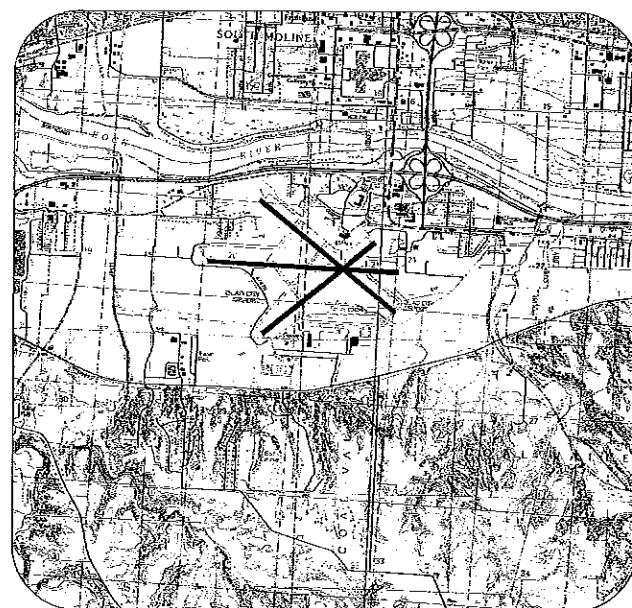


CONSTRUCTION PLANS FOR QUAD CITY INTERNATIONAL AIRPORT METROPOLITAN AIRPORT AUTHORITY OF ROCK ISLAND COUNTY MOLINE, ILLINOIS

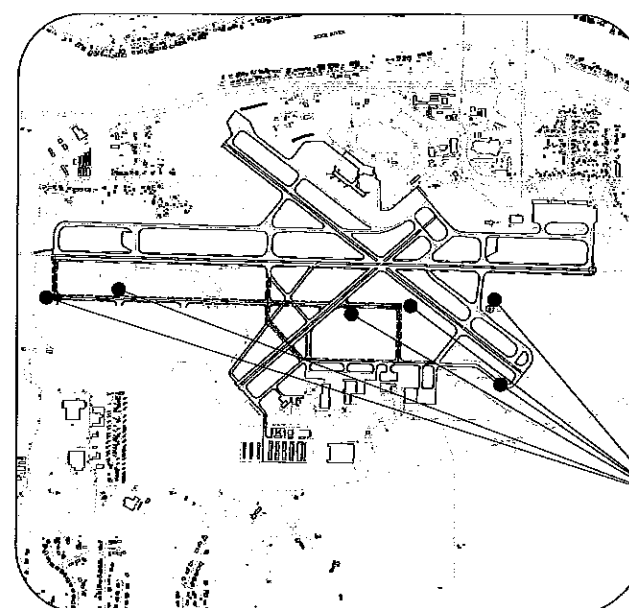
**ILLINOIS PROJECT MLI - 3898
A. I. P. PROJECT 3-17-0068-XX**

**CONSTRUCT LOCALIZER ON RUNWAY 10;
INSTALL REIL AND PAPI ON RUNWAYS 10 & 28;
INSTALL RUNWAY GUARD LIGHTS ON TAXIWAY K
AT INTERSECTION WITH RUNWAY 13/31**

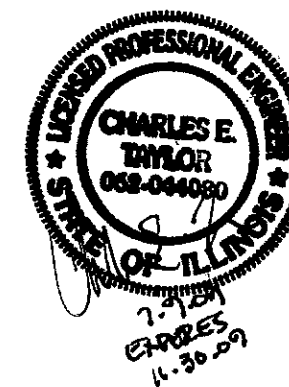
JUNE 23, 2009



LOCATION MAP



SITE PLAN



PROJECT SITES

INDEX TO SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES
3. AIRPORT SITE PLAN
4. CONSTRUCTION ACTIVITY PLAN PHASE 1
5. CONSTRUCTION ACTIVITY PLAN PHASE 2
6. CONSTRUCTION ACTIVITY PLAN PHASE 3
7. LOCALIZER SITE PLAN, TYPICAL SECTION
8. RUNWAY 10-28 END LIGHTING PLAN
9. RUNWAY GUARD LIGHT SITE PLAN
10. SHELTER BUILDING DETAILS
11. LOCALIZER SHELTER EQUIPMENT AND ONE-LINE DIAGRAM
12. LOCALIZER SHELTER EQUIPMENT LAYOUT 1
13. LOCALIZER SHELTER EQUIPMENT LAYOUT 2
14. SHELTER LIGHTNING PROTECTION
15. LOCALIZER ANTENNA ARRAY INSTALLATION DETAILS
16. LOCALIZER ANTENNA ARRAY FOUNDATION DETAILS
17. RUNWAY END IDENTIFIER LIGHTS DETAILS
18. PAPI DETAILS
19. RUNWAY GUARD LIGHT DETAILS

DESIGN INFORMATION

DESIGN CRITERIA

AIRPLANE DESIGN GROUP III
AIRCRAFT APPROACH CATEGORY C
TCH=50'

CALL J.U.L.I.E.
BEFORE EXCAVATING
1-800-892-0123

TOWNSHIP: 17N
RANGE: 1W
SECTION: 20
COUNTY: ROCK ISLAND
CIVIL TOWNSHIP: UNINCORPORATED
ROCK ISLAND COUNTY



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■ SPRINGFIELD, IL ■ AUBURN, IL ■ ST. LOUIS, MO

SUBMITTED BY *Charles E. Taylor*

DATE 7.9.09

CMT JOB NUMBER 09014-02

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 THIS BAR IS EQUAL TO 2"
 AT FULL SCALE (34X22).
 PLOT 1

METROPOLITAN AIRPORT AUTHORITY
 OF ROCK ISLAND COUNTY
 QUAD CITY INTERNATIONAL AIRPORT
 MOLINE, ILLINOIS

CONSTRUCT LOCALIZER ON RUNWAY 10

SUMMARY OF QUANTITIES			
Item #	Description	Unit	Quantity
AR108158	1/C #8 5KV UG CABLE IN UD	LF	1,480
AR800236	2-1/C #8 TYPE USE, 1- #10 GND IN UD	LF	1,020
AR800237	3-1/C #2 TYPE USE, 1 #8 GND IN 1-1/2" UD	LF	1,250
AR110014	4" DIRECTIONAL BORE	LF	85
AR125615	PAPI (L-880 SYSTEM)	EA	2
AR125610	REILS	PAIR	2
AR800238	RUNWAY GUARD LIGHT	EA	2
AR127410	LOCALIZER	LS	1
AR127430	SHELTER BUILDING	EA	1
AR152411	UNCLASSIFIED EXCAVATION	LS	1
AR209600	GEOTEXTILE FABRIC	SY	1,027
AR209608	CRUSHED AGG. BASE COURSE- 8"	SY	1,027
AR401900	REMOVE BITUMINOUS PAVEMENT	SY	801
AR901510	SEEDING	AC	0.3
AR908510	MULCHING	AC	0.3

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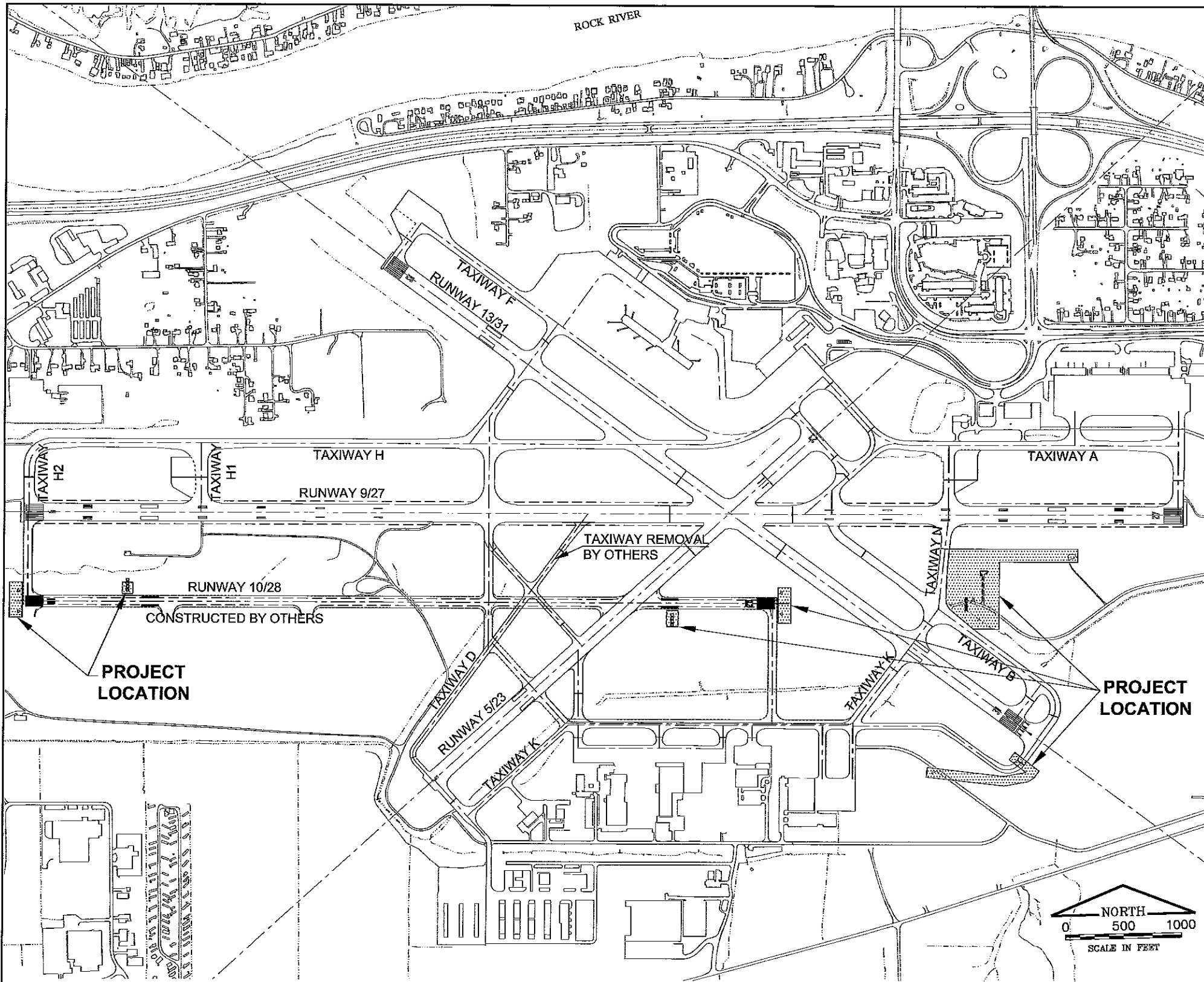
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SUMMARY OF QUANTITIES



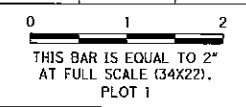
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GENERAL NOTES

- 1.) ALL RUNWAYS, TAXIWAYS AND APRONS SHALL BE KEPT OPEN TO AIRCRAFT TRAFFIC DURING CONSTRUCTION EXCEPT AS NOTED ON THE CONSTRUCTION ACTIVITY PLAN.
- 2.) ALL CONSTRUCTION TRAFFIC OPERATING ON OR CROSSING RUNWAYS, TAXIWAYS AND APRONS OPEN TO AIRCRAFT TRAFFIC SHALL BE UNDER CONTROL BY A FLAGMAN IN RADIO CONTACT WITH FAA AIR TRAFFIC CONTROL TOWER PERSONNEL AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE HIS OWN RADIOS AND FLAGMEN. ALL VEHICLES SHALL HAVE ORANGE AND WHITE AVIATION FLAGS.
- 3.) REFER TO THE CONSTRUCTION ACTIVITY PLAN AND THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS CONCERNING COORDINATION OF CONSTRUCTION ACTIVITIES.
- 4.) WHEN CONFLICTS ARISE BETWEEN CONSTRUCTION ACTIVITIES AND AIRCRAFT OPERATIONS AND SAFETY, AIRCRAFT OPERATIONS AND SAFETY SHALL TAKE PRECEDENCE AND SHALL GOVERN. FINAL AUTHORITY IN THE APPROVAL OF CONSTRUCTION SEQUENCING LIES WITH THE AIRPORT DIRECTOR.
- 5.) THE CONTRACTOR WILL BE PERMITTED TO STORE EQUIPMENT AND MATERIALS ONLY AT THE LOCATIONS SHOWN.
- 6.) BROKEN CONCRETE, BROKEN ASPHALT & OTHER MISCELLANEOUS DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF OF AIRPORT PROPERTY.
- 7.) VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED WITHIN AREAS 130' OF AN ACTIVE TAXIWAY CENTERLINE AND 250' OF AN ACTIVE RUNWAY CENTERLINE.
- 8.) ALL PAVEMENTS, DRIVES OR ANY OTHER AREAS UTILIZED BY THE CONTRACTOR FOR HAUL ROADS OR STORAGE AREAS SHALL BE MAINTAINED AND REPAIRED IN KIND BY THE CONTRACTOR TO THE SATISFACTION OF THE AIRPORT DIRECTOR. NO ADDITIONAL COMPENSATION SHALL BE MADE TO THE CONTRACTOR FOR THIS WORK.
- 9.) EXISTING TURF AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY HIM AT HIS EXPENSE TO THE SATISFACTION OF THE AIRPORT DIRECTOR.
- 10.) THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL CONSTRUCTION AREAS WHICH WILL BE OPENED TO AIR TRAFFIC TO THE SATISFACTION OF THE AIRPORT SECURITY OFFICE. A POWER BROOM AND OPERATOR SHALL BE ON SITE AT ALL TIMES WHEN ACTIVE PAVEMENTS ARE UTILIZED.
- 11.) THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH UTILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES AND F.A.A. UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANY AND F.A.A. OF HIS OPERATIONAL PLANS. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DETAILED INFORMATION AND ASSISTANCE IN LOCATING UTILITIES. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY, F.A.A., THE OWNER AND THE ENGINEER. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IMMEDIATELY AT HIS EXPENSE TO THE SATISFACTION OF THE OWNER.
- 12.) CONTRACTOR'S ACCESS SHALL BE AS FOLLOWS:
 - A) CONTRACTOR ACCESS, STAGING AND STORAGE AREAS SHALL BE AS SHOWN ON THE CONSTRUCTION ACTIVITY PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ACCESS ROADS WITH THE APPROPRIATE AGENCY RESPONSIBLE FOR THE ROADWAYS.
 - B) CONTRACTOR'S PERSONNEL SHALL PARK IN THE CONTRACTOR'S STAGING AREA. ALL PERSONNEL WILL BE REQUIRED TO BE FINGERPRINTED BY THE AIRPORT SECURITY OFFICE.
 - C) DURING ADVERSE WEATHER THE CONTRACTOR SHALL MAKE PROVISIONS FOR ACCESS TO THE WORK AT NO ADDITIONAL COST TO THE CONTRACT. NO EXTENSION OF CONTRACT TIME WILL BE CONSIDERED FOR DELAYS DUE TO LACK OF ADEQUATE ACCESS TO THE WORK.
 - D) IF THE CONTRACTOR CHOOSES TO LEAVE THE GATE OPEN DURING WORKING HOURS, HE SHALL POST A COMPETENT SECURITY GUARD TO PREVENT UNAUTHORIZED ENTRIES. THE CONTRACTOR SHALL REPLACE ANY UNSATISFACTORY SECURITY GUARDS IF SO DIRECTED BY THE AIRPORT.
 - E) A LIST OF AUTHORIZED PERSONNEL PERMITTED TO USE THE ACCESS GATE SHALL BE PROVIDED BY THE CONTRACTOR TO THE AIRPORT SECURITY OFFICE.
 - F) THE CONTRACTOR SHALL PROVIDE A SIGN AT THE ACCESS GATE SAYING "AUTHORIZED PERSONNEL ONLY".
 - G) THE CONTRACTOR SHALL VERIFY THAT THE GATE IS CLOSED AND LOCKED UPON LEAVING THE SITE. KEYS SHALL BE PROVIDED TO AIRPORT SECURITY OFFICE.
 - H) THROUGHOUT THE DURATION OF THE CONTRACT, ANY DAMAGE TO THE ACCESS RD., ACCESS GATE OR FENCING ADJACENT TO THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER.
 - I) ALL COSTS RELATING TO CONTRACTOR'S ACCESS AND SECURITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - J) THE CONTRACTOR SHALL STORE EQUIPMENT AND MATERIALS IN SUCH A WAY AS TO NOT PENETRATE THE PAVEMENT SURFACES.
 - K) THE CONTRACTOR SHALL STORE ALL EQUIPMENT AND MATERIALS IN THE STAGING AREA SHOWN ON THE CONSTRUCTION ACTIVITY PLAN. ALL EQUIPMENT AND MATERIALS SHALL BE RETURNED TO THE STAGING AREA AT THE END OF EACH WORKING DAY.

