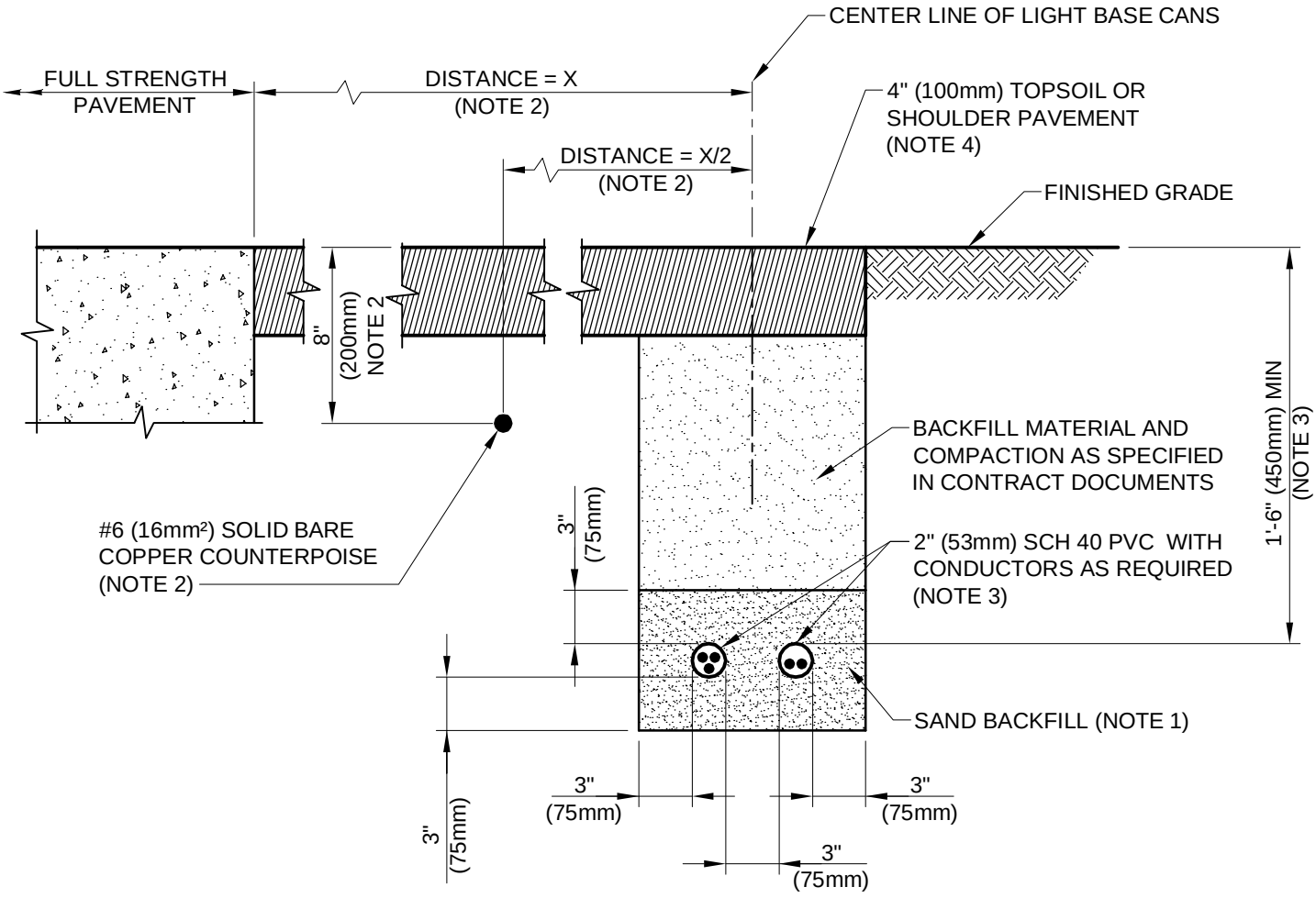


EDGE LIGHTING DIRECT BURIED DUCT/ CONDUIT DETAIL (AIR FORCE/ ARMY)

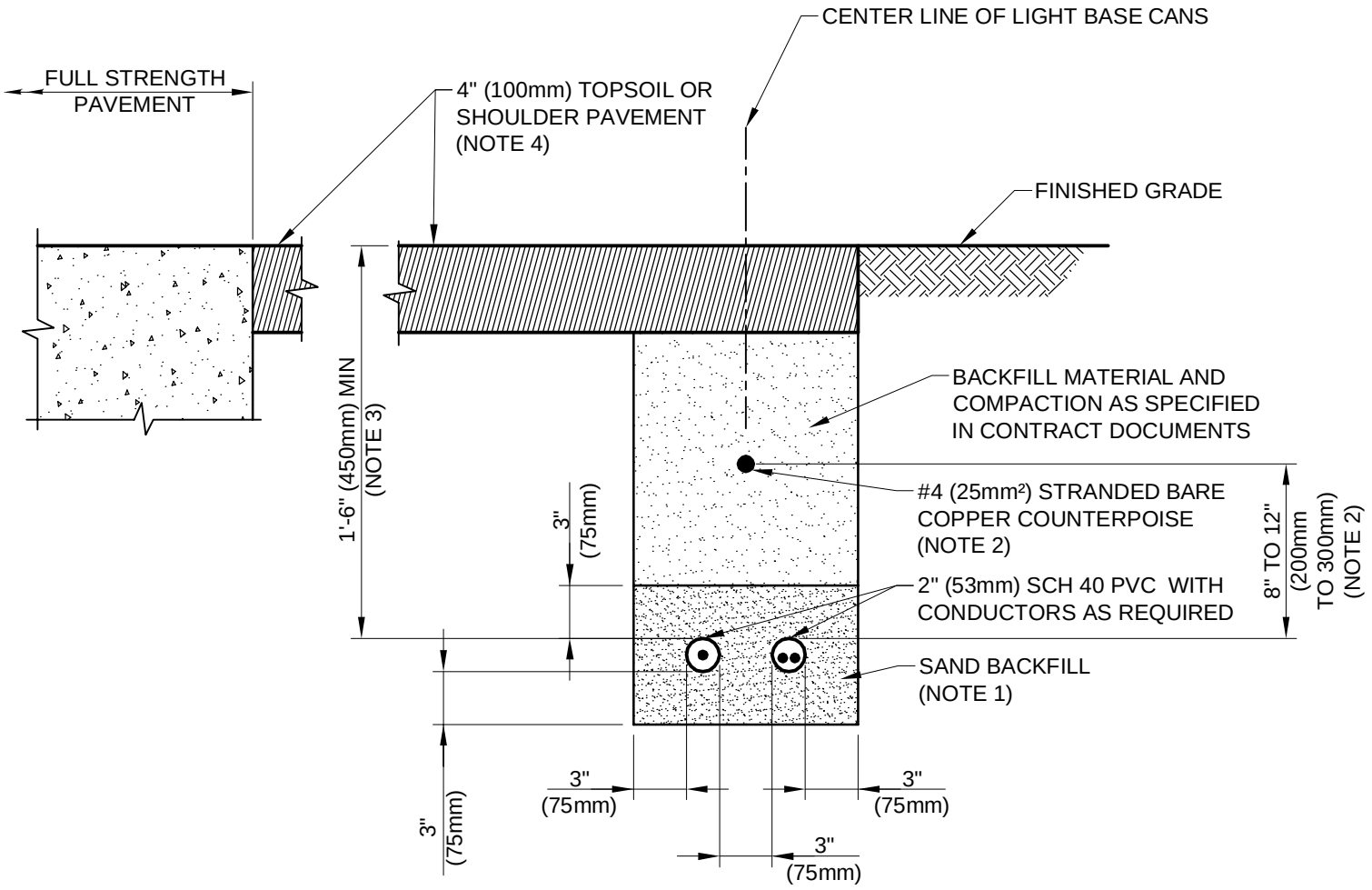
SCALE: NTS

REFERENCE FIGURE: 1A

CAD FILE: 1_1_(Figure_1A)_Edge_Lighting_Direct_Buried_Duct_Conduit_Air_Force_Army.dwg
SEE NOTES TO DESIGNER FILE: 1 1 (Figure 1A)-NTD.dwg

DRAWING NOTES - FIGURE 1A (AIR FORCE / ARMY):

1. DUCTS UNDER FULL STRENGTH PAVEMENT MUST BE CONCRETE ENCASED WITH A MINIMUM OF 3" (75mm) CONCRETE ENCASEMENT ON TOP, BOTTOM, AND SIDES. DUCTS UNDER TURF OR PAVED SHOULDERS MUST BE INSTALLED IN A BED OF SAND BACKFILL.
2. LOCATE COUNTERPOISE HALF WAY BETWEEN FULL-STRENGTH RUNWAY OR TAXIWAY PAVEMENT AND CENTER LINE OF LIGHT BASE CANS. INSTALL COUNTERPOISE 8" (200mm) MINIMUM BELOW FINISHED GRADE.
3. PROVIDE MINIMUM CONDUIT SLOPE OF 0.5 PERCENT WHERE POSSIBLE.
4. WHERE DUCT OR CONDUIT IS BELOW A PAVED SHOULDER, THE PATCH MATERIAL MUST MATCH THE EXISTING PAVEMENT.



EDGE LIGHTING DIRECT BURIED DUCT/ CONDUIT DETAIL (NAVY)

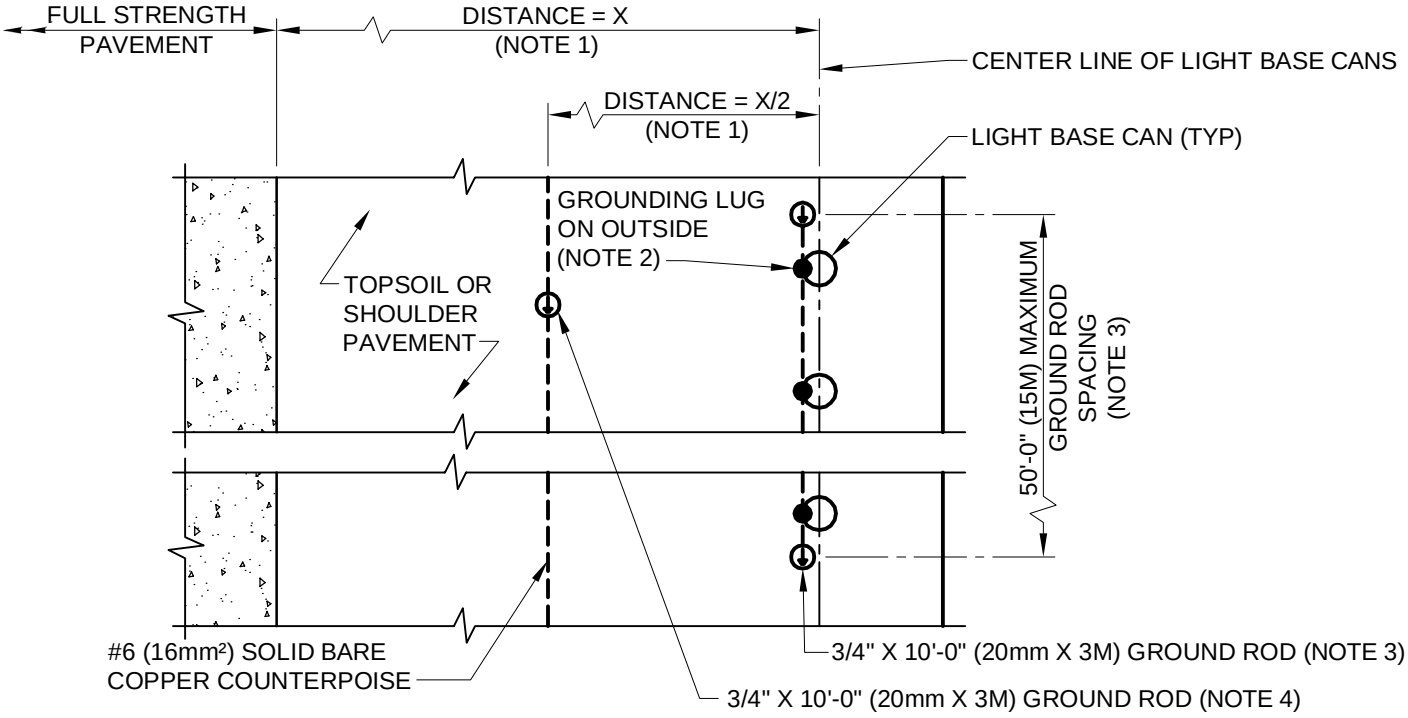
SCALE: NTS

REFERENCE FIGURE: 1B

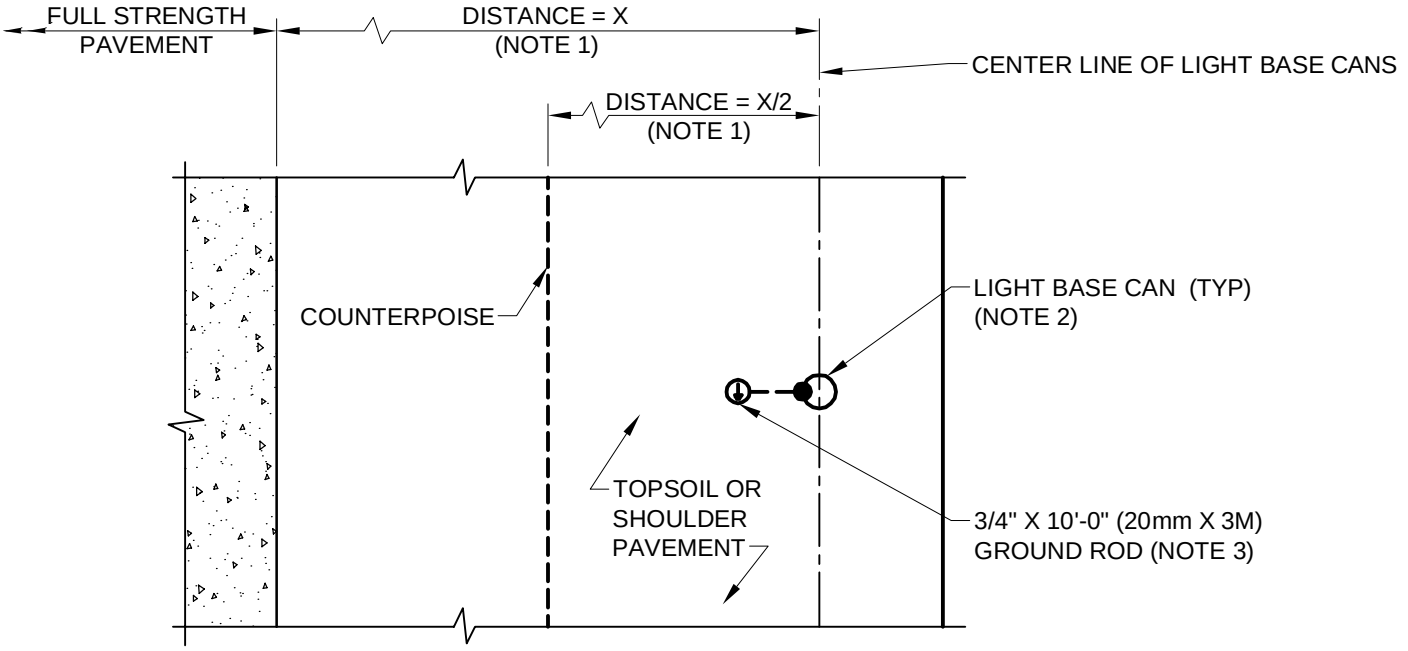
CAD FILE: 1_1_(Figure_1B)_Edge_Lighting_Direct_Buried_Duct_Conduit_Navy.dwg
SEE NOTES TO DESIGNER FILE: 1_1_(Figure_1B)-NTD.dwg

DRAWING NOTES - FIGURE 1B (NAVY):

1. DUCTS UNDER FULL-STRENGTH PAVEMENT, TURF OR PAVED SHOULDERS MUST BE INSTALLED IN A BED OF SAND BACKFILL.
2. LOCATE COUNTERPOISE ABOVE THE CONDUITS BETWEEN THE LIGHT BASE CANS. INSTALL COUNTERPOISE 8" (200mm) TO 12" (300mm) ABOVE TOP DUCT / CONDUIT.
3. PROVIDE MINIMUM DUCT / CONDUIT SLOPE OF 0.5 PERCENT WHERE POSSIBLE.
4. WHERE DUCT OR CONDUIT IS BELOW A PAVED SHOULDER, THE PATCH MATERIAL MUST MATCH THE EXISTING PAVEMENT.



GROUNDING FOR GROUPED LIGHT BASE CANS



GROUNDING FOR ISLOLATED LIGHT BASE CANS

GROUNDING FOR LIGHT BASE CANS (AIR FORCE/ ARMY)

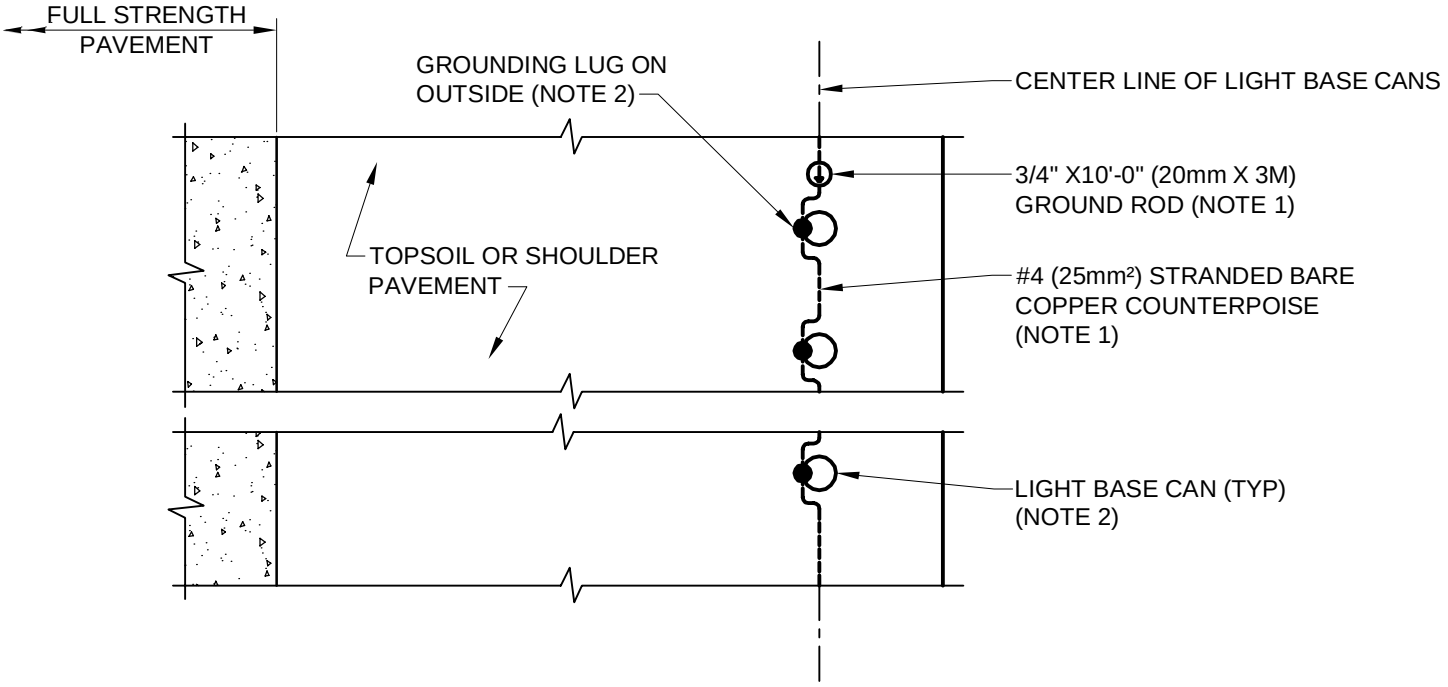
SCALE: NTS

REFERENCE FIGURE: 2A

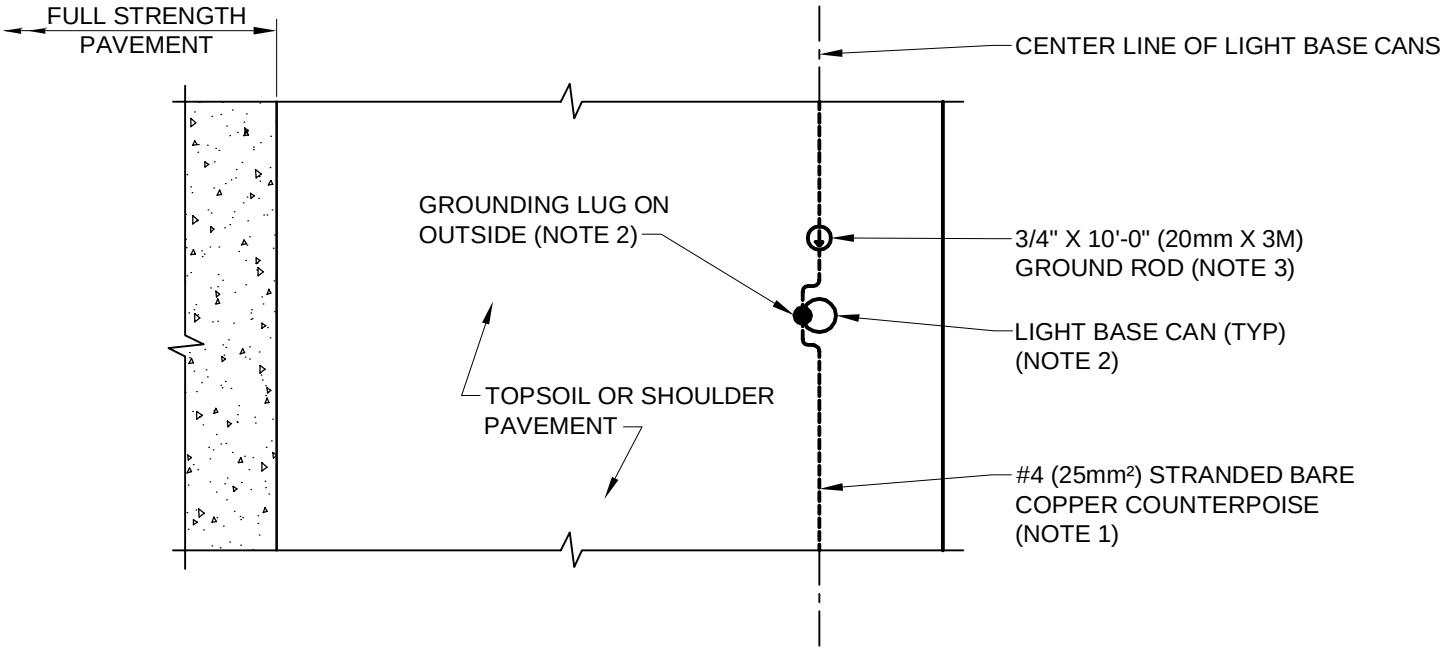
CAD FILE: 1_2_(Figure_2A)_Grounding_For_Light_Base_Cans_Air_Force_Army.dwg
SEE NOTES TO DESIGNER FILE: 1 2 (Figure 2)-NTD.dwg

DRAWING NOTES - FIGURE 2A (AIR FORCE / ARMY):

1. LOCATE COUNTERPOISE HALF WAY BETWEEN FULL STRENGTH RUNWAY OR TAXIWAY PAVEMENT AND CENTER LINE OF LIGHT BASE CANS. INSTALL COUNTERPOISE 8" (200mm) MINIMUM BELOW FINISHED GRADE.
2. SEE FIGURE 3A FOR GROUNDING CONNECTION TO EXTERNAL LUG ON LIGHT BASE CAN.
3. IF LIGHT BASE CANS ARE SPACED MORE THAN 5'-0" (1.5M), THE CANS ARE ISOLATED AND MUST EACH HAVE A GROUND ROD.
4. INSTALL COUNTERPOISE GROUND RODS EVERY 2000' (600M) MAXIMUM ON STRAIGHT RUNS OF DUCTS/CONDUITS



GROUNDING FOR GROUPED LIGHT BASE CANS



GROUNDING FOR ISLOLATED LIGHT BASE CANS

GROUNDING FOR LIGHT BASE CANS (NAVY)

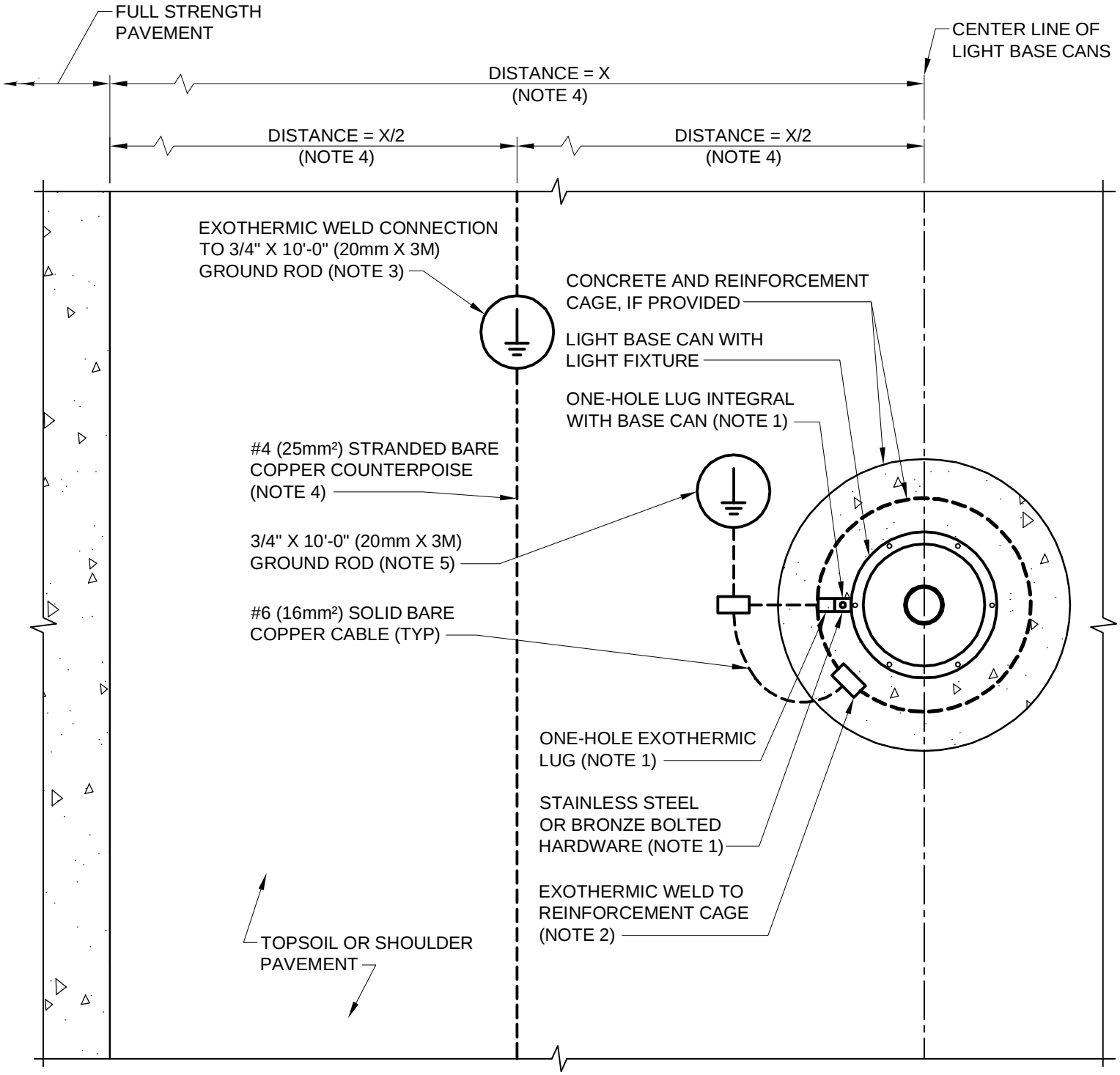
SCALE: NTS

REFERENCE
FIGURE: 2B

CAD FILE: 1_2_(Figure_2B)_Grounding_For_Light_Base_Cans_Navy.dwg
SEE NOTES TO DESIGNER FILE: 1_2_(Figure_2)-NTD.dwg

DRAWING NOTES - FIGURE 2B (NAVY):

1. LOCATE COUNTERPOISE ABOVE THE CONDUITS BETWEEN THE CENTER LINE OF LIGHT BASE CANS. INSTALL COUNTERPOISE 8" (200mm) TO 12" (300mm) ABOVE TOP DUCT / CONDUIT.
2. SEE FIGURE 3B FOR CONNECTION TO EXTERNAL LUG ON LIGHT BASE CAN.
3. INSTALL GROUND RODS EVERY 2000'-0" (600M) MAXIMUM ON STRAIGHT RUNS OF DUCTS / CONDUITS.



GROUNDING CONNECTIONS TO LIGHT BASE CAN (AIR FORCE/ ARMY)

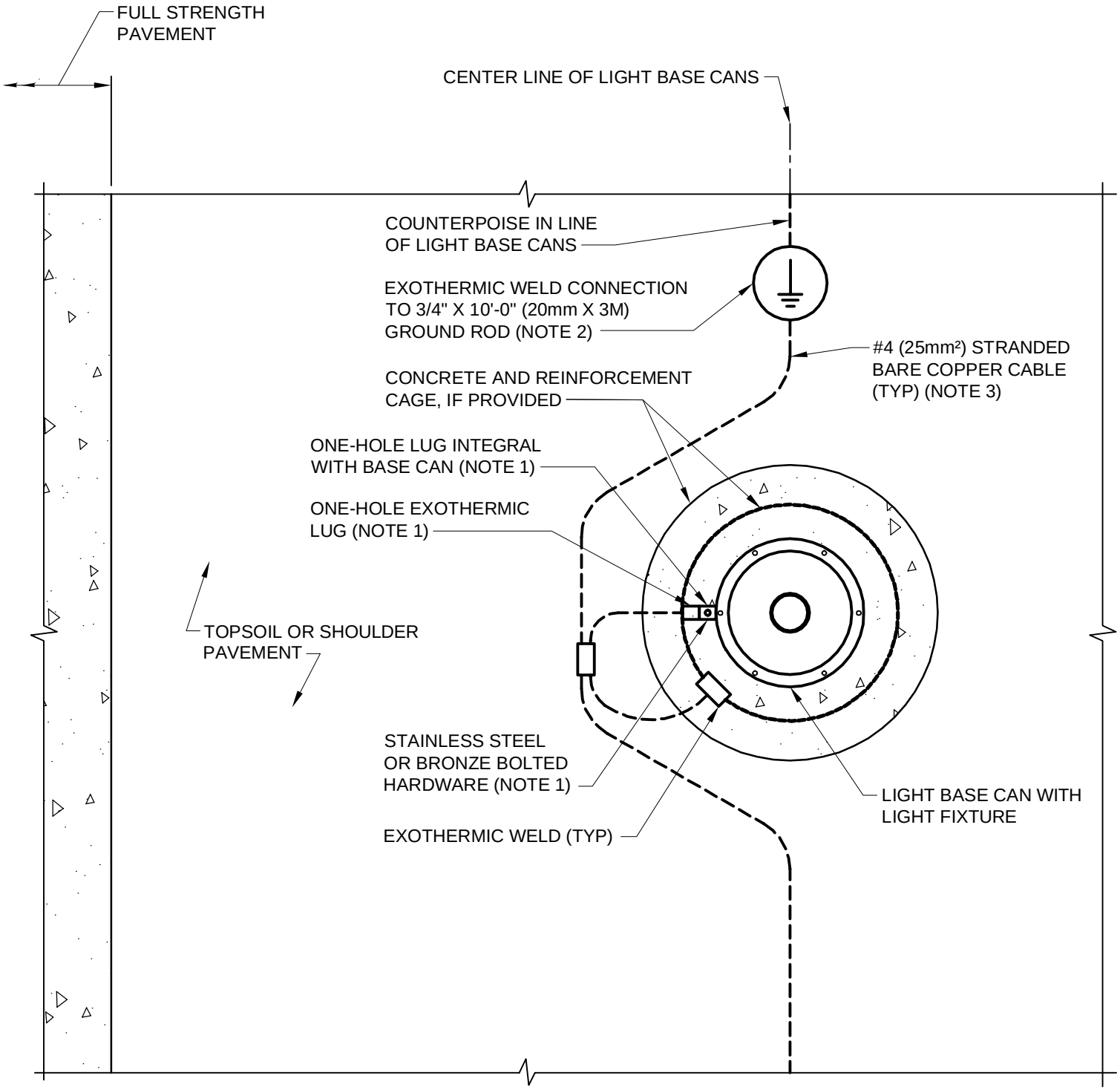
SCALE: NTS

REFERENCE
FIGURE: 3A

CAD FILE: 1_3_(Figure_3A)_Grounding_Connections_To_Light_Base_Can_Air_Force_Army.dwg
SEE NOTES TO DESIGNER FILE: 1 3 (Figure 3)-NTD.dwg

DRAWING NOTES - FIGURE 3A (AIR FORCE / ARMY):

1. EACH LIGHT BASE CAN MUST HAVE AN EXTERNAL ONE-HOLE GROUND LUG. CONNECT AN EXOTHERMIC ONE-HOLE LUG TO GROUNDING CABLE. CONNECT CABLE LUG TO BASE CAN LUG WITH BRONZE OR STAINLESS STEEL BOLTED HARDWARE.
2. CONNECT GROUNDING CABLE TO REINFORCEMENT CAGE, IF ONE IS PROVIDED. USE EXOTHERMIC WELD.
3. CONNECT GROUND RODS TO COUNTERPOISE AT 2000'-0" (600M) MAXIMUM SPACING FOR STRAIGHT RUNS, USING EXOTHERMIC WELDS. DO NOT BREAK COUNTERPOISE.
4. LOCATE COUNTERPOISE HALF WAY BETWEEN FULL-STRENGTH RUNWAY OR TAXIWAY PAVEMENT AND CENTER LINE OF LIGHT BASE CANS.
5. INSTALL THE GROUND ROD ON THE SIDE OF THE TRENCH THAT IS CLOSEST TO THE RUNWAY OR TAXIWAY PAVEMENT. GROUND ROD MUST BE SEPARATED FROM COUNTERPOISE BY MINIMUM 12" (300mm).



GROUNDING CONNECTIONS TO LIGHT BASE CAN (NAVY)

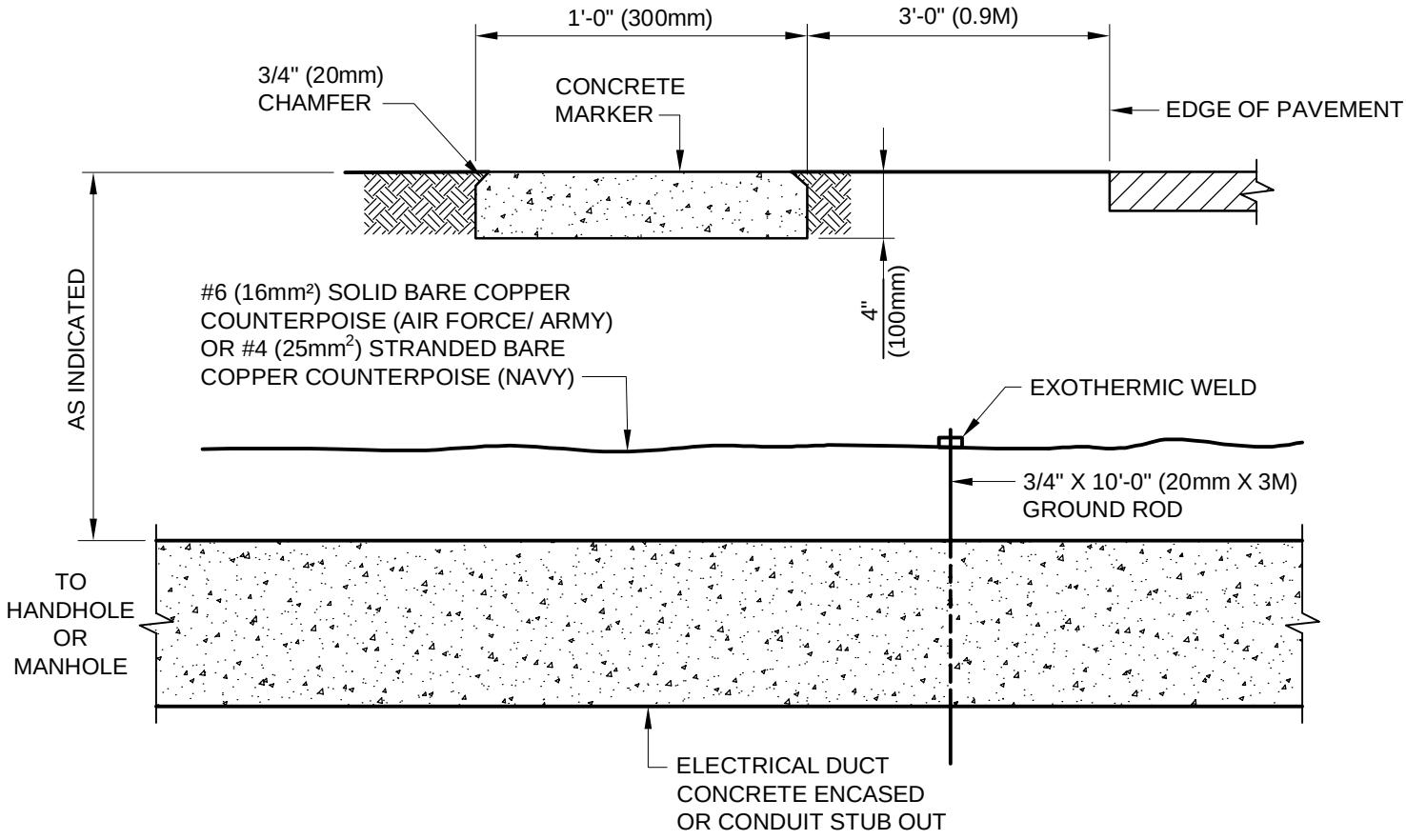
SCALE: NTS

REFERENCE
FIGURE: 3B

CAD FILE: 1_3_(Figure_3B)_Grounding_Connections_To_Light_Base_Can_Navy.dwg
SEE NOTES TO DESIGNER FILE: 1 3 (Figure 3)-NTD.dwg

DRAWING NOTES - FIGURE 3B (NAVY):

1. EACH LIGHT BASE CAN MUST HAVE AN EXTERNAL ONE-HOLE GROUND LUG. CONNECT AN EXOTHERMIC ONE-HOLE LUG TO GROUNDING CABLE CONNECTED TO COUNTERPOISE. CONNECT CABLE LUG TO BASE CAN LUG WITH BRONZE OR STAINLESS STEEL BOLTED HARDWARE.
2. CONNECT GROUND RODS TO COUNTERPOISE AT 2000'-0" (600M) MAXIMUM SPACING FOR STRAIGHT RUNS, USING EXOTHERMIC WELDS. DO NOT BREAK COUNTERPOISE.
3. LOCATE COUNTERPOISE ABOVE THE CONDUITS BETWEEN THE LIGHT BASE CANS.
4. INSTALL THE GROUND ROD ON THE SIDE OF THE TRENCH THAT IS CLOSEST TO THE RUNWAY OR TAXIWAY PAVEMENT.

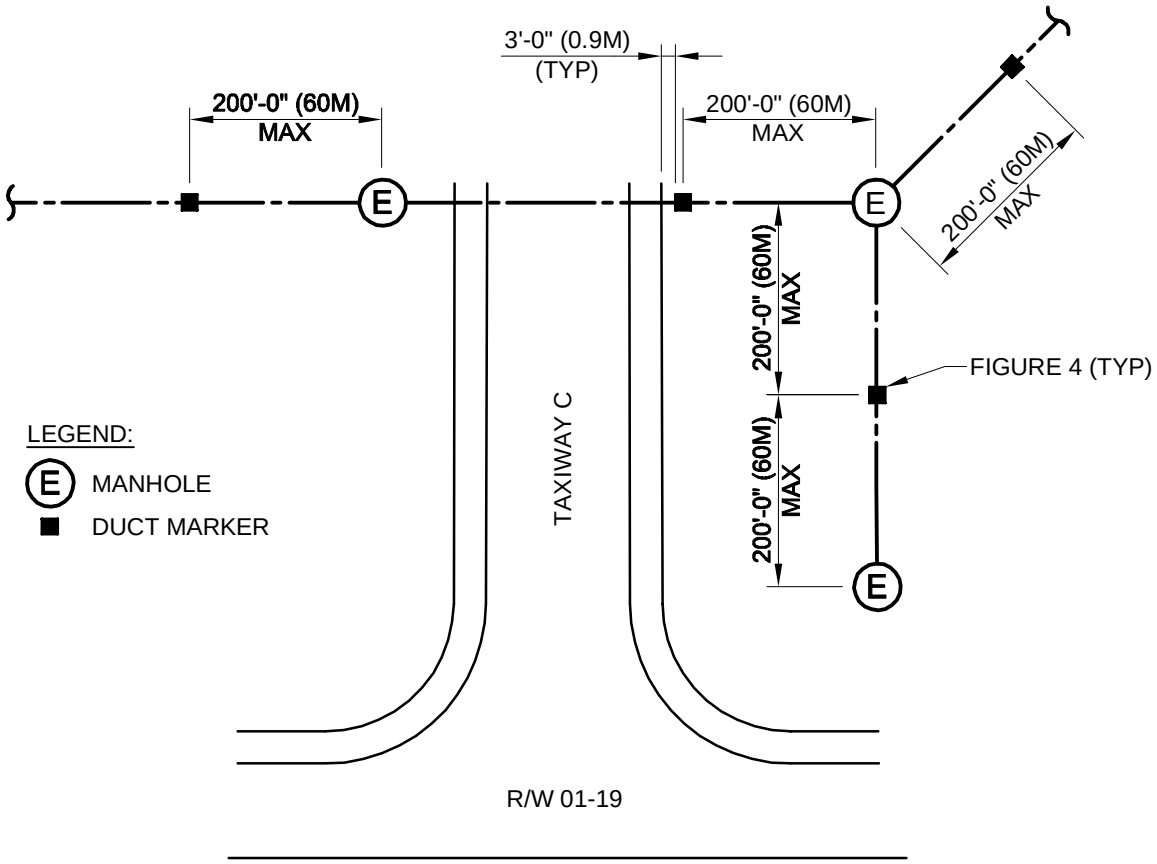


DUCT MARKER INSTALLATION AT PAVEMENT EDGE

SCALE: NTS

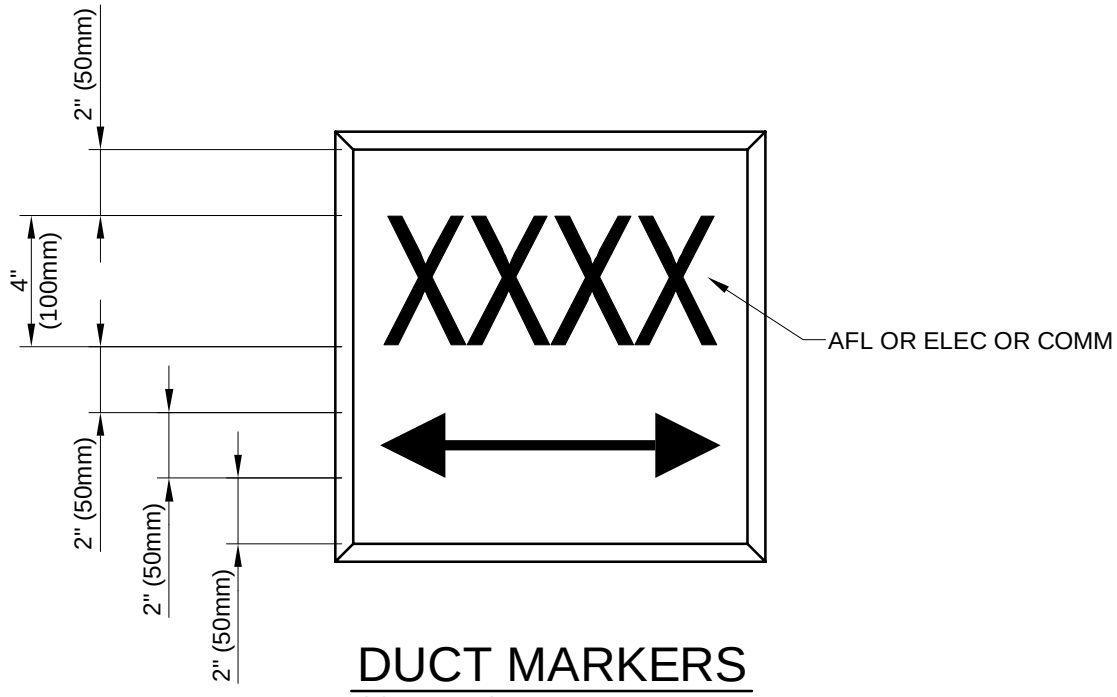
REFERENCE
FIGURE: 4

CAD FILE: 1_4_(Figure_4)_Duct_Marker_Installation_at_Pavement_Edge.dwg
SEE NOTES TO DESIGNER FILE: 1 4 (Figure 4)-NTD.dwg



TYPICAL DUCT MARKER LAYOUT

SCALE: NTS



DUCT MARKERS

SCALE: NTS

REFERENCE FIGURE: 5

CAD FILE: 1_5_(Figure_5)_Typical_Duct_Marker_Layout.dwg
SEE NOTES TO DESIGNER FILE: 1_5_(Figure_5)-NTD.dwg

DRAWING NOTES -
FIGURE 5, TYPICAL DUCT MARKER LAYOUT:

1. INSTALL DUCT MARKERS AT EACH CHANGE OF DIRECTION.

2. INSTALL DUCT MARKER EVERY 200'-0" (60M) ALONG STRAIGHT RUNS WITH NO ACCESS STRUCTURE.

3. ON STRAIGHT RUNS LESS THAN 200'-0" (60M) INSTALL DUCT MARKER AT MIDPOINT.

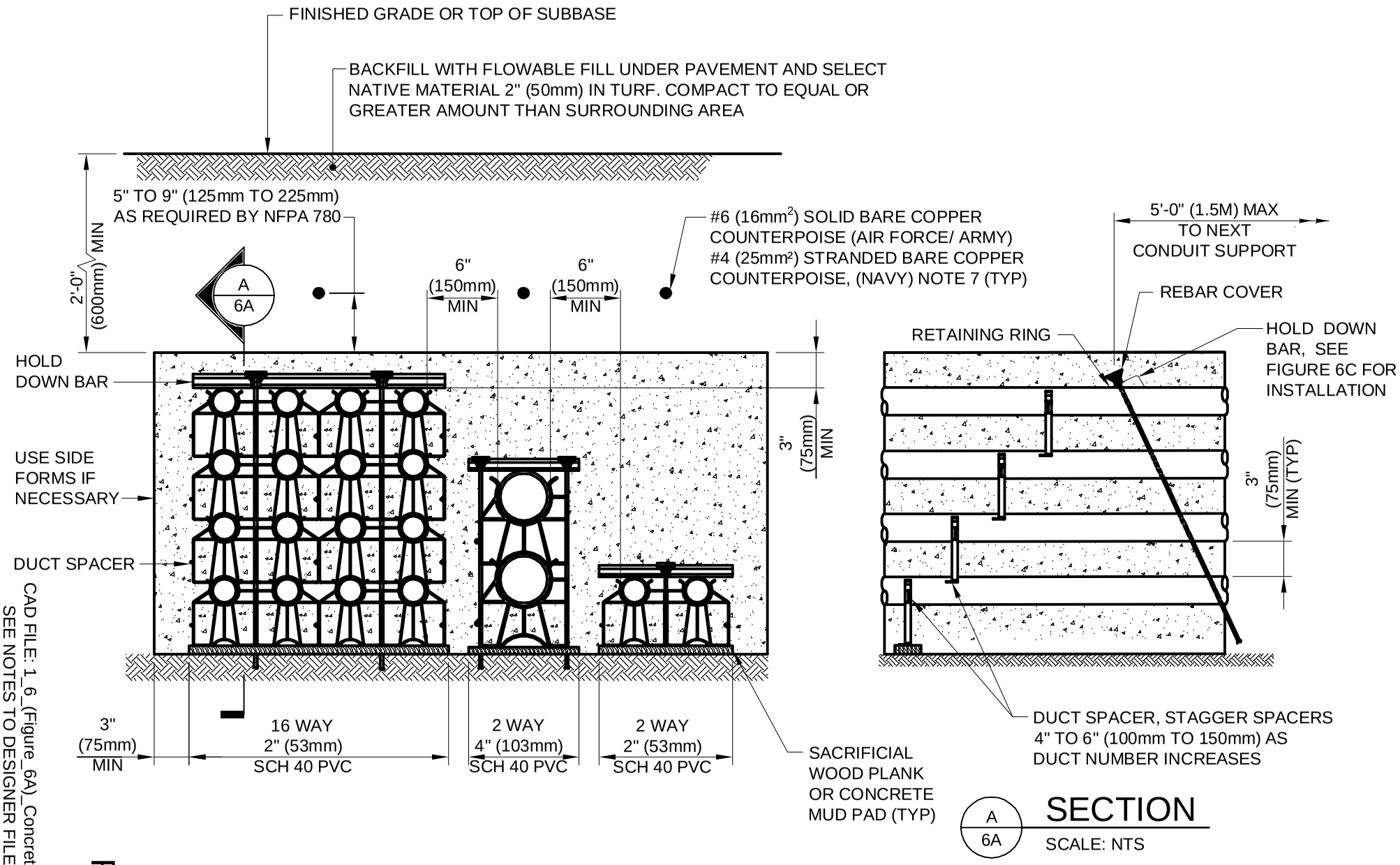
4. INSTALL DUCT MARKER AT ENDS OF DUCTS THAT ARE NOT TERMINATED AT MANHOLES.

DRAWING NOTES - FIGURE 5, DUCT MARKERS:

1. HAND LETTERING NOT ALLOWED ON MARKERS. LETTERING IS TO BE BOLDLY IMPRESSED. LINE WIDTH MUST BE 1/2" (13mm) MINIMUM. DEPTH OF IMPRESSION MUST BE 1/4" (6mm) MINIMUM.

2. ARROW ON MARKER TO INDICATE DIRECTION OF DUCTS (WHERE APPLICABLE).

3. ALL MARKERS ARE CONCRETE WITH A MINIMUM OF 4" (100mm) IN THICKNESS.



16 - 2" (53mm)/ 2 - 4" (103mm)/ 2 - 2" (53mm) CONCRETE ENCASED DUCT BANK

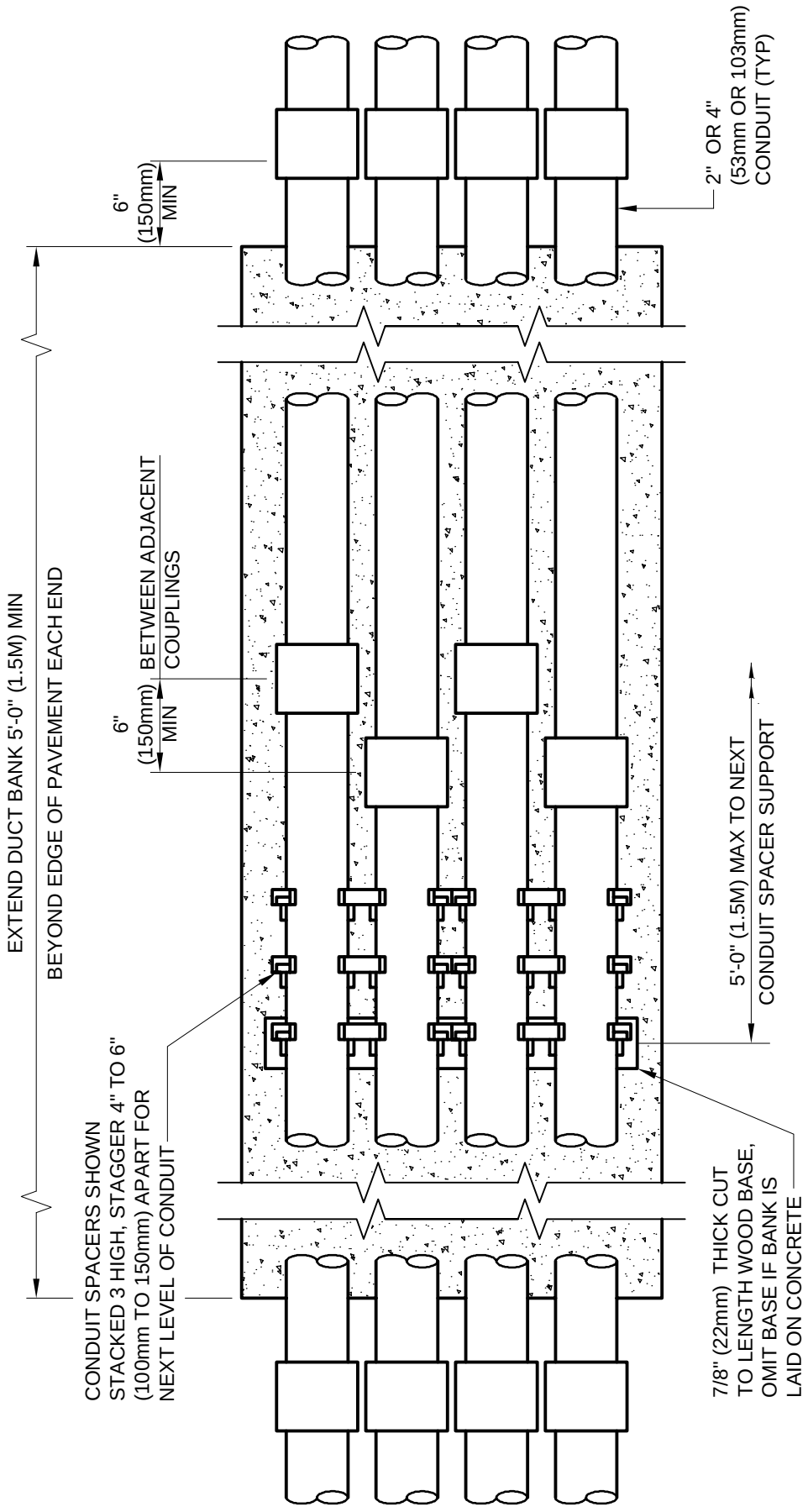
SCALE: NTS

REFERENCE FIGURE: 6A

CAD FILE: 1_6_(Figure_6A)_Concrete_Encased_Ductbank.dwg
SEE NOTES TO DESIGNER FILE: 1 6 (Figure 6)-NTD.dwg

DRAWING NOTES - FIGURE 6A:

1. FOR SIZE AND NUMBER OF CONDUITS AS WELL AS DUCT BANK FORMATION, SEE PLANS.
2. SEPARATE THE COMMUNICATIONS CONDUIT GROUP FROM THE POWER GROUP ON EITHER LEFT OR RIGHT SIDE AS INDICATED ON PLANS.
3. CONCRETE COVER ON TOP; BOTTOM AND SIDES MUST BE 3" (75mm) MINIMUM.
4. DUCT BANKS MAY BE BORED UNDER EXISTING PAVEMENT. NO OPEN CUTTING OF THE PAVEMENT MAY OCCUR WITHOUT BASE APPROVAL. ALL INSTALLATION TECHNIQUES, METHODS, MATERIALS, ETC., MUST BE SUBMITTED TO CONTRACTING OFFICER FOR REVIEW PRIOR TO STARTING WORK.
5. CONDUIT AND DUCT BANK RUNS MUST BE STRAIGHT (±4" (100mm) OF CENTERLINE BETWEEN MANHOLES, HANDHOLES, AND BASE CANS) EXCEPT WHERE DESIGNATED DIFFERENTLY ON DESIGN DRAWINGS.
6. CONDUIT TEMPERATURE MUST BE AT BURIAL TEMPERATURE FOR 24 HOURS BEFORE COVERING OR MAKING MANHOLE/HANDHOLE CONNECTIONS.
7. SEE NFPA 780, CHAPTER 11 FOR LOCATION OF COUNTERPOISE(S) ABOVE DUCT BANKS.



CONCRETE ENCASED DUCT BANK SPACERS

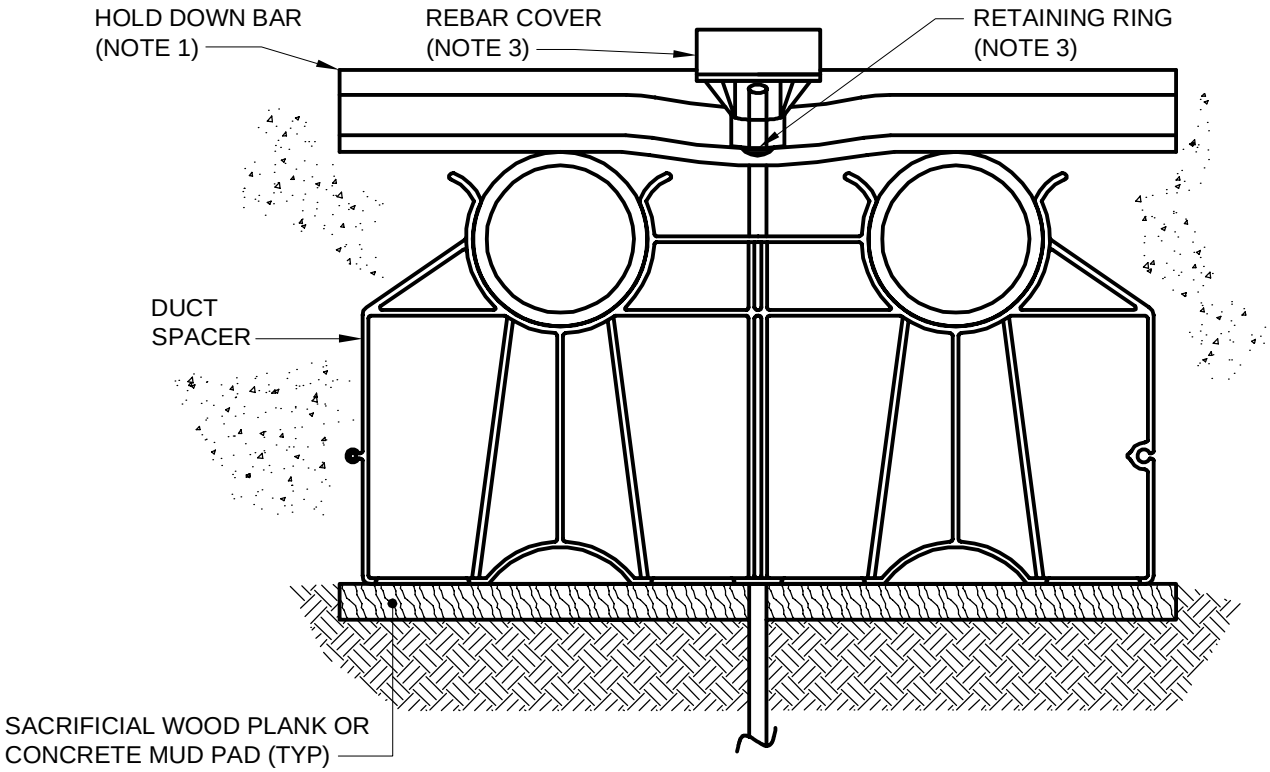
SCALE: NTS

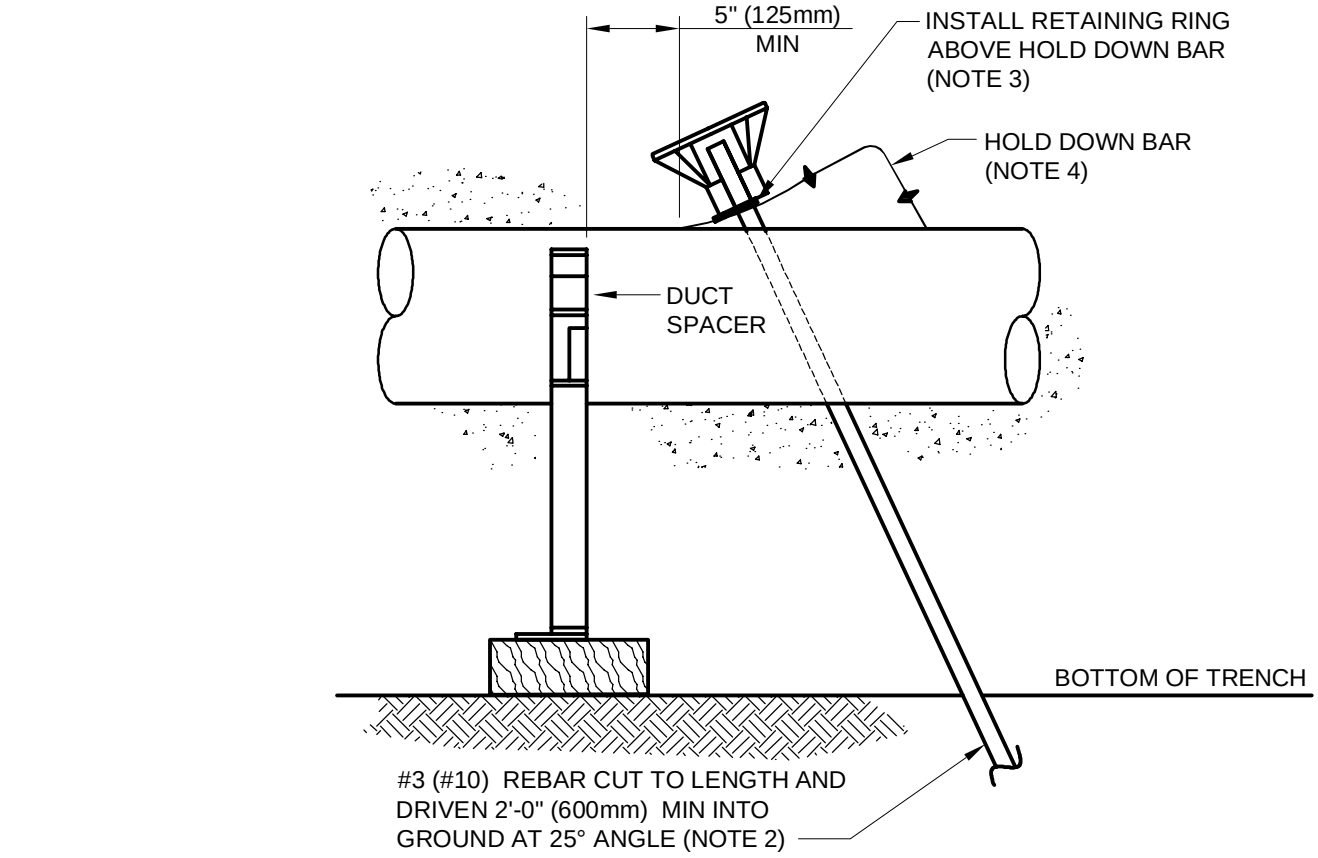
REFERENCE
FIGURE: 6B

CAD FILE: 1_6_(Figure_6B)_Concrete_Encased_Ductbank_Spacers.dwg
SEE NOTES TO DESIGNER FILE: 1 6 (Figure 6)-NTD.dwg

DRAWING NOTES - FIGURE 6B:

1. FOR SIZE AND NUMBER OF CONDUITS AS WELL AS DUCT BANK FORMATION, SEE PLANS.
2. SEPARATE THE COMMUNICATIONS CONDUIT GROUP FROM THE POWER GROUP ON EITHER LEFT OR RIGHT SIDE AS INDICATED ON PLANS.
3. CONCRETE COVER ON TOP; BOTTOM AND SIDES MUST BE 3" (75mm) MINIMUM.
4. DUCT BANKS MAY BE BORED UNDER EXISTING PAVEMENT. NO OPEN CUTTING OF THE PAVEMENT MAY OCCUR WITHOUT BASE APPROVAL. ALL INSTALLATION TECHNIQUES, METHODS, MATERIALS, ETC., MUST BE SUBMITTED TO CONTRACTING OFFICER FOR REVIEW PRIOR TO STARTING WORK.
5. CONDUIT AND DUCT BANK RUNS MUST BE STRAIGHT (±4" (100mm) OF CENTERLINE BETWEEN MANHOLES, HANDHOLES, AND BASE CANS) EXCEPT WHERE DESIGNATED DIFFERENTLY ON DESIGN DRAWINGS.
6. CONDUIT TEMPERATURE MUST BE AT BURIAL TEMPERATURE FOR 24 HOURS BEFORE COVERING OR MAKING MANHOLE/HANDHOLE CONNECTIONS.
7. SEE NFPA 780, CHAPTER 11 FOR LOCATION OF COUNTERPOISE(S) ABOVE DUCT BANKS.





HOLD DOWN BAR INSTALLATION DETAIL

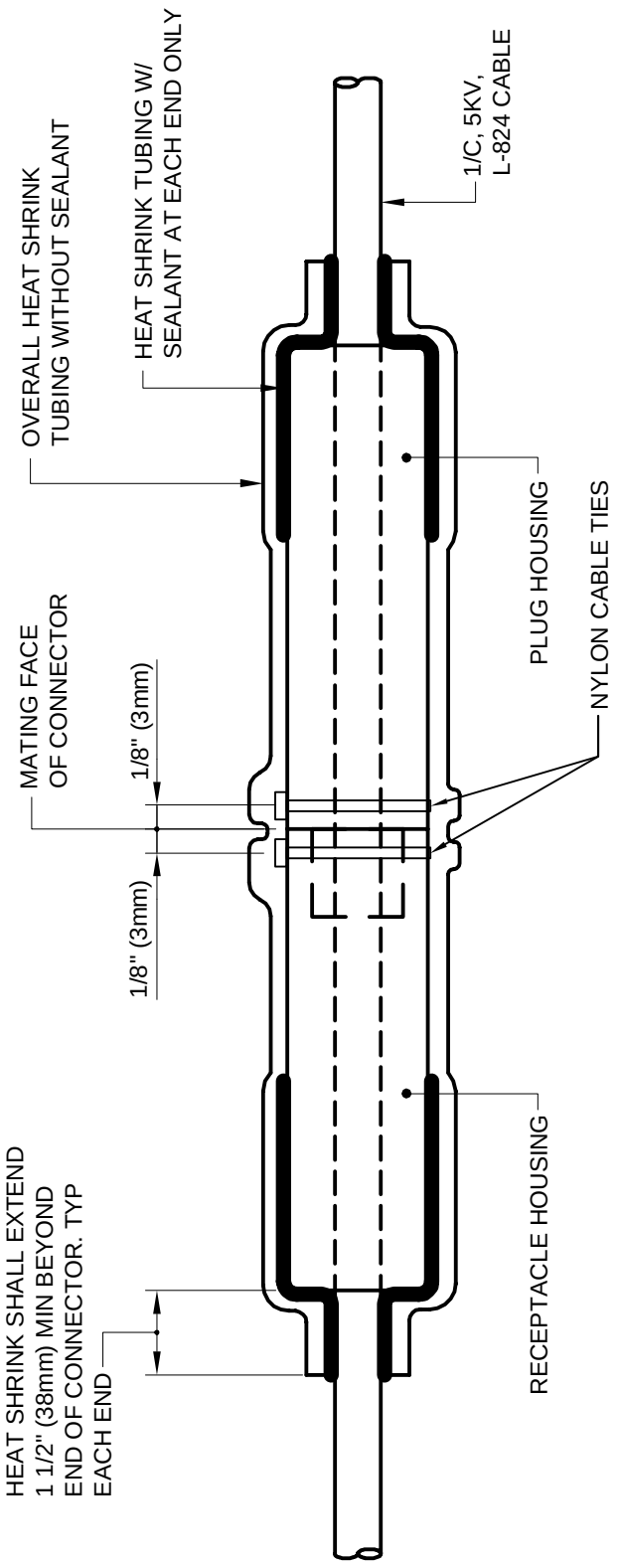
SCALE: NTS

REFERENCE
FIGURE: 6C

CAD FILE: 1_6_(Figure_6C)_Hold_Down_Bar_Installation.dwg
SEE NOTES TO DESIGNER FILE: 1_6_(Figure_6)-NTD.dwg

DRAWING NOTES - FIGURE 6C:

1. THE HOLD DOWN BAR IS USED TO PREVENT DUCT FLOTATION DURING THE CONCRETE POUR.
2. DRIVE REBAR INTO THE GROUND AT AN ANGLE OF APPROXIMATELY 15 TO 25 DEGREES OFF PERPENDICULAR. DRIVE REBAR UNTIL HOLD DOWN BAR IS SLIGHTLY DEFORMED. USE ADDITIONAL REBARS ACCORDING TO NUMBER OF DUCTS USED.
3. INSTALL RETAINING RING ABOVE HOLD DOWN BAR. PLACE REBAR COVER ABOVE RETAINING RING.
4. PLACE HOLD DOWN BARS UP TO 5'-0" (1.5M) APART UNLESS CONDUIT IS STACKED MORE THAN ONE DUCT HIGH. IT MAY BE NECESSARY TO PLACE HOLD DOWN BARS CLOSER TOGETHER IF IT IS NOT POSSIBLE TO GET A GOOD ANCHOR IN THE GROUND WITH THE REBAR.
5. CONTRACTOR MUST WATCH CONCRETE POUR TO ENSURE THAT CONCRETE DOES NOT HIT ONE END ON THE HOLD DOWN BAR AND CAUSE BAR TO ROTATE AND RELEASE DUCTS.



FIELD ATTACHED PLUG-IN SPLICE FAA TYPE L-823

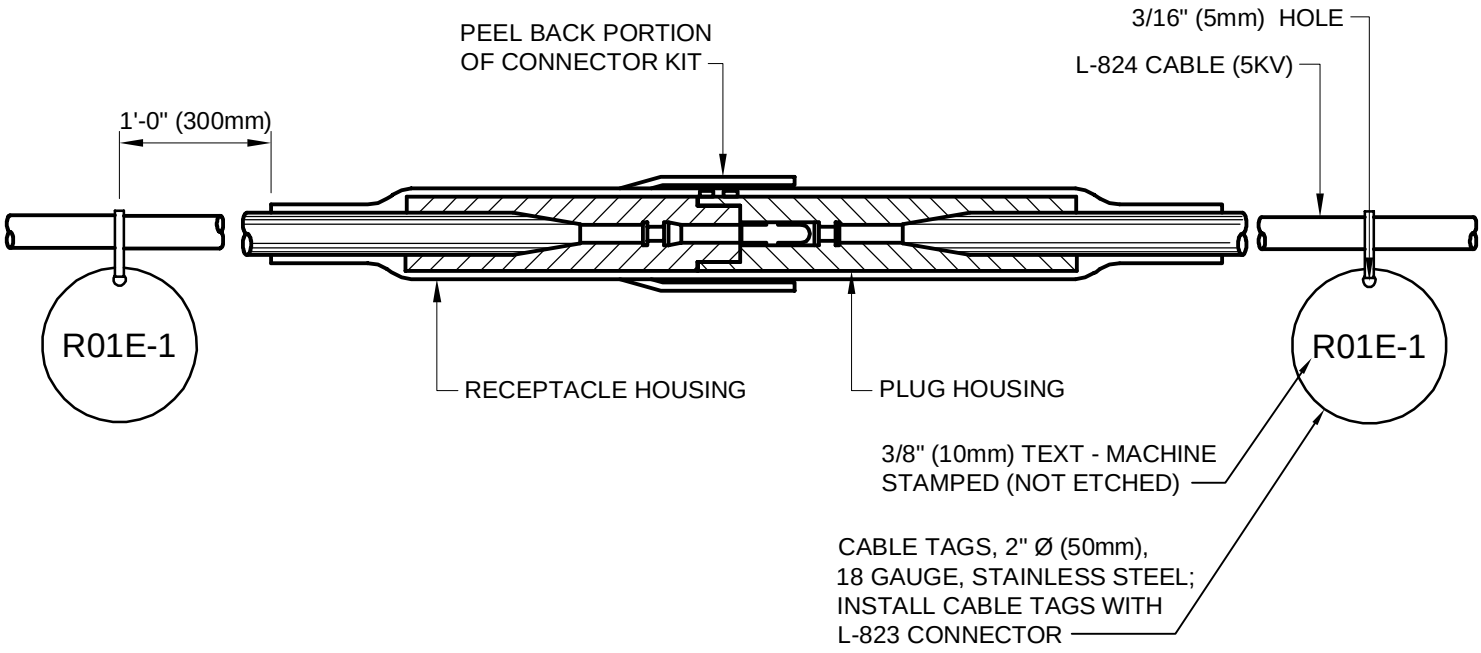
SCALE: NTS

REFERENCE
FIGURE: 7A

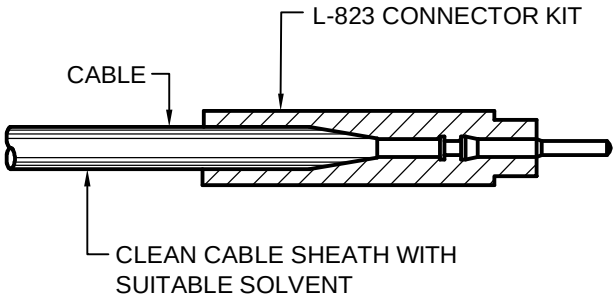
CAD FILE: 1_7_(Figure_7A)_Field_Attached_Plug_In_Splice_FAA_Type_L_823.dwg
SEE NOTES TO DESIGNER FILE: 1 7 (Figure 7A)-NTD.dwg

DRAWING NOTES - FIGURE 7A:

1. INTERIOR PIN AND SOCKETS ARE NOT INDICATED FOR CLARITY.
2. ATTACH EACH CABLE TIE 1/8" (3mm) FROM THE MATING FACE OF THE CONNECTOR HOUSING. TIGHTEN CABLE TIE ENOUGH TO HOLD IN PLACE WITHOUT COMPRESSING HOUSING. TRIM OFF EXCESS CABLE TIE.
3. INSTALLATION OF L-823 AND HEAT SHRINK TUBING MUST BE IN STRICT CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS.



PIN RECEPTACLE



TYPICAL L-823 CONNECTOR DETAIL WITHOUT HEAT SHRINK

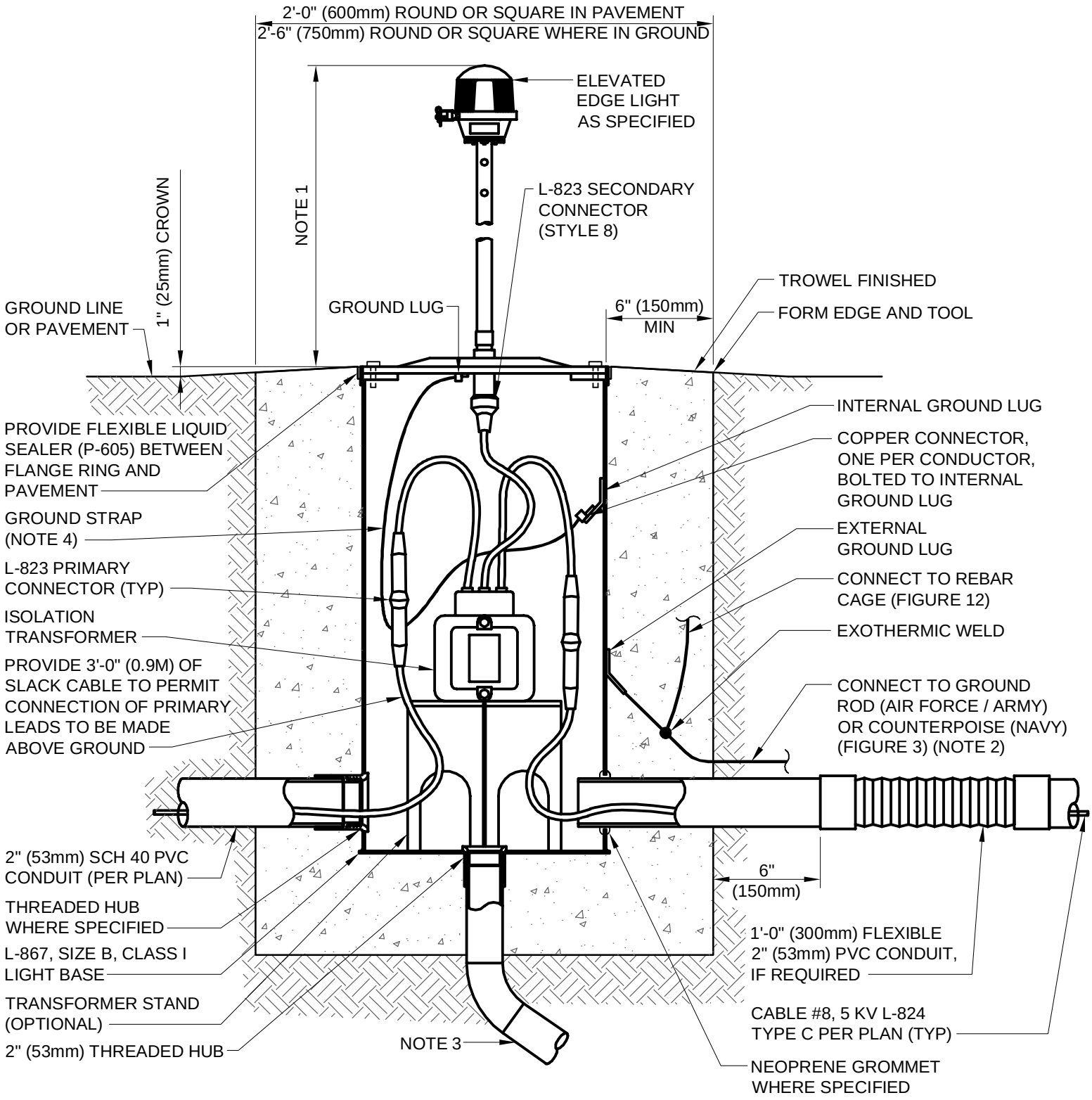
SCALE: NTS

REFERENCE
FIGURE: 7B

CAD FILE: 1_7_(Figure_7B)_Typical_823_Connector_Detail_Without_Heat_Shrink.dwg
SEE NOTES TO DESIGNER FILE: 1 7 (Figure 7B)-NTD.dwg

DRAWING NOTES - FIGURE 7B:

1. CONTRACTOR MUST PROVIDE CABLE CIRCUIT IDENTIFICATION MARKERS ATTACHED TO BOTH SIDES OF EACH CABLE CONNECTION.
2. ATTACH CABLE IDENTIFICATION MARKERS WITH CORROSION RESISTANT MATERIAL.
3. THOROUGHLY CLEAN THE CABLE PRIOR TO THE INSTALLATION OF THE L-823 CONNECTOR KIT.
4. COMPLETE INSTALLATION OF THE PIN/RECEPTACLE WITH “CRIMPING” TOOL SUPPLIED OR RECOMMENDED BY THE MANUFACTURER AND DESIGNED FOR THIS SPECIFIC PURPOSE. TWO CRIMPING TOOLS MUST BE TURNED OVER TO THE GOVERNMENT UPON COMPLETION OF THE PROJECT.
5. ATTACH EACH CABLE TIE ENOUGH TO HOLD IN PLACE WITHOUT COMPRESSING HOUSING. TRIM OFF EXCESS CABLE TIE.
6. INSTALLATION OF COMPLETE KIT CONNECTOR MUST BE IN STRICT CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS.



BASE MOUNTED ELEVATED FIXTURE INSTALLATION

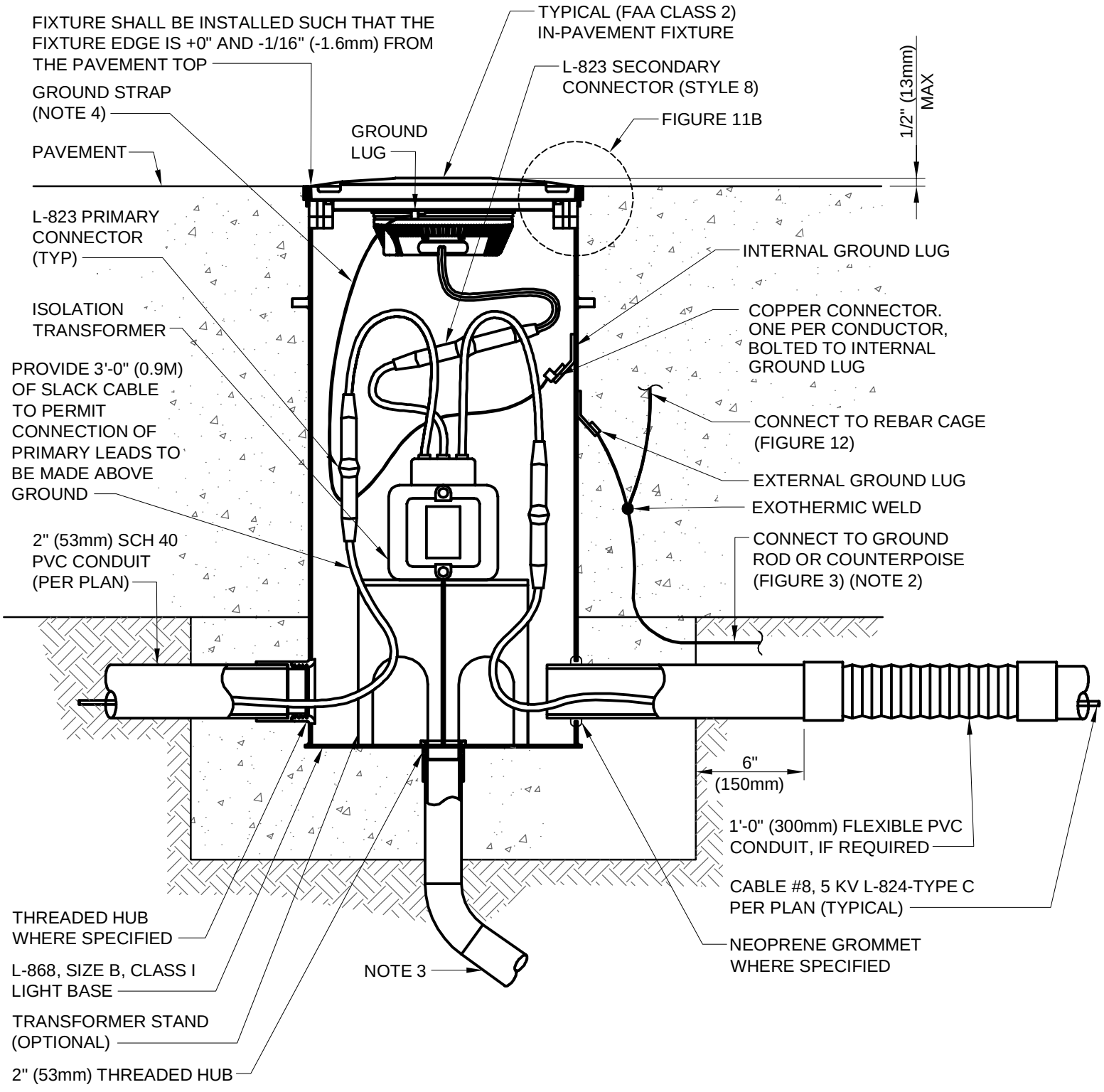
SCALE: NTS

REFERENCE
FIGURE: 9

CAD FILE: 2_2_(Figure_9)_Base_Mounted_Elevated_Fixture_Installation.dwg
SEE NOTES TO DESIGNER FILE: 2_2_(Figure_9)-NTD.dwg

DRAWING NOTES - FIGURE 9:

1. STANDARD HEIGHT IS 14" (350mm). HEIGHT MAY BE ADJUSTED IN AREAS SUBJECT TO SNOW CONDITIONS.
2. AIR FORCE / ARMY AIRFIELDS: GROUND ROD LOCATION IS OUTSIDE THE BASE CAN ON THE SIDE ADJACENT TO THE COUNTERPOISE AND CONNECTED TO THE EXTERNAL GROUND LUG AND REINFORCEMENT CAGE. PROVIDE 12" (300mm) SEPARATION FROM COUNTERPOISE. NAVY AIRFIELDS: CONNECT THE COUNTERPOISE TO THE EXTERNAL GROUND LUG AND REINFORCEMENT CAGE.
3. AIR FORCE / ARMY AIRFIELDS: BOTTOM DRAIN IS OPTIONAL. NAVY AIRFIELDS: BOTTOM DRAIN NOT REQUIRED.
4. PROVIDE 48" (1200mm) BRAIDED COPPER GROUNDING STRAP EQUIVALENT TO #6 (16 SQUARE mm) WIRE.



IN-PAVEMENT FIXTURE INSTALLATION (DEEP BASE)

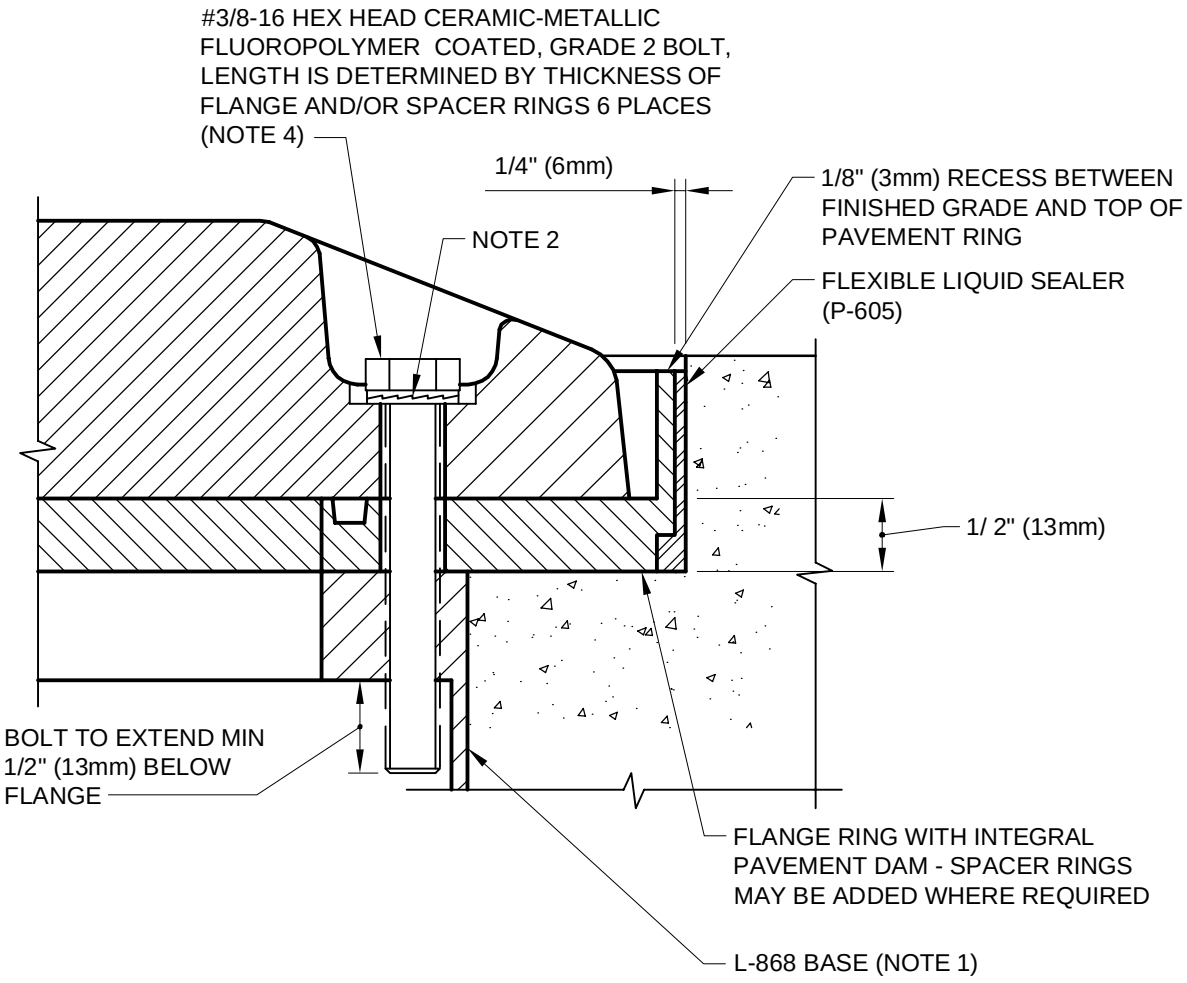
SCALE: NTS

REFERENCE
FIGURE: 11A

CAD FILE: 2_4_(Figure_11A)_In_Pavement_Fixture_Installation_(Deep_Base).dwg
SEE NOTES TO DESIGNER FILE: 2_4_(Figure_11)-NTD.dwg

DRAWING NOTES - FIGURE 11A:

1. REFER TO FIGURE 12 FOR BASE INSTALLATION DETAILS.
2. AIR FORCE / ARMY AIRFIELDS: GROUND ROD LOCATION IS OUTSIDE THE BASE CAN ON THE SIDE OPPOSITE THE COUNTERPOISE AND CONNECTED TO THE EXTERNAL GROUND LUG. NAVY AIRFIELDS: CONNECT COUNTERPOISE TO EXTERNAL GROUNDED LUG AND REINFORCEMENT CAGE.
3. AIR FORCE / ARMY AIRFIELDS: BOTTOM DRAIN IS OPTIONAL. NAVY AIRFIELDS: BOTTOM DRAIN NOT REQUIRED.
4. PROVIDE 48" (1200mm) BRAIDED COPPER GROUND STRAP BETWEEN LIGHT BASE CAN AND LIGHT FIXTURE. STRAP MUST BE EQUIVALENT TO NO. 6 ($16mm^2$) CABLE.



