

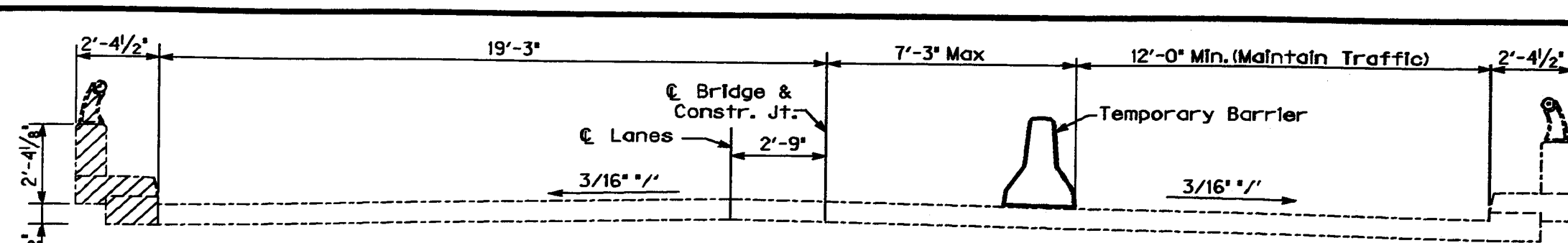
REVISIONS	DATE	10/95	CHECKED BY	D. Carpenter	REVISIONS	DATE
REVISIONS	DATE	10/95	CHECKED BY	M. T. Matthews	REVISIONS	DATE
REVISIONS	DATE	10/95	CHECKED BY		REVISIONS	DATE

24118

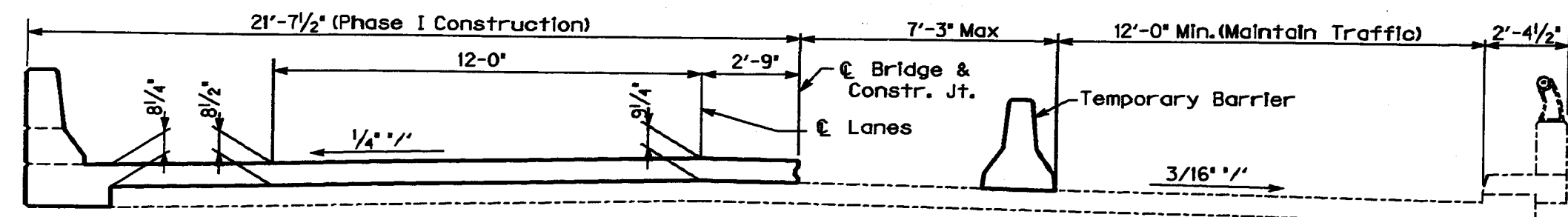


DRAWING NO.
24118

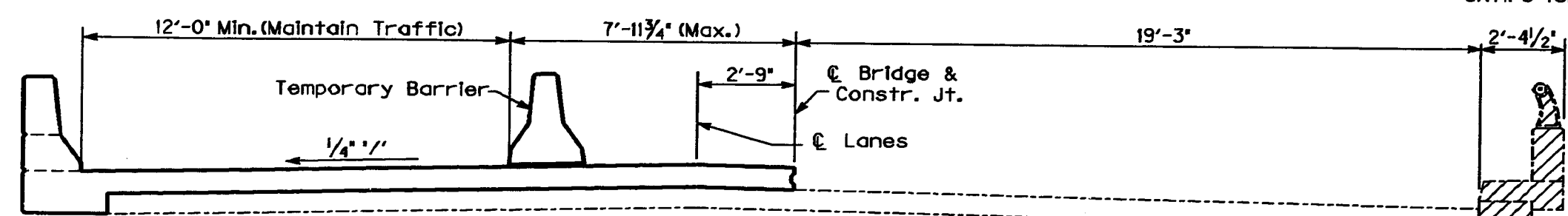
UPDATE DATE
LETTING DATE



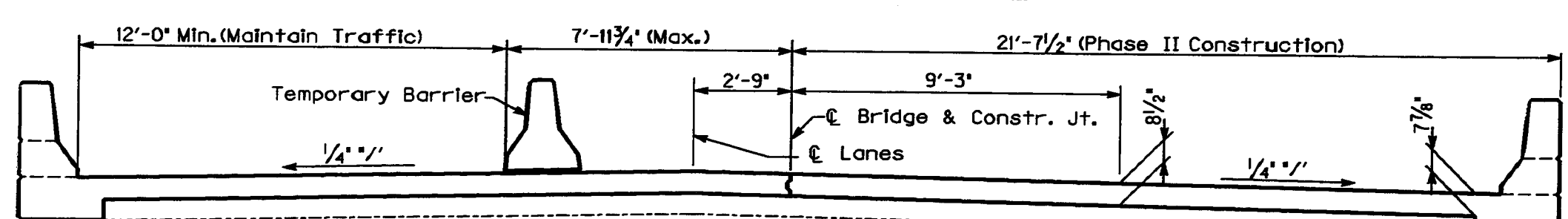
PHASE I REMOVAL



PHASE I CONSTRUCTION

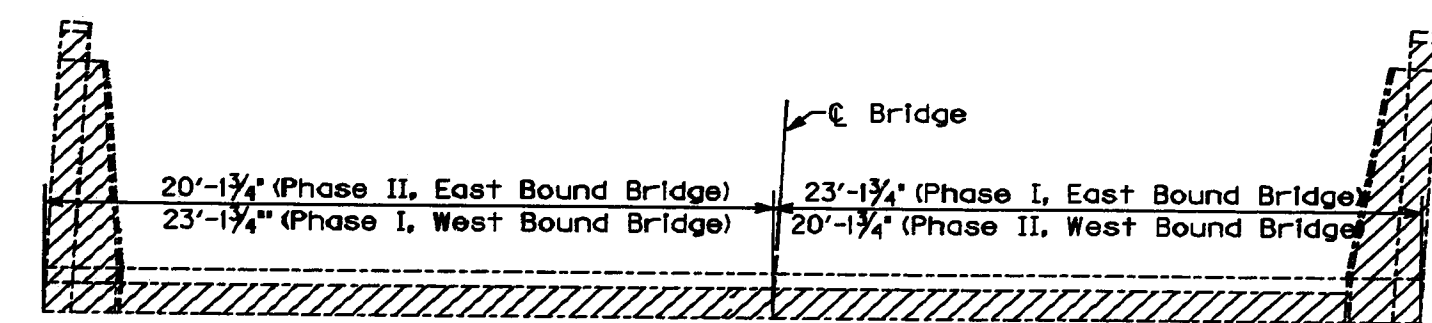


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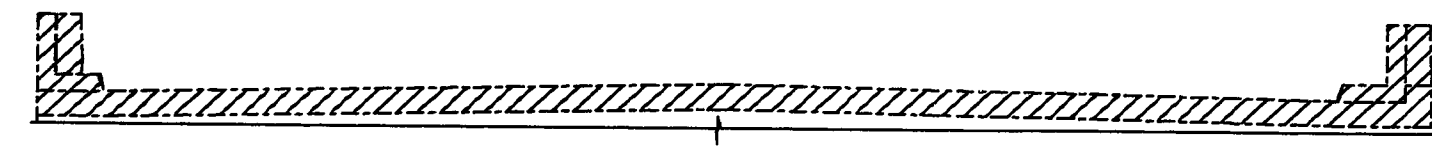


PHASE II CONSTRUCTION

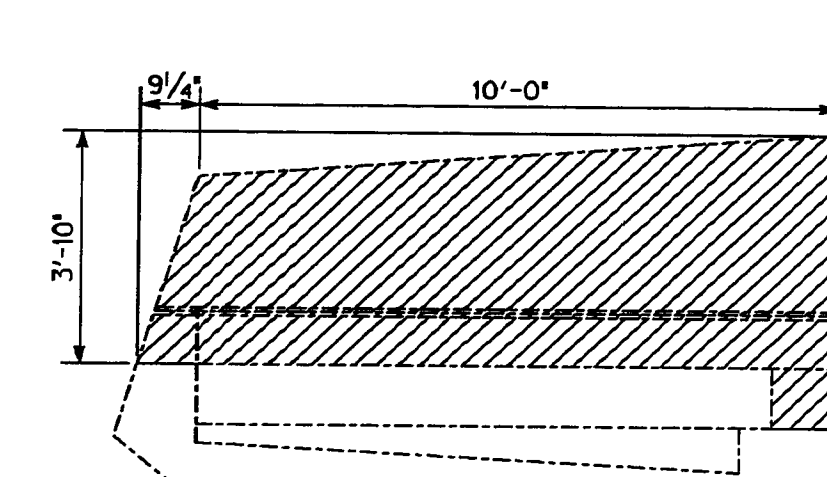
Note: Remove crosshatched portions of existing plinth, curb and handrail, entire length of bridge.



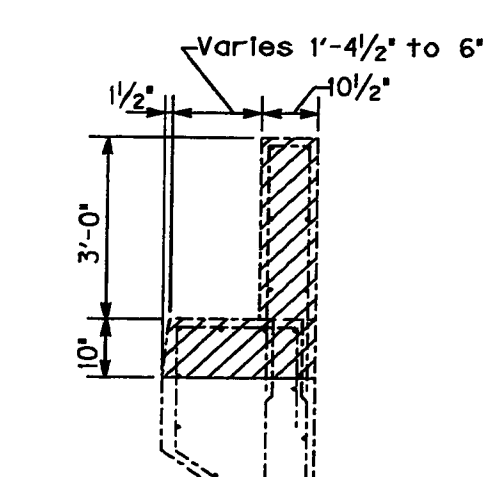
PLAN
(End Bent 1)



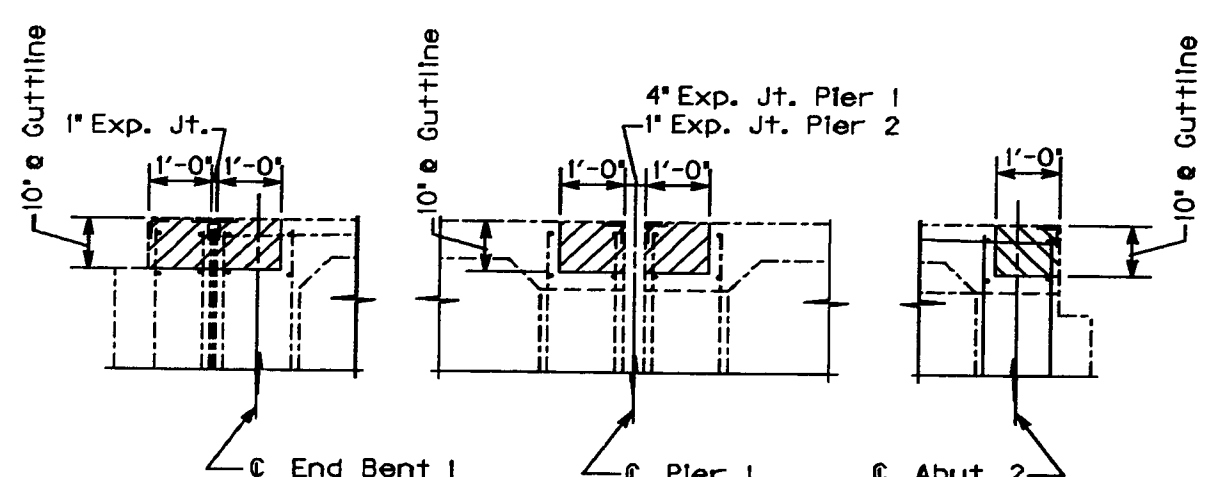
ELEVATION
(End Bent 1)



WING ELEVATION
(End Bent 1)

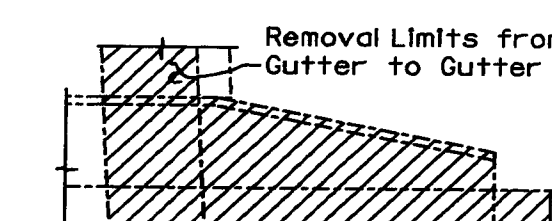


WING SECTION
(End Bent 1)

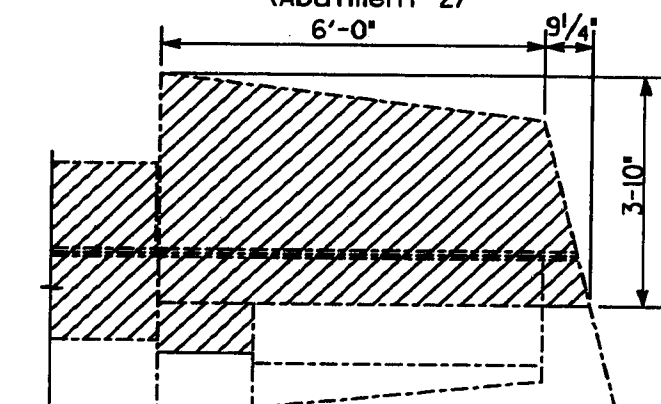


SECTION @ END OF SLAB

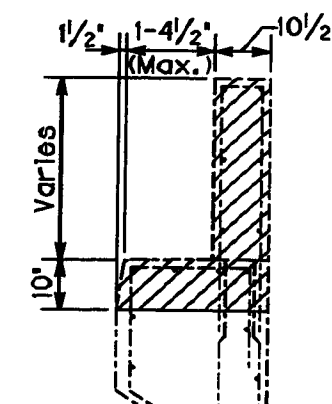
Remove crosshatched portions of existing slab and existing expansion joints. Section is measured from gutter to gutter.



PLAN
(Abutment 2)



WING ELEVATION
(Abutment 2)



WING SECTION
(Abutment 2)

Note: Do not damage existing reinforcement that can be used in the new concrete. Clean, straighten & rebend all reinforcement as directed by the engineer into new concrete.

PHASE CONSTRUCTION & REMOVAL DETAILS

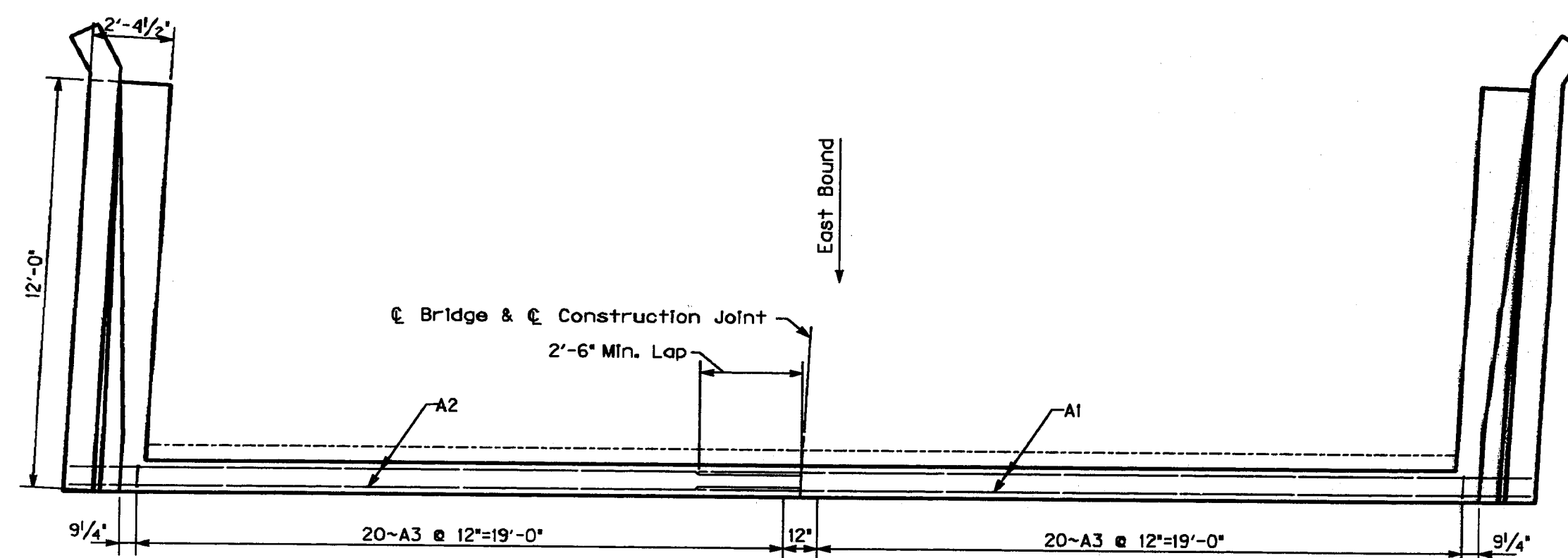
DESIGNED BY: D. COOPER/STP
CHECKED BY: M. I. MATTHEWS
DATE: 10/75
REVISION: 10/75
PREPARED BY: D. COOPER/STP
DATE: 10/75
REVISION: 10/75

I-64 over KY 32 Sheet 4

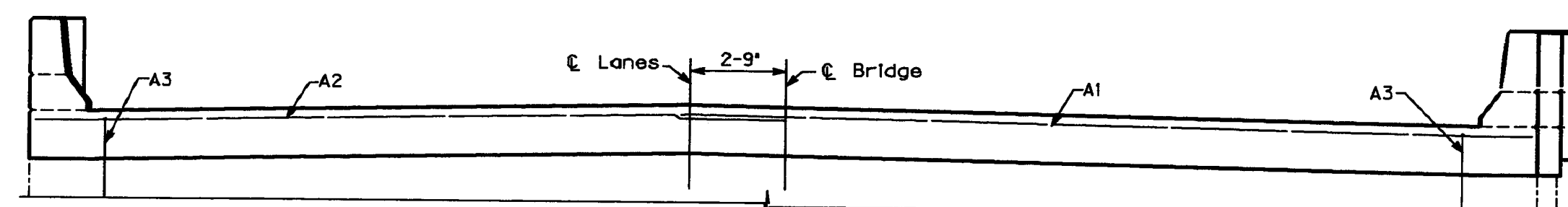
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
ROWAN
LEXINGTON-CATLETTSBURG
ROAD

STATION	CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
			24118

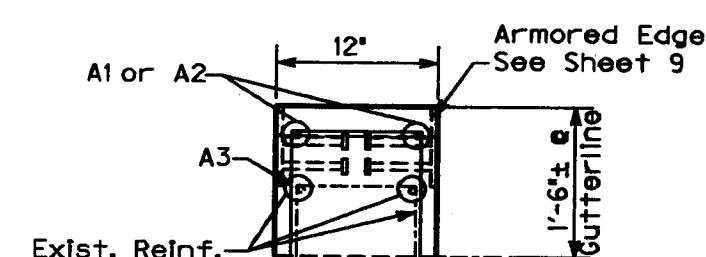
UPDATE DATE
LETTING DATE



PLAN
(East Bound Bridge Shown, West Bound Symmetrical about C of Bridge)



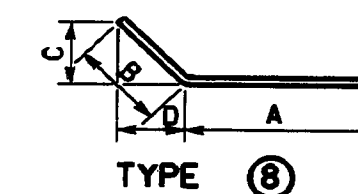
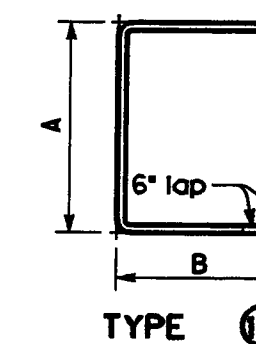
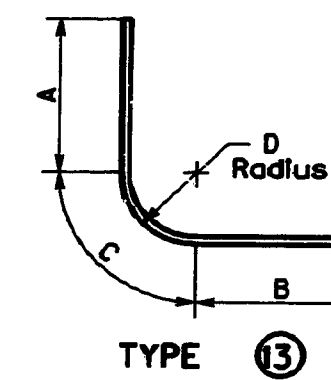
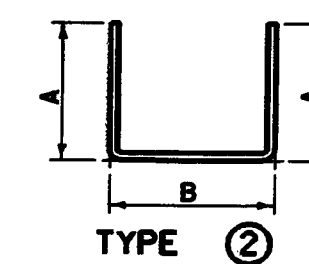
ELEVATION



SECTION THROUGH CAP

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT. IN.	LOCATION	A	E	B	F	C	G	D	H
A1e	Str	4	5	24 0	CAP								
A2e	Str	4	5	21 6	CAP								
A3e	2	80	5	1 9	CAP	0	8	0	8				
A4e	Str	56	5	11 7	WING								
A5e	2	48	5	5 7	WING	2	7	0	6 1/2				
A6e	13	48	5	3 3	WING	1	8	1	3 3/4	0	3 1/4	0	2 1/2
A7e	13	48	5	2 8	WING	1	8	0	9	0	3 1/4	0	2 1/2
A8e	14	8	5	8 6	WING	3	5 1/4	0	6 1/2				
A9e	8	16	5	3 11	WING	2	8 1/4	1	2 1/4	0	7 1/4	1	0 3/4
A10e	8	16	5	4 1	WING	2	9 1/2	1	3 1/2	0	7 1/4	1	1 1/2



This Bill of Reinforcement is for Both Bridges.

