ED017 TOTAL SHEETS - 137

FOR

EDGAR COUNTY AIRPORT

CONSTRUCTION PLANS

PARIS, EDGAR COUNTY, ILLINOIS **CONSTRUCT CROSSWIND RUNWAY 18-36**

THIS PROJECT SHALL CONSIST OF THE CONSTRUCTION OF A 3,200' X 75' CHARLES A. RUNWAY 18-36. ASSOCIATED WORK INCLUDES; INSTALLATION OF ELECTRICAL VAULT, LIGHTING, DRAINAGE, PAVEMENT MARVING CLEARING & GRUBBING SECONDAL CONSTRUCTION OF A 3,200' X 75' CHARLES A. CLEARING & GRUBBING, SEEDING AND MULCHING.





CIVIL ENGINEER

Date Submitted 03/10/11

Lics. Exp. Date 1//30///

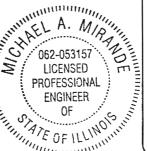




HANSON

ELECTRICAL ENGINEER

Lics. Exp. Date 11/30/2011



MARMSTRONG.

ELECTRICAL ENGINEER

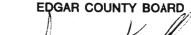
Date Submitted 03/16/11

Lics. Exp. Date 11/30 / 1

LOCATION

ILL. PROJ.: A.I.P. PROJ.: PRG-4018 3-17-0077-B13 39° 42' 00.6" LATITUDE: 87° 40' 14.4" LONGITUDE:

654.0' M.S.L. **ELEVATION:** DATE: MARCH 10, 2011



LOCATION OF COUNTY

EDGAR COUNTY AIRPORT PARIS, ILLINOIS

130

131

1.32

133

134

135

136

1.37

CROSS-SECTIONS FOR TAXIWAY B STA. 411+00

CROSS-SECTIONS FOR TAXIWAY B STA. 411+50

CROSS-SECTIONS FOR TAXIWAY B STA. 412+00

CROSS-SECTIONS FOR TAXIWAY B STA. 412+50

CROSS-SECTIONS FOR NORTH TURNAROUND STA. 11+00 TO STA. 11+18

CROSS-SECTIONS FOR NORTH TURNAROUND STA. 11+50 TO STA. 12+00

CROSS-SECTIONS FOR NORTH TURNAROUND STA. 12+25 TO STA. 12+50

CROSS SECTIONS FOR NORTH TURNAROUND STA. 13+00 TO STA. 13+62

CONSTRUCT CROSSWIND RUNWAY 18-36

INDEX TO SHEET

2 f 137 sheets

62

64

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PROPOSED PLASI RUNWAY END 36 AND RUNWAY END 18

PROPOSED MARKING PLAN STA, 98+50 TO STA, 113+00

PROPOSED MARKING PLAN STA. 113+00 TO STA. 123+50

PROPOSED MARKING PLAN STA. 123+50 TO STA. 134+00

RUNWAY 9-27 PLASI WIRING DETAILS AND NOTES

TAXIWAY B AND TURNAROUND EARTHWORK

N-S RUNWAY EARTHWORK

ITEM NO	DESCRIPTION	UNIT	TOTAL	AS BUILT
ITEM NO.			QUANTITIES	QUANTITIE
AR108084	1/C #4 XLP-USE	L.F.	2,800	
AR108086	1/C #6 XLP-USE	L.F.	2,520 1,872	
AR108108 AR108158	1/C #8 5 KV UG CABLE 1/C #8 5KV UG CABLE IN UD	L.F.	11,162	
AR108554	2/C #4 600V UG CABLE IN UD	L.F.	302	
AR108654	3/C #4 600V UG CABLE IN UD	L.F.	3,381	
AR108656	3/C #6 600V UG CABLE IN UD	L.F.	2,041	
AR108812	12 PAIR CONTROL CABLE	L.F.	900	
AR109110	ERECT PREFABRICATED VAULT	L.S.	1	
AR109200	INSTALL ELECTRICAL EQUIPMENT	L.S.	1	
AR109901	REMOVE ELECTRICAL VAULT	L.S.	1	
AR110014	4" DIRECTIONAL BORE	L.F.	517	
AR110502	2-WAY CONCRETE ENCASED DUCT	L.F.	430	
AR110504	4-WAY CONCRETE ENCASED DUCT	L.F.	682	
AR110610	ELECTRICAL HANDHOLE	EACH	6	
AR110710	ELECTRICAL MANHOLE	EACH	6	
AR125410	MITL-STAKE MOUNTED	EACH	30	
AR125442	TAXI GUIDANCE SIGN, 2 CHARACTER	EACH	2	
AR125444 AR125445	TAXI GUIDANCE SIGN, 4 CHARACTER TAXI GUIDANCE SIGN, 5 CHARACTER	EACH EACH	2 4	
AR125445 AR125446	TAXI GUIDANCE SIGN, 5 CHARACTER TAXI GUIDANCE SIGN, 6 CHARACTER	EACH EACH	2	
AR125505	MIRL, STAKE MOUNTED	EACH	24	
AR125510	MIRL, BASE MOUNTED	EACH	8	
AR125540	MI THRESHOLD LIGHT STAKE MTD	EACH	16	
AR125565	SPLICE CAN	EACH	6	
AR125630	PLASI	EACH	2	
AR125961	RELOCATE STAKE MOUNTED LIGHT	EACH	2	
AR125989	REFURBISH PLASI	EACH	2	
AR150510	ENGINEER'S FIELD OFFICE	L.S.	1	
AR150530	TRAFFIC MAINTENANCE	L.S.	1	
AR150540	HAUL ROUTE	L.S.	1	
AR151450	CLEARING AND GRUBBING	ACRE	27.3	
AR152410	UNCLASSIFIED EXCAVATION	C.Y.	29,797	
AR155540	BY-PRODUCT LIME	TON	1,120	
AR155616	SOIL PROCESSING - 16"	S.Y.	31,115	
AR156510	SILT FENCE	L.F.	2,625	
AR156511	DITCH CHECK	EACH	14	
AR156521	HEADWALL PROTECTION	EACH	6	
AR156530	TEMPORARY SEEDING	ACRE	43.7	
AR156531 AR156544	EROSION CONTROL BLANKET RIPRAP – GRADATION NO. 4	S.Y.	12,241	
AR162900	REMOVE CLASS E FENCE	S.Y.	911 79	
AR209510	CRUSHED AGGREGATE BASE COURSE	TON	10,884	
AR401614	BIT. SURF. CSE. – METHOD II, SUPERPAVE	TON	2.958	
AR401630	BITUMINOUS SURFACE TEST SECTION	EACH	1	
AR401650	BITUMINOUS PAVEMENT MILLING	S.Y.	2,272	
AR401910	REMOVE & REPLACE BIT. PAVEMENT	S.Y.	367	
AR403614	BIT. BASE CSE. — METHOD II, SUPERPAVE	TON	4,904	
AR403630	BITUMINOUS BASE TEST SECTION	EACH	1	
AR602510	BITUMINOUS PRIME COAT	GAL.	10,884	
AR603510	BITUMINOUS TACK COAT	GAL.	5,609	
AR620520	PAVEMENT MARKING - WATERBORNE	S.F.	20,734	
AR620525	PAVEMENT MARKING - BLACK BORDER	S.F.	7,688	
AR701004	4" PVC STORM SEWER	L.F.	100	
AR701008	8" PVC STORM SEWER	L.F.	100	
AR701010	10" PVC STORM SEWER	L.F.	100	
AR701515	15" RCP, CLASS IV	L.F.	235	
AR701530	30" RCP. CLASS IV	L.F.	188	
AR701536	36" RCP, CLASS IV	L.F.	186	1
AR701542 AR705410	42" RCP, CLASS IV POROUS BACKFILL	L.F. C.Y.	552 370	
AR705410 AR705526	6" PERFORATED UNDERDRAIN W/ SOCK	L.F.	7,198	1
AR705630	UNDERDRAIN INSPECTION HOLE	EACH	24	
AR705900	REMOVE UNDERDRAIN	L.F.	1,009	
AR705903	REMOVE UNDERDRAIN INSP. HOLE	EACH	4	
AR752415	PRECAST REINFORCED CONCRETE FES 15"	EACH	4	
AR752413	PRECAST REINFORCED CONCRETE FES 30"	EACH	1	
AR752442	PRECAST REINFORCED CONCRETE FES 42"	EACH	1	
AR752630	CONCRETE HEADWALL 30"	EACH	1	
AR752636	CONCRETE HEADWALL 36"	EACH	2	
AR752642	CONCRETE HEADWALL 42"	EACH	1	
AR800543	FIELD TILE REPAIR	EACH	5	
AR901510	SEEDING	ACRE	43.7	
	MULCHING	ACRE	43.7	

SUMMARY OF QUANTITIES ADDITIVE ALTERNATE NO. 1								
	ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITIES	AS BUILT QUANTITIES			
	AS101580	REFURBISH 36" BEACON	L.S.	1				
	AS800591	UPGRADE AIRPORT ROTATING BEACON	L.S.	1				

SUMMARY OF QUANTITIES ADDITIVE ALTERNATE NO. 2							
ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITIES	AS BUILT QUANTITIES			
AT107712	L-807 WIND CONE - 12' LIGHTED	EACH	1				
AT108656	3/C #6 600V UG CABLE IN UD	L.F.	250				

ED017

DATE REVISION

SION

EDGAR COUNTY AIRPORT PARIS, ILLINOIS

son Proj. No. 10A0053

one R-002FLP.DWG

one NTO TO SCALE

i. 03/10/11

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Hanson Professional Services Inc. 1525 South Sixth Street
Springfield, Illinois 62703-2886
www.hanson-inc.com
Offices Nationwide

CONSTRUCT CROSSWIND RUNWAY 18-36

3 of 137 sheets

SUMMARY OF QUANTITIES

UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FÉDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER, CONTROL, AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND/OR LOCATED BY THE FAA. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.

HAUL ROUTE AND VEHICLE PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTES AND PARKING AREAS AS SHOWN ON THIS SHEET. THE PROPOSED PARKING AREAS WILL BE AS SHOWN. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTES AND PARKING AREAS THROUGHOUT THE COURSE OF THE PROJECT. ANY AREAS DAMAGED OUTSIDE OF THESE AREAS WILL BE REPAIRED BY THE CONTRACTOR AND AT THE CONTRACTOR'S OWN EXPENSE. AT THE CONCLUSION OF THE PROJECT THE CONTRACTOR WILL GRADE, FERTILIZE, SEED AND MULCH THE HAUL ROUTES AND PARKING AREAS AS NEEDED TO RESTORE IT TO ITS' ORIGINAL STATE. RESTORATION OF THE PRIMARY HAUL ROUTE AND EQUIPMEN STORAGE AREA WILL CONSIDERED PART OF THE "HAUL ROUTE" PAY ITEM. RESTORATION OF THE SECONDARY HAUL ROUTE AND PARKING AREA WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

CONTRACTOR RESPONSIBILITIES

THE CONTRACTOR'S EQUIPMENT PARKING AND STORAGE AREAS WILL BE AS SHOWN ON THIS SHEET. THE CONTRACTOR'S EMPLOYEES WILL PARK THEIR VEHICLES IN THIS AREA. ONLY CONTRACTOR VEHICLES WILL BE ALLOWED OUTSIDE THIS AREA.

THE CONTRACTOR AND HIS EMPLOYEES WILL BE RESTRICTED TO THE WORK AREA AN ALL OTHER AREAS OF THE AIRPORT ARE "OFF LIMITS" TO THEM.

THE CONTRACTOR SHALL KEEP THE RUNWAY OPEN AS MUCH AS POSSIBLE AND MAINTAIN CONTINUOUS TAXIWAY ACCESS TO ALL HANGARS AND FUEL FACILITY.

ALL WORK PERFORMED SHALL BE DONE IN A ORDERLY AND EFFECTIVE MANNER TO MINIMIZE RUNWAY CLOSURE, SEE STAGING PLAN FOR SEQUENCING

NO TRENCHES OR HOLES WILL REMAIN OPEN WITHIN THE AIRCRAFT OPERATION LINE WHILE EAST-WEST RUNWAY IS OPEN.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5370-2E "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION."

BARRICADES AND TRAFFIC CONES

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS DIRECTED BY THE AIRPORT MANAGER THE BARRICADES WILL BE EQUIPPED WITH RED FLASHING OR RED STEADY-BURN LIGHTS AND 20" SQUARE ORANGE FLAGS. THE BARRICADES, THEIR MAINTENANCE, PLACEMENT AND REMOVAL WILL BE CONSIDERED AS PART OF THE "TRAFFIC MAINTENANCE" PAY ITEM AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED

PROPOSED HAUL ROUTE AND EQUIPMENT PARKING AREA

LEGEND

EXISTING IMPROVEMENTS PROPOSED IMPROVEMENTS

EXISTING BUILDINGS

PROPOSED BENCHMARK

PROPOSED BARRICADES

SCOPE OF WORK

THIS PROJECT SHALL CONSIST OF THE CONSTRUCTION OF A 3,200' X 75' RUNWAY 18-36 ASSOCIATED WORK INCLUDES: INSTALLATION OF AN ELECTRICAL VALUET LIGHTING, DRAINAGE, PAVEMENT MARKING, CLEARING & GRUBBING, SEEDING, AND

AIRPORT SECURITY NOTE

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR WILL CLOSE THE EXISTING GATE ON THE SECONDARY HAUL ROUTE AT THE END OF EACH WORKING DAY. THE CONTRACTOR WILL PROVIDE A CABLE AND 2 POSTS OR OTHER APPROVED METHOD TO PREVENT READY ACCESS TO THE HAUL ROUTE AND AIRFIELD PAVEMENTS.

HEIGHT OF CONSTRUCTION EQUIPMENT

PROPOSED

125' X 125' FLECTRICAL EQUIPMENT STORAGE AND

SECONDARY HAUL ROUTE

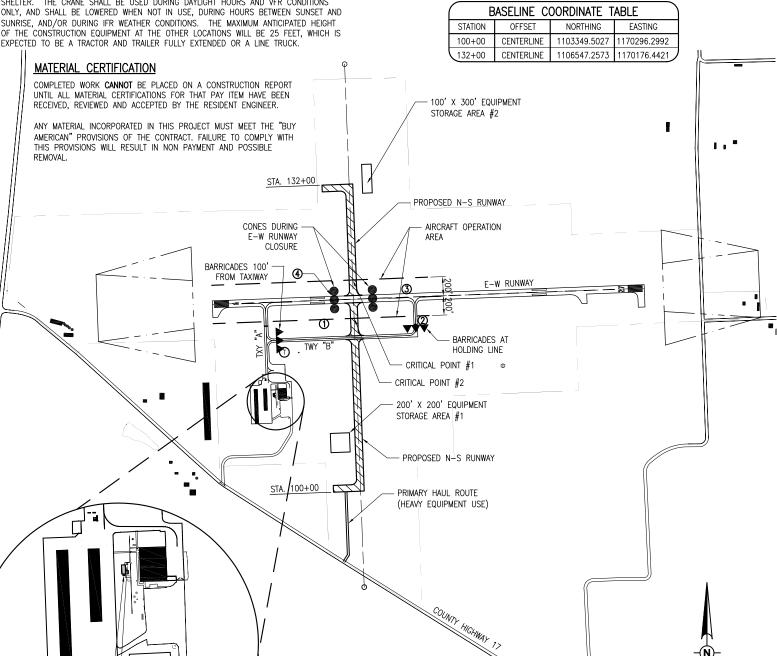
(ELECTRICAL USE)

ELECTRICAL VAULT

EXISTING AIRPORT

ROTATING BEACON

THE MAXIMUM HEIGHT OF THE CONSTRUCTION EQUIPMENT WILL BE 70 FEET WHICH IS EXPECTED TO BE A CRANE TO REPLACE THE BEACON AND/OR TO SET THE VALUET SHELTER. THE CRANE SHALL BE USED DURING DAYLIGHT HOURS AND VFR CONDITIONS ONLY, AND SHALL BE LOWERED WHEN NOT IN USE, DURING HOURS BETWEEN SUNSET AND SUNRISE, AND/OR DURING IFR WEATHER CONDITIONS. THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT AT THE OTHER LOCATIONS WILL BE 25 FEET, WHICH IS



CERTIFIED PAYROLLS

THE RESIDENT ENGINEER CANNOT FORWARD CONSTRUCTION REPORTS

TO THE ILLINOIS DIVISION OF AERONAUTICS FOR PROCESSING UNTIL

ALL CERTIFIED PAYROLLS FOR THE PERIOD HAVE BEEN RECEIVED.

BENCHMARK DATA ELEV. CHISLED SQUARE IN CENTER OF CONCRETE HEADWALL OF 24" RCCP CROSSING RWY 647.61 LOCATED ON THE SOUTH SIDE OF RUNWAY, NEAR MIDPOINT OF THE TAXIWAY. CHISLED SQUARE IN CENTER OF EAST CONCRETE HEADWALL OF 18" RCCP CROSSING 646 69 THE TAXIWAY, LOCATED AT THE EAST END OF TAXIWAY NEAR HOLDING LINE. CHISLED SQUARE IN CENTER OF NORTH SIDE OF CONCRETE BASE MOUNTED RUNWAY LIGHT, TAG RI-35. FIRST LIGHT WEST OF THE EAST END OF RWY/TWY INTERSECTION. CHISLED SQUARE IN CENTER OF NORTH SIDE OF CONCRETE BASE MOUNTED RUNWAY

LIGHT, TAG RI-39. NORTH SIDE OF RUNWAY, ± 1300 EAST OF WEST END OF RUNWAY.

ED017 -YELLOW IN COLOR

DETAIL OF CROSS FOR CLOSED RUNWAY

"NOT TO SCALE"

NOTE:

COST OF CONSTRUCTING PLACING MAINTAINING AND REMOVING CROSSES WILL BE CONSIDERED PART OF THE "TRAFFIC MAINTENANCE" PAY ITEM 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 AIRPORT MANAGER. THE CROSSES WILL BE PLACED OVER THE NUMERALS OR OFF THE END OF THE PROPOSED RUNWAY AND SECURED IN A MANNER APPROVED BY THE MANAGER. THE PROPOSED CROSSES WILL BE PLACED EACH DAY 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. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

J.U.L.I.E. INFORMATION CRITICAL POINT #1 DATA COUNTY FDGAR LATITUDE: 39* 42' 02.32"

PARIS TOWNSHIP FDGAR SECTION NO.__ _5 & 6 _EDGAR COUNTY AIRPORT CRITICAL POINT #2 DATA R.R. #6, BOX 175A

LATITUDE: 39° 41' 58.37" PARIS, ILLINOIS 61944 LONGITUDE: 87° 40' 20.58" ELEVATION: 648.35 M.S.L.

LONGITUDE: 87° 40' 20.73"

ELEVATION: 647.41 M.S.L.

PROPOSED SAFETY PLAN

GENERAL - THE EDGAR COUNTY AIRPORT IS COMPRISED OF ONE RUNWAY. THE PROPOSED CONSTRUCTION WILL NECESSITATE CLOSING THE RUNWAY. ANY TIME THE CONTRACTOR IS WORKING WITHIN 200' OF THE RUNWAY CENTERLINE THE RUNWAY WILL BE CLOSED. TAXIWAY "B" WILL BE CLOSED THROUGHOUT MOST OF THE PROJECT AND BARRICADED AS SHOWN. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO TURN OFF AND TAG THE E-W RUNWAY LIGHTING CIRCUIT. THE CONTRACTOR WILL PROVIDE AND INSTALL CROSSES OFF EACH END OF THE PROPOSED N-S RUNWAY ONCE THE AREA BEGINS TO LOOK LIKE A RUNWAY. CROSSES WILL BE IN PLACE AFTER THE LIMING OPERATION. ALL WORK INCLUDED IN OPENING AND CLOSING THE RUNWAY WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED

IDENTIFICATION - WHEN THE CONTRACTORS VEHICLES AND EQUIPMENT ARE ON THE AIRPORT THEY SHALL BE PROPERLY MARKED WITH THREE (3') FOOT SQUARE CHECKERED FLAGS (INTERNATIONAL ORANGE AND WHITE). THE CRANE SHALL BE MARKED WITH A FLAG AS DESCRIBED ABOVE. THE CONTRACTOR WILL ALSO PROVIDE WORKERS WITH SOME TYPE OF TAG OR GARMENT TO IDENTIFY THE PERSON AS BEING PART OF THE CONSTRUCTION

RADIO CONTROL - THE CONTRACTOR WILL BE REQUIRED TO BE IN TWO-WAY RADIO CONTACT (123.00 MHz.) WITH THE AIRPORT UNICOM. THIS WILL KEEF THE CONTRACTOR IN CONSTANT CONTACT WITH THE EDGAR COUNTY AIRPORT AND ENABLE THE AIRPORT TO IMMEDIATELY CONTACT THE CONTRACTOR IN CASE OF AN AERONAUTIC EMERGENCY THAT WOULD REQUIRE ACTION BY THE CONTRACTOR AND/OR HIS PERSONNEL.

150-ENGINEER'S FIELD OFFICE NOTES

THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE FURNISHED, MAINTAINED, AND REMOVED IN ACCORDANCE WITH ITEM AR150510 "ENGINEER'S FIELD OFFICE" AS STATED ON PAGE 49 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS NOV. 2, 2009.

THE LOCATION OF THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE DETERMINED AT THE PRE-CONSTRUCTION MEETING.

THE ENGINEERING FIRM WILL MAKE PAYMENT FOR ALL LONG DISTANCE TELEPHONE CALLS IN EXCESS OF ONE HUNDRED DOLLARS (\$100.00) PER

THE CONTRACTOR WILL FURNISH A WIRELESS PHONE TO THE RESIDENT ENGINEER FOR HIS EXCLUSIVE USE FOR THE DURATION OF THIS PROJECT. THE RESIDENT ENGINEER WILL USE THIS PHONE FOR PROJECT BUSINESS ONLY. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL CHARGES ASSOCIATED WITH THIS CELL PHONE

THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE PAID FOR UNDER ITEMS: AR150510 ENGINEER'S FIELD OFFICE ____ 1 L.S.

EROSION CONTROL

250' 500'

HALF SIZE SCALE: 1"= 1000'

FULL SIZE SCALE: 1"= 500

THIS PROJECT WILL DISTURB MORE THAN 1 ACRE OF LAND, THEREFORE A N.P.D.E.S. PERMIT WILL BE REQUIRED.

AIRCRAFT OPERATION LINE

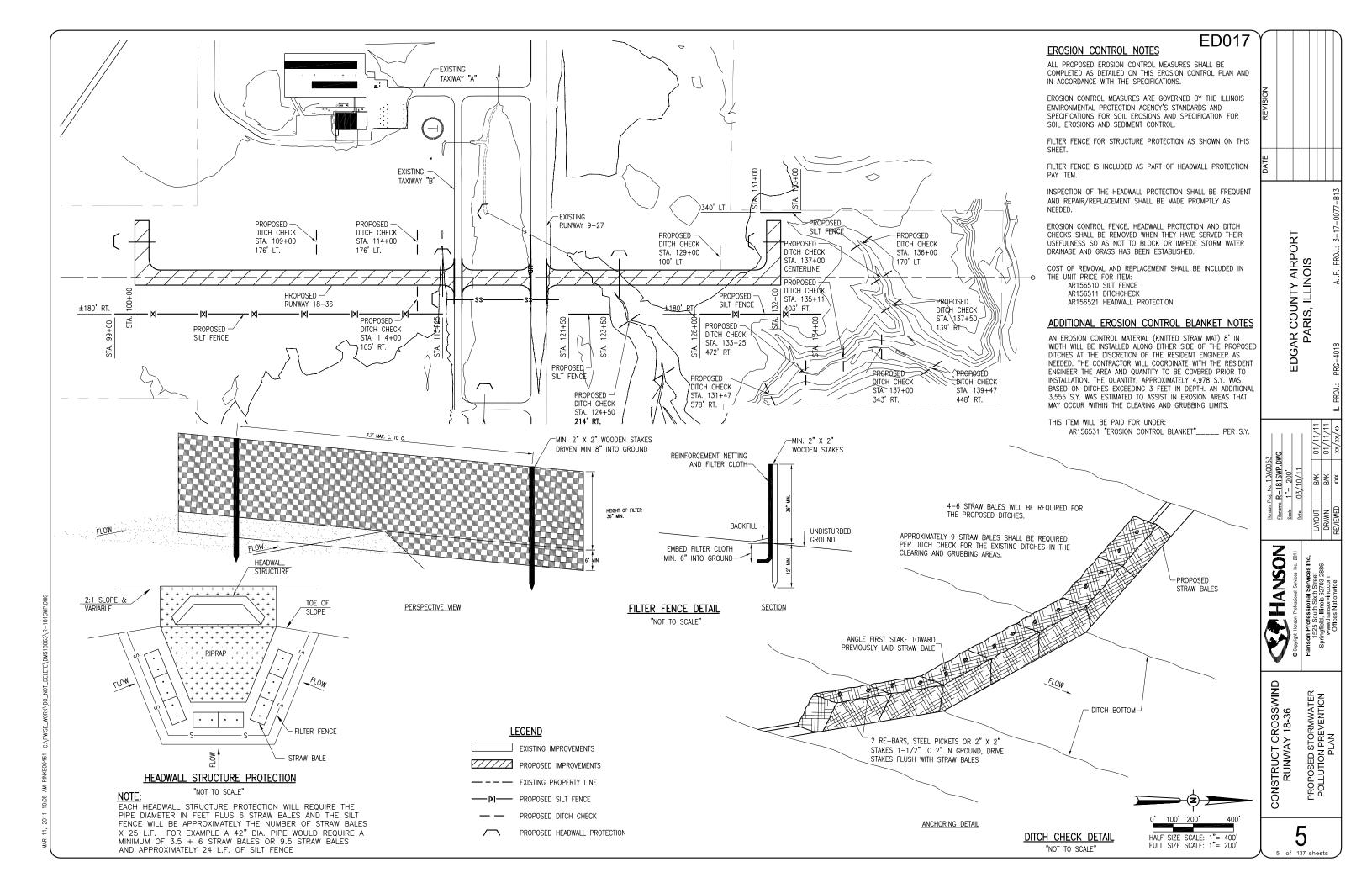
THE CONTRACTOR WILL LOCATE THIS LINE AT THE START OF CONSTRUCTION AND WILL PLACE FLAGGED LATHE EVERY 150' ALONG IT. THIS LINE WILL BE THE LIMITS THAT ALL CONTRACTOR PERSONNEL MAY VENTURE WHEN A RUNWAY IS NOT CLOSED. THE CONTRACTOR WILL MAINTAIN THE LATHE LINE

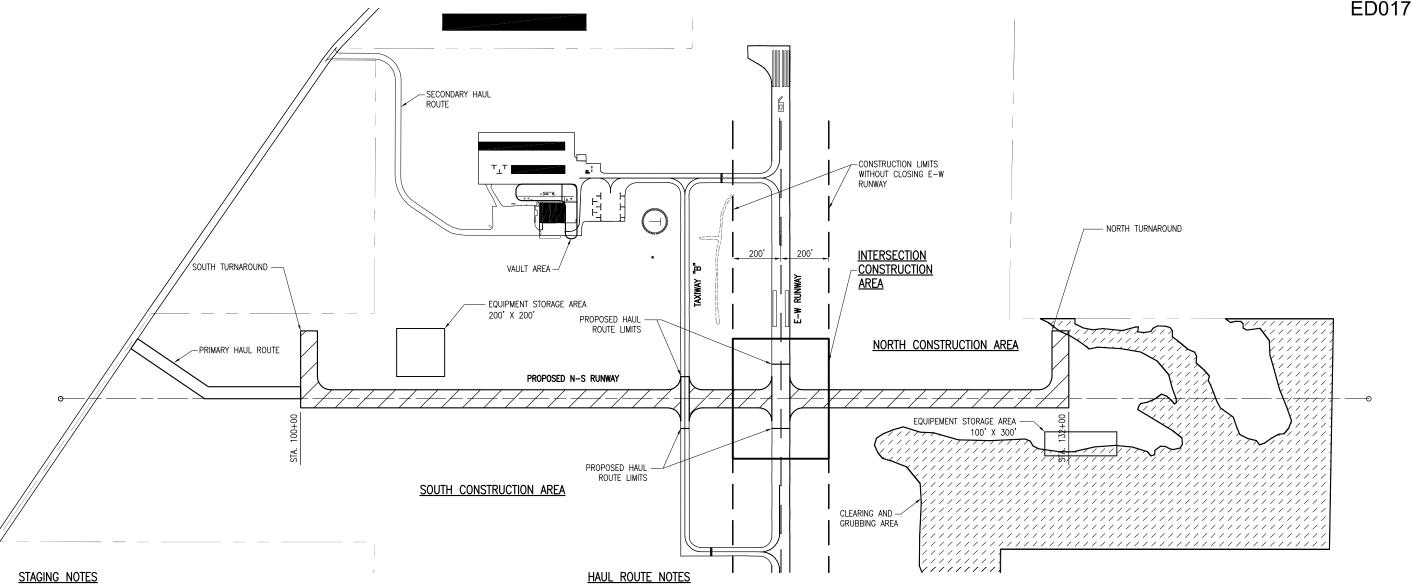
COUNTY AIRPOARIS, ILLINOIS GAR (

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STRUCT CR RUNWAY 1





THE INTENT OF THIS STAGING OR SEQUENCING PLAN IS TO ACT AS A PROCEDURAL GUIDE TO ACCOMPLISH THE WORK IN A TIMELY MATTER WHILE KEPING THE E-W RUNWAY OPEN AND HENCE THE AIRPORT OPEN AS MUCH AS POSSIBLE. EVERY EFFORT SHOULD BE MADE TO KEEP THE E-W RUNWAY OPEN FOR OPERATIONS.

ELECTRICAL VAULT WORK AND CABLING/DUCTING OUT TO THE PROPOSED N-S RUNWAY CAN BE DONE WHILE THESE OTHER STAGES ARE OCCURRING. CLEARING AND GRUBBING CAN BE DONE WITHIN PERMITTED MONTHS OF THE YEAR ANY TIME PRIOR TO THE SEEDING OPERATION.

- 1. MOBILIZE, PLACE EROSION CONTROL, DELIVER MATERIALS, BEGIN STRIPPING TOPSOIL IN PAVEMENT AREAS.
- 2. CLOSE E-W RUNWAY AND TAXIWAY "B", SAWING AND REMOVING PAVEMENT FOR 42" PIPE CROSSING, BEGIN INSTALLING 30" OR 42" PIPE, BEGIN EARTHWORK IN NORTH CONSTRUCTION AREA. E-W RUNWAY MAY BE CLOSED DURING THIS WEEKEND.
- 3. FINISH INSTALLING 42" PIPE, REPLACE BITUMINOUS PAVEMENT, CUTTING DITCHES AND PLACING EARTH FILLS IN NORTH CONSTRUCTION AREA. REMOVE EDGEDRAIN, INSTALL ELECTRICAL DUCTS. COMPLETE EARTH FILLS 200' EITHER SIDE OF THE E-W RUNWAY. OPEN RUNWAY FOR WEEKEND. OPEN TAXIWAY "B".
- 4. COMPLETE EARTHWORK IN NORTH CONSTRUCTION AREA, INSTALL REMAINING PIPE AND HEADWALLS. E-W RUNWAY WILL REMAIN OPEN.
- 5. BEGIN EARTHWORK IN SOUTH CONSTRUCTION AREA. E-W RUNWAY WILL REMAIN OPEN.
- 6. EARTHWORK IN SOUTH CONSTRUCTION AREA. E-W RUNWAY WILL REMAIN OPEN.
- 7. LIME MODIFICATION. CLOSE TAXIWAY "B" CLOSE E-W RUNWAY WHILE WORKING WITHIN 200'. FLAGMAN FOR TRUCK TRAFFIC.
- 8. PLACING ROCK, BITUMINOUS PRIME. FLAGMAN FOR TRUCK TRAFFIC WHILE E-W RUNWAY OPEN.
- 9. INSTALL EDGEDRAIN. CLOSE E-W RUNWAY WHILE WORKING WITHIN 200'. MILLING E-W RUNWAY CLOSES AFTER MILLING OPERATION.
- 10. CLOSE E-W RUNWAY FOR PAVING, SHOULDER DIRT. OPEN E-W RUNWAY ONCE BEYOND 200'
- 11. SHOULDER DIRT, LIGHTS AND CABLING PERIODIC CLOSURE OF E-W RUNWAY FOR INSTALLATION OF LIGHTS AND CABLING WITHIN 200'. COORDINATE MARKING WITH THIS OPERATION.
- 12. LIGHTING AND CABLING.
- 13. SEEDING, LIGHTING AND CABLING. PERIODIC CLOSURE OF E-W RUNWAY FOR SEEDING OPERATION.

THE PRIMARY HAUL ROUTE WILL BE USED FOR ALL HEAVY EQUIPMENT AND HEAVY MATERIAL DELIVERIES. THE SECONDARY HAUL ROUTE WILL BE USED FOR ELECTRICAL DELIVERIES TO THE VAULT AREA.

THE PRIMARY HAUL ROUTE WILL BE INSTALLED AS SHOWN ON THIS SHEET. IF REQUIRED, A CORRECTLY SIZED PIPE WILL BE PROVIDED IN THE DITCH. THE HAUL ROUTE WILL BE AN ALL WEATHER HAUL ROUTE FROM THE ROAD TO SA. 100+00 CAPABLE OF SUSTAINING THE CONTINUOUS HAULING OPERATIONS. THIS HAUL ROUTE WILL BE BUILT WITH MATERIAL SO AS NOT TO CONTAMINATE THE PREVIOUSLY INSTALLED CRUSHED AGGREGATE OR BITUMINOUS PAVEMENT FOR THE PROPOSED N-S RUNWAY.

THE EXISTING TAXIWAY B AND THE E-W RUNWAY WILL NOT SUPPORT REPETITIVE CONSTRUCTION TRAFFIC. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO PROTECT THESE PAVEMENTS FROM RUTTING AND/OR EXCESSIVE WEAR DUE TO HAULING OPERATIONS. THE CONTRACTOR WILL PROVIDE IRON PLATES FOR ANY HEAVY AND/OR CONTINUOUS HAULING ACROSS TAXIWAY B. THE CONTRACTOR WILL STAGGER WITHIN THE "HAUL ROUTE LIMITS" HIS HAULING ACROSS TAXIWAY B AND THE E-W RUNWAY TO PREVENT RUTTING OR CONCENTRATED DAMAGE TO THESE PAVEMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING PAVEMENT. ANY PAVEMENT DAMAGE WILL BE REMOVED AND REPLACED AT HIS EXPENSE TO THE SATISFACTION OF THE AIRPORT AND RESIDENT ENGINEER..

