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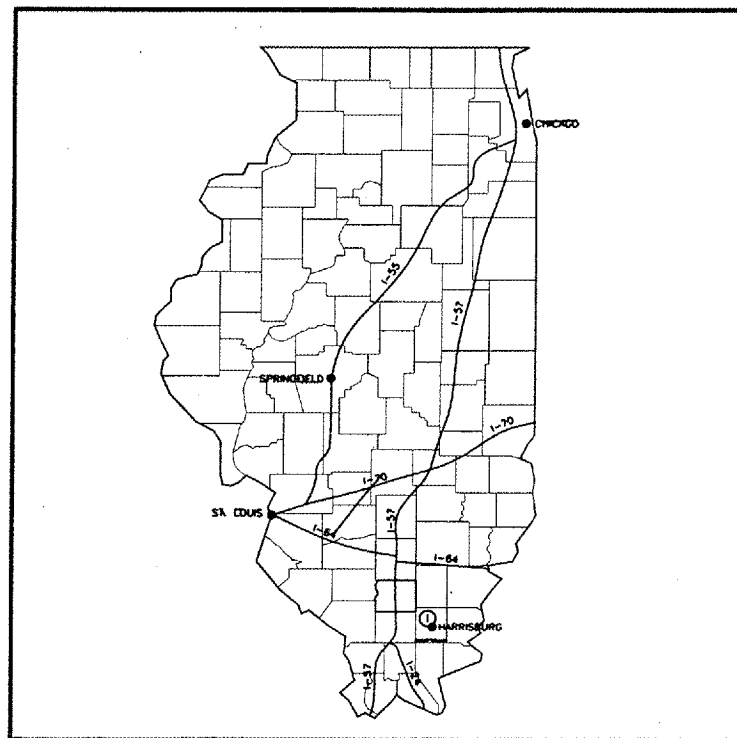
CONSTRUCTION PLANS

HA023
TOTAL SHEETS: 8

FOR

HARRISBURG RALEIGH AIRPORT

POROUS FRICTION COURSE OVERLAY ON RUNWAY 6/24

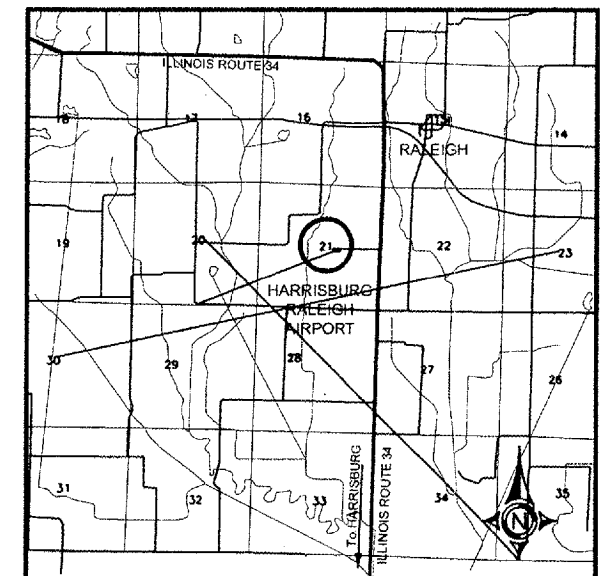
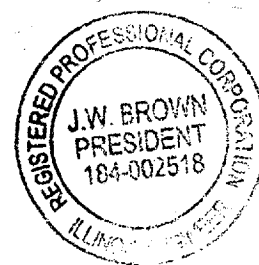


LOCATION MAP

ILLINOIS PROJECT NUMBER: HSB-3605
AIP PROJECT NUMBER: 3-17-0050-B8

HARRISBURG, ILLINOIS
SALINE COUNTY

DATE: MARCH 23, 2007



VICINITY MAP

BROWN AND ROBERTS, INC.
CONSULTING ENGINEER
PRESIDENT


SUBMITTED BY: *J.W. Brown*
JIM W. BROWN

DATE SUBMITTED: 3/23/2007

LICENSE NUMBER: 184-002518

LICENSE EXPIRATION DATE: APRIL 2009

PLANS PREPARED BY:



BROWN AND ROBERTS, INC.
1 WESTRIDGE ROAD
HARRISBURG, IL. 62946
(618) 252-8111

HARRISBURG RALEIGH AIRPORT AUTHORITY

CHAIRMAN

APPROVED BY: *Brad Henshaw* 3/23/07
BRAD HENSHAW DATE

SECRETARY

Ken Wallace 03-23-07
KEN WALLACE DATE

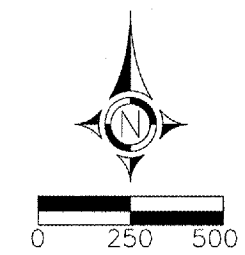
SUMMARY OF QUANTITIES

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>
AR108158	1/C #8 5KV UG CABLE IN UD	L.F.	200
AR125961	RELOCATE STAKE MOUNTED LIGHT	EA.	4
AR152410	UNCLASSIFIED EXCAVATION	C.Y.	450
AR152480	SHOULDER ADJUSTMENT	S.Y.	8,600
AR201610	BITUMINOUS BASE COURSE	TON	270
AR201661	CLEAN & SEAL BITUMINOUS CRACKS	L.F.	25,000
AR209510	CRUSHED AGGREGATE BASE COURSE	TON	405
AR401650	BITUMINOUS PAVEMENT MILLING	S.Y.	605
AR401665	BITUMINOUS PAVEMENT SAWING	L.F.	540
AR401900	REMOVE BITUMINOUS PAVEMENT	S.Y.	2705
AR402622	POROUS FRICTION COURSE, 0.10'	S.Y.	50,000
AR602510	BITUMINOUS PRIME COAT	GAL	250
AR603510	BITUMINOUS TACK COAT	GAL	10,000
AR620520	PAVEMENT MARKING-WATERBORNE	S.F.	34,340
AR801253	ACCESS ROAD	L.S.	1
AR901510	SEEDING	ACRE	2
AR908510	MULCHING	ACRE	2

INDEX TO SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	SUMMARY OF QUANTITIES
3	RUNWAY SAFETY PLAN
4	EXISTING SITE & CONSTRUCTION PLAN
5	RUNWAY 6-24 PLAN VIEW
6	PAVEMENT MARKING DETAILS
7-8	ELECTRICAL DETAILS

HA023



SCOPE OF WORK

THE PROJECT SCOPE CONSISTS OF OVERLAYING THE EXISTING RUNWAY 6/24, NEW MARKINGS AND OTHER NECESSARY AND RELATED WORK.

PROPOSED SAFETY PLAN

GENERAL- THE HARRISBURG-RALEIGH AIRPORT AUTHORITY CURRENTLY HAS A PAVED RUNWAY 6-24 WHICH IS 5013 FT. x 75 FT. AND A PAVED RUNWAY 14-32 WHICH IS 2820 FT. x 75 FT.