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METROPOLITAN AIRPORT AUTHORITY
 OF ROCK ISLAND COUNTY
 QUAD CITY INTERNATIONAL AIRPORT
 MOLINE, ILLINOIS
 CONSTRUCT LOCALIZER ON RUNWAY 10

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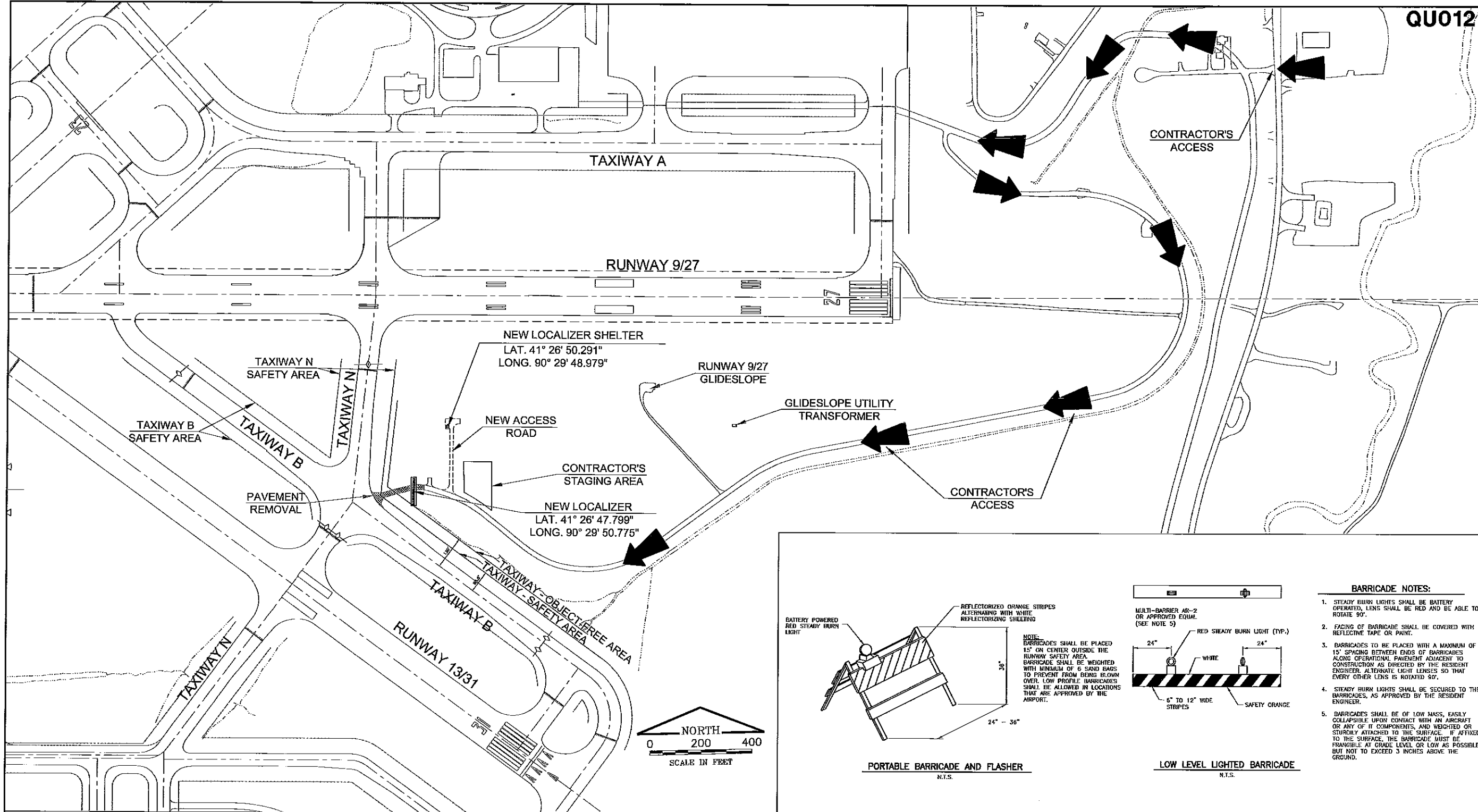
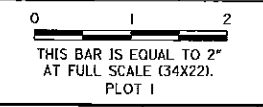
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AIRPORT SITE PLAN

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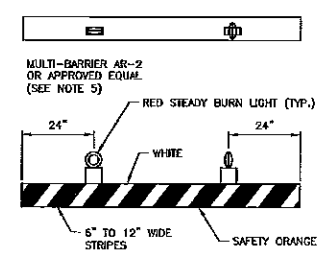
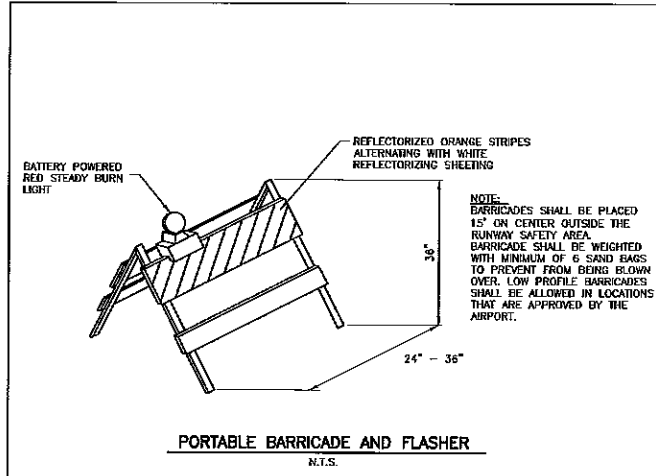


**METROPOLITAN AIRPORT AUTHORITY
 OF ROCK ISLAND COUNTY
 QUAD CITY INTERNATIONAL AIRPORT
 MOLINE, ILLINOIS**
CONSTRUCT LOCALIZER ON RUNWAY 10

TAXIWAY N SAFETY AREA
 TAXIWAY B SAFETY AREA
 TAXIWAY N
 TAXIWAY B
 PAVEMENT REMOVAL

NEW LOCALIZER SHELTER
 LAT. 41° 26' 50.291"
 LONG. 90° 29' 48.979"

NEW LOCALIZER
 LAT. 41° 26' 47.799"
 LONG. 90° 29' 50.775"



- BARRICADE NOTES:**
- STEADY BURN LIGHTS SHALL BE BATTERY OPERATED, LENS SHALL BE RED AND BE ABLE TO ROTATE 90°.
 - FACING OF BARRICADE SHALL BE COVERED WITH REFLECTIVE TAPE OR PAINT.
 - BARRICADES TO BE PLACED WITH A MAXIMUM OF 15' SPACING BETWEEN ENDS OF BARRICADES ALONG OPERATIONAL PAVEMENT ADJACENT TO CONSTRUCTION AS DIRECTED BY THE RESIDENT ENGINEER. ALTERNATE LIGHT LENSES SO THAT EVERY OTHER LENS IS ROTATED 90°.
 - STEADY BURN LIGHTS SHALL BE SECURED TO THE BARRICADES, AS APPROVED BY THE RESIDENT ENGINEER.
 - BARRICADES SHALL BE OF LOW MASS, EASILY COLLAPSIBLE UPON CONTACT WITH AN AIRCRAFT OR ANY OF IT COMPONENTS, AND WEIGHTED OR STURDILY ATTACHED TO THE SURFACE. IF AFFIXED TO THE SURFACE, THE BARRICADE MUST BE FRANGIBLE AT GRADE LEVEL OR LOW AS POSSIBLE, BUT NOT TO EXCEED 3 INCHES ABOVE THE GROUND.

LEGEND

- PAVEMENT REMOVAL
- CONTRACTOR'S ACCESS
- CONSTRUCTION BARRICADES

CONSTRUCTION ACTIVITY NOTES - PHASE 1

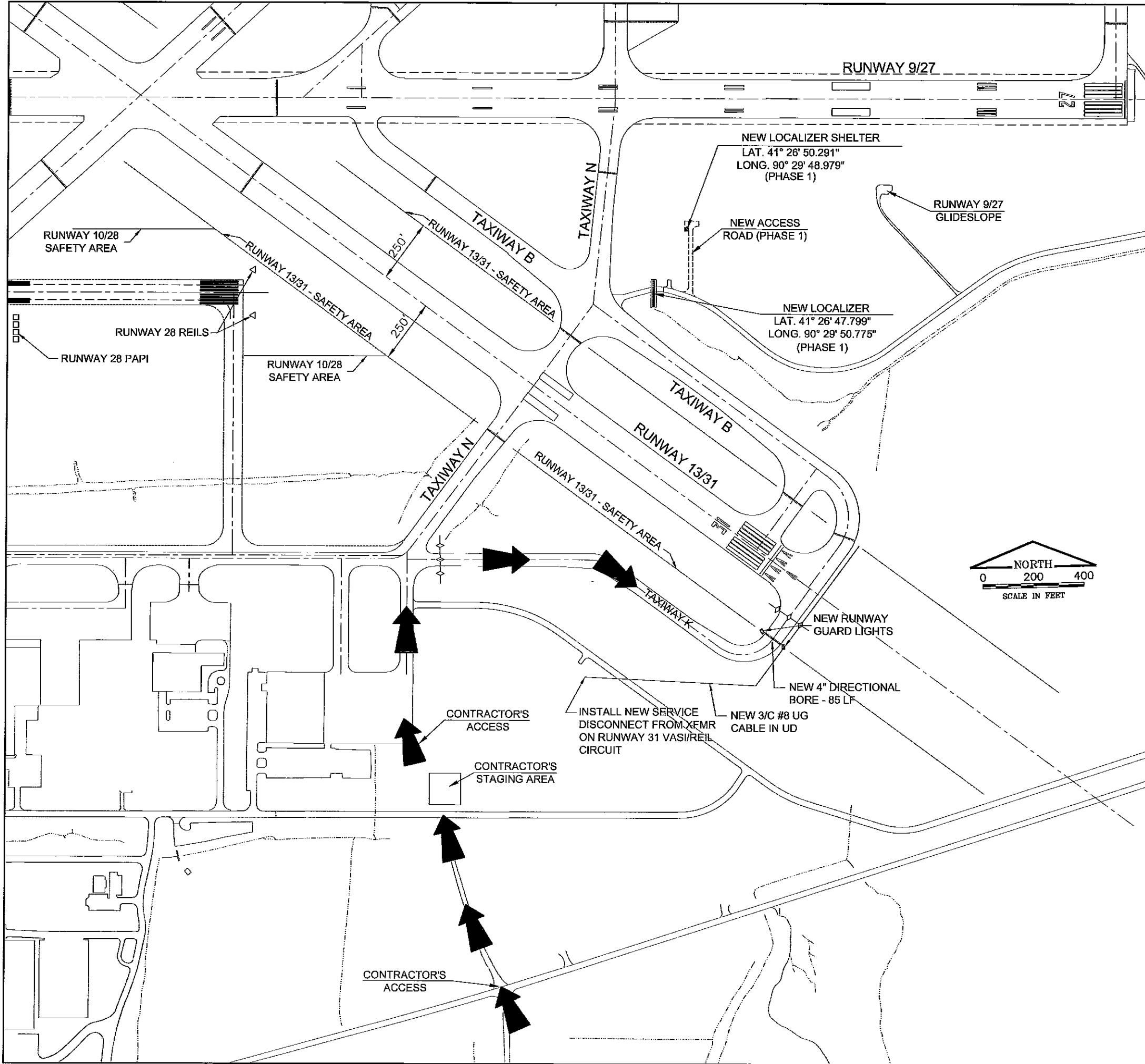
- THE CONTRACTOR SHALL HAVE NO MORE THAN 3 CONSECUTIVE CALENDAR DAYS TO COMPLETE THE WORK IN THE TAXIWAY N&B SAFETY AREAS.
- AFTER COMPLETION OF WORK, A FLIGHT CHECK WILL BE PERFORMED BY THE FAA.
- ORDER OF CONSTRUCTION AND SCOPE OF WORK IN THIS PHASE SHALL BE:
 - REMOVE PORTION OF EXISTING ROADWAY AS SHOWN
 - CONSTRUCT NEW LOCALIZER
 - CONSTRUCT NEW ACCESS ROAD
 - CONSTRUCT NEW LOCALIZER SHELTER
 - ALL OTHER WORK, INCLUDING, BUT NOT LIMITED TO TRENCHING AND CABLING, OUTSIDE OF THE RUNWAY SAFETY AREA
- REMOVAL OF THE PORTION OF THE EXISTING ROAD THAT IS WITHIN THE TAXIWAY SAFETY AREA SHALL BE DONE IN THREE (3)-SIX (6) HOUR SHIFTS FROM 11:00PM TO 5:00AM ON A DATE TO BE COORDINATED WITH THE AIRPORT AS TAXIWAYS 'B' AND 'N' SHALL BE CLOSED DURING THIS WORKING TIME.
- THE CONTRACTOR SHALL MARK THE OPEN EXCAVATED REMOVAL AREA AS APPROVED BY THE AIRPORT OPERATOR AND MUST LIGHT THE AREA WITH RED LIGHTS DURING HOURS OF RESTRICTED VISIBILITY OR DARKNESS UNTIL THIS AREA WITHIN THE SAFETY AREA IS BACKFILLED.
- NO WORK OR EQUIPMENT MAY BE WITHIN 85.5' OF AN ACTIVE TAXIWAY CENTERLINE OR 250' OF AN ACTIVE RUNWAY CENTERLINE.
- ALL RUNWAYS SHALL REMAIN OPEN DURING THE DURATION OF THIS PHASE. WORK WITHIN 130' OF THE TAXIWAY SHALL BE COORDINATED WITH THE AIRPORT OPERATOR AND THE AIR TRAFFIC CONTROL TOWER.
- FULL USE OF RUNWAY 9&23 ILS SHALL BE MAINTAINED DURING THIS WORK.
- AFTER COMPLETION OF PHASE, THE CONTRACTOR SHALL REPAIR THE STAGING AREA AND RETURN IT TO ITS ORIGINAL CONDITION. THIS INCLUDES CLEANING, REGRADING, AND ANY SEEDING NECESSARY. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.

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**CONSTRUCTION
 ACTIVITY PLAN
 PHASE 1**
 SHEET 4 OF 19 SHEETS

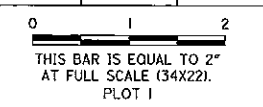
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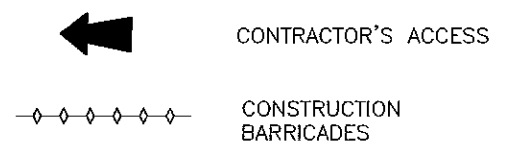
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CONSTRUCTION ACTIVITY NOTES - PHASE 2

1. THE CONTRACTOR SHALL HAVE NO MORE THAN 3 CONSECUTIVE CALENDAR DAYS TO COMPLETE THE WORK IN THIS PHASE.
2. MEN AND EQUIPMENT SHALL REMAIN A MINIMUM OF 200' FROM THE CENTERLINE OF RUNWAY 13-31 AT ALL TIMES.
3. ORDER OF CONSTRUCTION AND SCOPE OF WORK IN THIS PHASE SHALL BE:
 - TRENCHING AND CABLING BETWEEN THE EXISTING SERVICE ENTRANCE AND THE NEW GUARD LIGHTS.
 - INSTALLATION OF TWO RUNWAY GUARD LIGHTS ON TAXIWAY 'K' AT INTERSECTION WITH RUNWAY 13/31 AND 4" DIRECTIONAL BORING UNDER TAXIWAY 'K', 85 LF
4. NO WORK OR EQUIPMENT MAY BE WITHIN 85.5' OF AN ACTIVE TAXIWAY CENTERLINE OR 200' OF AN ACTIVE RUNWAY CENTERLINE.
5. WORK WITHIN 130' OF THE TAXIWAY SHALL BE COORDINATED WITH THE AIRPORT OPERATOR AND THE AIR TRAFFIC CONTROL TOWER.
6. RUNWAY 10/28 SHALL REMAIN OPEN DURING THIS PHASE.