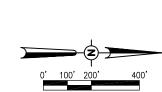
<u>LEGEND</u>

_____ EXISTING IMPROVEMENTS

PROPOSED IMPROVEMENTS

EXISTING BUILDINGS

PROPOSED HAUL ROUTE AND EQUIPMENT PARKING AREA



FULL SIZE SCALE:

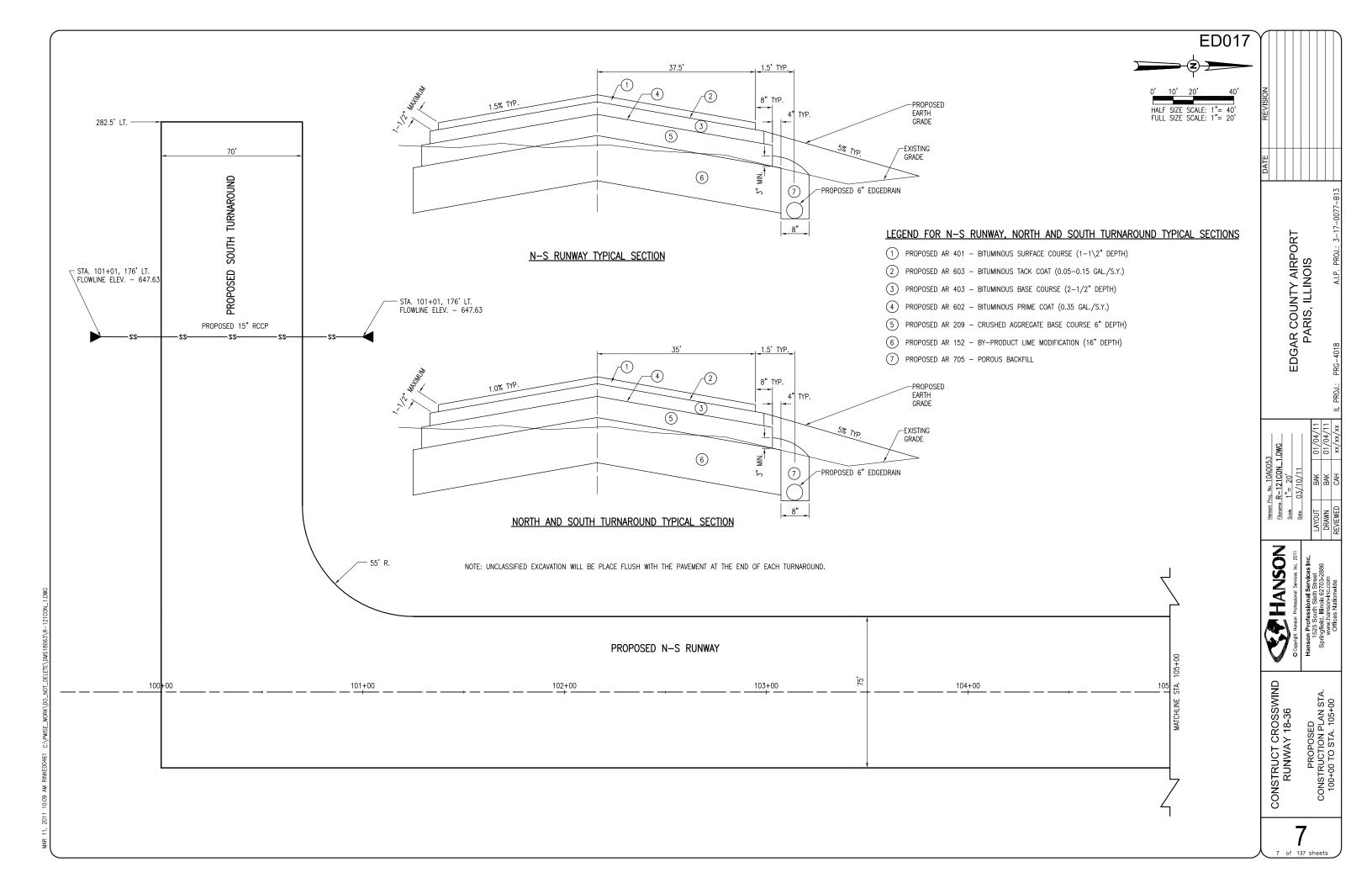
CONSTRUCT CROSSWIND RUNWAY 18-36

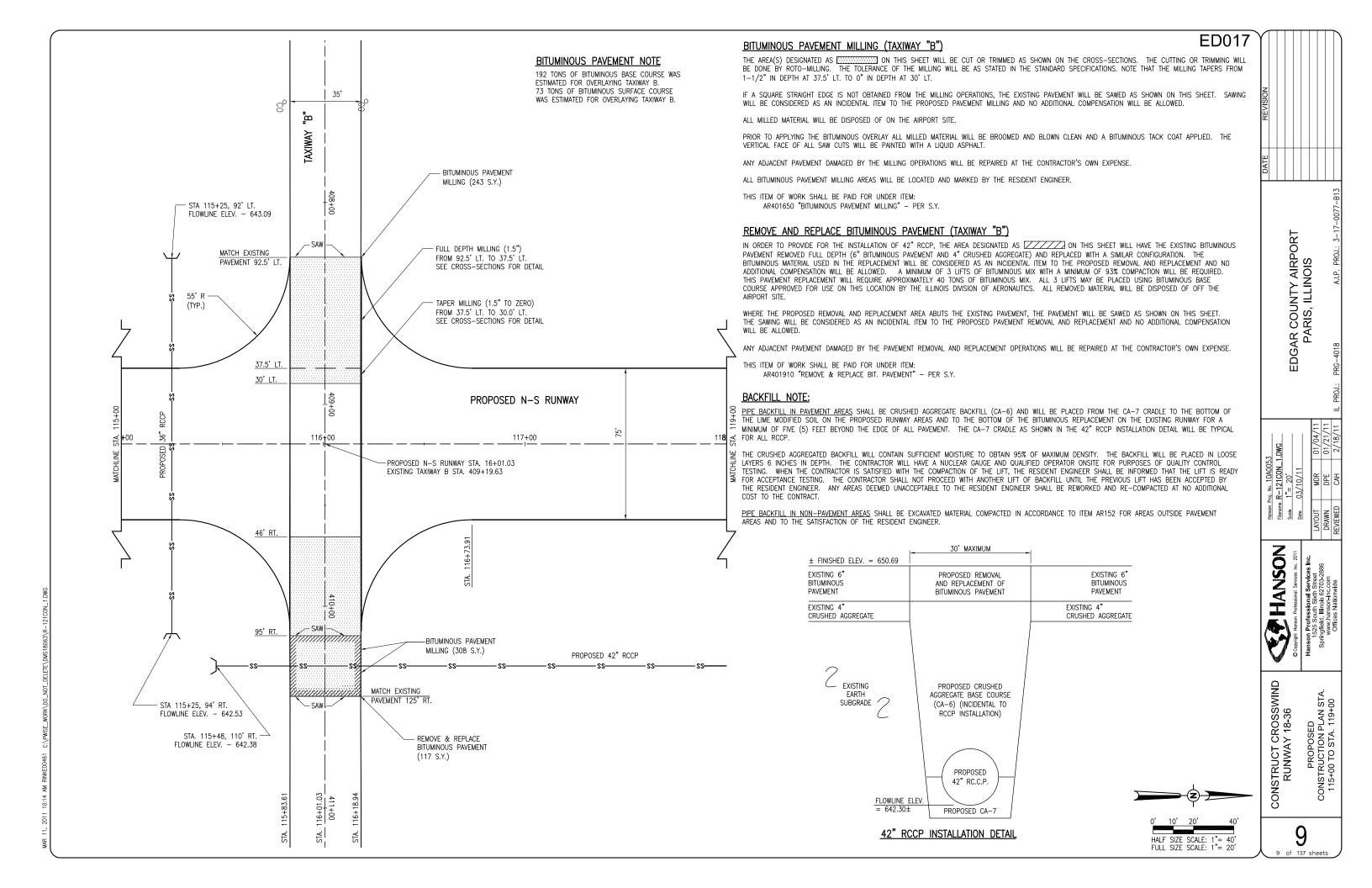
HANSON

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COUNTY AIRPOR' RIS, ILLINOIS

GAR (PAI





ED017

BITUMINOUS PAVEMENT MILLING (E-W RUNWAY)

BOTH SIDES OF THE MILLING MACHINE WILL BE OPERATED ELECTRONICALLY AND THE MACHINE SENSORS WILL BE RUN ON A STRING LINE AND/OR STRING LINE LINE AND MATCHING SHOE.

IF A SQUARE STRAIGHT EDGE IS NOT OBTAINED FROM THE MILLING OPERATIONS, THE EXISTING PAVEMENT WILL BE SAWED AS SHOWN ON THIS SHEET. SAWING WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE PROPOSED PAVEMENT MILLING AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL MILLED MATERIAL WILL BE DISPOSED OF ON THE AIRPORT SITE.

PRIOR TO APPLYING THE BITUMINOUS OVERLAY ALL MILLED MATERIAL WILL BE BROOMED AND BLOWN CLEAN AND A BITUMINOUS TACK COAT APPLIED. THE VERTICAL FACE OF ALL SAW CUTS WILL BE PAINTED WITH A LIQUID ASPHALT.

ANY ADJACENT PAVEMENT DAMAGED BY THE MILLING OPERATIONS WILL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE.

ALL BITUMINOUS PAVEMENT MILLING AREAS WILL BE LOCATED AND MARKED BY THE RESIDENT ENGINEER.

THIS ITEM OF WORK SHALL BE PAID FOR UNDER ITEM:
AR401650 "BITUMINOUS PAVEMENT MILLING" — PER S.Y.

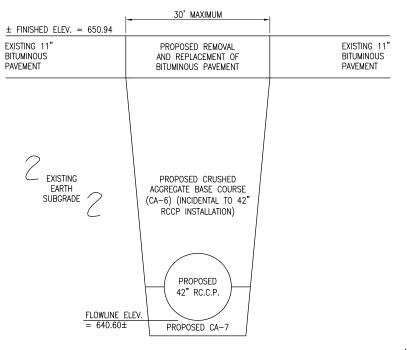
REMOVE AND REPLACE BITUMINOUS PAVEMENT (E-W RUNWAY)

IN ORDER TO PROVIDE FOR THE INSTALLATION OF THE 42" RCCP, THE AREA DESIGNATED AS ON THIS SHEET WILL HAVE THE EXISTING BITUMINOUS PAVEMENT REMOVED FULL DEPTH (11" BITUMINOUS PAVEMENT) AND REPLACED WITH A SIMILAR CONFIGURATION. THE BITUMINOUS MATERIAL USED IN THE REPLACEMENT WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE PROPOSED REMOVAL AND REPLACEMENT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. A MINIMUM OF 4 LIFTS WILL BE REQUIRED WITH A MINIMUM OF 93% DENSITY ON EACH LIFT. THIS PAVEMENT REPLACEMENT WILL REQUIRE APPROXIMATELY 160 TONS OF BITUMINOUS MIX. ALL 4 LIFTS MAY BE PLACED USING BITUMINOUS BASE COURSE APPROVED FOR USE ON THIS LOCATION BY THE ILLINOIS DIVISION OF AERONAUTICS. ALL REMOVED MATERIAL WILL BE DISPOSED OF OFF THE AIRPORT SITE.

WHERE THE PROPOSED REMOVAL AND REPLACEMENT AREA ABUTS THE EXISTING PAVEMENT, THE PAVEMENT WILL BE SAWED AS SHOWN ON THIS SHEET. THE SAWING WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE PROPOSED PAVEMENT REMOVAL AND REPLACEMENT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

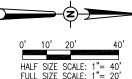
ANY ADJACENT PAVEMENT DAMAGED BY THE PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS WILL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE.

THIS ITEM OF WORK SHALL BE PAID FOR UNDER ITEM:
AR401910 "REMOVE & REPLACE BIT. PAVEMENT" - PER S.Y.



NOTE:

CRUSHED AGGREGATE BACKFILL WILL BE PLACED A MINIMUM OF FIVE (5) FEET BEYOND THE EDGE OF THE PAVEMENT.



DATE REVISION

COUNTY AIRPORT RIS, ILLINOIS

EDGAR COU PARIS,

 $= 20^{\circ}$ 3/10/11 BAK 01/04/11 BAK 01/04/11

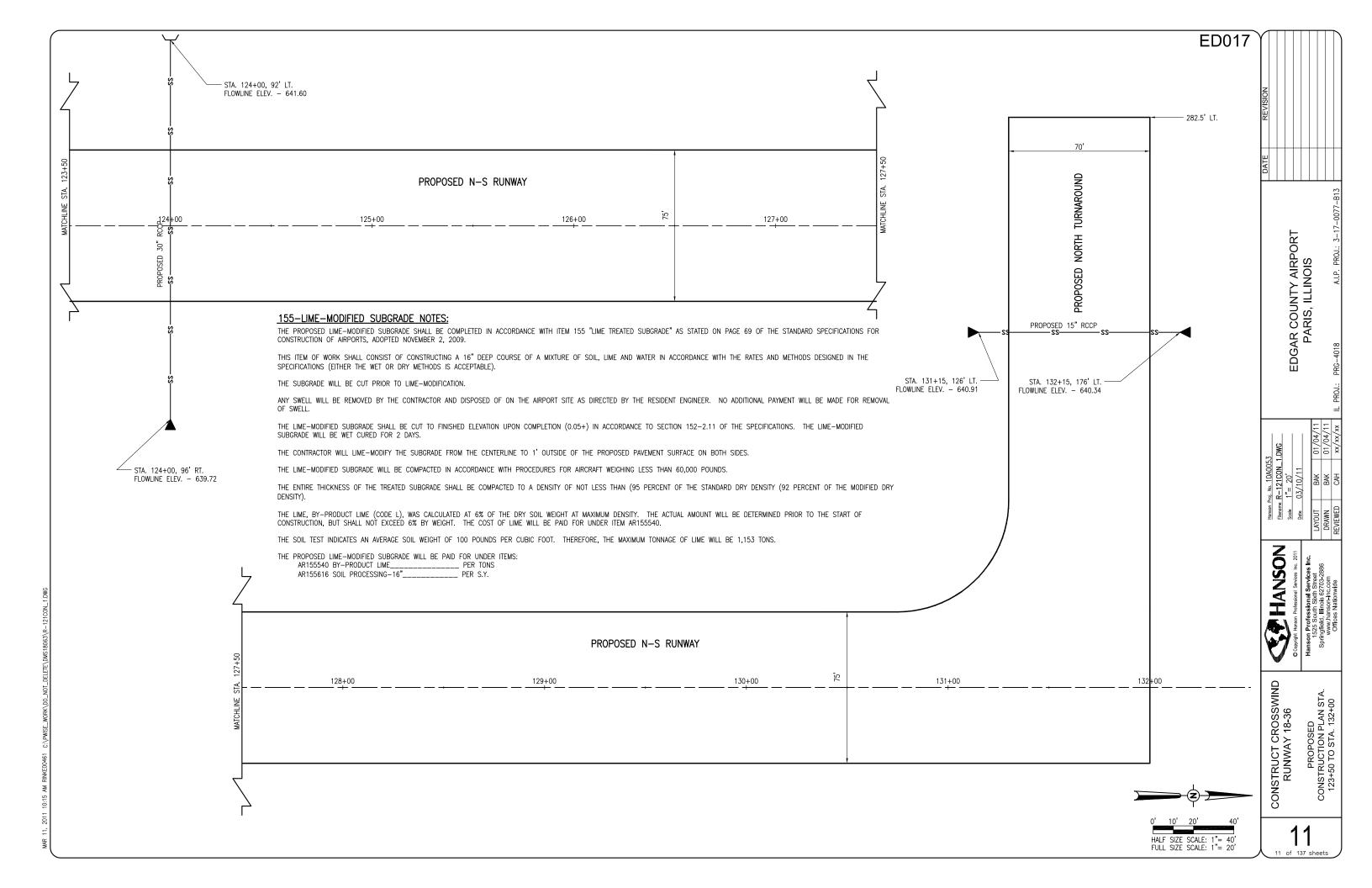
| HANSON | Filenome R-12100 | Scale | 1" = 20" | Scale | 1" = 20" | Sessional Services Inc. 2011 | Date | 03/10/" | Bassional Services Inc. | 14/01| | FAK

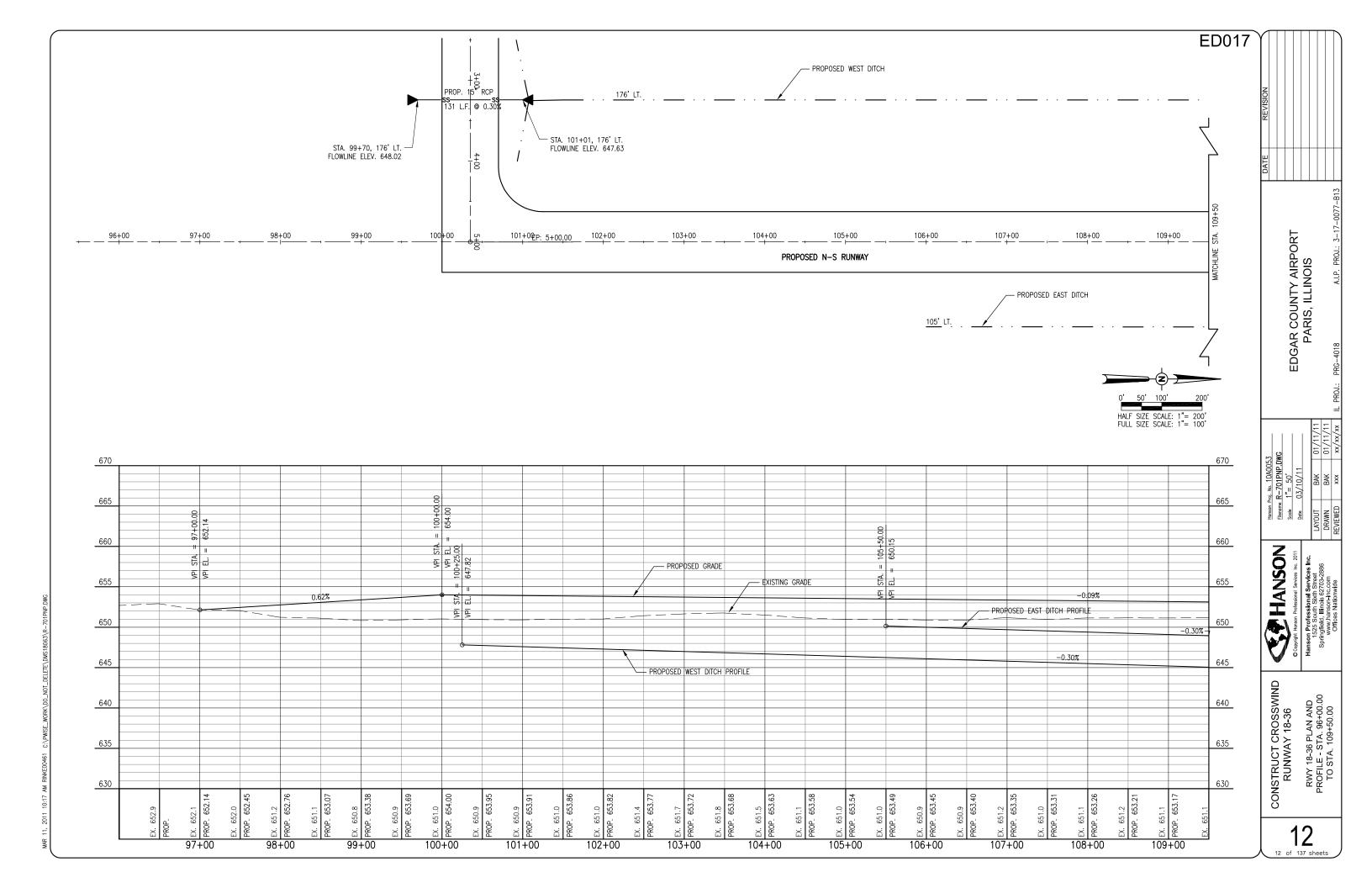
right Hanson Professional Services Inc. 2 on Professional Services Inc 1525 South Sixth Street bringfield, Illinois 62703-2886 www.hanson-inc.com

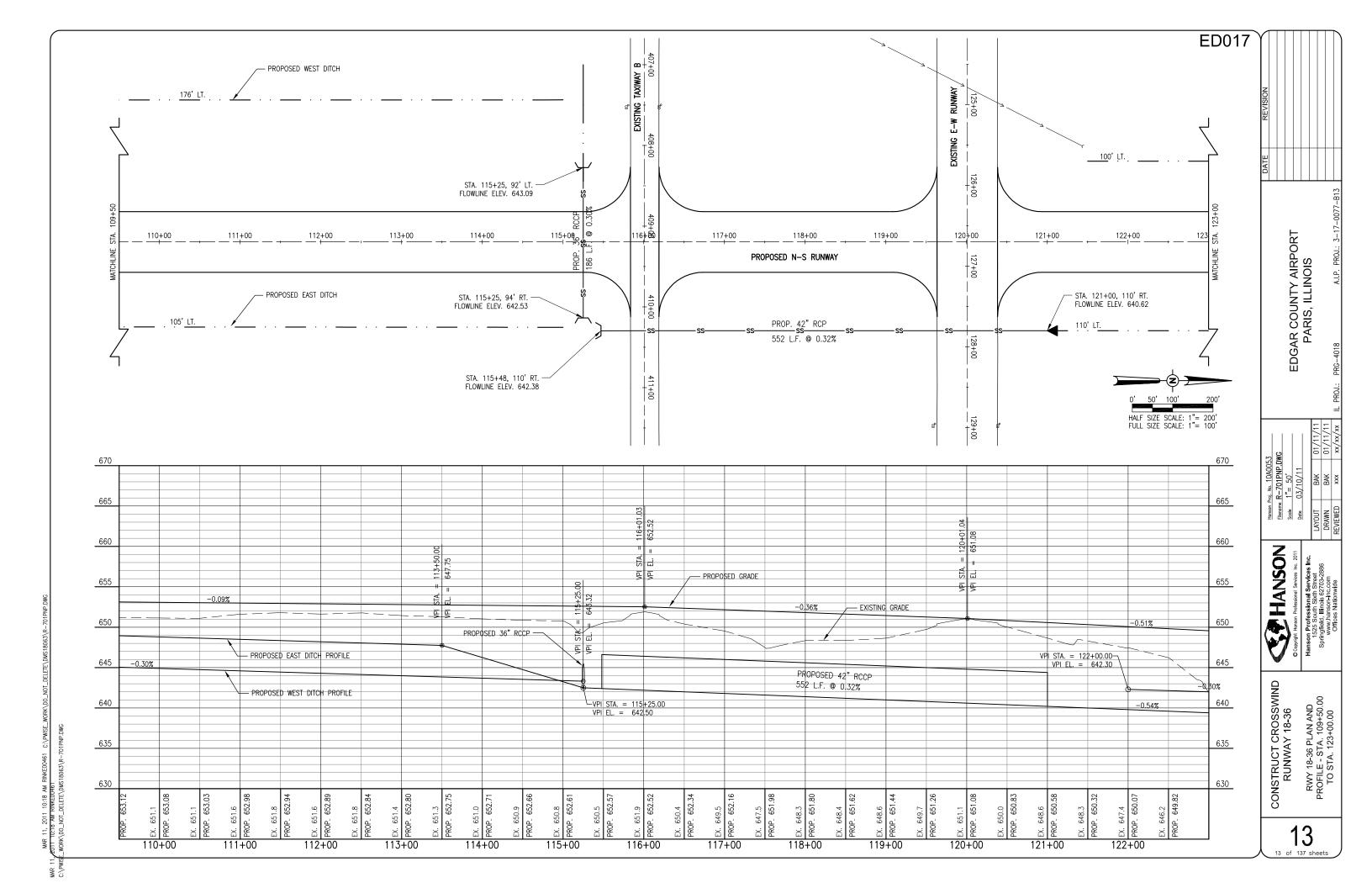
CONSTRUCT CROSSWIND
RUNWAY 18-36
PROPOSED

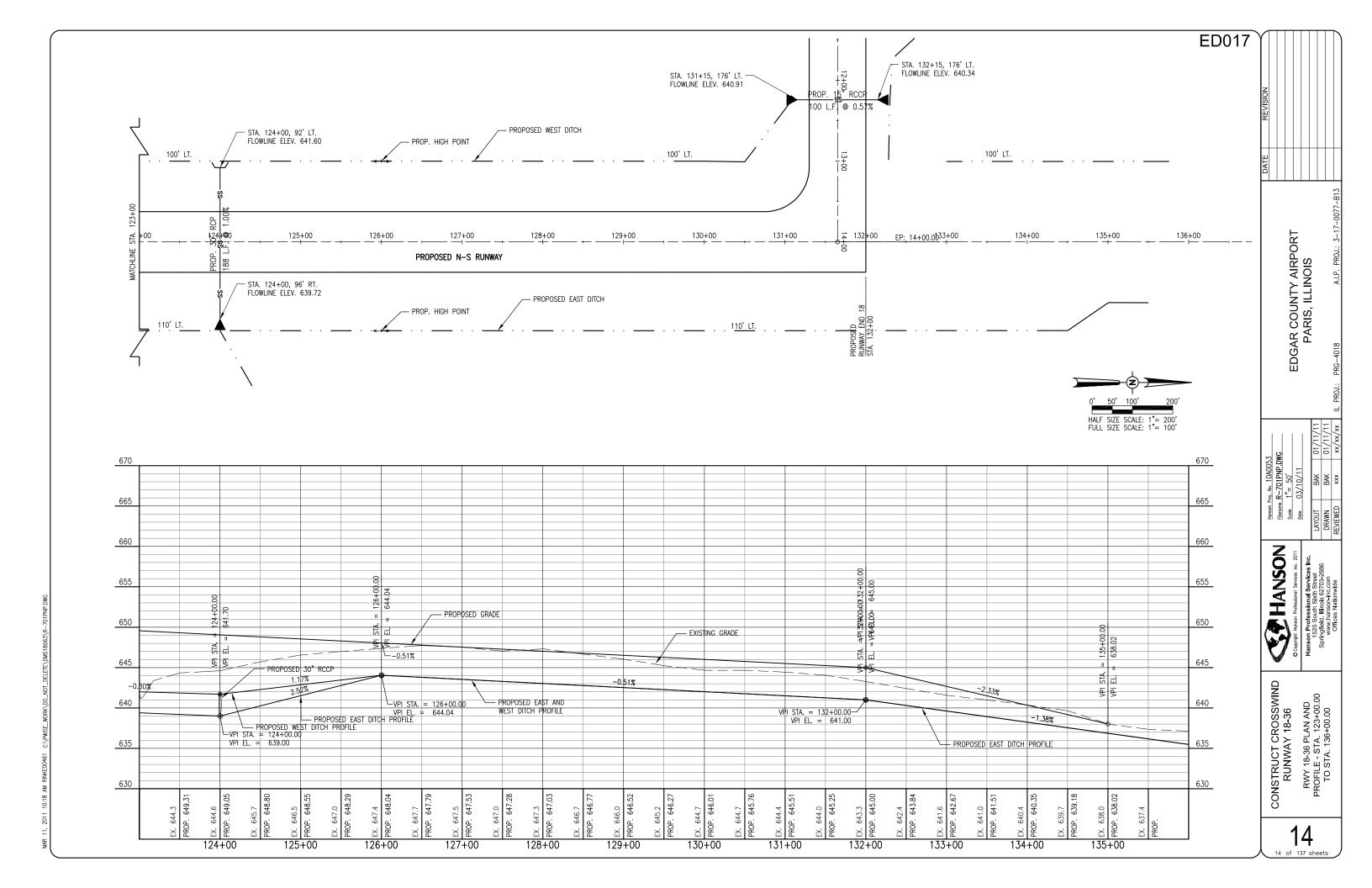
PROPOSED CONSTRUCTION PLAN S 119+00 TO STA. 123+5