CONTRACTOR'S RESPONSIBILITIES

IDENTIFICATION- THE CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL BE PROPERLY MARKED WITH 3-FOOT SQUARE INTERNATIONAL ORANGE AND WHITE CHECKERED FLAGS ANYTIME THEY ARE ON AIRPORT PROPERTY.

THE CONTRACTOR AND HIS EMPLOYEES SHALL BE RESTRICTED TO THE WORK AREA.

EQUIPMENT PARKING AND STORAGE- THE CONTRACTOR'S EQUIPMENT PARKING, STORAGE, AND EMPLOYEE PARKING WILL BE AT THE LOCATION SHOWN ON THIS SHEET. ONLY CONTRACTOR VEHICLES AND EQUIPMENT REQUIRED FOR CONSTRUCTION WILL BE ALLOWED OUTSIDE THIS AREA.

BARRICADES AND TRAFFIC CONES- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS REQUIRED AND AS DIRECTED BY THE RESIDENT ENGINEER. BARRICADES, THEIR MAINTENANCE, PLACEMENT, AND REMOVAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE CONTRACTOR WILL NOT BE ALLOWED ON ANY AIRPORT PAVEMENT. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING PAVEMENTS CAUSED BY HIS PERSONNEL OR EQUIPMENT.

HAUL ROUTE AND EQUIPMENT PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND EQUIPMENT PARKING AREA SHOWN ON THIS SAFETY PLAN. THE PROPOSED EQUIPMENT PARKING AREA WILL BE APPROXIMATELY 100-FT BY 50-FT. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE AND PARKING AREA THROUGHOUT THE COURSE OF THE PROJECT. AT THE CONCLUSION OF THE PROJECT, ALL AREAS DISTURBED WILL BE RESTORED AS NEEDED TO ITS ORIGINAL STATE. RESTORATION OF THE HAUL ROUTE AND EQUIPMENT PARKING AREA WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

UTILITY NOTE

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES AND ORGANIZATIONS THAT HAVE LINES OR CONDUITS IN THE PROPOSED WORK AREA. ALL LINES AND CONDUITS SHALL BE LOCATED AND IDENTIFIED FOR DEPTH BEFORE ANY EXCAVATION BEGINS. THE CONTRACTOR SHALL CALL JULIE (1-800-892-0123) TO ACCOMPLISH THESE REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL NON-JULIE UTILITIES LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UTILITIES ARE TO BE LOCATED PRIOR TO THE START OF CONSTRUCTION.

J.U.L.I.E. INFORMATION

COUNTY.....SALINE
 CITY.....HARRISBURG (5MI NORTH)
 TOWNSHIP.....RALEIGH
 SECTION NO.....21
 NEAREST MAJOR ROAD INTERSECTION...ILLINOIS RT. 34 & AIRPORT DRIVE
 AIRPORT ADDRESS...HARRISBURG-RALEIGH AIRPORT
 PO BOX 33
 HARRISBURG, IL 62946

NOTE:

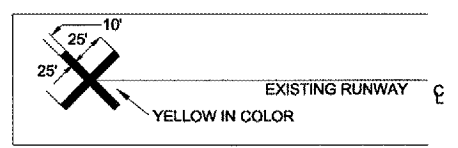
THE COST OF CONSTRUCTING, PLACING, MAINTAINING, AND REMOVING CROSSES WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THE CROSSES WILL BE YELLOW IN COLOR AND SHALL BE MADE OF A SUITABLE MATERIAL AS APPROVED BY THE RESIDENT ENGINEER. THE CROSSES WILL BE PLACED AT THE ENDS OF THE RUNWAY AND SECURED IN A MANNER APPROVED BY THE RESIDENT ENGINEER. THE PROPOSED CROSSES WILL BE PLACED WHEN THE RUNWAY IS CLOSED AND REMOVED WHEN THE RUNWAY IS RE-OPENED. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PLACEMENT AND REMOVAL OF THE CROSSES AT NO ADDITIONAL COST TO THE CONTRACT.

HEIGHT OF CONSTRUCTION EQUIPMENT

THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT IS 20 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A SEMI-TRUCK WITH TRAILER IN THE UP POSITION.

AIRPORT SECURITY

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE PROPOSED HAUL ROUTE SHOWN ON THIS SAFETY PLAN IS THE ONLY ACCESS CONTRACTOR EQUIPMENT AND PERSONNEL WILL BE ALLOWED TO USE. THE CONTRACTOR SHALL PROVIDE BARRICADES AT THIS ACCESS AND ENSURE THE BARRICADES ARE IN PLACE AT THE END OF EACH WORKING DAY.



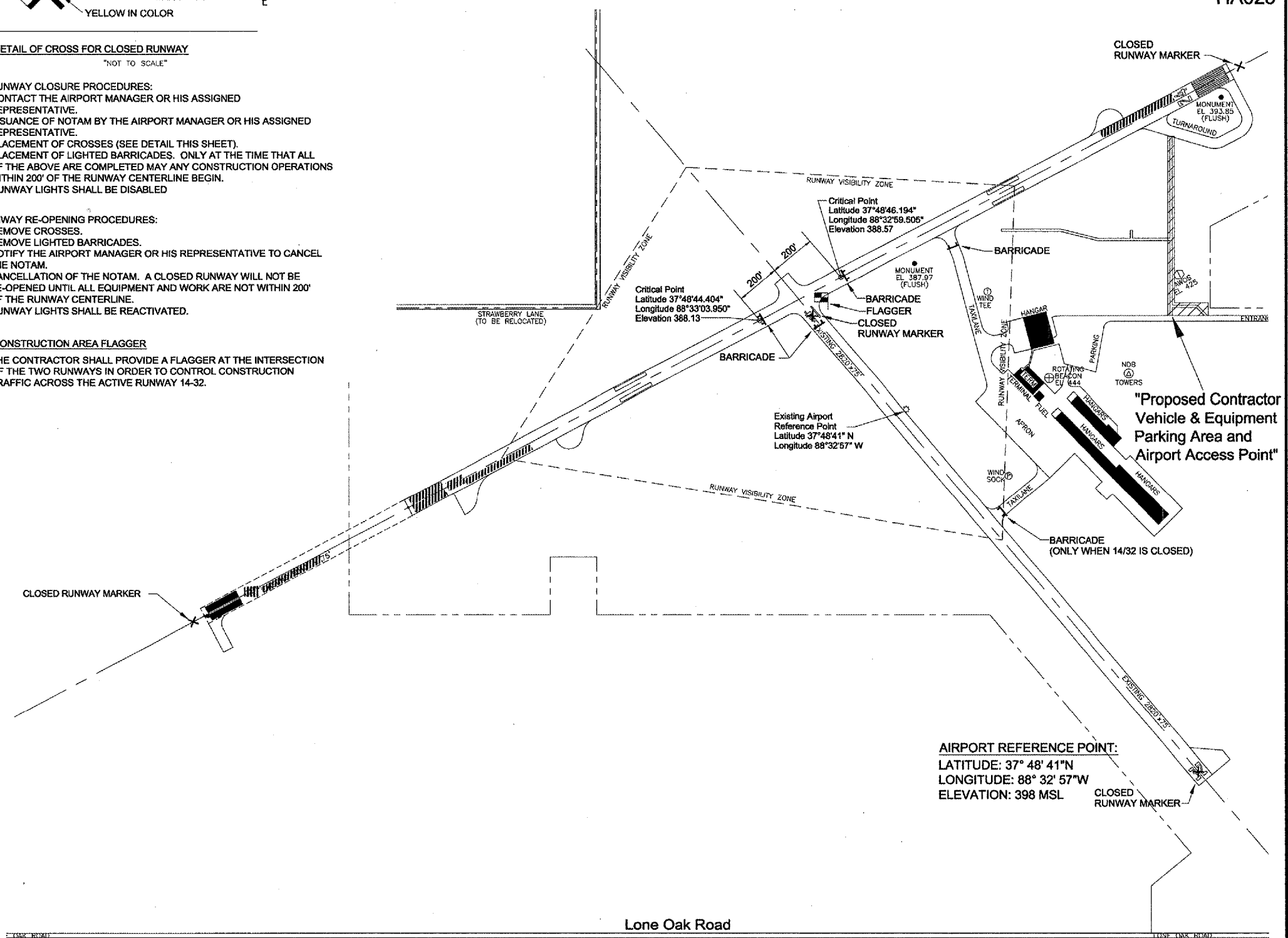
DETAIL OF CROSS FOR CLOSED RUNWAY
 "NOT TO SCALE"

