	—
v <sub>2</sub>				

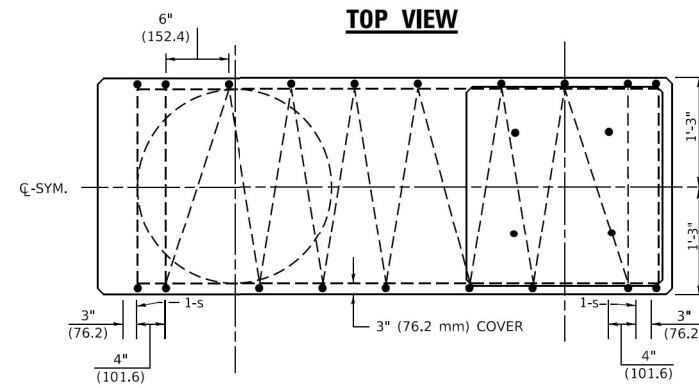
OFFSET SCHEDULE

SEWER DIAM. d IN.	PILE OFFSET from Q-MED'N FT.	LENGTH of BAR a FT.
UP TO 24" (609.6 mm)	3'-3" (0.991 m)	#6 x 5'-3" (1.600 m)
27" (685.8 mm) TO 36" (914.4 mm)	3'-9" (1.143 m)	5'-9" (1.753 m)
42" (1066.8 mm) TO 48" (1219.2 mm)	4'-6" (1.372 m)	6'-6" (1.981 m)
54" (1371.6 mm) TO 60" (1524.0 mm)	5'-0" (1.524 m)	7'-0" (2.134 m)
66" (1676.4 mm) TO 72" (1828.8 mm)	5'-6" (1.676 m)	7'-6" (2.286 m)

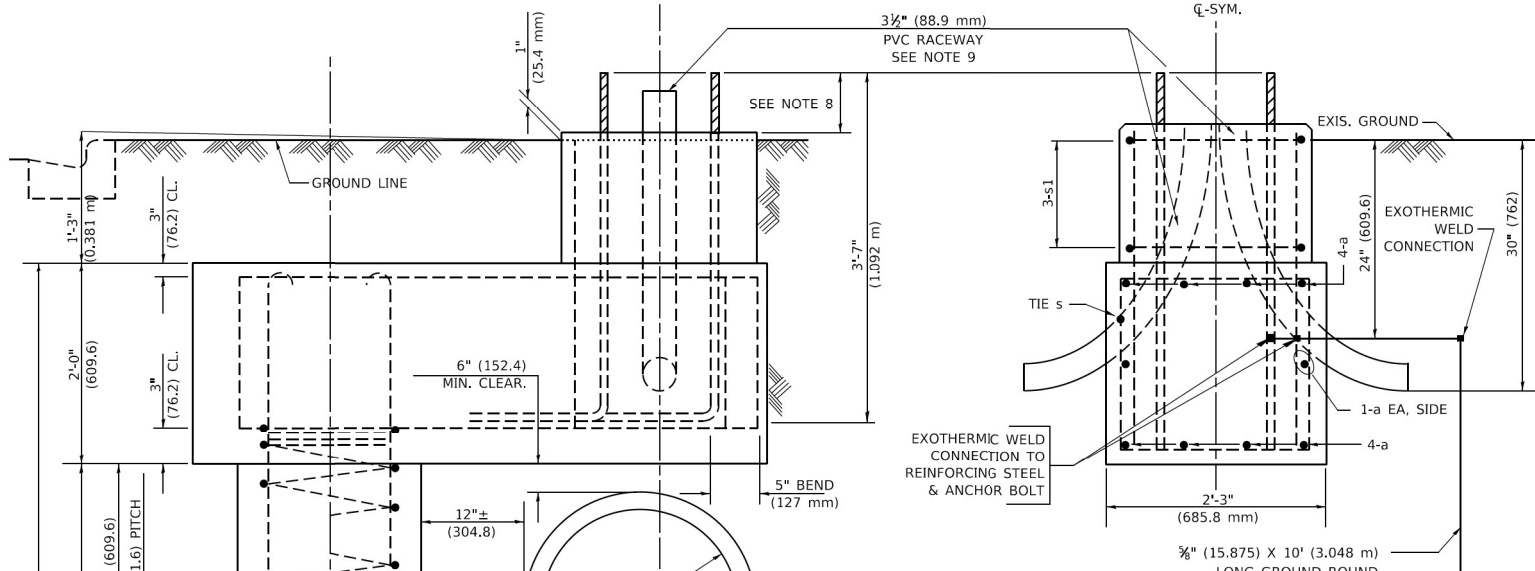
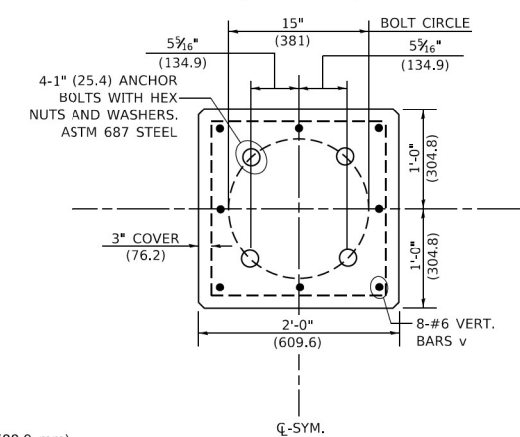
NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ENGINEER SHALL DETERMINE THE CLASS OF SOIL DURING EXCAVATION AND SELECT THE DESIGN DEPTH OF FOUNDATION FROM THE DESIGN TABLE.
- EXCAVATION OF THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER, 24" (609.6 mm) OR 30" (762.0 mm) IN DIAMETER.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR BOLTS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORM.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF FOUNDATION WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS. IF LIGHT POLE IS MOUNTED WITHOUT BREAKAWAY DEVICE, ANCHOR BOLTS SHALL PROJECT 23#4" (69.9 mm) ABOVE TOP OF THE FOUNDATION. THE CONTRACTOR SHALL CONFIRM ANCHOR BOLT EXTENTION WITH ENGINEER.
- RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
- THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE LIGHT IS ERECTED.

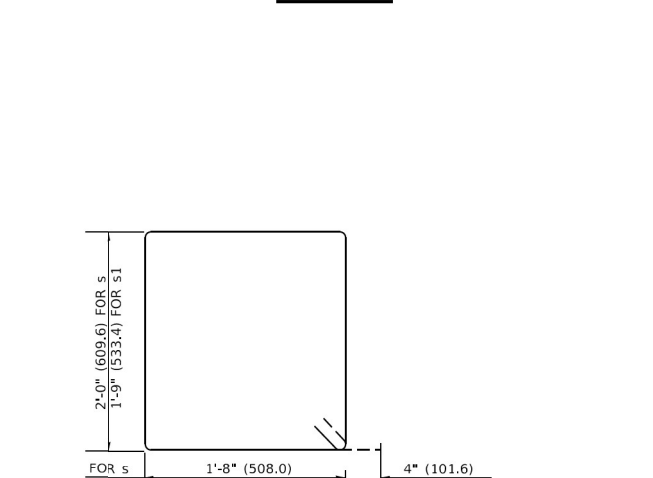
PLAN-CAP BEAM TOP VIEW



TOP VIEW



END VIEW



BARS s, s1

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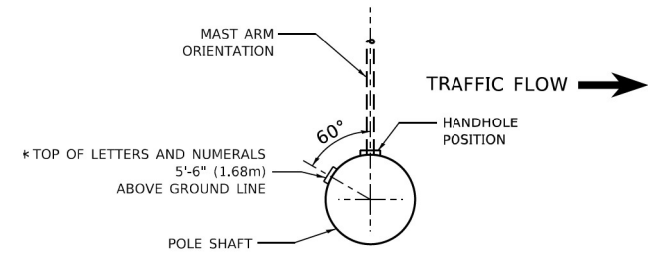
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

LIGHT POLE FOUNDATION OFFSET  
40' (12.192m) TO 47 1/2' (14.478m) M.H. 15" 381mm BOLT CIRCLE

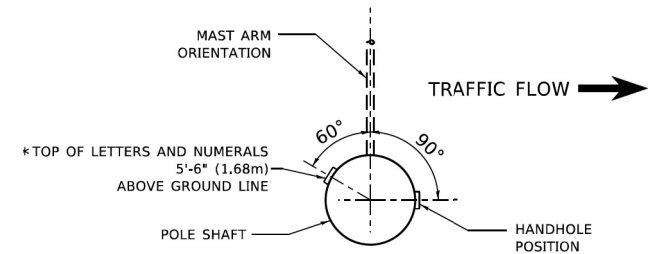
F.A.U. RTE. 345A	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 251
BE-310			CONTRACT NO. 62G41	

SCALE: NONE SHEET OF SHEETS STA. TO STA.

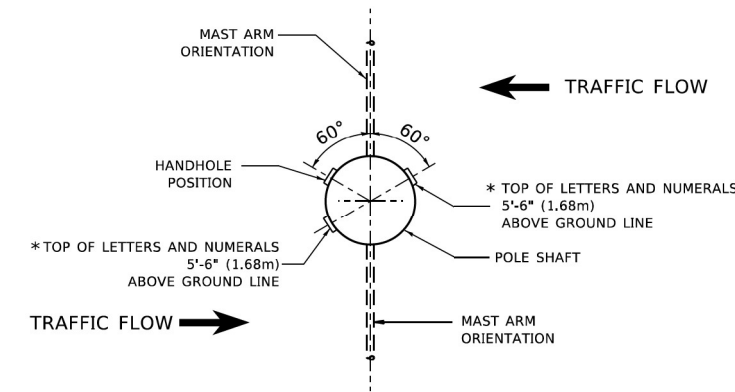
ILLINOIS FED. AID PROJECT



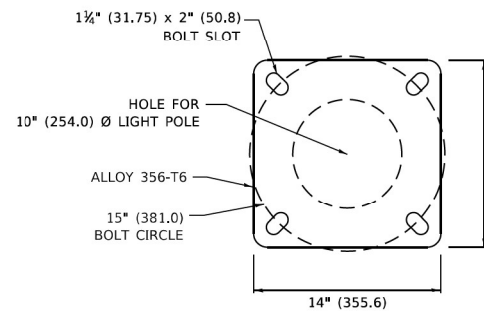
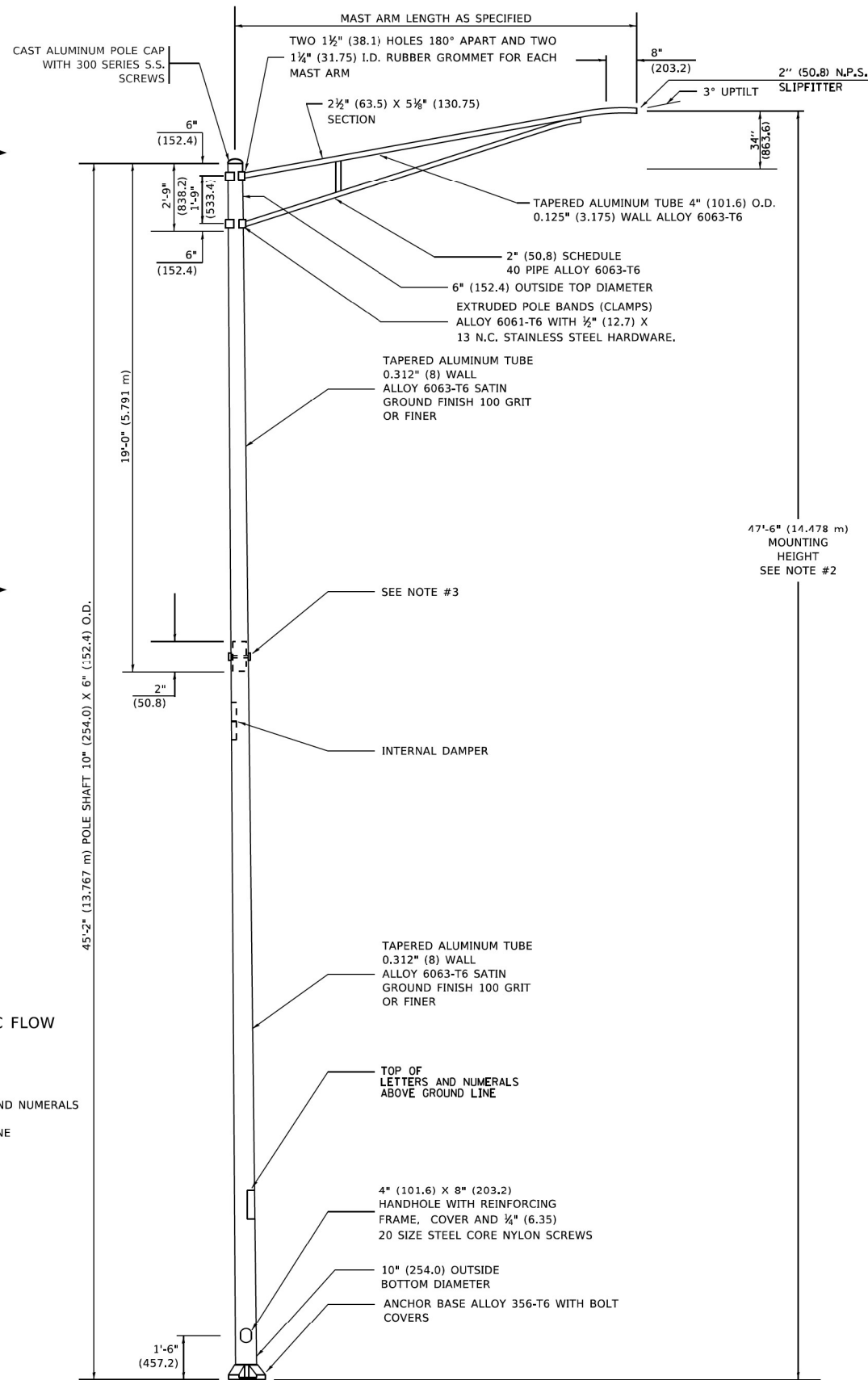
**POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL**



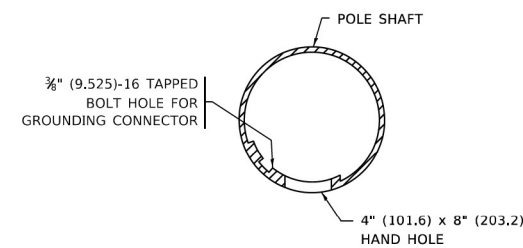
**POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES**



**POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES**



**LIGHT POLE BASE PLATE DETAIL**  
15 INCH (381.0) BOLT CIRCLE



**HANDHOLE DETAIL**  
(N.T.S.)

**NOTES**

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
- TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
- THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
- THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
- LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
- LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
- LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.

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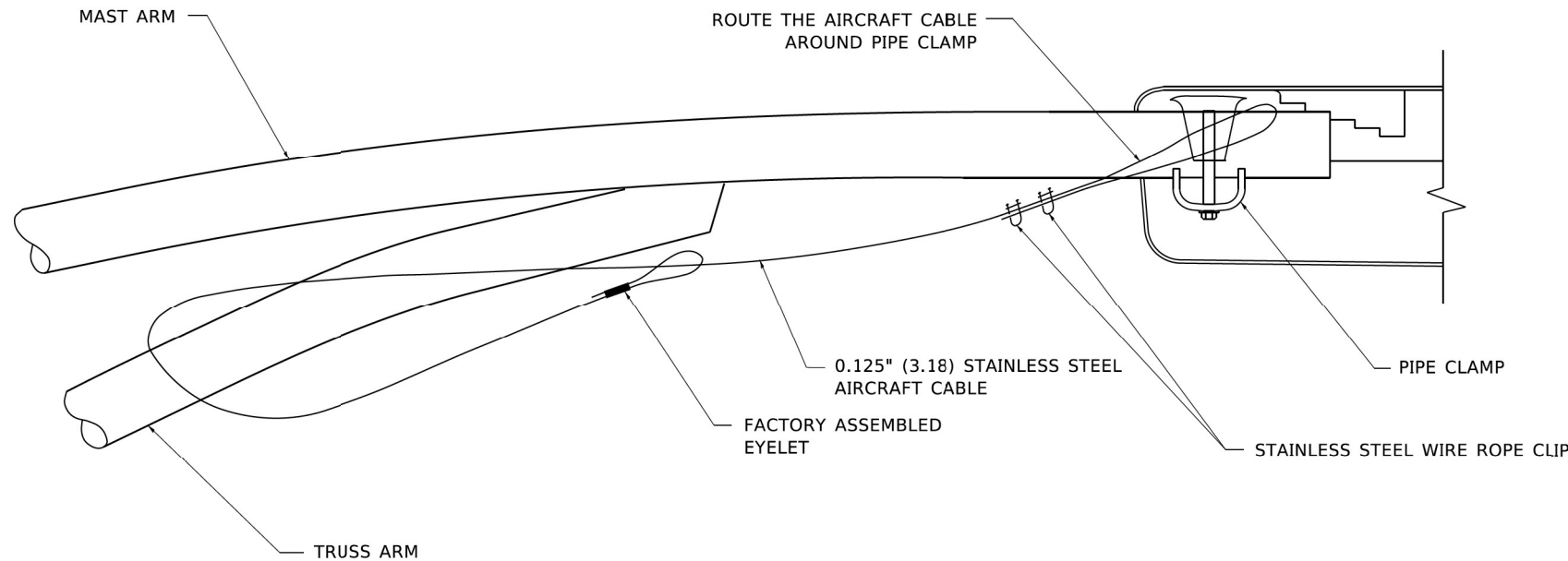
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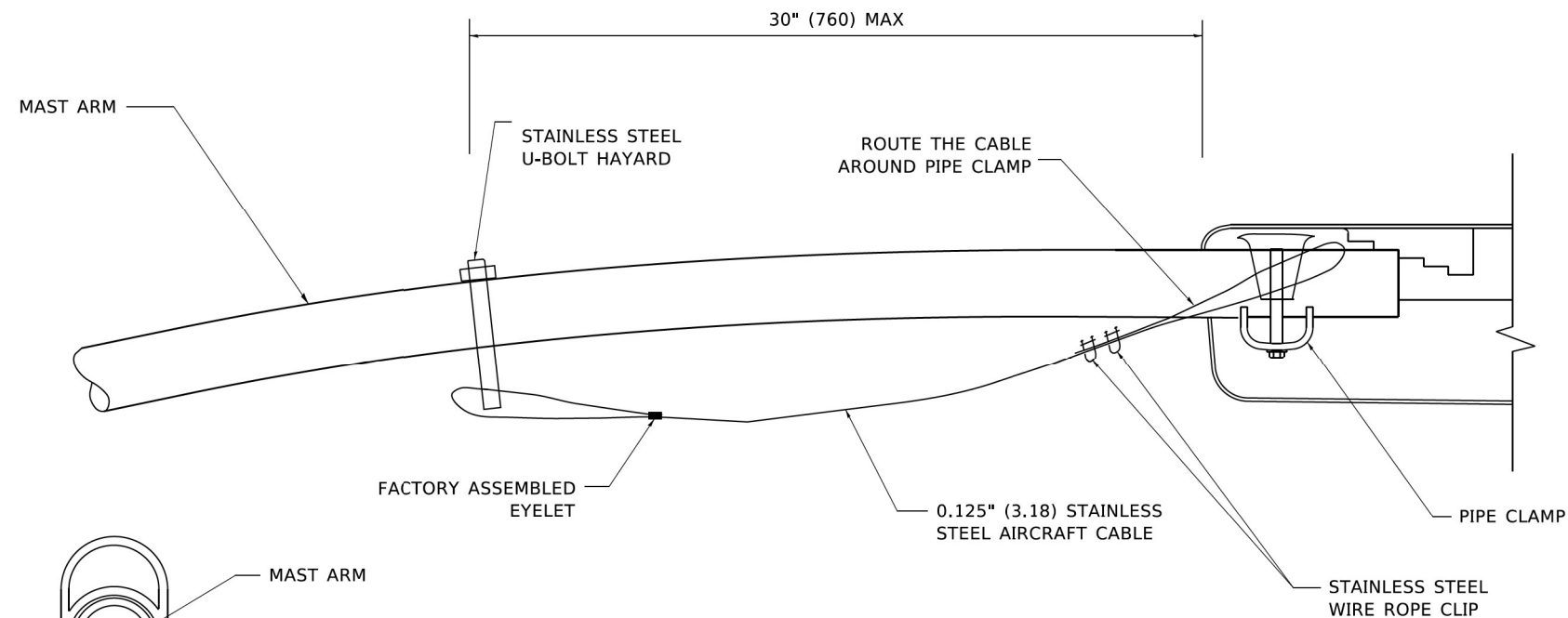
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ALUMINUM LIGHT POLE			
47'-6" (14.478m) MOUNTING HEIGHT			
SCALE: NONE	SHEET	OF SHEETS	STA. TO STA.

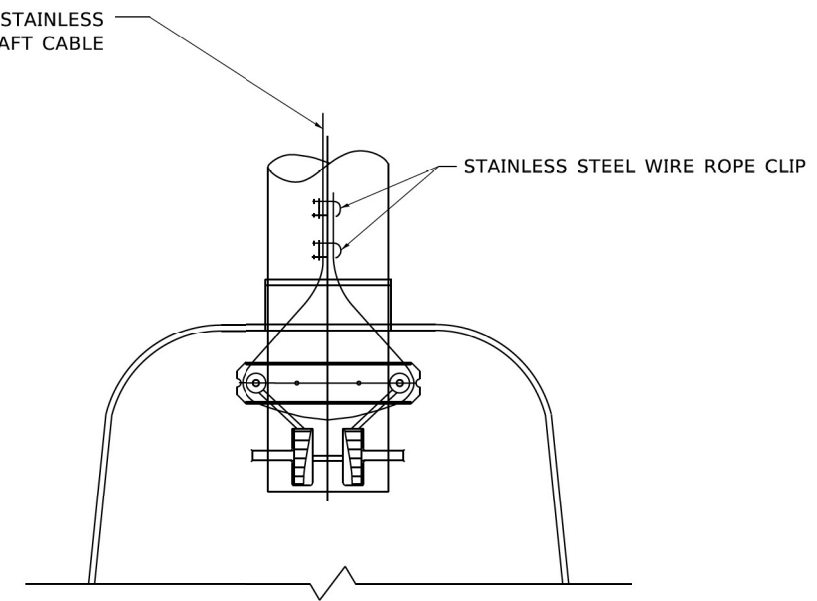
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	252
BE-400			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				



**SIDE VIEW (TRUSS ARM)**  
**N.T.S.**



**SIDE VIEW (SINGLE MEMBER OR DAVIT ARM)**  
**N.T.S.**



**BOTTOM VIEW**  
**N.T.S.**

**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
3. THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.

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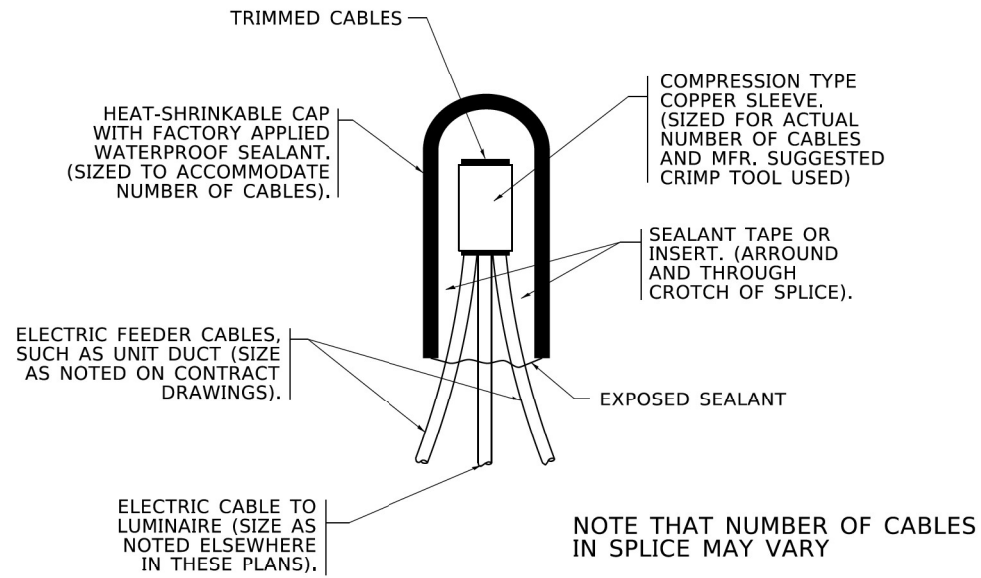
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

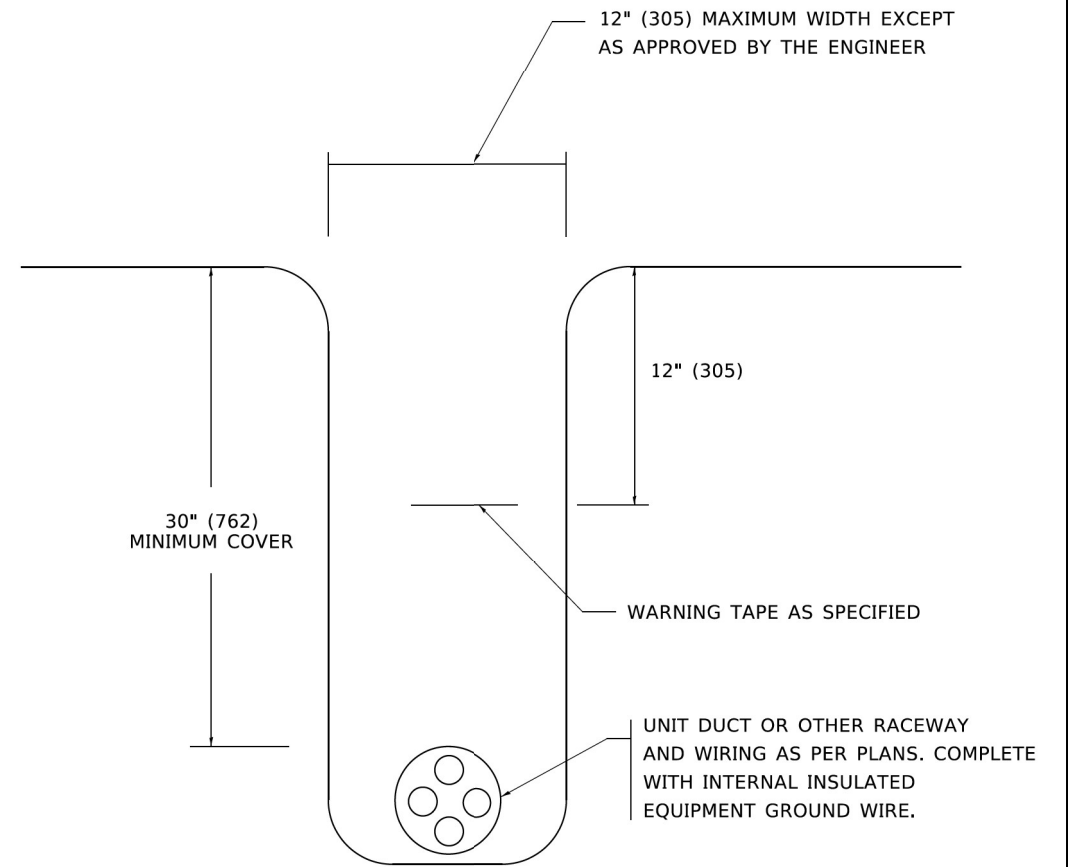
**LUMINARE SAFETY CABLE ASSEMBLY**

SCALE: NONE SHEET OF SHEETS STA. TO STA.

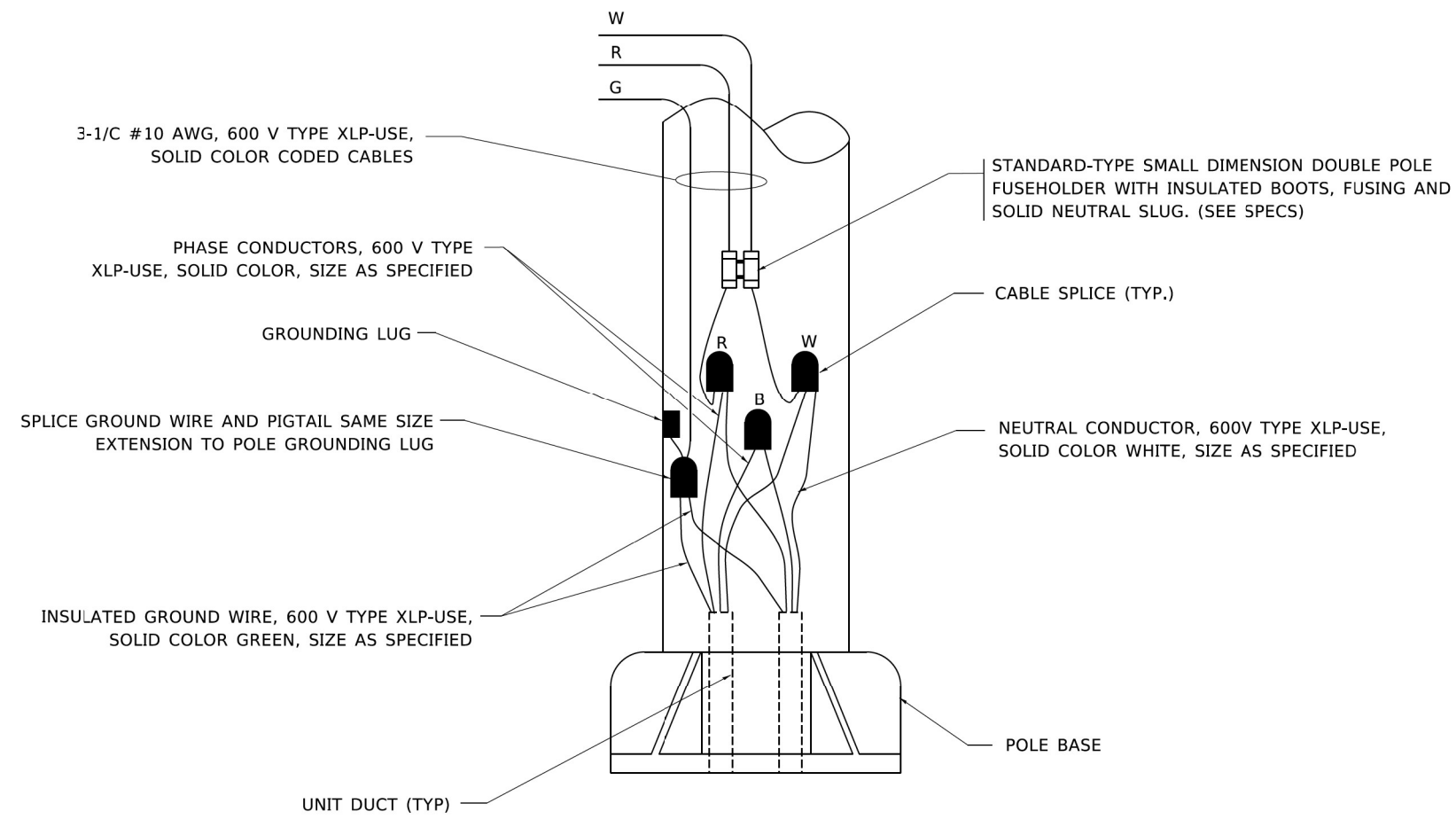
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345A	BHB-2	KANE	359	253
BE-701		CONTRACT NO. 62G41		
ILLINOIS FED. AID PROJECT				



**TYPICAL SPLICE DETAIL**  
**N.T.S.**



**TYPICAL WIRING IN TRENCH DETAIL**  
**N.T.S.**



**POLE WIRING DETAIL**  
**N.T.S.**

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DATE - 03/24/2023	REVISED -

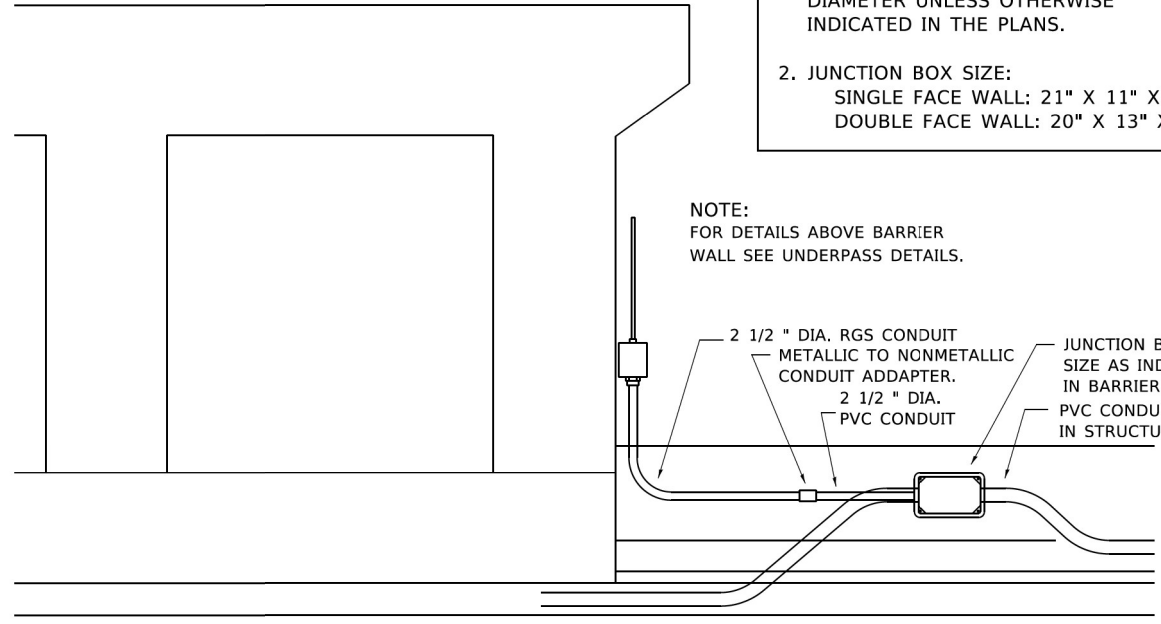
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**MISC. ELECTRICAL DETAILS**  
**SHEET A**

SCALE: NONE SHEET OF SHEETS STA. TO STA.

F.A.U. RTE. 345A	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 254
BE-702			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				

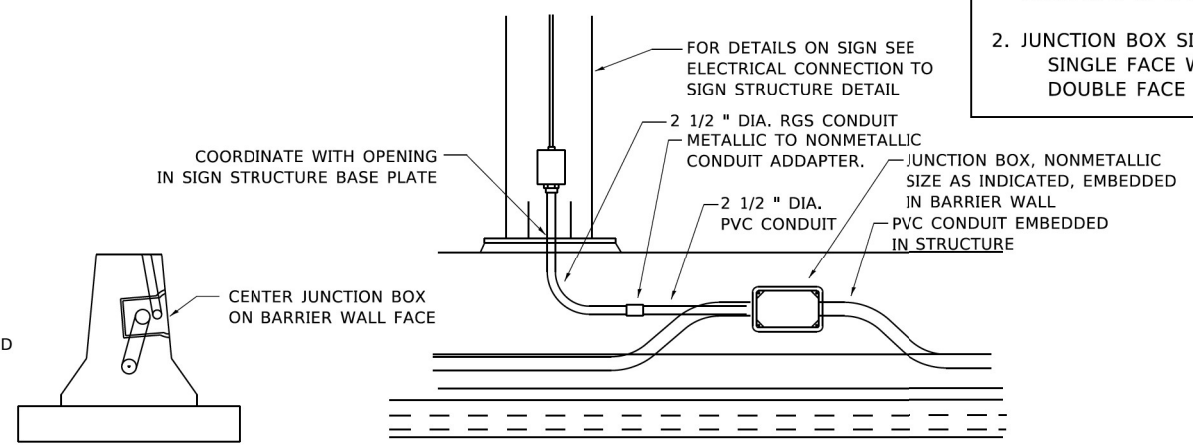
- NOTES**
1. CONDUIT SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE INDICATED IN THE PLANS.
  2. JUNCTION BOX SIZE:  
SINGLE FACE WALL: 21" X 11" X 8"  
DOUBLE FACE WALL: 20" X 13" X 12"



ED - BWD

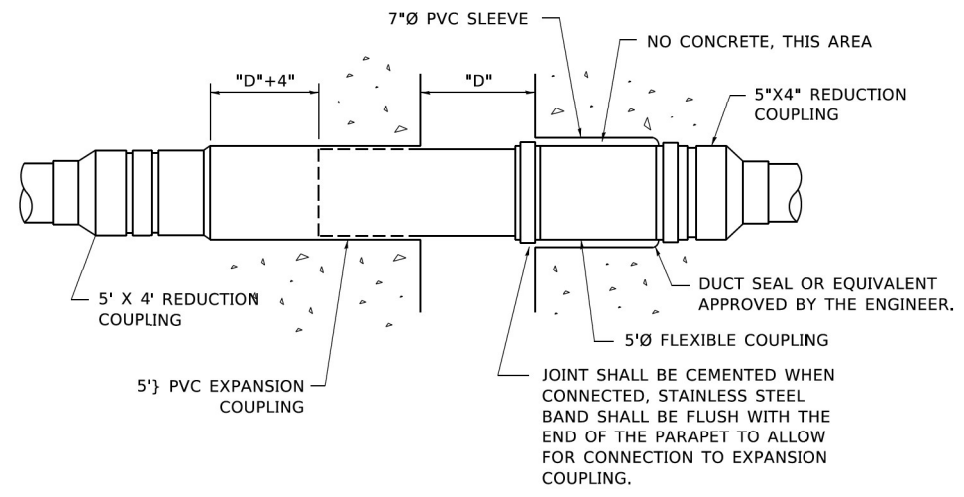
**ELECTRIC CONNECTION TO UNDERPASS LIGHTING**

- NOTES**
1. CONDUIT SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE INDICATED IN THE PLANS.
  2. JUNCTION BOX SIZE:  
SINGLE FACE WALL: 21" X 11" X 8"  
DOUBLE FACE WALL: 20" X 13" X 12"



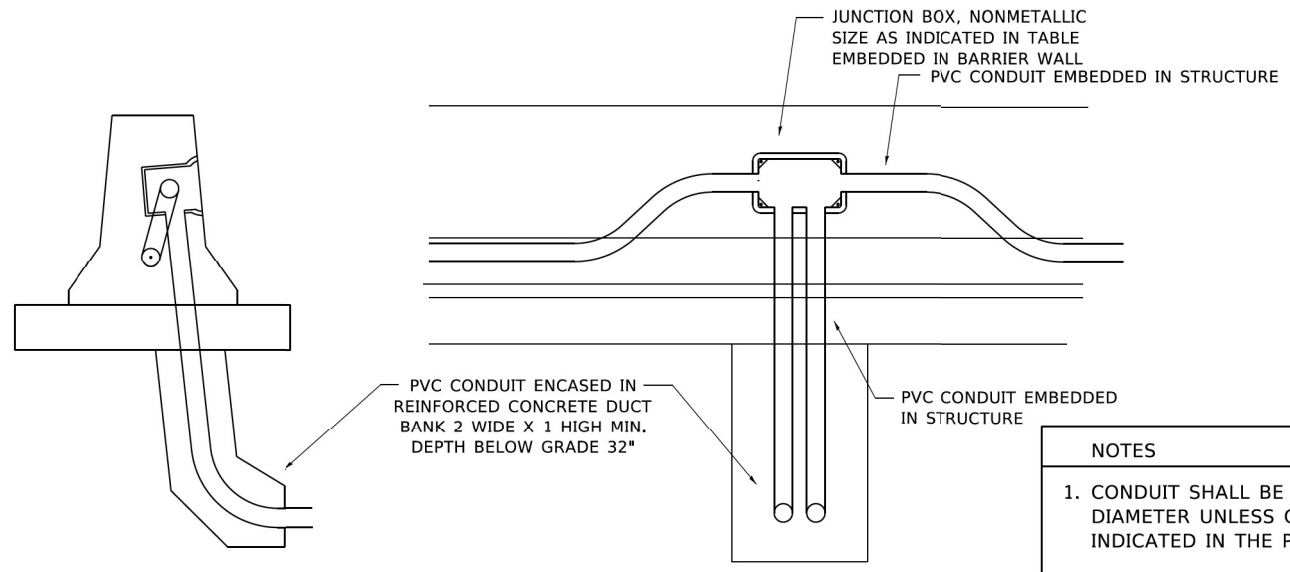
ED - SGN

**JUNCTION BOX EMBEDDED IN BARRIER WALL FOR SIGN LIGHTING**



**INSTALLATION OF CONDUIT IN BRIDGE PARAPET EXPANSION JOINT**

(N.T.S.)



ED - BW

**JUNCTION BOX EMBEDDED IN BARRIER WALL**

- NOTES**
1. CONDUIT SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE INDICATED IN THE PLANS.
  2. JUNCTION BOX SIZE:  
SINGLE FACE WALL: 21" X 11" X 8"  
DOUBLE FACE WALL: 20" X 13" X 12"

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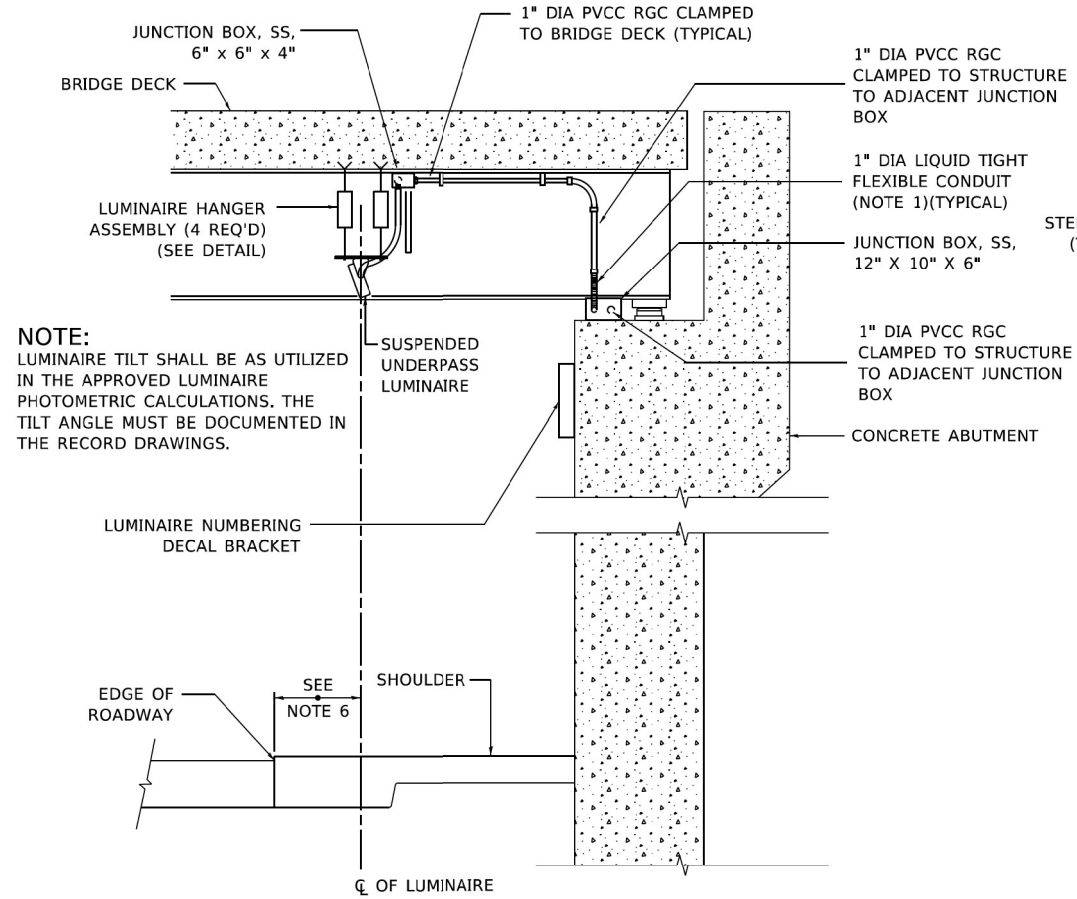
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DATE - 03/24/2023	REVISED -

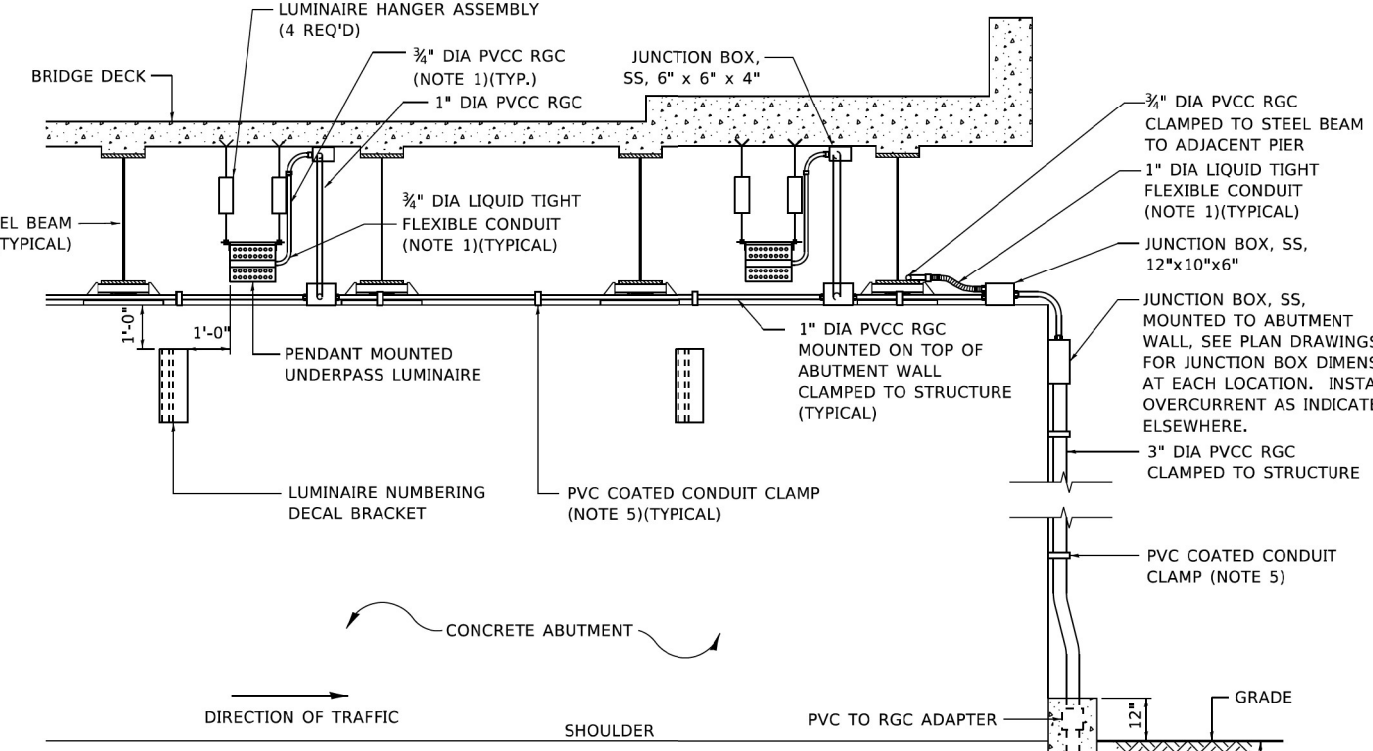
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

MISCELLANEOUS ELECTRICAL DETAILS, SHEET B			
J BOX EMBEDDED IN BARRIER WALL - INSTALLATION OF CONDUIT IN BRIDGE PARAPET EXPANSION JOINT- ELECTRICAL CONNECTION TO UNDERPASS LIGHTING			
SCALE: NONE	SHEET	OF SHEETS	STA. TO STA.