LEGEND



**METROPOLITAN AIRPORT AUTHORITY
 OF ROCK ISLAND COUNTY
 QUAD CITY INTERNATIONAL AIRPORT
 MOLINE, ILLINOIS**
CONSTRUCT LOCALIZER ON RUNWAY 10

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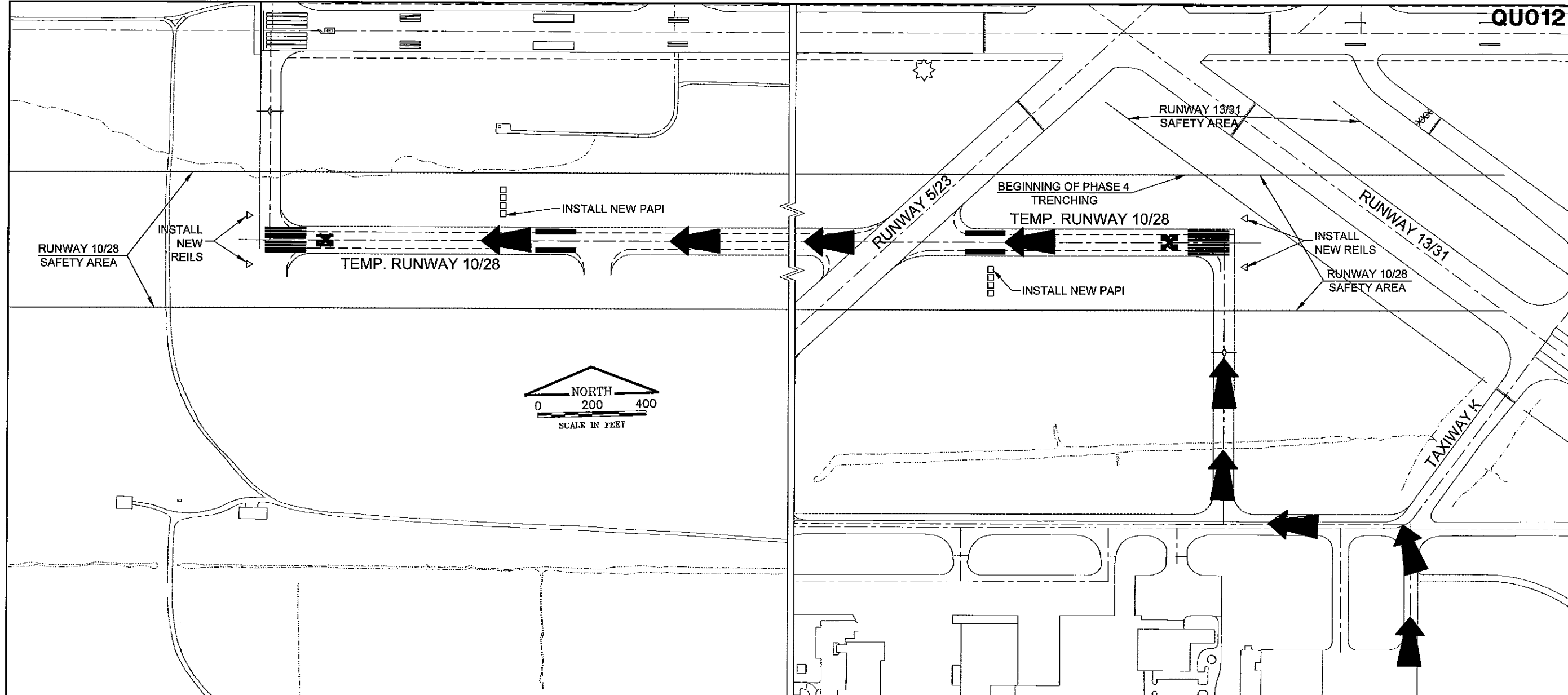
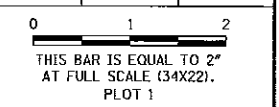
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CONSTRUCTION ACTIVITY PLAN
 PHASE 2
 SHEET 5 OF 19 SHEETS

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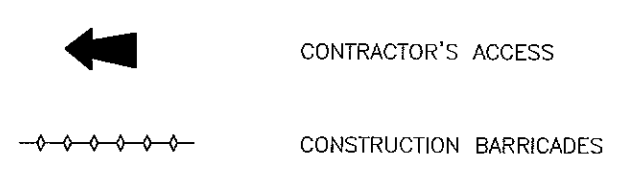
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**METROPOLITAN AIRPORT AUTHORITY
OF ROCK ISLAND COUNTY
QUAD CITY INTERNATIONAL AIRPORT
MOLINE, ILLINOIS**

CONSTRUCT LOCALIZER ON RUNWAY 10

LEGEND



CONSTRUCTION ACTIVITY NOTES -- PHASE 3

1. THE CONTRACTOR SHALL HAVE NO MORE THAN 21 CONSECUTIVE CALENDAR DAYS TO COMPLETE THE WORK.
2. THIS PHASE WILL CONSIST OF WORK TO BE COMPLETED WITHIN THE RUNWAY 10/28 SAFETY AREA.
3. AFTER COMPLETION OF WORK, A FLIGHT CHECK WILL BE PERFORMED BY THE FAA.
4. ORDER OF CONSTRUCTION AND SCOPE OF WORK IN THIS PHASE SHALL BE:
 - ALL TRENCHING AND CABLING WITHIN RUNWAY 10/28 SAFETY AREA
 - INSTALLATION OF RUNWAY END IDENTIFIER LIGHTS ON RUNWAY 10/28
 - INSTALLATION OF PAPI ON RUNWAY 10/28.
5. NO WORK OR EQUIPMENT MAY BE WITHIN 85.5' OF AN ACTIVE TAXIWAY CENTERLINE OR 200' OF AN ACTIVE RUNWAY CENTERLINE.
6. WORK WITHIN 130' OF THE TAXIWAY SHALL BE COORDINATED WITH THE AIRPORT OPERATOR AND THE AIR TRAFFIC CONTROL TOWER.
7. RUNWAYS 9/27, 13/31 AND 5/23 SHALL REMAIN OPEN DURING THIS PHASE.
8. THE CONTRACTOR SHALL USE THE SAME STAGING AREA AS PHASES 2 AND 3, HOWEVER, AFTER COMPLETION OF THIS PHASE, THE CONTRACTOR SHALL REPAIR THE STAGING AREA AND RETURN IT TO ITS ORIGINAL CONDITION. THIS INCLUDES CLEANING, REGRADING, AND ANY SEEDING NECESSARY. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.

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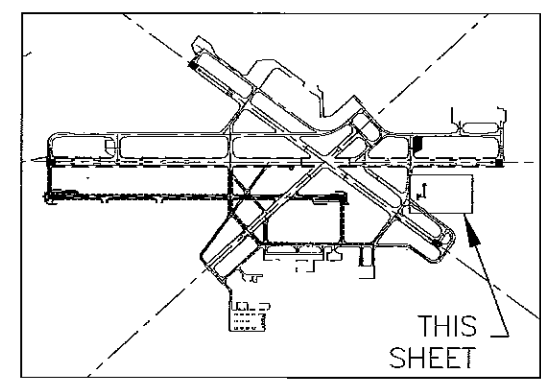
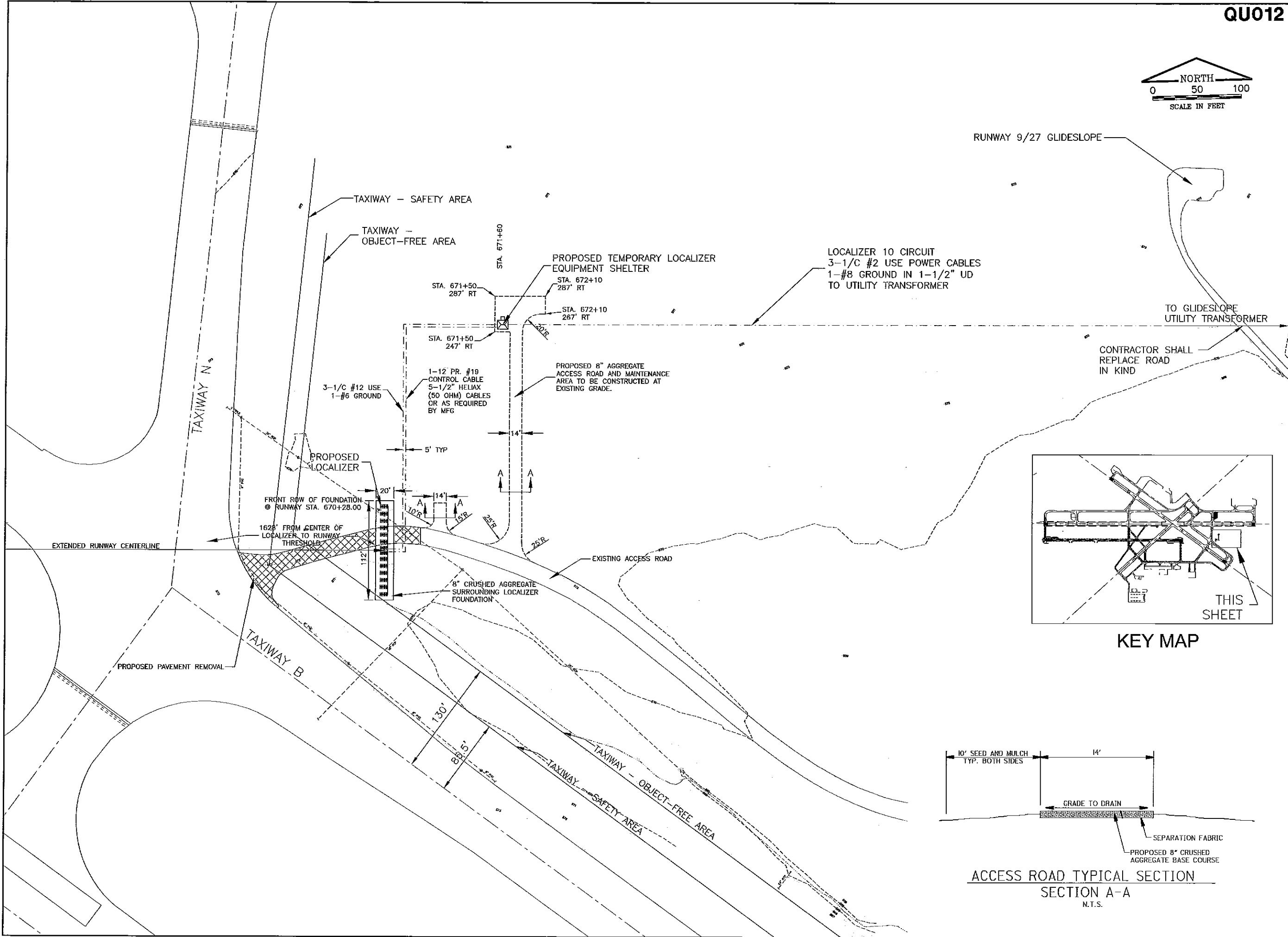
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**CONSTRUCTION
ACTIVITY PLAN
PHASE 3**

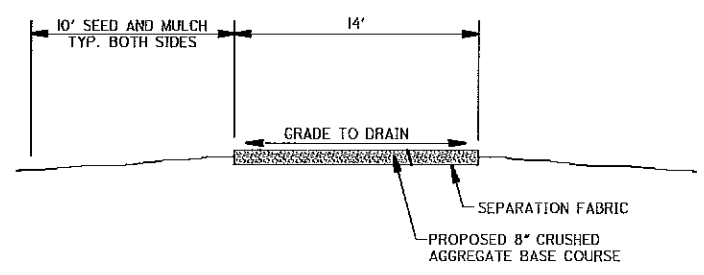
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KEY MAP



ACCESS ROAD TYPICAL SECTION
SECTION A-A
N.T.S.

METROPOLITAN AIRPORT AUTHORITY
OF ROCK ISLAND COUNTY
QUAD CITY INTERNATIONAL AIRPORT
MOLINE, ILLINOIS

CONSTRUCT LOCALIZER ON RUNWAY 10

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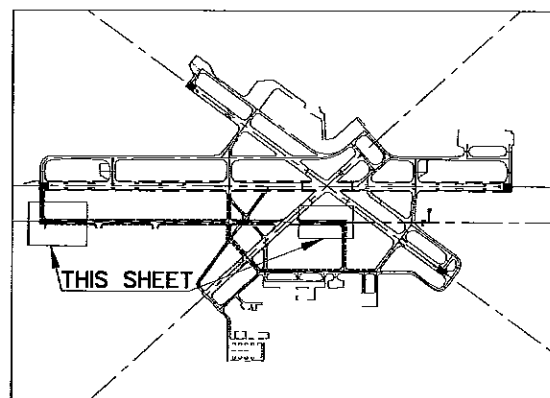
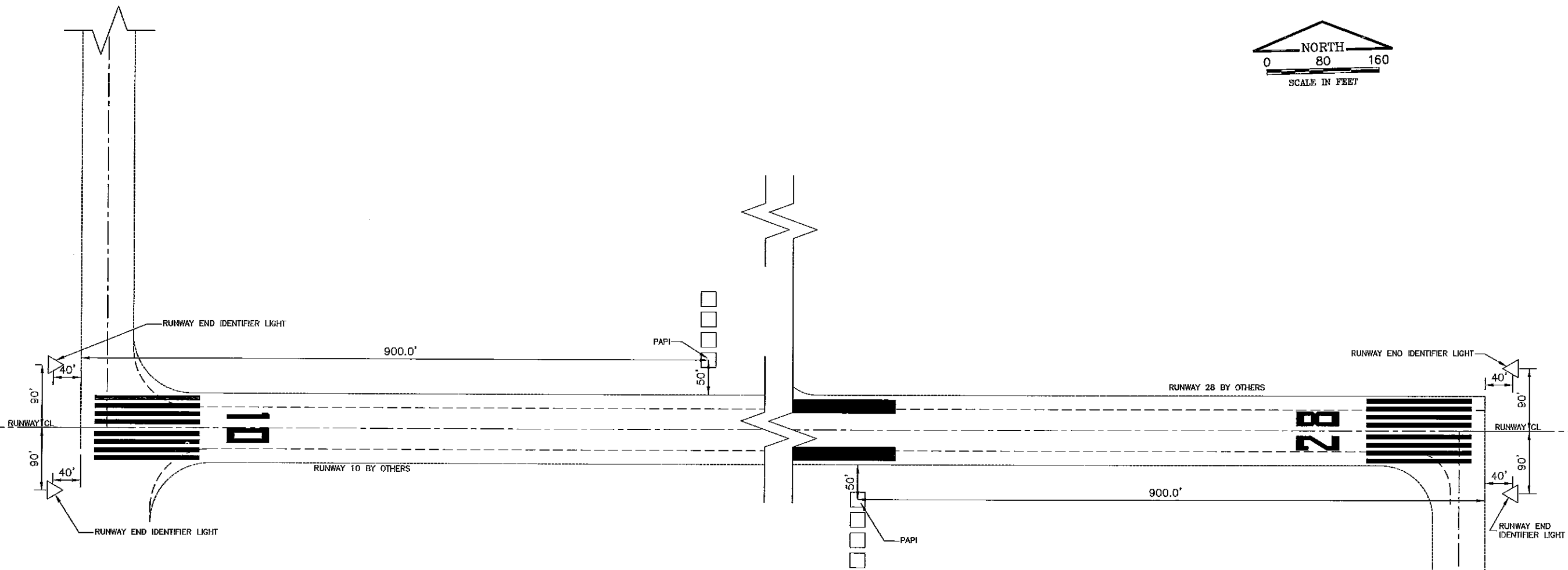
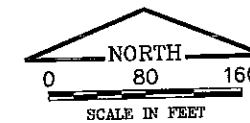
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LOCALIZER SITE PLAN/
TYPICAL SECTION

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KEY MAP

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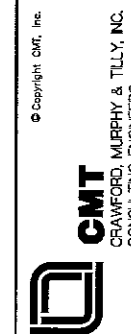
1. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF REIL&PAPI SYSTEMS RUNWAY 10-28 CONTRACTOR.
2. NEW REIL&PAPI SYSTEMS SHALL BE CONNECTED TO RUNWAY EDGE LIGHTING CIRCUIT AT THE TRANSFORMER AT THE NEAREST RUNWAY EDGE OR THRESHOLD LIGHT.