- RUNWAY CLOSURE PROCEDURES:**
- CONTACT THE AIRPORT MANAGER OR HIS ASSIGNED REPRESENTATIVE.
 - ISSUANCE OF NOTAM BY THE AIRPORT MANAGER OR HIS ASSIGNED REPRESENTATIVE.
 - PLACEMENT OF CROSSES (SEE DETAIL THIS SHEET).
 - PLACEMENT OF LIGHTED BARRICADES. ONLY AT THE TIME THAT ALL OF THE ABOVE ARE COMPLETED MAY ANY CONSTRUCTION OPERATIONS WITHIN 200' OF THE RUNWAY CENTERLINE BEGIN.
 - RUNWAY LIGHTS SHALL BE DISABLED

- RUNWAY RE-OPENING PROCEDURES:**
- REMOVE CROSSES.
 - REMOVE LIGHTED BARRICADES.
 - NOTIFY THE AIRPORT MANAGER OR HIS REPRESENTATIVE TO CANCEL THE NOTAM.
 - CANCELLATION OF THE NOTAM. A CLOSED RUNWAY WILL NOT BE RE-OPENED UNTIL ALL EQUIPMENT AND WORK ARE NOT WITHIN 200' OF THE RUNWAY CENTERLINE.
 - RUNWAY LIGHTS SHALL BE REACTIVATED.

CONSTRUCTION AREA FLAGGER

THE CONTRACTOR SHALL PROVIDE A FLAGGER AT THE INTERSECTION OF THE TWO RUNWAYS IN ORDER TO CONTROL CONSTRUCTION TRAFFIC ACROSS THE ACTIVE RUNWAY 14-32.



AIRPORT REFERENCE POINT:
 LATITUDE: 37° 48' 41"N
 LONGITUDE: 88° 32' 57"W
 ELEVATION: 398 MSL

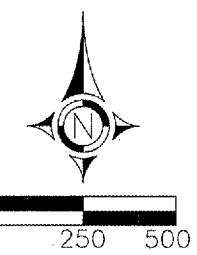
"Proposed Contractor Vehicle & Equipment Parking Area and Airport Access Point"

Lone Oak Road

To Illinois Route 34

NOTES: 1. THE PROJECT SCOPE CONSISTS OF OVERLAYING THE EXISTING RUNWAY 6/24, NEW MARKINGS AND OTHER NECESSARY AND RELATED WORK.

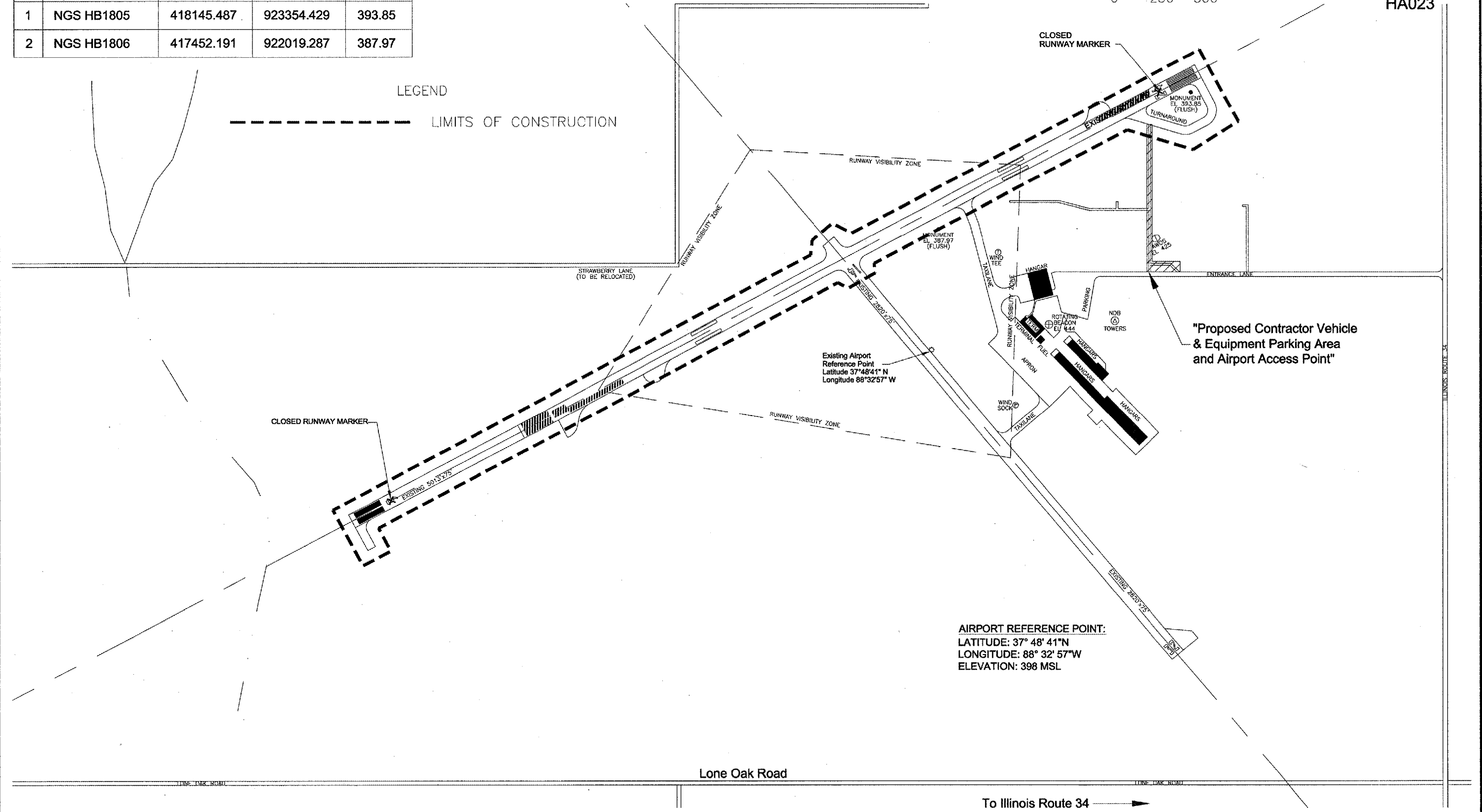
COORDINATE DATA				
NO	DESCRIPTION	NORTHING	EASTING	ELEV.
1	NGS HB1805	418145.487	923354.429	393.85
2	NGS HB1806	417452.191	922019.287	387.97