Work this sheet
with sheet 6.

I-64 over KY 32

Sheet 5

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

FRANKFORT
COUNTY OF
ROWAN
LEXINGTON-CATLETTSBURG
ROAD

STATION

CONSTRUCTION PROJECT NO.

MAINTENANCE PROJECT NO.

DRAWING NO.

END BENT 1

24118

DESIGNED BY <u>D. Carpenter</u>	CHECKED BY _____	DATE <u>10/95</u>	REVISED _____
DETAILS BY <u>M.T. Matthews</u>	CHECKED BY _____	DATE <u>10/95</u>	REVISED _____
PREPARED BY _____	CHECKED BY _____	DATE <u>10/95</u>	REVISED _____



I-64 over KY 32

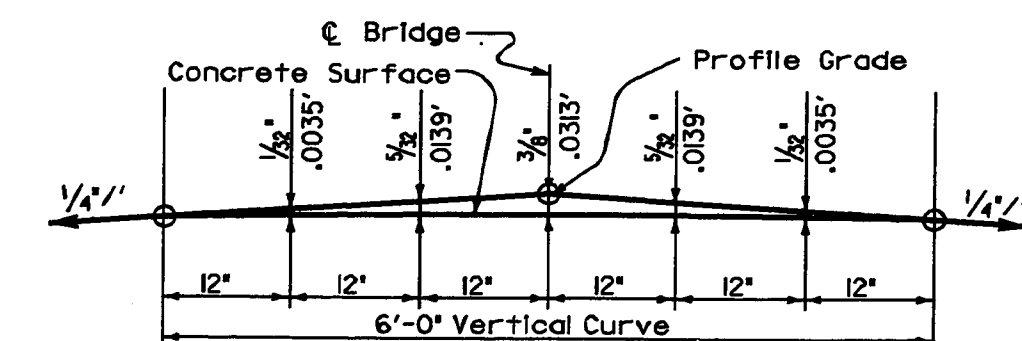
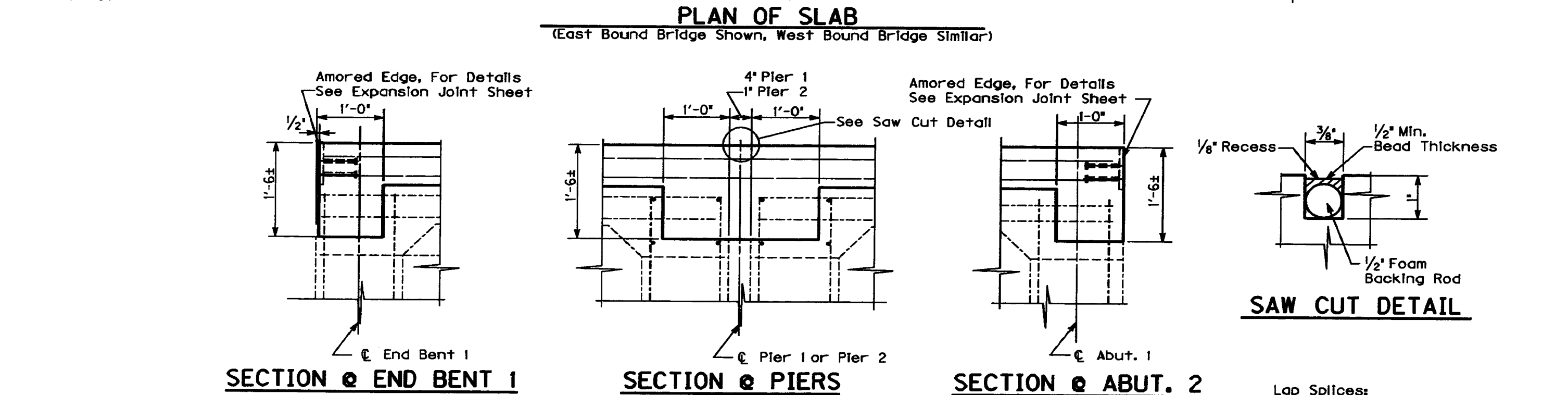
Sheet 6

FRANKFORT
COUNTY OF
ROWAN
LEXINGTON-CATLETTSBURG
ROAD

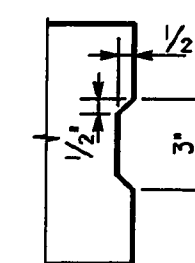
STATION		
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO. 2411

END BENT 1

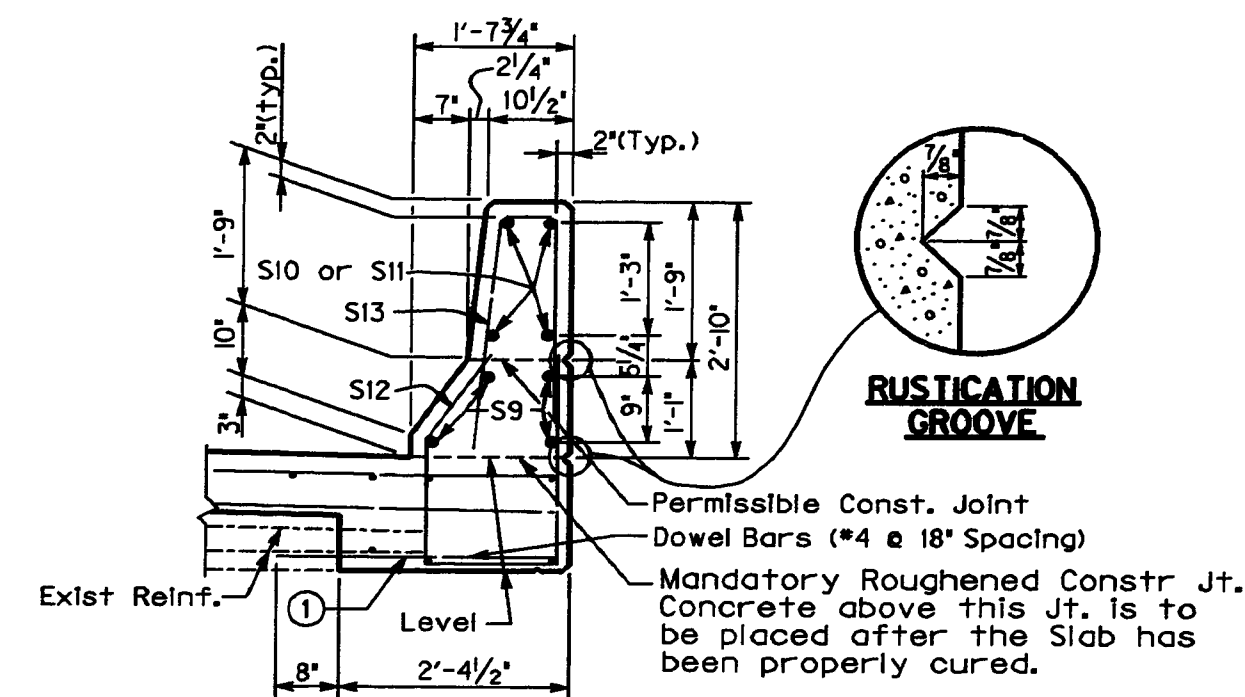
DESIGNED BY <u>D. Carpenter</u>	CHECKED BY _____	DATE <u>10/95</u>	REVIEWED _____	DATE _____
REVIEWED BY <u>W.T. Matthews</u>	CHECKED BY _____	DATE <u>10/95</u>	REVIEWED _____	DATE _____
PREPARED BY GRAPHICS SECTION	CHECKED BY _____	DATE <u>10/95</u>	REVIEWED _____	DATE _____



PARABOLIC CROWN



CONSTRUCTION JOINT



- ① The existing curb and handrail may be removed by sawing at the gutterline. However dowel bars shall be drilled and grouted in the edge of slab as shown. If the removal method preserves the existing transverse reinforcement, dowel bars will not be required. Cost of dowel bars is to be incidental to Remove Existing Reinforced Concrete.

SECTION THROUGH BARRIER
(Typ. Ea. Barrier)

I-64 over KY 32

Sheet 7

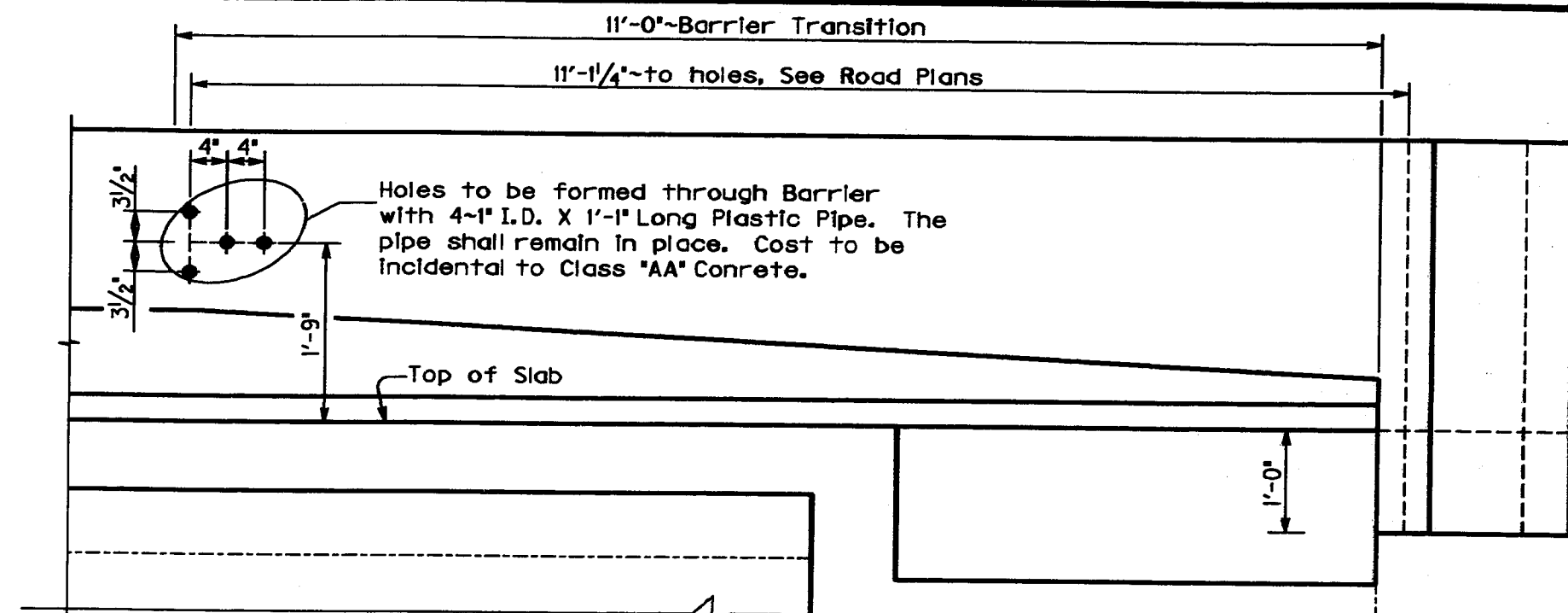
COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS

FRANKFORT
COUNTY OF
ROWAN
LEXINGTON-CATLETTSBURG
ROAD

STATION		
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO. 24111

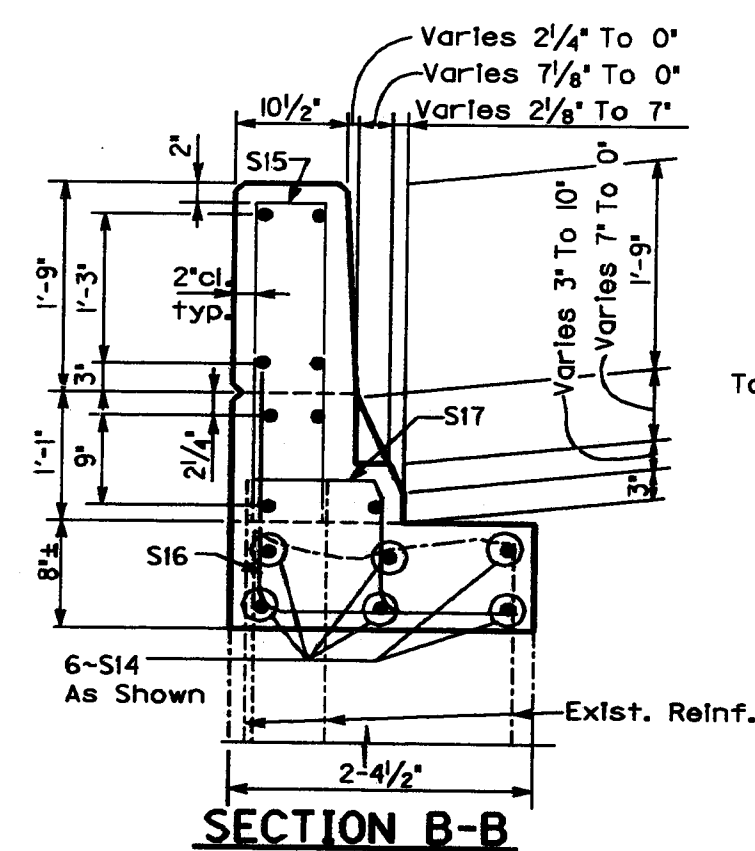
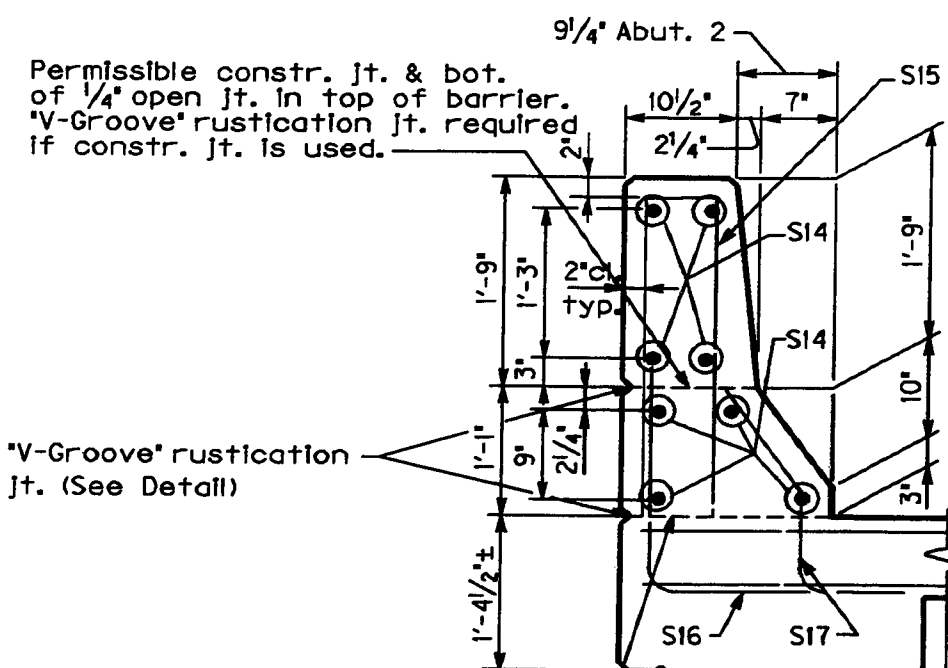
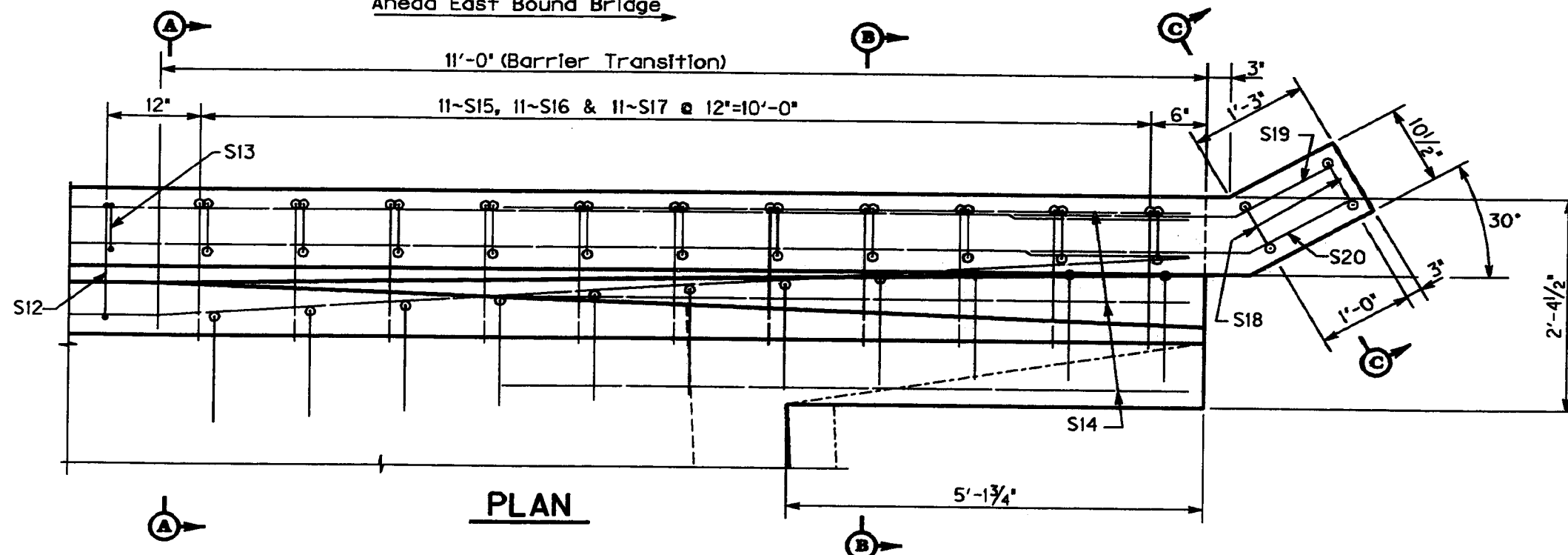
SUPERSTRUCTURE