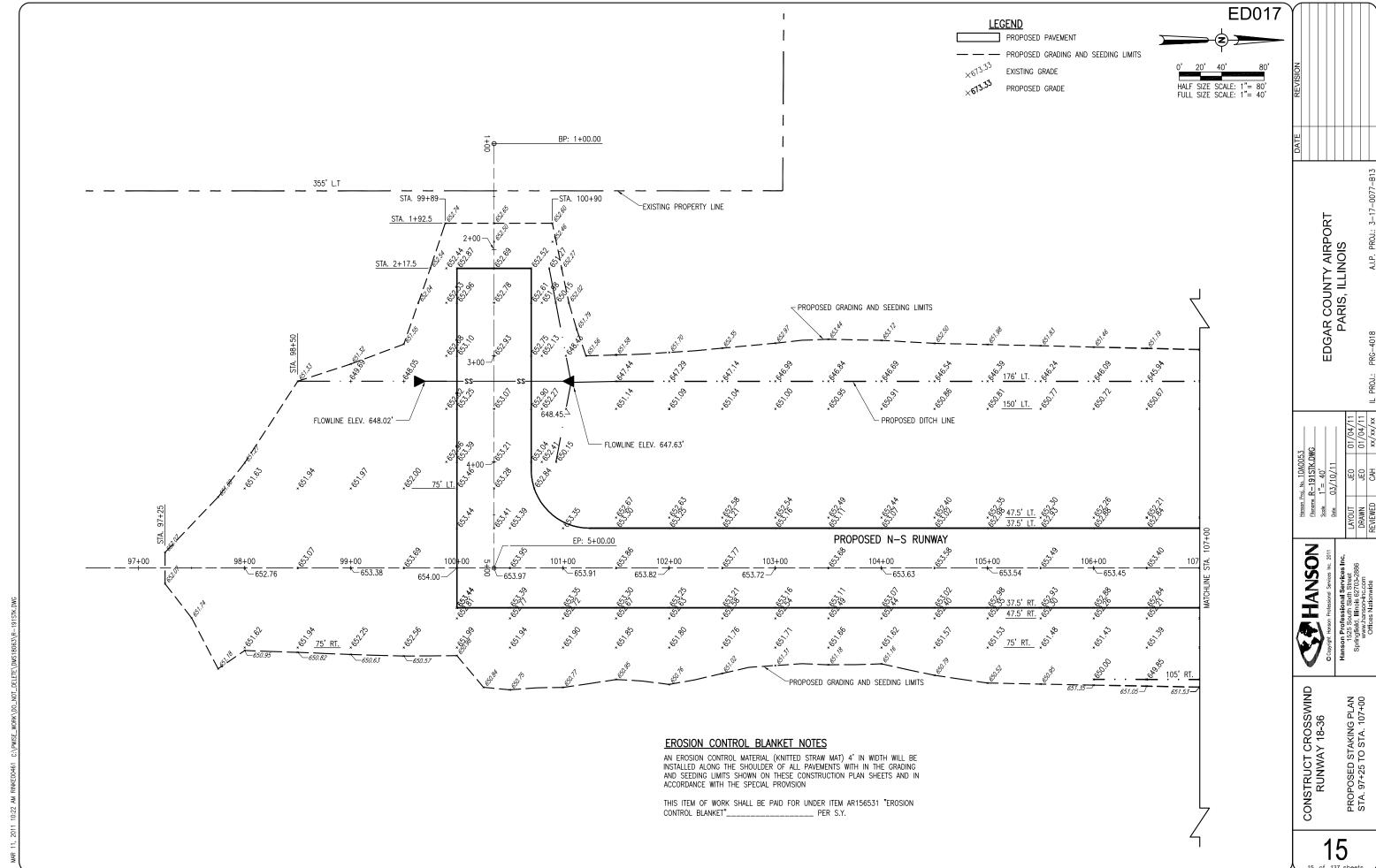
10

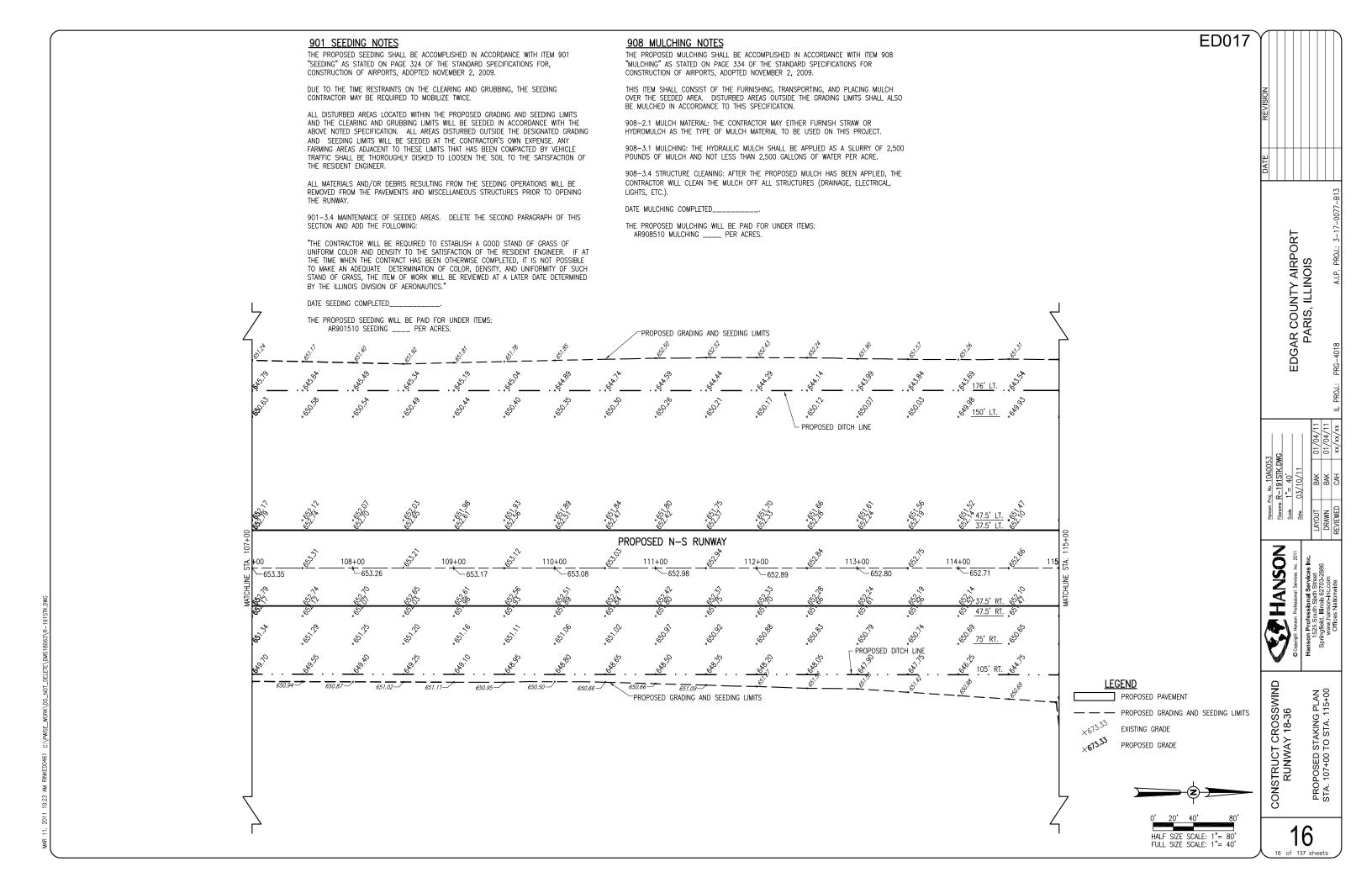


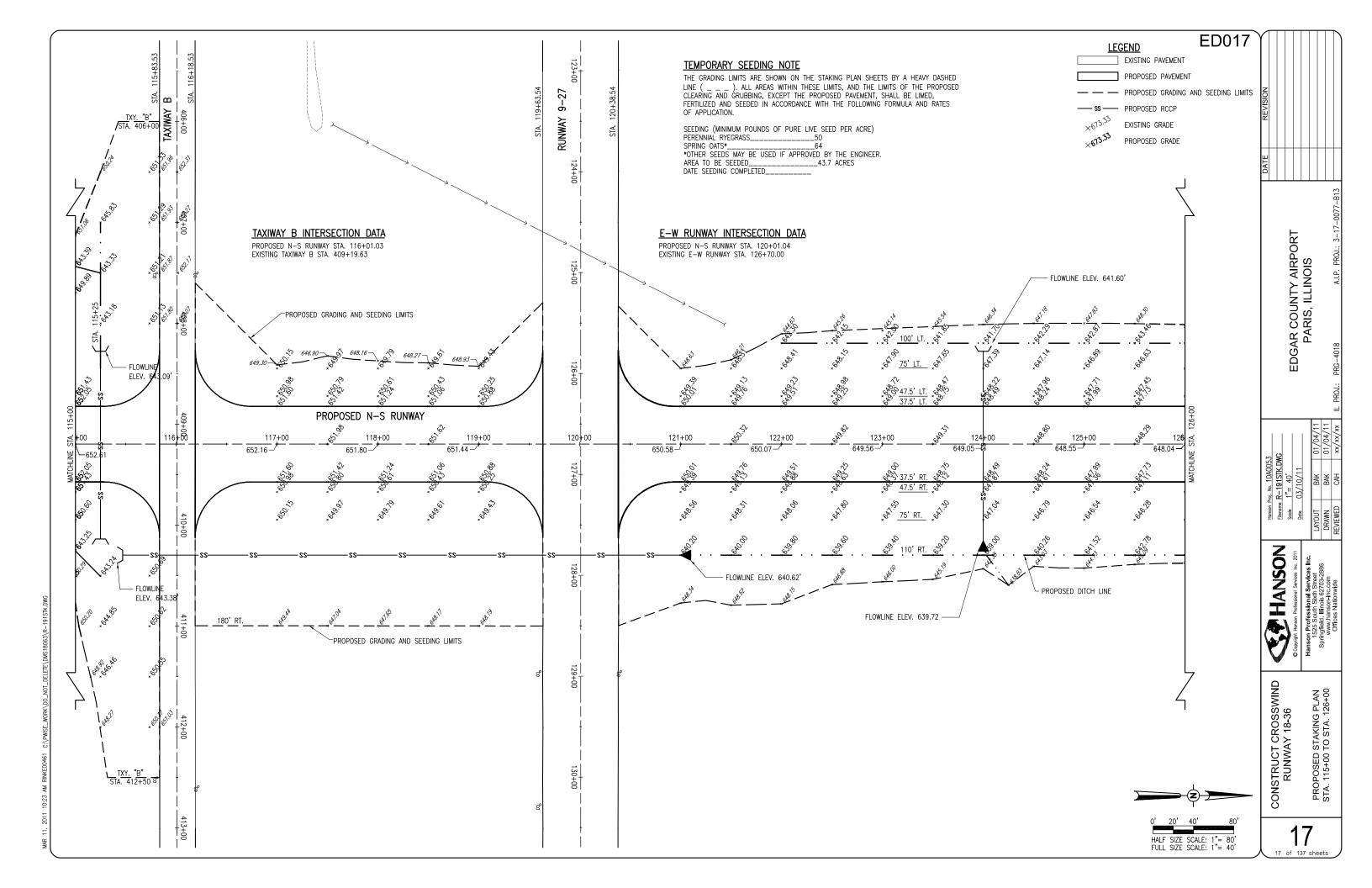


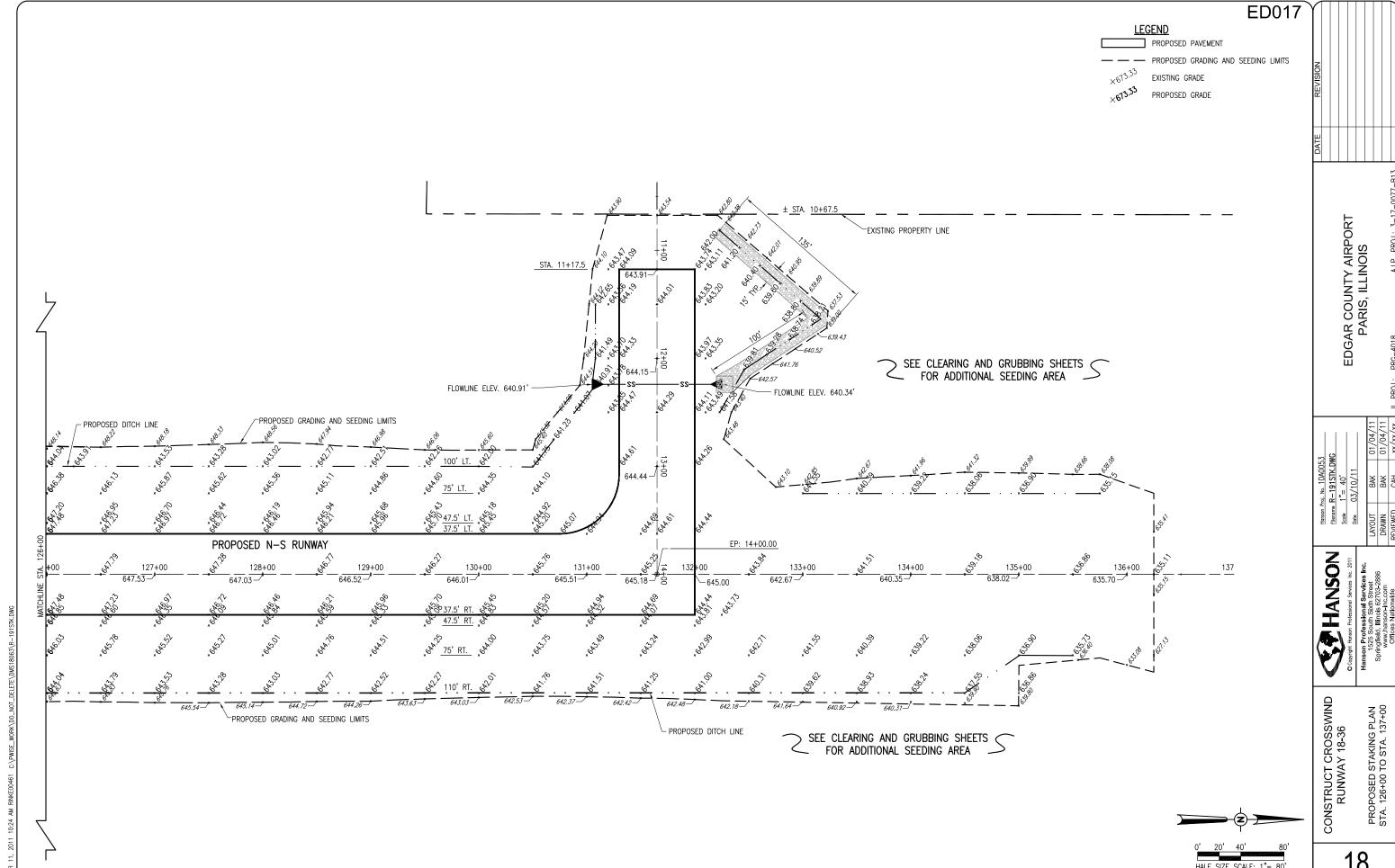


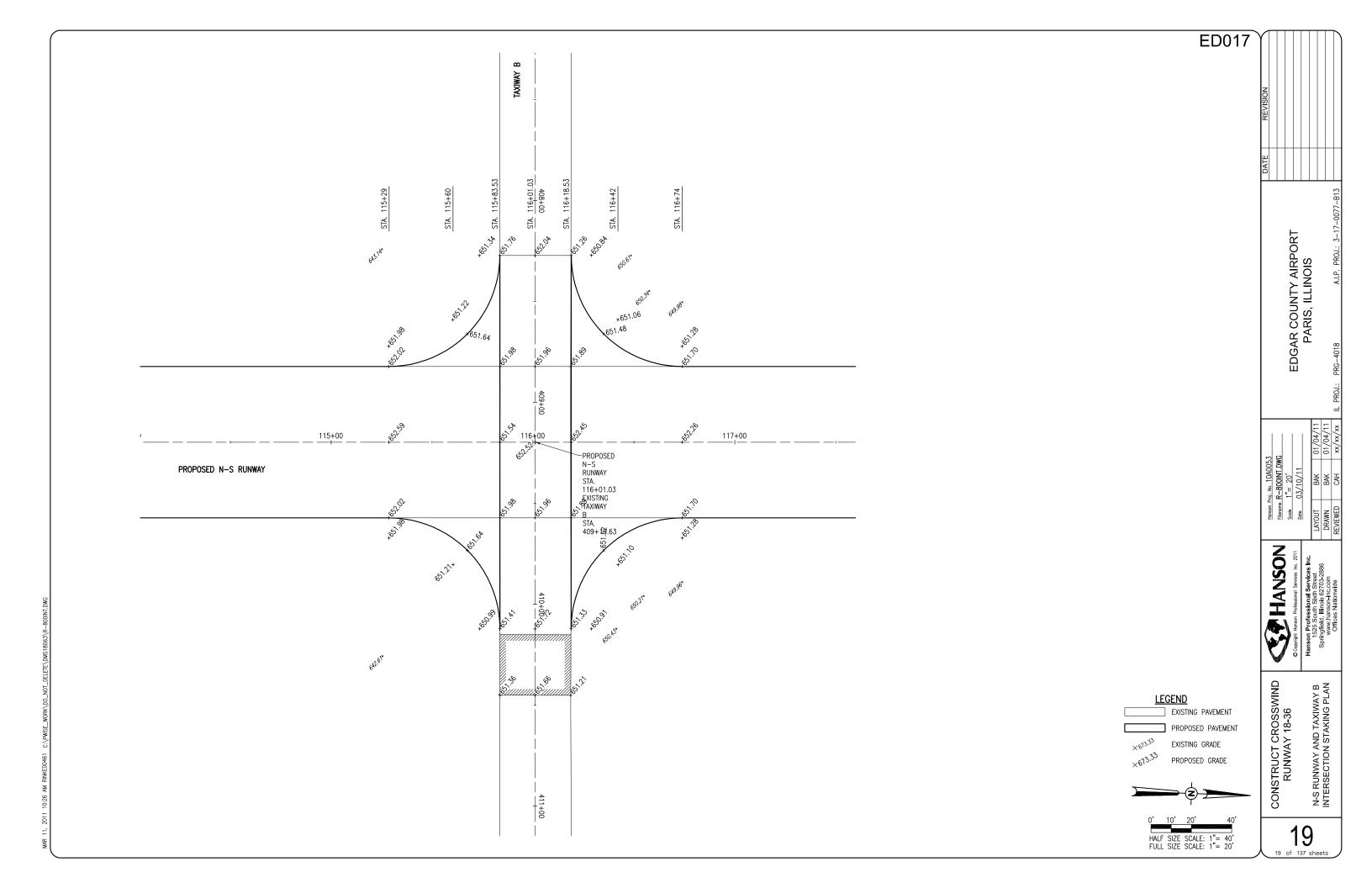


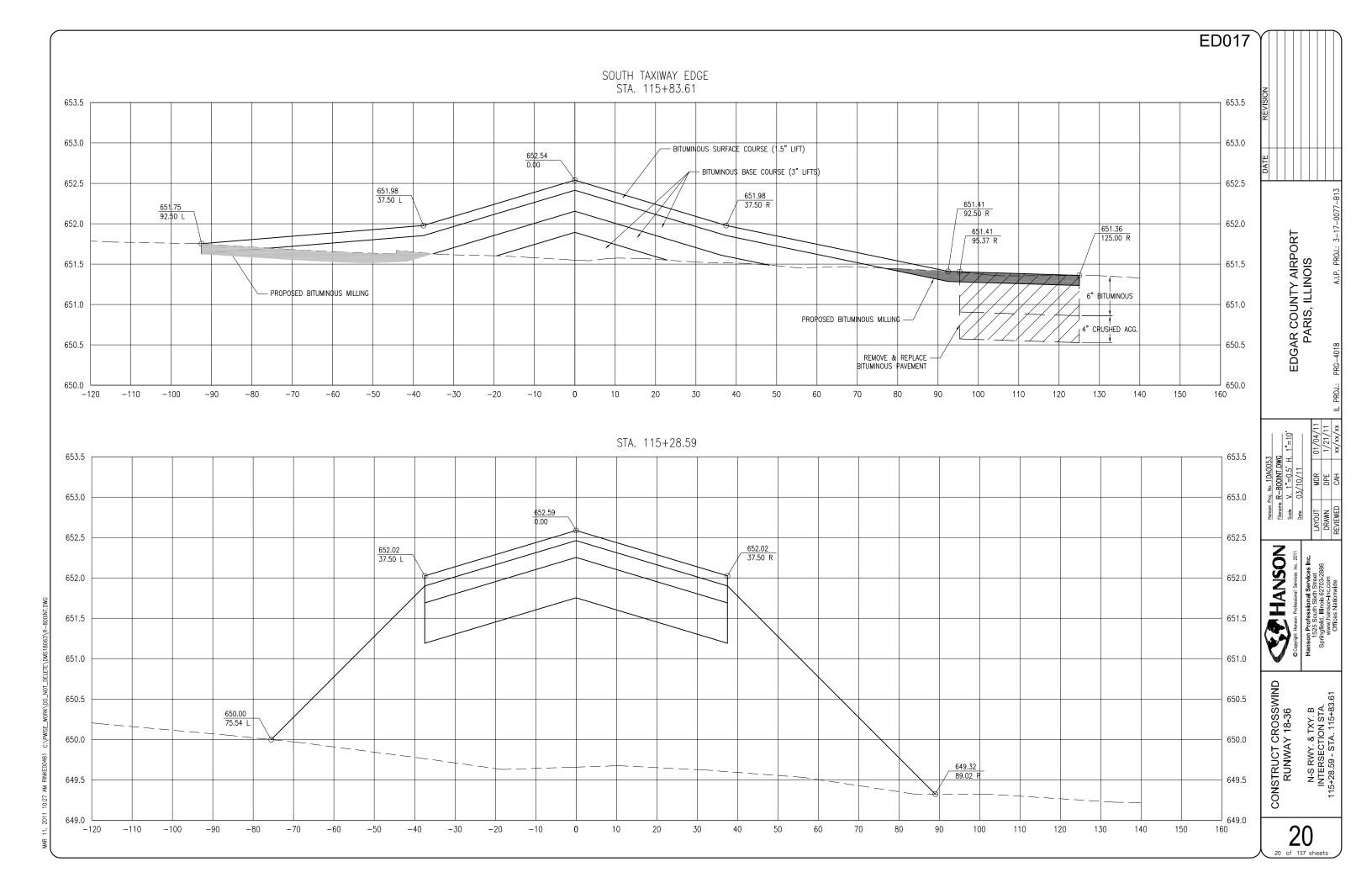


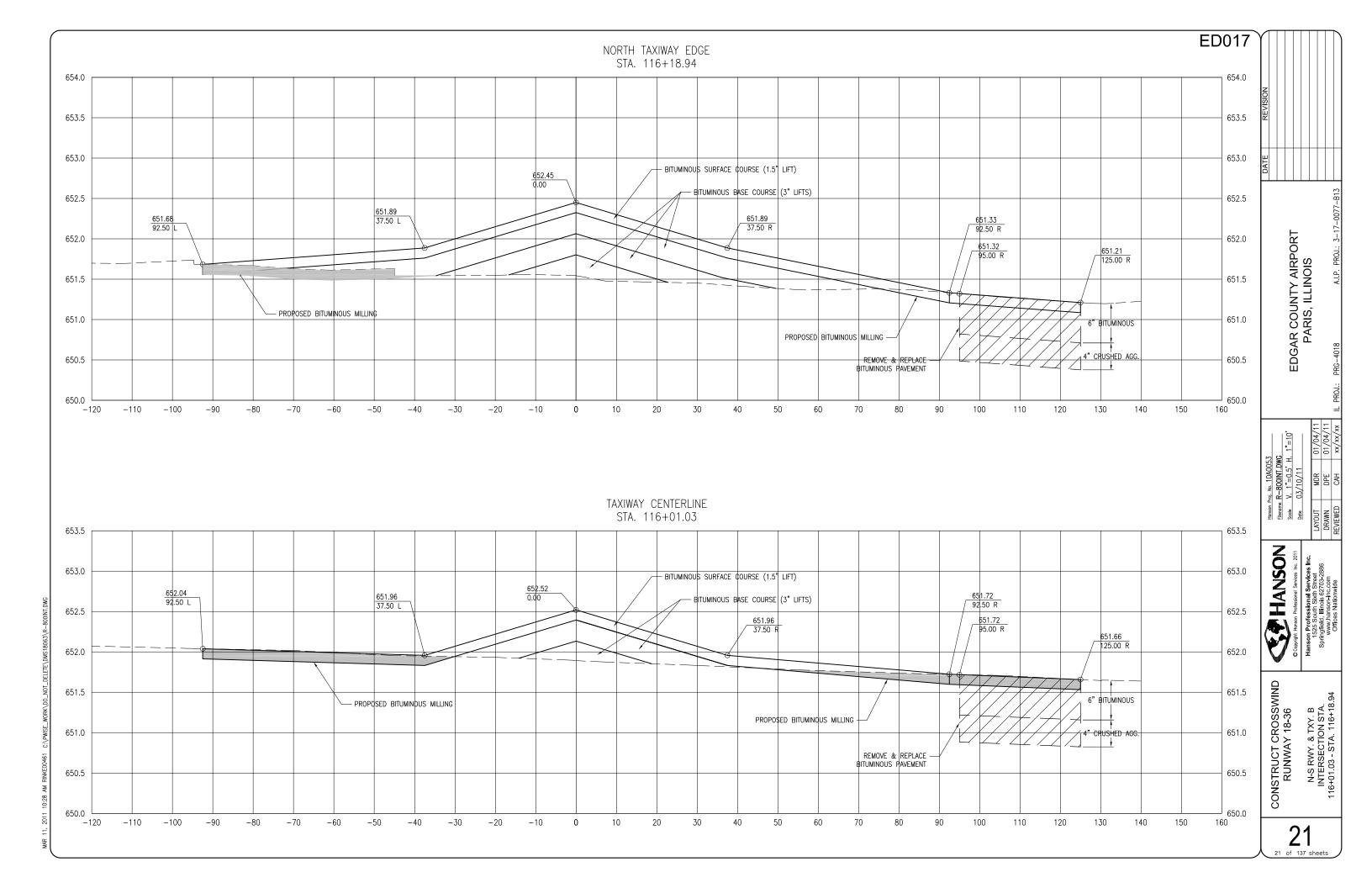




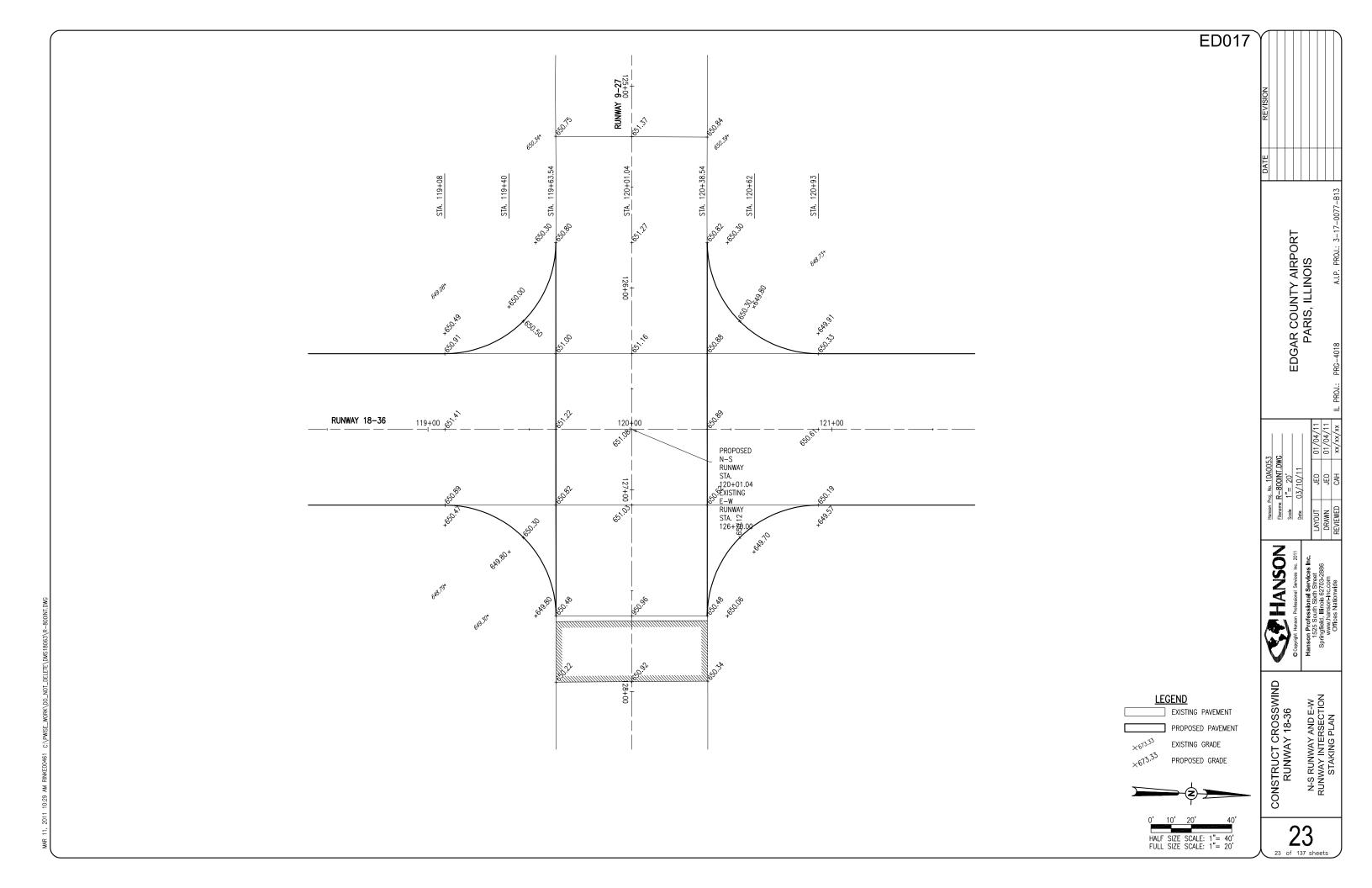


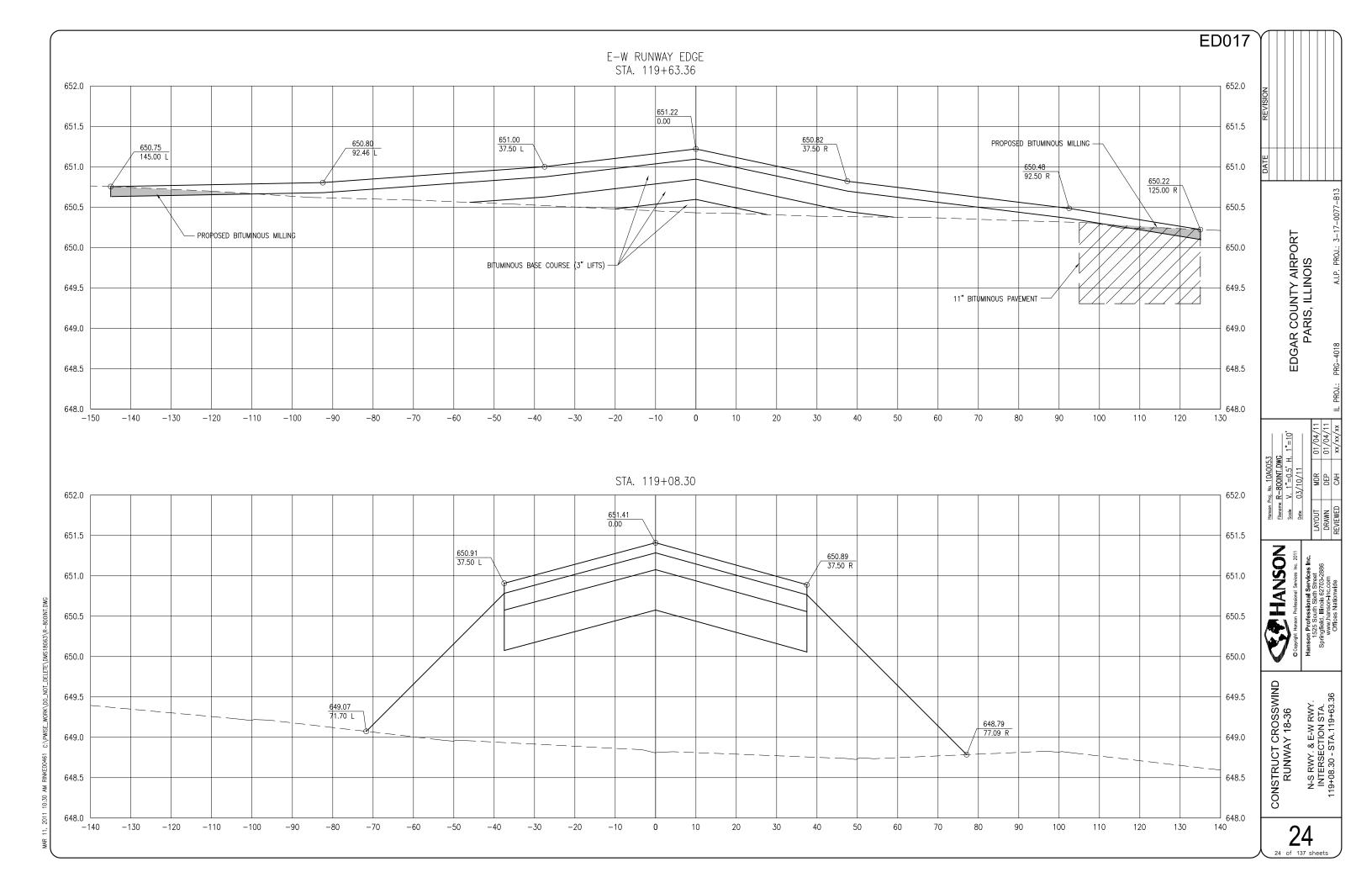


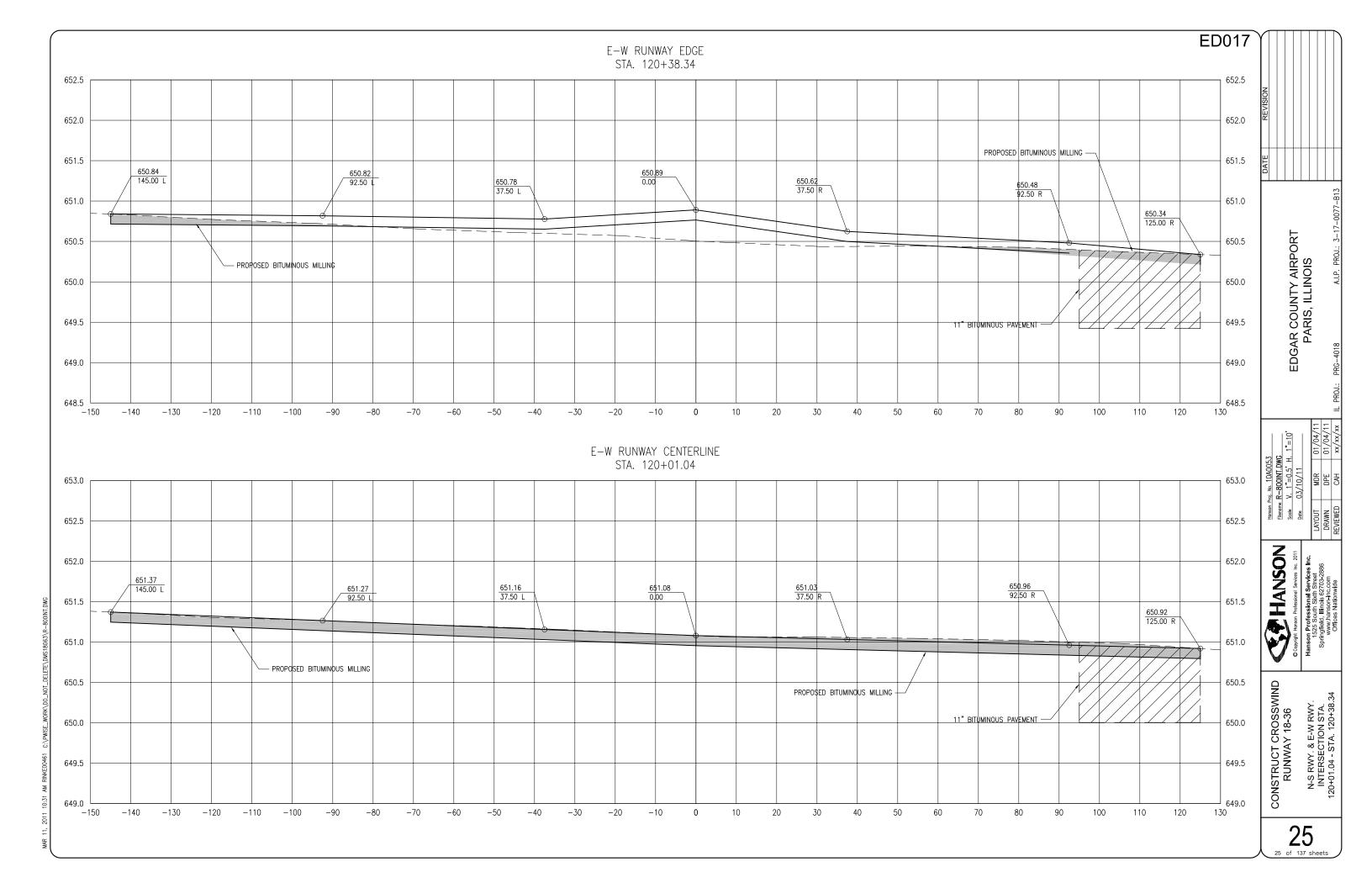




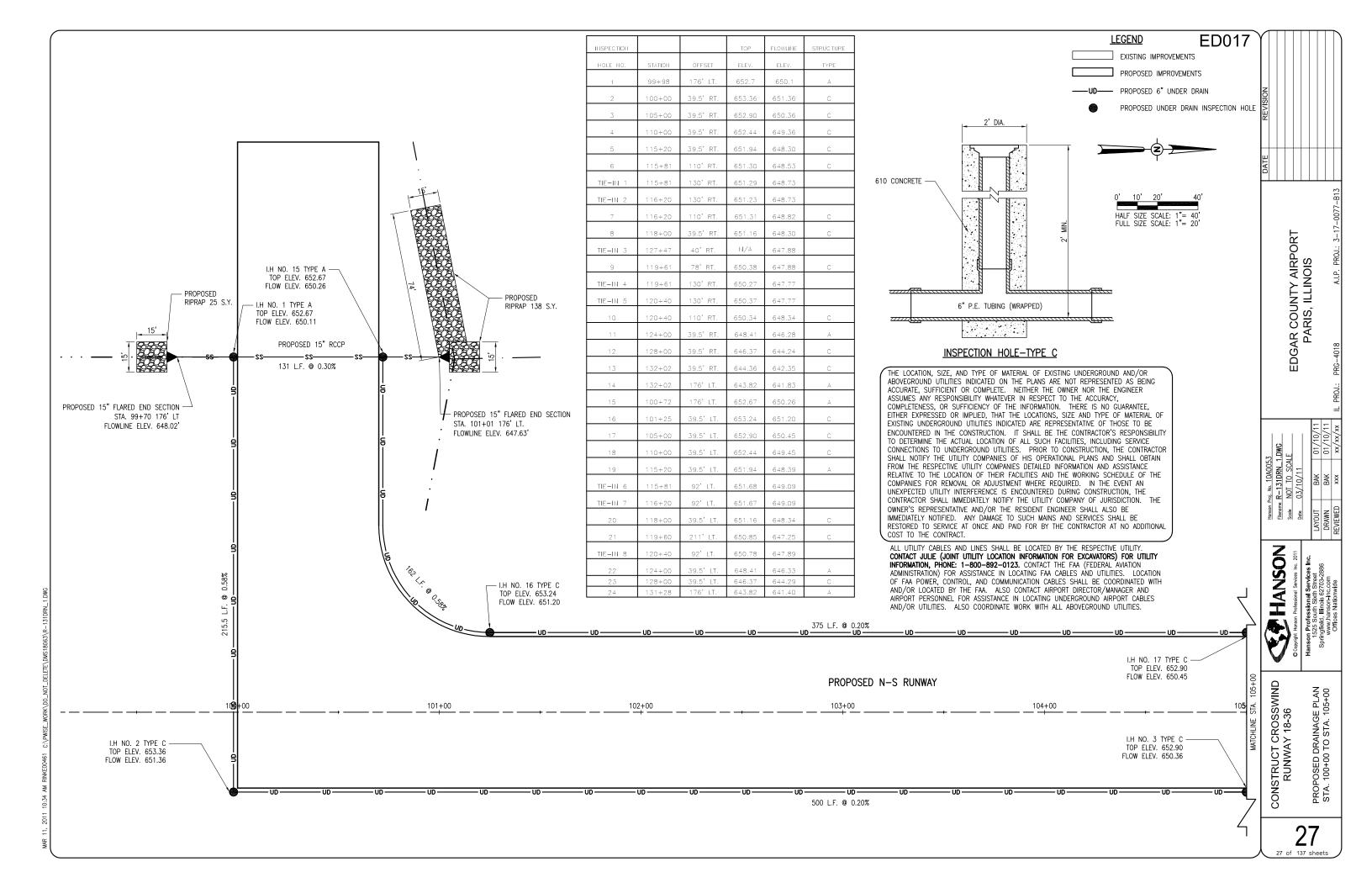
ED017 EDGAR COUNTY AIRPORT PARIS, ILLINOIS STA. 116+73.91 653.0 653.0 652.5 652.5 651.70 37.50 R 651.70 37.50 L Copyright Hanson Professional Services Inc. 2011 652.0 652.0 651.5 651.5 651.0 651.0 650.5 650.5 649.98 69.35 L 649.96 69.73 R CONSTRUCT CROSSWIND RUNWAY 18-36 N-S RWY. & TXY. B INTERSECTION STA. 116+73.91 650.0 650.0 649.5 649.5 649.0 160 20 30 40 50 70 110 120 130 140 150 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 60 80 90 100

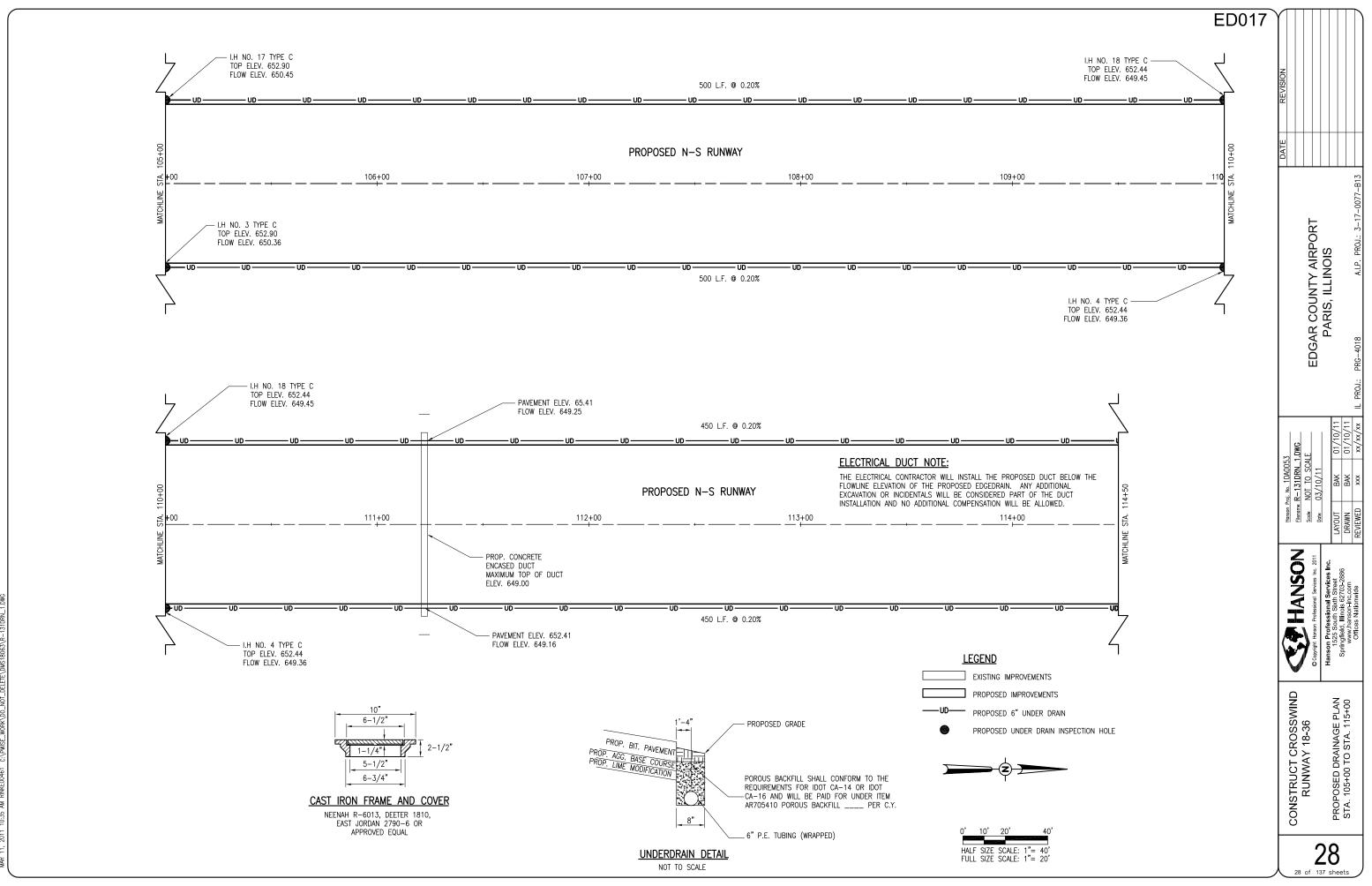






ED017 EDGAR COUNTY AIRPORT PARIS, ILLINOIS STA. 120+93.34 651.0 651.0 650.33 37.50 L 650.5 650.5 HANSON 650.0 650.0 649.5 649.5 648.87 64.15 648.68 66.42 R 649.0 649.0 CONSTRUCT CROSSWIND RUNWAY 18-36 648.5 648.5 648.0 647.5 140 -90 -80 -70 -60 -50 -40 -30 -20 -10 10 20 30 40 50 60 70 80 90 100 110 120 130 -130 -120 -110 -100 0 **26**26 of 137 sheets





705-UNDERDRAIN NOTES:

THE PROPOSED UNDERDRAIN PIPE WILL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 705 "PIPE UNDERDRAINS FOR AIRPORTS" AS STATED ON PAGE 310 OF THE ILLINOIS STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS, ADOPTED NOVEMBER 2, 2009.