HARRISBURG-RALEIGH AIRPORT
 IL PROJECT NO. HSB-3605
 AIP NO. 3-17-0050-B8
 EXISTING SITE AND CONSTRUCTION PLAN
SHEET 4 OF 8




HA023

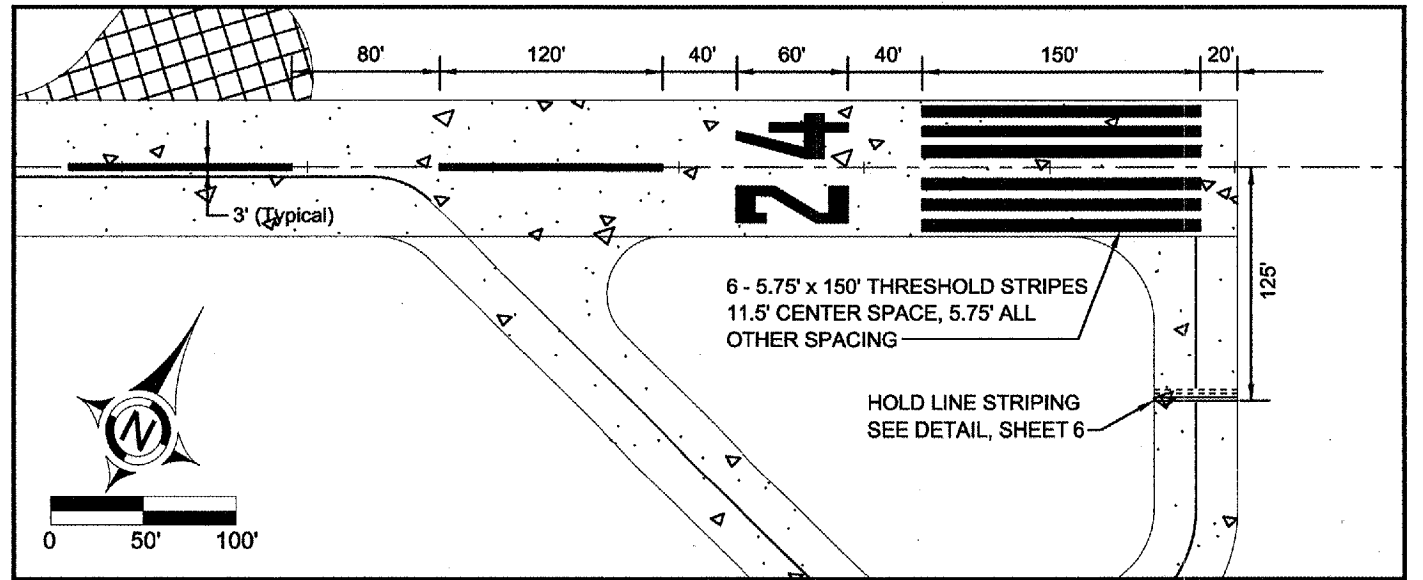
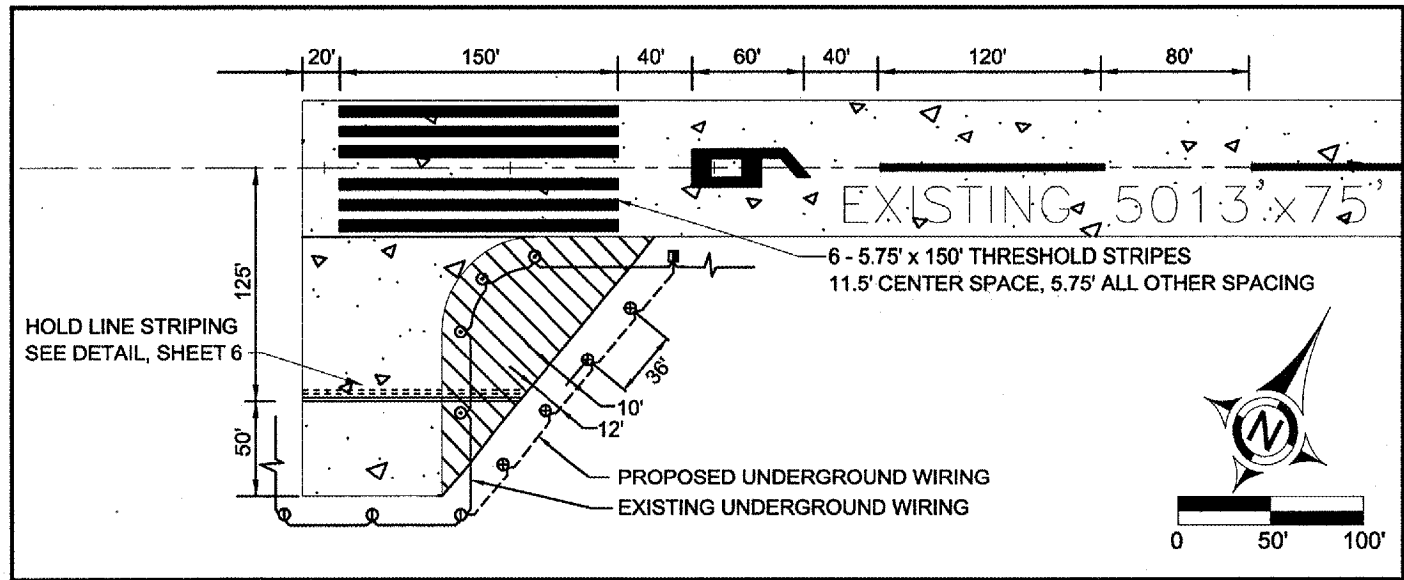
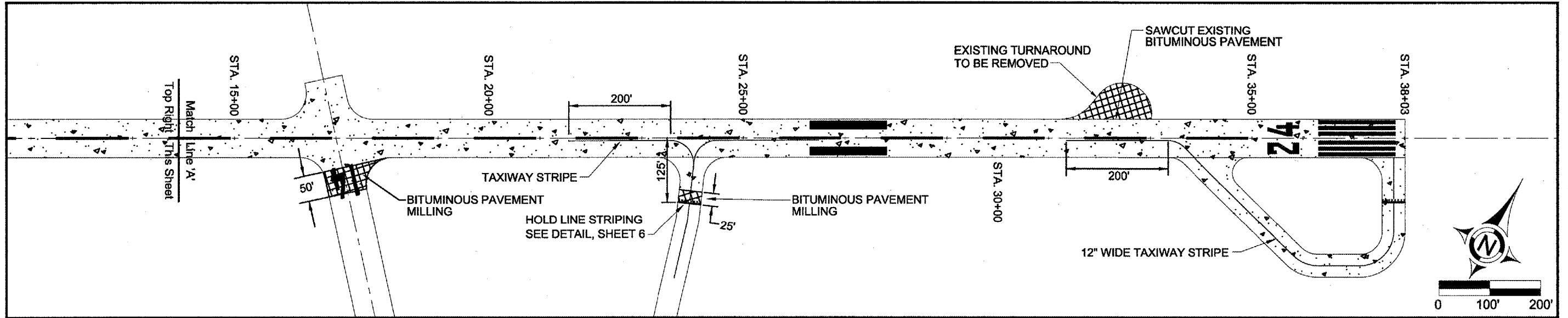
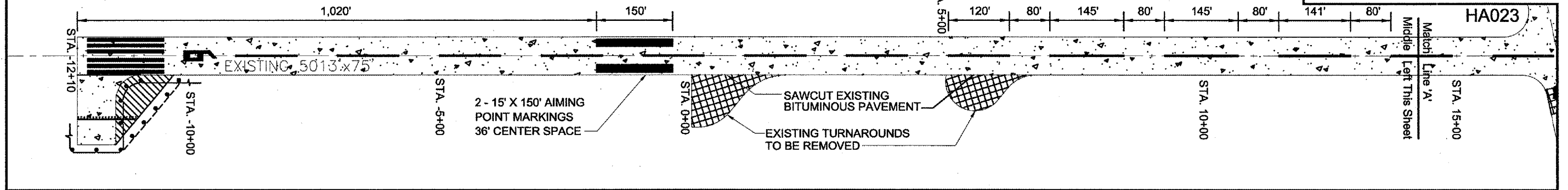
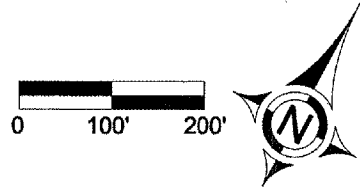
LEGEND
 - - - - - LIMITS OF CONSTRUCTION