UPDATE DATE
LETTING DATE

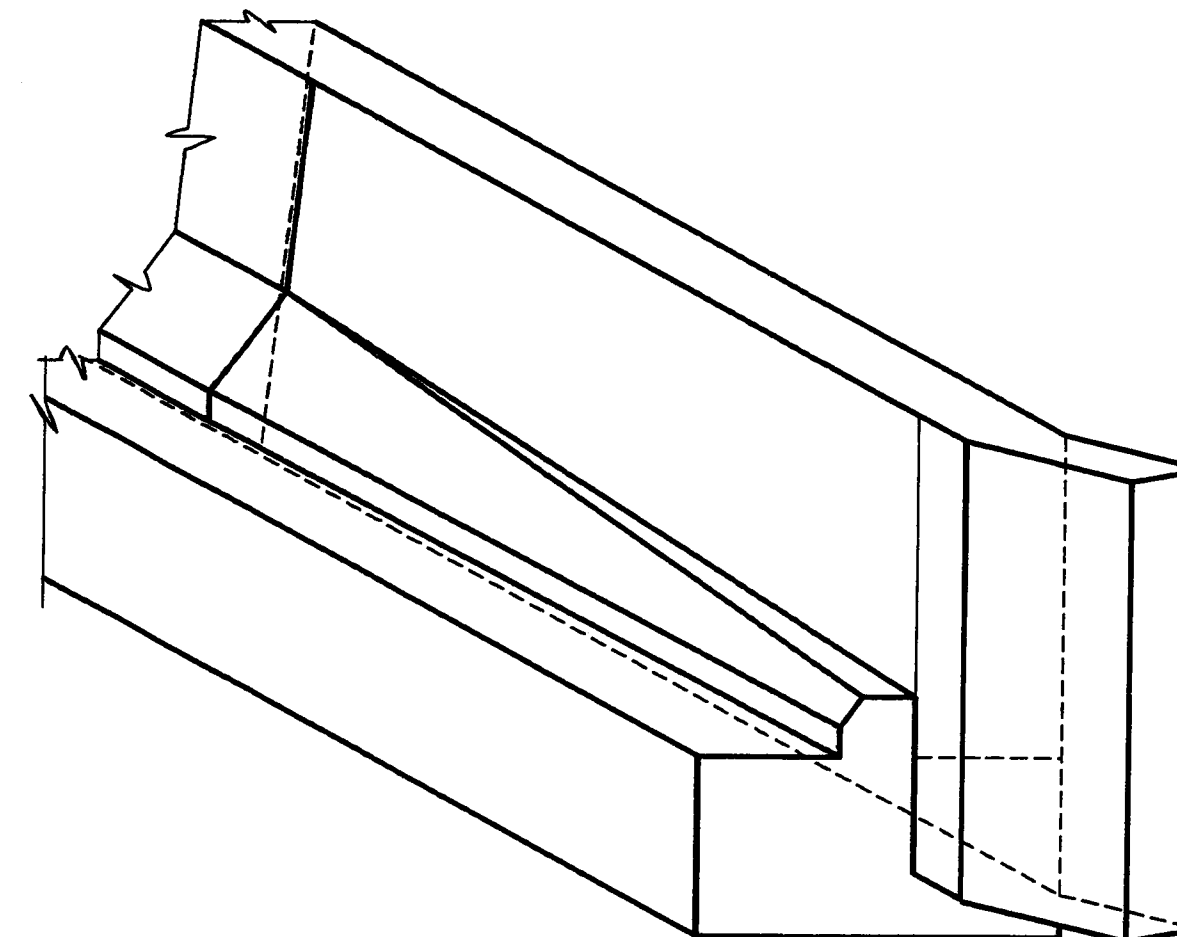
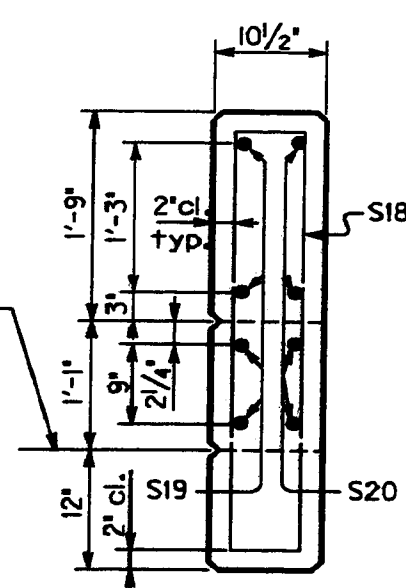


ELEVATION

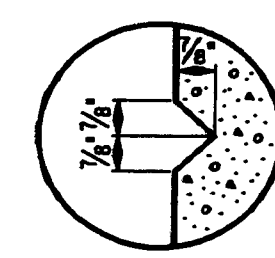
Ahead West Bound Bridge
Ahead East Bound Bridge



Top of Slab



OBLIQUE VIEW
(Abutment 2)



RUSTICATION GROOVE

SUPERSTRUCTURE

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT. IN.	LOCATION	A	E	B	F	C	G	D	H
S1a	Str	2	5	15 7	BOTTOM OF SLAB								
S2a	Str	205	5	24 0	BOTTOM OF SLAB								
S3a	Str	205	5	21 6	BOTTOM OF SLAB								
S4a	Str	2	6	15 7	TOP OF SLAB								
S5a	Str	205	6	24 6	TOP OF SLAB								
S6a	Str	205	6	21 6	TOP OF SLAB								
S7a	Str	117	5	53 3	BOTTOM OF SLAB								
S8a	Str	138	4	53 0	TOP OF SLAB								
S9a	Str	24	8	54 9	BARRIER								
S10a	Str	16	5	17 2	BARRIER								
S11a	Str	16	5	59 8	BARRIER								
S12a	Str	17	298	5	5 7	BARRIER	2	2 1/2	1	4 1/4			
S13a	Str	16	298	5	5 7	BARRIER							
S14a	Str	28	5	7 3	BARRIER TRANSITION								
S15a	Str	2	22	5 5 7	BARRIER TRANSITION	2	7 1/2	0	16 1/2				
S16a	Str	13	22	5 3 3	BARRIER TRANSITION	1	8	1	3 1/2	0	3 1/2	0	2 1/2
S17a	Str	13	22	5 2 11	BARRIER TRANSITION	1	8	0	11 1/2	0	3 1/2	0	2 1/2
S18a	Str	14	4	5 8 6	BARRIER TRANSITION	3	5 1/2	0	6 1/2				
S19a	Str	8	8	5 3 11	BARRIER TRANSITION	2	8 1/2	1	2 1/4	0	7 1/2	1	0 1/2
S20a	Str	8	8	5 4 1	BARRIER TRANSITION	2	9 1/2	1	3 1/2	0	7 1/2	1	1 1/2

Note: This Bill of Reinforcement is for one Bridge only, 2 Required

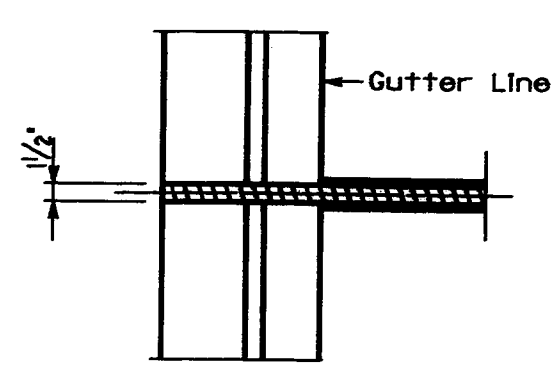
I-64 over KY 32

Sheet 8

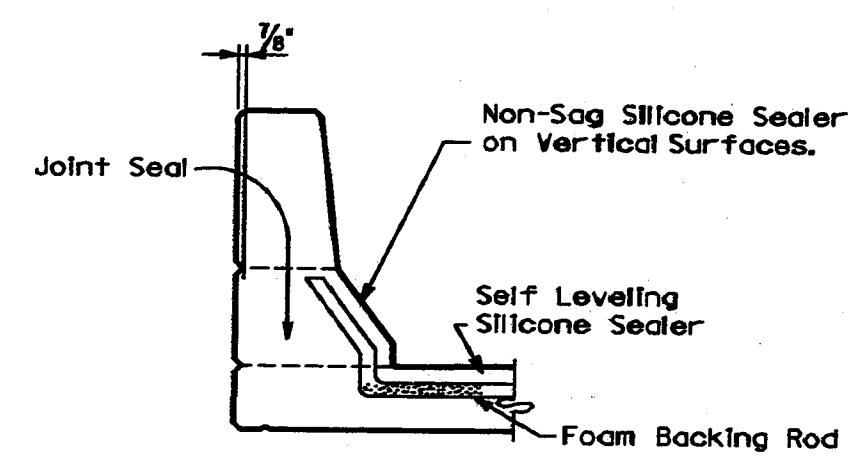
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
ROWAN
LEXINGTON-CATLETTSBURG
ROAD

STATION
CONSTRUCTION PROJECT NO.
MAINTENANCE PROJECT NO.
DRAWING NO.
24118

UPDATE DATE _____
 LETTING DATE _____

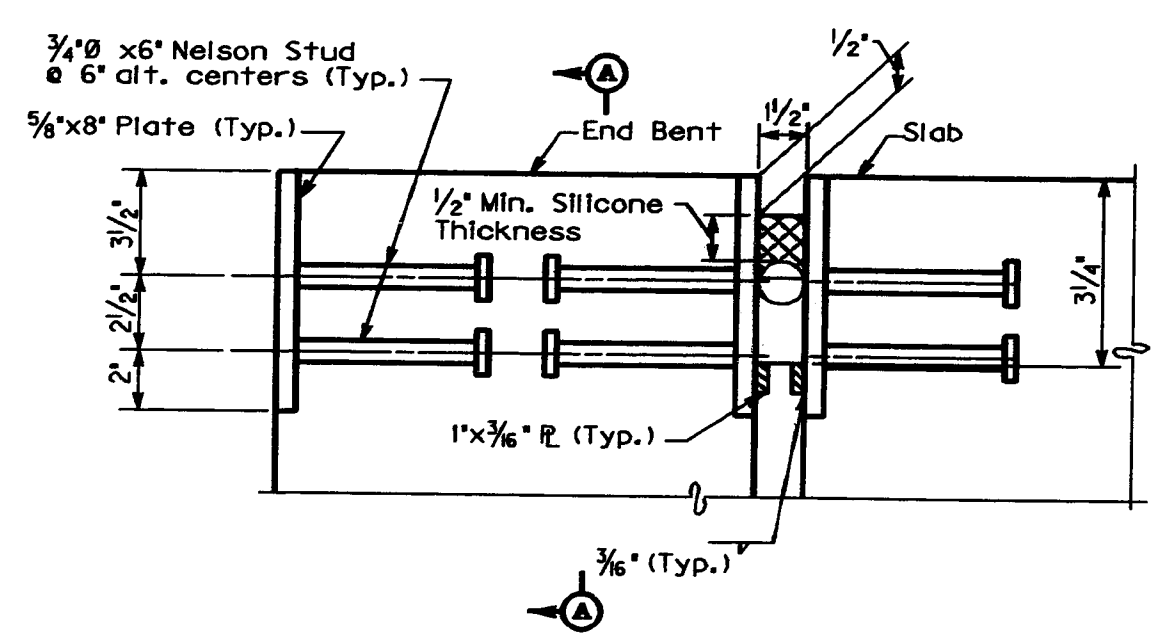


PLAN VIEW AT GUTTER

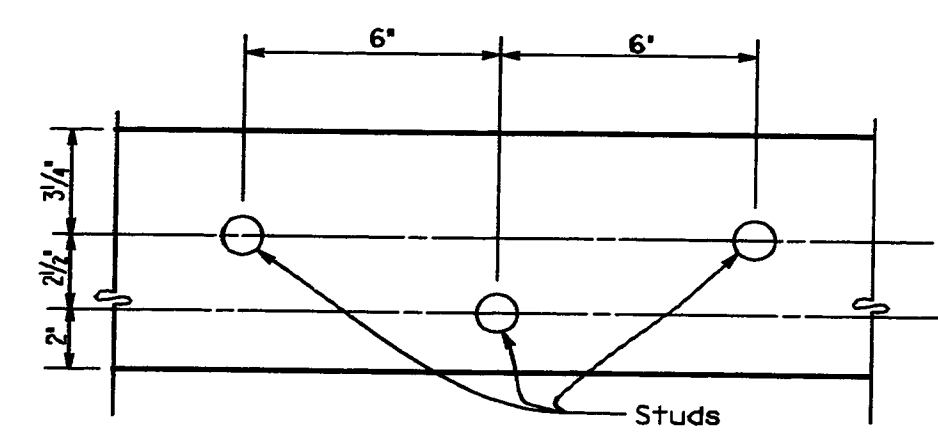


SECTION THROUGH BARRIER

JOINT OPENING
 MINIMUM WIDTH OF JOINT OPENING @ 60° = 1 1/2" WITH REQUIRED MOVEMENT OF 1"



ARMORED EDGE AND EXPANSION DAM



SECTION A-A

INCREMENT FOR 10° TEMPERATURE CHANGE	
53'-0" Span	53'-0", 75'-0" Spans
1/32"	1/16"

MINIMUM WIDTH OF JOINT OPENING AT 60° SEE DESIGN DRAWINGS	REQUIRED MOVEMENT
SIZE=1 1/2"	1"

GENERAL NOTES

SPECIFICATIONS
 THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION SHALL APPLY TO THIS PROJECT.

INSTALLATION PROCEDURE
 THE ENDS OF THE JOINT SEAL SHALL BE SEALED TO PREVENT THE ENTRANCE OF WATER AND FOREIGN MATERIAL.

WELDING SPECIFICATIONS
 TECHNIQUES AND WELDING PROCEDURE SHALL COMPLY WITH JOINT SPECIFICATION ANSI/AASHTO/AWS D1.5-88 BRIDGE WELDING CODE WITH REVISIONS.

BASIS OF PAYMENT
 THE ACCEPTED QUANTITIES OF EXPANSION DAM WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR EACH SIZE, MEASURED ALONG THE CENTERLINE OF JOINT. THIS PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS (INCLUDING SILICONE SEALER WITH FOAM BACKING ROD, ARMORED EDGES, ANCHOR STUDS, 1" X 3/16" BARS, WELDING AND WELDING MATERIALS AND INSTALLING HARDWARE) AND INSTALLATION. PAYMENT WILL BE MADE UNDER:

PAY ITEM	PAY UNIT
REPLACE JOINT 1 1/2"	LINEAR FOOT

MATERIAL SPECIFICATIONS
 STEEL MATERIAL SHALL BE NEW, COMMERCIAL GRADE STEEL SUITABLE FOR WELDING. ACCEPTANCE WILL BE BASED ON VISUAL INSPECTION BY THE ENGINEER. JOINT SEALING MATERIAL, ONLY, SHALL BE IN ACCORDANCE WITH SECTION 807.02.05 OF THE SPECIFICATIONS AND THE SPECIAL NOTES.

LOCATION
 THE LOCATION OF EXPANSION DAMS SHALL BE IN ACCORDANCE WITH THE DETAIL PLANS.

PAINT
 ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS, EXCEPT THAT AREA IN CONTACT WITH CONCRETE SHALL NOT BE PAINTED.

SHOP PLANS
 CONTRARY TO THE SPECIFICATIONS, SHOP PLANS WILL NOT BE REQUIRED.

TEMPERATURE CHANGE
 1/16" INCREMENT FOR 10° TEMPERATURE CHANGE - 1 1/2" JOINT.