IN-PAVEMENT LIGHT DETAIL (DEEP BASE)

SCALE: NTS

REFERENCE
FIGURE: 11B

CAD FILE: 2_4_(Figure_11B)_In_Pavement_Light_Detail_(Deep_Base).dwg
SEE NOTES TO DESIGNER FILE: 2 4 (Figure 11)-NTD.dwg

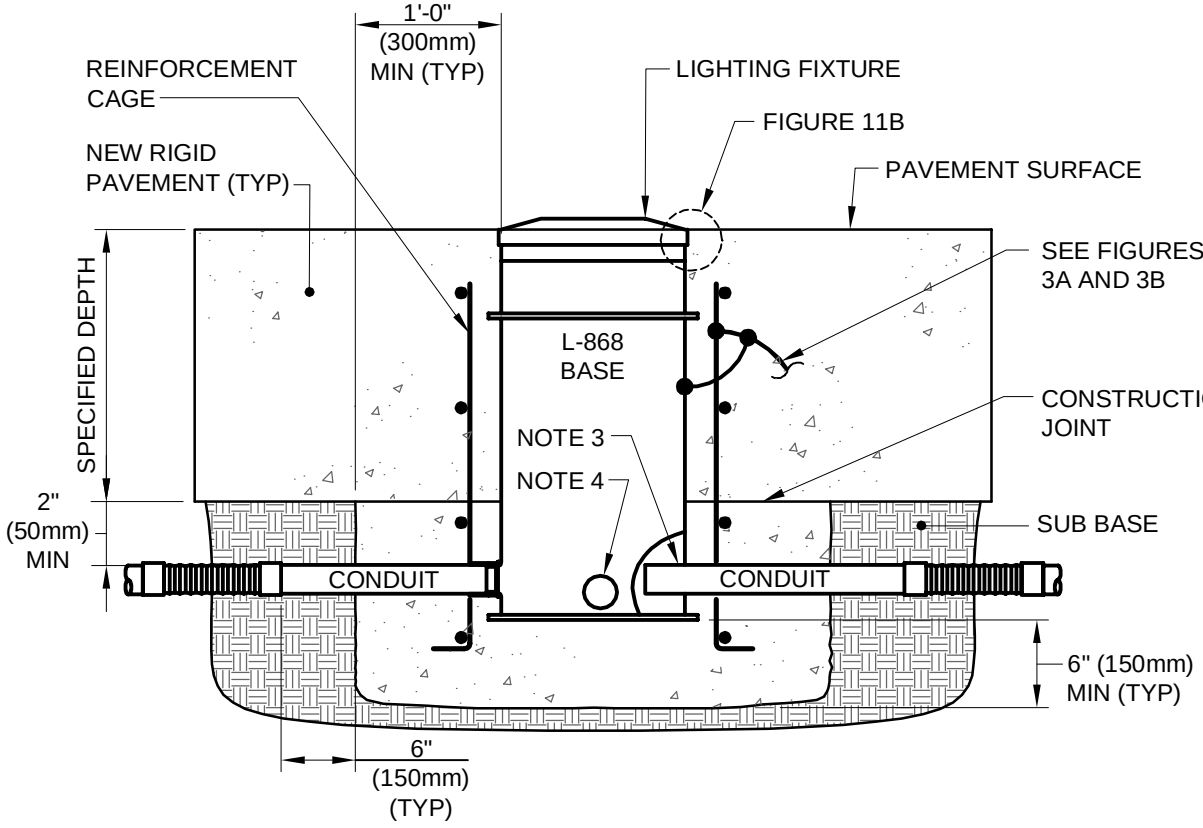
DRAWING NOTES - FIGURE 11B:

1. REFER TO FIGURE 12 FOR BASE INSTALLATION DETAILS.

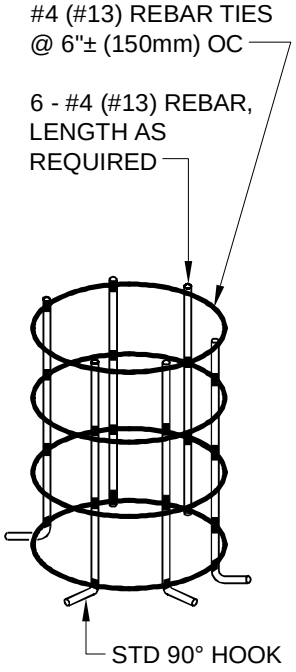
2. TWO-PIECE STAINLESS STEEL LOCKING WASHER. DO NOT USE SPLIT-RING TYPE.

3. SPACER RINGS MAY BE REQUIRED FOR PROPER ALIGNMENT OF THE LIGHT FIXTURE.

4. DO NOT USE ANTI-SEIZE COMPOUND ON CERAMIC-METALLIC FLUOROPOLYMER COATED BOLT.

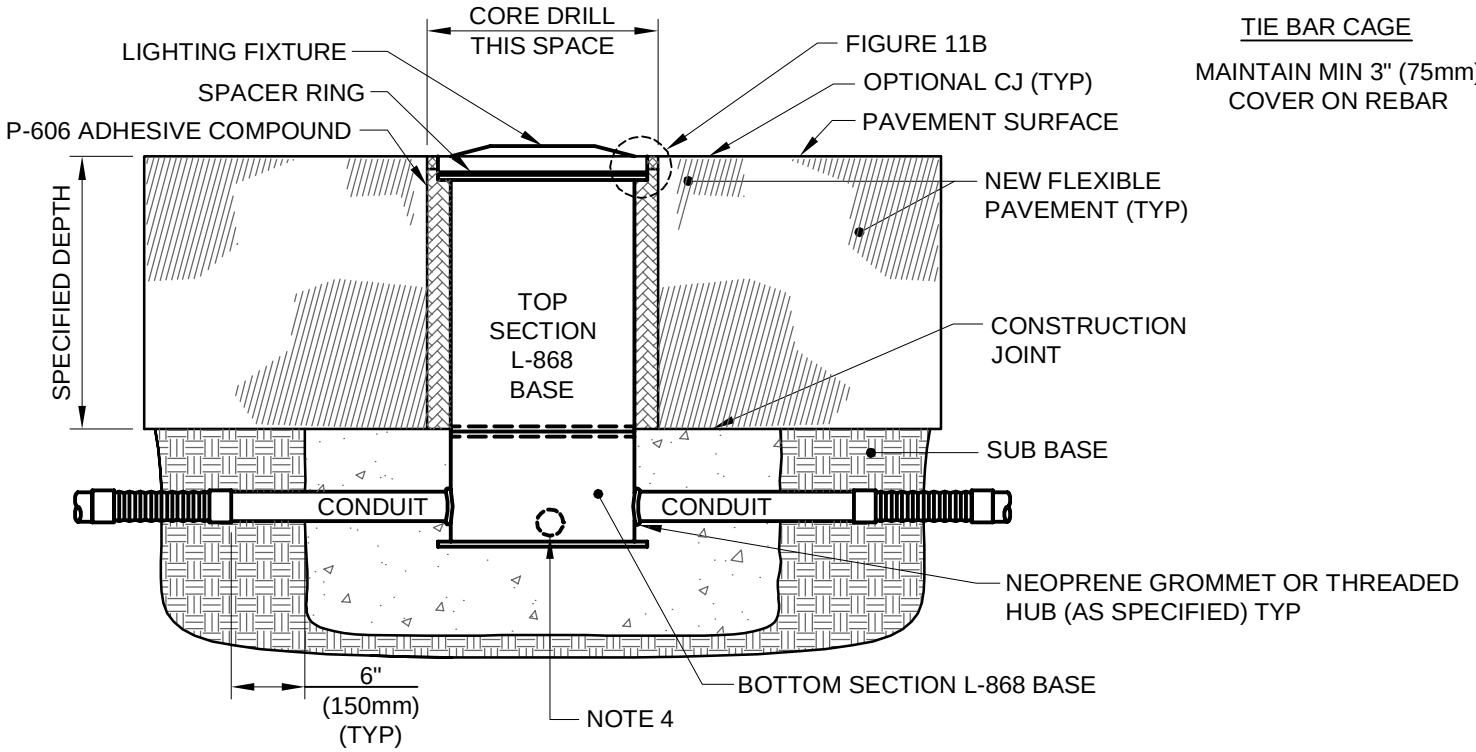


BASE AND ANCHOR - RIGID PAVEMENT



TIE BAR CAGE

MAINTAIN MIN 3" (75mm)
COVER ON REBAR



BASE AND ANCHOR - FLEXIBLE PAVEMENT

BASE AND ANCHOR DETAILS (NEW CONSTRUCTION)

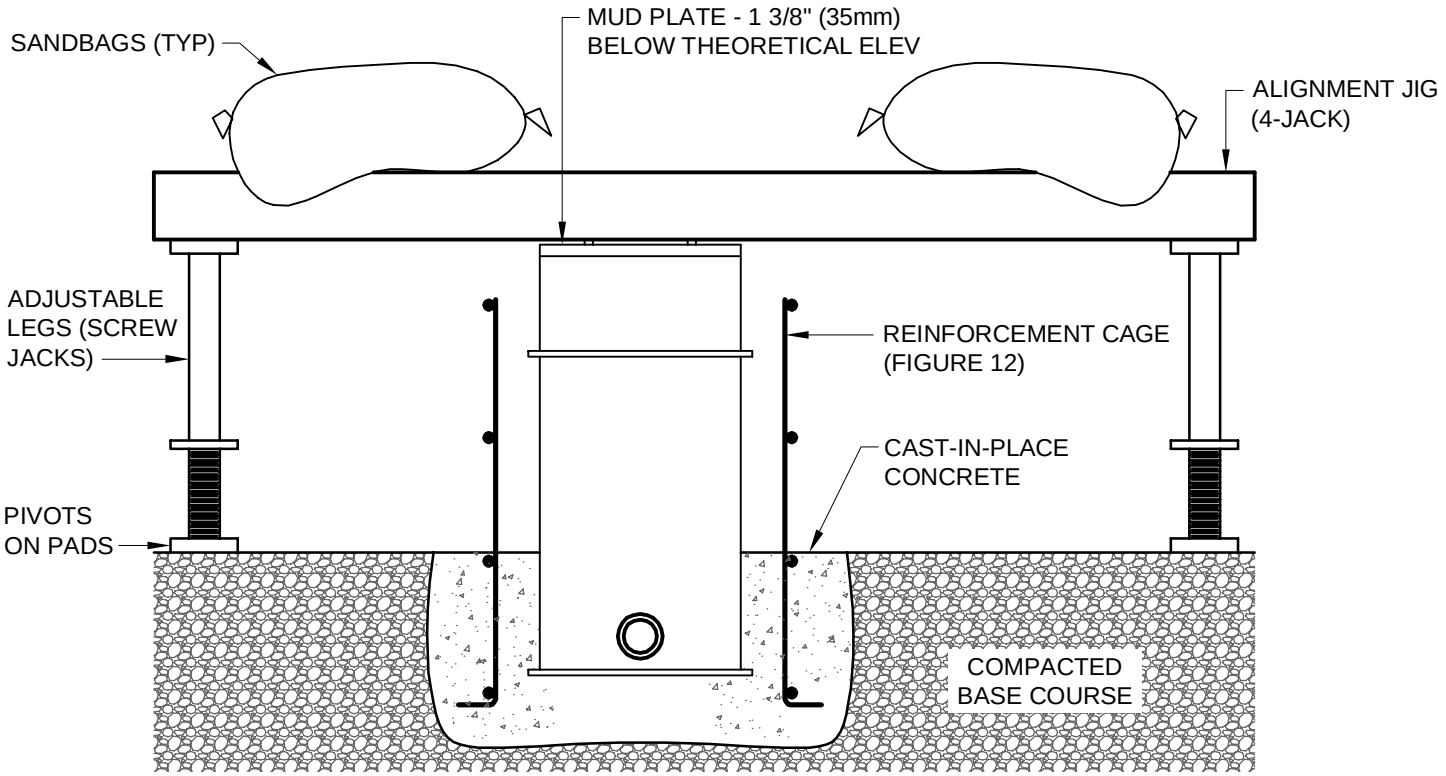
SCALE: NTS

REFERENCE
FIGURE: 12

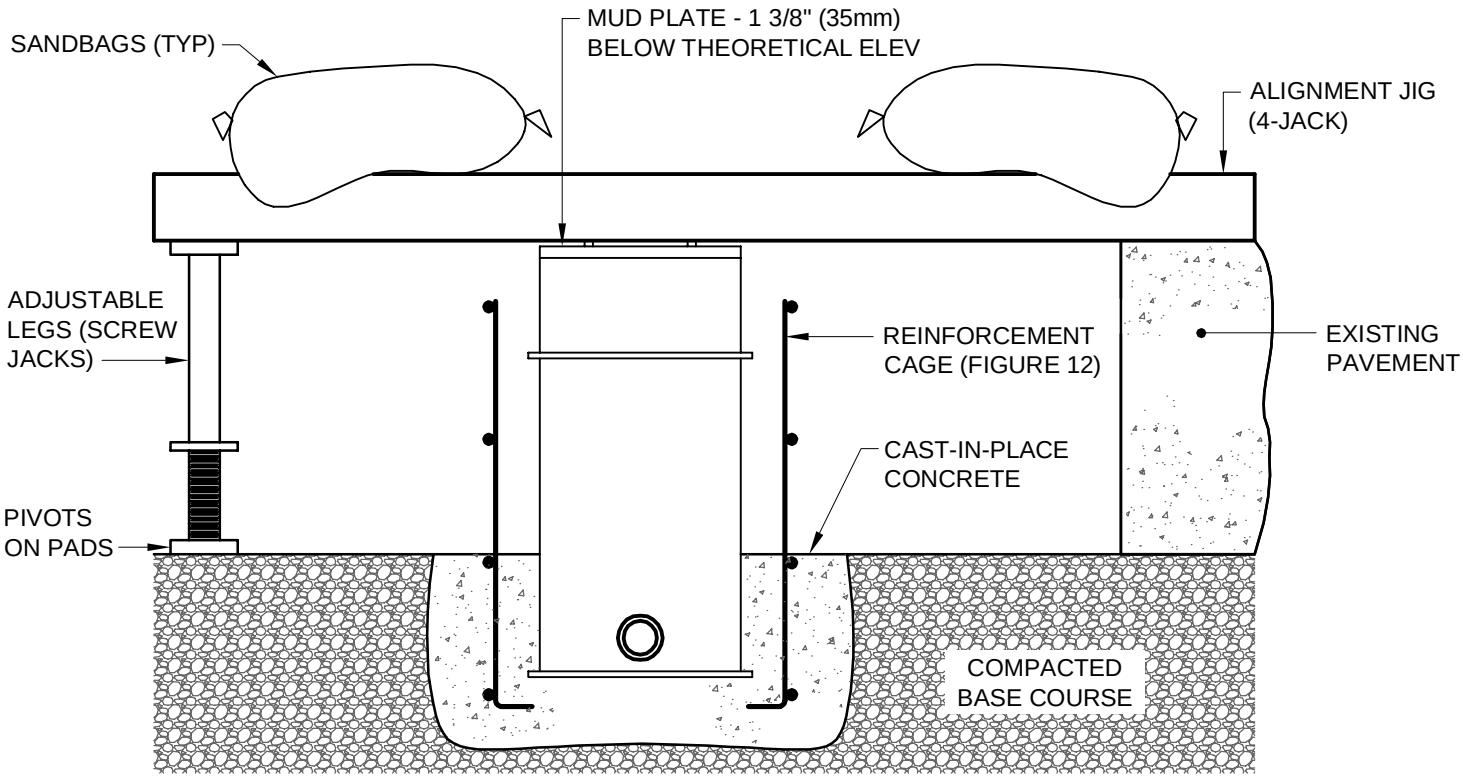
CAD FILE: 2_5_(Figure_12)_Base_and_Anchor_Details_(New_Construction).dwg
SEE NOTES TO DESIGNER FILE: 2_5_(Figure_12)-NTD.dwg

DRAWING NOTES - FIGURE 12:

1. THE USE OF MUD PLATES, SPACER RINGS, EXTENSIONS, ETC., IS DEPENDENT ON PAVING TECHNIQUES.
2. ORIENTATION TOLERANCE FOR THE BASE IS ±1/2 DEGREE FROM THE CENTERLINE INDICATED ON THE PLANS.
3. CONDUIT ENTRANCE CAN BE MADE WITH EITHER A HUB OR GROMMET. IF GROMMET IS USED, CONDUITS MUST PROTRUDE INTO LIGHT BASE NOT MORE THAN 3/4" (19mm) FOR STEEL AND 1" (25mm) TO 1-1/2" (38mm) FOR PVC.
4. AIR FORCE / ARMY AIRFIELDS: 2" (53mm) PVC CONDUIT TO NEAREST CATCH BASIN OR FRENCH DRAIN IS OPTIONAL. TYPICAL AT EACH LOW POINT OF LIGHTING SYSTEM. NAVY AIRFIELDS: SIDE DRAIN NOT REQUIRED.



NO REFERENCE EDGE AVAILABLE



REFERENCE EDGE AVAILABLE

DEEP BASE INSTALLATION IN RIGID PAVEMENT (NEW CONSTRUCTION)

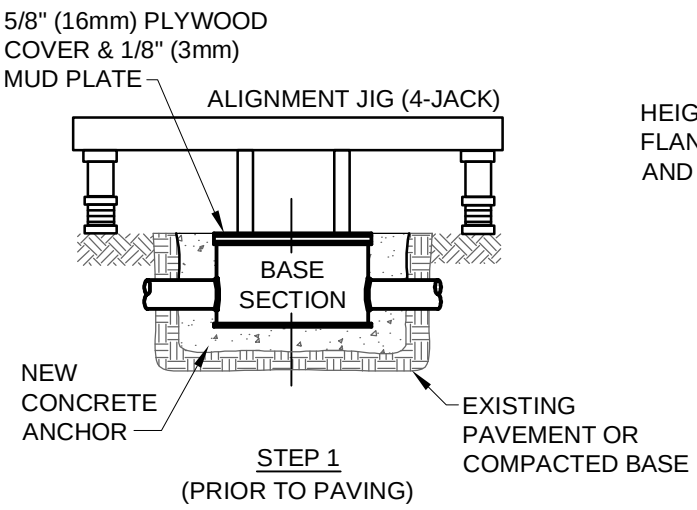
SCALE: NTS

REFERENCE
FIGURE: 13

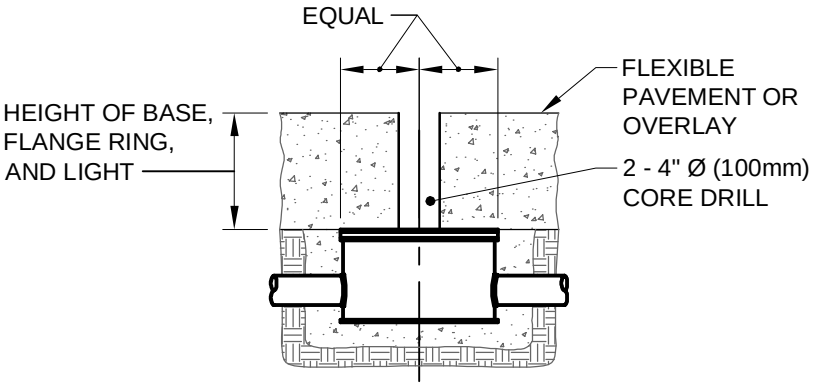
CAD FILE: 2_6_(Figure_13)_Deep_Base_Installation_In_Rigid_Pavement_(New_Construction).dwg
SEE NOTES TO DESIGNER FILE: 2_6_(Figure_13)-NTD.dwg

DRAWING NOTES - FIGURE 13:

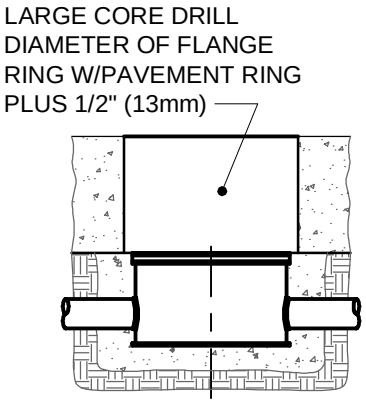
1. INSTALL THE ALIGNMENT JIG PER THE BASE MANUFACTURER'S REQUIREMENTS. THE JIG SHOULD BE PROVIDED WITH ADJUSTABLE LEGS FOR SETTING ELEVATION AND ALIGNMENT PINS FOR SETTING AZIMUTH.
2. ONCE LIGHT BASES ARE SET AT CORRECT ELEVATION, CONDUIT IS INSTALLED BETWEEN THE BASES AND REINFORCEMENT CAGES ARE FORMED AROUND THE BASE. SUFFICIENT WEIGHT, SUCH AS SAND BAGS, SHOULD BE PLACED ON TOP OF THE JIG TO PREVENT THE LIGHT BASE FROM FLOATING DURING CONCRETE INSTALLATION. THE CONCRETE ANCHOR IS POURED AROUND THE BASE AND ALONG THE CONDUIT TRENCH. INSTRUCT THE CONTRACTOR TO ENSURE THAT ALL VOIDS OR LOOSE MATERIAL BENEATH THE CONDUIT HAVE BEEN ELIMINATED PRIOR TO ENCASING IN CONCRETE. CONCRETE SHOULD BE FLUSH WITH SUB BASE AND NOT PROTRUDE ABOVE SUB BASE.
3. ONCE THE CONCRETE HAS CURED A MINIMUM OF 24 HOURS, THE JIG MAY BE REMOVED.
4. PAVING CANNOT COMMENCE UNTIL LIGHT BASE CONCRETE ANCHOR HAS CURED FOR 3 DAYS OR REACHED A STRENGTH OF 3000 PSI.



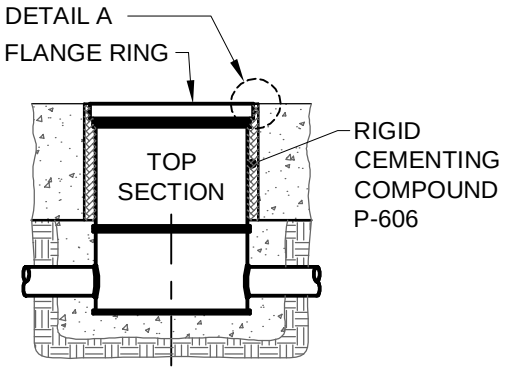
STEP 1
(PRIOR TO PAVING)



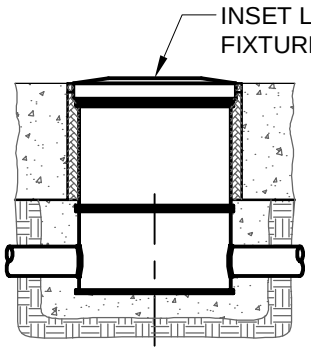
STEP 2
(AFTER PAVING AND
COMPACTING)



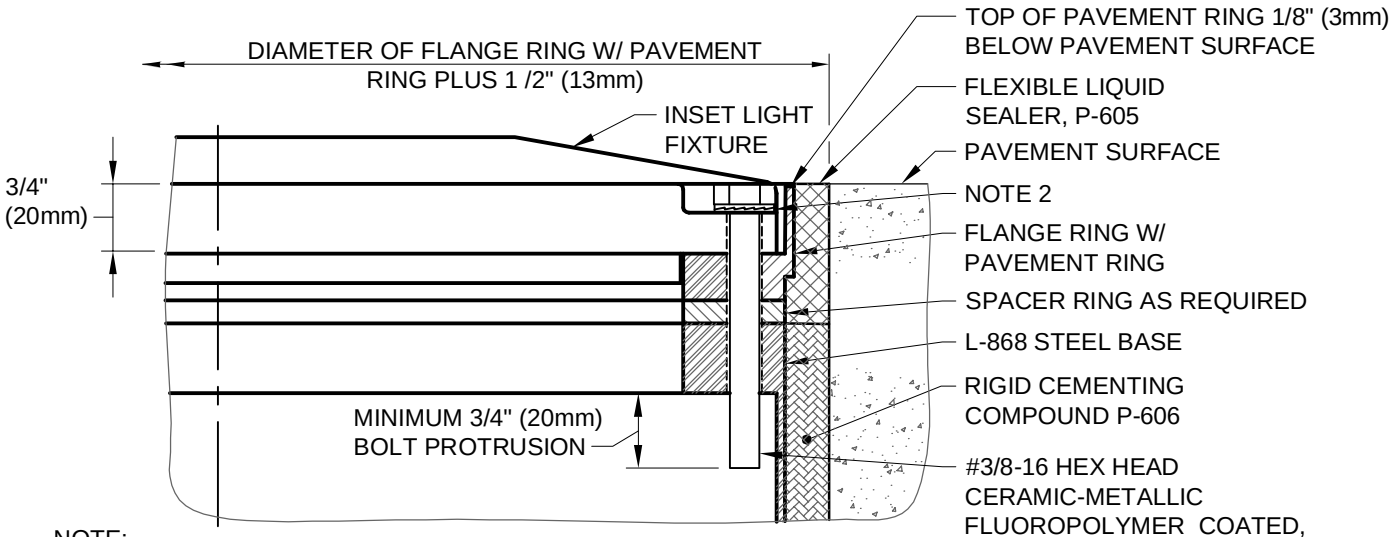
STEP 3



STEP 4



COMPLETED INSTALLATION



NOTE:
APPLY THIN LAYER OF SELF-LEVELING SILICONE
BETWEEN L-868 BASE, SPACERS, AND FLANGE RING

A DETAIL (RECOMMENDED METHOD)
SCALE: NTS

FLEXIBLE PAVEMENT OR OVERLAY INSTALLATION

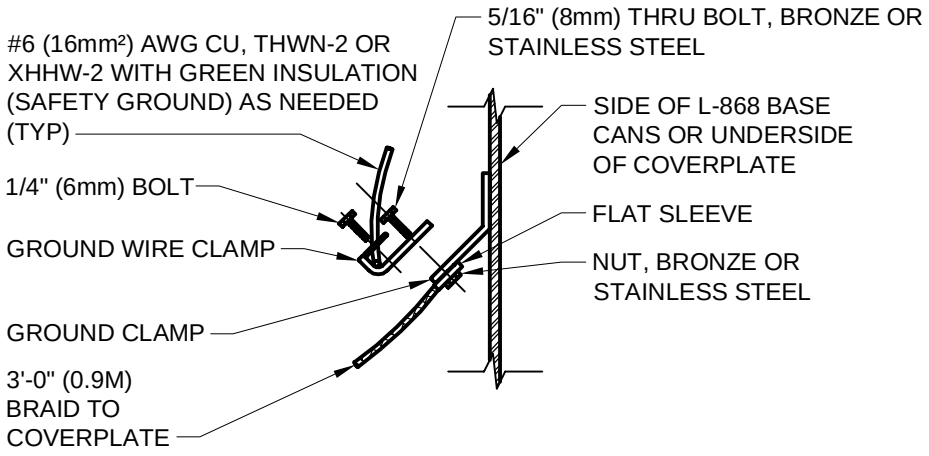
SCALE: NTS

REFERENCE
FIGURE: 14

CAD FILE: 2_7_(Figure_14)_Flexible_Pavement_Or_Overlay_Installation.dwg
SEE NOTES TO DESIGNER FILE: 2 7 (Figure 14)-NTD.dwg

DRAWING NOTES - FIGURE 14:

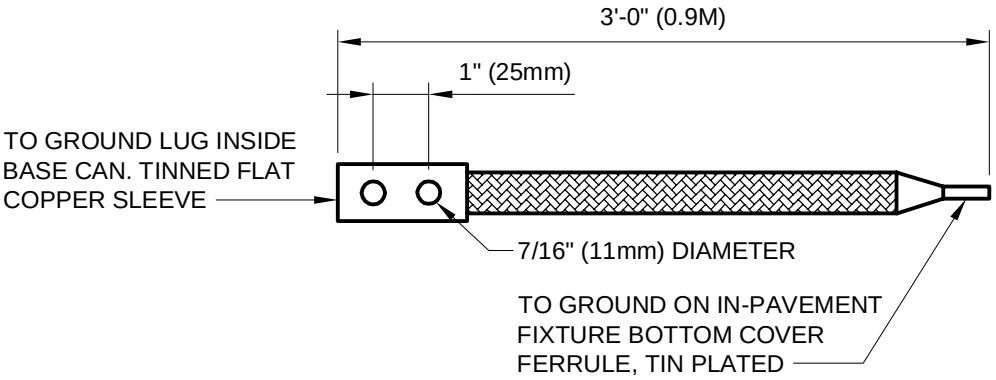
1. TYPICAL INSTALLATION IN NEW FLEXIBLE PAVEMENT OR OVERLAY OF FLEXIBLE OR RIGID (PCC) PAVEMENT.
2. TWO-PIECE STAINLESS STEEL LOCKING WASHER. DO NOT USE SPLIT-RING TYPE.
3. THE BOTTOM SECTION OF THE LIGHT BASE IS SET AT AN ELEVATION SUCH THAT THE TOP OF THE PLYWOOD COVER AND MUD PLATE IS FLUSH WITH THE SURROUNDING BASE COURSE. THE CONCRETE ANCHOR IS POURED AND ALLOWED TO CURE FOR 24 HOURS.
4. THE JIG MAY THEN BE REMOVED AND PAVING OPERATIONS MAY BE ACCOMPLISHED.
5. ENSURE CORE DRILLING FOR THE LIGHT BASES IS ACCOMPLISHED AFTER COMPACTION HAS BEEN COMPLETED AND THE PAVEMENT HAS BEEN ACCEPTED BY THE GOVERNMENT.
6. RIGID CEMENTING COMPOUND P-606 IS USED TO FIRMLY SET THE TOP SECTION OR BASE EXTENSION IN PLACE AND BOND TO PAVEMENT. THE FLEXIBLE P-605 IS INSTALLED FROM THE TOP OF THE TOP SECTION OR BASE EXTENSION TO THE TOP OF THE FINISHED PAVEMENT SURFACE. THIS ALLOWS FUTURE ADJUSTMENT OF THE FIXTURE BY REMOVING OR ADDING SPACER RINGS WITHOUT DISRUPTION OF THE BASE. BOTH P-606 AND P-605 MUST BE SPECIFIED AS BEING COMPATIBLE WITH TYPE OF PAVEMENT BEING INSTALLED.



NOTE:
LOCATE GROUND STRAP ON INTERIOR WALL OF BASE CAN AND UNDERSIDE OF COVERPLATE

1 FACTORY INTERIOR GROUND LUG DETAIL

SCALE: NTS

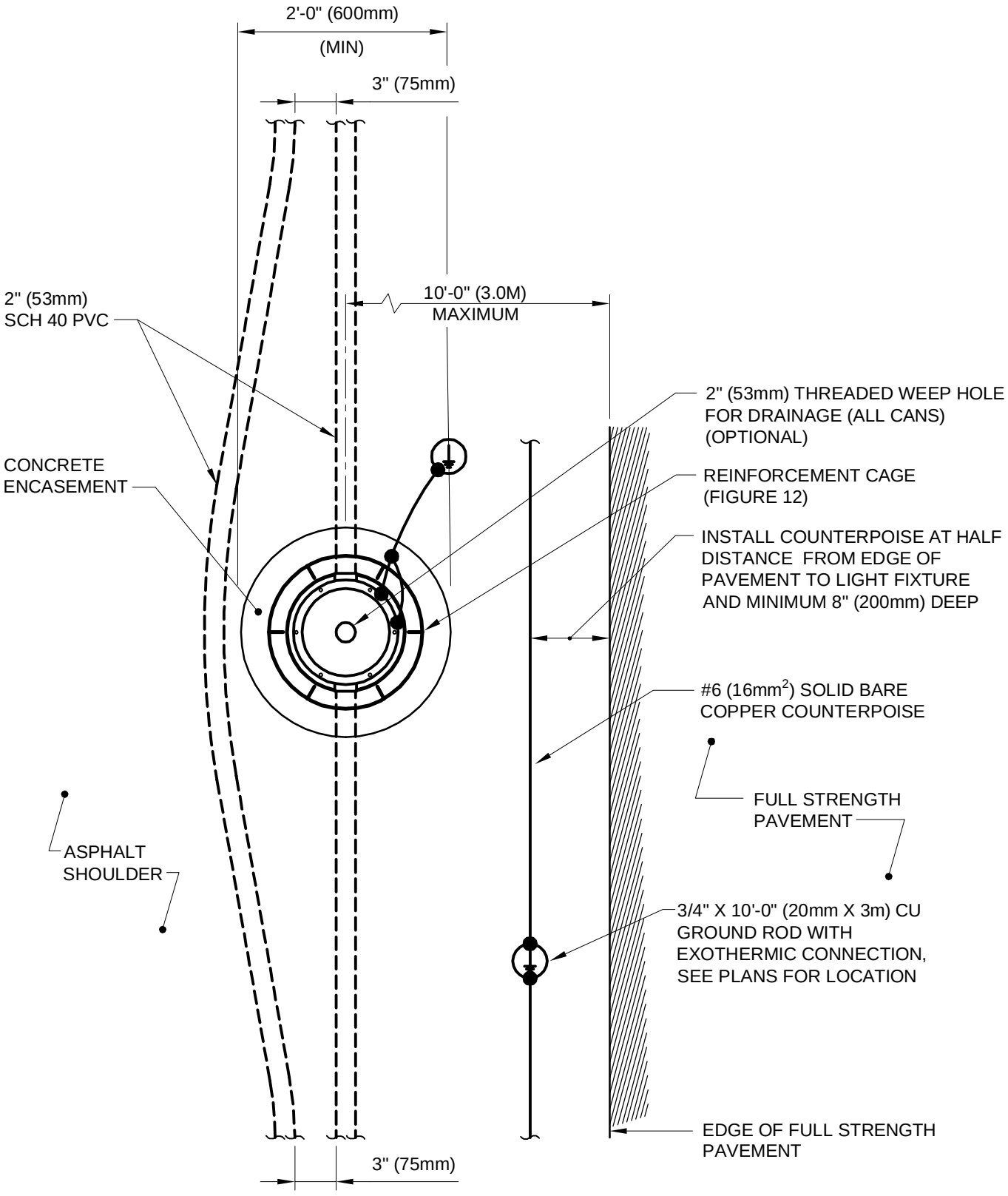


2 BRAIDED COPPER GROUND STRAP DETAIL

SCALE: NTS

REFERENCE
FIGURE: 15

CAD FILE: 2_8_(Figure_15)_Factory_Interior_Ground_Lug_And_Braided_Copper_Ground_Strap_Details.dwg
SEE NOTES TO DESIGNER FILE: 2_8_(Figure_16)-NTD.dwg

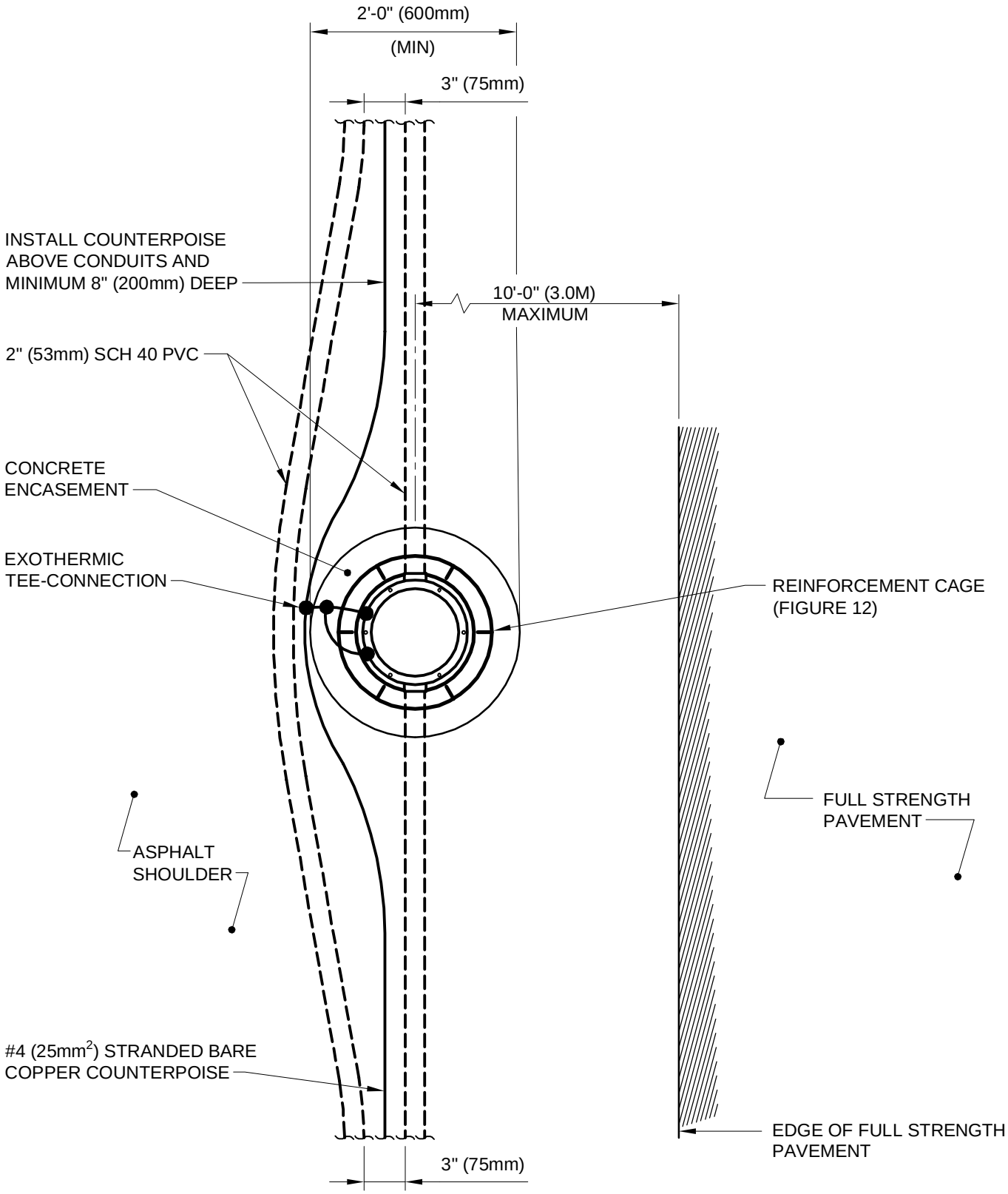


LIGHT BASE MOUNTING IN SHOULDER PAVEMENT PLAN (AIR FORCE/ ARMY)

SCALE: NTS

REFERENCE
FIGURE: 17A

CAD FILE: 2_8_(Figure_17A)_ Light_Base_Mounting_In_Shoulder_Pavement_Plan_Air_Force_Army.dwg
SEE NOTES TO DESIGNER FILE: 2_8_(Figure_17)-NTD.dwg

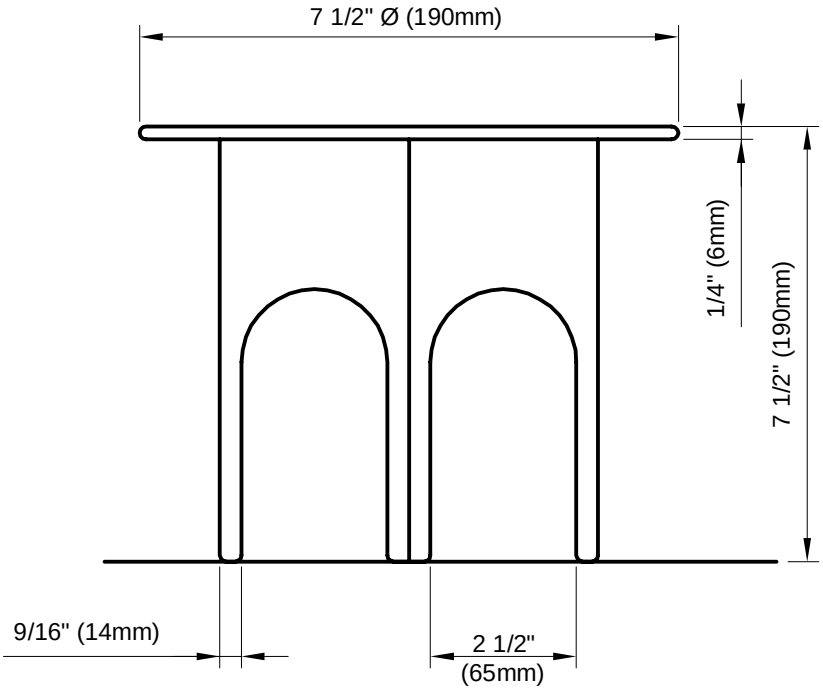


LIGHT BASE MOUNTING IN SHOULDER PAVEMENT PLAN (NAVY)

SCALE: NTS

REFERENCE FIGURE: 17B

CAD FILE: 2_8_(Figure_17B)_ Light_Base_Mounting_In_Shoulder_Pavement_Plan_Navy.dwg
SEE NOTES TO DESIGNER FILE: 2_8_(Figure_17)-NTD.dwg

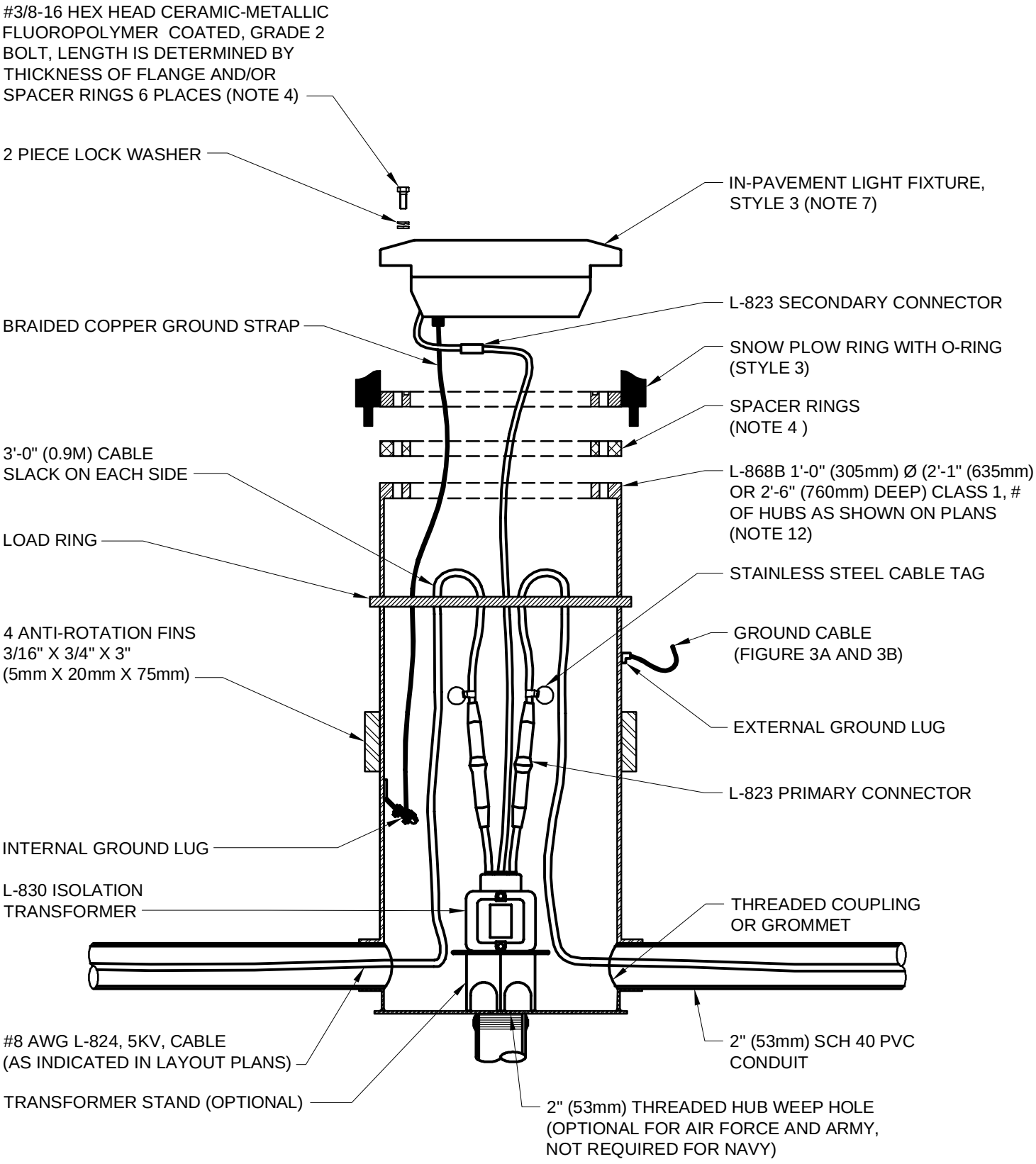


AIRFIELD ISOLATION TRANSFORMER PLATFORM

SCALE: NTS

REFERENCE
FIGURE: 17C

CAD FILE: 2_8_(Figure_17C)_Airfield_Isolation_Transformer_Platform.dwg
SEE NOTES TO DESIGNER FILE: 2_8_(Figure_17)-NTD.dwg



1 IN-PAVEMENT LIGHT MATERIALS

SCALE: NTS

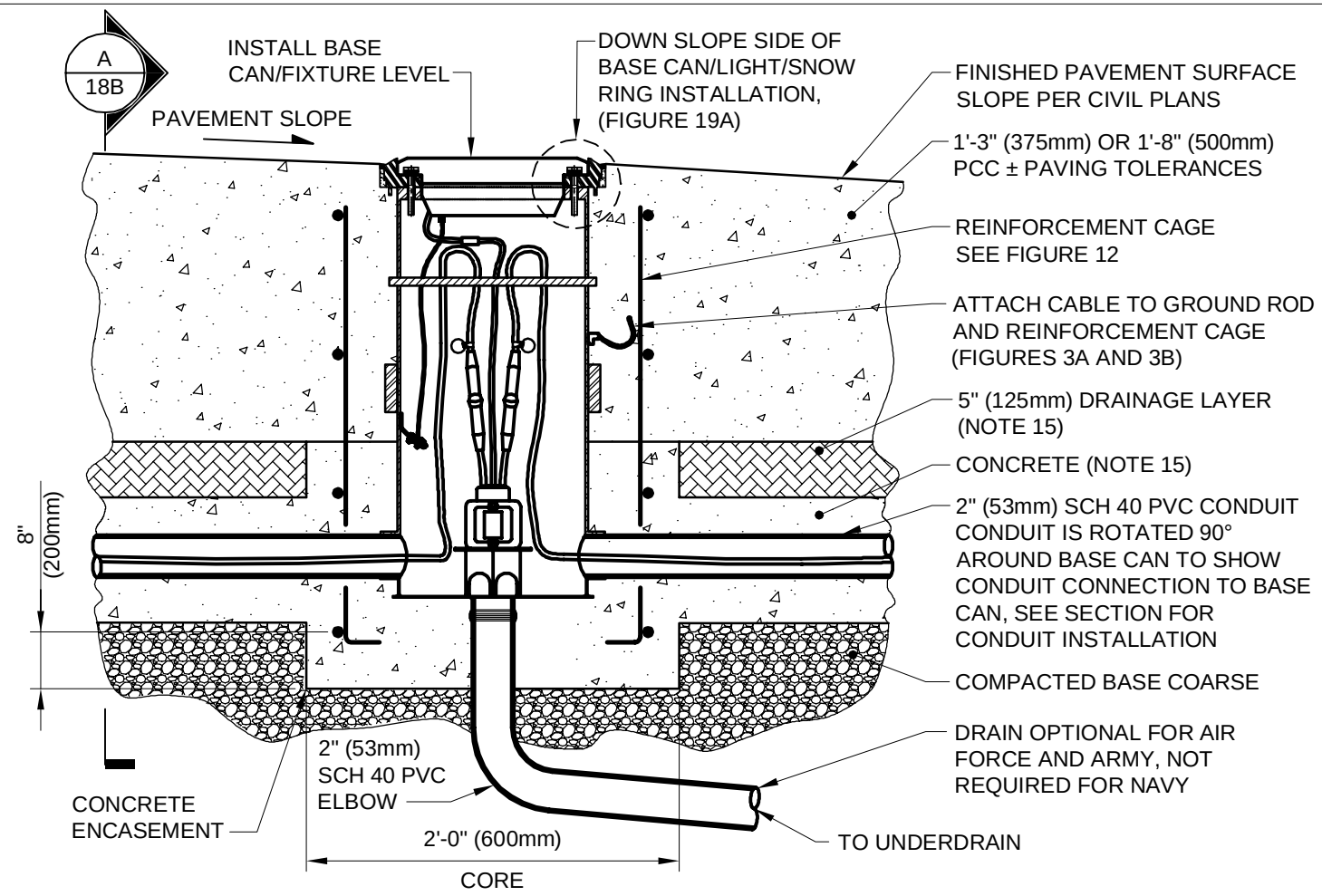
REFERENCE FIGURE: 18A

CAD FILE: 2_9_(Figure_18A)_In_Pavement_Light_Materials.dwg
SEE NOTES TO DESIGNER FILE: 2_9_(Figure_18)-NTD.dwg

DRAWING NOTES - FIGURE 18A:

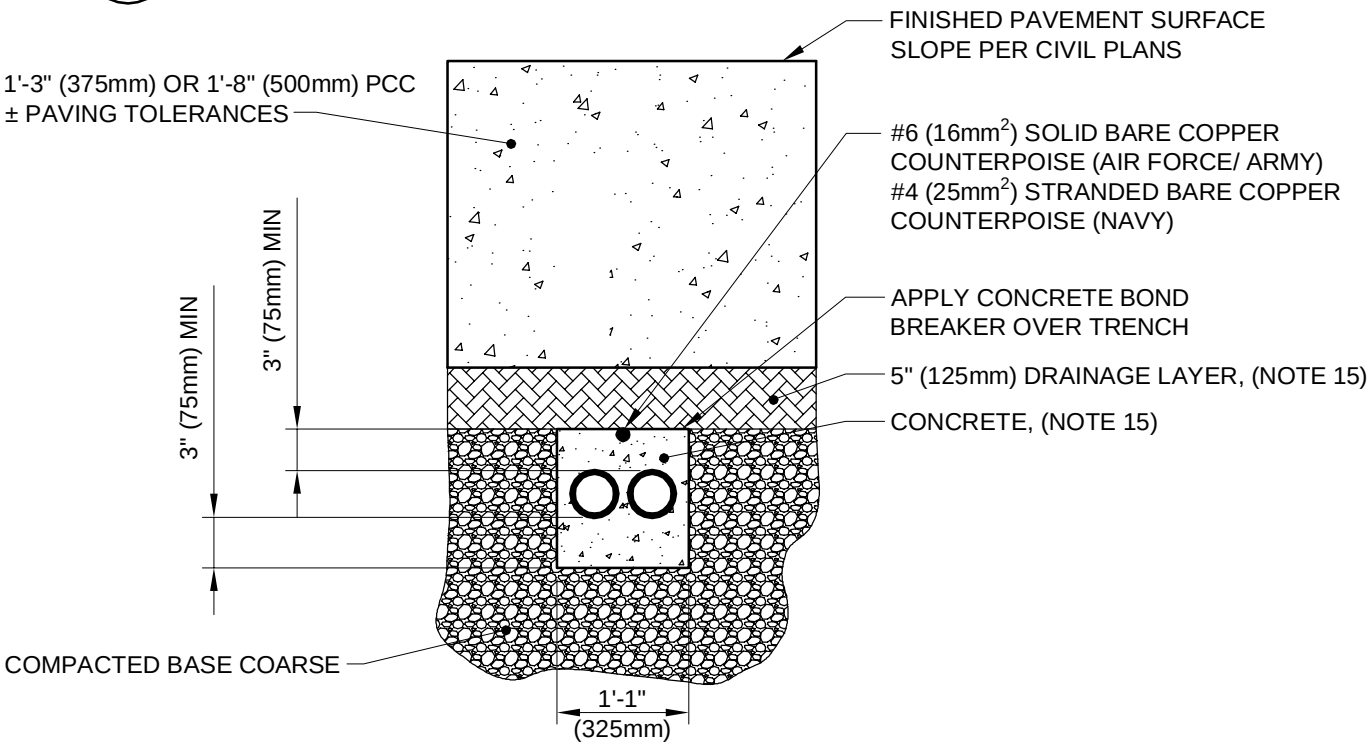
1. INSTALL CORNER EDGE OF SNOW PLOW RING FLUSH WITH PAVEMENT SURFACE WITH A TOLERANCE OF +0", -1/16" (1.6mm).
2. SUBMIT ALL BASE CAN INSTALLATION TECHNIQUES, METHODS, MATERIALS, ETC., TO THE GOVERNMENT FOR REVIEW AND APPROVAL PRIOR TO THE START OF WORK.
3. BEFORE PAVING MAY PROCEED, THE CONTRACTOR MUST DEMONSTRATE TO THE GOVERNMENT THAT THE BASE CANS ARE AT THE CORRECT LOCATION, ELEVATION, AZIMUTH AND ROTATION AND THAT THE PROPER CLEARANCE EXISTS BETWEEN THE BASE CAN AND THE PAVER.
4. THE SPACER RING IS DESIGNED AS A NOMINAL 3/4" (19mm) THICKNESS. THE SPACER RING MAY BE REQUIRED TO BE THINNER OR THICKER DEPENDING ON BASE CAN INSTALLATION AND PAVING TECHNIQUES / TOLERANCES. THIS CONTRACTOR MUST MEASURE AND DETERMINE THE REQUIRED THICKNESS OF EACH INDIVIDUAL SPACER RING REQUIRED TO PUT THE AIRFIELD LIGHTING FIXTURE AT THE CORRECT ELEVATION, AZIMUTH AND ROTATION. THE CONTRACTOR MAY USE MULTIPLE SPACER RINGS OF VARYING HEIGHTS. NO MORE THAN 3 SPACER RINGS MAY BE USED ON ANY ONE LIGHT INSTALLATION THE MAXIMUM HEIGHT DISPLACEMENT FOR ONE OR MORE SPACER RINGS WILL BE 2" (50mm) OR LESS.
5. THE FINISHED PAVEMENT SURFACE MUST BE PROTECTED FROM FOREIGN SUBSTANCES WHICH COULD CAUSE STAINING, I.E. CONCRETE, OIL, ETC. THE CONTRACTOR MUST IMMEDIATELY CLEAN ALL SPILLS AND CORRECT/CLEAN ANY STAINED SURFACES AT THE CONTRACTOR'S EXPENSE.
6. THE BASE CAN COVER MOUNTING BOLTS MUST EXTEND THRU THE BASE CAN MOUNTING FLANGE INTO THE BASE CAN A MINIMUM OF ½" (13mm). THE BOLTS MUST BE THREADED THE FULL LENGTH OF THE BOLT.
7. FOR BLANK BASE CANS, DELETE LIGHT FIXTURE AND INSTALL ¾" (19mm) STEEL BLANK COVER.
8. CONNECT TO GROUND ROD (AIR FORCE/ARMY) OR COUNTERPOISE (NAVY) TO BASE CANS.
9. INSTALL TOP OF EDGE OF SNOW PLOW RING FLUSH WITH PAVEMENT SURFACE WITH A TOLERANCE OF +0", -1/16" (1.6mm).
10. IF THE DISTANCE BETWEEN THE EDGE OF THE SNOW RING AND CONCRETE IS 1/8" (3mm) OR LESS, SEAL TOP OF OPENING WITH P-605 SILICONE SEALANT AND DELETE THE P-606 COMPOUND.
11. THE TOP OF FIXTURE MUST NOT EXCEED THE TOP OF THE SNOW PLOW RING (+0", -1/8" (3mm)).
12. THE CONTRACTOR MUST PRE-ASSEMBLE IN-PAVEMENT LIGHT FIXTURE WITH SNOW PLOW RINGS TO ASSURE EACH INDIVIDUAL UNIT ASSEMBLY IS WITHIN TOLERANCE. USE A STRAIGHT EDGE TO VERIFY THE FIXTURE IS LEVEL (TO 1/8" (3mm)). ANY UNITS NOT WITHIN THIS TOLERANCE WILL BE REJECTED. ASSURE SNOW PLOW RINGS ARE CONFIGURED WITH CORRECT NUMBER AND WIDTH OF OPENINGS.

    THE CONTRACTOR MUST INSTALL A 25" (635mm) DEEP BASE CAN WHERE THE PCC PAVEMENT THICKNESS IS 15" (375mm) AND MUST INSTALL A 30" (750mm) DEEP BASE CAN WHERE THE PAVEMENT THICKNESS IS 20" (500mm).
13. CONTRACTOR MUST ENSURE SEALANT INSTALLATION IS IN ACCORDANCE WITH ELEVATION TOLERANCES OF LIGHT FIXTURE INSTALLATION.
14. CONTRACTOR MUST ENSURE SNOW PLOW RINGS ARE COMPATIBLE AND APPROPRIATE FOR USE WITH BASE CANS AND FIXTURES.
15. USE DRAINAGE LAYER AND CONCRETE FOR AIR FORCE/ARMY INSTALLATIONS.



2 IN-PAVEMENT LIGHT IN FULL STRENGTH PCC

SCALE: NTS



A/18B SECTION

SCALE: NTS

REFERENCE FIGURE: 18B

CAD FILE: 2_9_(Figure_18B)_In-Pavement_Light_In_Full_Strength_Pcc.dwg
SEE NOTES TO DESIGNER FILE: 2_9_(Figure_18)-NTD.dwg

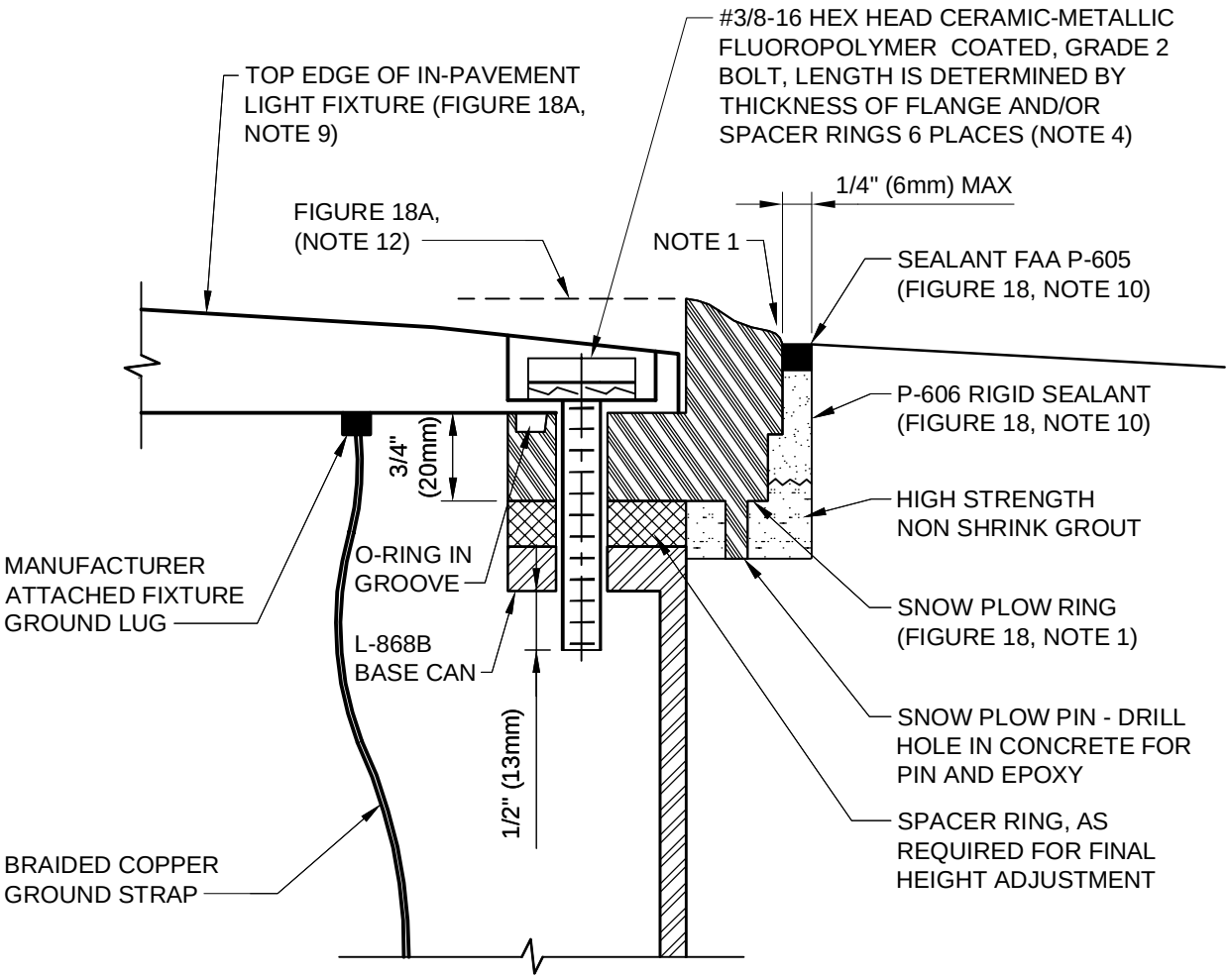
DRAWING NOTES - FIGURE 18B:

1. INSTALL CORNER EDGE OF SNOW PLOW RING FLUSH WITH PAVEMENT SURFACE WITH A TOLERANCE OF +0", -1/16" (1.6mm).
2. SUBMIT ALL BASE CAN INSTALLATION TECHNIQUES, METHODS, MATERIALS, ETC., TO THE GOVERNMENT FOR REVIEW AND APPROVAL PRIOR TO THE START OF WORK.
3. BEFORE PAVING MAY PROCEED, THE CONTRACTOR MUST DEMONSTRATE TO THE GOVERNMENT THAT THE BASE CANS ARE AT THE CORRECT LOCATION, ELEVATION, AZIMUTH AND ROTATION AND THAT THE PROPER CLEARANCE EXISTS BETWEEN THE BASE CAN AND THE PAVER.
4. THE SPACER RING IS DESIGNED AS A NOMINAL 3/4" (19mm) THICKNESS. THE SPACER RING MAY BE REQUIRED TO BE THINNER OR THICKER DEPENDING ON BASE CAN INSTALLATION AND PAVING TECHNIQUES / TOLERANCES. THIS CONTRACTOR MUST MEASURE AND DETERMINE THE REQUIRED THICKNESS OF EACH INDIVIDUAL SPACER RING REQUIRED TO PUT THE AIRFIELD LIGHTING FIXTURE AT THE CORRECT ELEVATION, AZIMUTH AND ROTATION. THE CONTRACTOR MAY USE MULTIPLE SPACER RINGS OF VARYING HEIGHTS. NO MORE THAN 3 SPACER RINGS MAY BE USED ON ANY ONE LIGHT INSTALLATION THE MAXIMUM HEIGHT DISPLACEMENT FOR ONE OR MORE SPACER RINGS WILL BE 2" (50mm) OR LESS.
5. THE FINISHED PAVEMENT SURFACE MUST BE PROTECTED FROM FOREIGN SUBSTANCES WHICH COULD CAUSE STAINING, I.E. CONCRETE, OIL, ETC. THE CONTRACTOR MUST IMMEDIATELY CLEAN ALL SPILLS AND CORRECT/CLEAN ANY STAINED SURFACES AT THE CONTRACTOR'S EXPENSE.
6. THE BASE CAN COVER MOUNTING BOLTS MUST EXTEND THRU THE BASE CAN MOUNTING FLANGE INTO THE BASE CAN A MINIMUM OF ½" (13mm). THE BOLTS MUST BE THREADED THE FULL LENGTH OF THE BOLT.
7. FOR BLANK BASE CANS, DELETE LIGHT FIXTURE AND INSTALL ¾" (19mm) STEEL BLANK COVER.
8. CONNECT TO GROUND ROD (AIR FORCE/ARMY) OR COUNTERPOISE (NAVY) TO BASE CANS.
9. INSTALL TOP OF EDGE OF SNOW PLOW RING FLUSH WITH PAVEMENT SURFACE WITH A TOLERANCE OF +0", -1/16" (1.6mm).
10. IF THE DISTANCE BETWEEN THE EDGE OF THE SNOW RING AND CONCRETE IS 1/8" (3mm) OR LESS, SEAL TOP OF OPENING WITH P-605 SILICONE SEALANT AND DELETE THE P-606 COMPOUND.
11. THE TOP OF FIXTURE MUST NOT EXCEED THE TOP OF THE SNOW PLOW RING (+0", -1/8" (3mm)).
12. THE CONTRACTOR MUST PRE-ASSEMBLE IN-PAVEMENT LIGHT FIXTURE WITH SNOW PLOW RINGS TO ASSURE EACH INDIVIDUAL UNIT ASSEMBLY IS WITHIN TOLERANCE. USE A STRAIGHT EDGE TO VERIFY THE FIXTURE IS LEVEL (TO 1/8" (3mm)). ANY UNITS NOT WITHIN THIS TOLERANCE WILL BE REJECTED. ASSURE SNOW PLOW RINGS ARE CONFIGURED WITH CORRECT NUMBER AND WIDTH OF OPENINGS.

    THE CONTRACTOR MUST INSTALL A 25" (635mm) DEEP BASE CAN WHERE THE PCC PAVEMENT THICKNESS IS 15" (375mm) AND MUST INSTALL A 30" (750mm) DEEP BASE CAN WHERE THE PAVEMENT THICKNESS IS 20" (500mm).
13. CONTRACTOR MUST ENSURE SEALANT INSTALLATION IS IN ACCORDANCE WITH ELEVATION TOLERANCES OF LIGHT FIXTURE INSTALLATION.
14. CONTRACTOR MUST ENSURE SNOW PLOW RINGS ARE COMPATIBLE AND APPROPRIATE FOR USE WITH BASE CANS AND FIXTURES.
15. USE DRAINAGE LAYER AND CONCRETE FOR AIR FORCE/ARMY INSTALLATIONS.
16. USE THE FOLLOWING INSTALLATION TOLERANCES FOR FIGURE 18B:

    INSTALLATION TOLERANCE

ITEM	TOLERANCE
LIGHT BEAM ORIENTATION	±1/2" (13mm)
LATERAL SPACING	±1/4" (6mm)
FIXTURE LEVEL	±1/2 DEGREE IN X AND Y DIRECTION
FIXTURE ELEVATION (LOW SIDE OF PAVEMENT)	+0 - 1/16" (1.6mm)
LONGITUDINAL SPACING	±1/4 DEGREE

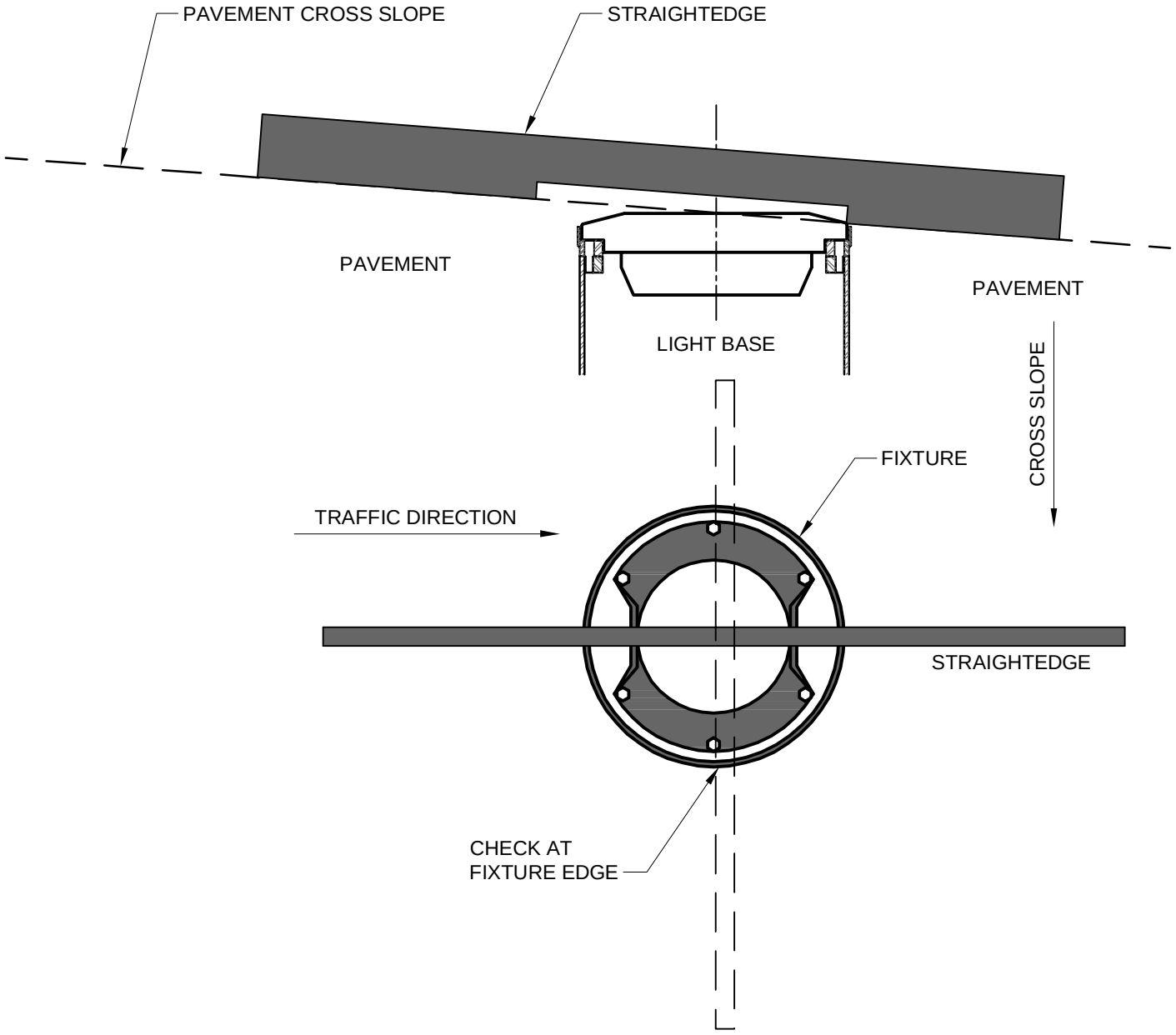


3 MOUNTING HARDWARE

SCALE: NTS

REFERENCE FIGURE: 19A

CAD FILE: 2_9_(Figure_19A)_Mounting_Hardware.dwg
SEE NOTES TO DESIGNER FILE: 2_9_(Figure_19)-NTD.dwg



4 STRAIGHTEDGE CHECK DETAIL

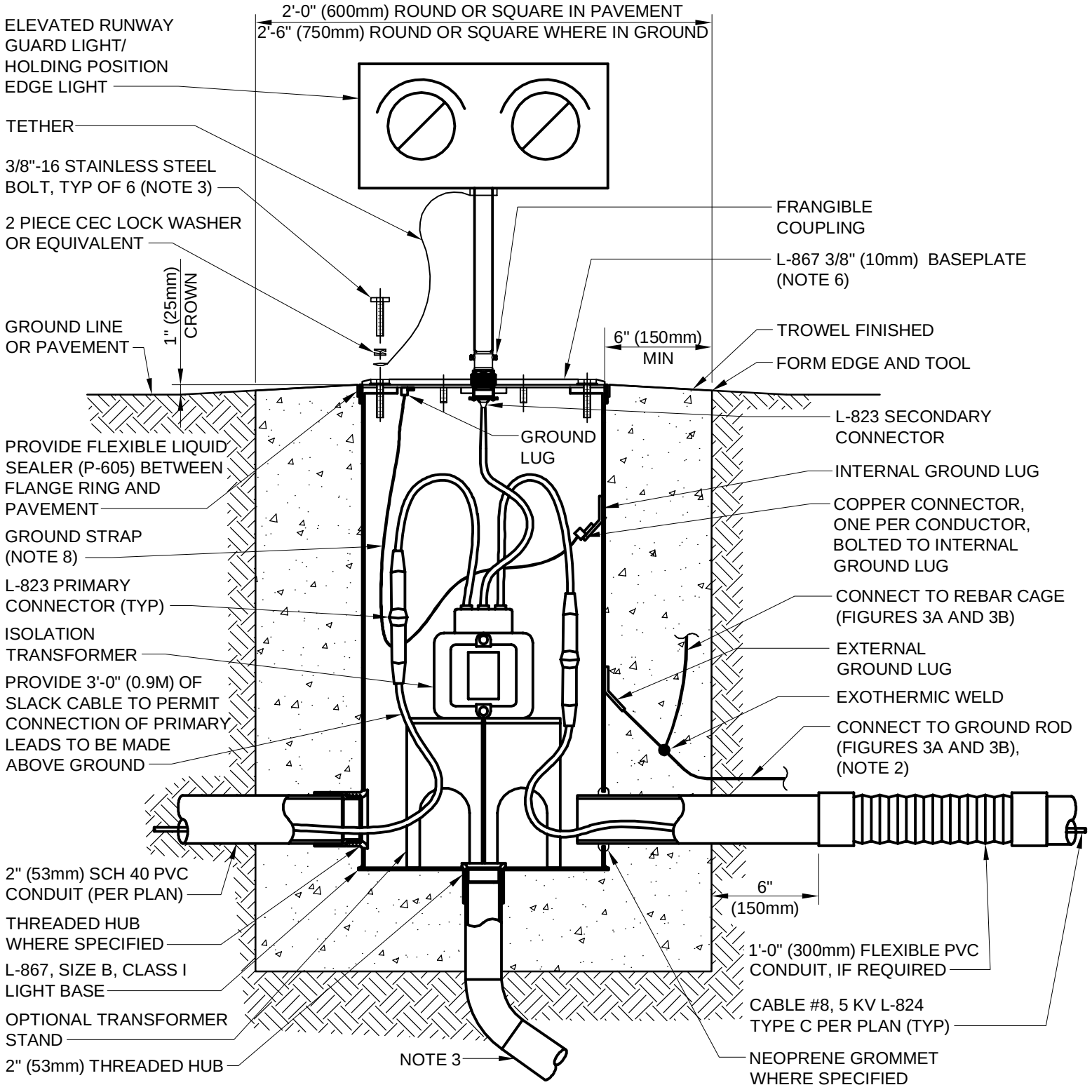
SCALE: NTS

REFERENCE
FIGURE: 19B

CAD FILE: 2_9_(Figure_19B)_Straightedge_Check_Detail.dwg
SEE NOTES TO DESIGNER FILE: 2_9_(Figure_19B)-NTD.dwg

DRAWING NOTES - FIGURE 19B:

1. STRAIGHTEDGE SHOULD BE 10'-0" (3M) LONG. NOTCH APPROXIMATELY 1" (25mm) HIGH, AND ABOUT 1"-2" (25mm-50mm) LONGER THAN FIXTURE DIAMETER.
2. A 1/16" (1.6mm) ALLEN WRENCH IS A GOOD TOOL TO USE TO DETERMINE HEIGHT TOLERANCE OF FIXTURE (OR SNOW PLOW RING) RELATIVE TO LOW SIDE OF PAVEMENT. SLIDE STRAIGHTEDGE ON TO FIXTURE OR SNOW PLOW RING EDGE TO MEASURE. IF STRAIGHTEDGE RIDES UP ON THE EDGE, FIXTURE IS TOO HIGH. IF EDGE IS MORE THAN 1/16 INCH (1.6mm) BELOW STRAIGHTEDGE, THE FIXTURE IS TOO LOW.
3. CHECK STRAIGHTEDGE IN BOTH DIRECTIONS TO VERIFY THERE IS NO UNUSUAL PAVEMENT BUILD-UP IN THE PROXIMITY OF THE LIGHT THAT MIGHT BLOCK PART OF THE LIGHT BEAM.
4. A LEVEL ON TOP OF THE STRAIGHTEDGE CAN VERIFY COMPLIANCE WITH LEVEL TOLERANCE.



L-804 ELEVATED RUNWAY GUARD LIGHT/ HOLDING POSITION EDGE LIGHT INSTALLATION MATERIALS

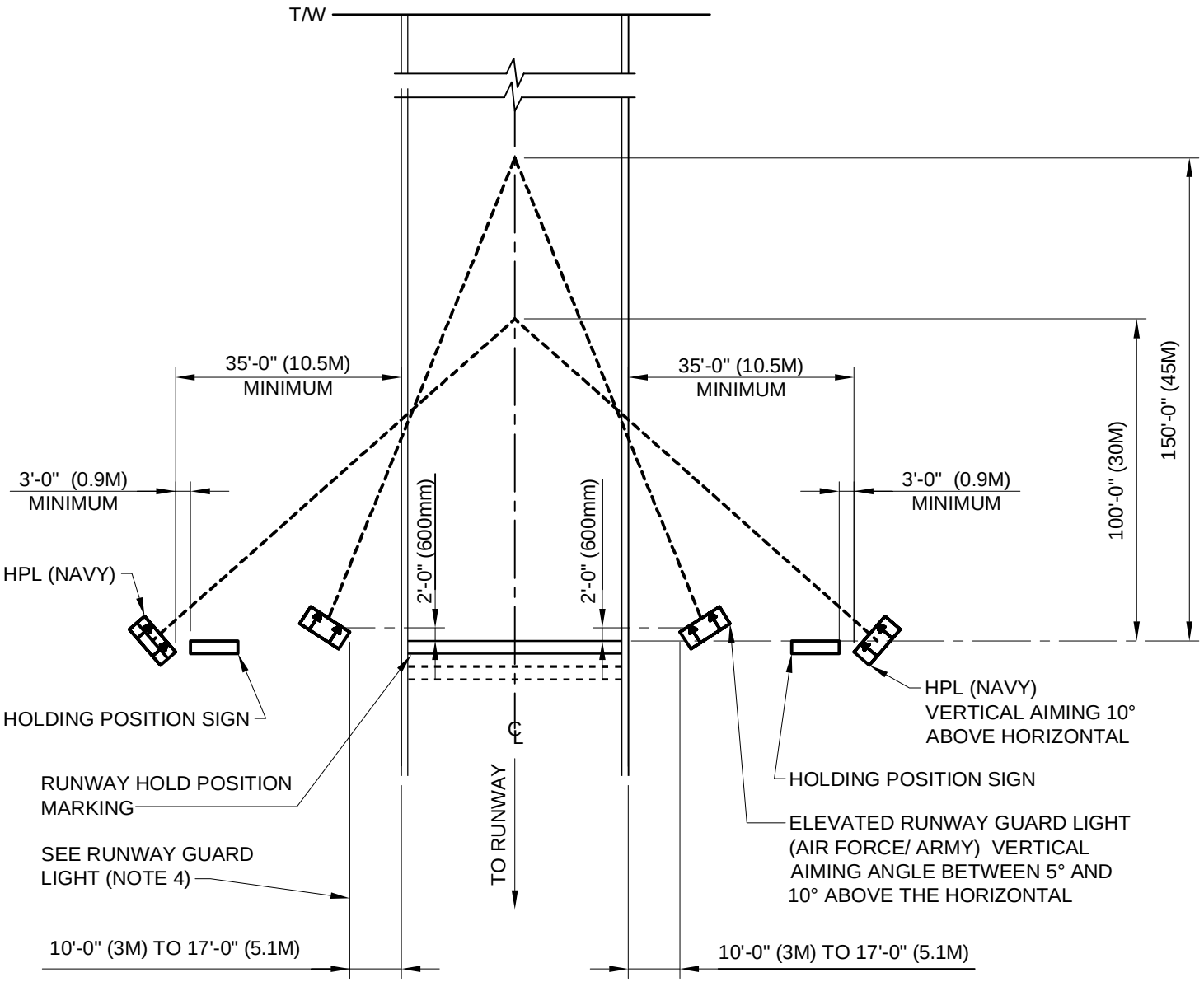
SCALE: NTS

REFERENCE FIGURE: 20A

CAD FILE: 2_10_(Figure_20A)_L_804_Elevated_Runway_Guard_Light_Holding_Position_Edge_Light_Installation.dwg
SEE NOTES TO DESIGNER FILE: 2_10_(Figure_20A)-NTD.dwg

DRAWING NOTES - FIGURE 20A:

1. POWER THE ELEVATED RUNWAY GUARD LIGHTS (RGL/HPL) FROM THE CIRCUIT INDICATED.
2. BEFORE CORING IN PAVEMENT MAY PROCEED, THE CONTRACTOR MUST DEMONSTRATE TO THE CONTRACTING OFFICER THAT THE BASE CANS ARE AT THE CORRECT LOCATION. BEFORE CASTING CONCRETE AROUND BASE CAN, THE CONTRACTOR MUST DEMONSTRATE TO THE CONTRACTING OFFICER THAT THE BASE CANS ARE AT THE CORRECT ELEVATION, AZIMUTH AND ROTATION.
3. AIR FORCE/ ARMY AIRFIELDS: BOTTOM DRAIN IS OPTIONAL.
   NAVY AIRFIELDS: BOTTOM DRAIN NOT REQUIRED.
4. THE INSIDE EDGE OF THE RGL HOUSING MUST BE 10'-0" (3M) TO 17'-0" (5.1M) FROM THE EDGE OF FULL STRENGTH PAVEMENT. THE INSIDE EDGE OF THE HPL MUST BE NOT LESS THAN 3'-0" (0.9M) BEYOND THE OUTSIDE EDGE OF THE HOLDING POSITION SIGN FOR NAVY AIRFIELDS.
5. THE FINISHED PAVEMENT SURFACE MUST BE PROTECTED FROM FOREIGN SUBSTANCES WHICH COULD CAUSE STAINING, I.E. CONCRETE, OIL, ETC. THE CONTRACTOR MUST IMMEDIATELY CLEAN ALL SPILLS AND CORRECT/CLEAN ANY STAINED SURFACES AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR MUST USE A HEAVY DUTY BASE PLATE FOR INSTALLATION OF THE L-804 RGL/HLP. PROVIDE STAINLESS STEEL TETHER FOR RGL/HLP.
7. INSTALLATION OF THE BASE CAN IS SIMILAR TO THE INSTALLATION OF AN ELEVATED FIXTURE IN SHOULDER PAVEMENT. SEE FIGURES 20A AND 20B.
8. PROVIDE BRAIDED COOPER GROUND STRAP BETWEEN LIGHT BASE CAN AND LIGHT FIXTURE. STRAP MUST BE EQUIVALENT TO NO. 6 (16 SQUARE mm) CABLE.



AIMING DIAGRAM

SCALE: NTS

L-804 ELEVATED RUNWAY GUARD LIGHT (RGL) (AIR FORCE/ ARMY) HOLDING POSITION EDGE LIGHT (HPL) (NAVY)

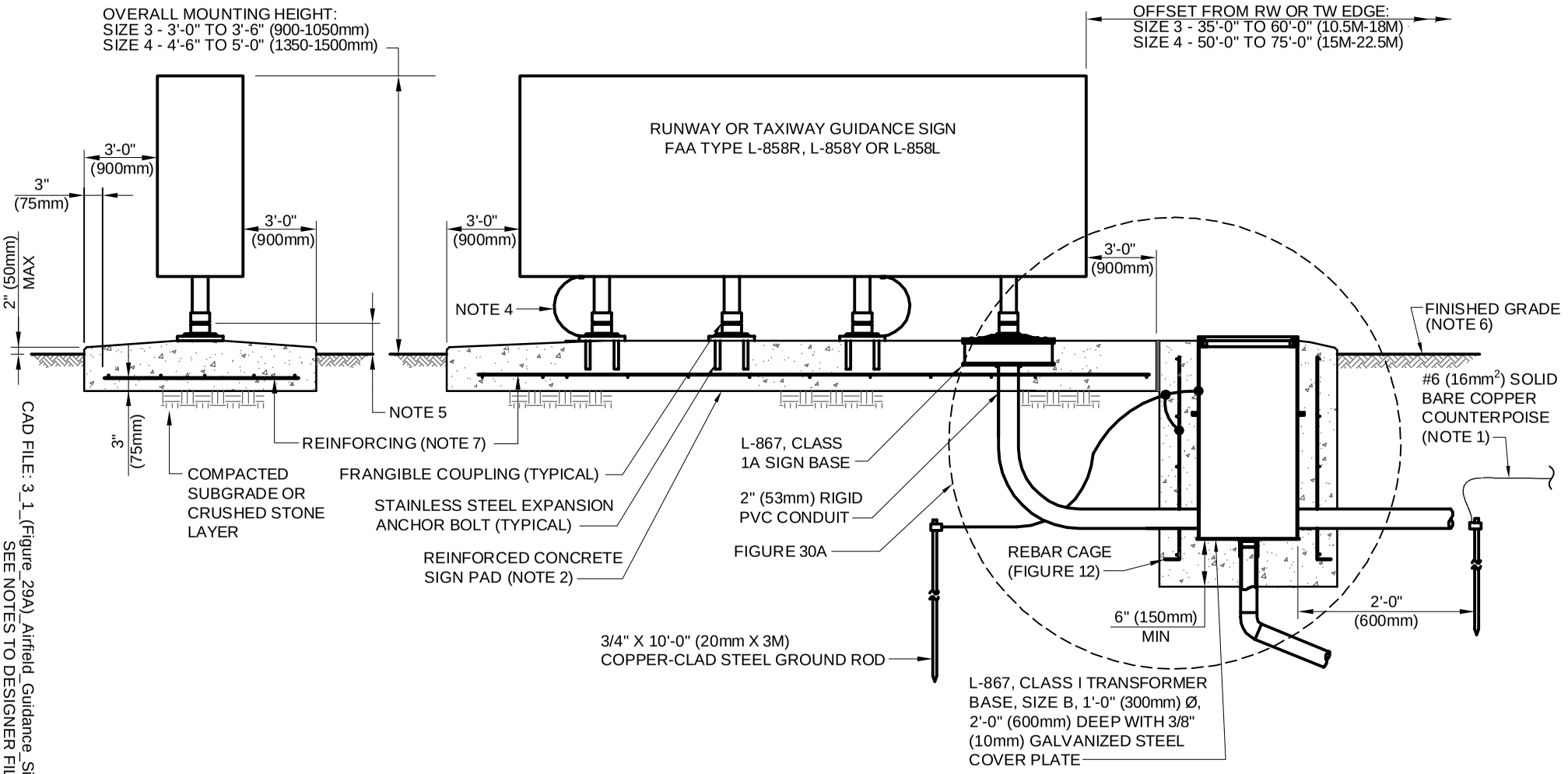
SCALE: NTS

REFERENCE
FIGURE: 20B

CAD FILE: 2_10_(Figure_20B)_L_804_Elevated_RGL_HPL_Aiming_Diagram.dwg
SEE NOTES TO DESIGNER FILE: 2_10_(Figure_20B)-NTD.dwg

DRAWING NOTES - FIGURE 20B:

1. POWER THE ELEVATED RUNWAY GUARD LIGHTS (RGL/HPL) FROM THE CIRCUIT INDICATED.
2. BEFORE CORING IN PAVEMENT MAY PROCEED, THE CONTRACTOR MUST DEMONSTRATE TO THE CONTRACTING OFFICER THAT THE BASE CANS ARE AT THE CORRECT LOCATION. BEFORE CASTING CONCRETE AROUND BASE CAN, THE CONTRACTOR MUST DEMONSTRATE TO THE CONTRACTING OFFICER THAT THE BASE CANS ARE AT THE CORRECT ELEVATION, AZIMUTH AND ROTATION.
3. AIR FORCE/ ARMY AIRFIELDS: BOTTOM DRAIN IS OPTIONAL.
   NAVY AIRFIELDS: BOTTOM DRAIN NOT REQUIRED.
4. THE INSIDE EDGE OF THE RGL HOUSING MUST BE 10'-0" (3M) TO 17'-0" (5.1M) FROM THE EDGE OF FULL STRENGTH PAVEMENT. THE INSIDE EDGE OF THE HPL MUST BE NOT LESS THAN 3'-0" (0.9M) BEYOND THE OUTSIDE EDGE OF THE HOLDING POSITION SIGN FOR NAVY AIRFIELDS.
5. THE FINISHED PAVEMENT SURFACE MUST BE PROTECTED FROM FOREIGN SUBSTANCES WHICH COULD CAUSE STAINING, I.E. CONCRETE, OIL, ETC. THE CONTRACTOR MUST IMMEDIATELY CLEAN ALL SPILLS AND CORRECT/CLEAN ANY STAINED SURFACES AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR MUST USE A HEAVY DUTY BASE PLATE FOR INSTALLATION OF THE L-804 RGL/HLP. PROVIDE STAINLESS STEEL TETHER FOR RGL/HLP.
7. INSTALLATION OF THE BASE CAN IS SIMILAR TO THE INSTALLATION OF AN ELEVATED FIXTURE IN SHOULDER PAVEMENT. SEE FIGURES 20A AND 20B.
8. PROVIDE BRAIDED COOPER GROUND STRAP BETWEEN LIGHT BASE CAN AND LIGHT FIXTURE. STRAP MUST BE EQUIVALENT TO NO. 6 (16 SQUARE mm) CABLE.