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING 6" P.E. TUBING (WRAPPED) AND UNDERDRAIN INSPECTION HOLES AT THE LOCATIONS AND TO THE GRADES SHOWN ON THE CONSTRUCTION PLANS.

705-3.3 LAYING AND INSTALLING PIPE. REVISE THIS SECTION AS

"PIPE DRAINS SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER. THE PIPE SHALL BE BEDDED IN THE UNDERLYING MATERIAL TO A DEPTH NOT LESS THAN 10 PERCENT OF THE EXTERNAL DIAMETER OF THE PIPE, AND WHERE TRENCHING IS REQUIRED, THE TRENCH SHALL HAVE A WIDTH OF NOT LESS 8 IN. THE BOTTOM OF THE TRENCH SHALL BE COMPACTED IN A MANNER MEETING THE APPROVAL OF THE ENGINEER.

JOINTS AND FITTINGS MAY BE ASSEMBLED WITHOUT GASKETS OR SOLVENT CEMENT IF THE JOINT IS SAND TIGHT AND THE SPIGOT ENTERS THE SOCKET NOT LESS THAN 1/3 OF THE SOCKET DEPTH FOR SOLVENT CEMENT JOINTS AND FULL—DEPTH FOR ELASTOMERIC GASKET JOINTS.

NO PIPE SHALL BE PLACED IN THE TRENCH UNTIL IT AND THE PREPARED FOUNDATION HAVE BEEN APPROVED BY THE RESIDENT ENGINEER. THE PIPE SHALL BE LAID SO THAT THE FLOWLINE WILL BE AT THE GRADE SHOWN ON THE PLANS OR ESTABLISHED BY THE RESIDENT ENGINEER. THE PERMISSIBLE MINIMUM COVER OVER A PIPF SHALL BE 12 IN.

LAYING OF PIPES SHALL COMMENCE AT THE OUTLET END AND PROCEED TOWARD THE INLET END WITH THE PIPES TRUE TO LINE AND GRADF

THE ENDS OF THE PIPE SHALL BE CAREFULLY CLEANED BEFORE THEY ARE PLACED, AND SHALL BE PLACED TO AVOID UNNECESSARY HANDLING ON THE FOUNDATION. AS EACH LENGTH OF PIPE IS LAID, THE ENDS OF THE PIPE SHALL BE PROTECTED TO PREVENT THE ENTRANCE OF ANY MATERIAL.

LONGITUDINAL LAPS SHALL BE PLACED AT THE SIDES AND SEPARATE SECTIONS OF PIPE SHALL BE JOINED WITH TIGHTLY-DRAWN, APPROVED CONNECTING BANDS.

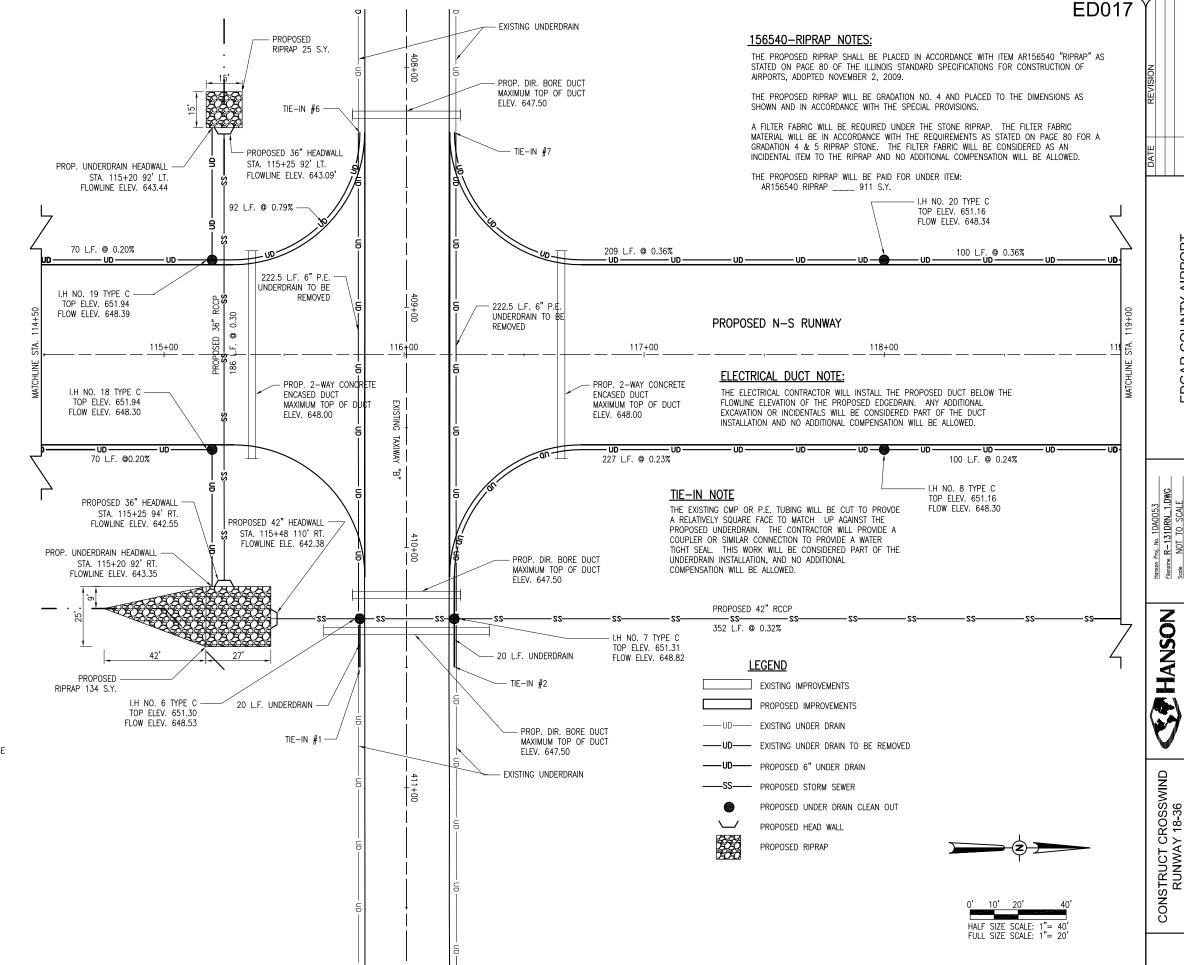
705-3.6 BACKFILLING; ADD THE FOLLOWING TO THIS SECTION:

"THE EDGE DRAIN TRENCH WILL BE BACKFILLED WITH CONSOLIDATED POROUS BACKFILL NO. 1 IN ACCORDANCE WITH THE DETAIL ON THE CONSTRUCTION PLANS. THE POROUS BACKFILL WILL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATION SET FORTH FOR GRANULAR MATERIAL BACKFILL."

THE PROPOSED UNDERDRAIN PIPE WILL BE PAID FOR UNDER ITEMS: AR70541? POROUS BACKFILL NO. 1 ______ 370 C.Y. AR705526 "PERFORATED UNDERDRAIN W/SOCK____ 7,198 L.F. AR705530 UNDERDRAIN INSPECTION HOLE_____ 24 EACH AR705900 REMOVE UNDERDRAIN______1,009 L.F.

UNDERDRAIN HEADWALL NOTE

THE PROPOSED EDGEDRAIN LATERAL RUNS AT STA 115+20 WILL REQUIRE SMALL CONCRETE HEADWALL STRUCTURES. THESE STRUCTURES WILL BE IN ACCORDANCE TO ILLINOIS DEPARTMENT OF TRANSPORTATION STRUDARD 601101. THESE TWO STRUCTURES WILL BE CONSIDERED PART OF THE "6" PERFORATED UNDERDRAIN W/ SOCK" PAY ITEM AND NO OTHER COMPENSATION WILL BE ALLOWED.

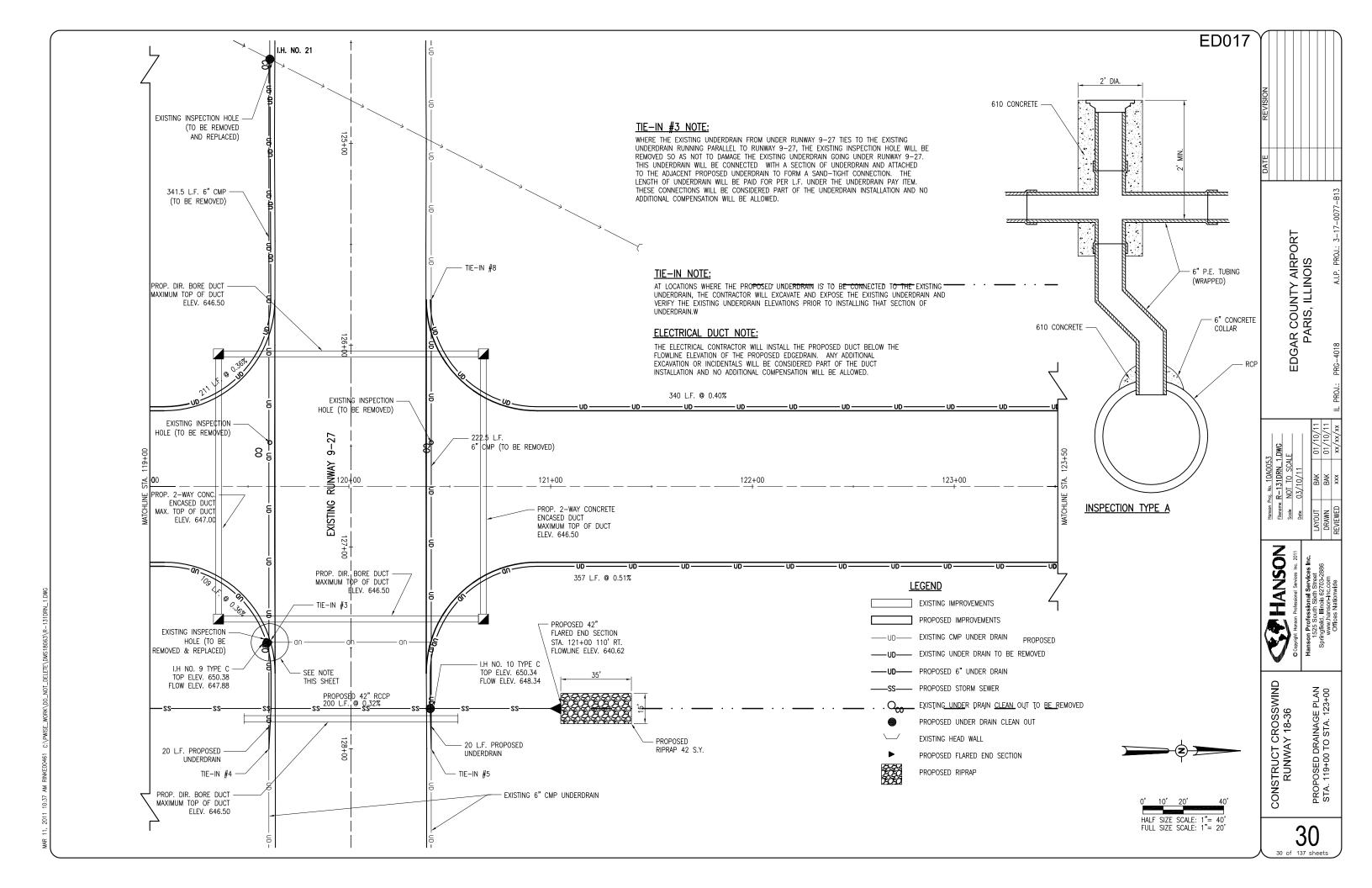


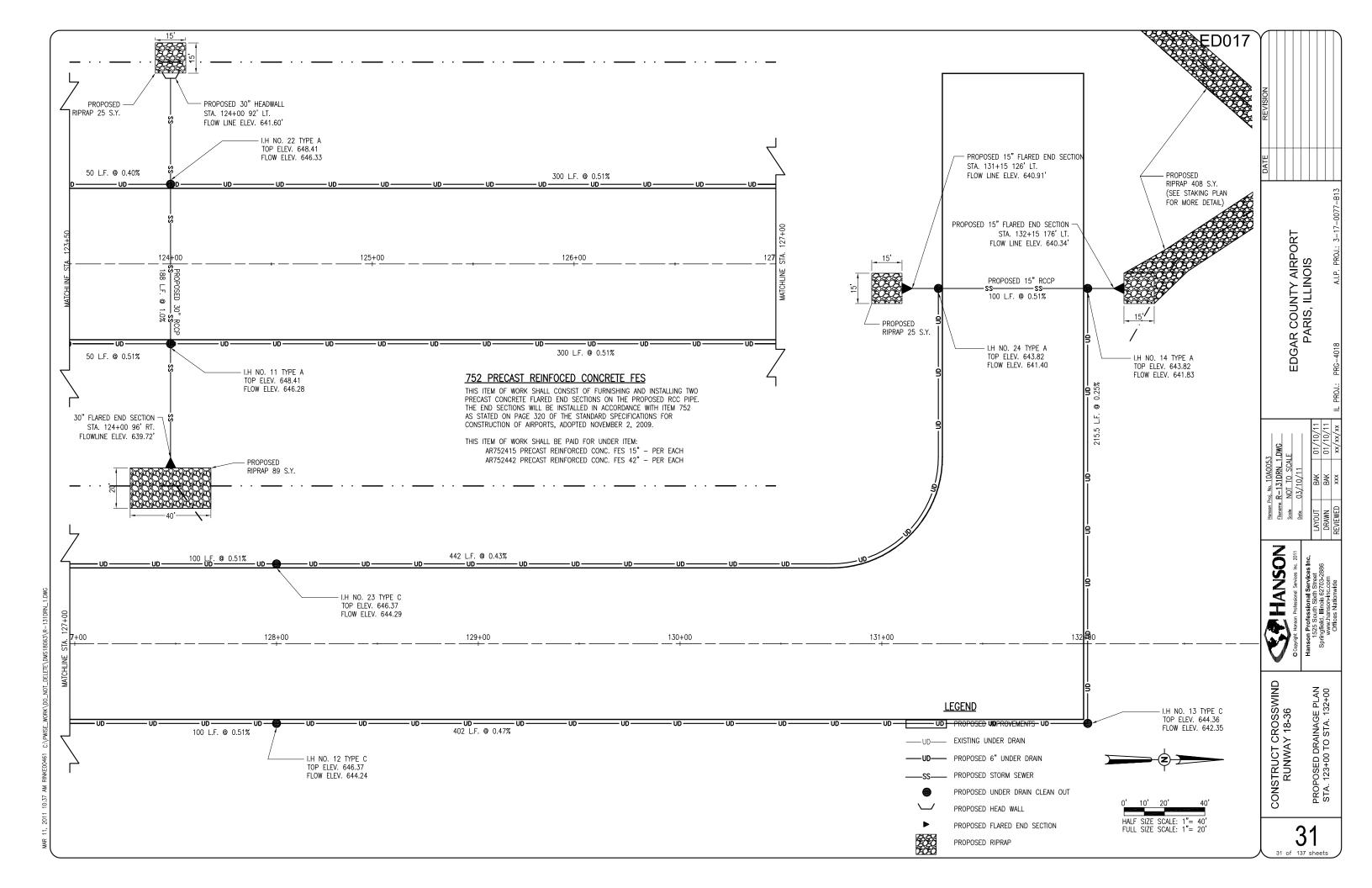
COUNTY AIRPORT RIS, ILLINOIS

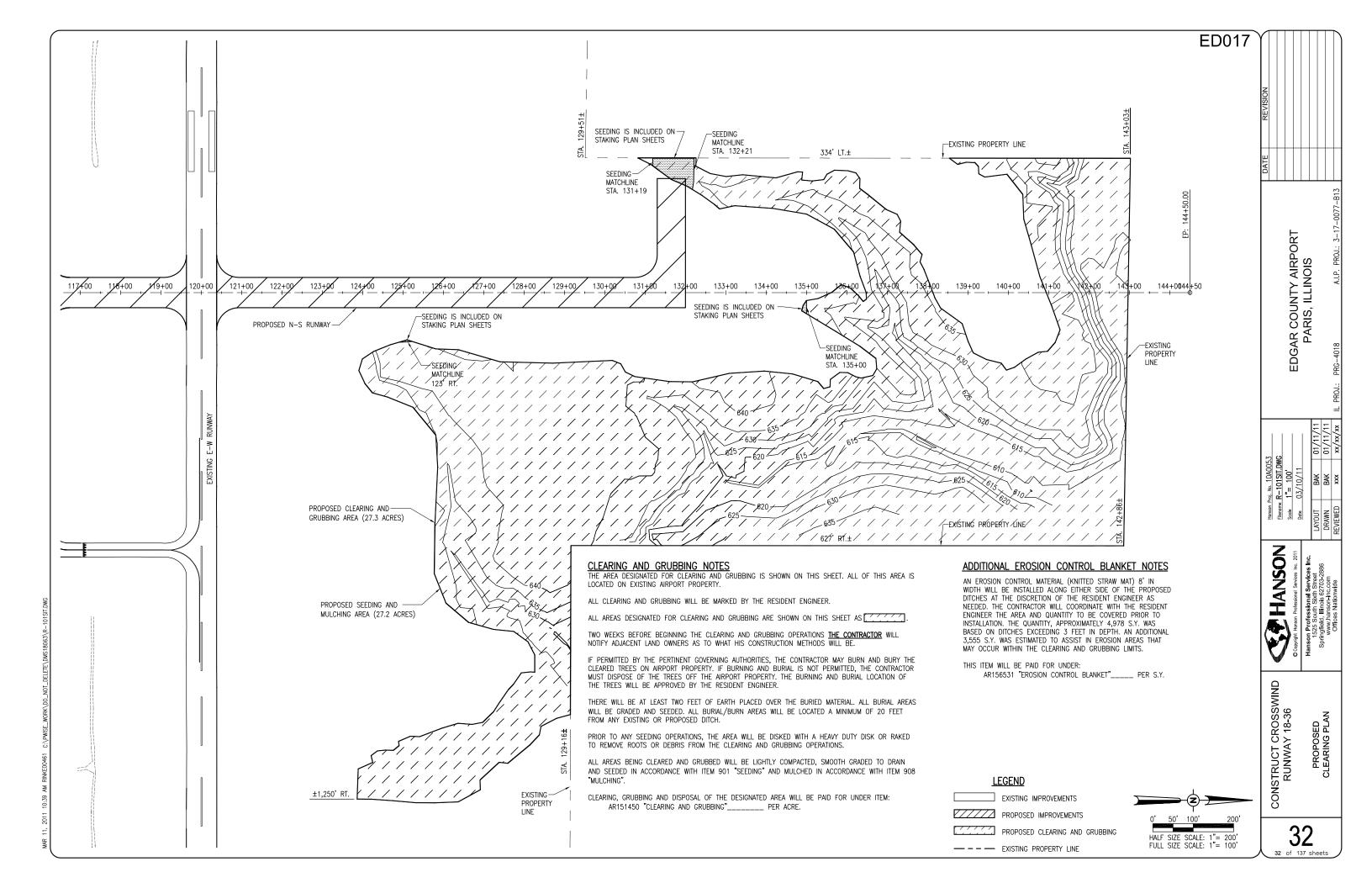
GAR

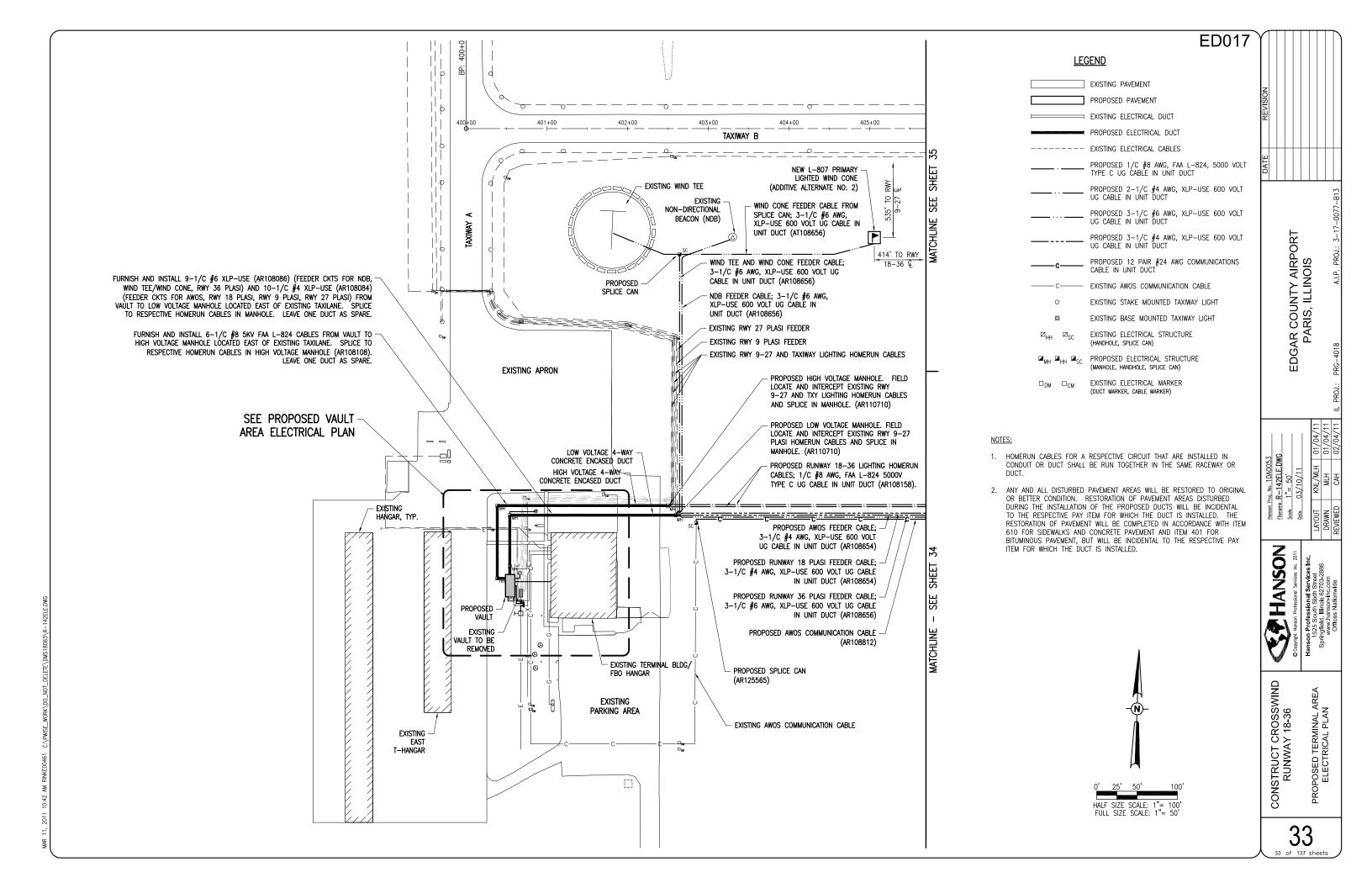
PROPOSED DRAINAGE PLAN STA 115+00 TO STA 119+00

MAR 11 2011 10:36 AM RINKEOOA61 C. DWISE WORK NO NOT DELETE DAKS 8063 D 1310BN 1









- RUNWAY SERIES

RUNWAY LIGHT

CIRCUIT TO

PROPOSED RUNWAY END 36

THRESHOLD LIGHT DETAIL

NOT TO SCALE

16. THE CONTRACTOR IS REQUIRED TO FILL IN ALL HOLES AND DEPRESSIONS

RESULTING FROM THE LIGHT REMOVAL, WITH EARTH FROM WITHIN THE

FUTURE SETTLEMENT AND FERTILIZED, SEEDED, AND MULCHED IN

17. NO CONNECTION TO AN ACTIVE LIGHTING CIRCUIT WILL BE BROKEN UNTIL

THE CIRCUIT HAS BEEN TURNED OFF IN ACCORDANCE WITH NOTE 1.

ACCORDANCE WITH ITEMS 901 AND 908 RESPECTIVELY.

CONSTRUCTION LIMITS. THE AREAS SHALL BE COMPACTED TO PREVENT

AIRPORT JOIS

COUNTY /

GAR (

PROPOSED ELECTRICAL P STA. 98+50 TO STA. 113-

PROPOSED STAKE MOUNTED THRESHOLD LIGHT

PROPOSED TAXI GUIDANCE SIGN

EXISTING ELECTRICAL STRUCTURE

PROPOSED ELECTRICAL STRUCTURE

(MANHOLE, HANDHOLE, SPLICE CAN)

EXISTING ELECTRICAL MARKER

(DUCT MARKER, CABLE MARKER)

(HANDHOLE, SPLICE CAN)

 \square_{SC}

 \square_{HH}

□_{DM} □_{CM}

UG CABLE IN UNIT DUCT

UG CABLE IN UNIT DUCT

EXISTING AWOS COMMUNICATION CABLE

CABLE IN UNIT DUCT

PROPOSED 3-1/C #4 AWG, XLP-USE 600 VOLT

PROPOSED 12 PAIR #24 AWG COMMUNICATIONS

IN AREAS WHERE THERE IS A CONGESTION OF CABLES OR WHERE THE

PROPOSED CABLE CROSSES AN EXISTING CABLE, THE CONTRACTOR IS

CABLE. AT OTHER LOCATIONS, THE PROPOSED CABLE MAY BE TRENCHED OR

PLOWED INTO PLACE. HAND DIGGING, TRENCHING AND/OR PLOWING WILL BE

CONSIDERED INCIDENTAL TO THE PROPOSED CABLES AND NO ADDITIONAL

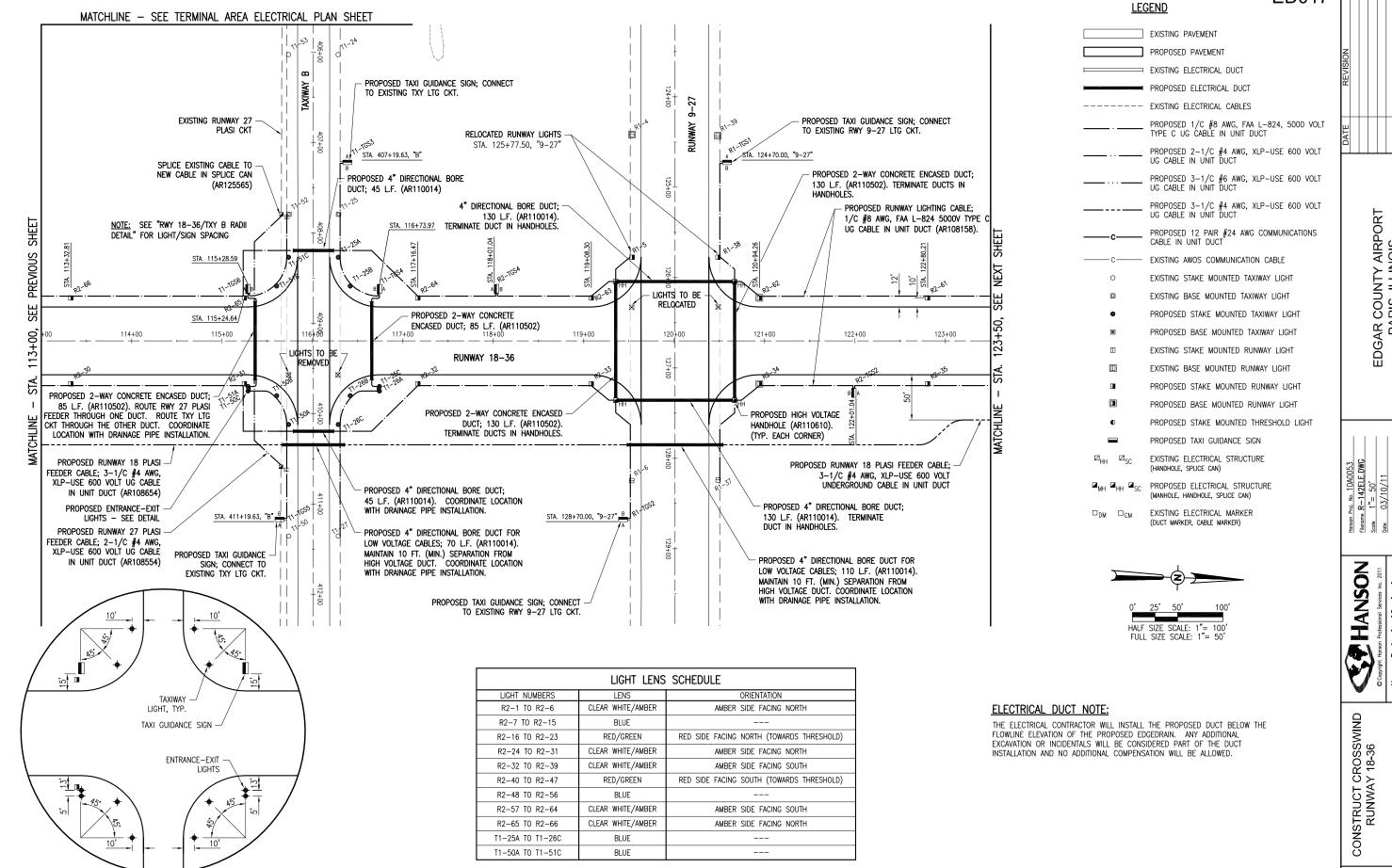
PROPOSED RUNWAY LIGHTS SHALL BE FITTED WITH LENSES IN ACCORDANCE

WITH THE "LIGHT LENS SCHEDULE". ALL PROPOSED TAXIWAY LIGHTS WILL BE

REQUIRED TO HAND DIG THE TRENCH NECESSARY FOR THE

COMPENSATION WILL BE ALLOWED.

FITTED WITH 360' BLUE LENSES.