LEGEND

-  RUNWAY END IDENTIFIER LIGHT (REIL)
-  4-BOX PAPI

METROPOLITAN AIRPORT AUTHORITY
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QUAD CITY INTERNATIONAL AIRPORT
MOLINE, ILLINOIS

CONSTRUCT LOCALIZER ON RUNWAY 10



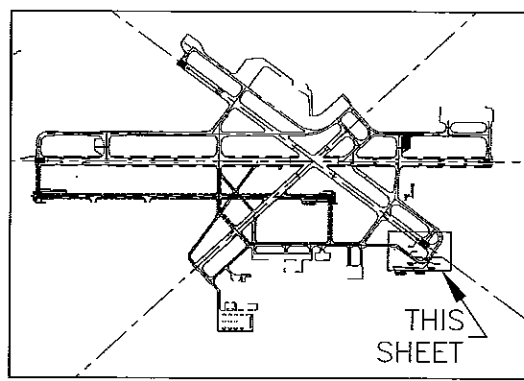
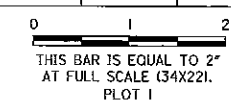
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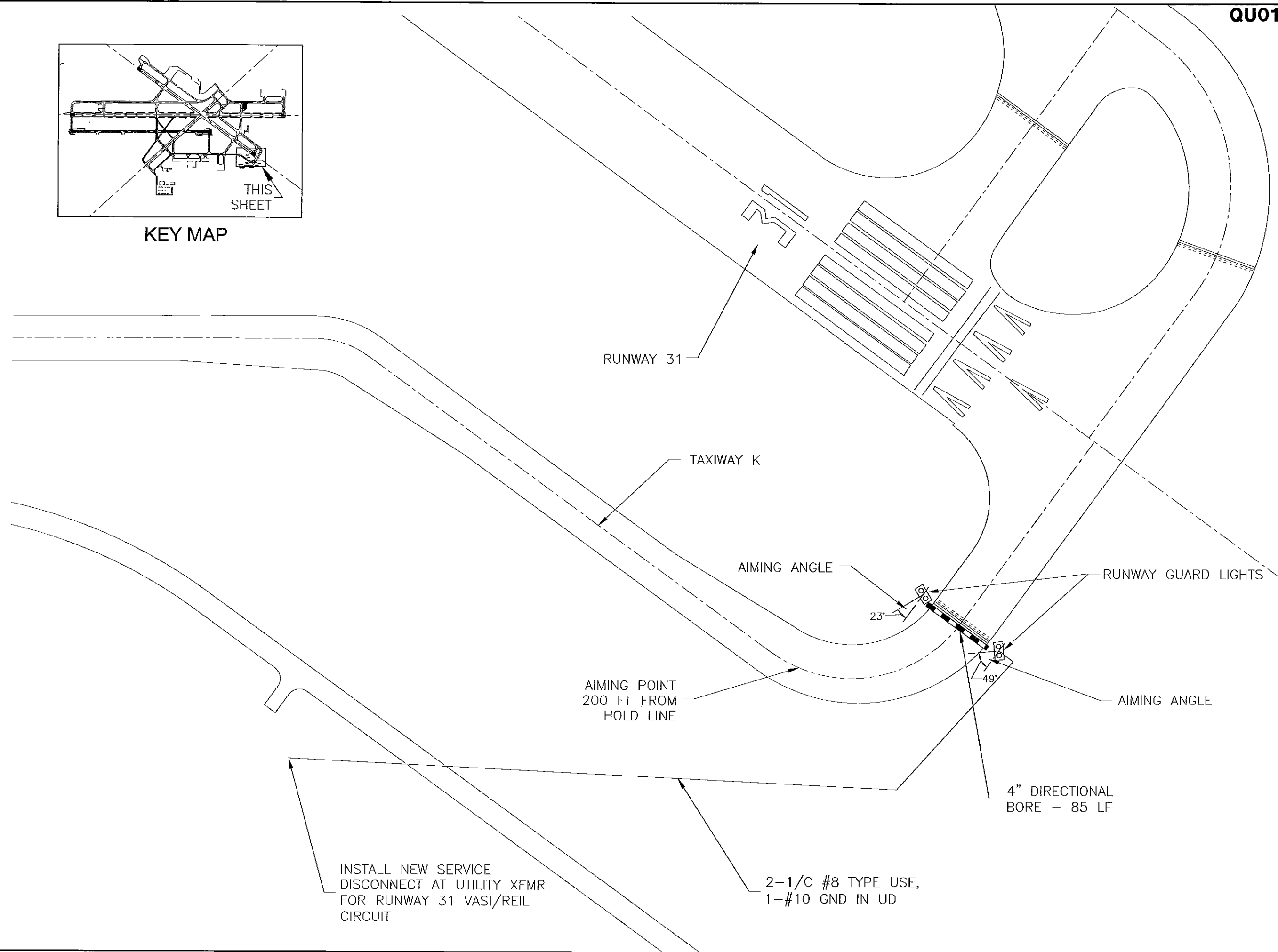
RUNWAY 10/28 END
LIGHTING PLAN

QU012

REVISIONS		
NUMBER	BY	DATE



KEY MAP



METROPOLITAN AIRPORT AUTHORITY
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QUAD CITY INTERNATIONAL AIRPORT
MOLINE, ILLINOIS

CONSTRUCT LOCALIZER ON RUNWAY 10

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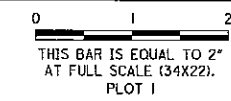
RUNWAY GUARD LIGHT
SITE PLAN

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INSTALL NEW SERVICE
DISCONNECT AT UTILITY XFMR
FOR RUNWAY 31 VASI/REIL
CIRCUIT

2-1/C #8 TYPE USE,
1-#10 GND IN UD

NUMBER	BY	DATE



NUMBERED LEGEND

- ① CONCRETE FOUNDATION AND 12'x16' EQUIPMENT SHELTER, PER SHEET 13.
- ② 3-1/C #2 TYPE U.S.E., 1-#5 GND IN 1-1/2" UNIT DUCT. 120/240V, SINGLE-PHASE SECONDARY FROM UTILITY TRANSFORMER.
- ③ EXISTING PAD MOUNT UTILITY TRANSFORMER FOR EXISTING GLIDE SLOPE SHELTER.
- ④ TWO #2 USE, ONE #2 USE NEUTRAL IN 1-1/2" SCHEDULE 40 PVC CONDUIT.
- ⑤ GALVANIZED RIGID STEEL FROST HEAVE COUPLINGS (APPLETON) WITH 8" MIN TRAVEL AND BONDING JUMPERS. (TYPICAL)
- ⑥ SURGE SUPPRESSOR, SEE SHELTER DETAILS SHEET.
- ⑦ 1- #2 GREEN GROUND CONDUCTOR FROM ⑧ IN 1/2" SCHEDULE 40 PVC CONDUIT.
- ⑧ PANELBOARD, SEE SHELTER DETAILS SHEET.
- ⑨ POWER INTERFACE JB, 6"x6"x4" NEMA 3R, HOFFMAN CATALOG NUMBER A-6R64 WITH 2" NIPPLE THROUGH WALL.
- ⑩ 3-1/C #12 TYPE U.S.E. POWER CABLES AND 1-#2 BARE GROUND IN 2" DIA GALVANIZED RIGID STEEL CONDUIT TO 5' BEYOND THE COUNTERPOISE TO LOCALIZER ANTENNA.
- ⑪ 36"x30"x12" R.F. AND CONTROL INTERFACE BOX, NEMA 3R, HOFFMAN CATALOG NUMBER A-36R3012 WITH A 2 1/2" NIPPLE THROUGH WALL. (SEE NOTE 2)
- ⑫ 2-1/2" HELIAX CABLES (ANDREW CORP. #LDF4-50A) AND 1-12 PR #19 SHIELDED CONTROL CABLE IN 4" DIA GALVANIZED RIGID STEEL CONDUIT TO 5' BEYOND THE COUNTERPOISE, THEN BY DIRECT BURIAL TO LOCALIZER ANTENNA. SEE SHEETS 13 AND 16.
- ⑬ OUTDOOR LIGHTING FIXTURE, SEE SHELTER DETAILS SHEET.
- ⑭ LIGHT FIXTURE, SEE SHELTER DETAILS.
- ⑮ ILS EQUIPMENT GROUND CONDUCTOR, 1-#2 GREEN WITH YELLOW STRIPES. LEAVE 15' TAIL IN ⑪ AND RUN DIRECTLY TO GROUND ROD.
- ⑯ 12"x6"x1/4" COPPER MAIN GROUND PLATE (SEE NOTE 6).
- ⑰ UTILITY METERING FOR RUNWAY 10/28 LOCALIZER SHELTER.
- ⑱ FLIGHT CHECK ANTENNA SUPPORT, 1 1/4" RIGID GALVANIZED CONDUIT, CAP END. FOR USE BY OTHERS. THE TOP OF THIS ANTENNA SUPPORT SHALL BE 12" ABOVE THE ELEVATION OF THE SHELTER ROOF PEAK. THE ANTENNA SUPPORT SHALL HAVE A DOUBLE BEND TO AVOID PENETRATING THE ROOF. THE ANTENNA SUPPORT SHALL BE CLAMPED TO THE FASCIA AT THE END OF THE ROOF.
- ⑲ INSTALL COMPLETE LIGHTNING PROTECTION PER SHEET 16.
- ⑳ 2" GALVANIZED RIGID STEEL PIPE DOOR STOP TO 4' BELOW GRADE. PIPE SHALL HAVE A LATCHING HOOK AND DOOR SHALL HAVE AN EYEBOLT.
- ㉑ 2'x4'x3/4" PLYWOOD TYPE AC BENCH TOP. SET TABLE TOP SO THAT IT DOES NOT INTERFERE WITH OPERATION OF ⑧.
- ㉒ BENCH SUPPORT BRACKETS, UNISTRUT CATALOG NUMBER P2499 (RIGHT & LEFT) - 1 EACH MOUNT THESE TO OTHER UNISTRUT MOUNTED ON THE WALL.
- ㉓ 2" RIGID GALVANIZED CONDUIT FROM ㉔ TO ㉕.
- ㉔ RACK CONVENIENCE OUTLET.
- ㉕ LOCALIZER RACK.
- ㉖ LOCALIZER JUNCTION BOX.
- ㉗ BATTERY RACK.
- ㉘ RMM CONTROL JUNCTION BOX, 24"x24"x6.62" NEMA 1, HOFFMAN CAT. NO. "A-24N24ALP" WITH TERMINAL STRIPS PER FAA SPECIFICATION FAA-G1-918C, PARAGRAPH 16A.19.
- ㉙ NOT USED.
- ㉚ ERM BATTERY BACK-UP ASSEMBLY.
- ㉛ 1 1/2" EMT CONDUIT FROM ⑧ TO ⑨ WITH 3-1/C #12 TYPE USE POWER CABLES AND #2 BARE.
- ㉜ DOOR SENSOR.
- ㉝ SMOKE DETECTOR.
- ㉞ 16"x12"x6" NEMA 3R JUNCTION BOX, HOFFMAN #A-16R126HCR.
- ㉟ UL LISTED SERVICE ENTRANCE RATED DISCONNECT FOR RUNWAY 10/28 LOCALIZER: 100A, 2P (2 BLADES WITH FUSEHOLDERS, SOLID NEUTRAL BAR AND GROUND BAR) IN NEMA 3R ENCLOSURE, SQUARE D H223NRB, OR EQUIVALENT.

NOTE: UTILITY METER AND SERVICE ENTRANCE DISCONNECT SHALL BE LOCATED AT UTILITY TRANSFORMER. INSTALL TWO CONCRETE FILLED 3" GRS SUPPORT PIPES TO NOMINAL 5'-0" ABOVE GRADE, IMBEDDED IN 12" DIAMETER BY 48" DEEP CONCRETE FOOTINGS. INSTALL ALUMINUM STRUT-TYPE FRAMING BETWEEN POSTS, UNISTRUT, OR EQUIVALENT. INSTALL UTILITY METERING AND SERVICE ENTRANCE DISCONNECT TO THIS FRAMING. PROVIDE ENGRAVED NAMEPLATE ON SERVICE ENTRANCE DISCONNECT READING: "RUNWAY 10/28 LOCALIZER".
- ㊱ #2 AWG GROUNDING ELECTRODE CONDUCTOR (GEC) IN SCHEDULE 40 PVC CONDUIT TO MINIMUM 1'-0" BELOW GRADE.
- ㊲ 3/4" DIAMETER BY 10' LONG COPPERCLAD GROUND ROD. CONNECTION OF GEC TO GROUND ROD SHALL BE VIA EXOTHERMIC WELD, CADWELD, OR EQUIVALENT. BOLTED CONNECTIONS ARE NOT ACCEPTABLE.
- ㊳ TWO #2 USE, ONE #2 USE NEUTRAL, ONE #8 GROUND IN 1-1/2" UNIT DUCT.
- ㊴ 6"x6"x4" D PULLBOX WITH HINGED COVER (HOFFMAN #A-HE6 X 6 X 4)(SEE NOTE 6).
- ㊵ 3/4" DIA EMT TO ⑧ CONTAINING A 3/8" NYLON PULL STRING.
- ㊶ (2) 500 KCMIL GREEN GROUND CABLES. EXOTHERMIC WELDED TO EARTH ELECTRODE SYSTEM (EES) AND ATTACHED TO MAIN GROUND PLATE WITH DOUBLE BOLT CRIMPED LUGS.
- ㊷ 12"x6"x1/4" COPPER MULTI-POINT GROUND PLATE (SEE NOTE 9).
- ㊸ (1) 500 KCMIL GREEN/ORANGE GROUND CABLE. EXOTHERMIC WELDED TO EARTH ELECTRODE SYSTEM (EES) AND ATTACHED TO MULTI-POINT GROUND PLATE WITH DOUBLE BOLT CRIMPED LUG.

NOTES

- 1. ALL CONDUIT, EMT INSIDE SHELTER AND GRS OUTSIDE SHELTER SHALL BE SURFACE MOUNTED.
- 2. ALL WALL PENETRATIONS SHALL BE CAULKED WITH SILICONE CAULK.
- 3. 15' CABLE TAILS OF 12 PR #19 SHIELDED CONTROL CABLE AND 5' TAILS OF 1/2" HELIAX (ANDREW CORP #LDF4-50A) CABLES INSIDE THE CONTROL BOX FOR TERMINATION BY OTHERS.
- 4. THE CONTRACTOR SHALL LEAVE 15' OF 12 PR #19 SHIELDED CONTROL CABLE AT ANTENNA ARRAY END AND IN THE SHELTER'S RF JUNCTION BOX. THE CONTRACTOR SHALL INSTALL A SEPARATE STRIP OF BLOCKS FOR EACH CABLE. THE TERMINAL BLOCKS SHALL BE MINATURE STYLE (1/4" O.C.) NYLON BLOCKS WITH TUBULAR CONDUCTOR CLAMPS. APPROVED FOR THIS PURPOSE ARE BUCHANAN CATALOG NUMBER 15 VINYL MARKING STRIP WITH CATALOG NUMBER 16 NYLON HOLDING PLUGS. OTHER BLOCKS, AND ACCESSORIES REQUIRE CATALOG CUTS, AND RESIDENT ENGINEER'S APPROVAL BEFORE PROCUREMENT.
- 5. ALL RIGID GALVANIZED STEEL UNDERGROUND CONDUIT, EXCEPT FOR GROUNDING ELECTRODE CONDUCTOR CONDUIT SHALL EXTEND 5'-0" MINIMUM BEYOND THE BUILDING'S COUNTERPOISE. AFTER THIS POINT, CABLES SHALL BE DIRECT EARTH BURIED UNLESS OTHERWISE DESIGNATED.
- 6. PROVIDE HOLE WITH RUBBER GROMMET ON WEST SIDE OF PULL BOX TO ACCEPT 3/4" SJO CORD. INSTALL PULL BOX IMMEDIATELY EAST OF NIPPLE THRU WALL.
- 7. THE CONTRACTOR SHALL COORDINATE WITH UTILITY REGARDING INSTALLATION OF UTILITY SERVICE AND THE COST SHALL BE INCIDENTAL TO THE CONTRACT.
- 8. GROUND PLATE SHALL BE STANDOFF MOUNTED WITH CLEAR PLASTIC COVER WITH GREEN STRIPES AROUND PERIMETER AND LABELED "MAIN GROUND PLATE".
- 9. MULTI-POINT GROUND PLATE SHALL BE STANDOFF MOUNTED WITH CLEAR PLASTIC COVER WITH GREEN/ORANGE STRIPES AROUND PERIMETER AND LABELED "MULTI-POINT GROUND PLATE".

WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.