AIRFIELD GUIDANCE SIGN DETAIL (AIR FORCE / ARMY)

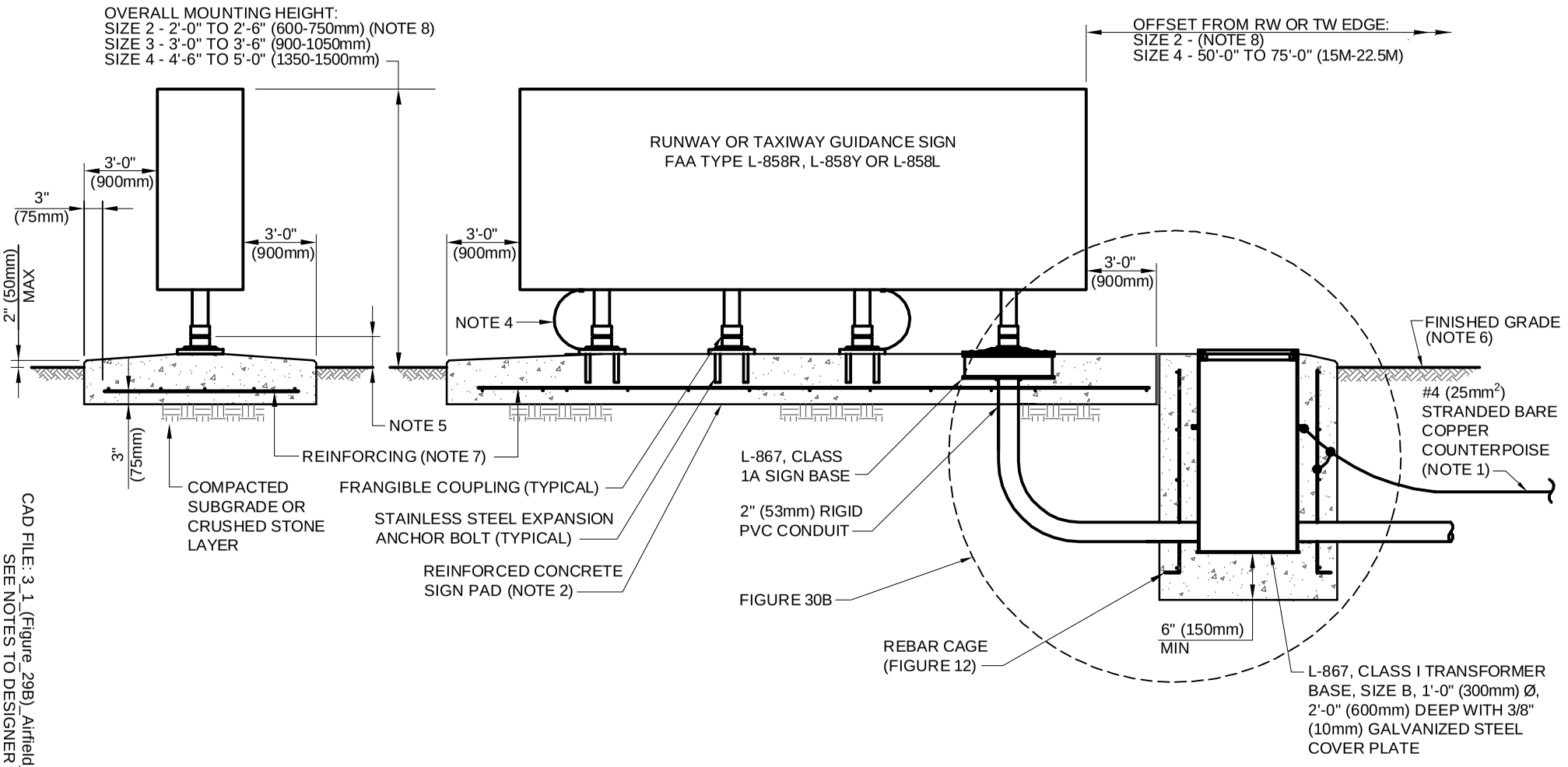
SCALE: NTS

REFERENCE FIGURE: 29A

CAD FILE: 3_1_(Figure_29A)_Airfield_Guidance_Sign_Detail_Air_Force_Army.dwg
SEE NOTES TO DESIGNER FILE: 3_1_(Figure_29A)-NTD.dwg

DRAWING NOTES - FIGURE 29A (AIR FORCE / ARMY):

1. AIR FORCE / ARMY: DO NOT CONNECT COUNTERPOISE TO THE TRANSFORMER BASE. CONNECT TRANSFORMER BASE AND COUNTERPOISE TO SEPARATE GROUND RODS.
2. SIGN PAD MUST HAVE A 1/2" (13mm) CHAMFER ON ALL EXPOSED HORIZONTAL EDGES. EXTEND PAD 36" (900mm) CLEAR ON ALL SIDES OF SIGN. SLOPE THE TOP SURFACE TO DRAIN AWAY FROM SIGN, APPROXIMATELY 1% (1/8"/FT) (3mm/300mm). THE TOP OF THE PAD MUST BE APPROXIMATELY 1" (25mm) ABOVE THE SURROUNDING GRADE.
3. MAXIMUM OVERALL SIGN LENGTH: SIZE 3 - 14'-2"(4290mm).
4. ONE TETHER AT EACH END OF THE SIGN IF SEPARATE SIGN MODULES ARE CONNECTED TOGETHER WITHIN A CONTINUOUS FRAME.
5. THE FRANGIBILITY POINT MUST BE NO GREATER THAN 3" (75mm) ABOVE THE GRADE ADJACENT TO THE PAD.
6. SURROUNDING GRADE MUST SLOPE 1/4" (6mm) PER FOOT AWAY FROM THE PAD FOR 15'-0" (4.5M). SOD OR SEED AS REQUIRED.
7. PAD THICKNESS AND REINFORCING WILL VARY DEPENDING ON THE LENGTH AND NUMBER OF SIGN MODULES INSTALLED AS WELL AS THE WIND LOADING (JET BLAST) EXPECTED



AIRFIELD GUIDANCE SIGN DETAIL (NAVY)

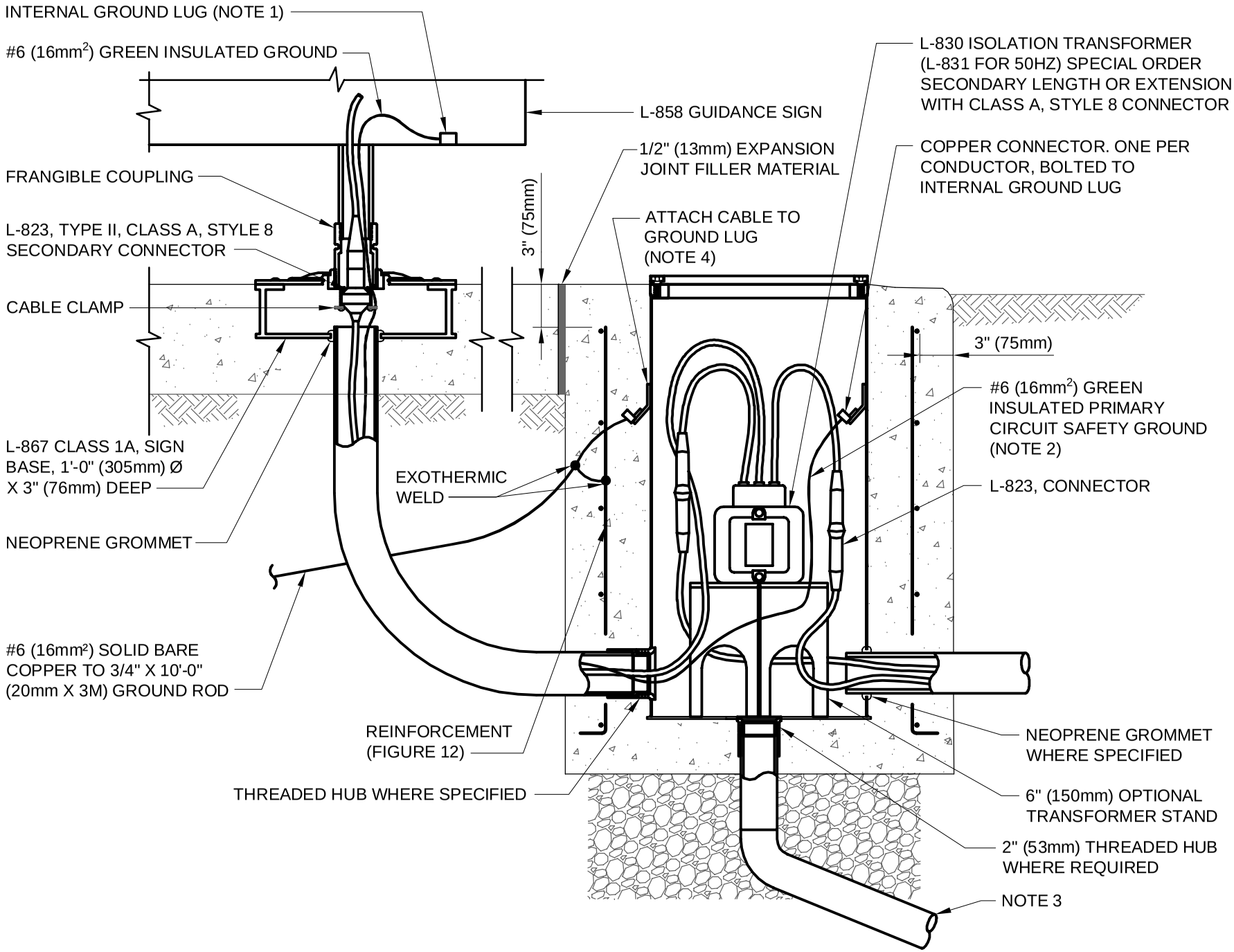
SCALE: NTS

REFERENCE FIGURE: 29B

CAD FILE: 3_1_(Figure_29B)_Airfield_Guidance_Sign_Detail_Navy.dwg
SEE NOTES TO DESIGNER FILE: 3_1_(Figure_29B)-NTD.dwg

DRAWING NOTES - FIGURE 29B (NAVY):

1. NAVY: DELETE GROUNDS RODS. CONNECT COUNTERPOISE TO BASE CAN.
2. SIGN PAD MUST HAVE A 1/2" (13mm) CHAMFER ON ALL EXPOSED HORIZONTAL EDGES. EXTEND PAD 36" (900mm) CLEAR ON ALL SIDES OF SIGN. SLOPE THE TOP SURFACE TO DRAIN AWAY FROM SIGN, APPROXIMATELY 1% (1/8"/FT) (3mm/300mm). THE TOP OF THE PAD MUST BE APPROXIMATELY 1" (25mm) ABOVE THE SURROUNDING GRADE.
3. MAXIMUM OVERALL SIGN LENGTH: SIZE 3 - 14'-2"(4290mm).
4. ONE TETHER AT EACH END OF THE SIGN IF SEPARATE SIGN MODULES ARE CONNECTED TOGETHER WITHIN A CONTINUOUS FRAME.
5. THE FRANGIBILITY POINT MUST BE NO GREATER THAN 3" (76mm) ABOVE THE GRADE ADJACENT TO THE PAD.
6. SURROUNDING GRADE MUST SLOPE 1/4" (6mm) PER FOOT AWAY FROM THE PAD FOR 15'-0" (4.5M). SOD OR SEED AS REQUIRED.
7. PAD THICKNESS AND REINFORCING WILL VARY DEPENDING ON THE LENGTH AND NUMBER OF SIGN MODULES INSTALLED AS WELL AS THE WIND LOADING (JET BLAST) EXPECTED.
8. FOR NAVY SIZE 2 SIGNS, DISTANCE FROM RW OR TW CAN BE 25' TO 35' (7.5M TO 10.5M) IF SIGN HEIGHT IS NOT MORE THAN 2'-0" (0.6M) ABOVE RW OR TW EDGE OF FULL-STRENGTH PAVEMENT.



SIGN BASE POWER LEG MOUNTING DETAIL (AIR FORCE / ARMY)

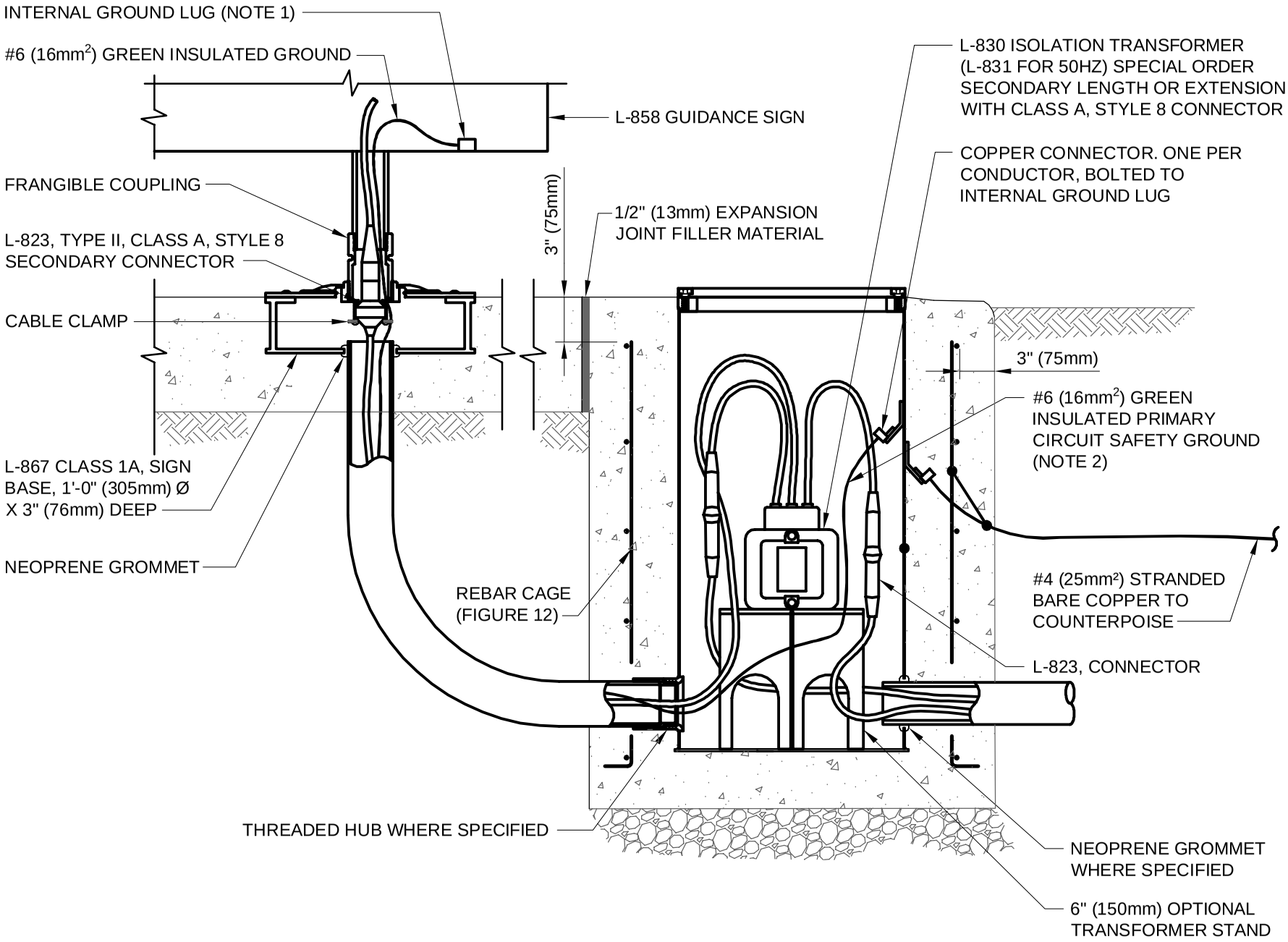
SCALE: NTS

REFERENCE FIGURE: 30A

CAD FILE: 3_2_(Figure_30A)_Sign_Base_Power_Leg_Mounting_Detail_Air_Force_Army.dwg
SEE NOTES TO DESIGNER FILE: 3_2_(Figure_30A)-NTD.dwg

DRAWING NOTES - FIGURE 30A (AIR FORCE / ARMY):

1. SEE SPECIFICATIONS FOR ADDITIONAL GROUNDING REQUIREMENTS INSIDE THE SIGN.
2. GROUNDING CONDUCTORS MUST BE THWN-2 OR XHHW-2.
3. GRAVEL SUMP BELOW FIXTURE BASE IS NOT REQUIRED WHERE DRAIN LINE IS RUN TO PAVEMENT UNDER-DRAIN SYSTEM. THE PREFERRED METHOD FOR DRAINING THE BASE CAN IS TO ROUTE THE DRAIN LINE TO PAVEMENT UNDER DRAIN SYSTEM OR CLOSEST CATCH BASIN. IF A GRAVEL SUMP (FRENCH DRAIN) IS INSTALLED, CAUTION SHOULD BE TAKEN TO PREVENT THE UNDERMINING OF THE SIGN FOUNDATION.



SIGN BASE POWER LEG MOUNTING DETAIL (NAVY)

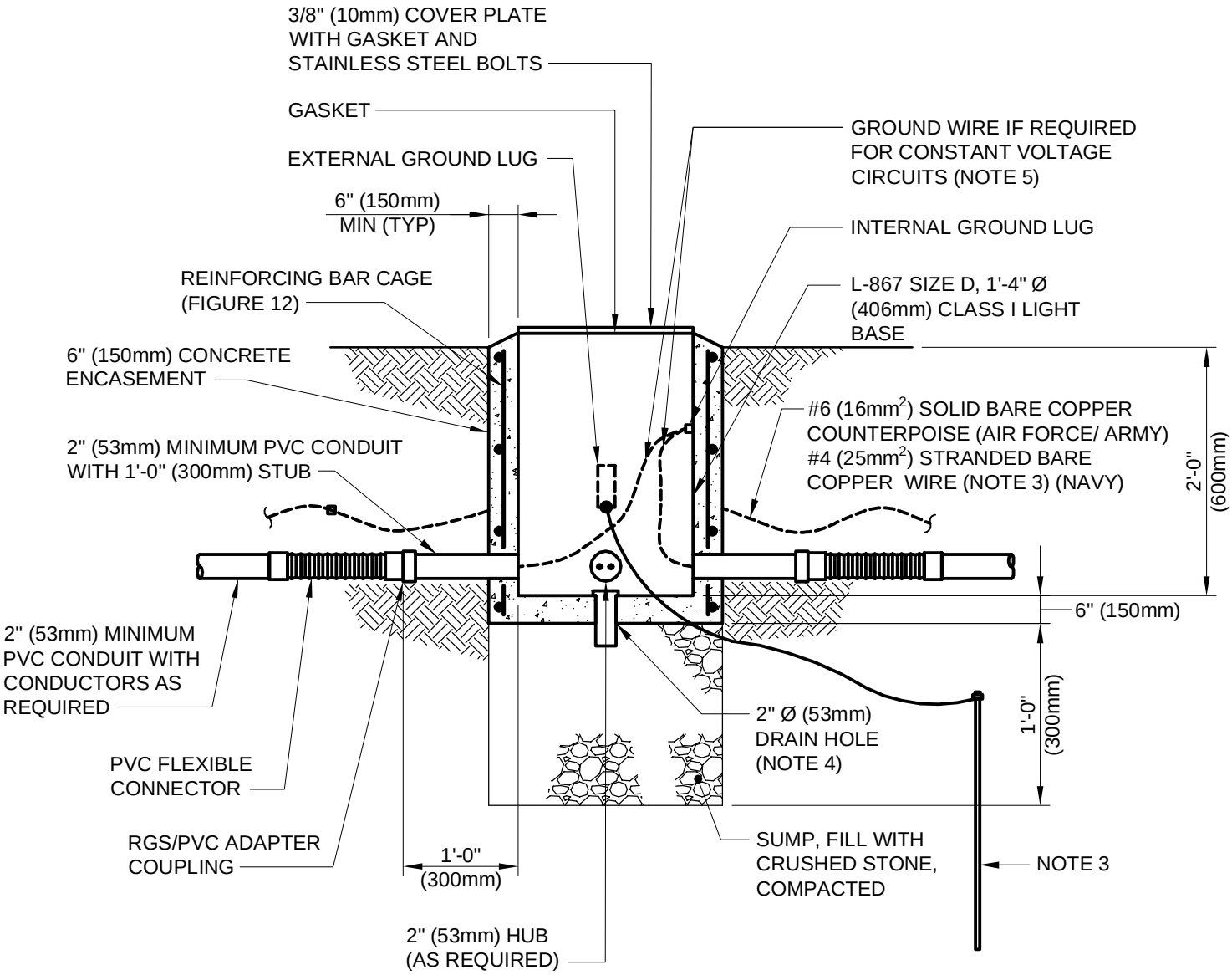
SCALE: NTS

REFERENCE FIGURE: 30B

CAD FILE: 3_2_(Figure_30B)_Sign_Base_Power_Leg_Mounting_Detail_Navy.dwg
SEE NOTES TO DESIGNER FILE: 3_2_(Figure_30B)-NTD.dwg

DRAWING NOTES - FIGURE 30B (NAVY):

1. SEE SPECIFICATIONS FOR ADDITIONAL GROUNDING REQUIREMENTS INSIDE THE SIGN.
2. GROUNDING CONDUCTORS MUST BE THWN-2 OR XHHW-2.
3. GRAVEL SUMP BELOW FIXTURE BASE IS NOT REQUIRED WHERE DRAIN LINE IS RUN TO PAVEMENT UNDER-DRAIN SYSTEM. THE PREFERRED METHOD FOR DRAINING THE BASE CAN IS TO ROUTE THE DRAIN LINE TO PAVEMENT UNDER DRAIN SYSTEM OR CLOSEST CATCH BASIN. IF A GRAVEL SUMP (FRENCH DRAIN) IS INSTALLED, CAUTION SHOULD BE TAKEN TO PREVENT THE UNDERMINING OF THE SIGN FOUNDATION.



L-867 SIZE D HANDHOLE

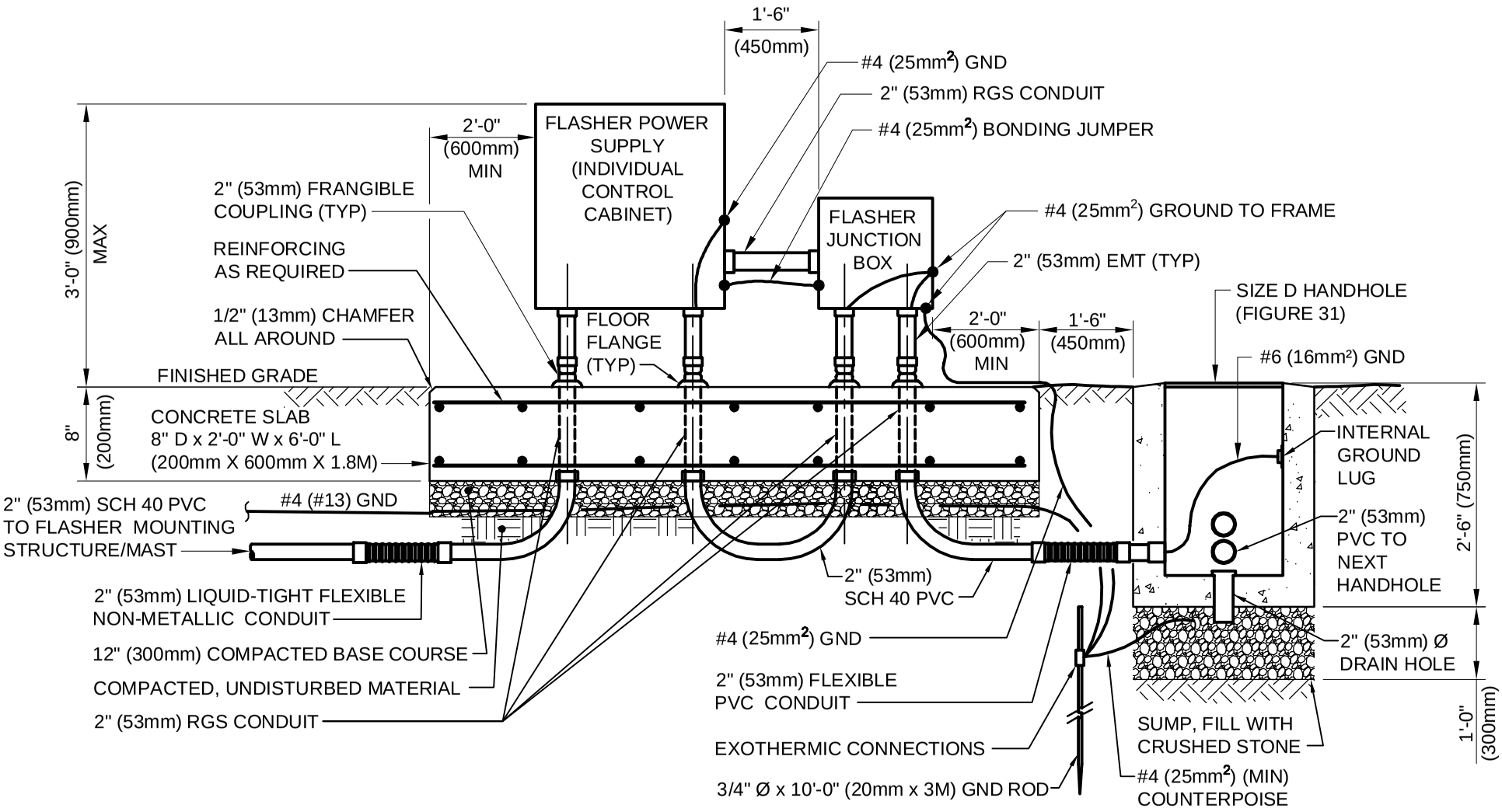
SCALE: NTS

REFERENCE
FIGURE: 31

CAD FILE: 4_1_(Figure_31)_L_867_Size_D_Handhole.dwg
SEE NOTES TO DESIGNER FILE: 4_1_(Figure_31)-NTD.dwg

DRAWING NOTES - FIGURE 31:

1. IF CONSTANT VOLTAGE CIRCUITS ARE ROUTED THROUGH THE HANDHOLES THE MINIMUM #6 (16 SQUARE mm) EQUIPMENT GROUND MUST BE ROUTED WITH THE SYSTEM CONDUCTORS IN THE CONDUIT AND CONNECTED TO THE GROUND LUG IN EACH LIGHT BASE. IT MUST ALSO BE BONDED TO THE ELECTRICAL GROUND AT THE SYSTEM'S SUBSTATION (VAULT) POWER SUPPLY GROUND BUS. PROVIDE GREEN INSULATED THWN-2 OR XHHW-2 GROUND WIRE SIZED PER NEC FOR CONSTANT VOLTAGE CIRCUITS.
2. THE FLEXIBLE CONNECTOR MUST BE PVC.
3. FOR AIR FORCE / ARMY AIRFIELDS, CONNECT GROUND ROD TO HANDHOLE EXTERNAL GROUND LUG WITH #6 (16 SQUARE mm) SOLID BARE COPPER AND LET COUNTERPOISE PASS THE HANDHOLE WITHOUT CONNECTION. FOR NAVY AIRFIELDS, CONNECT #4 (25 SQUARE mm) STRANDED BARE COPPER COUNTERPOISE TO EXTERNAL GROUND LUG. DO NOT PROVIDE GROUND ROD AT HANDHOLE.
4. FOR AIR FORCE / ARMY AIRFIELDS, BOTTOM DRAIN IS OPTIONAL. FOR NAVY AIRFIELDS, BOTTOM DRAIN IS NOT REQUIRED.

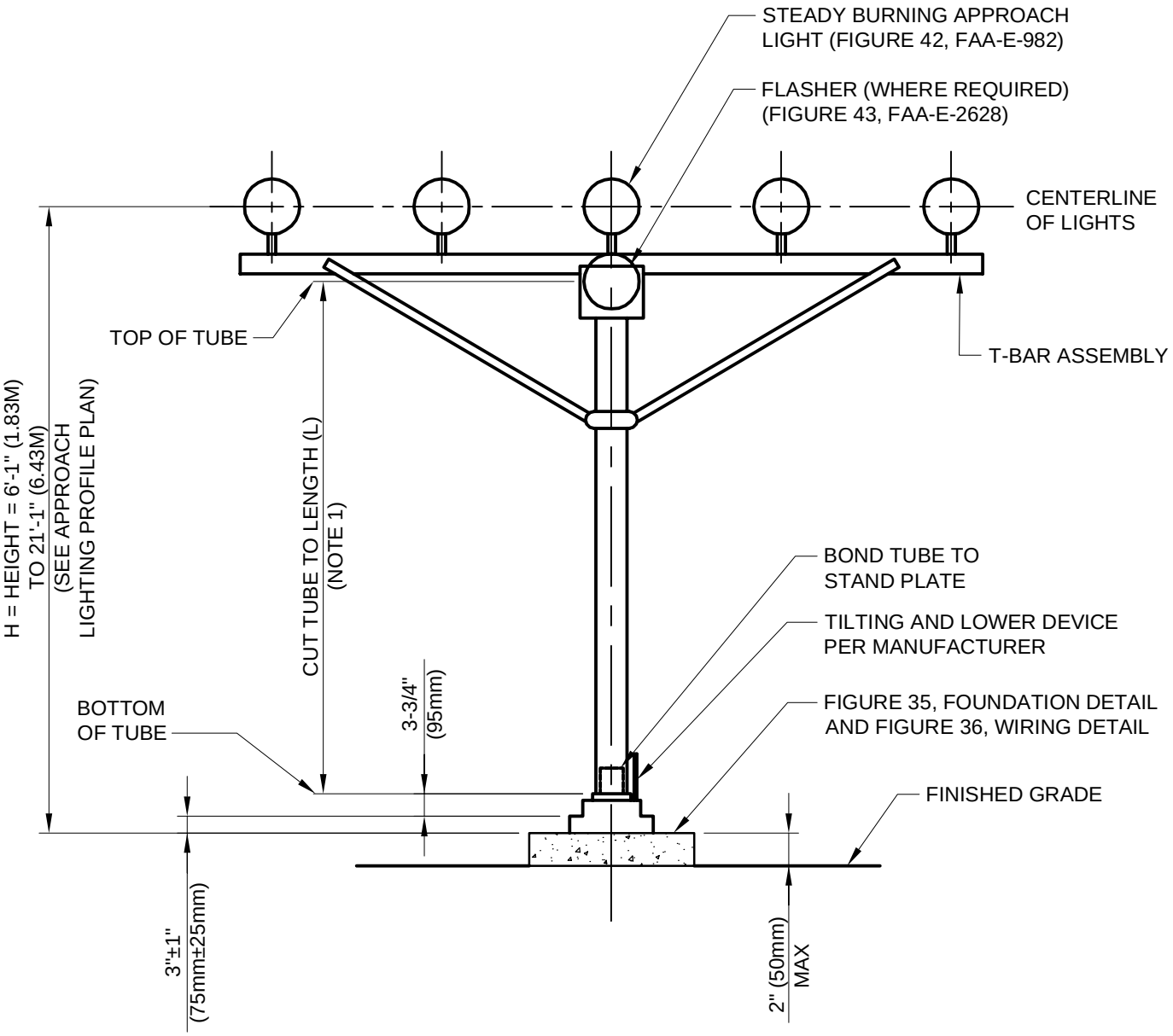


VOLTAGE DRIVEN SEQUENCED FLASHER POWER SUPPLY AND JUNCTION BOX MOUNTING DETAIL

SCALE: NTS

REFERENCE
FIGURE: 32

CAD FILE: 4_2_(Figure_32)_Voltage_Driven_Sequenced_Flasher_Power_Supply_And_Junction_Box_Mounting_Detail.dwg
SEE NOTES TO DESIGNER FILE: 4 2 (Figure 32)-NTD.dwg



TYPICAL MG-20 LIR STRUCTURE

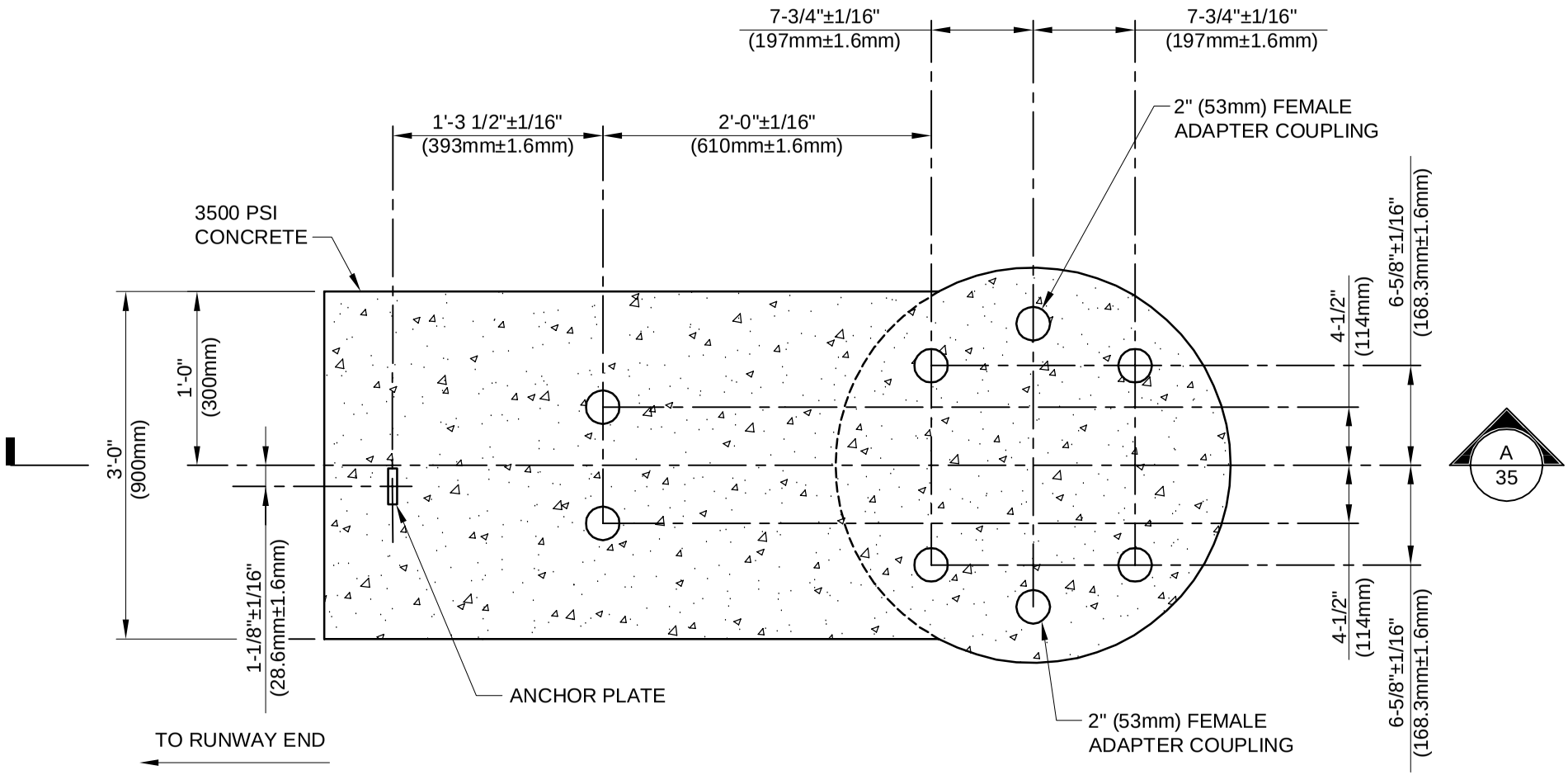
SCALE: NTS

REFERENCE
FIGURE: 33

CAD FILE: 4_3_(Figure_33)_Typical_MG_20_LIR_Structure.dwg
SEE NOTES TO DESIGNER FILE: 4_3_(Figure_33)-NTD.dwg

DRAWING NOTES - FIGURE 33:

1. DETERMINE EXACT LENGTH OF TUBE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.



FOUNDATION FOR LIR STRUCTURE MG-20 PLAN VIEW

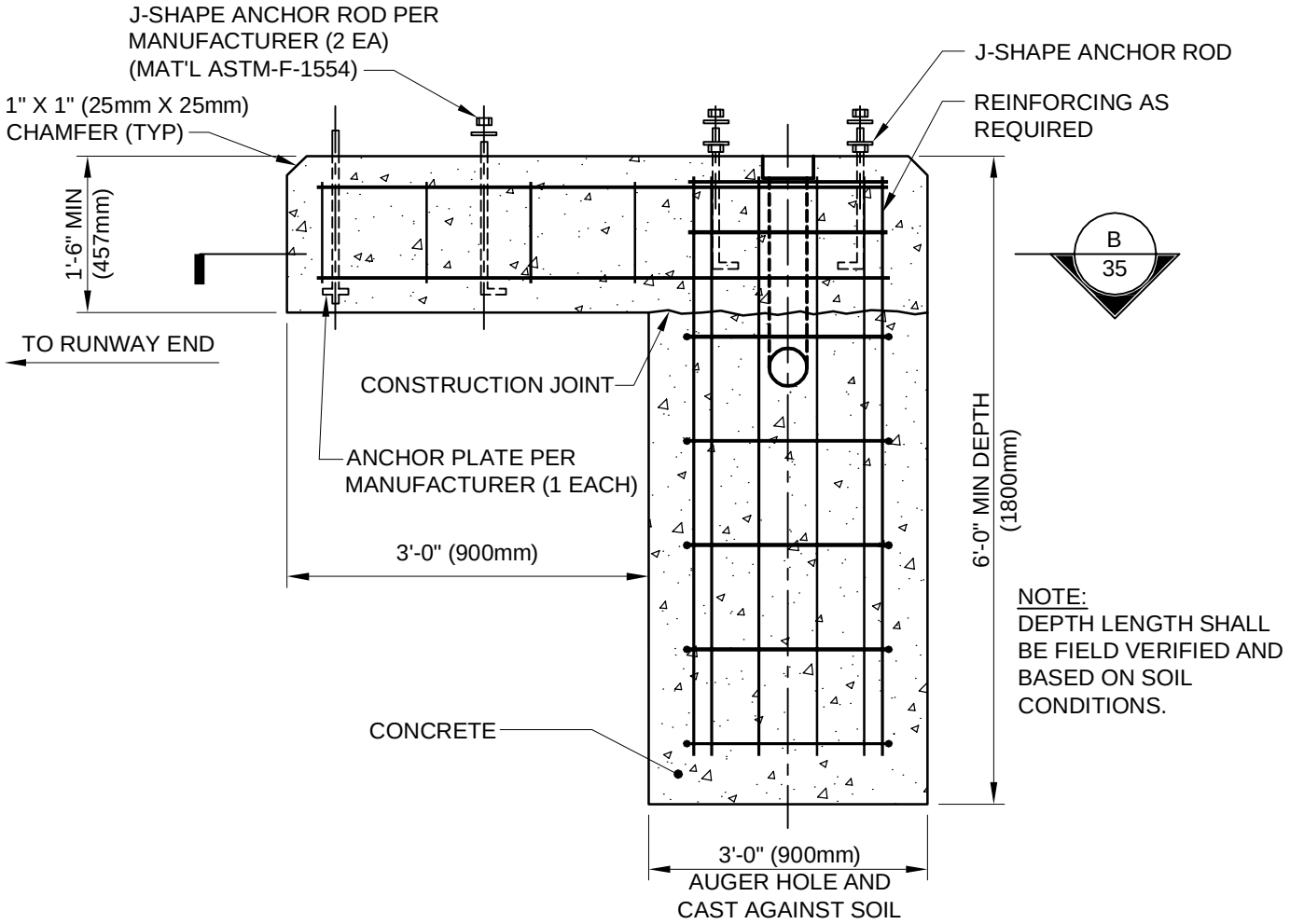
SCALE: NTS

REFERENCE
FIGURE: 34

CAD FILE: 4_4_(Figure_34)_Foundation_For_LIR__Structure_MG_20_Plan_View.dwg
SEE NOTES TO DESIGNER FILE: 4_4 (Figure 34)-NTD.PDF

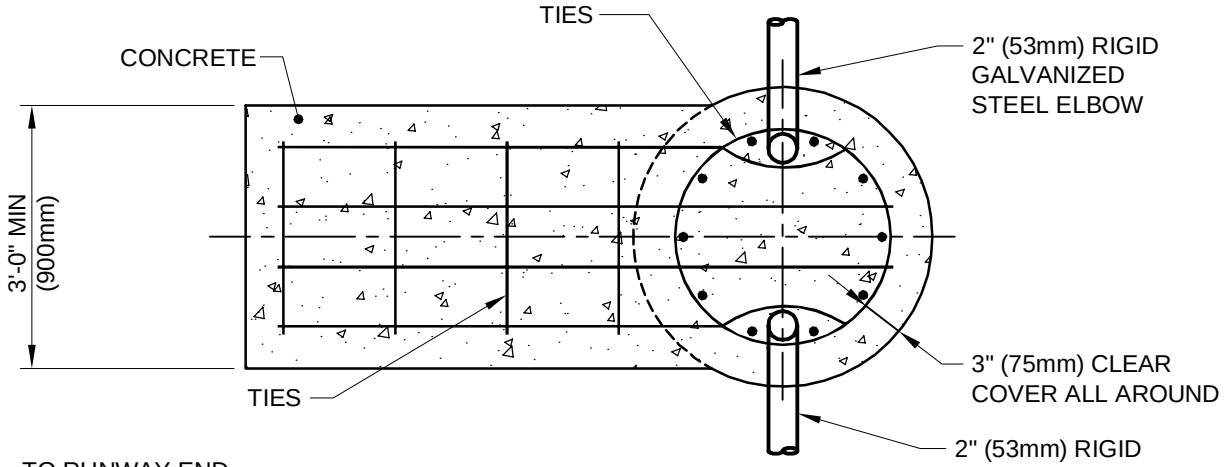
DRAWING NOTES - FIGURE 34:

1. REFER TO FIGURE 35, SECTION A.
2. ACTUAL DIMENSIONS MAY VARY. COORDINATE WITH MANUFACTURER PRIOR TO CONSTRUCTION AND CONSTRUCT PER MANUFACTURER'S REQUIREMENTS.



A 34 SECTION

SCALE: NTS



B 35 SECTION

SCALE: NTS

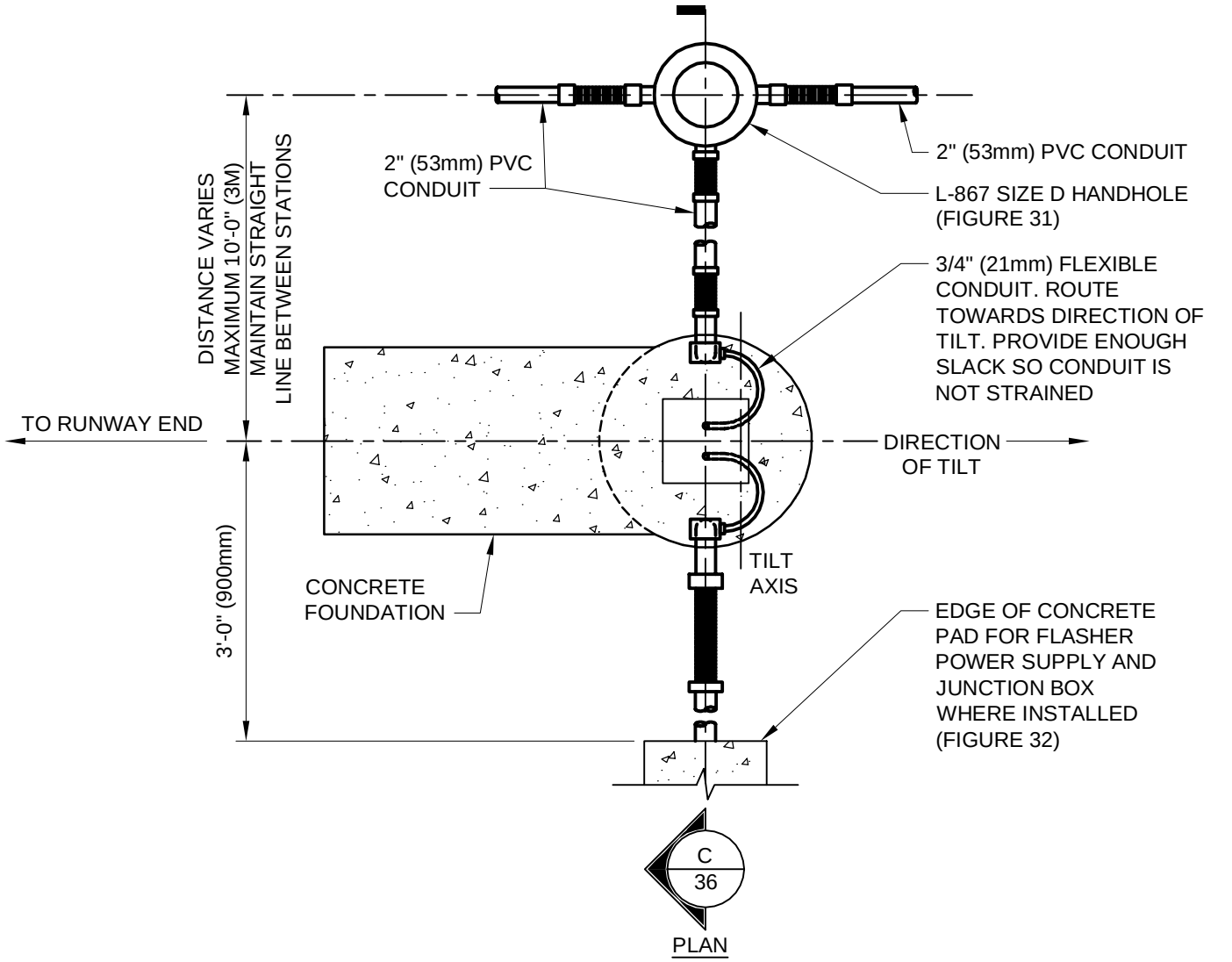
FOUNDATION FOR LIR STRUCTURE MG-20 SECTIONS A AND B

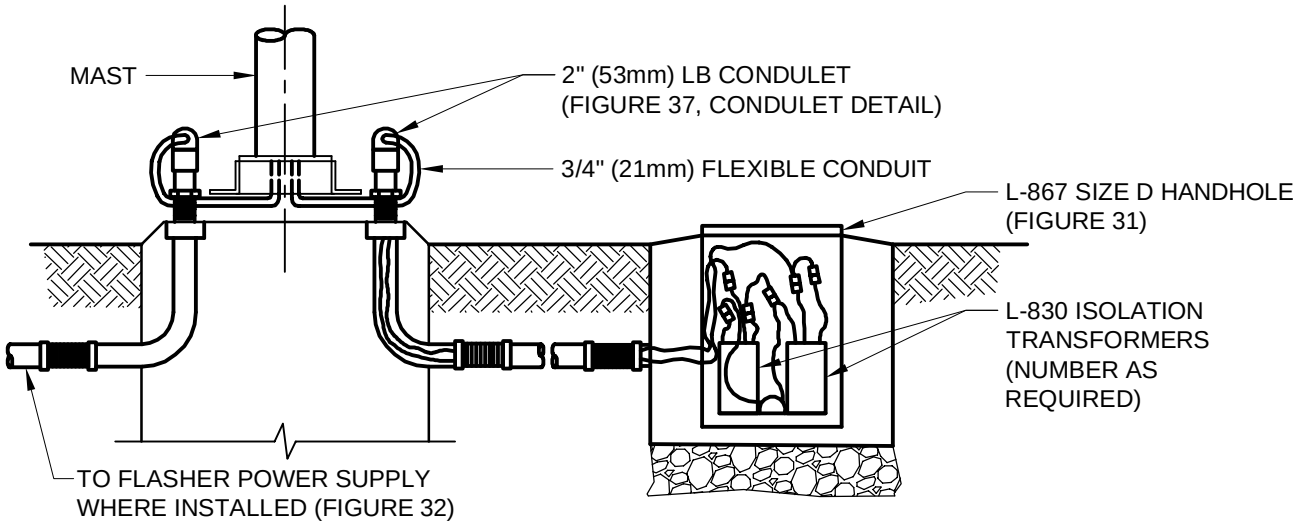
SCALE: NTS

REFERENCE FIGURE: 35

CAD FILE: 4_5_(Figure_35)_Foundation_For_LIR_Structure_MG_20_Sections_A_And_B.dwg

SEE NOTES TO DESIGNER FILE: 4 5 (Figure 35)-NTD.PDF





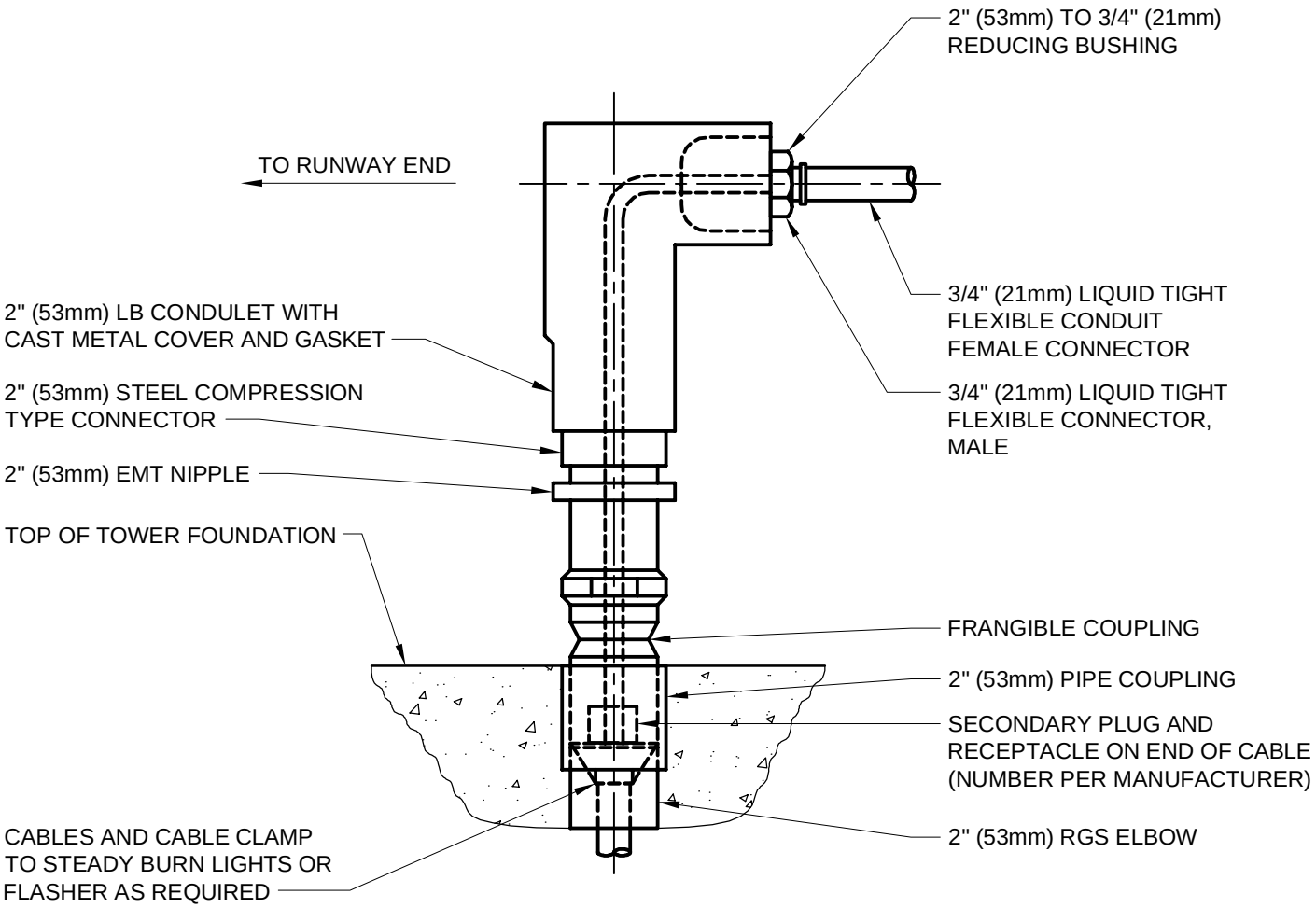
C
36
SECTION
SCALE: NTS

TYPICAL MG-20 LIR STRUCTURE TOWER WIRING DETAIL

SCALE: NTS

REFERENCE FIGURE: 36

CAD FILE: 4_6_(Figure_36)_Typical_MG_20_LIR_Structure_Tower_Wiring_Detail.dwg
SEE NOTES TO DESIGNER FILE: 4 6 (Figure 36)-NTD.PDF



2" (53mm) LB CONDUIT DETAIL

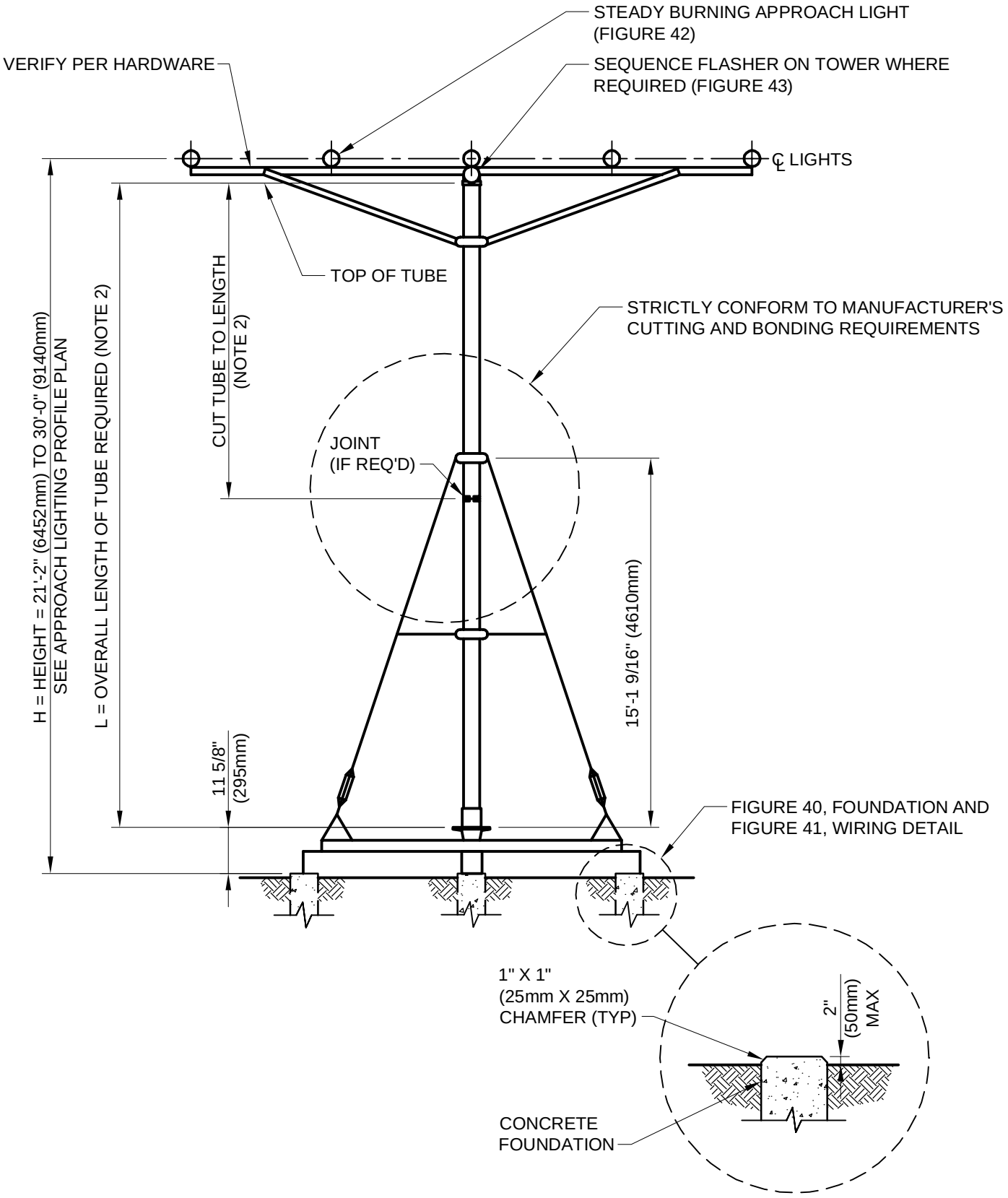
SCALE: NTS

REFERENCE
FIGURE: 37

CAD FILE: 4_7_(Figure_37)_LB_Conduit_Detail.dwg
SEE NOTES TO DESIGNER FILE: 4_7 (Figure 37)-NTD.PDF

DRAWING NOTES - FIGURE 37:

1. PROVIDE NUMBER OF CABLES AS REQUIRED. REFER TO SYSTEM WIRING DIAGRAMS.
2. FACE CONDULET AWAY FROM RUNWAY END AND TOWARD APPROACH.



TYPICAL MG-30 LIR STRUCTURE

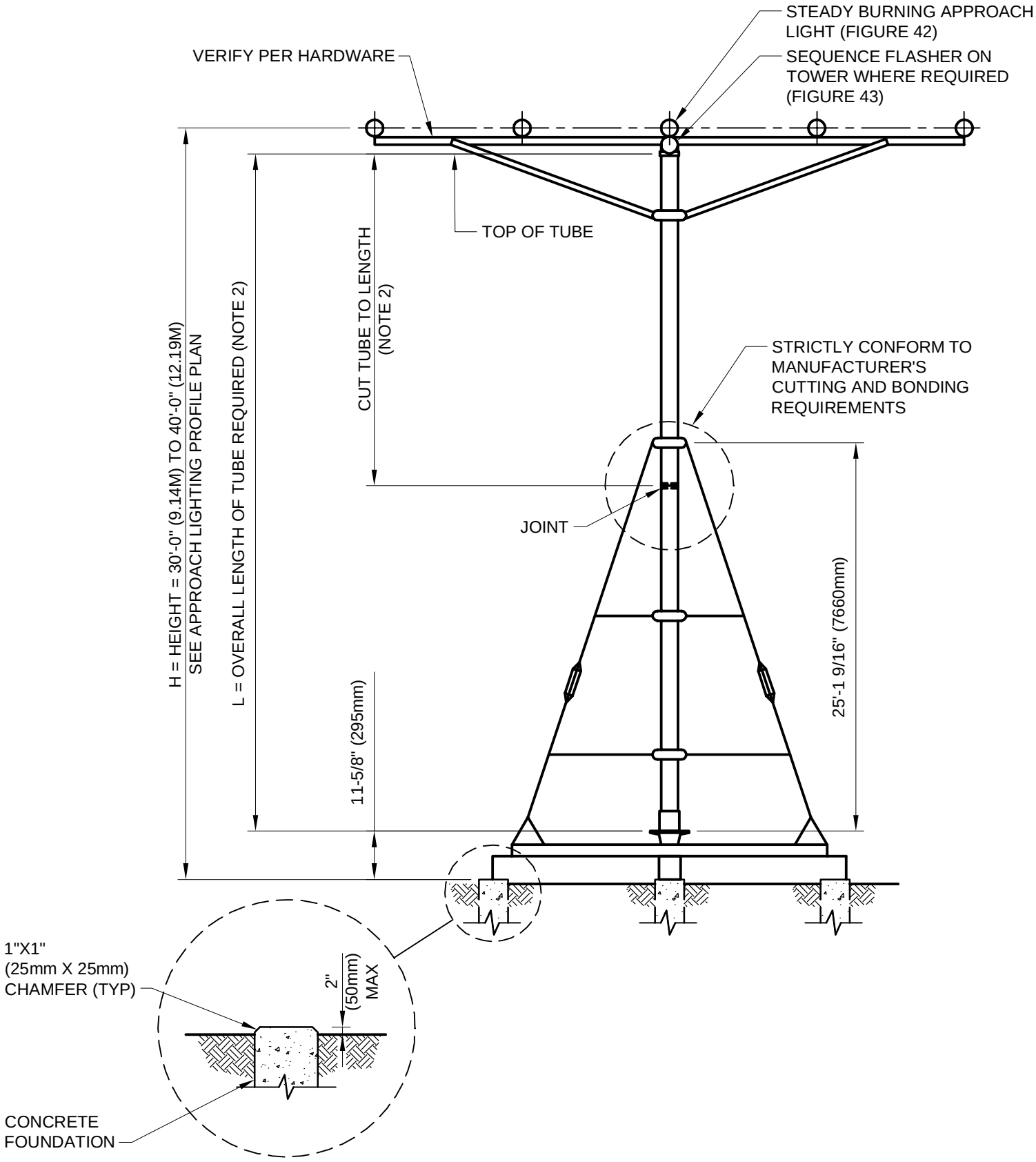
SCALE: NTS

REFERENCE
FIGURE: 38

CAD FILE: 4_8_(Figure_38)_Typical_MG_30_LIR_Structure.dwg
SEE NOTES TO DESIGNER FILE: 4_8 (Figure 38)-NTD.PDF

DRAWING NOTES - FIGURE 38:

1. FOUNDATIONS, CONNECTIONS, STABILIZERS, TILT DEVICES, AND ASSOCIATED COMPONENTS MUST BE PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
2. DETERMINE LENGTH OF TUBE PER MANUFACTURER'S REQUIREMENTS.



TYPICAL MG-40 LIR STRUCTURE

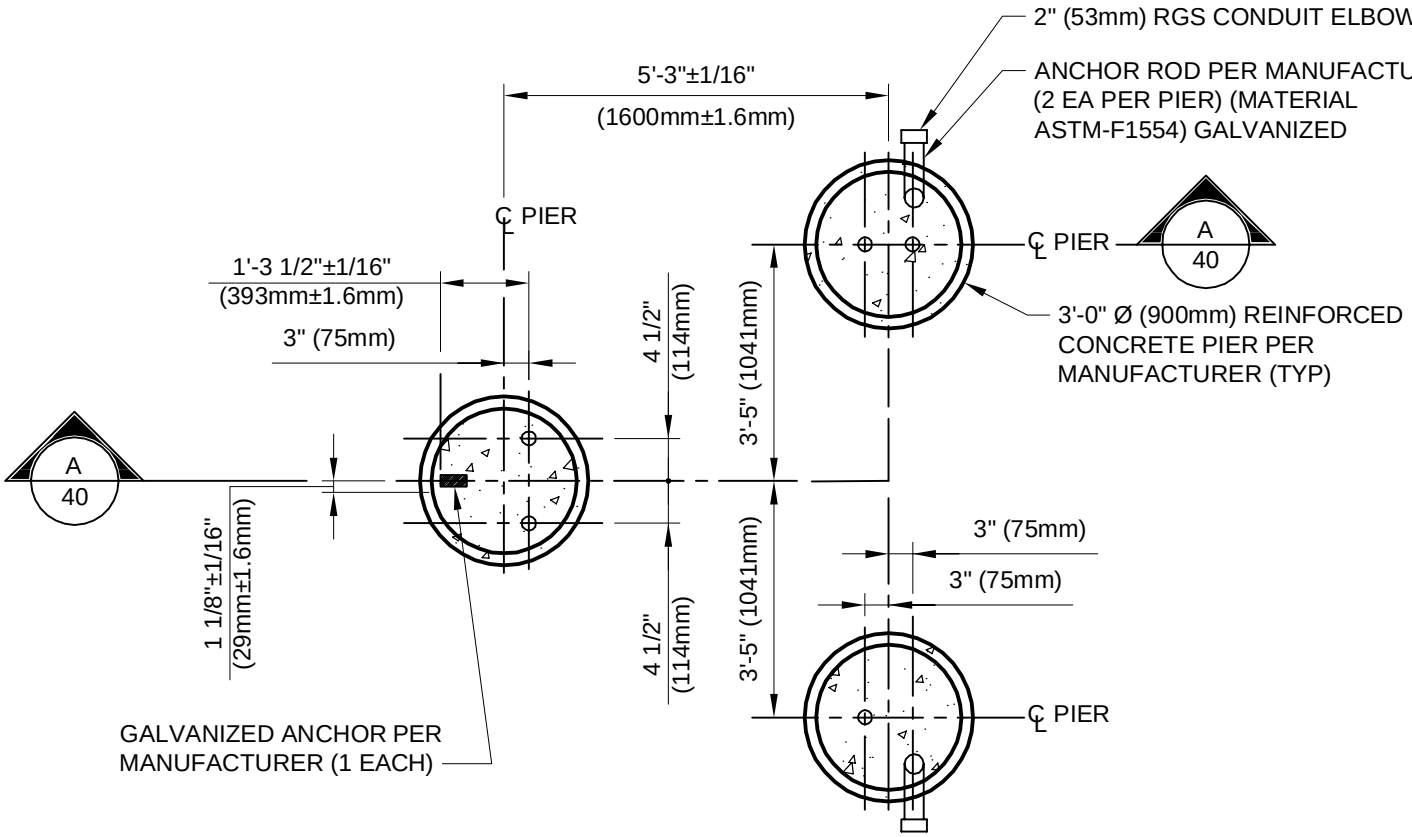
SCALE: NTS

REFERENCE FIGURE: 39

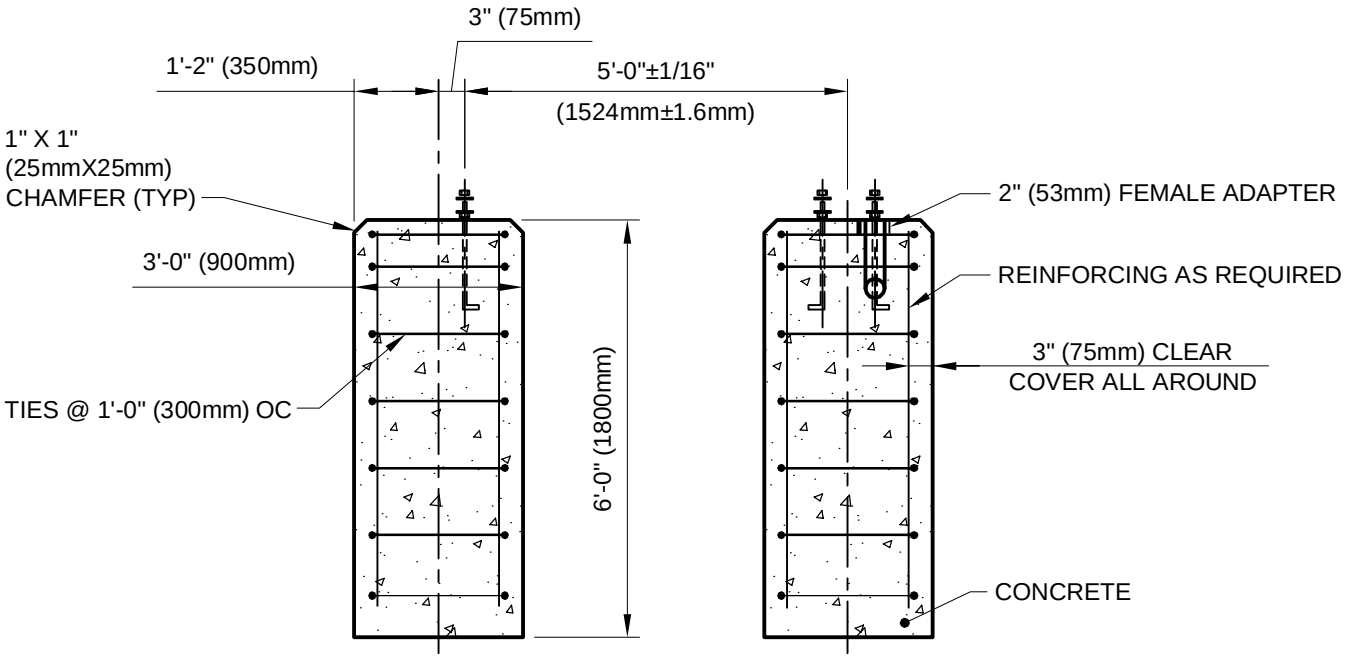
CAD FILE: 4_9_(Figure_39)_Typical_MG_40_LIR_Structure.dwg
SEE NOTES TO DESIGNER FILE: 4_9 (Figure 39)-NTD.PDF

DRAWING NOTES - FIGURE 39:

1. FOUNDATIONS, CONNECTIONS, STABILIZERS, TILT DEVICES, AND ASSOCIATED COMPONENTS MUST BE PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
2. DETERMINE LENGTH OF TUBE PER MANUFACTURER'S REQUIREMENTS.



PLAN



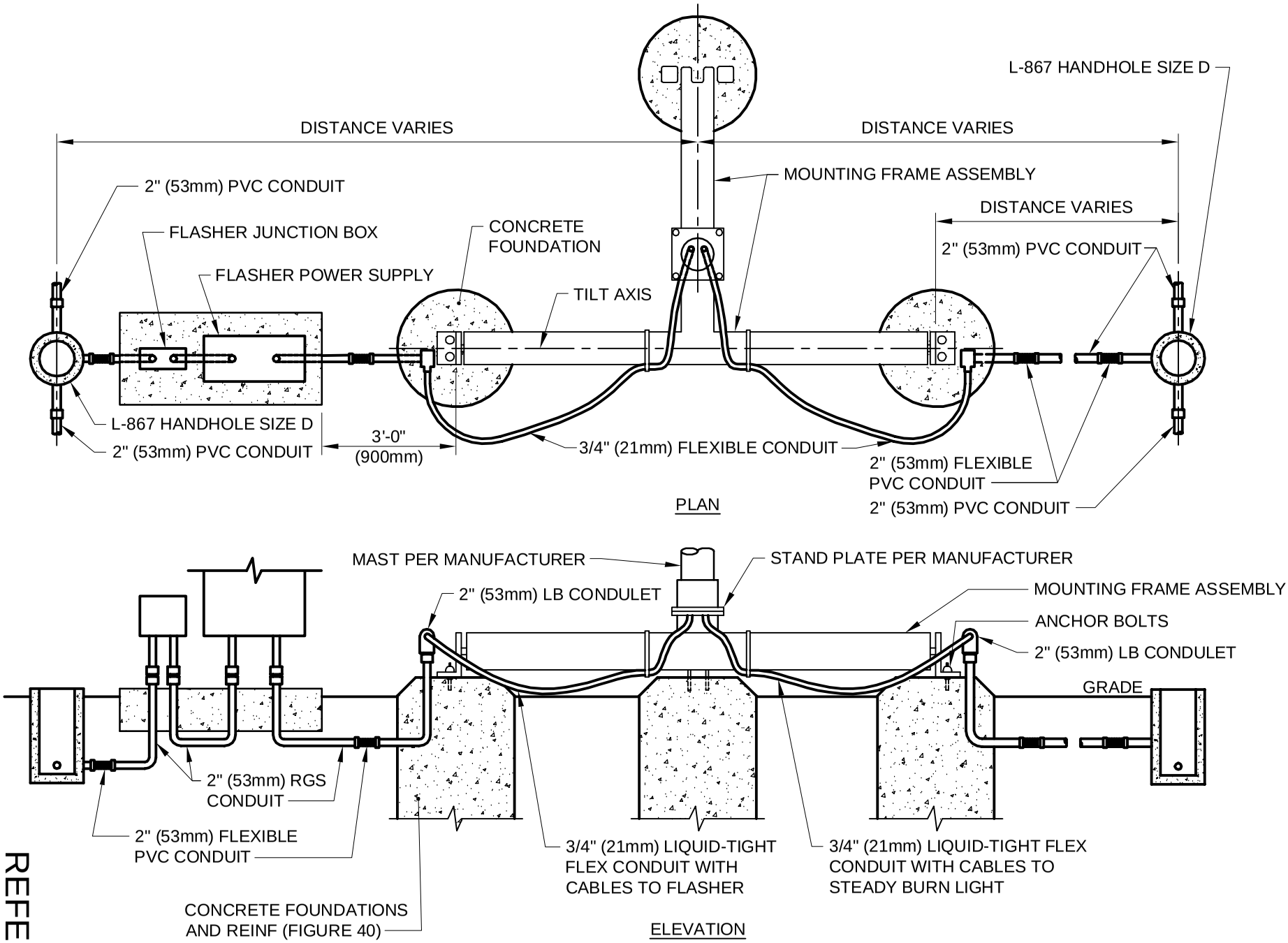
A
40
SECTION
SCALE: NTS

FOUNDATION FOR MG-30/40 LIR STRUCTURES

SCALE: NTS

REFERENCE FIGURE: 40

CAD FILE: 4_10_(Figure_40)_Foundation_For_MG_30_40_LIR_Structures.dwg
SEE NOTES TO DESIGNER FILE: 4_10 (Figure 40)-NTD.PDF

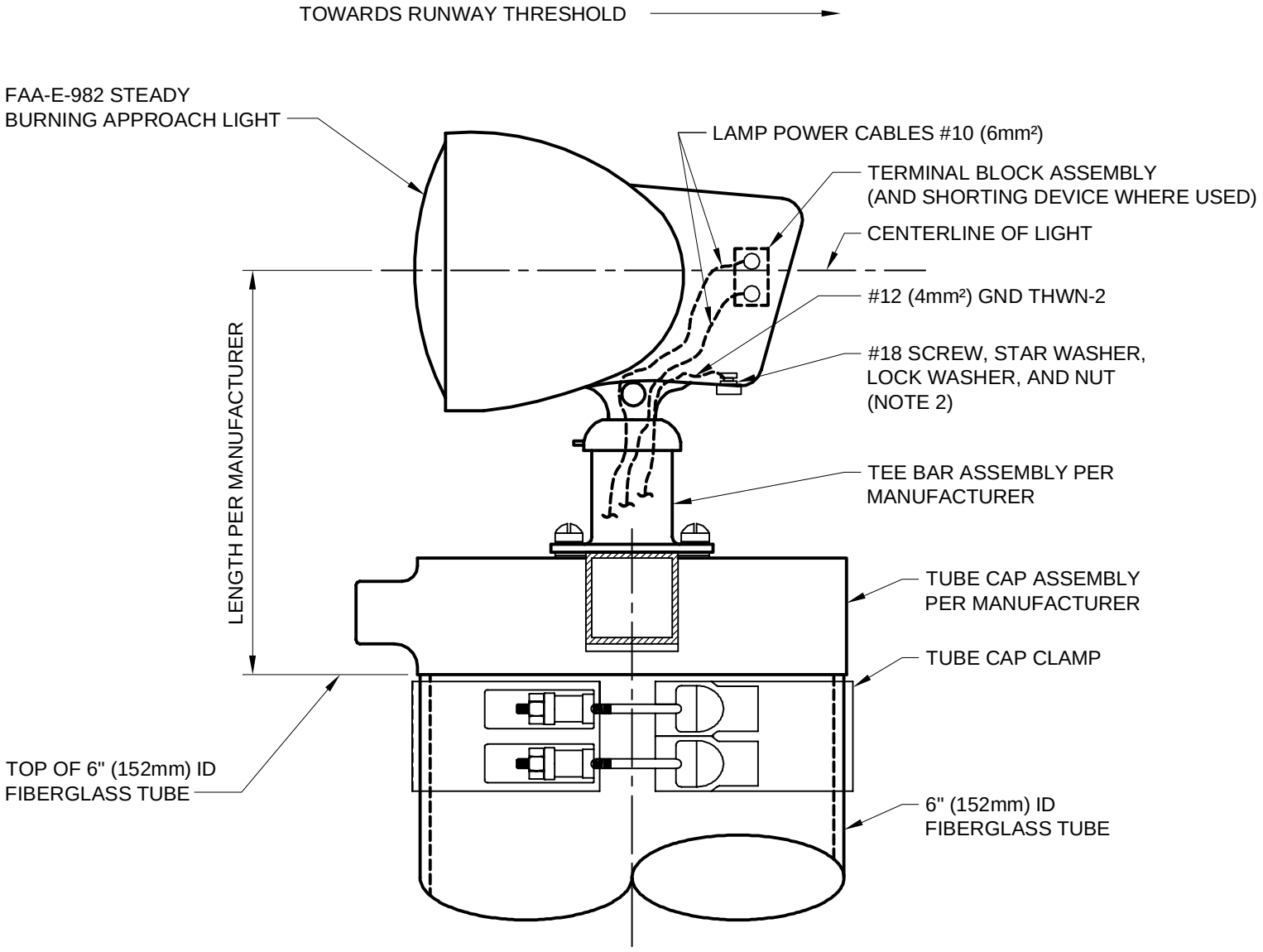


TYPICAL MG-30/40 LIR STRUCTURE TOWER WIRING DETAIL

SCALE: NTS

REFERENCE FIGURE: 41

CAD FILE: 4_11_(Figure_41)_Typical_MG_30_40_LIR_Structure_Tower_Wiring_Detail.dwg
SEE NOTES TO DESIGNER FILE: 4_11 (Figure 41)-NTD.PDF



TOWER MOUNTED STEADY BURNING APPROACH LIGHT DETAIL

SCALE: NTS

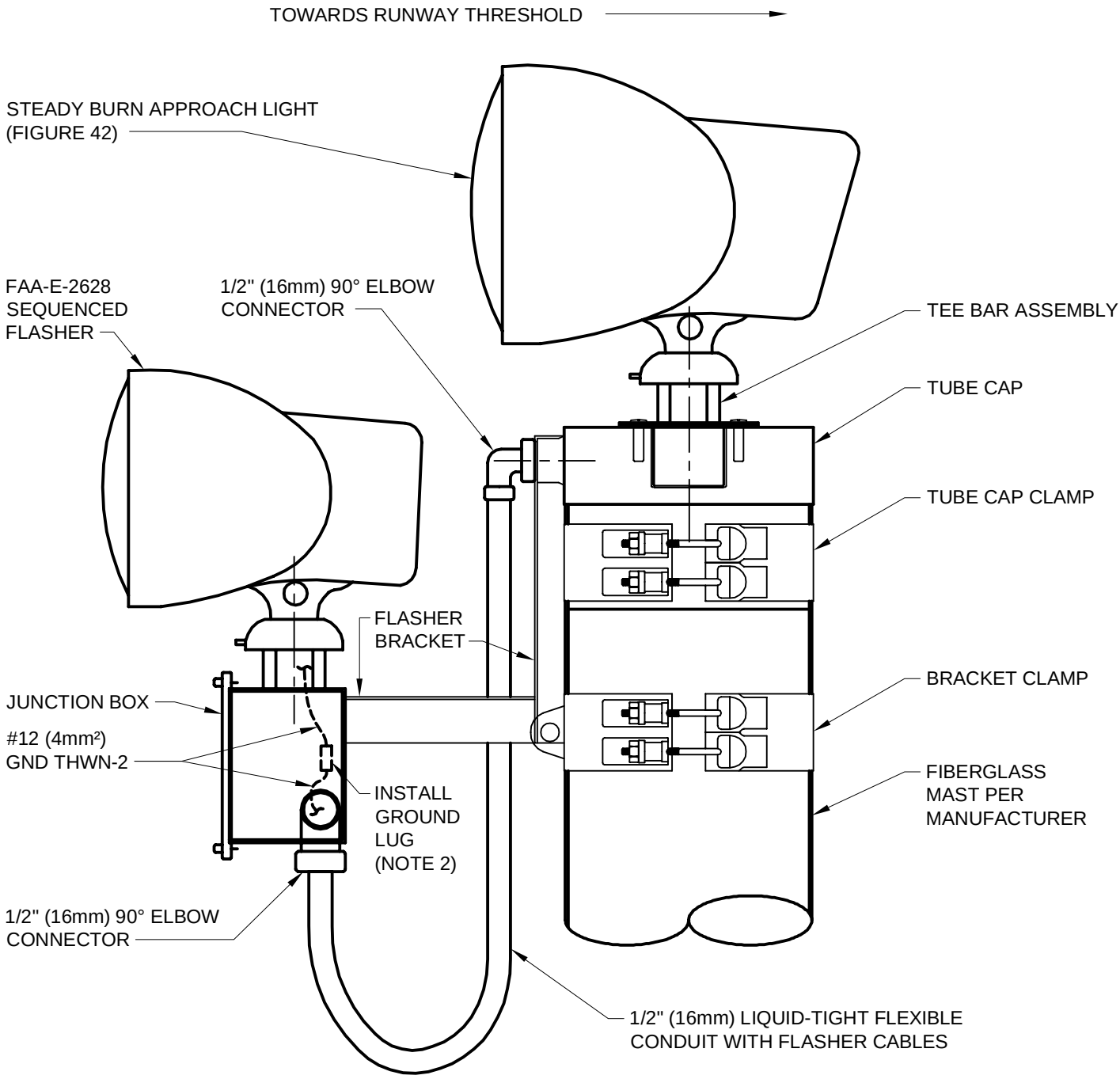
REFERENCE
FIGURE: 42

CAD FILE: 4_12_(Figure_42)_Tower_Mounted_Steady_Burning_Approach_Light_Detail.dwg
SEE NOTES TO DESIGNER FILE: 4_12 (Figure 42)-NTD.PDF

DRAWING NOTES - FIGURE 42:

1. MEASURE DISTANCE BETWEEN CENTER OF LIGHT AND TOP OF TUBE USING ACTUAL EQUIPMENT INSTALLED.

2. ATTACH #12 (4 SQUARE mm) GROUND TO FIXTURE HOUSING BY INSTALLING A #8 SCREW THROUGH HOLE PROVIDED IN BOTTOM OF HOUSING. SAND AWAY PAINT AND ANODIZING AROUND HOLE ON INSIDE OF HOUSING TO BARE METAL. PUSH SCREW UP THROUGH HOLE AND INSTALL STAR WASHER OVER SCREW ON INTERIOR OF HOUSING. CRIMP AN INSULATED RING TERMINAL ON THE END OF THE GROUND WIRE AND INSTALL ON SCREW. PLACE LOCK WASHER AND NUT ON SCREW AND TIGHTEN. VERIFY WITH MANUFACTURER LENGTH AND SIZE OF SCREW, STAR WASHER, LOCK WASHER, AND NUT TO BE UTILIZED TO MAINTAIN CLEARANCE FROM TERMINAL BLOCK ASSEMBLY.



TOWER MOUNTED SFL AND APPROACH LIGHT DETAIL

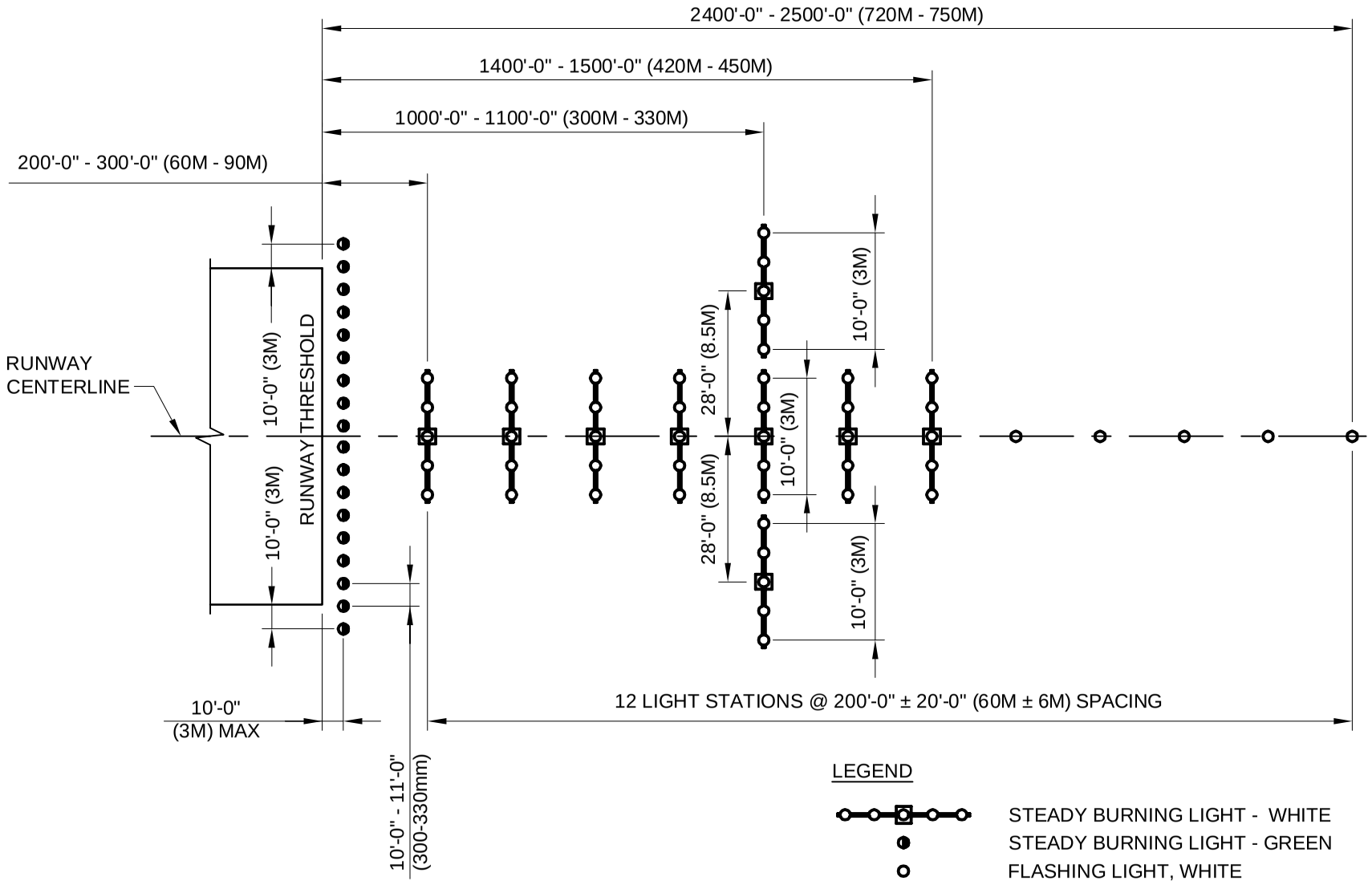
SCALE: NTS

REFERENCE
FIGURE: 43

CAD FILE: 4_13_(Figure_43)_Tower_Mounted_SFL_And_Approach_Light_Detail.dwg
SEE NOTES TO DESIGNER FILE: 4_13 (Figure 43)-NTD.PDF

DRAWING NOTES - FIGURE 43:

1. FLASHER JUNCTION BOX / BRACKET AND BRACKET CLAMP FURNISHED AS AN ASSEMBLY. INSTALL ON MAST PER MANUFACTURER'S REQUIREMENTS.
2. INSTALL GROUND LUG ON ONE OF THE 2 ALUMINUM ANGLES INSIDE THE JUNCTION BOX AND ROUTE A #12 (4 SQUARE mm) THWN-2 FROM FLASHER AND FIBERGLASS MAST TO LUG. TERMINATE GROUND WIRE ON LUG.

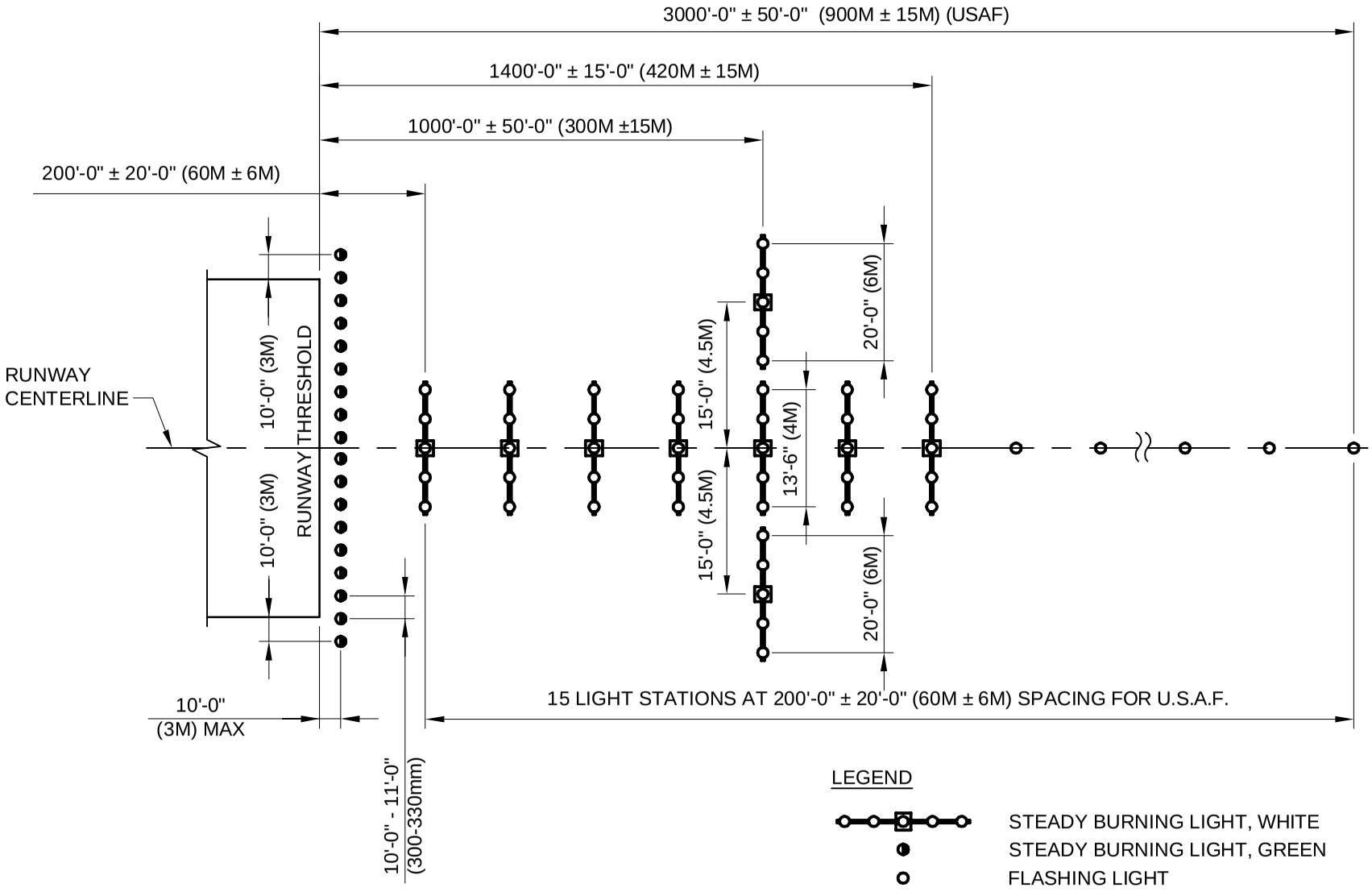


MALSR APPROACH LIGHT SYSTEM CONFIGURATION

SCALE: NTS

REFERENCE FIGURE: 44A

CAD FILE: 4_14A_(Figure_44A)_MALSR_Approach_Light_System_Configuration.dwg
SEE NOTES TO DESIGNER FILE: 4_14A (Figure 44A)-NTD.PDF

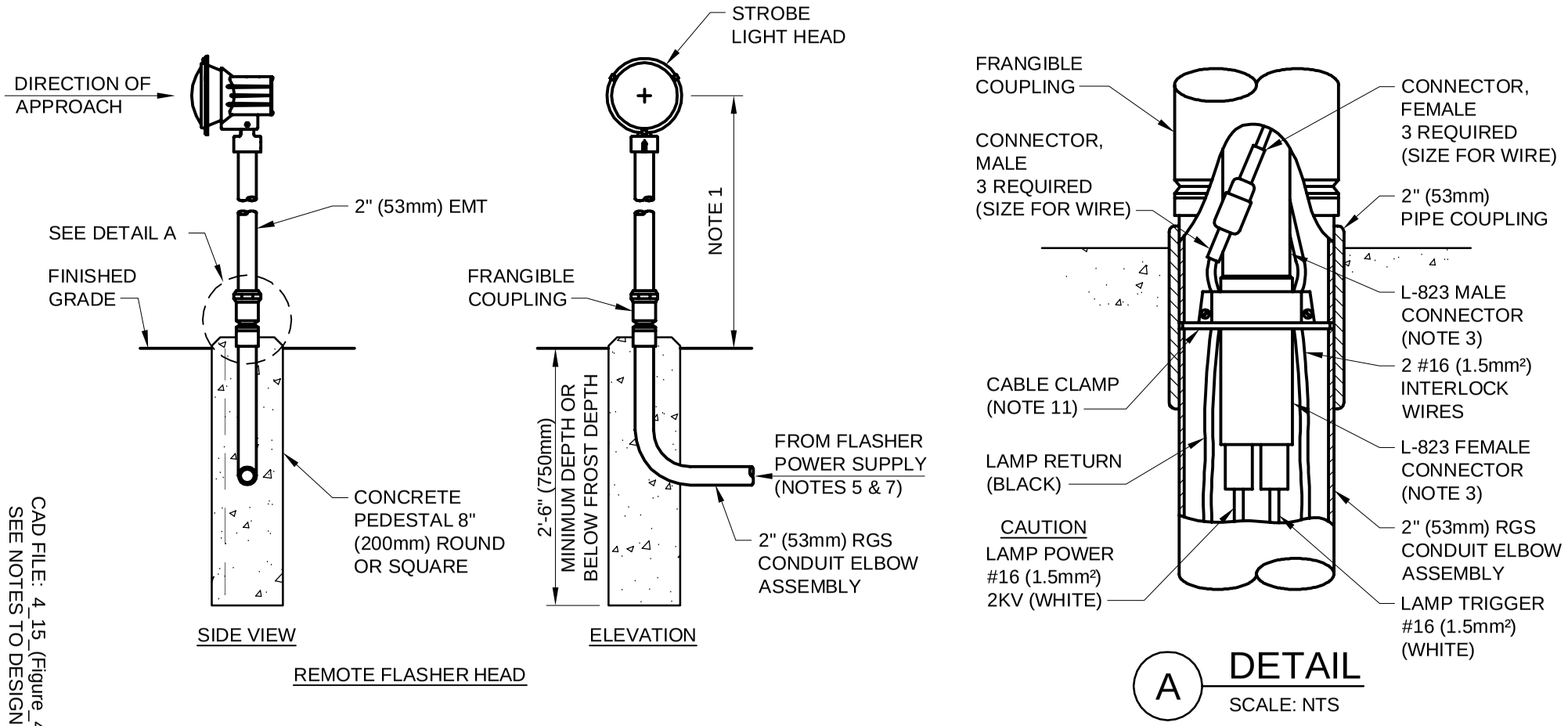


SSALR APPROACH LIGHT SYSTEM CONFIGURATION

SCALE: NTS

REFERENCE FIGURE: 44B

CAD FILE: 4_14B_(Figure_44B)_SSALR__Approach_Light_System_Configuration.dwg
SEE NOTES TO DESIGNER FILE: 4_14B (Figure 44B)-NTD.PDF



REMOTE FLASHER INSTALLATION 6'-0" (1828mm) MAX

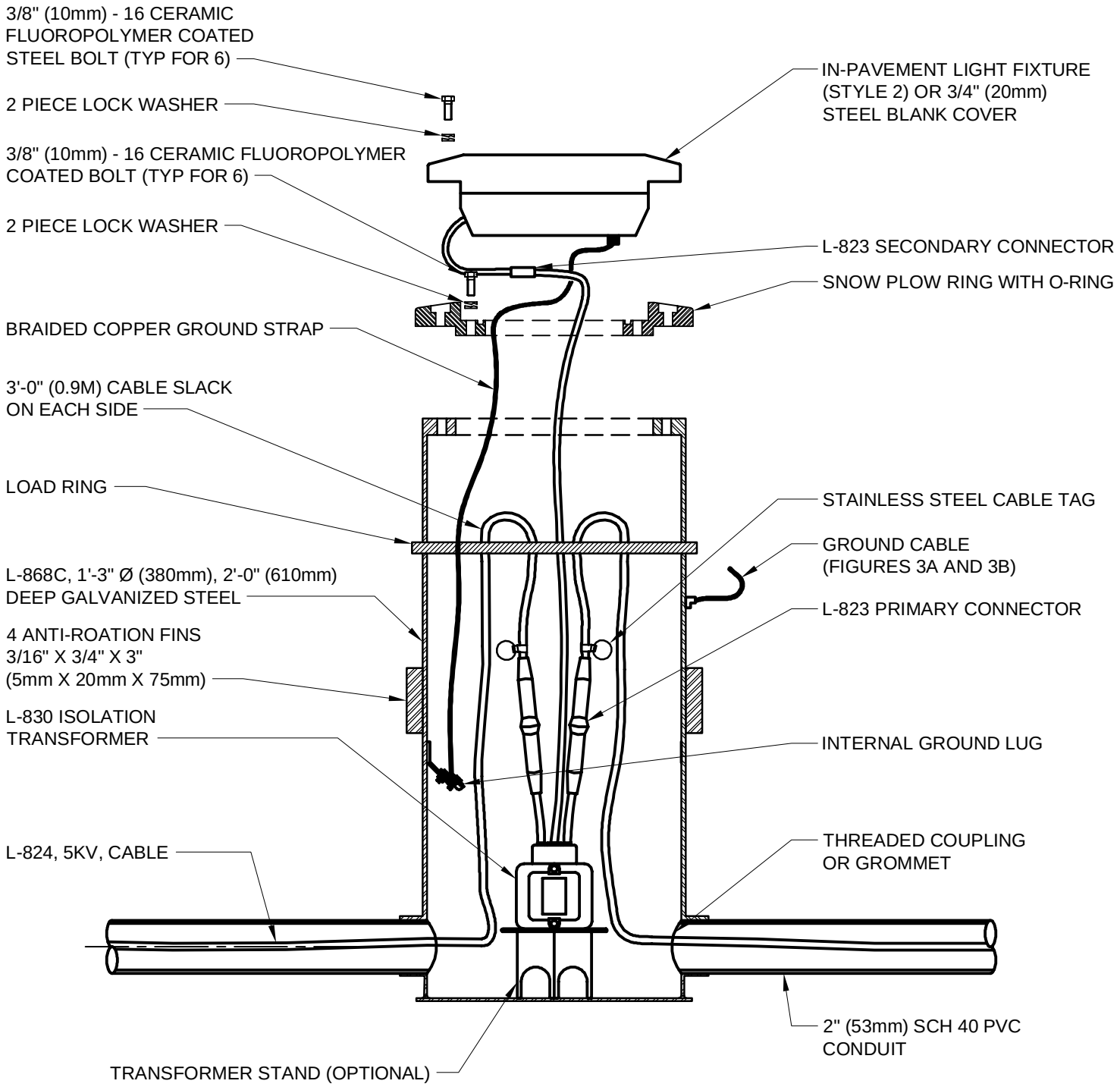
SCALE: NTS

REFERENCE FIGURE: 45

CAD FILE: 4_15_(Figure_45)_Remote_Flasher_Installation.dwg
SEE NOTES TO DESIGNER FILE: 4_15 (Figure 45)-NTD.PDF

DRAWING NOTES - FIGURE 45:

1. MAXIMUM MOUNTING HEIGHT OF CONFIGURATION INDICATED IS 5'-11" (1.775M) FOR MOUNTING INSTALLATION OF MORE THAN 6'-0" (1800mm) SEE TOWER INSTALLATION DETAILS.
2. TERMINATE ALL CONDUITS WITH A STANDARD GROUNDING BUSHING.
3. CONNECTION MUST BE CLEAN AND DRY WITH A LIGHT COATING OF SILICONE GREASE ONLY.
4. CONTINUITY OF POWER CABLES MUST BE MAINTAINED BETWEEN FLASHER STATIONS. WHERE SPLICES ARE REQUIRED, THEY MUST BE EPOXY RESIN TYPE WITH PLASTIC SHELL. EQUIP CONDUCTORS WITH MECHANICAL WIRE CLAMPS.
5. GROUND CLEARANCE OF ELECTRICAL BOXES MUST BE DETERMINED IN FIELD, AND MUST BE 8" (200mm) MINIMUM.
6. FLASHER POWER SUPPLY / JUNCTION BOX UNIT MUST BE LOCATED 35' (10.5M) FROM EXTENDED CENTERLINE OF RUNWAY.
7. INSERT LAMP RETURN WIRE INTO CABLE CLAMP PRIOR TO FINAL ASSEMBLY/TIGHTENING.