Existing Airport Reference Point
 Latitude 37°48'41" N
 Longitude 88°32'57" W

AIRPORT REFERENCE POINT:
 LATITUDE: 37° 48' 41"N
 LONGITUDE: 88° 32' 57"W
 ELEVATION: 398 MSL

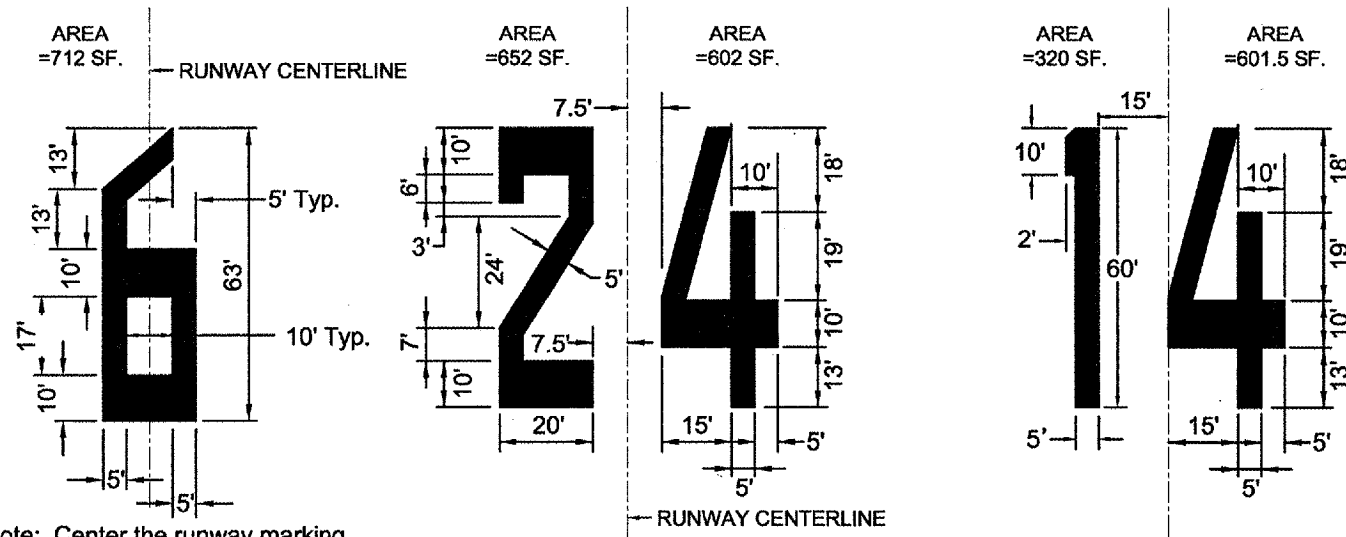
- LEGEND**
- ⊙ EXISTING STAKE MOUNTED MIRL TO REMAIN
 - EXISTING STAKE MTD MIRL TO REMAIN
 - ⊙ EXISTING STAKE MTD MITL TO BE RELOCATED
 - ⊕ PROPOSED NEW LOCATION STAKE MTD MITL
 -  PROPOSED POROUS FRICTION COURSE, 0.10' AND BITUMINOUS TACK COAT
 -  PROPOSED CRUSHED AGGREGATE BASE COURSE, BITUMINOUS PRIME COAT, BITUMINOUS BASE COURSE, BITUMINOUS TACK COAT, AND POROUS FRICTION COURSE, 0.10'
 -  PROPOSED BITUMINOUS PAVEMENT REMOVAL