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LOCALIZER SHELTER
EQUIPMENT AND
ONE-LINE DIAGRAM

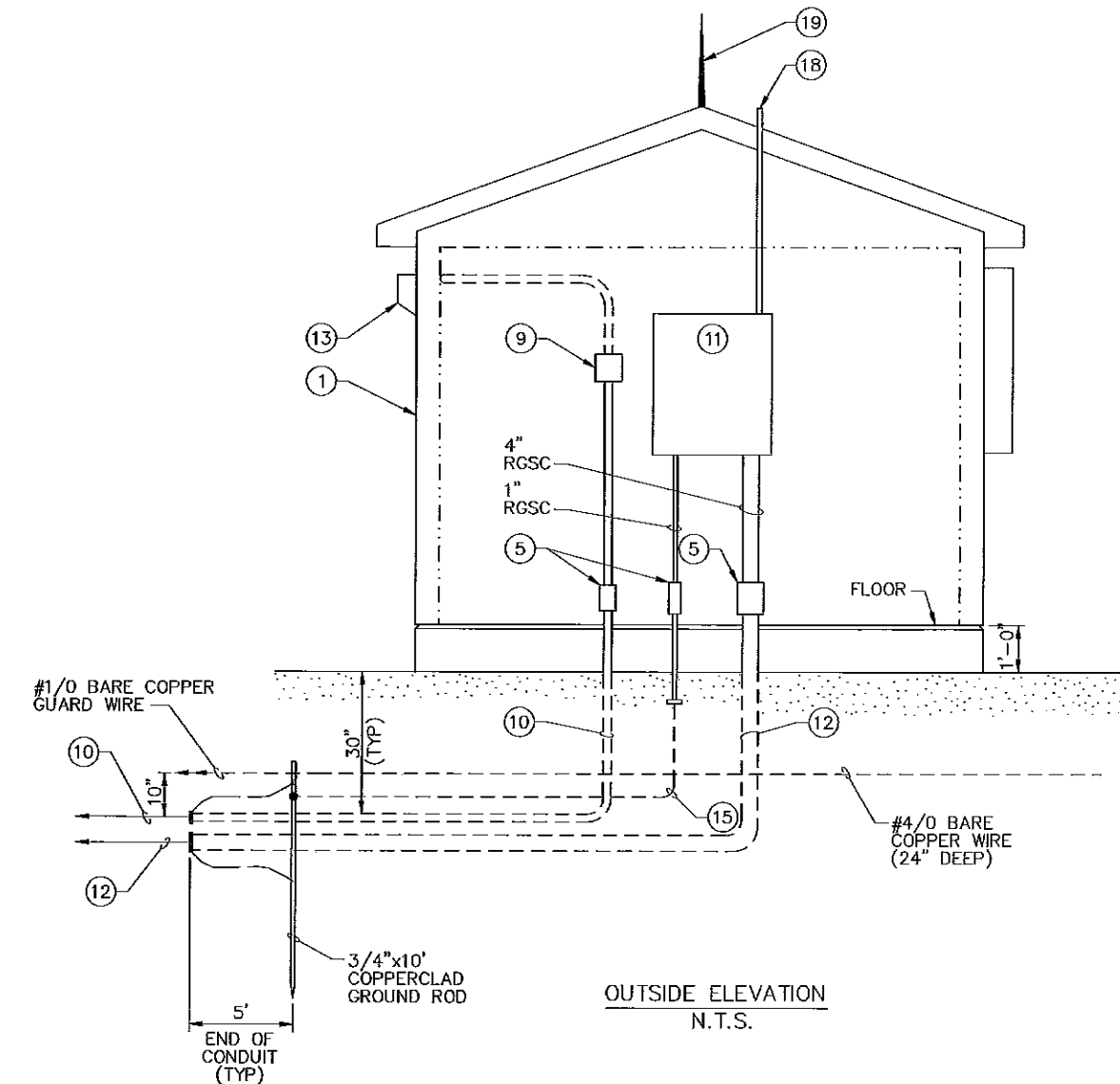
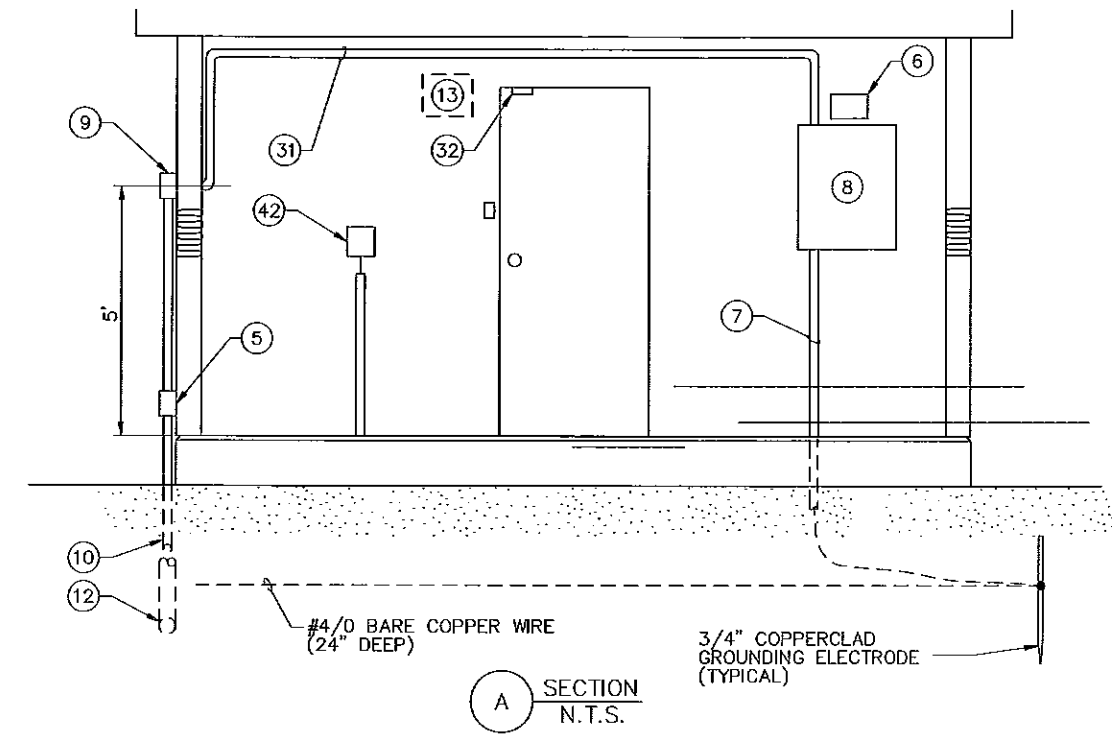
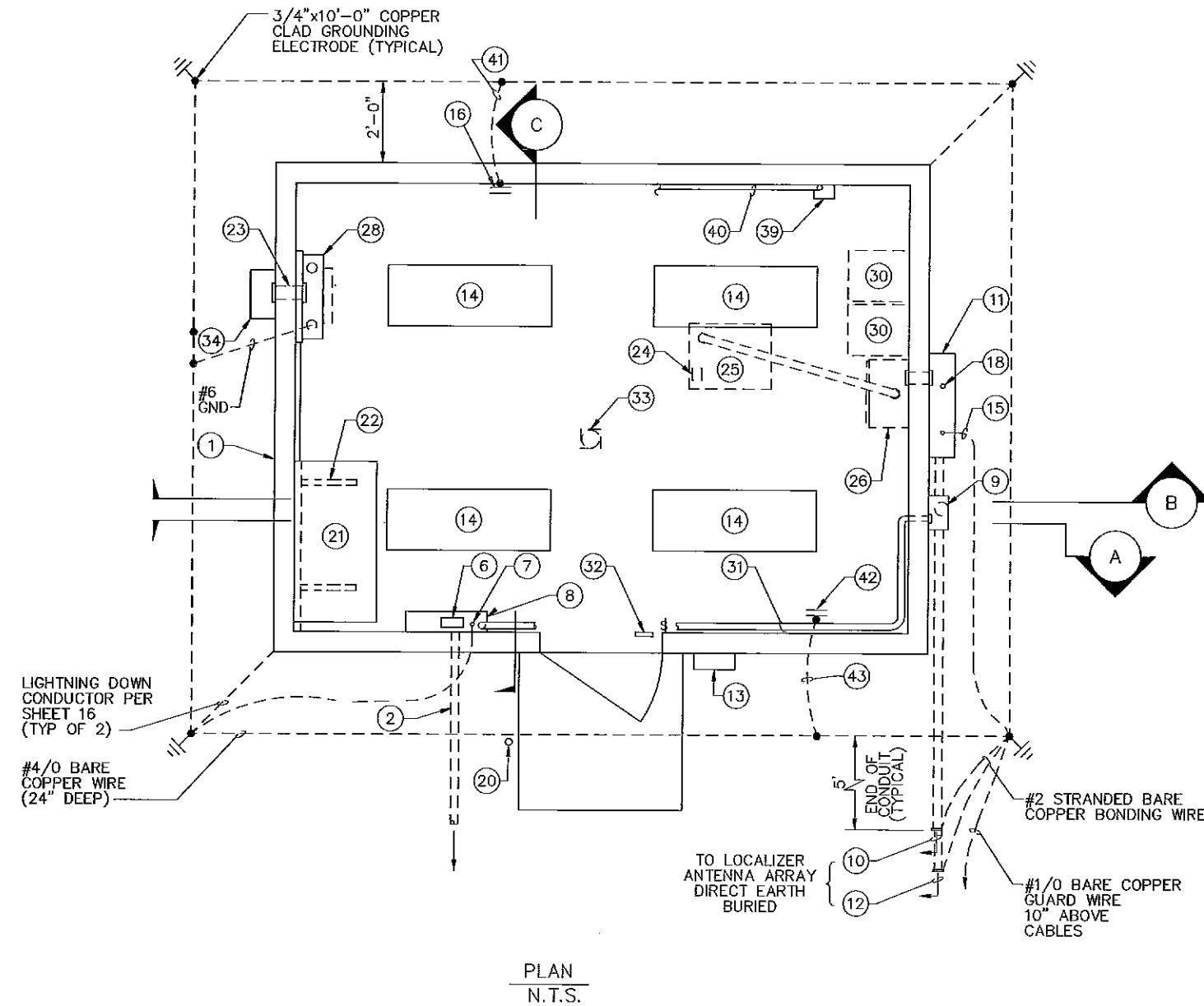
NOTES

1. FOR NUMBERED LEGEND AND NOTES SEE SHEET 15.
2. SECTION (B) AND (C) ARE SHOWN ON SHEET 14.
3. WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.

QU012

REVISIONS		
NUMBER	BY	DATE

0 1 2
THIS BAR IS EQUAL TO 2"
AT FULL SCALE (34X22).
PLOT 1



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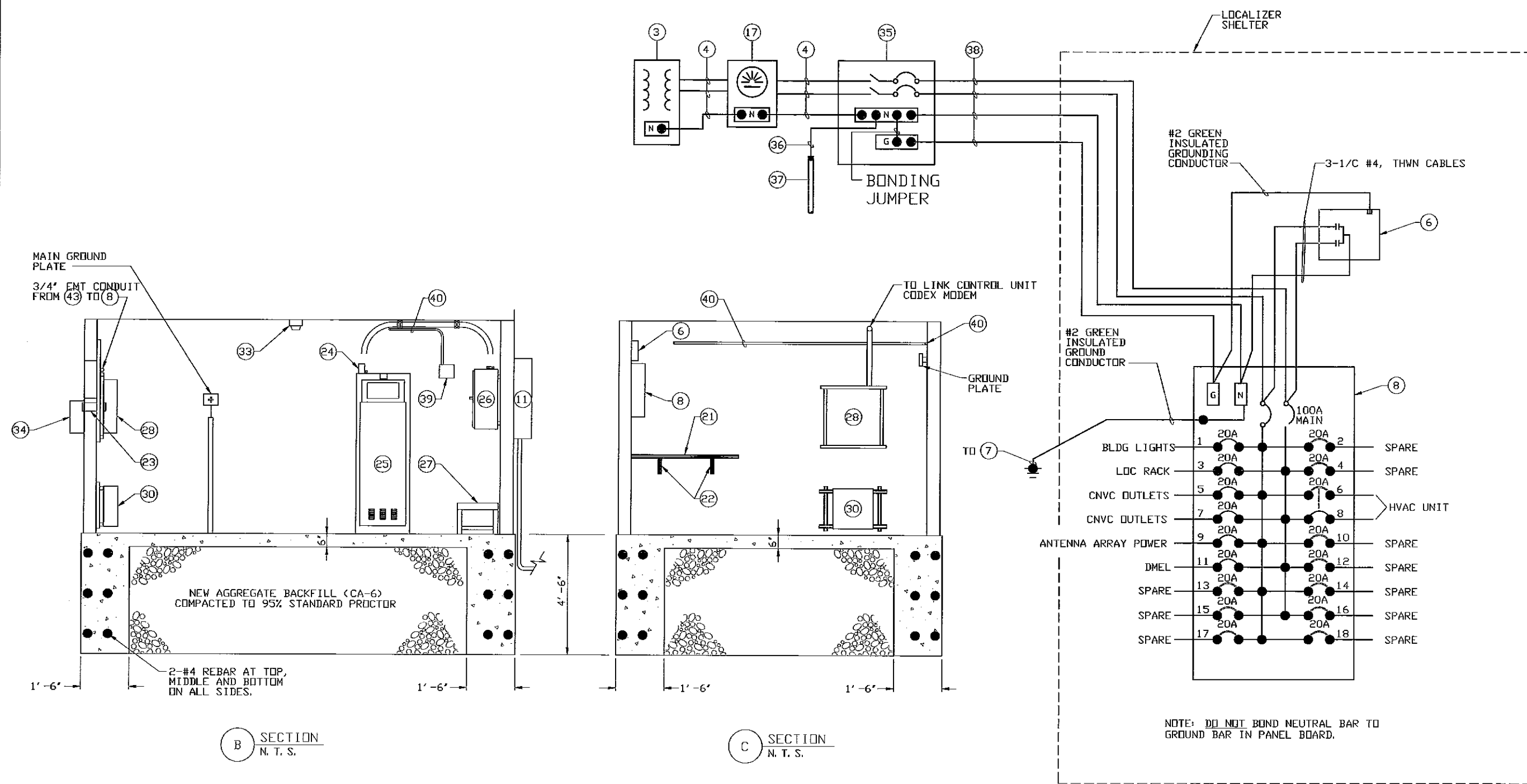
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LOCALIZER SHELTER
EQUIPMENT LAYOUT 1

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REVISIONS		
NUMBER	BY	DATE

0 1 2
THIS BAR IS EQUAL TO 2"
AT FULL SCALE (34X22).
PLOT 1



B SECTION
N. T. S.

C SECTION
N. T. S.

1 DETAIL - POWER PANEL
SCALE: NONE

WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.