DESIGNED BY: J. GORDON
 CHECKED BY: J. GORDON
 DATE: 10/95
 PREPARED BY: J. GORDON
 DATE: 10/95
 REVISIONS: _____
 DATE: _____
 CHECKED BY: _____
 DATE: _____

ARMORED EDGE & EXPANSION DAM

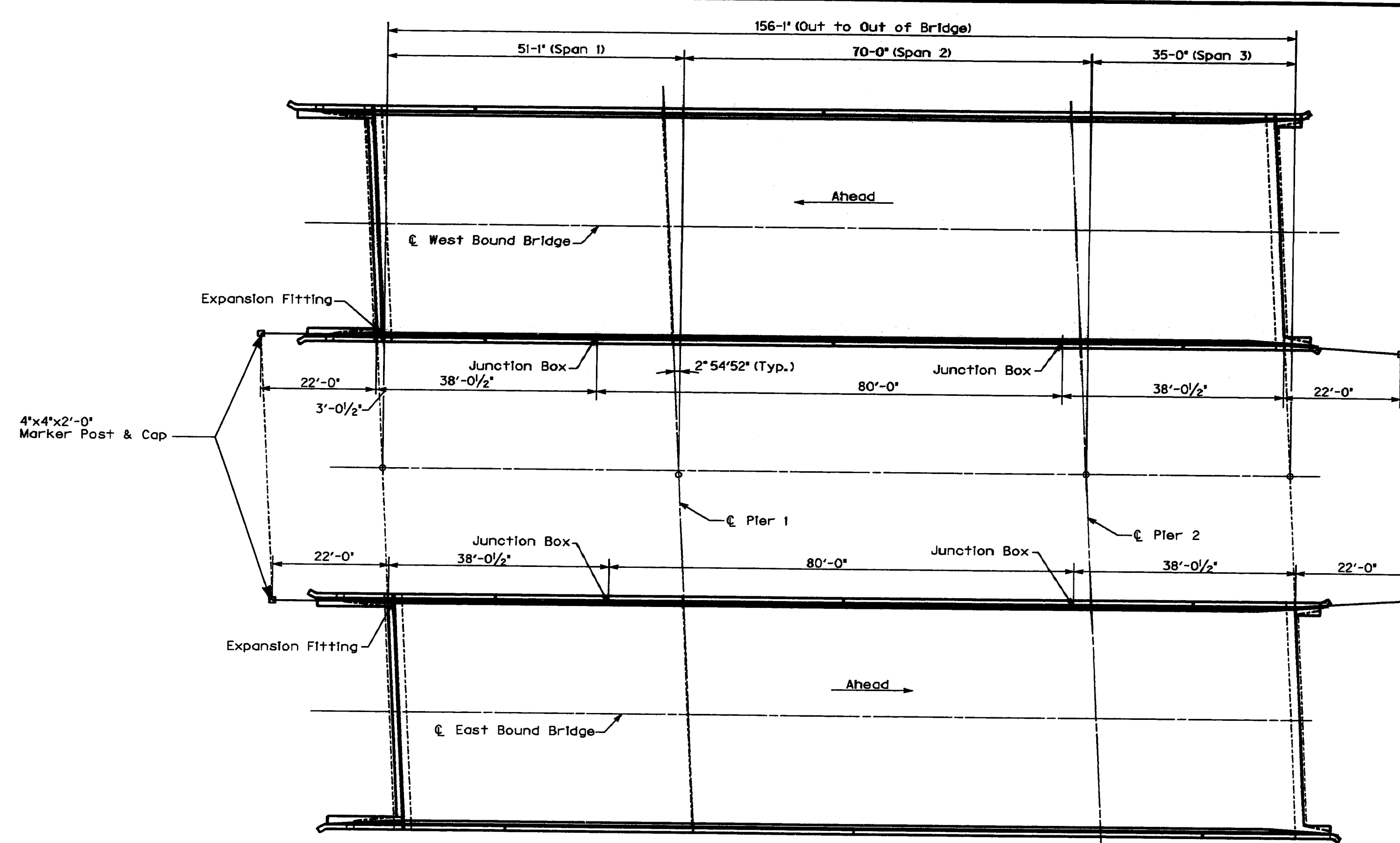
I-64 over KY 32 Sheet 9

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
 FRANKFORT
 COUNTY OF
ROWAN
 LEXINGTON-CATLETTSBURG
 ROAD

STATION	CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
			24118

UPDATE DATE
LETTING DATE

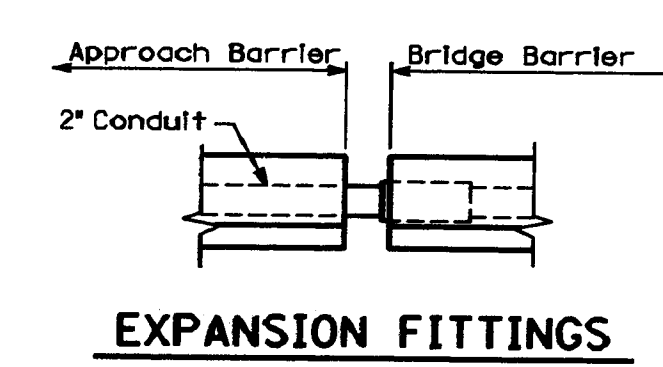
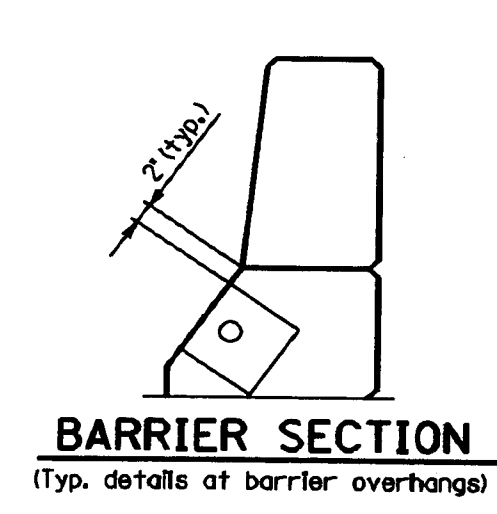
DESIGNED BY: D. CARPENTER
CHECKED BY: J. T. MATTHEWS
DATE: 10/95
PREPARED BY: SHAPIRO SECTION
DATE: 10/95
REVISIONS
DATE: 10/95
REVISIONS
DATE: 10/95
REVISIONS



All 2" galvanized conduit, expansion fittings, caps, marker post, and all incidental items shall conform to the specifications and meet the approval of the Engineer. All materials, tools, labor, and incidentals necessary to provide and install the system shall be included in unit price bid for 2" Rigid Conduit.

NOTE: Junction boxes to be 8"x8"x6" cast iron.

PLAN



CONDUIT AND JUNCTION BOXES

I-64 over KY 32 Sheet 10

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
ROWAN
LEXINGTON-CATLETTSBURG
ROAD

STATION
CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO.
24118

11-1-96

QUANTITIES

6	EACH	4714	POLE 120' MTG HT HIGH MAST
1	EACH	4760	POLE W/SECONDARY CONTROL EQUIP
54	EACH	4773	HPS LUMINAIRE HIGH MAST
6	EACH	4742	POLE BASE-HIGH MAST
18	EACH	4800	MARKER
600	LIN FT	4798	CONDUIT-3 1/2 INCH
9,250	LIN FT	4820	TRENCHING AND BACK FILLING
14,500	LIN FT	4863	CABLE-NO. 2/3C DUCTED
10,500	LIN FT	4862	CABLE-NO. 4/3C DUCTED
2,750	LIN FT	4860	CABLE-NO. 8/3C DUCTED
1	LP SUM	4940	REMOVE LIGHTING

NOTES

The Standard Specifications for Road and Bridge Construction, 1994 edition, and other special notes and specifications will apply on this project.

Steel High Mast Pole shall include furnishing, assembling and installing specified pole and lowering device in accordance with manufacturers installation instructions. This item includes head frame assembly, cables, winch unit, power cables, wiring, connectors, circuit breakers, grounding lugs and all additional hardware. This item must be compatible with the pole base-high mast bid item. Incidental to this item shall be the adjustment and calibration of the unit to provide the desired operation.

Pole base high mast shall include excavation, furnishing and placing concrete and the restoration of disturbed areas. Incidental to this item shall be, conduits, anchor bolts, ground rods, grounding wires and reinforcing steel.

Pole with secondary control equipment shall include furnishing specified pole, excavation, installing, back filling, and any necessary anchors. This item also includes furnishing and installing service racks, lightning arresters, photoelectric control, circuit breakers, contactor, manual switch, fuses, cabinet, ground rod, transformers, cutouts, conduits and wire. Electrical service and all electrical inspection fees are incidental to this item.

High Mast Luminaire shall include furnishing and installing the specified luminaire. This item shall include lamps, protective starters, ballasts and any adjustments necessary to provide the desired lighting pattern. Two 90 degree light shields shall be furnished with each 1000 watt luminaire to be installed as directed or for installation by Kentucky Transportation personnel.

The contractor shall submit pertinent photometric data for each type of luminaire to include literature with Isofootcandle curves, ANSI/IES type distribution and actual lamp lumens supplied by that luminaire with the supplied ballast. The contractor shall also submit the photometric data in IES format on an IBM compatible 3.5 inch floppy disk to the Central Office, Division of Traffic to insure the luminaire meets the design criteria. Luminaires should provide appropriate light levels to meet the guidelines of AASHTO using a total light loss factor of 0.65 for closed fixtures and 0.80 for open bottom fixtures. A point of contact shall also be provided to answer technical questions about the luminaire.

Junction box shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include aggregate as shown, conduit fittings, back filling and concrete (if required).

Cable ducted shall include furnishing and installing specified cable within trench or conduit as indicated on the detail sheets. Incidental to this item shall be the furnishing and installing of cable fittings and any other necessary hardware.

Conduit shall include furnishing and installing specified conduit in ground or on structure in accordance with specifications. This item includes conduit fittings, expansion joints with bonding straps, drill anchors, straps, clamps and any additional hardware required.

Markers shall include furnishing and installing concrete conduit markers as indicated on the plans.

Trenching and back filling shall include excavation, back filling, roadway crossings, and the restoration of disturbed areas to original condition. Incidental to this item shall be furnishing and installing underground utility warning tape as specified.

Contractor shall maintain existing lighting until the new lighting is installed and a functional inspection has been performed.

Remove lighting shall include the removal of existing poles, luminaires, control equipment, power transformers, transformer bases and pole bases. Transformers not owned by a utility shall be tested for PCB's and disposed of in accordance with state regulations. Pole base shall be removed a minimum of 1 foot below finished grade. Chipping off or other method that is approved by the engineer may be used. Contractor shall back fill hole with material approved by the engineer. Incidental to this item shall be the removal of all materials off the project. All salvageable poles, brackets, transformer bases and luminaires shall be returned to the district pole yard or as instructed by the engineer.

Conduit trenches and pole base excavations shall be back filled to original ground elevation using selected soil compacted at near optimum moisture content in layers not to exceed six inches compacted thickness. Rock and other material that cannot be compacted by mechanical tampers shall not be placed in the back fill. Tamping shall be accomplished by hand tampers, pneumatic tampers or other means as approved by the engineer.

An inspection will be carried out after the lighting is functional to verify proper illumination, proper functioning of the lowering devices and other operational features as well as an insulation test of all wiring. Contractor shall be responsible for payment of electric service for all lighting until project is completed and accepted and a set of acceptable as-built plans has been received. Payment for these items shall be incidental to the cost of the project.

Maintenance of traffic shall be incidental to the cost of this project.

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ROWAN	1996-97		

I-64 PAVEMENT RENAS
ITEM NO. 99-2024.0
I-64 & KY 32

NOTE: WHENEVER THE PLAN SPECIFICATIONS CONFLICT WITH THE KENTUCKY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1994 EDITION, THE PLAN SPECIFICATIONS SHALL GOVERN.

CONSTRUCTION:

SEE STANDARD SPECIFICATIONS, 1994 EDITION, SECTION 834.

TOWERS:

THE TOWERS SHALL BE HIGH STRENGTH STEEL MEETING THE REQUIREMENTS OF ASTM A-595 GRADE A OR ASTM A-572, GRADE 60 OR ABOVE. THE TOWERS SHALL BE DESIGNED TO COMPLY WITH THE CURRENT EDITION OF AASHTO PUBLICATION, STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS. THE TOWER SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A-123. THE TOWER SHALL BE ASSEMBLED BY TELESCOPING ON THE JOB SITE. THE BASE PLATE SHALL BE MADE OF STEEL PLATE HAVING ESSENTIALLY THE SAME CHEMICAL COMPOSITION AS THE TOWER AND SHALL BE DESIGNED TO WITHSTAND THE FULL BENDING MOMENT OF THE SHAFT. IN CONJUNCTION WITH THE SHOP DRAWINGS, WELD DETAILS AND WELD PROCEDURES MUST BE APPROVED IN ADVANCE OF FABRICATION BY THE MANUFACTURER.

ALL WELDING SHALL CONFORM TO AWS SPECIFICATION D1.1-88.

THE MANUFACTURER SHALL HAVE ALL FULL PENETRATION WELDS INSPECTED BY ULTRASONIC INSPECTION AND ALL OTHER WELDS VISUALLY AND MAGNETIC PARTICLE TESTED. THE INSPECTION REPORT SHALL ACCOMPANY THE SHIPMENT TO THE PROJECT.

ALL TOWERS WILL BE VISUALLY INSPECTED BY A REPRESENTATIVE OF THE KENTUCKY DEPARTMENT OF HIGHWAYS AND A TEST REPORT COMPLETED PRIOR TO ASSEMBLY.

THE TOWERS SHALL BE FITTED WITH THREE GROUNDING LUGS AS SHOWN ON THE SPECIFICATION SHEETS.

TOWERS, ASSEMBLED WITH LOWERING DEVICE, AND LUMINAIRES SHALL BE CAPABLE OF WITHSTANDING SUSTAINED 90 MPH WINDS WITH 117 MPH GUSTS.

LOWERING DEVICE:

MAIN SUPPORT ASSEMBLY: THE MAIN SUPPORT ASSEMBLY SHALL BE FABRICATED FROM WELDABLE STRUCTURE STEEL OR STAINLESS STEEL AND SHALL BE ATTACHED TO THE SHAFT BY SLEEVE AND SECURED BY STAINLESS STEEL SET SCREWS OR OTHER SIMILAR ATTACHING MEANS. THE MAIN SUPPORT ASSEMBLY SHALL HAVE SIX (6) HOISTING SHEAVES AND ROLLERS FOR THE POWER CABLE. THE SHEAVES SHALL HAVE OIL IMPREGNATED, SINTERED BRONZE BUSHINGS OVER STAINLESS STEEL SHAFT, OR PERMANENTLY SEALED BALL BEARINGS WITH INNER FIXED RACES. THE MAIN SUPPORT ASSEMBLY SHALL ALSO INCLUDE THREE (3) MECHANICAL LATCHING DEVICES. THE MAIN SUPPORT ASSEMBLY SHALL BE STAINLESS STEEL, HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A-123, OR ELECTROPLATED WITH A MINIMUM THICKNESS OF 0.4 MIL.

LUMINAIRE RING: THE LUMINAIRE RING SHALL BE CONSTRUCTED OF WELDABLE STRUCTURE STEEL WITH 2 INCH NORMAL STEEL PIPE MASTARMS. IT SHALL BE PREWIRED TO DISTRIBUTE POWER TO THE LUMINAIRES FROM THE MAIN POWER CABLE SUPPLY. A TWIST LOCK RECEPTACLE SHALL BE PROVIDED ON THE LUMINAIRE RING TO ALLOW TESTING OF LUMINAIRES WHILE IN THE LOWERED POSITION. THE LUMINAIRE RING SHALL HAVE SPRING LOADED INTERCONNECTED CENTERING ROLLER ARMS OF AN APPROVED DESIGN TO PROVIDE STABILITY AND KEEP THE RING CONCENTRIC AROUND THE POLE DURING RAISING AND LOWERING. THE STEEL USED SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A-36. THE MASTARM SHALL BE SECURED TO THE LUMINAIRE RING BY AN APPROVED METHOD. THE LUMINAIRE RING SHALL BE STAINLESS STEEL, HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A-123, OR ELECTROPLATED WITH A MINIMUM THICKNESS OF 0.4 MIL.

HOISTING ASSEMBLY: THE LUMINAIRE RING SHALL BE RAISED AND LOWERED BY THREE (3) SYMMETRICALLY PLACED 7 X 1/4, ZINC ELECTROPLATED STEEL AIRCRAFT CABLES OF 3/16 INCH DIAMETER LOCATED INSIDE THE POLE SHAFT, AND ATTACHED TO THE LUMINAIRE RING.

THE RAISING AND LOWERING SHALL BE OPERATED BY A WINCH ASSEMBLY WITH A 7 X 9 AIRCRAFT CABLE OF 1/4 INCH DIAMETER ZINC ELECTROPLATED STEEL MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATIONS RR-W-410 AND SHALL BE CAPABLE OF RAISING AND LOWERING A MINIMUM OF TWELVE (12) LUMINAIRES ON THE RING ASSEMBLY AT AN APPROXIMATE RATE OF 10 FEET PER MINUTE. THE WINCH ASSEMBLY SHALL ACCEPT A PORTABLE POWER UNIT COMPATIBLE TO THE LD-5 SERIES LOWERING DEVICE.

PORTABLE POWER UNIT: THE PORTABLE POWER UNIT SHALL BE ONE-HALF (1/2) INCH, HEAVY DUTY, REVERSIBLE DRILL UL APPROVED, BEING EQUIPPED WITH A TORQUE LIMITING SAFETY CLUTCH. THE PORTABLE POWER UNIT SHALL BE ARRANGED FOR REMOTE CONTROL OPERATIONS. THE PORTABLE POWER UNIT SHALL BE CAPABLE OF OPERATING THE LD-5 SERIES LOWER DEVICE.

STEP DOWN TRANSFORMER: STEP DOWN TRANSFORMER SHALL BE 1.5 KVA, SINGLE PHASE WITH A PRIMARY VOLTAGE OF 480 VOLTS AND A SECONDARY VOLTAGE OF 120/240 VOLTS. TRANSFORMER SHALL BE PROVIDED WITH A CARRYING CASE AND THE NECESSARY SERVICE RECEPTACLES.

A FIVE (5) FOOT SECTION OF TOWER CABLE SHALL BE PROVIDED FOR EACH TOWER FOR TESTING LUMINAIRES WHILE THE LUMINAIRE RING IS IN THE LOWERED POSITION. IT SHALL BE EQUIPPED WITH THE APPROPRIATE RECEPTACLES.

TOWER POWER CABLE: TOWER POWER CABLE SHALL BE 600 VOLT, "10 AWG THREE CONDUCTOR, STRANDED, EXTRA-FLEXIBLE COPPER CONDUCTOR TYPE 90 CORD WITH CHLOROSULFONATED POLYETHYLENE JACKET, OR OTHER APPROVED.

CIRCUIT BREAKER FOR BASE OF TOWER: THE CIRCUIT BREAKER SHALL BE A SINGLE THROW, DOUBLE POLE DEVICE WITH 100 AMP FRAME FOR 480 VOLT OPERATION. AMPERAGE RATING SHALL BE 15A FOR TOWERS WITH 4 OR LESS LUMINAIRES AND 20A FOR TOWERS WITH 6 AND 30A FOR TOWERS WITH 8 OR 10 LUMINAIRES.

SERVICE RECEPTACLE: SERVICE RECEPTACLE SHALL BE WEATHERPROOF, TWIST LOCK, 600 VOLT RATED.