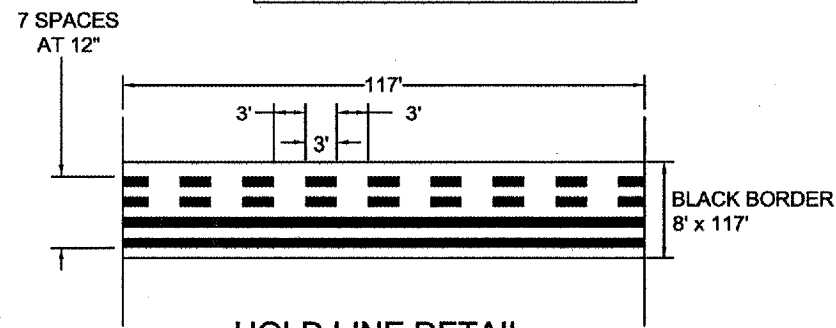
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MARKING SCHEDULE

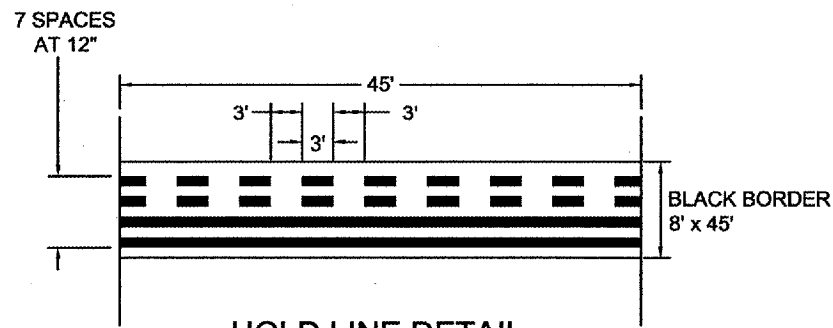
DESCRIPTION	UNIT AREA	NO. REQ'D	TOTAL
HOLD LINE RUNWAY 6	936	1	936
HOLD LINE RUNWAY 24	360	1	360
HOLD LINE TAXIWAY	360	1	360
TOTAL BLACK			1,656
NUMERAL 6	712	1	712
NUMERAL 2	652	1	652
NUMERAL 4	602	2	1,204
NUMERAL 1	320	1	320
CENTERLINE STRIPE 145' x 3'	435	2	870
CENTERLINE STRIPE 141' x 3'	423	1	423
CENTERLINE STRIPE 120' x 3'	360	19	6,840
15.00' x 150' STRIPE	2,250	4	9,000
5.75' x 150' STRIPE	863	12	10,356
TOTAL WHITE			30,377
HOLD LINE RUNWAY 6	354	1	354
HOLD LINE RUNWAY 24	135	1	135
HOLD LINE TAXIWAY	135	1	135
TAXIWAY CENTERLINE	768	1	768
24 TAXIWAY CENTERLINE	915	1	915
TOTAL YELLOW			2,307
TOTAL MARKING			34,340



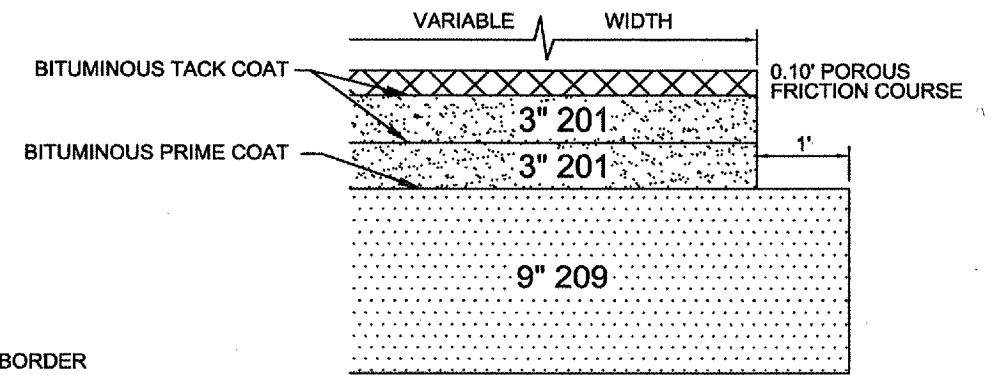
RUNWAY DESIGNATION MARKING DETAILS



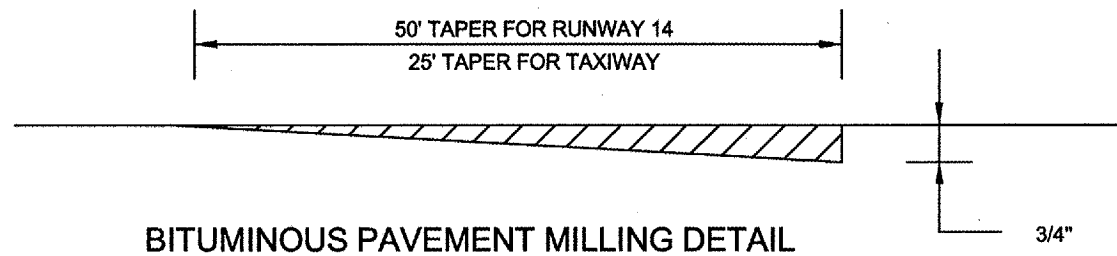
**HOLD LINE DETAIL
 RUNWAY 6 TURNAROUND**