IN-PAVEMENT HIGH INTENSITY APPROACH LIGHT BAR - SECTION VIEW MATERIALS

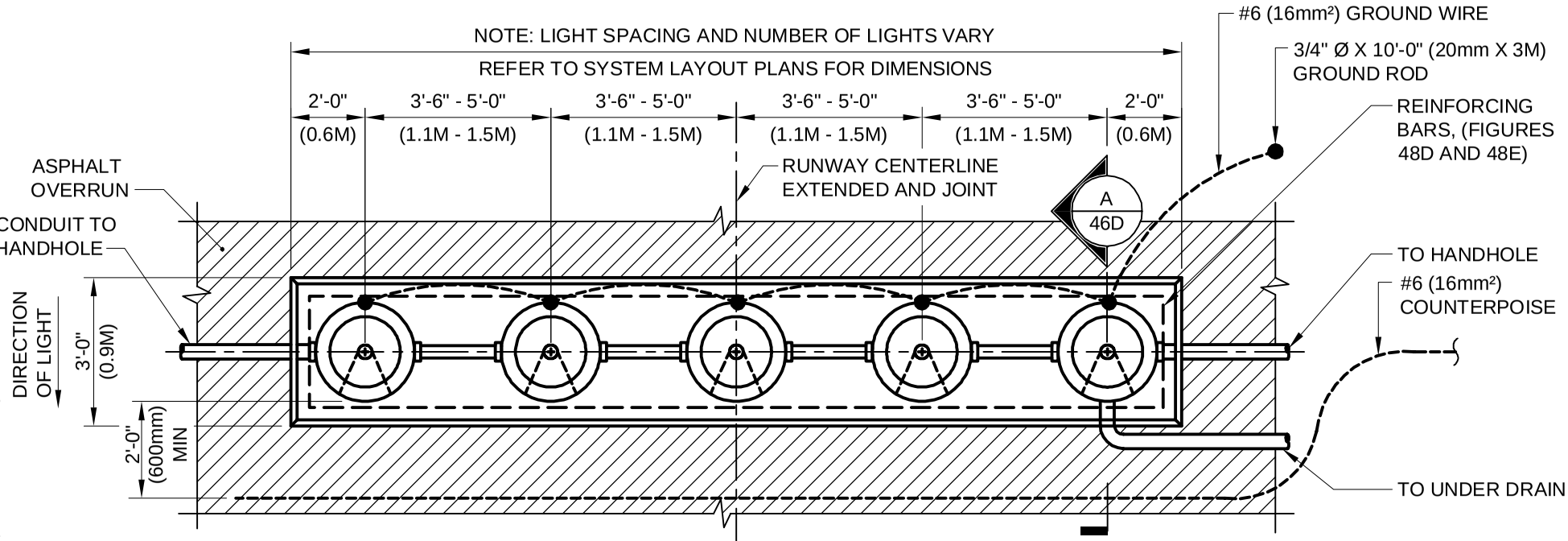
1

SCALE: NTS

REFERENCE FIGURE: 46A

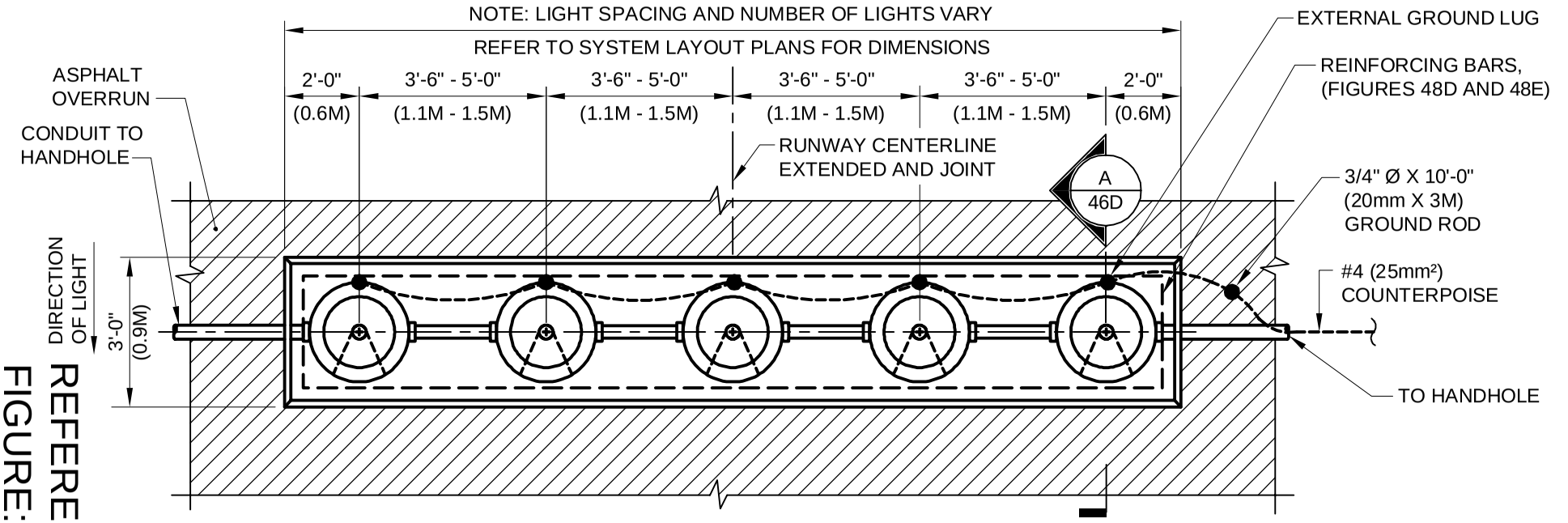
CAD FILE: 4_16_(Figure_46A)_In_Pavement_High_Intensity_Approach_Light_Bar_ Section_View_Materials.dwg

SEE NOTES TO DESIGNER FILE: 4 16 (Figure 46A)-NTD.PDF



2 GROUNDING CONNECTIONS (AIR FORCE AND ARMY PROJECTS)

SCALE: NTS



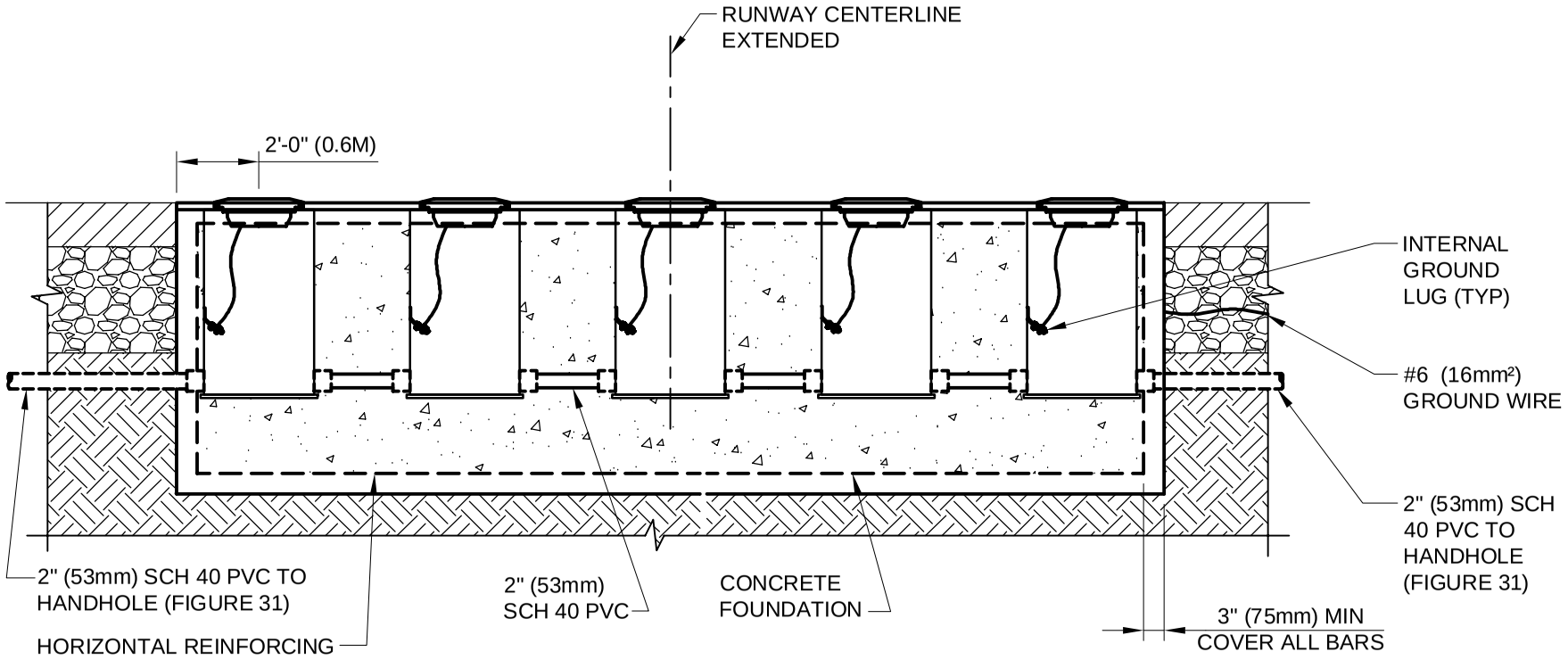
3 GROUNDING CONNECTIONS (NAVY PROJECTS)

SCALE: NTS

REFERENCE FIGURE: 46B

CAD FILE: 4_16_(Figure_46B)_Grounding_Connections_(Air_Force_Army_Navy_Projects).dwg

SEE NOTES TO DESIGNER FILE: 4_16 (Figure 46B)-NTD.PDF

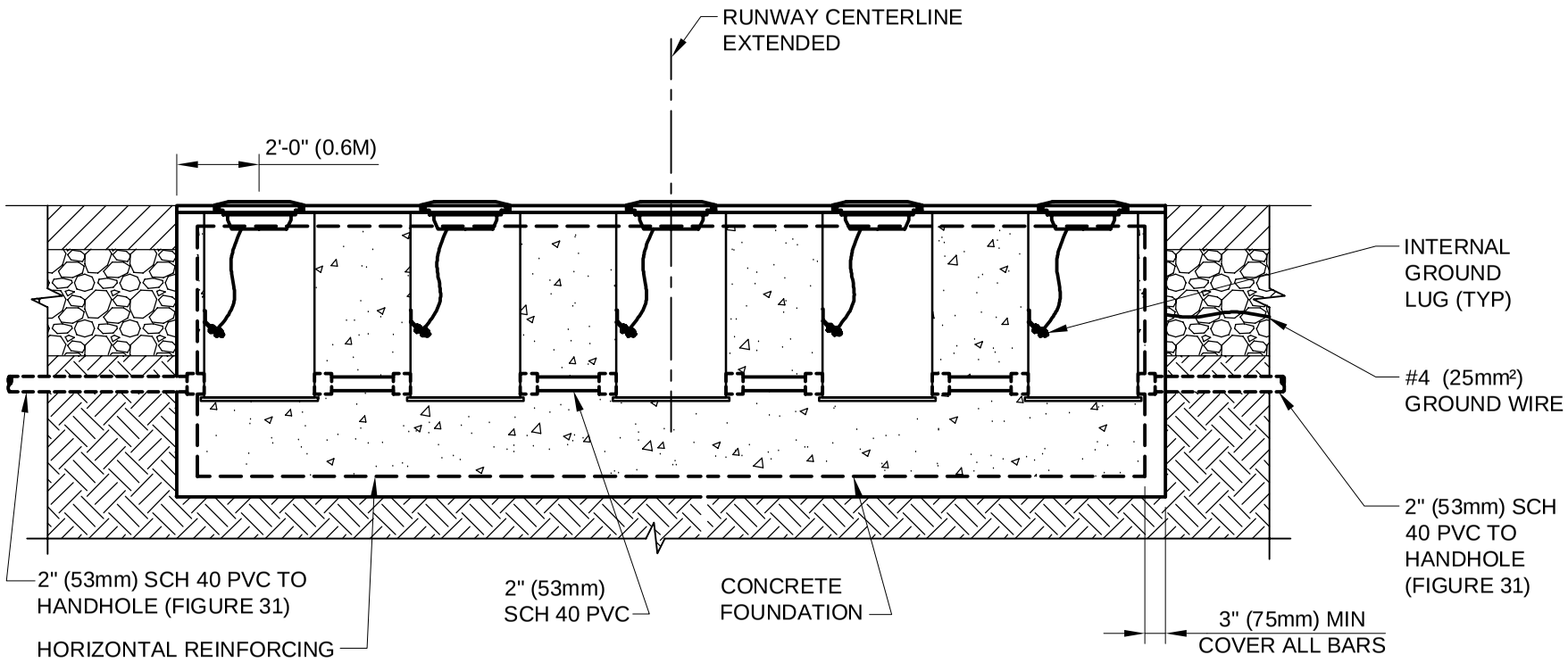


4 TYPICAL HIGH INTENSITY APPROACH LIGHT BAR (AIR FORCE/ ARMY)

SCALE: NTS

REFERENCE
FIGURE: 46C

CAD FILE: 4_16_(Figure_46C)_Typical_High_Intensity_Approach_Light_Bar_Air_Force_Navy.dwg
SEE NOTES TO DESIGNER FILE: 4_16 (Figure 46C)-NTD.PDF



5 TYPICAL HIGH INTENSITY APPROACH LIGHT BAR (NAVY)

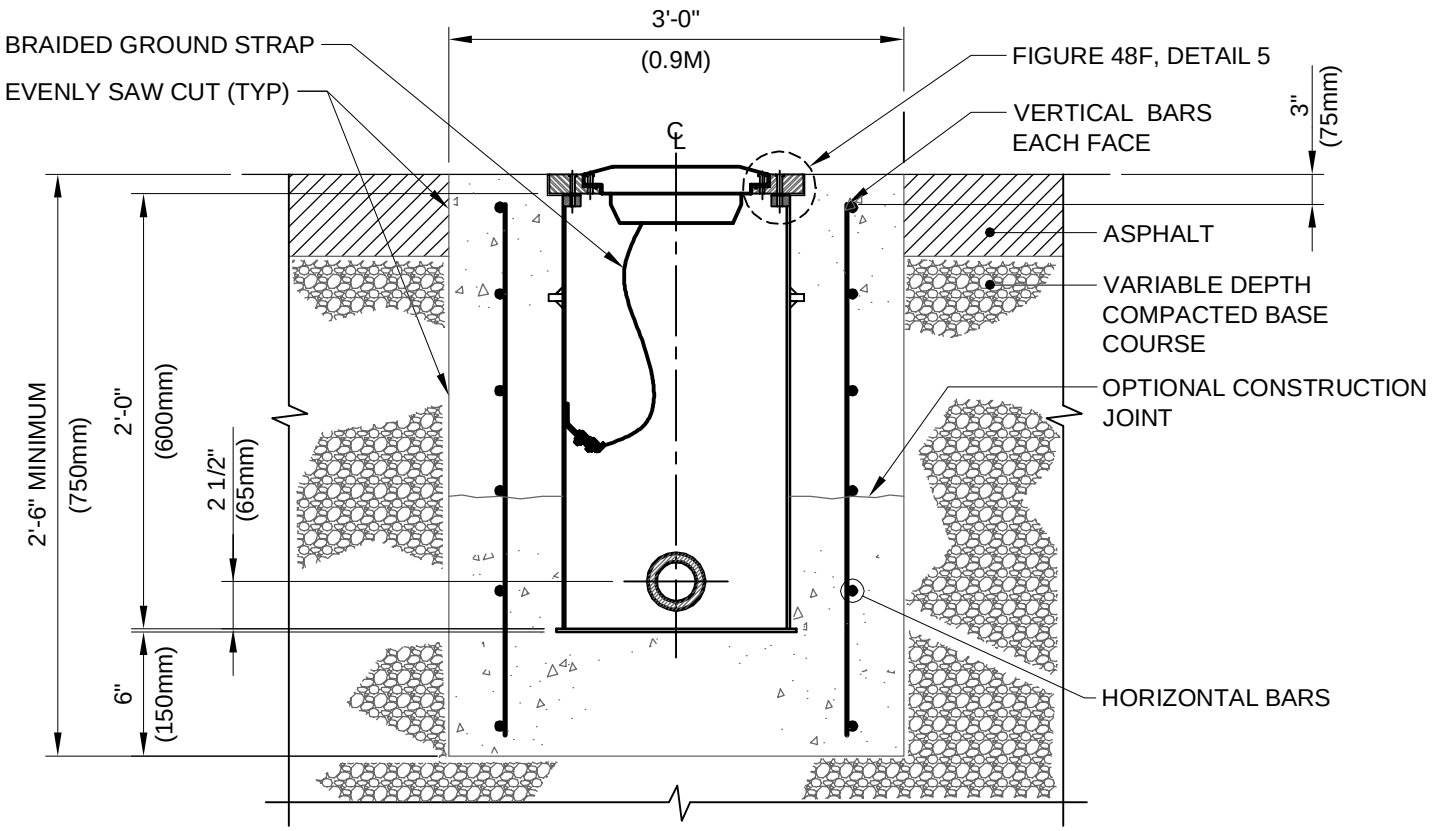
SCALE: NTS

REFERENCE
FIGURE: 46D

CAD FILE: 4_16_(Figure_46D)_Typical_High_Intensity_Approach_Light_Bar_Navy.dwg
SEE NOTES TO DESIGNER FILE: 4_16 (Figure 46D)-NTD.PDF

DRAWING NOTES - FIGURE 46D:

1. SET THE LIGHT BASE THAT MIMIC EXACT DIAMETER AND THICKNESS OF SNOW RING. COMPLETELY WRAP PLYWOOD COVER IN ROOFING PAPER. SEE FIGURES 46E AND 46F.
2. LIGHT BASES MUST MEET OR EXCEED TO AC 150/5345-42, SPECIFICATION FOR AIRPORT LIGHT BASES AND TRANSFORMER HOUSING, TYPE L-868.
3. THE CONTRACTOR MUST PROVIDE 3/8" (10mm) -16 × 1-1/4" (30mm) LONG STAINLESS STEEL BOLTS AND STAINLESS STEEL SPLIT LOCK-WASHERS FOR BOLTING SNOW PLOW RING TO L-868 BASE CAN.
4. FILL SPACE WITH SEALING COMPOUND P-606 FOR CONCRETE OR FLEXIBLE PAVEMENT. PROVIDE CERTIFICATION THAT SEALER IS COMPATIBLE WITH PAVEMENT TYPE.
5. SEAL UNUSED HOLE IN LIGHT BASES WITH PIPE PLUGS.

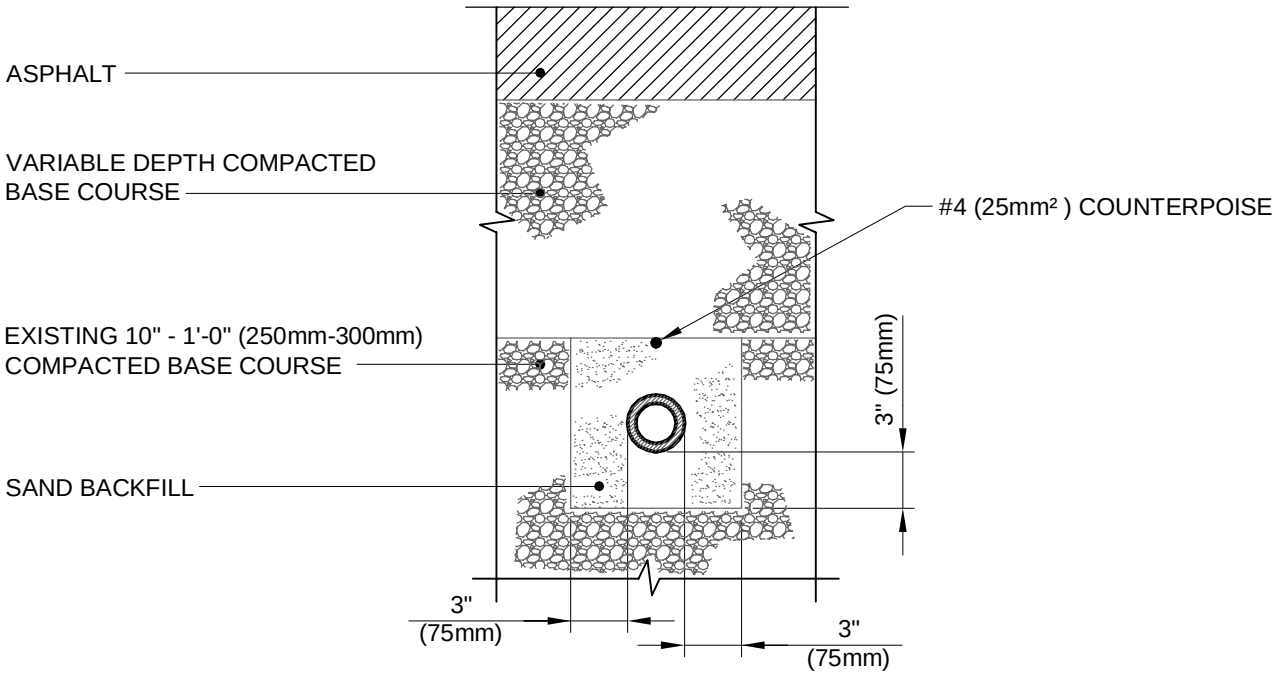


NOTE:
TRANSVERSE SECTION VIEW SIMILAR TO LONGITUDINAL SECTION VIEW.

IN-PAVEMENT HIGH INTENSITY APPROACH LIGHT BAR

A / 46B SECTION

SCALE: NTS



6 CONDUIT INSTALLATION

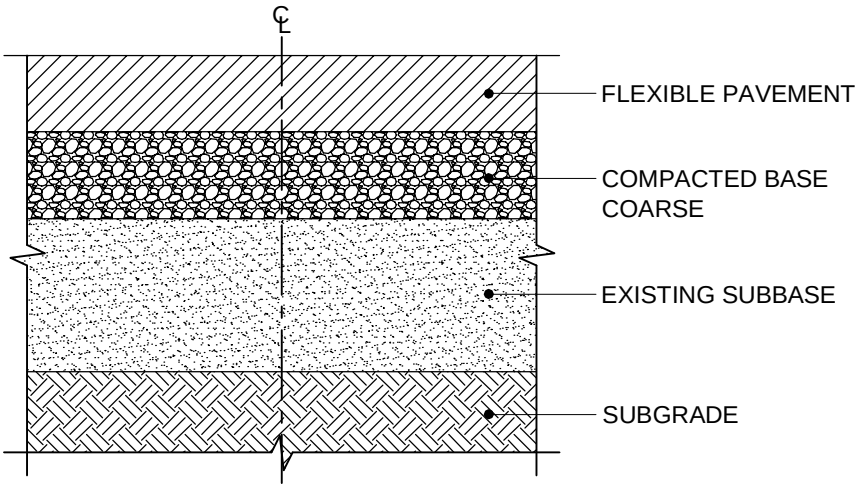
SCALE: NTS

REFERENCE
FIGURE: 46E

CAD FILE: 4_16_(Figure_46E)_In-Pavement_High_Intensity_Approach_Light_Bar_Conduit_Installation.dwg
SEE NOTES TO DESIGNER FILE: 4_16 (Figure 46E)-NTD.PDF

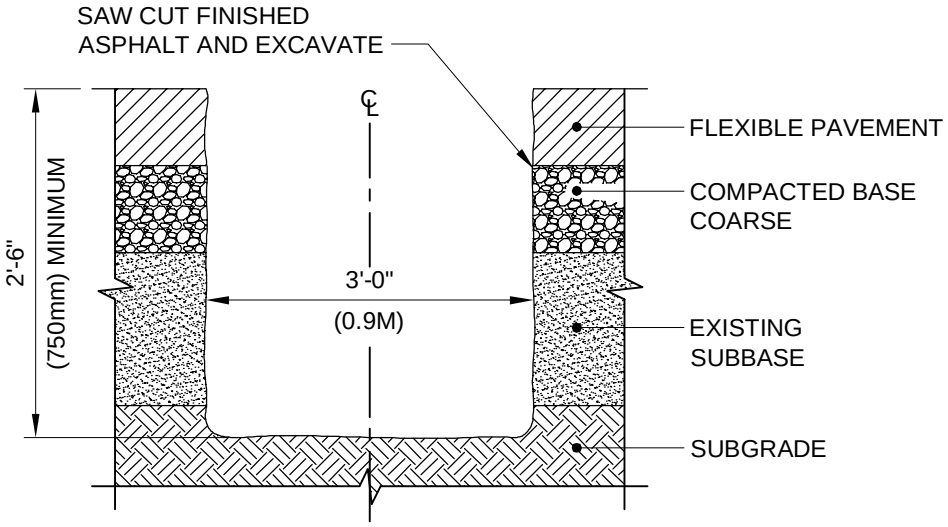
DRAWING NOTES - FIGURE 46E:

1. DETAILS FOR HIGH INTENSITY APPROACH IN-PAVEMENT LIGHT FIXTURE/BASE CAN ONLY. INSTALLATION METHODOLOGY INDICATED FOR CONTRACTOR INFORMATION ONLY. THE METHODOLOGY INDICATED ON THIS SHEET IS GENERAL IN NATURE. FINAL INSTALLATION METHODOLOGY MUST BE DETERMINED BY THE CONTRACTOR.
2. SEE CIVIL PLANS FOR TYPICAL PAVEMENT SECTION.



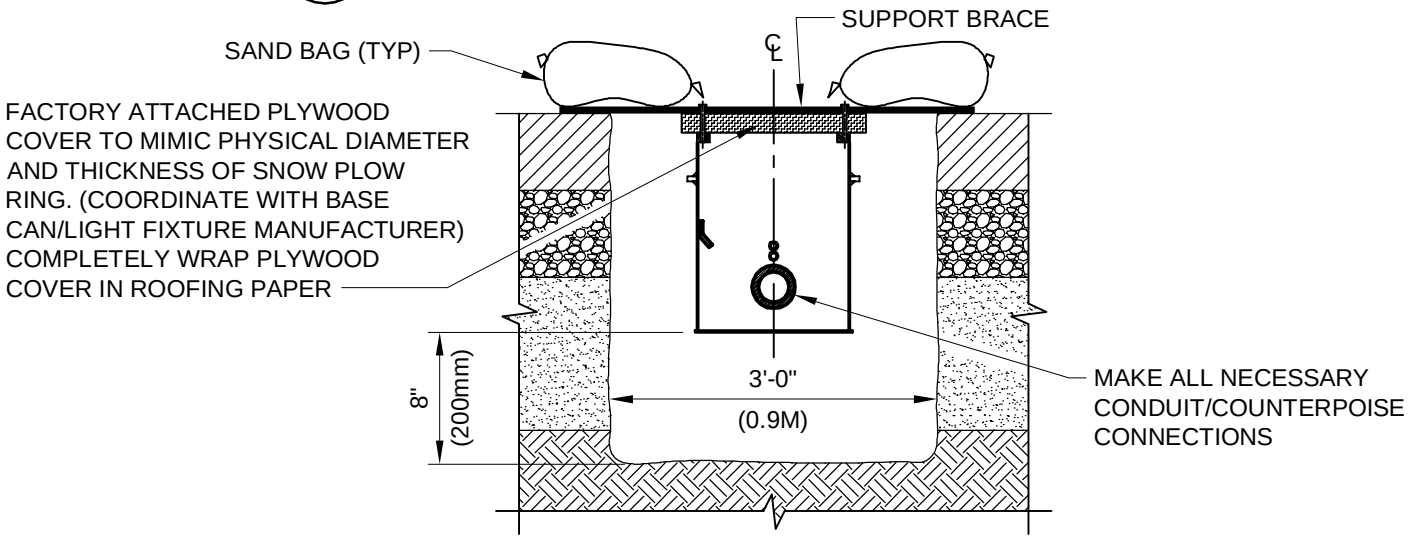
1 EXISTING CONDITIONS BEFORE TRENCHING

SCALE: NTS



2 SAWCUT ASPHALT AND TRENCH

SCALE: NTS



3 SET L-868 BASE CAN AND FRAMEWORK

SCALE: NTS

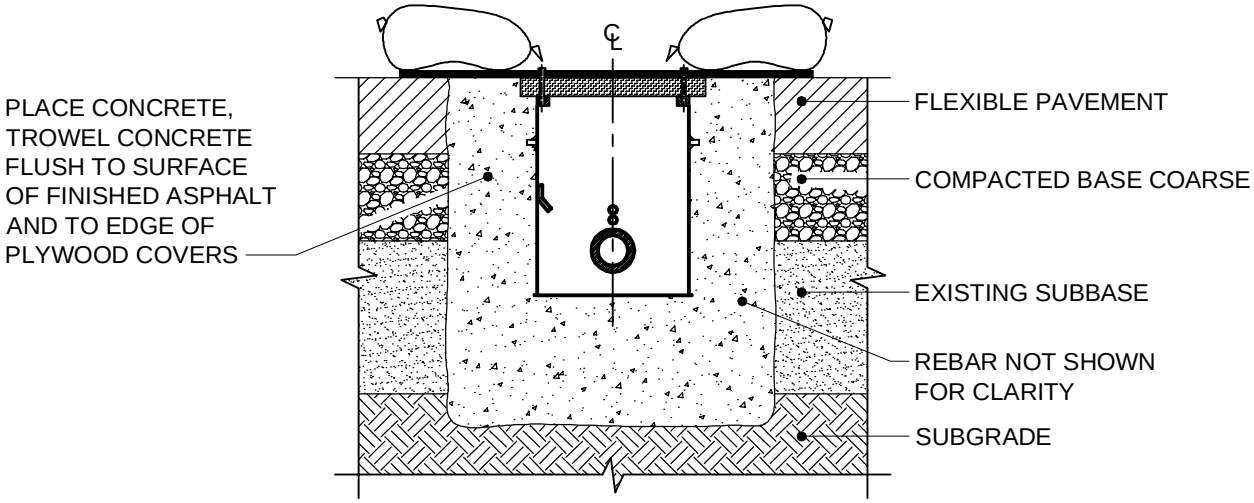
REFERENCE FIGURE: 46F

CAD FILE: 4_16_(Figure_46F)_Exst_Conditions_Trenching_Sawcut_Asphalt_Trench_L_868_Base_Can_Framework.dwg

SEE NOTES TO DESIGNER FILE: 4_16 (Figure 46F)-NTD.PDF

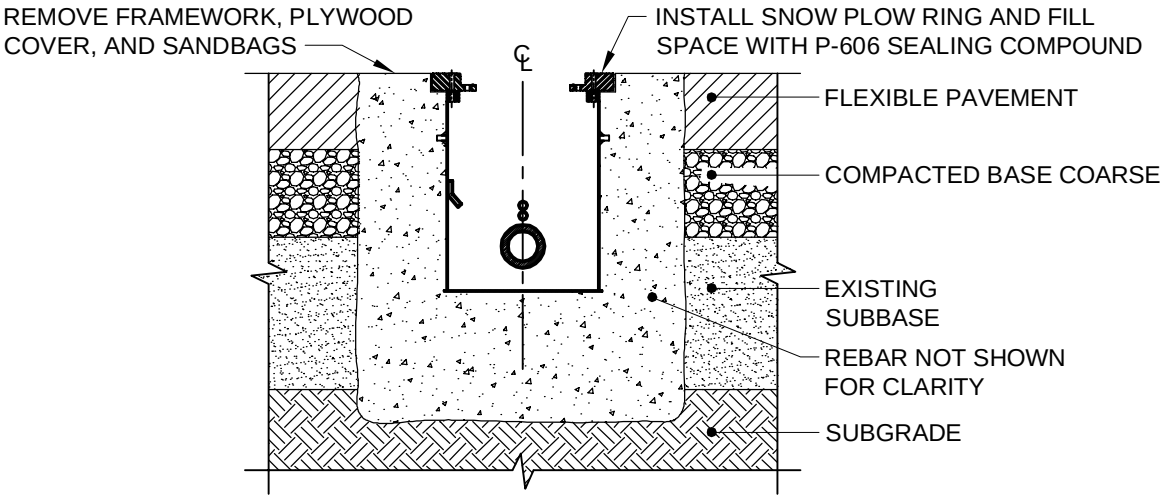
DRAWING NOTES - FIGURE 46F:

1. DETAILS FOR HIGH INTENSITY APPROACH IN-PAVEMENT LIGHT FIXTURE/BASE CAN ONLY. INSTALLATION METHODOLOGY INDICATED FOR CONTRACTOR INFORMATION ONLY. THE METHODOLOGY INDICATED ON THIS SHEET IS GENERAL IN NATURE. FINAL INSTALLATION METHODOLOGY MUST BE DETERMINED BY THE CONTRACTOR.
2. SEE CIVIL PLANS FOR TYPICAL PAVEMENT SECTION.



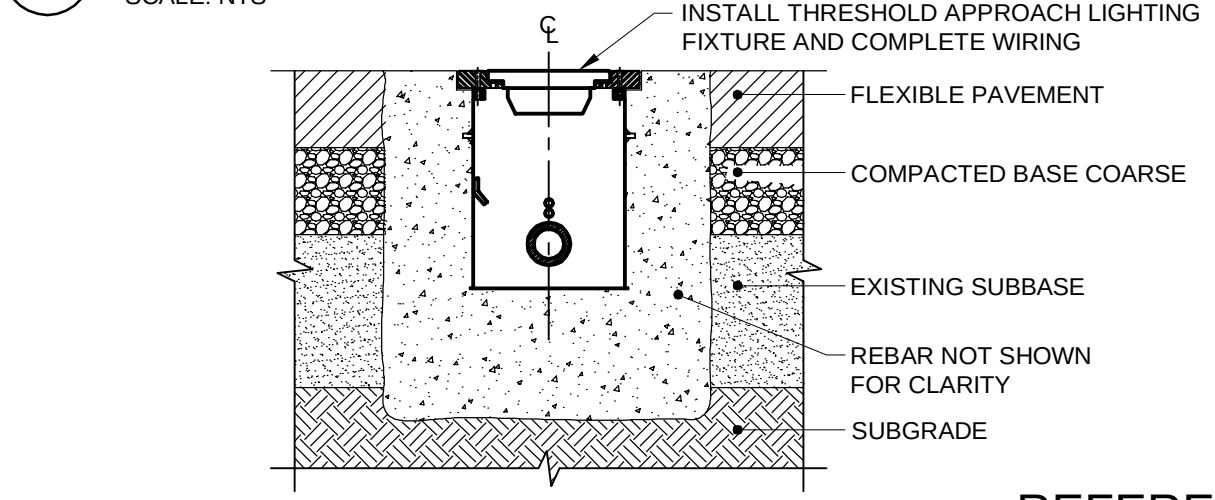
4 PLACE CONCRETE AND LEVEL FLUSH TO FINISHED ASPHALT

SCALE: NTS



5 REMOVE BRACE/PLYWOOD COVER AND INSTALL SNOW PLOW RING

SCALE: NTS



6 BASE CAN IN PLACE

SCALE: NTS

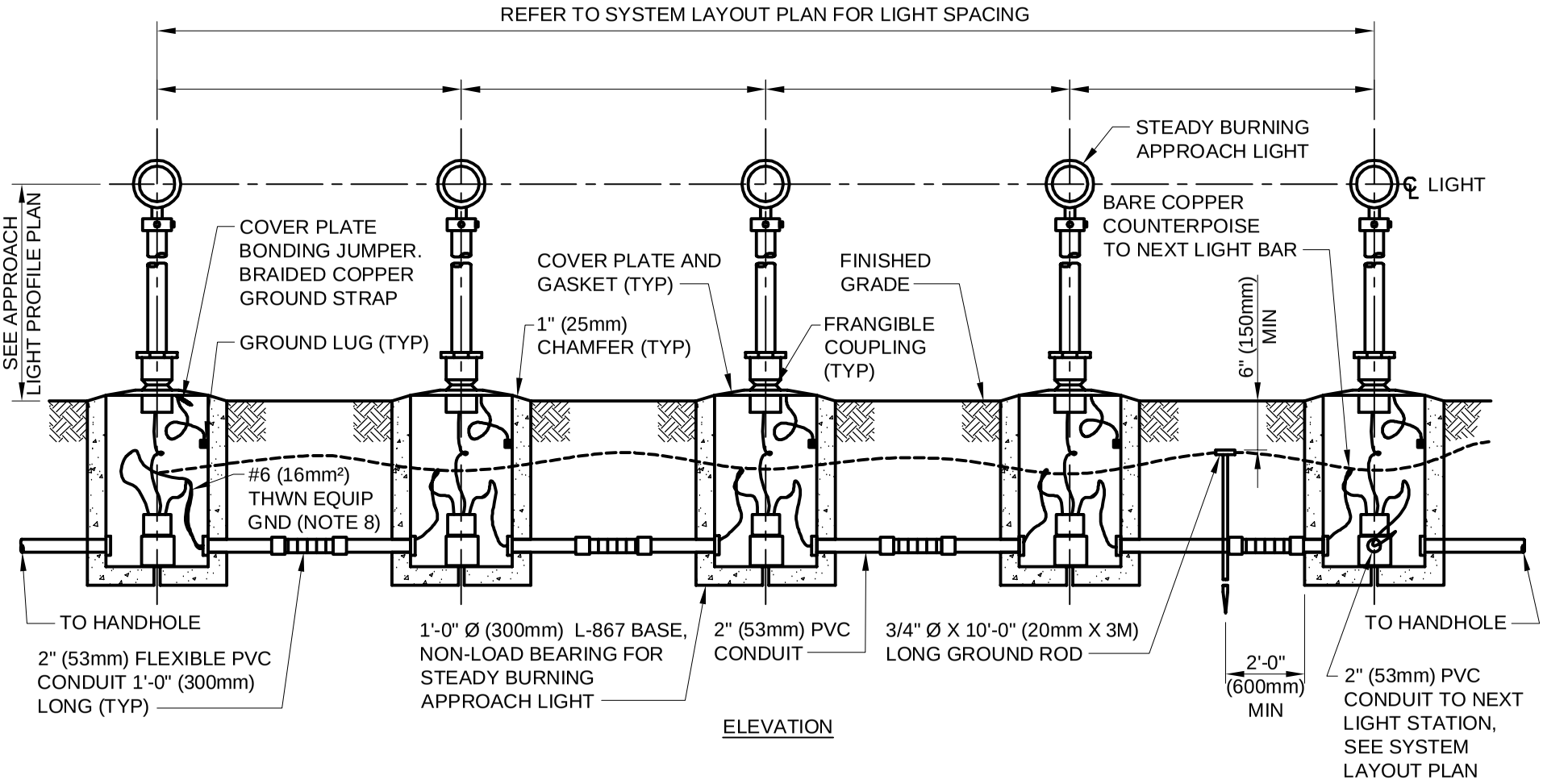
REFERENCE FIGURE: 46G

CAD FILE: 4_16_(Figure_46G)_Finished_Asphalt_Install_Snow_Plow_Ring_Base_Can_In_Place.dwg

SEE NOTES TO DESIGNER FILE: 4 16 (Figure 46G)-NTD.PDF

DRAWING NOTES - FIGURE 46G:

1. DETAILS FOR HIGH INTENSITY APPROACH IN-PAVEMENT LIGHT FIXTURE/BASE CAN ONLY. INSTALLATION METHODOLOGY SHOWN FOR INSTALLER INFORMATION ONLY. THE METHODOLOGY SHOWN ON THIS SHEET IS GENERAL IN NATURE. FINAL INSTALLATION METHODOLOGY MUST BE DETERMINED BY THE INSTALLER.
2. SEE CIVIL PLANS FOR TYPICAL PAVEMENT SECTION.



TYPICAL ELEVATED HIGH INTENSITY APPROACH LIGHT BAR 0' TO 6'-0" (0mm TO 1800mm) MAXIMUM

SCALE: NTS

REFERENCE FIGURE: 47

CAD FILE: 4_17_(Figure_47)_Typical_Elevated_High_Intensity_Approach_Light_Bar.dwg
SEE NOTES TO DESIGNER FILE: 4_17 (Figure 47)-NTD.PDF

DRAWING NOTES - FIGURE 47:

1. PLACE ALL ELEVATED LIGHT FIXTURES ON 12" (305mm) L-867, NON-LOAD BEARING BASES.
2. MAXIMUM MOUNTING HEIGHT OF CONFIGURATION INDICATED IS 6'-0" (1800mm). FOR MOUNTING INSTALLATION OF MORE THAN 6'-0" (1800mm), SEE TOWER INSTALLATION DETAILS.

SYMBOL LEGEND:

BIDIRECTIONAL FIXTURE RED/GREEN

UNIDIRECTIONAL FIXTURE GREEN

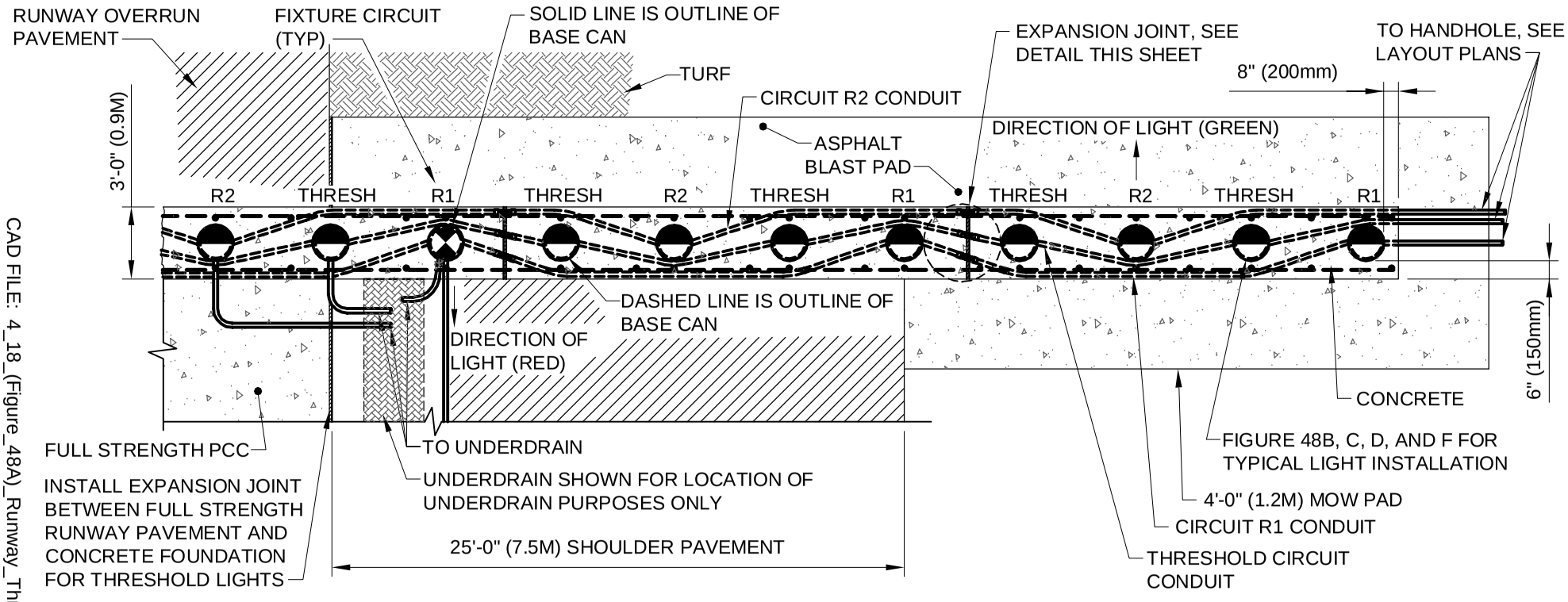
2" (53mm) SCH 40 PVC OR HDPE CONDUIT

SYMBOL LEGEND:

R1 - EDGE CIRCUIT #1

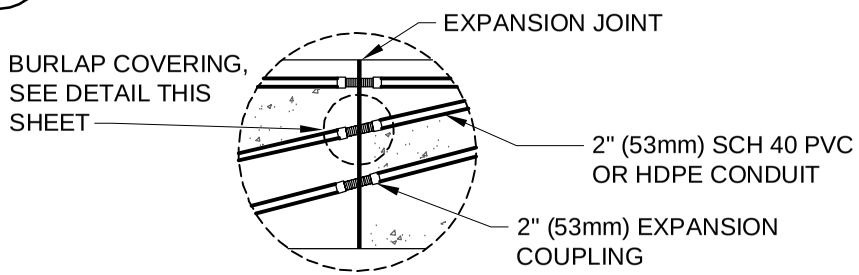
R2 - EDGE CIRCUIT #2

THRESH - THRESHOLD CIRCUIT



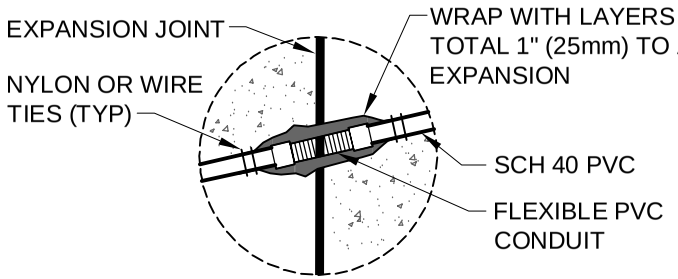
1 RUNWAY THRESHOLD WING BAR LIGHT FOUNDATION - PLAN VIEW

SCALE: NTS



EXPANSION JOINT DETAIL

(TYPICAL 1 OF 12)
SCALE: NTS



BURLAP COVERING DETAIL

SCALE: NTS

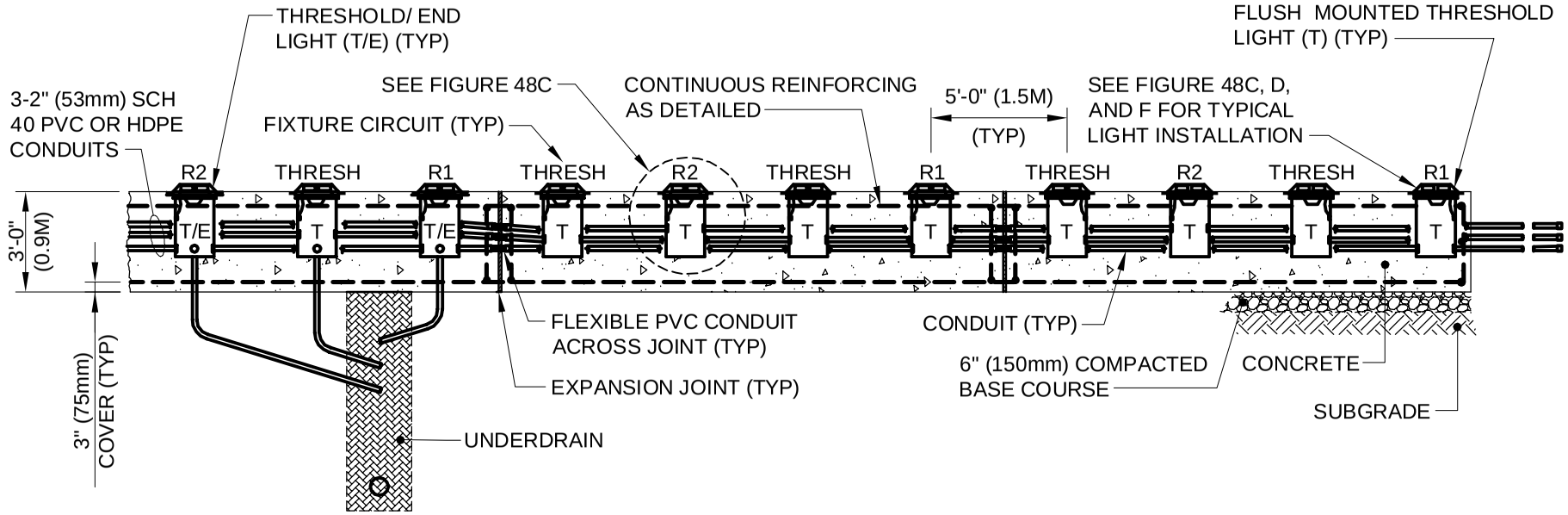
REFERENCE FIGURE: 48A

CAD FILE: 4_18_(Figure_48A)_Runway_Threshold_Wing_Bar_Light_Foundation_Plan.dwg

SEE NOTES TO DESIGNER FILE: 4 18 (Figure 48A)-NTD.PDF

DRAWING NOTES - FIGURE 48A:

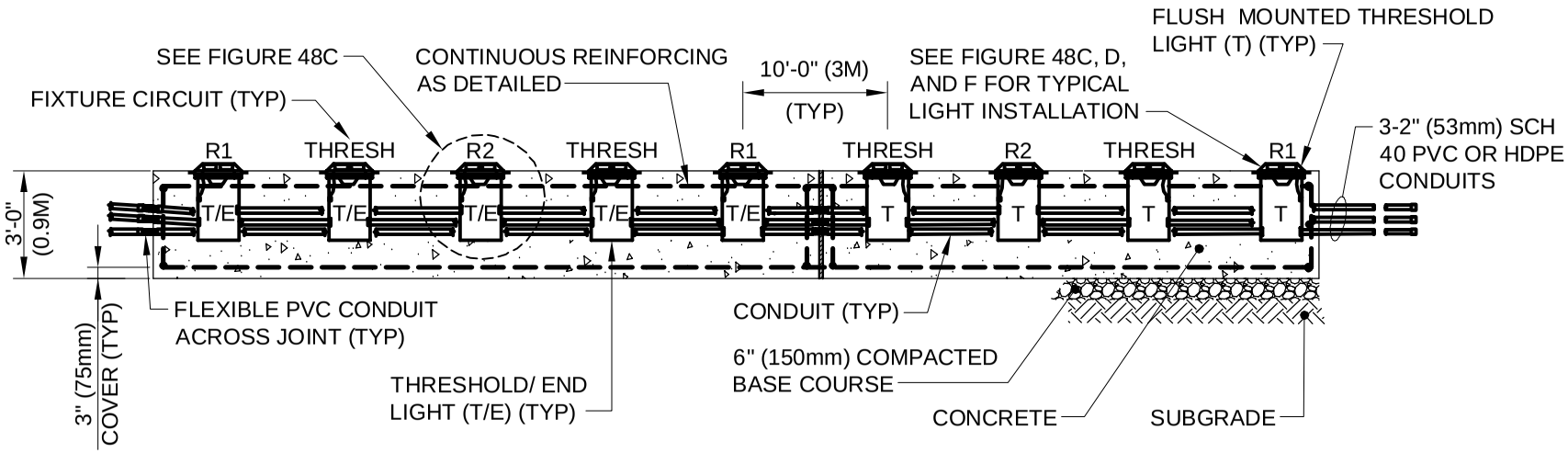
1. NOT ALL FIXTURES IN THRESHOLD BAR ARE INDICATED FOR CLARITY. THRESHOLD BAR CONTINUES ACROSS RUNWAY AND IS SYMMETRICAL ABOUT RUNWAY CENTERLINE.
2. INTERWEAVE CONDUITS AS INDICATED.
3. REFER TO FIGURE 56 FOR TYPICAL WIRING DIAGRAM.



RUNWAY THRESHOLD WING BAR LIGHT FOUNDATION - ELEVATION VIEW (AIR FORCE)

2

SCALE: NTS



RUNWAY THRESHOLD WING BAR LIGHT FOUNDATION - ELEVATION VIEW (NAVY)

3

SCALE: NTS

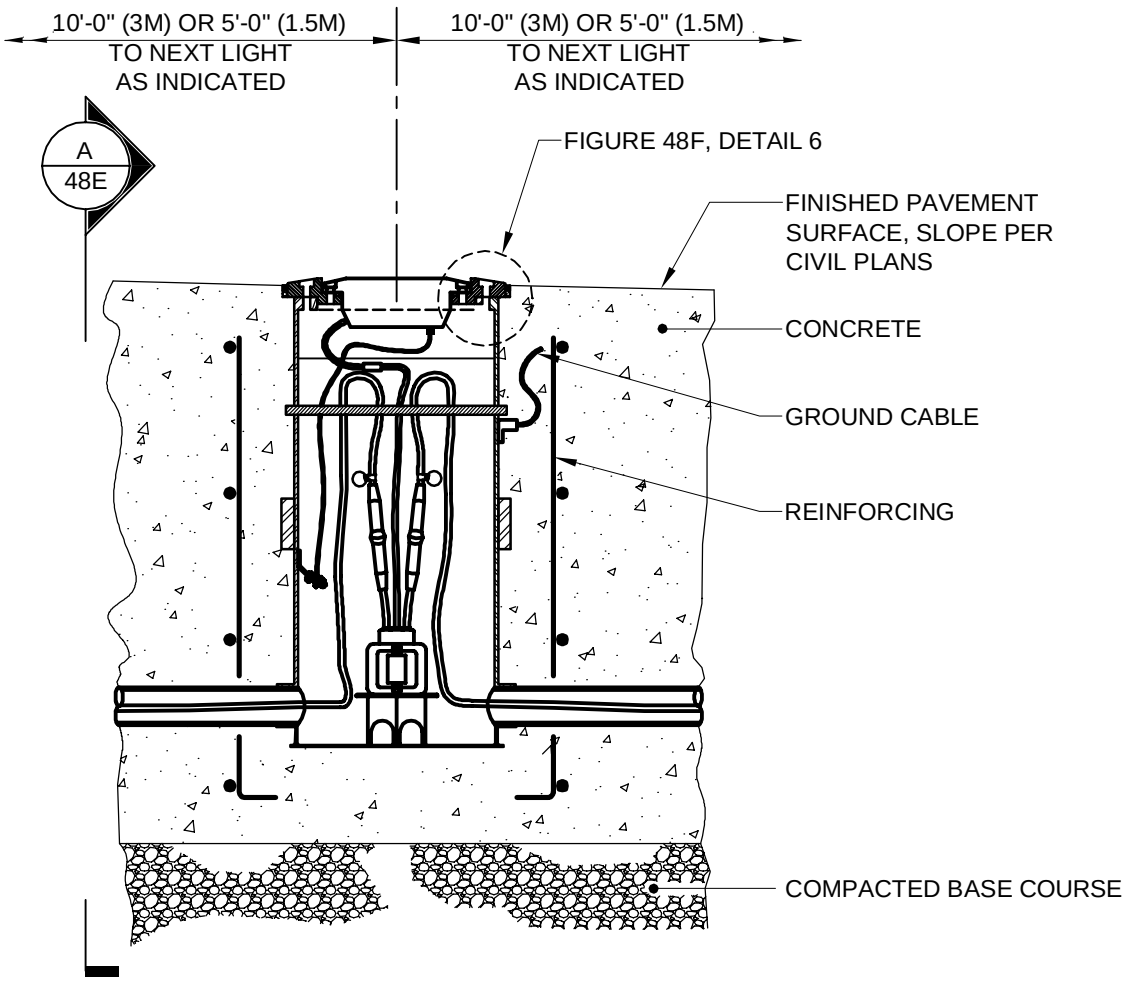
REFERENCE FIGURE: 48B

CAD FILE: 4_18_(Figure_48B)_Runway_Threshold_Wing_Bar_Light_Foundation_Elevation.dwg

SEE NOTES TO DESIGNER FILE: 4 18 (Figure 48B)-NTD.PDF

DRAWING NOTES - FIGURE 48B:

1. NOT ALL FIXTURES IN THRESHOLD BAR ARE INDICATED FOR CLARITY. THRESHOLD BAR CONTINUES ACROSS RUNWAY AND IS SYMMETRICAL ABOUT RUNWAY CENTERLINE.
2. INTERWEAVE CONDUITS AS INDICATED.
3. REFER TO FIGURE 56 FOR TYPICAL WIRING DIAGRAM.

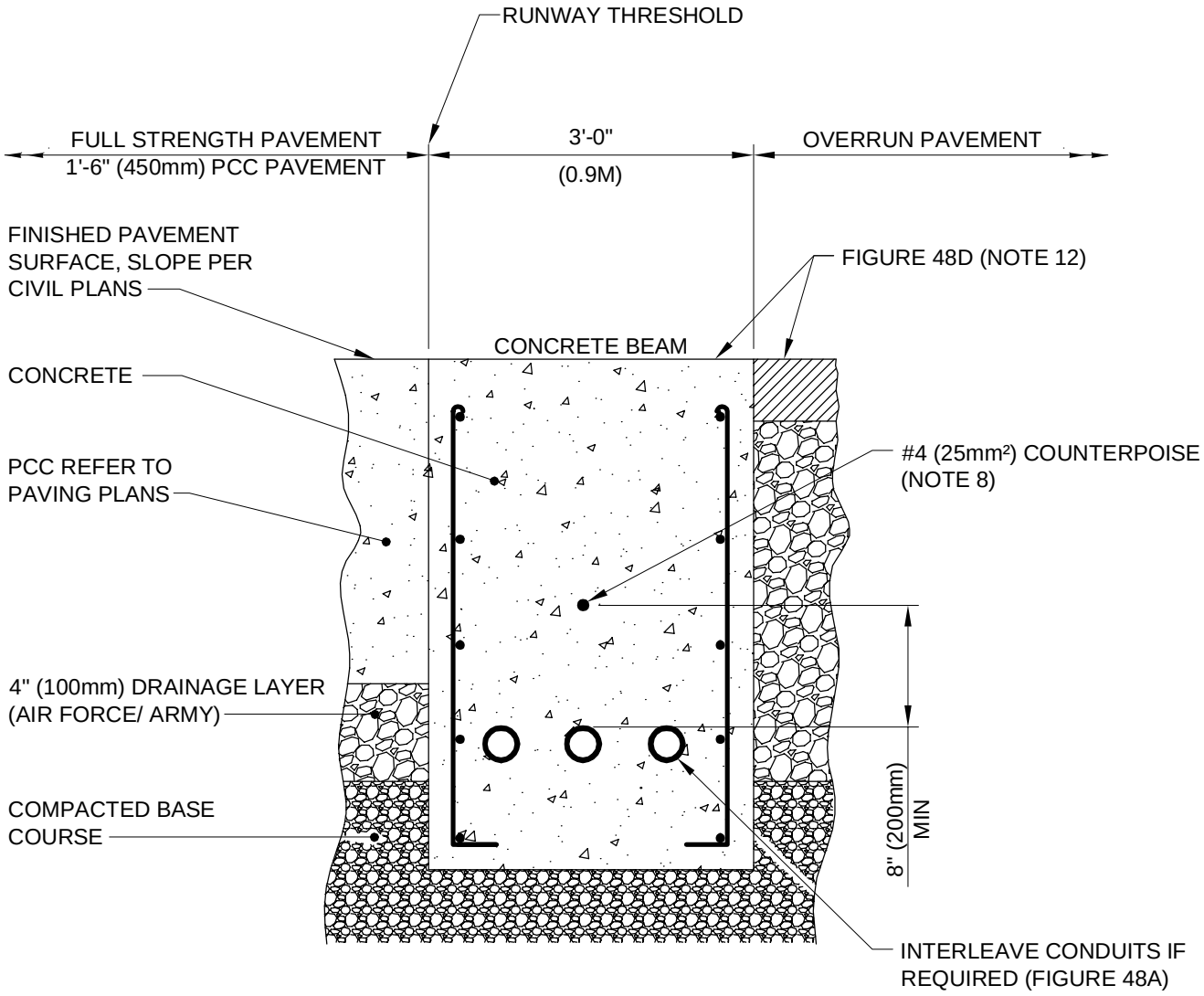


4 THRESHOLD LIGHT IN CONCRETE BEAM

SCALE: NTS

REFERENCE
FIGURE: 48C

CAD FILE: 4_18_(Figure_48C)_Threshold_Light_In_Concrete_Beam.dwg
SEE NOTES TO DESIGNER TXT FILE: 4_18 (Figure 48C)-NTD.PDF



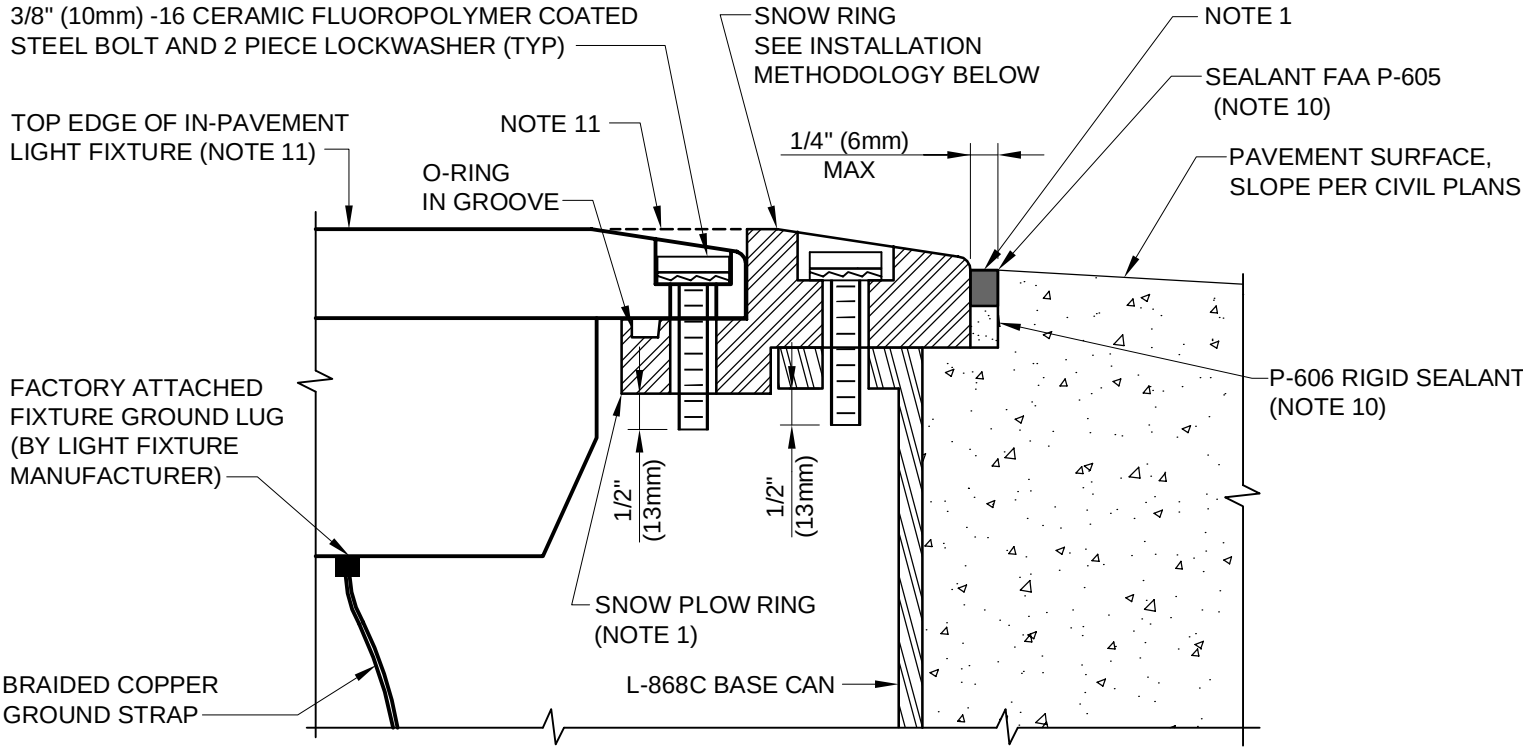
A
48D

SECTION

SCALE: NTS

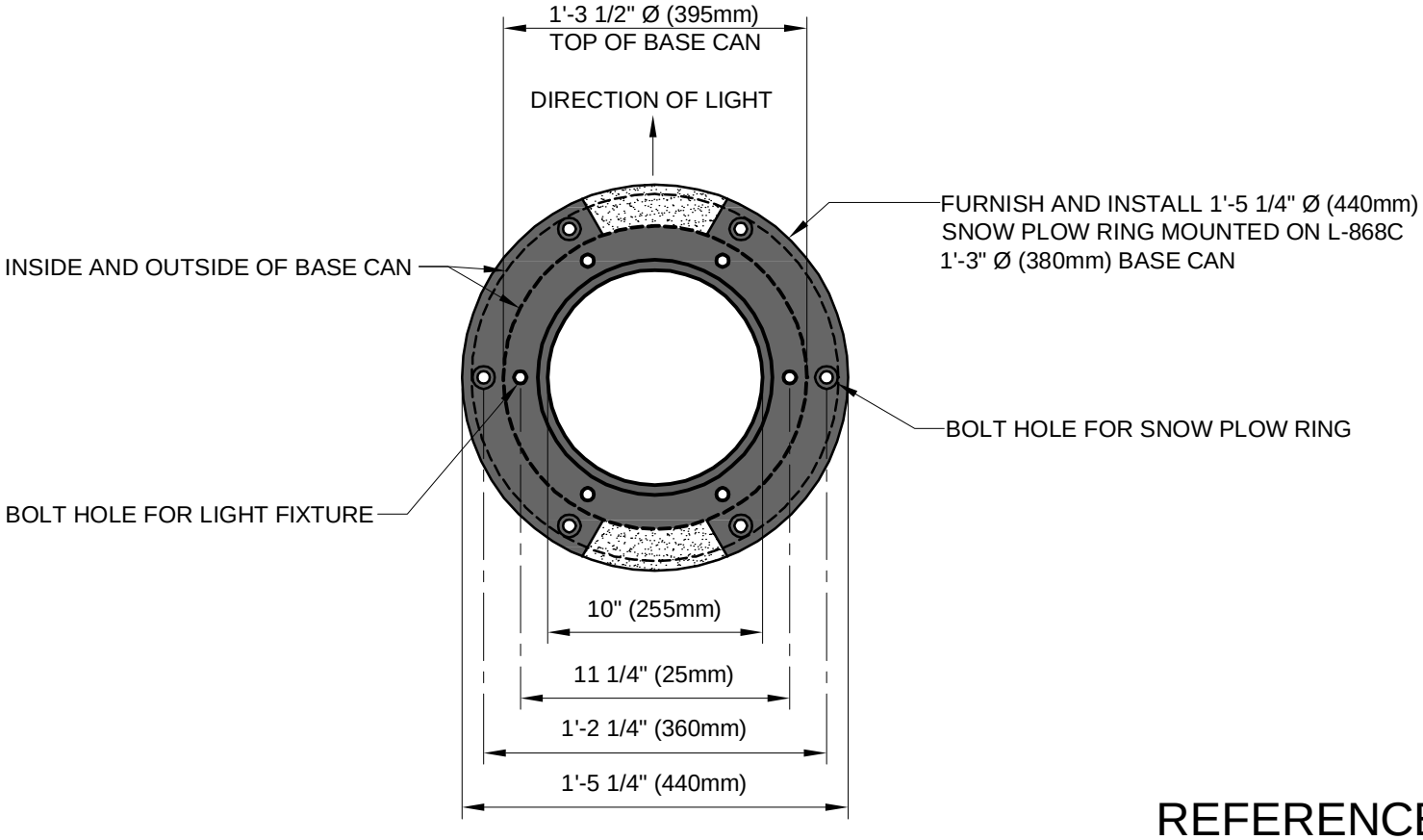
REFERENCE FIGURE: 48D

CAD FILE: 4_18_(Figure_48D)_Concrete_Beam_Section.dwg
SEE NOTES TO DESIGNER TXT FILE: 4_18 (Figure 48D)-NTD.PDF



5 MOUNTING HARDWARE

SCALE: NTS



6 TOP VIEW

SCALE: NTS

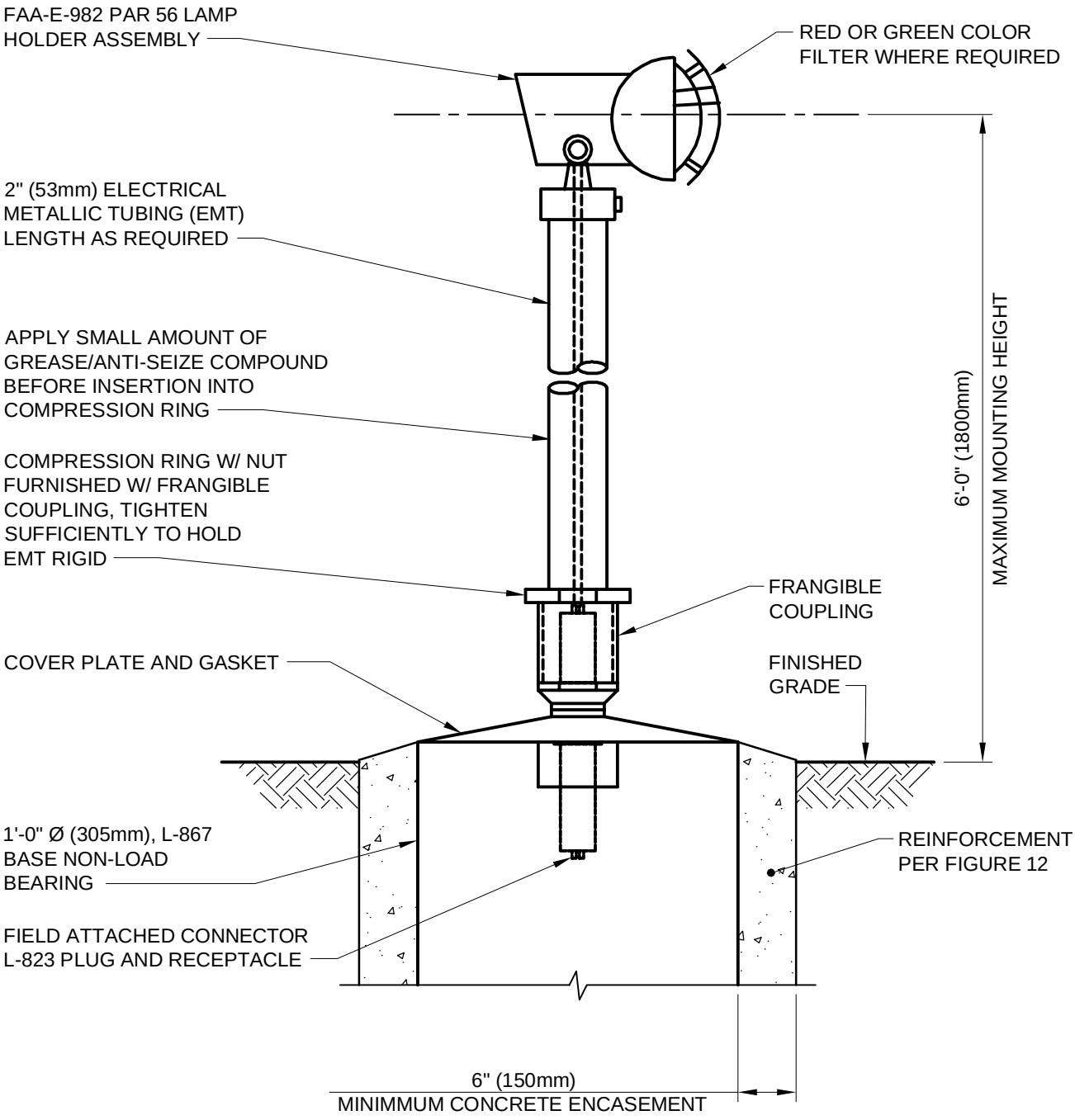
REFERENCE FIGURE: 48E

CAD FILE: 4_18_(Figure_48E)_Mounting_Hardware.dwg

SEE NOTES TO DESIGNER FILE: 4_18 (Figure 48E)-NTD.PDF

DRAWING NOTES - FIGURE 48E:

1. INSTALL CORNER EDGE OF SNOW PLOW RING FLUSH WITH PAVEMENT SURFACE WITH A TOLERANCE OF +0", -1/16" (1.6mm). CHECK TOLERANCE WITH STRAIGHT EDGE. SEE FIGURE 19B.
2. SUBMIT ALL BASE CAN INSTALLATION TECHNIQUES, METHODS, MATERIALS, ETC., TO THE GOVERNMENT FOR REVIEW AND APPROVAL PRIOR TO THE START OF WORK.
3. BEFORE BACKFILLING AROUND THE BASE CANS, THE CONTRACTOR MUST DEMONSTRATE TO THE GOVERNMENT THAT THE BASE CANS ARE AT THE CORRECT LOCATION, ELEVATION, AZIMUTH, AND ROTATION.
4. PROTECT THE FINISHED PAVEMENT SURFACE FROM FOREIGN SUBSTANCES WHICH COULD CAUSE STAINING, I.E., CONCRETE, OIL, ETC.. THE CONTRACTOR MUST IMMEDIATELY CLEAN ALL SPILLS AND CORRECT/CLEAN ANY STAINED SURFACES AT NO ADDITIONAL COST TO THE GOVERNMENT.
5. THE BASE CAN COVER MOUNTING BOLTS MUST EXTEND THRU THE BASE CAN MOUNTING FLANGE INTO THE BASE CAN A MINIMUM OF 0.5" (13mm). THE BOLTS MUST BE THREADED THE FULL LENGTH OF THE BOLT.
6. CONCRETE AROUND BASE CANS AND DUCT/CONDUIT MUST BE COMPLETELY CONSOLIDATED BY MECHANICAL MEANS AND FREE OF ANY VOIDS.
7. FOR BLANK BASE CANS, DELETE LIGHT FIXTURE AND INSTALL 3/4" (19mm) STEEL BLANK COVER.
8. AIR FORCE / ARMY AIRFIELDS: CONNECT LOCAL GROUND ROD TO BASE CANS. ROUTE COUNTERPOISE AROUND BASE CANS. NAVY AIRFIELDS: CONNECT COUNTERPOISE TO BASE CANS.
9. INSTALL TOP OF EDGE OF SNOW PLOW RING FLUSH WITH PAVEMENT SURFACE WITH A TOLERANCE OF +0", -1/16" (1.6mm).
10. IF THE DISTANCE BETWEEN THE EDGE OF THE SNOW RING AND CONCRETE IS 1/8" (3mm) OR LESS, SEAL TOP OF OPENING WITH P-605 SEALANT AND DELETE THE P-606 COMPOUND.
11. THE TOP OF FIXTURE MUST NOT EXCEED THE TOP OF THE SNOW PLOW RING (+0, -1/8" (3mm)).
12. INSTALL FINISHED SURFACE OF CONCRETE BEAM FLUSH WITH ADJACENT PAVEMENT (+0, -1/16" (1.6mm)).



TYPICAL HIGH INTENSITY ELEVATED APPROACH/ THRESHOLD LIGHT 6'-0" (1800mm) MAXIMUM

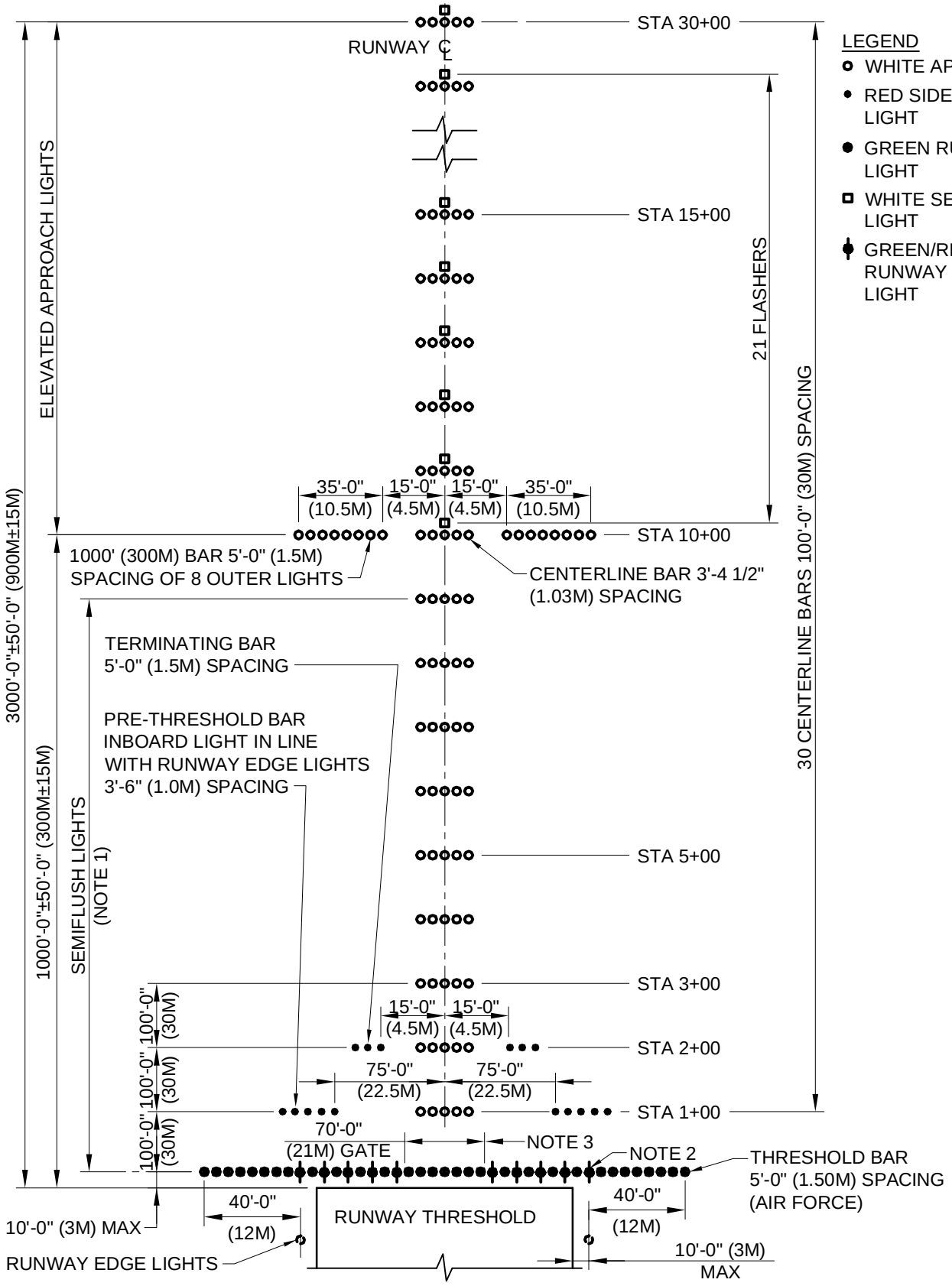
SCALE: NTS

REFERENCE FIGURE: 49

CAD FILE: 4_19_(Figure_49)_Typical_High_Intensity_Elevated_Approach_Threshold_Light.dwg
SEE NOTES TO DESIGNER FILE: 4_19 (Figure 49)-NTD.PDF

DRAWING NOTES - FIGURE 49:

1. GREEN COLOR FILTER FOR THRESHOLD BAR.
2. RED COLOR FILTER FOR SIDE ROW BARRETTES (ALSF-2); PRE-THRESHOLD AND TERMINATING BARS (ALSF-1, SALS).
3. NO COLOR FILTER FOR CENTERLINE BARS; 500' (150M) BAR (ALSF-2); 1000' (300M) BAR (ALSF-1, ALSF-2, SALS, SSALR).



ALSF-1 APPROACH LIGHT SYSTEM CONFIGURATION (AIR FORCE)

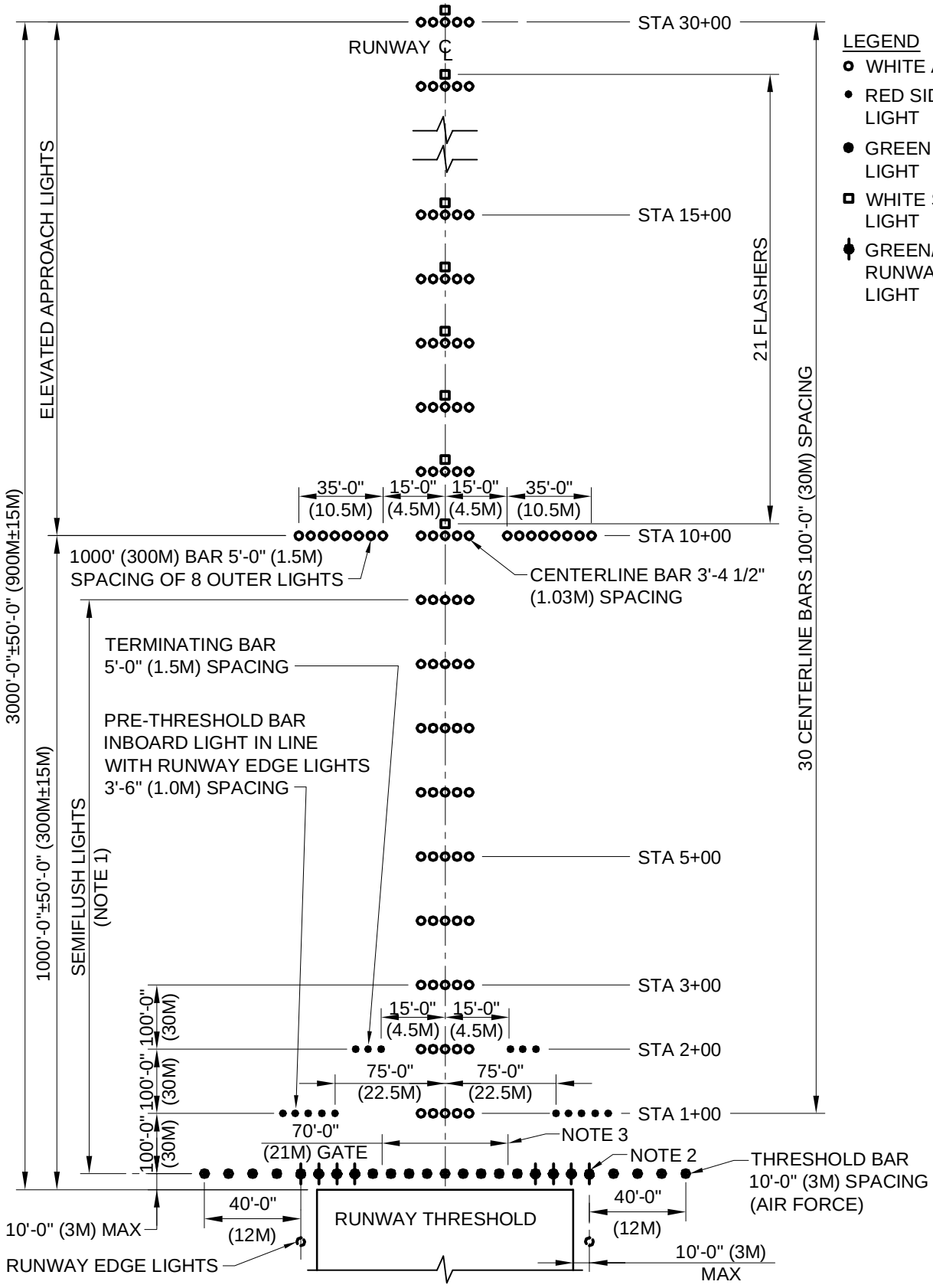
SCALE: NTS

REFERENCE FIGURE: 50A

CAD FILE: 4_20_(Figure_50A)_ALSF_1_Approach_Light_System_Configuration_Air_Force.dwg
SEE NOTES TO DESIGNER FILE: 4_20 (Figure 50A)-NTD.PDF

DRAWING NOTES - FIGURE 50A:

1. THE THRESHOLD AND THE APPROACH LIGHT SYSTEM UP TO AND INCLUDING STATION 9+00 ARE IN-PAVEMENT IN PAVED OVERRUNS, AND ELEVATED IN NON-PAVED OVERRUNS.
2. FOR REFERENCE ONLY, RUNWAY END LIGHTS CONSIST OF 10 RED LIGHTS ARRANGED IN TWO GROUPS OF 5 LIGHTS. THE LIGHTS IN EACH GROUP MUST HAVE A UNIFORM SPACING OF 10' (3M). THE OUTBOARD MOST LIGHT IN EACH GROUP MUST BE IN LINE WITH THE LINE OF THE RUNWAY EDGE LIGHTS ON THAT SIDE OF THE RUNWAY. THE GROUPS MUST BE LOCATED SYMMETRICALLY ABOUT, AND ON A LINE PERPENDICULAR TO, THE RUNWAY CENTERLINE WITHIN 10' (3M) OF THE END OF THE USABLE RUNWAY SURFACE. WHERE THEY ARE COLLOCATED, RUNWAY END LIGHTS MAY BE INCORPORATED INTO THE OPPOSITE END THRESHOLD FIXTURES.
3. THE THRESHOLD BAR MAY BE “GATED” TO ALLEVIATE THE PROBLEM OF TAIL HOOK BOUNCE. THE THRESHOLD GATE IS ACCOMPLISHED BY ELIMINATING THOSE LIGHTS IN THE CENTER 70' (21M) PORTION CENTERED ABOUT THE RUNWAY CENTERLINE.