ELECTRICAL MATERIALS:

(A) LUMINAIRES:

(1) 1000 AND 400 WATT TOWER: TOWER LUMINAIRES SHALL HAVE A HOUSING OF A SINGLE PIECE ALUMINUM ALLOY CASTING WHICH PROVIDES A WEATHER TIGHT ENVIRONMENT FOR ALL COMPONENTS AND SHALL PASS THE UL 1572 RAIN TEST, BE UL LISTED TO OPERATE IN 40° C AMBIENTS, AND BE CSA CERTIFIED. IT SHALL HAVE AN INTEGRAL SLIPFITTER FOR TWO (2) INCH BRACKET MOUNTING WITH A NINE (9) INCH LIGHT CENTER. IT SHALL OPERATE THE LAMP IN ALL TYPES OF OR PERMANENT BRACKETS. FOR PROTECTION OF THE LAMP, THE FIXTURE SHALL HAVE A WEATHER SHIELD BETWEEN THE REFLECTOR AND HOUSING. THE BALLAST SHALL BE A LEAD TYPE AT A VOLTAGE OF 480 VOLTS. ALL BALLAST COMPONENTS SHALL BE MOUNTED TO A SINGLE DIE-CAST ALUMINUM PLATE WHICH SHALL BE COMPLETELY REMOVABLE AS A UNITIZED ASSEMBLY FOR MAINTENANCE WITHOUT REMOVING THE LUMINAIRE FROM THE BRACKET ARM. ALL BALLAST COMPONENTS SHALL BE FACTORY TESTED AND PRE-WIRED TO THE QUICK DISCONNECT. A TERMINAL BLOCK SHALL BE PROVIDED TO SIMPLIFY WIRING AND PROVIDE POSITIVE ELECTRICAL CONNECTIONS. IT SHALL BE PRE-WIRED WITH A QUICK DISCONNECT WHICH CONNECTS TO THE PRE-WIRED BALLAST DISCONNECT. STARTERS SHALL BE AN AUTO PROTECTED TYPE TO REMOVE POWER FROM A DEFECTIVE LAMP WITHIN A 10 MINUTE INTERVAL. THE REFRACTOR SHALL CONSIST OF A BOROSILICATE GLASS AND SHALL OPERATE AS AN OPEN VENTILATED UNIT PERMITTING FREE FLOW OF AIR UPWARD FOR CLEANING AND COOLING. LUMINAIRES SHALL PROVIDE THE FOLLOWING PERFORMANCE CHARACTERISTICS:

LUMINAIRE	DISTRIBUTION DESCRIPTION	S/MH	ANSI/IES DISTRIBUTION MAX. BEAM CANDLEPOWER SHALL NOT BE LESS THAN
400W HPS	LONG AND NARROW	6:1	11 MED., NON-CUTOFF 19312 @ 67.5° V, 95° L
1000W HPS	SYMMETRICAL	5:1	V NON-CUTOFF 22415 @ 62.5° V
1000W HPS	ASYMMETRICAL	5:1	11 SHORT, NON-CUTOFF 45771 @ 67.5° V, 67.5° L
1000W HPS	LONG AND NARROW	5:1	11 SHORT, NON-CUTOFF 37863 @ 65° V, 95° L

-SPACING TO MOUNTING HEIGHT RATIO

(2) 150 WATT UNDERDECK LUMINAIRE: 150 WATT UNDERDECK LUMINAIRE SHALL HAVE SINGLE PIECE CASE ALUMINUM HOUSING WITH BUILT-IN REGULATOR BALLAST AND PRISMATIC LIGHT CONTROLLING REFRACTOR MADE OF SHOCK RESISTING GLASS.

(B) LAMPS

ALL LAMPS SHALL BE HIGH PRESSURE SODIUM UNLESS STATED OTHERWISE. LAMPS SHALL PROVIDE THE FOLLOWING MINIMUM LUMENS:

(1) 1000 WATT LAMPS:	140,000 LUMENS
(2) 400 WATT LAMPS:	50,000 LUMENS
(3) 250 WATT LAMPS:	27,500 LUMENS
(4) 150 WATT LAMPS:	16,000 LUMENS
(5) 100 WATT LAMPS:	9,500 LUMENS

(C) DUCTED CABLE

(1) CABLE: CABLE SHALL BE STRANDED ANNEALED COPPER MEETING THE REQUIREMENTS OF ASTM B-8 AND ASTM B-33 FOR OPERATION AT 600 VOLTS MAXIMUM. MATERIAL SHALL MEET THE APPLICABLE REQUIREMENTS OF ICEA STANDARD S-19-81, WITH THERMOPLASTIC INSULATION OF GRS-RUBBER BASE MEETING APPENDIX K(A) OF ICEA AND LISTED BY UL AS TYPE USE FOR DIRECT BURIAL; OR, MATERIAL SHALL MEET THE APPLICATION REQUIREMENTS OF ICEA STANDARD S-66-524, WITH THERMO-SETTING INSULATION OF CROSS LINK POLYETHYLENE MEETING REQUIREMENTS OF COLUMN "A" OF ICEA AND LISTED BY UL AS TYPE USE. CABLE SHALL BE PRE-INSTALLED IN DUCT.

(2) DUCT: THE DUCT FOR SECONDARY CABLE UNDERGROUND SHALL BE POLYETHYLENE DUCT WITH MINIMUM TENSILE STRENGTH OF 3100 PSI DUCT TO PROVIDE FOR 40% MAXIMUM FILL. THE DUCT SHALL MEET ASTM D3485-80.

GENERAL MATERIALS AND NOTES:

- (A) MISCELLANEOUS HARDWARE: MISCELLANEOUS HARDWARE THAT REQUIRES GALVANIZING OR ELECTROPLATING SHALL CONFORM ASTM A-123.
- (B) METALLIC CONDUIT: METALLIC CONDUIT SHALL BE RIGID STEEL CONDUIT MEETING THE REQUIREMENTS OF AMERICAN STANDARD SPECIFICATION C-80.1.
- (C) METALLIC CONDUIT FITTINGS: METALLIC CONDUIT FITTINGS SHALL BE ZINC COATED AND SHALL MEET THE REQUIREMENTS OF AMERICAN STANDARD SPECIFICATION C-80.1.
- (D) NON-METALLIC CONDUIT: NON-METALLIC CONDUIT SHALL BE RIGID POLYVINYL CHLORIDE MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATIONS NO. LP 1036A, TYPE II, ELECTRICAL CLASS 2, GRADE C. EACH LENGTH SHALL BEAR THE UNDERWRITERS, INC. LABEL.
- (E) NON-METALLIC CONDUIT FITTINGS: NON-METALLIC CONDUIT FITTINGS SHALL BE FABRICATED FROM POLYVINYL CHLORIDE HAVING THE SAME CHEMICAL AND PHYSICAL PROPERTIES AS THE CONDUIT WITH WHICH IT IS TO BE USED. EACH SHALL BEAR THE UNDERWRITERS, INC. LABEL. THE JOINTS SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- (F) GROUND: GROUND WIRE SHALL BE A #4 AWG SOLID STATE COPPER WIRE AND ARRANGEMENT SHALL BE AS NOTED ON PLANS.
- (G) ANCHOR BOLTS: ANCHOR BOLTS FOR HIGH MAST POLES SHALL BE FURNISHED IN A PRE-CLUSTERED FORM AND SHALL BE A HOOKED DEFORMED REINFORCING BAR OR A HOOKED SMOOTH BAR. THE BOLTS SHALL BE IN ACCORDANCE WITH ASTM A-615 WITH A MINIMUM YIELD STRENGTH OF 75,000 POUNDS PER SQUARE INCH. THE TOP 12 INCHES OF EACH ANCHOR BOLT, NUT AND WASHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153 OR BE MECHANICALLY GALVANIZED AND IN ACCORDANCE WITH THE COATING THICKNESS, ADHERENCE, AND QUALITY REQUIREMENTS OF ASTM A-153, CLASS C.
- (H) CONCRETE DRILL-ANCHOR AND CLAMPS: THE CONTRACTOR SHALL FURNISH AND INSTALL THREE-EIGHTH (3/8) INCH DRILL ANCHOR, THE DRILL ANCHORS SHALL BE SELF-DRILLING EXPANSION TYPE, MADE OF CASE-HARDENED AND DRAWN CARBURIZED STEEL, WITH SELF-CUTTING ANGULAR BRANCHING GROOVES, WITH PULL OUT VALVE AND ZINC PLATING. CONDUIT CLAMPS ARE TO BE SPACED AT SIX FOOT INTERVALS.
- (I) ALL WELDS SHALL BE SMOOTH CLEAN DENSE DEPOSIT THAT WILL EXCLUDE MOISTURE AND CONFORM THE AWS SPECIFICATION D1.1-88. FIELD WELDS WILL NOT BE ALLOWED.

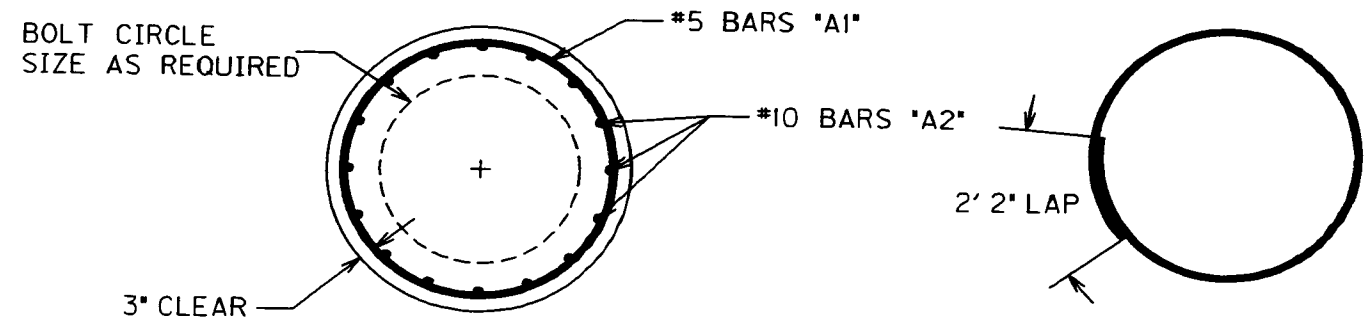
COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ROWAN	1996-97		

IM-NH 64-6 (47) 134
FD52 103 0064 134-139
I-64 & KY 32

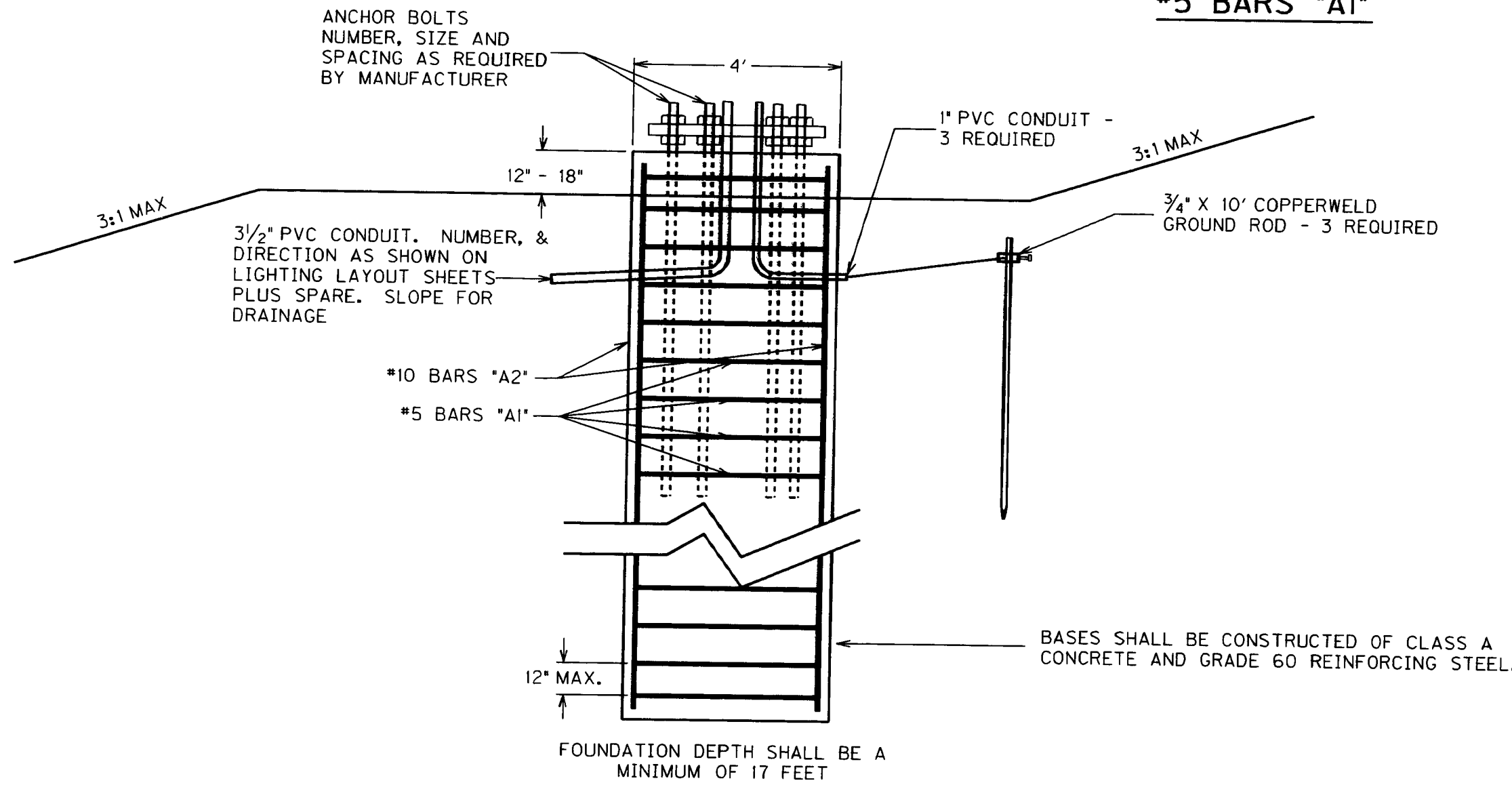
BASE DESIGN FOR UP TO 120' HIGH MAST POLES (WITH A MAXIMUM OF TWELVE LUMINAIRES)

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ROWAN	1996-97		

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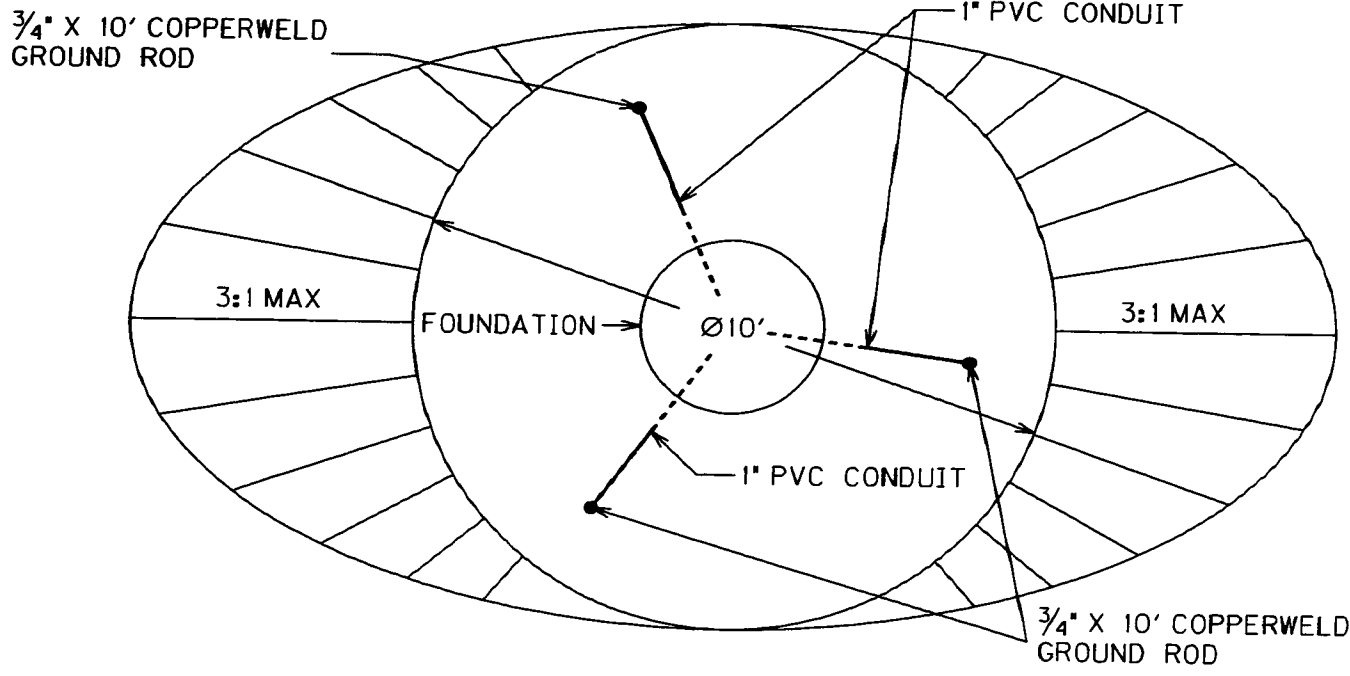


**BENDING DETAIL FOR
#5 BARS 'A1'**

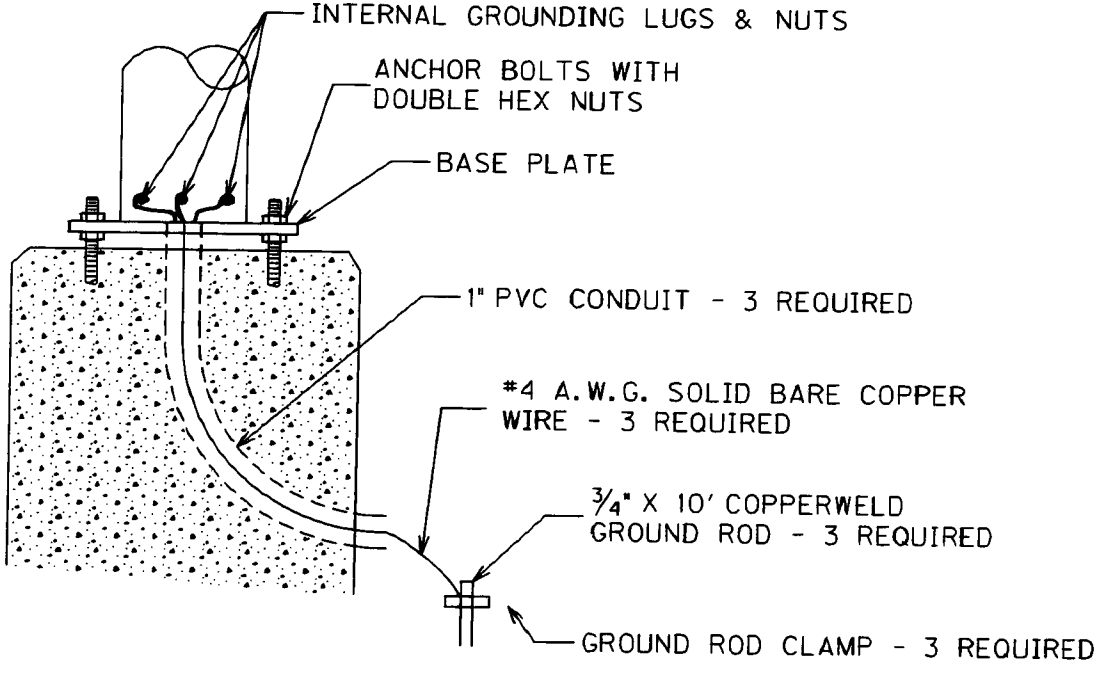


BASE DETAIL

IF A SHORTER DEPTH IS DESIRED FOR THE DRILLED SHAFT, THE CONTRACTOR SHALL PROVIDE, FOR THE STATE'S REVIEW AND APPROVAL, A DETAILED COLUMN DESIGN WITH INDIVIDUAL SITE SPECIFIC SOIL AND ROCK ANALYSIS PERFORMED AND APPROVED BY A REGISTERED PROFESSIONAL ENGINEER.