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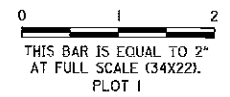
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LOCALIZER SHELTER
EQUIPMENT LAYOUT 2

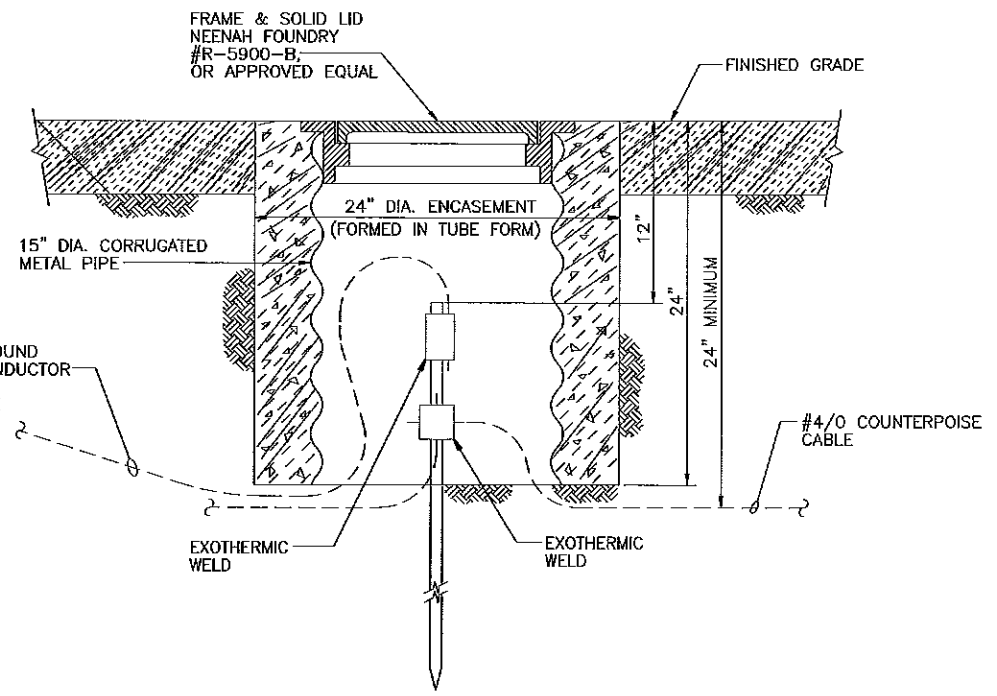
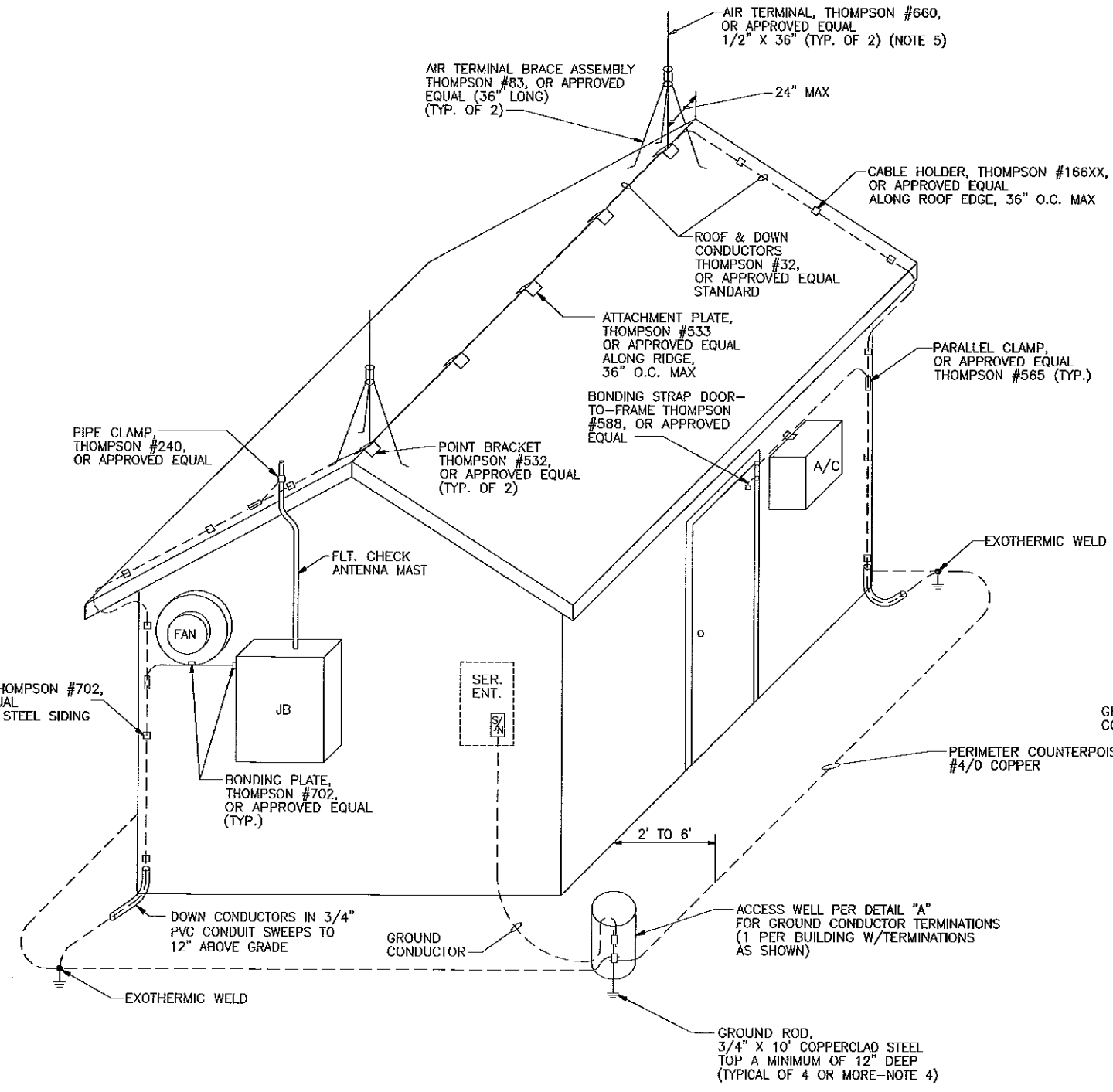
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NOTES:

1. ALL CLAMPS AND BONDING DEVICES SHALL BE BRONZE, ALL CABLES AND STRAPS SHALL BE COPPER, AND ALL BOLTS, SCREWS, & FASTENING HARDWARE SHALL BE BRONZE OR BRASS UNLESS OTHERWISE SHOWN.
2. BOND A/C, VENT FAN, HOOD, FLT. CHECK ANT. MAST, DOOR FRAME, JUNCTION BOXES, & ANY MISC. EXTERIOR METAL OBJECTS TO DOWN CONDUCTORS WITH MIN. #6 BARE - THOMPSON #14X OR #509X, OR APPROVED EQUAL.
3. NO CONDUCTOR SHALL BE BENT TO LESS THAN AN 8" RADIUS NOR SHALL BE BENT TO LESS THAN A 90° INCLUDED ANGLE.
4. WHERE FACILITIES HAVE AN ANTENNA(S) WITHIN 20' OF THE BUILDING, THE PERIMETER COUNTERPOISE SHALL SURROUND THE BUILDING AND ANTENNA(S), WITH TWO ADDITIONAL GROUNDING ELECTRODES PROVIDED PER ANTENNA.
5. BUILDINGS WITH FLAT ROOFS REQUIRE AN AIR TERMINAL AT EACH CORNER AND A PERIMETER ROOF CONDUCTOR (THOMPSON #32, OR APPROVED EQUAL) CONNECTING ALL TERMINALS IN PLACE OF RIDGE TERMINAL AND CONDUCTOR AS SHOWN.



DETAIL "A"
ACCESS WELL

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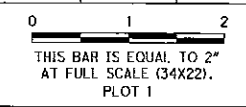


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SHELTER LIGHTNING PROTECTION

NUMBER	BY	DATE



ITEM	QTY	DESCRIPTION	WPN
71	12	WASHER, LOCK #10	926001-0081
72	12	NUT, HEX #10-32	930001-0304
73	16	CONN, SPLIT BOLT (KS17)	229911-0004
74	3	GND ROD 3/4" X 10"	*
75	1	EL, SWEEP 1-1/4" PVC 90"	*
76	1	CABLE, RF 1/4" HELIAX 1700' L	111588-1700
77	70	CONN, RF TYPE N MALE	230161-0001
78	28	CONN, RF ADPTR STR TNC M-NFE	675004-0001
79	4	CONN, RF ADPTR STR TNC M-NFE	228913-0001
80	1	KIT, IDENT CBL SLEEVE	069200-0001
81	24	BOLT, HEX NYLON 1/4"-20 X 1" L (NOTE 6)	502644-0053
82	24	NUT, HEX NYLON 1/4"-20	300658-0007
83	2	CONN, SPLIT BOLT (KS23)	229911-0012

ITEM	QTY	DESCRIPTION	WPN
70	12	WASHER, FLAT #10	926000-0808
69	12	SCREW, MACH. #10-32 X 1/2"	916012-0272
68	12	LUG, GND SOLDERLESS	025478-0001
67	28	WIRE, #6 BARE	110041-0001
66	2	SCREW, MACH. 1/4"-20 X 1/2" L	915016-0079
65	4	SPACER, HEX TAPPED, 2-1/2" L	270706-6677
64	4	HANGER, CND 2-1/2"	033788-0008
63	4	HANGER, CND 3/4"	033788-0002
62	4	BULB, LIGHT	035623-0000
61	2	LIGHT, OBS	035707-0001
60	2	CND, 3/4" X 48" L	033671-0001
59	2	EL, 45" CND	033754-0002
58	2	NIPPLE, CND 3/4" X 10" L	033586-0005
57	2	NIPPLE, CND 3/4" X 3" L	033586-0001
56	2	CND, 3/4" X 30" L	033671-0004
55	2	GASKET, COVER	033728-0003
54	2	COVER, UNILET	033580-0001
53	2	UNILET, "T" 3/4"	033588-0001
52	2	BUSHING, INSULATED 3/4"	033516-0000
51	4	NUT, LOCK 3/4"	033514-0000
50	2	NIPPLE, CND 3/4" X 5" L	033586-0006
49	200	CABLE, POWER, #12-2 UF	111456-0002
48	1	BUSHING, INSULATED 1-1/4"	*
47	1	LOCK NUT, CND 1-1/4"	*
46	1	ADAPTER, PVC MALE 1-1/4"	*
45	1	CND, PVC RIGID 1-1/4" X 24"	*
44	2	BUSHING, INSULATED 3"	*
43	2	LOCKNUT, CND 3"	*
42	2	ADAPTER, PVC MALE 3"	*
41	2	CND, PVC RIGID 3" X 24"	*
40	2	EL, SWEEP 3" PVC 90"	*
39	1	COVER, ADAPTER RACEWAY END	489114-0001
38	1	RACEWAY, CABLE ADAPTER END (RT)	282218-0001
37	1	RACEWAY, CABLE ADAPTER END (LT)	282219-0002
36	14	GASKET, CHAN WEATHERCAP (NOTE 2)	265047-0001
35	28	NUT, HEX 1/4"-20 (NOTE 2)	930026-0003
34	28	WASHER, FLAT 1/4" (NOTE 2)	925000-0810
33	28	BOLT, HEX 1/4"-20 X 4-1/4" (NOTE 2)	919070-0024
32	14	CAP, WEATHER SHIELD (NOTE 2)	265048-0001
31	10	COVER, WRAPPER RACEWAY (CTR)	489043-0001
30	2	CAP, END RACEWAY	281621-0001
29	2	COVER, ADAPTER RACEWAY (DU)	489113-0001
28	164	NUT, SPEED #8-32	100999-0001
27	130	NUT, SELF-LOCKING #8-32	100482-0008
26	310	WASHER, FLAT #8	925000-0807
25	14	SCREW, MACH. #8-32 X 1/2" PPHMS	915014-0045
24	12	RACEWAY, CABLE SECT BOT 94" L	282218-0001
23	12	RACEWAY, CABLE SECT TOP 94" L	282217-0001
22	58	BOLT, HEX 5/16"-18 X 1"	919063-0030
21	10	RACEWAY, CABLE WRAPPER (CTR) 26"	282173-0001
20	2	GASKET, RACEWAY ADAPTER (DU)	265050-0001
19	1	RACEWAY, CABLE ADAPTER (LT)	282220-0002
18	1	RACEWAY, CABLE ADAPTER (RT)	282220-0001
17	1	UNIT, DISTR ASSY	120354-0001
16	12	NUT, HEX 1/4"-20	930000-2254
15	12	WASHER, LOCK 1/4"	926001-0082
14	16	WASHER, FLAT 1/4"	925001-0007
13	4	BOLT, HEX 1/4"-20 X 3/4"	919065-0005
12	1	BRACKET, MTG DISTR UNIT, LEFT	093431-0002
11	1	BRACKET, MTG DISTR UNIT, RIGHT	093431-0001
10	14	ELEMENT, ANT.	447837-0100
9	112	NUT, HEX 5/16"-18	930000-2314
8	112	WASHER, LOCK 5/16"	926001-0083
7	112	WASHER, FLAT 5/16"	925001-0008
6	58	BOLT, HEX 5/16"-18 X 1-1/2"	919063-0032
5	14	SUPPORT ASSY, FRONT	119007-0001
4	14	SUPPORT ASSY, REAR	119006-0001
3	224	NUT, SQ GALV 5/8"-11	*
2	224	WASHER, FLAT, SQ GALV 5/8"	*
1	112	BOLT, ANCHOR GALV 5/8"-11 X 12"	*

ITEM	QTY	DESCRIPTION	WPN
17	1	UNIT, DISTR ASSY	120354-0001
16	12	NUT, HEX 1/4"-20	930000-2254
15	12	WASHER, LOCK 1/4"	926001-0082
14	16	WASHER, FLAT 1/4"	925001-0007
13	4	BOLT, HEX 1/4"-20 X 3/4"	919065-0005
12	1	BRACKET, MTG DISTR UNIT, LEFT	093431-0002
11	1	BRACKET, MTG DISTR UNIT, RIGHT	093431-0001
10	14	ELEMENT, ANT.	447837-0100
9	112	NUT, HEX 5/16"-18	930000-2314
8	112	WASHER, LOCK 5/16"	926001-0083
7	112	WASHER, FLAT 5/16"	925001-0008
6	58	BOLT, HEX 5/16"-18 X 1-1/2"	919063-0032
5	14	SUPPORT ASSY, FRONT	119007-0001
4	14	SUPPORT ASSY, REAR	119006-0001
3	224	NUT, SQ GALV 5/8"-11	*
2	224	WASHER, FLAT, SQ GALV 5/8"	*
1	112	BOLT, ANCHOR GALV 5/8"-11 X 12"	*

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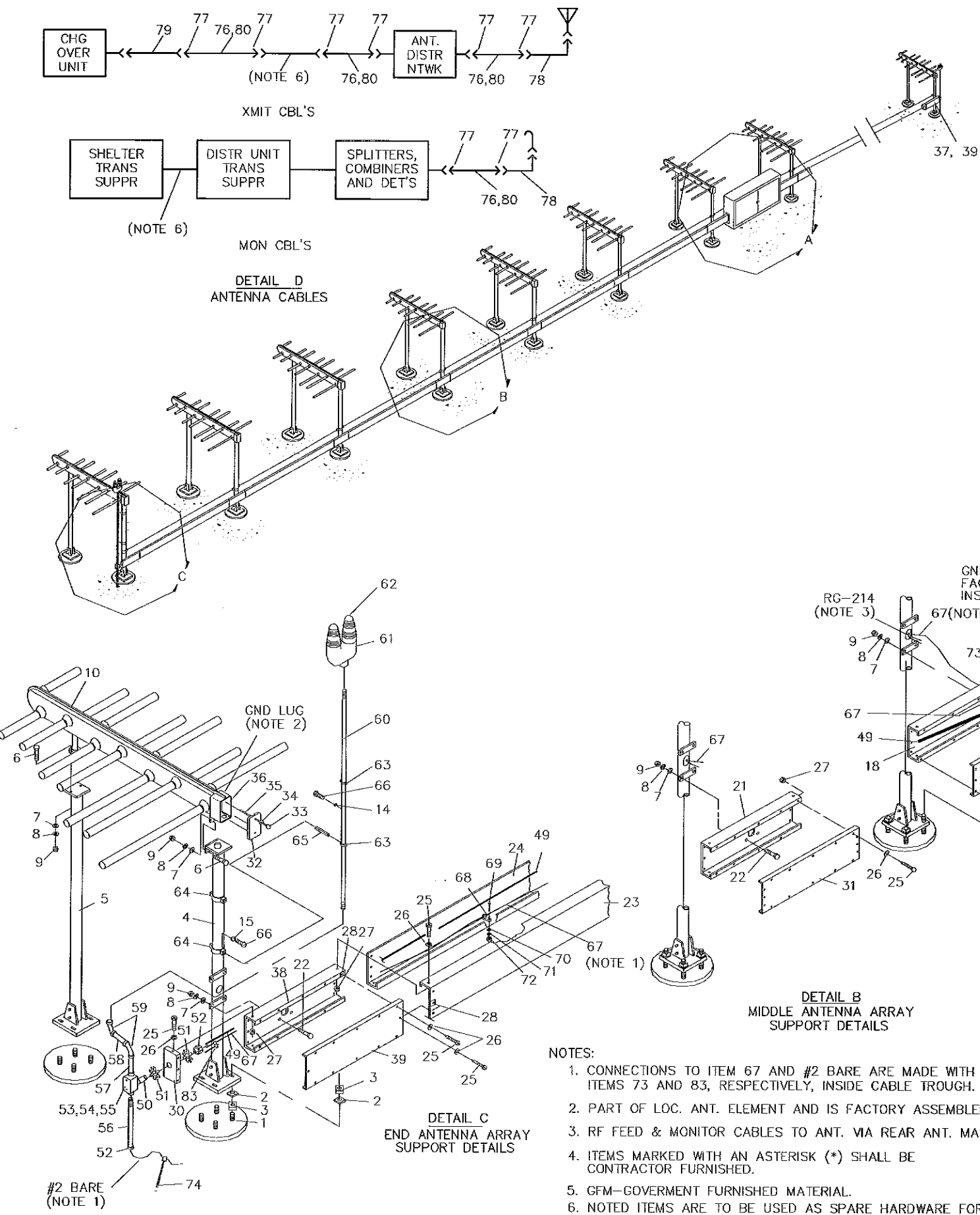
CONSTRUCT LOCALIZER ON RUNWAY 10