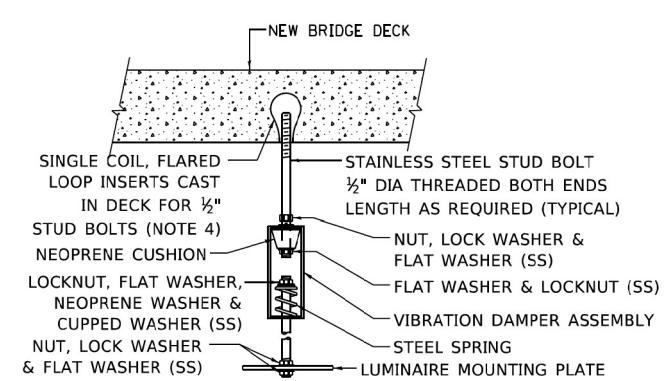
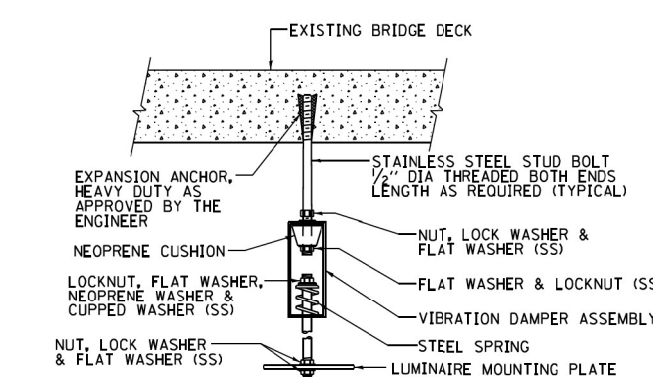
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	255
BE-703		CONTRACT NO. 62G41		
ILLINOIS FED. AID PROJECT				



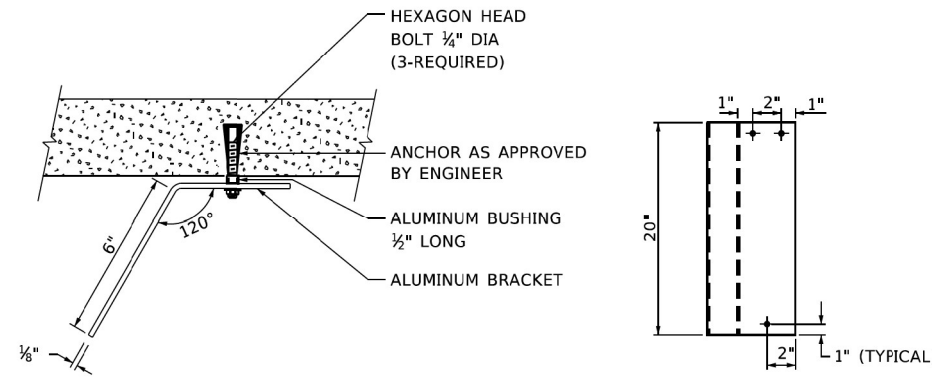
**NOTE:**  
LUMINAIRE TILT SHALL BE AS UTILIZED IN THE APPROVED LUMINAIRE PHOTOMETRIC CALCULATIONS. THE TILT ANGLE MUST BE DOCUMENTED IN THE RECORD DRAWINGS.



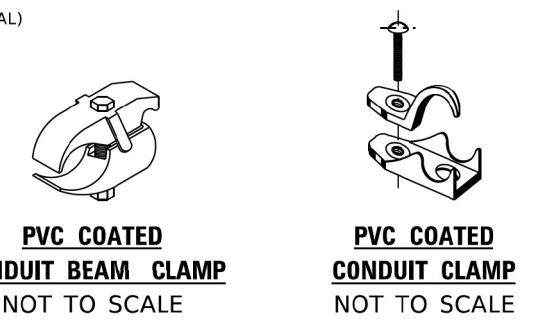
- NOTES:**
- LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED PAY ITEM EXCEPT THAT " DIA. CONDUIT AND " DIA. FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE COST OF UNDERPASS LUMINAIRE INSTALLATION.
  - SEE UNDERPASS LIGHTING PLANS FOR INSTALLATION LOCATION OF UNDERPASS LIGHTING LUMINAIRE.
  - THE CONTRACTOR SHALL USE APPROVED SINGLE COIL FLARED LOOP INSERTS WHEN SUSPENDED MOUNTING AN UNDERPASS LUMINAIRE TO A NEW BRIDGE DECK. THE FLARED LOOP INSERTS MUST BE CAST INTO THE CONCRETE DECK. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND COORDINATING THE INSERT LOCATIONS FOR MOUNTING THE UNDERPASS LIGHTING SYSTEM AS SHOWN ON THE PLANS WITH THE BRIDGE DECK CONTRACTOR. SEE DETAIL.
  - THE UNDERPASS LUMINAIRE HANGER ASSEMBLY COMPLETE WITH HEAVY DUTY ANCHORS/INSERTS AND ALL APPLICABLE HARDWARE SHALL BE INCLUDED IN THE COST OF THE UNDERPASS LUMINAIRE PAY ITEM.
  - SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
  - ALL UNDERPASS LUMINAIRE MUST BE CENTERED IN THE BEAM SPACE AS INDICATED ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGR. LUMINAIRE SETBACK SHALL BE AS INDICATED IN PLANS FOR EACH SPECIFIC UNDERPASS
  - THE CONCRETE ENCASED CONDUIT TRANSITION SHALL BE INCLUDED IN THE COST OF THE GALVANIZED RIGID STEEL CONDUIT PAY ITEMS.
  - ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVCC RGC) TYPICAL.
  - IN NO INSTANCE SHALL ANY UNDERPASS LUMINAIRE OR ANY OTHER ELECTRICAL EQUIPMENT BE INSTALLED BELOW THE ELEVATION OF THE BOTTOM OF THE BRIDGE BEAM WHEN OVER ANY PAVEMENT (ROADWAY OR SHOULDER).



**TYPICAL LUMINAIRE HANGER ASSEMBLY DETAILS**



**LUMINAIRE NUMBERING DECAL BRACKET**  
NOT TO SCALE



**PVC COATED CONDUIT BEAM CLAMP**  
NOT TO SCALE

**PVC COATED CONDUIT CLAMP**  
NOT TO SCALE

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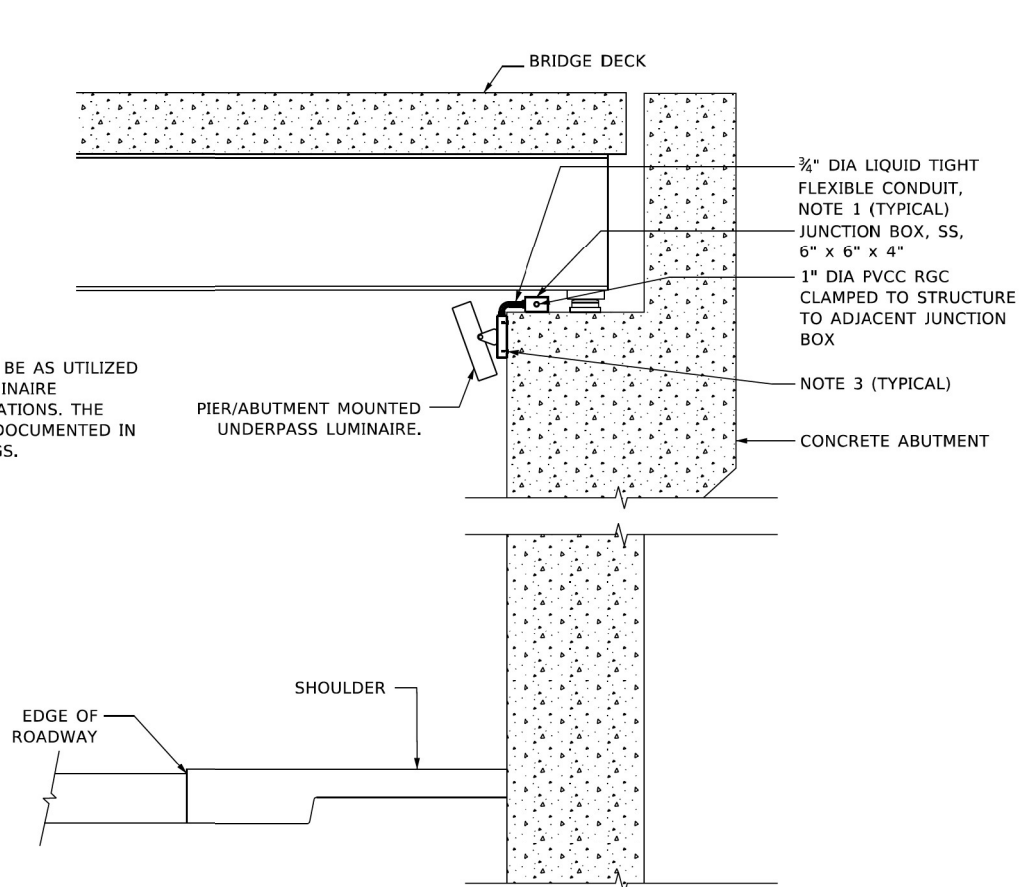
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DATE - 03/24/2023	REVISED -

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DATE - 03/24/2023	REVISED -

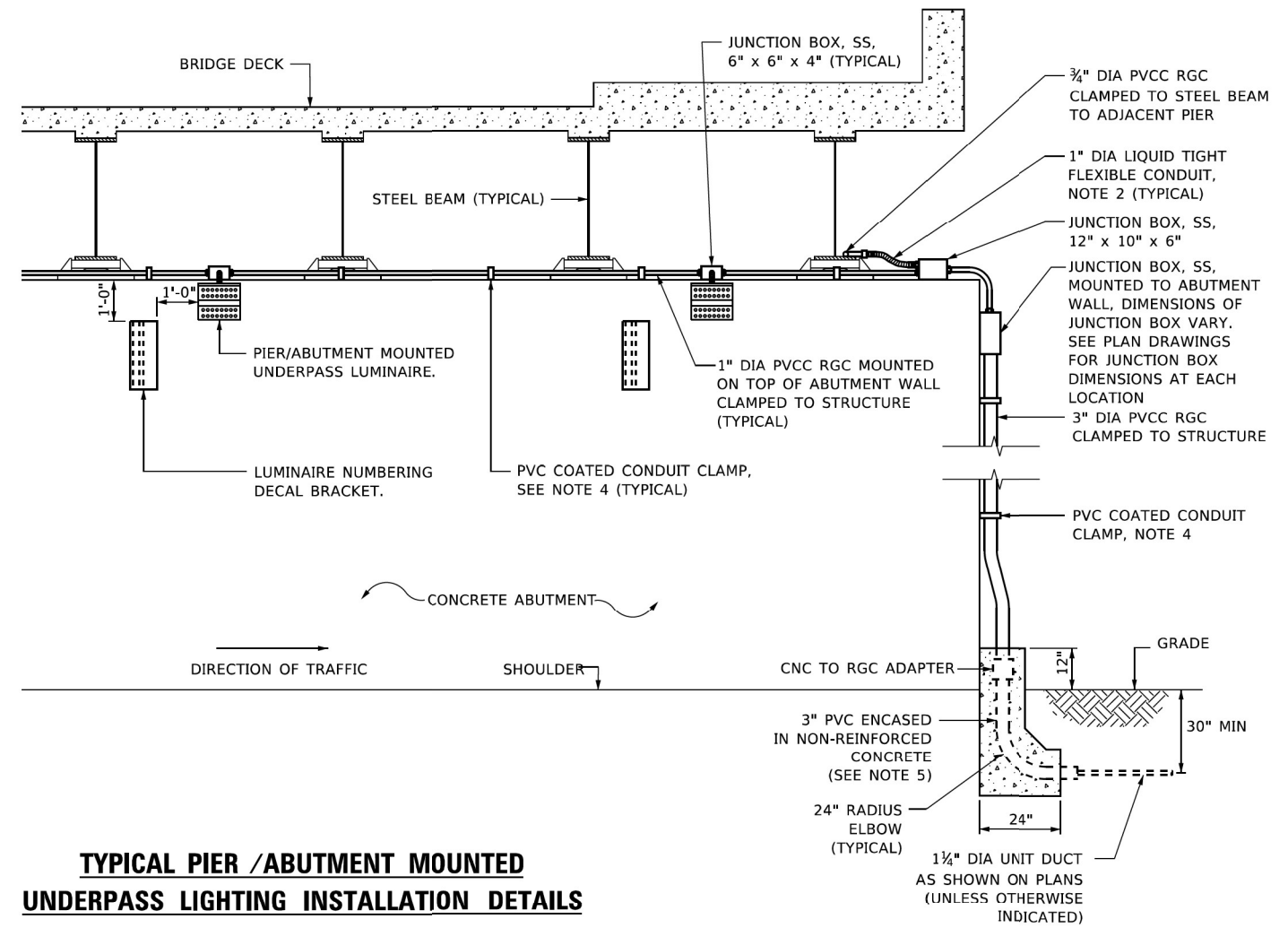
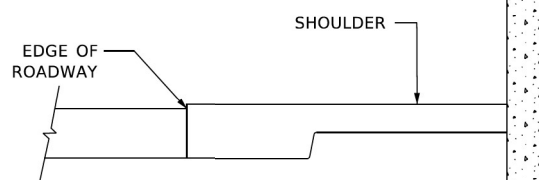
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>SUSPENDED MOUNT LED UNDERPASS LUMINAIRE INSTALLATION DETAILS</b>			
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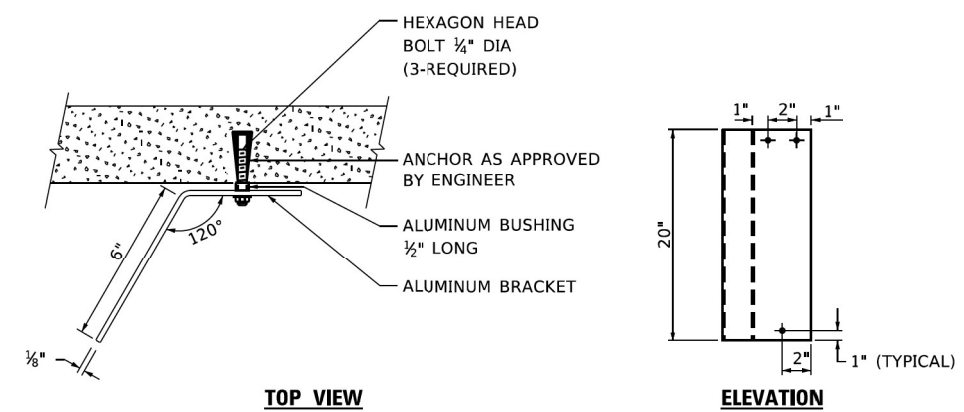
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	256
BE-901		CONTRACT NO. 62G41		
ILLINOIS FED. AID PROJECT				



**NOTE:**  
LUMINAIRE TILT SHALL BE AS UTILIZED IN THE APPROVED LUMINAIRE PHOTOMETRIC CALCULATIONS. THE TILT ANGLE MUST BE DOCUMENTED IN THE RECORD DRAWINGS.

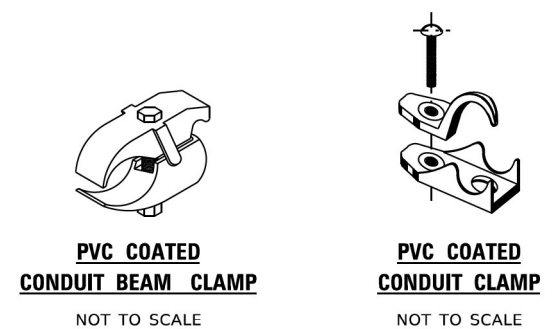


**TYPICAL PIER / ABUTMENT MOUNTED UNDERPASS LIGHTING INSTALLATION DETAILS**



**LUMINAIRE NUMBERING DECAL BRACKET**

NOT TO SCALE



**PVC COATED CONDUIT BEAM CLAMP**  
NOT TO SCALE

**PVC COATED CONDUIT CLAMP**  
NOT TO SCALE

**NOTES:**

- LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED PAY ITEM EXCEPT THAT THE COST OF THE " DIA. RIGID STEEL CONDUIT AND " DIA. FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE LUMINAIRE INSTALLATION.
- SEE UNDERPASS LIGHTING PLANS FOR INSTALLATION LOCATION OF UNDERPASS LIGHTING LUMINAIRES.
- UNDERPASS LUMINAIRE MOUNTED TO FACE OF PIER OR ABUTMENT WALL WITH 1/2" ALUMINUM SPACERS. MOUNTING HEIGHT OF 1" BELOW THE TOP OF PIER OR ABUTMENT WALL TYPICAL FOR ALL PIER/ABUTMENT MOUNTED UNDERPASS LUMINAIRES UNLESS OTHERWISE NOTED.
- EXPANSION ANCHOR, POWDER ACTUATED FASTENERS WILL NOT BE ALLOWED. EXPANSION ANCHOR MUST BE SIZED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS.
- SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
- THE CONCRETE ENCASED CONDUIT TRANSITION SHALL BE INCLUDED IN THE COST OF THE GALVANIZED RIGID STEEL CONDUIT PAY ITEMS.
- ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVCC RGC) TYPICAL.

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DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>PIER/ABUTMENT MOUNTED LED UNDERPASS LUMINAIRE INSTALLATION DETAILS</b>			
SCALE: NONE	SHEET	OF SHEETS	STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	257
BE-903		CONTRACT NO. 62641		
ILLINOIS FED. AID PROJECT				



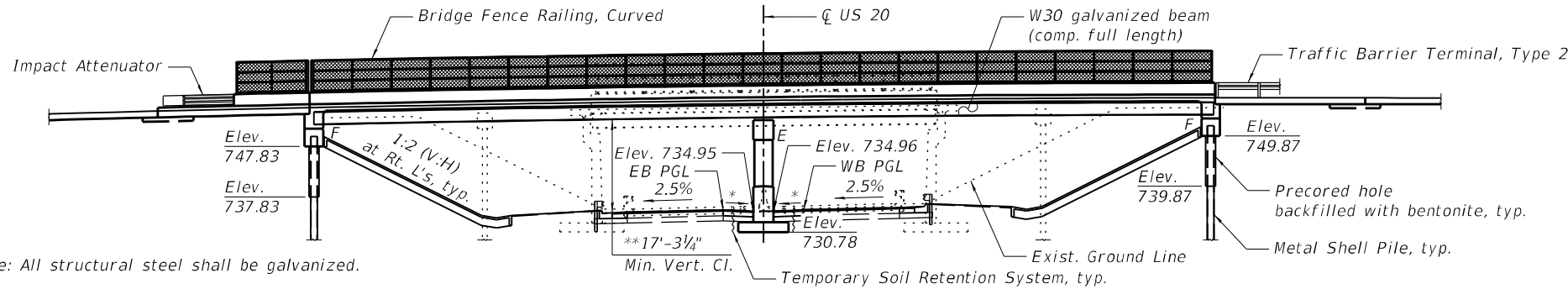
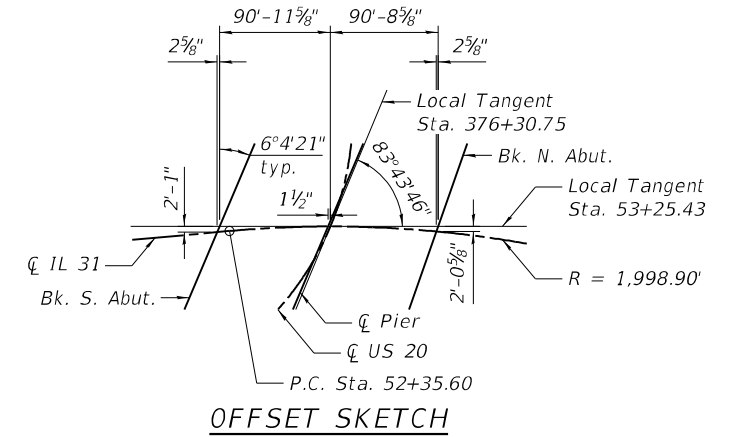
Benchmark: Cut 'd' on southwest corner of bridge headwall on east side of IL 31 over US 20. Elevation 756.31.

Existing Structure: S.N. 045-0017 was built in 1959 under project U-613(3). Structure consists of a simple span steel WF beam bridge with 71'-10 1/8" back-to-back abutments, out-to-out deck width of 70'-0 3/8", and closed abutments on spread footings. In 1975, wingwall parapets were removed and replaced. In 1988, deck was patched, joints were reconstructed, and longitudinal joint was removed. In 2003, sidewalks and bridge rail were removed and replaced, and beams were repaired and straightened. In 2011, joint seals at abutment joints were replaced, deck slab was repaired, protective shield was installed, and approaches were resurfaced. Traffic to be maintained utilizing staged construction.

The Contractor shall salvage the existing Bridge Fence Railing including all posts, railings, chain link fabric and all attachments. The Bridge Fence Railing shall be transported and unloaded by the Contractor to the District Bridge Yard in Elk Grove Village at 1101 Biesterfeld Road during the week days Monday-Friday, and between the hours of 8am and 2pm. The Contractor shall notify the District Bridge Office 48 hours in advance of the delivery at (847) 956-1444. Cost included in Removal of Existing Structure.

STATION 53+25.43  
BUILT 202\_ BY  
STATE OF ILLINOIS  
F.A.U. RT. 3887 SEC. 8HB-2  
LOADING HL-93  
STRUCTURE NO. 045-2106

**NAME PLATE**  
See Std. 515001



Note: All structural steel shall be galvanized.

\*4.0%

\*\*Future contract for US 20 widening improvements will reduce minimum vertical clearance to 16'-9 3/4"

**SCUPPER LOCATION**

Type	Station	Offset
DS-33	52+55	16.00' LT
DS-11	52+65	27.37' RT
DS-11	52+85	16.00' LT
DS-11	53+15	16.00' LT
DS-11	53+15	28.24' RT
DS-11	53+45	16.00' LT
DS-11	53+70	16.00' LT
DS-11	53+70	27.78' RT
DS-33	54+00	16.00' LT

Offset measured from curb at scupper to  $\zeta$  IL 31 & PGL.

**LOADING HL-93**

Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition.

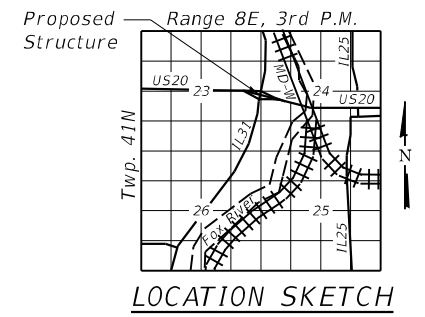
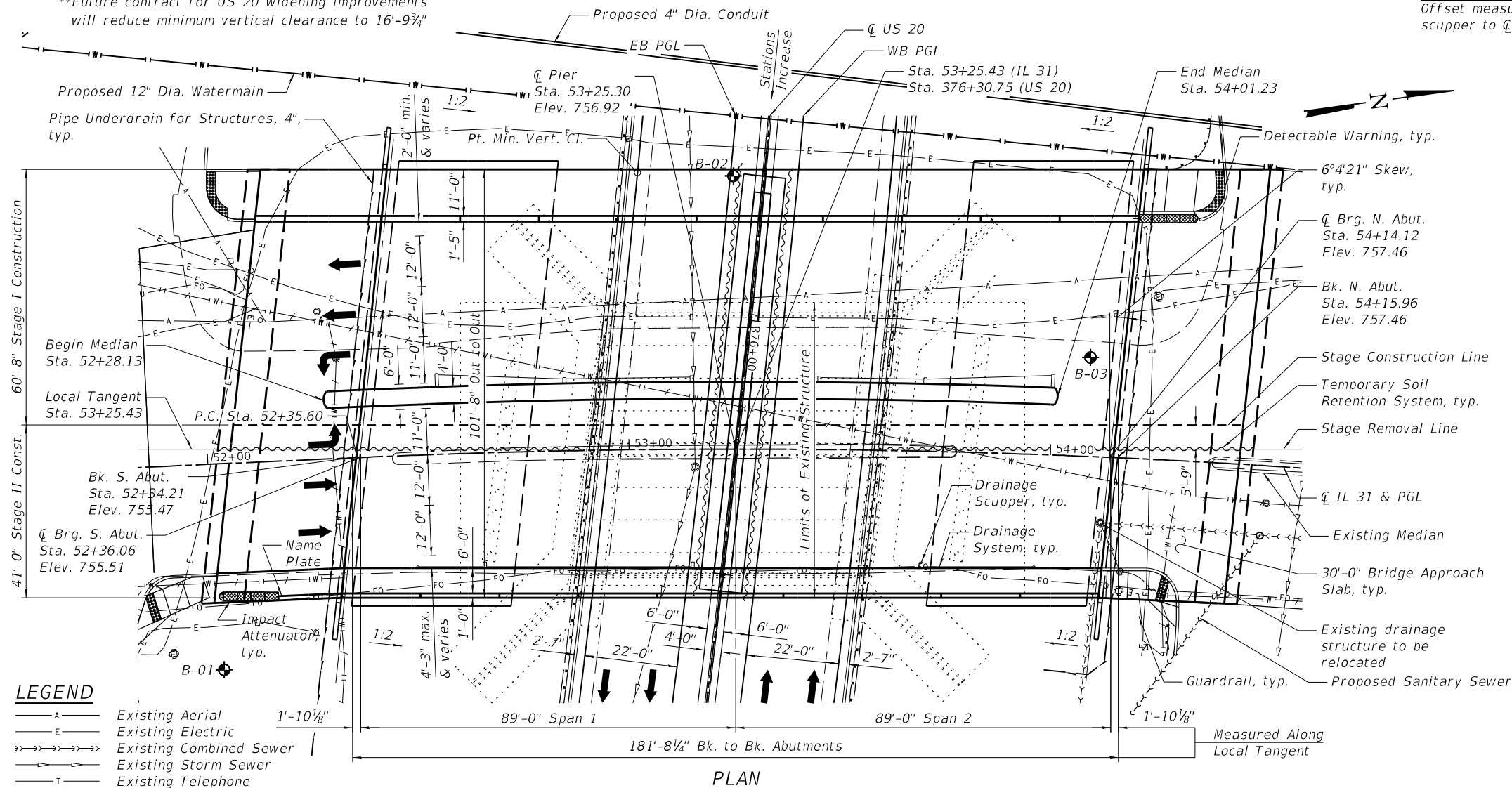
**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi (Substructure)  
 $f'_c = 4,000$  psi (Superstructure)  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (M270 Grade 50)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.085g  
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.151g  
Soil Site Class = D



**APPROVED**  
For Structural Adequacy Only  
[Signature]  
Engineer of Bridges & Structures

STATE OF ILLINOIS  
TIMOTHY HALL  
081-006644  
CHICAGO, ILLINOIS  
[Signature]  
Timothy Hall  
Expires 11-30-2024  
3/16/2023 Date

**LEGEND**

- A- Existing Aerial
- E- Existing Electric
- S- Existing Combined Sewer
- SS- Existing Storm Sewer
- T- Existing Telephone
- W- Existing Water

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION  
STRUCTURE NO. 045-2106

GENERAL PLAN AND ELEVATION  
IL 31 OVER US 20  
FAU RTE. 3887  
SECTION 8HB-2  
KANE COUNTY  
STATION 53+25.43  
STRUCTURE NO. 045-2106

	USER NAME =	DESIGNED - CMS	REVISED -	SCALE:	SHEET 1 OF 37 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT
	PLOT SCALE =	CHECKED - TCG	REVISED -				
	PLOT DATE =	DATE - 03/17/2023	REVISED -	GENERAL PLAN AND ELEVATION STRUCTURE NO. 045-2106		SECTION 8HB-2	COUNTY KANE
				TOTAL SHEETS 359		SHEET NO. 258	
				CONTRACT NO. 62G41			

**GENERAL NOTES**

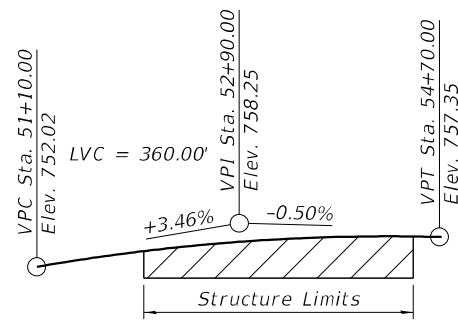
- Fasteners shall be ASTM F3125 Grade A325 Type 1. Fasteners shall be hot dip galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel." Bolts 1/2 in. Ø, holes 5/8 in. Ø, unless otherwise noted.
- Calculated weight of Structural Steel = 808,300 Lbs. (Grade 50)  
33,580 Lbs. (Grade 36)
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Concrete sealer shall be applied to the designated areas of the pier.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- All new structural steel shall be galvanized. See Special Provision for "Hot Dip Galvanizing of Structural Steel."
- Slipforming of the parapets is not allowed.

**INDEX OF SHEETS**

- S-1 General Plan and Elevation
- S-2 General Data
- S-3 Structure Removals
- S-4 Stage Construction 1
- S-5 Stage Construction 2
- S-6 Temporary Soil Retention System
- S-7 Temporary Barrier Details
- S-8 Top of Deck Elevations 1
- S-9 Top of Deck Elevations 2
- S-10 Top of Deck Elevations 3
- S-11 Top of Deck Elevations 4
- S-12 Top of Approach Slab Elevations
- S-13 Superstructure (Plan and Cross Section)
- S-14 Superstructure Details 1
- S-15 Superstructure Details 2
- S-16 Diaphragm Details
- S-17 South Approach Slab
- S-18 North Approach Slab
- S-19 Approach Slab Details
- S-20 Drainage Details
- S-21 Drainage Scupper, DS-11
- S-22 Drainage Scupper, DS-33
- S-23 Railing Details 1
- S-24 Railing Details 2
- S-25 Framing Plan
- S-26 Beam Elevation
- S-27 Steel Details
- S-28 South Abutment
- S-29 North Abutment
- S-30 Abutment Details
- S-31 Pier Plan and Elevation
- S-32 Pier Details
- S-33 Metal Shell Pile Details
- S-34 Bar Splicer Assembly Details
- S-35 Boring Logs 1
- S-36 Boring Logs 2
- S-37 Boring Logs 3

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			1
Protective Shield	Sq Yd	630		630
Structure Excavation	Cu Yd		951	951
Concrete Structures	Cu Yd		452.6	452.6
Concrete Superstructure	Cu Yd	657.2		657.2
Bridge Deck Grooving	Sq Yd	2,097		2,097
Protective Coat	Sq Yd	2,950		2,950
Concrete Superstructure (Approach Slab)	Cu Yd	284.3		284.3
Furnishing and Erecting Structural Steel	L Sum	1		1
Stud Shear Connectors	Each	13,005		13,005
Reinforcement Bars, Epoxy Coated	Pound	227,260	83,220	310,480
Bar Splicers	Each	736	173	909
Bicycle Railing, Curved	Foot	210		210
Bridge Fence Railing, Curved	Foot	195		195
Parapet Railing	Foot	210		210
Slope Wall 4 Inch	Sq Yd		832	832
Furnishing Metal Shell Piles 14" X 0.312"	Foot		1,088	1,088
Driving Piles	Foot		1,088	1,088
Test Pile Metal Shells	Each		2	2
Pile Shoes	Each		34	34
Name Plates	Each	1		1
Elastomeric Bearing Assembly, Type I	Each		17	17
Anchor Bolts, 1"	Each		68	68
Anchor Bolts, 1 1/2"	Each		34	34
Temporary Soil Retention System	Sq Ft		3,388	3,388
Drainage System for Structures	L Sum	1		1
Granular Backfill for Structures	Cu Yd		278	278
Concrete Sealer	Sq Ft		3,393	3,393
Geocomposite Wall Drain	Sq Yd		147	147
Pipe Underdrains for Structures 4"	Foot		275	275
Drainage Scuppers, DS-11	Each	7		7
Drainage Scuppers, DS-33	Each	2		2

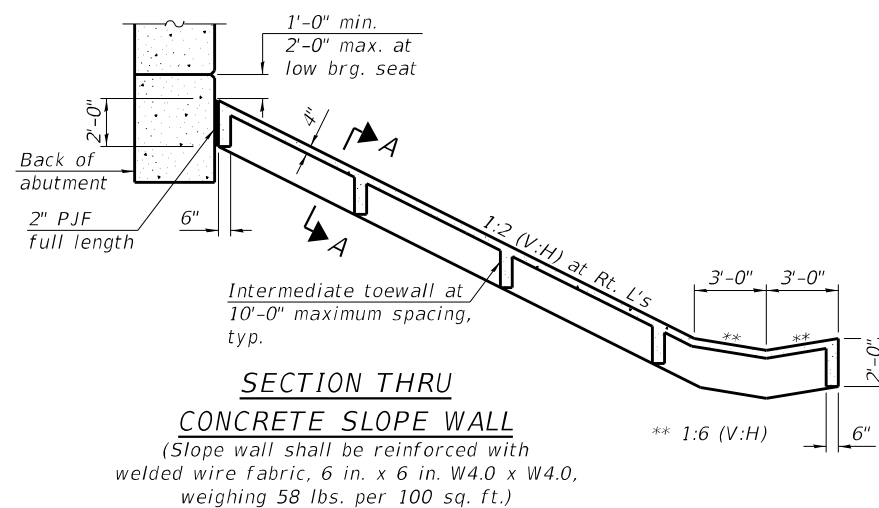
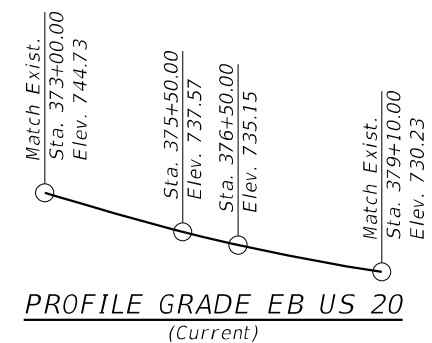
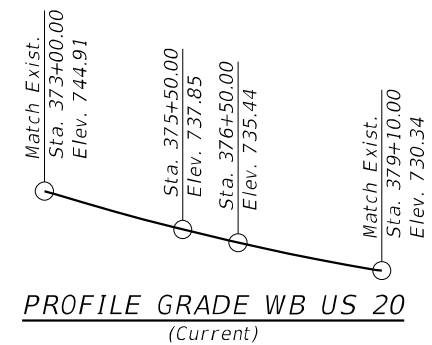


**CURVE DATA**

CL IL 31  
 P.I. Sta. = 53+53.09  
 $\Delta = 6^\circ 43' 39''$  RT  
 $D = 2^\circ 51' 59''$   
 $R = 1,998.90'$   
 $T = 117.49'$   
 $L = 234.71'$   
 $E = 3.45'$   
 $e = 0.020$   
 $T.R. = 78'$   
 $S.E. Run = 78'$   
 $S.E. Transition Limits =$   
 Sta. 50+44.00 to Sta. 52+00.00,  
 Sta. 54+62.50 to Sta. 56+18.50  
 $P.C. Sta. = 52+35.60$   
 $P.T. Sta. = 54+70.31$

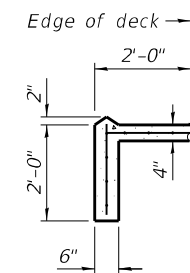
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CL US 20  
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 $D = 1^\circ 14' 34''$   
 $R = 4,610.38'$   
 $T = 662.34'$   
 $L = 1,315.67'$   
 $E = 47.33'$   
 $e = 0.025$   
 $T.R. = 156'$   
 $S.E. Run = 195'$   
 $P.C. Sta. = 366+02.34$   
 $P.T. Sta. = 379+18.01$

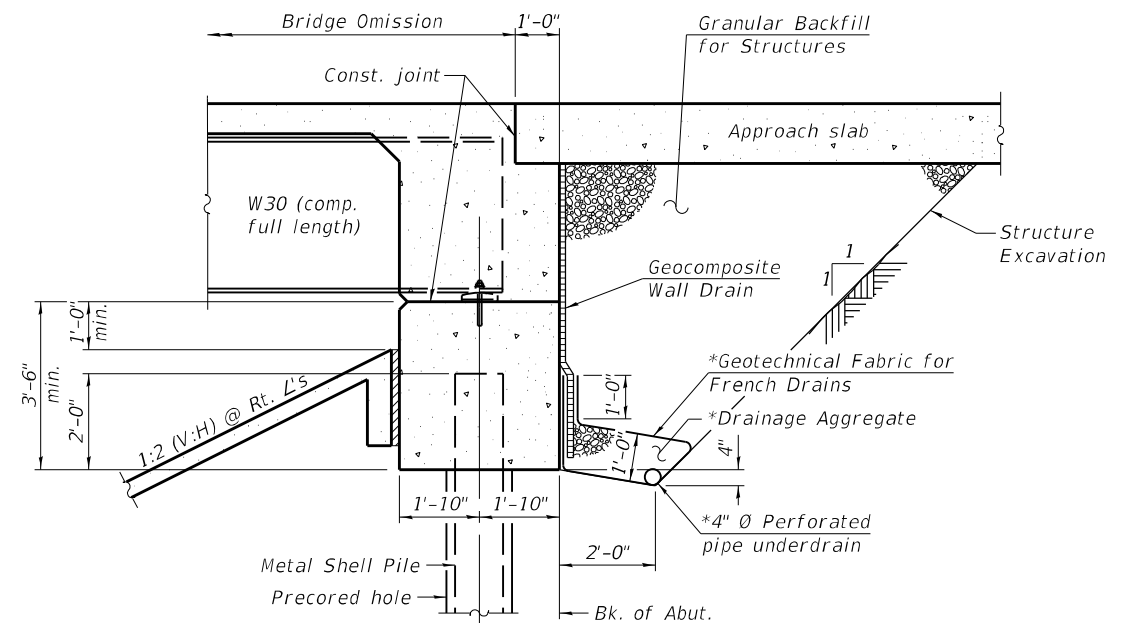


**SLOPE WALL ELEVATIONS**

	South Slope Wall		North Slope Wall	
	SE Corner	SW Corner	NE Corner	NW Corner
Face of Abutment	749.58	752.28	751.41	754.07
Edge of Future US 20	733.99	736.57	735.45	738.01



**SECTION A-A**



Note: All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101.)

**SECTION THRU INTEGRAL ABUTMENT**

(Horiz. dim. @ Rt. L's)

\*Included in the cost of Pipe Underdrains for Structures.

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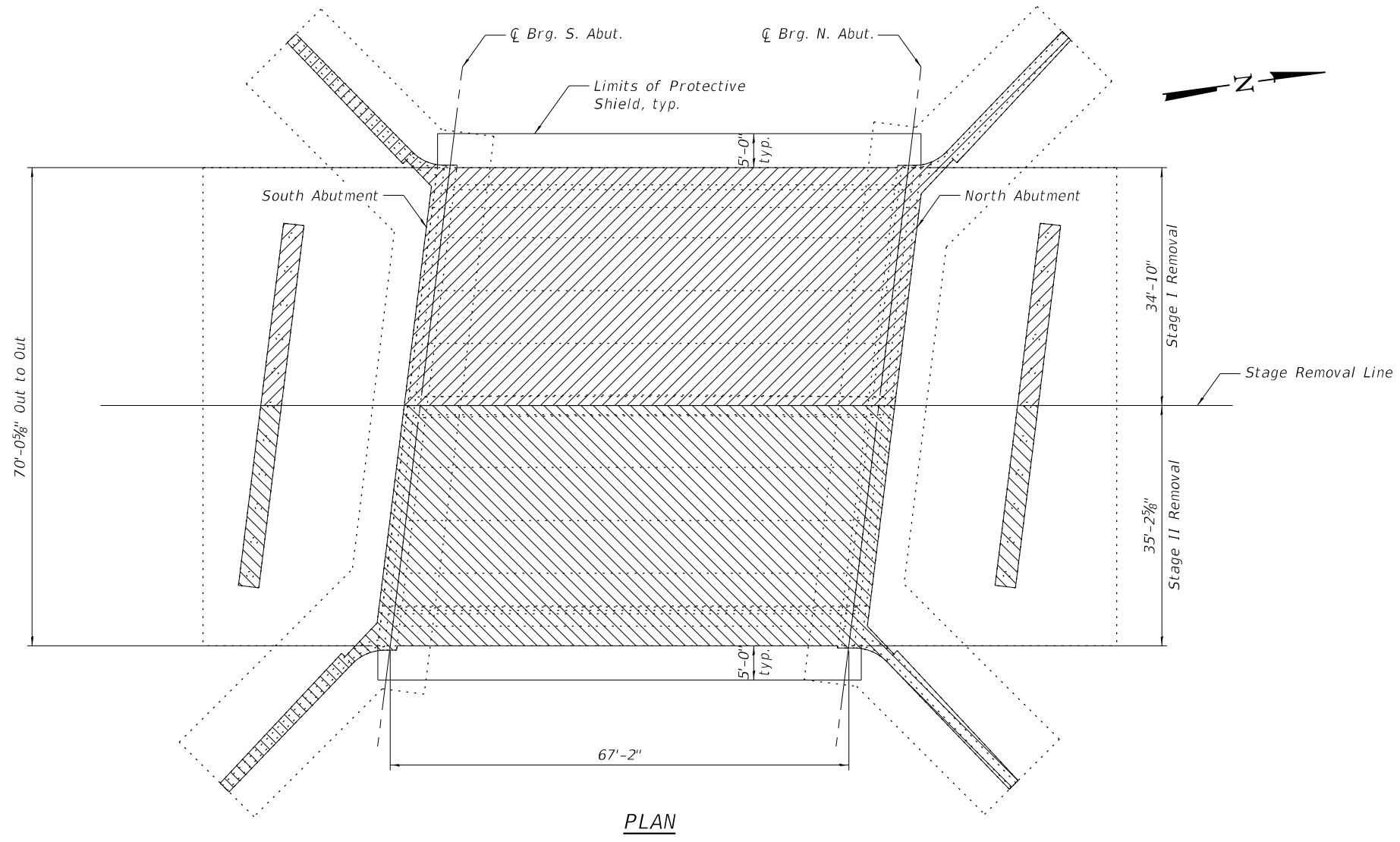
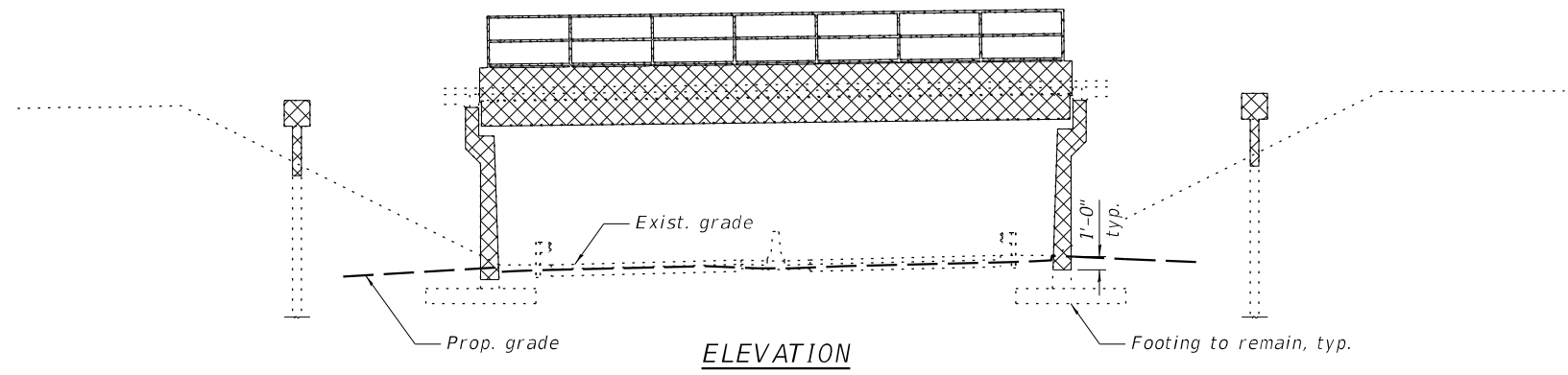


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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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SCALE: SHEET 2 OF 37 SHEETS STA. TO STA.		CONTRACT NO. 62G41				
		ILLINOIS FED. AID PROJECT				

Note:  
Remove the substructure to 1'-0" below the proposed grade.