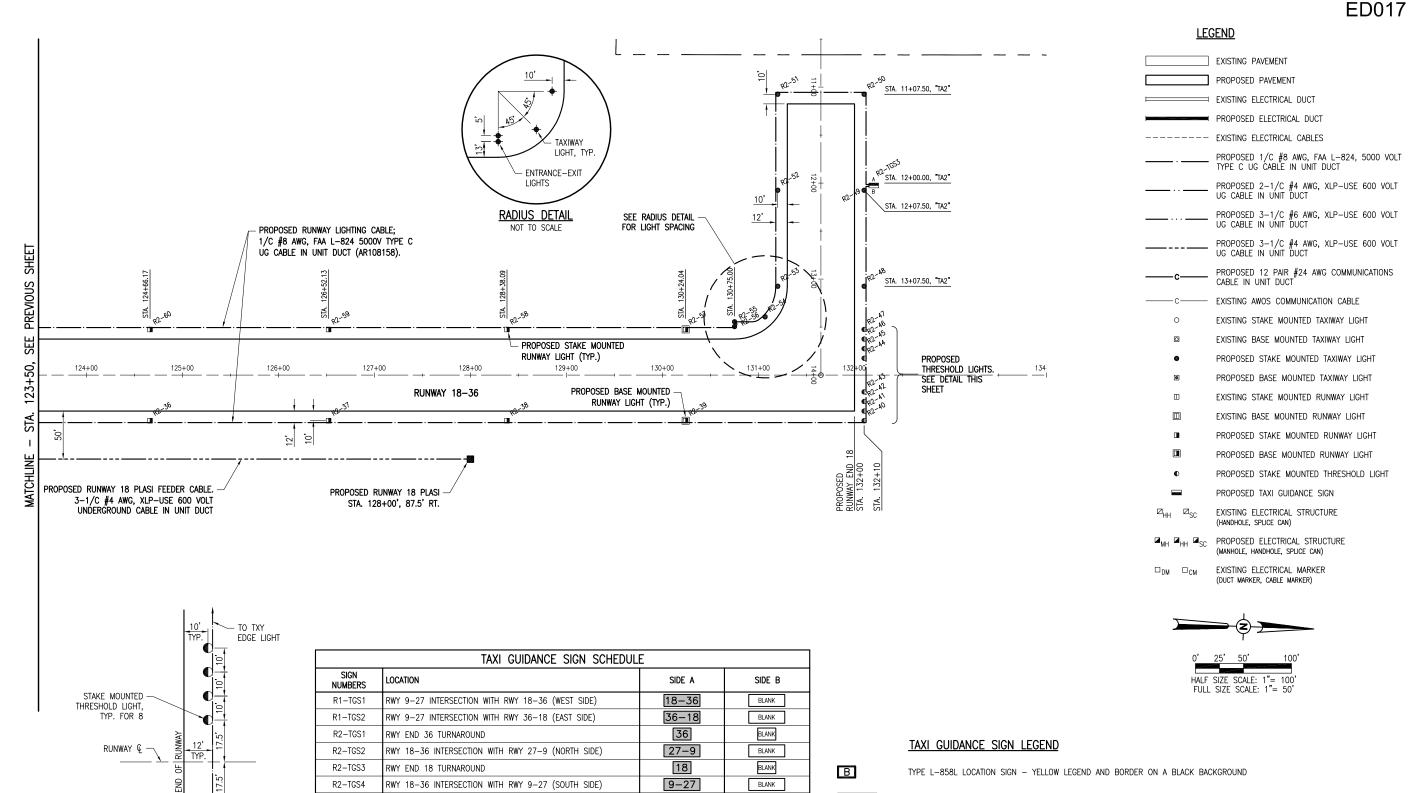


RWY 18-36/TXY B RADII DETAIL

ED017

CONSTRUCT CROSSWIND RUNWAY 18-36

EDGAR COUNTY AIRPORT PARIS, ILLINOIS



B 18-36

RAMP →

B 36-18

← RAMP

BI ANK

BLANK

BLANK

18-36 TYPE L-858R MANDATORY INSTRUCTION SIGN - BLACK OUTLINE ON OUTSIDE EDGE OF WHITE LEGEND ON A RED BACKGROUND

TYPE L-858Y DIRECTION, DESTINATION, AND BOUNDARY SIGN - BLACK LEGEND ON A YELLOW BACKGROUND

BLANK BLANK - BLACK BACKGROUND

← RAMP

TAXI GUIDANCE SIGN NOTES

T1-TGS3

T1-TGS4

T1-TGS5

T1-TGS6

THE PROPOSED TAXI GUIDANCE SIGNS SHALL CONFORM TO ADVISORY CIRCULAR 150/5345 44J (OR LATEST ISSUE IN FORCE) AND BE FAA-APPROVED FOR TYPE L-858Y DIRECTION, DESTINATION, AND BOUNDARY SIGNS (BLACK LEGEND ON YELLOW BACKGROUND); TYPE L-858R MANDATORY INSTRUCTION SIGN (BLACK OUTLINE ON OUTSIDE EDGE OF WHITE LEGEND ON RED BACKGROUND); AND/OR TYPE L-858L LOCATION SIGN (YELLOW LEGEND AND BORDER ON BLACK BACKGROUND). THE SIGNS SHALL BE SIZE 1, 18-IN. SIGN FACE WITH A 12-IN. LEGEND; STYLE 2, POWERED FROM A 4.8 TO 6.6 AMP SERIES LIGHTING CIRCUIT; CLASS 2, FOR OPERATION FROM -40 DEGREES F TO 131 DEGREES F; MODE 2, TO WITHSTAND WIND LOADS OF 200 M.P.H., BASE-MOUNTED, DOUBLE-SIDED, AS SPECIFIED ON THE PLANS.

TXY B INTERSECTION WITH RWY 18-36 (WEST SIDE)

RWY 18-36 INTERSECTION WITH TXY B (NORTH SIDE)

TXY B INTERSECTION WITH RWY 36-18 (EAST SIDE)

RWY 18-36 INTERSECTION WITH TXY B (SOUTH SIDE)

36

EDGAR COUNTY AIRPORT PARIS, ILLINOIS

PAVEMENT EDGE

RUNWAY SERIES

RUNWAY LIGHT

CIRCUIT TO

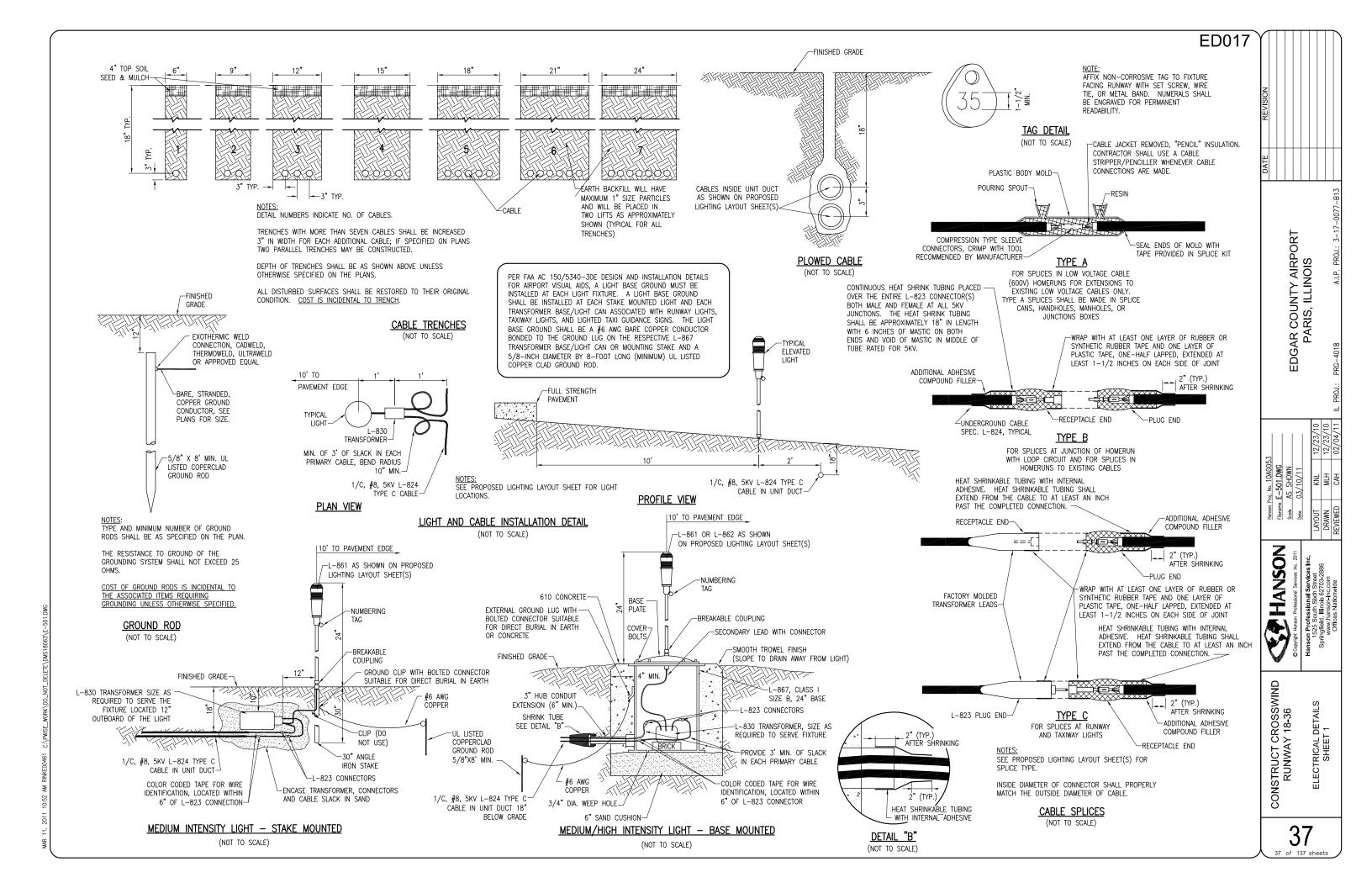
PROPOSED RUNWAY END 18 THRESHOLD LIGHT DETAIL

NOT TO SCALE

CONSTRUCT CROSSWIND RUNWAY 18-36

PROPOSED ELECTRICAL PLAN STA. 123+50 TO STA. 134+00

HANSON



DUCT BANK NOTES:

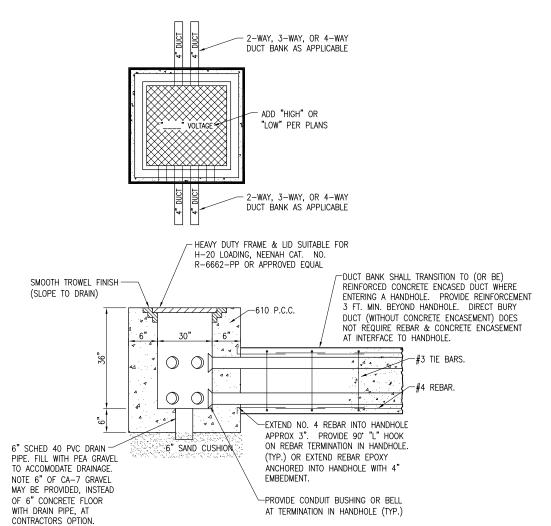
- 1. DIMENSIONS FOR CONCRETE COVERAGE AND SEPARATION BETWEEN DUCTS ARE MINIMUM.
- 2. INCLUDE DUCT SPACERS AS MANUFACTURED BY UNDERGROUND DEVICES INC., OR APPROVED EQUAL TO MAINTAIN PROPER SEPARATION OF CONDUITS.
- 3. REBAR IS REQUIRED TO ACCOMMODATE FUTURE DUCT EXTENSIONS & INTERFACE AT DUCT BANK TERMINATIONS. CONCRETE ENCASED DUCT BANKS TERMINATING IN HANDHOLES REQUIRE REBAR AT TERMINATIONS.
- 4. CONDUITS FOR CONCRETE ENCASED DUCT SHALL BE SCHEDULE 40 PVC CONFORMING TO ITEM 110.
- 5. MINIMUM DEPTH OF TOP OF DUCT ENCASEMENT SHALL BE 18" BELOW FINISHED GRADE.
- 6. HIGH VOLTAGE AND LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, HANDHOLE, OR MANHOLE.
- 7. HOMERUN CABLES FOR A RESPECTIVE CIRCUIT SHALL BE INSTALLED IN THE SAME RACEWAY OR DUCT.
- 8. DUCT INTERFACE TO HANDHOLES OR MANHOLES WILL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE DUCT PAY

CABLE & DUCT MARKER NOTES:

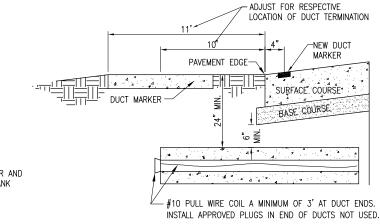
1. THE COST OF ALL TURF AND PAVEMENT DUCT MARKERS SHALL BE INCIDENTAL TO THE DUCT. THE COST OF ALL CABLE MARKERS SHALL BE INCIDENTAL TO THE CABLE.

ED017

- 2. BITUMINOUS PAVEMENT DUCT MARKER AND CONCRETE DUCT MARKER TO BE PROVIDED AT EACH END OF EACH DUCT AS SHOWN ON THE LOCATION PLAN. FOR CONCRETE PAVEMENT, THE LETTER "D" SHALL BE IMPRESSED IN THE PAVEMENT INSTEAD OF THE MARKER THE LETTER SHALL BE FORMED AS DESCRIBED IN NOTE 4.
- 3. CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND APPROXIMATELY EVERY 200' ALONG CABLE
- 4. CONCRETE CABLE MARKERS AND DUCT MARKERS SHALL HAVE LETTERS 4" HIGH, 3" WIDE WITH WIDTH OF STROKE χ'' and χ'' deep. all letters, numbers and arrows

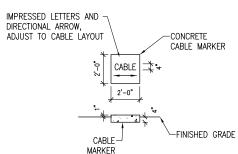


TOP OF MARKER SHALL BE FLUSH WITH FINISHED A DRILLED HOLE AND SECURED WITH EPOXY GLUE.

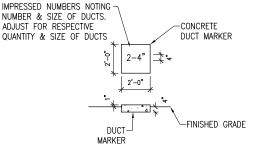


UNDERGROUND ELECTRICAL DUCT

(NOT TO SCALE)



TURF CABLE MARKERS "NOT TO SCALE"



TURF DUCT MARKERS

ADJUST FOR RESPECTIVE QUANTITY & SIZE OF DUCTS

"NOT TO SCALE"

NOTES:

- LIDS FOR LOW VOLTAGE HANDHOLES SHALL BE LABELED "LOW VOLTAGE". LIDS FOR HIGH VOLTAGE HANDHOLES SHALL BE LABELED "HIGH VOLTAGE". COORDINATE LETTERING WITH MFR.
- HANDHOLES MAY BE CAST IN PLACE OR PRECAST. PRECAST MANUFACTURERS MUST BE ON THE IDOT (ILLINOIS DEPT. OF TRANSPORTATION) APPROVED LIST OF CERTIFIED PRECAST CONCRETE PRODUCERS.
- ALL CORING, INTERFACE, AND LABOR ASSOCIATED WITH CONDUIT, DUCT, CABLE IN UNIT DUCT, AND / OR CABLE ENTRIES WILL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE HANDHOLE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ELECTRICAL HANDHOLE "NOT TO SCALE

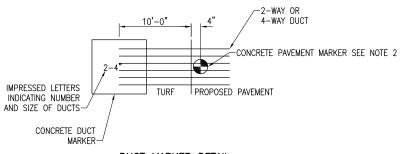
(3/8" HIGH LETTERING MIN.) 18" R. -INDICATES NUMBER AND SIZE OF DUCT BANK 0.75" BITUMINOUS PAVEMENT DUCT MARKERS

TOP VIEW

PRESTAMPED OR-

CHISELED ON THE JOB

PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN



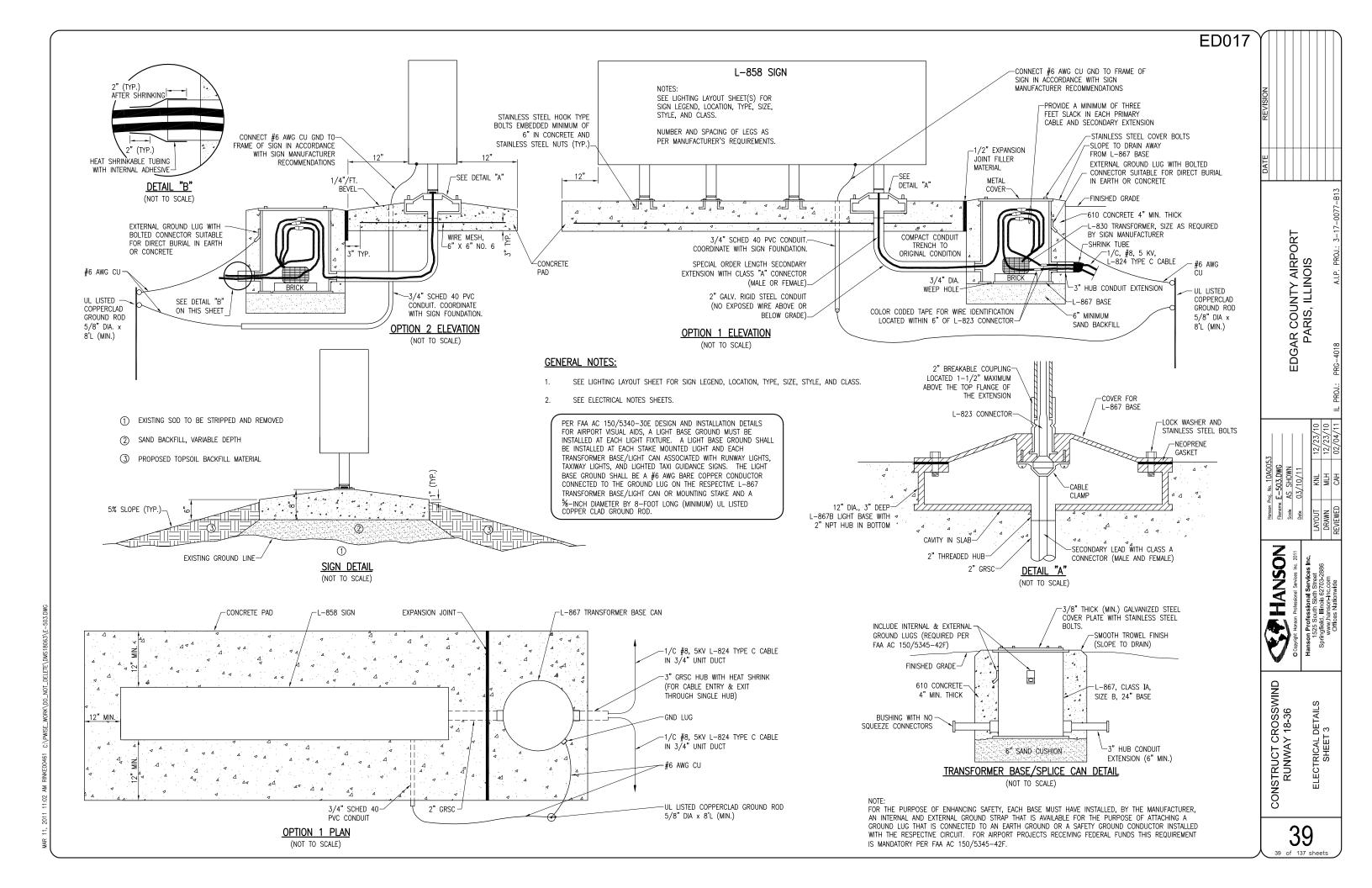
DUCT MARKER DETAIL "NOT TO SCALE"

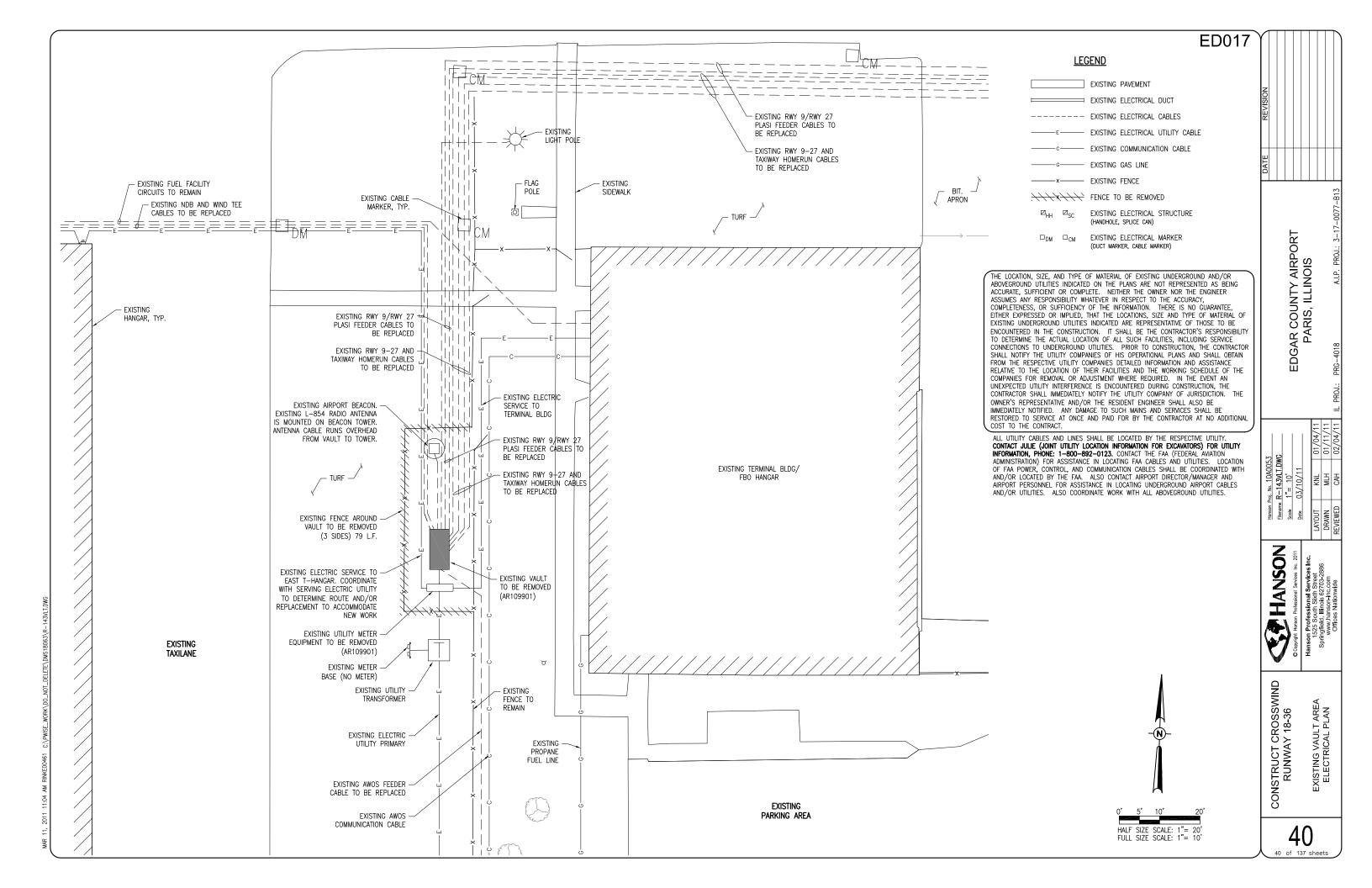
38

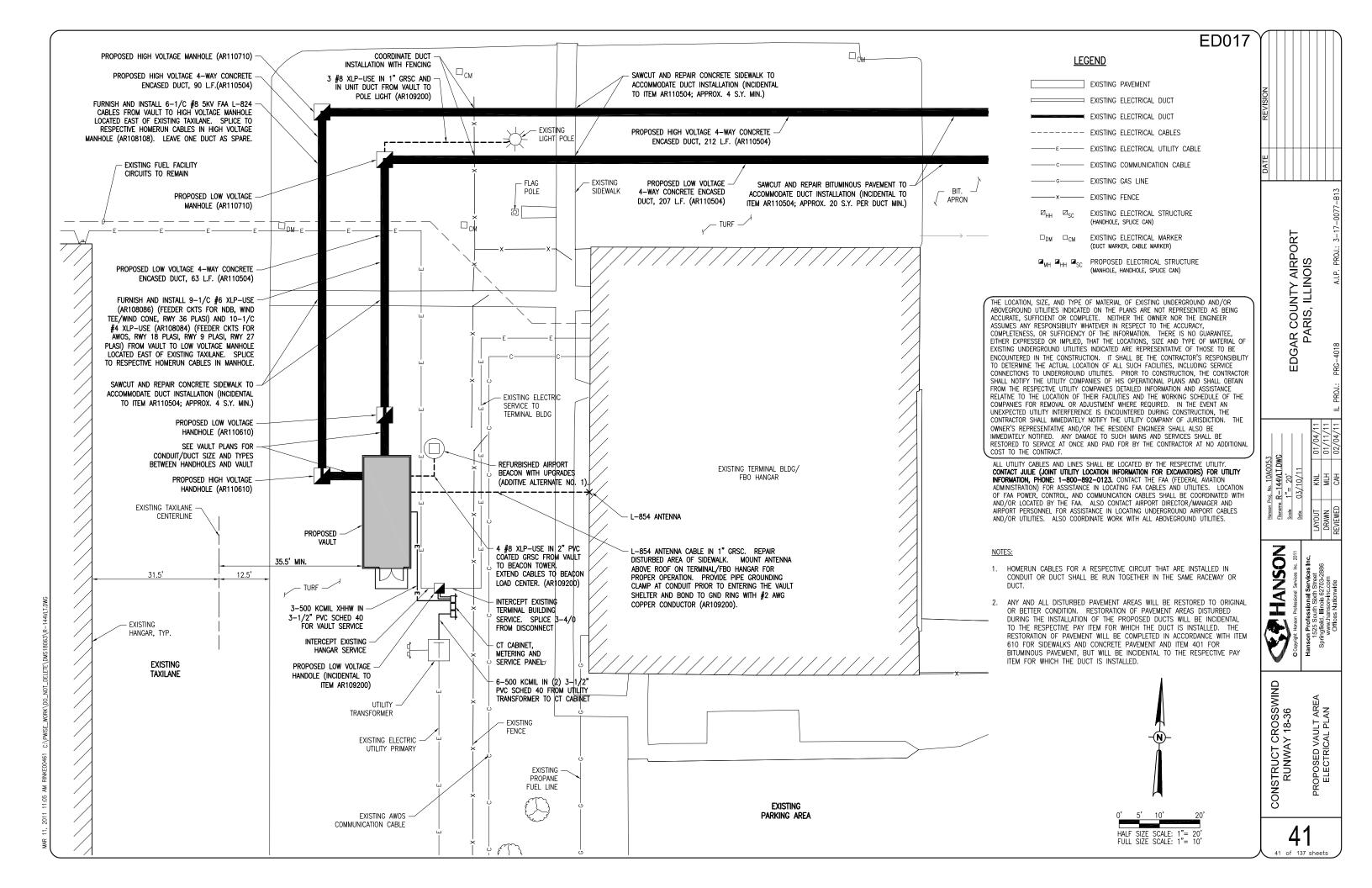
LECTRICAL D SHEET

CONSTRUCT CROSSWIND RUNWAY 18-36

COUNTY AIRPORT RIS, ILLINOIS







	ONE LINE DIACRAM
	CTRICAL LEGEND — ONE—LINE DIAGRAM
	CABLE TERMINATOR/LUG
****	TRANSFORMER
	DISCONNECT SWITCH
- \	FUSIBLE DISCONNECT SWITCH
	CIRCUIT BREAKER
\	THERMAL MAGNETIC CIRCUIT BREAKER
	FUSE
↓ ‡	TRANSIENT VOLTAGE SURGE SUPPRESSOR OR SURGE PROTECTOR DEVICE
#	GROUND — GROUND ROD, GROUNDING ELECTRODE, OR AT EARTH POTENTIAL
Ø	INDICATING LIGHT
M	MOTOR
#	LOAD, MOTOR, # = HORSEPOWER
	ELECTRIC UTILITY METER BASE
0	JUNCTION BOX WITH SPLICE
XXX	EQUIPMENT, XXX = DEVICE DESCRIPTION
GND	GROUND BUS OR TERMINAL
S/N	NEUTRAL BUS
#	PANELBOARD WITH MAIN LUGS
	PANELBOARD WITH MAIN BREAKER
***	FUSE PANEL WITH MAIN FUSE PULLOUT
Φ	DUPLEX RECEPTACLE 120V SINGLE PHASE GROUNDING TYPE
	CONTROL STATION
N EM	TRANSFER SWTICH
G	ENGINE GENERATOR SET

	ELECTRICAL LEGEND — SCHEMATIC						
$\dashv\vdash$	NORMALLY OPEN (N.O.) CONTACT						
-₩-	NORMALLY CLOSED (N.C.) CONTACT						
(S*)	STARTER COIL, * = STARTER NUMBER						
OL —)/—	OVERLOAD RELAY CONTACT						
€R*	CONTROL RELAY, * = CONTROL RELAY NUMBER						
(R*)	RELAY, * = RELAY NUMBER						
/0	TOGGLE SWITCH / 2 POSITION SWITCH						
OFF AUTO	2-POSITION SELECTOR SWITCH						
HAND AUTO NOO OOO OOO OOO	3-POSITION SELECTOR SWITCH (H-O-A SHOWN)						
	2 POLE DISCONNECT SWITCH						
<u> </u>	3 POLE DISCONNECT SWITCH						
<u> </u>	PHOTOCELL						
─*	TERMINAL BLOCK, * = TERMINAL NUMBER						
*	DEVICE TERMINAL, * = DEVICE TERMINAL NUMBER						
	INTERNAL PANEL WIRING						
	FIELD WIRING						
	FUSE						
GND	GROUND BUS OR TERMINAL						
S/N	NEUTRAL BUS						
	GROUND, GROUND ROD, GROUND BUS						
0 0	INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR						
	S1 CUTOUT HANDLE REMOVED						
 	S1 CUTOUT HANDLE INSERTED						
, J	N.O. THERMAL SWITCH						
ٻا	N.C. THERMAL SWITCH						
38	L-830 SERIES ISOLATION TRANSFORMER						

	ADOME STANDARD SLOSS
A.F.F.	ABOVE FINSHED FLOOR
A, AMP	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
С	CONDUIT
СВ	CIRCUIT BREAKER
CKT	CIRCUIT
CR	CONTROL RELAY
CU	COPPER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
ЕМ	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EP	EXPLOSION PROOF
ES	EMERGENCY STOP
ETL	INTERTEK - ELECTRICAL TESTING LABS
ETM	ELAPSE TIME METER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRSC	GALVANIZED RIGID STEEL CONDUIT
HID	HIGH INTENSITY DISCHARGE
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
J	JUNCTION BOX
KVA	KILOVOLT AMPERE(S)
KW	KILOWATTS
LC	LIGHTING CONTACTOR
LTFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT (UL LISTED)
LTG	LIGHTING
LP	LIGHTING PANEL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
мсм	THOUSAND CIRCLUAR MIL
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	METAL HALIDE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
NC NC	NORMALLY CLOSED
NO NO	NORMALLY OPEN
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRIC

OVERLOAD

ELE	ECTRICAL ABBREVIATIONS (CONTINUED)
PB	PULL BOX
PC	PHOTO CELL
PDB	POWER DISTRIBUTION BLOCK
PNL	PANEL
RCPT	RECEPTACLE
R	RELAY
S	STARTER
SPD	SURGE PROTECTION DEVICE
SPST	SINGLE POLE SINGLE THROW
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UL	UNDERWRITER'S LABORATORIES
٧	VOLTS
W/	WITH
W /0	WITHOUT
WP	WEATHER PROOF
XFER	TRANSFER
XFMR	TRANSFORMER
	DDT FOUNDATION ADDDD WATIONS

AIRPO	ORT EQUIPMENT/FACILITY ABBREVIATIONS
ASOS	AUTOMATED SURFACE OBSERVING SYSTEM
ATCT	AIR TRAFFIC CONTROL TOWER
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM
CCR	CONSTANT CURRENT REGULATOR
DME	DISTANCE MEASURING EQUIPMENT
FAR	FEDERAL AVIATION REGULATION
GS	GLIDE SLOPE FACILITY
HIRL	HIGH INTENSITY RUNWAY LIGHT
ILS	INSTRUMENT LANDING SYSTEM
IM	INNER MARKER
LIR	LOW IMPACT-RESISTANT
LOC	LOCALIZER FACILITY
MALS	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM
MALSR	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATING LIGHTS
MIRL	MEDIUM INTENSITY RUNWAY LIGHT
MITL	MEDIUM INTENSITY TAXIWAY LIGHT
NDB	NON-DIRECTIONAL BEACON
PAPI	PRECISION APPROACH PATH INDICATOR
PLASI	PULSE LIGHT APPROACH SLOPE INDICATOR
RAIL	RUNWAY ALIGNMENT INDICATING LIGHTS
REIL	RUNWAY END IDENTIFIER LIGHT
RVR	RUNWAY VISUAL RANGE
VADI	VISUAL APPROACH DESCENT INDICATOR
VASI	VISUAL APPROACH SLOPE INDICATOR
VOR	VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE FACILITY
WC	WIND CONE

NOTES:

- 1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- 2. ALL VAULT WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- COLOR CODE PHASE AND NEUTRAL CONDUCTOR INSULATION FOR NO. 6 AWG OR SMALLER. PROVIDE COLORED INSULATION OR COLORED MARKING TAPE FOR PHASE AND NEUTRAL CONDUCTORS FOR NO. 4 AWG AND LARGER. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR AWG AND/OR KCMIL TO COMPLY WITH NEC 250.119. NEUTRAL CONDUCTORS SHALL HAVE WHITE COLORED INSULATION FOR NO. 6 AWG AND SMALLER TO MEET THE REQUIREMENTS OF NEC 200.6. STANDARD COLORS FOR POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

120/240	VAC,	1	PHASE,	3	WIRE
PHASE A			BLACK		
PHASE B			RED		
NEUTRAL			WHITE		
GROUND			GREEN	١	
GROUND			GREEN	١	

- 4. SEE RESPECTIVE SITE PLANS FOR SITE LEGEND INFORMATION.
 - LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS STALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LIFMC THAT IS NOT UL LISTED. CONFIRM LIFMC BEARS THE UL LABEL PRIOR TO INSTALLATION.

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EDGAR COUNTY AIRPORT PARIS, ILLINOIS

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/ WARMSTRONG.

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CONSTRUCT CROSSWIND RUNWAY 18-36 ELECTRICAL LEGEND

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MAR 11, 2011 10:15 AM MAIRANDE P-VETEV PROTECTEV 20114100-000 EDCAR COTINTY FLECTRICAL VALIET PRAMINICS PRODUCTIONS PLANS E-001

VAULT BUILDING NOTES:

THE PROPOSED ELECTRICAL VAULT BUILDING SHALL CONSIST OF A PRE-FABRICATED, PRE-ENGINEERED EQUIPMENT ENCLOSURE BUILDING WITH A CONCRETE FLOOR, STEEL SKID STRUCTURE AND FOUNDATION PEIRS OR WITH CONCRETE SLAB FOUNDATION.

THE PROPOSED ELECTRICAL VAULT BUILDING SHALL HAVE A NOMINAL 12 FOOT WIDE EXTERIOR (INTERIOR WIDTH SHALL NOT BE LESS THAN 11 FEET, ADJUST EXTERIOR WIDTH AS APPLICABLE) BY NOMINAL 29 FEET IN LENGTH (INTERIOR LENGTH SHALL NOT BE LESS THAN 27 FEET, ADJUST EXTERIOR AS APPLICABLE) BY NOMINAL 9 FEET HIGH INTERIOR (FLOOR TO CEILING).