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**IL PROJECT: MLI-3898
 AIP PROJ. 3-17-0068-XX**

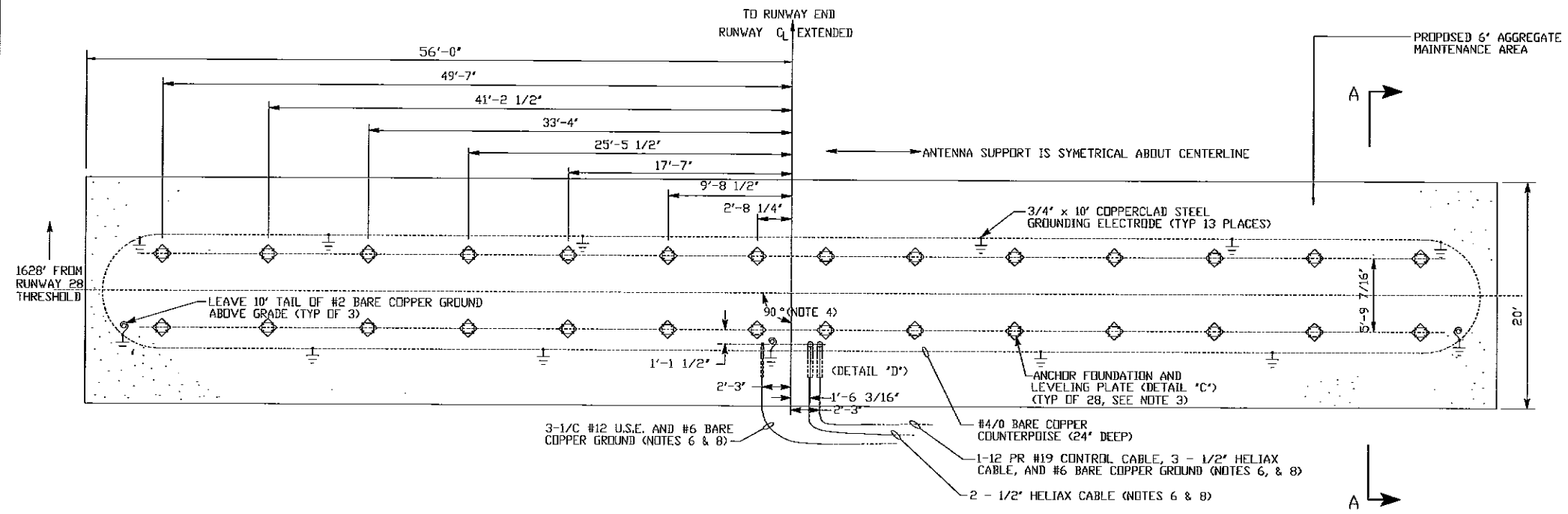
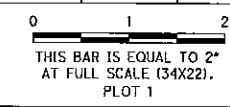
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APPROVED BY:
DATE: 7/9/2009
JOB No: 09014-02
LOCALIZER ANTENNA ARRAY INSTALLATION DETAILS
SHEET 15 OF 19 SHEETS



- NOTES:
1. CONNECTIONS TO ITEM 67 AND #2 BARE ARE MADE WITH ITEMS 73 AND 83, RESPECTIVELY, INSIDE CABLE TROUGH.
 2. PART OF LOC. ANT. ELEMENT AND IS FACTORY ASSEMBLED.
 3. RF FEED & MONITOR CABLES TO ANT. VIA REAR ANT. MAST.
 4. ITEMS MARKED WITH AN ASTERISK (*) SHALL BE CONTRACTOR FURNISHED.
 5. GFM-GOVERNMENT FURNISHED MATERIAL.
 6. NOTED ITEMS ARE TO BE USED AS SPARE HARDWARE FOR
 7. CONTRACTOR SHALL LEAVE A MINIMUM 6' SLACK AT BOTH ENDS OF CABLES BETWEEN SHELTER AND ANTENNA.
 8. CONNECTIONS BETWEEN SHELTER AND ANTENNA SHALL BE MADE BY OTHERS.

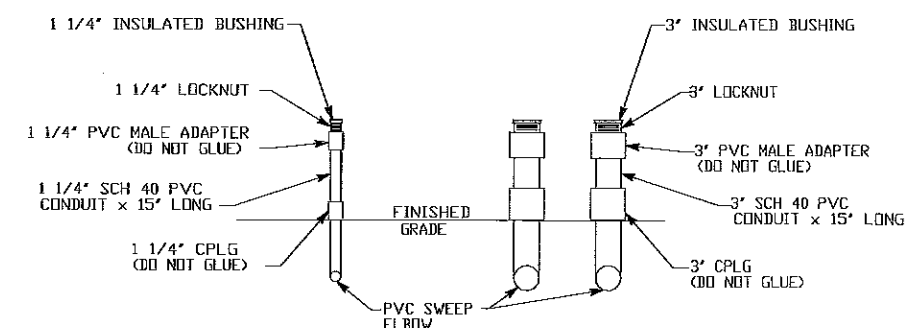
CONTRACTOR SHALL ASSEMBLE THE OWNER FURNISHED EQUIPMENT AS SHOWN. THE CONTRACTOR SHALL ALSO ASSEMBLE AND INSTALL THE ANTENNAS AND CABLING. FINAL CONNECTIONS AND ADJUSTMENTS SHALL BE MADE BY OTHERS.

REVISIONS		
NUMBER	BY	DATE

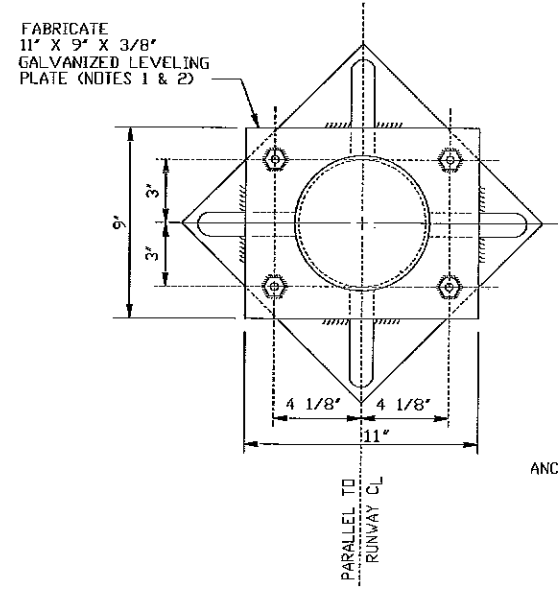


- NOTES**
1. LOCATE SCREW ANCHOR FOUNDATIONS WITHIN ± 2' OF DIMENSIONS SHOWN. WELD LEVELING PLATE TO EACH FOUNDATION TOP AFTER LOCATING PLATE CENTER WITHIN 1/8" OF DIMENSIONS SHOWN.
 2. ALL DIMENSIONS FOR STEEL FABRICATION AREA ±1/16" STUDS INSTALLED BY 'STUD WELDING' PROCESS ARE AN ALTERNATIVE TO BOLTS AS SHOWN. LEVELING PLATES ARE GALVANIZED AFTER FABRICATION. FIELD WELDS SHALL BE TOUCHED UP WITH ZINC-RICH PRIMER.
 3. ALL SCREW ANCHOR FOUNDATION TOPS SHALL BE INSTALLED TO THE SAME ELEVATION WITHIN 1/8" MAXIMUM TOTAL VARIATION. ANCHORS SHALL NOT BE BACKED OUT TO ACHIEVE THIS TOLERANCE.
 4. ALIGN MAJOR AXIS OF ANTENNA ARRAY PERPENDICULAR TO RUNWAY CENTERLINE WITHIN ±0.05°. ARRAY CENTER MUST BE WITHIN ±3' OF RUNWAY CENTERLINE.
 5. AREA AROUND CONDUITS TO BE BACK FILLED LOOSELY TO ALLOW FOR ALIGNMENT OF CONDUIT WITH ANTENNA DISTRIBUTION UNIT (BY OTHERS).
 6. SEE LOCALIZER SITE PLAN.
 7. N/A
 8. LEAVE 6' TAILS OF BOTH POWER AND CONTROL CABLES AT THE ANTENNA ARRAY END.

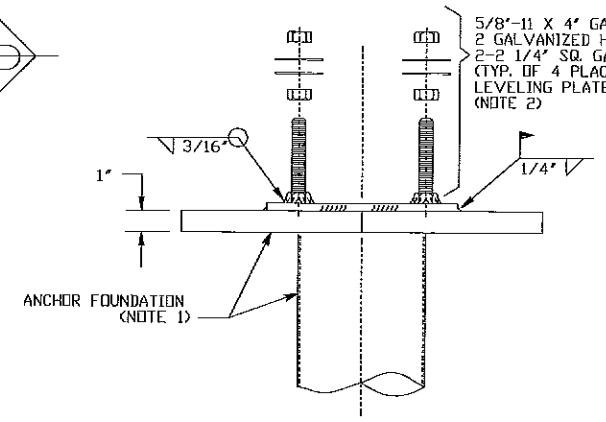
LOCALIZER ANCHOR FOUNDATION LAYOUT
PLAN
N.T.S.



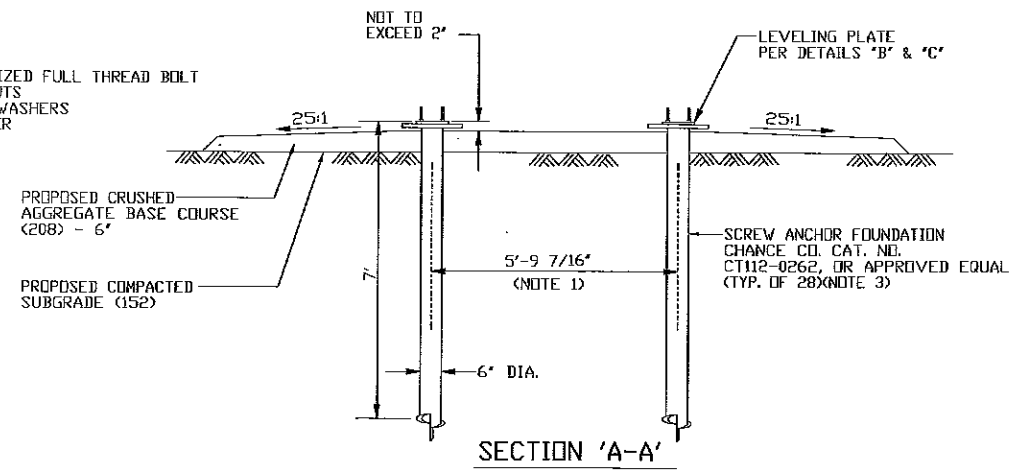
DETAIL 'D'
DISTRIBUTION UNIT CONDUIT DETAILS
N.T.S.



DETAIL 'C'
LEVELING PLATE
N.T.S.
(TYP. OF 28)



DETAIL 'B'
LEVELING BOLT
N.T.S.



SECTION 'A-A'
N.T.S.

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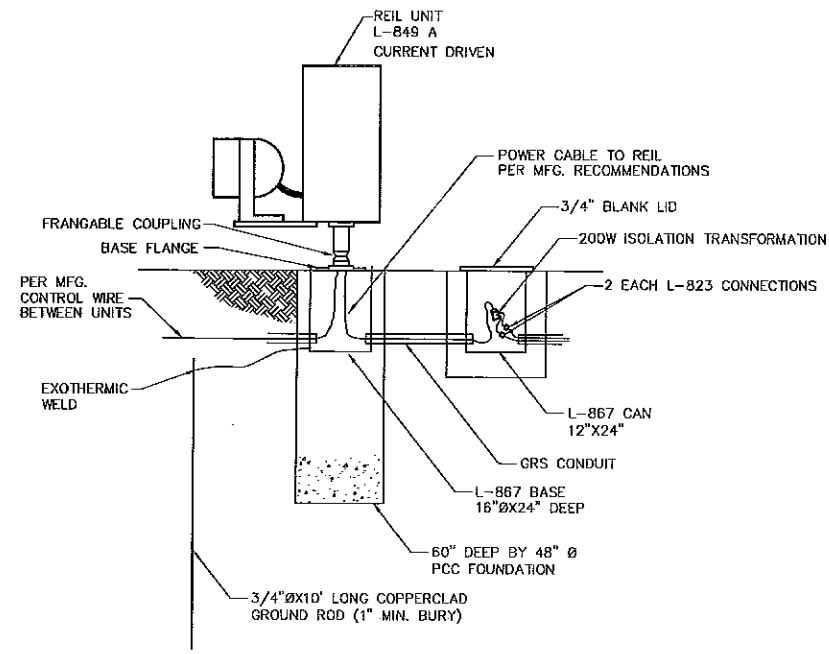
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LOCALIZER ANTENNA
ARRAY FOUNDATION
DETAIL

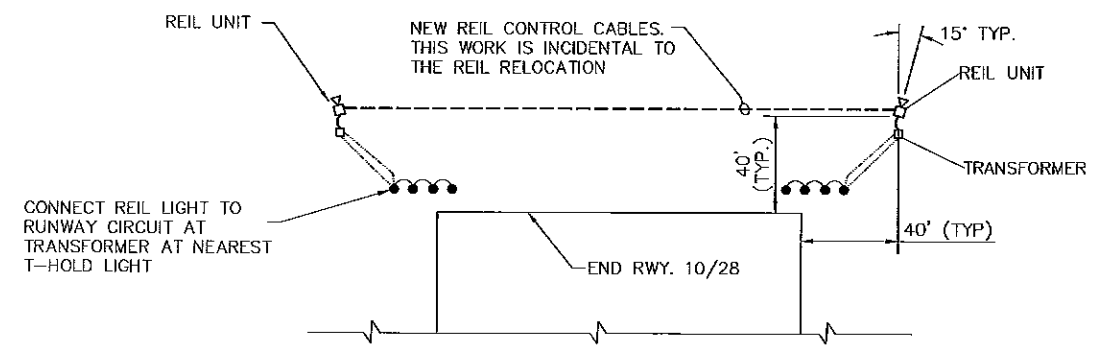
SHEET 16 OF 19 SHEETS

REVISIONS		
NUMBER	BY	DATE

0 1 2
THIS BAR IS EQUAL TO 2"
AT FULL SCALE (34X22).
PLOT 1



REIL MASTER UNIT WIRING DETAIL
N.T.S.



REIL-10 INSTALLATION PLAN VIEW
N.T.S.

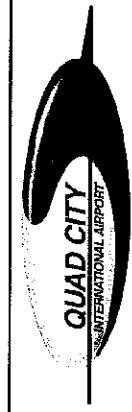
REIL NOTES

1. GRS CONDUIT IN DIRECT CONTACT WITH THE EARTH SHALL RECEIVE 1 COAT 8 DRY MILS OF 46-413 INEME-TAR COAL TAR EPOXY AS MANUFACTURED BY INEMEC CO., OR EQUAL.
2. ALL FLEX AND GRS CONDUIT, PVC CONDUIT, UNIT-DUCT, GROUND ROD, TRANSFORMER, STRUT FRAMING, SUPPORTS, FOUNDATION, L-867 BASES, WIRING AND MISCELLANEOUS MATERIALS, LABOR AND EQUIPMENT NEEDED TO PROVIDE POWER AND CONTROL FROM PAPI PCU TO LIGHT BOXES OR REIL MASTER TO SLAVE UNIT SHALL BE CONSIDERED INCIDENTAL TO THE PAPI OR REIL INSTALLATION. SEE SPEC ITEM 125. INCOMING RUNWAY CIRCUIT CABLES WITH OR WITHOUT GROUND SHALL BE MEASURED AND PAID FOR UNDER APPLICABLE PAY ITEM IN ITEM 108 OF SPECIFICATIONS.