**LEGEND**

	Stage I Removal
	Stage II Removal
	Stage I and Stage II Removal

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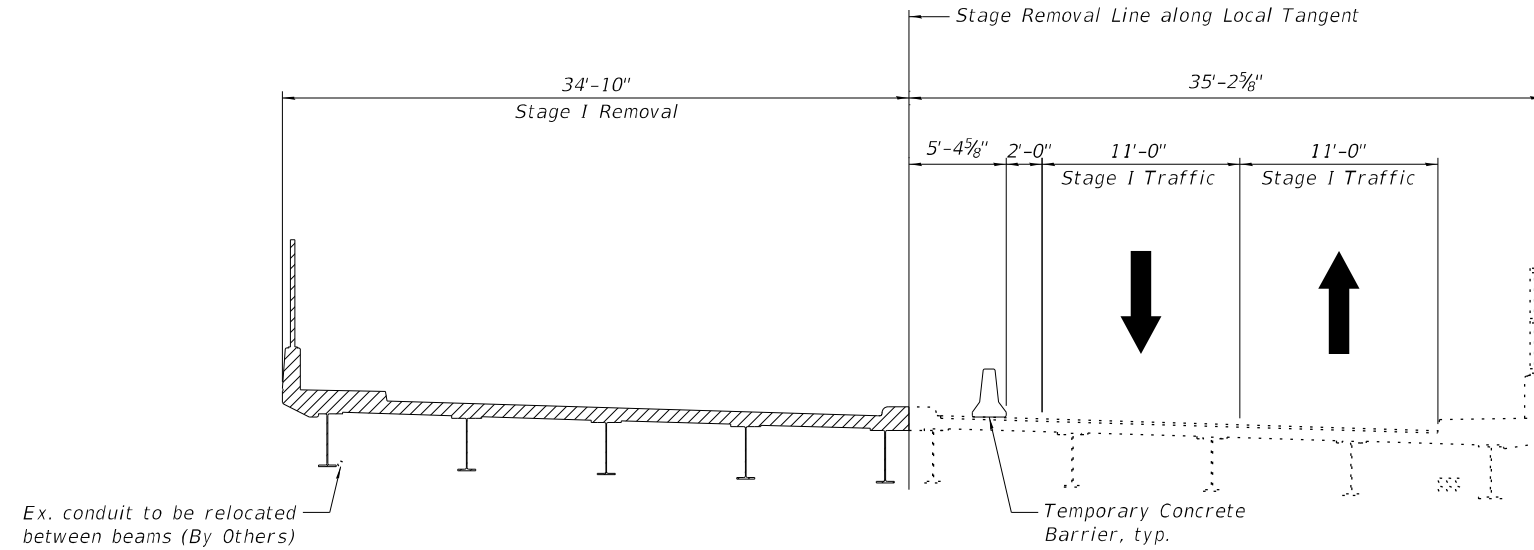
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

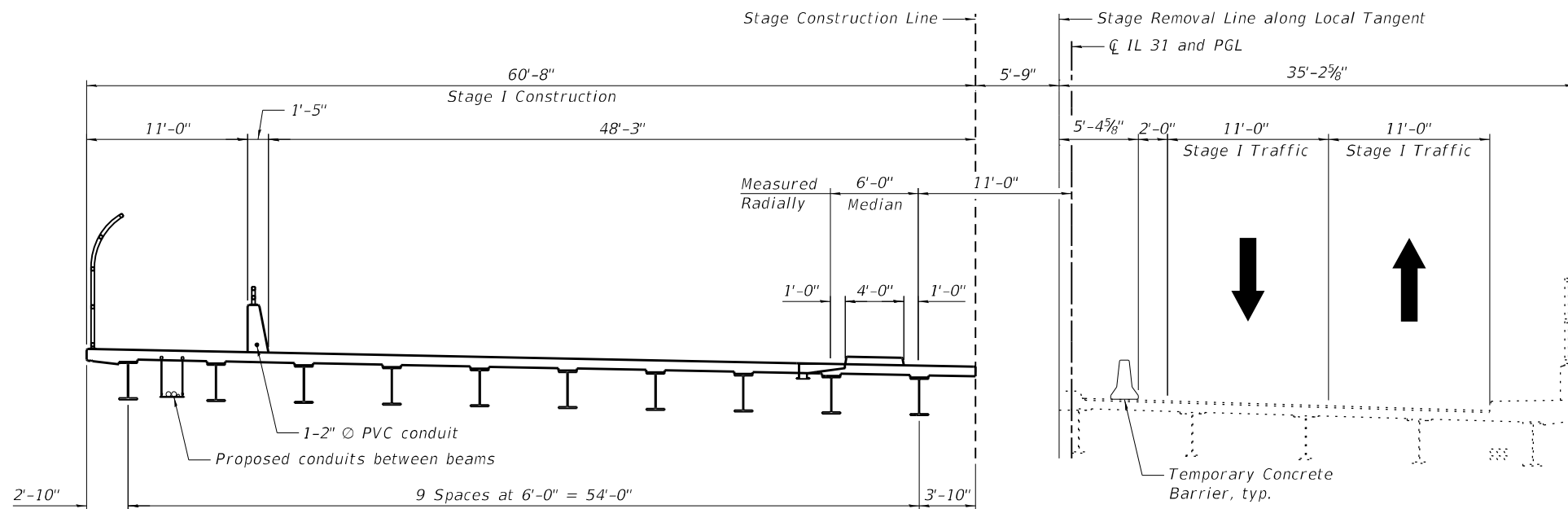
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STRUCTURE NO. 045-2106**

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	260
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



**STAGE I REMOVAL**  
(Looking North)



**STAGE I CONSTRUCTION**  
(Looking North)

**Notes:**  
 All stage cross sections are looking north.  
 See sheet 7 of 37 for "Temporary Concrete Barrier."  
 Hatched area indicates "Removal of Existing Structures."  
 See Roadway Plans for quantity of Temporary Concrete Barrier.  
 Existing Protective Shield included in "Removal of Existing Structures."

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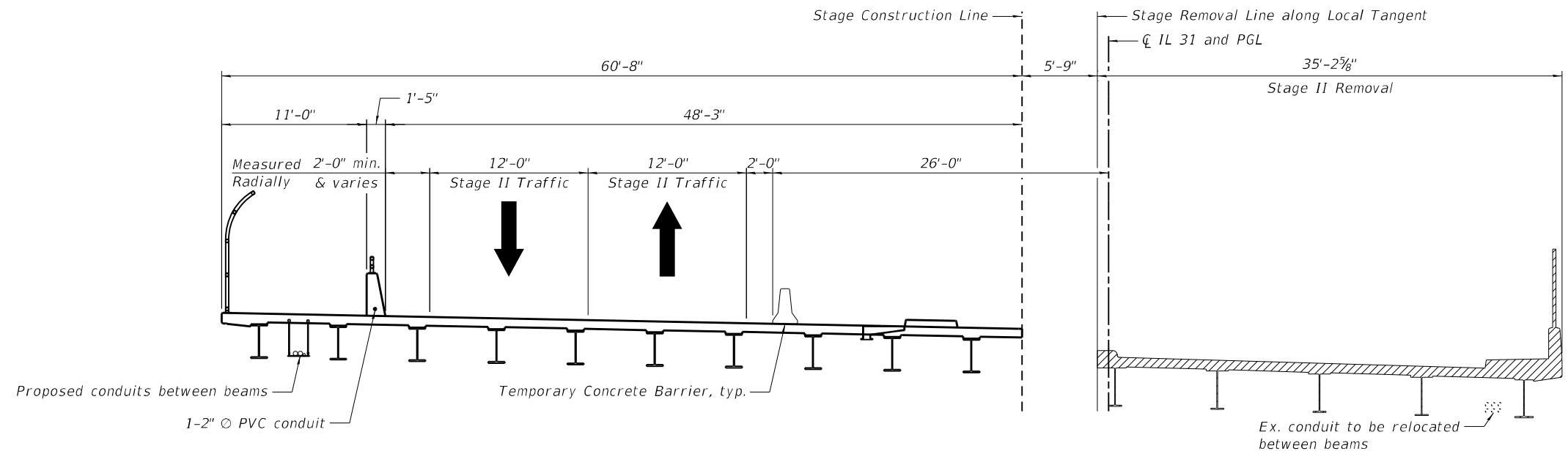
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**DEPARTMENT OF TRANSPORTATION**

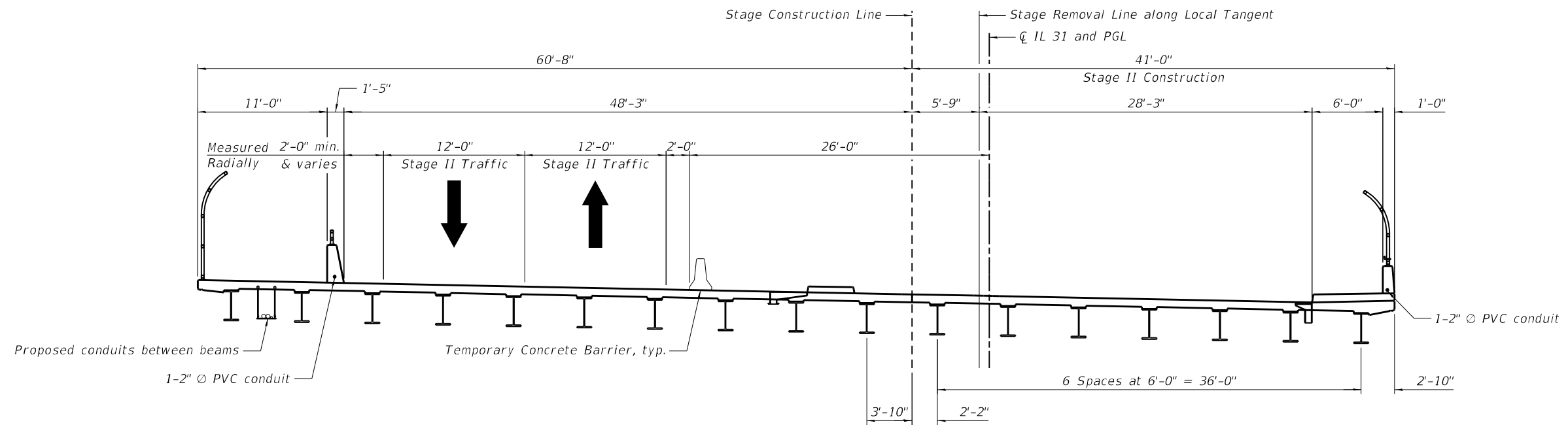
**STAGE CONSTRUCTION 1**  
**STRUCTURE NO. 045-2106**

SCALE: SHEET 4 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	261
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



**STAGE II REMOVAL**  
(Looking North)



**STAGE II CONSTRUCTION**  
(Looking North)

Notes:  
 All stage cross sections are looking north.  
 See sheet 7 of 37 for "Temporary Concrete Barrier."  
 Hatched area indicates "Removal of Existing Structures."  
 See Roadway Plans for quantity of Temporary Concrete Barrier.  
 Existing Protective Shield included in "Removal of Existing Structures."

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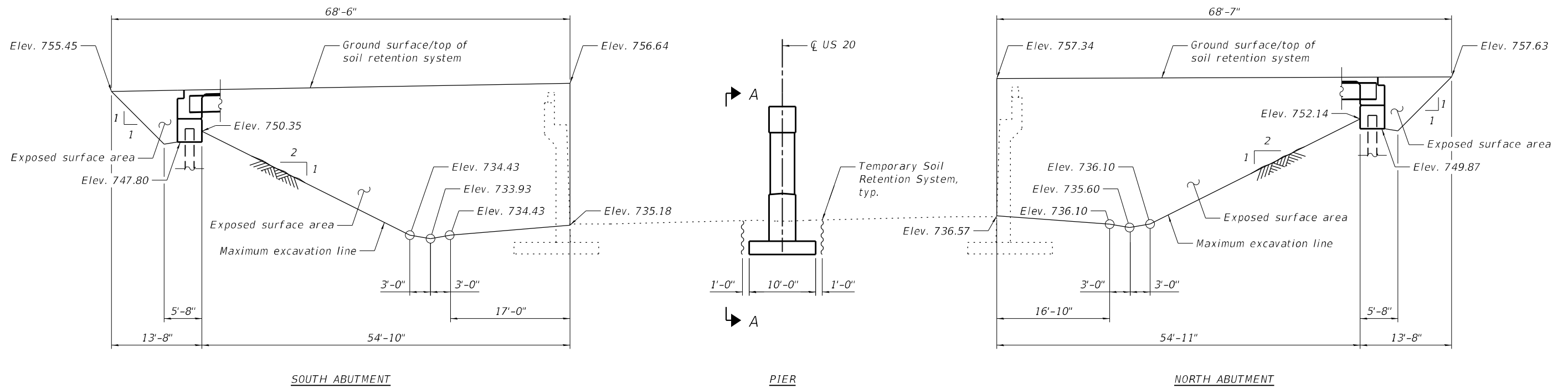
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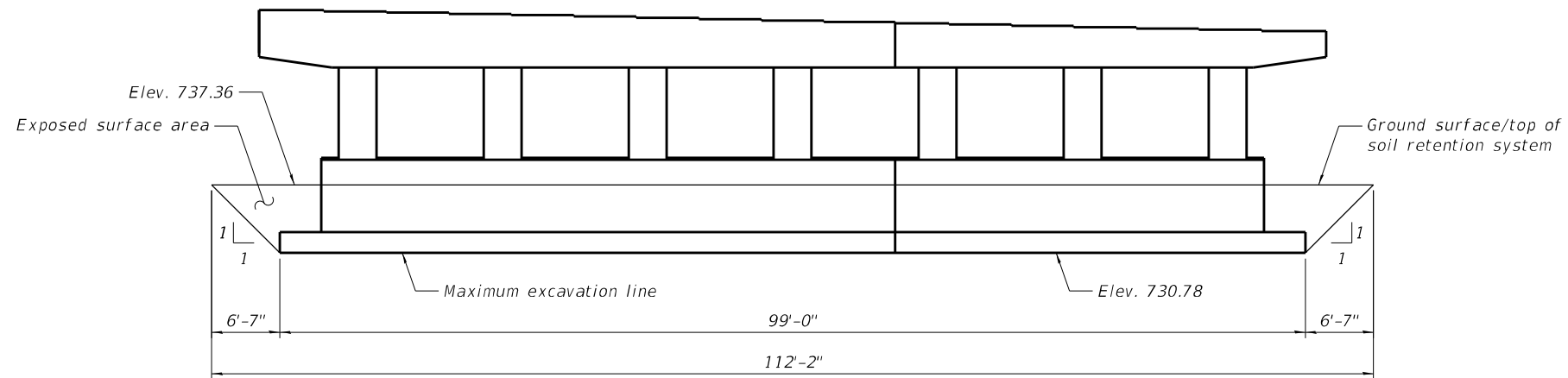
**STAGE CONSTRUCTION 2  
 STRUCTURE NO. 045-2106**

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345A	8HB-2	KANE	359	262
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



TEMPORARY SOIL RETENTION SYSTEM



SECTION A-A

Note:  
 A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

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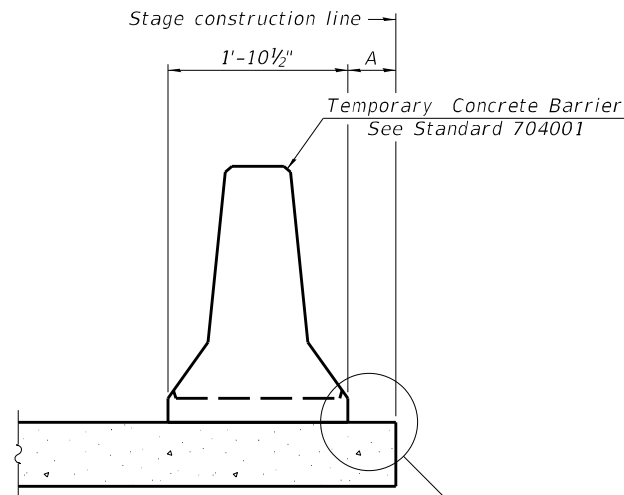
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DRAWN - CMS	REVISED -	
PLOT SCALE =	CHECKED - TCG	REVISED -
PLOT DATE =	DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TEMPORARY SOIL RETENTION SYSTEM  
 STRUCTURE NO. 045-2106**

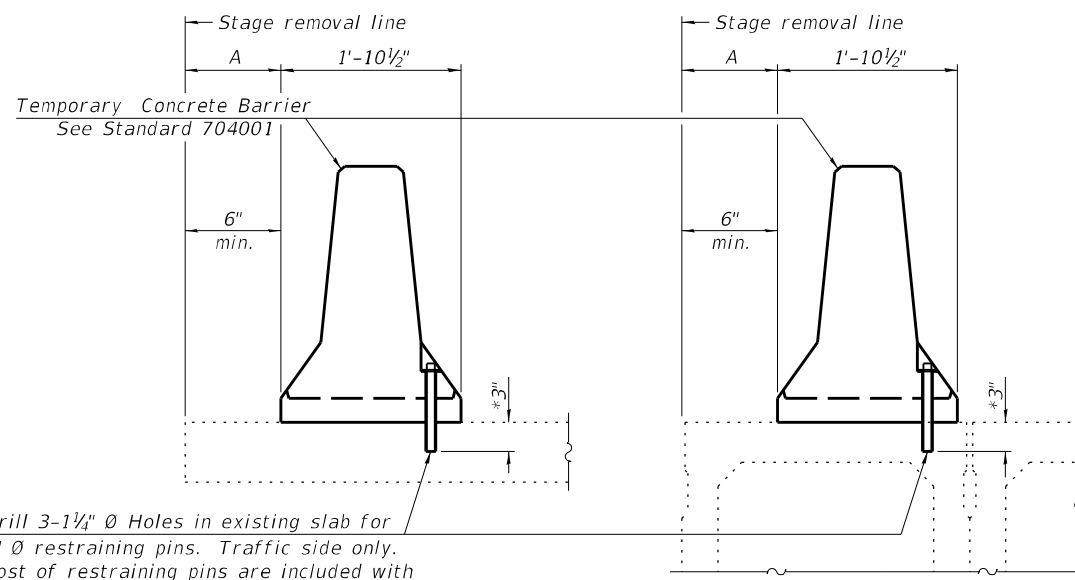
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	263
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



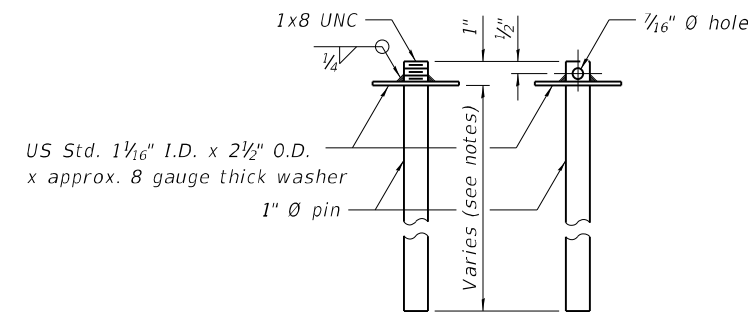
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

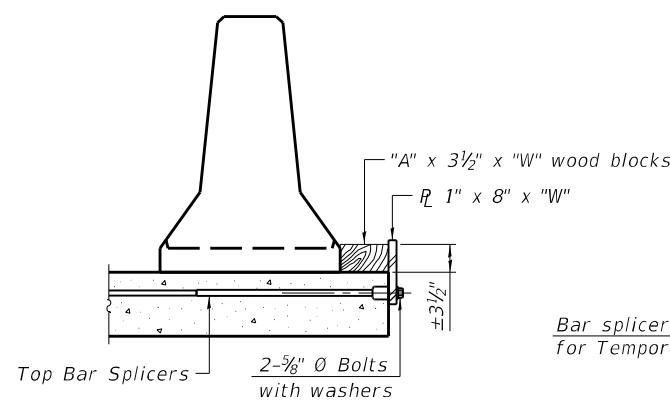
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

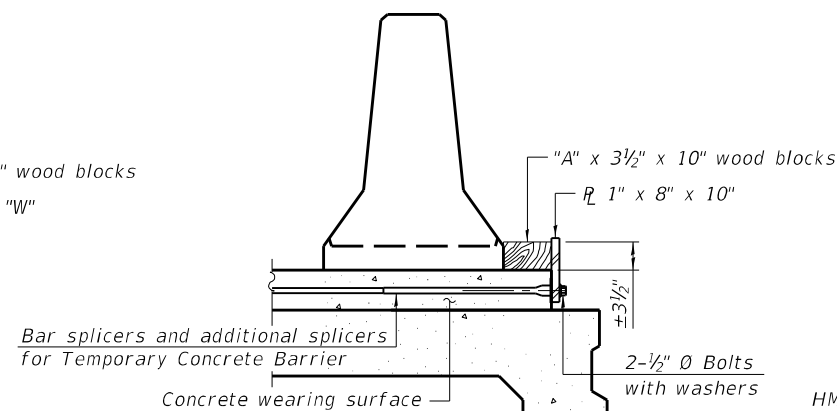


US Std. 1 1/16" I.D. x 2 1/2" O.D. x approx. 8 gauge thick washer

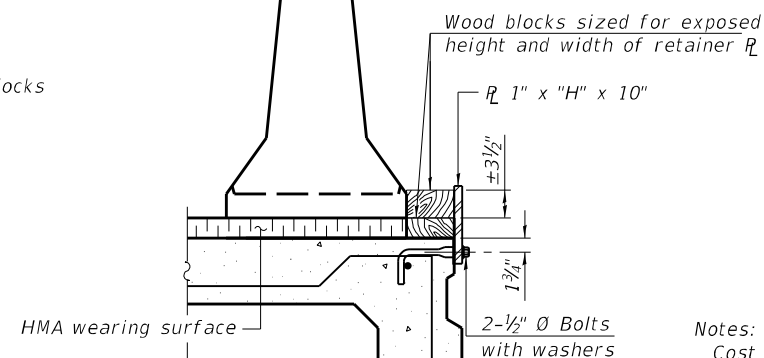
RESTRAINING PIN



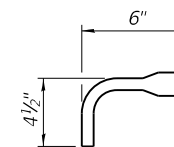
DETAIL I



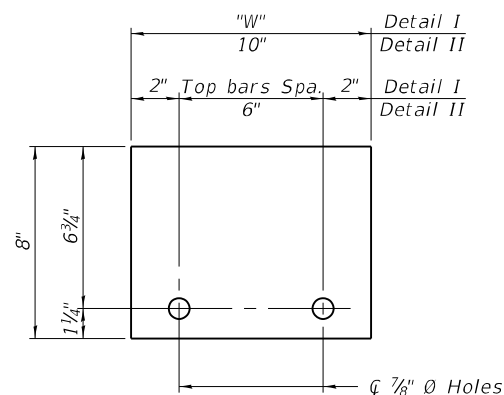
DETAIL II



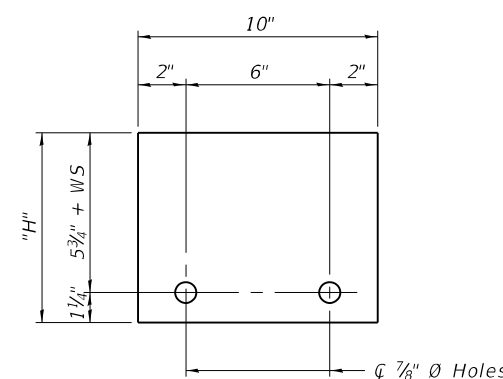
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER 1" x 8" x "W" (Detail I and II)



STEEL RETAINER 1" x "H" x 10" (Detail III)

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier. A retainer assembly shall be located at the approximate center of each temporary concrete barrier.

The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.

When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.

Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

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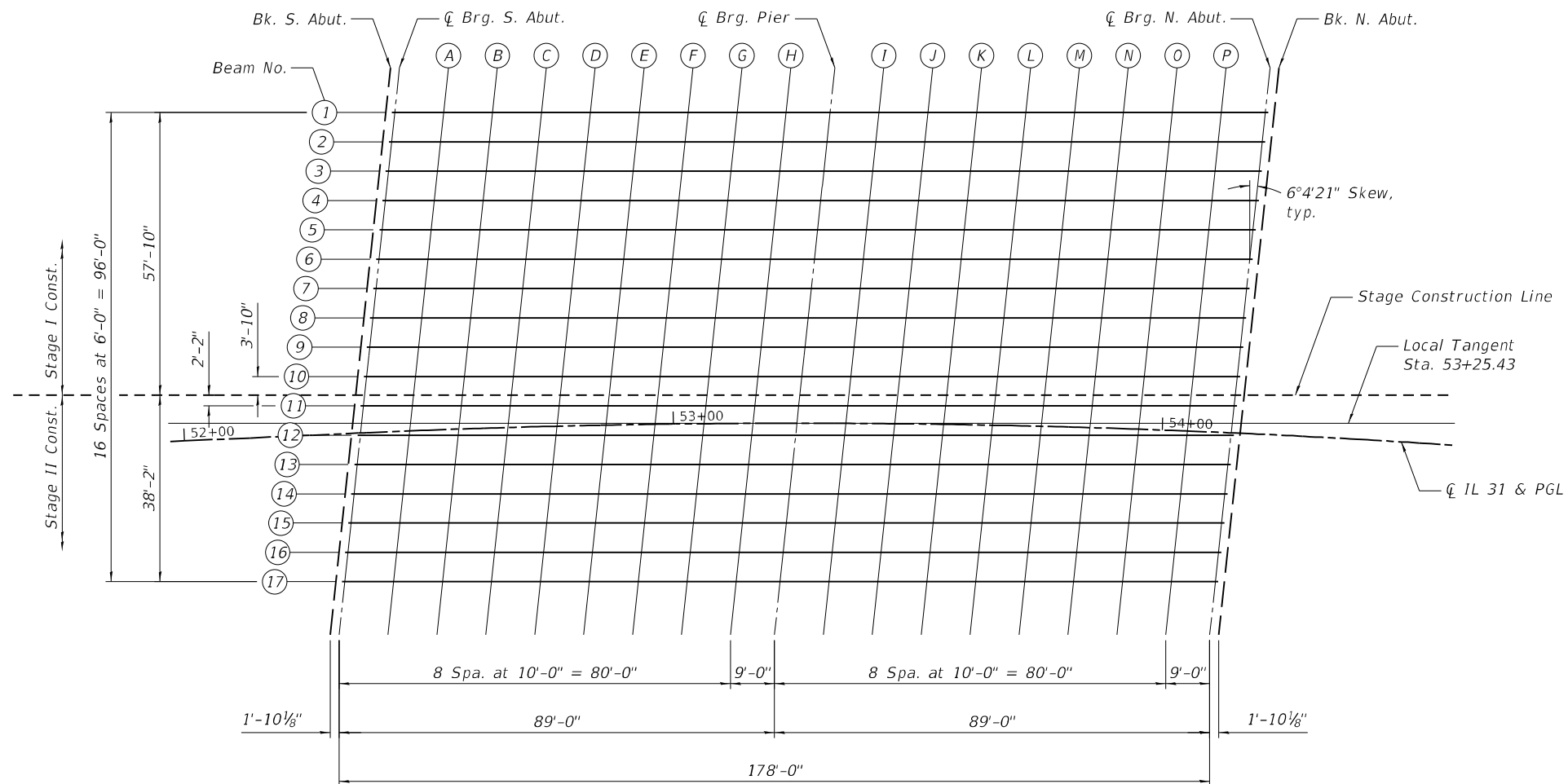
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY BARRIER DETAILS  
STRUCTURE NO. 045-2106

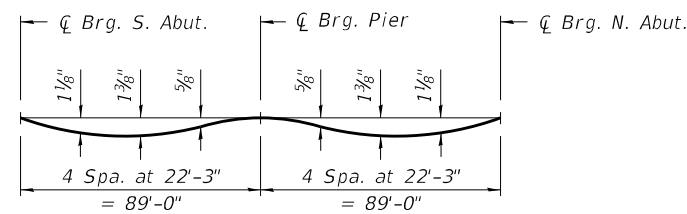
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	264
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				





PLAN

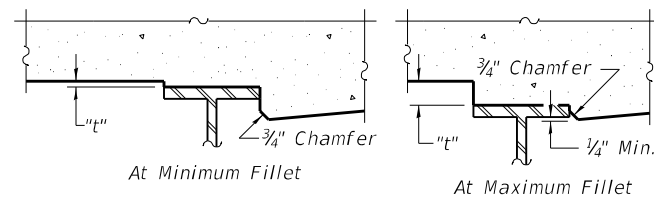


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 8 through 11.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 8 through 11, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	52+43.86	-65.30	756.97	756.97
☐ S. Brg.	52+45.65	-65.23	757.01	757.01
A	52+55.32	-64.85	757.18	757.24
B	52+65.00	-64.53	757.35	757.45
C	52+74.69	-64.25	757.51	757.63
D	52+84.38	-64.02	757.66	757.78
E	52+94.06	-63.84	757.80	757.90
F	53+03.75	-63.70	757.93	758.01
G	53+13.45	-63.62	758.06	758.10
H	53+23.14	-63.58	758.17	758.18
☐ Pier	53+31.86	-63.59	758.26	758.26
I	53+41.55	-63.65	758.36	758.37
J	53+51.24	-63.76	758.44	758.48
K	53+60.93	-63.91	758.52	758.59
L	53+70.62	-64.11	758.59	758.69
M	53+80.31	-64.36	758.64	758.76
N	53+89.99	-64.66	758.69	758.80
O	53+99.67	-65.01	758.73	758.82
P	54+09.35	-65.40	758.76	758.81
☐ N. Brg.	54+18.05	-65.80	758.78	758.78
Bk. N. Abut.	54+19.83	-65.89	758.78	758.78

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	DATE - 03/24/2023	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS 1  
STRUCTURE NO. 045-2106

SCALE: SHEET 8 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	265
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	52+43.00	-59.33	756.84	756.84
☉ S. Brg.	52+44.79	-59.26	756.87	756.87
A	52+54.50	-58.88	757.05	757.10
B	52+64.21	-58.55	757.22	757.31
C	52+73.92	-58.27	757.38	757.49
D	52+83.64	-58.03	757.53	757.65
E	52+93.35	-57.85	757.67	757.77
F	53+03.07	-57.71	757.81	757.88
G	53+12.79	-57.62	757.93	757.97
H	53+22.51	-57.59	758.04	758.05
☉ Pier	53+31.26	-57.59	758.14	758.14
I	53+40.98	-57.65	758.23	758.25
J	53+50.70	-57.75	758.32	758.36
K	53+60.41	-57.90	758.40	758.47
L	53+70.13	-58.10	758.46	758.57
M	53+79.85	-58.35	758.52	758.64
N	53+89.56	-58.64	758.57	758.68
O	53+99.27	-58.99	758.61	758.70
P	54+08.97	-59.38	758.64	758.68
☉ N. Brg.	54+17.70	-59.78	758.66	758.66
Bk. N. Abut.	54+19.49	-59.86	758.66	758.66

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	52+42.14	-53.36	756.70	756.70
☉ S. Brg.	52+43.94	-53.29	756.73	756.73
A	52+53.67	-52.90	756.92	756.97
B	52+63.41	-52.57	757.09	757.18
C	52+73.15	-52.28	757.25	757.36
D	52+82.89	-52.05	757.40	757.52
E	52+92.64	-51.86	757.54	757.64
F	53+02.38	-51.72	757.68	757.75
G	53+12.13	-51.63	757.80	757.84
H	53+21.88	-51.59	757.92	757.93
☉ Pier	53+30.65	-51.59	758.01	758.01
I	53+40.40	-51.64	758.11	758.12
J	53+50.15	-51.74	758.19	758.24
K	53+59.90	-51.89	758.27	758.35
L	53+69.64	-52.08	758.34	758.44
M	53+79.38	-52.33	758.40	758.52
N	53+89.12	-52.62	758.45	758.56
O	53+98.86	-52.97	758.49	758.58
P	54+08.59	-53.36	758.52	758.56
☉ N. Brg.	54+17.35	-53.75	758.54	758.54
Bk. N. Abut.	54+19.14	-53.84	758.54	758.54

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	52+41.27	-47.40	756.56	756.56
☉ S. Brg.	52+43.07	-47.32	756.60	756.60
A	52+52.84	-46.93	756.78	756.83
B	52+62.60	-46.59	756.95	757.04
C	52+72.37	-46.30	757.12	757.23
D	52+82.14	-46.06	757.27	757.39
E	52+91.92	-45.87	757.41	757.51
F	53+01.69	-45.73	757.55	757.62
G	53+11.47	-45.63	757.67	757.71
H	53+21.24	-45.59	757.79	757.80
☉ Pier	53+30.04	-45.59	757.88	757.88
I	53+39.82	-45.64	757.98	757.99
J	53+49.60	-45.73	758.07	758.11
K	53+59.37	-45.88	758.15	758.22
L	53+69.15	-46.07	758.22	758.32
M	53+78.92	-46.32	758.28	758.39
N	53+88.69	-46.61	758.32	758.44
O	53+98.45	-46.95	758.37	758.45
P	54+08.21	-47.34	758.40	758.44
☉ N. Brg.	54+17.00	-47.73	758.42	758.42
Bk. N. Abut.	54+18.80	-47.82	758.42	758.42

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	52+40.40	-41.43	756.43	756.43
☉ S. Brg.	52+42.21	-41.35	756.46	756.46
A	52+52.00	-40.96	756.64	756.70
B	52+61.79	-40.62	756.82	756.91
C	52+71.59	-40.32	756.98	757.10
D	52+81.39	-40.08	757.14	757.25
E	52+91.19	-39.88	757.28	757.38
F	53+01.00	-39.74	757.42	757.49
G	53+10.80	-39.64	757.54	757.58
H	53+20.61	-39.59	757.66	757.67
☉ Pier	53+29.43	-39.59	757.76	757.76
I	53+39.24	-39.63	757.86	757.87
J	53+49.04	-39.73	757.94	757.99
K	53+58.85	-39.87	758.02	758.10
L	53+68.65	-40.06	758.09	758.20
M	53+78.45	-40.30	758.15	758.27
N	53+88.25	-40.59	758.20	758.32
O	53+98.04	-40.93	758.24	758.33
P	54+07.83	-41.32	758.27	758.32
☉ N. Brg.	54+16.64	-41.71	758.29	758.29
Bk. N. Abut.	54+18.45	-41.79	758.30	758.30

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	52+39.53	-35.46	756.29	756.29
☉ S. Brg.	52+41.34	-35.38	756.32	756.32
A	52+51.15	-34.99	756.51	756.56
B	52+60.98	-34.64	756.68	756.78
C	52+70.80	-34.34	756.85	756.96
D	52+80.63	-34.09	757.01	757.12
E	52+90.46	-33.89	757.15	757.25
F	53+00.30	-33.74	757.29	757.36
G	53+10.13	-33.64	757.42	757.45
H	53+19.96	-33.59	757.53	757.54
☉ Pier	53+28.82	-33.59	757.63	757.63
I	53+38.65	-33.63	757.73	757.74
J	53+48.48	-33.72	757.82	757.86
K	53+58.32	-33.86	757.90	757.97
L	53+68.15	-34.05	757.97	758.07
M	53+77.98	-34.29	758.03	758.15
N	53+87.80	-34.57	758.08	758.19
O	53+97.63	-34.91	758.12	758.21
P	54+07.45	-35.30	758.15	758.20
☉ N. Brg.	54+16.28	-35.68	758.17	758.17
Bk. N. Abut.	54+18.09	-35.77	758.18	758.18

**BEAM 7**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	52+38.64	-29.49	756.15	756.15
☉ S. Brg.	52+40.46	-29.42	756.19	756.19
A	52+50.31	-29.01	756.37	756.42
B	52+60.16	-28.66	756.55	756.64
C	52+70.01	-28.36	756.72	756.83
D	52+79.87	-28.11	756.87	756.99
E	52+89.73	-27.91	757.02	757.12
F	52+99.59	-27.75	757.16	757.23
G	53+09.46	-27.65	757.29	757.33
H	53+19.32	-27.59	757.41	757.42
☉ Pier	53+28.20	-27.59	757.50	757.50
I	53+38.06	-27.62	757.60	757.62
J	53+47.92	-27.71	757.69	757.74
K	53+57.79	-27.85	757.78	757.85
L	53+67.65	-28.04	757.85	757.95
M	53+77.50	-28.27	757.91	758.02
N	53+87.36	-28.56	757.96	758.07
O	53+97.21	-28.89	758.00	758.09
P	54+07.06	-29.27	758.03	758.08
☉ N. Brg.	54+15.92	-29.66	758.05	758.05
Bk. N. Abut.	54+17.74	-29.75	758.06	758.06

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PLOT DATE =	DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF DECK ELEVATIONS 2  
STRUCTURE NO. 045-2106**

SCALE: SHEET 9 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	266
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

BEAM 8

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C/S Brg., A-H, C/Pier, I-P, C/N. Brg., and Bk. N. Abut.

BEAM 9

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C/S Brg., A-H, C/Pier, I-P, C/N. Brg., and Bk. N. Abut.

BEAM 10

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C/S Brg., A-H, C/Pier, I-P, C/N. Brg., and Bk. N. Abut.

STAGE CONSTRUCTION JOINT

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C/S Brg., A-H, C/Pier, I-P, C/N. Brg., and Bk. N. Abut.

BEAM 11

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C/S Brg., A-H, C/Pier, I-P, C/N. Brg., and Bk. N. Abut.

C/IL 31 & PGL

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C/S Brg., A-H, C/Pier, I-P, C/N. Brg., and Bk. N. Abut.

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Revision table with columns: USER NAME, DESIGNED, DRAWN, CHECKED, PLOT SCALE, PLOT DATE, and corresponding values.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS 3 STRUCTURE NO. 045-2106

SCALE: SHEET 10 OF 37 SHEETS STA. TO STA.

Project information table with columns: F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., and CONTRACT NO.

BEAM 12

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C S. Brg., A-H, C Pier, I-P, C N. Brg., and Bk. N. Abut.

BEAM 13

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C S. Brg., A-H, C Pier, I-P, C N. Brg., and Bk. N. Abut.

BEAM 14

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C S. Brg., A-H, C Pier, I-P, C N. Brg., and Bk. N. Abut.

BEAM 15

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C S. Brg., A-H, C Pier, I-P, C N. Brg., and Bk. N. Abut.

BEAM 16

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C S. Brg., A-H, C Pier, I-P, C N. Brg., and Bk. N. Abut.

BEAM 17

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., C S. Brg., A-H, C Pier, I-P, C N. Brg., and Bk. N. Abut.

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Table with 4 columns: REVISED, REVISED, REVISED, REVISED. All values are dashes.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

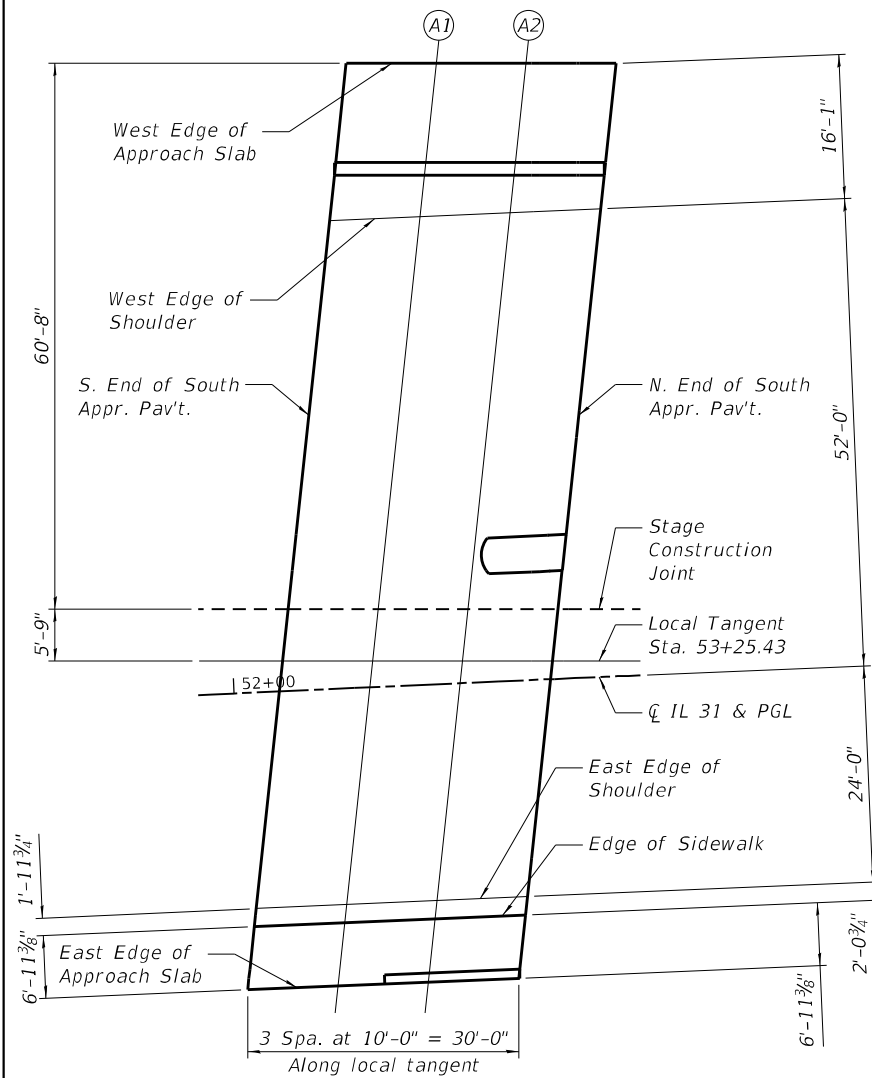
TOP OF DECK ELEVATIONS 4 STRUCTURE NO. 045-2106

SCALE: SHEET 11 OF 37 SHEETS STA. TO STA.

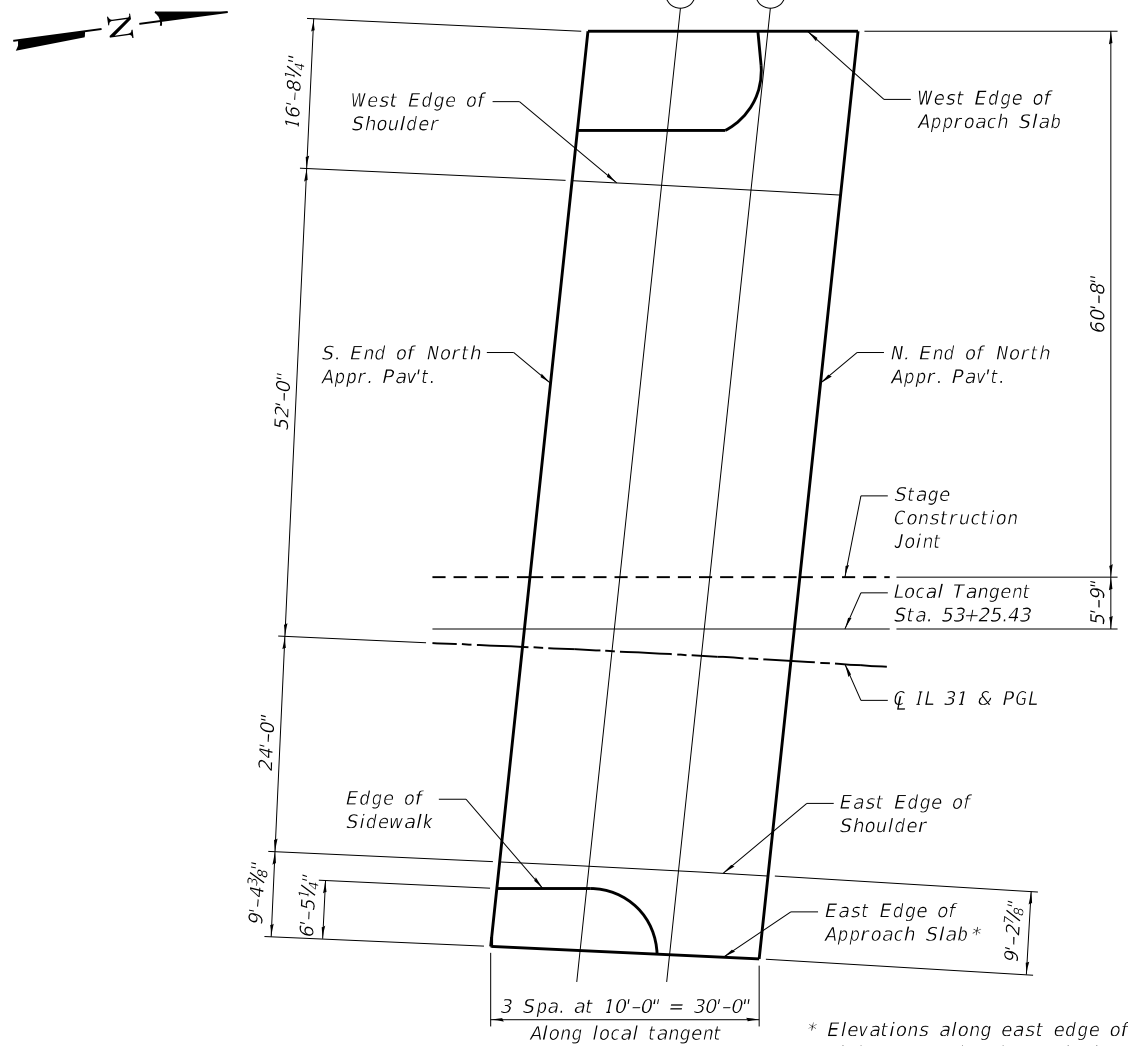
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CONTRACT NO. 62G41

ILLINOIS FED. AID PROJECT



Plan  
South Approach



Plan  
North Approach

\* Elevations along east edge of approach slab are at the theoretical top of slab below the thickness of the sidewalk.