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COUNTY AIRPORT RIS, ILLINOIS

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PROPOSED AIRPORT AULT EQUIPMENT PLAN

CONSTRUCT CROSSWIND RUNWAY 18-36

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GENERAL NOTES:

- SEE "PROPOSED AIRFIELD VAULT ONE-LINE DIAGRAM" FOR RATING AND CONDUIT AND CABLE INFORMATION FOR LOW VOLTAGE EQUIPMENT.
- SEE "PROPOSED AIRFIELD VAULT ONE-LINE DIAGRAM" FOR LOW VOLTAGE INPUT POWER WIRING REQUIREMENTS TO CCR'S (CONSTANT CURRENT REGULATORS). SEE "HIGH VOLTAGE WIRING SCHEMATIC" FOR CCR OUTPUT WIRING REQUIREMENTS. SEE "AIRFIELD LIGHTING CONTROL WIRING SCHEMATIC" FOR CCR CONTROL WIRING REQUIREMENTS. PROVIDE 5 FEET MINIMUM CLEAR WORKING SPACE IN FRONT OF EACH CCR AND EACH
- CONSTANT CURRENT REGULATORS AND THEIR RESPECTIVE SERIES PLUG CUTOUTS SHALL BE CLEARLY LABELED TO IDENTIFY THE RESPECTIVE REGULATOR DESIGNATION, RUNWAY OR TAXIWAY SERVED, POWER SOURCE OR CIRCUIT, AND VOLTAGE SYSTEM.
- SEE ELEVATION VIEWS FOR ADDITIONAL INFORMATION ON PROPOSED EQUIPMENT LAYOUTS.
- COORDINATE CONDUIT & SLEEVE ENTRANCES THROUGH FLOOR SLAB AND WALLS.
- SEE "VAULT GROUND BUS RISER DIAGRAM" FOR GROUNDING INFORMATION

KEY NOTES: (#)

- NOT USED.
- SERVICE CONDUCTORS IN 3 1/2" SCHED. 40 PVC CONDUIT FROM SERVICE ENTRANCE RATED ENCLOSED CIRCUIT BREAKER. CONTRACTOR SHALL FURNISH & INSTALL SERVICE CONDUCTORS & CONDUIT SEE "PROPOSED VAULT AREA ELECTRICAL PLAN" FOR ROUTING INFORMATION.
- VAULT MAIN DISTRIBUTION PANEL A. SEE SCHEDULE.
- AC SURGE PROTECTOR/TVSS.
- LIGHTING CONTACTOR PANEL. SEE "LIGHTING CONTACTOR PANEL DETAIL".
- I -854 RADIO CONTROL UNIT
- RADIO RELAY INTERFACE PANEL WITH PHOTOCELL BYPASS SWITCH FOR AIRFIELD LIGHTING SYSTEM. SEE "AIRFIELD LIGHTING CONTROL WIRING SCHEMATIC" FOR WIRING REQUIREMENTS. MOUNT PHOTOCELL ABOVE ROOF LEVEL. FIELD VERIFY LOCATION FOR PROPER CONTROL AND OPERATION. PROVIDE SCHED 40 PVC NIPPLE AT ENTRY TO VAULT FOR ISOLATION. BOND EXTERIOR METAL CONDUIT TO GND RING WITH PIPE CLAMP AND BONDING CONDUCTOR.
- ELECTRIC WALL HEATER EH-1. SUITABLE FOR SURFACE MOUNTING WITH INTEGRAL THERMOSTAT. Q-MARK MODEL CWH3404, OR APPROVED EQUAL. HEATER SHALL BE MANUFACTURED IN THE UNITED STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENT, & THE "BUY AMERICAN ACT". LOCATED HEATER SUCH THAT IT IS NOT LESS THAN 8" FROM ADJACENT WALLS OR EQUIPMENT.

ELECTRIC WALL HEATER EH-2, SUITABLE FOR SURFACE MOUNTING WITH INTEGRAL THERMOSTAT, Q-MARK MODEL CWH3404, OR APPROVED EQUAL. HEATER SHALL BE MANUFACTURED IN THE LINITED STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENT & "BUY AMERICAN ACT". BOTTOM OF HEATER SHALL BE 8" (MIN.) ABOVE THE LIPPER ELECTRICAL WIREWAY COORDINATE WITH CCR INSTALLATION & FAN INSTALLATION. LOCATE HEATER ON WALL SUCH THAT IT IS NOT DIRECTLY BEHIND CCR. LOCATE HEATER SUCH THAT IT IS NOT LESS THAN 8" FROM ADJACENT WALLS OR EQUIPMENT.

SCALE 1/2"=1'-0"

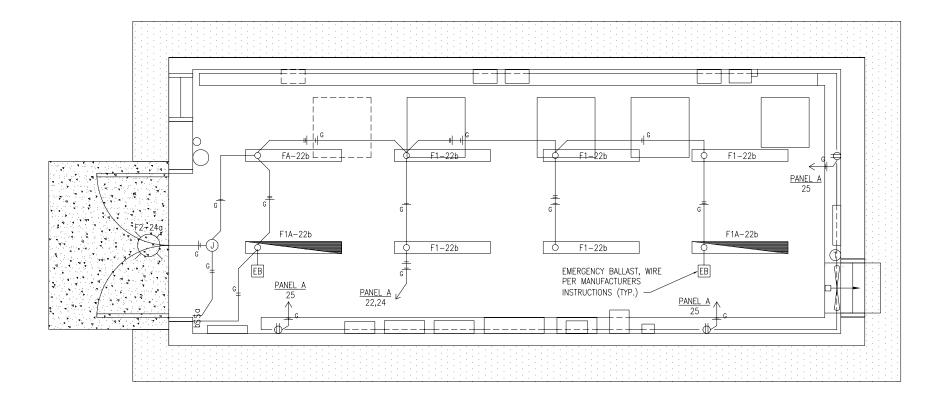
VAULT ELECTRICAL EQUIPMENT PLAN

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- EXHAUST FAN EF-1, 3100 CFM (MINIMUM) AT .25" STATIC PRESSURE WITH 1/3 HP (MINIMUM), 120 VAC MOTOR, COOK MODEL 20S10D, OR APPROVED EQUAL. INCLUDE WALL HOUSING WITH GUARD, HEAVY DUTY BACK DRAFT DAMPER, ALUMINUM WEATHER-HOOD PAINTED TO MATCH BUILDING EXTERIOR STAINLESS STEEL INSECT SCREEN, AND FRACTIONAL HP ELECTRICAL DISCONNECT, INSTALL FAN AS HIGH AS POSSIBLE PROVIDE 120 VAC THERMOSTAT AT 48" AFE SEE EXHAUST FAN CONTROL SCHEMATIC FOR WIRING REQUIREMENTS. FAN SHALL BE MANUFACTURED IN THE UNITED STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENT, & THE "BUY AMERICAN
- INTAKE LOUVER L-1, 24" WIDE BY 48" HIGH INTAKE LOUVER WITH STAINLESS STEEL INSECT SCREEN, FLANGED FRAME, 120 VAC LOW LEAK MOTORIZED DAMPER WITH LIMIT SWITCH, KYNAR FINISH MATCHING BUILDING EXTERIOR, RUSKIN MODEL ELF375DX, OR APPROVED EQUAL. SEE EXHAUST FAN CONTROL SCHEMATIC FOR WIRING REQUIREMENTS. LOUVER / DAMPER SHALL BE MANUFACTURED IN THE UNITED STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENT, & THE "BUY AMERICAN ACT".
- 6" BY 6" LOW VOLTAGE WIREWAY. LABEL "LOW VOLTAGE" EVERY 6 FEET. INSTALL ABOVE HIGH VOLTAGE WIREWAY.
- 6" BY 6" HIGH VOLTAGE WIREWAY. LABEL "HIGH VOLTAGE" EVERY 6 FEET. INSTALL BELOW LOW VOLTAGE WIREWAY.

- 14. NEW 7.5 KW REGULATOR FOR RUNWAY 18-36 (CCR). SEE GENERAL NOTE 1.
- 15. NEW 7.5 KW REGULATOR FOR TAXIWAY 9-27 (CCR). SEE GENERAL NOTE 1.
- 16. NEW 10 KW REGULATOR FOR RUNWAY 9-27 (CCR). SEE GENERAL NOTE 1.
- RELOCATED CROUSE-HINDS ELECTRIC TYPE FAA L-828 PART #82860-D-07-4-66-03, 7.5 KW REGULATOR FOR RUNWAY 9-27 (CCR). SEE GENERAL NOTE 1.
- 18. SERIES PLUG CUTOUT (TYPE S-1) WITH ENCLOSURE.
- 19. TRANSFER PAIR SERIES PLUG CUTOUTS (TYPE S-1) WITH ENCLOSURE, FOR RUNWAY 9-27
- 20. DOUBLE THROW FUSIBLE SAFETY SWITCH FOR RUNWAY 9-27 CCR'S.
- 21. 4-4" PVC COATED GRSC CONDUITS AND 4-4" PVC COATED GRSC ELBOWS AT VAULT FROM LOW VOLTAGE WIREWAY TO LOW VOLTAGE HANDHOLE. SEE "PROPOSED VALUET AREA ELECTRICAL PLAN" FOR ROUTING INFORMATION.
- 4-4" PVC COATED GRSC CONDUITS AND 4-4" PVC COATED GRSC FLBOWS AT VAULT FROM HIGH VOLTAGE WIREWAY TO HIGH VOLTAGE HANDHOLE. SEE "PROPOSED VAULT AREA ELECTRICAL PLAN" FOR ROUTING INFORMATION.
- VEGETATION BARRIER CONSISTING OF A MIN. 6" PEA GRAVEL SURFACE OVER FILTER OR LANDSCAPING FABRIC. PROPOSED SURFACE TREATMENT WILL COVER ENTIRE AREA BENEATH VAULT STRUCTURE AS WELL AS 18" AROUND THE PERIMETER OF THE BUILDING EDGE. THE STONE AND FABRIC AS WELL AS ANY FOLLIPMENT AND LABOR REQUIRED TO COMPLETE THIS TASK WILL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE PROPOSED ELECTRICAL VAULT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

- 24. ENTRANCE PAD CONSTRUCTED OF 6" MIN. CONCRETE SLAB W/ 6X6-W5XW5 WELDED WIRE FABRIC ON A COMPACTED SUBGRADE. MINIMUM DIMENSIONS OF PAD WILL BE 7'Wx5'Dx6"H, SLOPED AT A MIN. OF 0.5"/FT AWAY FROM THE VAULT ENTRANCE. THE CONCRETE PAD WILL BE PLACED AT LEAST 3" INTO THE EXISTING GRADE. STEP INTO VAULT BUILDING WILL NOT EXCEED 7". PCC USED TO CONSTRUCT THE PAD WILL CONFORM TO ITEM 610. ALL MATERIALS, LABOR AND EQUIPMENT USED TO CONSTRUCT THE PAD INCLUDING ANY GRADING REQUIRED WILL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE PROPOSED ELECTRICAL VAULT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 25. THE NUMBER, SIZE, DEPTH, REINFORCEMENT, AND LOCATION OF THE PROPOSED CONCRETE PIERS WILL BE COORDINATED WITH THE MANUFACTURER OF THE PROPOSED ELECTRICAL VAULT BUILDING. THE TOP OF THE PROPOSED PIERS WILL BE AT LEAST 4" ABOVE THE EXISTING GRADE.
- 26. BRANCH CIRCUIT CONDUCTORS IN 2" PVC COATED GRSC. TO REFURBISHED AIRPORT BEACON, SEE "PROPOSED VAULT AREA ELECTRICAL PLAN" FOR ROUTING INFORMATION.
- 27. PANEL B. SEE SCHEDULE.
- 28. AWOS STEP-UP TRANSFORMER.
- L-854 RADIO ANTENNA CABLE IN 1" GRSC TO EXISTING TERMINAL BUILDING. SEE "PROPOSED VAULT AREA ELECTRICAL PLAN" FOR ROUTING INFORMATION. MOUNT ANTENNA ABOVE ROOF PLAN ON FOR PROPER OPERATION.
- 30. PLASI 27 BOOST TRANSFORMER



NOTES:

- 1. 20 AMP BRANCH CIRCUITS FOR LIGHTING AND RECEPTACLES SHALL USE #12 AWG THWN (MIN.)
- LIGHT FIXTURES SHALL BE MANUFACTURED IN THE UNITES STATES OF AMERICA TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENTS. PROVIDE CERTIFICATION OF MANUFACTURE IN THE UNITED STATES WITH SHOP DRAWINGS SUBMITTAL.
- 3. ADJUST RECEPTACLE LOCATIONS WHERE NECESSARY TO ACCOMMODATE EQUIPMENT LAYOUT.
- 4. TEST EMERGENCY LIGHTING AND CONFIRM PROPER OPERATION WITH RESIDENT ENGINEER.

EDGAR COUNTY AIRPORT PARIS, ILLINOIS

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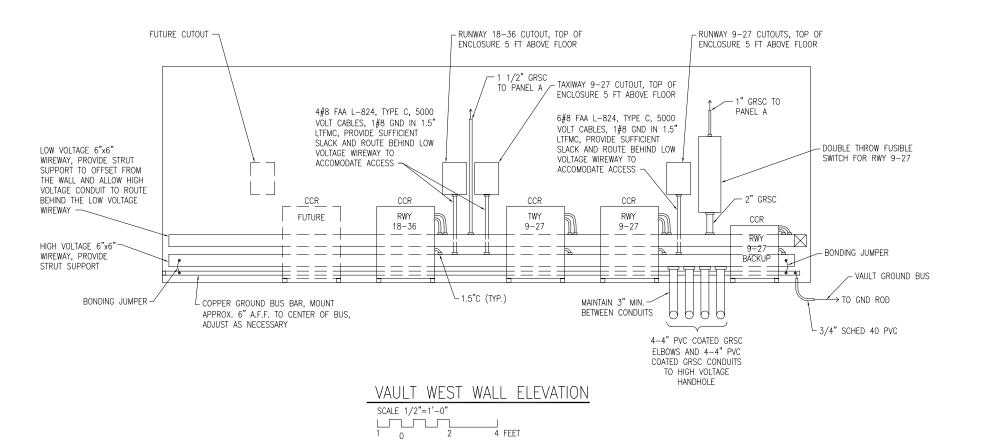
PROPOSED AIRPORT VAULT LIGHTING AND RECEPTACLE PLAN CONSTRUCT CROSSWIND RUNWAY 18-36

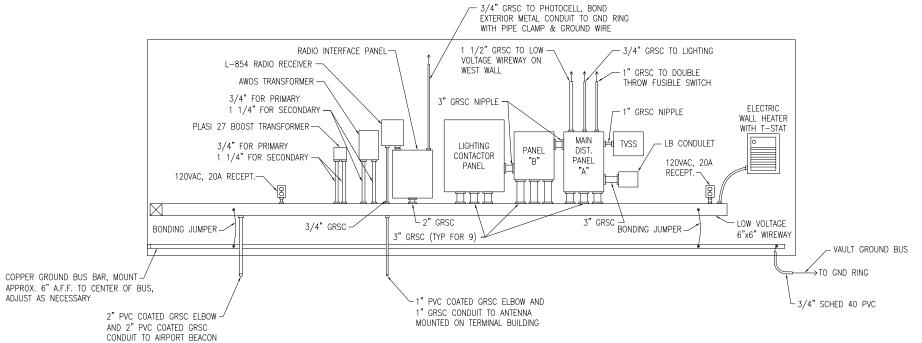
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SCALE 1/2"=1'-0"
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VAULT LIGHTING AND RECEPTACLE PLAN

	J	IGHTING FIXTURE S	SCHEDULE			
FIXT. TYPE	DESCRIPTION	MANUFACTURER AND CATALOG NO.	LAMPS/ WATTS	VOLTS	MOUNTING	REMARKS
F1	4 FT. WET LOCATION LISTED ENCLOSED AND GASKETED INDUSTRIAL FLUORESCENT LIGHT FIXTURE. IMPACT RESISTANT, UV RESISTANT, REINFORCED POLYESTER FIBERGIASS HOUSING, HIGH IMPACT ACRYLIC DIFFUSER, RAPID START, COLD WEATHER 0 DEG. F. ELECTRONIC BALLAST WITH LESS THAN OR EQUAL TO 10% THD	LITHONIA: DMW-2-32-ARDP- 120-CW-GEB10RS- WLF-USPOM, OR APPROVED EQUAL	2-32W T8 4100K 59 TOTAL INPUT WAITS	120	SURFACE TO HARD CEILING	PROVIDE WET LOCATION FITTINGS INSTALLED IN TOP OF FIXTURE
F1A	SAME AS F1 EXCEPT PROVIDE AN EMERGENCY BALLAST CAPABLE OF OPERATING 2 LAMPS FOR 90 MINUTES AT 1100-1200 TOTAL LUMENS, BODINE #850ST. NOTE: CONFIRM WITH LIGHT FIXTURE MFR. IF BALLAST WILL HAVE TO BE REMOTE MOUNTED NEAR FIXTURE AS INDICATED ON THE PLANS.	LITHONIA: DMW-2-32-ARDP- 120-CW-GEB10RS- WLF-USPOM, OR APPROVED EQUAL	2-32W T8 4100K 59 TOTAL INPUT WATTS	120	SURFACE TO HARD CEILING	PROVIDE WET LOCATION FITTINGS INSTALLED IN TOP OF FIXTURE
F2	COMPACT FLUORESCENT WALL—PAK, ONE PIECE INJECTION MOLDED UV STABILIZED POLYCARBONATE HOUSING. HIGH PERFORMANCE SPECULER ANODIZED SEGMENTED REFLECTOR, ONE PIECE HIGH TEMPERATURE SILICONE GASKET, MEDIUM BRONZE FINISH. HIGH POWER FACTOR ELECTRONIC BALLAST WITH LESS THAN OR EQUAL TO 10% THD, UL LISTED FOR WET LOCATIONS	LITHONIA: TWA-42TRT-120- SF-CR-DMB-LPI- USPOM, OR APPROVED EQUAL	1-42W TRT 4100K 47 TOTAL INPUT WATTS	120	SURFACE TO WALL ABOVE EXTERIOR DOOR APPROX. 4" ABOVE TOP OF DOOR FRAME	CONNECT TO WALL SWITCH LOCATED ON THE INSIDE OF THE BUILDING





SCALE 1/2"=1'-0"
1 0 2

VAULT EAST WALL ELEVATION

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CONSTRUCT CROSSWIND RUNWAY 18-36

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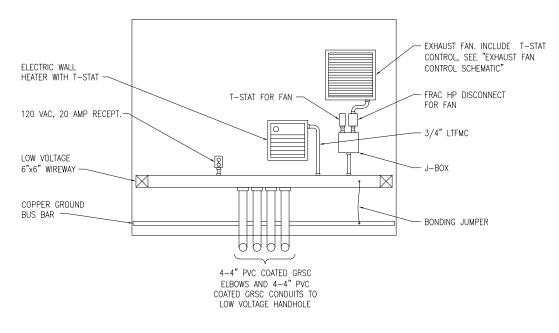
PROPOSED AIRPORT VAULT WALL ELEVATIONS (SHEET 1)

EDGAR COUNTY AIRPORT PARIS, ILLINOIS

400 AMP, 120/240 VAC, 1 PHASE, 3 WRE, 42 CIRCUIT PANELBOARD WITH 400 AMP, 2 POLE MAIN BREAKER WITH 22,000 AIC AT 240 VAC IN A NEMA 1 ENCLOSURE. UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SEPARATE COPPER GROUND BAR KIT. ALL FEEDER AND BRANCH BREAKERS SHALL BE BOLT-ON TYPE WITH 10,000 AIC RATING AT 120/240 VAC PANELBOARD SHALL BE SQUARE D OR APPROVED

NOTES:

- PANELBOARD BUSSES SHALL BE COPPER, NEUTRAL SHALL BE COPPER. EQUIPMENT GROUND BAR SHALL BE COPPER.
- ALL BRANCH CIRCUIT & FEEDER BREAKERS SHALL BE BOLT-ON TYPE WITH 10,000 AIC AT 120/240 VAC.
- INCLUDE ENGRAVED, PHENOLIC OR PLASTIC LEGEND PLATE LABELED "VAULT SERVICE PANEL A, 120/240 VAC, 1PH, 3W". INCLUDE LEGEND PLATE FOR THE MAIN BREAKER LABELED "SERVICE DISCONNECT".
- PANELBOARD SHALL BE MANUFACTURED IN THE UNITED STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENTS. PROVIDE CERTIFICATION OF MANUFACTURE IN THE UNITED STATES WITH SHIP DRAWING SUBMITTAL.
- CIRCUIT BREAKERS AND WIRING SHALL BE SIZED FOR THE ACTUAL EQUIPMENT FURNISHED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S RECOMMENDATION AND NEC. CONTRACTOR SHALL ADJUST CIRCUIT BREAKER SIZES & WIRING WHERE APPLICABLE TO CONFORM WITH MFR RECOMMENDATIONS AND NEC.



VAULT	NORTH	WALL	ELEVATION
SCALE 1/2"	=1'-0"		
1 0	2	4 FEET	

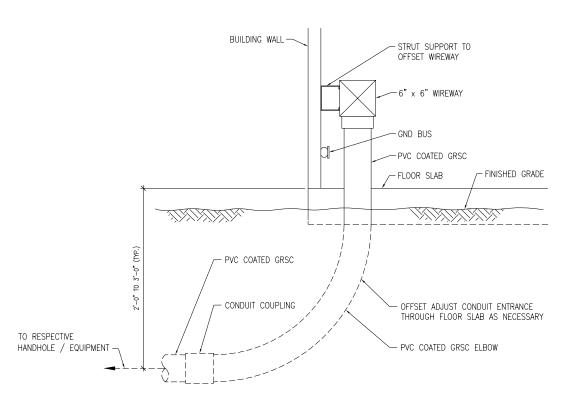
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				PAN	EL B	SCHED	ULE				
	DESIGNATION: LOCATION: VOLTAGE: PHASE:	120/240	RT VAUL						M.L.C 100 A SURF 10,00	MP	146
CKT.			CKT.		PH	ASE		BKR.	-	LOAD	CKT.
NO.	DESCRIPTION	KVA	AMPS	POLE	Α	В	AMPS	POLE	KVA	DESCRIPTION	NO.
1	PLASI 18	1.50	20	1	2.25		30	2	0.75	AIRPORT BEACON	2
3	PLASI 36	1.50	20	1		2.25	30	-	0.75	AIRFORT BEACON	4
5	PLASI9	1.50	20	1	1.94		20	1	0.44	APRON LIGHT	6
7	PLASI 27	1.50	20	1		2.00	20	1	0.50	WND TEE / WND CONE	8
9	SPARE	10.1730	20	2	0.00		- 20	2	100000000000000000000000000000000000000	SPARE	10
11	SPARE		20	2		0.00	20	2		SPARE	12
13	SPARE		20	2	0.00		20	2		SPARE	14
15	SPARE		20	2		0.00	20	2		SPARE	16
17	SPARE		30	2	0.00		20	1		SPARE	18
19	SPARE		30	2		0.00	20	1		SPARE	20
21	BLANK				0.00					BLANK	22
23	BLANK					0.00				BLANK	24
25	BLANK				0.00			2		BLANK	26
27	BLANK					0.00				BLANK	28
29	BLANK				0.00					BLANK	30
	TOTAL CONNECTED LOAD:				4.19	4.25	TOTAL	=	8.44	-	

100 AMP, 120/240 VAC, 1 PHASE, 3 WIRE, 30 CIRCUIT PANELBOARD WITH MAIN LUGS IN A NEMA 1 ENCLOSURE. INCLUDE SEPARATE GROUND BAR KIT. ALL BRANCH BREAKERS SHALL BE BOLT-ON TYPE WITH 10,000 AIC RATING AT 120/240 VAC. PANELBOARD SHALL BE SQUARE D TYPE NQ OR APPROVED EQUAL.

NOTES:

- PANELBOARD BUSSES SHALL BE COPPER, NEUTRAL SHALL BE COPPER. EQUIPMENT GROUND BAR SHALL BE COPPER.
- ALL BREAKERS SHALL BE BOLT-ON TYPE WITH 10,000 AIC AT 120/240 VAC.
- PROVIDE LEGEND PLATE FOR PANELBOARD LABELED "PANEL B, 120, 120/240 VAC, 1PH, 3W FED FROM SERVICE PANEL A".
- CIRCUIT BREAKERS AND WIRING SHALL BE SIZED FOR THE ACTUAL EQUIPMENT FURNISHED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S RECOMMENDATION AND NEC. CONTRACTOR SHALL ADJUST CIRCUIT BREAKER SIZES & WIRING WHERE APPLICABLE TO CONFORM WITH MFR RECOMMENDATIONS AND NEC.
- PANELBOARD SHALL BE MANUFACTURED IN THE UNITED STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENTS. PROVIDE CERTIFICATION OF MANUFACTURE IN THE UNITED STATES WITH SHIP DRAWING SUBMITTAL.

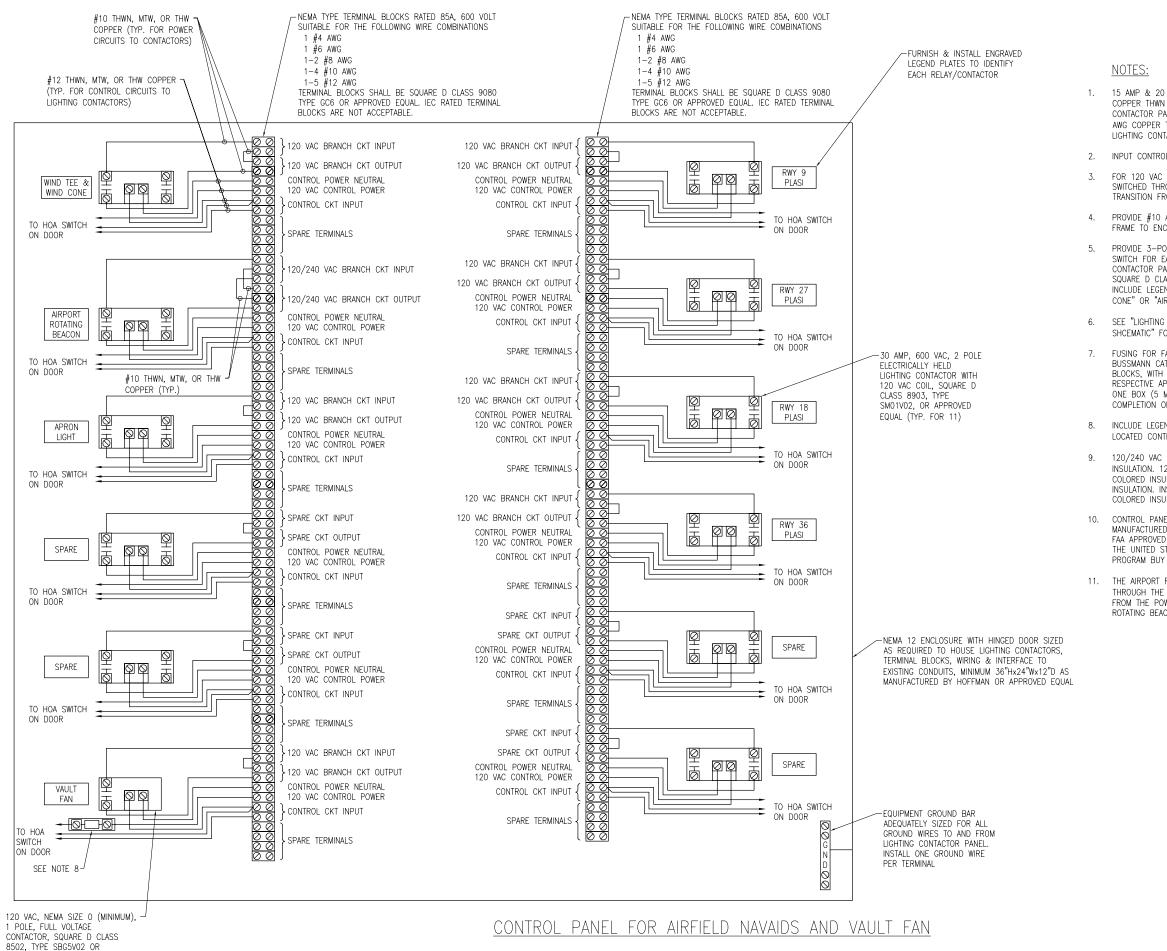




COUNTY AIRPORT RIS, ILLINOIS EDGAR (PAI

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CONSTRUCT CROSSWIND RUNWAY 18-36



APPROVED EQUAL

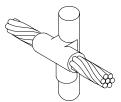
- 15 AMP & 20 AMP INPUT POWER/BRANCH CIRCUITS SHALL BE #10 AWG COPPER THWN FROM THE RESPECTIVE POWER SOURCE TO THE LIGHTING CONTACTOR PANEL, 30 AMP INPUT POWER/BRANCH CIRCUITS SHALL BE #8 AWG COPPER THWN (MIN.) FROM THE RESPECTIVE POWER SOURCE TO THE LIGHTING CONTACTOR PANEL
- 2. INPUT CONTROL CIRCUITS SHALL BE #12 AWG COPPER THWN.
- FOR 120 VAC BRANCH CIRCUITS THE NEUTRAL CONDUCTOR SHALL NOT BE SWITCHED THROUGH THE RELAY CONTACTS. USE TERMINAL BLOCKS TO TRANSITION FROM VAULT BRANCH CIRCUIT WIRING TO FIELD WIRING.
- PROVIDE #10 AWG COPPER BONDING JUMPER FROM PANEL ENCLOSURE FRAME TO ENCLOSURE DOOR.
- PROVIDE 3-POSITION MAINTAINED CONTACT "HAND-OFF-AUTO" SELECTOR SWITCH FOR EACH LIGHTING CONTACTOR & MOUNT ON LIGHTING CONTACTOR PANEL ENCLOSURE DOOR. SELECTOR SWITCH SHALL BE SQUARE D CLASS 9001, TYPE KS43FBH13, OR APPROVED EQUAL. INCLUDE LEGEND PLATE TO IDENTIFY THE DEVICE CONTROLLED (EX: "WIND CONE" OR "AIRPORT ROTATING BEACON")
- SEE "LIGHTING CONTACTOR SCHEMATIC" AND "EXHAUST FAN CONTROL SHCEMATIC" FOR ADDITIONAL INFORMATION ON WIRING.
- FUSING FOR FAN CIRCUIT CONTROL WIRING SHALL BE 10 AMP, 600 VAC, BUSSMANN CATALOG FNQ-R-10. OR APPROVED EQUAL, WITH FUSE BLOCKS, WITH BOX LUG TERMINALS, SIZED AS REQUIRED FOR THE RESPECTIVE APPLICATION. INCLUDE HARDWARE FOR MOUNTING. PROVIDE ONE BOX (5 MINIMUM QUANTITY) OF EACH TYPE AND SIZE OF FUSE, UPON COMPLETION OF THE JOB FOR USE AS SPARES.
- INCLUDE LEGEND PLATE LABELED "NOTICE: CONTACTORS HAVE REMOTE LOCATED CONTROLS AND MAY ACTIVATE AT ANY TIME".
- 120/240 VAC PHASE "A" CONDUCTORS SHALL HAVE BLACK COLORED INSULATION. 120/240 VAC PHASE "B" CONDUCTORS SHALL HAVE RED COLORED INSULATION. NEUTRAL CONCUCTORS SHALL HAVE WHITE COLORED INSULATION. INSULATED EQUIPMENT GROUND WIRES SHALL HAVE GREEN COLORED INSULATION
- CONTROL PANEL FOR AIRFIELD NAVAIDS & VAULT FAN SHALL BE
 MANUFACTURED BY A UL 508 INDUSTRIAL CONTROL PANEL BUILDER OR AN FAA APPROVED L-821 PANEL BUILDER, AND SHALL BE MANUFACTURED IN THE UNITED STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENT AND THE "BUY AMERICAN ACT"
- 11. THE AIRPORT ROTATING BEACON CIRCUIT SHALL HAVE PHASE 'A' SWITCHED THROUGH THE LIGHTING CONTACTOR. PHASE 'B' SHALL BE UNSWITCHED FROM THE POWER SOURCE TO THE LOAD CENTER AT THE AIRPORT ROTATING BEACON

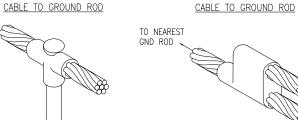
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GAR COUNTY AIRPORT PARIS, ILLINOIS

HANSON "ARMSTRONG

CONSTRUCT CROSSWIND RUNWAY 18-36

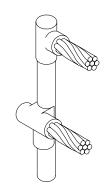




TAP CONDUCTOR SHALL BE ROUTED IN THE DIRECTION TOWARDS THE NEAREST GROUND

CABLE TO CABLE

HORIZONTAL PARALLEL TAP



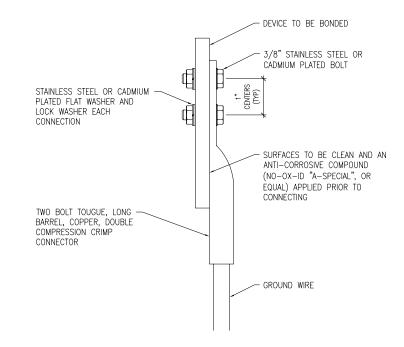
CABLE TO GROUND ROD

CABLES TO GROUND ROD

NOTES:

- ALL BELOW GRADE CONNECTIONS TO GROUND RODS & GROUND RING CONDUCTORS SHALL BE EXOTHERMIC WELD TYPE CONNECTIONS. EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY ERICO PRODUCTS, SOLON, OHIO, UTLRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, GRAYSLAKE, IL, OR THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES, TULSA, OKLAHOMA. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER, AND INSTALL PER THEIR DIRECTIONS.
- FOR APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, REMOVE GALVANIZING AND/OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.
- INDIVIDUAL GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE INSTALLED IN METAL CONDUIT. INSTALL GROUNDING ELECTRODE CONDUCTORS IN SCHED 40 PVC CCONDUIT AS REQUIRED IN FOUNDATIONS, FOR PROTECTION, WHERE ENTERING ENCLOSURES, ETC. WHERE PLASTIC CONDUIT IS USED FOR INDIVIDUAL GROUND WIRES, DO NOT COMPLETELY ENCIRCLE THE CODNUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. WHERE METAL CLAMPS ARE INSTALLED USE NYLON BOLTS, NUTS, WASHERS, & SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT.

EXOTHERMIC WELD DETAILS

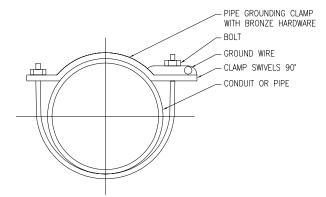


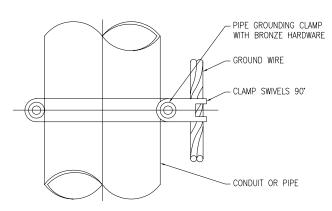
2 HOLE LONG BARREL COMPRESSION LUG TABLE								
WIRE SIZE	BURNDY CAT. NO.	THOMAS & BETTS CAT. NO.	PENN-UNION CAT. NO.					
#8 AWG STRANDED	YA8C-2TC38	256-30695-1157	BBLU-8D-2TC38					
#6 AWG SOLID	YA8C-2TC38 OR YGA6C-2TC38E2G1							
#6 AWG STRANDED	YA6C-2TC38	256-30695-1158	BBLU-6D-2TC38					
#4 AWG STRANDED	YA4C-2TC38	256-30695-1159	BBLU-4D-2TC38					
#2 AWG STRANDED	YA2C-2TC38	256-30695-1160	BBLU-2D-2TC38					
#2 AWG SOLID	YA3C-2TC38	256-30695-1161	BBLU-3D-2TC38					
#1/0 AWG STRANDED	YA25-2TC38	256-30695-1162	BBLU-1/0D-2TC38					
#2/0 AWG STRANDED	YA26-2TC38	256-30695-1116	BBLU-2/OD-2TC38					
#3/0 AWG STRANDED	YA27-2TC38	54816BE	BBLU-3/0D-2TC38					
#4/0 AWG STRANDED	YA28-2TC38	256-30695-1117	BBLU-4/0D-2TC38					

NOTES:

- ALL CONNECTIONS TO GROUND BUS BAR SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE BUS BAR.
- GROUND WIRE CONNECTIONS TO EQUIPMENT SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE DEVICE OR WITH THE RESPECTIVE EQUIPT MANUFACTURER'S LUG OR TERMINAL WHERE
- GROUNDING ELECTRODE CONDUCTORS, BONDING JUMPERS, & INDIVIDUAL GROUND WIRES SHALL NOT BE INSTALLED IN METAL CONDUIT. WHERE PLASTIC CONDUIT IS USED FOR INDIVIDUAL GROUND WIRES, DO NOT COMPLETELY ENCIRCLE THE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. WHERE METAL CLAMPS ARE INSTALLED USE NYLON BOLTS, NUTS, WASHERS, & SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT.
- ALL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND (SANCHEM INC. NO-OX-ID "A-SPECIAL", BURNDY PENETROX E, OR EQUAL) BEFORE JOINING. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION. CLEAN SURFACES, OF RESPECTIVE DEVICES TO BE BONDED, TO BARE METAL, PER NEC 250-12.