ALSF-1 APPROACH LIGHT SYSTEM CONFIGURATION (ARMY)

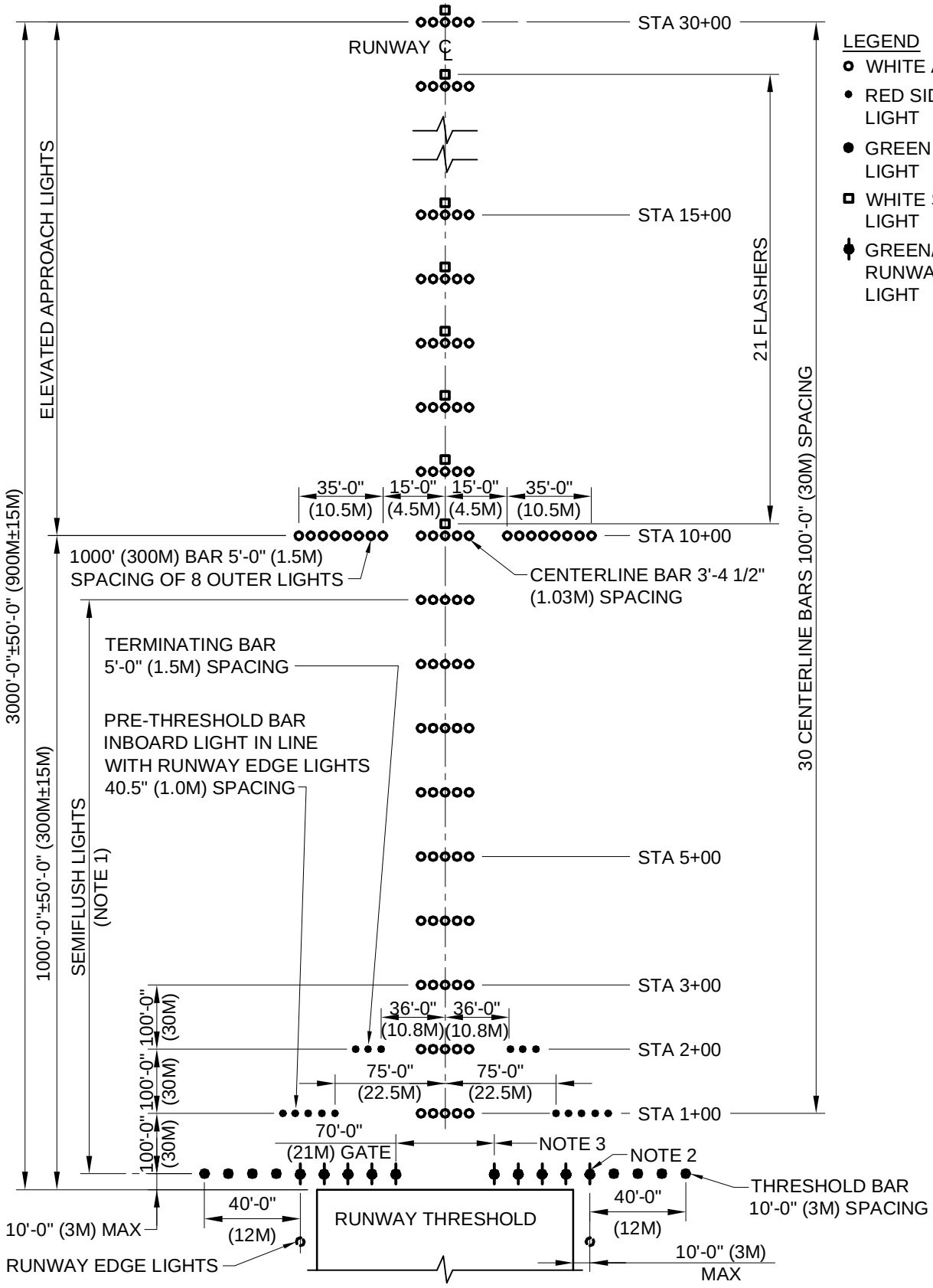
SCALE: NTS

REFERENCE FIGURE: 50B

CAD FILE: 4_20_(Figure_50B)_ALSF_1_Approach_Light_System_Configuration_Army.dwg
SEE NOTES TO DESIGNER FILE: 4_20 (Figure 50B)-NTD.PDF

DRAWING NOTES - FIGURE 50B:

1. THE THRESHOLD AND THE APPROACH LIGHT SYSTEM UP TO AND INCLUDING STATION 9+00 ARE IN-PAVEMENT IN PAVED OVERRUNS, AND ELEVATED IN NON-PAVED OVERRUNS.
2. FOR REFERENCE ONLY, RUNWAY END LIGHTS CONSIST OF 10 RED LIGHTS ARRANGED IN TWO GROUPS OF 5 LIGHTS. THE LIGHTS IN EACH GROUP MUST HAVE A UNIFORM SPACING OF 10' (3M). THE OUTBOARD MOST LIGHT IN EACH GROUP MUST BE IN LINE WITH THE LINE OF THE RUNWAY EDGE LIGHTS ON THAT SIDE OF THE RUNWAY. THE GROUPS MUST BE LOCATED SYMMETRICALLY ABOUT, AND ON A LINE PERPENDICULAR TO, THE RUNWAY CENTERLINE WITHIN 10' (3M) OF THE END OF THE USABLE RUNWAY SURFACE. WHERE THEY ARE COLLOCATED, RUNWAY END LIGHTS MAY BE INCORPORATED INTO THE OPPOSITE END THRESHOLD FIXTURES.
3. THE THRESHOLD BAR MAY BE “GATED” TO ALLEVIATE THE PROBLEM OF TAIL HOOK BOUNCE. THE THRESHOLD GATE IS ACCOMPLISHED BY ELIMINATING THOSE LIGHTS IN THE CENTER 70' (21M) PORTION CENTERED ABOUT THE RUNWAY CENTERLINE.



ALSF-1 APPROACH LIGHT SYSTEM CONFIGURATION (NAVY)

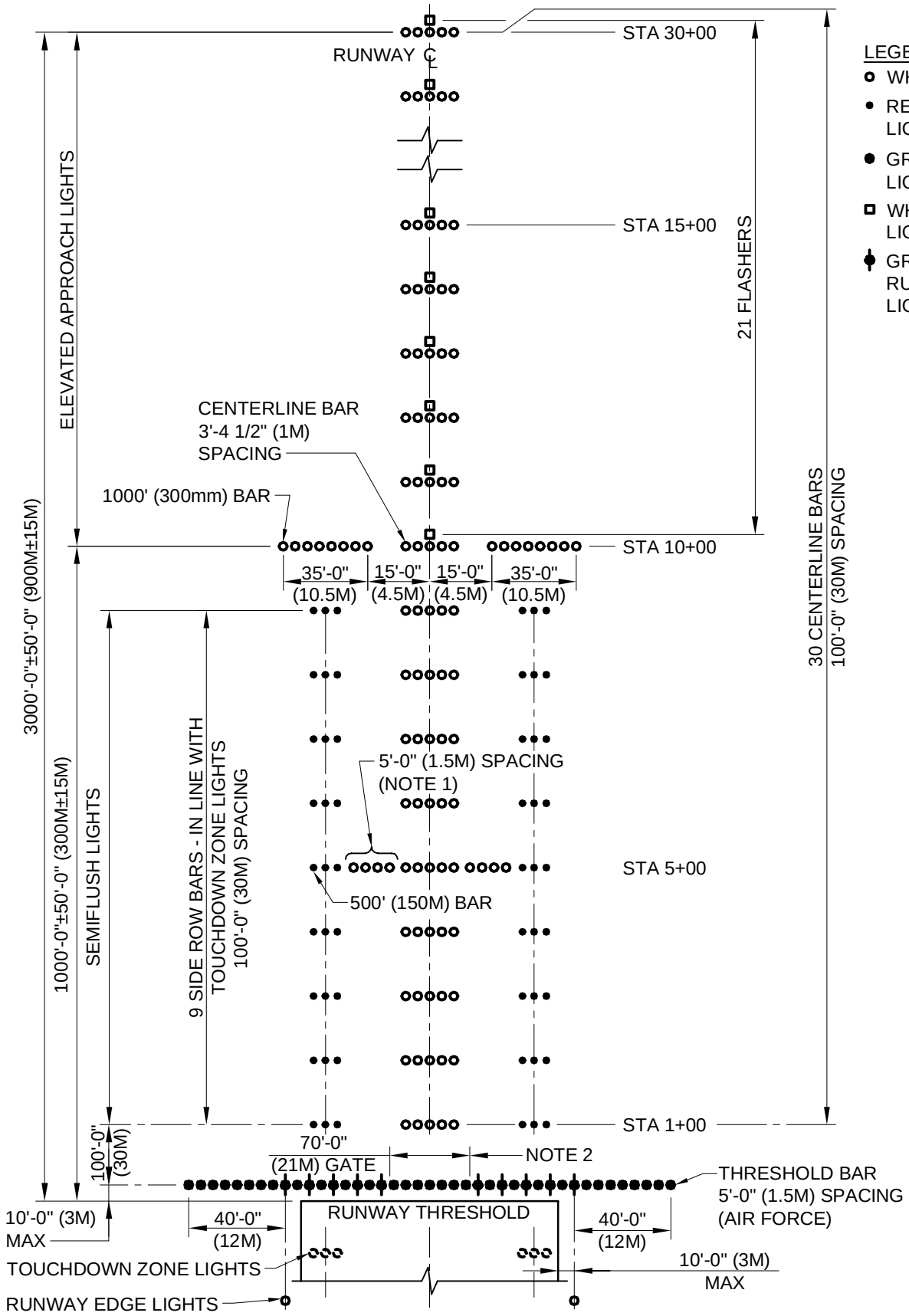
SCALE: NTS

REFERENCE
FIGURE: 50C

CAD FILE: 4_20_(Figure_50C)_ALSF_1_Approach_Light_System_Configuration_Navy.dwg
SEE NOTES TO DESIGNER FILE: 4_20 (Figure 50C)-NTD.PDF

DRAWING NOTES - FIGURE 50C:

1. THE THRESHOLD AND THE APPROACH LIGHT SYSTEM UP TO AND INCLUDING STATION 9+00 ARE IN-PAVEMENT IN PAVED OVERRUNS, AND ELEVATED IN NON-PAVED OVERRUNS.
2. FOR REFERENCE ONLY, RUNWAY END LIGHTS CONSIST OF 10 RED LIGHTS ARRANGED IN TWO GROUPS OF 5 LIGHTS. THE LIGHTS IN EACH GROUP MUST HAVE A UNIFORM SPACING OF 10' (3M). THE OUTBOARD MOST LIGHT IN EACH GROUP MUST BE IN LINE WITH THE LINE OF THE RUNWAY EDGE LIGHTS ON THAT SIDE OF THE RUNWAY. THE GROUPS MUST BE LOCATED SYMMETRICALLY ABOUT, AND ON A LINE PERPENDICULAR TO, THE RUNWAY CENTERLINE WITHIN 10' (3M) OF THE END OF THE USABLE RUNWAY SURFACE. WHERE THEY ARE COLLOCATED, RUNWAY END LIGHTS MAY BE INCORPORATED INTO THE OPPOSITE END THRESHOLD FIXTURES.
3. THE THRESHOLD BAR MAY BE “GATED” TO ALLEVIATE THE PROBLEM OF TAIL HOOK BOUNCE. THE THRESHOLD GATE IS ACCOMPLISHED BY ELIMINATING THOSE LIGHTS IN THE CENTER 70' (21M) PORTION CENTERED ABOUT THE RUNWAY CENTERLINE.



ALSF-2 APPROACH LIGHT SYSTEM CONFIGURATION

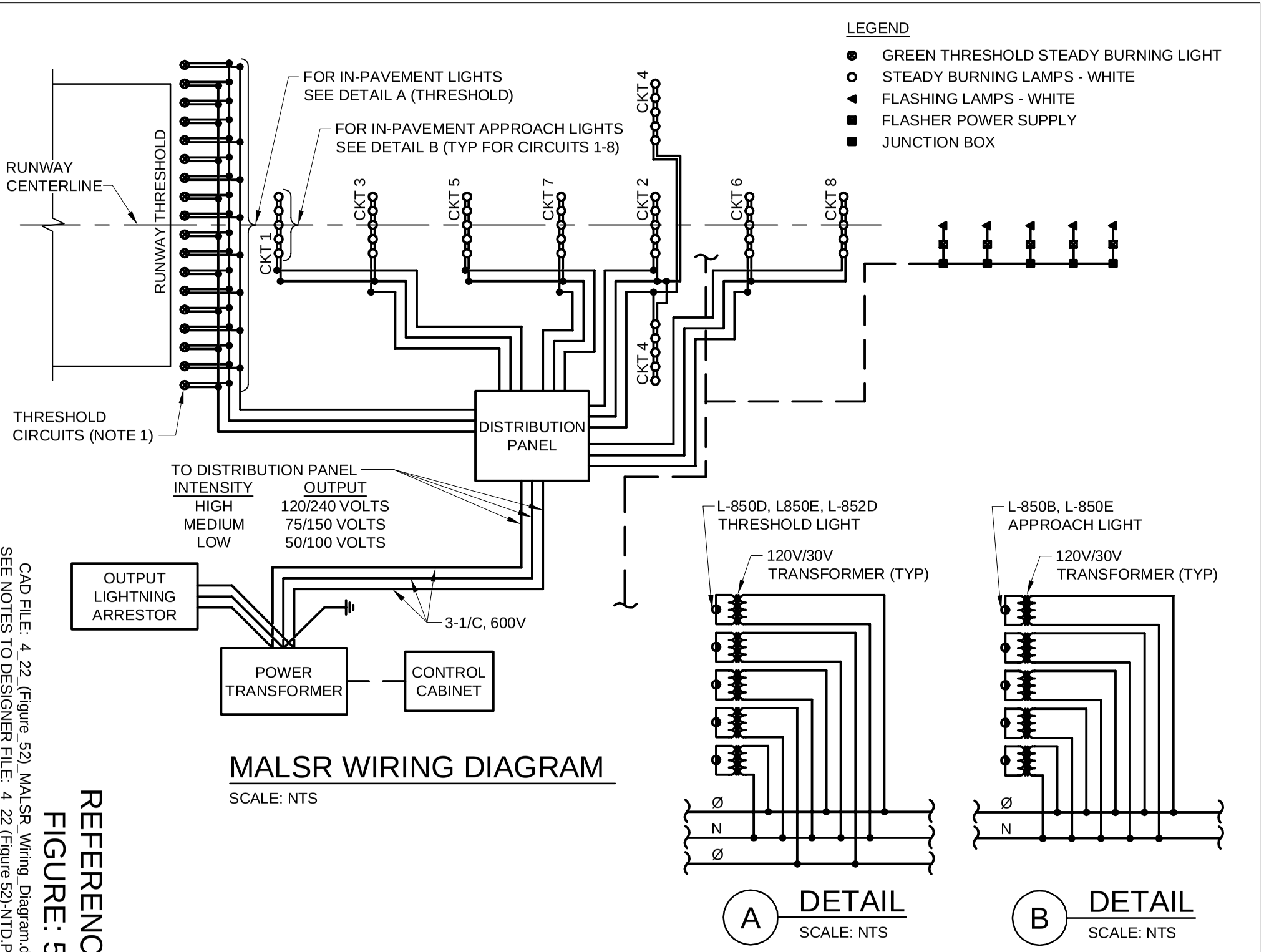
SCALE: NTS

REFERENCE
FIGURE: 51

CAD FILE: 4_21_(Figure_51)_ALFS_2_Approach_Light_System_Configuration.dwg
SEE NOTES TO DESIGNER FILE: 4_21 (Figure 51)-NTD.PDF

DRAWING NOTES - FIGURE 51:

1. LOCATE 4-LIGHT BARRETTES EQUIDISTANT BETWEEN SIDE ROW BARS AND CENTERLINE BARS.
2. THE THRESHOLD BAR MAY BE “GATED” TO ALLEVIATE THE PROBLEM OF TAIL HOOK BOUNCE. THE THRESHOLD GATE IS ACCOMPLISHED BY ELIMINATING THOSE LIGHTS IN THE CENTER 70' (21M) PORTION CENTERED ABOUT THE RUNWAY CENTERLINE.



MALSR WIRING DIAGRAM

SCALE: NTS

A DETAIL

SCALE: NTS

B DETAIL

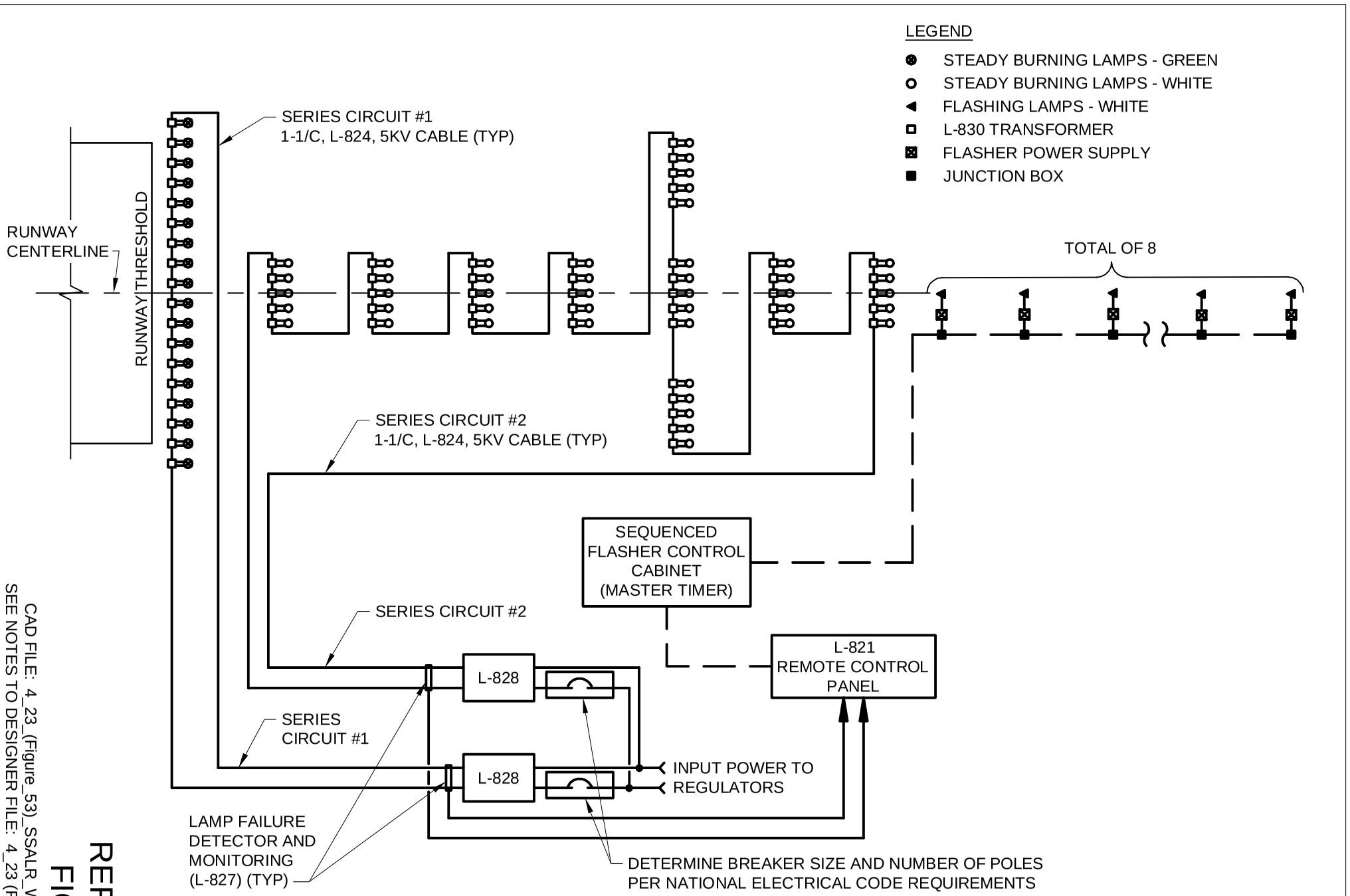
SCALE: NTS

REFERENCE
FIGURE: 52

CAD FILE: 4_22_(Figure_52)_MALSR_Wiring_Diagram.dwg
SEE NOTES TO DESIGNER FILE: 4_22 (Figure 52)-NTD.PDF

DRAWING NOTES - FIGURE 52:

1. THRESHOLD LIGHTS ARE WIRED ALTERNATELY BETWEEN PHASES AND ARE FED BY A 2-POLE BREAKER.

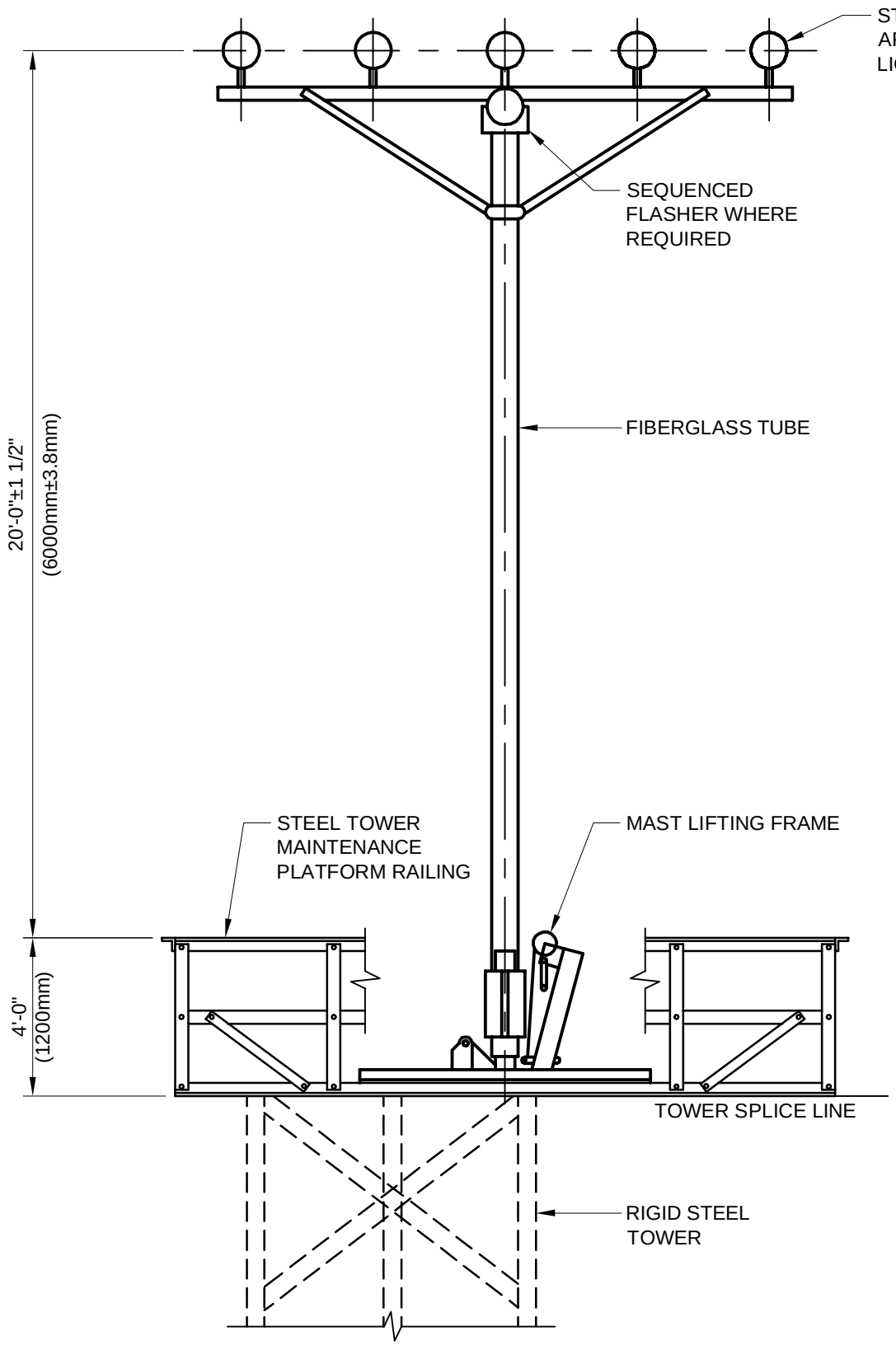


SSALR WIRING DIAGRAM

SCALE: NTS

REFERENCE FIGURE: 53

CAD FILE: 4_23_(Figure_53)_SSALR_Wiring_Diagram.dwg
SEE NOTES TO DESIGNER FILE: 4_23 (Figure 53)-NTD.PDF



LIR STRUCTURE MS-20

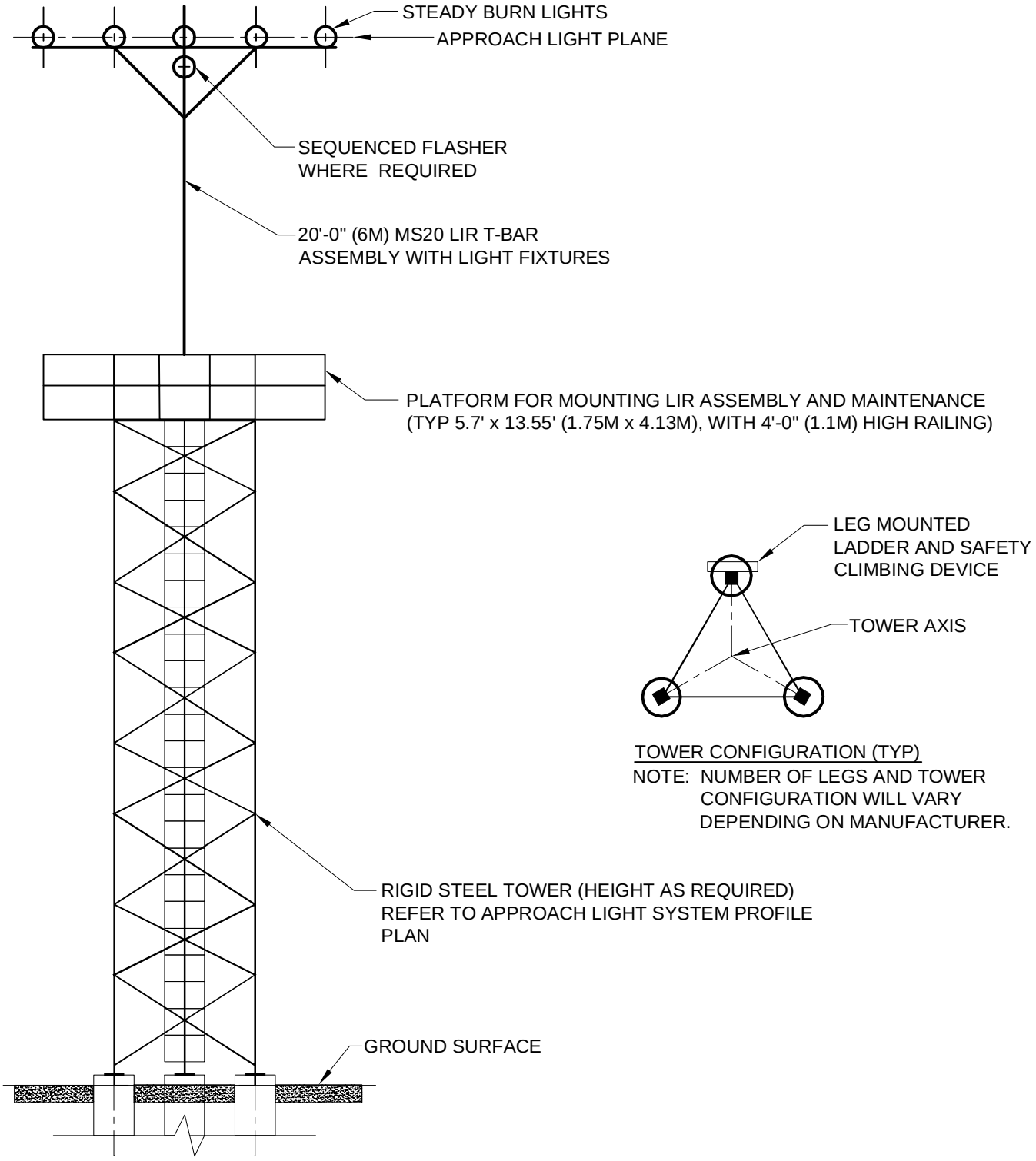
SCALE: NTS

REFERENCE
FIGURE: 54

CAD FILE: 4_24_(Figure_54)_LIR_Structure_MS_20.dwg
SEE NOTES TO DESIGNER FILE: 4_24 (Figure 54)-NTD.PDF

DRAWING NOTES - FIGURE 54:

1. INSTALL MAST LIFTING FRAME, FIBERGLASS TUBE, AND LIGHTS PER MANUFACTURER'S REQUIREMENTS.
2. INSTALL MAINTENANCE PLATFORM ON STEEL TOWER PER MANUFACTURER'S REQUIREMENTS.



TOWER ELEVATION

TOWER CONFIGURATION (TYP)

NOTE: NUMBER OF LEGS AND TOWER CONFIGURATION WILL VARY DEPENDING ON MANUFACTURER.

APPROACH LIGHT STRUCTURE 40'-128' (12M-38.4M)

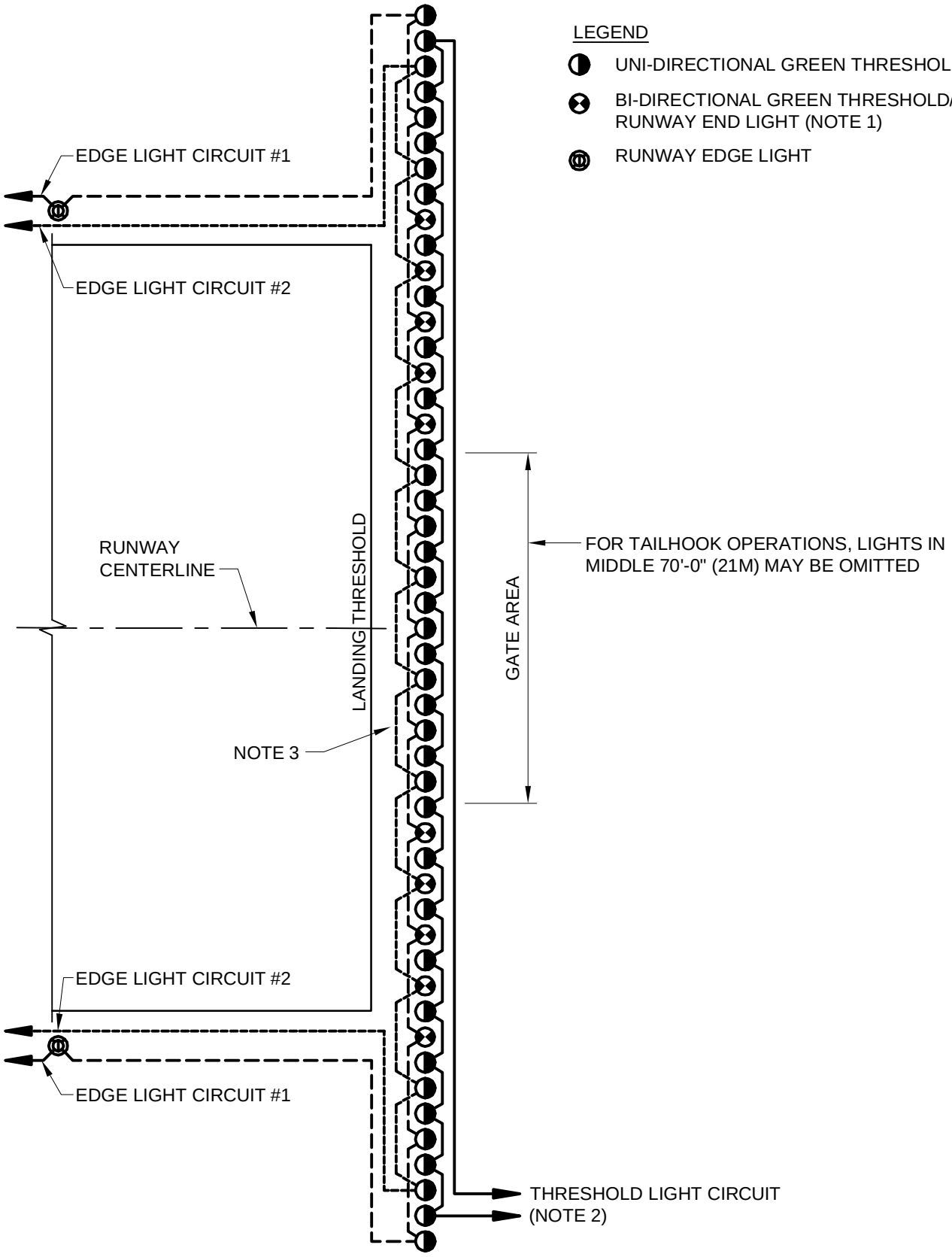
SCALE: NTS

REFERENCE
FIGURE: 55

CAD FILE: 4_25_(Figure_55)_Approach_Light_Structure.dwg
SEE NOTES TO DESIGNER FILE: 4_25 (Figure 55)-NTD.PDF

DRAWING NOTES - FIGURE 55:

1. DESIGN TOWER FOR APPROPRIATE LOADS BASED ON ANSI/TIA-222, OR ON STRICTER LOCAL CODES IF REQUIRED AT SITE.
2. BASE FOUNDATION DESIGN ON LOCAL TERRAIN AND SUBSURFACE CONDITIONS, AND TOWER LOADS.
3. PROVIDE LADDER FOR CLIMBING ENTIRE HEIGHT OF RIGID TOWER, WITH SAFETY CLIMBING DEVICE, MEETING ANSI/TIA-222.
4. PROVIDE SUITABLE LOCKING DEVICE FOR NUTS ON ALL TOWER AND ANCHOR BOLTS.
5. TOWER MANUFACTURER SHOULD PROVIDE DETAIL FABRICATION DRAWINGS BASED ON FURNISHED HEIGHT AND LOAD REQUIREMENTS.
6. PROVIDE GROUNDING FOR THE STEEL TOWER AND PLATFORM PER ANSI/TIA-222.



HIGH INTENSITY THRESHOLD BAR INTERLEAVED WIRING DIAGRAM (AIR FORCE)

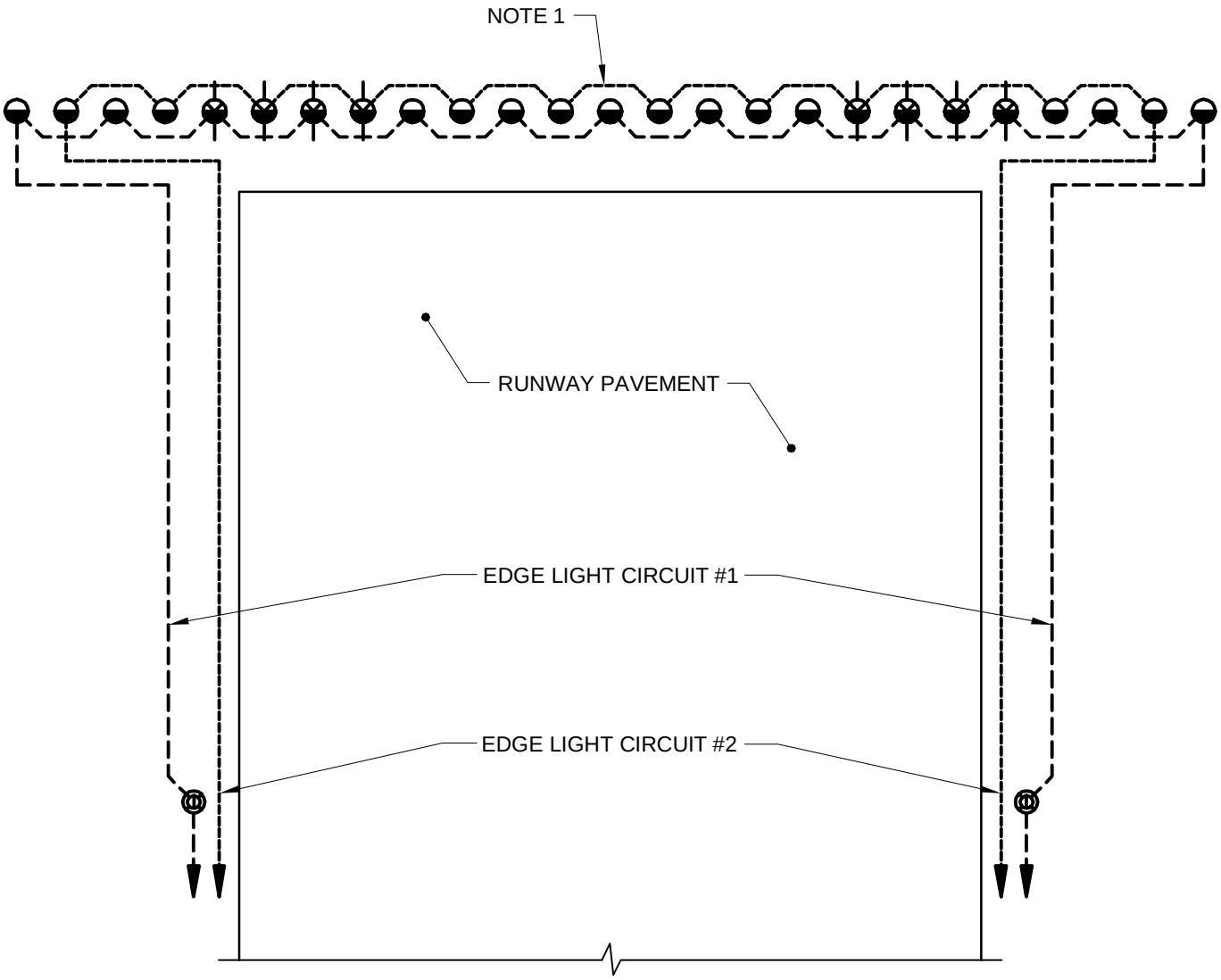
SCALE: NTS

REFERENCE FIGURE: 56

CAD FILE: 4_26_(Figure_56)_High_Intensity_Threshold_Bar_Interleaved_Wiring_Diagram_(Air_Force).dwg
SEE NOTES TO DESIGNER FILE: 4_26 (Figure 56)-NTD.PDF

DRAWING NOTES - FIGURE 56:

1. THE BI-DIRECTIONAL RUNWAY END/THRESHOLD LIGHT MAY BE INSTALLED AS SEPARATE UNI-DIRECTIONAL FIXTURES. THE BI-DIRECTIONAL FIXTURE MUST MEET THE PHOTOMETRICS FOR THRESHOLD AND END LIGHTS AS INDICATED IN UFC 3-535-01.
2. CONTROL CIRCUITS FOR THRESHOLD REGULATOR MUST BE WIRED IN PARALLEL WITH EDGE LIGHTING CONTROL CIRCUITS. FOR RUNWAY EDGE LIGHT REGULATOR(S) SUCH THAT THRESHOLD LIGHTS ARE ENERGIZED AND AT SAME INTENSITY AS RUNWAY EDGE LIGHTS.
3. WHERE THERE ARE AN EVEN NUMBER OF THRESHOLD BAR LIGHTS, THE TWO ADJACENT LIGHTS ABOUT THE RUNWAY CENTERLINE MUST BE CONNECTED TO THE SAME CIRCUIT TO PROVIDE A SYMMETRICAL LIGHTING PATTERN ON EACH SIDE OF THE RUNWAY CENTERLINE.



LEGEND

- GREEN THRESHOLD LIGHT, ELEVATED.
- GREEN THRESHOLD/RED RUNWAY END LIGHT, IN-PAVEMENT.
- RUNWAY EDGE LIGHT.

THRESHOLD BAR WIRING DIAGRAM (ARMY)

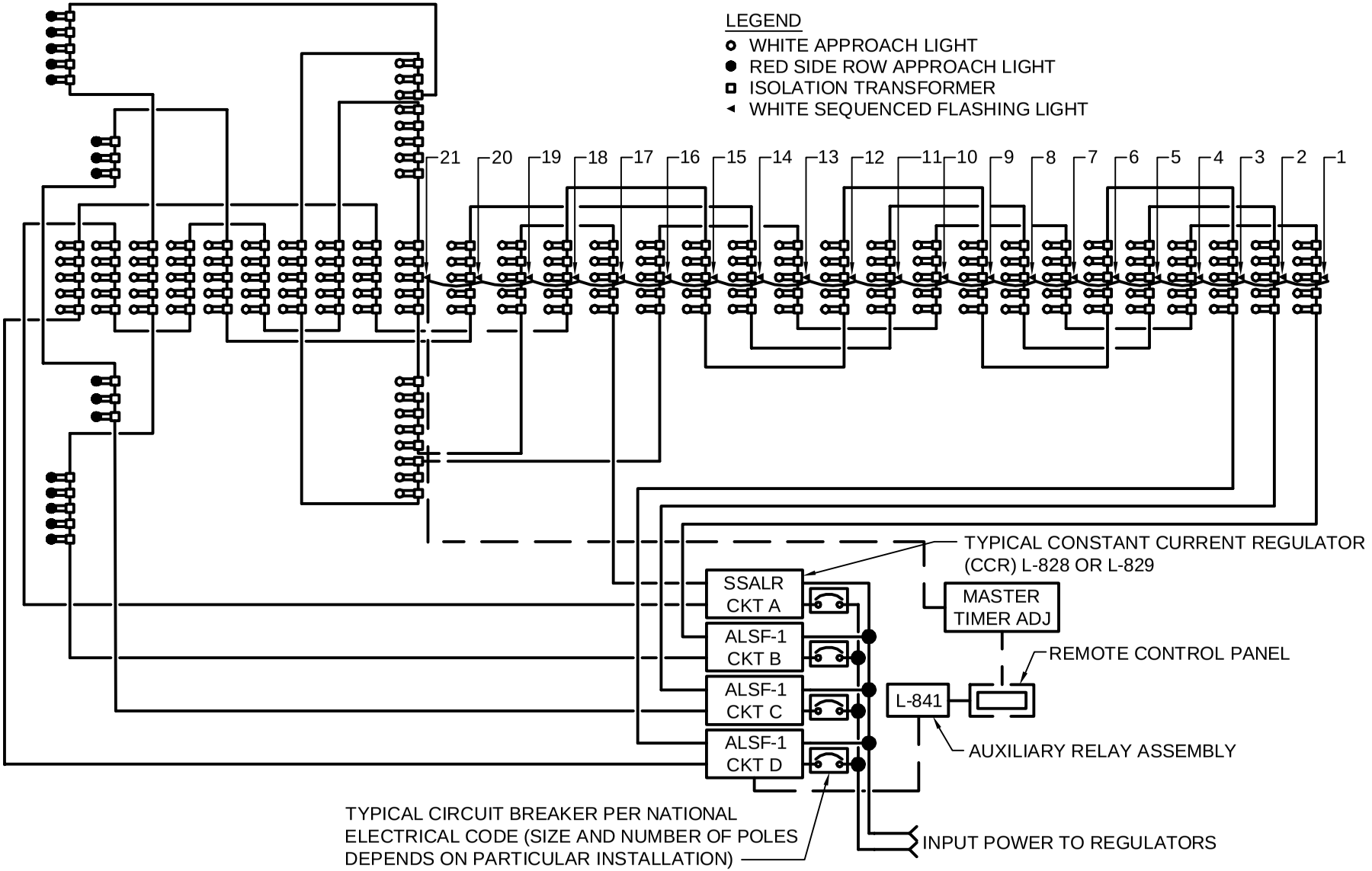
SCALE: NTS

REFERENCE
FIGURE: 57

CAD FILE: 4_27_(Figure_57)_Threshold_Bar_Wiring_Diagram_(Army).dwg
SEE NOTES TO DESIGNER FILE: 4_27 (Figure 57)-NTD.PDF

DRAWING NOTES - FIGURE 57:

1. WHERE THERE ARE AN EVEN NUMBER OF THRESHOLD BAR LIGHTS, THE TWO ADJACENT LIGHTS ABOUT THE RUNWAY CENTERLINE MUST BE CONNECTED TO THE SAME CIRCUIT TO PROVIDE A SYMMETRICAL LIGHTING PATTERN ON EACH SIDE OF THE RUNWAY CENTERLINE.

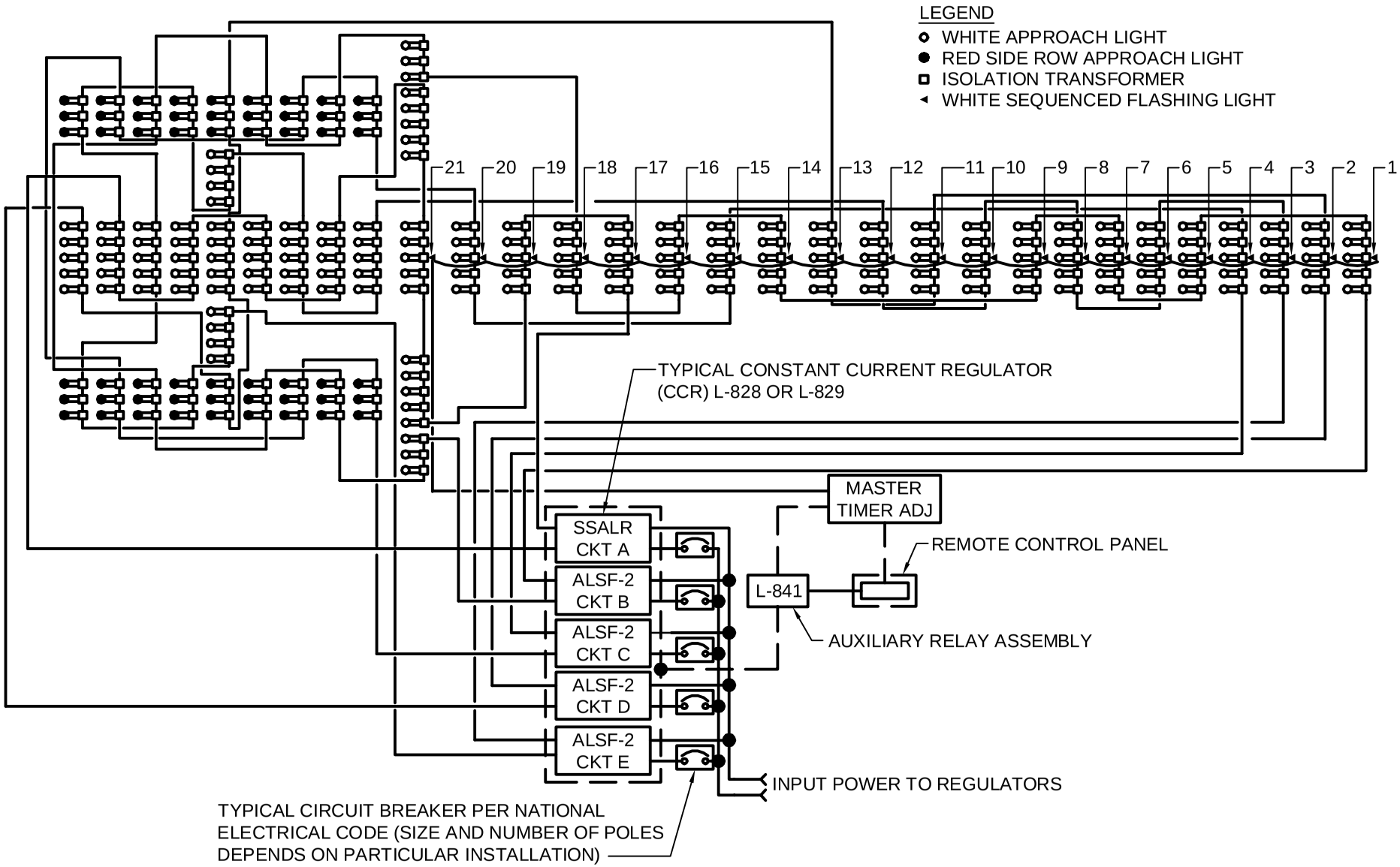


HIGH INTENSITY ALSF-1/SSALR WIRING DIAGRAM

SCALE: NTS

REFERENCE FIGURE: 59

CAD FILE: 4_29_(Figure_59)_High_Intensity_ALSF_1_SSALR_Wiring_Diagram.dwg
SEE NOTES TO DESIGNER FILE: 4_29 (Figure 59)-NTD.PDF

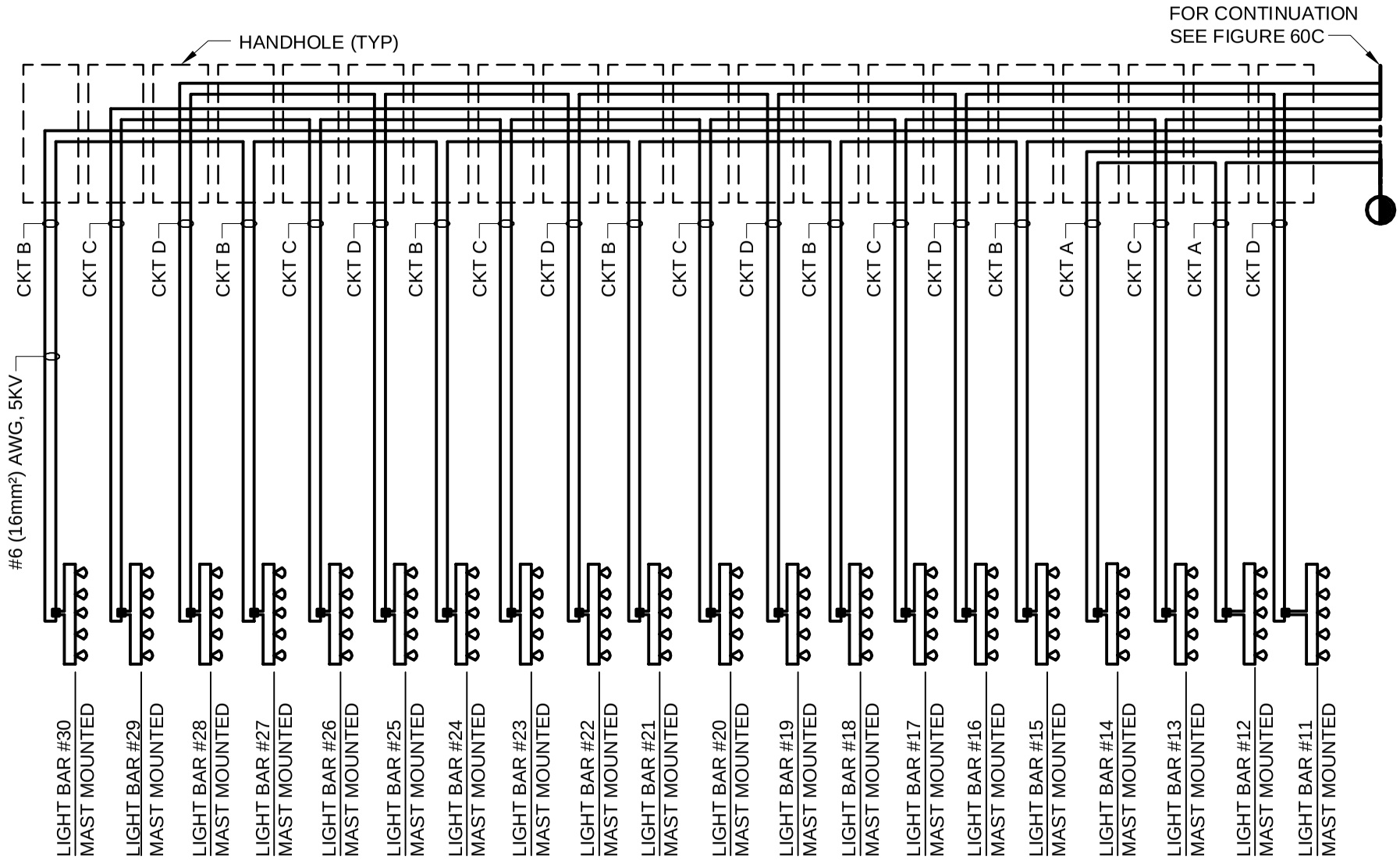


HIGH INTENSITY ALSF-2/SSALR WIRING DIAGRAM

SCALE: NTS

REFERENCE FIGURE: 60A

CAD FILE 4_30_(Figure_60A)_High_Intensity_ALSF_2_SSALR_Wiring_Diagram.dwg
SEE NOTES TO DESIGNER FILE:4_30 (Figure 60A)-NTD.PDF



CIRCUIT	DESCRIPTION
A	SSALR LOOP
B	ALSF-II LOOP
C	ALSF-II LOOP
D	ALSF-II LOOP
E	THRESHOLD

SEE FIGURE 56 FOR WIRING DIAGRAM

LEGEND:

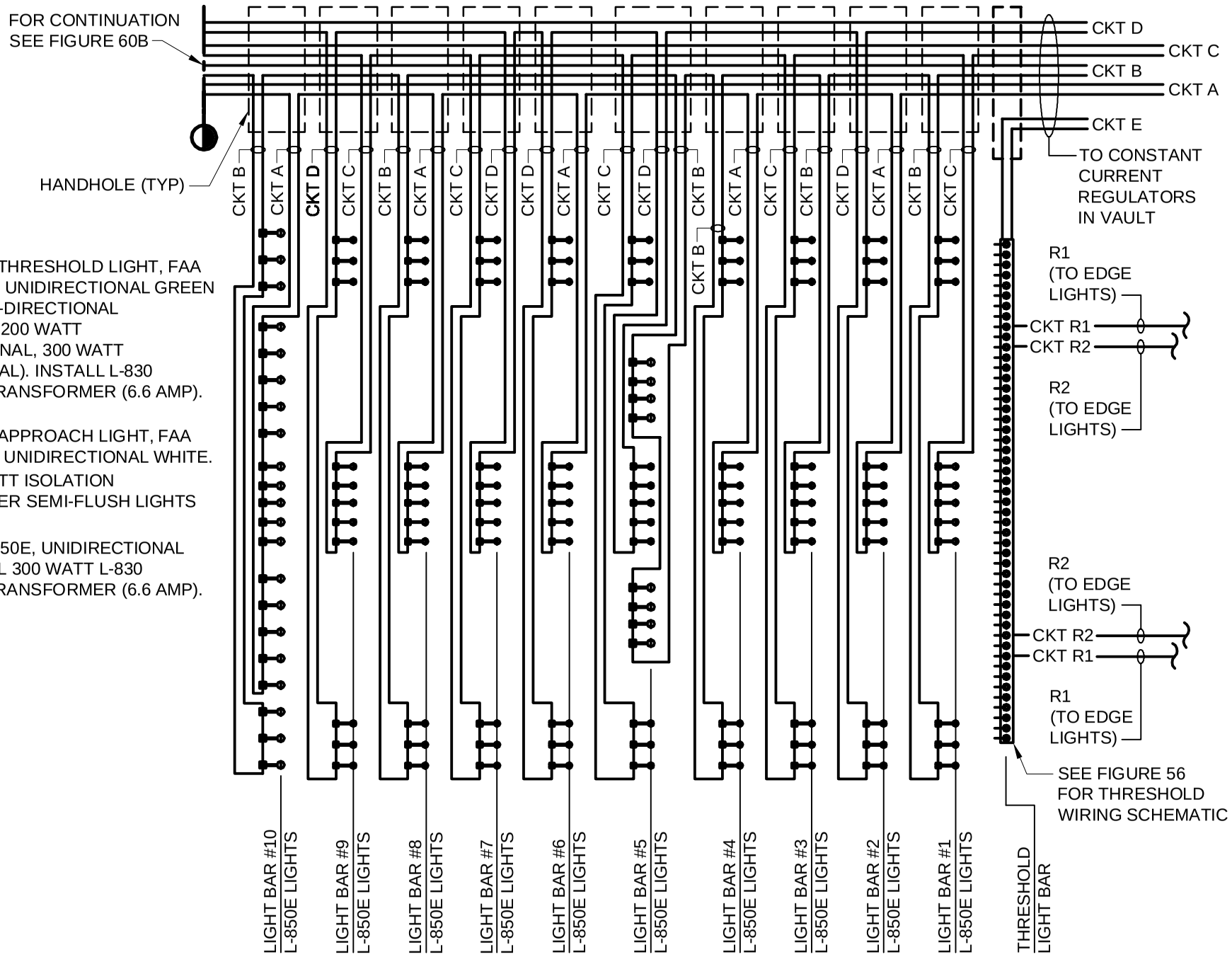
- ELEVATED APPROACH LIGHT, FAA TYPE E-982, 200 WATT LAMP, UNIDIRECTIONAL WHITE.
- FAA TYPE L-850E, UNIDIRECTIONAL RED. INSTALL 300 WATT L-830 ISOLATION TRANSFORMER (6.6 AMP).

ALSF-2/SSALR WIRING DIAGRAM MODIFICATION - SHEET 1

SCALE: NTS

REFERENCE FIGURE: 60B

CAD FILE: 4_31_(Figure_60B)_ALSF_2_SSALR__Wiring_Diagram_Modification_Sheet_1.dwg
SEE NOTES TO DESIGNER FILE: 4_31 (Figure 60B)-NTD.PDF



LEGEND:

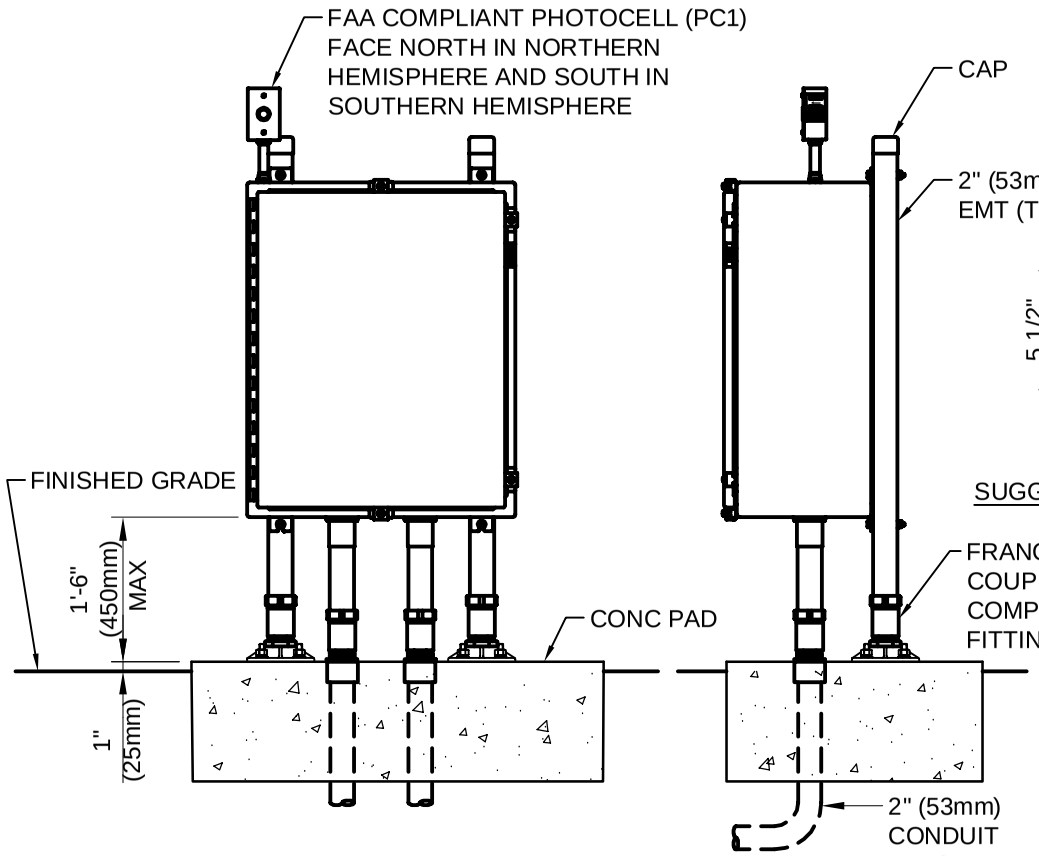
- SEMI-FLUSH THRESHOLD LIGHT, FAA TYPE L-850D, UNIDIRECTIONAL GREEN FILTER OR BI-DIRECTIONAL GREEN/RED (200 WATT UNIDIRECTIONAL, 300 WATT BIDIRECTIONAL). INSTALL L-830 ISOLATION TRANSFORMER (6.6 AMP).
- SEMI-FLUSH APPROACH LIGHT, FAA TYPE L-850E, UNIDIRECTIONAL WHITE.
- L-830 300 WATT ISOLATION TRANSFORMER SEMI-FLUSH LIGHTS (6.6 AMP)
- FAA TYPE L-850E, UNIDIRECTIONAL RED. INSTALL 300 WATT L-830 ISOLATION TRANSFORMER (6.6 AMP).

ALSF-2/SSALR WIRING DIAGRAM MODIFICATION - SHEET 2

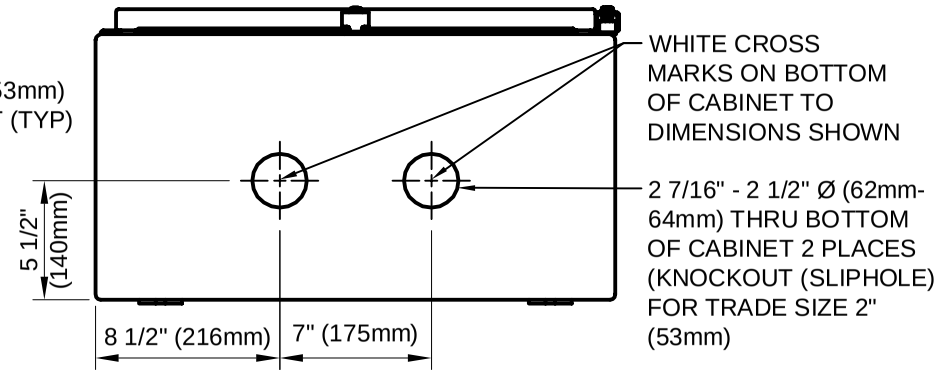
SCALE: NTS

REFERENCE
FIGURE: 60C

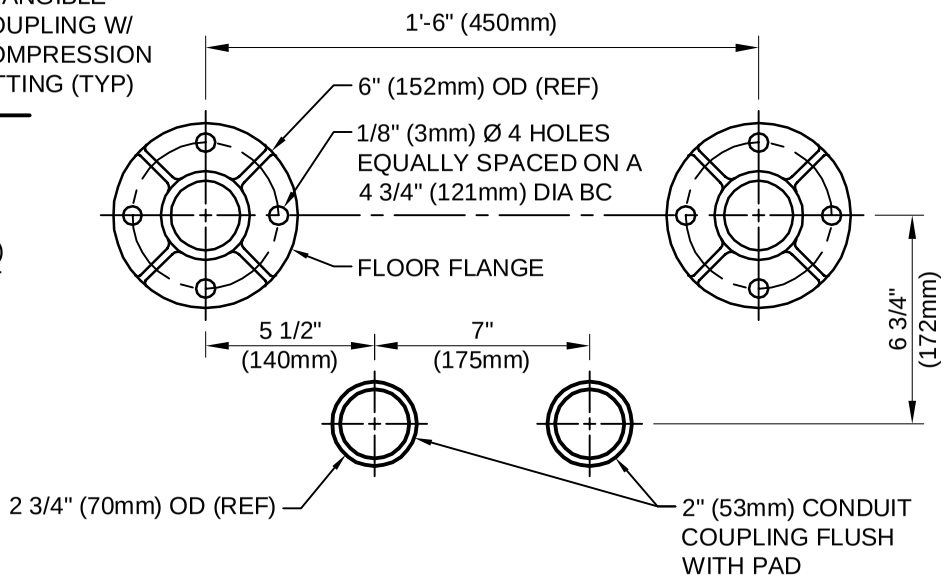
CAD FILE: 4_31_(Figure_60C)_ALSF_2_SSALR__Wiring_Diagram_Modification_Sheet_2.dwg
SEE NOTES TO DESIGNER FILE: 4_31 (Figure 60B)-NTD.PDF



FRANGIBLE INSTALLATION
POWER CONTROL UNIT MOUNTING



SUGGESTED POWER AND CONTROL WIRING ENTRY AND EXIT LOCATIONS
POWER AND CONTROL UNIT ASSEMBLY



NOTE:
TO AVOID DAMAGING EQUIPMENT, USE CARE IN DRILLING HOLES FOR EMT KNOCKOUTS. REMOVE ALL METAL CHIPS AND DEBRIS AFTER INSTALLING HOLES IN ENCLOSURE

SUGGESTED FLANGE AND ELBOW ASSEMBLY FOOTING LOCATIONS
POWER AND CONTROL UNIT ASSEMBLY

FAA L-880 STYLE A PAPI
(CONSTANT VOLTAGE) PCU MOUNTING DETAILS

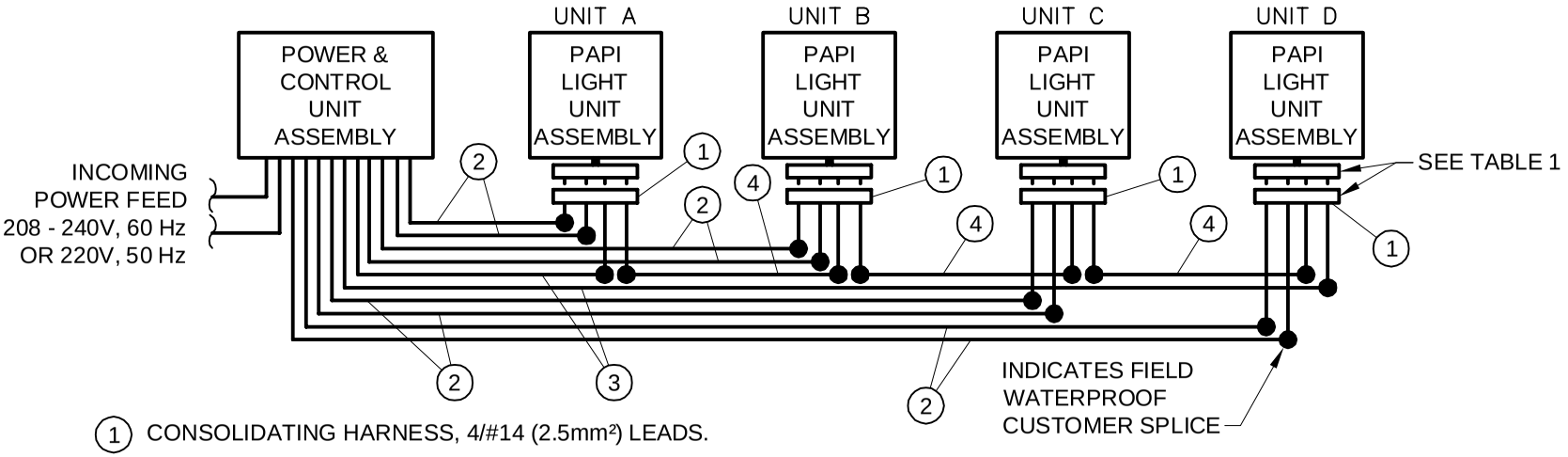
SCALE: NTS

REFERENCE
FIGURE: 61

CAD FILE: 5_1_(Figure_61)_FAA_L_880_Style_A_Papi_(Constant_Voltage)_PCU_Mounting_Details.dwg
SEE NOTES TO DESIGNER FILE: 5_1 (Figure 61)-NTD.PDF

DRAWING NOTES - FIGURE 61:

1. VERIFY DIMENSIONS WITH EQUIPMENT MANUFACTURER.
2. CONCRETE PAD MUST BE MINIMUM 30" X 18" X 12" (750mm X 450mm X 300mm).
3. MOUNTING HARDWARE MUST BE STAINLESS STEEL SIZED PER MANUFACTURER'S REQUIREMENTS.
4. INSTALLATION MUST BE PER MANUFACTURER'S REQUIREMENTS.



1. CONSOLIDATING HARNESS, 4/#14 (2.5mm²) LEADS.
2. OUTGOING POWER FEED FROM POWER & CONTROL UNIT ASSEMBLY T1-X TERMINALS, USE #8 (10mm²) MINIMUM.
3. TILT SWITCH LEADS FROM POWER AND CONTROL UNIT ASSEMBLY TB1 TERMINALS TILT SWITCH A AND B, USE #14 (2.5mm²) MINIMUM.
4. TILT SWITCH LEADS FROM PREVIOUS LIGHT UNIT ASSEMBLY, USE #14 (2.5mm²) MINIMUM.

TABLE 1
CONSOLIDATING HARNESS LEAD COLOR CODES
RED = POWER LEAD WHITE = POWER LEAD BLACK = TILT SWITCH LEAD GREEN = TILT SWITCH LEAD

POINT PC1 NORTH

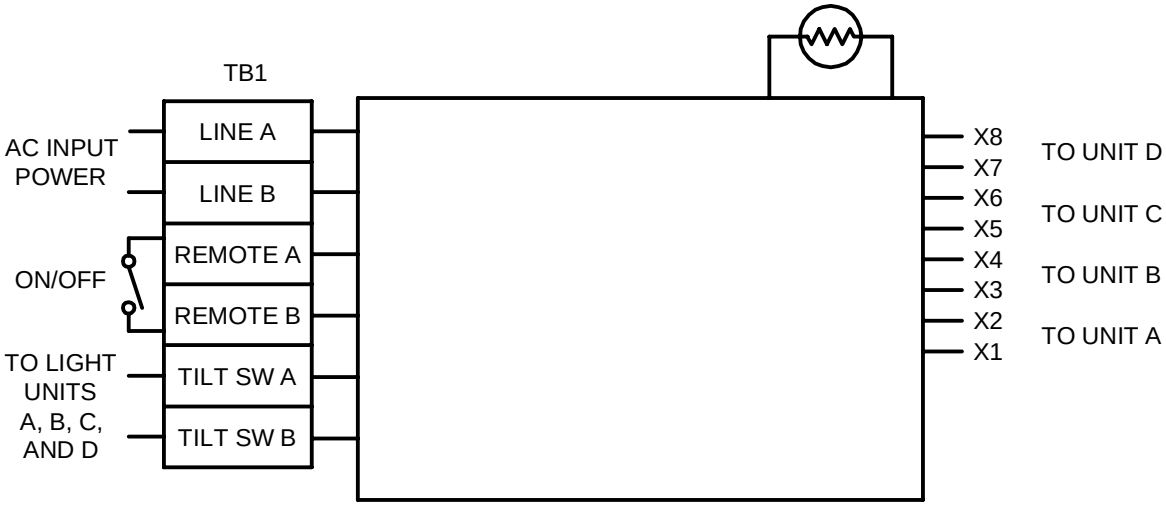
FAA L-880 STYLE A PAPI (CONSTANT VOLTAGE) SYSTEM WIRING DIAGRAM

SCALE: NTS

REFERENCE FIGURE: 62A

CAD FILE: 5_2_(Figure_62A)_FAA_L_880_Style_A_Papi_(Constant_Voltage)_System_Wiring_Diagram.dwg

SEE NOTES TO DESIGNER FILE: 5_2 (Figure 62A)-NTD.PDF

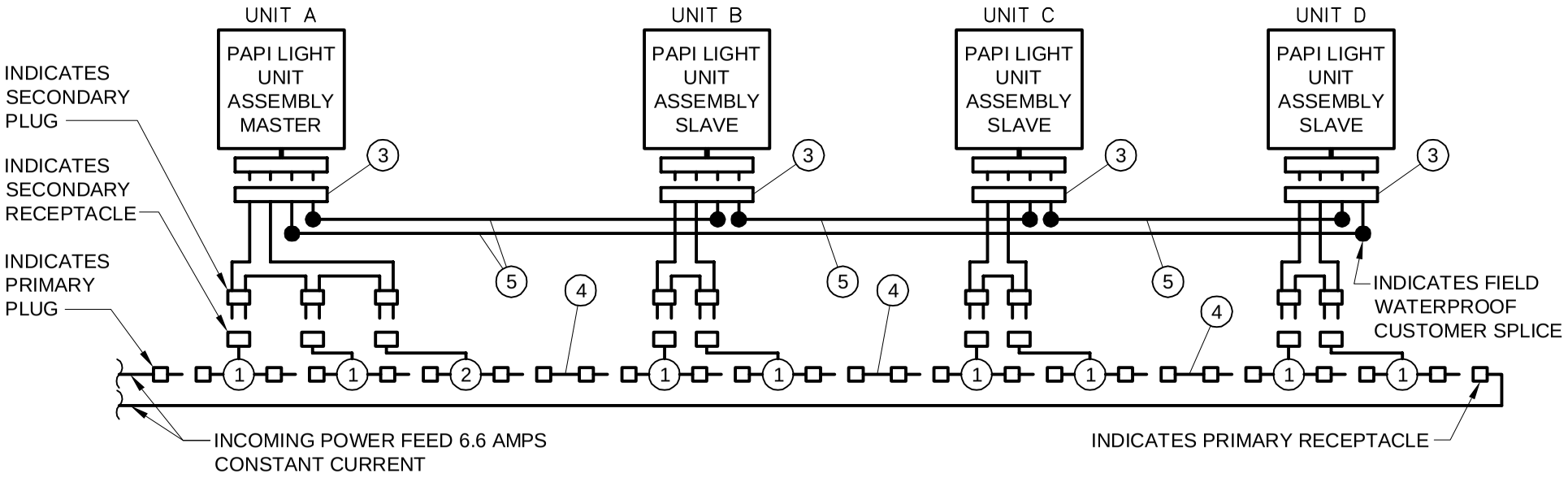


FAA L-880 STYLE A PAPI POWER CONTROL UNIT 3 LAMP, 4 LIGHT UNITS

SCALE: NTS

REFERENCE FIGURE: 62B

CAD FILE: 5_2_(Figure_62B)_FAA_L-880_Style_A_Papi_Power_Control_Unit_3_Lamp_4_Lamp_Units.dwg SEE NOTES TO DESIGNER FILE: 5_2 (Figure 62B)-NTD.PDF



1. 300W, 6.6/6.6A ISOLATION TRANSFORMER.
2. 100W, 6.6/6.6A ISOLATION TRANSFORMER.
3. CONSOLIDATING HARNESS, TILT SWITCH WIRE ENDS (BLACK AND GREEN LEADS) ARE #14 (2.5mm²).
4. POWER LEADS WITH APPROPRIATE L-823 CONNECTORS, USE L-824 TYPE C #8 (10mm²) (L-823 CONNECTOR KITS).
5. TILT SWITCH LEADS, USE #14 (2.5mm²) MINIMUM.

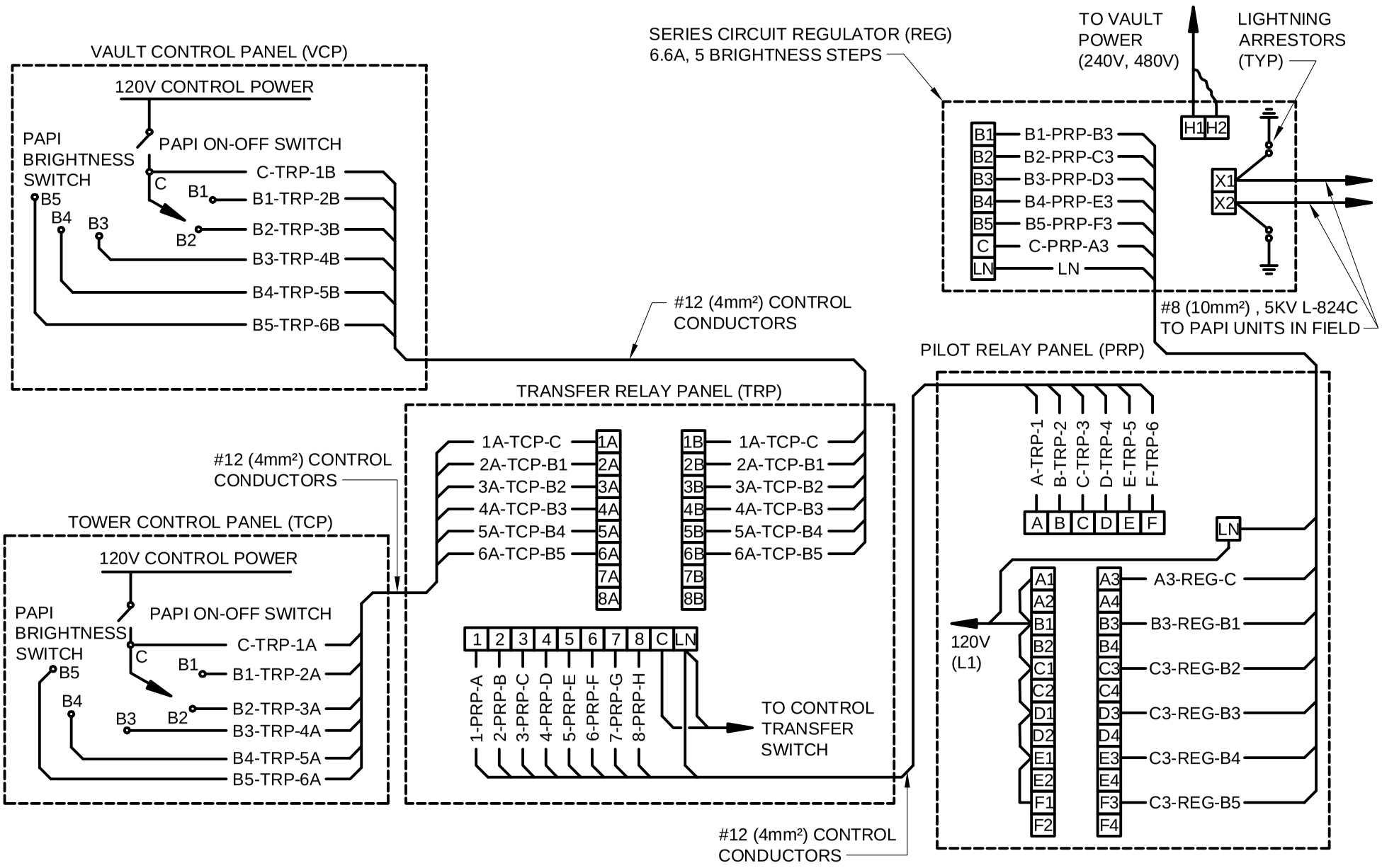
FAA L-880 STYLE "B" SYSTEM (WITH TILT SWITCHES)
3 LAMPS PER LIGHT UNIT

FAA L-880 STYLE B PAPI (CONSTANT CURRENT) SYSTEM WIRING DIAGRAM

SCALE: NTS

REFERENCE FIGURE: 63

CAD FILE: 5_3_(Figure_63)_FAA_L_880_Style_B_Papi_(Constant_Current)_System_Wiring_Diagram.dwg
SEE NOTES TO DESIGNER FILE: 5_3 (Figure 63)-NTD.PDF



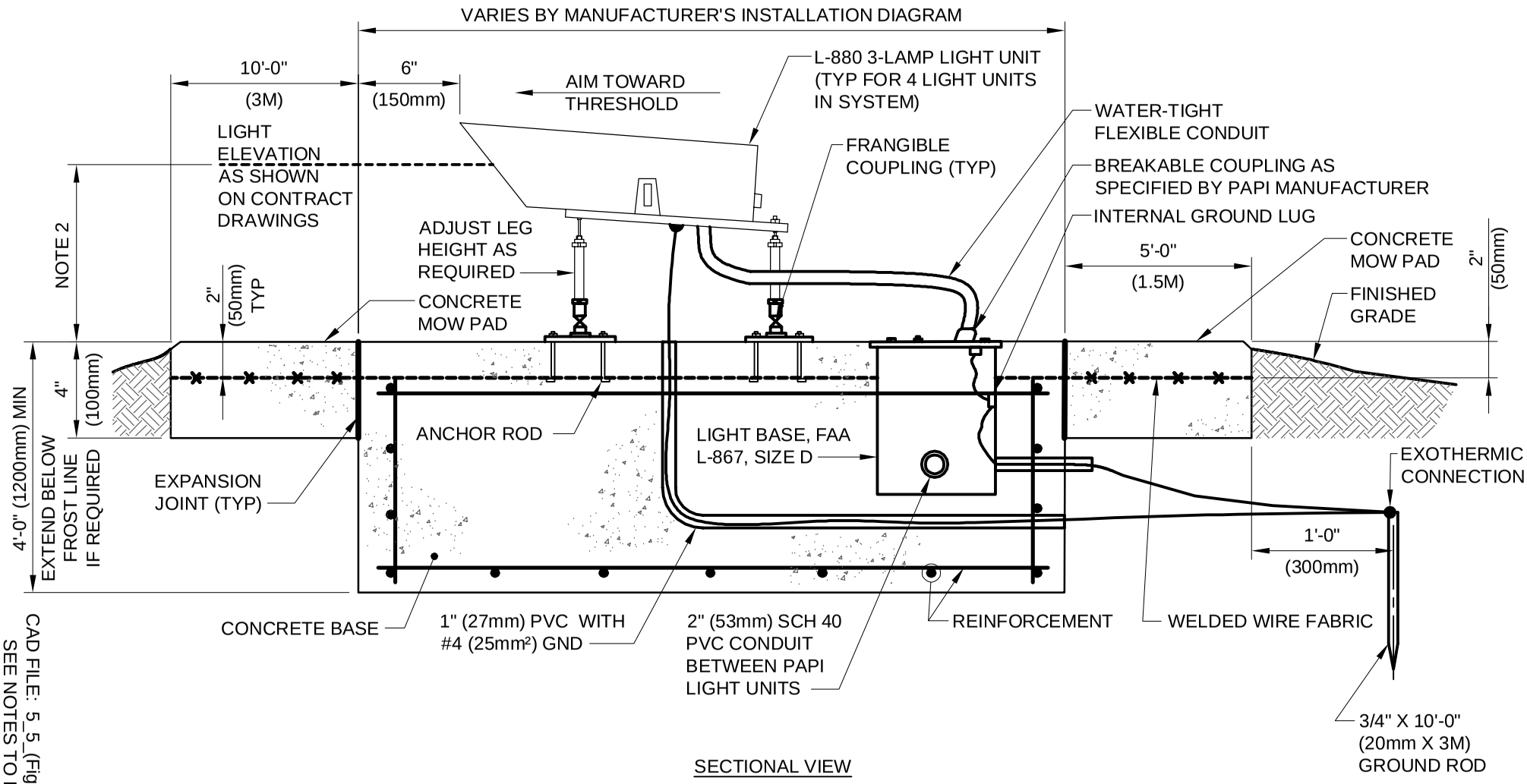
FAA L-880 STYLE B (CONSTANT CURRENT) PAPI POWER AND CONTROL SCHEMATIC DIAGRAM

SCALE: NTS

REFERENCE FIGURE: 64

CAD FILE: 5_4_(Figure_64)_FAA_L_880_Style_B_(Constant_Current)_Papi_Power_And_Control_Schematic_Diagram.dwg

SEE NOTES TO DESIGNER FILE: 5_4 (Figure 64)-NTD.PDF



SECTIONAL VIEW

PAPI LIGHT HOUSING ELEVATION

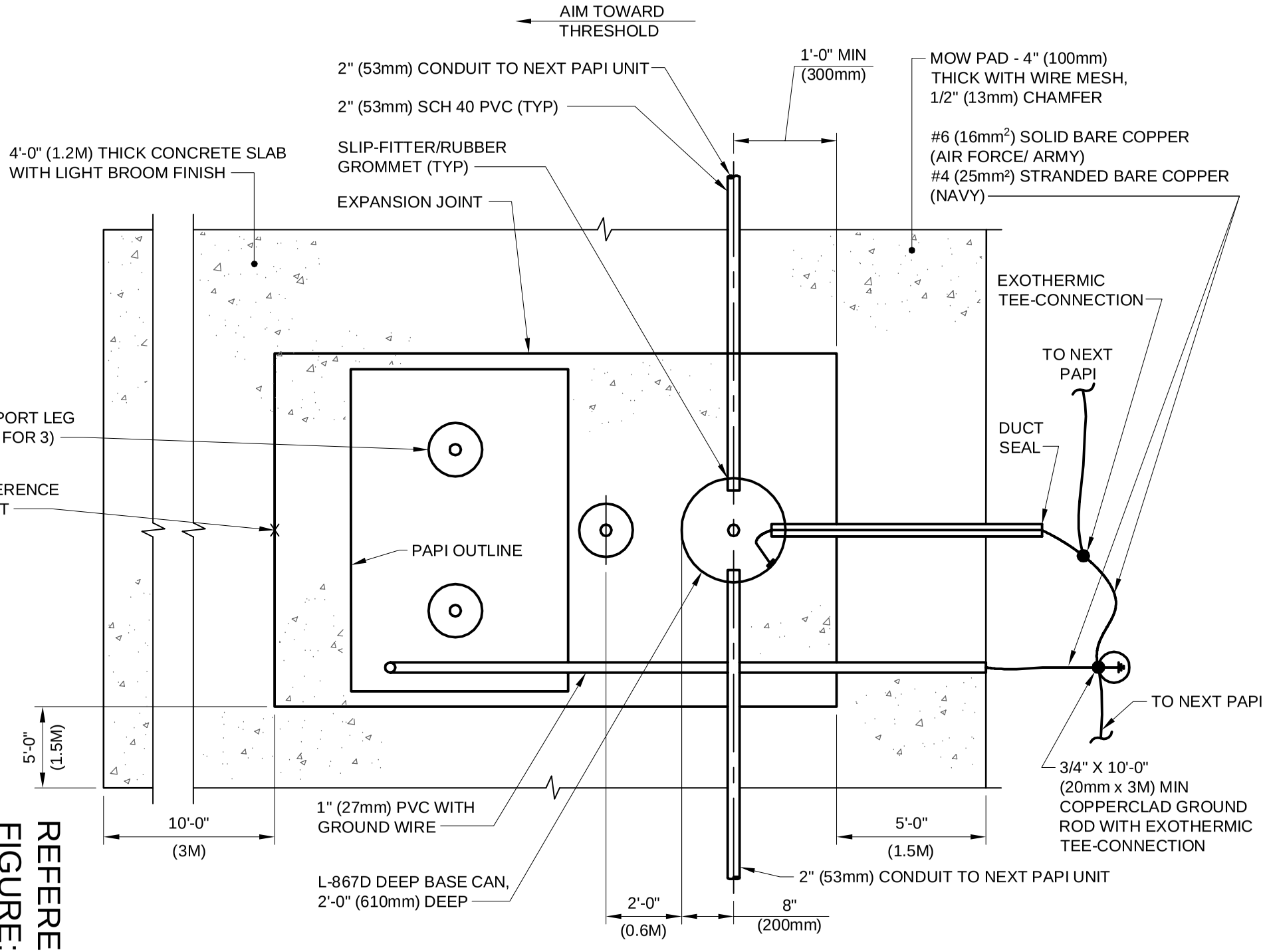
SCALE: NTS

REFERENCE
FIGURE: 65A

CAD FILE: 5_5_(Figure_65A)_Papi_Light_Housing_Elevation.dwg
SEE NOTES TO DESIGNER FILE: 5_5 (Figure 65A)-NTD.PDF

DRAWING NOTES - FIGURE 65A:

1. EACH LIGHT UNIT MUST BE AIMED OUTWARD INTO THE APPROACH ZONE ON A LINE PARALLEL TO THE RUNWAY CENTERLINE WITHIN ±1/2 DEGREE.
2. THE BEAM CENTERS OF ALL LIGHT UNITS MUST BE WITHIN ±1" (25mm) OF HORIZONTAL PLANE.
3. THE FRONT FACE OF EACH LIGHT UNIT IN A BAR MUST BE LOCATED ON A LINE PERPENDICULAR TO THE RUNWAY CENTERLINE WITHIN A TOLERANCE OF ±1" (25mm).
4. DIMENSIONS ARE APPROXIMATE AND MUST BE COORDINATED WITH PAPI MANUFACTURER.
5. AIMING ANGLE AND LOCATION OF UNITS MUST BE INDICATED ON CONTRACT DOCUMENTS.



PAPI LIGHT HOUSING - PLAN

SCALE: NTS

REFERENCE FIGURE: 65B

CAD FILE: 5_5_(Figure_65B)_Papi_Light_Housing_Plan.dwg
SEE NOTES TO DESIGNER FILE: 5 5 (Figure 65B)-NTD.PDF

DRAWING NOTES - FIGURE 65B:

1. EACH LIGHT UNIT MUST BE AIMED OUTWARD INTO THE APPROACH ZONE ON A LINE PARALLEL TO THE RUNWAY CENTERLINE WITHIN ±1/2 DEGREE.
2. THE BEAM CENTERS OF ALL LIGHT UNITS MUST BE WITHIN ±1" (25mm) OF HORIZONTAL PLANE.
3. THE FRONT FACE OF EACH LIGHT UNIT IN A BAR MUST BE LOCATED ON A LINE PERPENDICULAR TO THE RUNWAY CENTERLINE WITHIN A TOLERANCE OF ±1" (25mm).
4. DIMENSIONS ARE APPROXIMATE AND MUST BE COORDINATED WITH PAPI MANUFACTURER.
5. AIMING ANGLE AND LOCATION OF UNITS MUST BE INDICATED ON CONTRACT DOCUMENTS.