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End South Appr. Pav't.	52+01.39	24.00	754.24
A1	52+11.45	24.00	754.49
A2	52+21.51	24.00	754.72
N. End South Appr. Pav't.	52+31.57	24.00	754.93
S. End North Appr. Pav't.	54+13.47	24.00	756.98
A3	54+23.55	24.00	756.98
A4	54+33.63	24.00	756.98
N. End North Appr. Pav't.	54+43.71	24.00	756.96

EDGE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
S. End South Appr. Pav't.	52+01.09	25.98	754.20
A1	52+11.14	26.01	754.44
A2	52+21.20	26.04	754.67
N. End South Appr. Pav't.	52+31.25	26.06	754.89
S. End North Appr. Pav't.	54+13.28	26.95	756.92
A3	54+23.41	26.48	756.93

EAST EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
S. End South Appr. Pav't.	52+00.03	32.94	754.03
A1	52+10.08	32.97	754.27
A2	52+20.14	33.00	754.50
N. End South Appr. Pav't.	52+30.19	33.03	754.72
S. End North Appr. Pav't.	54+12.88	33.37	756.79
A3	54+23.01	33.37	756.80
A4	54+33.14	33.33	756.79
N. End North Appr. Pav't.	54+43.27	33.24	756.78

WEST EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
S. End South Appr. Pav't.	52+15.59	-69.40	756.45
A1	52+25.58	-68.95	756.66
A2	52+35.57	-68.50	756.87
N. End South Appr. Pav't.	52+45.24	-68.08	757.06
S. End North Appr. Pav't.	54+19.02	-68.68	758.84
A3	54+28.68	-69.17	758.82
A4	54+38.33	-69.72	758.85
N. End North Appr. Pav't.	54+47.97	-70.30	758.84

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End South Appr. Pav't.	52+12.95	-52.00	756.04
A1	52+23.01	-52.00	756.27
A2	52+33.07	-52.00	756.49
N. End South Appr. Pav't.	52+42.93	-52.00	756.69
S. End North Appr. Pav't.	54+18.06	-52.00	758.50
A3	54+27.77	-52.00	758.50
A4	54+37.48	-52.00	758.49
N. End North Appr. Pav't.	54+47.18	-52.00	758.48

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
S. End South Appr. Pav't.	52+06.42	-9.09	755.03
A1	52+16.41	-8.64	755.25
A2	52+26.40	-8.19	755.47
N. End South Appr. Pav't.	52+36.39	-7.74	755.67
S. End North Appr. Pav't.	54+15.43	-7.78	757.61
A3	54+25.38	-8.26	757.63
A4	54+35.32	-8.78	757.63
N. End North Appr. Pav't.	54+45.26	-9.36	757.63

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Location	Station	Offset	Theoretical Grade Elevations
S. End South Appr. Pav't.	52+05.04	0.00	754.81
A1	52+15.10	0.00	755.05
A2	52+25.16	0.00	755.28
N. End South Appr. Pav't.	52+35.22	0.00	755.49
S. End North Appr. Pav't.	54+14.96	0.00	757.46
A3	54+24.92	0.00	757.46
A4	54+34.88	0.00	757.46
N. End North Appr. Pav't.	54+44.83	0.00	757.44

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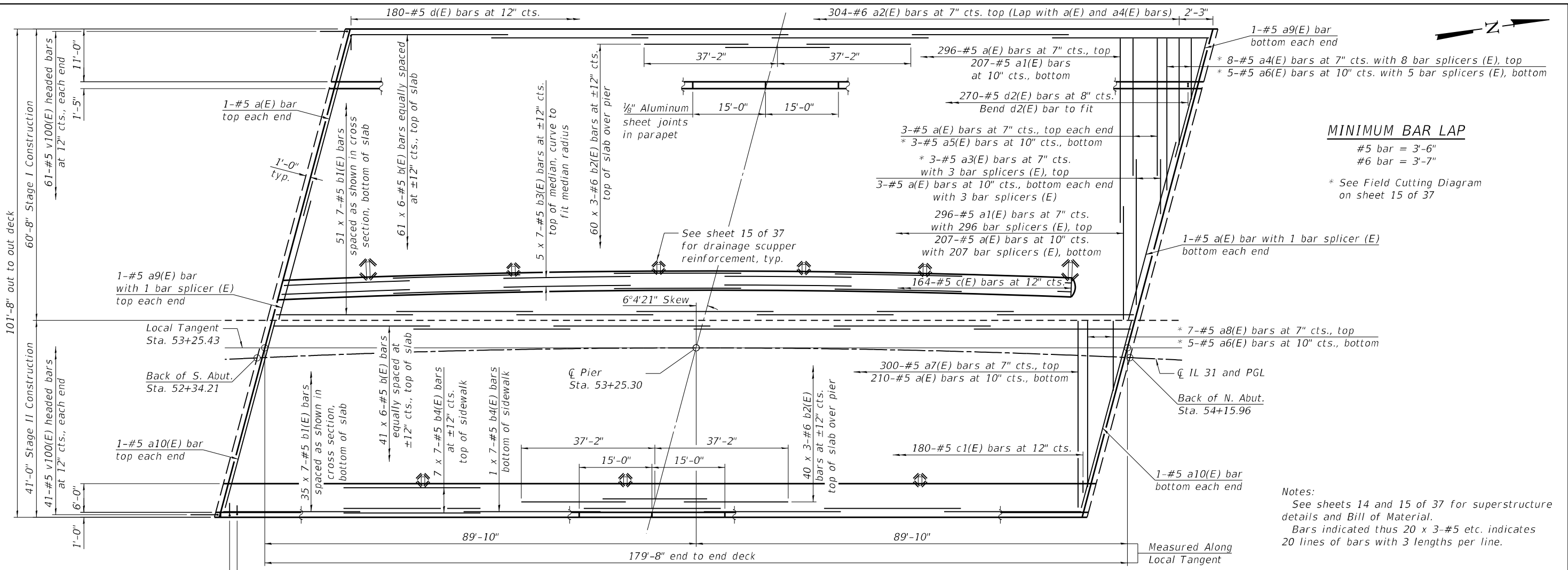
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

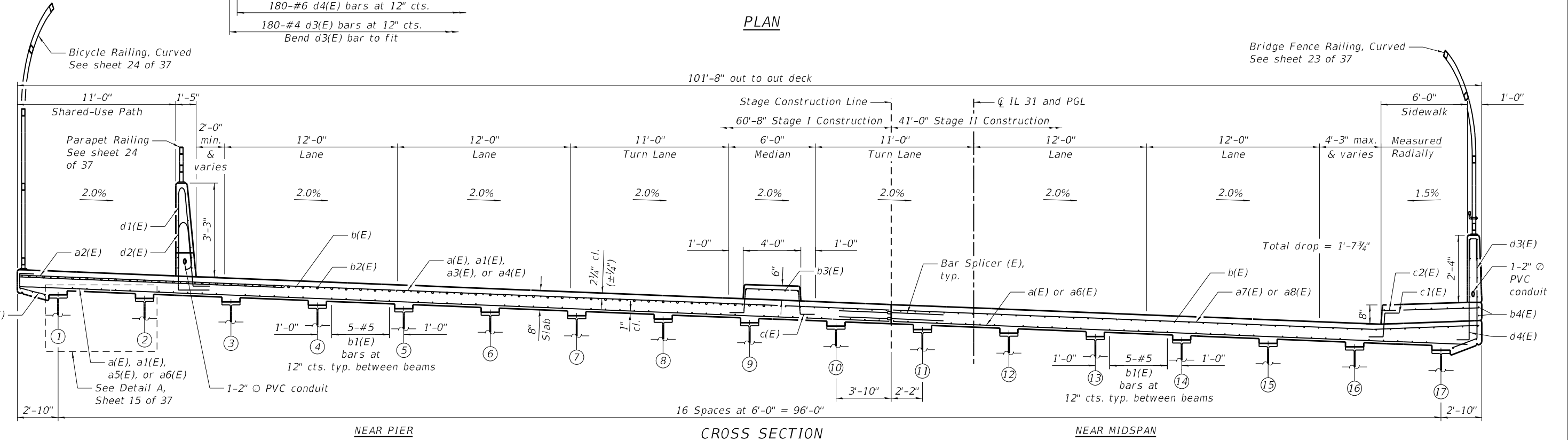
TOP OF APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 045-2106

SCALE: SHEET 12 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	269
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



**PLAN**



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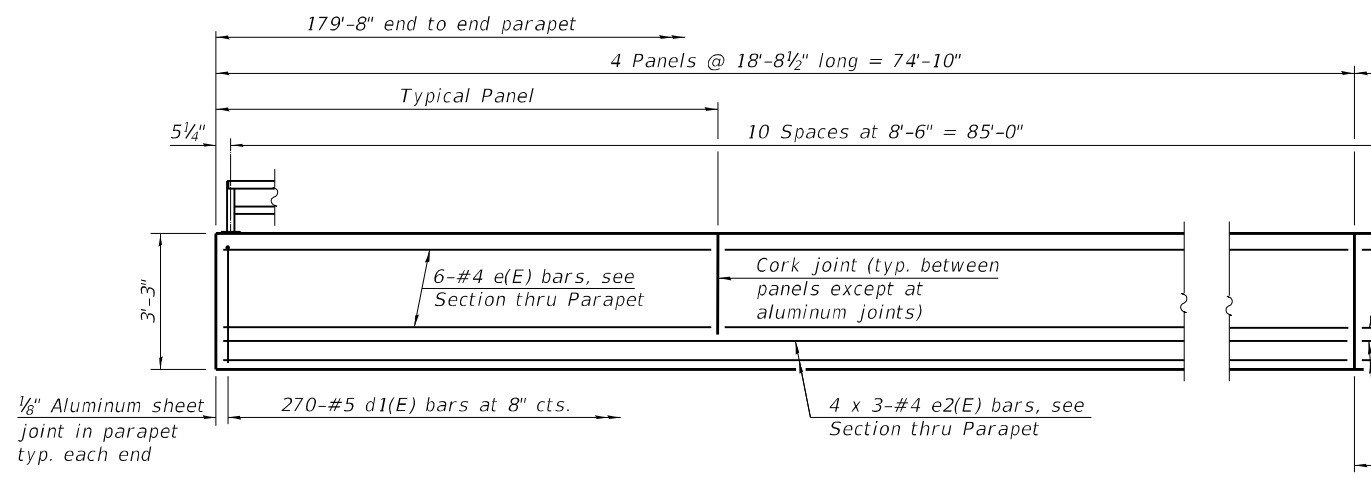
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

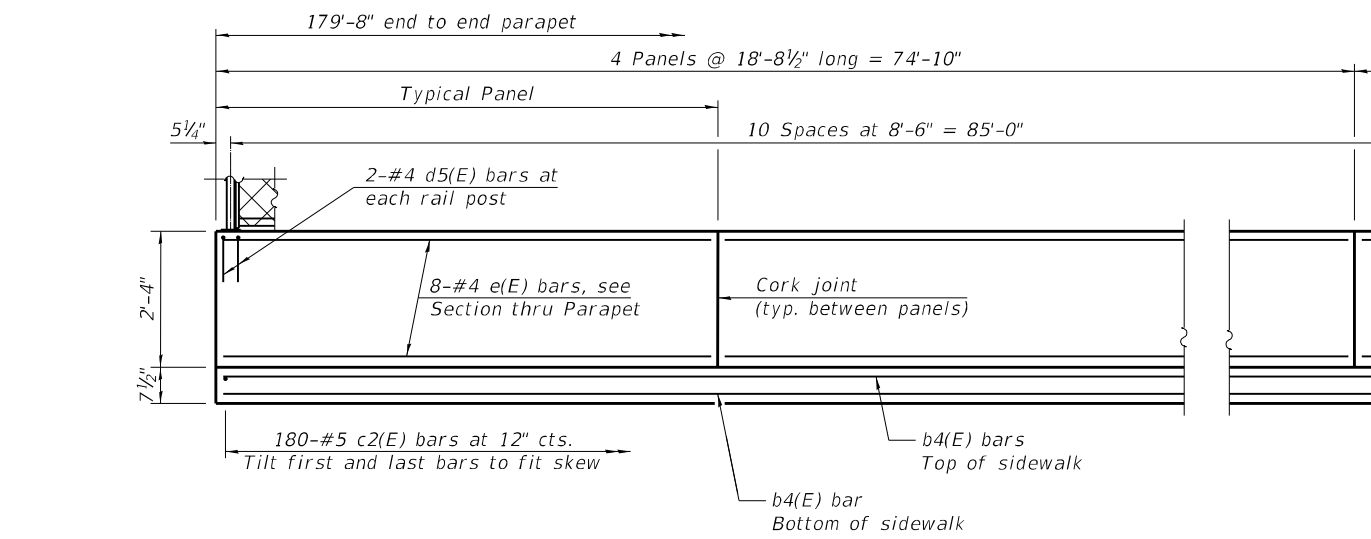
**SUPERSTRUCTURE (PLAN AND CROSS SECTION)  
STRUCTURE NO. 045-2106**

SCALE: SHEET 13 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	270
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

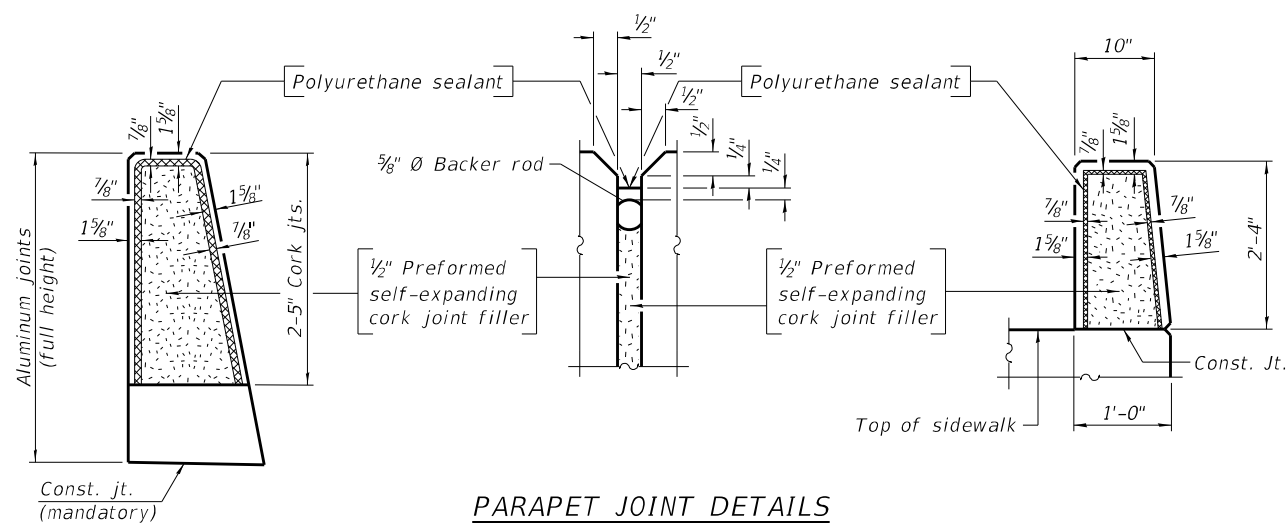


INSIDE ELEVATION OF WEST PARAPET

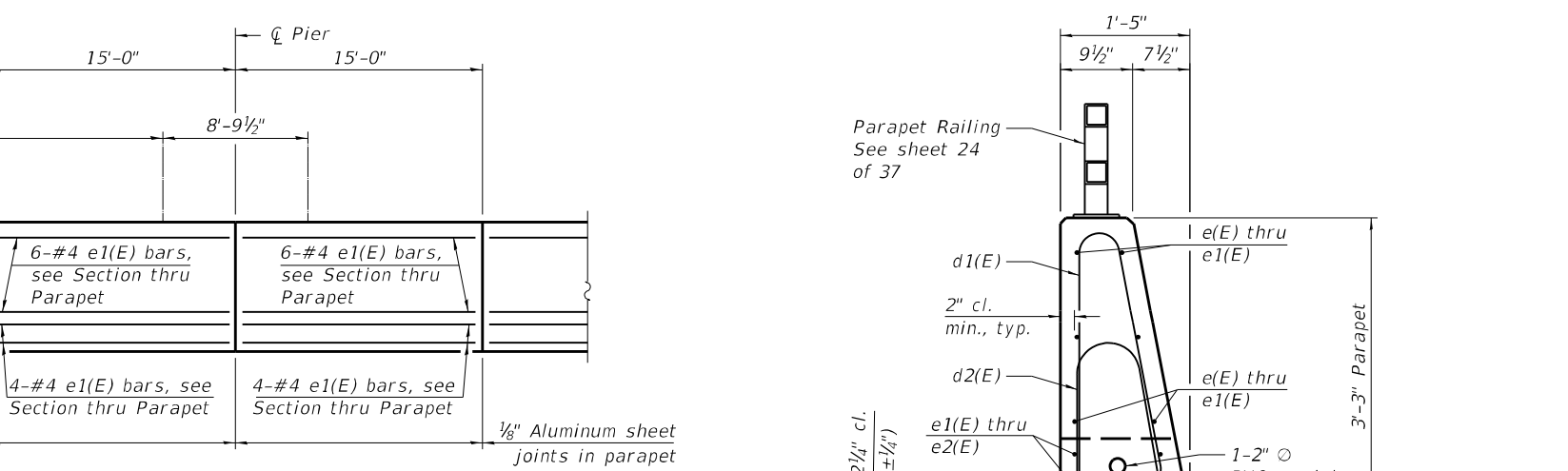


INSIDE ELEVATION OF EAST PARAPET

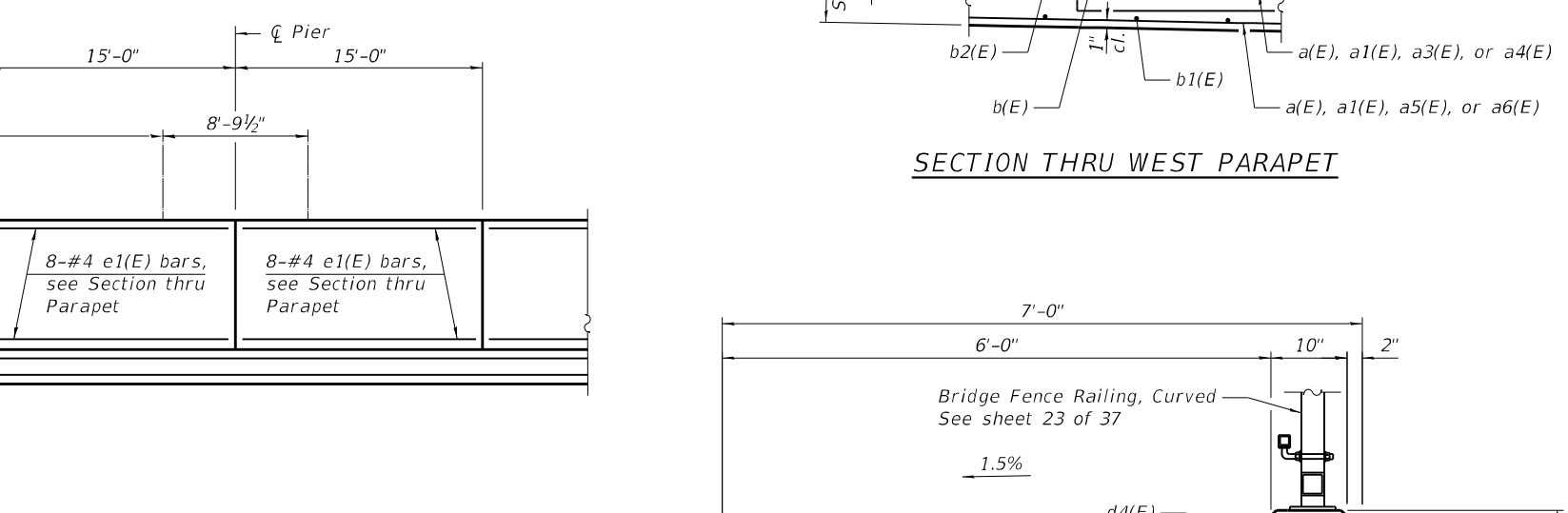
**MINIMUM BAR LAP**  
 #4 bar = 2'-5"  
 #5 bar = 3'-6"



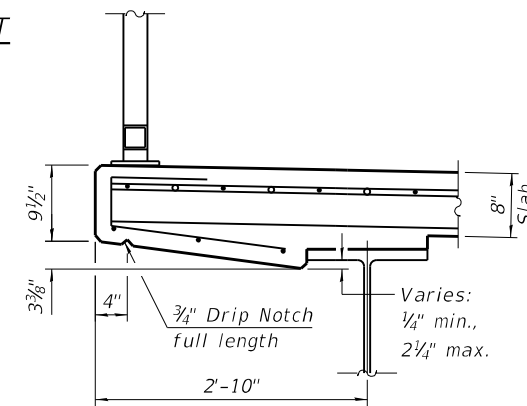
PARAPET JOINT DETAILS



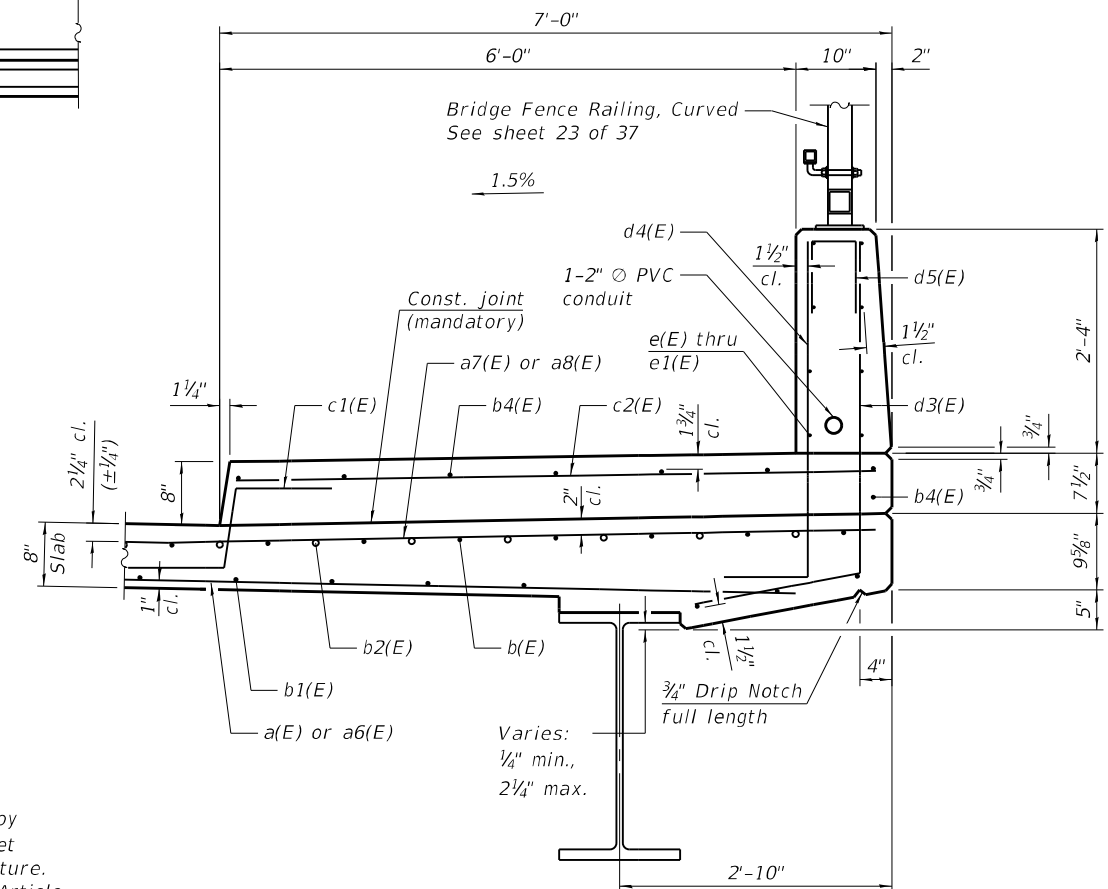
SECTION THRU WEST PARAPET



SECTION THRU EAST PARAPET



SECTION THRU WEST FASCIA



SECTION THRU SIDEWALK AND EAST PARAPET

Notes:  
 The 1/8" aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.  
 The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.  
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

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DEPARTMENT OF TRANSPORTATION

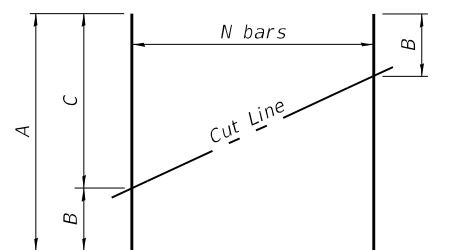
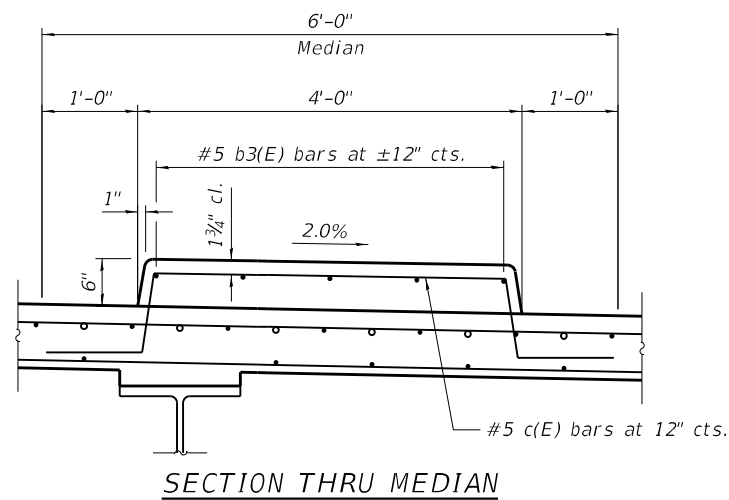
SUPERSTRUCTURE DETAILS 1  
STRUCTURE NO. 045-2106

SCALE: SHEET 14 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	271
CONTRACT NO. 62G41				

ILLINOIS FED. AID PROJECT

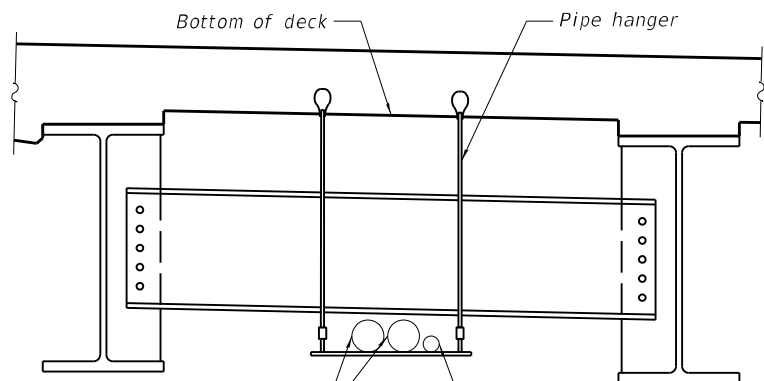




**FIELD CUTTING DIAGRAM**

Order a3(E), a4(E), a5(E), a6(E), and a8(E) bars full length. Cut as shown and use remainder of bars in opposite end of deck.

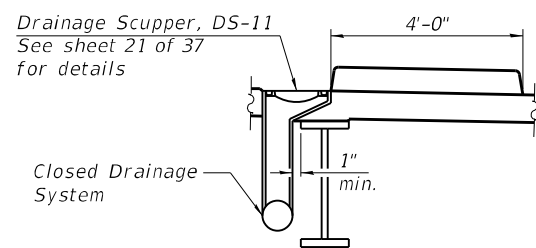
Bar	A	B	C	N
a3(E)	31'-4"	10'-2"	21'-2"	3
a4(E)	44'-4"	3'-0"	41'-4"	8
a5(E)	26'-8"	5'-6"	21'-2"	3
a6(E)	37'-4"	3'-0"	34'-4"	5
a8(E)	38'-10"	3'-0"	35'-10"	7



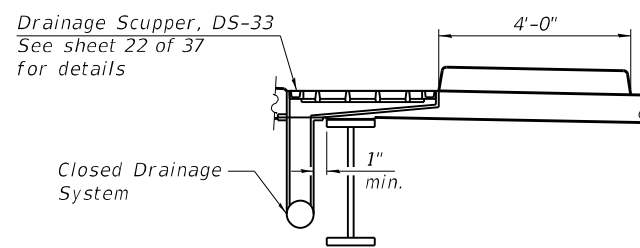
(2)-Conduit Attached to Structure, 4" Dia., Galvanized Steel See Electrical Plans for quantities  
 (1)-Conduit Attached to Structure, 1 1/4" Dia., PVC Coated Galvanized Steel See Electrical Plans for quantities

**DETAIL A**

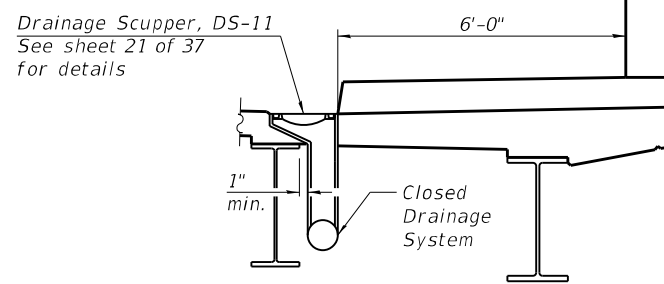
Note:  
 Pipe hangers and support hardware shall be provided for conduits at points not more than 5'-0" on centers or according to the manufacturer recommendations, whichever is less.



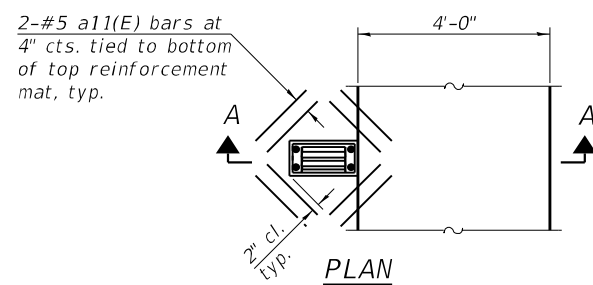
**SECTION A-A**



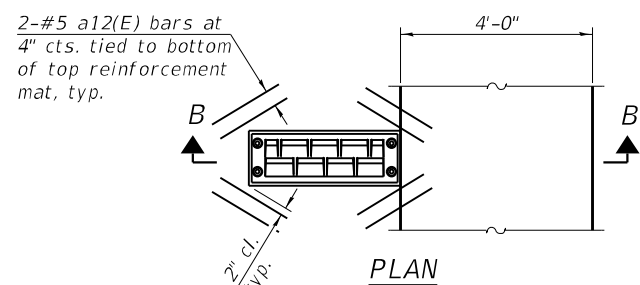
**SECTION B-B**



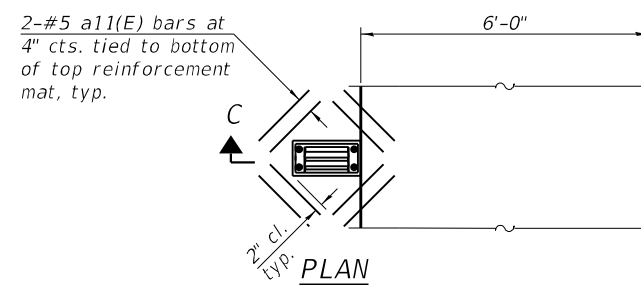
**SECTION C-C**



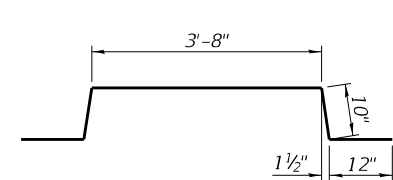
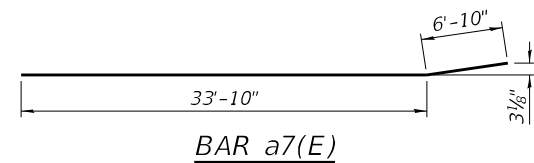
Note:  
 Cut longitudinal reinforcement to clear drainage scuppers.



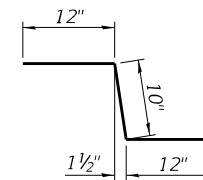
Note:  
 Cut longitudinal reinforcement to clear drainage scuppers.



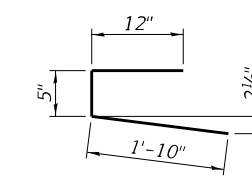
Note:  
 Cut longitudinal reinforcement to clear drainage scuppers.



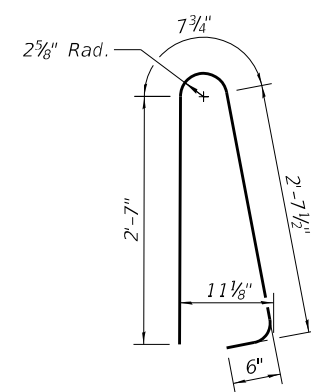
**BAR c(E)**



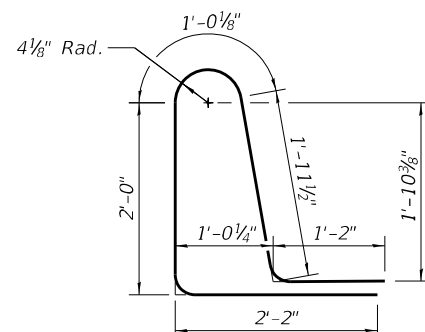
**BAR c1(E)**



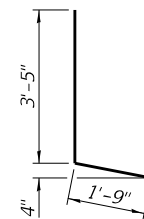
**BAR d(E)**



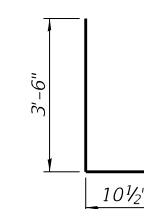
**BAR d1(E)**



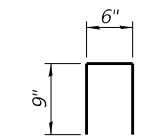
**BAR d2(E)**



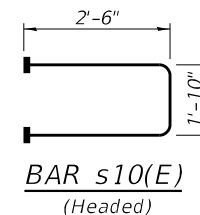
**BAR d3(E)**



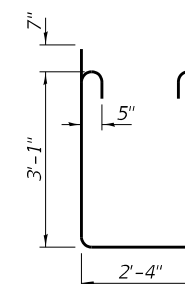
**BAR d4(E)**



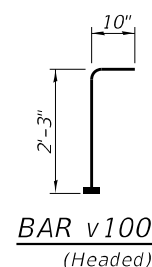
**BAR d5(E)**



**BAR s10(E)**  
 (Headed)



**BAR s11(E)**



**BAR v100(E)**  
 (Headed)

**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	729	#5	40'-2"	—
a1(E)	503	#5	23'-8"	—
a2(E)	304	#6	18'-4"	—
a3(E)	3	#5	31'-4"	—
a4(E)	8	#5	44'-4"	—
a5(E)	3	#5	26'-8"	—
a6(E)	10	#5	37'-4"	—
a7(E)	300	#5	40'-8"	—
a8(E)	7	#5	38'-10"	—
a9(E)	4	#5	24'-1"	—
a10(E)	4	#5	40'-10"	—
a11(E)	56	#5	1'-6"	—
a12(E)	16	#5	2'-0"	—
b(E)	612	#5	32'-10"	—
b1(E)	602	#5	28'-8"	—
b2(E)	300	#6	27'-2"	—
b3(E)	35	#5	26'-6"	—
b4(E)	56	#5	28'-8"	—
c(E)	164	#5	7'-4"	—
c1(E)	180	#5	2'-10"	—
c2(E)	180	#5	6'-8"	—
d(E)	180	#5	3'-3"	—
d1(E)	270	#5	6'-5"	—
d2(E)	270	#5	8'-4"	—
d3(E)	180	#4	5'-2"	—
d4(E)	180	#6	4'-5"	—
d5(E)	44	#4	2'-0"	—
e(E)	112	#4	18'-4"	—
e1(E)	36	#4	14'-8"	—
e2(E)	24	#4	26'-6"	—
m10(E)	24	#6	24'-5"	—
m11(E)	96	#6	5'-7"	—
m12(E)	12	#6	2'-5"	—
m13(E)	16	#6	22'-7"	—
s10(E)	168	#5	6'-10"	—
s11(E)	168	#5	9'-8"	—
v100(E)	204	#5	3'-1"	—
Reinforcement Bars, Epoxy Coated		Lbs.	137,160	
Concrete Superstructure		Cu. Yds.	644.9	

Bars indicated thus 1 x 2-#4 etc. indicates 1 line of bars with 2 lengths per line.

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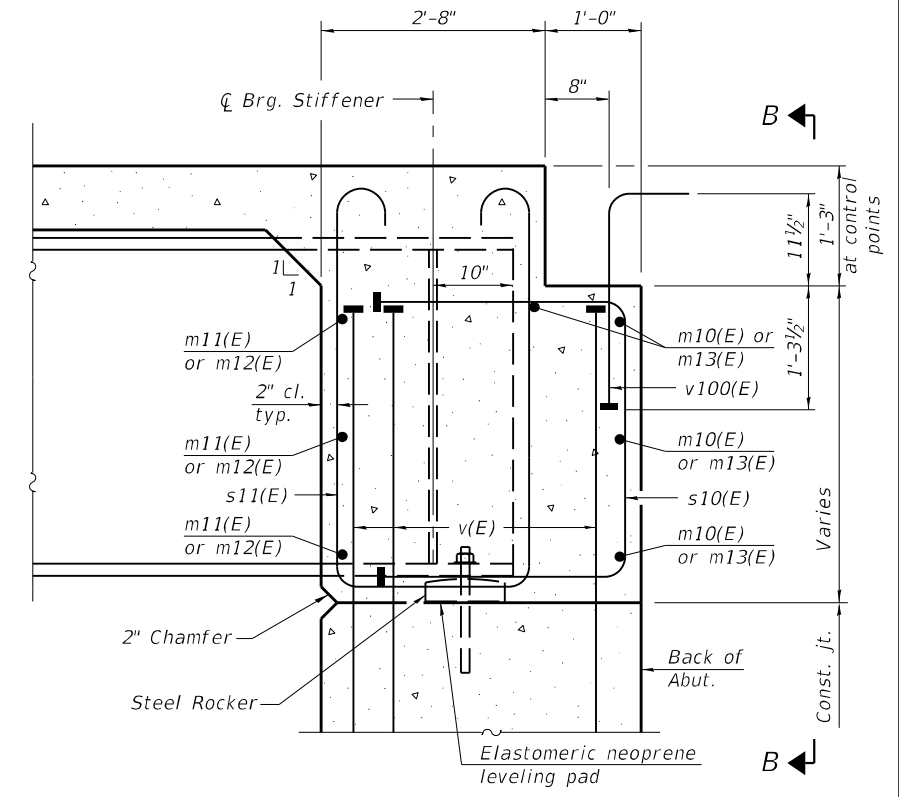
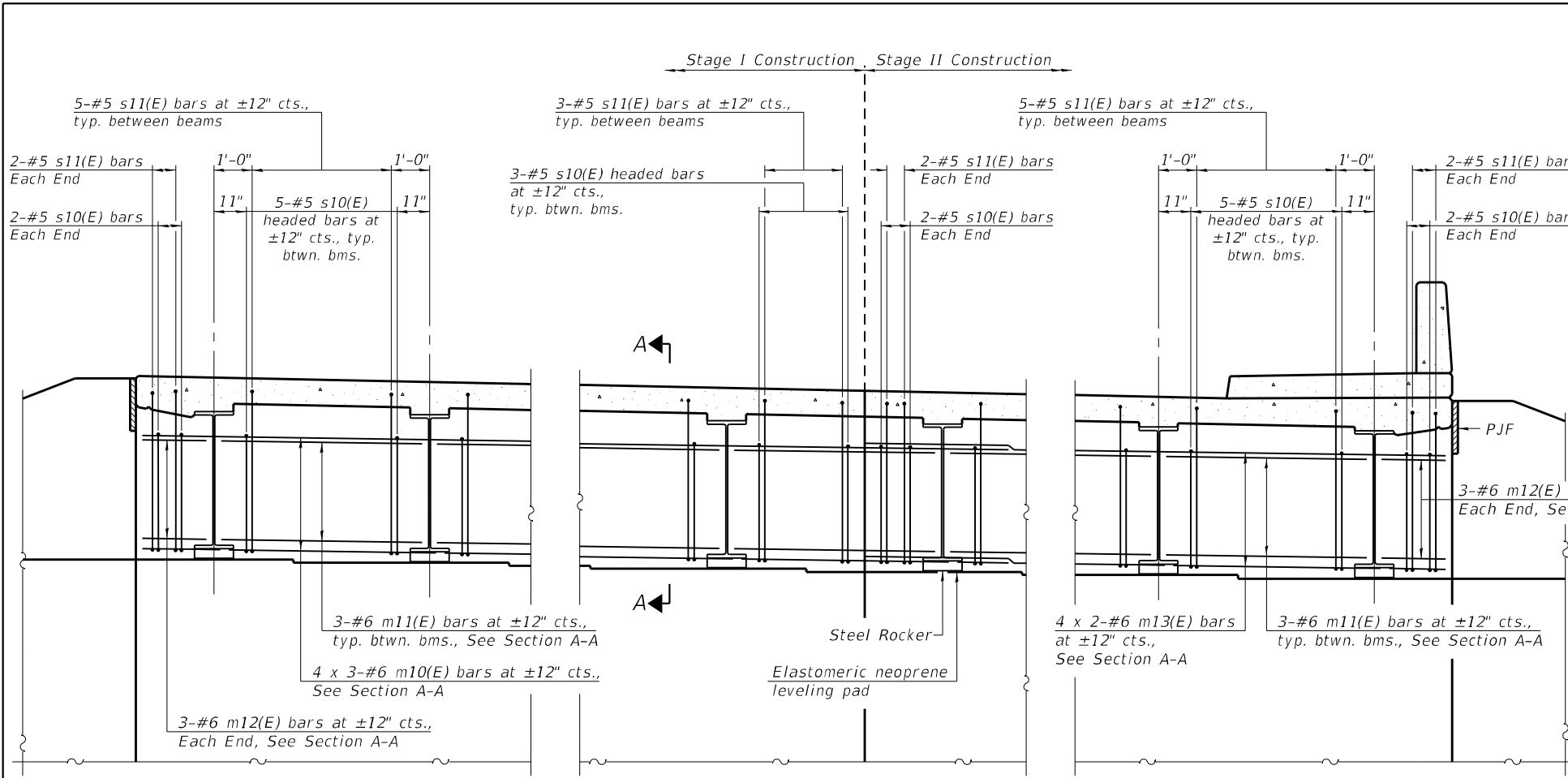
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**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS 2  
 STRUCTURE NO. 045-2106**

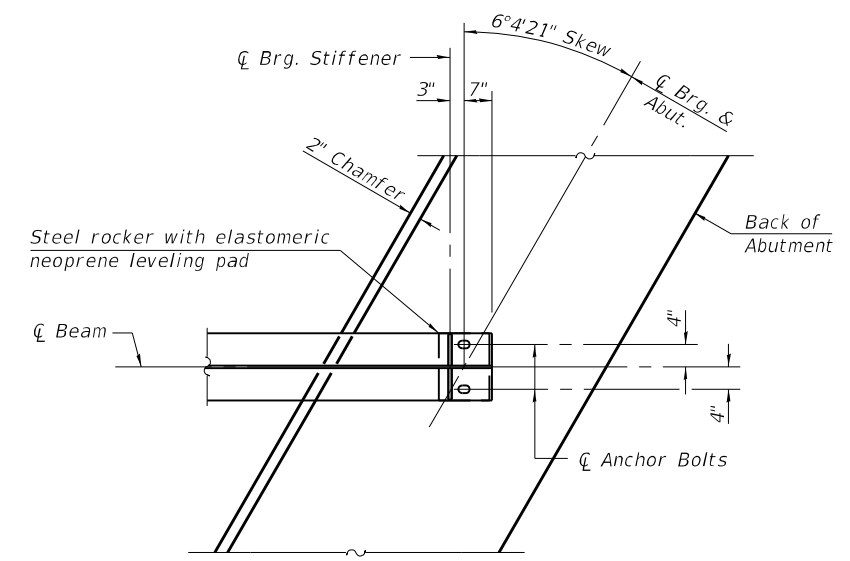
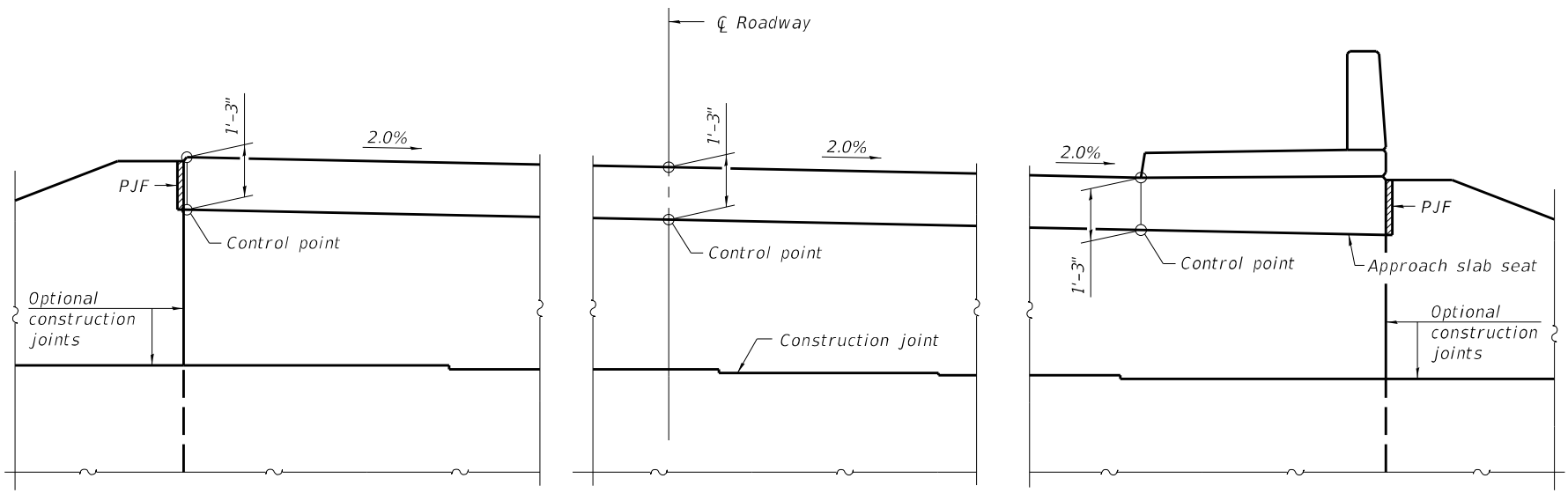
SCALE: SHEET 15 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	272
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	



**DIAPHRAGM AT ABUTMENT**

**MINIMUM BAR LAP**  
#6 bar = 4'-0"



Notes:  
See sheet 15 of 37 for superstructure details and Bill of Material.  
See sheets 17 and 18 of 37 for PJF details.  
The s10(E) and s11(E) bars shall be placed parallel to the beams.  
Spacing for these bars shall be at right angles to the beams.  
The approach slab seat shall have a constant slope determined from the control points shown.