**GRADING PLAN AND GROUND
ROD PLACEMENT DETAIL**

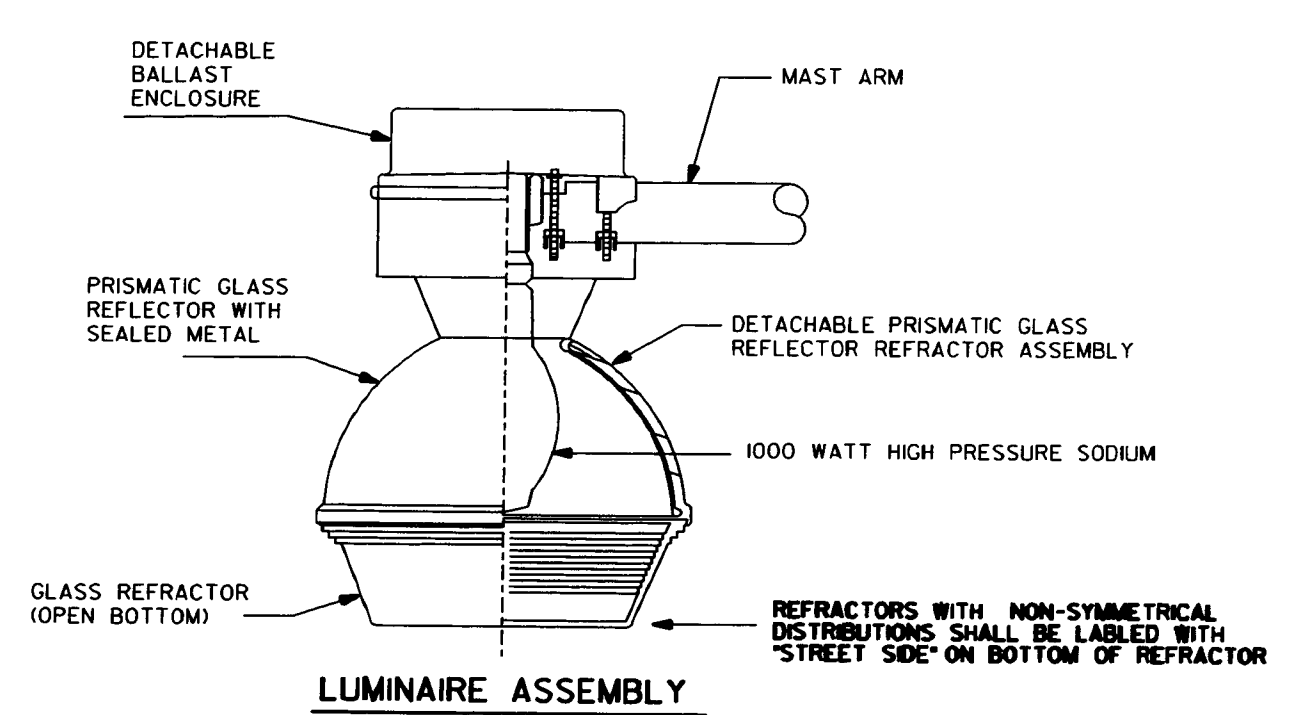
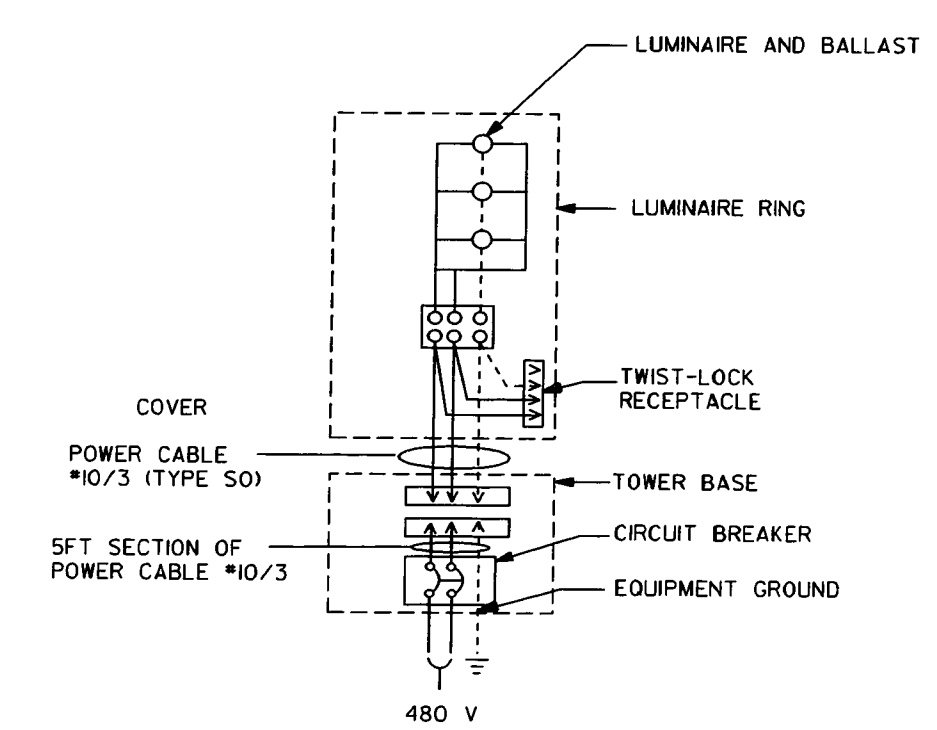
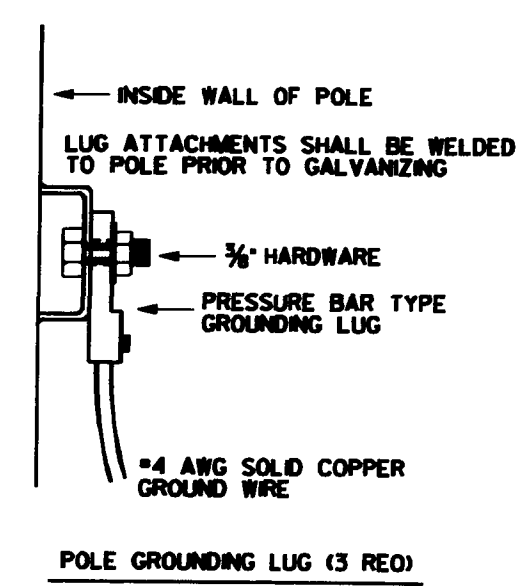
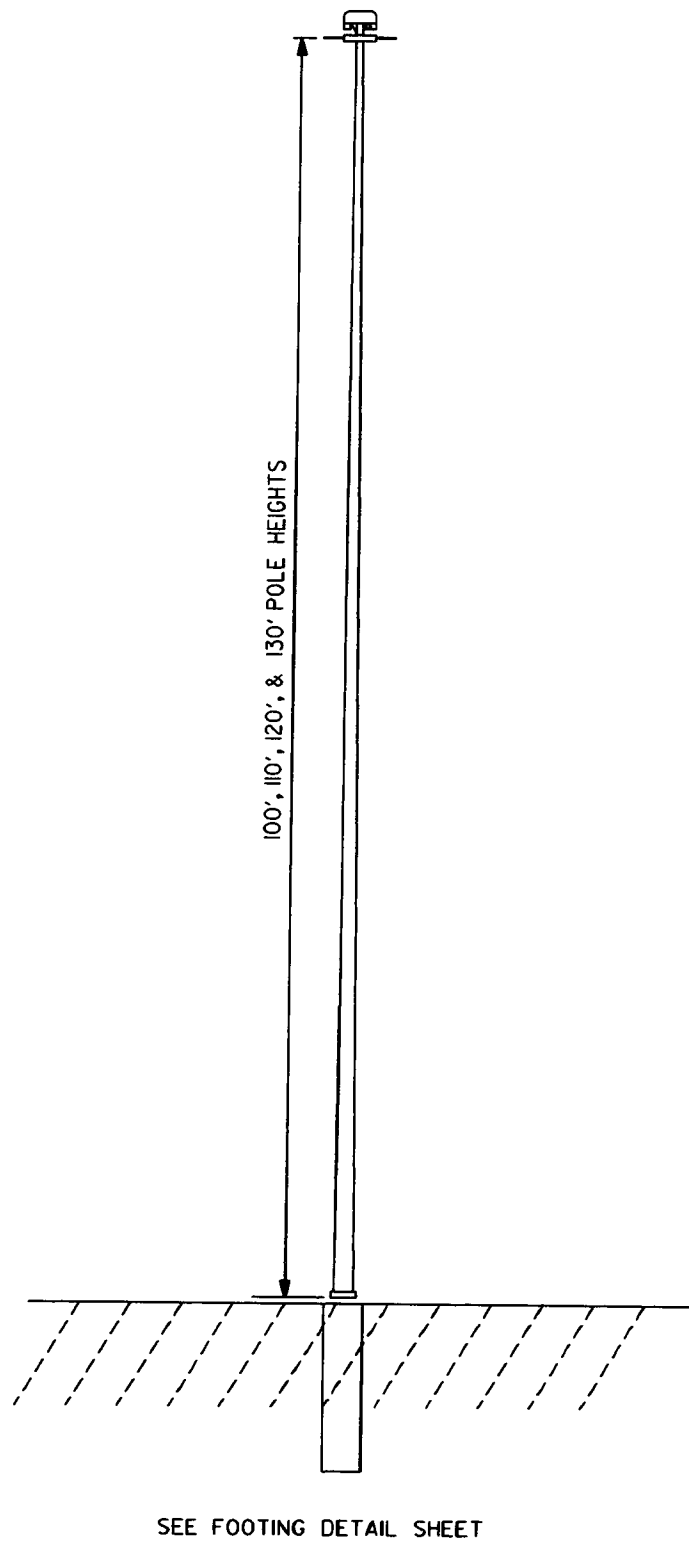
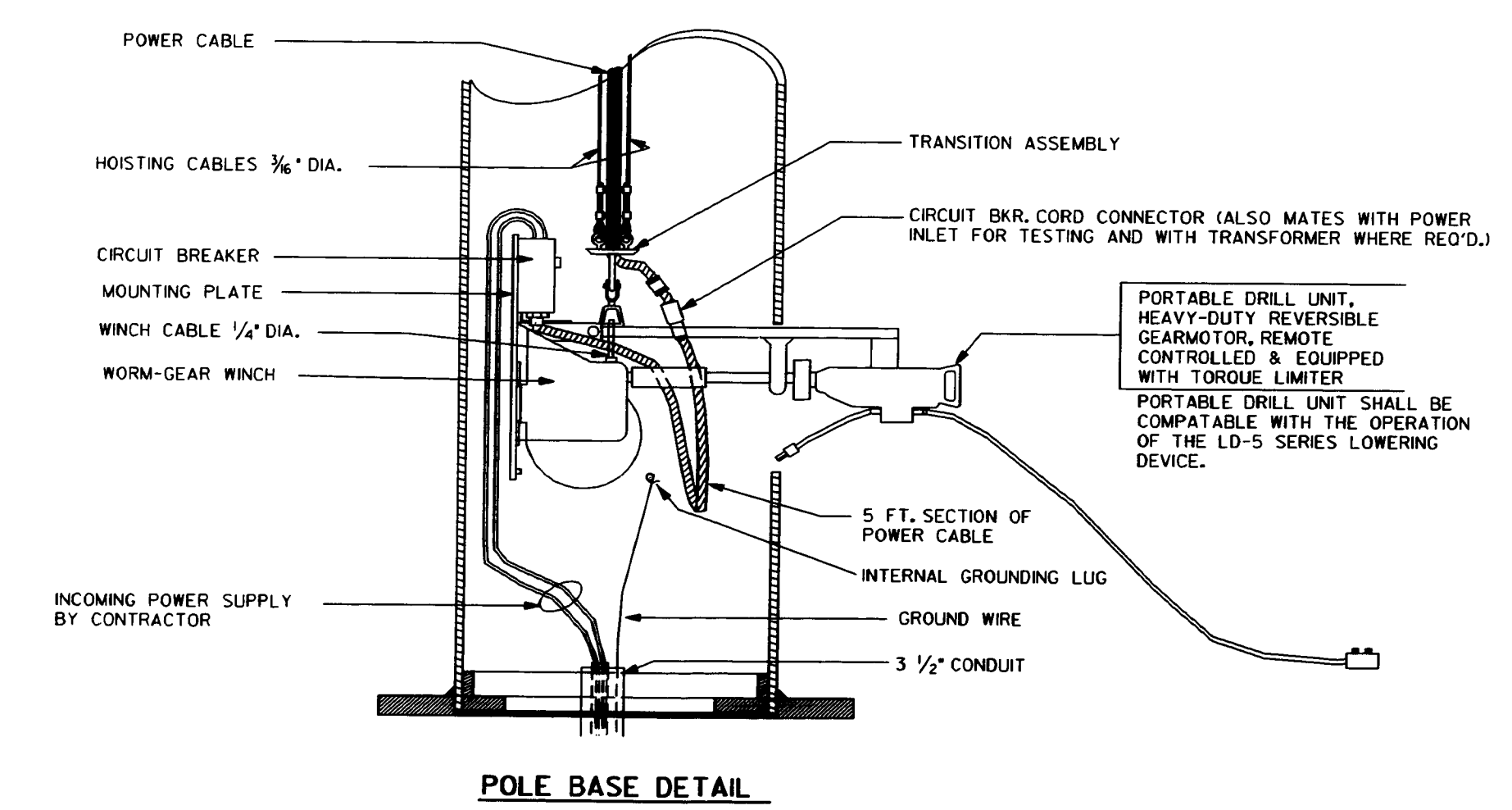
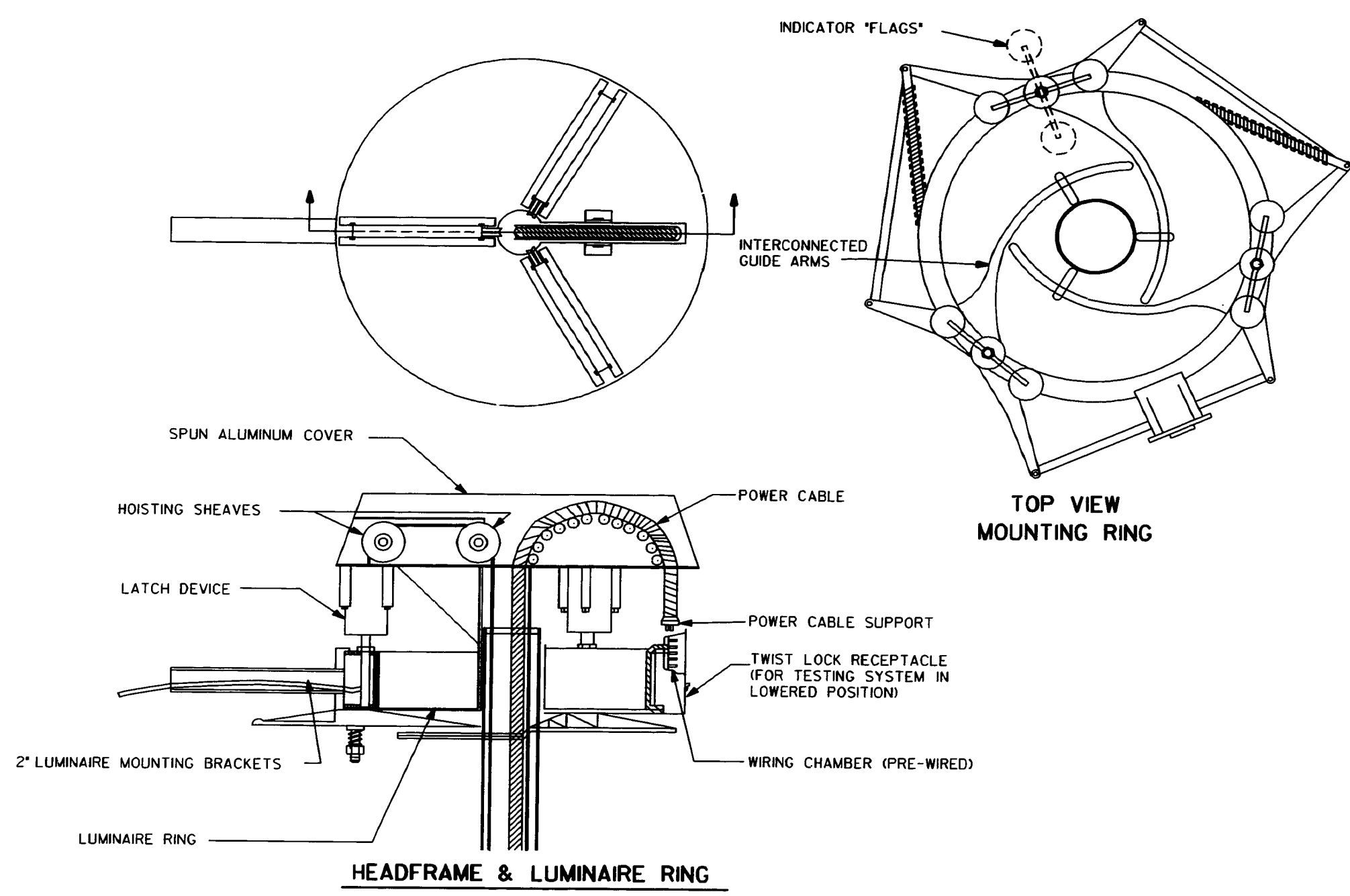


GROUNDING NOTE: TOWERS SHALL BE GROUNDED BY MEANS OF THREE NO. 4 A.W.G. SOLID BARE COPPER GROUND WIRES ATTACHED TO THE INTERNAL GROUNDING LUGS WITHIN THE TOWER. GROUND WIRES SHALL BE CONNECTED TO THREE GROUND RODS BY MEANS OF GROUND ROD CLAMPS.