125'-0" (37.5M) FOR 150'-0" (45M) WIDE RUNWAY
150'-0" (45M) FOR 200'-0" (60M WIDE RUNWAY

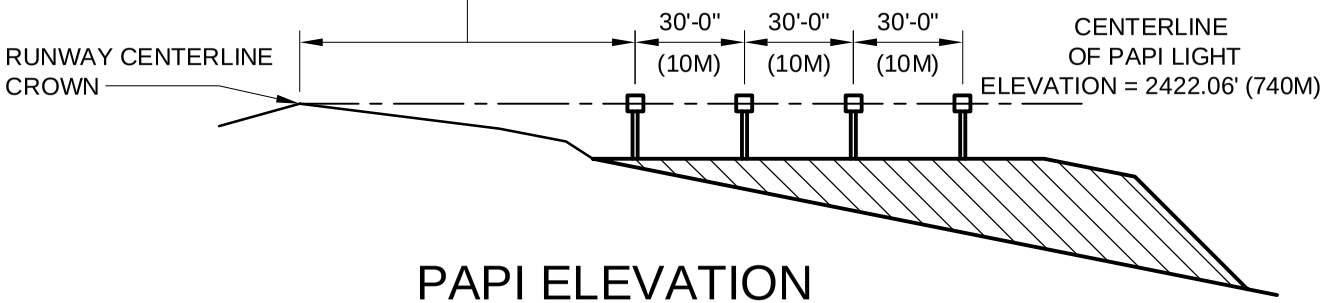
CALCULATIONS - PAPI 23

PAPI LIGHT ELEVATION	2422.06' (738.243M)
(D = 909.00') * TAN (3°)	47.64' (14.52M)
THRESHOLD CROSSING EL	2469.70' (752.764M)
THRESHOLD ELEVATION	2419.71' (737.527M)
THRESHOLD CROSSING HT	49.99' (15M)

RUNWAY SLOPE (%) = VARIES

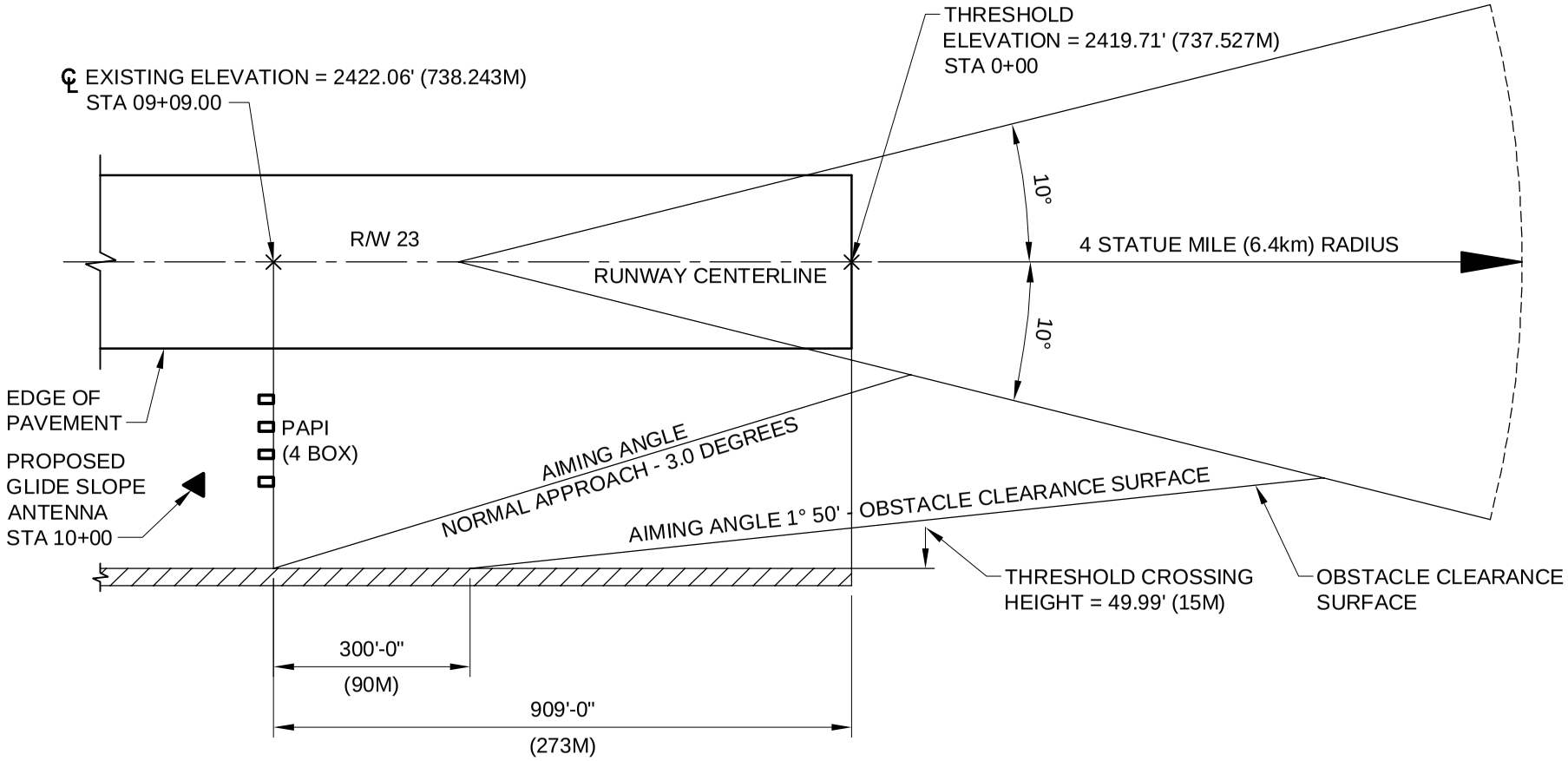
RUNWAY SLOPE DIRECTION

* PAPI 23 IS SITED ON A RUNWAY END WITH A GLIDE SLOPE.



PAPI ELEVATION

SCALE: NTS

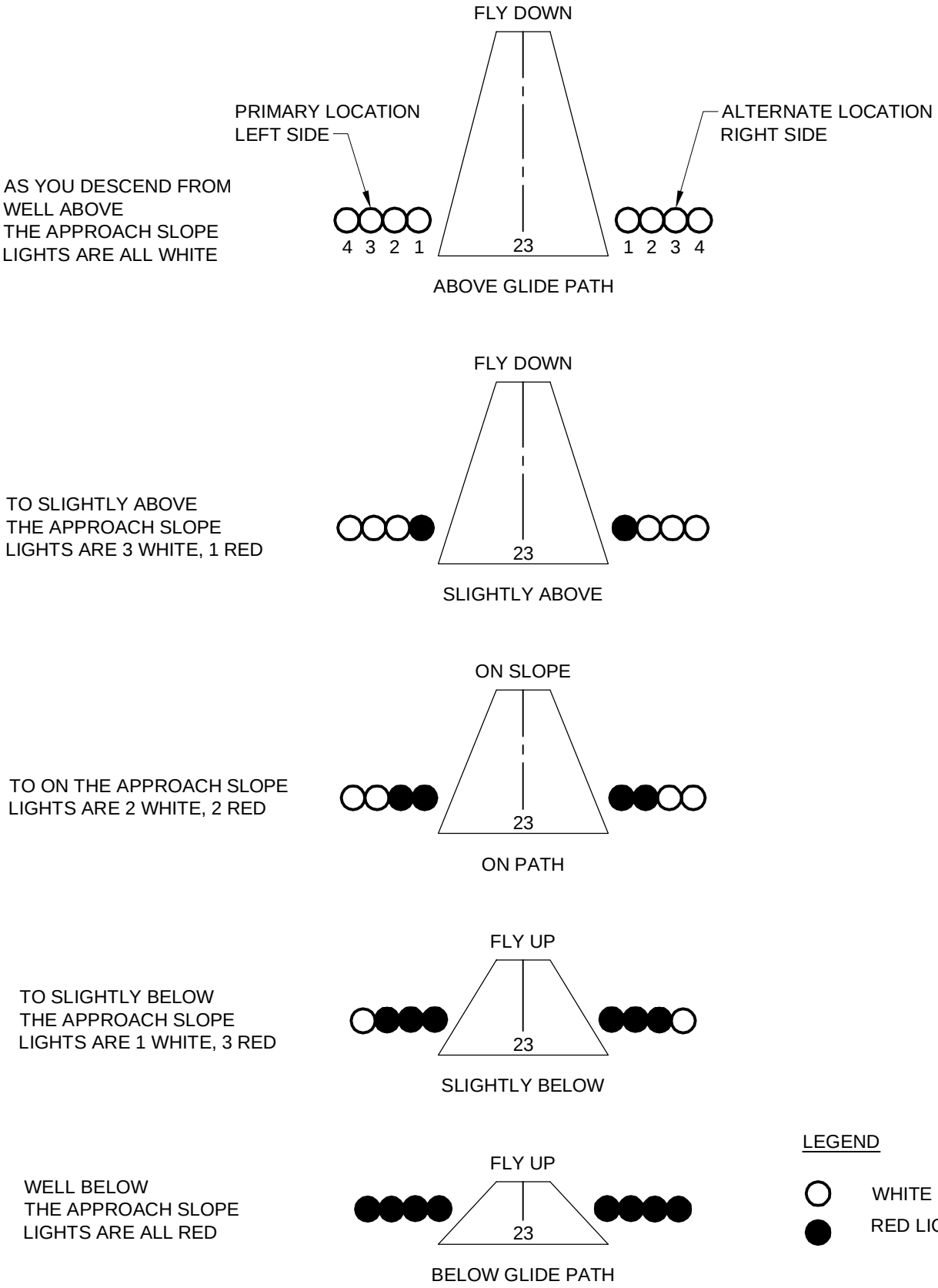


RUNWAY 23 OBSTACLE CLEARANCE SURFACES

SCALE: NTS

REFERENCE
FIGURE: 65C

CAD FILE: 5_6_(Figure_65C)_Runway_23_Obstacle_Clearance_Surfaces.dwg
SEE NOTES TO DESIGNER FILE: 5_6 (Figure 65C)-NTD.PDF



L-880 SIGNAL PRESENTATION

SCALE: NTS

REFERENCE
FIGURE: 65D

CAD FILE: 5_7_(Figure_65D)_L_880_Signal_Presentation.dwg
SEE NOTES TO DESIGNER FILE: 5_7 (Figure 65D)-NTD.PDF

DRAWING NOTES - FIGURE 65D:

1. AIMING PARAMETER TABLE:

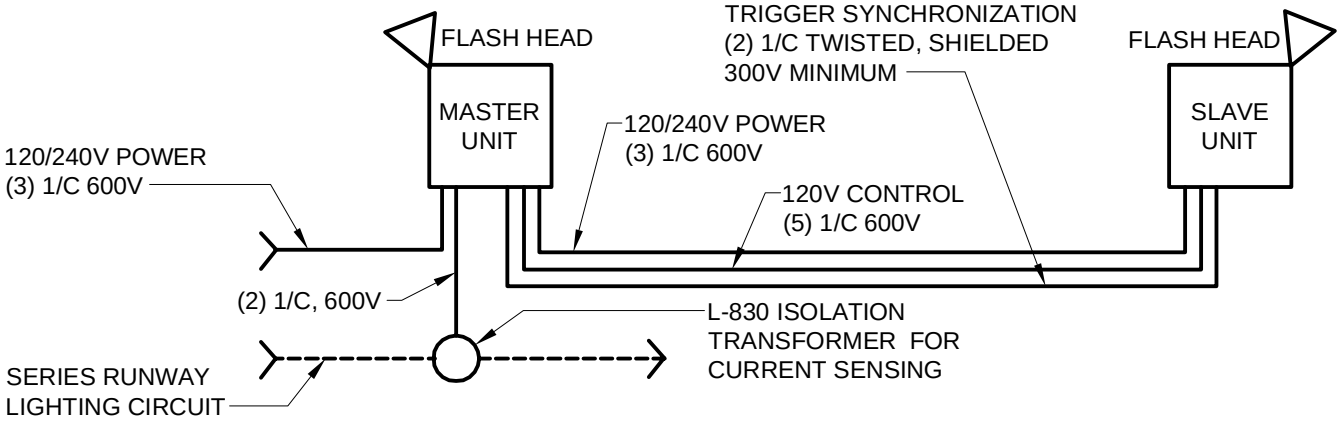
AIMING OF PAPI RELATIVE TO PRE-SELECTED GLIDE PATH

LIGHT UNIT	AIMING ANGLE (IN MINUTES OF ARC)
UNIT NEAREST RUNWAY	30' (MINUTES) ABOVE GLIDE PATH
NEXT ADJACENT UNIT	10' (MINUTES) ABOVE GLIDE PATH
NEXT ADJACENT UNIT	10' (MINUTES) BELOW GLIDE PATH
NEXT ADJACENT UNIT	30' (MINUTES) BELOW GLIDE PATH

2. INSTALLATION TOLERANCE TABLE:

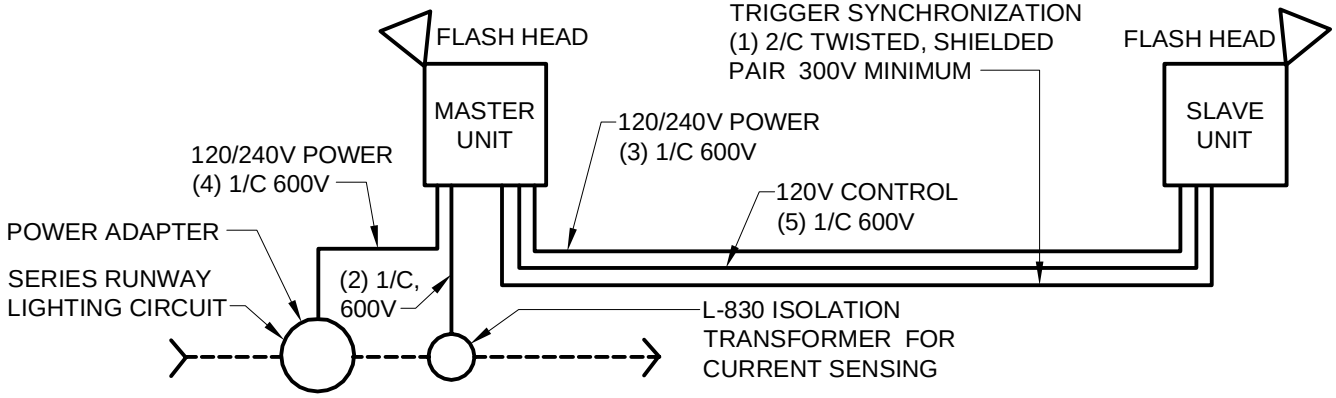
INSTALLATION TOLERANCE

ITEM	TOLERANCE
AZIMUTHAL AIMING	±1/2 DEGREES
MOUNTING HEIGHT TOLERANCE (FROM HORIZONTAL PLANES)	±1" (25mm)
TOLERANCE ALONG LINE PERPENDICULAR TO RUNWAY	±1" (25mm)
HORIZONTAL PLANE THROUGH BEAM CENTER TO ELEVATION OF RUNWAY CENTERLINE AT INTERCEPT POINT	±12" (305mm)



1 120/240 VOLT SYSTEM W/CURRENT SENSING

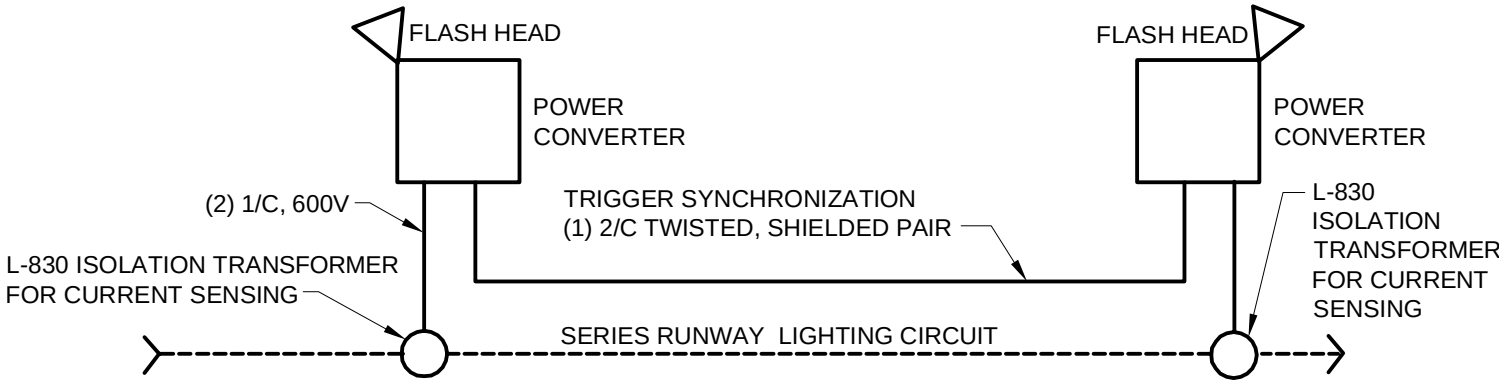
SCALE: NTS



120/240 VOLT SYSTEM WITH POWER ADAPTER AND CURRENT SENSING

2

SCALE: NTS



3 CONSTANT CURRENT SYSTEM WITH CURRENT SENSING

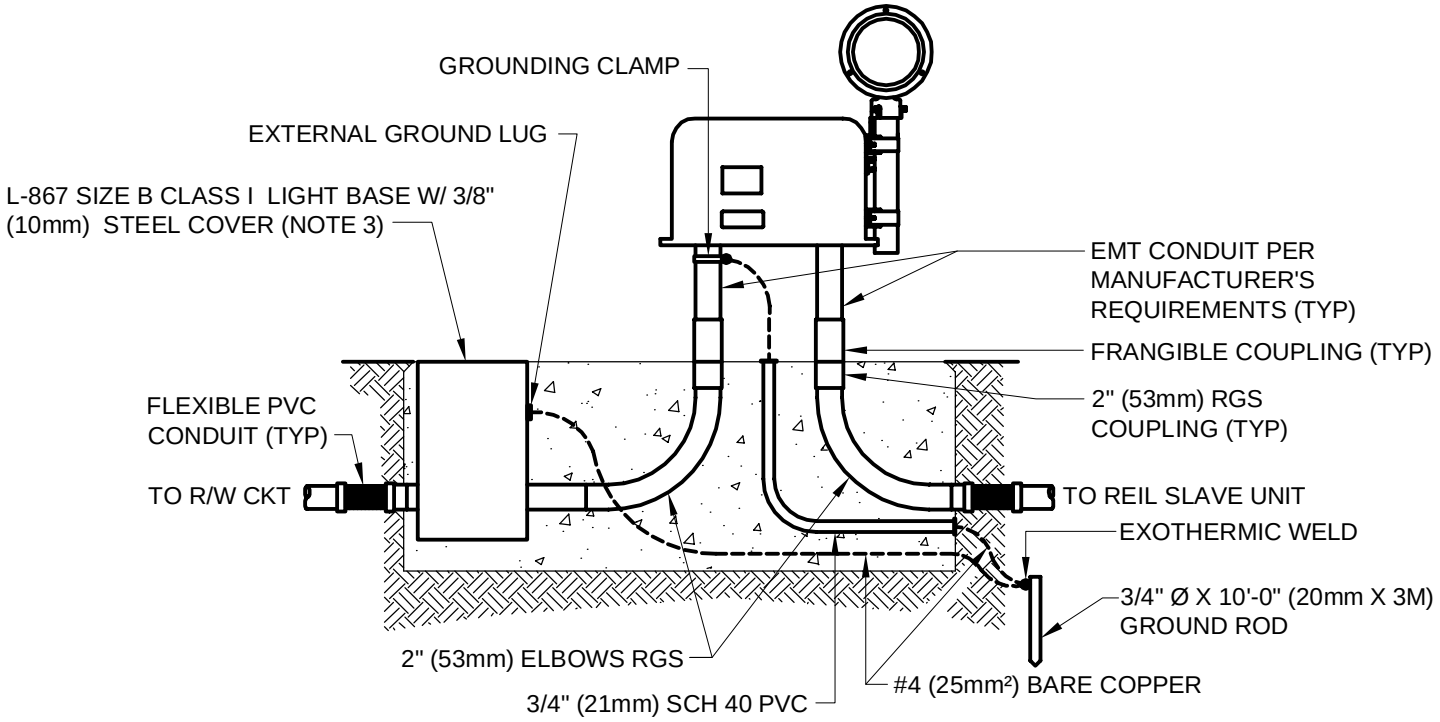
SCALE: NTS

REIL SYSTEMS SCHEMATIC WIRING DIAGRAMS

SCALE: NTS

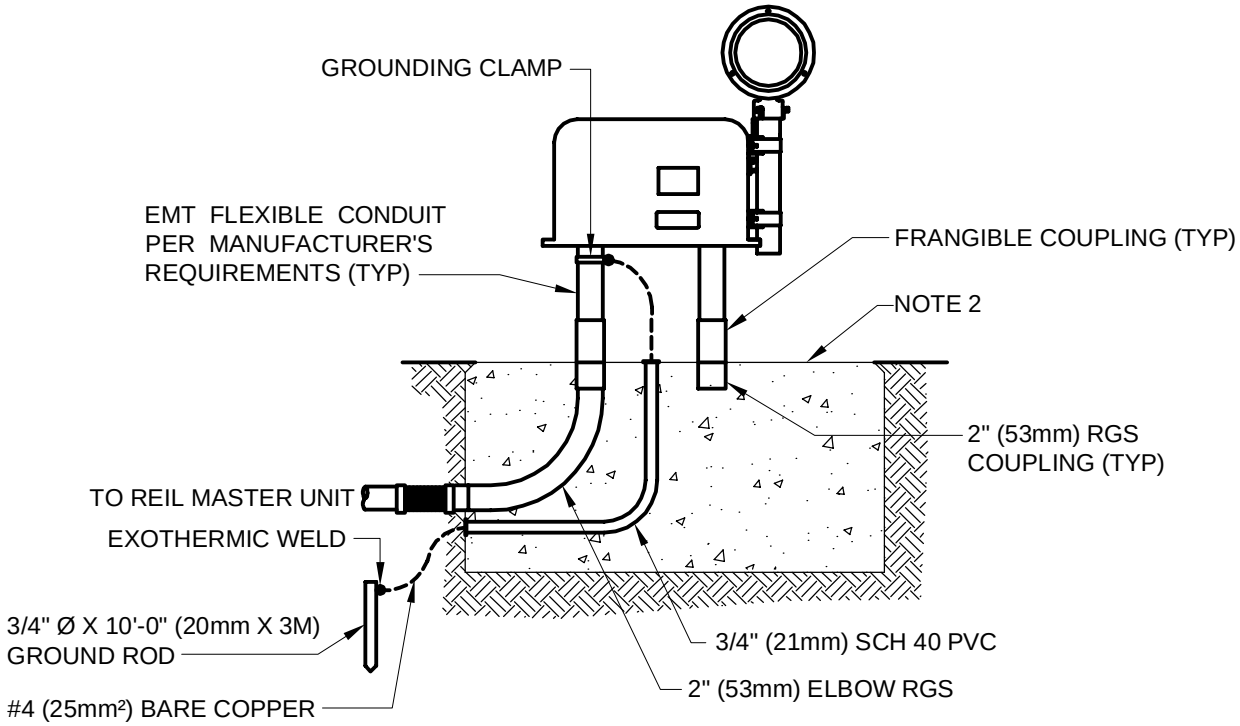
REFERENCE
FIGURE: 66

CAD FILE: 5_8_(Figure_66)_Reil_Systems_Schematic_Wiring_Diagrams.dwg
SEE NOTES TO DESIGNER FILE: 5_8 (Figure 66)-NTD.PDF



REIL MASTER UNIT INSTALLATION

SCALE: NTS



REIL SLAVE UNIT INSTALLATION

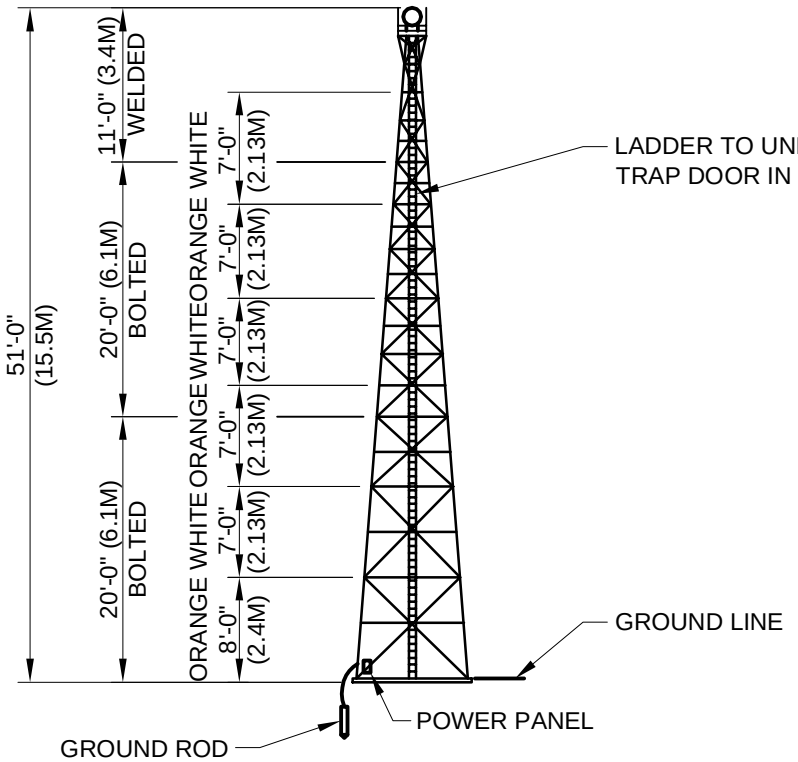
SCALE: NTS

REFERENCE FIGURE: 67

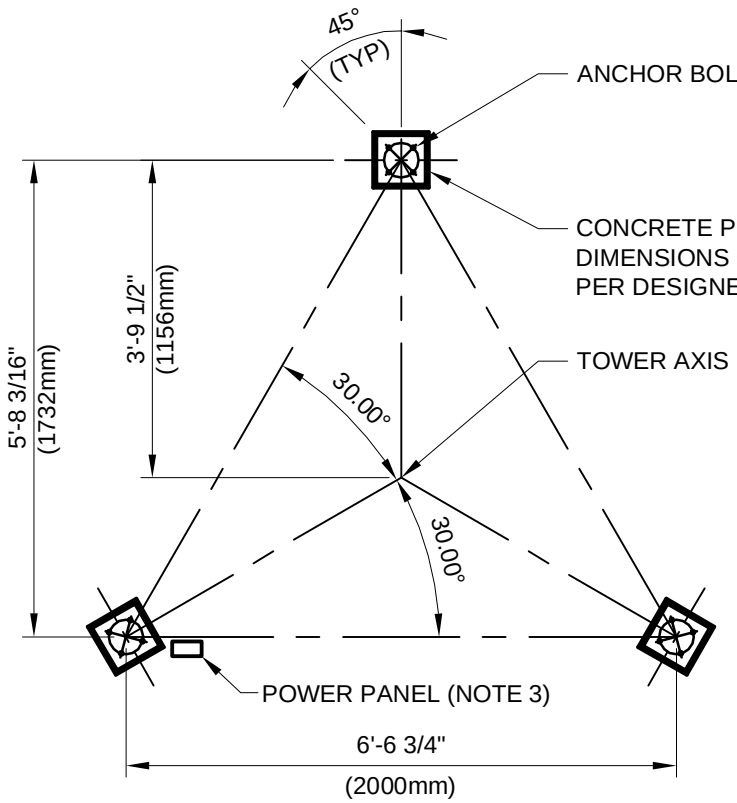
CAD FILE: 5_9_(Figure_67)_Reil_Unit_Master_And_Slave_Installation.dwg
SEE NOTES TO DESIGNER FILE: 5_9 (Figure 67)-NTD.PDF

DRAWING NOTES - FIGURE 67:

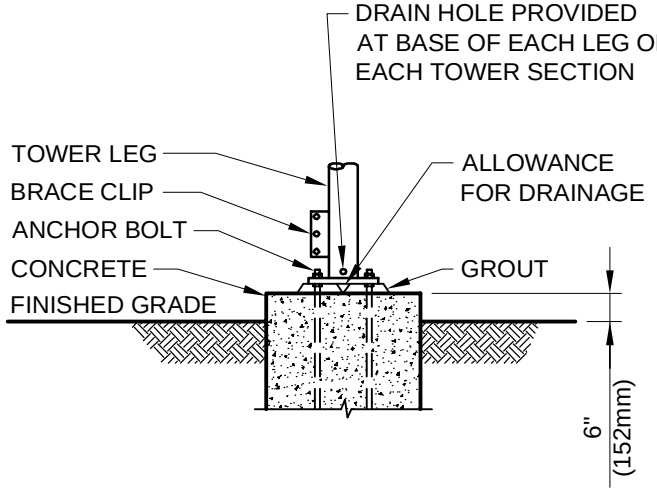
1. DIMENSIONS AND LAYOUT VARY WITH MANUFACTURER. INSTALL PER MANUFACTURER'S REQUIREMENTS.
2. DIMENSION OF CONCRETE FOUNDATION VARIES WITH EQUIPMENT SUPPLIED. DEPTH MUST BE 36" (900mm) OR 6" (150mm) BELOW FROST LINE WHICHEVER IS GREATER.
3. L-867 BASE FOR MOUNTING L-830 ISOLATION TRANSFORMER MAY BE PART OF FOUNDATION OR MOUNTED SEPARATELY.
4. WIRE PER MANUFACTURER'S REQUIREMENTS.
5. INCOMING POWER WIRING AND CONDUIT NOT INDICATED FOR CLARITY. POWER WIRING MAY ENTER L-867 LIGHT BASE IN A SEPARATE CONDUIT FROM THE SERIES CIRCUIT LIGHTING CABLES.



BEACON TOWER TYPICAL COLOR SCHEME



FOUNDATION LAYOUT



GROUTING AND DRAINAGE INFORMATION

51'-0" (15.5M) PRE-FABRICATED BEACON TOWER

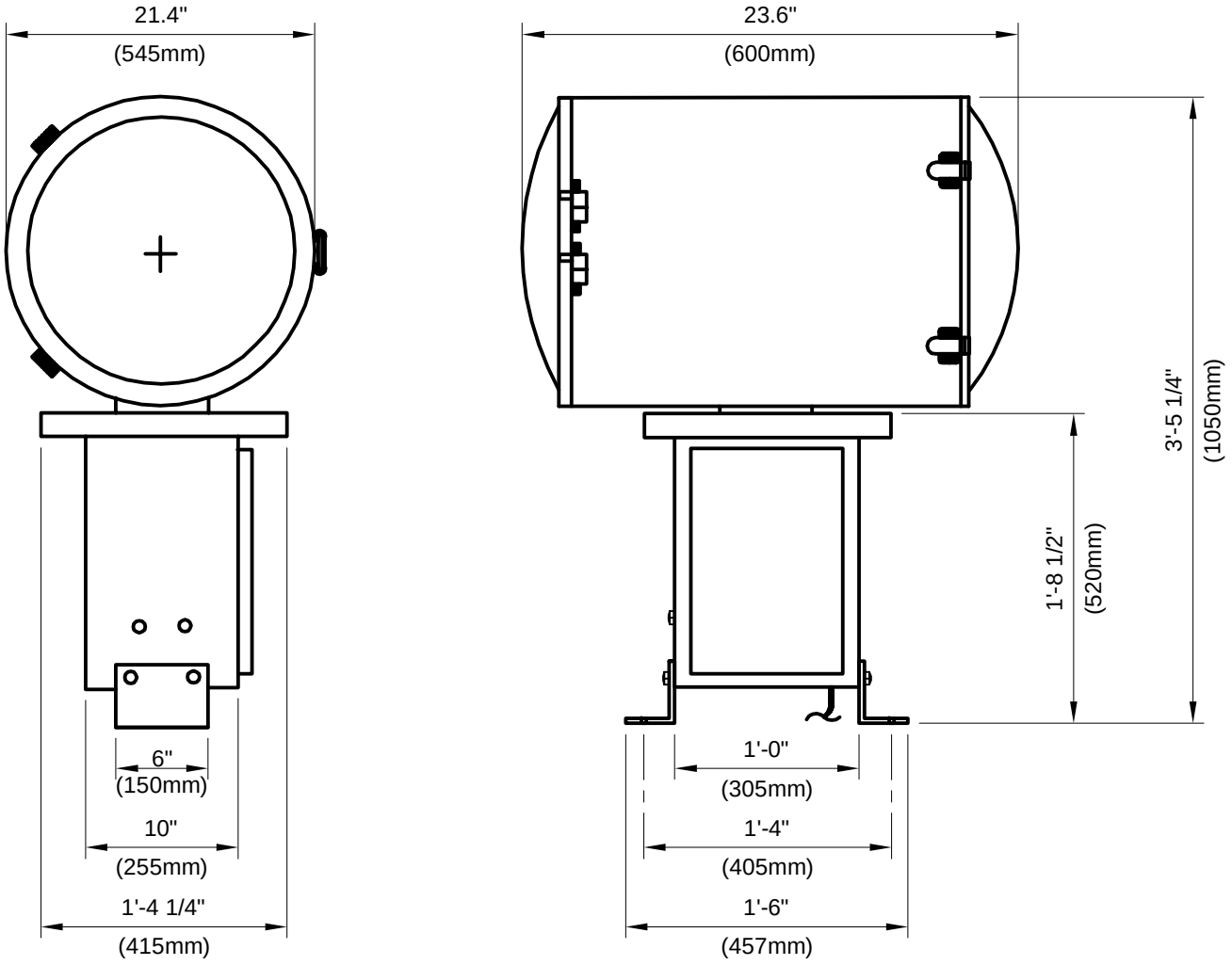
SCALE: NTS

REFERENCE
FIGURE: 68

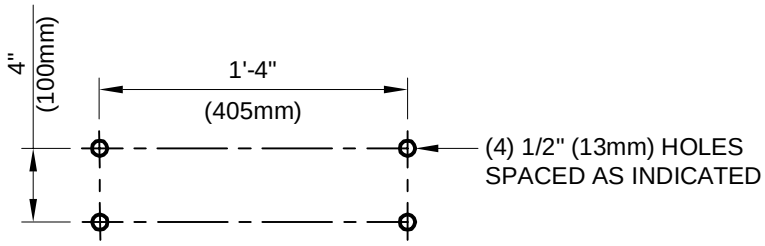
CAD FILE: 6_1_(Figure_68)_51_Foot_Pre_Fabricated_Beacon_Tower.dwg
SEE NOTES TO DESIGNER FILE: 6_1 (Figure 68)-NTD.PDF

DRAWING NOTES - FIGURE 68:

1. LADDER MUST BE FURNISHED WITH OSHA APPROVED SAFETY CLIMBING TOWER.
2. SIZE OF PIERS PER REGISTERED STRUCTURAL ENGINEER.
3. INSTALL POWER PANEL WITH TOP AT 5'-0" (1.5M) ABOVE FINISHED GRADE.
4. PROVIDE CIRCUITS TO TOP OF TOWER FOR BEACON, MOTOR, HEATER, AND OBSTRUCTION LIGHT. PROVIDE DISCONNECT SWITCH FOR EACH CIRCUIT AT TOP OF TOWER.



OVERALL DIMENSIONS



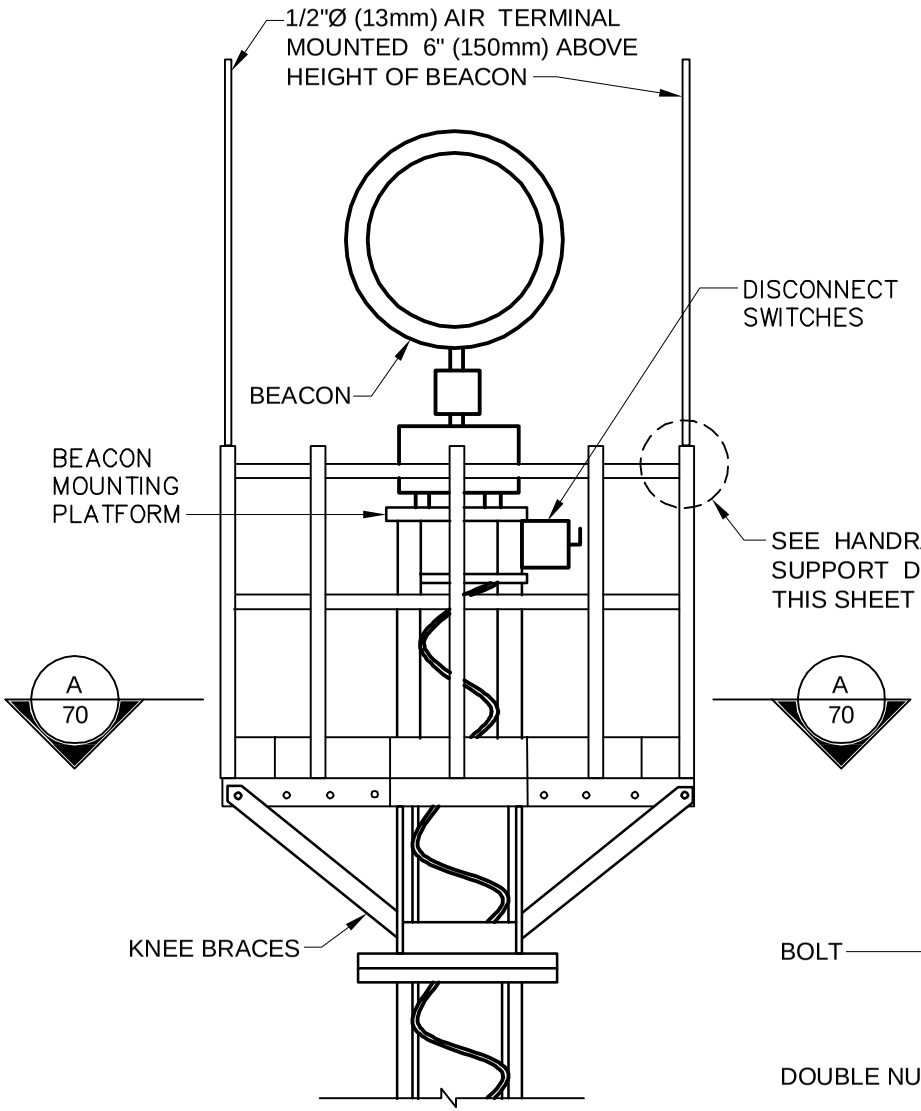
MOUNTING BOLT PATTERN

BEACON DIMENSIONS

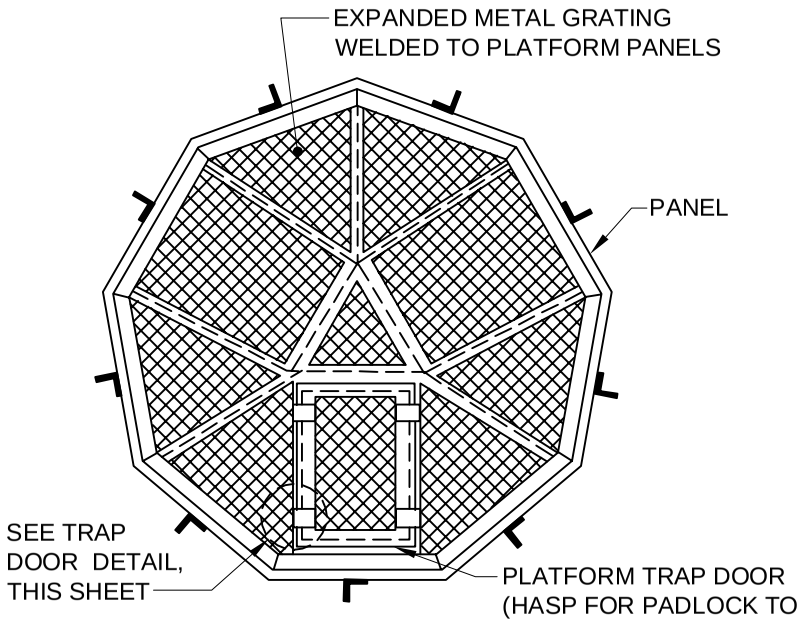
SCALE: NTS

REFERENCE
FIGURE: 69

CAD FILE: 6_2_(Figure_ 69)_Beacon_Dimensions.dwg
SEE NOTES TO DESIGNER FILE: 6_2 (Figure 69)-NTD.PDF



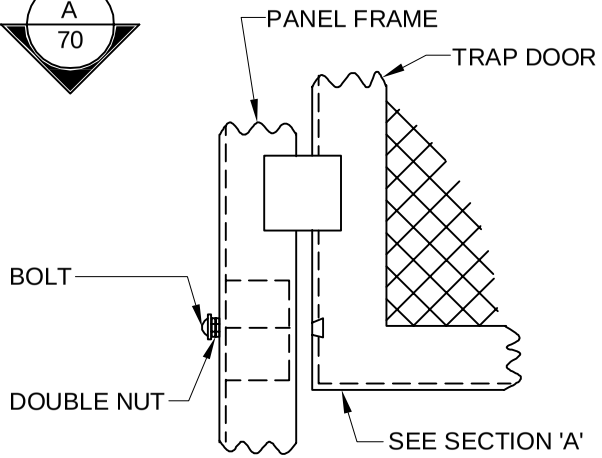
PLATFORM SECTION



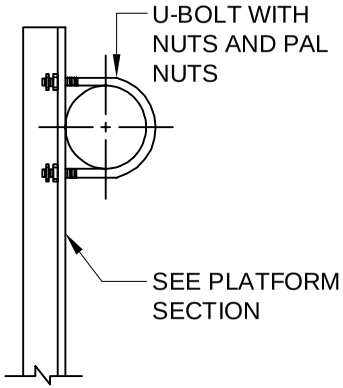
A
70

SECTION

SCALE: NTS



TRAP DOOR DETAIL



HANDRAIL SUPPORT DETAIL

BEACON TOWER PLATFORM DETAILS

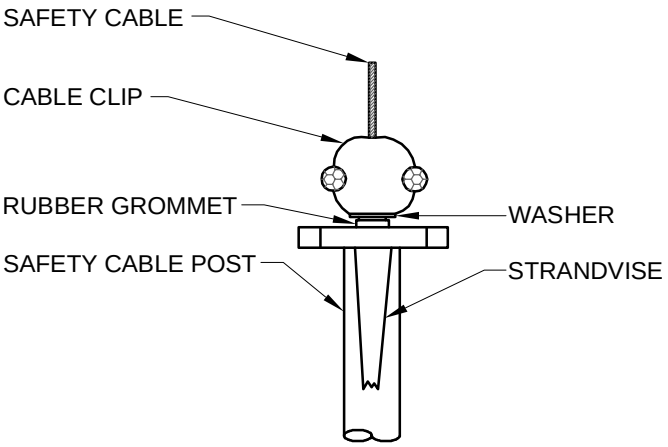
SCALE: NTS

REFERENCE
FIGURE: 70

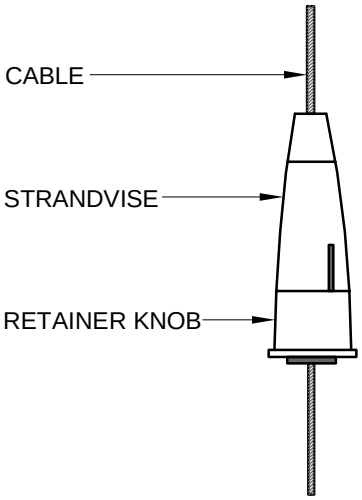
CAD FILE: 6_3_(Figure_70)_Beacon_Tower_Platform_Details.dwg
SEE NOTES TO DESIGNER FILE: 6_3 (Figure 70-NTD.PDF

DRAWING NOTES - FIGURE 70:

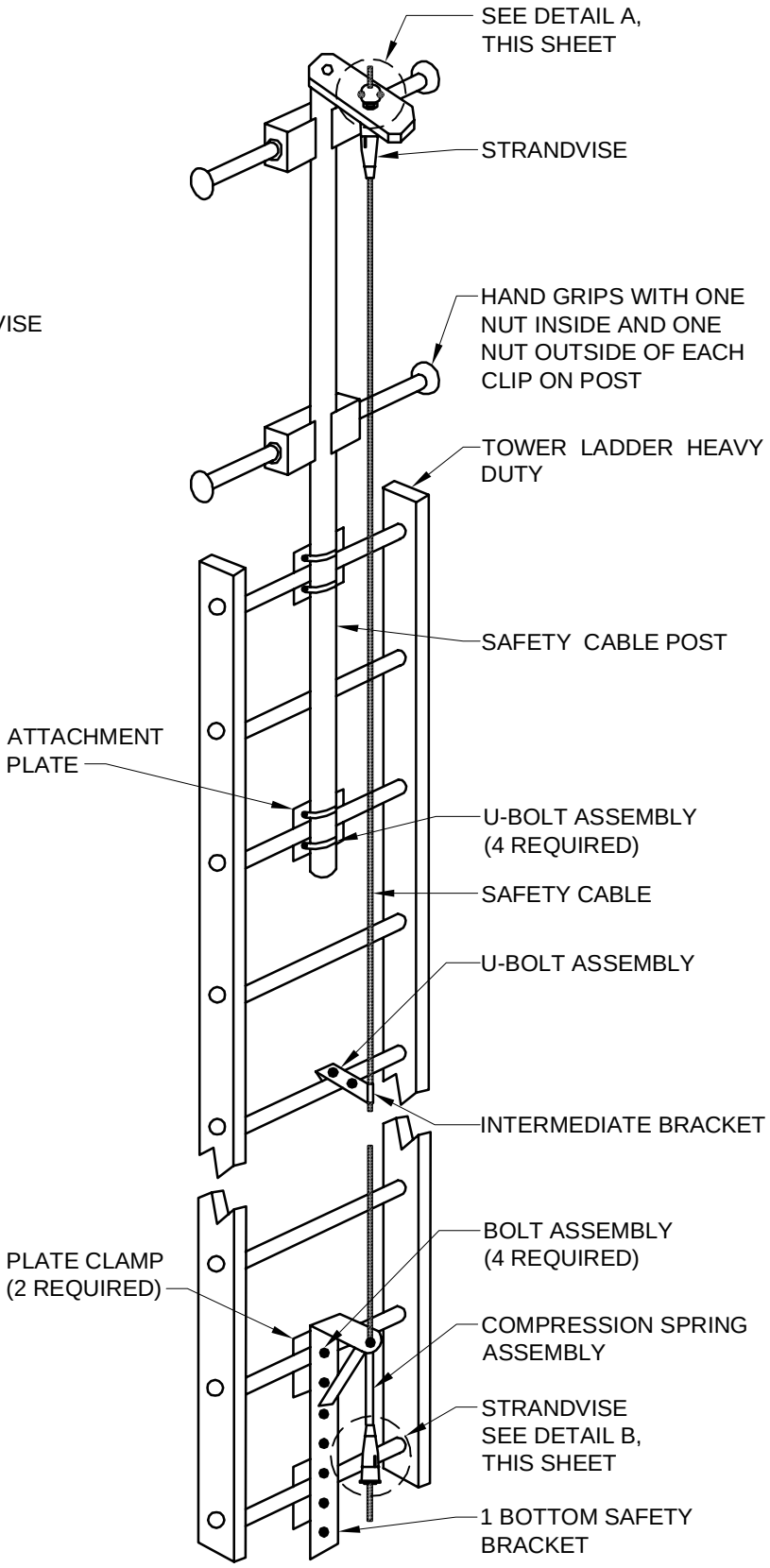
1. ALL TOWER COMPONENTS MUST BE HOT DIPPED GALVANIZED AFTER FABRICATION.
2. INSTALL PER MANUFACTURER'S REQUIREMENTS.
3. LOCATE DISCONNECT SWITCHES ON WALKWAY HANDRAIL OR CENTER STRUCTURE.



A DETAIL
SCALE: NTS



B DETAIL
SCALE: NTS



SAFETY CLIMBING DEVICE DETAIL

TOWER SAFETY CLIMBING DEVICE

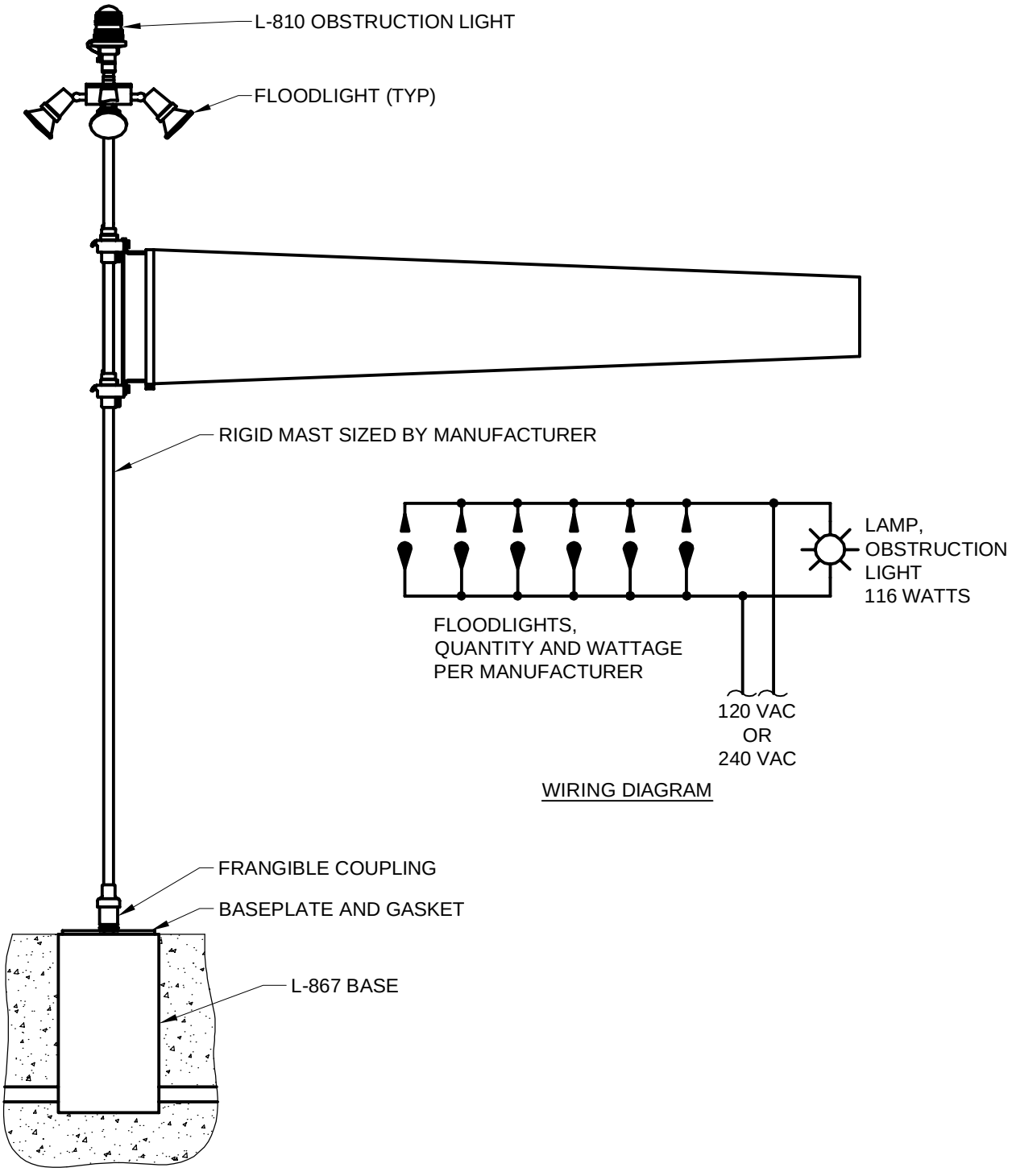
SCALE: NTS

REFERENCE FIGURE: 71

CAD FILE: 6_4_(Figure_71)_Tower_Safety_Climbing_Device.dwg
SEE NOTES TO DESIGNER FILE: 6_4 (Figure 71)-NTD.PDF

DRAWING NOTES - FIGURE 71:

1. INSTALLATION PER MANUFACTURER'S REQUIREMENTS.
2. CONTRACTOR MUST PROVIDE TWO FULL BODY HARNESSES EQUIPPED WITH D-RINGS AT FRONT, BACK, AND BOTH SIDES. HARNESS MUST BE FULLY COMPATIBLE FOR USE WITH SAFETY CLIMBING DEVICE.
3. CONTRACTOR MUST PROVIDE TWO 6' (1829mm) SHOCK ABSORBING LANYARDS, NYLON/DACRON CONSTRUCTION.
4. CLIMBING DEVICE MUST MEET LATEST OSHA AND ANSI STANDARDS.



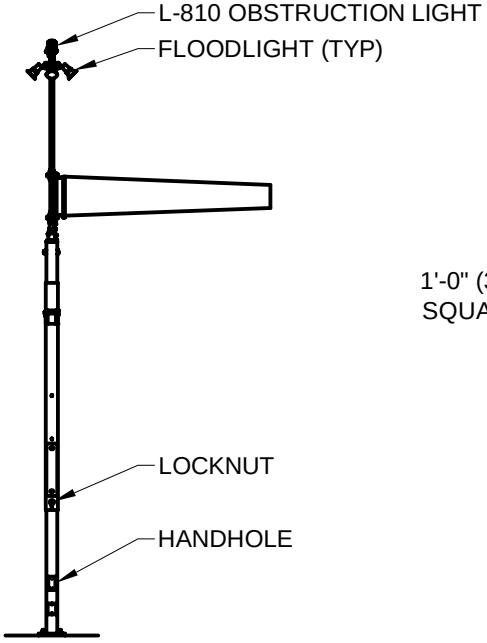
STANDARD ILLUMINATED FRANGIBLE
1'-6" (457mm) WIND CONE ASSEMBLY

L-806 WINDCONE ASSEMBLY (FRANGIBLE)

SCALE: NTS

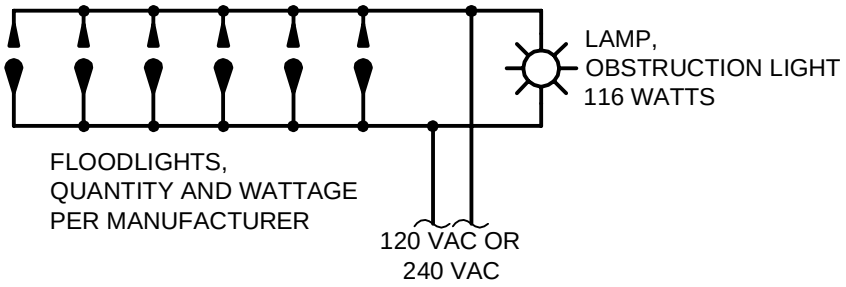
REFERENCE
FIGURE: 72

CAD FILE: 6_5_(Figure_72)_L_806_Windcone_Assembly_(Frangible).dwg
SEE NOTES TO DESIGNER FILE: 6_5 (Figure 72)-NTD.PDF

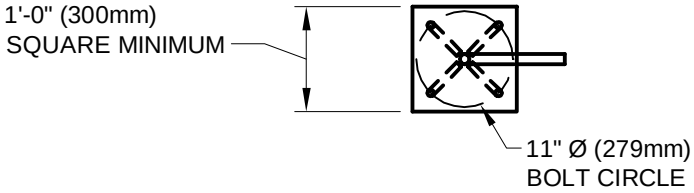


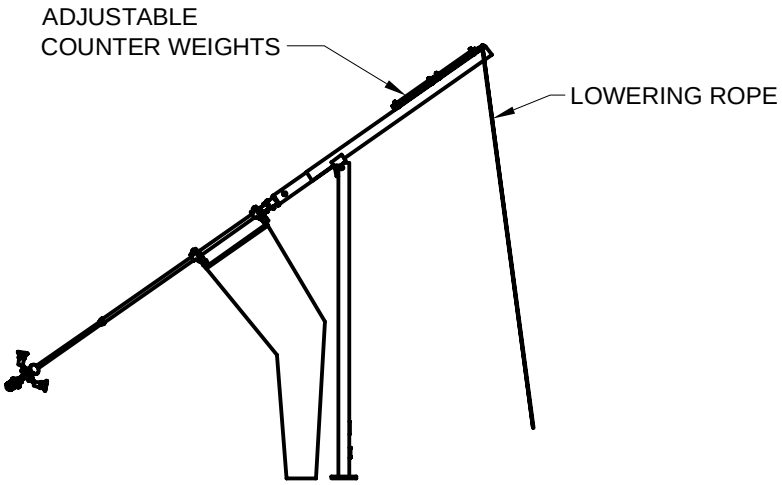
NOTE:
HINGE POINT MAY BE IN MIDDLE,
AS SHOWN, OR AT BASE

STANDARD ILLUMINATED
WIND CONE POLE ASSEMBLY

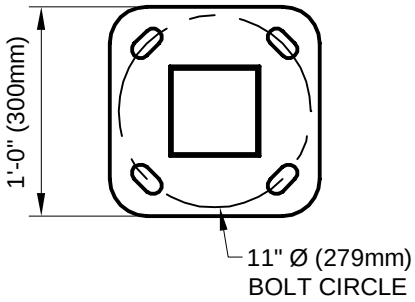


WIRING DIAGRAM

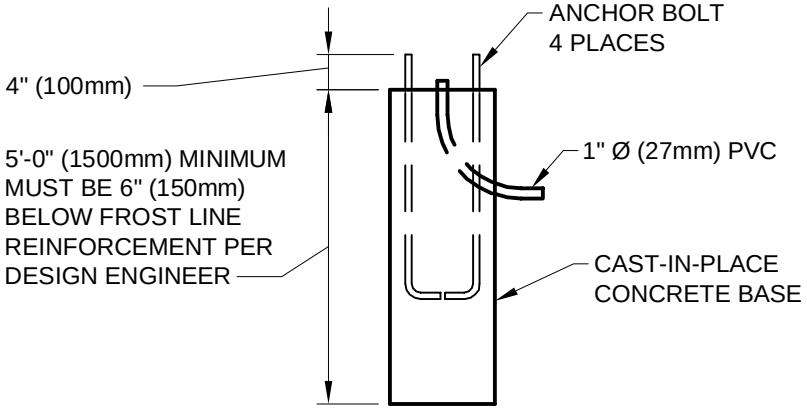




POSITION OF HINGED POLE
LOWERED FOR SERVICING



BASE DIMENSIONS



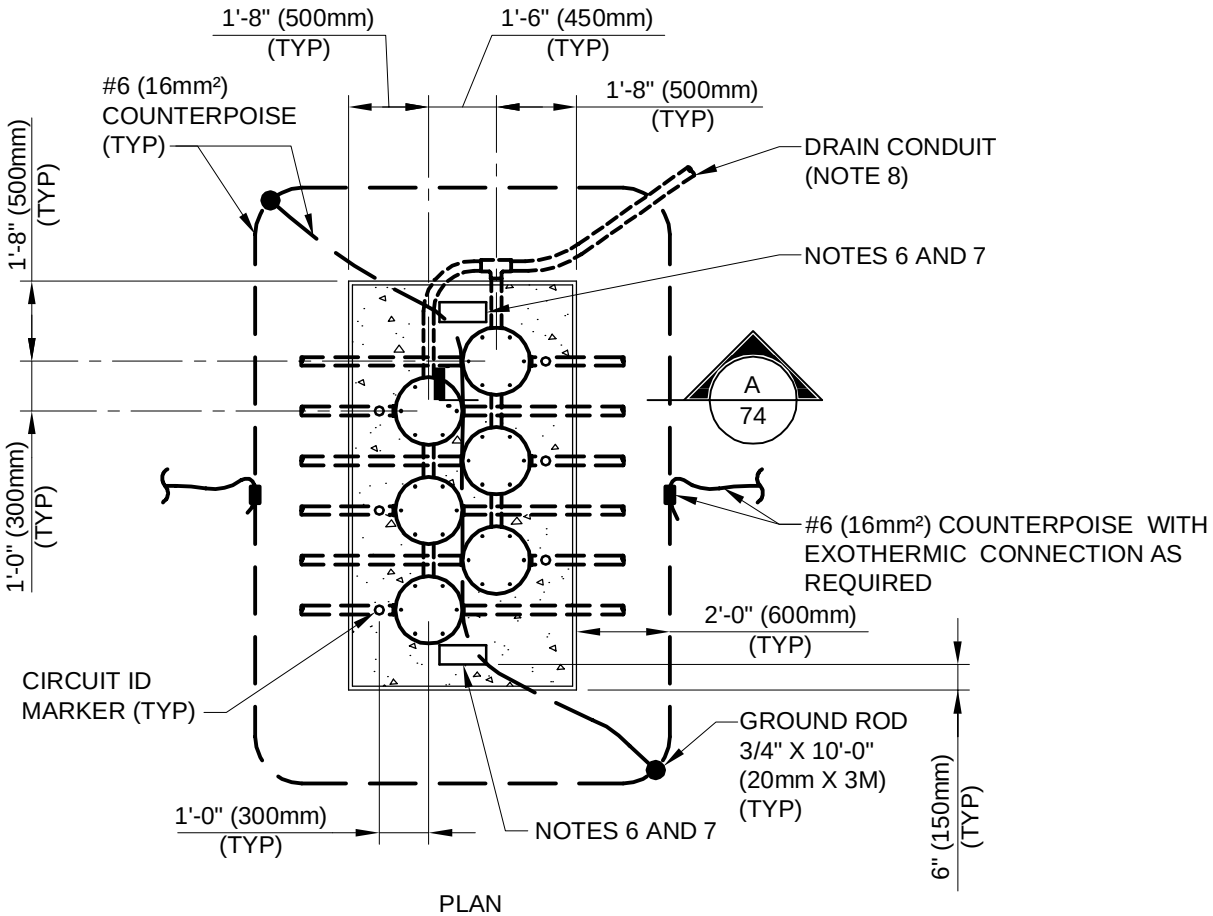
FOUNDATION DETAIL

L-807 WINDCONE ASSEMBLY (RIGID INSTALLATION)

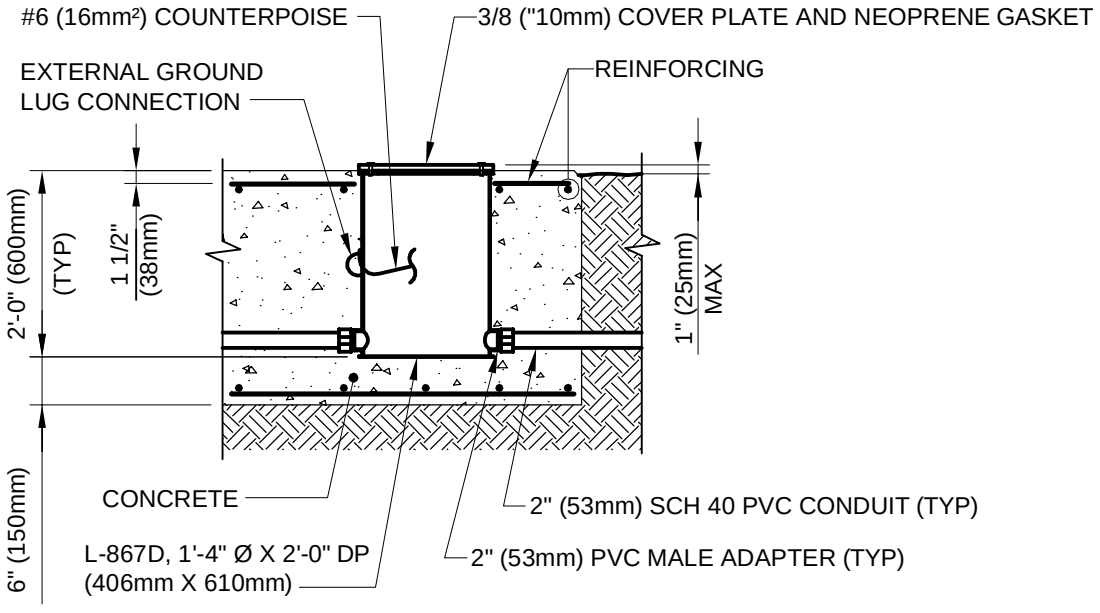
SCALE: NTS

REFERENCE
FIGURE: 73

CAD FILE: 6_6_(Figure_73)_L_807_Windcone_Assembly_(Rigid_Installation).dwg
SEE NOTES TO DESIGNER FILE: 6 6 (Figure 73)-NTD.PDF



PLAN



A
74

SECTION

SCALE: NTS

JUNCTION CAN PLAZA, TYPE A (AIR FORCE ONLY)

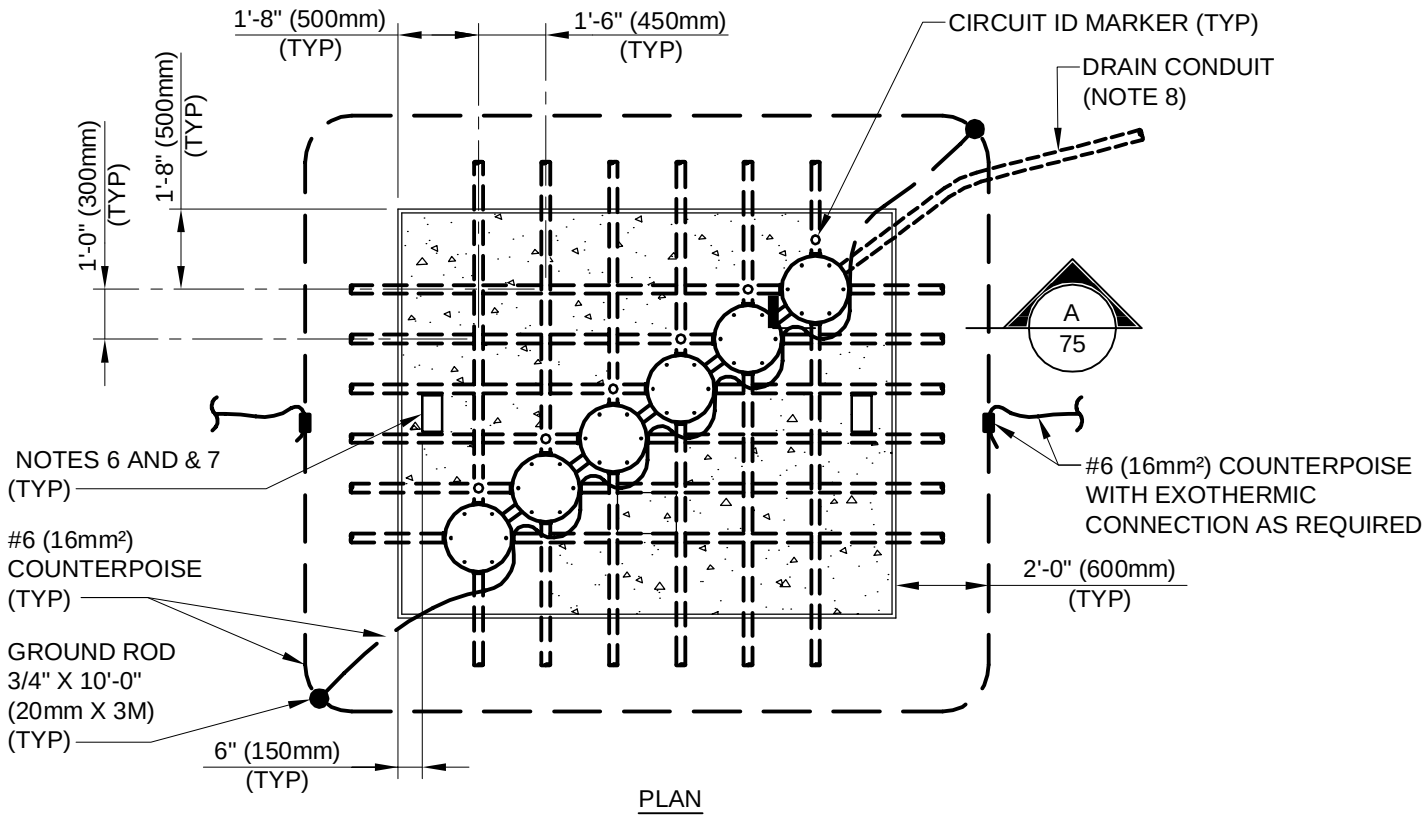
SCALE: NTS

REFERENCE
FIGURE: 74

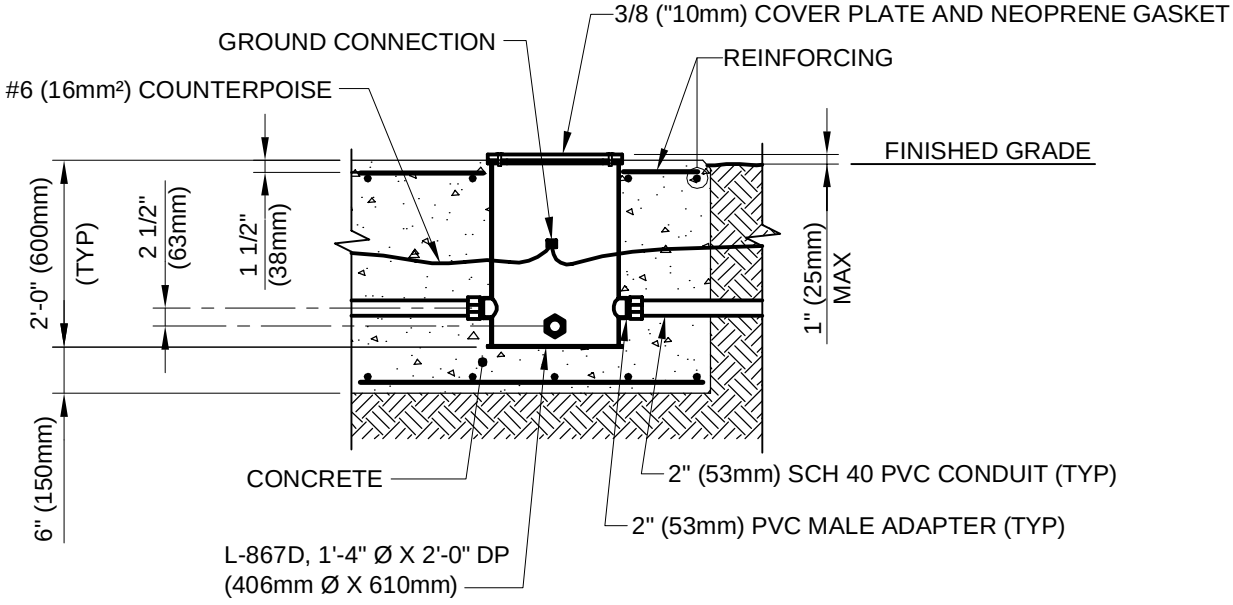
CAD FILE: 6_7_(Figure_74)_Junction_Can_Plaza_ Type_A_(Air_Force_Only).dwg
SEE NOTES TO DESIGNER FILE: 6_7 (Figure 74)-NTD.PDF

DRAWING NOTES - FIGURE 74:

1. NUMBER OF JUNCTION CANS AND CONDUIT CONFIGURATIONS VARY. SEE LAYOUT PLAN SHEETS FOR ORIENTATION.
2. CONDUITS WHICH ARE NOT USED IN THE PROJECT MUST BE CAPPED 12" (300mm) OUTSIDE OF PLAZA CONCRETE.
3. ORIENT PLAZA AS INDICATED ON LAYOUT PLAN SHEETS.
4. CONTRACTOR MUST PROVIDE A 2" (50mm) DIA DOMED BRONZE MARKER AT EACH JUNCTION CAN AS INDICATED. MARKER MUST BE STAMPED WITH CIRCUIT IDENTIFICATION AS INDICATED ON LAYOUT PLAN SHEETS.
5. INSTALL GROUND RODS AND GROUND LOOP AT ALL JUNCTION CAN PLAZAS AS INDICATED. TWO GROUND RODS PER PLAZA LOCATED AT OPPOSITE CORNERS MUST BE PROVIDED. COUNTERPOISE MUST BE LOCATED NOMINALLY 12" (300mm) BELOW EXISTING GRADE.
6. CONTRACTOR MUST LABEL 2 ENDS OF EACH JUNCTION CAN PLAZA (JCP) BY IMPRESSING THE JCP IDENTIFICATION NUMBER INTO THE CONCRETE FOUNDATION DURING PLACEMENT. LETTERS AND NUMBERS MUST BE 4" (100mm) IN HEIGHT, PROPORTIONAL IN WIDTH, AND HAVE A STROKE WIDTH OF 1/2" (13mm) AND 1/4" (6mm) DEPTH.
7. SEE LAYOUT PLAN SHEETS FOR JCP IDENTIFICATION NUMBERS.
8. DRAIN CONDUITS MUST BE PROVIDED WHERE INDICATED ON THE LIGHTING AND SIGNAGE LAYOUT SHEETS. SEE FIGURE 76 FOR CONNECTION TO JUNCTION CANS.



PLAN



A
75
SECTION

SCALE: NTS

JUNCTION CAN PLAZA, TYPE B

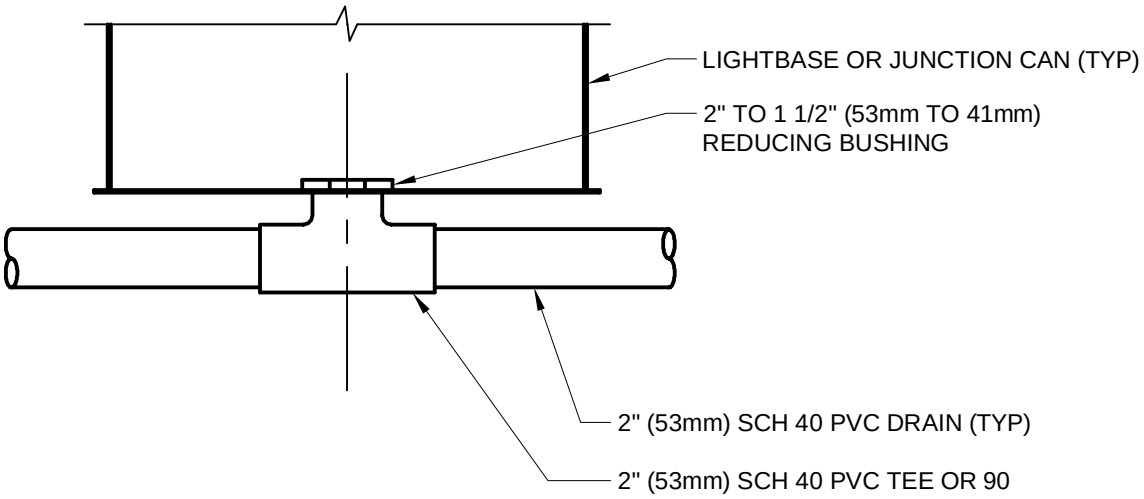
SCALE: NTS

REFERENCE
FIGURE: 75

CAD FILE: 6_8_(Figure_75)_Junction_Can_Plaza_ Type_B.dwg
SEE NOTES TO DESIGNER FILE: 6_8 (Figure 75)-NTD.PDF

DRAWING NOTES - FIGURE 75:

1. NUMBER OF JUNCTION CANS AND CONDUIT CONFIGURATIONS VARY. SEE LAYOUT PLAN SHEETS FOR ORIENTATION.
2. CONDUITS WHICH ARE NOT USED IN THE PROJECT MUST BE CAPPED 12" (300mm) OUTSIDE OF PLAZA CONCRETE.
3. ORIENT PLAZA AS INDICATED ON LAYOUT PLAN SHEETS.
4. CONTRACTOR MUST PROVIDE A 2" (50mm) DIAMETER DOMED BRONZE MARKER AT EACH JUNCTION CAN AS INDICATED. MARKER MUST BE STAMPED WITH CIRCUIT IDENTIFICATION AS INDICATED ON LAYOUT PLAN SHEETS.
5. INSTALL GROUND RODS AND GROUND LOOP AT ALL JUNCTION CAN PLAZAS AS INDICATED. TWO GROUND RODS PER PLAZA LOCATED AT OPPOSITE CORNERS MUST BE PROVIDED. COUNTERPOISE MUST BE LOCATED NOMINALLY 12" (300mm) BELOW EXISTING GRADE.
6. CONTRACTOR MUST LABEL 2 ENDS OF EACH JUNCTION CAN PLAZA (JCP) BY IMPRESSING THE JCP IDENTIFICATION NUMBER INTO THE CONCRETE FOUNDATION DURING PLACEMENT. LETTERS AND NUMBERS MUST BE 4" (100mm) IN HEIGHT, PROPORTIONAL IN WIDTH, AND HAVE A STROKE WIDTH OF 1/2" (13mm) AND 1/4" (6mm) DEPTH.
7. SEE LAYOUT PLAN SHEETS FOR JCP IDENTIFICATION NUMBERS.
8. PROVIDE DRAIN CONDUITS WHERE INDICATED ON THE LIGHTING AND SIGNAGE LAYOUT SHEETS. SEE FIGURE 76 FOR CONNECTION TO JUNCTION CANS.



DRAINS FOR JUNCTION CANS (AIR FORCE ONLY)

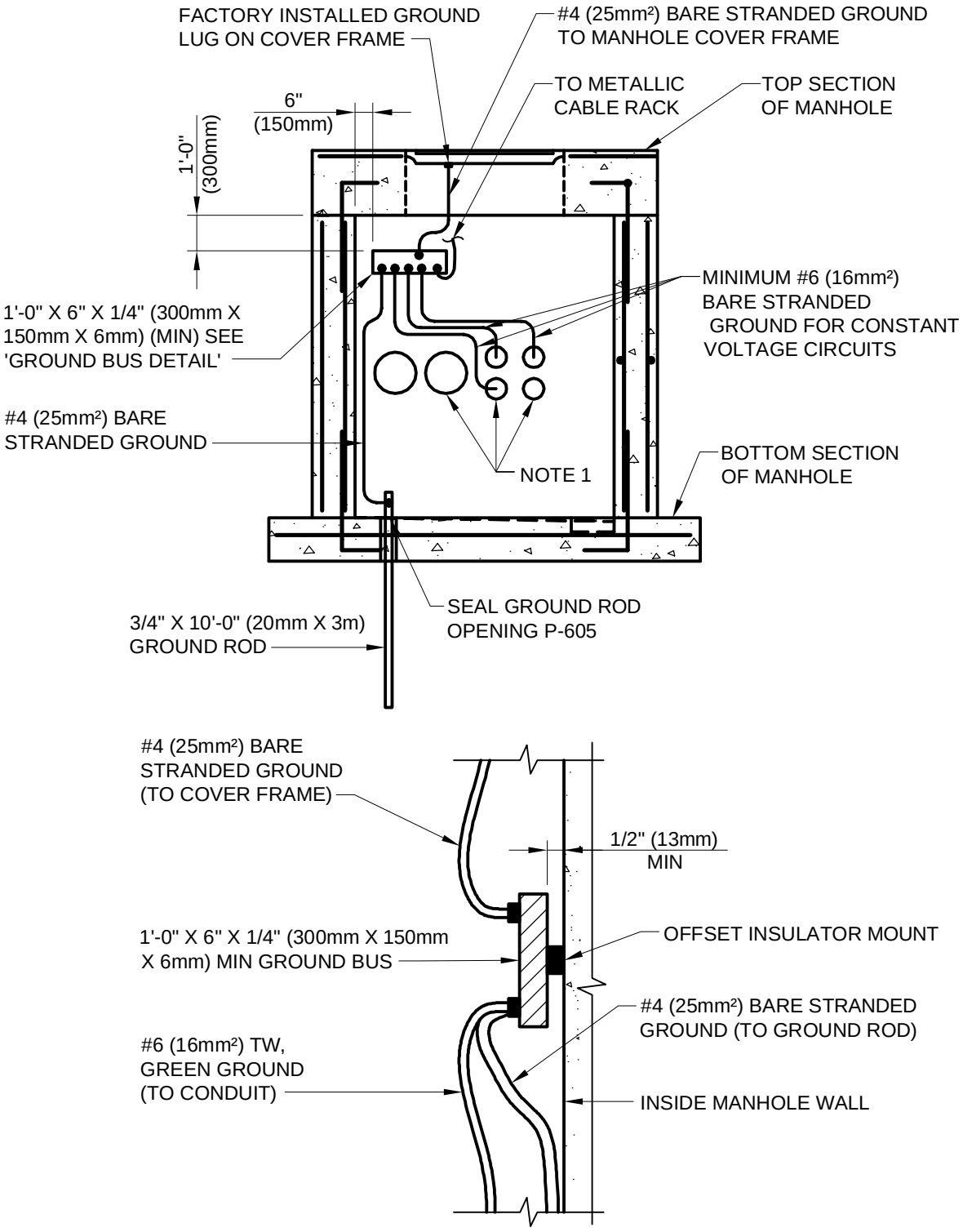
SCALE: NTS

REFERENCE
FIGURE: 76

CAD FILE: 6_9_(Figure_76)_Drains_For_Junction_Cans_(Air_Force_Only).dwg
SEE NOTES TO DESIGNER FILE: 6_9 (Figure 76)-NTD.PDF

DRAWING NOTES - FIGURE 76:

1. SEE LAYOUT PLAN SHEETS FOR LOCATION OF DRAIN CONDUITS.
2. SLOPE DRAIN CONDUITS 1/8" PER FOOT (3mm PER 300mm) MINIMUM TOWARD DRAINAGE STRUCTURES.
3. PENETRATE INLET/MANHOLE WITH DRAIN CONDUIT ABOVE STORM SEWER PIPES WHERE POSSIBLE WHILE MAINTAINING SLOPE REQUIREMENT.
4. SEAL ENTRY AROUND DRAIN CONDUIT AT THE INLET/MANHOLE WITH COMPATIBLE NON-SHRINK GROUT.



GROUND BUS DETAIL

1 GROUNDING DETAIL FOR AIRFIELD LIGHTING MANHOLE

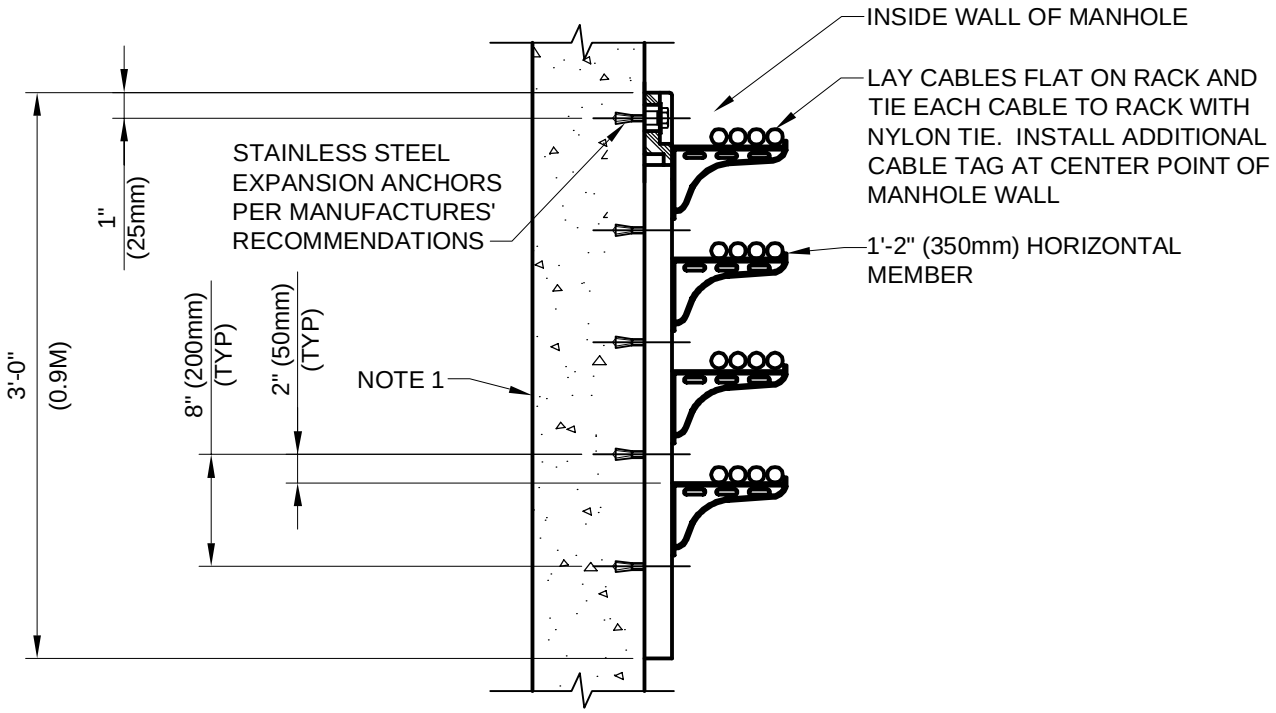
SCALE: NTS

REFERENCE
FIGURE: 80A

CAD FILE: 6_13_(Figure_80A)_Grounding_Detail_For_Airfield_Liighting_Manhole.dwg
SEE NOTES TO DESIGNER FILE: 6_13 (Figure 80A)-NTD.PDF

DRAWING NOTES - FIGURE 80A:

1. ALL CONDUITS THAT CONTAIN COPPER CABLES FOR CONSTANT VOLTAGE CIRCUITS MUST BE EQUIPPED WITH A MINIMUM #6 (16 SQUARE mm), TW GREEN GROUND WIRE. ALL CONDUITS THAT ARE EMPTY MUST NOT CONTAIN A GROUND WIRE.
2. GROUND ALL METALLIC PARTS OF THE MANHOLE WITH A #4 (25 SQUARE mm) BARE STRANDED GROUND WIRE.
3. THE CONTRACTOR MUST INSTALL A 200 LB POLYPROPYLENE PULL ROPE/STRING IN EACH DUCT AND CONDUIT INSTALLED AND PLUG OR CAP THE DUCT. THE ROPE MUST BE SECURELY ATTACHED TO THE PULL IRON IN EACH MANHOLE, OR A STAKE WHERE THE DUCT TERMINATES UNDERGROUND.
4. ALL MANHOLES MUST BE INSTALLED AS INDICATED ON THE PLANS. COORDINATE FINAL LOCATION WITH GRADING AND DRAINAGE PLANS. WHEN EXTENDING EXISTING DUCT TO NEW MANHOLE, PUT MANHOLE IN LINE WITH EXISTING DUCT WHEN POSSIBLE. MANHOLES MUST NOT BE INSTALLED IN DITCHES, DRAINAGE SWALES OR WHERE WATER WILL POND ON TOP OF THE MANHOLE.
5. ALL PVC CONDUIT AND FITTINGS MUST BE SCHEDULE 40 AND MUST BE U.L. LISTED.
6. PVC PLUGS MUST BE INSTALLED IN EACH EMPTY SLEEVE AND DUCT.
7. PROVIDE PULLING IRONS ON ALL WALLS OPPOSITE CONDUIT ENTRY POINTS.
8. ALL WALL REINFORCEMENT (LOOP AND VERTICAL) AFFECTED BY DUCTWORK MUST BE RELOCATED ON EITHER SIDE OF THE DUCT AND DETAILED IN THE SUBMITTAL.
9. THE CONTRACTOR MUST SUBMIT SHOP DRAWINGS SHOWING ALL REINFORCING STEEL AND OTHER CONSTRUCTION DETAILS (SHIP-LAP JOINT, ETC.) PRIOR TO FABRICATION.
10. EACH DUCT CROSSING UNDER PAVEMENT MUST BE LOCATED AND DIMENSIONED ON THE RECORD DRAWINGS, ACCURATE TO 0.5' (150mm). THE ENTRANCE AND EXIT FROM UNDER THE PAVEMENT MUST BE MARKED WITH AN EMBEDDED ID MARKER AND STAMPED WITH THE DUCT BANK NUMBER.



2 CABLE RACK OPTION DETAIL

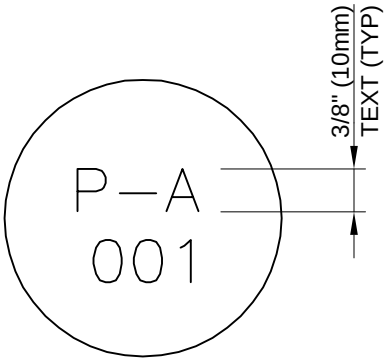
SCALE: NTS

REFERENCE
FIGURE: 80B

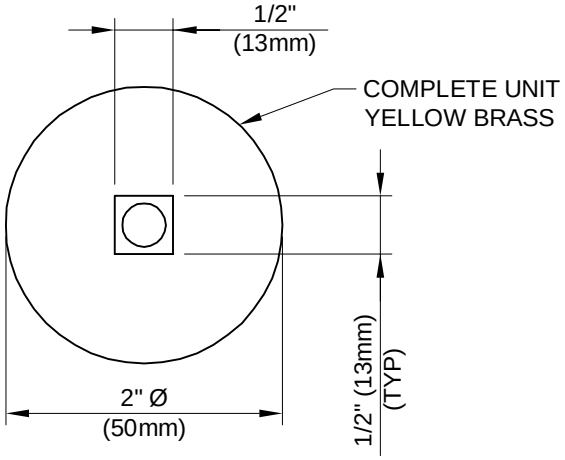
CAD FILE: 6_13_(Figure_80B)_Cable_Rack_Option_Detail.dwg
SEE NOTES TO DESIGNER FILE: 6_13 (Figure 80B)-NTD.PDFF

DRAWING NOTES - FIGURE 80B:

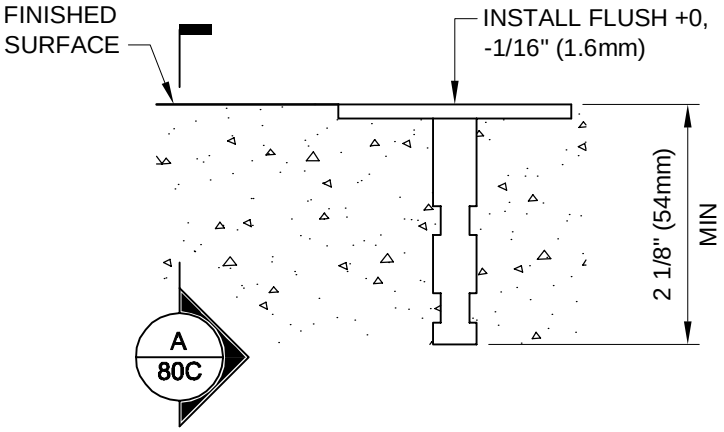
1. THE CABLE RACKING SYSTEM MUST BE RATED FOR 300 LBS. CABLE RACKS MUST BE PLACED ON ALL MANHOLE WALLS WHETHER CURRENTLY USED OR NOT. CABLES MUST BE TIED TO RACKS USING CABLE TIES.
2. GROUND ALL METALLIC PARTS OF THE MANHOLE WITH A #4 BARE STRANDED GROUND WIRE.