GROUND LUG CONNECTION DETAIL





PIPE GROUNDIN	G CLAMP TABLE
BURNDY CAT. NO.	PIPE SIZE
GAR3902-BU	1/2" - 1"
GAR3903-BU	1 1/4" - 2"
GAR3904-BU	2 1/2" - 3 1/2"
GAR3905-BU	5" - 5"
GAR3906-BU	6"

PIPE GROUNDING CLAMPS SHALL HAVE BRONZE HARDWARE, BE CORROSION RESISTANT, SUITABLE FOR DIRECT BURIAL IN EARTH OR CONCRETE, & UL467 LISTED.

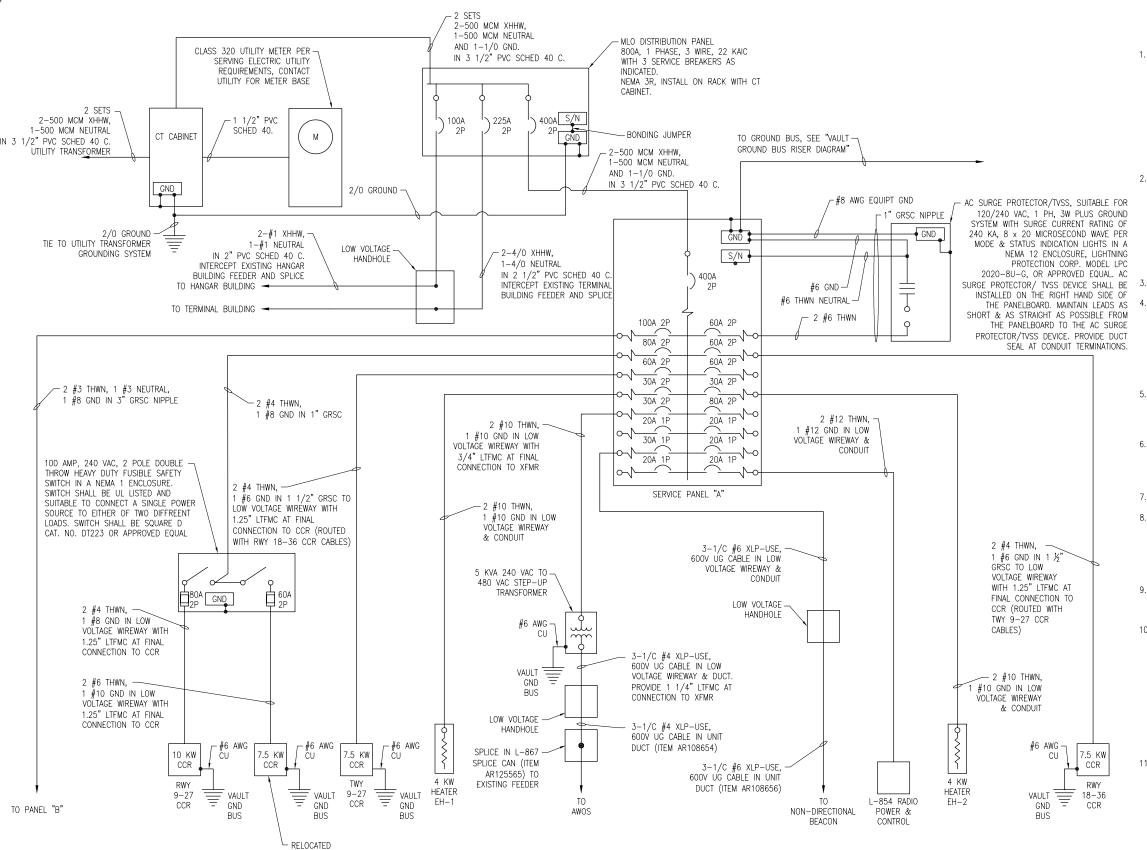
PIPE/CONDUIT GROUNDING CLAMP DETAIL

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CONSTRUCT CROSSWIND RUNWAY 18-36



SPARE/BACKUP CCR FOR RWY 9-27

NOTES:

- 1. ALL VAULT WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- 3. ALL EQUIPMENT NOT LABELED AS EXISTING IS NEW.
- 4. BEACON FEEDER SHALL HAVE COLOR CODED INSULATION AS FOLLOWS:

120/240 VAC CIRCUITS
PHASE A BLACK
PHASE B RED OR BLACK WITH RED TAPE
NEUTRAL WHITE
GROUND GREEN

- 5. PROVIDE NEMA 4 HUBS FOR ALL CONDUIT ENTRIES INTO NEMA 4 RATED ENCLOSURES. PROVIDE NEMA 4 HUBS FOR ALL CONDUIT ENTRIES INTO THE NEMA 3R LOAD CENTER FNCI OSURE
- INSTALL OBSTRUCTION LIGHTING ON AIRPORT ROTATING BEACON TOWER IN CONFORMANCE WITH FAA AC NO. 150/5340-30 AND FAA AC NO. 150/5370-10, ITEM L-101, INSTALLATION OF AIRPORT ROTATING BEACONS.
- 7. ALL CONDUCTORS/WIRING SHALL BE COPPER.
- 8. CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUAL NAMEPLATE ON EACH CONSTANT CURRENT REGULATOR (OR OTHER RESPECTIVE EQUIPMENT) AND ADJUST CIRCUIT BREAKER, WIRE SIZES & CONFORM WITH NEC & MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE. WIRE SIZES SHOWN ON THE PLANS ARE MINIMUM.
- HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, HANDHOLE, JUNCTION BOX, OR RACEWAY.
- 10. LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LIFMC THAT IS NOT UL LISTED. CONFIRM LIFMC BEARS THE UL LABEL PRIOR TO INSTALLATION.
 - COORDINATE REMOVAL OF EXISTING ELECTRICAL UTILITY METERS WITH ELECTRICAL UTILITY AND AIRPORT AUTHORITY.

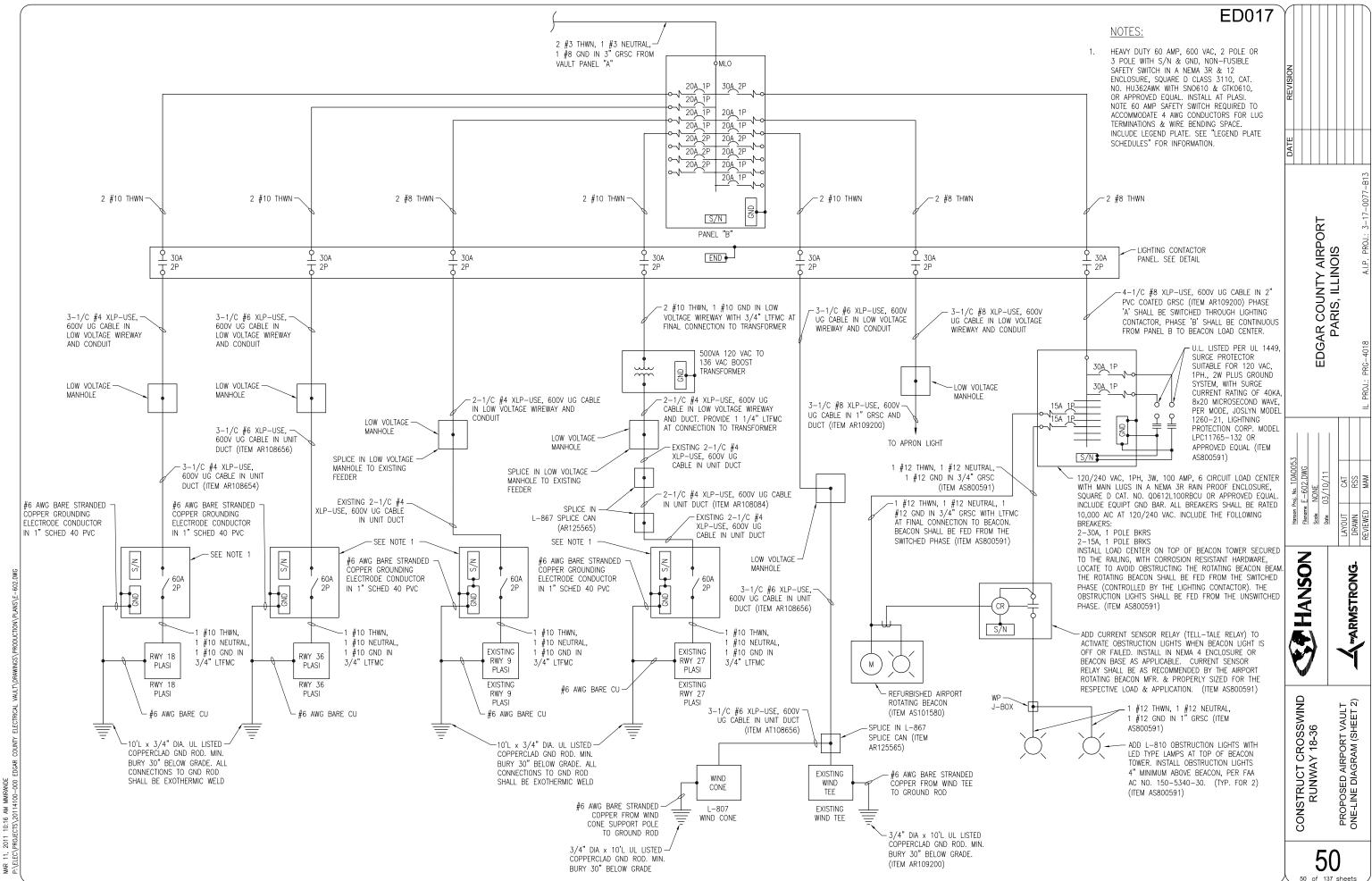
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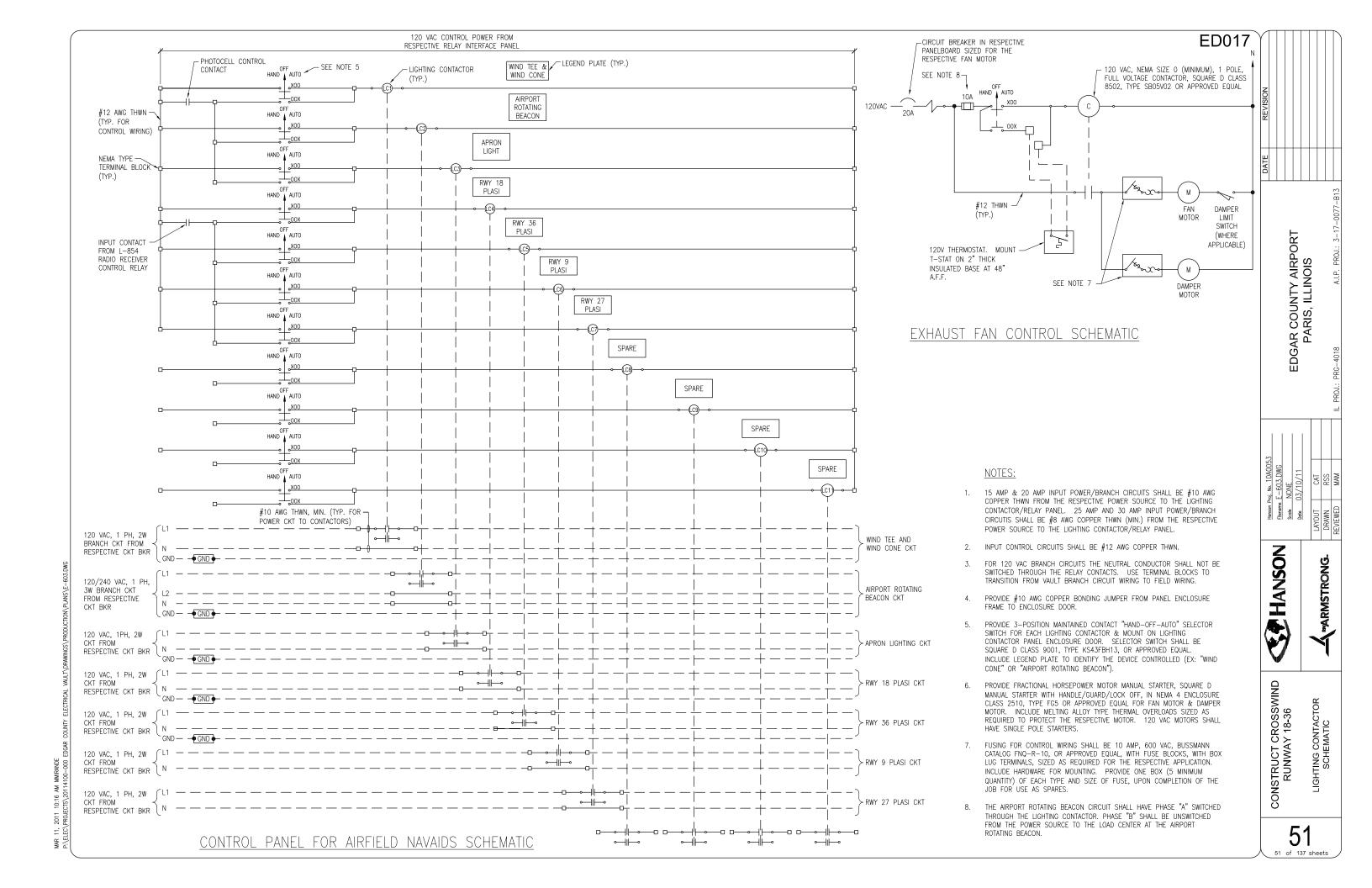
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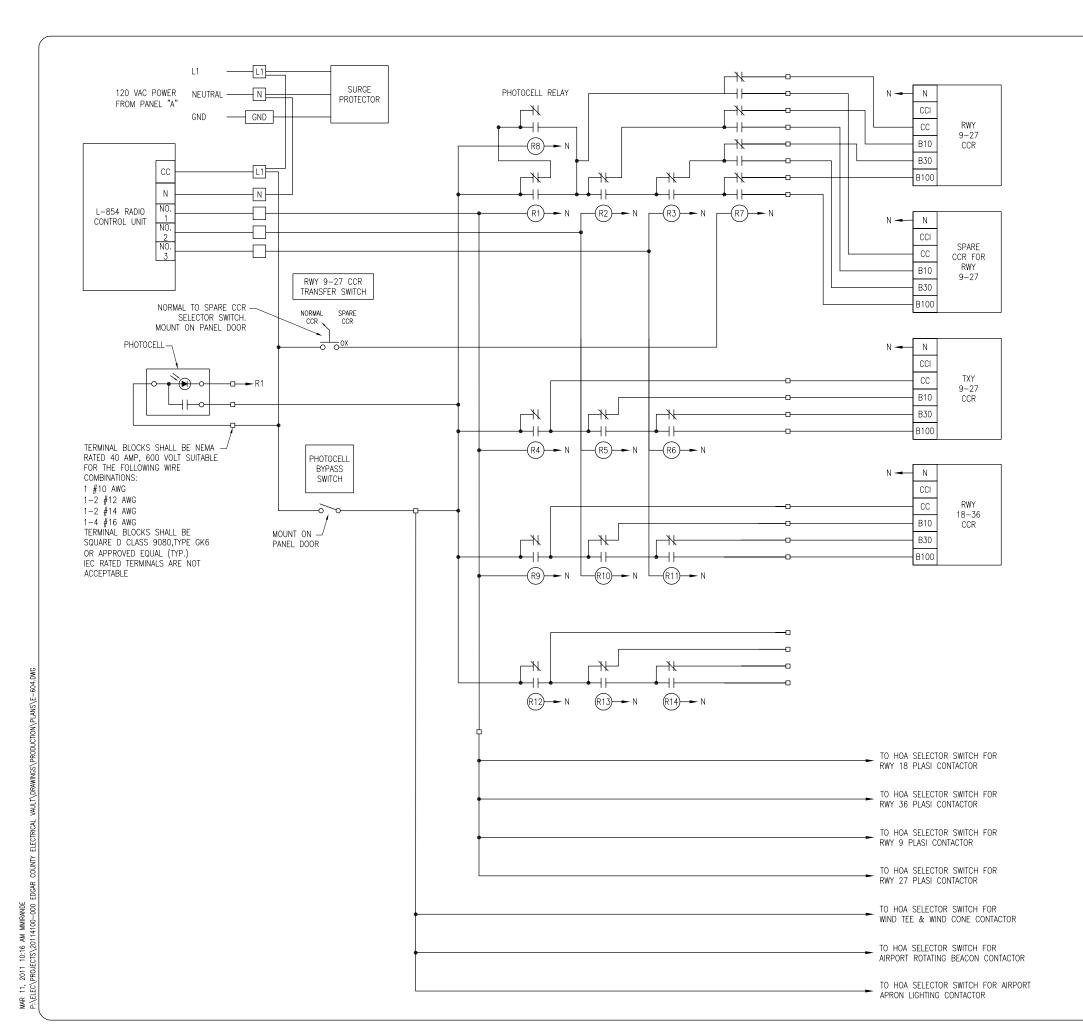
EDGAR COUNTY AIRPORT PARIS, ILLINOIS

HANSON A "ARMSTRONG.

CONSTRUCT CROSSWIND RUNWAY 18-36 PROPOSED AIRPORT VAULT ONE-LINE DIAGRAM (SHEET 1)







NOTES:

- RELAY INTERFACE CONTROL PANEL SHALL BE MANUFACTURED BY AN FAA APPROVED L-821 PANEL BUILDER OR A UL 508 INDUSTRIAL CONTROL PANEL BUILDER, AND SHALL BE MANUFACTURED IN THE UNITED STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENT AND THE "BUY AMERICAN ACT".
- PANEL SHALL BE IN A NEMA 12 ENCLOSURE WITH HINGED COVER. INSTALL DRAIN IN BOTTOM OF ENCLOSURE TO ALLOW CONDENSATION TO ESCAPE.
- EXTERNAL CONTROL CABLE SHALL BE NO. 12 AWG COPPER, 600 VOLT CABLE. ALL PANEL INTERIOR CONTROL CABLE SHALL BE MINIMUM 16 AWG, COPPER, 600
- IN THE AUTOMATIC MODE OF OPERATION THE RUNWAY 9-27 CONSTANT CURRENT REGULATOR SHALL BE CONTROLLED BY THE PHOTOCELL & THE L-854 RADIO CONTROL LINIT IN THE FOLLOWING MANNER

PHOTOCELL - 10% BRIGHTNESS & ACTIVATE RADIO CONTROL

5 CLICKS - 30% BRIGHTNESS 7 CLICKS - 100% BRIGHTNESS

IN THE AUTOMATIC MODE OF OPERATION THE TAXIWAY 9-27 AND RUNWAY 18-36 CONSTANT CURRENT REGULATORS WILL BE CONTROLLED BY THE PHOTOCELL & THE L-854 RADIO CONTROL UNIT IN THE FOLLOWING MANNER: PHOTOCELL -ACTIVATE RADIO CONTROL

3 CLICKS -10% BRIGHTNESS 5 CLICKS -30% BRIGHTNESS 7 CLICKS -100% BRIGHTNESS

- IN THE AUTOMATIC MODE OF OPERATION THE WIND TEE, WIND CONE, AIRPORT ROTATING BEACON & APRON LIGHT SHALL BE ACTIVATED BY THE PHOTOCELL OR
- IN THE AUTOMATIC MODE OF OPERATION THE RUNWAY 9-27 AND 18-36 PLASI'S WILL BE CONTROLLED BY THE L-854 RADIO CONTROL UNIT IN THE FOLLOWING MANNER:

3 CLICKS - ON

5 CLICKS - REMAIN ON

7 CLICKS - REMAIN ON

- EQUIPMENT GROUND WIRES SHALL BE INCLUDED WITH EACH BRANCH CIRCUIT & EACH CONTROL CIRCUIT.
- INCLUDE PHOTOCELL BYPASS SWITCH.
- 10. SURGE PROTECTOR SHALL BE UL LISTED PER UL 1449, SUITABLE FOR 120 VAC, 1PH, 2 WIRE PLUS GROUND SYSTEM WITH SURGE CURRENT RATING OF 40 KA (MIN.), 8x20 MICROSECOND WAVE, AND STATUS INDICATION LIGHTS IN A WEATHERPROOF HOUSING, JOSLYN MODEL 1260-21, OR APPROVED EQUAL. MAINTAIN LEADS AS SHORT & AS STRAIGHT AS POSSIBLE. INCLUDE MOUNTING BRACKET
- 11. INCLUDE EQUIPMENT GROUND BAR, ILSCO D167-12 OR APPROVED EQUAL.
- 12. CONTROL RELAYS SHALL HAVE 10 AMP CONTACT RATINGS AT 240 VAC WITH 120 VAC COILS. PROVIDE 3 SPARE RELAYS FOR EACH TYPE USED IN THE RELAY
- 13. COLOR CODING FOR THE CONTROL WIRING TO EACH CONSTANT CURRENT REGULATOR SHALL BE CONSISTENT FOR ALL REGULATORS. COLOR CODING SHALL BE AS FOLLOWS:

-ORANGE

10% 30% -YELLOW

100% -RLUF

NEUTRAL -WHITE EQUIPT. GND -GREEN

ALSO TAG THE CONTROL WIRES WITH THE RESPECTIVE DESIGNATION (CC, 10%, 30%, 100%)

14. "N" DESIGNATES NEUTRAL CONNECTION OR NEUTRAL CONDUTOR.

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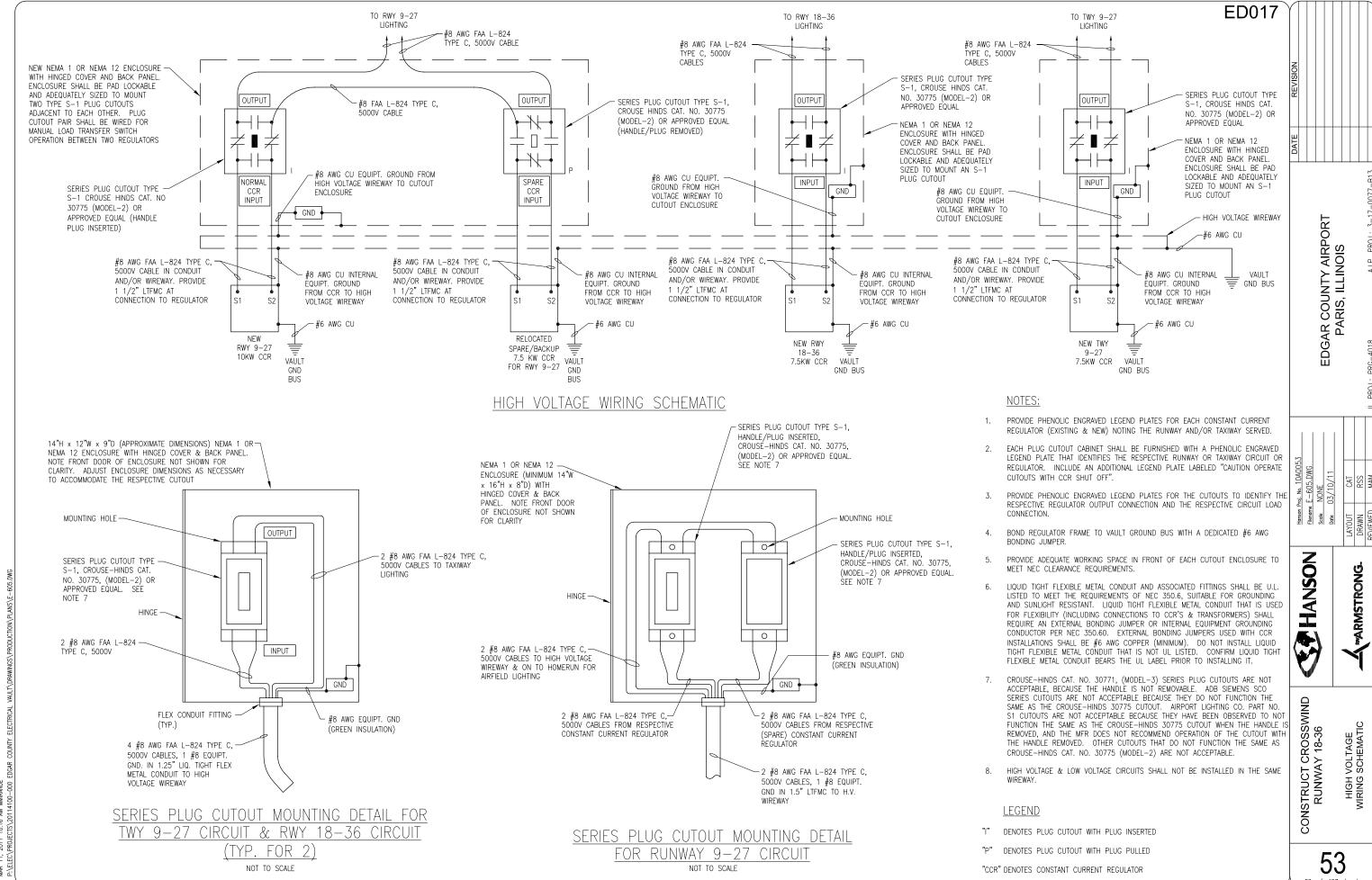
EDGAR COUNTY AIRPORT PARIS, ILLINOIS

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IELD LIGHTING CONTROL WIRING SCHEMATIC

CONSTRUCT CROSSWIND RUNWAY 18-36

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NOTE: LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS.

FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH SAFETY SWITCH, PANELBOARD, LOAD CENTER, CUTOUT, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION". LABELS SHALL BE HAZARD COMMUNICATION SYSTEMS, LCC (190 OLD MILFORD RD., BOX 1174, MILFORD, PA 18337, PHONE: 1–877–748–0244) PART NO. H6010–9WHBJ OR APPROVED EQUAL

LEGEND PLATE SCHE	EDULE CONTINUED
DEVICE	LABEL
RADIO RELAY INTERFACE PANEL	RADIO RELAY INTERFACE PANEL
MANUAL TRANSFER SWITCH FOR RUNWAY 9-27 NORMAL CCR AND SPARE/BACKUP CCR	TRANSFER SWITCH FOR RUNWAY 9–27 CONSTANT CURRENT REGULATORS
MANUAL TRANSFER SWITCH FOR RUNWAY 9-27 NORMAL CCR AND SPARE/BACKUP CCR - NORMAL SWITCH POSITION	NORMAL CCR
MANUAL TRANSFER SWITCH FOR RUNWAY 9-27 NORMAL CCR AND SPARE/BACKUP CCR - BACKUP SWITCH POSITION	SPARE/BACKUP CCR
CONTROL PANEL FOR AIRFIELD NAVAIDS AND VAULT FAN	CONTACTOR PANEL FOR AIRFIELD NAVAIDS, APRON LIGHT & VAULT FAN
CONTACTOR PANEL FOR AIRFIELD NAVAIDS AND VAULT FAN	NOTICE CONTACTORS HAVE REMOTE LOCATED CONTROLS AND MAY ACTIVATE AT ANY TIME
LOW VOLTAGE WIREWAY (PROVIDE 4 LEGEND PLATES 1/2" HIGH BLACK LETTERS WHITE BACKGROUND)	LOW VOLTAGE
HIGH VOLTAGE WIREWAY (PROVIDE 4 LEGEND PLATES 1/2" HIGH BLACK LETTERS WHITE BACKGROUND)	HIGH VOLTAGE
VAULT GROUND BUS (PROVIDE 4 LEGEND PLATES 1/2" HIGH WHITE LETTERS GREEN BACKGROUND; INSTALL ABOVE OR BELOW GROUND BUS)	VAULT GROUND BUS
GROUNDING ELECTRODE CONDUCTORS TERMINATED ON VAULT GROUND BUS. (PROVIDE 3 LEGEND PLATES & SECURE TO CONDUCTORS WITH NYLON STRING OR CABLE TIES)	DO NOT DISCONNECT
AWOS STEP-UP TRANSFORMER	AWOS XFMR 5KVA, 240/480 VAC, 1 PH., 2W FED FROM PANEL "A"
PLASI 27 BOOST TRANSFORMER	PLASI 27 BOOST XFMR 500VA, 120/136 VAC, 1 PH., 2W FED FROM PANEL "B"
RUNWAY 9 PLASI DISCONNECT	RWY 9 PLASI 120 VAC FED FROM VAULT
RUNWAY 27 PLASI DISCONNECT	RWY 27 PLASI 120 VAC FED FROM VAULT
RUNWAY 18 PLASI DISCONNECT	RWY 18 PLASI 120 VAC FED FROM VAULT
RUNWAY 36 PLASI DISCONNECT	RWY 36 PLASI 120 VAC FED FROM VAULT

DIRECTIONS TO TRANSFER RUNWAY 9-27 LIGHTING FROM NORMAL CCR TO SPARE/BACKUP CCR.

- . SHUT OFF INPUT POWER (CIRCUIT BREAKER) TO BOTH RWY 9-27 CCR'S & TURN CCR SELECTOR SWITCHES TO OFF.
- OPERATE MANUAL TRANSFER SWITCH FOR RWY 9-27 AND MOVE HANDEL FROM "NORMAL" POSITION TO "SPARE/BACKUP" POSITION.
- 3. PULL CUTOUT HANDLE FROM NORMAL CCR UNIT & INSERT INTO SPARE CCR CUTOUT.
- GO TO RADIO RELAY INTERFACE PANEL & TURN "RWY 9-27 CCR TRANSFER" SELECTOR SWITCH FROM "NORMAL" TO "SPARE" POSITION.
- 5. TURN ON INPUT POWER (CIRCUIT BREAKER) TO SPARE RWY 9-27 CCR.
- 6. TURN SELECTOR SWTICH ON SPARE CCR TO "REMOTE" POSITION.

PROVIDE PLACARD OR LEGEND PLATE FOR RUNWAY CONSTANT CURRENT REGULATOR PAIR AS NOTED ABOVE: LETTERING TO BE MIN. 1/4" HIGH, BLACK ON WHITE BACKGROUND. LOCATE PLACARD ABOVE OR ADJACENT TO CUTOUT ENCLOSURE FOR RUNWAY.

CCR TRANSFER PROCEDURE PLACARD DETAIL



<u>"DANGER – HIGH VOLTAGE KEEP OUT" SIGN</u>

PROVIDE WARNING SIGN ON VAULT EXTERIOR DOORS LABELED "DANGER - HIGH VOLTAGE - KEEP OUT" PER THE REQUIREMENTS OF NEC 110.34 (C). PROVIDE MINIMUM OF 2 SIGNS (ONE ON EACH DOOR TO THE VAULT).



"DANGER - HIGH VOLTAGE" SIGN

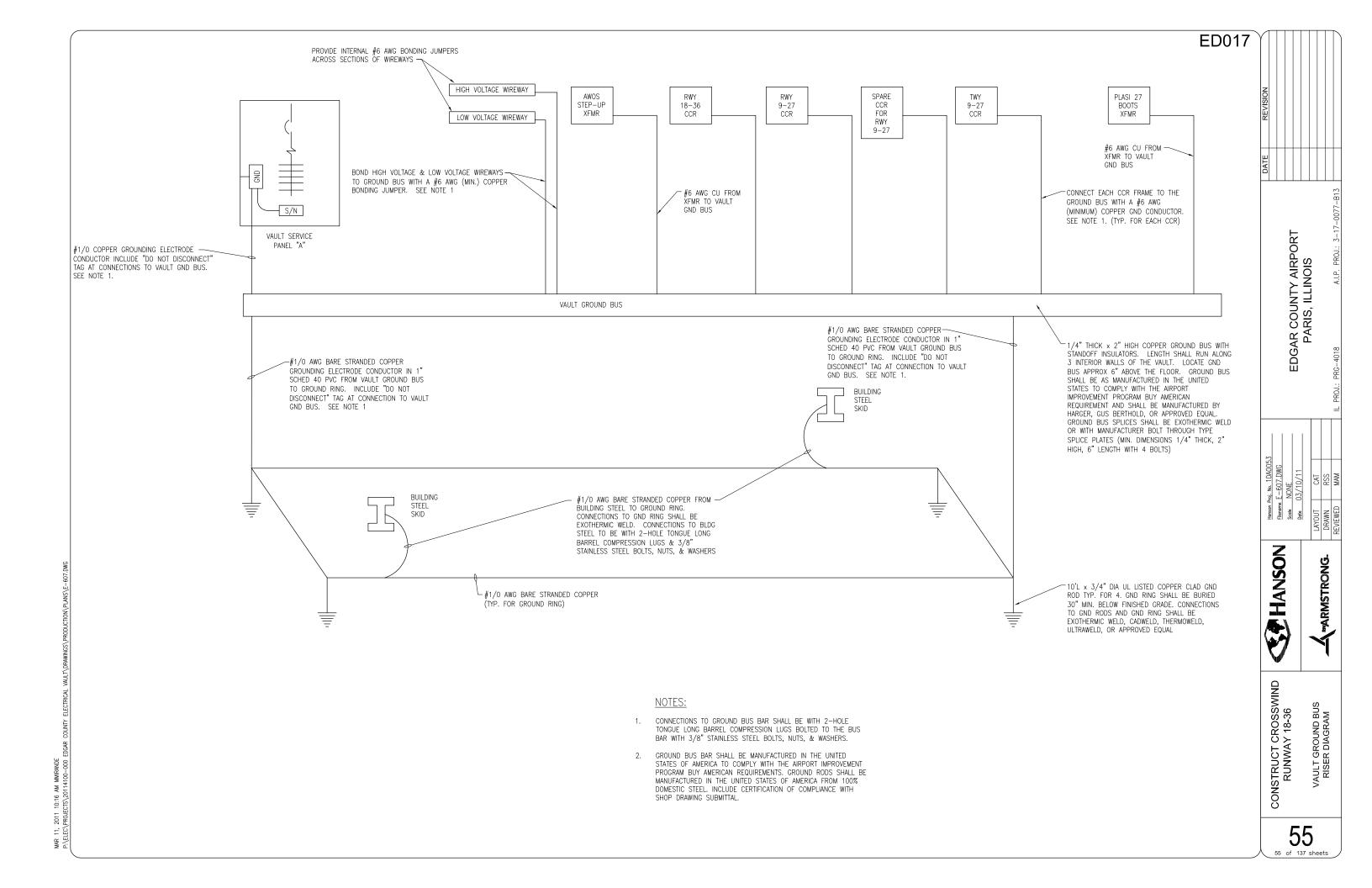
FURNISH AND INSTALL "DANGER - HIGH VOLTAGE" LABELS/SIGNS FOR EACH CUTOUT ENCLOSURE, EACH CONSTANT CURRENT REGULATOR, AND THE HIGH VOLTAGE WIREWAY, TO COMPLY WITH FAA AC 150/5340-26B "MAINTENANCE OF AIRPORT VISUAL AID FACILITIES".