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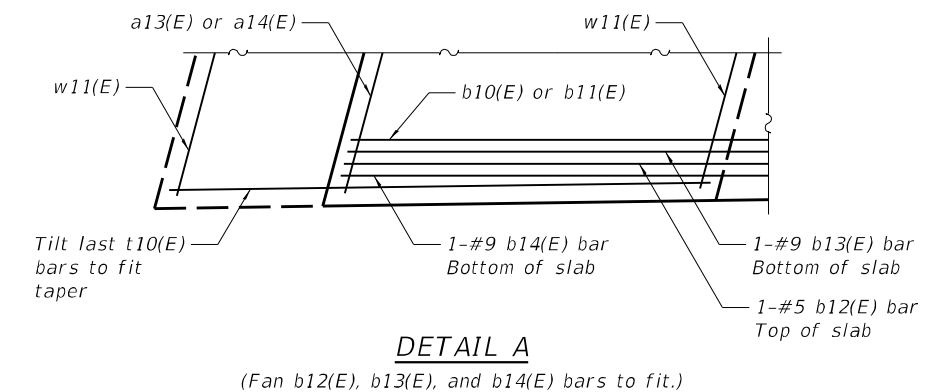
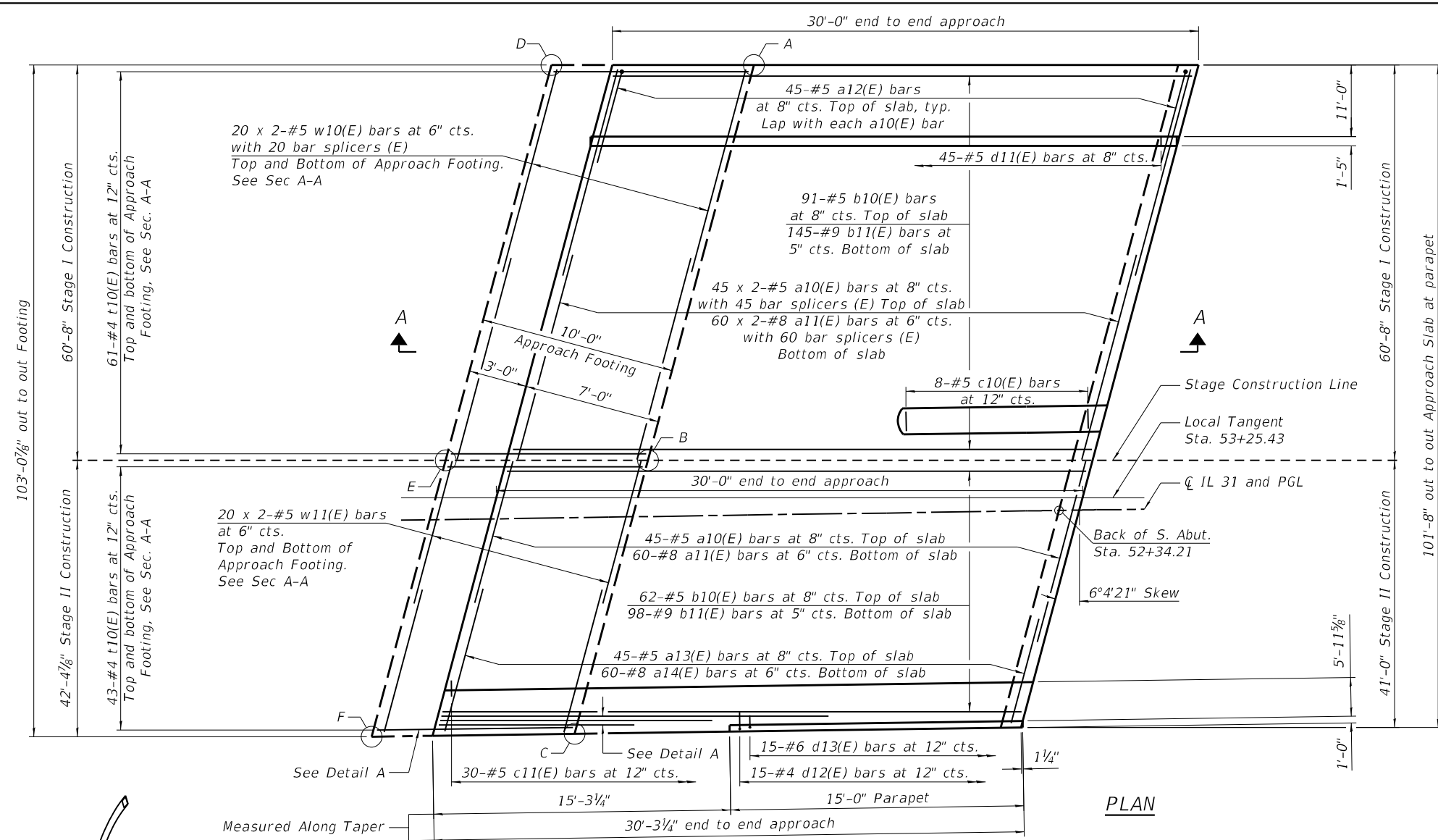
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DIAPHRAGM DETAILS  
STRUCTURE NO. 045-2106**

SCALE: SHEET 16 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	273
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

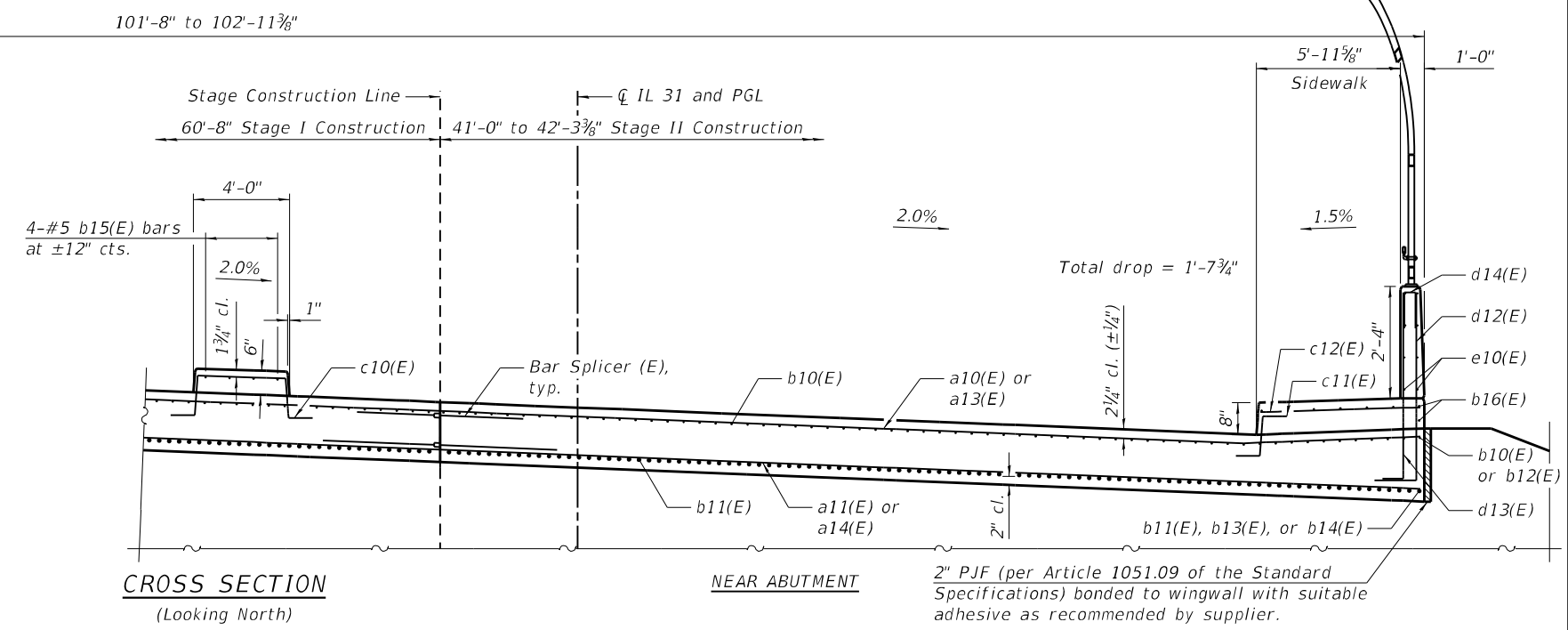
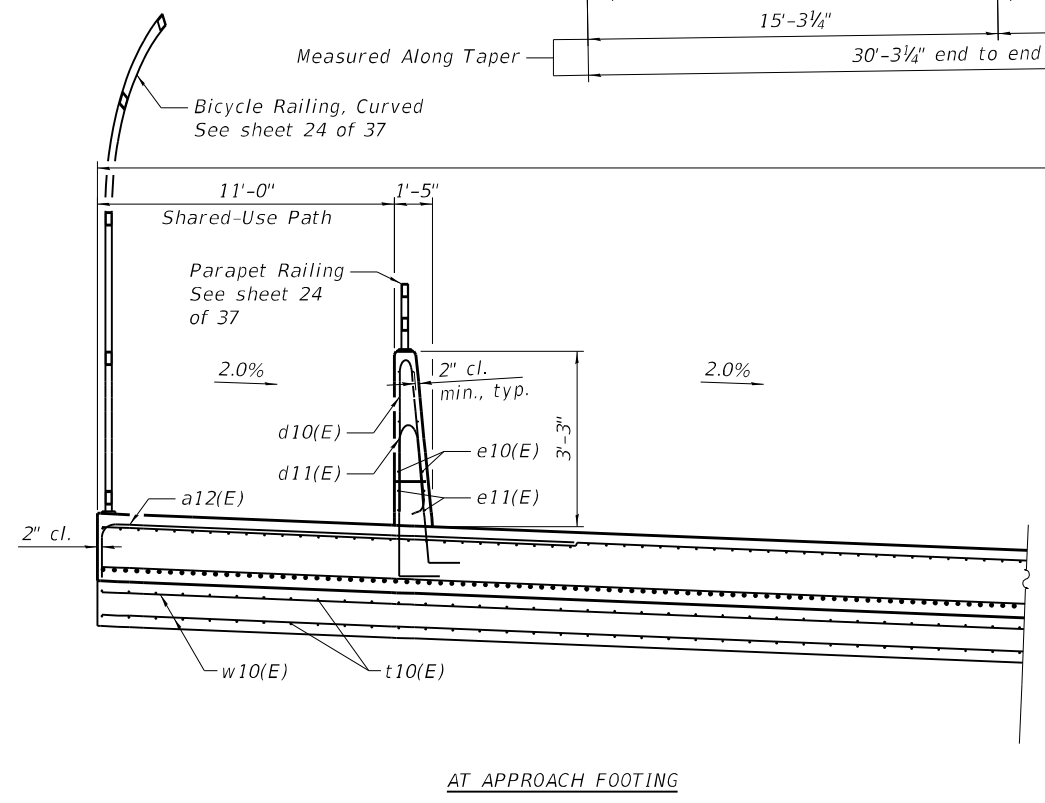


**TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING**

South Approach		
Point/Location	Top	Bottom
A - 52+22.63	755.35	754.52
B - 52+13.45	753.94	753.10
C - 52+07.11	752.95	752.12
D - 52+12.58	755.13	754.30
E - 52+03.41	753.71	752.87
F - 51+97.00	752.71	751.87

**MINIMUM BAR LAP**  
 #5 bar = 3'-4"  
 #5 bar = 3'-2" (Footing)  
 #8 bar = 4'-9"

Notes:  
 See sheet 19 of 37 for approach slab details and Bill of Material.  
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



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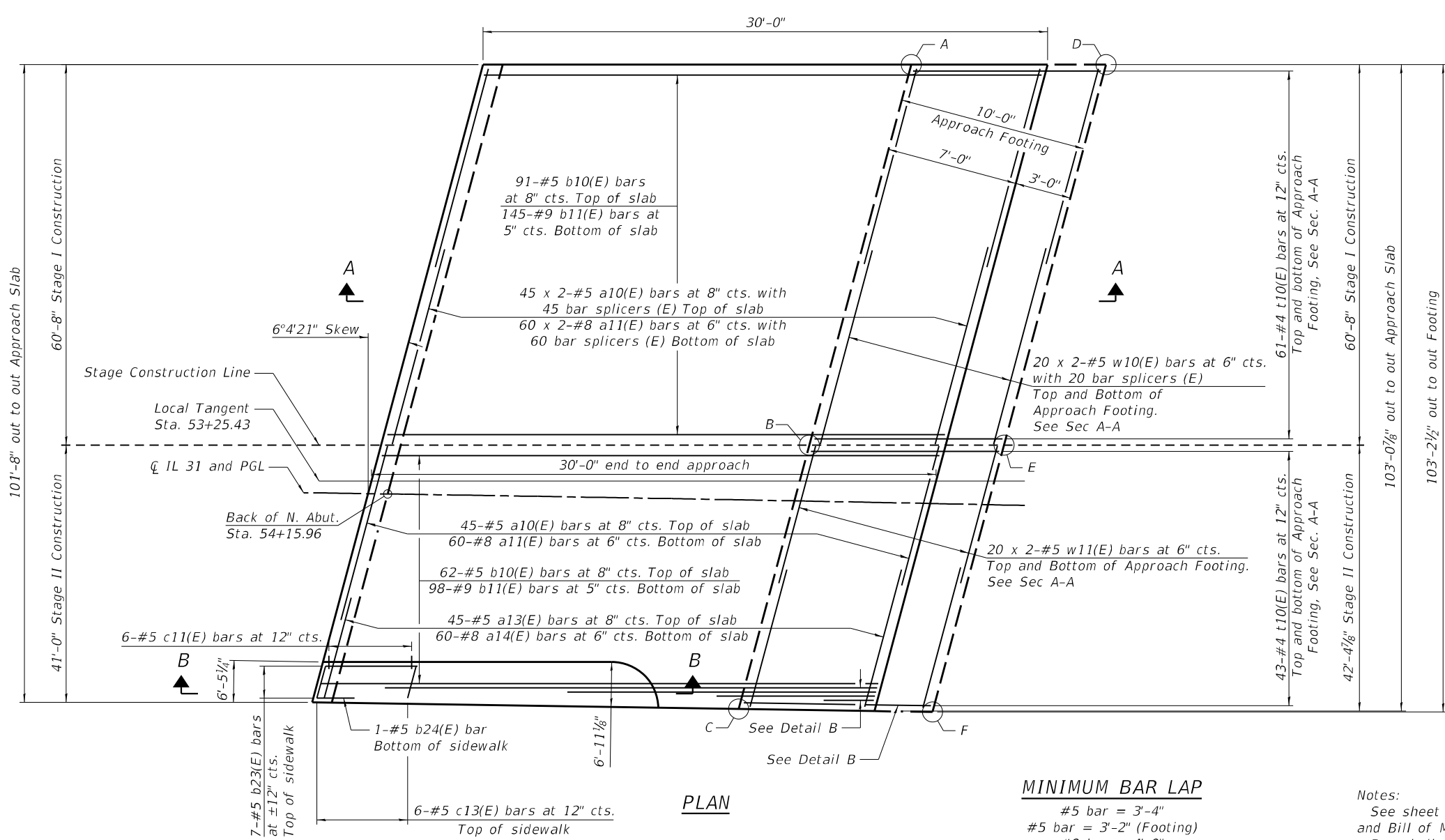
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**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

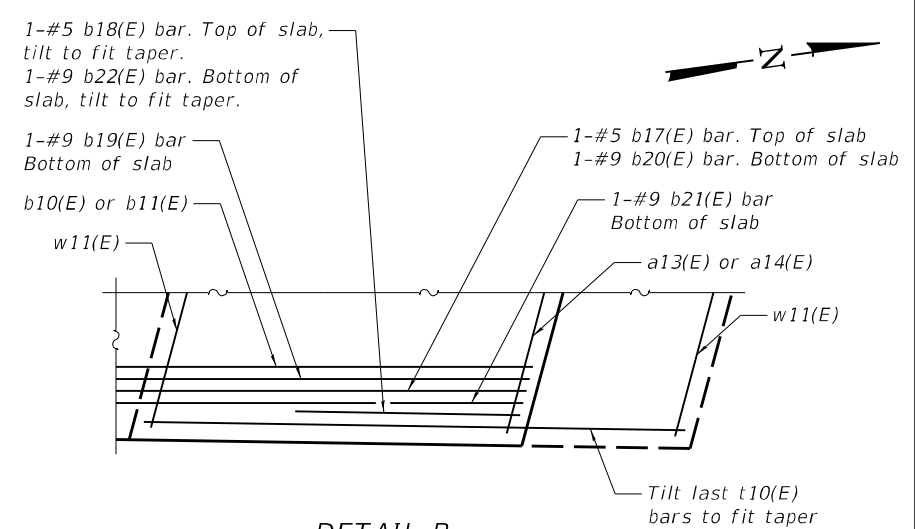
**SOUTH APPROACH SLAB STRUCTURE NO. 045-2106**

SCALE: SHEET 17 OF 37 SHEETS STA. TO STA.

F.A.P. RTE. 345A	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 274
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

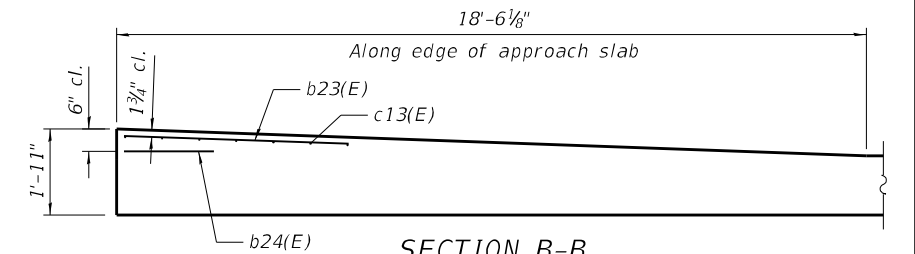


**PLAN**



**DETAIL B**

(Fan b17(E), b18(E), b19(E), b20(E), b21(E), and b22(E) bars to fit.)



**SECTION B-B**

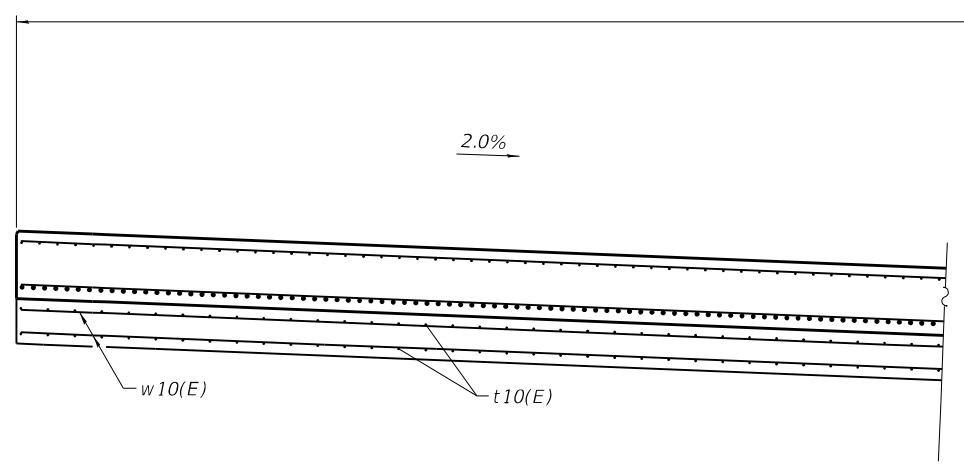
**MINIMUM BAR LAP**

- #5 bar = 3'-4"
- #5 bar = 3'-2" (Footing)
- #8 bar = 4'-9"

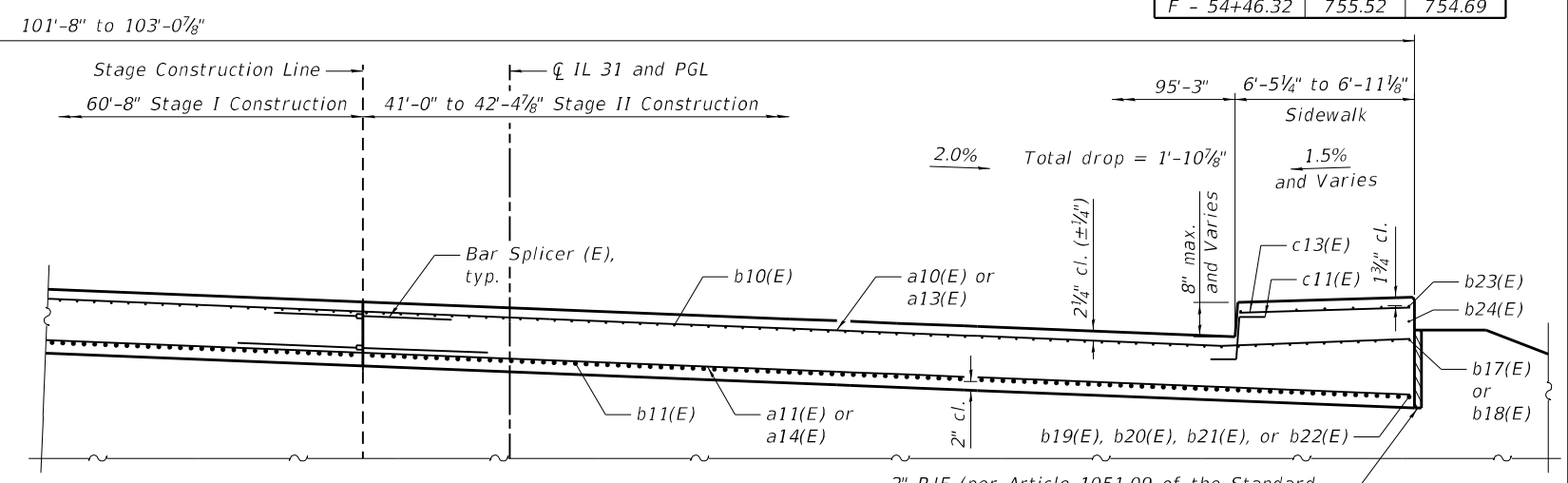
Notes:  
See sheet 19 of 37 for approach slab details and Bill of Material.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

**TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING**

North Approach		
Point/Location	Top	Bottom
A - 54+41.19	757.60	756.76
B - 54+38.27	756.38	755.55
C - 54+36.14	755.54	754.71
D - 54+50.88	757.58	756.75
E - 54+48.26	756.37	755.54
F - 54+46.32	755.52	754.69



**AT APPROACH FOOTING**



**CROSS SECTION**

(Looking North)

**NEAR ABUTMENT**

2" PJF (per Article 1051.09 of the Standard Specifications) bonded to wingwall with suitable adhesive as recommended by supplier.

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USER NAME =	DESIGNED - CMS	REVISED -
DRAWN - CMS	REVISED -	
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PLOT DATE =	DATE - 03/24/2023	REVISED -

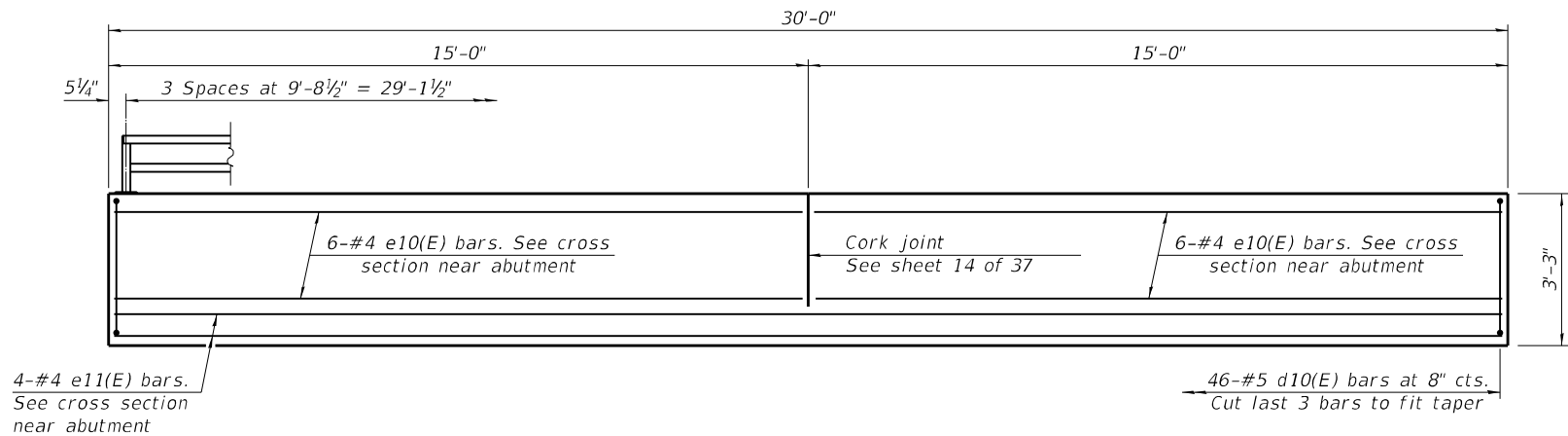
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**NORTH APPROACH SLAB  
STRUCTURE NO. 045-2106**

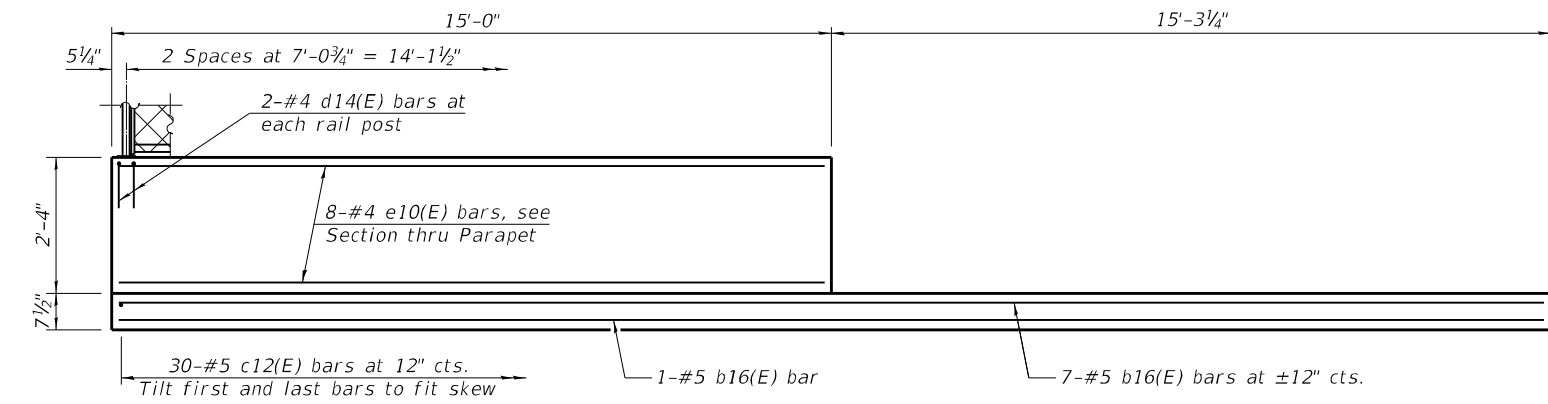
SCALE: SHEET 18 OF 37 SHEETS STA. TO STA.

F.A.P. RTE. 345A	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 275
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

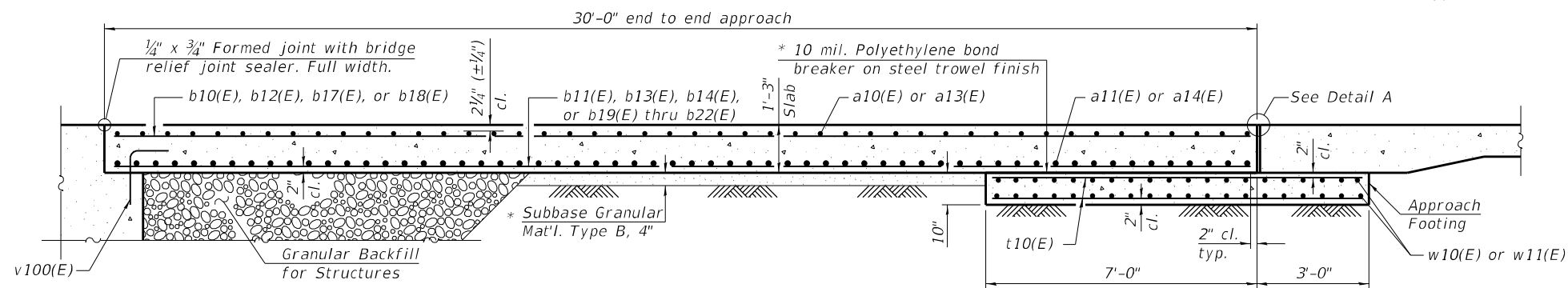
Notes:  
 The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.  
 Parapet concrete shall be paid for as Concrete Superstructure.  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure (Q<sub>max</sub>) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 37.



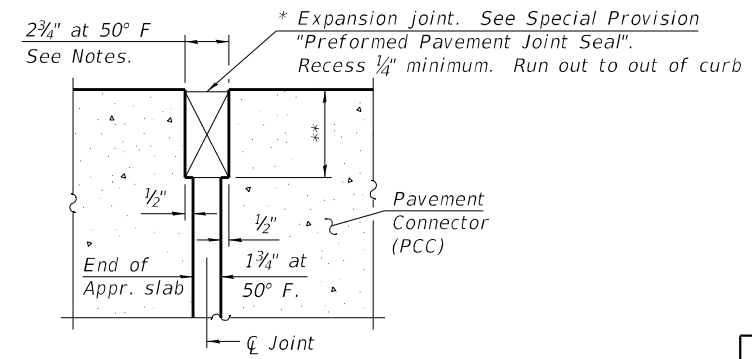
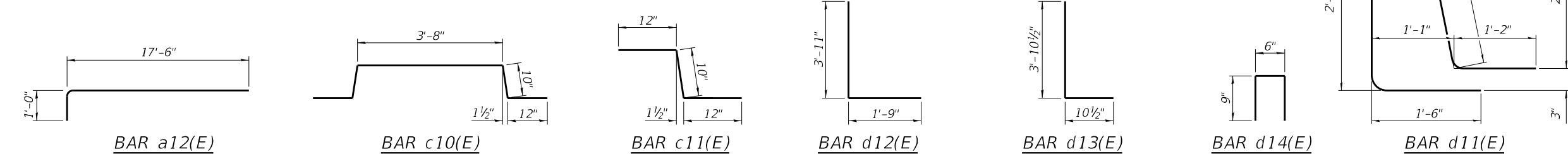
INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET

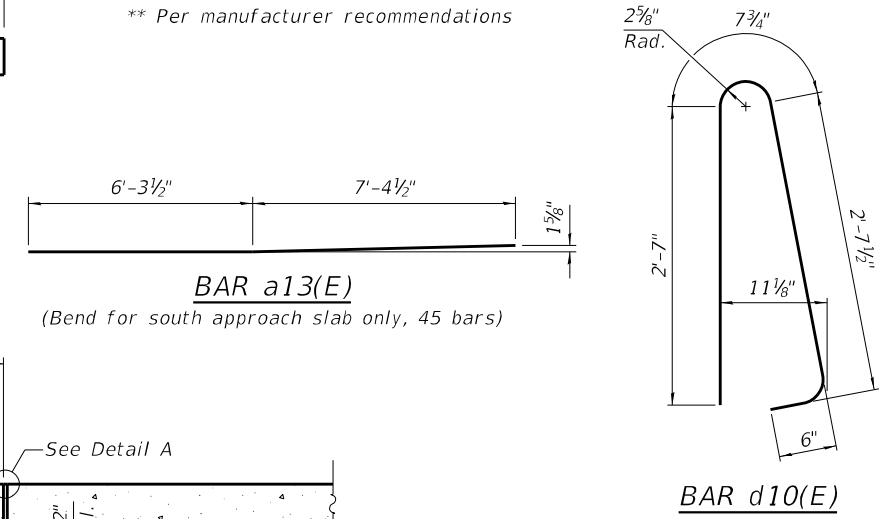


SECTION A-A



DETAIL A  
 (@ Rt. L's)

\* Cost included with Concrete Superstructure (Approach Slab).  
 \*\* Per manufacturer recommendations



BAR a13(E)  
 (Bend for south approach slab only, 45 bars)

BAR d10(E)

TWO APPROACHES  
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	270	#5	32'-0"	—
a11(E)	360	#8	32'-9"	—
a12(E)	45	#5	18'-6"	—
a13(E)	90	#5	13'-8"	—
a14(E)	120	#8	14'-4"	—
b10(E)	306	#5	29'-8"	—
b11(E)	486	#9	29'-8"	—
b12(E)	1	#5	13'-11"	—
b13(E)	1	#9	19'-10"	—
b14(E)	1	#9	10'-0"	—
b15(E)	4	#5	7'-9"	—
b16(E)	8	#5	29'-9"	—
b17(E)	1	#5	15'-6"	—
b18(E)	1	#5	1'-4"	—
b19(E)	1	#9	26'-2"	—
b20(E)	1	#9	17'-4"	—
b21(E)	1	#9	8'-5"	—
b22(E)	1	#9	4'-0"	—
b23(E)	7	#5	5'-0"	—
b24(E)	1	#5	2'-0"	—
c10(E)	8	#5	7'-4"	—
c11(E)	36	#5	2'-10"	—
c12(E)	30	#5	6'-7"	—
c13(E)	6	#5	6'-1"	—
d10(E)	45	#5	6'-5"	U
d11(E)	45	#5	8'-6"	U
d12(E)	15	#4	5'-8"	L
d13(E)	15	#6	4'-9"	L
d14(E)	6	#4	2'-0"	Π
e10(E)	20	#4	14'-8"	—
e11(E)	4	#4	29'-8"	—
t10(E)	416	#4	9'-8"	—
w10(E)	160	#5	31'-11"	—
w11(E)	160	#5	22'-10"	—
Concrete Superstructure		Cu. Yd.	12.3	
Concrete Superstructure (Approach Slab)		Cu. Yd.	284.3	
Concrete Structures		Cu. Yd.	63.9	
Reinforcement Bars, Epoxy Coated		Pound	101,930	

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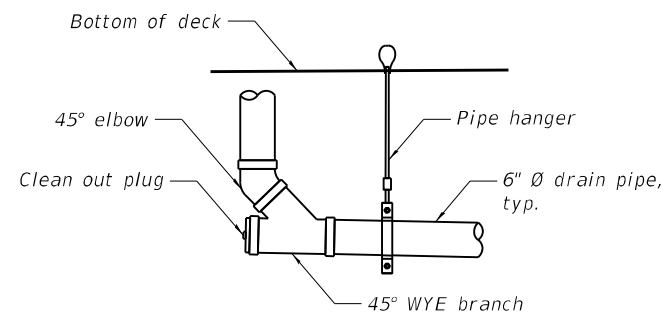
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

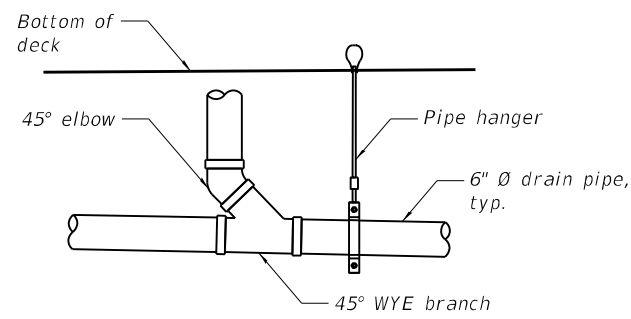
APPROACH SLAB DETAILS  
 STRUCTURE NO. 045-2106

SCALE: SHEET 19 OF 37 SHEETS STA. TO STA.

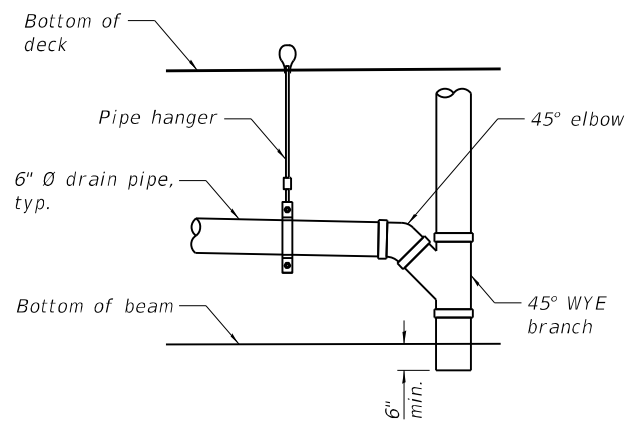
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	276
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



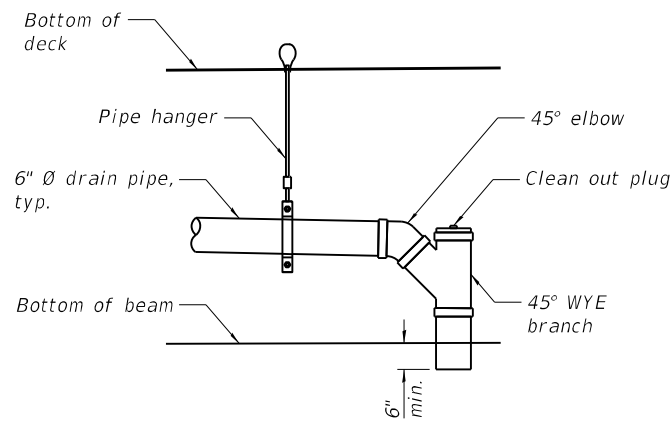
DETAIL 1



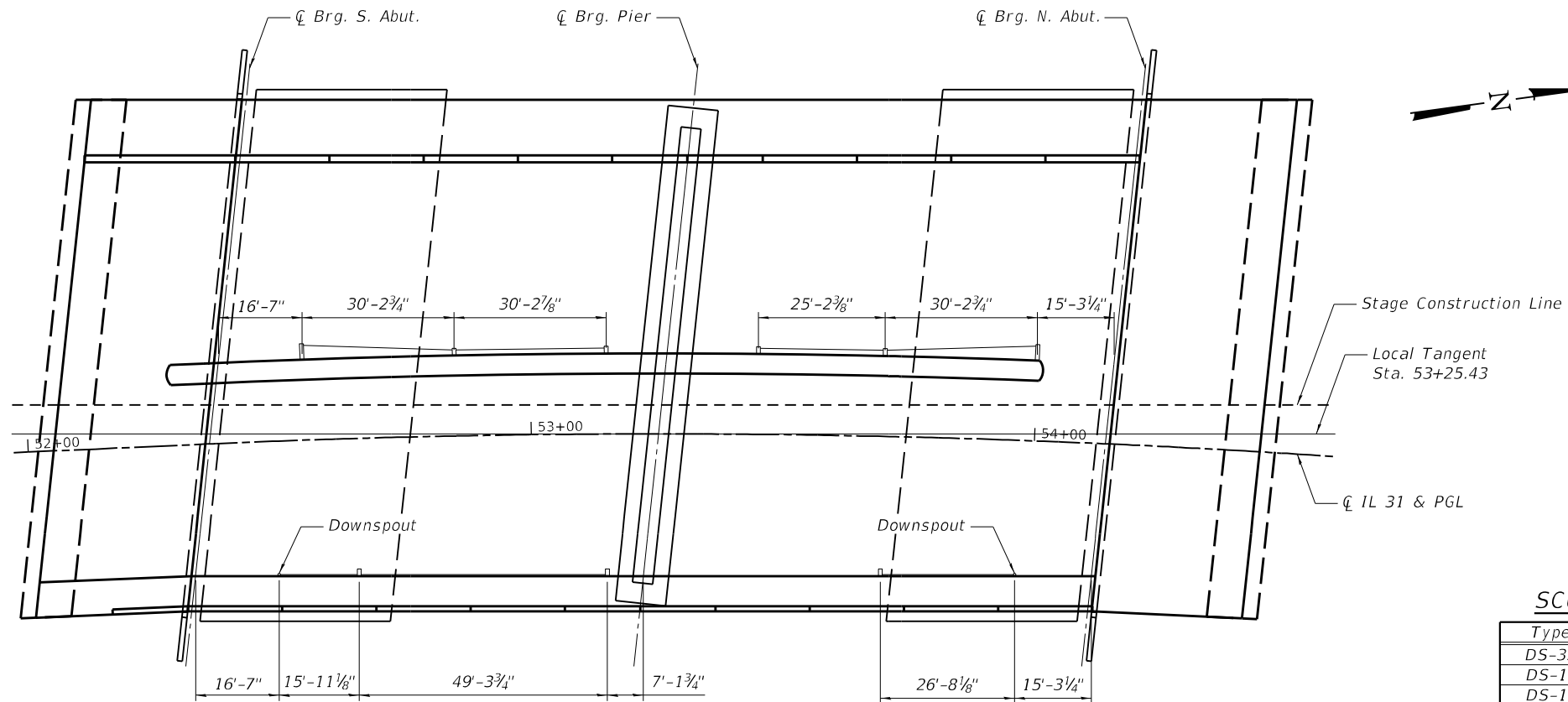
DETAIL 2



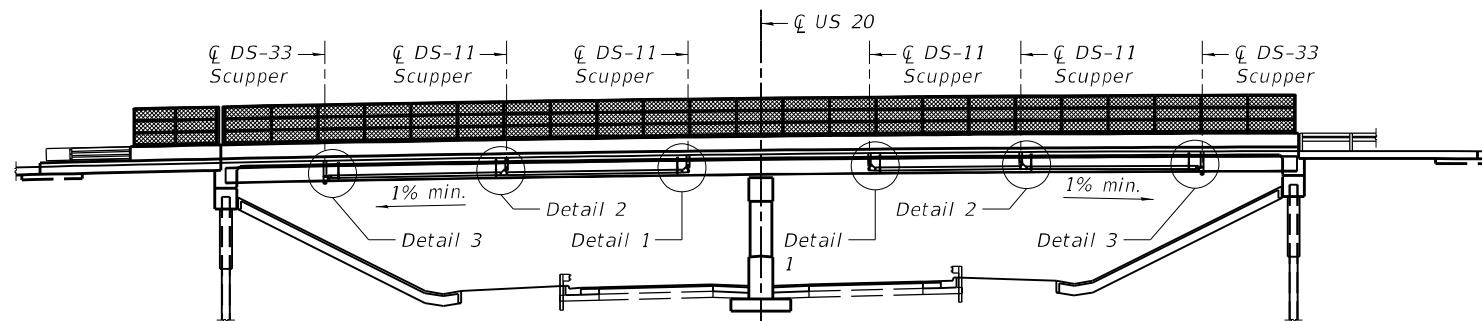
DETAIL 3



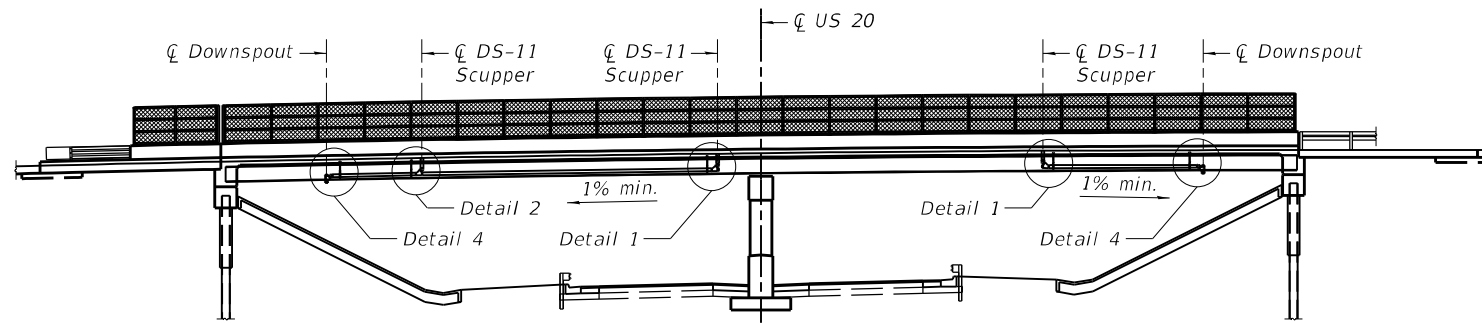
DETAIL 4



PLAN



ELEVATION  
(Scuppers along median)



ELEVATION  
(Scuppers along sidewalk)

SCUPPER LOCATION

Type	Station	Offset
DS-33	52+55	16.00' LT
DS-11	52+65	27.37' RT
DS-11	52+85	16.00' LT
DS-11	53+15	16.00' LT
DS-11	53+15	28.24' RT
DS-11	53+45	16.00' LT
DS-11	53+70	16.00' LT
DS-11	53+70	27.78' RT
DS-33	54+00	16.00' LT

Offset measured from curb at scupper to  $\bar{C}$  IL 31 & PGL.

Notes:  
 For drainage scupper details, see sheets 21 and 22 of 37.  
 Pipe hangers shall be provided for all horizontal drain pipes at each fitting, cleanout, or change in direction and at intermediate points not more than 5'-0" on centers or according to the manufacturer recommendations, whichever is less.  
 Place drainage pipe and supports to avoid permanent steel bracing.  
 Pipe shall not extend below bottom of beam.