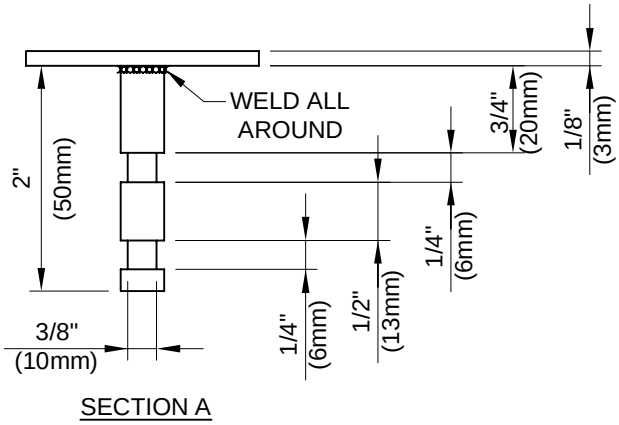


ID TEXT (TYPICAL)



PLAN





SECTION A

A
80C
SECTION
SCALE: NTS

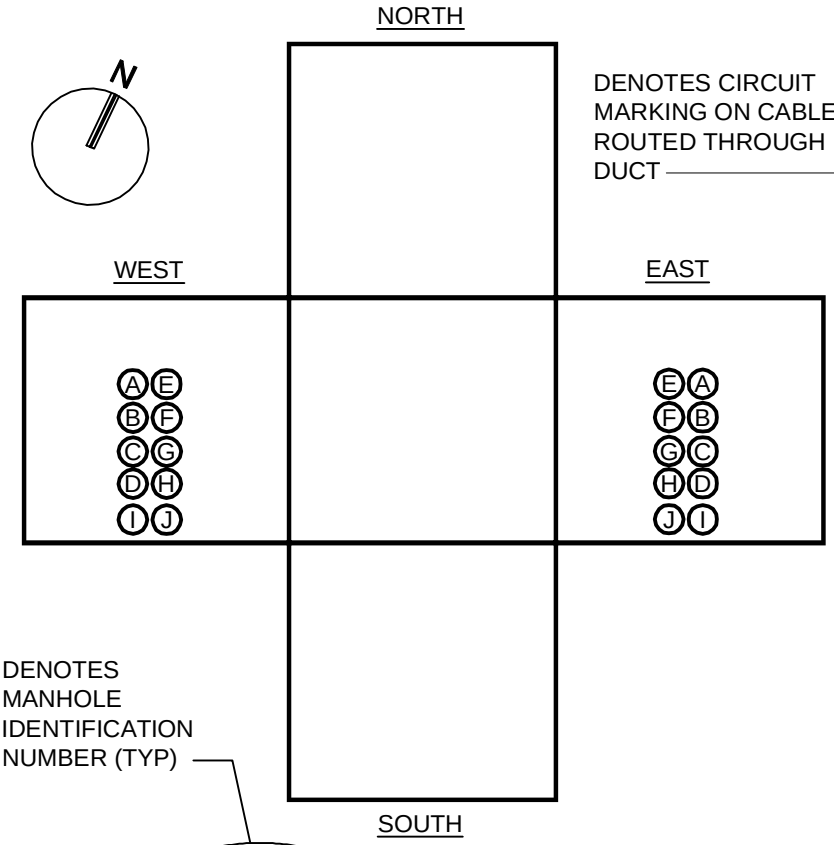
3 BRASS SURVEY MARKER DETAIL
SCALE: NTS

REFERENCE
FIGURE: 80C

CAD FILE: 6_13_(Figure_80C)_Brass_Survey_Marker_Detail.dwg
SEE NOTES TO DESIGNER FILE: 6_13 (Figure 80C)-NTD.PDFF

DRAWING NOTES - FIGURE 80C:

1. PROVIDE A BRASS SURVEY MARKER WITH ID TEXT STAMPED INTO IT FOR EACH AIRFIELD LIGHTING MANHOLE.



DENOTES CIRCUIT MARKING ON CABLES ROUTED THROUGH DUCT

EAST

A-2" – R05GL-21
B-2" – R05DM-18
C-2" – 05SSALR-17
D-2" – 05ALSF-16
E-2" – 05ALSF-15
F-2" – 05ALSF-14
G-2" – 05ALSF-13
H-2" – ILS-7
I-4" – SPARE
J-4" – SPARE

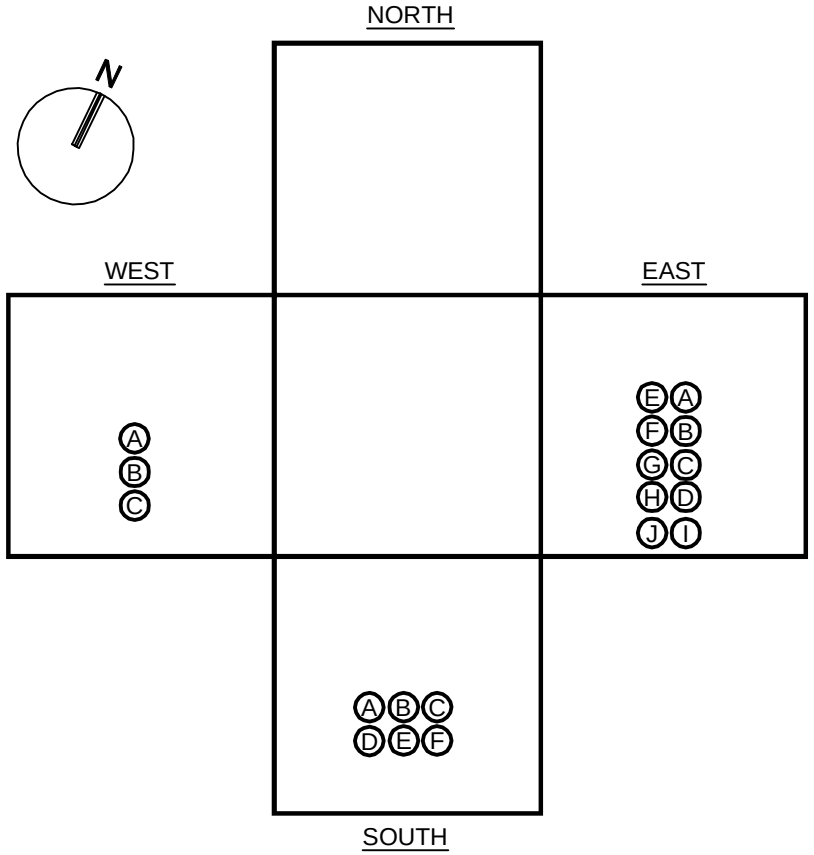
WEST

A-2" – R05GL-21
B-2" – R05DM-18
C-2" – 05SSALR-17
D-2" – 05ALSF-16
E-2" – 05ALSF-15
F-2" – 05ALSF-14
G-2" – 05ALSF-13
H-2" – ILS-7
I-4" – SPARE
J-4" – SPARE

DENOTES MANHOLE IDENTIFICATION NUMBER (TYP)

MANHOLE P-A-028 5'-0" (1.5M) X 5'-0" (1.5M)

SCALE: NTS



WEST

A-4" – SPARE
B-4" – ILS-7
C-2" – RO5E-1

EAST

A-2" – R05GL-21
B-2" – R05E-1
C-2" – 05SSALR-17
D-2" – 05ALSF-16
E-2" – 05ALSF-15
F-2" – 05ALSF-14
G-2" – 05ALSF-13
H-2" – ILS-7
I-4" – SPARE
J-4" – SPARE

SOUTH

A-2" – R05GL-21
B-2" – 05SSALR-17
C-2" – 05ALSF-16
D-2" – 05ALSF-15
E-2" – 05ALSF-14
F-2" – 05ALSF-13

MANHOLE P-A-027 5'-0" (1.5M) X 5'-0" (1.5M)

SCALE: NTS

FIGURE: 80D REFERENCE

CAD FILE: 6_14_(Figure_80D)_Manhole_P_A_027_And_P_A_028_Butterfly_Diagrams.dwg
SEE NOTES TO DESIGNER FILE: 6_14 (Figure 80I-A)-NTD.PDF

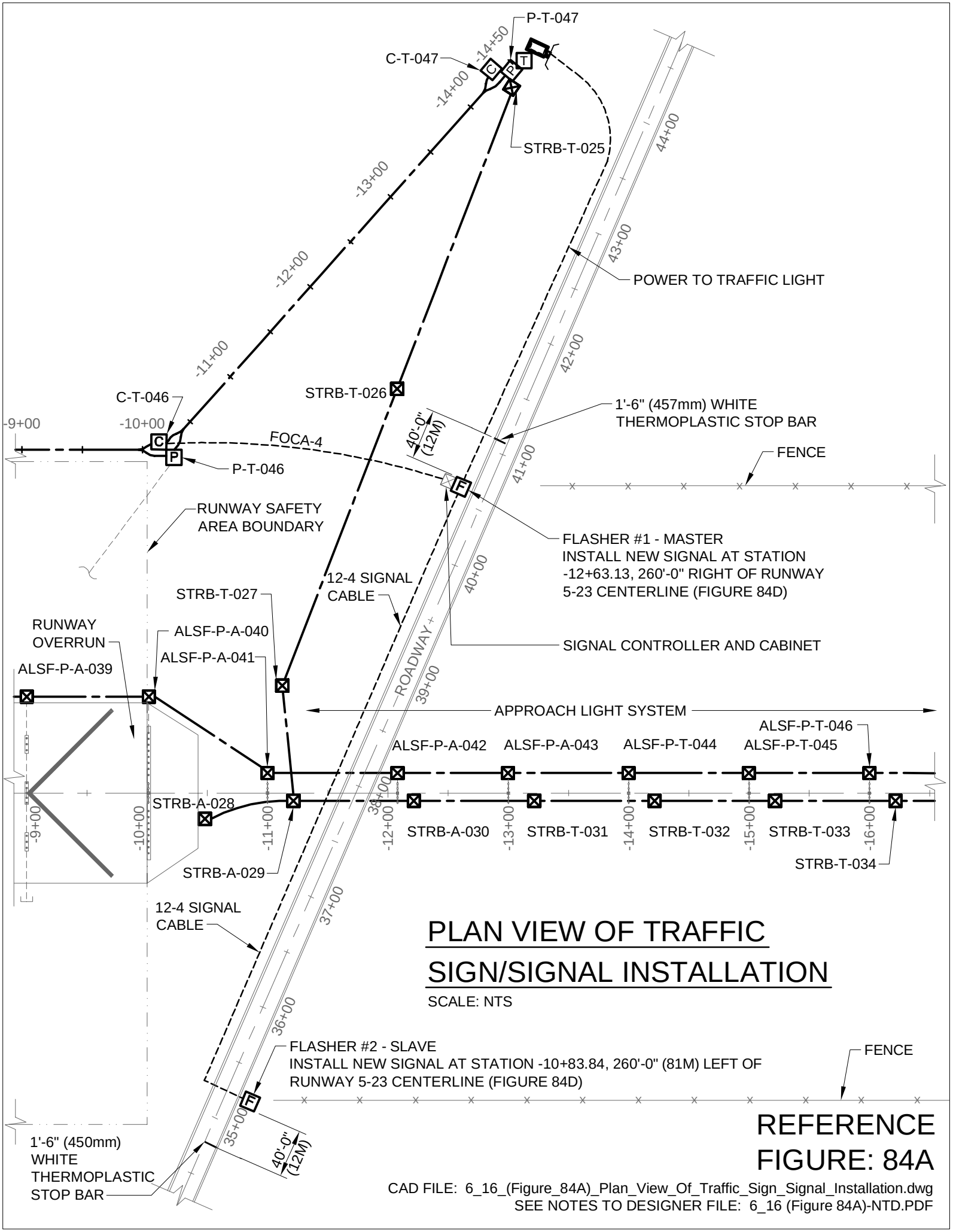
MARKINGS	CIRCUIT DESCRIPTION	MANHOLE AND DUCT IDENTIFIER						
		P-T-025 (NOTE 1)		P-A-026		P-A-027		
		SEE SHEET EF-316		SEE SHEET EF-316 (NOTE 2)		SEE SHEET EF-316		
		W	E	W	E	S	W	E (NOTE 3)
05SSALR-17	RUNWAY 05 ALSF NO. 1	C	G	C	C	B		C
05ALSF-16	RUNWAY 05 ALSF NO. 2	D	H	D	D	C		D
05ALSF-15	RUNWAY 05 ALSF NO. 3	E	I	E	E	D		E
05ALSF-14	RUNWAY 05 ALSF NO. 4	F	J	F	F	E		F
05ALSF-13 (NOTE 5)	RUNWAY 05 ALSF NO. 4 (NOTE 5)	G	K	G	G	F (NOTE 4)		G

NOTES:

1. DENOTES MANHOLE IDENTIFICATION NUMBER (TYP).
2. DENOTES CONTRACT DRAWING WHERE FOLDOUT DIAGRAM IS SHOWN (TYP).
3. DENOTES WALL (NORTH, SOUTH, EAST, WEST) THAT DUCTS CONTAINING INDICATED CIRCUITS PENETRATE (TYP).
4. DENOTES DUCT DESIGNATION CONTAINING INDICATED CIRCUIT (TYP).
5. DENOTES CABLE MARKING AND CIRCUIT DESIGNATION (TYP).

REFERENCE FIGURE: 80E

CAD FILE: 6_14_(Figure_80E)_Manhole_And_Duct_Identifier_Schedule.dwg
SEE NOTES TO DESIGNER FILE: 6_14 (Figure 80D-B)-NTD.PDF



PLAN VIEW OF TRAFFIC SIGN/SIGNAL INSTALLATION

SCALE: NTS

REFERENCE FIGURE: 84A

CAD FILE: 6_16_(Figure_84A)_Plan_View_Of_Traffic_Sign_Signal_Installation.dwg
SEE NOTES TO DESIGNER FILE: 6_16 (Figure 84A)-NTD.PDF

BACKGROUND COLOR: WHITE/YELLOW

SIGN NUMBER: SIGNAL SIGN COPY COLOR: BLACK

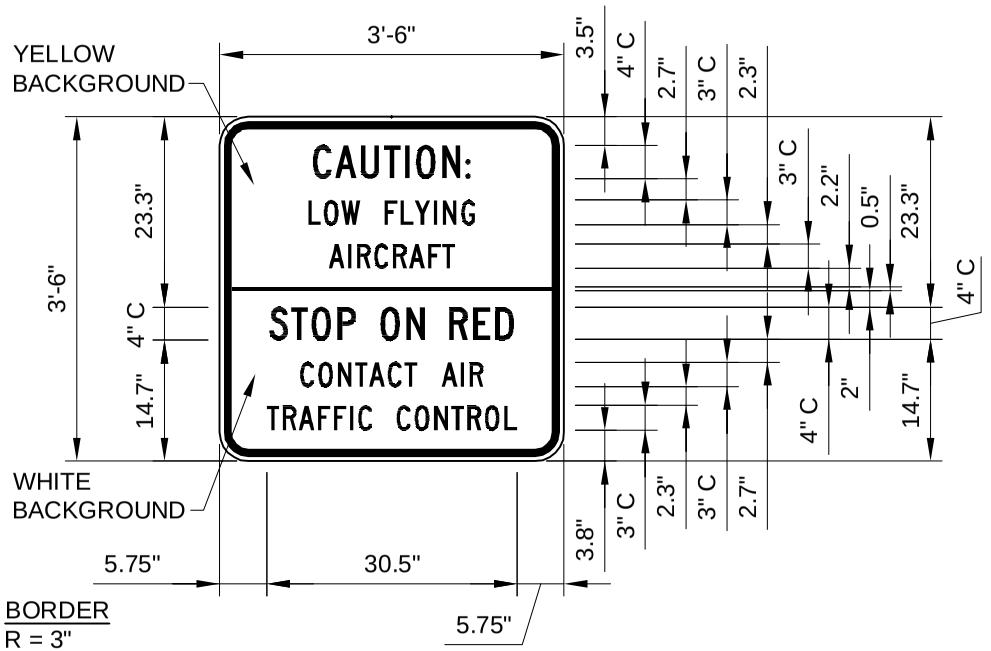
TYPE: D
QUANTITY: 2
SIGN WIDTH: 3'-6"
HEIGHT: 3'-6"
TOTAL AREA: 12.3 SQ FT
BORDER TYPE: RECESSED
RECESS: 0.5"
WIDTH: 1"
RADII: 3"
NO. Z BARS: **
LENGTH: **

SYMBOL	X	Y	WID	HT

MATERIAL: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: CHECKED BY:

PROJECT ID: DATE:



BORDER
R = 3"
TH = 1"
IN = 0.5"

SPACING FACTOR IS 1 UNLESS SPECIFIED OTHERWISE

NOTES:

1. LEGEND AND BORDER SHALL BE DIRECT APPLIED BLACK, NON-REFLECTIVE SHEETING.
2. BACKGROUND SHALL BE REGULAR GRADE REFLECTIVE SHEETING.
3. TOP PANEL SHALL BE YELLOW REGULAR GRADE SHEETING.

LETTER POSITIONS

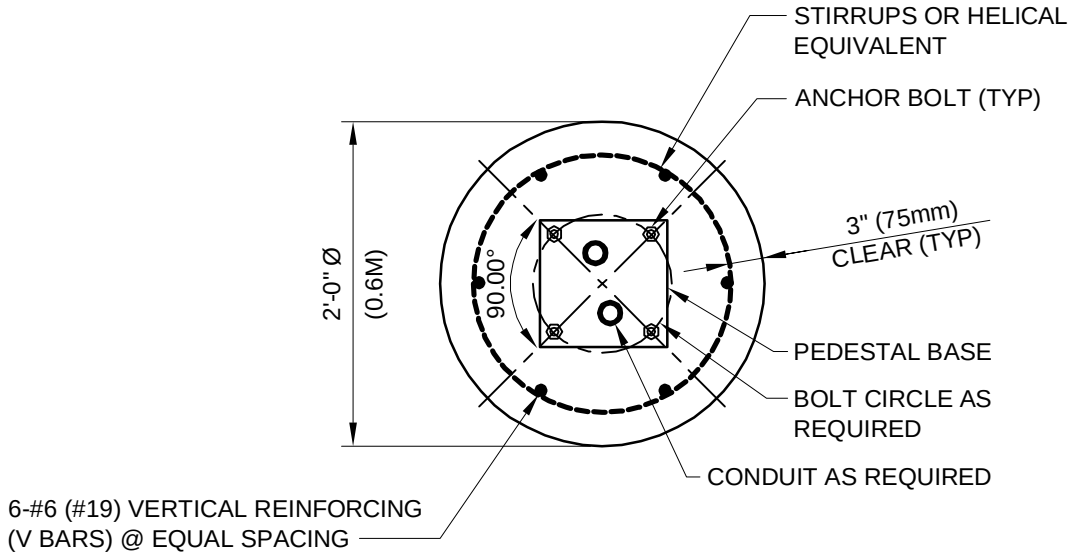
LETTER SPACINGS ARE TO START OF NEXT LETTER																											SERIES/SIZE TEXT LENGTH
	C	A	U	T	I	O	N	:																			C 2000
11.4	2.7	3.1	2.8	2.6	1.4	3.2	2.8	0.6	11.4																	19.2
	L	O	W		F	L	Y	I	N	G																	C 2000
10.8	1.9	2.1	2.3	3	1.9	1.7	2.3	1.1	2.3	1.7	10.8																20.3
	A	I	R	C	R	A	F	T																			C 2000
13.3	2.3	1.1	2.1	2.3	2	2.3	1.7	1.5	13.3																		15.4
	S	T	O	P		O	N		R	E	D																C 2000
6.1	2.6	2.5	3.2	2.2	3	3.2	2.2	3	2.9	2.7	2.2	6.1															29.8
	C	O	N	T	A	C	T		A	I	R																C 2000
9.8	2.2	2.4	2.1	1.7	2.3	2	1.5	3	2.3	1.1	1.7	9.8															22.4
	T	R	A	F	F	I	C		C	O	N	T	R	O	L												C 2000
5.7	2	1.9	2.3	1.9	1.9	2a1	1.7	3	2.2	2.4	2.1	1.9	2.1	2.4	1.5	5.7											30.5

REFERENCE FIGURE: 84B

CAD FILE: 6_16_(Figure_84B)_Roadway_Sign_Detail.dwg
SEE NOTES TO DESIGNER FILE: 6 16 (Figure 84B)-NTD.PDF

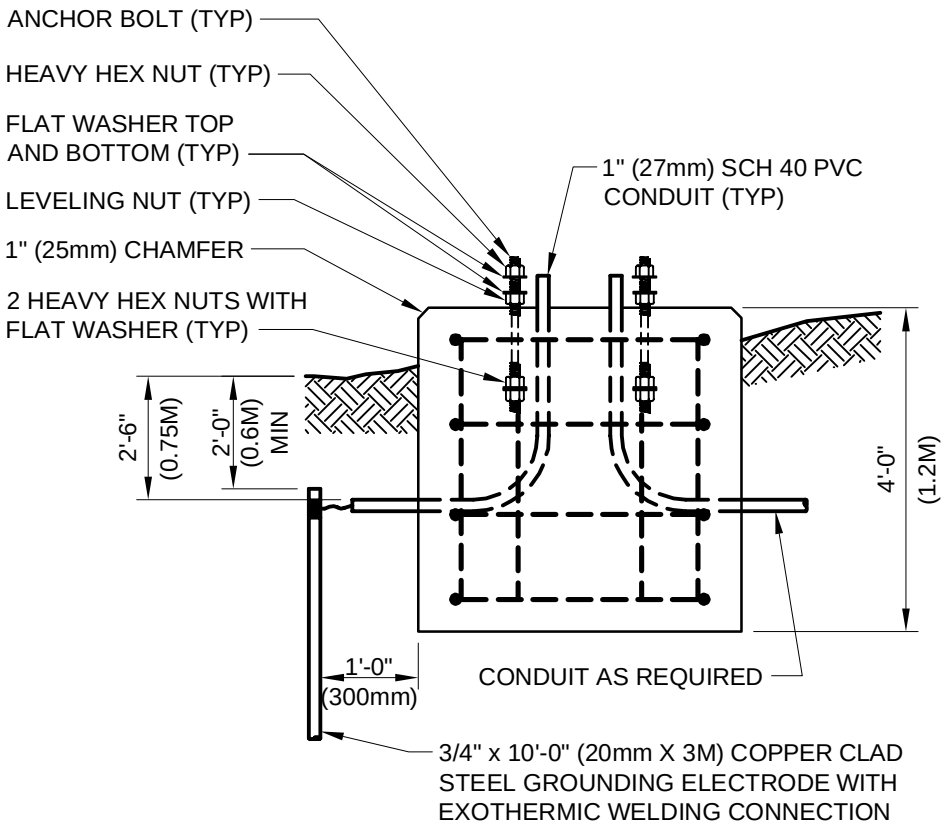
1 ROADWAY SIGN DETAIL

SCALE: NTS



2 PEDESTAL FOUNDATION - TOP VIEW

SCALE: NTS



3 PEDESTAL FOUNDATION IN EARTH

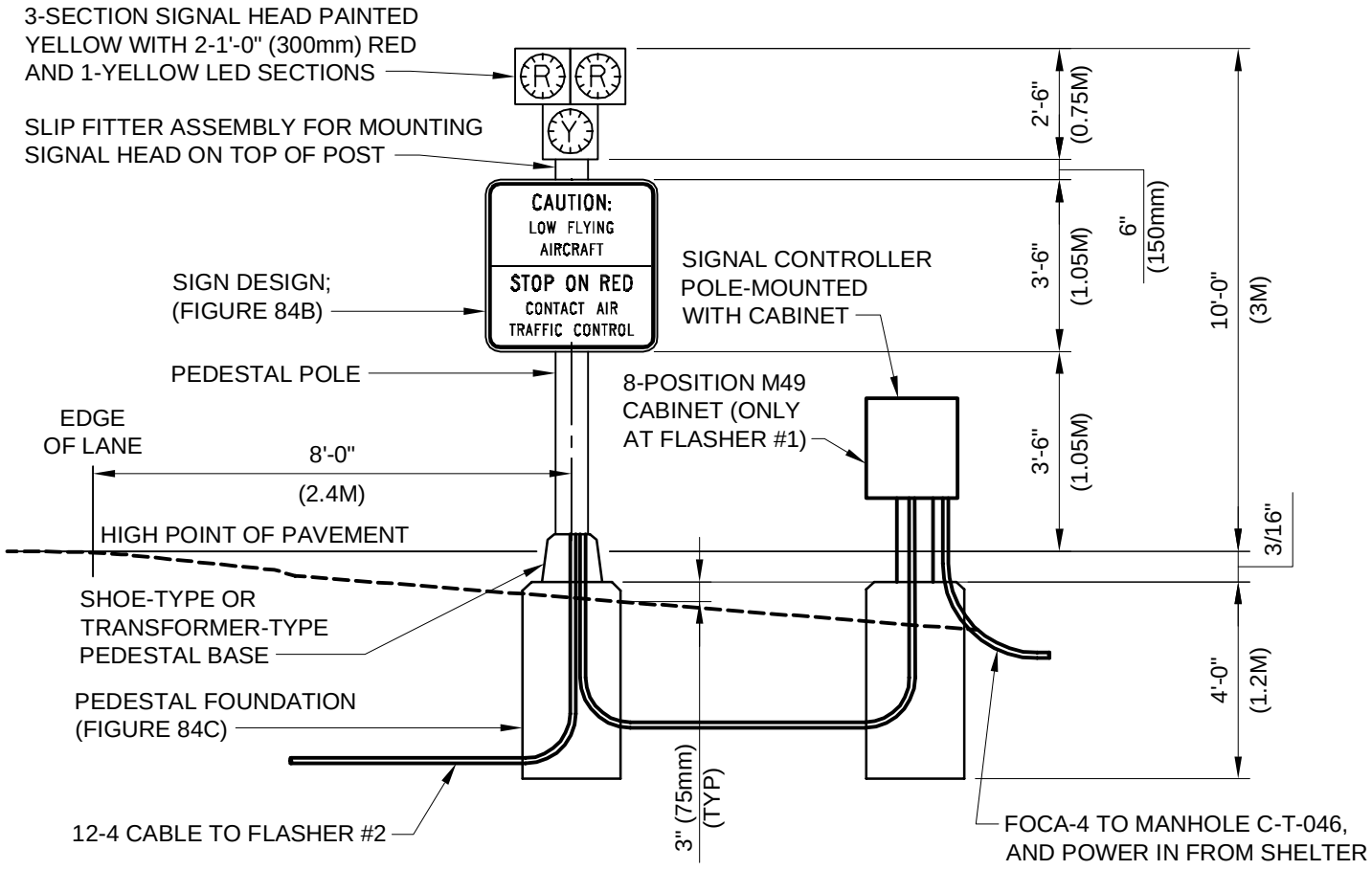
SCALE: NTS

REFERENCE
FIGURE: 84C

CAD FILE: 6_16_(Figure_84C)_Pedestal_Foundation_Details.dwg
SEE NOTES TO DESIGNER FILE: 6_16 (Figure 84C)-NTD.PDF

DRAWING NOTES - FIGURE 84C:

1. INSTALL SIGNAL CONTROLLER WITH 8-POSITION M49 CABINET.
2. INTEGRATE SIGNAL CONTROLLER AND CABINET INTO PROPOSED FIBER OPTIC SYSTEM WITH SINGLE MODE DATA TRANSCEIVER AND INTERCONNECT CENTER COMPATIBLE WITH OTHER FIBER OPTIC EQUIPMENT PROVIDED.
3. SIGNAL RESTS IN “DARK” MODE. AIR TRAFFIC CONTROL WILL ACTIVATE SIGNAL. UPON ACTIVATION, DISPLAY A FLASHING YELLOW SIGNAL INDICATION, FOR 5.0 SECONDS, FOLLOWED BY A 5.0 SECOND SOLID YELLOW CHANGE INTERVAL. FOLLOW CHANGE INTERVAL WITH TWO ALTERNATING RED SIGNALS (I.E. WIG-WAG). AIR TRAFFIC CONTROL WILL TERMINATE FLASHING RED. UPON TERMINATION OF RED SIGNAL WILL REVERT TO “DARK” MODE.

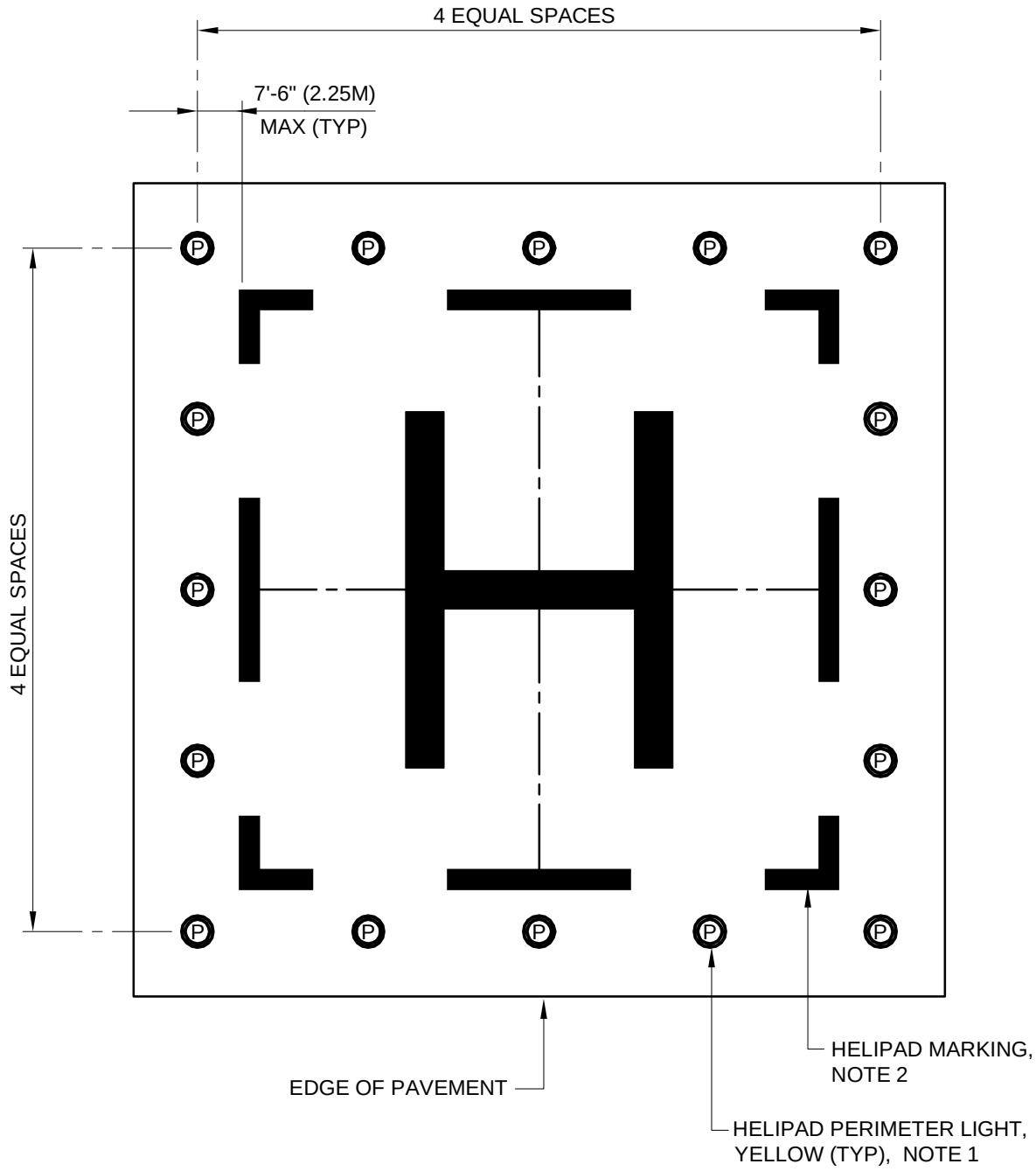


4 ROADWAY SIGNAL ASSEMBLY DETAIL

SCALE: NTS

REFERENCE
FIGURE: 84D

CAD FILE: 6_16_(Figure_84D)_Roadway_Signal_Assembly_Detail.dwg
SEE NOTES TO DESIGNER FILE: 6_16 (Figure 84D)-NTD.PDF



HELIPAD PERIMETER LIGHTING

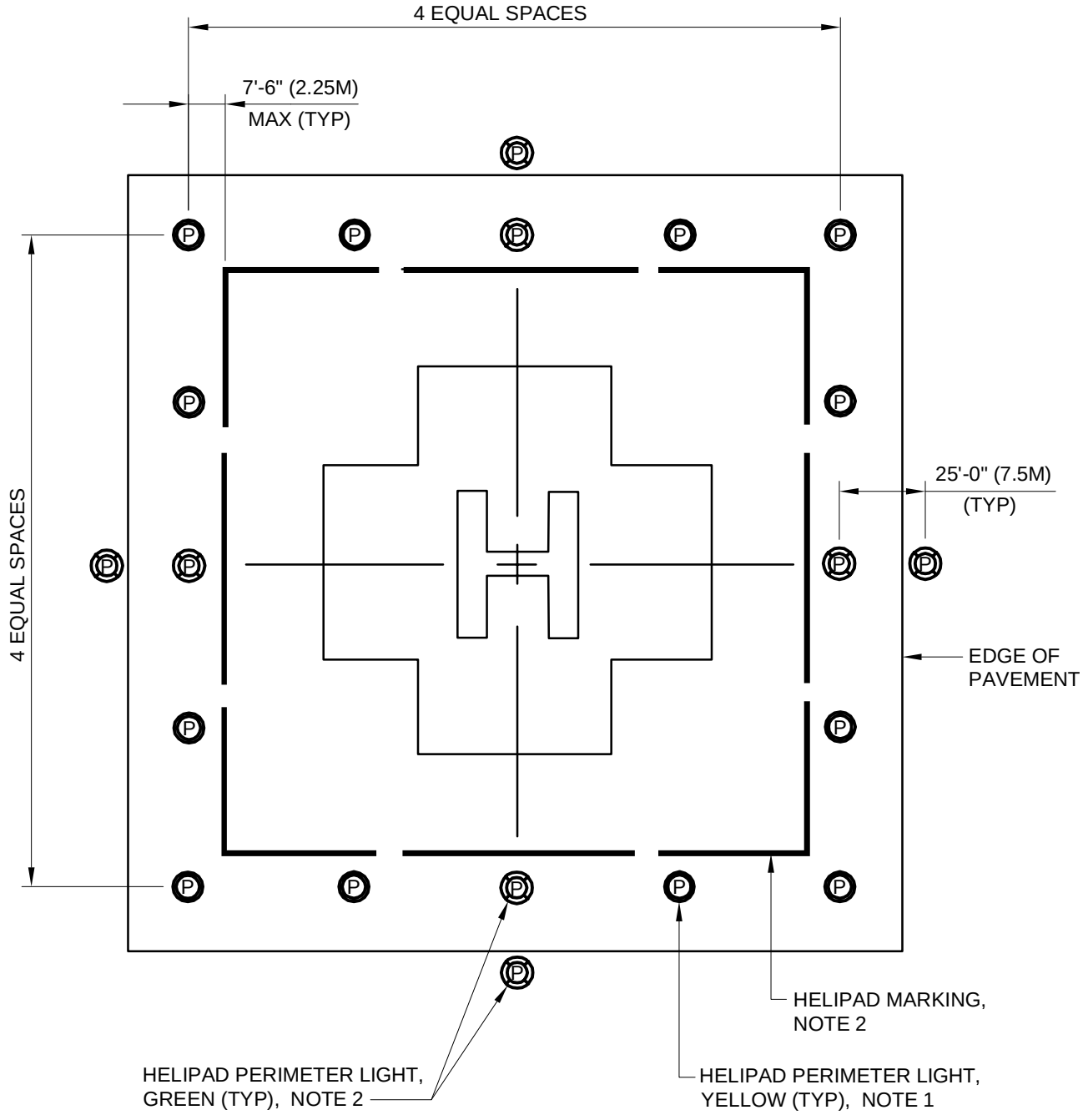
SCALE: NTS

REFERENCE
FIGURE: 85

CAD FILE: 7_1_(Figure_85)_Helipad_Perimeter_Lighting.dwg
SEE NOTES TO DESIGNER FILE: 7_1 (Figure 85)-NTD.PDF

DRAWING NOTES - FIGURE 85:

1. ELEVATED LIGHTS MUST BE BASE MOUNTED FAA TYPE L-861. IN-PAVEMENT LIGHTS MUST BE BASE MOUNTED FAA TYPE L-852E.
2. MARKINGS BASED ON 100' (30M) X 100' (30M) HELIPAD. FOR OTHER PADS, MARKINGS WILL APPEAR DIFFERENT.



LEGEND

PERIMETER LIGHTS - YELLOW

WING LIGHTS/MIDDLE FITTINGS - GREEN

HOSPITAL HELIPAD PERIMETER LIGHTING

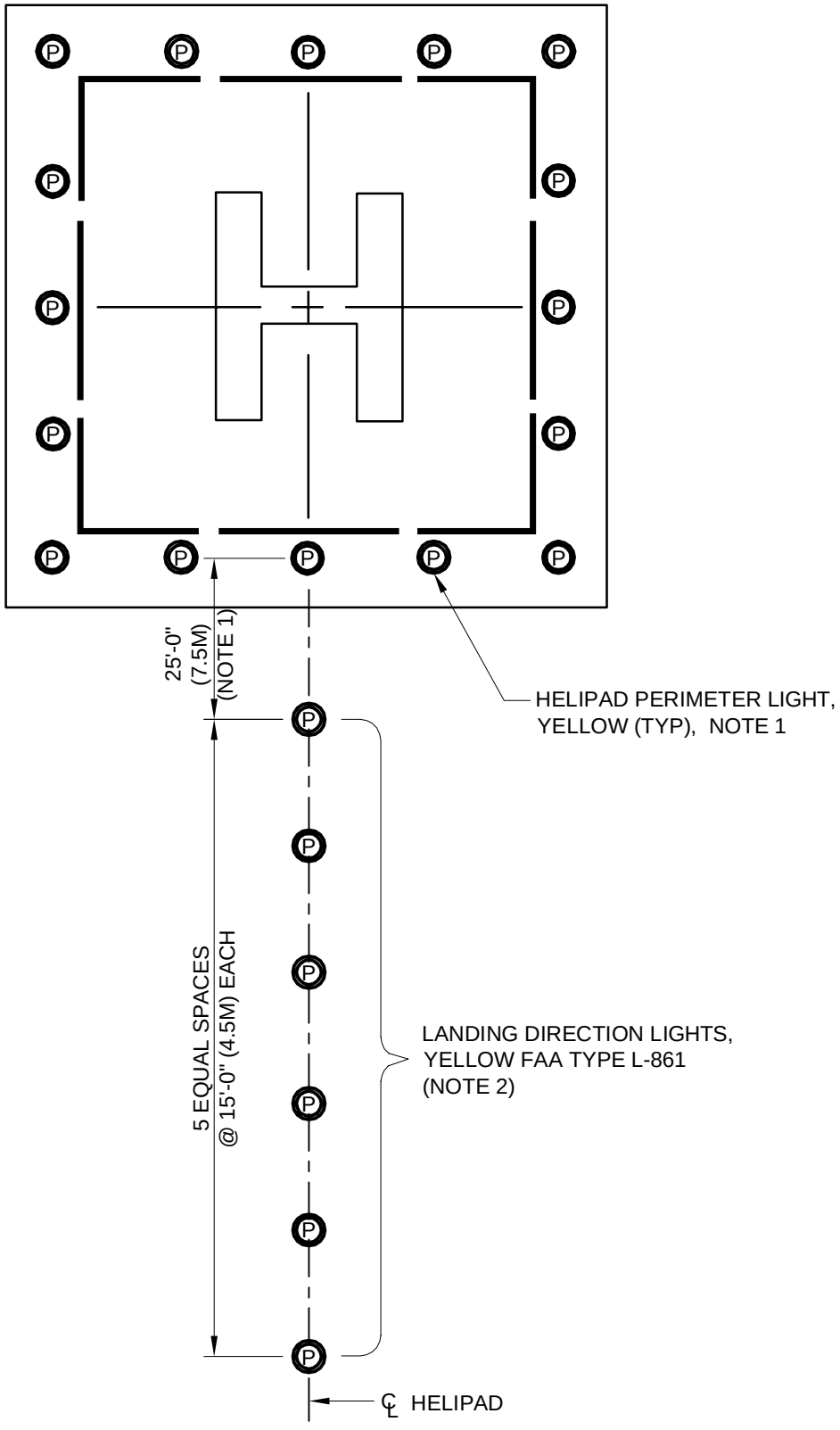
SCALE: NTS

REFERENCE
FIGURE: 86

CAD FILE: 7_2_(Figure_86)_Hospital_Helipad_Perimeter_Lighting.dwg
SEE NOTES TO DESIGNER FILE: 7_2 (Figure 85)-NTD.PDF

DRAWING NOTES - FIGURE 86:

1. ELEVATED LIGHTS MUST BE BASE MOUNTED FAA TYPE L-861. IN-PAVEMENT LIGHTS MUST BE BASE MOUNTED FAA TYPE L-852E.
2. MARKINGS BASED ON 100' (30M) X 100' (30M) HELIPAD. FOR OTHER PADS, MARKINGS WILL APPEAR DIFFERENT.



HELIPAD LANDING DIRECTION LIGHTS

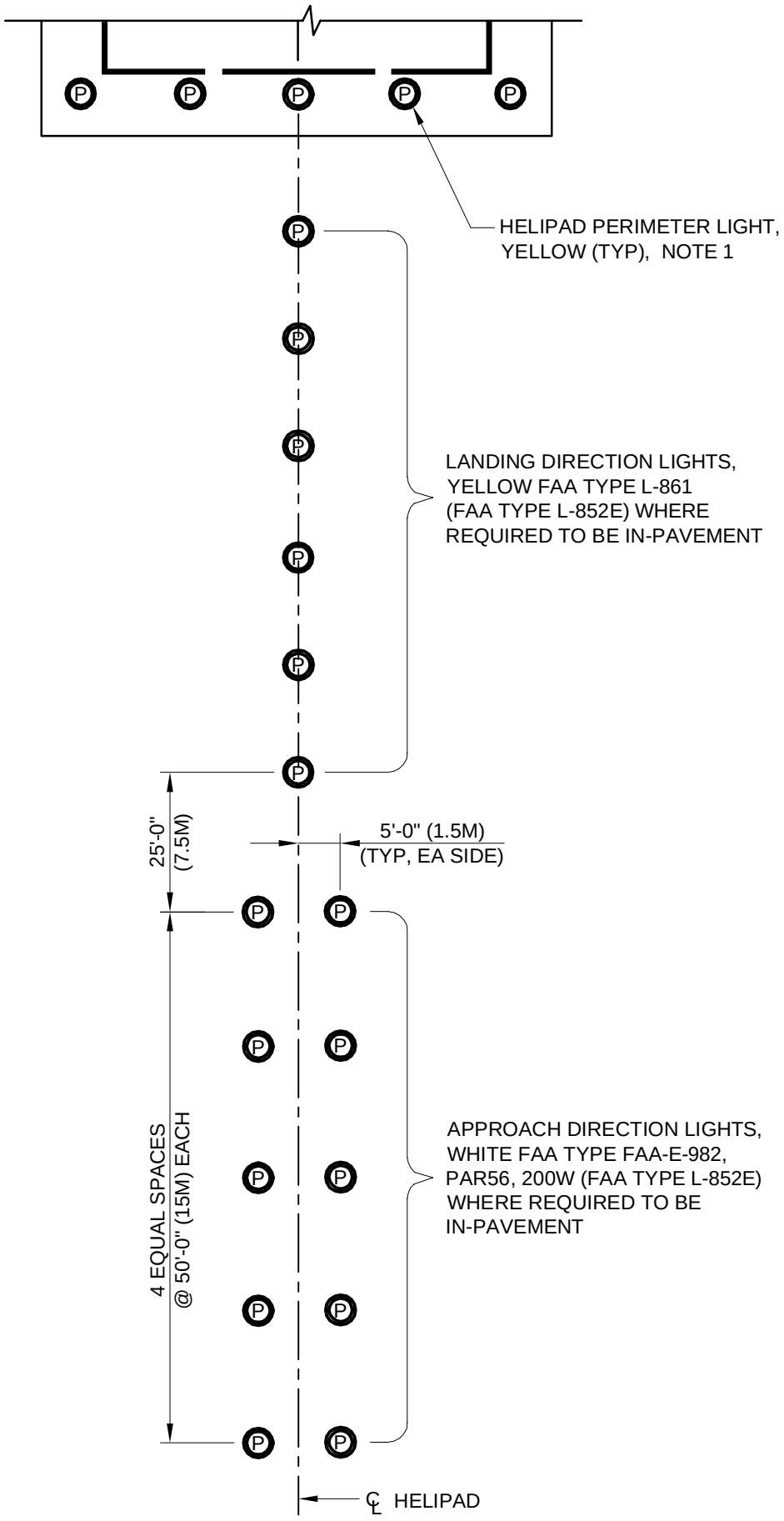
SCALE: NTS

REFERENCE
FIGURE: 87

CAD FILE: 7_3_(Figure_87)_Helipad_Landing_Direction_Lights.dwg
SEE NOTES TO DESIGNER FILE: 7 3 (Figure 87)-NTD.PDF

DRAWING NOTES - FIGURE 87:

1. LANDING DIRECTION LIGHT CONFIGURATION FOR HOSPITAL HELIPAD MUST START 25' (7.5M) FROM THE OUTER PERIMETER LIGHT.
2. IN-PAVEMENT FIXTURES MUST BE USED IN AREAS OF VEHICLE TRAFFIC AND MUST BE FAA TYPE L-852E.

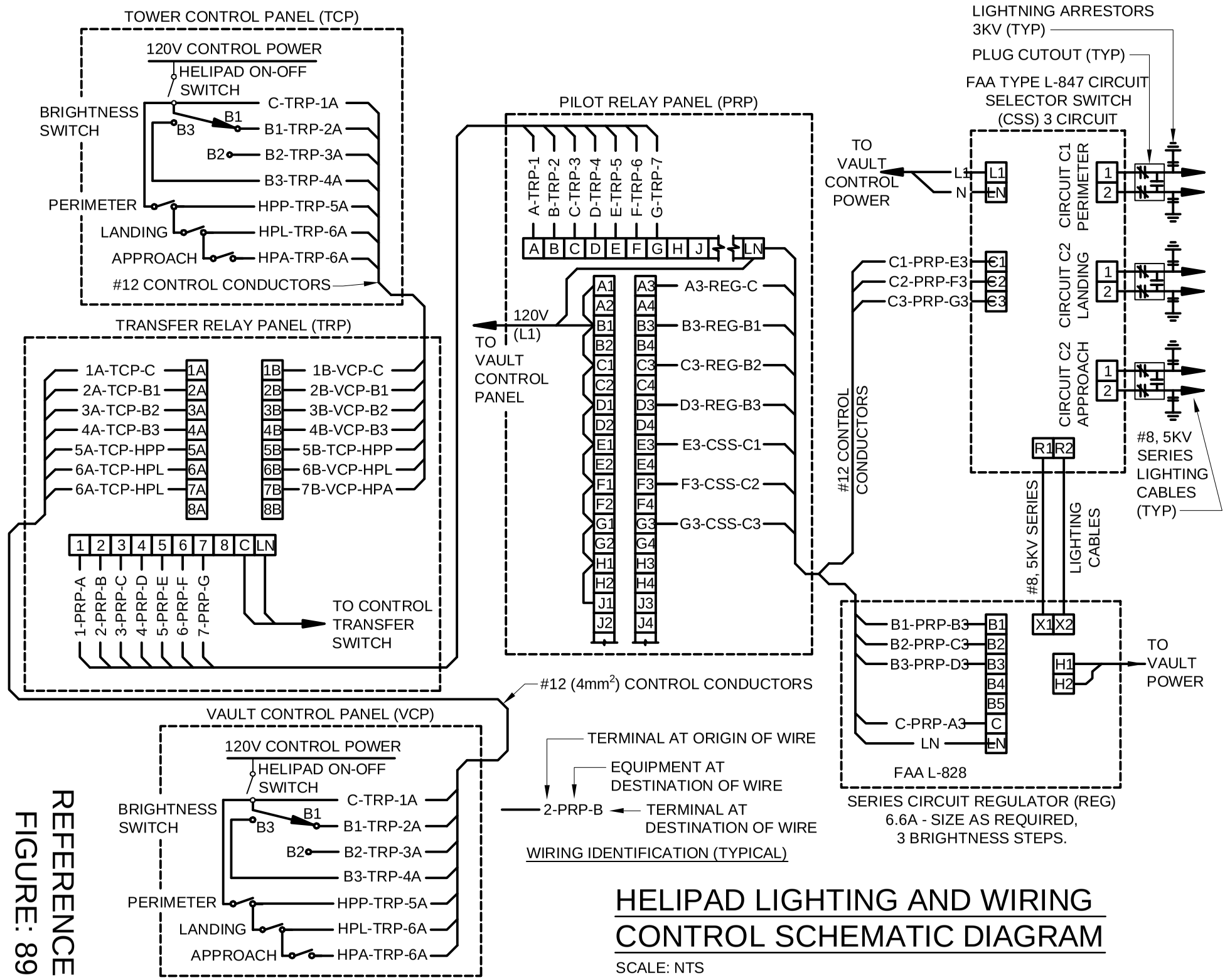


HELIPAD APPROACH DIRECTION LIGHTS

SCALE: NTS

REFERENCE
FIGURE: 88

CAD FILE: 7_4_(Figure_88)_Helipad_Approach_Direction_Lights.dwg
SEE NOTES TO DESIGNER FILE: 7_4 (Figure 88)-NTD.PDF

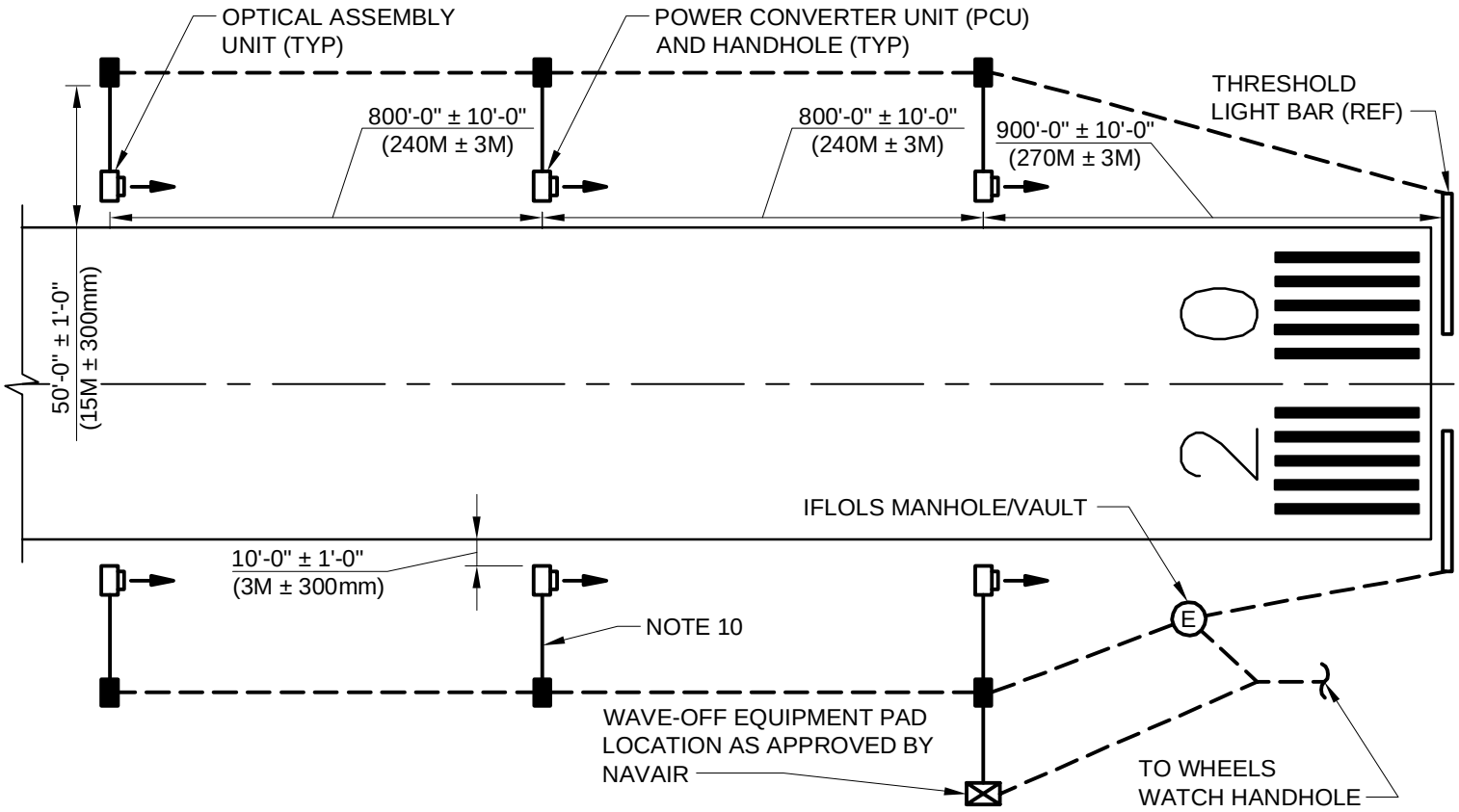


HELIPAD LIGHTING AND WIRING CONTROL SCHEMATIC DIAGRAM

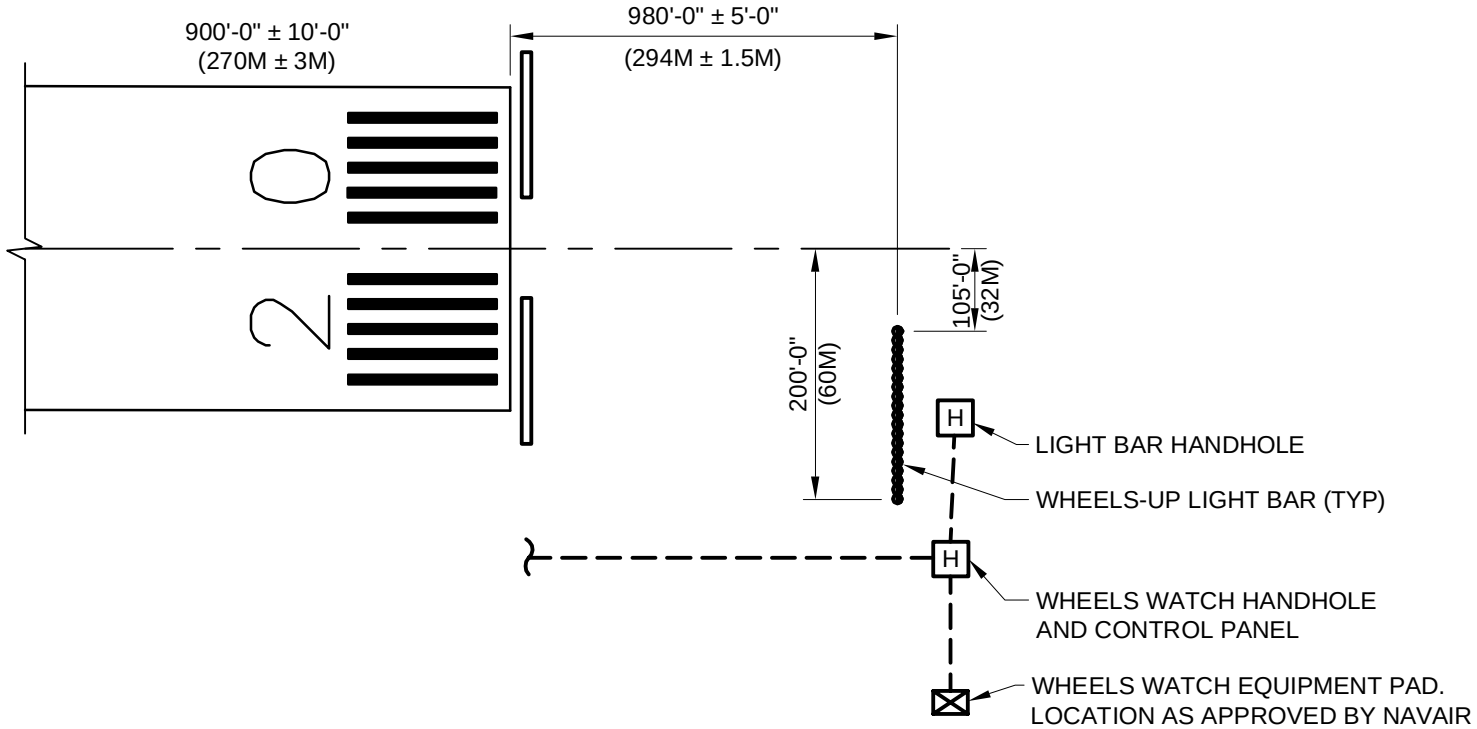
SCALE: NTS

REFERENCE FIGURE: 89

CAD FILE: 7_5_(Figure_89)_Helipad_Lighting_And_Wiring_Control_Schematic_Diagram.dwg
SEE NOTES TO DESIGNER FILE: 7_5 (Figure 89)-NTD.PDF



LOCATION PLAN - WAVE-OFF LIGHTING



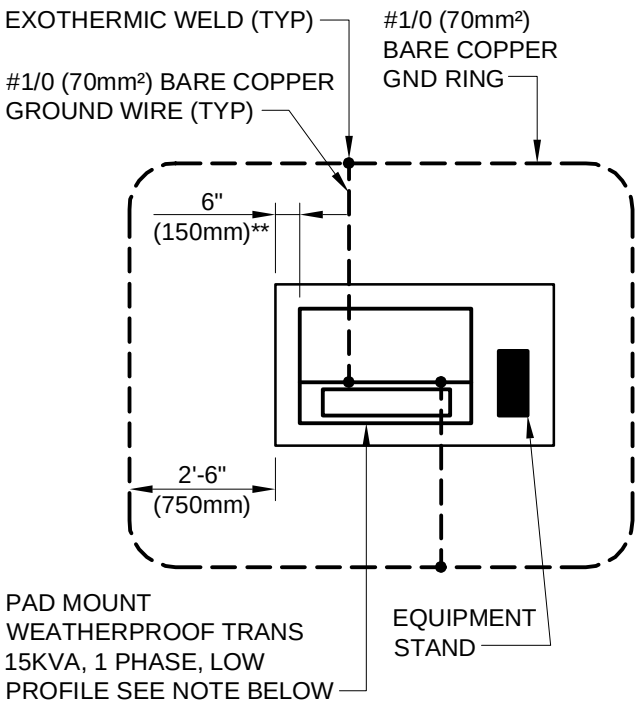
LOCATION PLAN - WHEELS-UP LIGHTING

LOCATION PLANS - WAVE OFF AND WHEELS-UP LIGHTING SYSTEMS

SCALE: NTS

REFERENCE FIGURE: 90

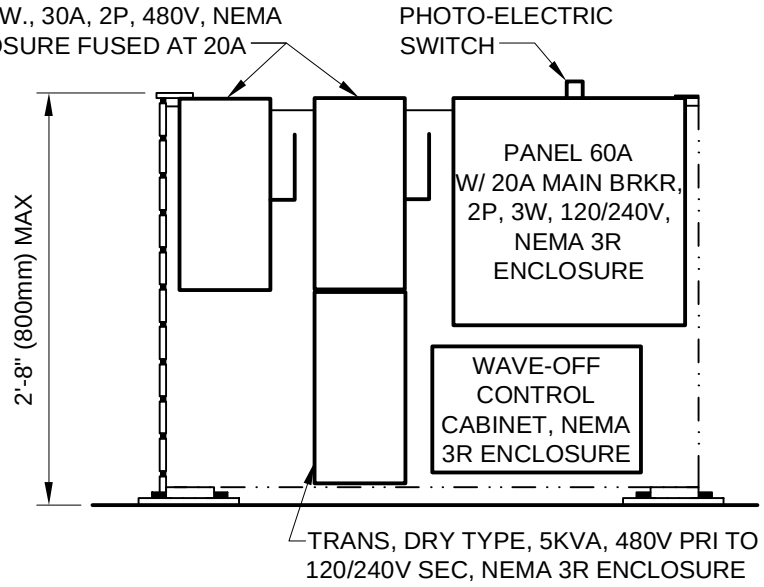
CAD FILE: 8_1_(Figure_90)_Location_Plans_Wave_Off_And_Wheels_Up_Lighting_Systems.dwg
SEE NOTES TO DESIGNER FILE: 8_1 (Figure 90)-NTD.PDF



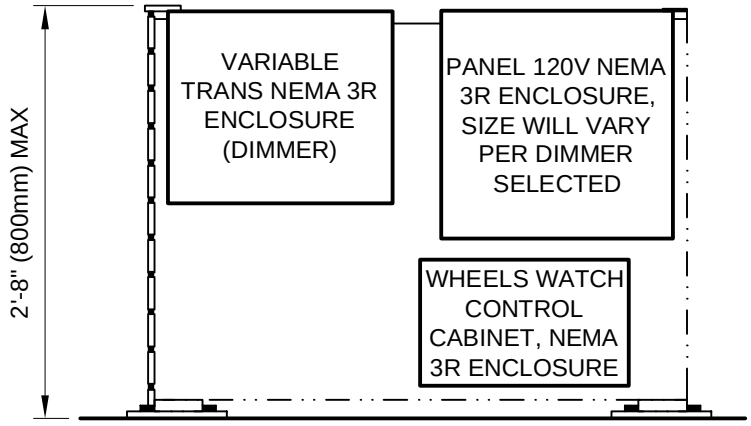
* MINIMUM CLEARANCE ALL AROUND
** MINIMUM CLEARANCE FROM EQUIPMENT TO EDGE OF PAD

NOTE:
TRANSFORMER SHALL BE RATED AS FOLLOWS:
WAVE-OFF SYS - 2400V PRI TO 480V SEC
WHEELS UP SYS - 2400V PRI TO 120/240V SEC

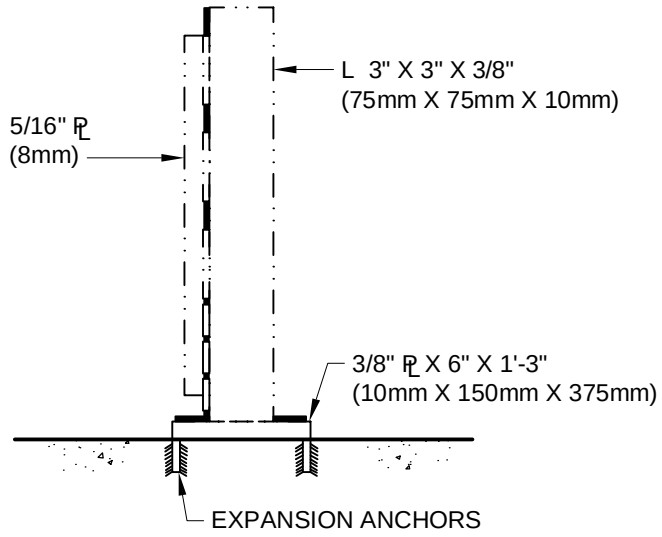
EQUIPMENT PAD WAVE-OFF & WHEELS UP SYSTEM



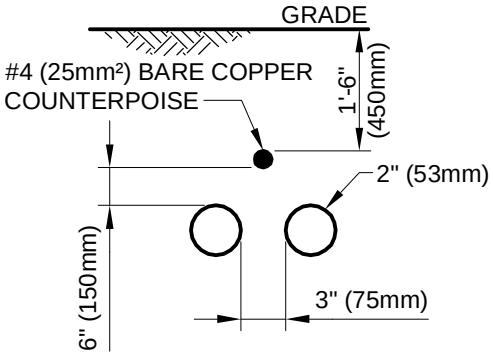
EQUIPMENT STAND WAVE-OFF SYSTEM



EQUIPMENT STAND WHEELS UP SYSTEM



STAND DETAILS SIDE VIEW



NOTE:
DETAIL IS SIMILAR FOR 1-2" (27mm-53mm) CONDUIT

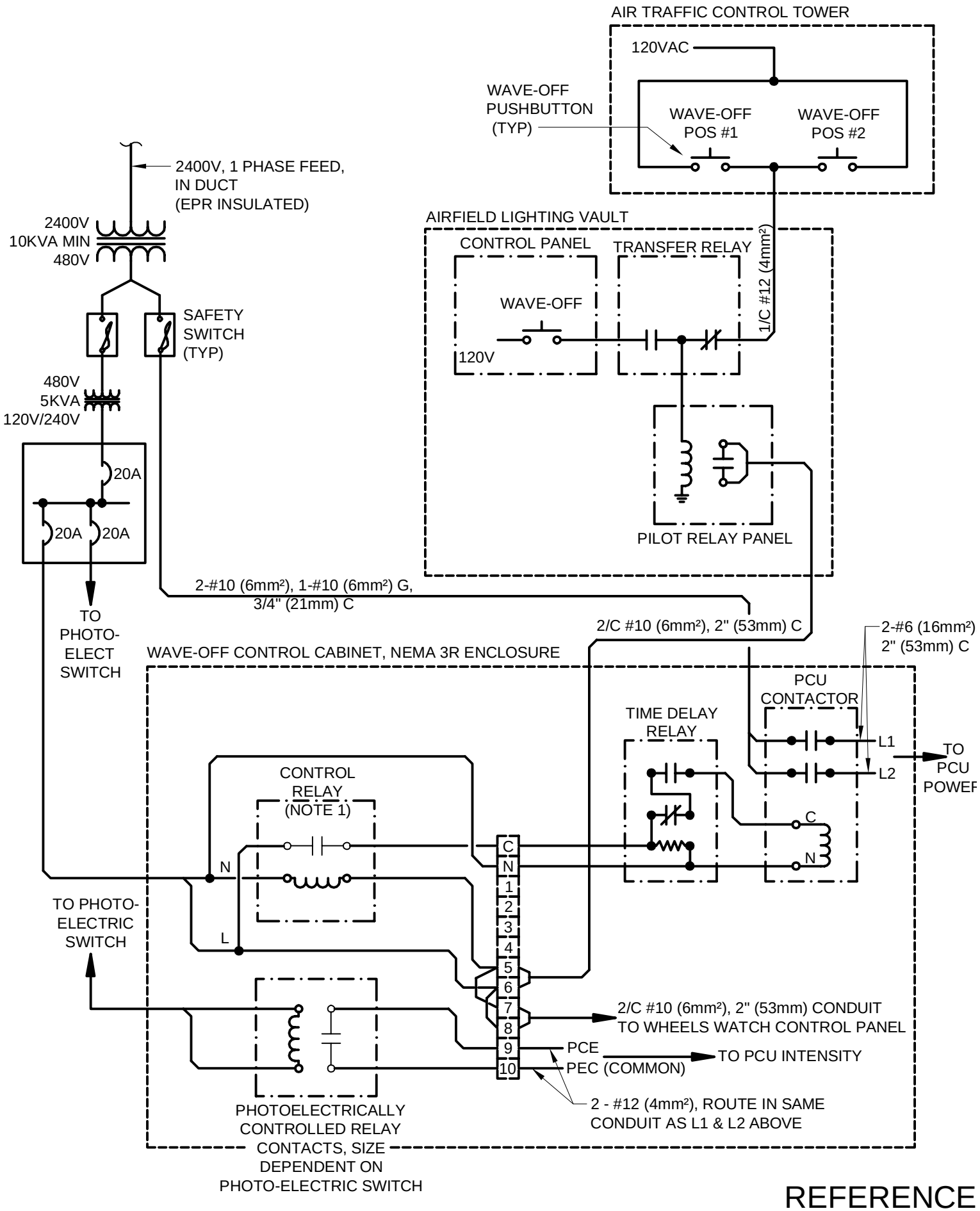
DUCT DETAIL

EQUIPMENT PAD AND DUCT DETAILS

SCALE: NTS

REFERENCE FIGURE: 91

CAD FILE: 8_2_(Figure_91)_Equipment_Pad_And_Duct_Details.dwg
SEE NOTES TO DESIGNER FILE: 8 2 (Figure 91)-NTD.PDF



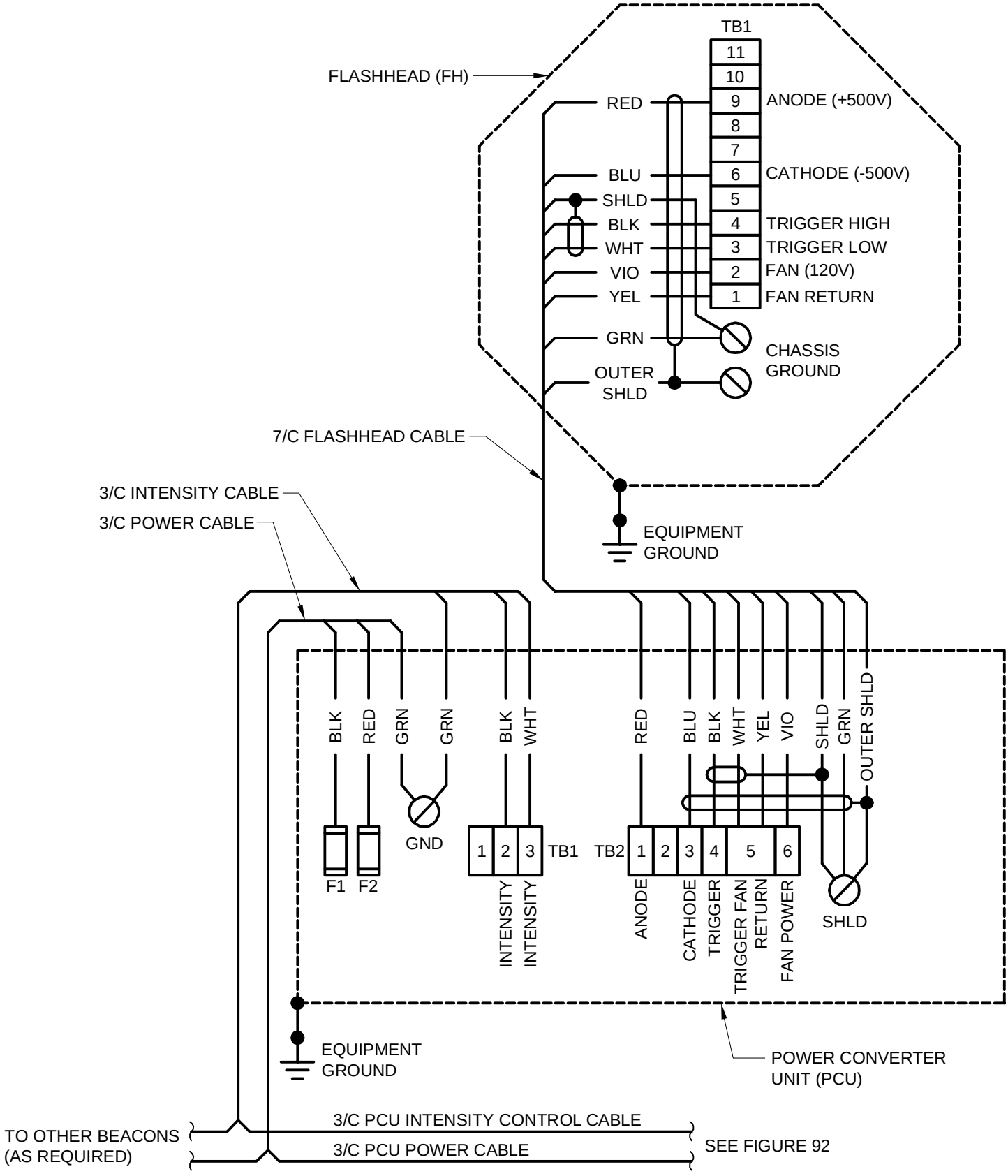
WAVE-OFF SYSTEM WIRING DIAGRAM

REFERENCE FIGURE: 92

SCALE: NTS

CAD FILE: 8_3_(Figure_92)_Wave_Off_System_Wiring_Diagram.dwg

SEE NOTES TO DESIGNER FILE: 8 3 (Figure 92)-NTD.PDF



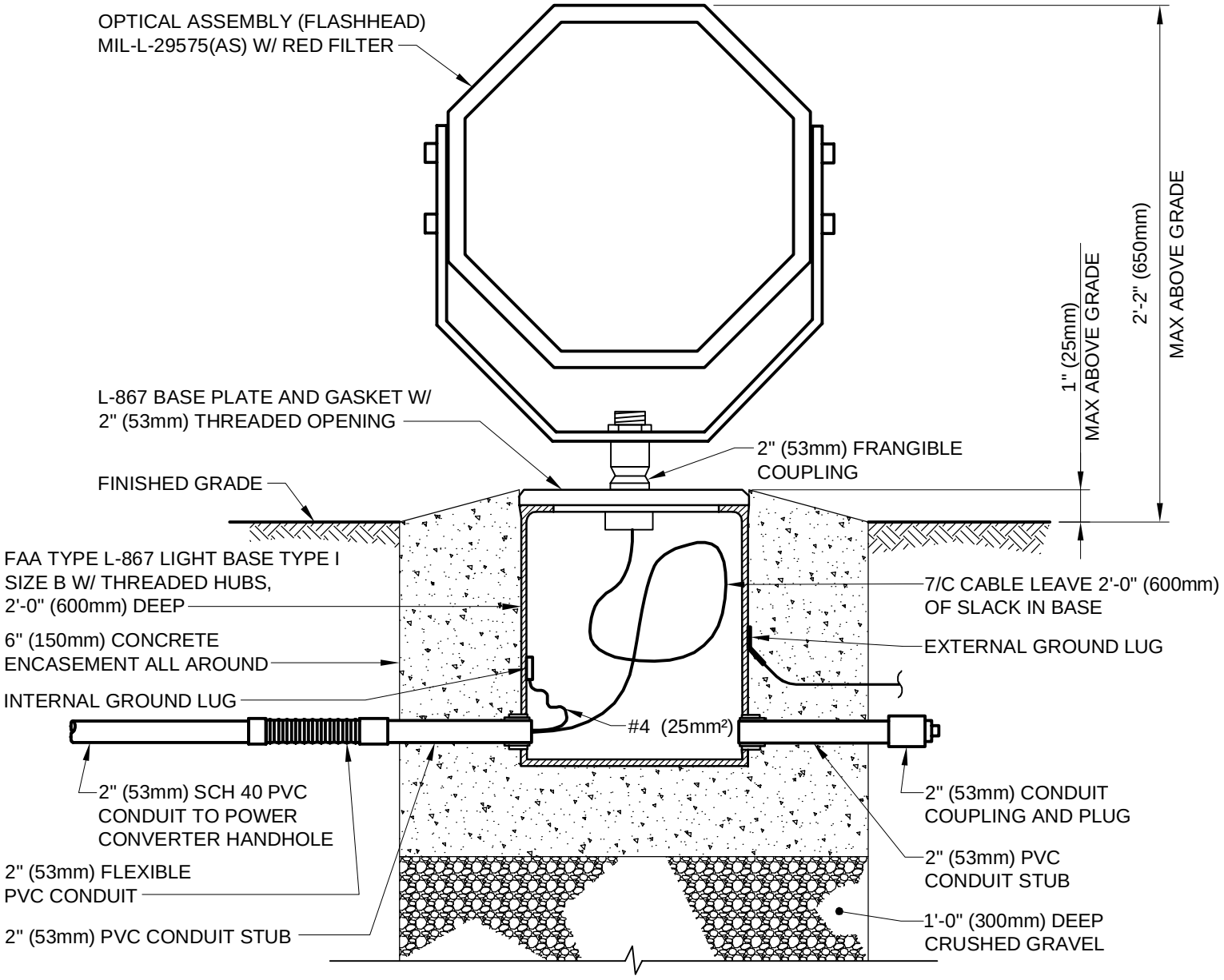
GENERAL NOTE:
WIRING DIAGRAM IS TYPICAL FOR ALL PCU'S AND FLASHHEADS.

FLASHHEAD AND PCU WIRING DIAGRAM

SCALE: NTS

REFERENCE FIGURE: 93

CAD FILE: 8_4_(Figure_93)_Flashhead_And_PCU_Wiring_Diagram.dwg
SEE NOTES TO DESIGNER FILE: 8 4 (Figure 93)-NTD.PDF



WAVE-OFF FIXTURE MOUNTING

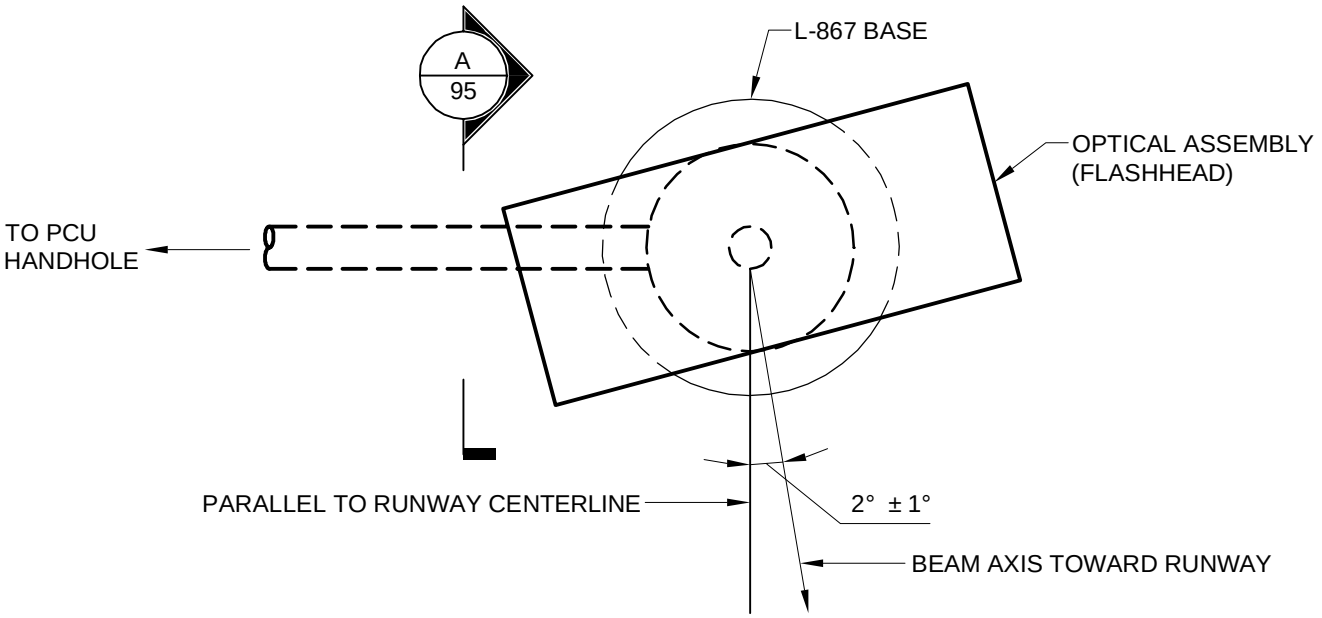
SCALE: NTS

REFERENCE
FIGURE: 94

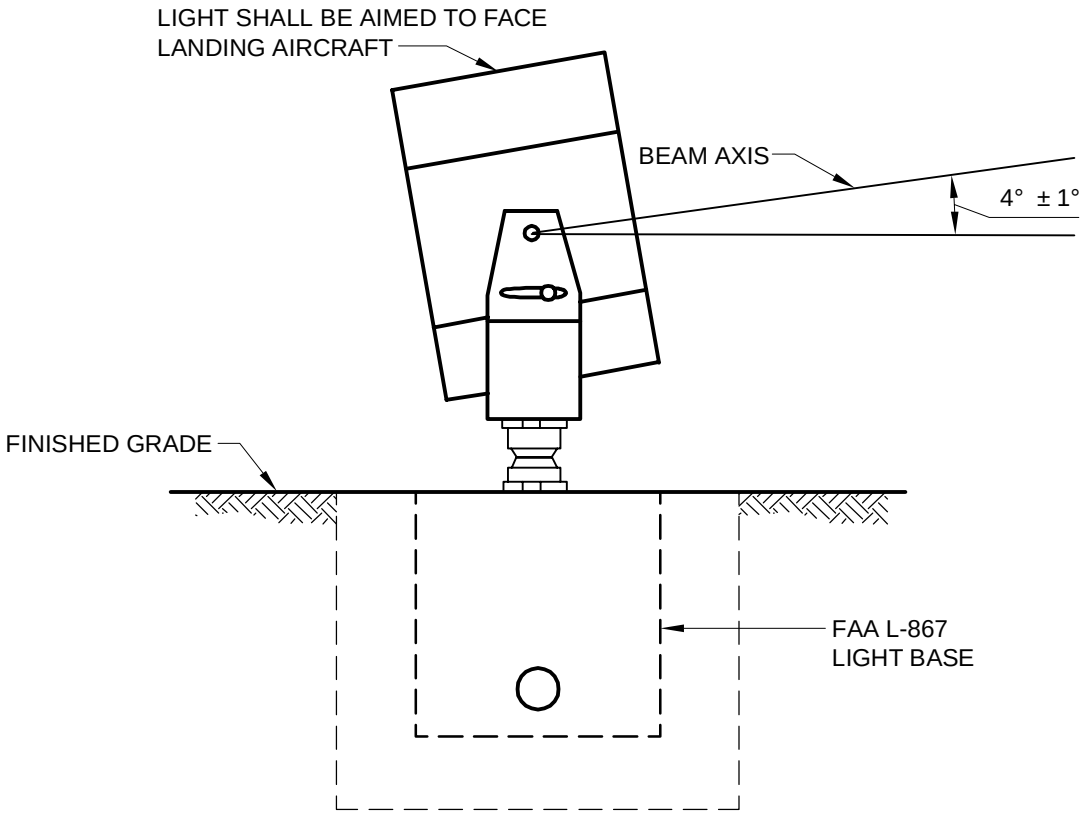
CAD FILE: 8_5_(Figure_94)_Wave_Off_Fixture_Mounting.dwg
SEE NOTES TO DESIGNER FILE: 8_5 (Figure 94)-NTD.DOC

DRAWING NOTES - FIGURE 94:

1. REINFORCING CAGE INDICATED ON FIGURE 12.



PLAN



A
95

SECTION

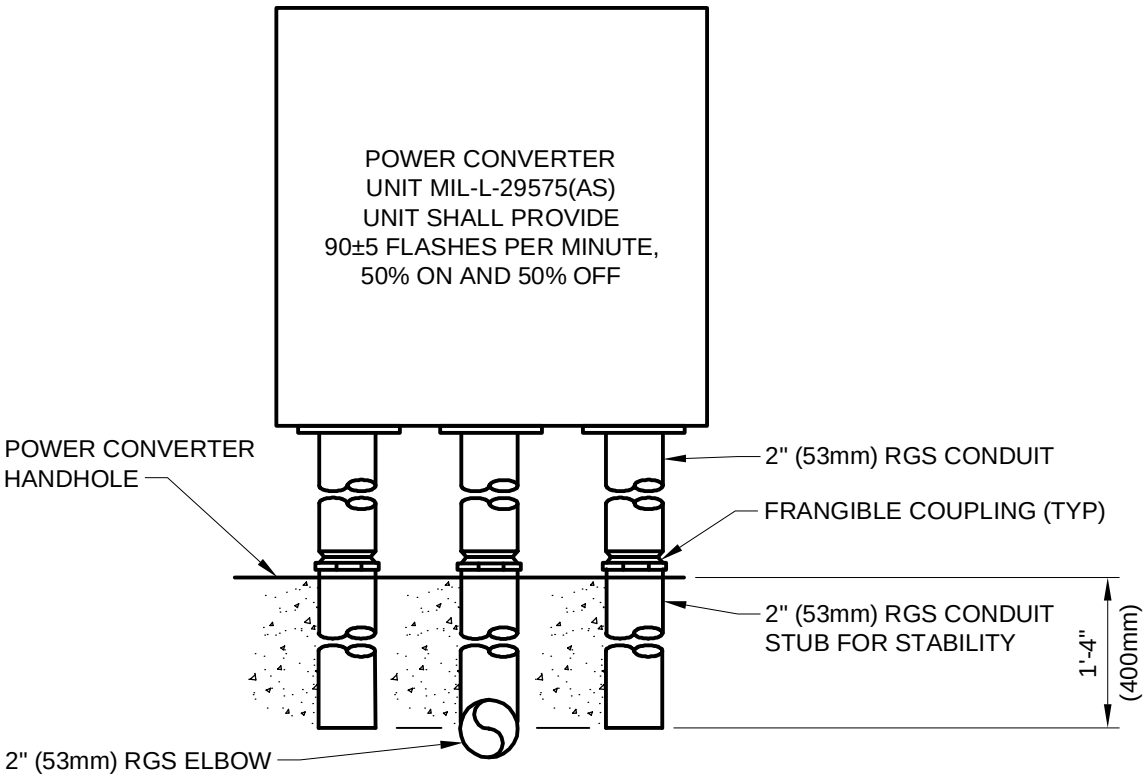
SCALE: NTS

WAVE-OFF FIXTURE AIMING

SCALE: NTS

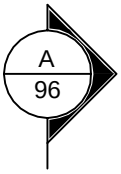
REFERENCE
FIGURE: 95

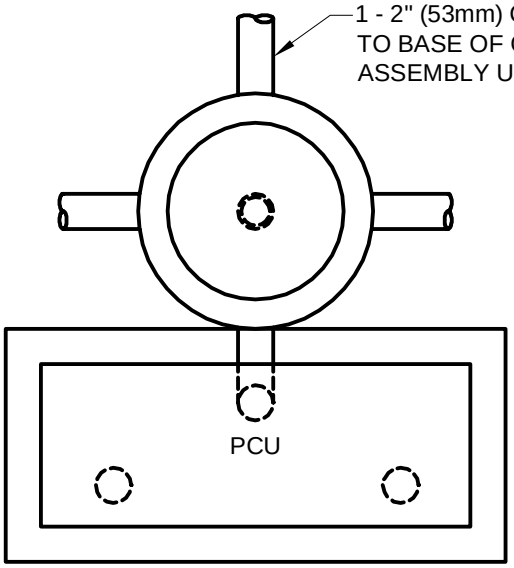
CAD FILE: 8_6_(Figure_95)_Wave_Off_Fixture_Aiming.dwg
SEE NOTES TO DESIGNER FILE: 8_6 (Figure 95)-NTD.DOC



POWER CONVERTER UNIT

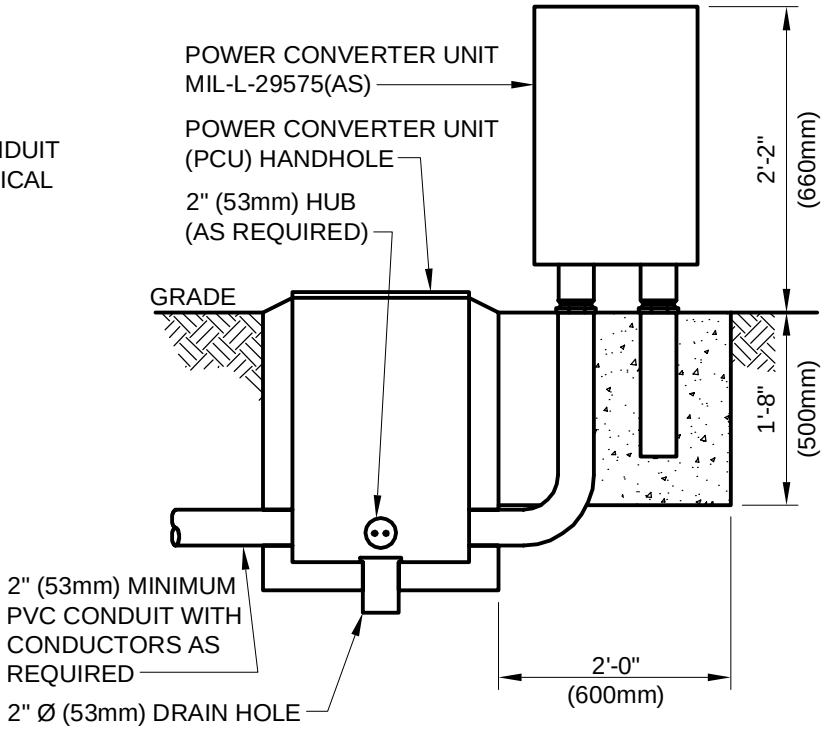
SCALE: NTS

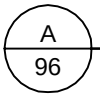




PLAN

SCALE: NTS



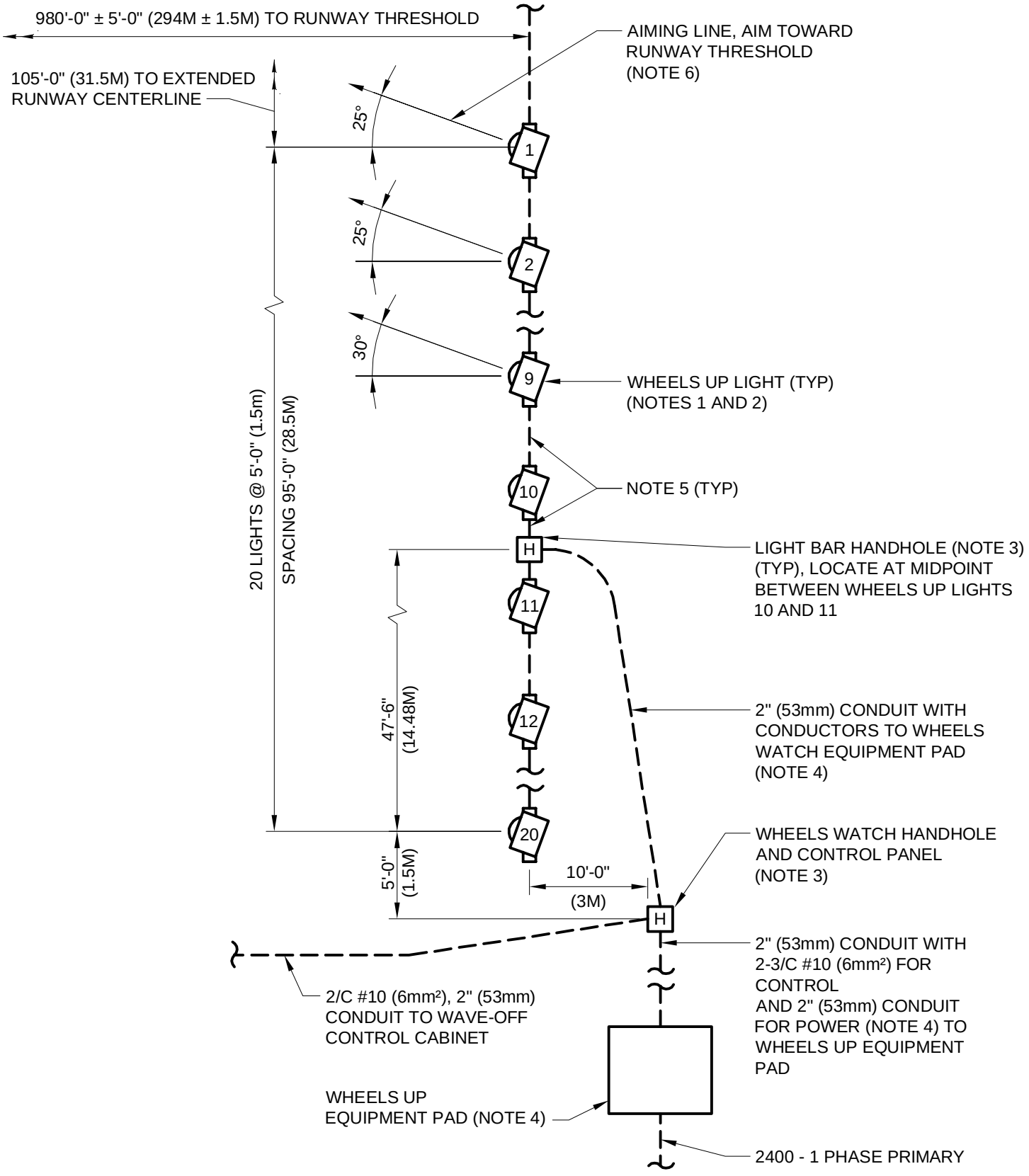


SECTION

SCALE: NTS

REFERENCE FIGURE: 96

CAD FILE: 8_7_(Figure_96)_Power_Converter_Unit.dwg
SEE NOTES TO DESIGNER FILE: 8_7 (Figure 96)-NTD.DOC



WHEELS - WATCH SYSTEM LAYOUT

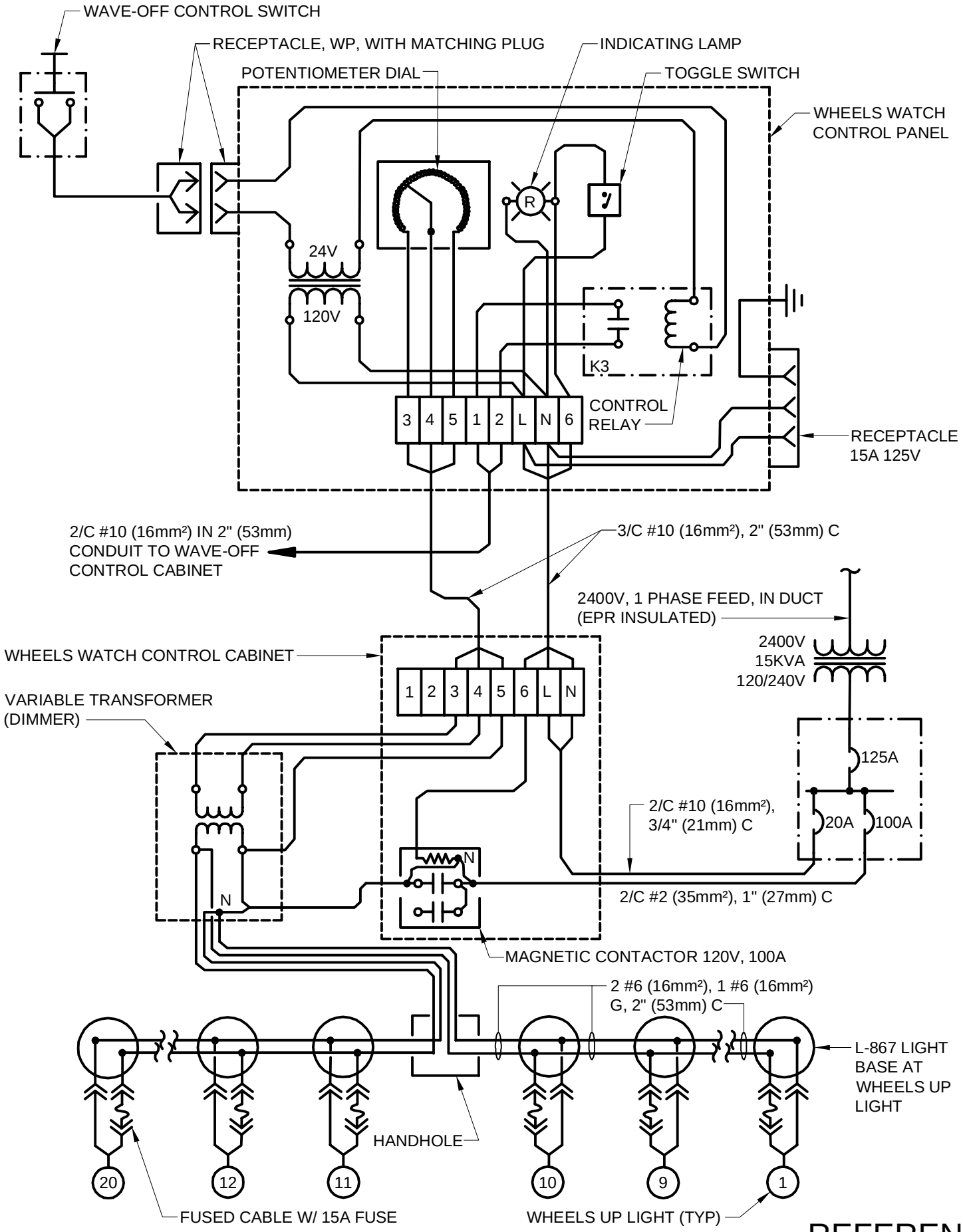
SCALE: NTS

REFERENCE FIGURE: 99

CAD FILE: 8_10_(Figure_99)_Wheel_Watch_System_Layout.dwg
SEE NOTES TO DESIGNER FILE: 8_10 (Figure 99)-NTD.PDF

DRAWING NOTES - FIGURE 99:

1. WHEELS UP LIGHT BAR MUST BE LOCATED ON SAME SIDE OF RUNWAY AS THE CONTROL TOWER.
2. RELOCATION OR RE-AIMING OF LIGHT BAR REQUIRES APPROVAL OF NAVFACENGCOM.
3. PROVIDE L-867D HANDHOLE PER FIGURE 31.
4. CONDUCTOR SIZE BETWEEN LIGHT BAR HANDHOLE AND WHEELS UP EQUIPMENT PAD MUST BE DETERMINED ONCE LOCATION OF EQUIPMENT PAD IS APPROVED BY NAVAIR. THE TOTAL VOLTAGE DROP FOR THE WHEELS-UP LIGHTING CIRCUIT MUST BE MAINTAINED TO ±4% OR LESS.
5. CONDUCTOR SIZE BETWEEN LIGHT BAR HANDHOLE AND WHEELS-UP LIGHTS MUST BE 2 #6 (16 SQUARE mm), 1 #6 (16 SQUARE mm) GROUND IN 2" (53mm) CONDUIT.
6. THE THREE (3) INNER MOST LIGHTS ARE AIMED TOWARD THE RUNWAY AT AN ANGLE OF 25 DEGREES.