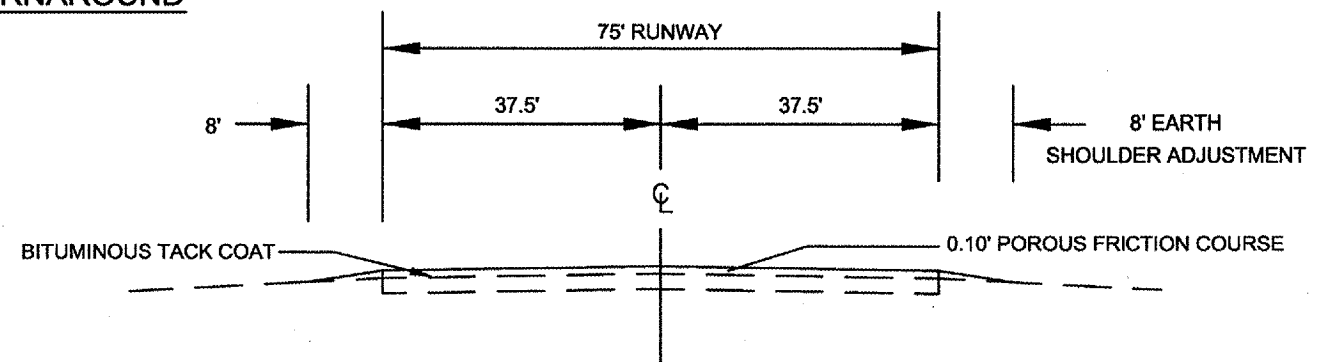
**HOLD LINE DETAIL
 RUNWAY 24 TURNAROUND
 TAXIWAY TURNAROUND**



RUNWAY 6 TURNAROUND WIDENING DETAIL



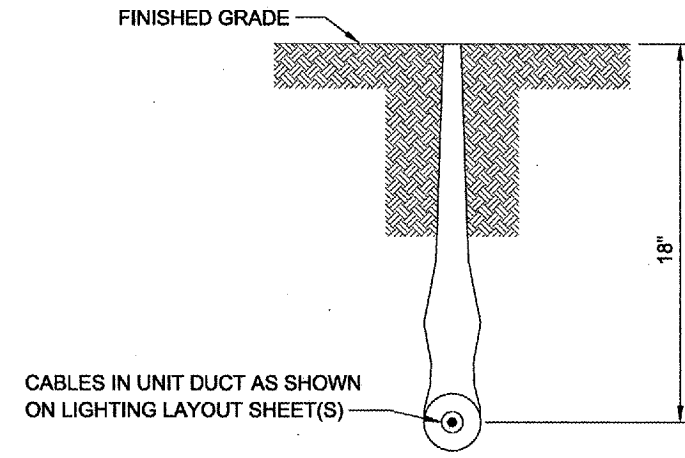
BITUMINOUS PAVEMENT MILLING DETAIL



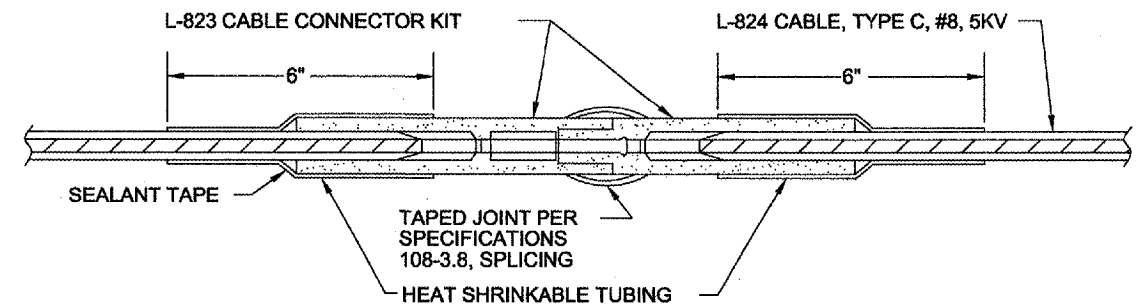
TYPICAL SECTION RUNWAY 6/24 - STATION 12+10 TO 38+03

CABLE SPLICING NOTES:

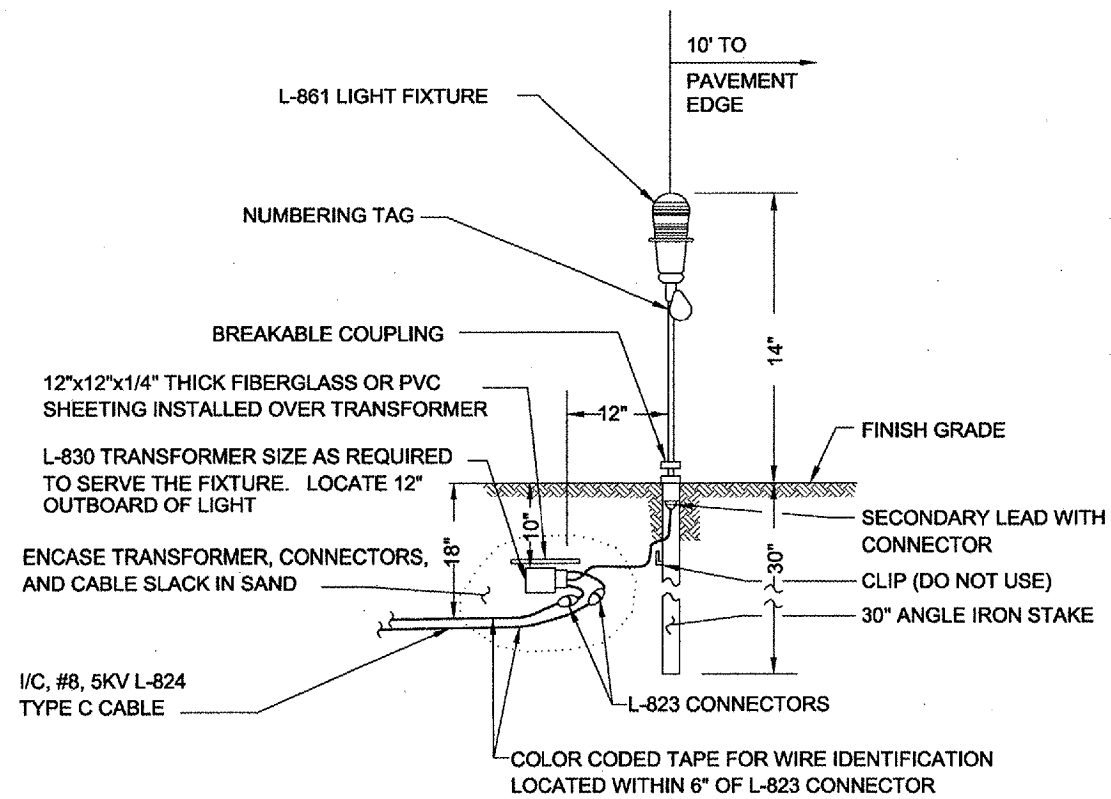
- HEAT-SHRINKABLE TUBING WILL NOT BE REQUIRED FOR ISOLATION TRANSFORMER PRIMARY CONNECTORS WHICH ARE MOLDED ON TO THE CABLE LEADS AT THE FACTORY.
- THE SEALANT TAPE AROUND THE CONNECTOR SHALL BE WATER INSOLUBLE, MAINTAINING ELASTICITY OVER A WIDE RANGE OF TEMPERATURE, AND SHALL BE RAYCHEM NO. S-1011 OR APPROVED EQUAL.
- HEAT-SHRINKABLE TUBING SHALL HAVE MINIMUM EXPANDED ID. OF 1.200", MAXIMUM RECOVERED ID. OF .300", MINIMUM EXPANDED WALL THICKNESS OF .04", NOMINAL RECOVERY WALL THICKNESS OF 0.17", A MASTIC WATER SEALANT COATING APPLIED ON THE INSIDE, AND SHALL BE RAYCHEM NO. WCS-300-6-S OR APPROVED EQUAL.
- MINIMUM LENGTH OF THE HEAT-SHRINKABLE TUBING SHALL BE 6".
- CLEAN THE CABLE INSULATION BEFORE APPLYING THE TUBING WITH A SOLVENT SPECIFIED BY THE TUBING MANUFACTURER.
- TO HEAT THE TUBING, USE PROPANE TORCH, OR ELECTRIC HEATER RECOMMENDED BY THE TUBING MANUFACTURER.
- BEGIN HEATING THE TUBING AT THE CENTER, GO COMPLETELY AROUND, THEN MOVE TOWARD THE ENDS.
- CONTINUE HEATING THE TUBING UNTIL IT SHRINKS COMPLETELY AND THE SEALANT IS BEING SQUEEZED OUT AT BOTH ENDS.
- IF THERE IS ANY NOTICEABLE HEAT DAMAGE TO THE CABLE OR THE TUBING, THE CONNECTION, INCLUDING THE DAMAGED PORTION, WILL BE REMOVED AND ANOTHER CONNECTION MADE.
- ALLOW THE CONNECTION TO COOL BEFORE HANDLING.
- INSTALL THE CONNECTIONS WITHOUT BENDING THEM.
- THE CONTRACTOR SHALL TRAIN THE AIRPORT MAINTENANCE PERSONNEL IN THE EMPLOYMENT OF CABLE CONNECTION WITH HEAT-SHRINKABLE TUBING. THE INSTRUCTION SHALL INCLUDE AT LEAST TWO ASSEMBLIES AND DISASSEMBLIES FOR SUCH CONNECTIONS.
- AFTER COMPLETION OF THE CONSTRUCTION, THE CONTRACTOR SHALL TRANSFER ONE OF THE HEATER UNITS TO THE AIRPORT MANAGER. IT SHALL BECOME THE PROPERTY OF THE AIRPORT.