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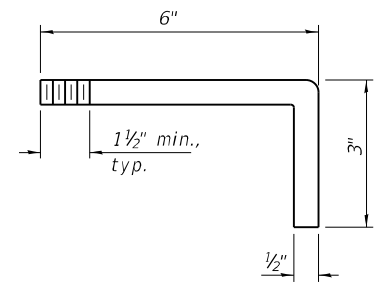
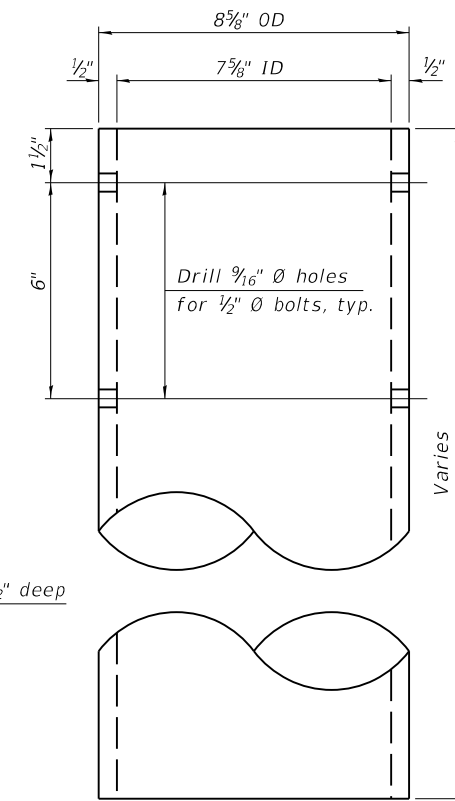
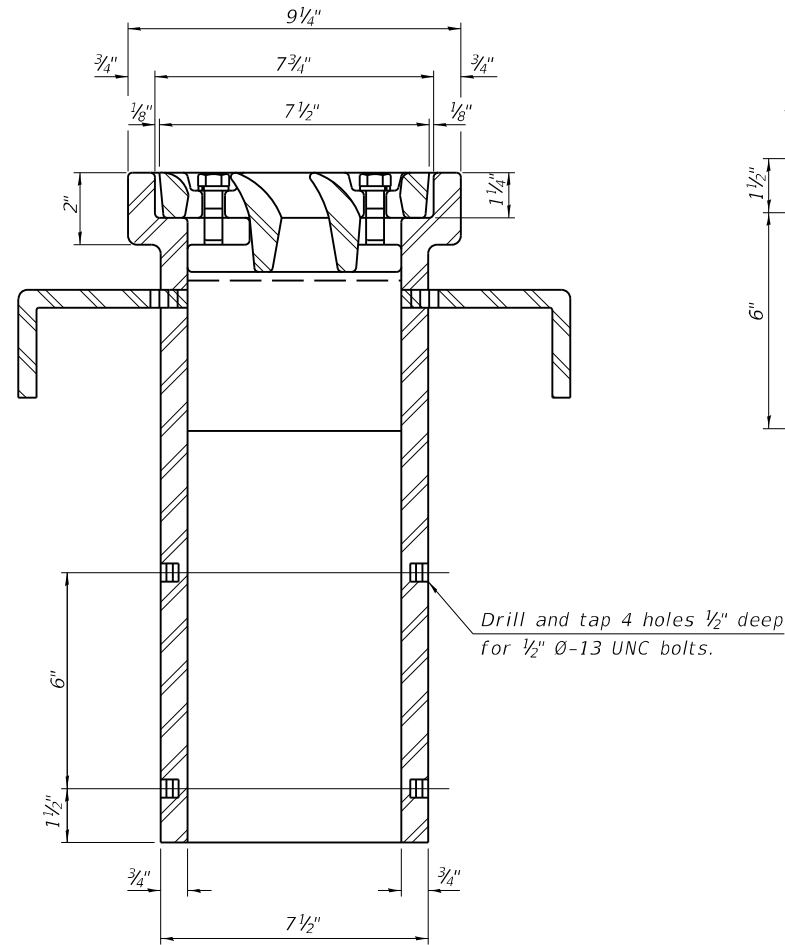
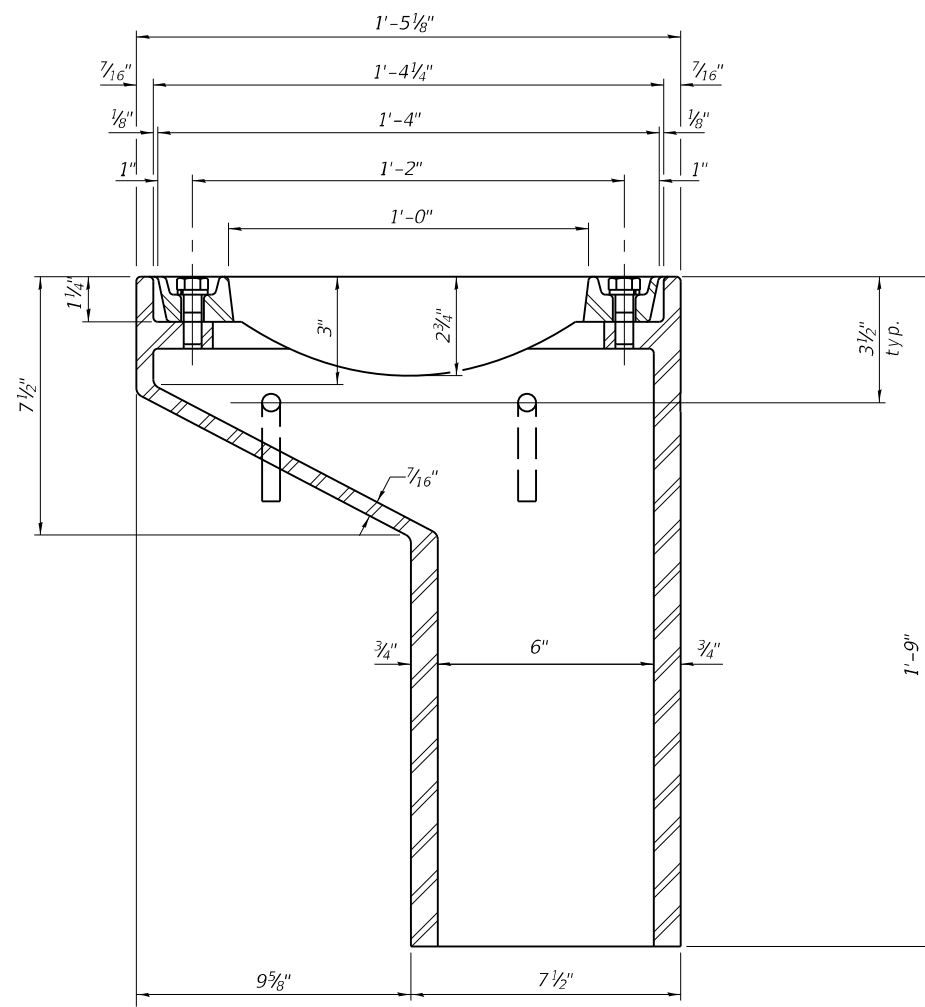
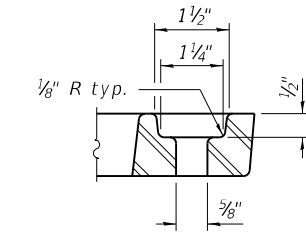
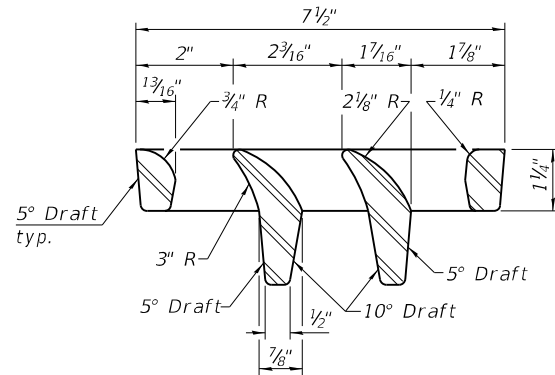
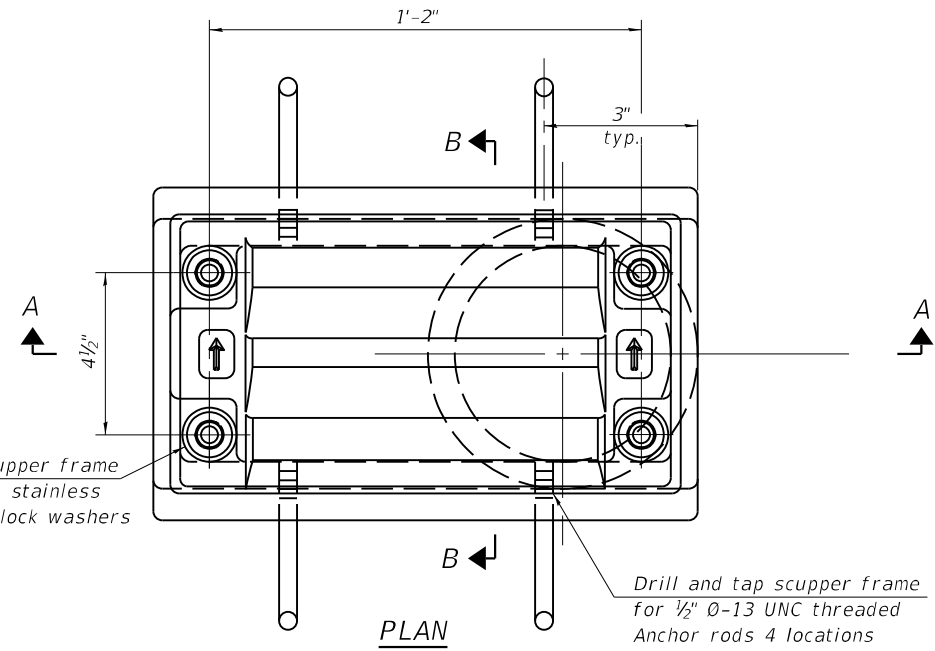
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PLOT DATE =	CHECKED - TCG	REVISED -
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS  
STRUCTURE NO. 045-2106

SCALE: SHEET 20 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	277
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 35B and AASHTO M306.

Bolts, anchor rods, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M232. As an alternate stainless steel may be used.

Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.

Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M111.

As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel.

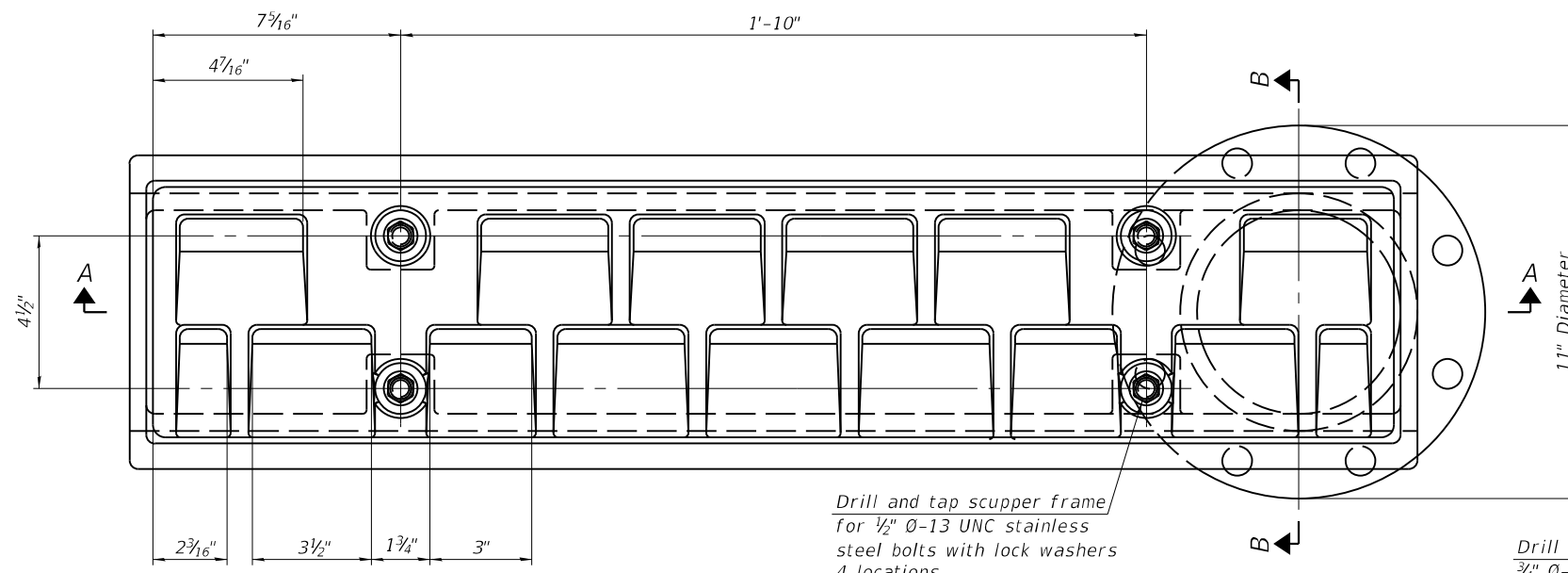
Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be treated as specified on sheet 2 of 37.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

Cost of the grate, frame, downspout, anchor rods, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scupper, DS-11.

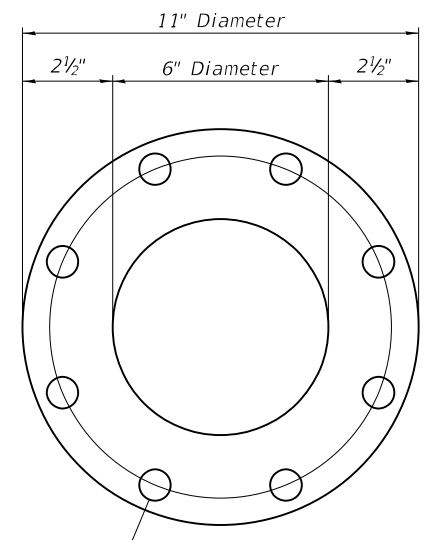
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	7



Drill and tap scupper frame for 1/2" Ø-13 UNC stainless steel bolts with lock washers 4 locations

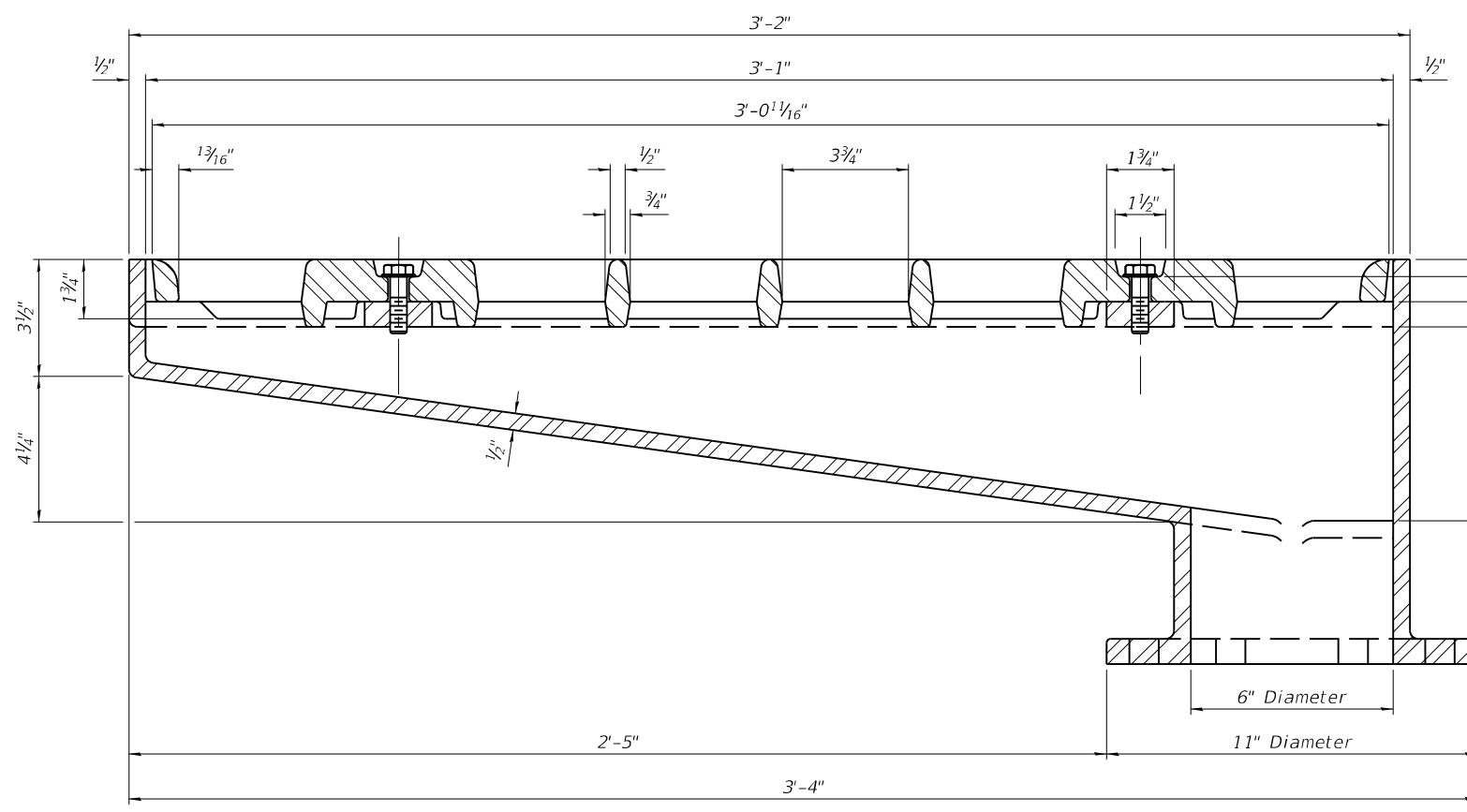
**PLAN**



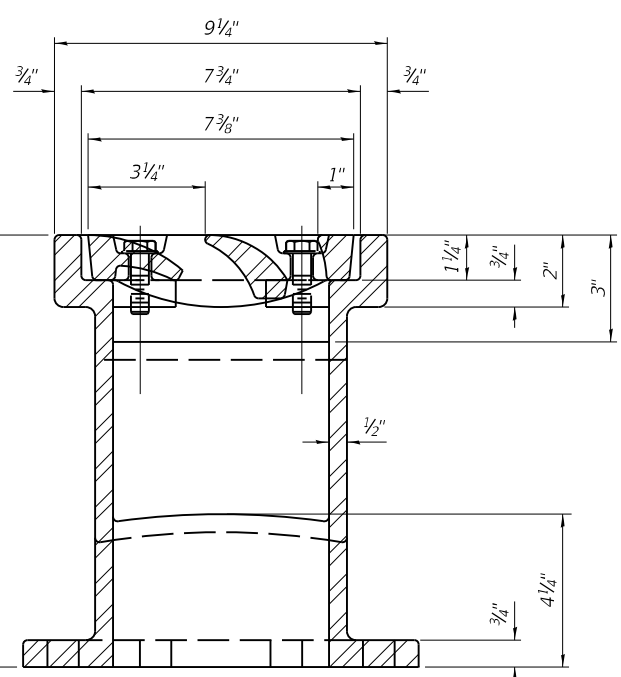
Drill and tap 8 holes for 3/4" Ø-13 UNC bolts on 9 1/2" Ø bolt circle.

**BOTTOM VIEW OF FLANGE ONLY**

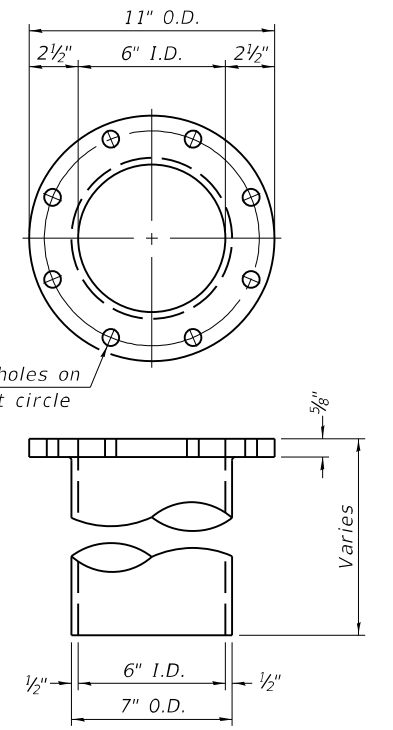
**Notes:**  
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 35B and AASHTO M306.  
 Bolts, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M232. As an alternate stainless steel may be used.  
 Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.  
 Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.  
 Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M111.  
 As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel.  
 Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be treated as specified on sheet 2 of 37.  
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.  
 Cost of the grate, frame, downspout, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scupper, DS-33.



**SECTION A-A**  
 See sheet 14 of 37 for scupper location relative to parapet.



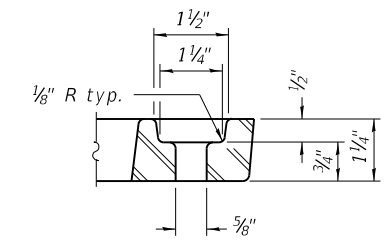
**SECTION B-B**



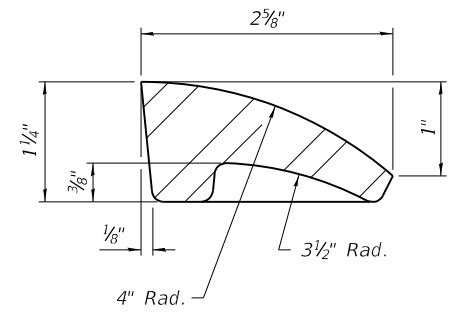
**DOWNSPOUT**

**BILL OF MATERIAL**

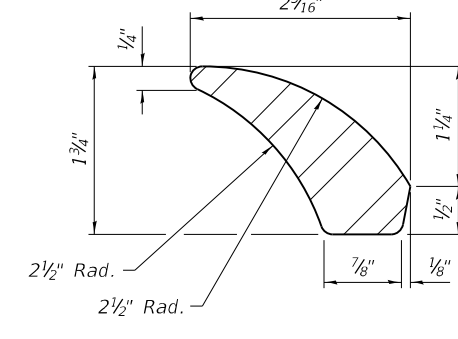
ITEM	UNIT	QUANTITY
Drainage Scupper, DS-33	Each	2



**GRATE BOLT HOLE DETAIL**



**FIRST VANE DETAIL**



**SECOND VANE DETAIL**

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DS-33

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	DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

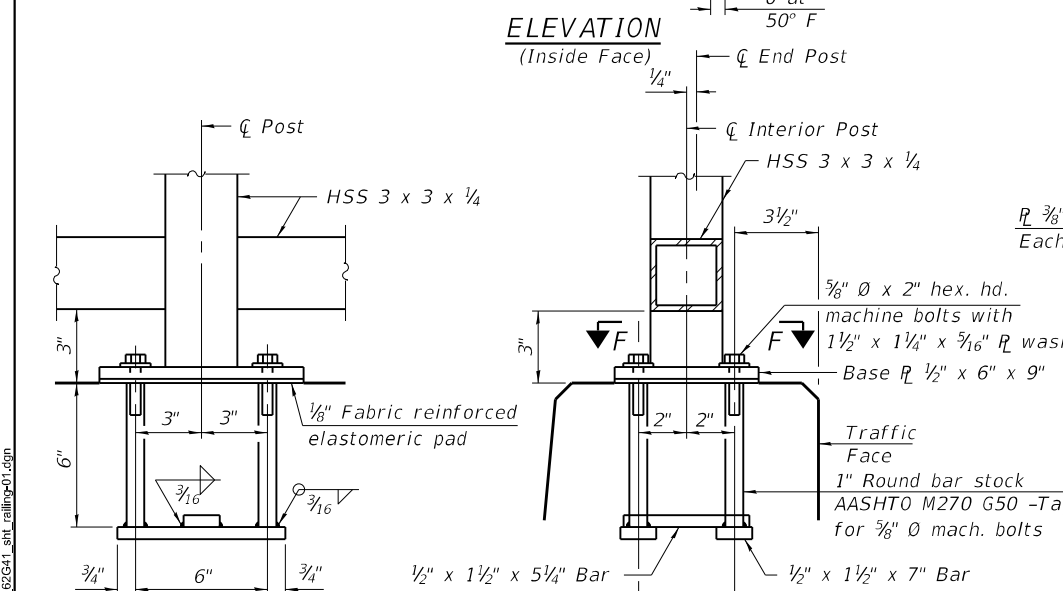
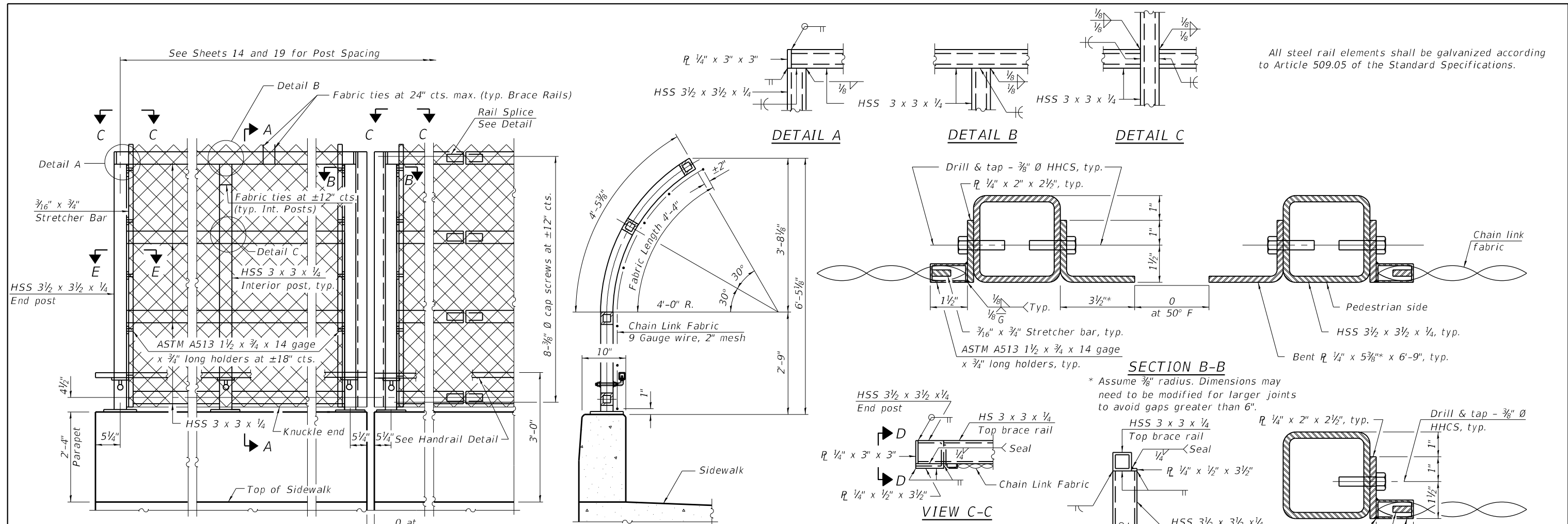
**DRAINAGE SCUPPER, DS-33  
 STRUCTURE NO. 045-2106**

SCALE: SHEET 22 OF 37 SHEETS STA. TO STA.

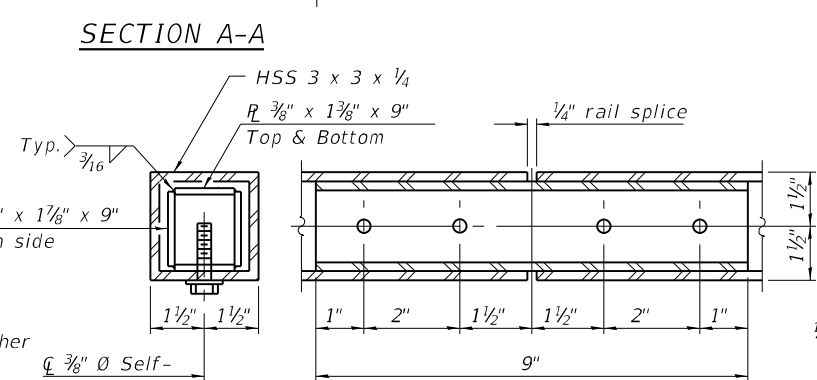
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	279
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



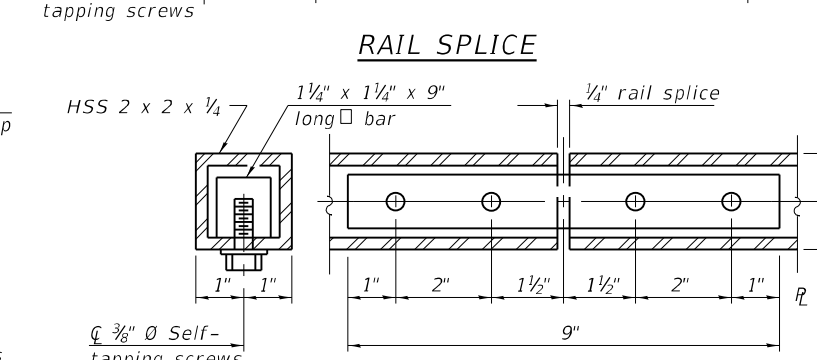
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



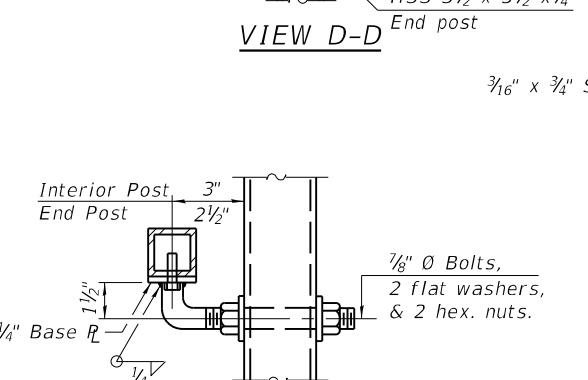
**ANCHOR BOLT DETAILS**  
 In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 3/8" Ø anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications. Place reinforcement bars to miss anchor rod locations.



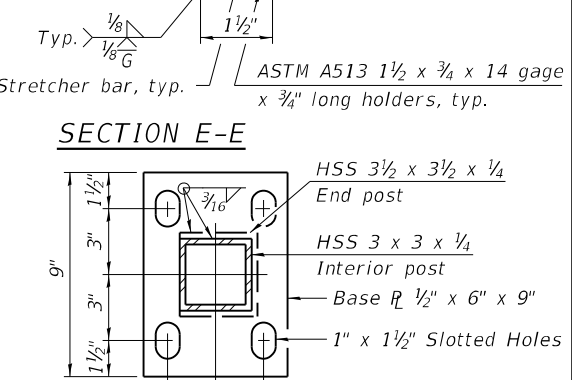
**RAIL SPLICE**



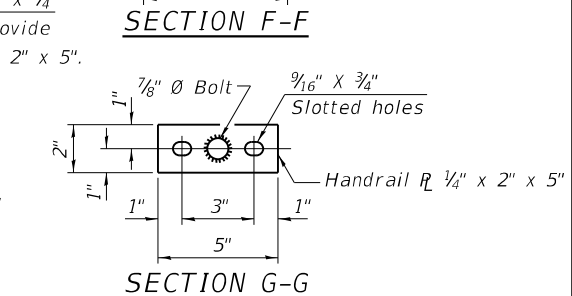
**HANDRAIL SPLICE**



**HANDRAIL DETAIL**



**SECTION E-E**



**SECTION F-F**

**SECTION G-G (Handrail)**

Item	Unit	Quantity
Bridge Fence Railing, Curved	Foot	195

**BILL OF MATERIAL**

**RAILING CRITERIA**

NCHRP 350 Test Level	4
Railing Weight (plf)	70
Max Post Spacing	10'-0"

**Notes:**  
 Cost of handrail included with Bridge Fence Railing, Curved.  
 CVN testing is not required for the HSS tubing.  
 Place reinforcement bars to miss anchor bolt locations.

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

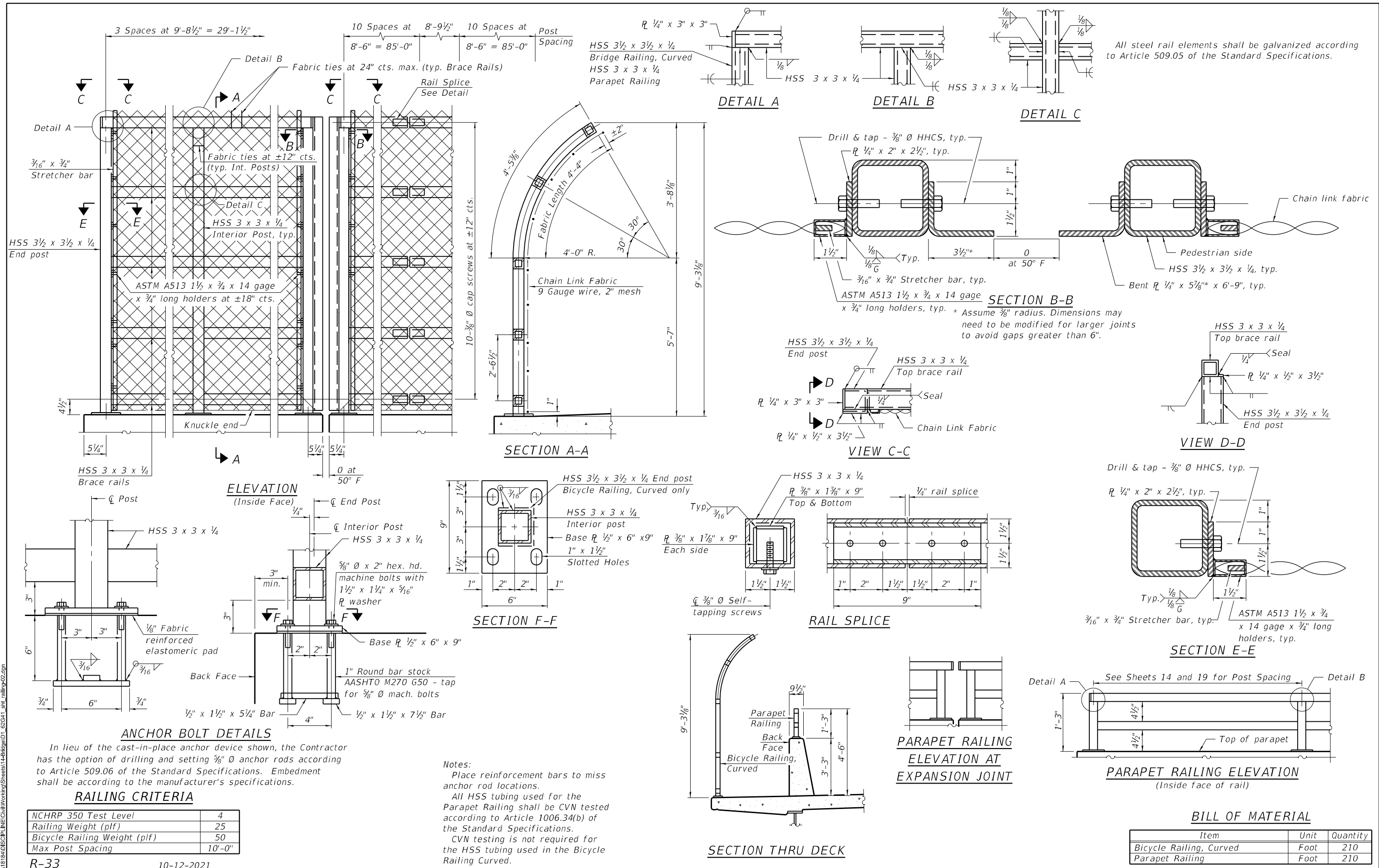
**RAILING DETAILS 1  
 STRUCTURE NO. 045-2106**

SCALE: SHEET 23 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	280
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

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All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

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R-33 10-12-2021

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STATE OF ILLINOIS  
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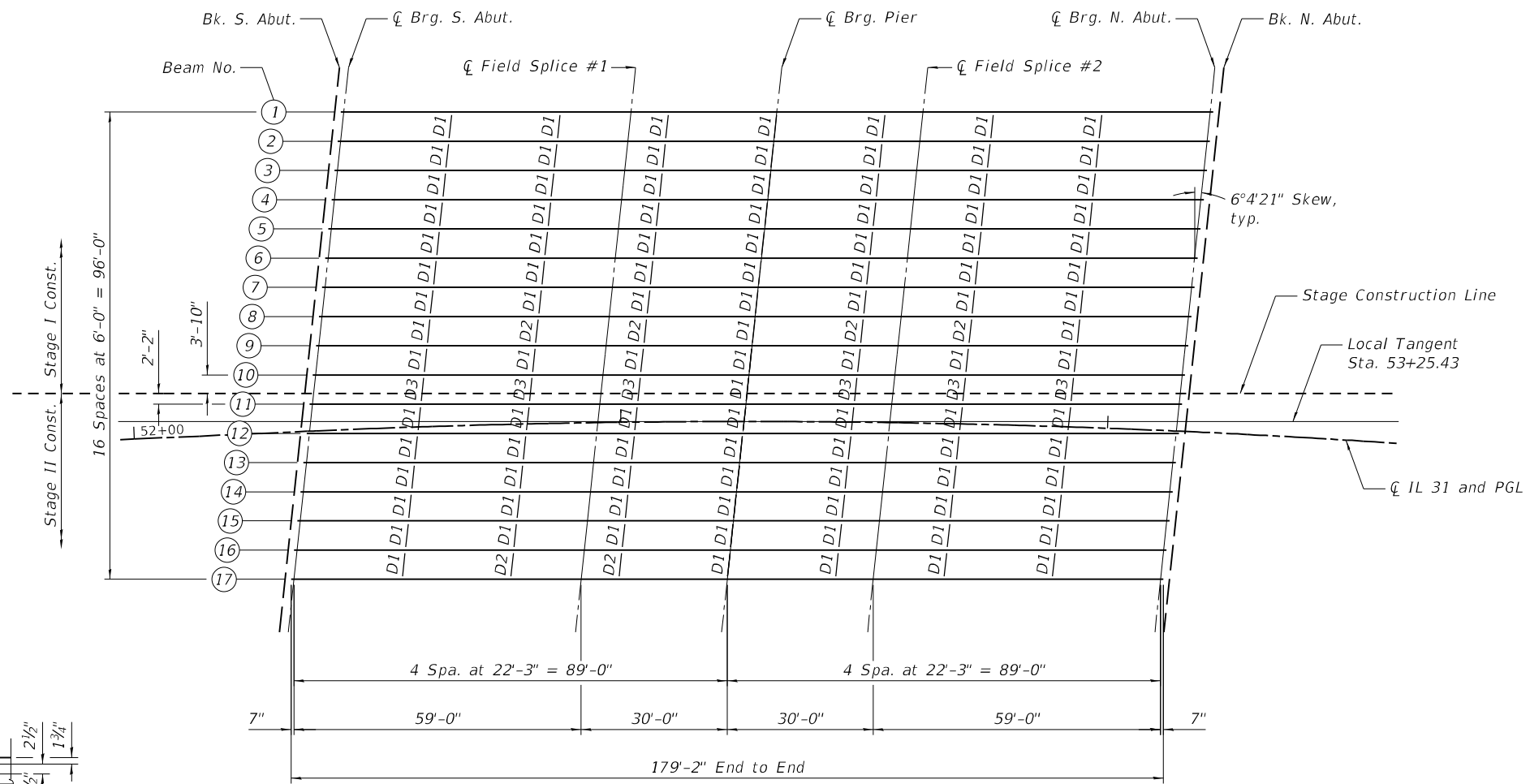
RAILING DETAILS 2  
 STRUCTURE NO. 045-2106

SCALE: SHEET 24 OF 37 SHEETS STA. TO STA.

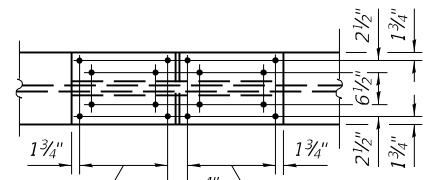
**BILL OF MATERIAL**

Item	Unit	Quantity
Bicycle Railing, Curved	Foot	210
Parapet Railing	Foot	210

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	281
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



**FRAMING PLAN**



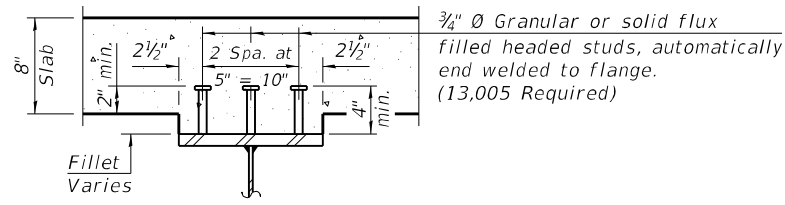
**TOP AND BOTTOM FLANGE PLAN**

12 Spa. at 2" alt. cts. = 2'-0"      12 Spa. at 2" alt. cts. = 2'-0"

**TOP OF BEAM ELEVATIONS**

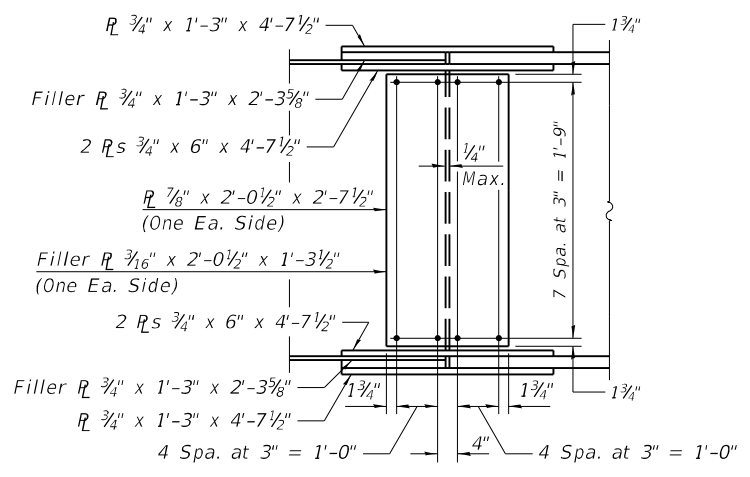
For Fabrication Only

Beam	℄ Brg. S. Abut.	℄ Field Splice #1	℄ Brg. Pier	℄ Field Splice #2	℄ Brg. N. Abut.
1	756.29	757.21	757.50	757.80	758.06
2	756.15	757.08	757.37	757.68	757.94
3	756.01	756.95	757.25	757.56	757.81
4	755.88	756.82	757.12	757.43	757.69
5	755.74	756.69	756.99	757.31	757.57
6	755.60	756.56	756.87	757.18	757.45
7	755.47	756.43	756.74	757.06	757.33
8	755.33	756.30	756.61	756.94	757.21
9	755.19	756.17	756.49	756.81	757.09
10	755.05	756.04	756.36	756.69	756.97
11	754.92	755.91	756.23	756.56	756.85
12	754.78	755.78	756.11	756.44	756.73
13	754.64	755.65	755.98	756.31	756.61
14	754.50	755.52	755.85	756.19	756.49
15	754.36	755.39	755.73	756.07	756.36
16	754.22	755.26	755.60	755.94	756.24
17	754.09	755.13	755.47	755.81	756.12



**SECTION A-A**

(See sheet 26 of 37 for Section A-A.)



**ELEVATION**

**SPLICE DETAIL**

(34 Required)

Note:  
All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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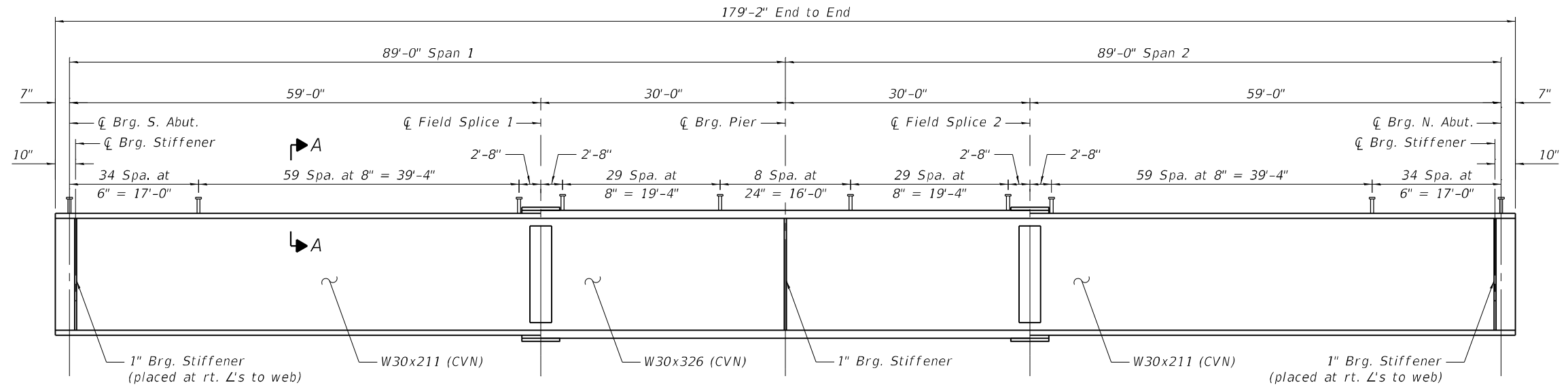
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PLOT DATE =	CHECKED - TCG	REVISED -
	DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN  
STRUCTURE NO. 045-2106**

SCALE: SHEET 25 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	282
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



**BEAM ELEVATION**

INTERIOR GIRDER MOMENT TABLE		
	0.4 Sp. 1 or 0.6 Sp. 2	Pier
Is	(in <sup>4</sup> )	10,300
Ic(n)	(in <sup>4</sup> )	23,658
Ic(3n)	(in <sup>4</sup> )	17,255
Ic(cr)	(in <sup>4</sup> )	-
Ss	(in <sup>3</sup> )	665
Sc(n)	(in <sup>3</sup> )	904
Sc(3n)	(in <sup>3</sup> )	818
Sc(cr)	(in <sup>3</sup> )	-
DC1	(k/ft)	0.92
MDC1	(k)	440
DC2	(k/ft)	0.38
MDC2	(k)	195
DW	(k/ft)	0.30
MDW	(k)	153
LLDF		0.526
M <sub>l+IM</sub>	(k)	899
Mu (Strength I)	(k)	2,597
Øf Mn	(k)	4,192
fs DC1	(ksi)	7.9
fs DC2	(ksi)	2.9
fs DW	(ksi)	2.2
fs (l+IM)	(ksi)	11.9
fs (Service II)	(ksi)	28.6
0.95Rh Fyf	(ksi)	47.5
fs (Total)(Strength I)	(ksi)	-
Øf Fn	(ksi)	-
Vf	(k)	32.2

GIRDER REACTION TABLE		
	Abut.	Pier
	Interior	Interior
LLDF	0.671	0.671
RDC1 (k)	28.6	105.8
RDC2 (k)	12.3	43.6
RDW (k)	9.6	34.1
R <sub>l</sub> (k)	59.8	112.0
R <sub>IM</sub> (k)	14.2	22.1
RTotal (k)	124.5	317.6

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.<sup>4</sup> and in.<sup>3</sup>).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.<sup>4</sup> and in.<sup>3</sup>).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).

DC1: Un-factored non-composite dead load (kips/ft.).

MDC1: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M<sub>l+IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

Mu (Strength I): Factored design moment (kip-ft.).

1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M<sub>l+IM</sub>

Øf Mn: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).

MDC1/ Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).

MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).

MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.

fs (l+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).

M<sub>l+IM</sub> / Sc(n) or M<sub>l+IM</sub> / Sc(cr) as applicable.

fs (Service II): Sum of stresses as computed below (ksi).

fsDC1 + fsDC2 + fsDW + 1.3 fs(l+IM)

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).

1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(l+IM)

Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

Vf: Maximum factored shear range in span computed according to Article 6.10.10.

Note:  
M<sub>l</sub> and R<sub>l</sub> include the effects of centrifugal force and superelevation.

Note:  
"CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.  
See sheet 25 of 37 for Section A-A.