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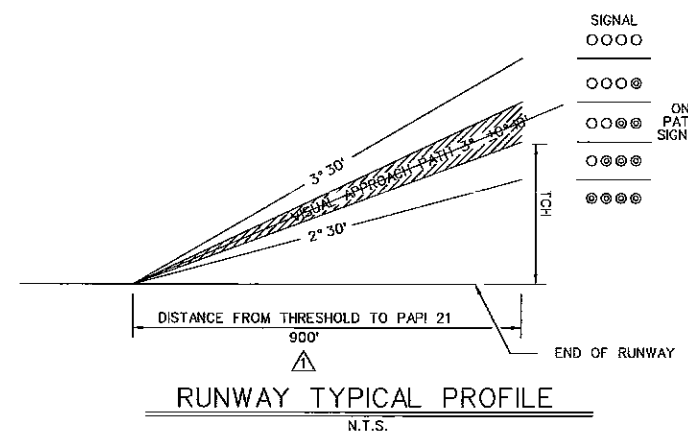
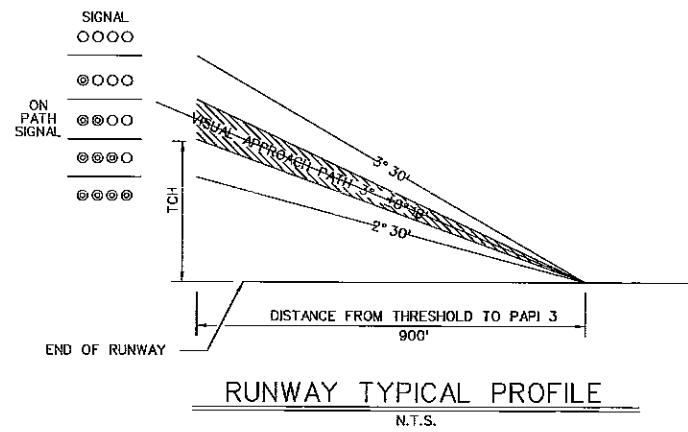
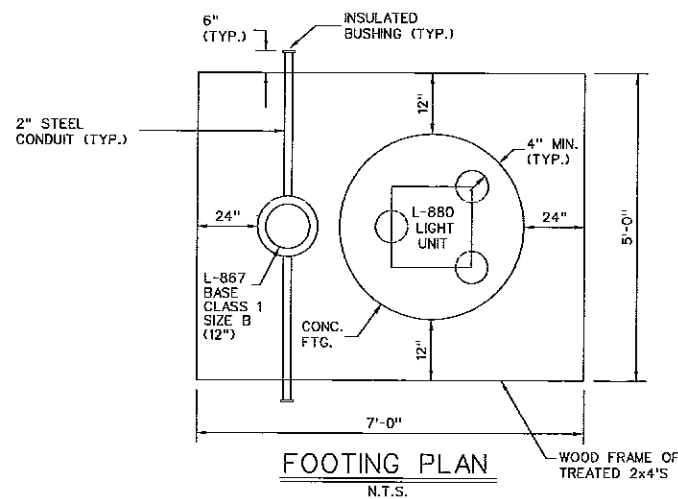
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**RUNWAY END IDENTIFIER
LIGHTS DETAILS**

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REVISIONS		
NUMBER	BY	DATE

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).
PLOT 1

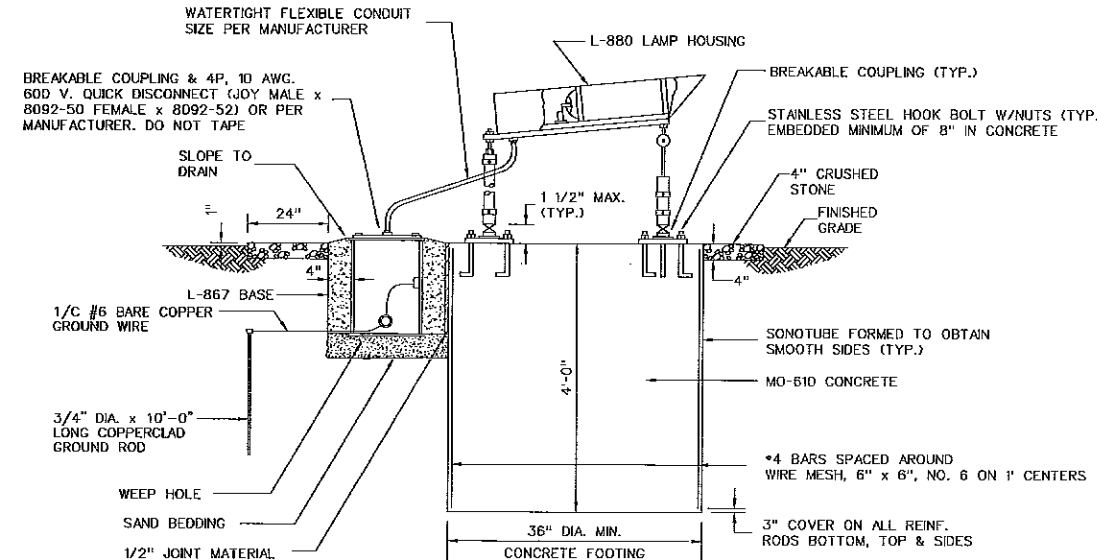


AIMING OF TYPE L-880 (4-BOX) PAPI RELATIVE TO PRESELECTED GLIDE PATH (3°00')

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

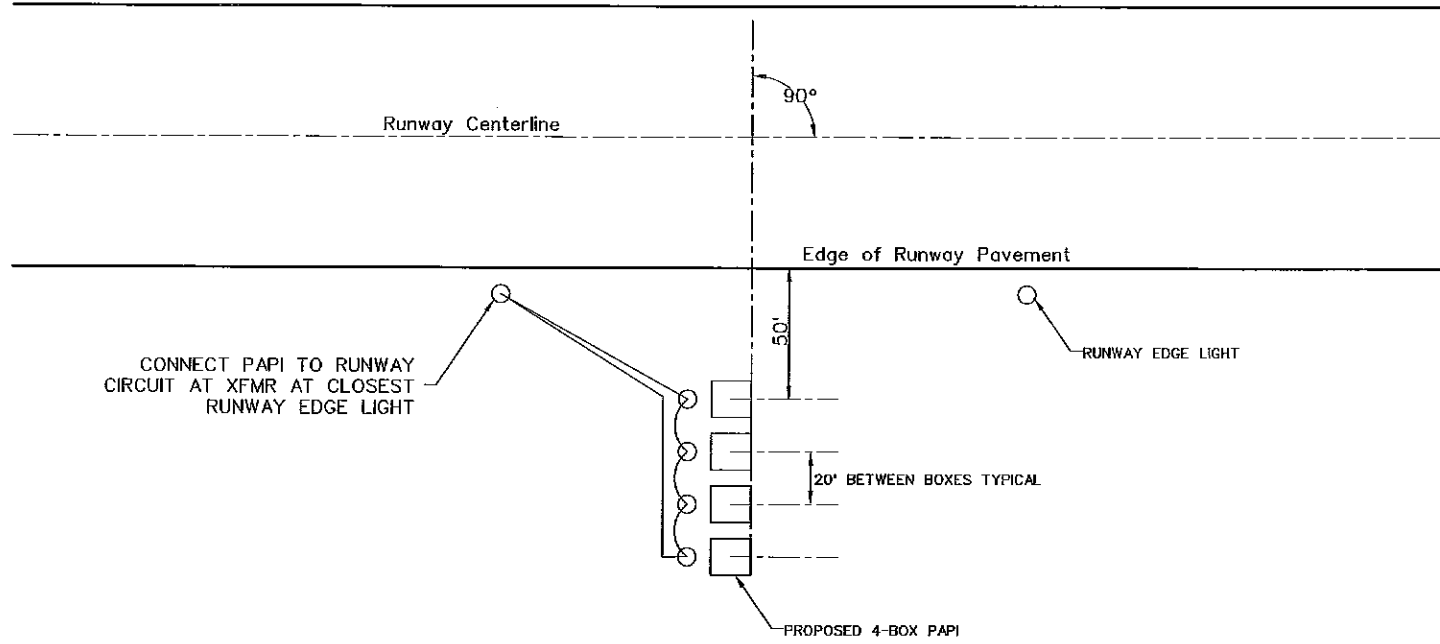
RUNWAY	10	28
HEIGHT GROUP USED FOR SITING	1	1
THRESHOLD STATIONING	588+98	654+00
THRESHOLD ELEVATION	577.50	578.45
THRESHOLD CROSSING HEIGHT	50'	50'
STATION FOR PAPIs	597+98	645+00
GLIDE PATH ANGLE *	3°	3°
RUNWAY REFERENCE POINT ELEVATION	580.19	581.12

* THE VISUAL GLIDE PATH ANGLE IS THE CENTER OF THE ON COURSE ZONE AND IS MEASURED FROM THE HORIZONTAL.



- FOUNDATIONS:**
FOUNDATIONS FOR MOUNTING LIGHT BOXES SHALL BE MADE OF ITEM 610 CONCRETE. ALL LIGHT BOXES SHALL BE FRANGIBLY MOUNTED TO THE FOUNDATION.
- AZIMUTHAL AIMING:**
EACH LIGHT UNIT SHALL BE AIMED OUTWARD INTO THE APPROACH ZONE ON A LINE PARALLEL TO THE RUNWAY CENTERLINE WITHIN A TOLERANCE OF ±1/2 DEGREE.
- MOUNTING HEIGHT TOLERANCES:**
THE BEAM CENTERS OF ALL LIGHT UNITS SHALL BE WITHIN ±1 INCH OF A HORIZONTAL PLANE AT THE ELEVATION GIVEN IN THE TABLE.
- TOLERANCE ALONG LINE PERPENDICULAR TO RUNWAY:**
THE FRONT FACE OF EACH LIGHT UNIT IN A BAR SHALL BE LOCATED ON A LINE PERPENDICULAR TO THE RUNWAY CENTERLINE WITHIN ±8 INCHES.
- LATERAL SPACING:**
THE DIFFERENCE IN LATERAL SPACING BETWEEN LIGHT UNITS SHALL NOT EXCEED 1'-0".

- NOTES:**
- PAPI INSTALLATION SHALL BE CURRENT DRIVEN RELAY OPTION. INSTALL AN L-830 30/45W ISOLATION TRANSFORMER IN SPLICE CAN AND CONNECT TO RUNWAY EDGE LIGHT SERIES CIRCUIT. PROVIDE L-823 CONNECTORS AS NECESSARY. WIRE TO PAPI PCU PER PAPI MANUFACTURER INSTRUCTIONS.
 - POWER/CONTROL WIRES BETWEEN PCU AND LHAS SHALL BE PER PAPI MANUFACTURER.



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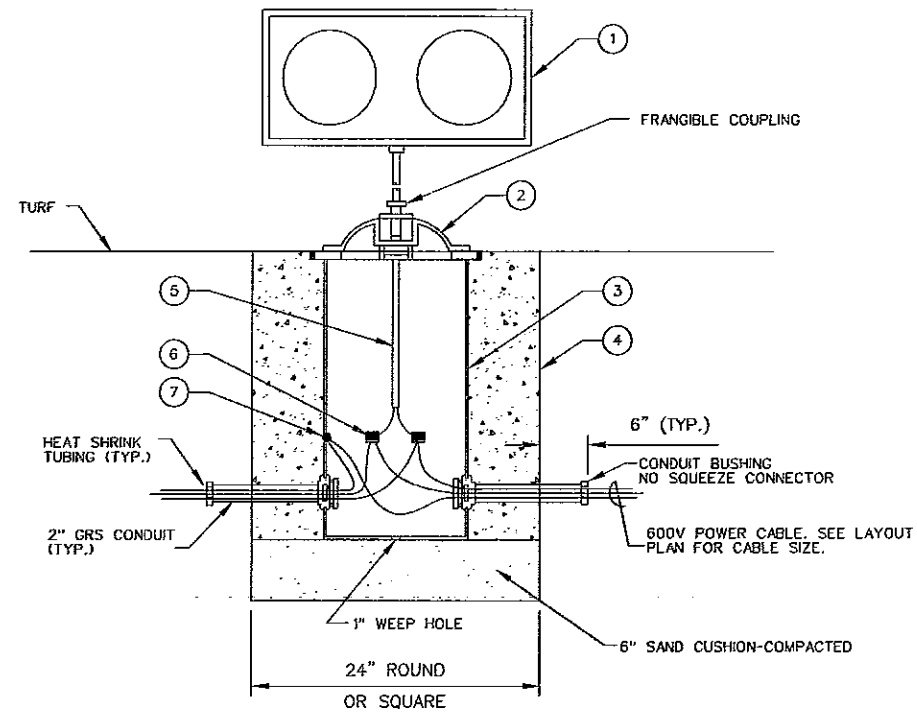
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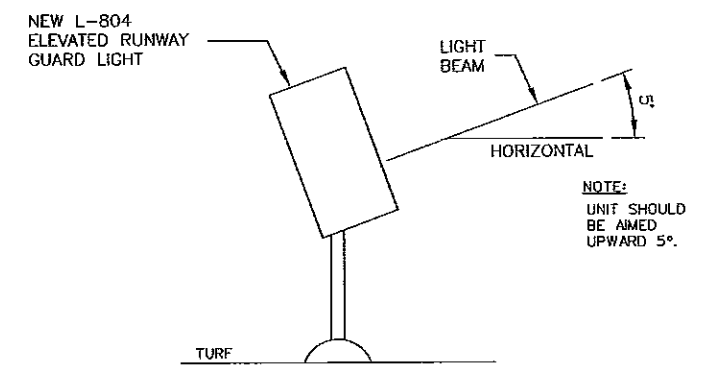
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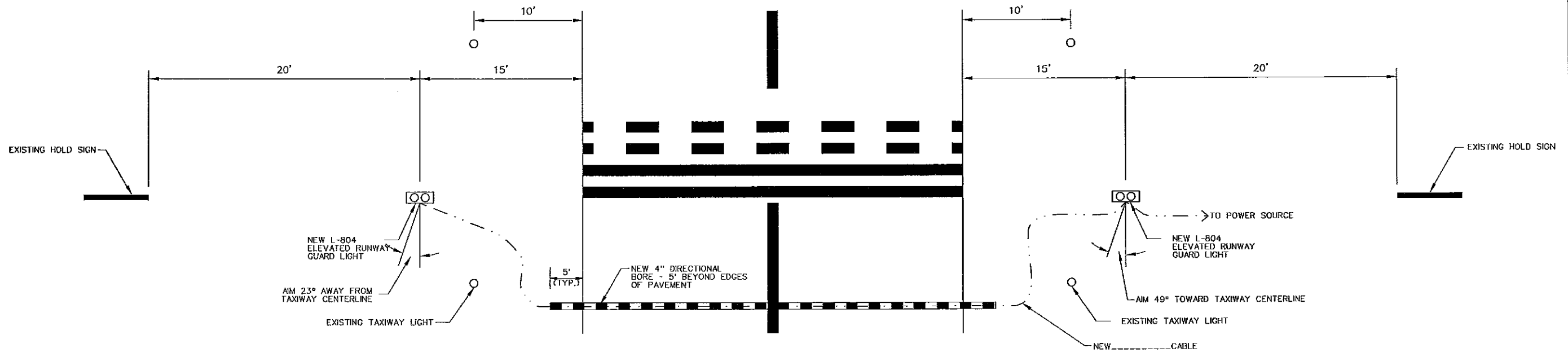
I-804 RUNWAY GUARD LIGHT
N.T.S.

- ① L-804 RUNWAY GUARD LIGHT (RGL), MODE 2 (240V) WITH PHOTOCELL, NOT MONITORED, 100W/6.6A INCANDESCENT LAMPS, TRAFFIC SIGNAL YELLOW.
- ② SPECIAL BASE PLATE, TO BE SUPPLIED WITH RUNWAY GUARD LIGHT.
- ③ L-867 LIGHT BASE, 24" DEEP, SIZE B, CLASS 1A.
- ④ CONCRETE, ITEM 610.
- ⑤ CONNECTOR AND PIGTAIL, TO BE SUPPLIED WITH RUNWAY GUARD LIGHT.
- ⑥ WATERPROOF TAPED SPLIT BOLT SPLICE (TYP. OF TWO).
- ⑦ LIGHT BASE GROUND TERMINAL. CONNECT ALL GROUND WIRES TO HERE.

NOTES:
1. ALL BOLTS SHALL BE TREATED WITH "NEVERSEEZ", OR EQUIVALENT.
2. BREAKING-POINT FRANGIBLE COUPLING SHOULD BE LOCATED 3" MAX. ABOVE GRADE.



RUNWAY GUARD LIGHT AIMING DETAIL
N.T.S.



RUNWAY GUARD LIGHT LAYOUT PLAN
N.T.S.

NOTES:
LOCATION OF BORED DUCT MAY VARY.

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RUNWAY GUARD LIGHT
DETAILS