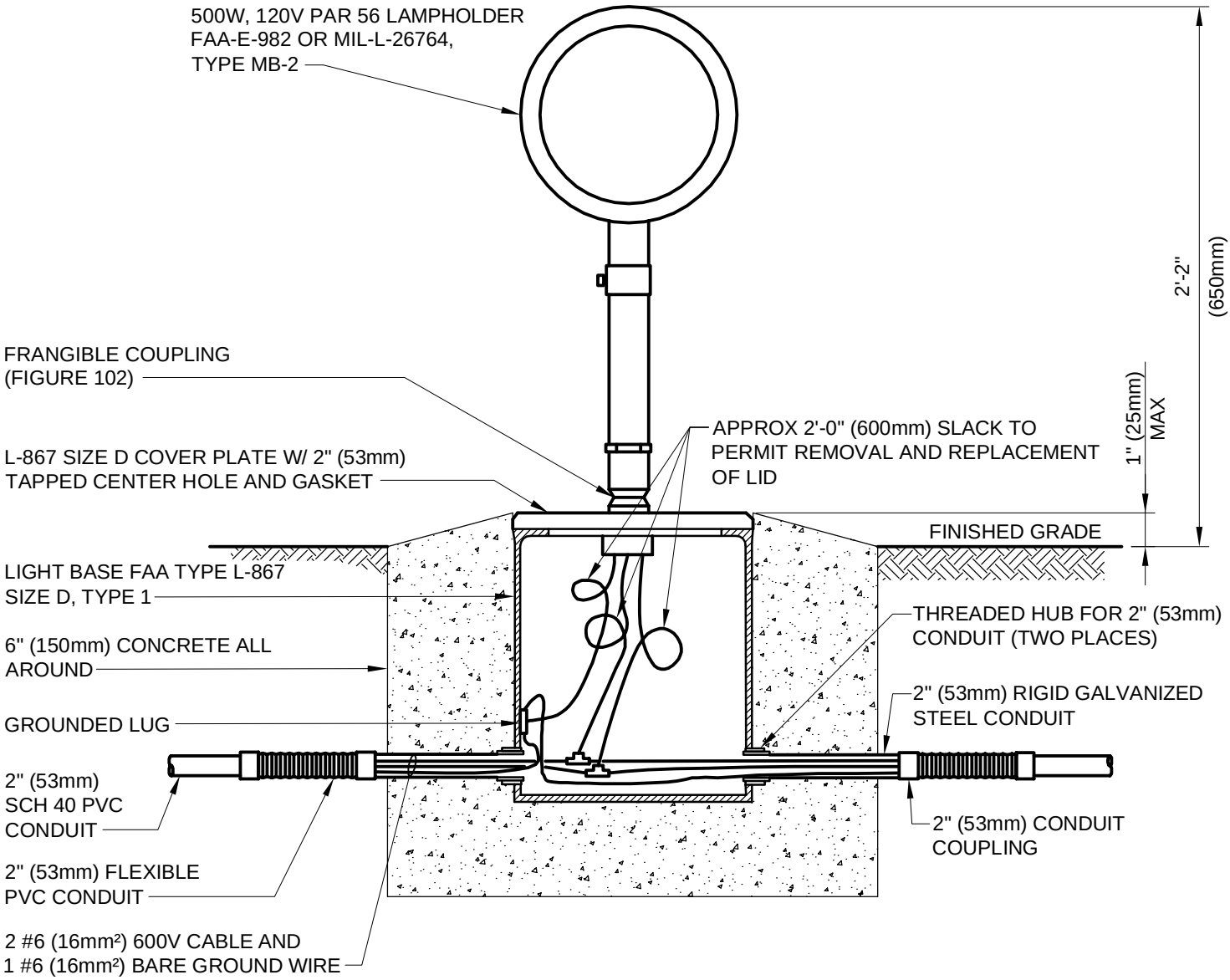


WHEELS-UP WIRING DIAGRAM

SCALE: NTS

REFERENCE FIGURE: 100

CAD FILE: 8_11_(Figure_100)_Wheels_Up_Wiring_Diagram.dwg
SEE NOTES TO DESIGNER FILE: 8 11 (Figure 100)-NTD.DOC

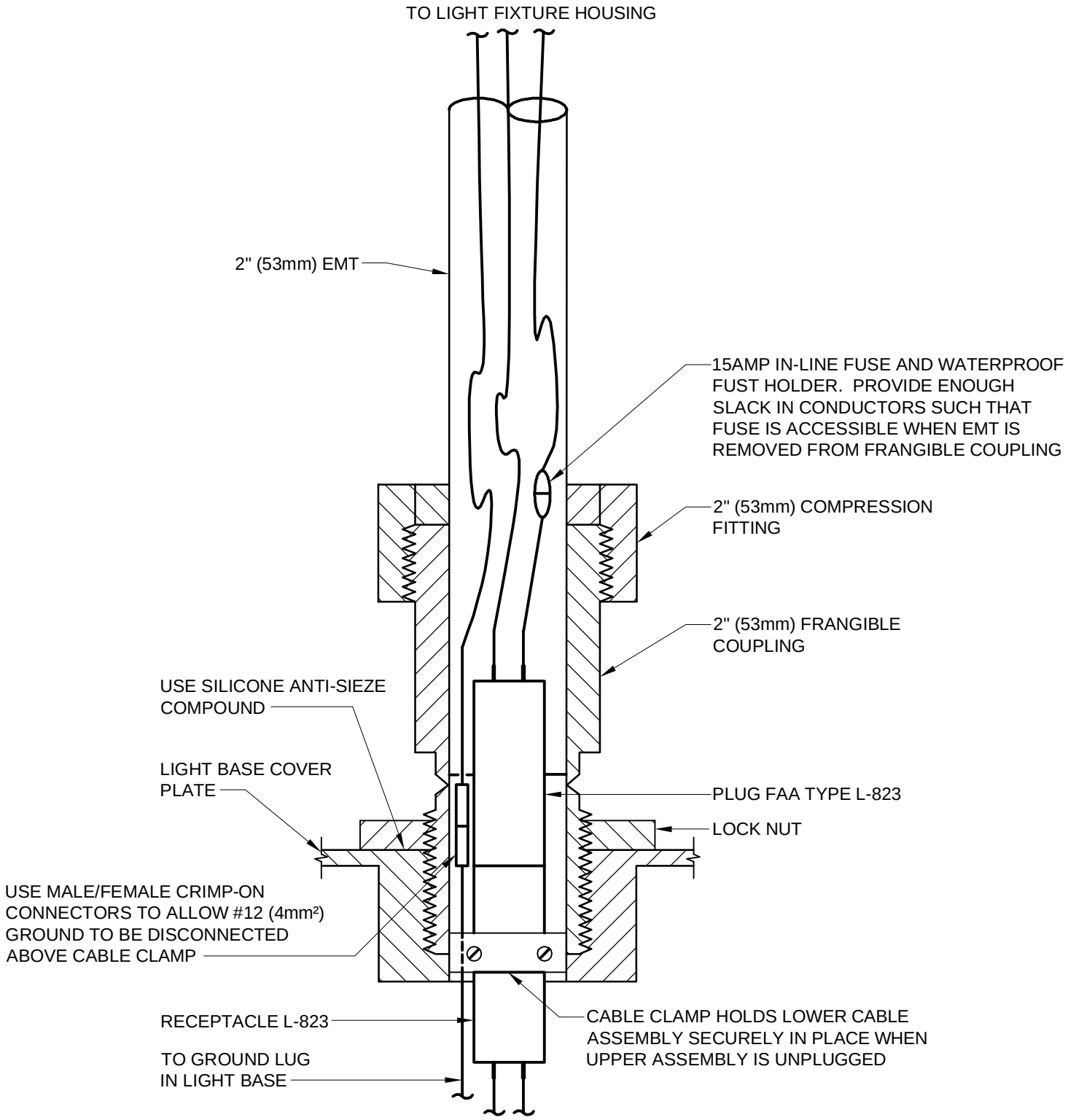


WHEELS-UP LIGHT FIXTURE

SCALE: NTS

REFERENCE FIGURE: 101

CAD FILE: 8_12_(Figure_101)_Wheels_Up_Light_Fixture.dwg
SEE NOTES TO DESIGNER FILE: 8_12 (Figure 101)-NTD.DOC

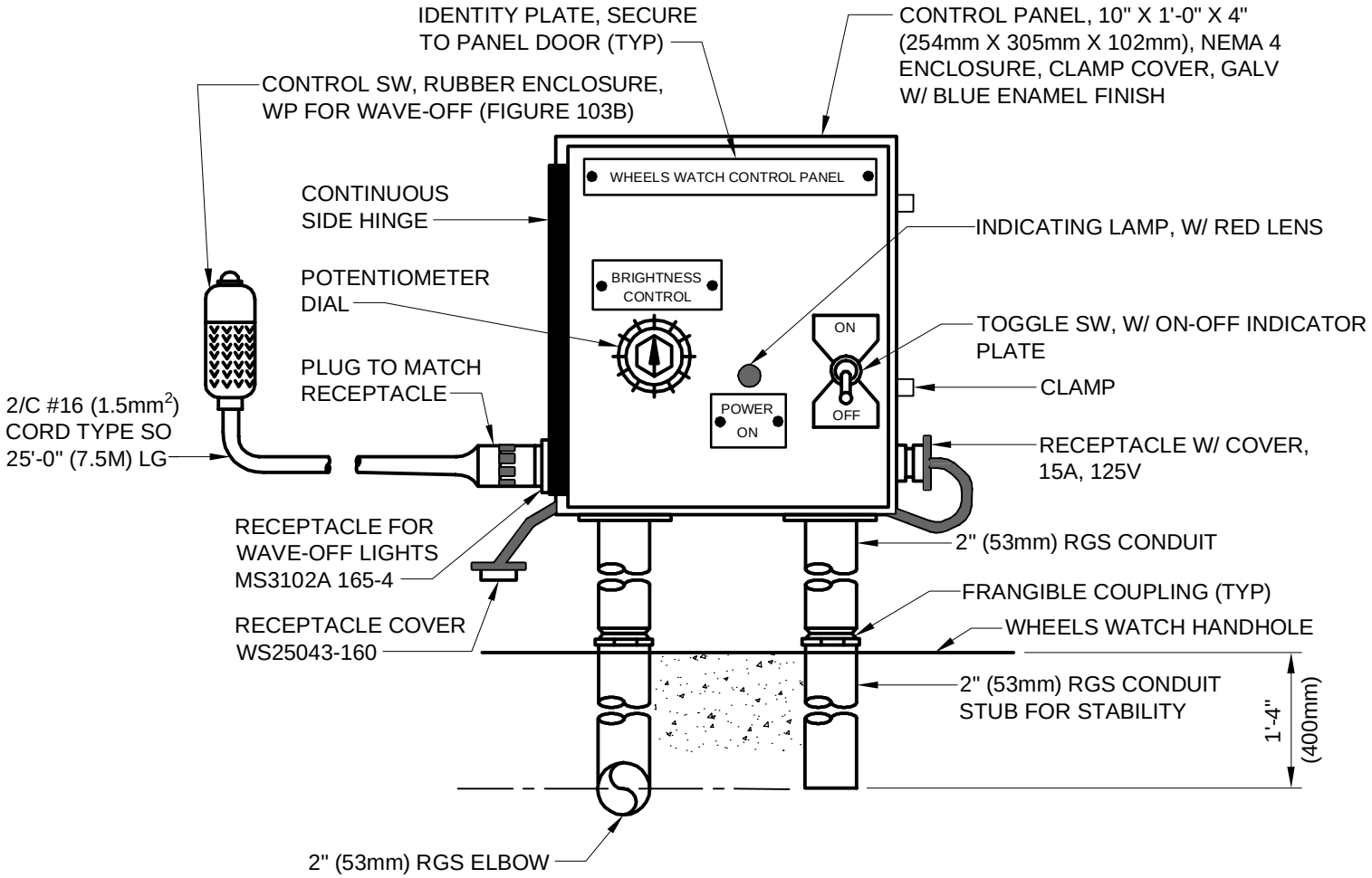


WHEELS-UP FIXTURE DETAIL

SCALE: NTS

REFERENCE
FIGURE: 102

CAD FILE: 8_13_(Figure_102)_Wheels_Up_Fixture_Detail.dwg
SEE NOTES TO DESIGNER FILE: 8_13 (Figure 102)-NTD.DOC

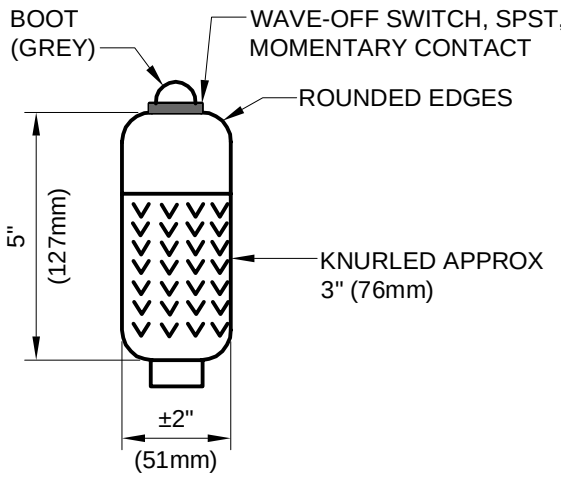


WHEELS-WATCH CONTROL PANEL

SCALE: NTS

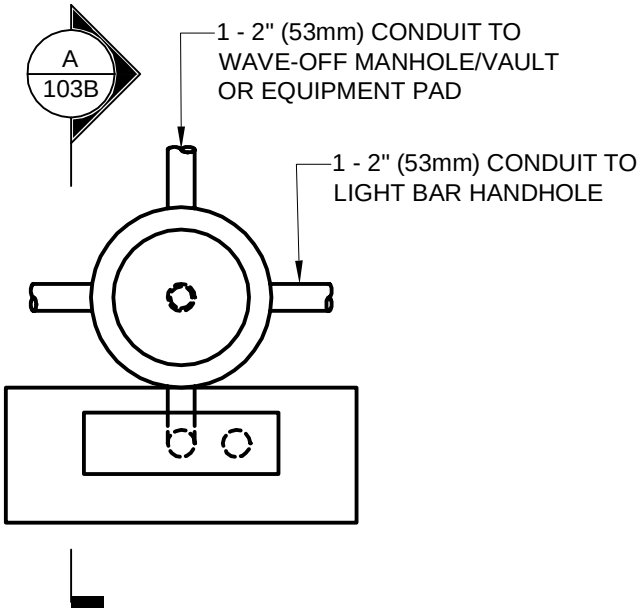
REFERENCE FIGURE: 103A

CAD FILE: 8_14_(Figure_103A)_Wheels_Watch_Control_Panel.dwg
SEE NOTES TO DESIGNER FILE: 8_14 (Figure 103A)-NTD.DOC



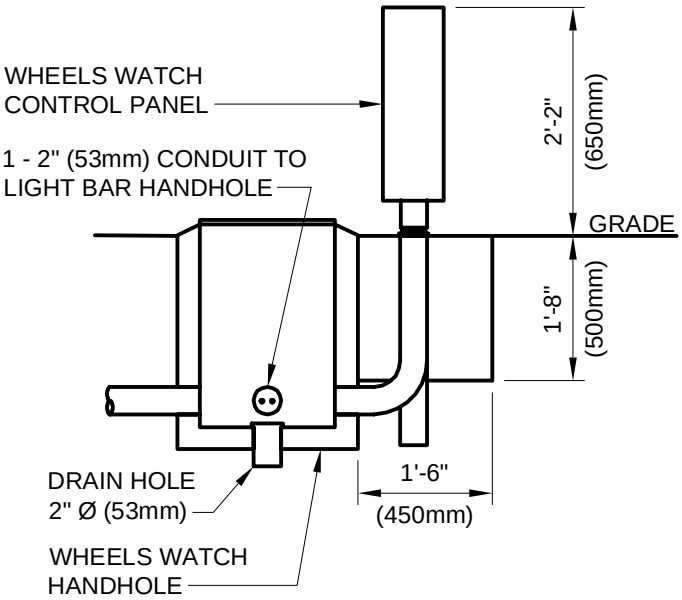
WAVE-OFF CONTROL SWITCH

SCALE: NTS



PLAN

SCALE: NTS

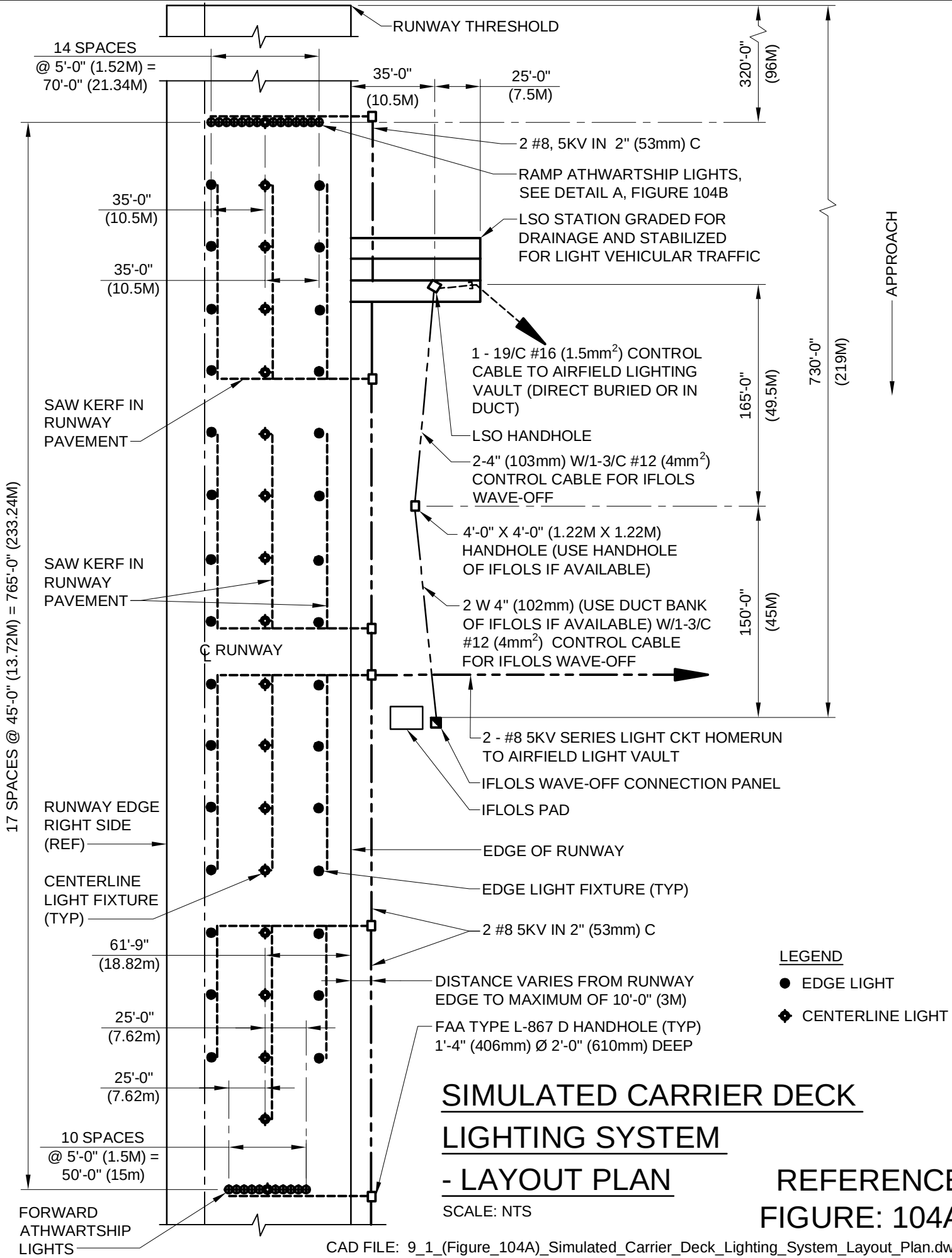


A 103B SECTION

SCALE: NTS

REFERENCE FIGURE: 103B

CAD FILE: 8_14_(Figure_103B)_Wave_Off_Control_Switch.dwg
SEE NOTES TO DESIGNER FILE: 8_14 (Figure 103B)-NTD.DOC

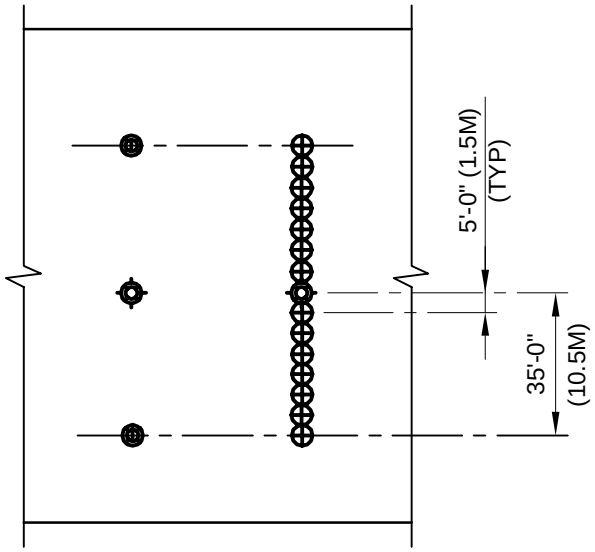


SIMULATED CARRIER DECK LIGHTING SYSTEM - LAYOUT PLAN

SCALE: NTS

REFERENCE FIGURE: 104A

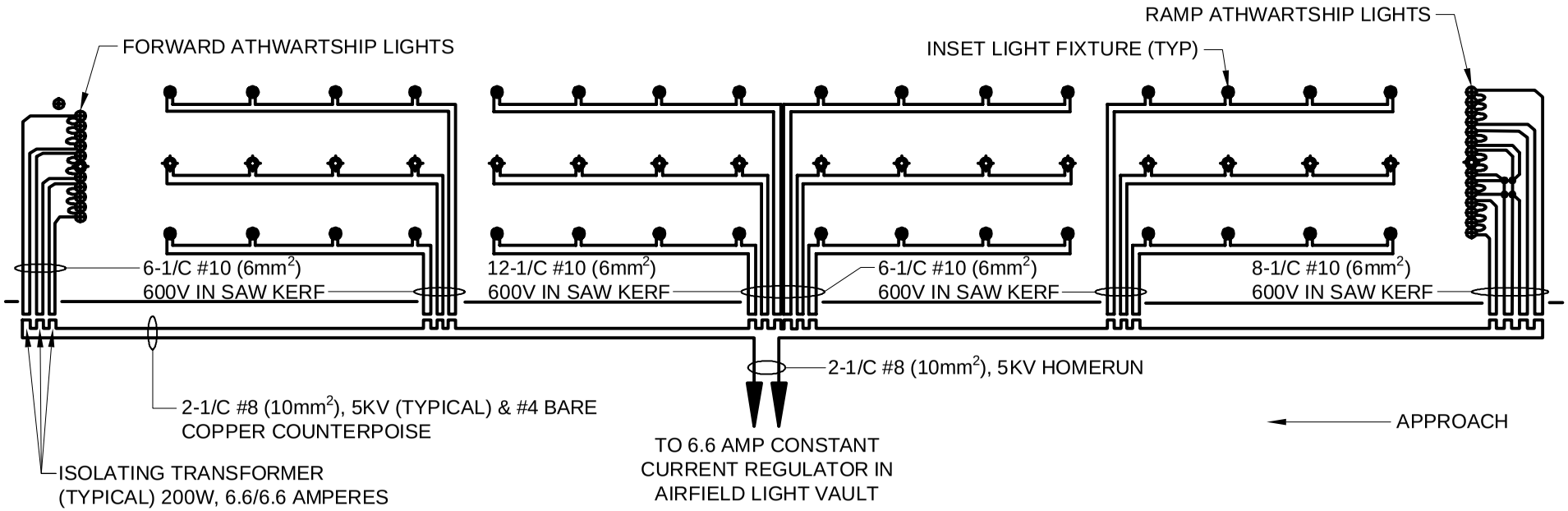
CAD FILE: 9_1_(Figure_104A)_Simulated_Carrier_Deck_Lighting_System_Layout_Plan.dwg
SEE NOTES TO DESIGNER FILE: 9_1 (Figure 104A)-NTD.DOC



A DETAIL
SCALE: NTS

REFERENCE
FIGURE: 104B

CAD FILE: 9_1_(Figure_104B)_Simulated_Carrier_Deck_Lighting_System_Detail.dwg
SEE NOTES TO DESIGNER FILE: 9_1 (Figure 104B)-NTD.DOC



SERIES CIRCUIT WIRING DIAGRAM

LEGEND

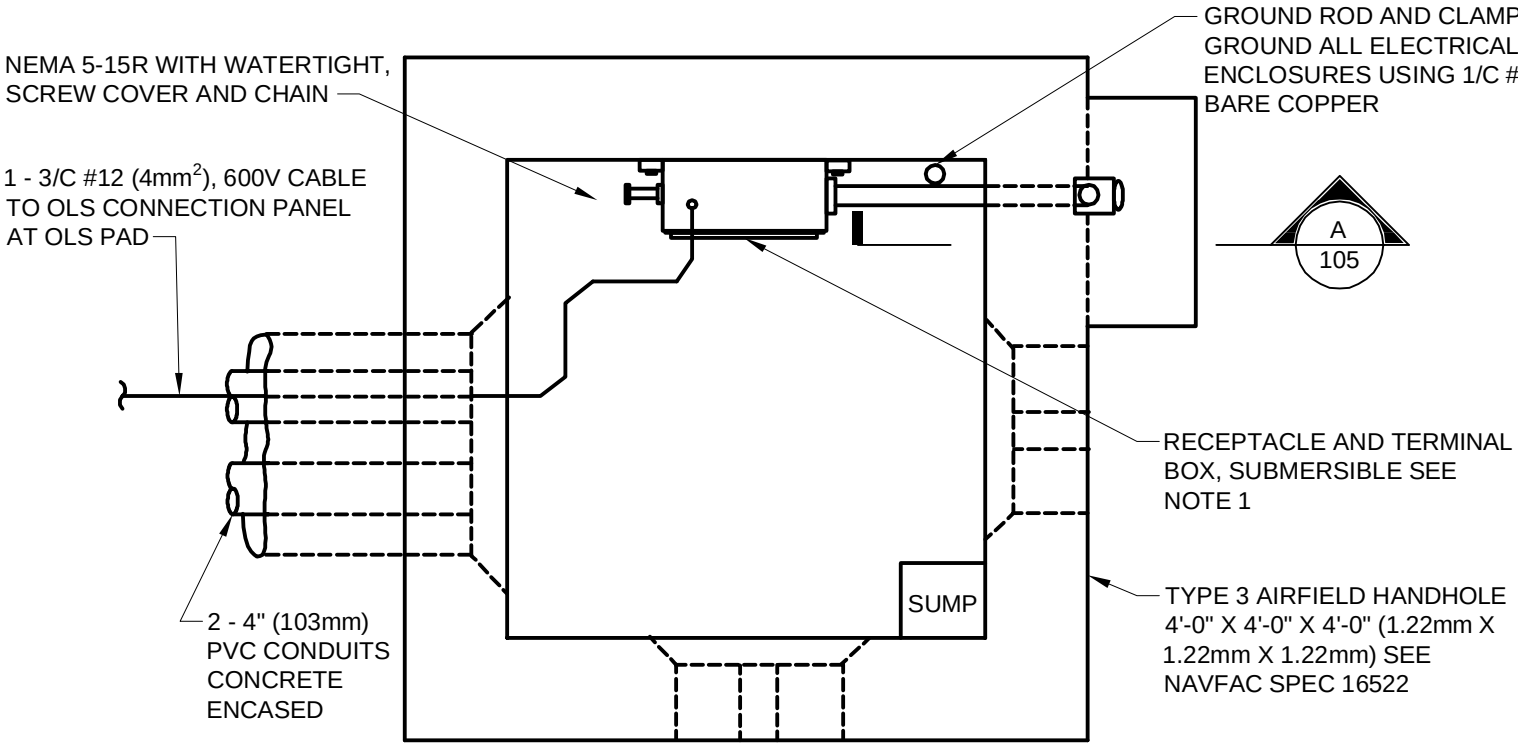
- EDGE LIGHT
- CENTERLINE LIGHT

SIMULATED CARRIER DECK LIGHTING SYSTEM - WIRING DIAGRAM

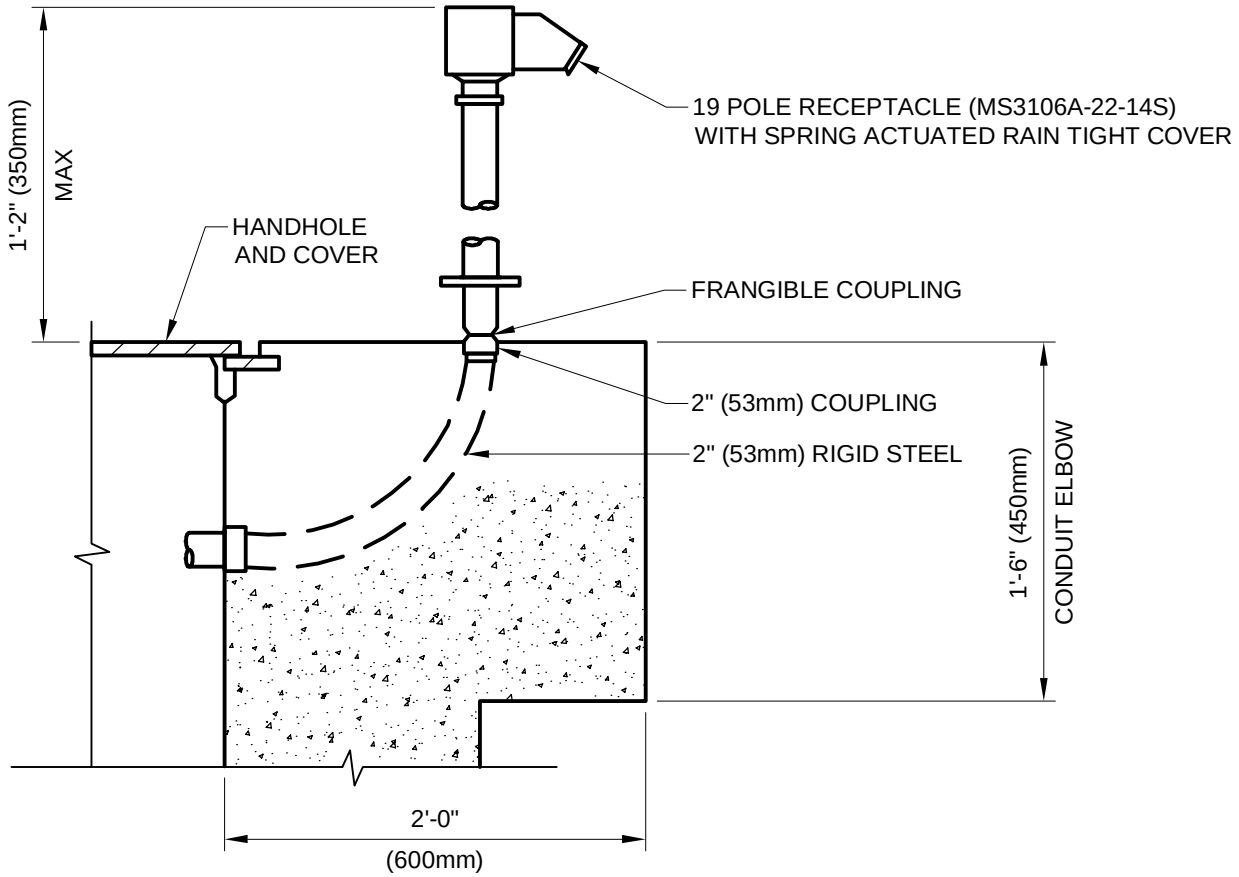
SCALE: NTS

REFERENCE
FIGURE: 104C

CAD FILE: 9_1_(Figure_104C)_Simulated_Carrier_Deck_Lighting_System_Wiring_Diagram.dwg
SEE NOTES TO DESIGNER FILE: 9_1 (Figure 104C)-NTD.DOC



PLAN



A
105

SECTION

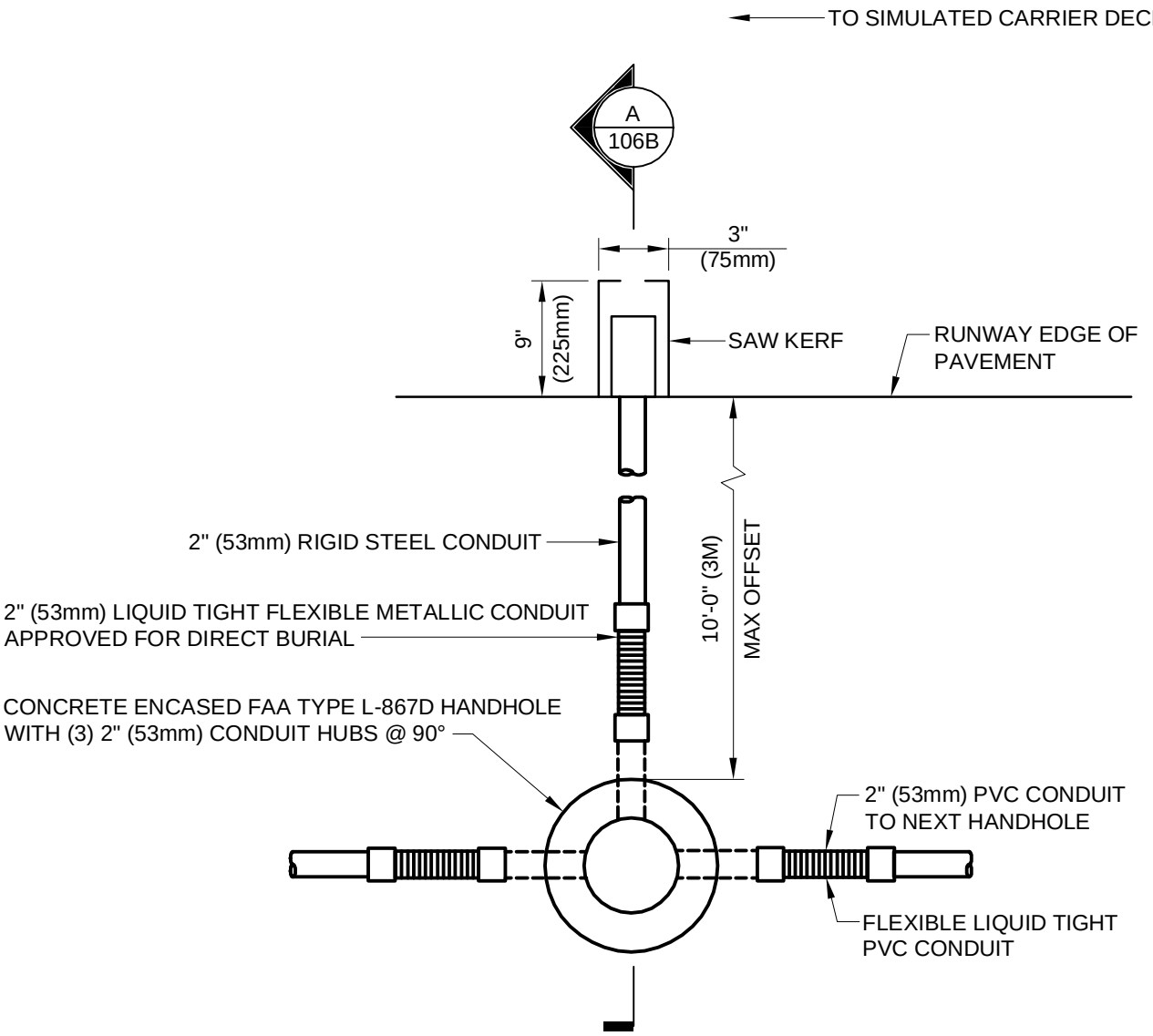
SCALE: NTS

LSO HANDHOLE DETAILS

SCALE: NTS

REFERENCE
FIGURE: 105

CAD FILE: 9_2_(Figure_105)_LSO_Handhole_Details.dwg
SEE NOTES TO DESIGNER FILE: 9_2 (Figure 105)-NTD.DOC



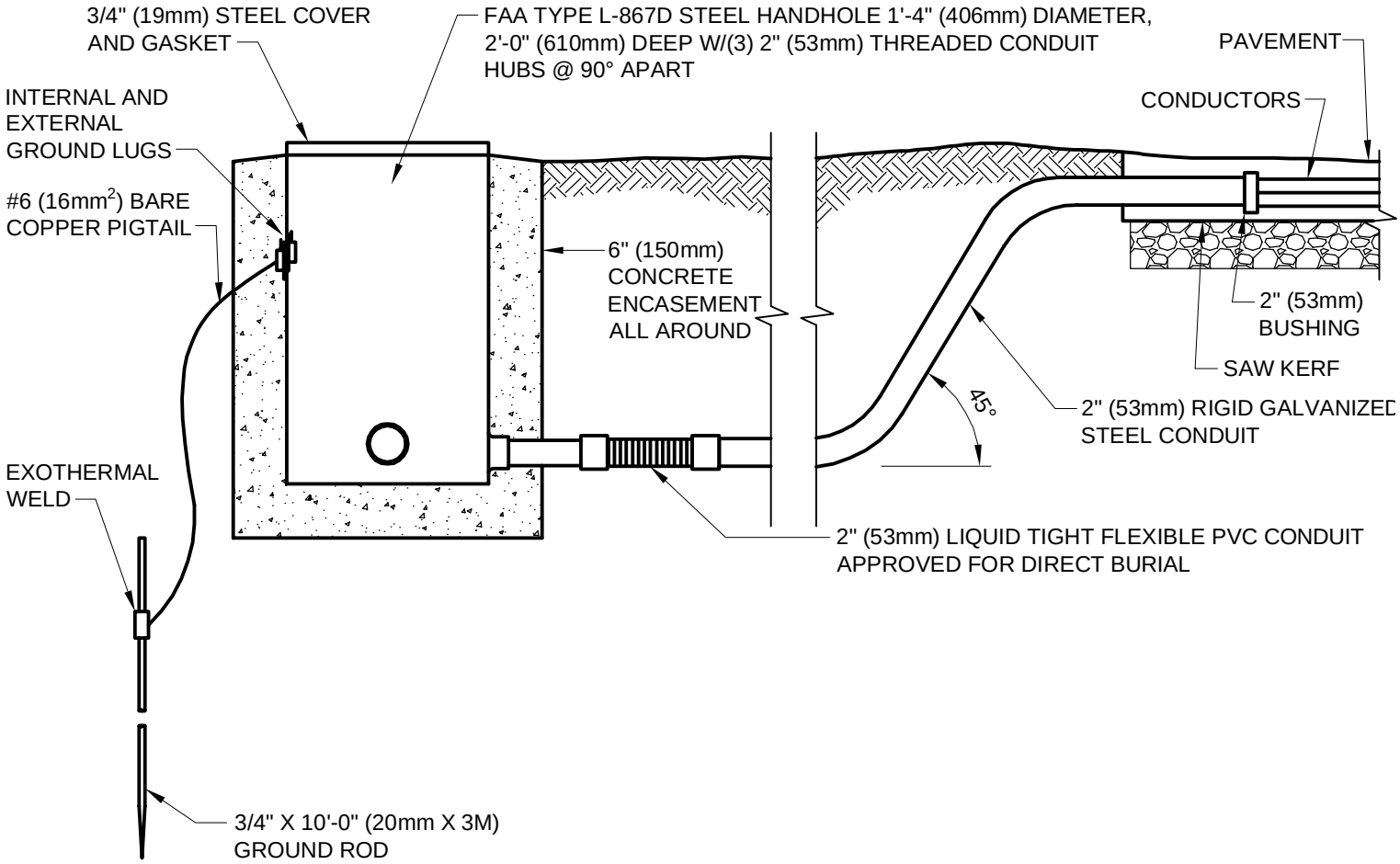
PLAN VIEW

HANDHOLE AND TRANSFORMER HOUSING

SCALE: NTS

REFERENCE
FIGURE: 106A

CAD FILE: 9_3_(Figure_106A)_Handhole_And_Transformer_Housing.dwg
SEE NOTES TO DESIGNER FILE: 9_3 (Figure 106A)-NTD.DOC



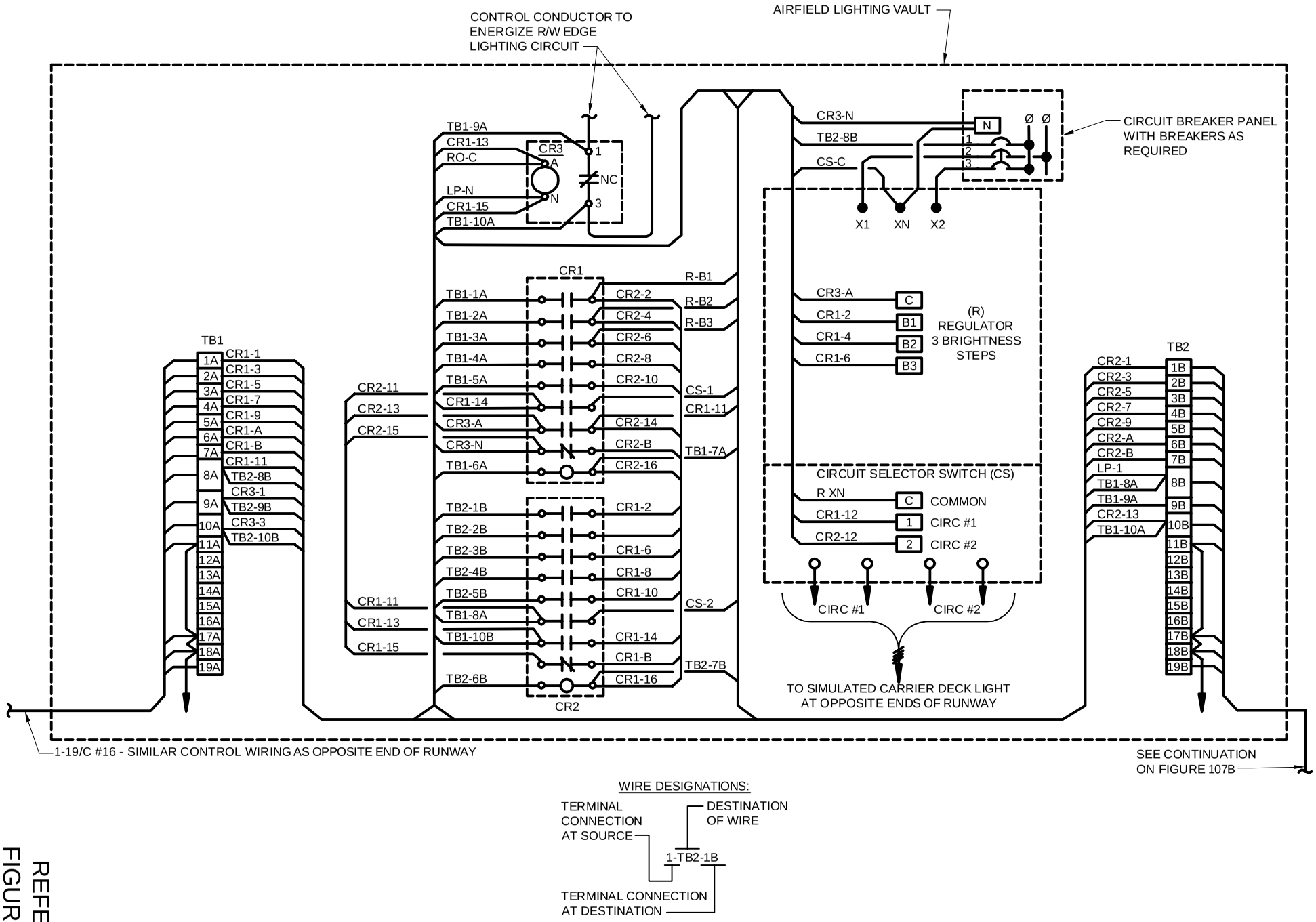
A
106A

SECTION

SCALE: NTS

REFERENCE FIGURE: 106B

CAD FILE: 9_3_(Figure_106B)_Handhole_And_Transformer_Housing_Section.dwg
SEE NOTES TO DESIGNER FILE: 9_3 (Figure 106B)-NTD.DOC



WIRE DESIGNATIONS:

TERMINAL CONNECTION AT SOURCE — DESTINATION OF WIRE

1-TB2-1B

TERMINAL CONNECTION AT DESTINATION

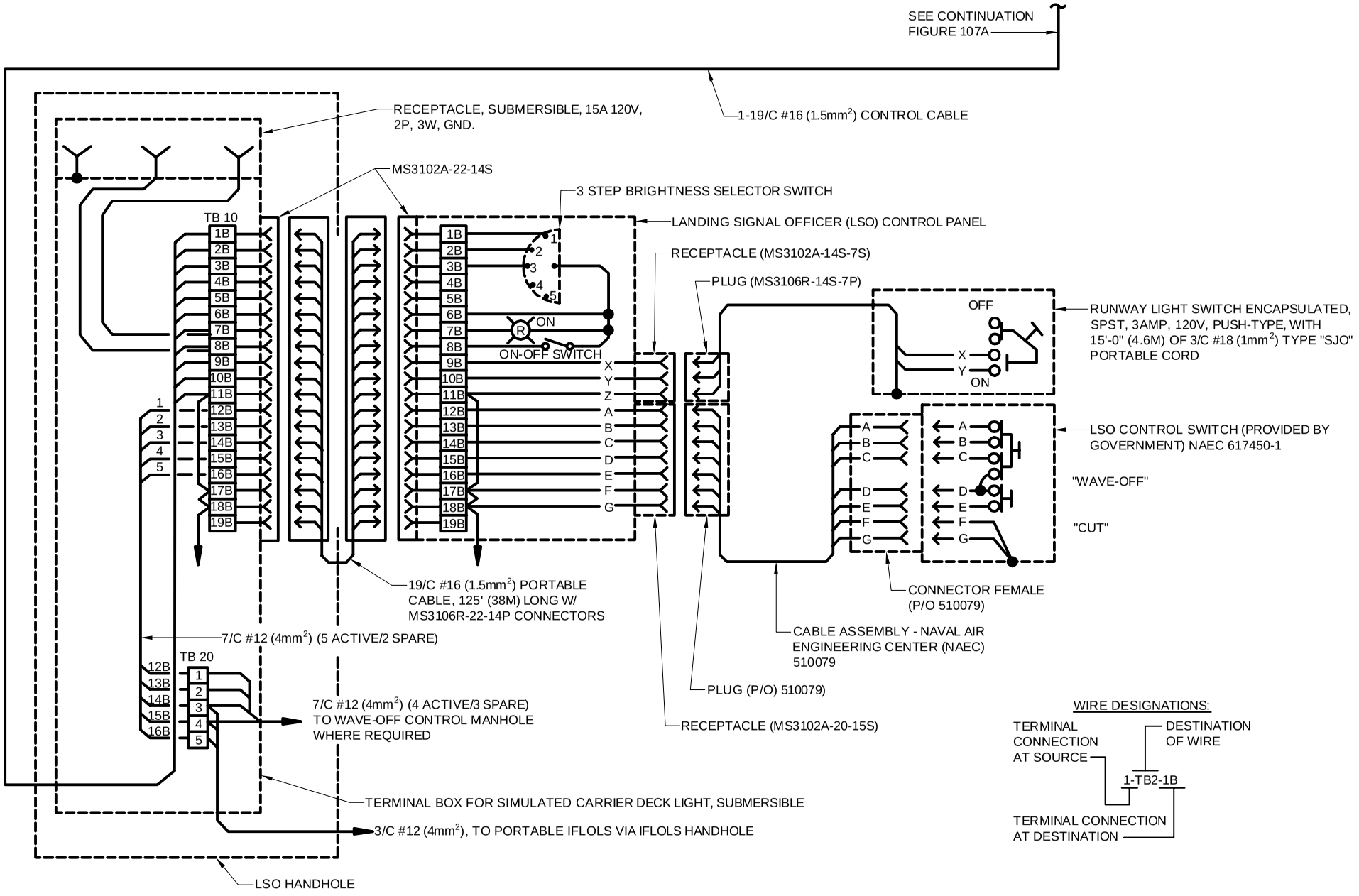
SIMULATED CARRIER DECK LIGHTING - CONTROL WIRING DIAGRAM - SHEET 1

SCALE: NTS

REFERENCE FIGURE: 107A

CAD FILE: 9_4_(Figure_107A)_Simulated_Carrier_Deck_Lighting_Control_Wiring_Diagram_Sheet_1.dwg

SEE NOTES TO DESIGNER FILE: 9_4 (Figure 107A)-NTD.DOC



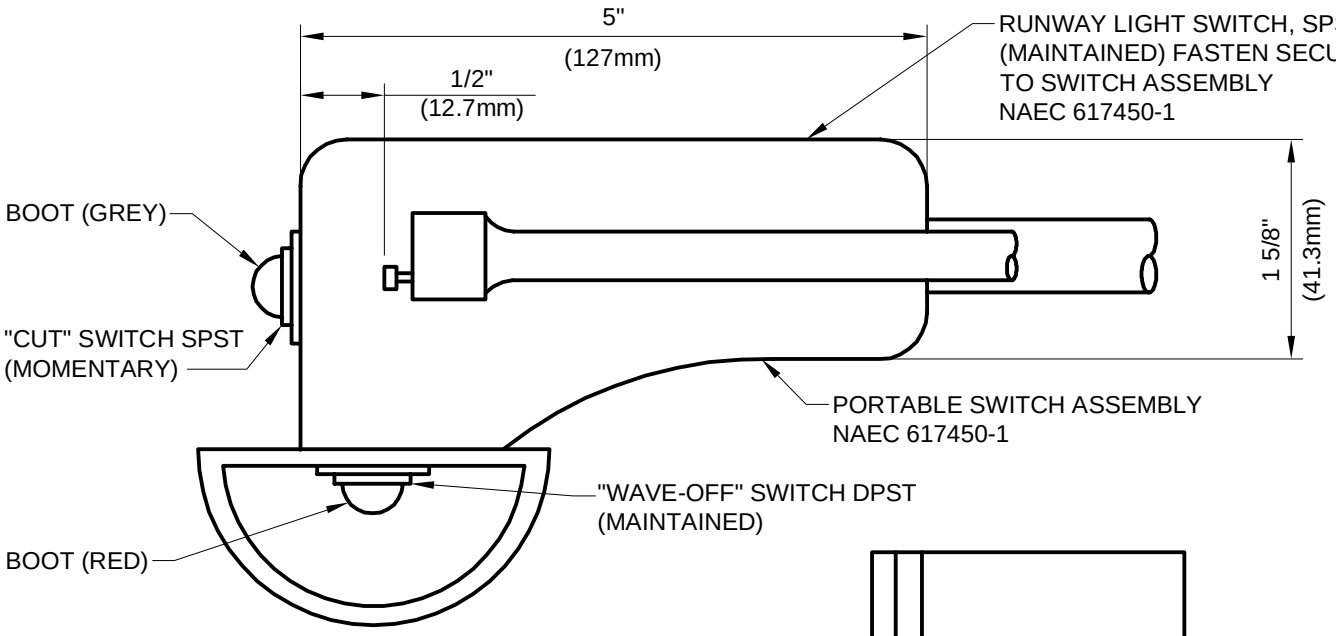
SIMULATED CARRIER DECK LIGHTING - CONTROL WIRING DIAGRAM - SHEET 2

SCALE: NTS

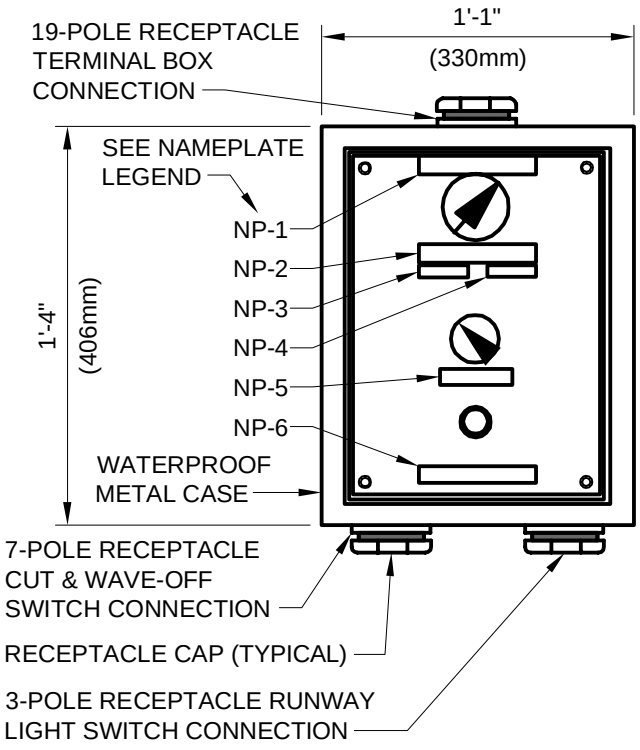
REFERENCE FIGURE: 107B

CAD FILE: 9_4_(Figure_107B)_Simulated_Carrier_Deck_Lighting_Control_Wiring_Diagram_Sheet_2.dwg

SEE NOTES TO DESIGNER FILE: 9_4 (Figure 107B)-NTD.DOC



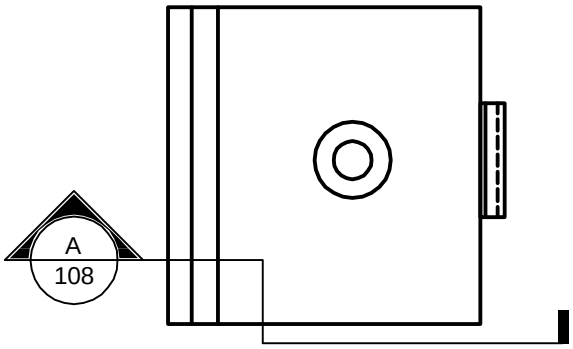
LSO CONTROL SWITCH



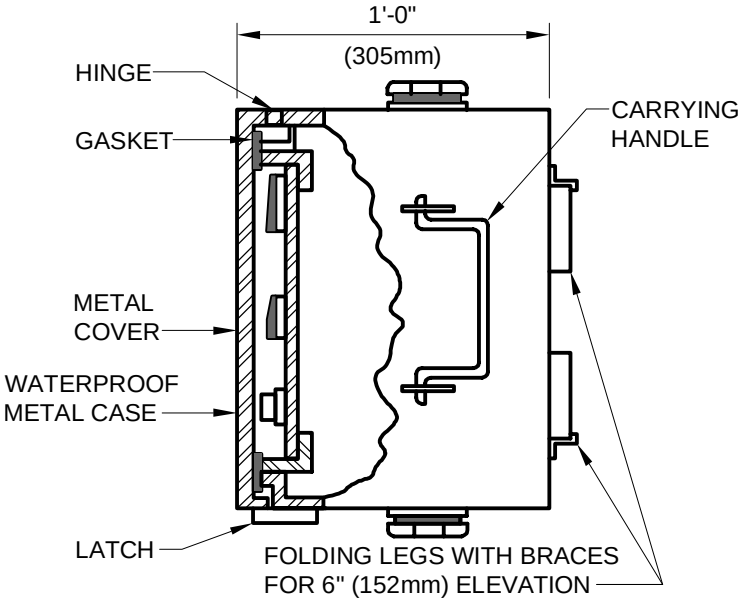
NAMEPLATE LEGEND

NP-1 BRIGHTNESS
NP-2 SIMULATOR DECK
NP-3 OFF
NP-4 ON
NP-5 POWER
NP-6 CONTROL ON

FRONT VIEW



TOP VIEW



A
108
SECTION

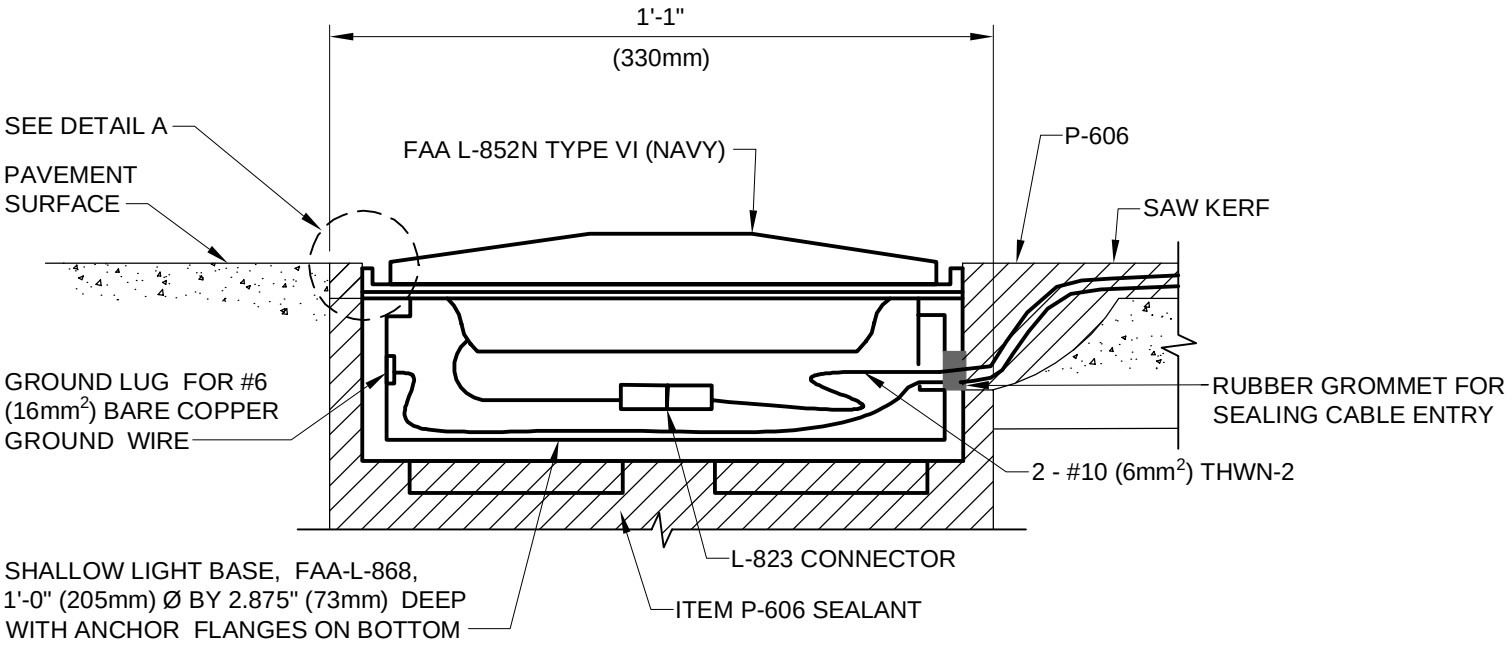
SCALE: NTS

LSO CONTROL PANEL AND PORTABLE CONTROL SWITCH

SCALE: NTS

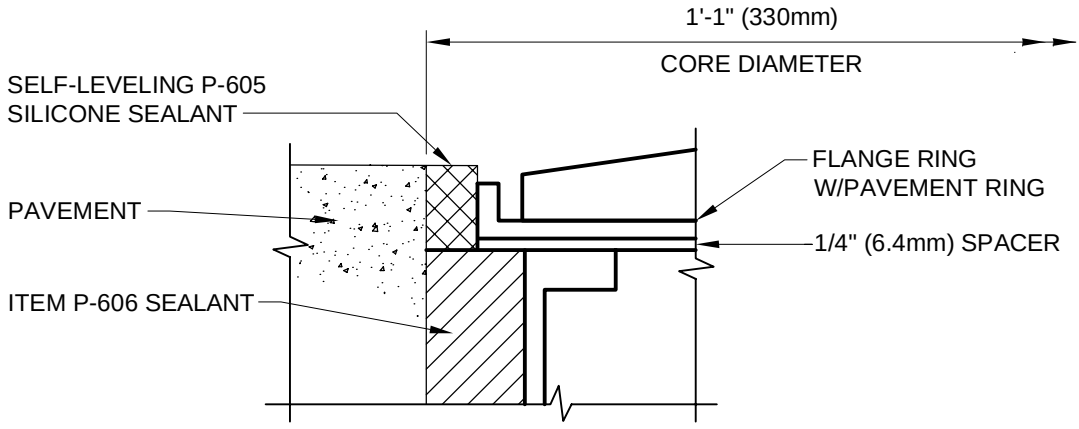
REFERENCE
FIGURE: 108

CAD FILE: 9_5_(Figure_108)_LSO_Control_Panel_And_Portable_Control_Switch.dwg
SEE NOTES TO DESIGNER FILE: 9_5 (Figure 108)-NTD.DOC



FIXTURE INSTALLATION ON SHALLOW BASE DETAIL

SCALE: NTS



A DETAIL

SCALE: NTS

SIMULATED CARRIER DECK LIGHT FIXTURE - SHALLOW BASE AND SAW KERF INSTALLATION

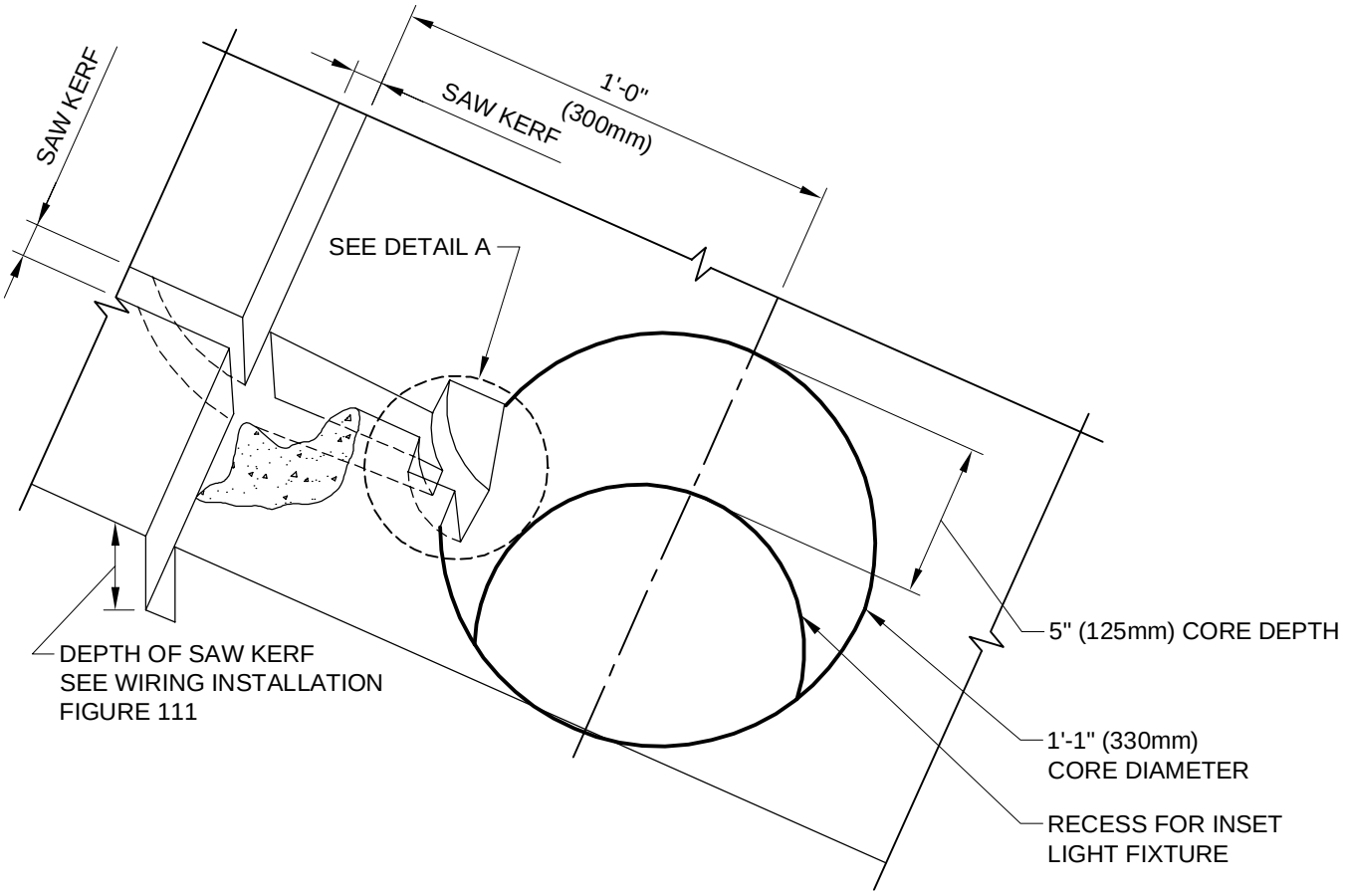
SCALE: NTS

REFERENCE
FIGURE: 109

CAD FILE: 9_6_(Figure_109)_Simulated_Carrier_Deck_Light_Fixture_And_Installation.dwg
SEE NOTES TO DESIGNER FILE: 9_6 (Figure 109)-NTD.PDF

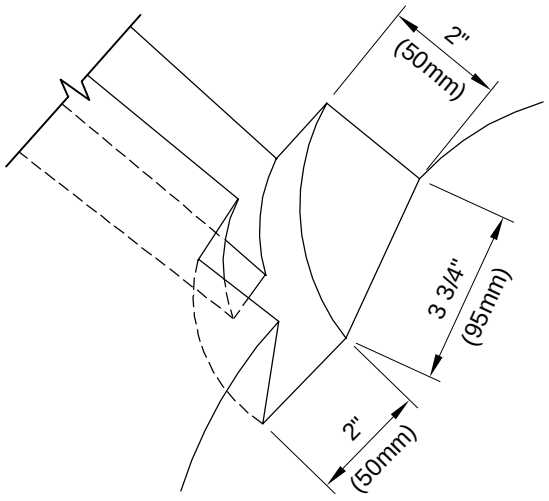
DRAWING NOTES - FIGURE 109:

1. CONTRACTOR MUST USE A SETTING JIG TO HOLD THE BASE AT THE PROPER ELEVATION AND AZIMUTH WHILE THE P-606 IS HARDENING.
2. USE SEALANTS AND EMBEDDING COMPOUNDS THAT ARE CHEMICALLY COMPATIBLE WITH THE PAVEMENT MATERIAL. IT IS EXTREMELY IMPORTANT TO CAREFULLY RESEARCH PAST USE HISTORY OF THE SEALANT TO BE SPECIFIED.
3. CORE DIMENSIONS MUST BE VERIFIED WITH FIXTURE MANUFACTURER PRIOR TO CORE DRILLING.



CORE DETAIL FOR SIMULATED CARRIER DECK LIGHT FIXTURE

SCALE: NTS



A DETAIL

SCALE: NTS

SIMULATED CARRIER DECK LIGHT CORE DETAILS

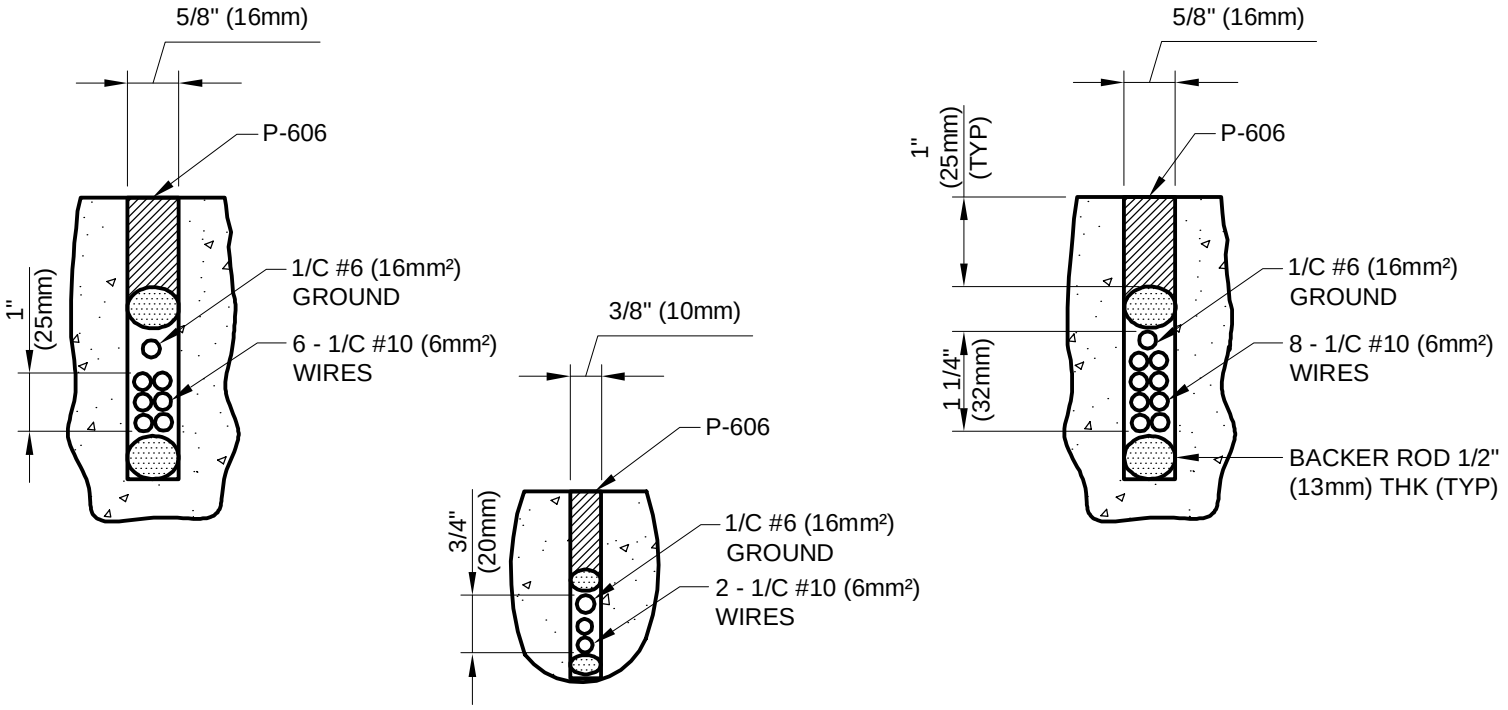
SCALE: NTS

REFERENCE
FIGURE: 110

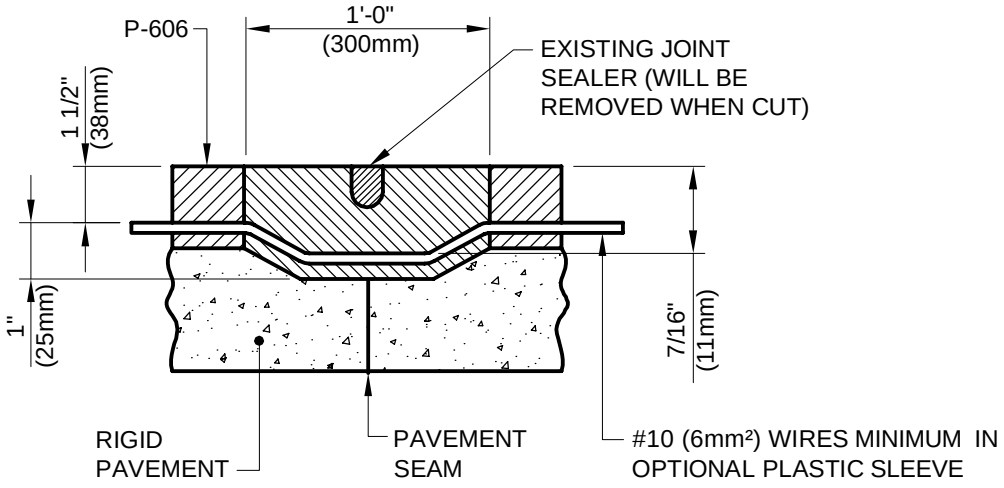
CAD FILE: 9_7_(Figure_110)_Simulated_Carrier_Deck_Light_Core_Details.dwg
SEE NOTES TO DESIGNER FILE: 9_7 (Figure 110)-NTD.DOC

DRAWING NOTES - FIGURE 110:

1. EDGES OF SAW KERFS AND FIXTURE CORINGS MUST BE KEPT A MINIMUM OF 12" (300mm) FROM EXISTING PAVEMENT JOINTS. WHERE A CONFLICT OCCURS, RELOCATE FIXTURES LONGITUDINALLY TO AVOID JOINTS.
2. WHERE A NEW SAW KERF CROSSES AN EXISTING SAW KERF OR PAVEMENT JOINT, NEW WIRING MUST BE INSTALLED AS INDICATED IN FIGURE 111.



WIREWAY DETAILS FOR SIMULATED CARRIER DECK LIGHTS



NOTE:
WIRES ARE NOT TO BE LESS THAN 1/2" (13mm) BELOW EXISTING JOINT SEAL COMPUND.

JOINT INTERSECTION AND SAWING DETAILS

SAW KERF WIREWAY DETAILS: SIMULATED CARRIER DECK LIGHTS

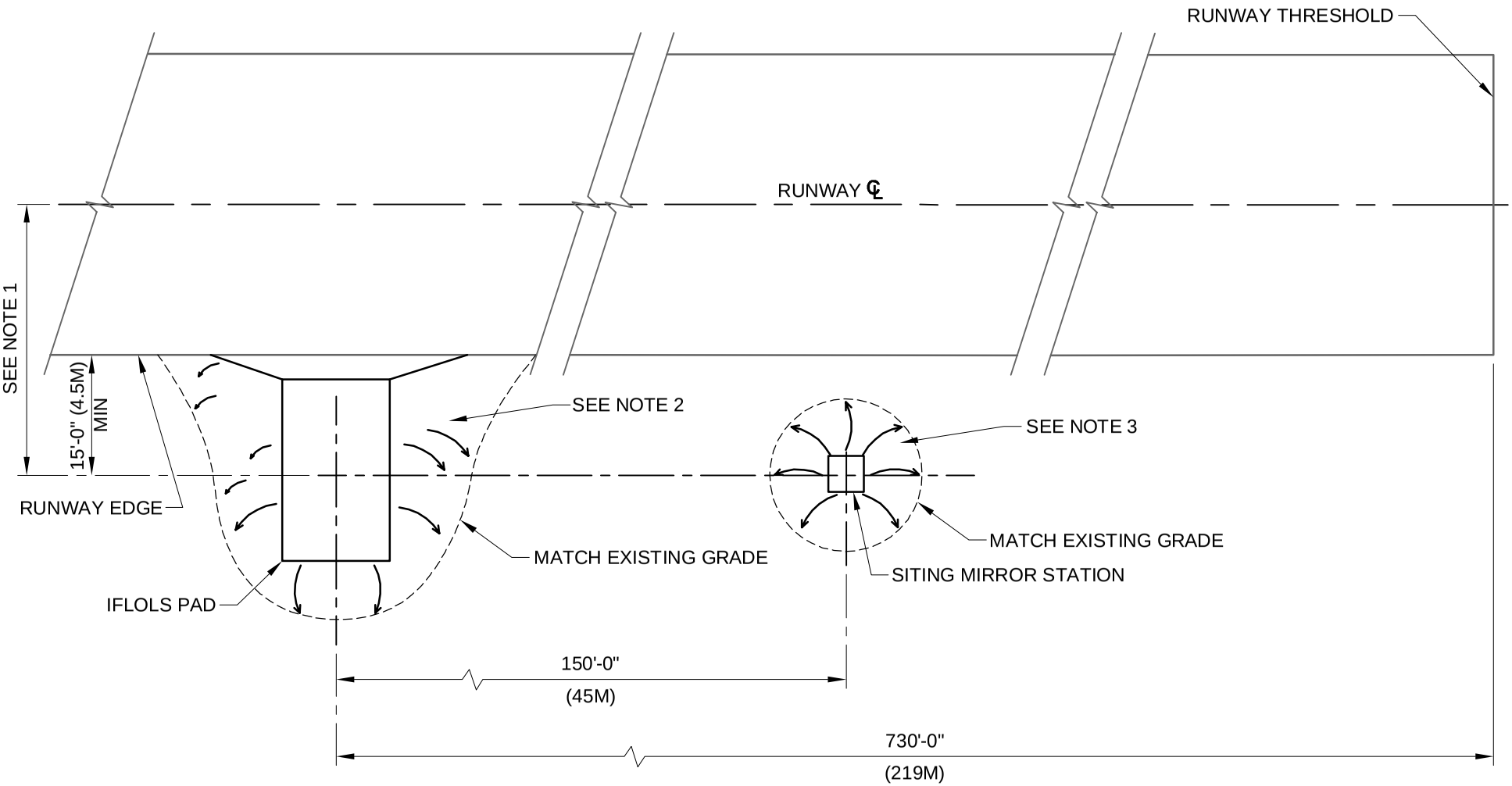
SCALE: NTS

REFERENCE FIGURE: 111

CAD FILE: 9_8_(Figure_111)_Saw_Kerf_Wireway_And_Simulated_Carrier_Deck_Lights_Details.dwg
SEE NOTES TO DESIGNER FILE: 9_8 (Figure 111-NTD.PDF

DRAWING NOTES - FIGURE 111:

1. DIAMETER OF BACKER ROD MUST BE 25% MAXIMUM LARGER THAN WIDTH OF SAW KERF.
2. IN EXISTING PAVEMENT, THE EASIEST METHOD OF INSTALLING IN-PAVEMENT LIGHTING IS TO CORE A HOLE FOR THE FIXTURE AND MAKE A SAW KERF FOR THE WIREWAYS. PRIMARY CABLES AND TRANSFORMERS IN THIS CASE ARE LOCATED AT THE EDGE OF THE RUNWAY.
3. TO ASSURE A SUCCESSFUL INSTALLATION, CARE MUST BE TAKEN TO SEE THAT ALL SURFACES ARE SAND BLASTED AND DRIED BEFORE THE SEALER IS APPLIED.
4. USE SEALANTS THAT ARE CHEMICALLY COMPATIBLE WITH THE PAVEMENT MATERIAL. IT IS EXTREMELY IMPORTANT TO CAREFULLY RESEARCH PAST USE HISTORY OF THE SEALANT TO BE SPECIFIED.
5. BOND #6 (16 SQUARE mm) GROUND WIRE FROM EACH FIXTURE TO A SINGLE #6 (16 SQUARE mm) GROUND WIRE AND INSTALL WITH CIRCUIT CONDUCTORS BACK TO HANDHOLE.



IFLOLS (OPTICAL LANDING SYSTEM) PAD LOCATION

SCALE: NTS

REFERENCE
FIGURE: 112

CAD FILE: 9_9_(Figure_112)_IFLOLS_Optical_Landing_System_Pad_Location.dwg
SEE NOTES TO DESIGNER FILE: 9_9 (Figure 112)-NTD.DOC

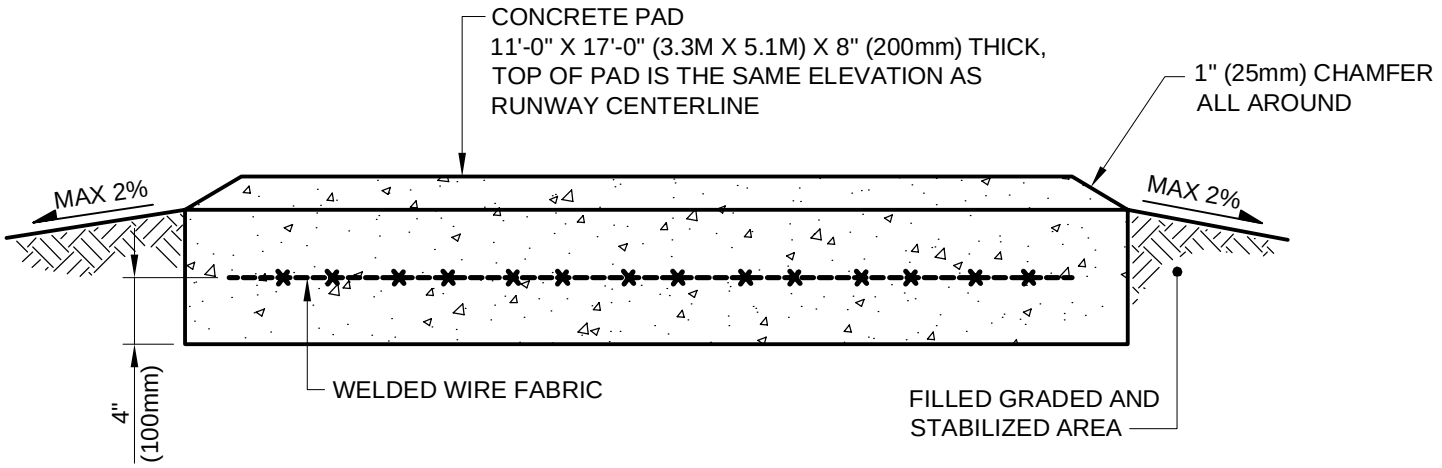
DRAWING NOTES - FIGURE 112:

1. DISTANCE FROM R/W CL FOR RUNWAYS 200' (60M) OR LESS:
115' (34.5M) MINIMUM
119' +1' / -0M (35.7M +0.3M / -0M) MAXIMUM

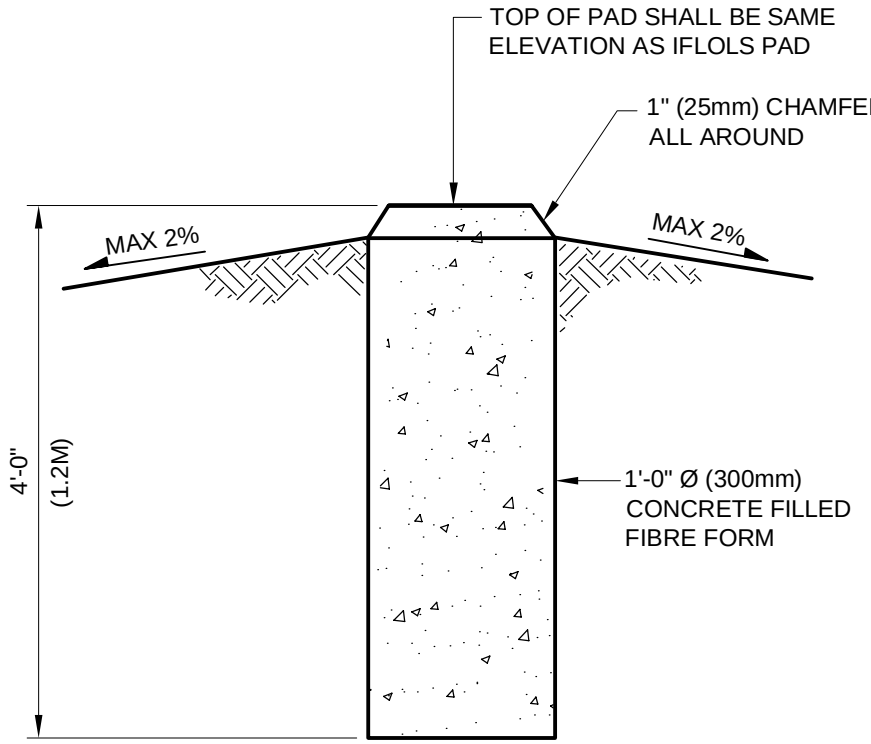
FOR RUNWAYS USED BY C-5A OR B-747 OR EQUIVALENT AIRCRAFT:
153' +1' / 0'
(45.9M +0.3M / -0M)

2. AREA TO BE FILLED, GRADED, AND STABILIZED TO ALLOW VEHICLE ACCESS TO PAD. MAXIMUM SLOPE OF GRADED FILL MATERIAL FROM TOP OF PAD ELEVATION OUT TO EXISTING GRADE MUST BE 2%.

3. AREA TO BE FILLED, AND GRADED FROM TOP OF MIRROR STATION ELEVATION OUT TO EXISTING GRADE WITH A MAXIMUM SLOPE OF 2%.



IFLOLS PAD DETAIL



SITING MIRROR PAD

IFLOLS AND SITING MIRROR PAD DETAILS

SCALE: NTS

REFERENCE
FIGURE: 113

CAD FILE: 9_10_(Figure_113)_IFLOLS_And_Siting_Mirror_Pad_Details.dwg
SEE NOTES TO DESIGNER FILE: 9_10 (Figure 113-NTD.PDF