**GROUNDING AND CONDUIT
ENTRANCE DETAIL**

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ROWAN	1996-97		

IM-NH 64-6 (47) 134
 FD52 103 0064 134-139
 I-64 & KY 32



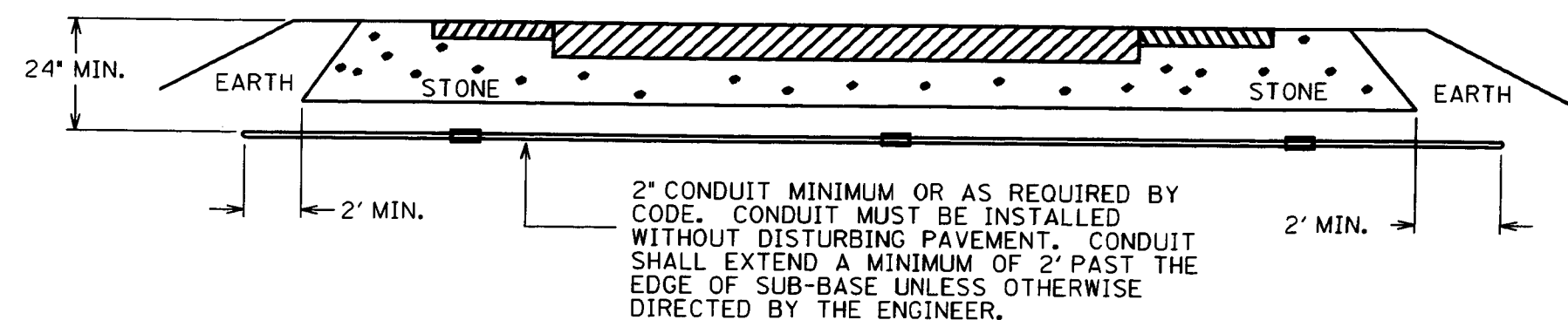
NUMBER OF 1000 W HIGH MAST LUMINAIRES WITH:
 ASYMMETRICAL LIGHT PATTERN - 54

REV 3/96

NUMBER OF PORTABLE POWER UNITS TO BE SUPPLIED 2

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ROWAN	1996-97		

IM-NH 64-6 (47) 134
FD52 103 0064 134-139
I-64 & KY 32



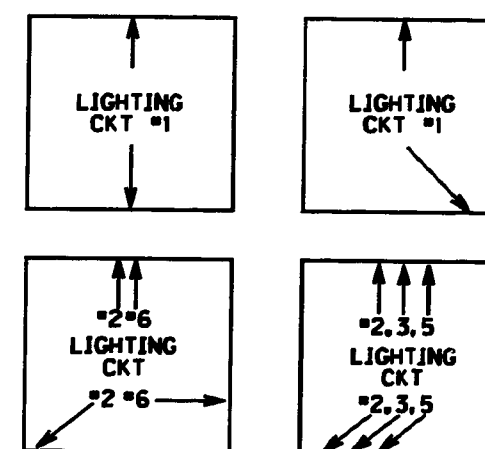
CONDUIT UNDER EXISTING PAVEMENT DETAIL

MARKERS - THE LOCATION OF UNDERGROUND CIRCUITS SHALL BE MARKED BY A CONCRETE SLAB MARKER, TWO FEET SQUARE AND FOUR INCHES THICK, EXTENDING APPROXIMATELY ONE INCH ABOVE THE SURFACE.

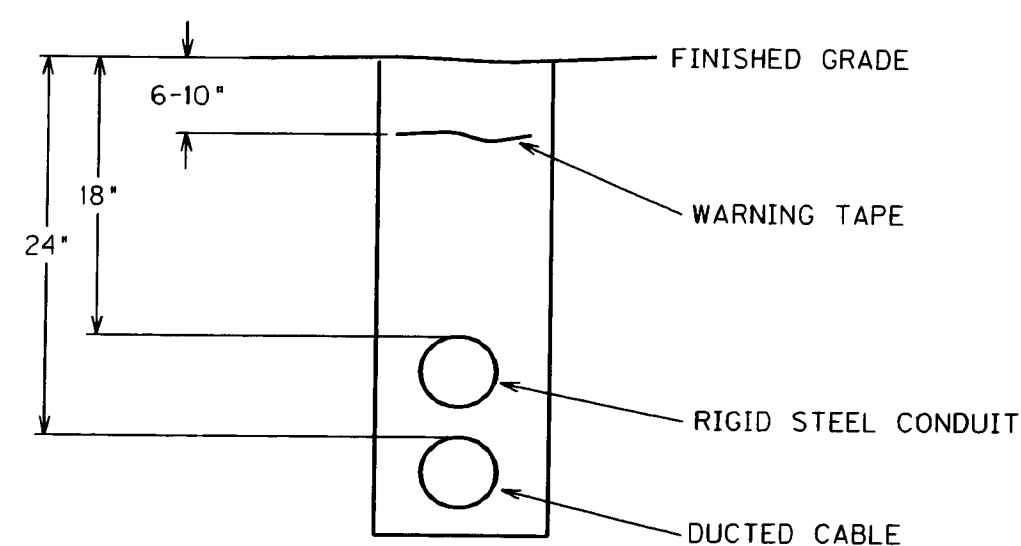
EACH CABLE RUN SHALL BE MARKED AT APPROXIMATELY EVERY 300 FEET ALONG THE CABLE RUN BETWEEN JUNCTION BOXES AND LIGHT POLES, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION AND AT EACH END OF THE CONDUIT CROSSING A ROADWAY (IF NO JUNCTION BOX IS PRESENT). CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE CABLE.

THE CONTRACTOR SHALL IMPRESS THE WORD "LIGHTING" AND APPROPRIATE DIRECTIONAL ARROWS ON EACH MARKING SLAB. THE LETTERS SHALL BE APPROXIMATELY FOUR INCHES HIGH AND THREE INCHES WIDE, WITH THE WIDTH OF STROKE $\frac{1}{2}$ INCH AND $\frac{1}{4}$ INCH DEEP. THE CONTRACTOR SHALL ALSO IMPRESS THE APPROPRIATE CIRCUIT IDENTIFICATION NUMBER(S) ON EACH SLAB.

SUBSTITUTION OF RURAL RIGHT-OF-WAY MARKERS IS NOT ALLOWED.



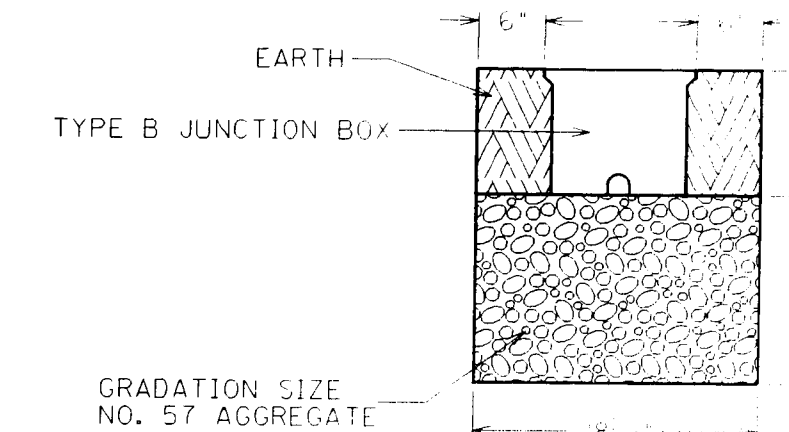
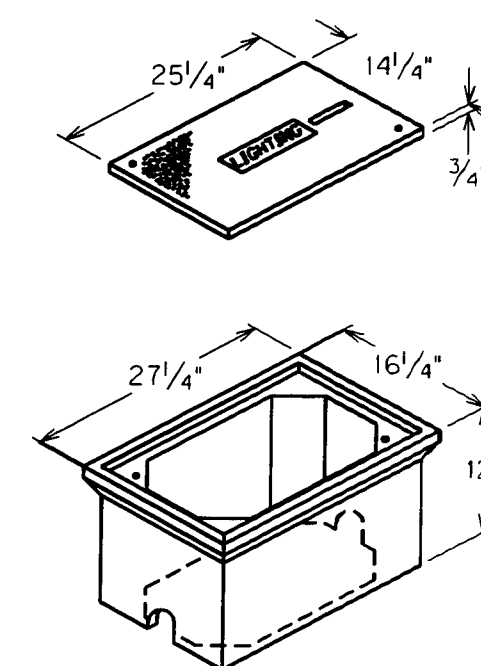
CONCRETE CABLE MARKERS



CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE IMMEDIATELY ABOVE THE CIRCUIT CABLES AS SHOWN. THE TAPE SHALL CONFORM WITH THE APWA-ULCC NATIONAL COLOR CODE WITH BLACK LETTERING ON RED. THE TAPE SHALL CONTINUOUSLY READ "CAUTION: ELECTRIC LINE BURIED BELOW" ALTERNATING WITH A NO DIGGING SYMBOL. IT SHALL BE DURABLE AND COLORFAST TO WITHSTAND YEARS OF UNDERGROUND BURIAL AND EASILY DIRECT BURIED.

THE TAPE SHALL BE 6 INCHES WIDE AND 7.0 MILS (NOMINAL) THICK. IT SHALL HAVE A MINIMUM TENSILE STRENGTH OF 600* PER 6 INCH WIDTH. IT SHALL BE COLOR CODE IMPREGNATED WITH ALKALI AND ACID STABLE, LEAD-FREE, ORGANIC PIGMENTS SUITABLE FOR DIRECT BURIAL. IT SHALL BE ULTRAVIOLET COLORFAST ALSO. THE TAPE SHALL BE NONDISTORTING WITH NO ELONGATION.

UNDERGROUND UTILITY WARNING TAPE



JUNCTION BOXES SHALL BE CONSTRUCTED OF A FIBERGLASS REINFORCED POLYMER CONCRETE, QUARTZITE PC STYLE OF APPROVED EQUAL. COVERS SHALL BE MARKED "LIGHTING" AND BE ATTACHED WITH $\frac{3}{8}$ " STAINLESS HEX BOLTS. TOP OF JUNCTION BOX SHALL BE INSTALLED FLUSH WITH GROUND LINE.

JUNCTION BOX TYPE B DETAIL

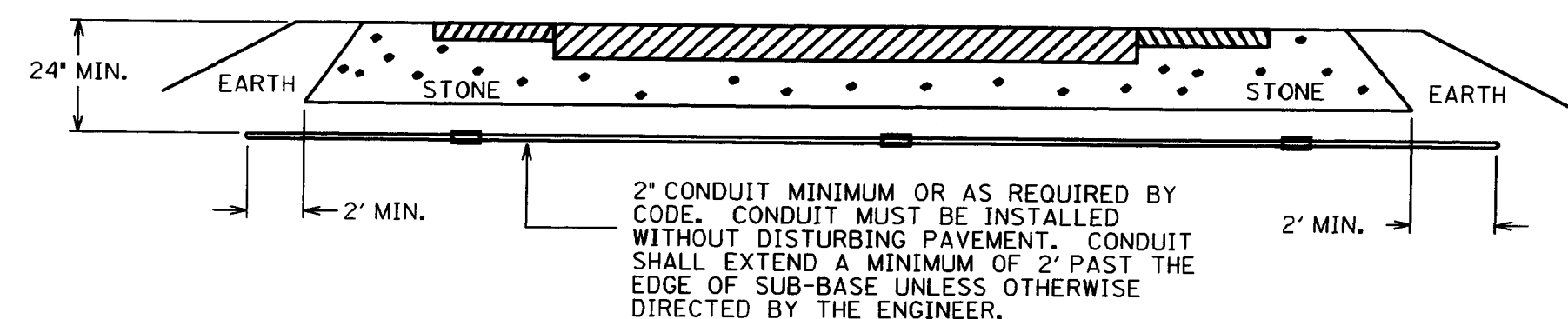
For this project all underground splices shall be made with butt splicing kits and encased in resin filled splicing kits. Butt splices shall be tagged with correct wire range. Splicing kits shall be 3M Scotchcast or approved equal. Splicing kits shall be filled with Scotchcast #4 resin or approved equal. Each conductor, including the ground, shall be encased in a resin filled splicing kit.

SPECIAL SPLICING REQUIREMENTS

REV 7/96

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ROWAN	1996-97		

IM-NH 64-6 (47) 134
FD52 103 0064 134-139
I-64 & KY 32



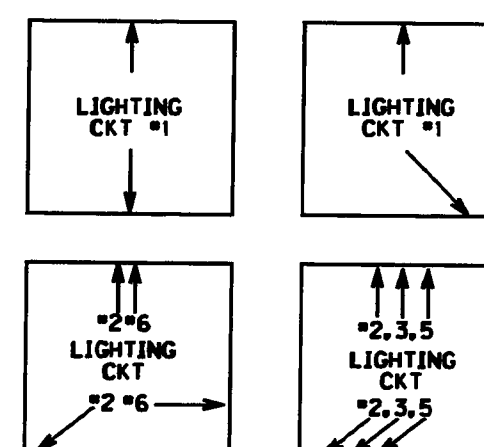
CONDUIT UNDER EXISTING PAVEMENT DETAIL

MARKERS - THE LOCATION OF UNDERGROUND CIRCUITS SHALL BE MARKED BY A CONCRETE SLAB MARKER, TWO FEET SQUARE AND FOUR INCHES THICK, EXTENDING APPROXIMATELY ONE INCH ABOVE THE SURFACE.

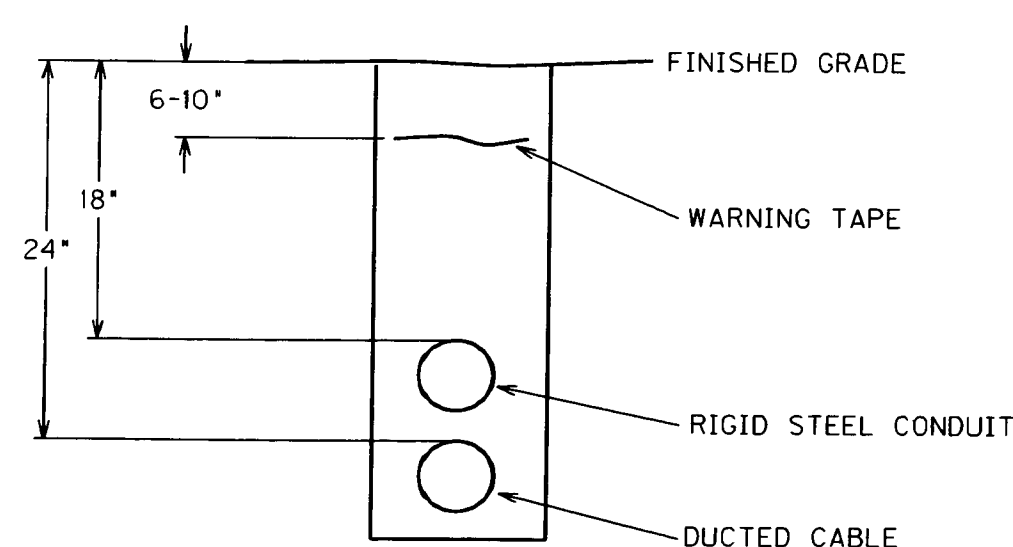
EACH CABLE RUN SHALL BE MARKED AT APPROXIMATELY EVERY 300 FEET ALONG THE CABLE RUN BETWEEN JUNCTION BOXES AND LIGHT POLES, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION AND AT EACH END OF THE CONDUIT CROSSING A ROADWAY (IF NO JUNCTION BOX IS PRESENT). CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE CABLE.

THE CONTRACTOR SHALL IMPRESS THE WORD "LIGHTING" AND APPROPRIATE DIRECTIONAL ARROWS ON EACH MARKING SLAB. THE LETTERS SHALL BE APPROXIMATELY FOUR INCHES HIGH AND THREE INCHES WIDE, WITH THE WIDTH OF STROKE $\frac{1}{2}$ INCH AND $\frac{1}{4}$ INCH DEEP. THE CONTRACTOR SHALL ALSO IMPRESS THE APPROPRIATE CIRCUIT IDENTIFICATION NUMBER(S) ON EACH SLAB.

SUBSTITUTION OF RURAL RIGHT-OF-WAY MARKERS IS NOT ALLOWED.



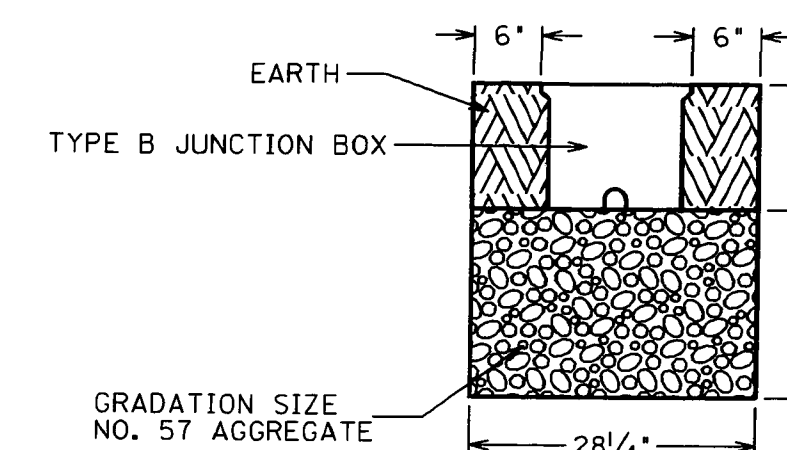
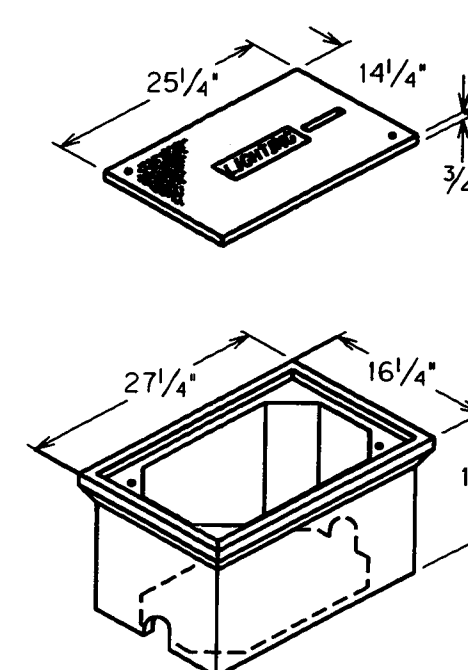
CONCRETE CABLE MARKERS



CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE IMMEDIATELY ABOVE THE CIRCUIT CABLES AS SHOWN. THE TAPE SHALL CONFORM WITH THE APWA-ULCC NATIONAL COLOR CODE WITH BLACK LETTERING ON RED. THE TAPE SHALL CONTINUOUSLY READ "CAUTION: ELECTRIC LINE BURIED BELOW" ALTERNATING WITH A NO DIGGING SYMBOL. IT SHALL BE DURABLE AND COLORFAST TO WITHSTAND YEARS OF UNDERGROUND BURIAL AND EASILY DIRECT BURIED.