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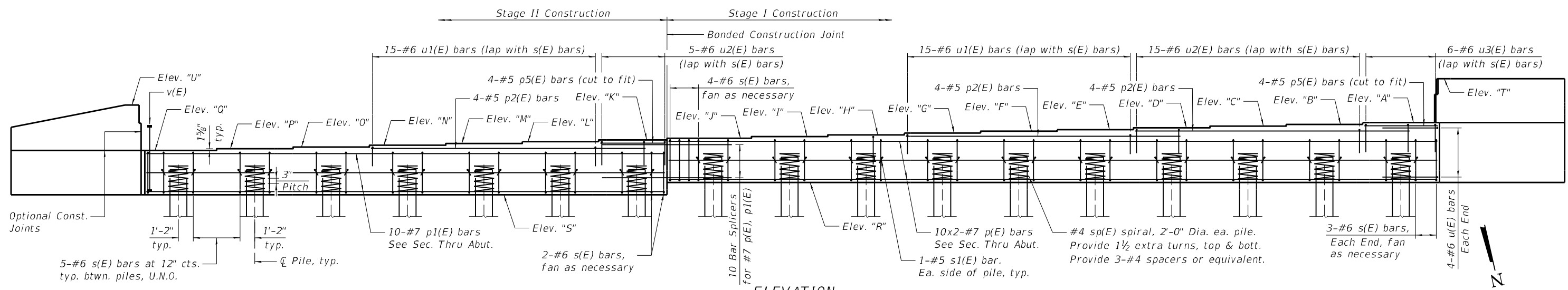
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BEAM ELEVATION  
STRUCTURE NO. 045-2106**

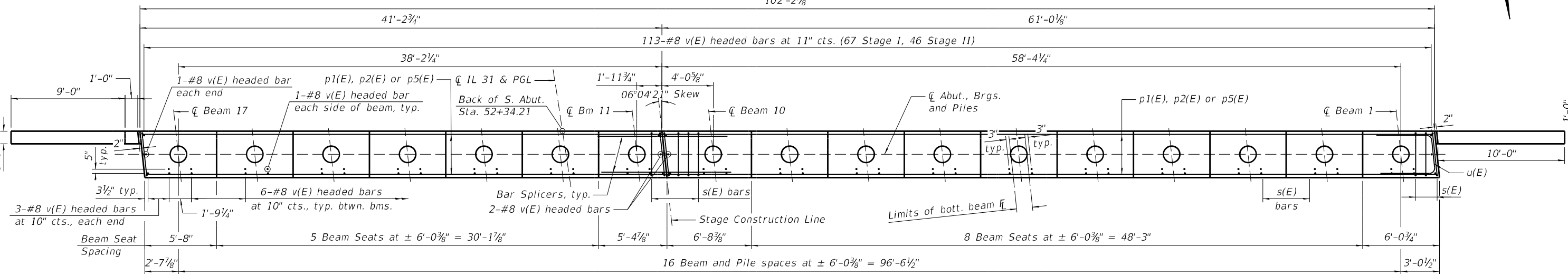
SCALE: SHEET 26 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	283
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

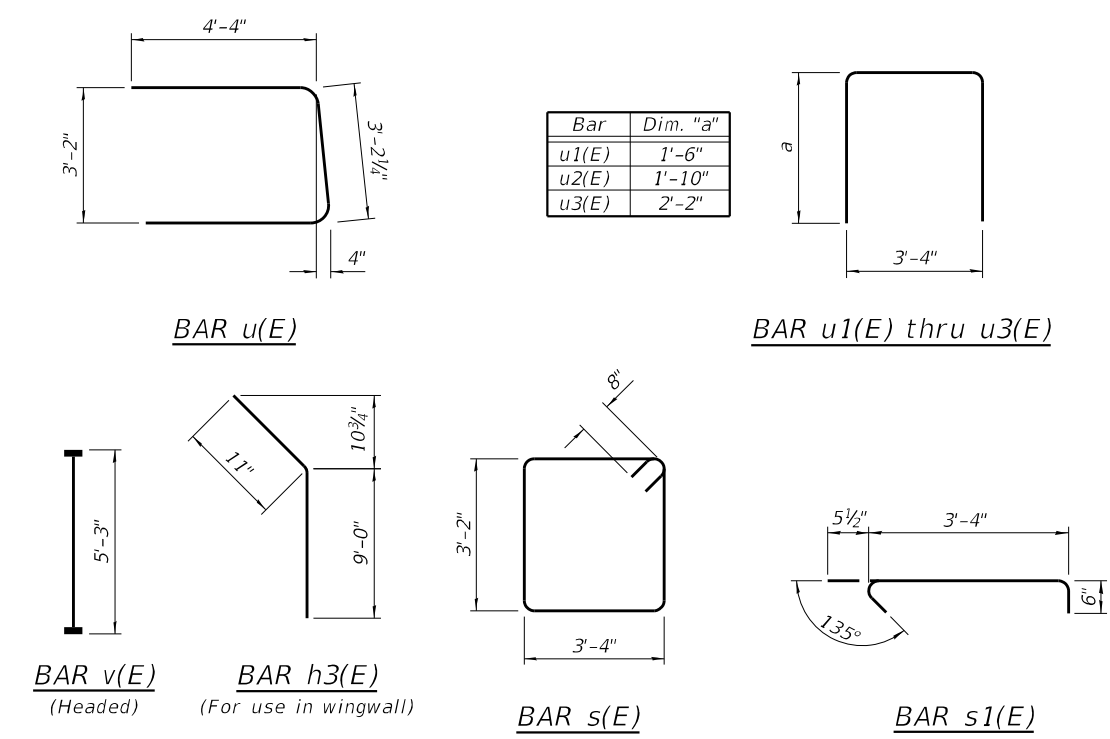




**ELEVATION**

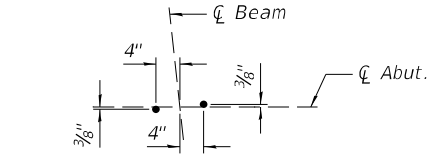


**PLAN**



**TABLE OF ELEVATIONS**

	S. Abut.
Elev. "A"	753.53
Elev. "B"	753.40
Elev. "C"	753.26
Elev. "D"	753.12
Elev. "E"	752.99
Elev. "F"	752.85
Elev. "G"	752.71
Elev. "H"	752.58
Elev. "I"	752.44
Elev. "J"	752.30
Elev. "K"	752.16
Elev. "L"	752.03
Elev. "M"	751.89
Elev. "N"	751.75
Elev. "O"	751.61
Elev. "P"	751.47
Elev. "Q"	751.33
Elev. "R"	748.80
Elev. "S"	747.83
Elev. "T"	756.97
Elev. "U"	754.89



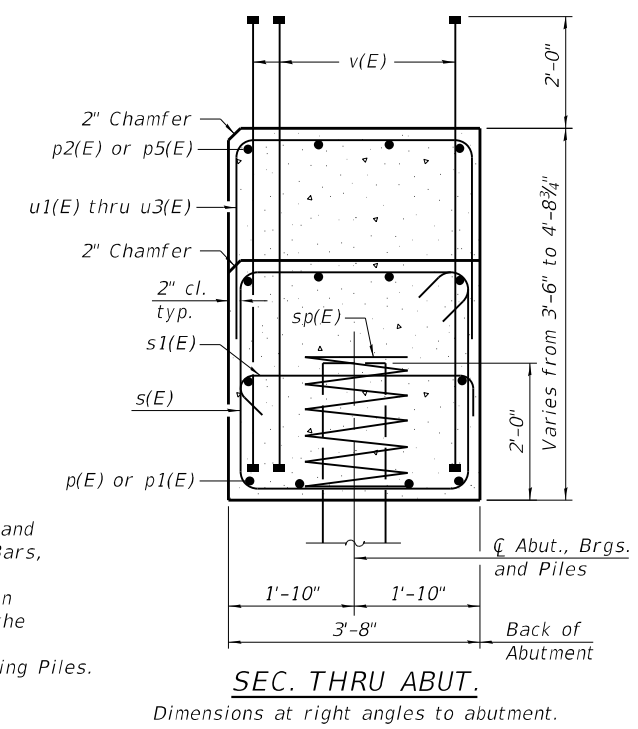
**ANCHOR BOLT LAYOUT**

**PILE DATA**

Type: MS14x0.312 w/ Pile Shoes  
 Nominal Required Bearing: 570 kips  
 Factored Resistance Available: 314 kips  
 Est. Length: 33 ft  
 No. Production Piles: 16  
 No. Test Piles: 1

Notes:  
 Pour steps monolithically with cap.  
 Space reinforcement to miss anchor bolts.  
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
 Piles shall be driven through 24" diameter precored holes extending to elevation 737.80 according to Article 512.09(c) of the Standard Specifications except that the void space outside of the pile shall be filled with bentonite according to the manufacturer's recommendations to achieve a Qu of 1.5 tsf. Cost included in Driving Piles.  
 For details of piles see sheet 33 of 37.  
 For wingwall details and Bill of Material see sheet 30 of 37.

**MINIMUM BAR LAP**



**SEC. THRU ABUT.**

Dimensions at right angles to abutment.

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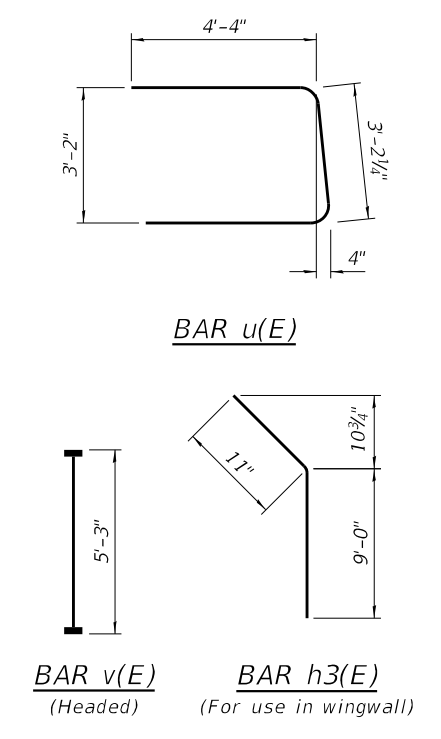
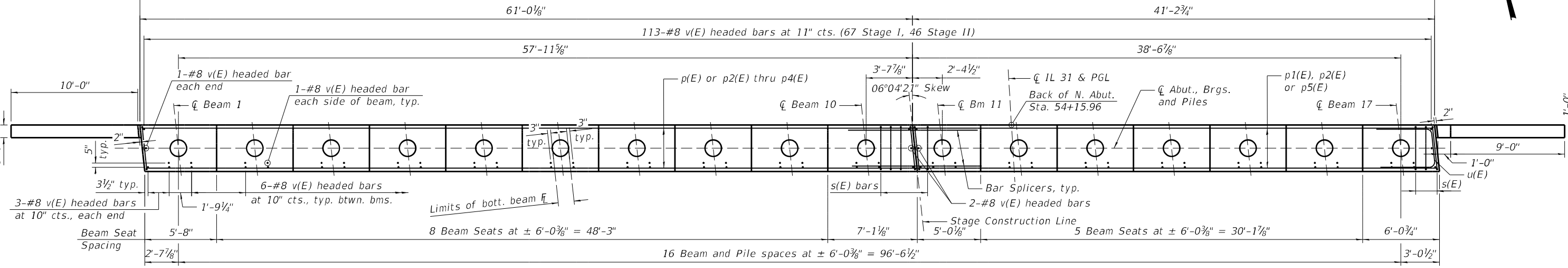
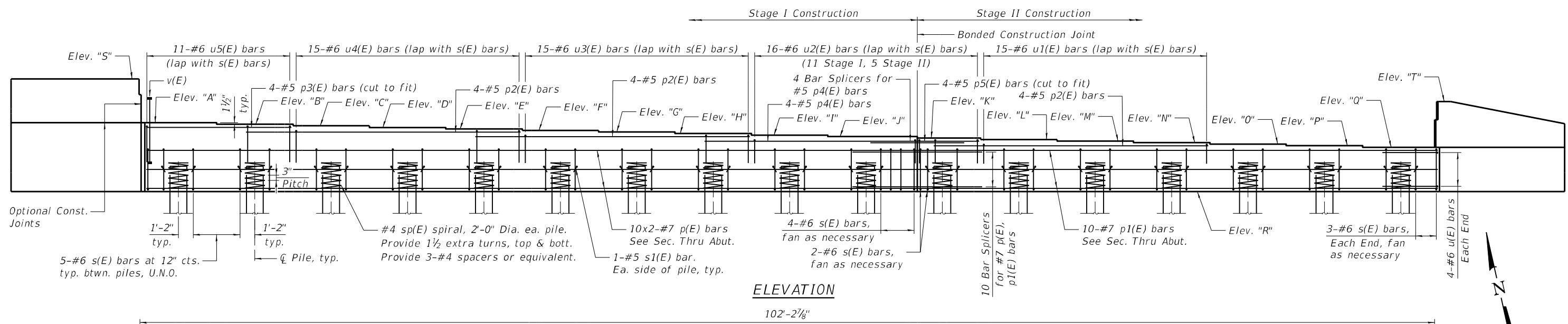
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT  
STRUCTURE NO. 045-2106**

SCALE: SHEET 28 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	285
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



Bar	Dim. "a"
u1(E)	1'-6"
u2(E)	1'-10"
u3(E)	2'-2"
u4(E)	2'-6"
u5(E)	2'-10"

TABLE OF ELEVATIONS

	N. Abut.
Elev. "A"	755.30
Elev. "B"	755.18
Elev. "C"	755.06
Elev. "D"	754.94
Elev. "E"	754.82
Elev. "F"	754.70
Elev. "G"	754.58
Elev. "H"	754.46
Elev. "I"	754.34
Elev. "J"	754.22
Elev. "K"	754.10
Elev. "L"	753.98
Elev. "M"	753.85
Elev. "N"	753.73
Elev. "O"	753.61
Elev. "P"	753.49
Elev. "Q"	753.37
Elev. "R"	749.87
Elev. "S"	758.77
Elev. "T"	756.98

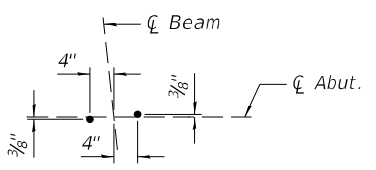
PILE DATA

Type: MS14x0.312 w/ Pile Shoes  
 Nominal Required Bearing: 570 kips  
 Factored Resistance Available: 314 kips  
 Est. Length: 35 ft  
 No. Production Piles: 16  
 No. Test Piles: 1

Notes:

Pour steps monolithically with cap.  
 Space reinforcement to miss anchor bolts.  
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
 Piles shall be driven through 24" diameter precored holes extending to elevation 739.87 according to Article 512.09(c) of the Standard Specifications except that the void space outside of the pile shall be filled with bentonite according to the manufacturer's recommendations to achieve a Qu of 1.5 tsf. Cost included in Driving Piles.  
 For details of piles see sheet 33 of 37.  
 For wingwall details and Bill of Material see sheet 30 of 37.

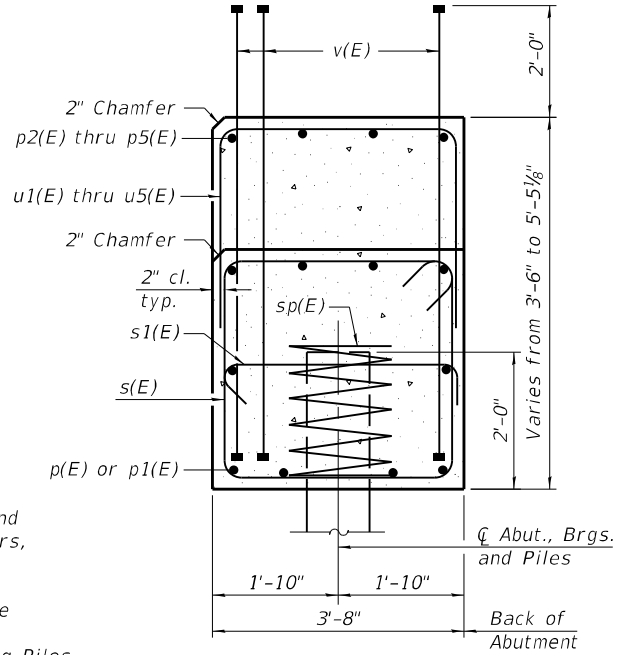
ANCHOR BOLT LAYOUT



MINIMUM BAR LAP

#5 Bar: 3'-7"  
 #7 Bar: 5'-0"

SEC. THRU ABUT.



Dimensions at right angles to abutment.

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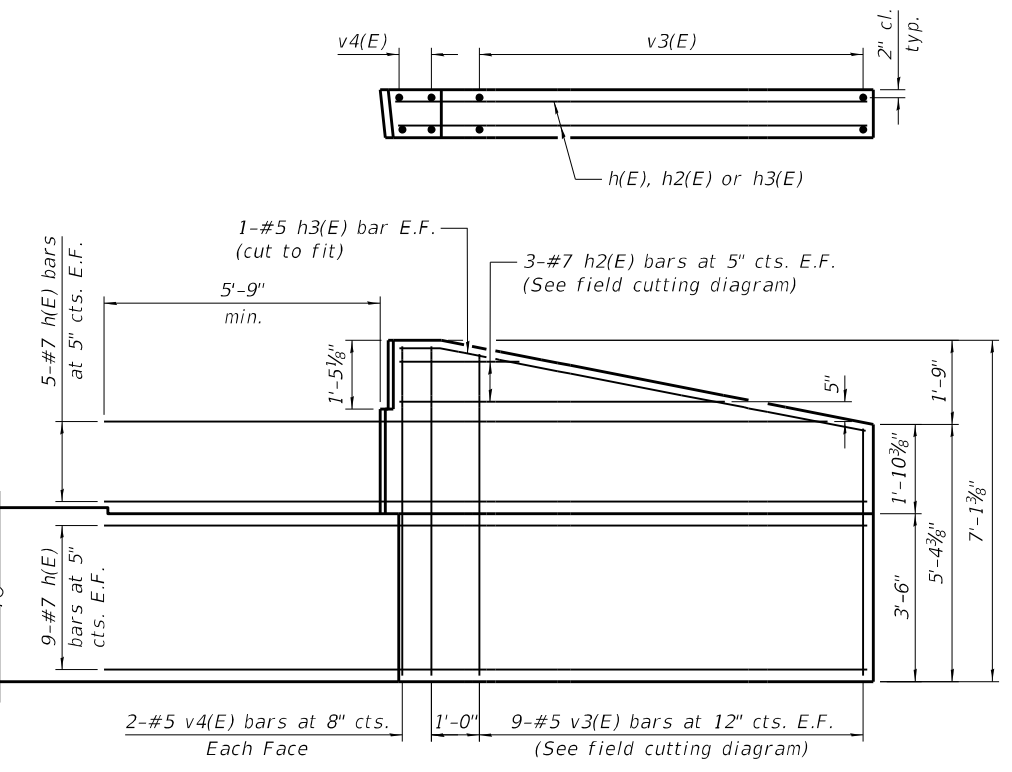
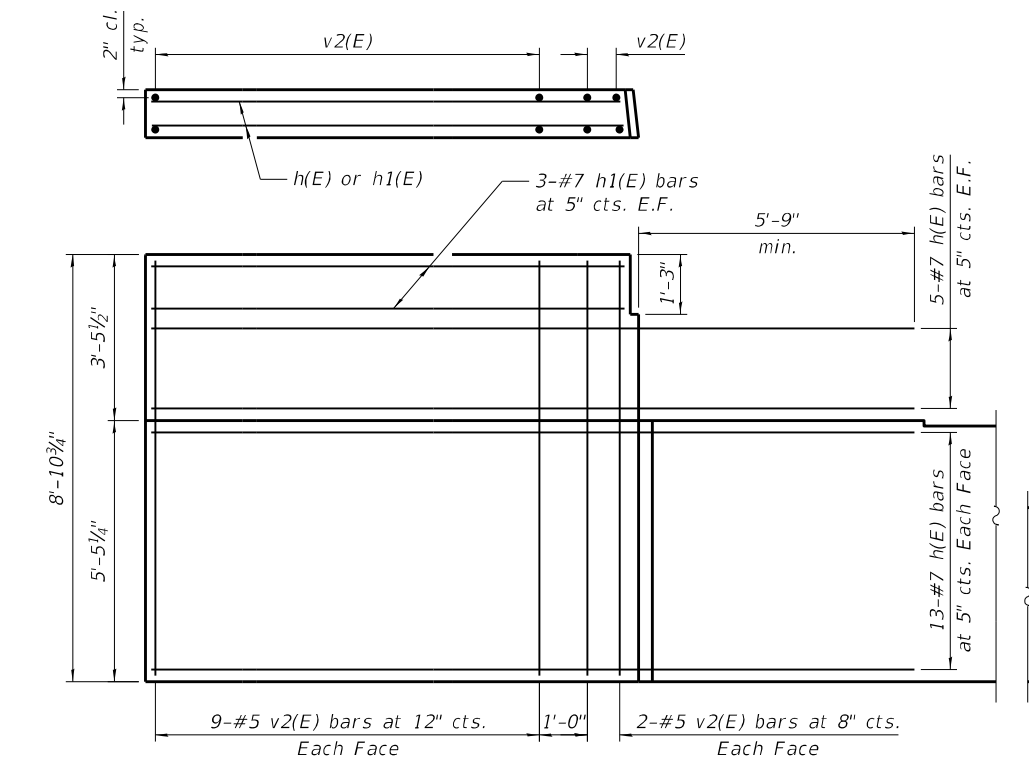
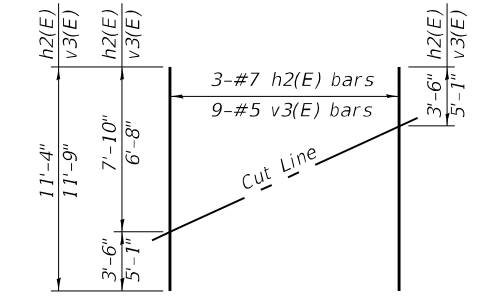
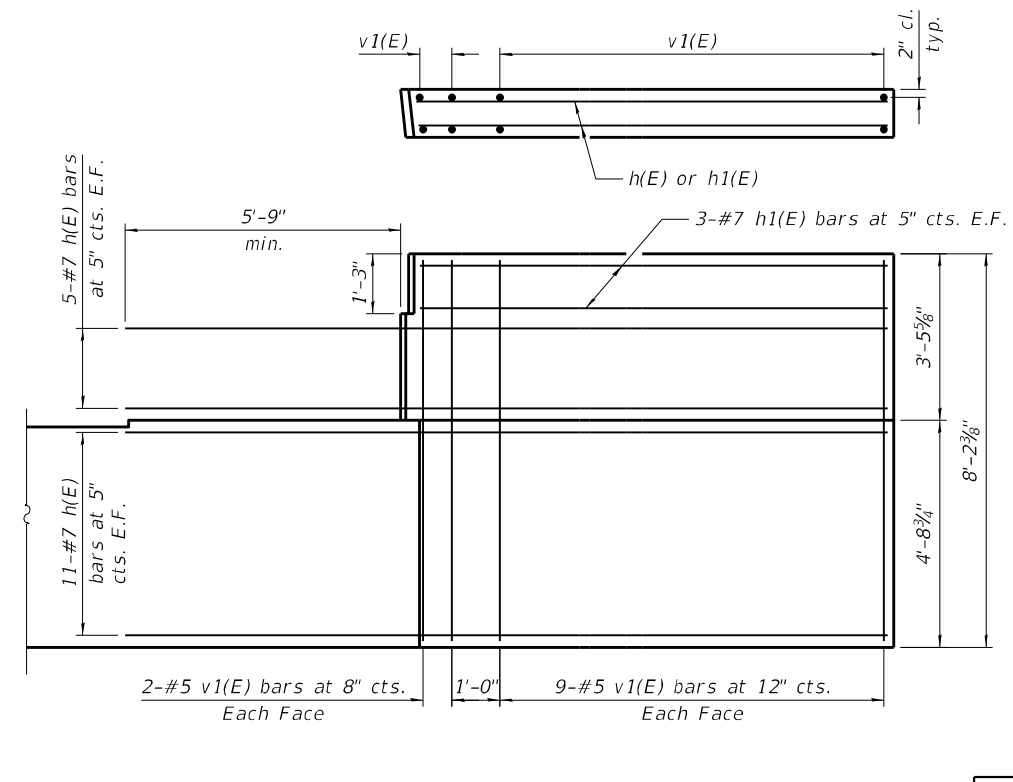
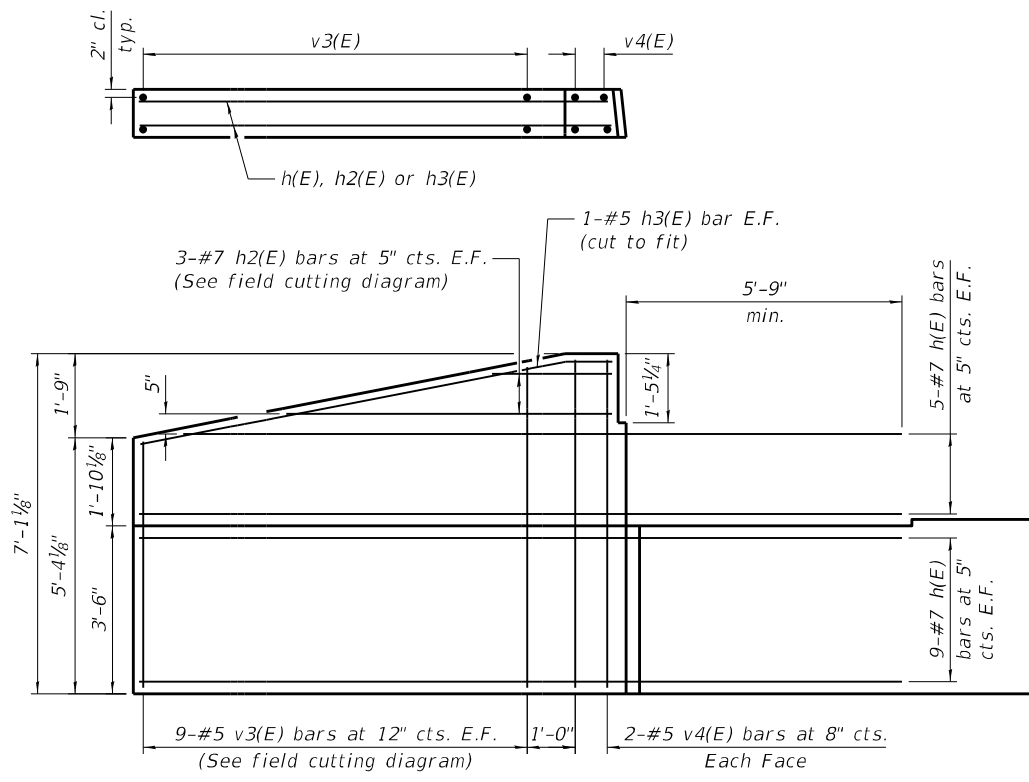
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT  
 STRUCTURE NO. 045-2106

SCALE: SHEET 29 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	286
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

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**BILL OF MATERIAL SOUTH ABUTMENT**

Bar	No.	Size	Length	Shape
h(E)	60	#7	15'-10"	—
h1(E)	6	#7	9'-9"	—
h2(E)	3	#7	11'-4"	—
h3(E)	2	#5	9'-11"	—
p(E)	20	#7	32'-10"	—
p1(E)	10	#7	40'-11"	—
p2(E)	12	#5	21'-8"	—
p5(E)	8	#5	5'-9"	—
s(E)	87	#6	14'-4"	□
s1(E)	34	#5	4'-4"	┘
sp(E)	17	#4	2'-0"	≡≡≡
u(E)	8	#6	11'-10"	┘
u1(E)	30	#6	6'-4"	┘
u2(E)	21	#6	7'-0"	┘
u3(E)	6	#6	7'-8"	┘
v(E)	253	#8	5'-3"	—
v1(E)	22	#5	7'-10"	—
v3(E)	9	#5	11'-9"	—
v4(E)	4	#5	6'-9"	—
Structure Excavation		Cu. Yd.	303	
Concrete Structures		Cu. Yd.	61.4	
Reinforcement Bars, Epoxy Coated		Pound	11,670	
Furnishing Metal Shell Piles 14" X 0.312"		Foot	528	
Driving Piles		Foot	528	
Test Pile Metal Shells		Each	1	
Pile Shoes		Each	17	

**BILL OF MATERIAL NORTH ABUTMENT**

Bar	No.	Size	Length	Shape
h(E)	64	#7	15'-10"	—
h1(E)	6	#7	9'-9"	—
h2(E)	3	#7	11'-4"	—
h3(E)	2	#5	9'-11"	—
p(E)	20	#7	32'-10"	—
p1(E)	10	#7	40'-11"	—
p2(E)	12	#5	21'-8"	—
p3(E)	4	#5	11'-9"	—
p4(E)	4	#5	16'-9"	—
p5(E)	4	#5	5'-9"	—
s(E)	87	#6	14'-4"	□
s1(E)	34	#5	4'-4"	┘
sp(E)	17	#4	2'-0"	≡≡≡
u(E)	8	#6	11'-10"	┘
u1(E)	15	#6	6'-4"	┘
u2(E)	16	#6	7'-0"	┘
u3(E)	15	#6	7'-8"	┘
u4(E)	15	#6	8'-4"	┘
u5(E)	11	#6	9'-0"	┘
v(E)	253	#8	5'-3"	—
v2(E)	22	#5	8'-8"	—
v3(E)	9	#5	11'-9"	—
v4(E)	4	#5	6'-9"	—
Structure Excavation		Cu. Yd.	347	
Concrete Structures		Cu. Yd.	67.7	
Reinforcement Bars, Epoxy Coated		Pound	12,160	
Furnishing Metal Shell Piles 14" X 0.312"		Foot	560	
Driving Piles		Foot	560	
Test Pile Metal Shells		Each	1	
Pile Shoes		Each	17	

\* Length is height of spiral.

\* Length is height of spiral.



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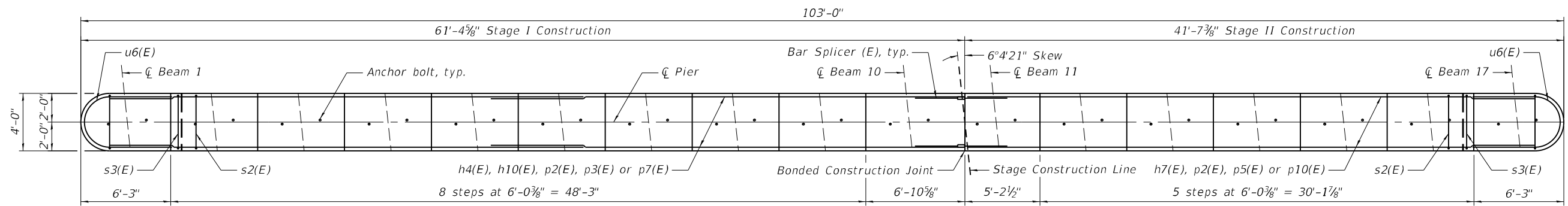
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**ABUTMENT DETAILS  
 STRUCTURE NO. 045-2106**

SCALE: SHEET 30 OF 37 SHEETS STA. TO STA.

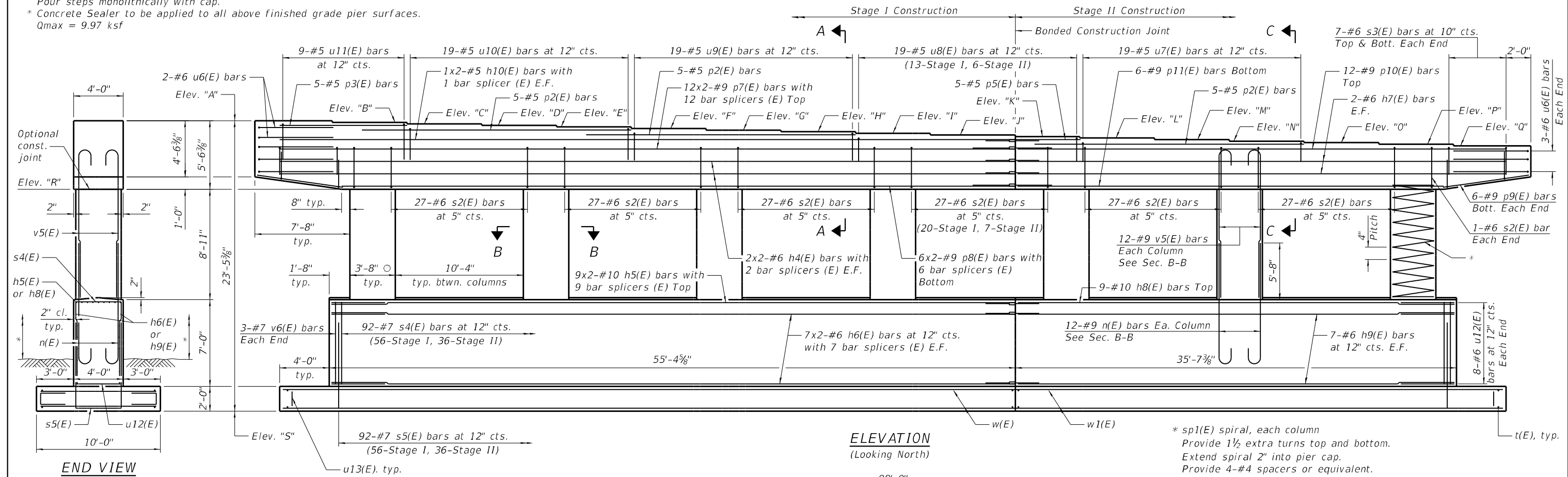
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	287
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	





**TOP PLAN**

Notes:  
 Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 \* Concrete Sealer to be applied to all above finished grade pier surfaces.  
 Q<sub>max</sub> = 9.97 ksf

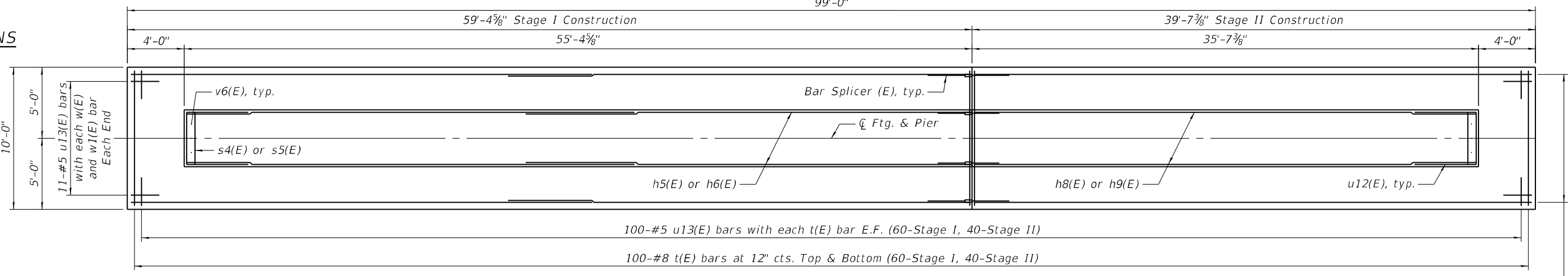


**ELEVATION**  
(Looking North)

\* sp1(E) spiral, each column  
 Provide 1 1/2 extra turns top and bottom.  
 Extend spiral 2" into pier cap.  
 Provide 4-#4 spacers or equivalent.

**TABLE OF ELEVATIONS**

Elev. "A"	754.23
Elev. "B"	754.10
Elev. "C"	753.98
Elev. "D"	753.85
Elev. "E"	753.72
Elev. "F"	753.60
Elev. "G"	753.47
Elev. "H"	753.34
Elev. "I"	753.22
Elev. "J"	753.09
Elev. "K"	752.96
Elev. "L"	752.84
Elev. "M"	752.71
Elev. "N"	752.58
Elev. "O"	752.46
Elev. "P"	752.33
Elev. "Q"	752.20
Elev. "R"	748.70
Elev. "S"	730.78



**FOOTING PLAN**

11x2-#8 w(E) bars at 12" cts. with 11 bar splicers (E), Top & Bott. (Stage I)  
 11-#8 w1(E) bars at 12" cts., top and bottom (Stage II)

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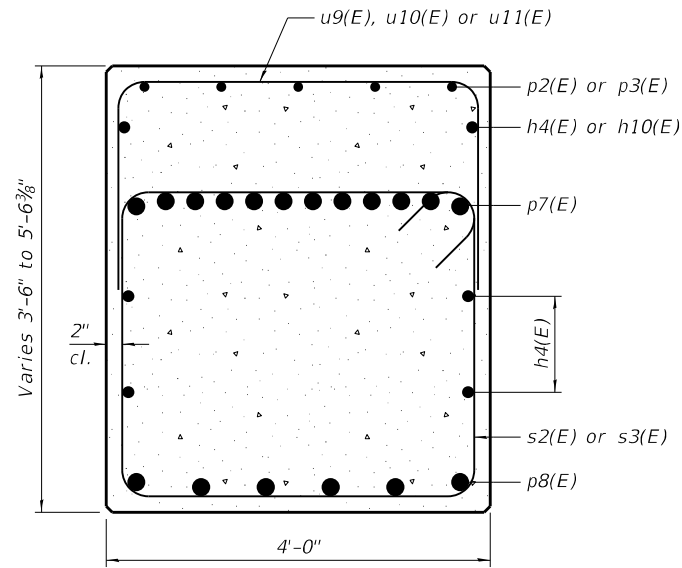
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	DATE - 03/24/2023	REVISED -

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

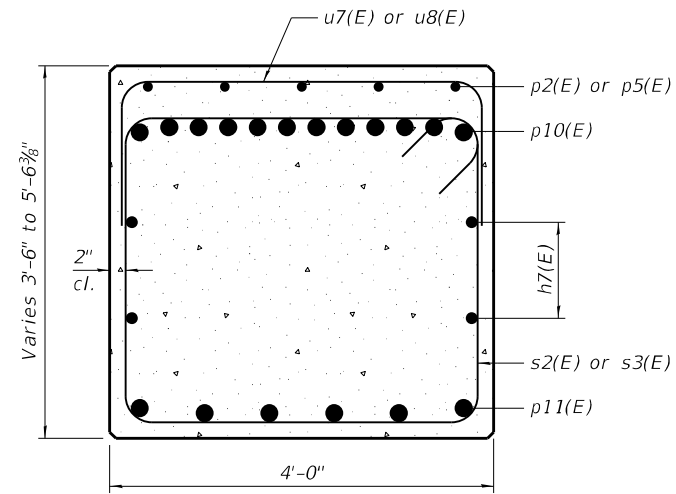
**PIER PLAN AND ELEVATION**  
**STRUCTURE NO. 045-2106**

SCALE: SHEET 31 OF 37 SHEETS STA. TO STA.

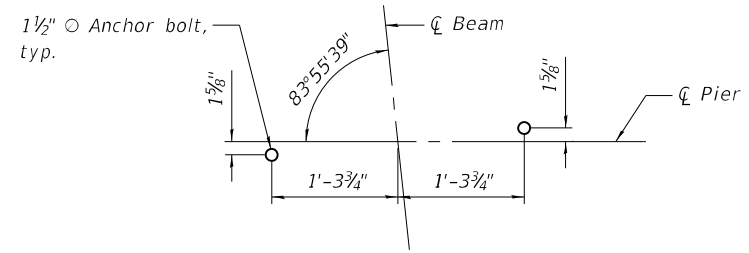
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	288
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



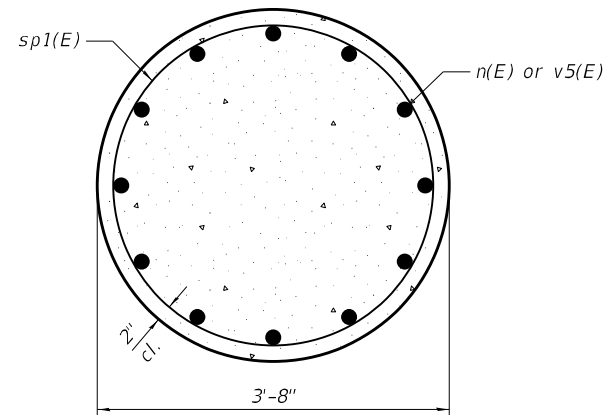
SEC. A-A



SEC. C-C



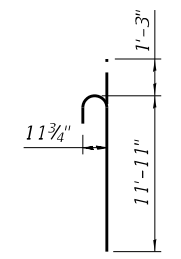
ANCHOR BOLT LAYOUT



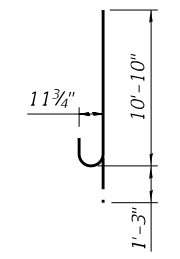
SEC. B-B

MINIMUM BAR LAP

- #5 Bar: 3'-7"
- #6 Bar: 4'-4"
- #8 Bar: 5'-9"
- #9 Bar: 10'-4"
- #10 Bar: 11'-6"



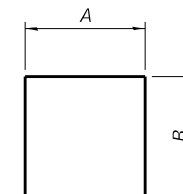
BAR v5(E)



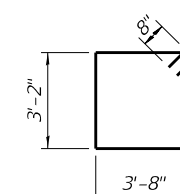
BAR n(E)

A & B DIMENSIONS

Bar	A	B
s3(E)	3'-8"	2'-2"
s4(E)	3'-8"	6'-8"
s5(E)	3'-8"	6'-11"



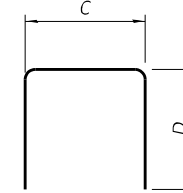
BARS s3(E) thru s5(E)



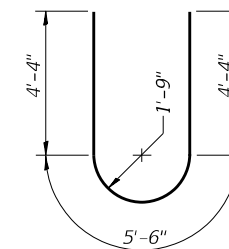
BAR s2(E)

C & D DIMENSIONS

Bar	C	D
u7(E)	3'-8"	1'-6"
u8(E)	3'-8"	1'-10"
u9(E)	3'-8"	2'-2"
u10(E)	3'-8"	2'-6"
u11(E)	3'-8"	2'-10"
u12(E)	3'-8"	4'-4"
u13(E)	1'-7"	2'-0"



BARS u7(E) thru u13(E)



BAR u6(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h4(E)	8	#6	31'-11"	—
h5(E)	18	#10	33'-5"	—
h6(E)	28	#6	29'-10"	—
h7(E)	4	#6	39'-5"	—
h8(E)	9	#10	35'-3"	—
h9(E)	14	#6	35'-3"	—
h10(E)	4	#5	31'-6"	—
n(E)	84	#9	12'-1"	U
p2(E)	15	#5	21'-9"	—
p3(E)	5	#5	10'-4"	—
p5(E)	5	#5	5'-3"	—
p7(E)	24	#9	34'-11"	—
p8(E)	12	#9	32'-5"	—
p9(E)	12	#9	7'-0"	—
p10(E)	12	#9	39'-5"	—
p11(E)	6	#9	34'-5"	—
s2(E)	164	#6	15'-0"	□
s3(E)	28	#6	8'-0"	U
s4(E)	92	#7	17'-0"	U
s5(E)	92	#7	17'-6"	U
sp1(E)	7	#4	9'-1"	W
t(E)	200	#8	9'-8"	—
u6(E)	8	#6	14'-2"	U
u7(E)	19	#5	6'-8"	□
u8(E)	19	#5	7'-4"	□
u9(E)	19	#5	8'-0"	□
u10(E)	19	#5	8'-8"	□
u11(E)	9	#5	9'-4"	□
u12(E)	16	#6	12'-4"	□
u13(E)	222	#6	5'-7"	□
v5(E)	84	#9	13'-2"	U
v6(E)	6	#7	6'-8"	—
w(E)	44	#8	32'-6"	—
w1(E)	22	#8	39'-3"	—
Structure Excavation		Cu. Yd.	301	
Concrete Structures		Cu. Yd.	259.6	
Reinforcement Bars, Epoxy Coated		Pound	47,560	

\*\*

\*\* Length is height of spiral.

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PLOT SCALE =	DRAWN - NHP	REVISED -
PLOT DATE =	CHECKED - TCG	REVISED -
	DATE - 03/24/2023	REVISED -

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DEPARTMENT OF TRANSPORTATION

PIER DETAILS  
STRUCTURE NO. 045-2106

SCALE: SHEET 32 OF 37 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	289
CONTRACT NO. 62G41			ILLINOIS FED. AID PROJECT	

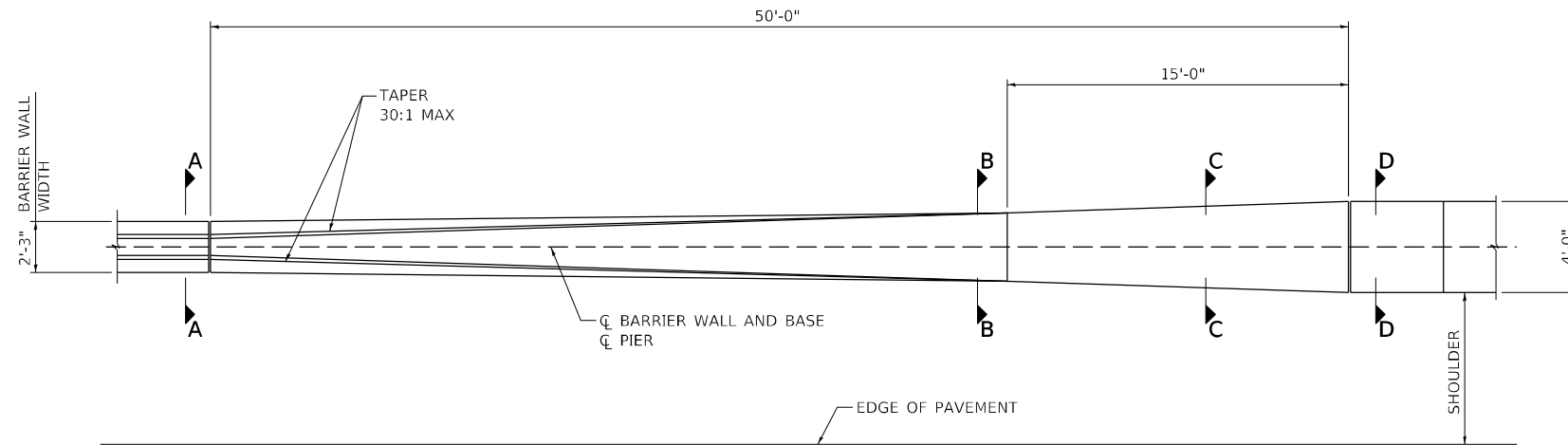




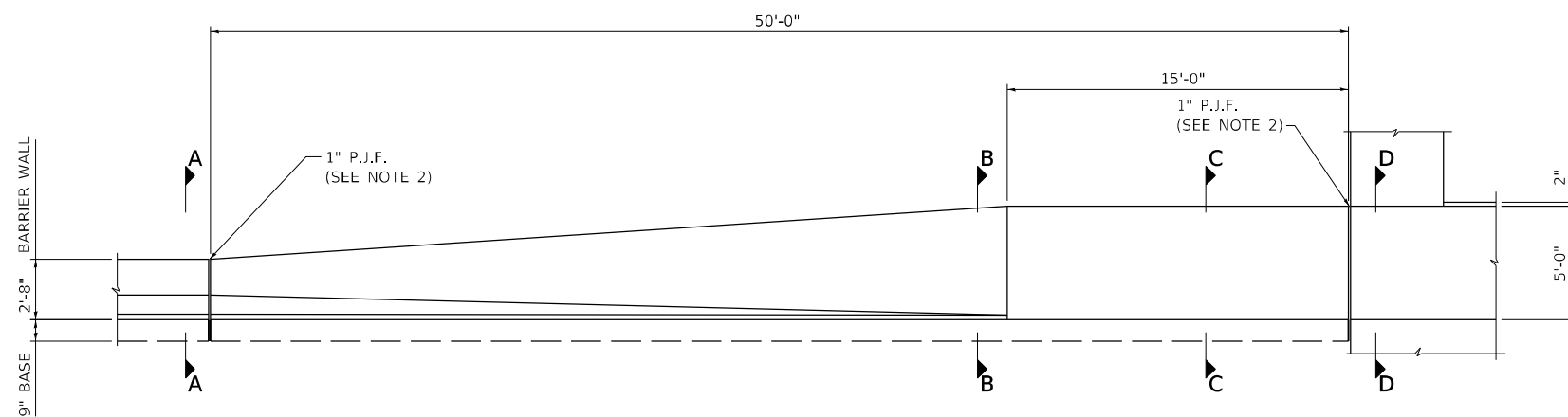






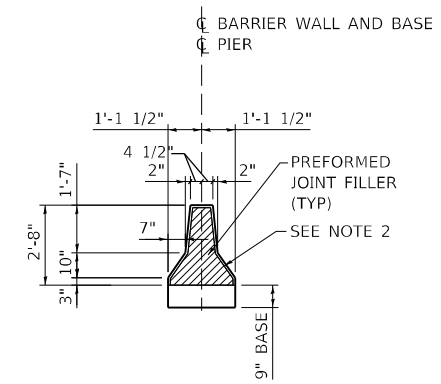


**PLAN**  
NTS

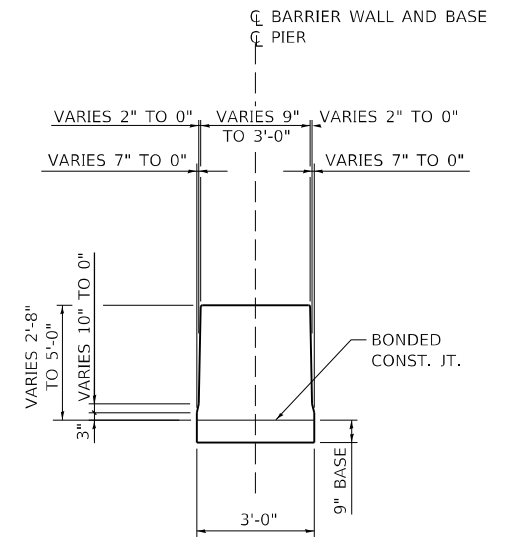


**ELEVATION**  
NTS

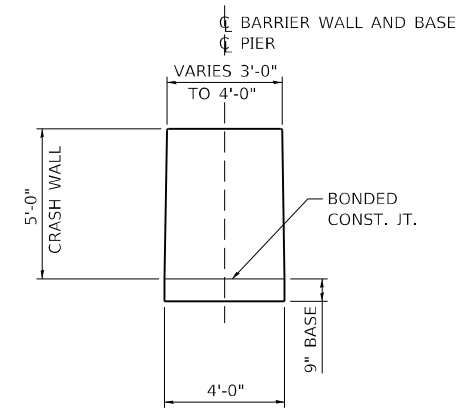
**CONCRETE MEDIAN TRANSITION AT BRIDGE PIER**



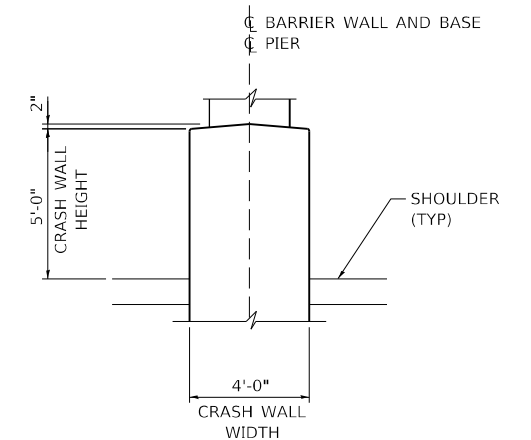
**SECTION A-A**  
NTS



**SECTION B-B**  
NTS



**SECTION C-C**  
NTS



**SECTION D-D**  
NTS

**NOTES**

- 2" DEEP CONTRACTION JOINTS SHALL BE DONE BY SAWING AND SHALL BE CONSTRUCTED IN THE CONCRETE BARRIER WALL AND CONCRETE BARRIER BASE. CONTRACTION JOINTS SHALL ALSO BE CONSTRUCTED AT BOTH SIDES OF ALL DRAINAGE STRUCTURES. MAXIMUM CONTRACTION JOINT SPACING SHALL BE 30'-0". THE MINIMUM DISTANCE BETWEEN CONTRACTION JOINTS IN THE MEDIAN BARRIER WALL SHALL BE 2'-0". WHEN A DRAINAGE STRUCTURE FALLS WITHIN 2'-0" FROM AN EXPANSION JOINT (OR) CONTRACTION JOINT, THE NEAREST CONTRACTION JOINT SHALL BE OMITTED.
- NON-STAINING GRAY ONE COMPONENT NON-SAG ELASTOMERIC GUN GRADE POLYURETHANE SEALANT MEETING THE REQUIREMENTS OF ASTM C-920, TYPE S, GRADE NS, CLASS 25. USE WITH A BACKER ROD.