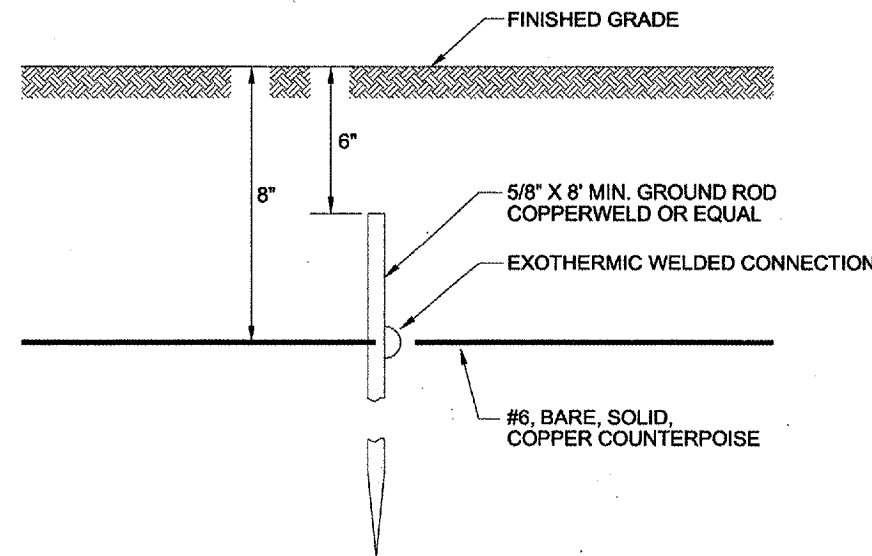
PLOWED CABLE
NO SCALE



DETAIL - CABLE SPLICING
NO SCALE



MEDIUM INTENSITY LIGHT - STAKE MOUNTED
NO SCALE



GROUND ROD
NO SCALE

SAFETY GROUND NOTES:

- A SAFETY GROUND MUST BE INSTALLED AT EACH RELOCATED FIXTURE.
- THE SAFETY GROUND MAY BE A #6 AWG BARE JUMPER CONNECTED TO THE GROUND LUG AT THE FIXTURE BASE OR STAKE TO A 5/8 INCH X 8 FOOT MINIMUM GROUND ROD INSTALLED BESIDE THE FIXTURE.
- THE COST OF ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO INSTALL GROUND RODS WITH ALL RELOCATED FIXTURES IS CONSIDERED INCIDENTAL TO THE COSTS OF RELOCATING THE LIGHT FIXTURES.

GENERAL ELECTRICAL NOTES:

1. THE ELECTRICAL INSTALLATION, AS A MINIMUM, SHALL MEET THE NATIONAL ELECTRIC CODE AND LOCAL REGULATIONS.
2. GROUND ALL NONCURRENT-CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT BY USING INSULATED COPPER WIRE TO BE RUN INSIDE CABINETS AND IN CONDUITS TOGETHER WITH OTHER WIRES.
4. RIGID STEEL CONDUIT SHALL BE USED THROUGHOUT THE INSTALLATION UNLESS OTHERWISE SPECIFIED.
5. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GALVANIZED.
6. USE INSULATED CONDUIT BUSHING AT EACH CONDUIT TERMINATION.
7. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
8. UNLESS OTHERWISE NOTED, ALL UNDERGROUND FIELD POWER MULTIPLE AND SERIES CIRCUIT CONDUCTORS SHALL BE FAA APPROVED L-824, TYPE, INSULATION VOLTAGE AND SIZE SHALL BE AS SPECIFIED.
9. THE JOINT OF THE PRIMARY L-823 PRIMARY CONNECTORS SHALL BE WRAPPED WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE. ONE-HALF LAPPED. EXTENDING AT LEAST 1/2 INCHES ON EACH SIDE OF THE JOINT. HEAT-SHRINK TUBING SHALL BE APPLIED WHERE CABLE ENTERS BACK OF CONNECTOR. SEE DETAIL DRAWING.
10. THE ID OF THE PRIMARY L-823 FIELD ATTACHED CONNECTORS SHALL MATCH THE CABLE OD TO PROVIDE A WATERTIGHT CABLE ENTRANCE.
11. ALL POWER AND CONTROL CIRCUIT CONDUCTORS SHALL BE COPPER. ALUMINUM SHALL NOT BE ACCEPTED. THIS INCLUDES WIRE, CABLE, BUSSES, TERMINALS, SWITCH/PANEL COMPONENTS, ETC.
12. THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM (INCLUDING FAA APPROVED EQUIPMENT) ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OF DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.
13. IN CASE THE CONTRACTOR SELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTERS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATIONS, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.
14. THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL COST, BY EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.
15. CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND CIRCUITS, GAS OR WATER LINES WITH A PORTABLE CABLE OR PIPE LOCATOR WHERE POSSIBLE TO AVOID DAMAGE TO EXISTING UTILITIES TO BE RETAINED. EXCAVATING REQUIRED IN CONGESTED AREAS CONTAINING OTHER UTILITIES SHALL BE DONE BY HAND. ANY SUCH WIRING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY AFTER DISCOVERY AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. ALL UNDERGROUND SPLICES SHALL BE INSPECTED BY THE ENGINEER PRIOR TO BACKFILLING TRENCHES.
16. SHOP DRAWINGS SHALL BE REQUIRED FOR ALL PROPOSED LIGHTING EQUIPMENT INCLUDING CABLE, RUNWAY & TAXI WAY EDGE LIGHTS, CABLE CONNECTIONS, ISOLATION TRANSFORMERS, AND L-867 BASES.

HARRISBURG-RALEIGH AIRPORT

IL PROJECT NO. HSB-3605

AIP NO. 3-17-0050-B8

ELECTRICAL DETAILS

SHEET 8 OF 8

HA023