THE TAPE SHALL BE 6 INCHES WIDE AND 7.0 MILS (NOMINAL) THICK. IT SHALL HAVE A MINIMUM TENSILE STRENGTH OF 600* PER 6 INCH WIDTH. IT SHALL BE COLOR CODE IMPREGNATED WITH ALKALI AND ACID STABLE, LEAD-FREE, ORGANIC PIGMENTS SUITABLE FOR DIRECT BURIAL. IT SHALL BE ULTRAVIOLET COLORFAST ALSO. THE TAPE SHALL BE NONDISTORTING WITH NO ELONGATION.

UNDERGROUND UTILITY WARNING TAPE



JUNCTION BOXES SHALL BE CONSTRUCTED OF A FIBERGLASS REINFORCED POLYMER CONCRETE, QUAZITE PC STYLE OF APPROVED EQUAL. COVERS SHALL BE MARKED "LIGHTING" AND BE ATTACHED WITH $\frac{3}{8}$ " STAINLESS HEX BOLTS. TOP OF JUNCTION BOX SHALL BE INSTALLED FLUSH WITH GROUND LINE.

JUNCTION BOX TYPE B DETAIL

For this project all underground splices shall be made with butt splices, soldered, and encased in resin filled splicing kits. Butt splices shall be copper and of the correct wire range. Splicing kits shall be 3M Scotchcast or approved equal. Splicing kits shall be filled with Scotchcast #4 resin or approved equal. Each conductor, including the ground, shall be encased in a separate splice kit.

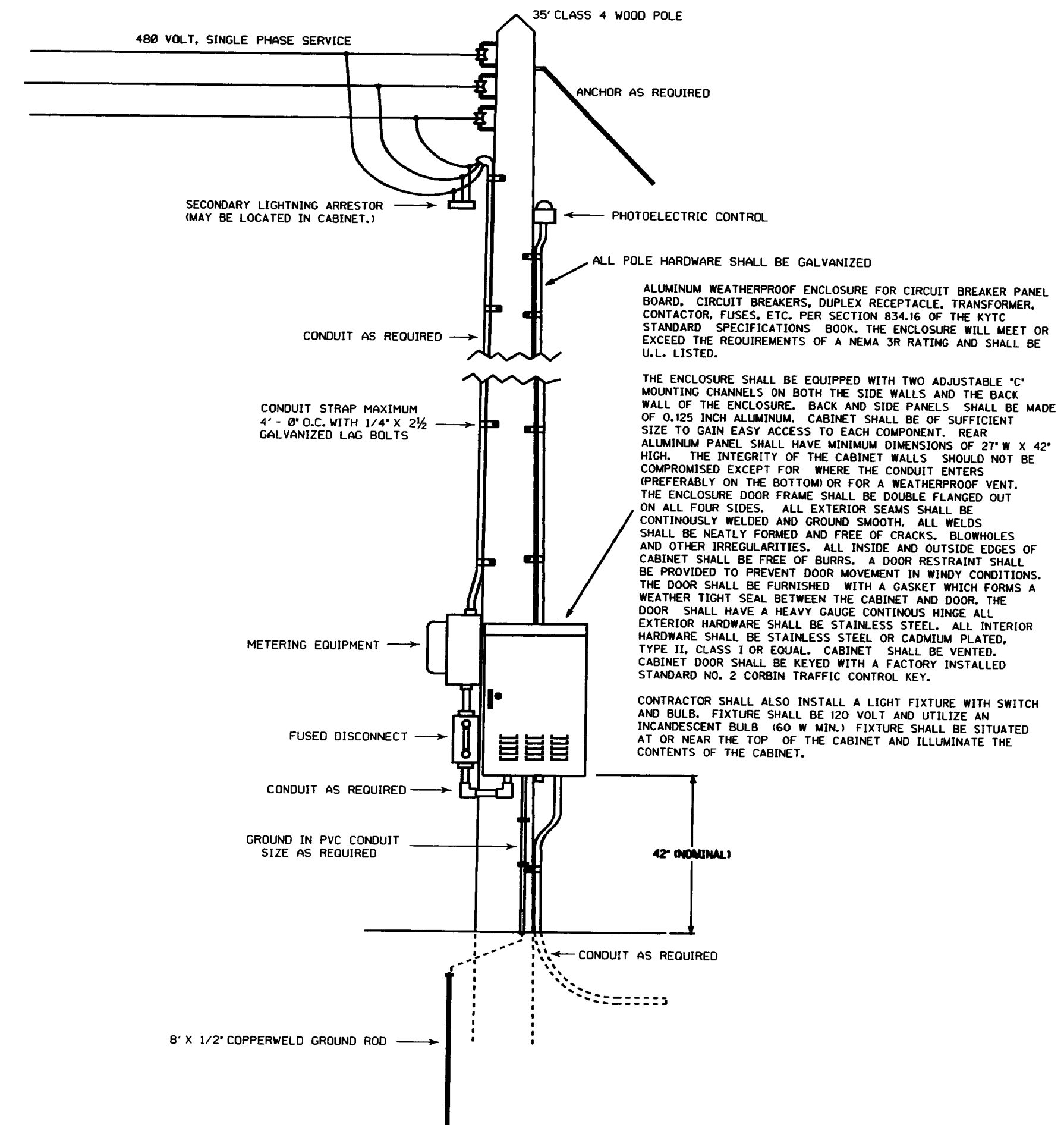
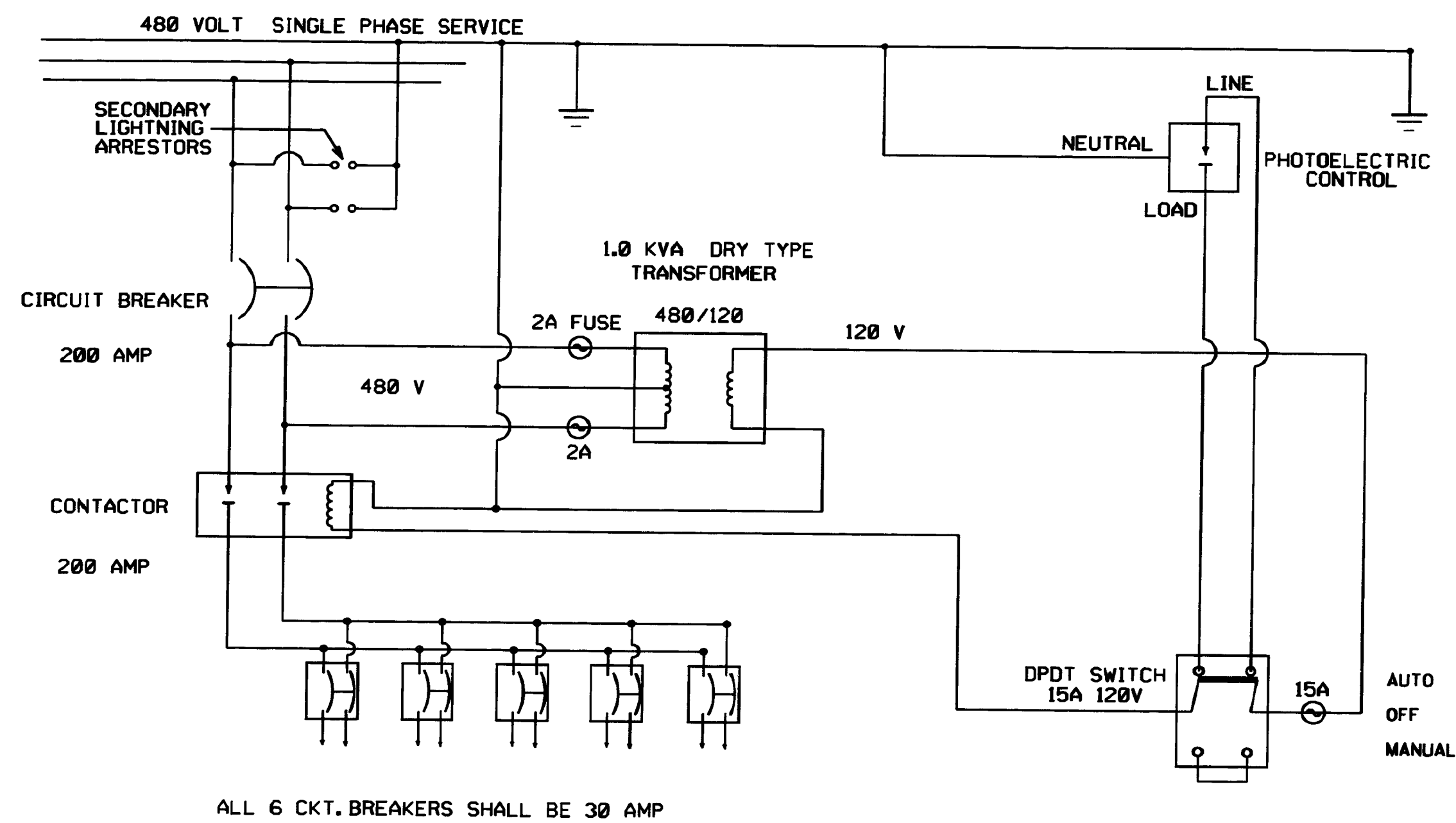
SPECIAL SPLICING REQUIREMENTS

REVISION

REV 7/96

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ROWAN	1996-97		

IM-NH 64-6 (47)134
FD52 103 0064 134-139
1-64 & KY 32



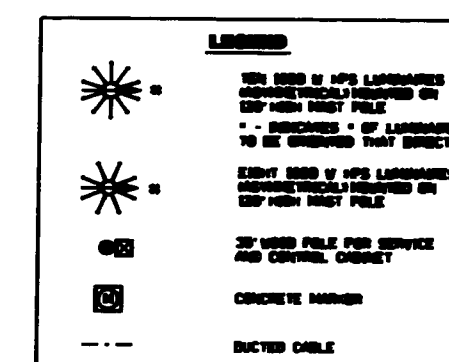
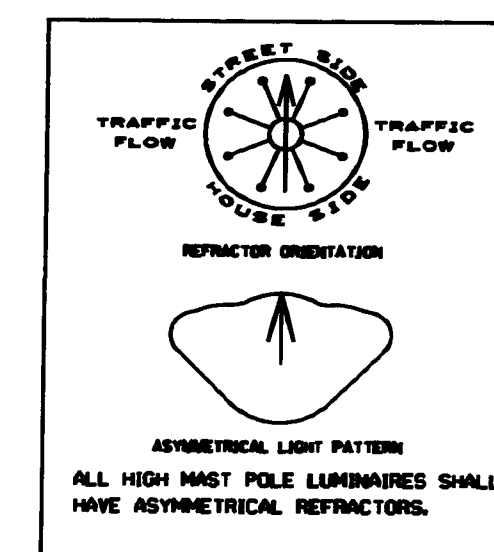
REVISION

REV 5/96

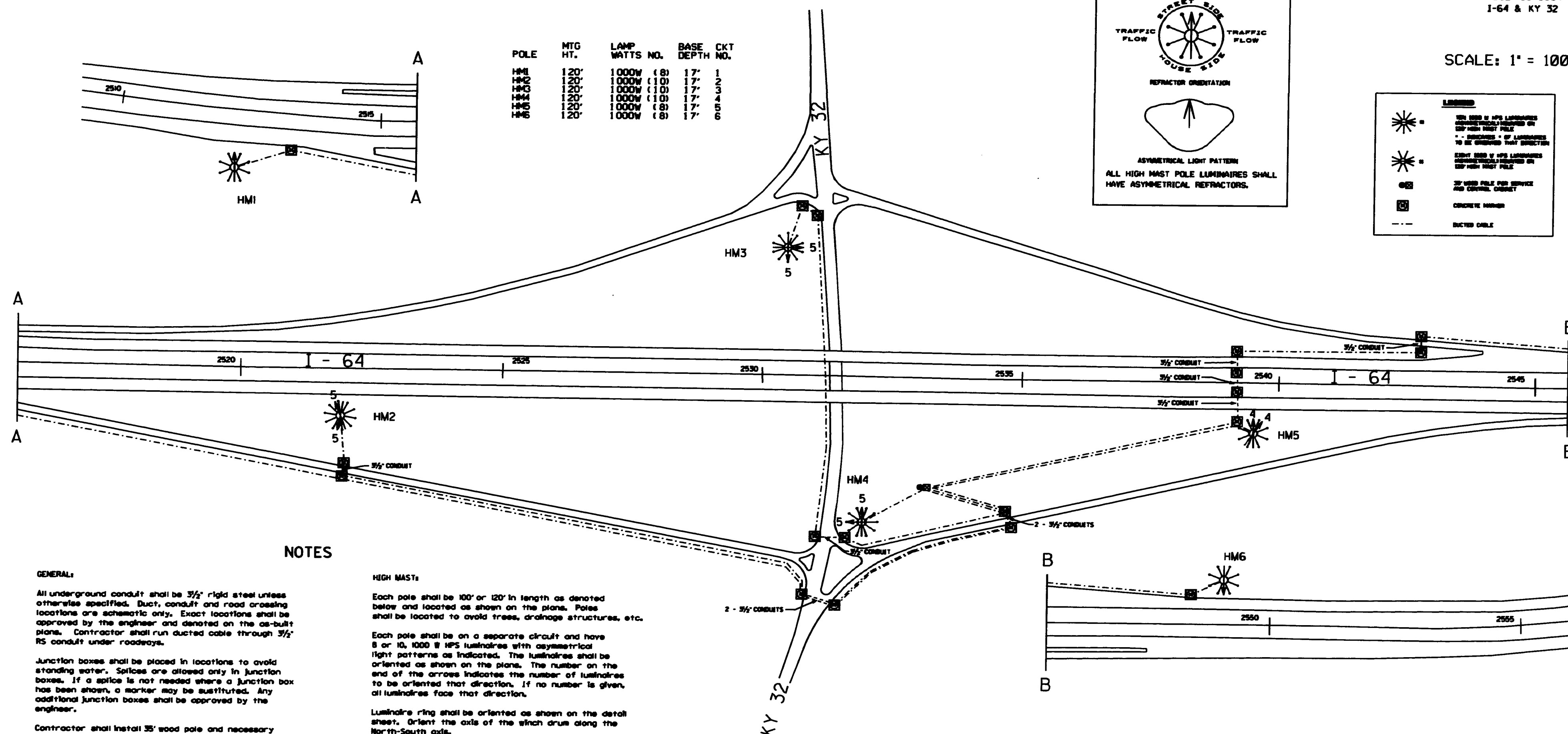
COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ROWAN	1996-97		

IM-NH 64-6 (47) 134
FD52 103 0064 134-139
I-64 & KY 32

SCALE: 1" = 100'



POLE	MTG HT.	LAMP WATTS NO.	BASE DEPTH	CKT NO.
HM1	120'	1000W (8)	17"	1
HM2	120'	1000W (10)	17"	2
HM3	120'	1000W (10)	17"	3
HM4	120'	1000W (8)	17"	4
HM5	120'	1000W (8)	17"	5
HM6	120'	1000W (8)	17"	6



NOTES

GENERAL:

All underground conduit shall be 3/4" rigid steel unless otherwise specified. Duct, conduit and road crossing locations are schematic only. Exact locations shall be approved by the engineer and denoted on the as-built plans. Contractor shall run ducted cable through 3/4" RS conduit under roadways.

Junction boxes shall be placed in locations to avoid standing water. Splices are allowed only in junction boxes. If a splice is not needed where a junction box has been shown, a marker may be substituted. Any additional junction boxes shall be approved by the engineer.

Contractor shall install 35' wood pole and necessary anchors for service. Contractor shall install lighting control equipment on pole. Contractor shall contact local utility company (KSC) before installing service pole to provide 480 volt single phase service and determine exact pole/anchor location.

All cables shall be labeled inside pole bases and junction boxes with circuit numbers. Upon completion of the project all roadway lighting circuits must pass an insulation test of 10 million ohms to ground.

HIGH MAST:

Each pole shall be 100' or 120' in length as denoted below and located as shown on the plans. Poles shall be located to avoid trees, drainage structures, etc.

Each pole shall be on a separate circuit and have 8 or 10, 1000 W HPS luminaires with asymmetrical light patterns as indicated. The luminaires shall be oriented as shown on the plans. The number on the end of the arrows indicates the number of luminaires to be oriented that direction. If no number is given, all luminaires face that direction.

Luminaire ring shall be oriented as shown on the detail sheet. Orient the axis of the sign drum along the North-South axis.

Two power units shall be supplied with this project. Payment for these items shall be incidental to the high mast poles.

Each tower shall be inspected by a representative of the manufacturer of the lowering device prior to final acceptance of the project by the Kentucky Transportation Cabinet.

WIRING SCHEDULE

Cable	Origin	Ending	Connecting
*2/3C DUCTED CONTROLLER	HM 1	HM 1 CKT #1	
*2/3C DUCTED CONTROLLER	HM 2	HM 2 CKT #2	
*4/3C DUCTED CONTROLLER	HM 3	HM 3 CKT #3	
*8/3C DUCTED CONTROLLER	HM 4	HM 4 CKT #4	
*8/3C DUCTED CONTROLLER	HM 5	HM 5 CKT #5	
*4/3C DUCTED CONTROLLER	HM 6	HM 6 CKT #6	

I 64 AT KY 32 - LIGHTING