3/23/2023 7:58:46 AM P:\Projects\18000\18184\DISCIPLINE\Working\Sheets\15-Misc Details and DT Details\DT\_62G41\_Inf\_Median\_Detail.dgn



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DRAWN - DMR	REVISED -
CHECKED - JRK	REVISED -
DATE - 03/24/2023	REVISED -

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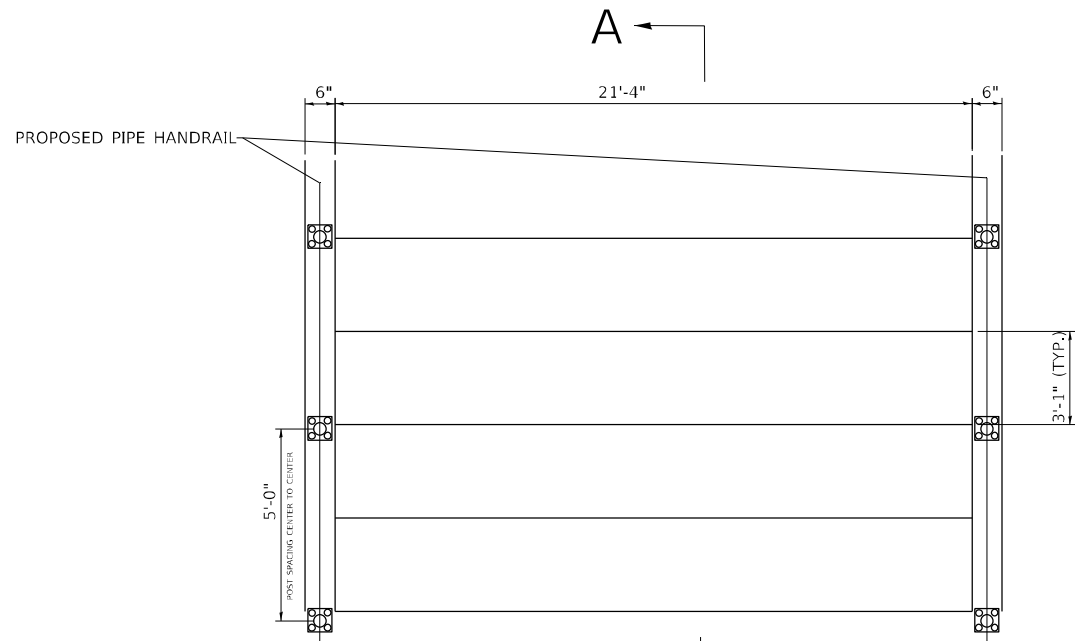
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CONCRETE MEDIAN TRANSITION  
AT BRIDGE PIER DETAIL

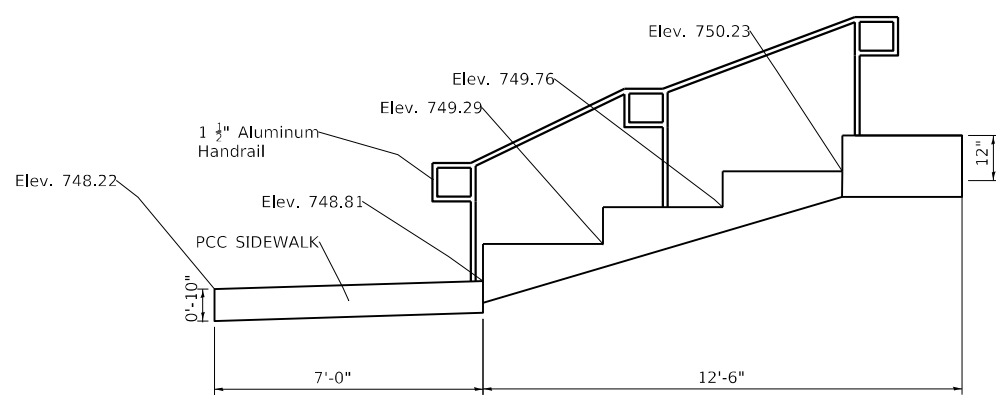
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	295
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				

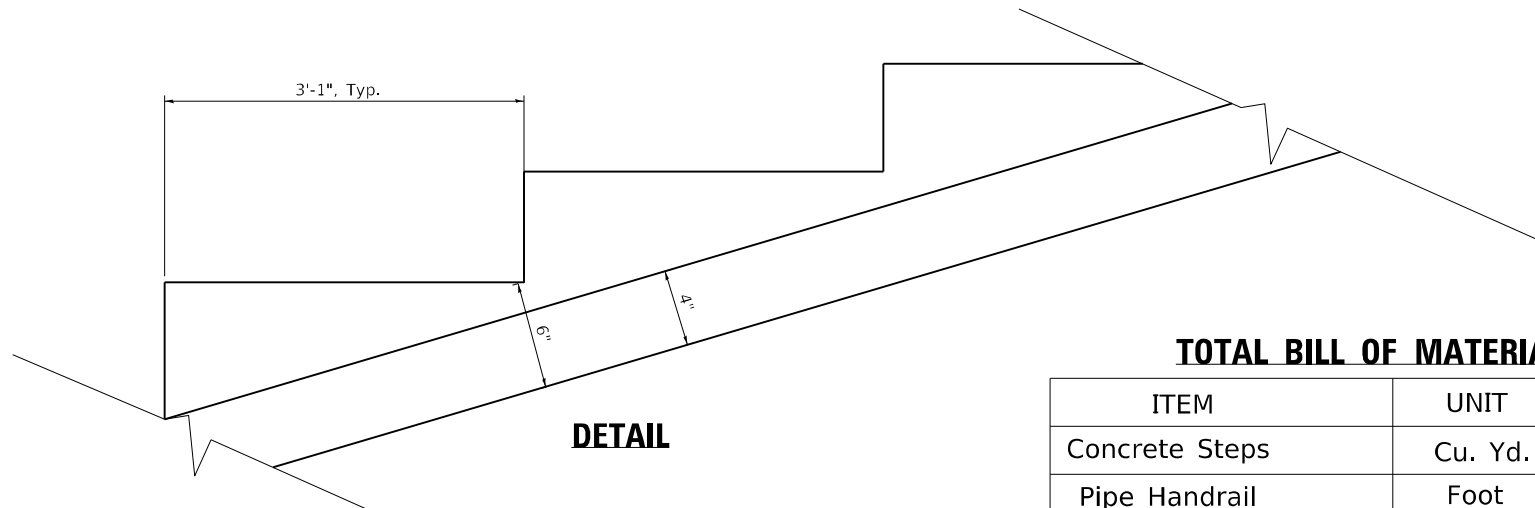




**PLAN**



**SECTION A-A**

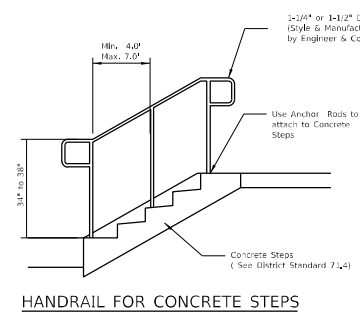


**DETAIL**

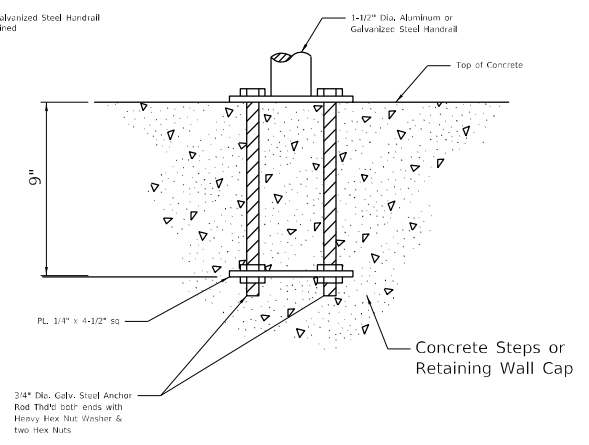
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Concrete Steps	Cu. Yd.	9.3
Pipe Handrail	Foot	25

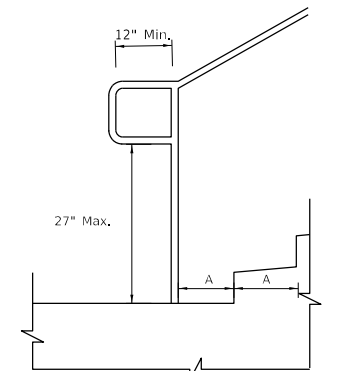
**PIPE HANDRAILS FOR STEPS**



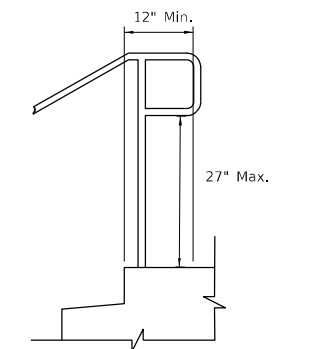
**HANDRAIL FOR CONCRETE STEPS**



**ANCHOR ROD DETAIL**  
(Included in the cost of Hand or Safety Rail)



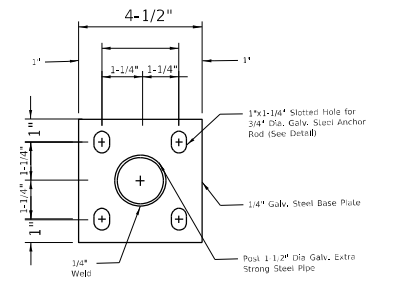
**Extension at Bottom of Run Detail**



**Extension at Top of Run Detail**

**NOTES**

- STAIRWAYS SHALL HAVE CONTINUOUS HANDRAILS BOTH SIDES OF ALL STAIRS.
- THE INSIDE HANDRAIL ON SWITCHBACK DOGLED STAIRS SHALL ALWAYS BE CONTINUOUS.
- GRIPPING SURFACES SHALL BE UNINTERRUPTED BY NEWEL POSTS, OTHER CONSTRUCTION ELEMENTS, OR OBSTRUCTIONS.
- ENDS OF HANDRAIL SHALL BE EITHER ROUNDED OR RETURNED SMOOTHLY TO FLOOR, WALL, OR POST.
- HAND & SAFETY RAILS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
- THE CLEAR SPACE BETWEEN HANDRAILS AND ANY WALL SHALL BE 1 1/2"
- HANDRAIL SHALL CONFORM TO SECTION 506 WITH THE EXCEPTION THAT ALL PIPE AND CONNECTIONS SHALL BE WELDED GALVANIZED OR ALUMINUM ACCORDING TO ARTICLE 1006.30 OR 1006.34.
- THE DIAMETER OF THE GRIPPING SURFACE OF THE HANDRAIL SHALL BE 1-1/4" TO 1-1/2"
- THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR PIPE HANDRAIL.



**POST BASE PLATE DETAIL**  
(Included in the cost of Hand or Safety Rail)

**BILL OF MATERIAL**

Bar	No	Size	Length	Shape
a101(E)	6	#4	59'-4"	
b101(E)	2	#4	78'-9"	

3/23/2023 7:58:47 AM P:\Projects\18000\18184\DISCIPLINE\Working\Sheets\15-Misc Details and DT Details\01\_62641\_sht\_Railing Detail.dgn



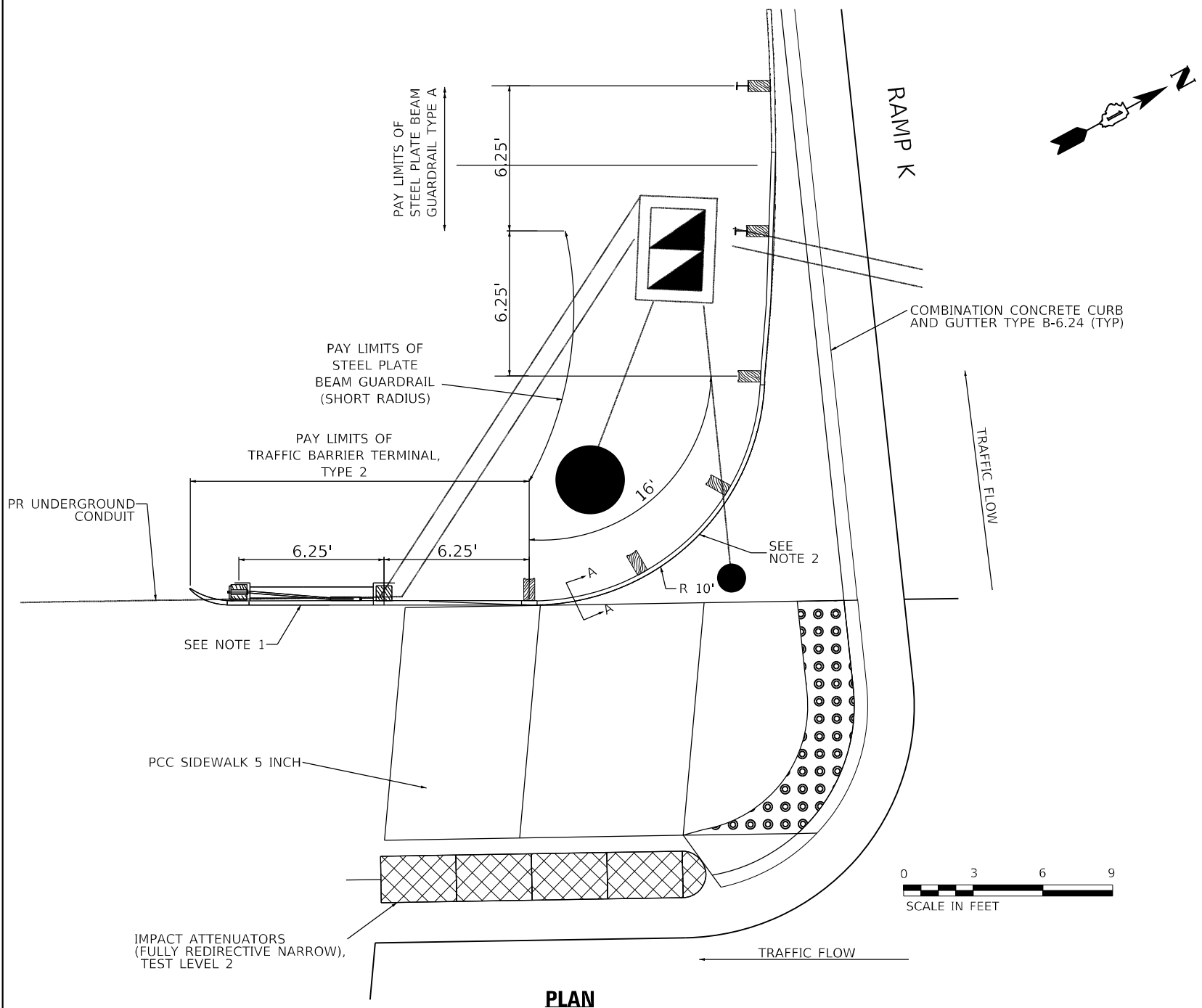
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DATE -	03/24/2023	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

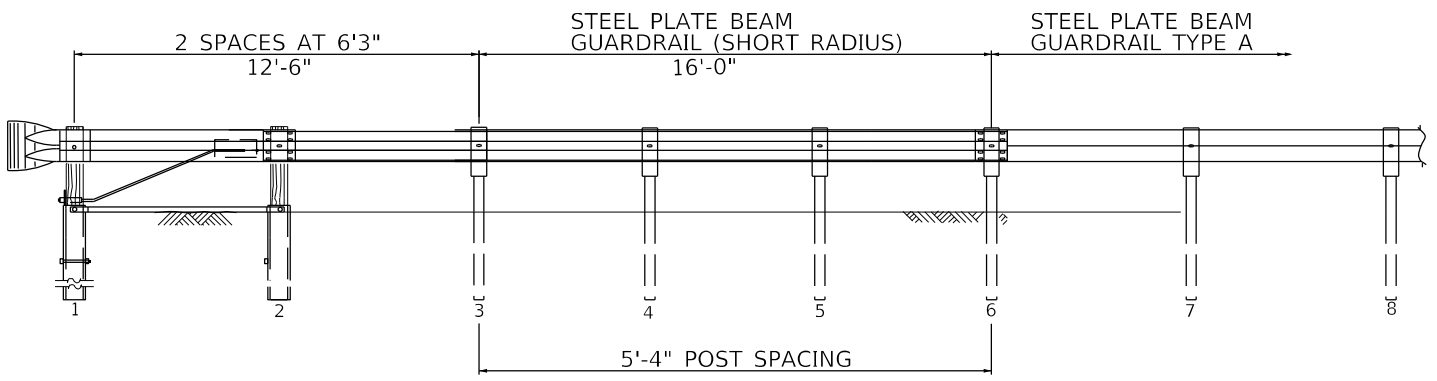
**STEPS AND RAILING  
DETAILS**

SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
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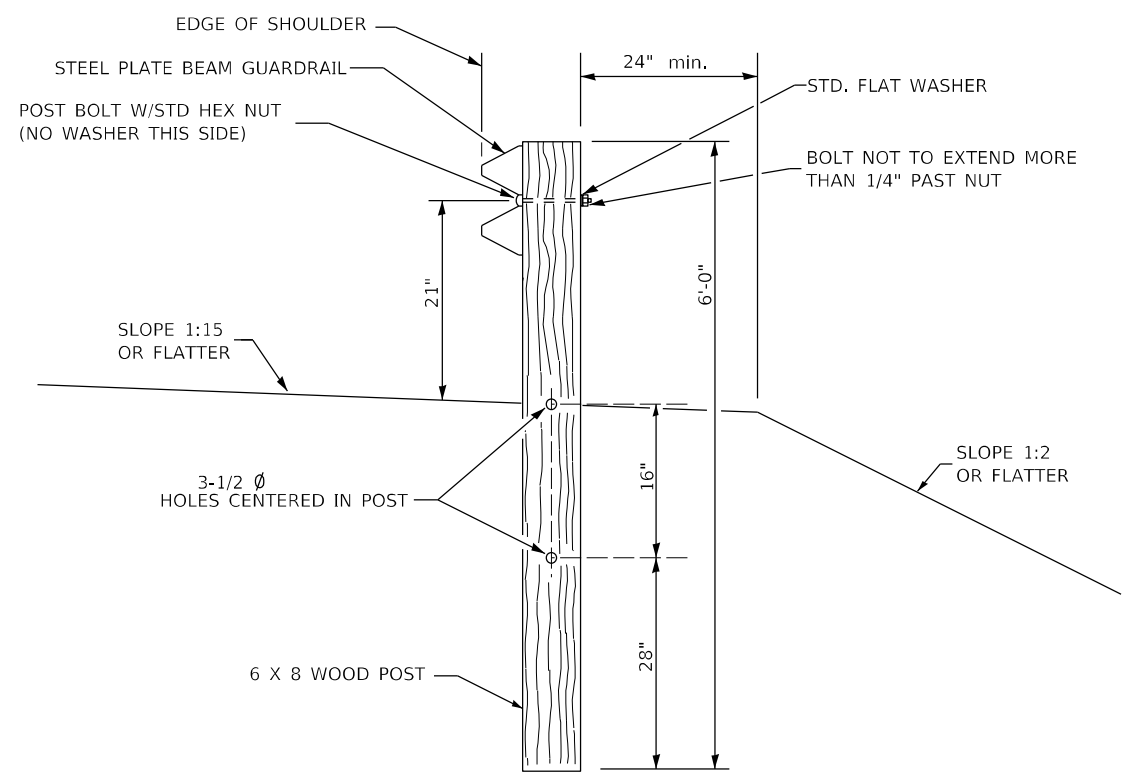
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	8HB-2	KANE	359	296
CONTRACT NO. 62641				
ILLINOIS FED. AID PROJECT				



**PLAN**



**ELEVATION**



**SECTION A-A**

**NOTES**

1. CONSTRUCT ACCORDING TO STANDARD 631011 FOR TRAFFIC BARRIER TERMINAL TYPE 2
2. THE RAIL IS NOT BOLTED TO THE POST LOCATION AT THE MIDPOINT OF THE CURVE FOR 10' RADIUS CURVE.
3. GUARDRAIL SYSTEM SHALL FOLLOW STANDARDS 630001, 631011 EXCEPT AS MODIFIED ON THIS SHEET.

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DATE - 03/24/2023

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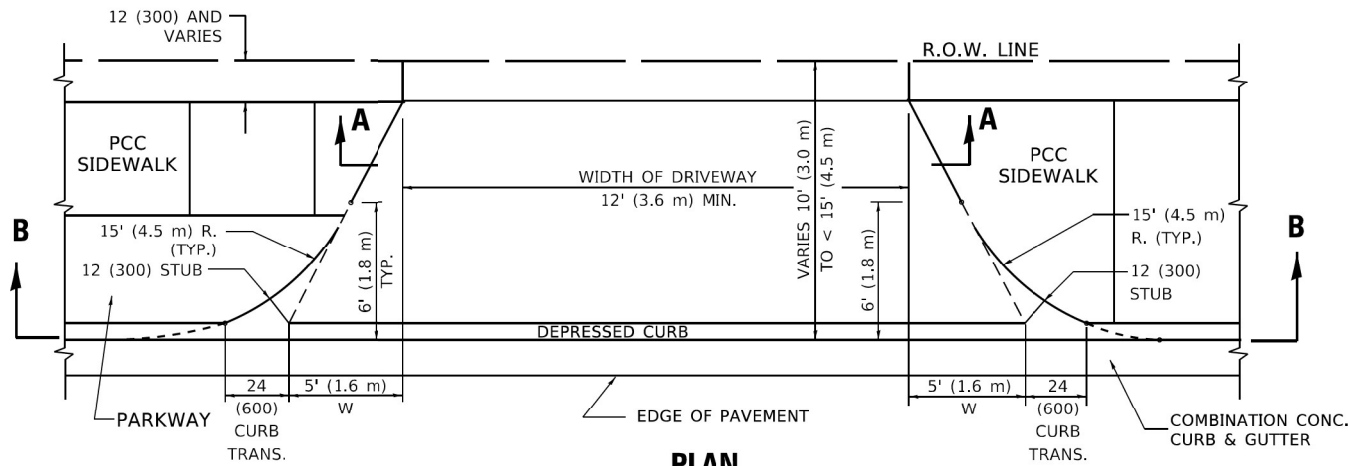
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

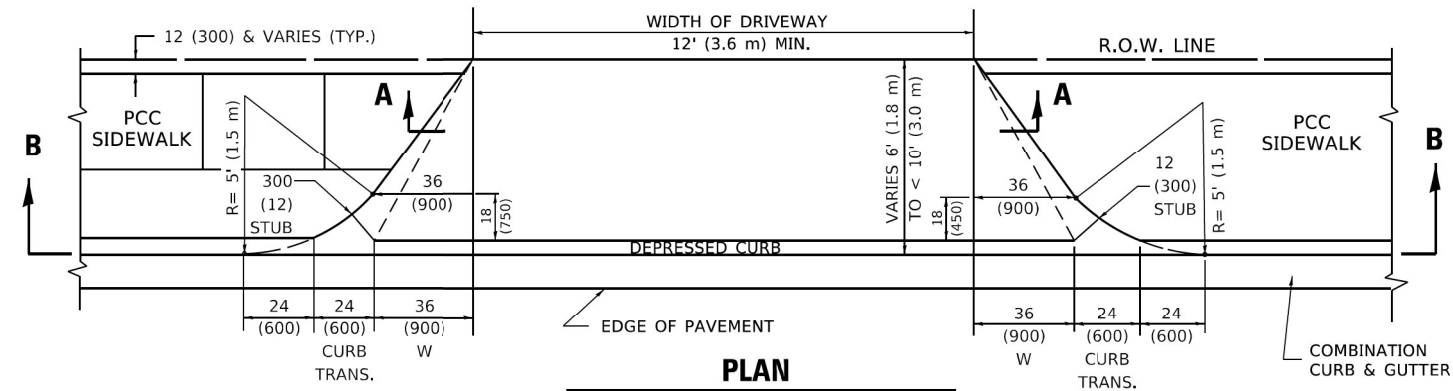
**GUARDRAIL DETAILS**

SCALE: SHEET OF SHEETS STA. TO STA.

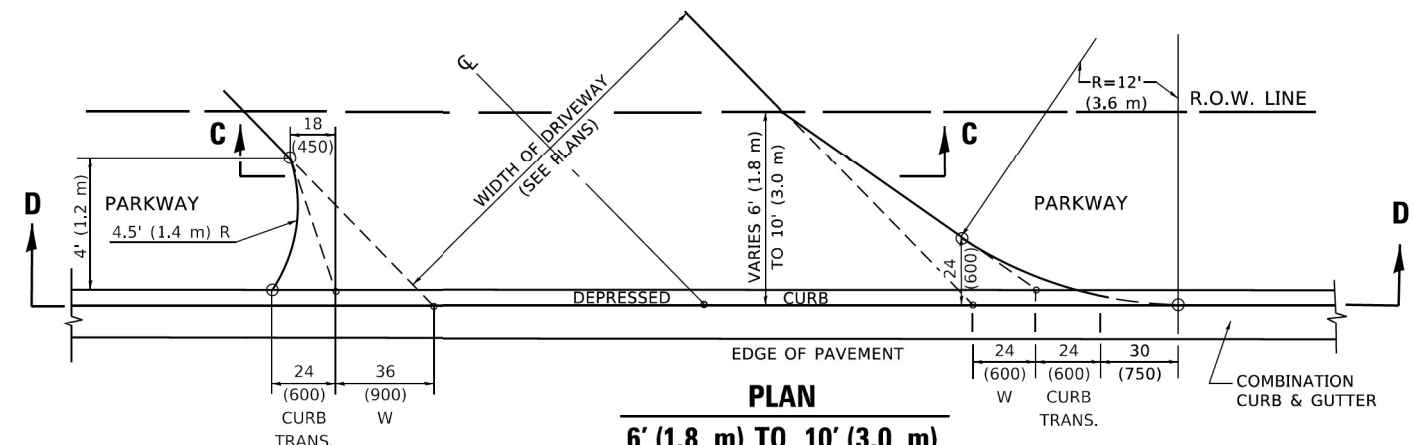
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	297
CONTRACT NO. 62G41				
ILLINOIS FED. AID PROJECT				



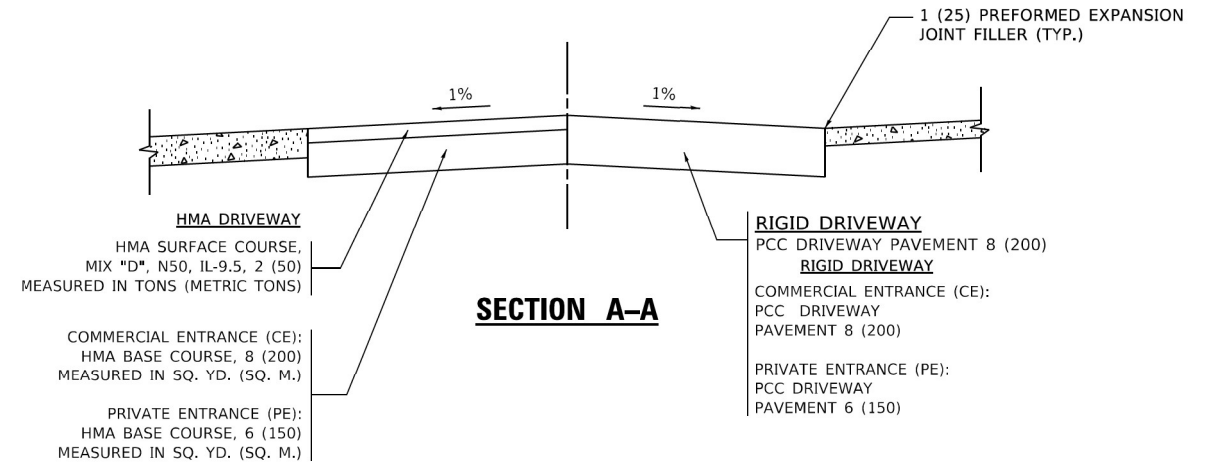
**PLAN**  
10' (3.0 m) TO < 15' (4.5 m)



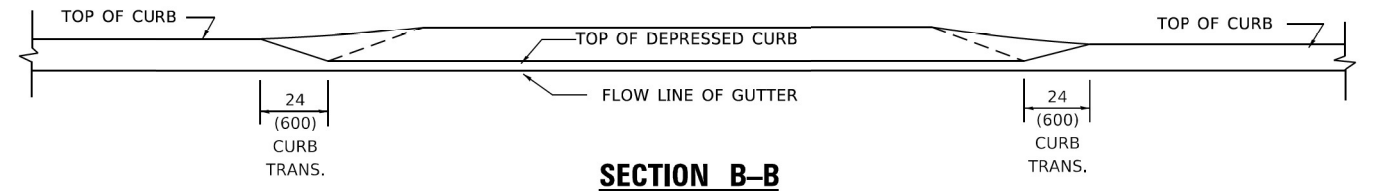
**PLAN**  
6' (1.8 m) TO < 10' (3.0 m)



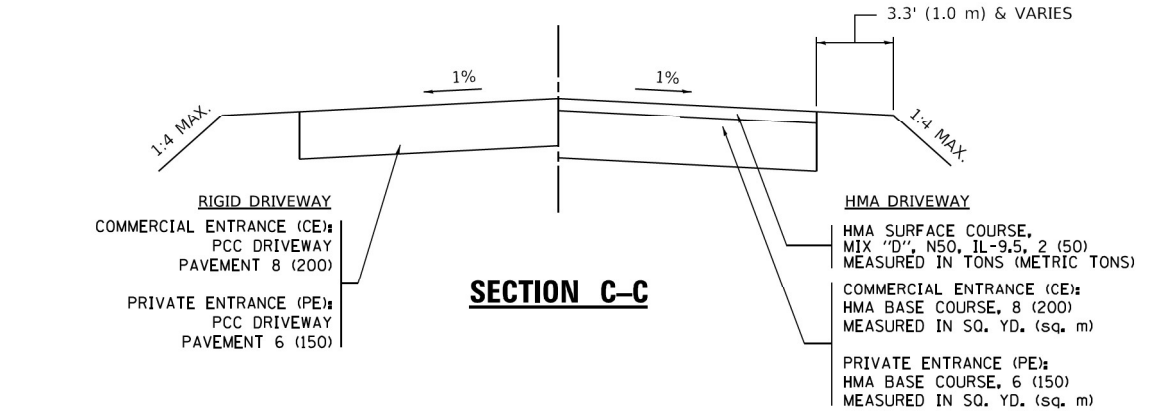
**PLAN**  
6' (1.8 m) TO 10' (3.0 m)



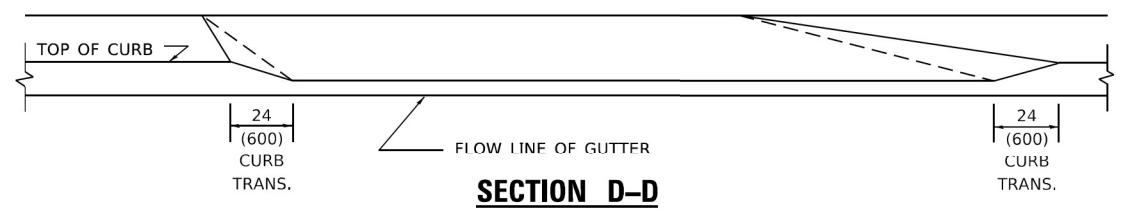
**SECTION A-A**



**SECTION B-B**



**SECTION C-C**



**SECTION D-D**

**GENERAL NOTES**

- DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATION 10 IN THE PERMIT HANDBOOK. WHERE SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED WITH RIGID PAVEMENT. WHERE NO SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED IN KIND. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.
- WHEN THE DISTANCE BETWEEN R.O.W. AND THE BACK OF CURB IS EQUAL TO OR LESS THAN 8' (2.4 m), THE PCC SIDEWALK SHALL EXTEND TO THE BACK OF CURB.
- "W" VARIES FROM 36 (900) TO 5' (1.5 m) PROPORTIONAL TO THE LENGTH (L), FROM 6' (1.8 m) TO 10' (3 m).

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

3/23/2023 7:59:00 AM P:\Projects\18000\18184\DISCIPLINE\Working\Sheets\15-Misc Details and DT Details\DT\_182041\_18184\_BD02.dgn

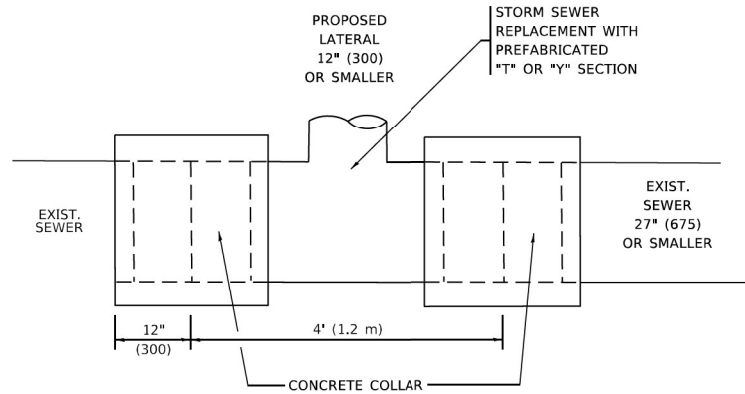


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DATE - 03/24/2023	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

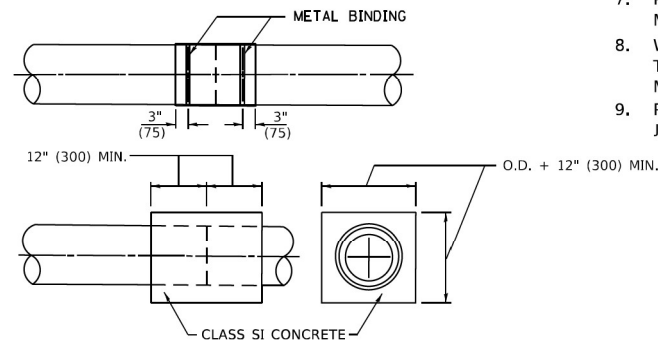
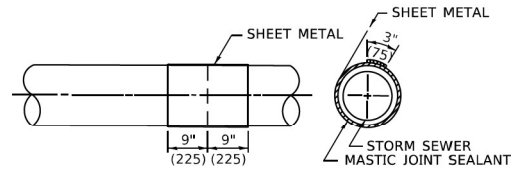
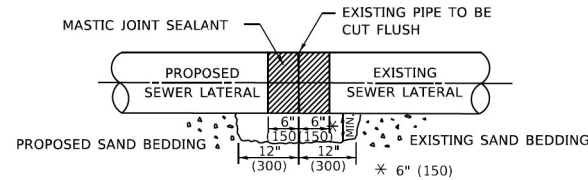
DRIVEWAY DETAILS		
DISTANCE BETWEEN ROW AND FACE OF CURB < 15' (4.5M)		
SCALE: NONE	SHEET 1 OF 1 SHEETS	STA. NONE TO STA. NONE

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345A	BHB-2	KANE	359	298
BD400-02 (BD-02)			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				



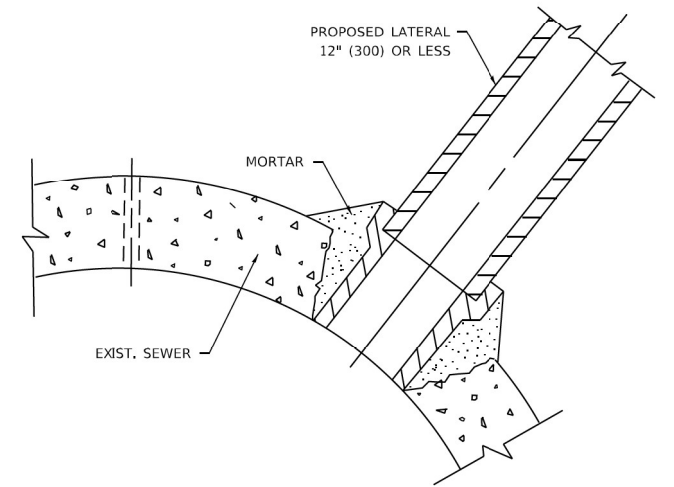
**DETAIL "A"**

LATERAL CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER



**DETAIL "B"**

CLASS SI CONCRETE COLLAR



**DETAIL "C"**

PROPOSED LATERAL CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER

**CONSTRUCTION SEQUENCE**

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12' x 6' (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERENCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OZZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.

**NOTES:**

**MATERIAL**

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

**CONSTRUCTION METHODS**

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

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

**GENERAL**

- CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.
- CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

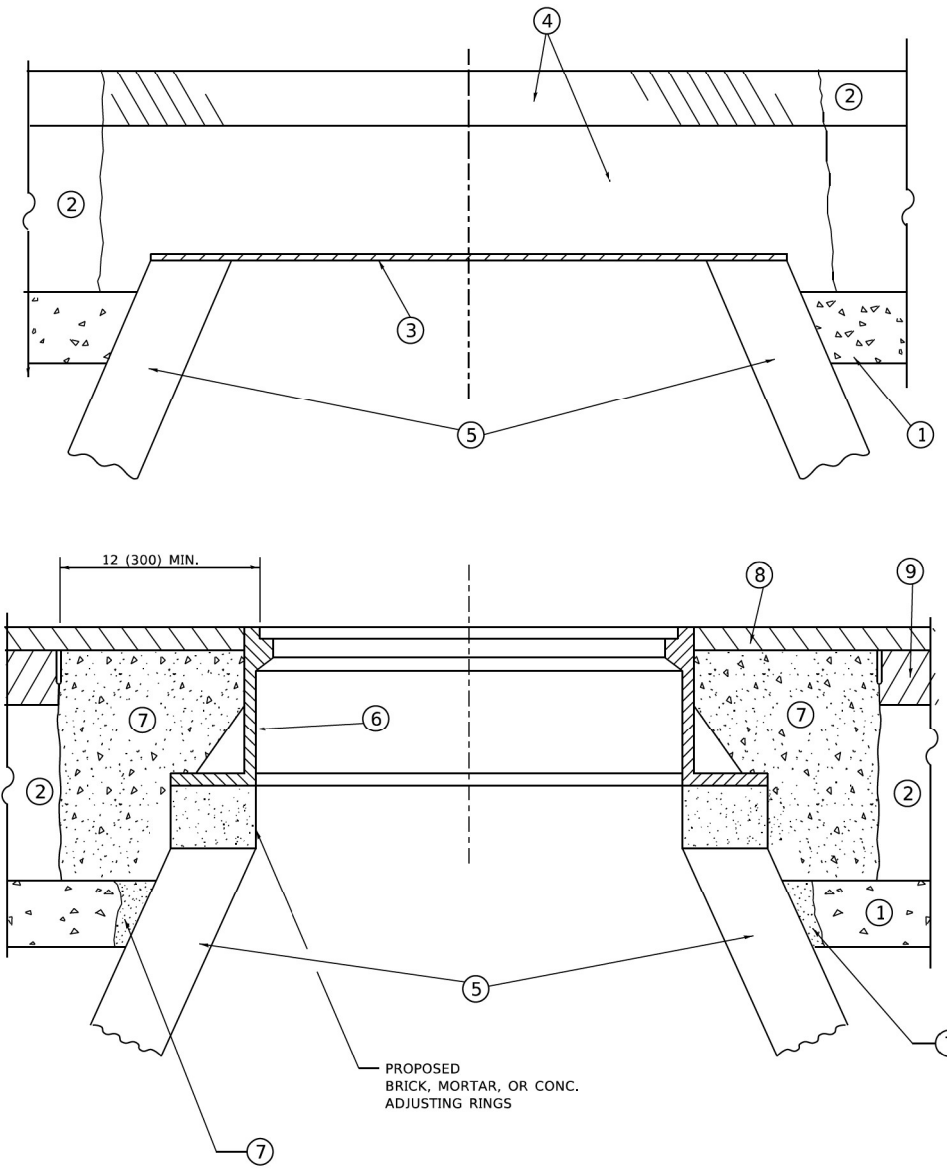
**BASIS OF PAYMENT**

- TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS, THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.
- REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.
- TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.
- CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

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

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	DESIGNED - IDOT	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DETAIL OF STORM SEWER</b> <b>CONNECTION TO EXISTING SEWER</b>		F.A.U. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - IDOT	REVISED -				345A	BHB-2	KANE	359	299
PLOT SCALE = 2.0000' / in. PLOT DATE = 3/23/2023	CHECKED - IDOT	REVISED -		SCALE: NONE	SHEET 1 OF 1 SHEETS	STA. NONE TO STA. NONE	BD500-01 (BD-07)		CONTRACT NO. 62641	
	DATE - 03/24/2023	REVISED -				ILLINOIS		FED. AID PROJECT		



**DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING**

**NOTES**

- EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.
- IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.
- CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.
- THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

**CONSTRUCTION PROCEDURES**

**STAGE 1 (BEFORE PAVEMENT MILLING)**

- REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- BACKFILL WITH CRUSHED STONE AND HMA SURFACE MIX APPROVED BY THE ENGINEER. (MIN. 1 1/2 (40) HMA TO REMAIN AFTER MILLING).

**STAGE 2 (AFTER PAVEMENT MILLING)**

- REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS\*PP-1 CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

\*UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

**LEGEND**

- |  |                               |
|--|-------------------------------|
| ① SUB-BASE GRANULAR MATERIAL                 | ⑥ FRAME AND LID (SEE NOTES)   |
| ② EXISTING PAVEMENT                          | ⑦ CLASS*PP-1 CONCRETE         |
| ③ 36 (900) DIAMETER METAL PLATE              | ⑧ PROPOSED HMA SURFACE COURSE |
| ④ PROPOSED CRUSHED STONE AND HMA SURFACE MIX | ⑨ PROPOSED HMA BINDER COURSE  |
| ⑤ EXISTING STRUCTURE                         |                               |

**LOCATION OF STRUCTURES**

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

**BASIS OF PAYMENT**

- REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."
- THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.
- NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.
- WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DETAILS FOR  
FRAMES AND LIDS ADJUSTMENT WITH MILLING**

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

F.A.U. RTE. 345A	SECTION 8HB-2	COUNTY KANE	TOTAL SHEETS 359	SHEET NO. 300
BD600-03 (BD-08)			CONTRACT NO. 62G41	
ILLINOIS FED. AID PROJECT				