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CONSTRUCT CROSSWIND RUNWAY 18-36

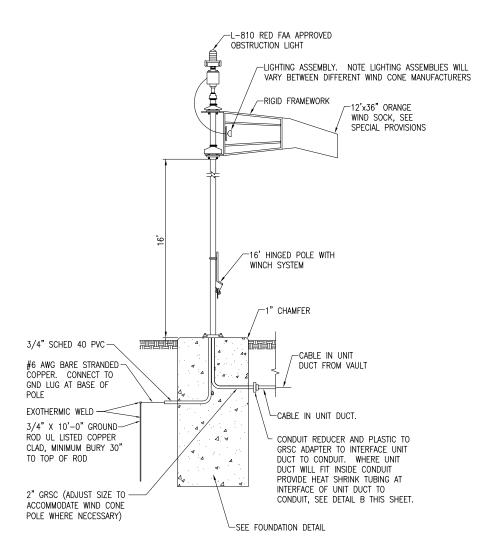


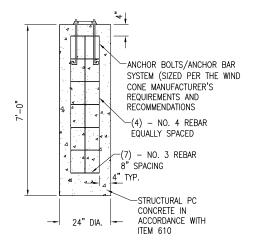
GROUNDING NOTES:

- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL GROUNDING AS MAY BE NECESSARY OR REQUIRED TO MAKE A COMPLETE GROUNDING SYSTEM AS REQUIRED BY THE LATEST NATIONAL ELECTRICAL CODE (NFPA 70) IN FORCE AND FAA-STD-019e (LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING, AND SHEILDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT). THE RELIABILITY OF THE GROUNDING SYSTEM IS DEPENDENT ON CAREFUL, PROPER INSTALLATION AND CHOICE OF MATERIALS. IMPROPER PREPARATION OF SURFACES TO BE JOINED TO MAKE AN ELECTRICAL PATH, LOOSE JOINTS OR CORROSION CAN INTRODUCE IMPEDANCE THAT WILL SERIOUSLY IMPAIR THE ABILITY OF THE GROUND PATH TO PROTECT PERSONNEL AND EQUIPMENT AND TO ABSORB TRANSIENTS THAT CAN CAUSE NOISE IN COMMUNICATIONS CIRCUITS. FOLLOWING FUNCTIONS ARE PARTICULARLY IMPORTANT TO ENSURE A RELIABLE GROUND
- 2. FURNISH AND INSTALL GROUND RODS AS DETAILED HEREIN. GROUND RODS FOR AIRFIELD LIGHTING (RUNWAY LIGHTING, TAXIWAY LIGHTING, TAXI GUIDANCE SIGNS, & DISTANCE REAMINING SIGNS) SHALL BE MINIMUM 5/8-IN. DIAMETER BY 8-FT LONG, UL-LISTED COPPER CLAD WITH 10-MIL MINIMUM COPPER COATING. GROUND RODS FOR OTHER APPLICATIONS SHALL BE MINIMUM 3/4-IN. DIAMETER BY 10-FT LONG, UL-LISTED, COPPER CLAD WITH 10-MIL MINIMUM COPPER COATING. GROUND RODS SHALL BE SPACED OR AS DETAILED ON THE RESPECTIVE PLANS, AND IN NO CASE SPACED LESS THAN ONE ROD LENGTH APART. ALL CONNECTIONS TO GROUND RODS AND THE GROUND RING SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY ERICO PRODUCTS, INC., SOLON, OHIO, (PHONE 1-800-248-9353), THERMOWELD BY CONTINENTAL INDUSTRIES, INC., TULSA, OKLAHOMA (PHONE 918-663-1440) OR ULTRAWELD BY HARGER, GRAYSLAKE, ILLINOIS (PHONE 1-800-842-7437). EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS OR AT BURIED GROUNDING ELECTRODE CONDUCTORS.
- CONTRACTOR SHALL TEST EACH MADE ELECTRODE GROUND ROD/GROUND FIELD/GROUND RING WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUND FIELD SYSTEMS. IF GROUND RESISTANCE EXCEEDS 10 OHMS, CONTACT THE ENGINEER FOR FURTHER DIRECTION. COPIES OF GROUND FIELD TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT ENGINEER, UPON REQUEST, FOR REVIEW AND RECORD PURPOSES.
- 4. ALL PRODUCTS ASSOCIATED WITH THE GROUNDING SYSTEM SHALL BE UL-LISTED AND
- ALL BOLTED OR MECHANICAL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND BEFORE JOINING, SANCHEM INC. "NO-OX-ID "A-SPECIAL" COMPOUND, BURNDY PENETROX E, OR EQUAL.
- METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL, PER 2008 NATIONAL ELECTRICAL CODE ARTICLE 250-12. ALL COPPER BUS BARS MUST BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION.
- METALLIC RACEWAY FITTINGS SHALL BE MADE UP TIGHT TO PROVIDE A PERMANENT LOW IMPEDANCE PATH FOR ALL CIRCUITS. METAL CONDUIT TERMINATIONS IN ENCLOSURES SHALL BE BONDED TO THE ENCLOSURE WITH UL-LISTED FITTINGS SUITABLE FOR GROUNDING. PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING SERVICE EQUIPMENT (METER BASE, CT CABINET, MAIN SERVICE BREAKER ENCLOSURE, ETC.). PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING AN ENCLOSURE THROUGH CONCENTRIC OR ECCENTRIC KNOCKOUTS THAT ARE PUNCHED OR OTHERWISE FORMED SO AS TO IMPAIR THE ELECTRICAL CONNECTION TO GROUND. STANDARD LOCKNUTS OR BUSHINGS SHALL NOT BE THE SOLE MEANS FOR BONDING WHERE A CONDUIT ENTERS AN ENCLOSURE THROUGH A CONCENTRIC OR ECCENTRIC KNOCKOUT
- ALL CONNECTIONS, LOCATED ABOVE GRADE, BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS SHALL BE MADE USING UL-LISTED DOUBLE COMPRESSION CRIMP TYPE CONNECTORS OR UL-LISTED BOLTED GROUND CONNECTORS. FOR GROUND CONNECTIONS TO ENCLOSURES. CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, THOMAS AND BETTS, OR EQUAL. TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUES IN UL STANDARD 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING
- ALL METAL EQUIPMENT ENCLOSURES, CONDUITS, CABINETS, BOXES, RECEPTACLES. MOTORS, ETC. SHALL BE BONDED TO THE RESPECTIVE GROUNDING SYSTEM.
- 10. PROVIDE ALL BOXES FOR PROPOSED OUTLETS, SWITCHES, CIRCUIT BREAKERS, ETC. WITH GROUNDING SCREWS. PROVIDE ALL PANELBOARD, SWITCHGEAR, ETC., ENCLOSURES WITH GROUNDING BARS WITH INDIVIDUAL SCREWS, LUGS, CLAMPS, ETC., FOR EACH OF THE GROUNDING CONDUCTORS THAT ENTER THEIR RESPECTIVE ENCLOSURES
- 11. EACH NEW FEEDER CIRCUIT AND/OR BRANCH CIRCUIT SHALL INCLUDE AN EQUIPMENT GROUND WIRE. METAL RACEWAY OR CONDUIT SHALL NOT MEET THIS REQUIREMENT. THE EQUIPMENT GROUND WIRE FROM EQUIPMENT SHALL NOT BE SMALLER THAN ALLOWED BY 2008 NEC TABLE 250-122 "MINIMUM SIZE CONDUCTORS OR GROUNDING RACEWAY AND EQUIPMENT." WHEN CONDUCTORS ARE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP, EQUIPMENT—GROUNDING CONDUCTORS SHALL BE ADJUSTED PROPORTIONATELY ACCORDING TO CIRCULAR MIL AREA. ALL EQUIPMENT GROUND WIRES SHALL BE COPPER, EITHER BARE OR INSULATED GREEN IN COLOR. WHERE THE EQUIPMENT GROUNDING CONDUCTORS ARE INSULATED, THEY SHALL BE IDENTIFIED BY THE COLOR GREEN, AND SHALL BE THE SAME INSULATION TYPE AS THE PHASE CONDUCTORS.

- 12. ALL EXTERIOR METAL CONDUIT, WHERE NOT ELECTRICALLY CONTINUOUS BECAUSE OF MANHOLES, HANDHOLES, NON-METALLIC JUNCTION BOXES, ETC., SHALL BE BONDED TO ALL OTHER METAL CONDUIT IN THE RESPECTIVE DUCT RUN, AND AT EACH END, WITH A COPPER-BONDING JUMPER SIZED IN CONFORMANCE WITH 2008 NEC 250-102 WHERE METAL CONDUITS TERMINATE IN AN ENCLOSURE (SUCH AS A MOTOR CONTROL CENTER, SWITCHBOARD, ETC) WHERE THERE IS NOT ELECTRICAL CONTINUITY WITH THE CONDUIT AND THE RESPECTIVE ENCLOSURE, PROVIDE A BONDING JUMPER FROM THE RESPECTIVE ENCLOSURE GROUND BUS TO THE CONDUIT SIZED PER 2008 NEC 250-102.
- 13. IT IS THE INTENT OF THIS SPECIFICATION THAT ALL MOTOR FRAMES, PUMP BASES ELECTRICAL EQUIPMENT ENCLOSURES, PANEL HOUSINGS, CONDUITS, BOXES, ETC. HAVE A CONTINUOUS COPPER WIRE GROUND CONNECTION AND SHALL BE POSITIVELY BONDED TO THE RESPECTIVE GROUNDING SYSTEM. CONDUIT CONNECTORS WILL NOT BE CONSIDERED AS ADEQUATE GROUNDING
- 14. PROVIDE A POSITIVE GROUND BOND FOR ALL OUTLET BOXES, ELECTRICAL EQUIPMENT ENCLOSURES, GROUNDING RECEPTACLES, TOGGLE SWITCHES, ETC. INSTALL A GROUNDING CONDUCTOR IN ALL WIRE AND CABLE RACEWAYS. GROUND CONDUCTOR TO HAVE 600-VOLT INSULATION AND BE IDENTIFIED BY A CONTINUOUS GREEN COLOR COATING. THEY SHALL BE USED SOLELY FOR GROUNDING PURPOSES AND BE ENTIRELY SEPARATE FROM WHITE GROUNDED NEUTRAL CONDUCTOR, EXCEPT AT SUPPLY SIDE OF SERVICE DISCONNECTING MEANS, WHERE GROUNDING AND NEUTRAL SYSTEMS ARE TO BE CONNECTED TO SERVICE GROUND.
- 15. EACH AND ALL GROUNDED CASED AND METAL PARTS ASSOCIATED WITH ELECTRICAL EQUIPMENT SHALL BE TESTED FOR CONTINUITY OF CONNECTION WITH GROUND BUS SYSTEM BY CONTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE.
- 16. ALL CONNECTIONS BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS ABOVE GRADE SHALL BE MADE USING BOLTED GROUND CONNECTORS. GROUND LUGS SHALL BE PROVIDED IN ALL ENCLOSURES AND WIRING TERMINATION JUNCTION BOXES. EQUIPMENT GROUNDS AND GROUNDING CONDUCTOR SHALL BE CONNECTED TO THESE GROUND LUGS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, OR EQUAL.
- 17. BOND ALL NONCURRENT-CARRYING PARTS OF METAL EQUIPMENT TO GROUND SYSTEM.
- 18. BUILDING STRUCTURAL STEEL SYSTEM SHALL BE BONDED TO ELECTRICAL GROUND
- INSTALL GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS AND SEPARATE GROUND CONDUCTORS IN SCHEDULE 40 OR SCHEDULE 80 PVC CONDUIT OR EXPOSED WHERE ACCEPTABLE TO LOCAL CODES. WHERE GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS OR INDIVIDUAL GROUND CONDUCTORS ARE RUN IN PVC CONDUIT, DO NOT COMPLETELY ENCIRCLE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. USE NON-METALLIC REINFORCED FIBERGLASS STRUT SUPPORT. WHERE METAL CONDUIT CLAMPS ARE INSTALLED, USE NYLON BOLTS, NUTS, WASHERS AND SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT. THIS IS REQUIRED TO AVOID GIRDLING OF GROUND CONDUCTORS. GIRDLING OF A GROUND CONDUCTOR IS THE RESULT OF PLACING THE CONDUCTOR IN A RING OF MAGNETIC MATERIAL. THIS RING COULD BE A METALLIC CONDUIT, U-BOLT OR STRUT SUPPORT PIPE CLAMP, OR OTHER SUPPORT HARDWARE. THE RESULT OF GIRDLING GROUND CONDUCTORS SIGNIFICANTLY INCREASES THE INDUCTIVE IMPEDANCE OF THE GROUND CONDUCTOR. INDUCTIVE AND CAPACITIVE IMPEDANCE IS A TYPE OF RESISTANCE THAT OPPOSES THE FLOW OF ALTERNATING CURRENT. ANY INCREASE IN THE IMPEDANCE OF A GROUND CONDUCTOR REDUCES ITS ABILITY TO EFFECTIVELY MITIGATE RADIO FREQUENCY NOISE IN THE GROUND SYSTEM. THE CONDITION WHERE A GROUND CONDUCTOR IS GIRDLED DURING A LIGHTNING STRIKE RESULTS IN PHENOMENA KNOWN AS SURGE IMPEDANCE LOADING. SURGE IMPEDANCE LOADING IS A RESULT OF VOLTAGE AND CURRENT REACHING 500,000 VOLTS AND 10,000 AMPS FOR A SHORT DURATION. GIRDLING FURTHER INCREASES THE IMPEDANCE AT LIGHTNING FREQUENCIES OF 100 KILOHERTZ TO 100 MEGAHERTZ. AT THESE POWER AND FREQUENCY LEVELS ANY INCREASE IN THE IMPEDANCE OF THE GROUND CONDUCTOR MUST BE CONTROLLED. DURING LIGHTNING DISCHARGE CONDITIONS A LOW INDUCTIVE IMPEDANCE PATH IS MORE IMPORTANT THAN A LOW DC RESISTANCE PATH.
- 20. IF LOCAL CODES DICTATE THAT INDIVIDUAL GROUNDING CONDUCTORS MUST BE RUN IN METAL CONDUIT OR RACEWAY, THEN THE CONDUIT OR RACEWAY MUST BE BONDED AT EACH END OF THE RUN WITH A BONDING JUMPER SIZED EQUAL TO THE INDIVIDUAL GROUNDING CONDUCTOR OR AS REQUIRED BY 2008 NEC 250-102. NOTE THIS DOES NOT APPLY TO AC EQUIPMENT GROUNDING CONDUCTORS RUN WITH AC CIRCUITS
- 21. WHERE A CONFLICT IS DETERMINED WITH RESPECT TO GROUNDING REQUIREMENTS PER MANUFACTURER INSTALLATION INSTRUCTIONS, NEC. AND/OR THE CONTRACT DOCUMENTS. CONTACT THE RESIDENT ENGINEER OR PROJECT ENGINEER FOR FURTHER DIRECTIONS.

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GROUNDING NOTES	4				
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FOUNDATION DETAIL

NOT TO SCALE

LIGHTED L-807 WIND CONE

NOT TO SCALE

NOT

- WIND CONE SHALL BE FAA APPROVED L-807, LIGHTED, SIZE 2 WITH ORANGE WIND SOCK, 120 VAC, & WITH L-810 RED LED TYPE OBSTRUCTION LIGHT, SEE SPECIAL PROVISION SPECS.
- 2. L-807 WIND CONE-12' LIGHTED WILL BE PAID FOR UNDER ITEM AT107712.
- 3. REBAR SHALL BE MANUFACTURED FROM 100% DOMESTIC STEEL.

ITEM AT107712 L-807 WIND CONE-12' LIGHTED IS UNDER ADDITIVE ALTERNATE NO. 1

HEAT SHRINKABLE TUBING - WITH INTERNAL ADHESIVE

DETAIL B

AT | DATE | REVISION | S-17-0077-B13 | DATE | REVISION | DATE | DATE | REVISION | DATE | DA

EDGAR COUNTY AIRPORT PARIS, ILLINOIS

HANSON

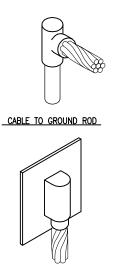
proper tensor Professional Services Inc. 2011

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www.harson-inc.com

CONSTRUCT CROSSWIND RUNWAY 18-36



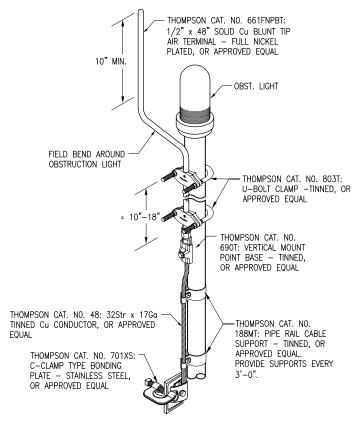
CABLE TO SURFACE

DETAIL NOTES

- 1. EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY ERICO PRODUCTS, SOLON, OHIO, ULTRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, GRAYSLAKE, IL, THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES, TULSA, OKLAHOMA OR APPROVED EQUAL. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER. AND INSTALL PER THEIR DIRECTIONS.
- FOR APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, REMOVE GALVANIZING AND/OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.
- 3. VERIFY EXOTHERMIC MOLDS ARE SUITABLE FOR USE WITH THE RESPECTIVE TYPE (SOLID OR STRANDED) & SIZE CONDUCTOR.

EXOTHERMIC WELD DETAILS

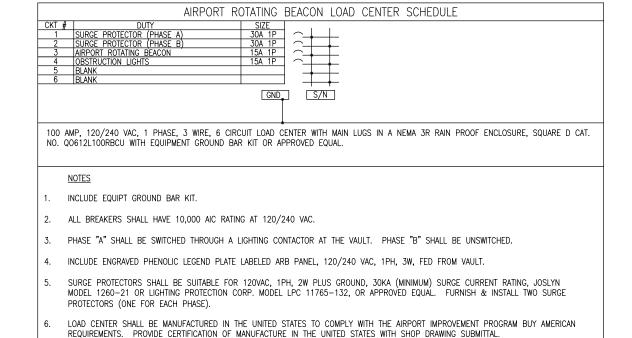
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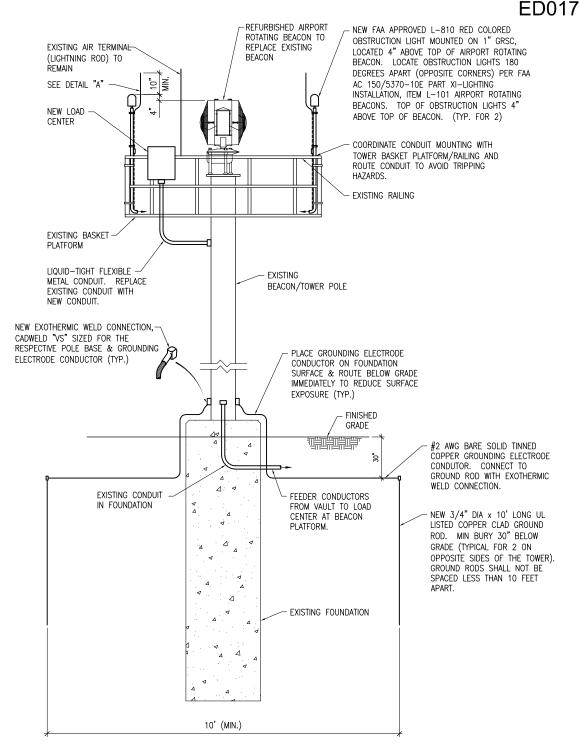


DETAIL A

NOTES

- REFERENCES TO THOMPSON ARE THOMPSON LIGHTNING PROTECTION INC., 901 SIBLEY MEMORIAL HWY, ST. PAUL, MN 55188, PHONE: 651-455-7661, 800-777-1230, FAX: 651-455-2545.
- VERIFY LIGHTNING PROTECTION COMPONENTS AND CATALOG NUMBERS WITH THE RESPECTIVE LIGHTNING PROTECTION EQUIPMENT MANUFACTURER.





LIGHTNING PROTECTION DETAIL

FOR AIRPORT ROTATING BEACON

NOT TO SCALE

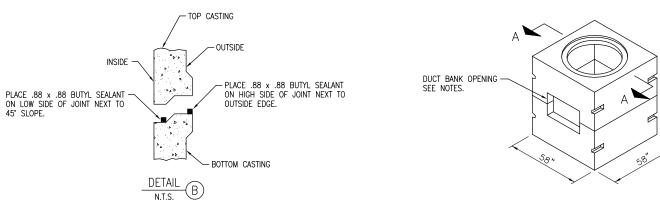
REMOVAL & REPLACEMENT OF EXISTING AIRPORT ROTATING BEACON WILL BE PAID FOR UNDER ADDITIVE ALTERNATE NO. 1, ITEM AS101580 REFURBISH 36" BEACON PER EACH. ALL OTHER WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ADDITIVE ALTERNATE NO. 1, ITEM AS800591 — UPGRADE AIRPORT ROTATING BEACON — PER L.S.

CONSTRUCT CROSSWIND RUNWAY 18-36

HANSON

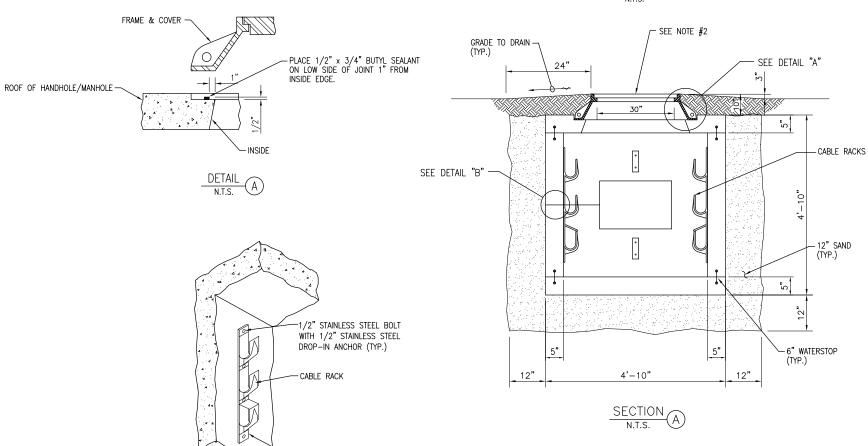
COUNTY AIRPORT RIS, ILLINOIS

EDGAR (



PRECAST 4'x4'x4' MANHOLE

PRECAST 4' x 4' x 4' MANHOLE DETAILS N.T.S. (NOT TO SCALE)



CABLE RACK SUPPORT

CABLE RACK

PRECAST 4'x4'x4' ELECTRICAL MANHOLE NOTES

1. 4'x4'x4' ELECTRICAL MANHOLE SHALL BE CONSTRUCTED TO MEET THE FOLLOWING:

- 1) DESIGN SPECIFICATION: ACI 318, AASHTO LOAD FACTOR DESIGN METHOD, AND ASTM C858
- 2) DESIGN LOADING: AASHTO HS20 (32,000 LB/AXLE)
- 3) LIVE LOAD SURCHARGE: .5% OF THE WHEEL LOADING APPLIED TO 8'-0" OF DEPTH.
- 4) CONCRETE COMPRESSIVE STRENGTH: F'c = 4500 PSI
- 5) REINFORCING STEEL: ASTM A706, Fy = 60000 PSI

DESIGN ASSUMPTIONS:

- 1) GROUND WATER LEVEL: 3'-6" BELOW GRADE.
- 2) EARTH COVER: 2'-0" MINIMUM TO 5'-0" MAXIMUM

3) LIVE LOAD IMPACT: 2'-0" 1 = 20% 2'-1" TO 2'-11" 1 = 10% 3'-0" TO 5'-0" 1 = 0%

- 4) COEFFICIENT OF ACTIVE EARTH PRESSURE: Ka 0.3
- 5) SPECIFIC WEIGHT OF STD. AGGREGATE CONCRETE" 150 PCF
- 6) SPECIFIC WEIGHT OF DRY EARTH: 100 PCF
- 7) SPECIFIC WEIGHT OF SATURATED EARTH: 120 PCF
- 8) EQUIVALENT FLUID PRESSURE OF DRY EARTH: 30 PSF
- 9) EQUIVALENT FLUID PRESSURE OF SATURATED EARTH: 80 PSF

THE SUPPLIER SHALL PROVIDE CERTIFICATION THAT THE PRECAST MANHOLES MEET OR EXCEED THESE REQUIREMENTS PRIOR TO INSTALLATION.

- MANHOLE FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 50,000 POUND LOADS. MANHOLE FRAME & LID SHALL BE NEENAH CATALOG NO. R-1640-C OR APPROVED EQUAL. LID FOR HIGH VOLTAGE MANHOLE SHALL BE LABELED "HIGH VOLTAGE". LID FOR LOW VOLTAGE MANHOLE SHALL BE LABELED "LOW VOLTAGE" OR "OV-600V".
- 3. COORDINATE DUCT BANK INTERFACE & OPENINGS WITH THE MANHOLE MFR. CONTRACTOR SHALL SLOPE DUCT BANK TO PRECAST MANHOLE OPENINGS. ALL OPENINGS SHALL BE SEALED WATERTIGHT AFTER DUCT BANK INSTALLATION.
- 4'x4'x4' MANHOLE SHALL BE MANUFACTURED BY A CONCRETE ELECTRICAL MANHOLE PRODUCER ON THE ILLINOIS DEPARTMENT OF TRANSPORTATION APPROVED LIST OF CERTIFIED PRECAST CONCRETE
- 5. 4'x4'x4' MANHOLE SHALL BE PAID FOR UNDER ITEM AR110710 ELECTRICAL MANHOLE PER EACH.
- CABLE RACKS SHALL BE HEAVY DUTY CORROSION RESISTANT NYLON MATERIAL WITH CORROSION RESISTANT STAINLESS STEEL MOUNTING HARDWARE; UNDERGROUND DEVICES, INC. CAT. NO. 3SR1N, 3SR2N OR 3SR3N OR EQUAL. PROVIDE AT LEAST TWO TRIPLE HOOK CABLE RACKS ON EACH MANHOLE WALL, SPACED TO SUPPORT RESPECTIVE CABLES.
- 7. COORDINATE INSTALLATION OF MANHOLES WITH RESPECTIVE FINISHED GRADE ELEVATIONS.

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EDGAR COUNTY AIRPORT PARIS, ILLINOIS

HANSON

CONSTRUCT CROSSWIND RUNWAY 18-36

4'X4'X4' ELECTRICAL MANHOLE

GENERAL NOTES

- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT
- CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.
- CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO. 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- 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 THE 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 OR DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM
- IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTORS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATION, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE
- THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH THE EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY
- WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC. OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES STYLES, CLASSES, ETC. MAY BE APPROVED.
- ANY AND ALL INSTRUCTIONS FROM THE RESIDENT ENGINEER TO THE CONTRACTOR REGARDING CHANGES IN OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS SHALL BE IN WRITING WITH COPIES SENT TO THE AIRPORT SPONSOR AND THE ILLINOIS DEPARTMENT OF TRANSPORTATION, DIVISION OF AERONAUTICS, THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
- A MINIMUM OF THREE COPIES OF THE INSTRUCTION BOOK SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATORS, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:
 - A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL
 - THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
 - INSTALLATION INSTRUCTION.
 - START-UP INSTRUCTIONS.
 - PREVENTATIVE MAINTENANCE REQUIREMENTS.
 - CHART FOR TROUBLE-SHOOTING.
 - COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT - "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OF THE NARRATIVE SHALL SHOW VOLTAGE/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLE-SHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL
 - PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.
 - SAFETY INSTRUCTIONS.

POWER AND CONTROL NOTES

- PROVIDE LEGEND PLATES FOR ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO IDENTIFY THE FUSE OR FUSE LINK AMPERE RATING. WHERE THE EQUIPMENT DOES NOT HAVE SUFFICIENT AREA TO INSTALL LEGEND PLATES, THE LEGEND PLATES SHALL BE INSTALLED ON THE WALL NEXT TO THE UNIT. LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION
- 2. COLOR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR COLORED TAPE. WHERE TAPE IS USED, THE WIRE INSULATION SHALL BE BLACK. BLACK AND RED SHALL BE USED FOR PHASE CONDUCTORS ON 120/240VAC SINGLE-PHASE, THREE WIRE SYSTEMS AND BLACK, ORANGE (FOR HIGH LEG) AND BLUE SHALL BE USED FOR PHASE CONDUCTORS ON 240/120VAC THREE-PHASE, FOUR WIRE SYSTEMS. NEUTRAL CONDUCTORS, SIZE NO. 6 AWG OR SMALLER, SHALL BE IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH. NEUTRAL CONDUCTORS LARGER THAN NO. 6 AWG SHALL BE IDENTIFIED EITHER BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH OR BY THE USE OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ACCESSIBLE WIREWAYS. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR SIZES (AWG OR KCMIL).
- 3. ALL BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE SHALL BE IDENTIFIED WITH THE SAME COLOR. THE COLOR CODING SHALL BE EXTENDED TO THE POINT OF UTILIZATION.
- 4. IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL,
- LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
- NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
- THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
 - IN STRAIGHT PULLS THE LENGTH OF THE BOX SHALL NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF THE LARGER CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CROSS-SECTIONAL AREA) OF A BOX END SHALL BE AT LEAST 3 TIMES GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.
 - IN ANGLE PULLS OR 'U' PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE WALL OF THE BOX SHALL NOT BE LESS THAN SIX (6) TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE SHALL BE INCREASED FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES ON THE SAME WALL AS THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.
- A RUN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS AND PULL/JUNCTION BOXES, SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL), INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE TERMINATIONS, CAST, CONDUIT TYPE OUTLETS SHALL NOT BE TREATED AS PULL/JUNCTION BOXES.
- 9. EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE
- SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE
- CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRÌP WITH 100 AMPERE, MINIMUM
- 12. DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.
- ALL INTERIOR WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON HOT DIPPED GALVANIZED STEEL STRUT SUPPORT, OR STAINLESS STEEL STRUT SUPPORT, WITH CORROSION RESISTANT HARDWARE.
- SUPPORT FOR EXTERIOR MOUNTED EQUIPMENT SHALL USE HOT DIPPED GALVANIZED STEEL STRUT SUPPORT OR STAINLESS STEEL STRUT SUPPORT WITH STAINLESS STEEL HARDWARE. PROVIDE ZINC RICH PAINT APPLIED TO FIELD CUTS OF GALVANIZED STEEL SUPPORT TO MINIMIZE THE POTENTIAL FOR CORROSION PER THE RESPECTIVE STRUT SUPPORT MANUFACTURER'S RECOMMENDATIONS.

- CONDUITS FOR ELECTRIC SERVICE ENTRANCE AND FEEDERS SHALL BE AS DETAILED HEREIN ON THE PLANS. WHERE GALVANIZED RIGID STEEL CONDUIT IS SPECIFIED IT SHALL HAVE THREADED FITTINGS. SET SCREW TYPE FITTINGS WILL NOT BE ACCEPTABLE. CONDUITS FOR UNDERGROUND APPLICATIONS SHALL BE AS DETAILED HEREIN. CONDUITS FOR GROUNDING ELECTRODE CONDUCTORS OR INDIVIDUAL GROUNDING CONDUCTORS SHALL BE SCHEDULE 40 OR SCHEDULE 80
- PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT AT CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION OR WHERE FLEXIBILITY IS REQUIRED. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING, SUNLIGHT RESISTANT, AND RESISTANT TO OIL, GASOLINE, AND GREASE, LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO MOTORS, TRANSFORMERS, & CONSTANT CURRENT REGULATORS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. DO NOT INSTALL LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL. LISTED. CONFIRM LIQUID-TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLING IT.
- UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
- 18. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC, SHALL BE GALVANIZED
- USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 4 AWG OR LARGER UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.
- 20. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
- 21. WRAP ALL PRIMARY AND SECONDARY POWER TRANSFORMER CONNECTIONS WITH SUFFICIENT LAYERS OF INSULATING TAPE (3M SCOTCH 23 ALL-VOLTAGE SPLICING TAPE, 3M SCOTCH 130C LINERLESS RUBBER SPLICING TAPE, OR APPROVED FOUAL) AND COVER WITH VINYL FLECTRICAL TAPE (3M SCOTCH 88 VINYL ELECTRICAL TAPE OR APPROVED EQUAL) FOR FULL VALUE OF CABLE INSULATION
- 22. UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. COPPER MINÚMUM.
- 23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
- FOR INTERIOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 12 (DUST TIGHT) ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. FOR EXTERIOR/OUTDOOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 4X STAINLESS STEEL ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. ALL CONDUIT ENTRIES INTO NEMA 4, 4X ENCLOSURES SHALL HAVE NEMA 4 HUBS LISTED SUITABLE FOR THE RESPECTIVE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE.
- THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
- ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
- WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COMPONENTS, WIRING AND TERMINALS SHALL BE EXPOSED AND ACCESSIBLE WITHOUT REMOVAL OF ANY PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLTAGE COMPONENTS.
- ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
- EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
- A COMPLETE WIRING DIAGRAM SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE
- THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
- ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
- MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
- 24. FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH METER SOCKET. SERVICE DISCONNECT, SAFETY SWITCH, CUTOUT, PANELBOARD, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION".

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AIRFIELD LIGHTING NOTES

- UNLESS OTHERWISE NOTED, ALL UNDERGROUND AIRFIELD LIGHTING SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE FAA APPROVED 5000 VOLT L-824 TYPE. ALL UNDERGROUND FIELD POWER LOW VOLTAGE (600 VOLT & BELOW) CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE UL LISTED 600 VOLT, TYPE XLP-USE-2 COPPER CONDUCTORS. CONDUCTOR SIZES SHALL BE AS SPECIFIED, HEREIN.
- NO COMPONENTS OF PRIMARY CIRCUIT SUCH AS CABLE, CONNECTORS AND TRANSFORMERS SHALL BE BROUGHT ABOVE GROUND AT EDGE LIGHTS, SIGNS, REIL,
- THERE SHALL BE NO EXPOSED POWER/CONTROL CABLES BETWEEN THE POINT WHERE THEY LEAVE THE UNDERGROUND (DEB OR L-867 BASES) AND WHERE THEY ENTER THE EQUIPMENT (SUCH AS TAXIWAY SIGNS, PAPI, REIL, ETC.) ENCLOSURES, THESE CABLES SHALL BE ENCLOSED IN RIGID CONDUIT OR IN FLEXIBLE, WATERTIGHT CONDUIT WITH BREAKABLE COUPLING(S) AT THE GRADE OR THE HOUSING COVER, AS SHOWN IN
- THE JOINTS OF THE 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 1-1/2 INCHES ON EACH SIDE OF THE JOINT, AS SHOWN ON ELECTRICAL DETAILS SHEET 1.
- THE CABLE ENTRANCE INTO THE FIELD-ATTACHED L-823 CONNECTORS SHALL BE ENCLOSED BY A HEAT-SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE, AS SHOWN ON ELECTRICAL DETAILS SHEET 1.
- L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS 'A' (FACTORY MOLDED).
- THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S) WITHIN THE STEMS OF A RUNWAY/TAXIWAY EDGE/THRESHOLD LIGHTING FIXTURE AND THE WIREWAYS LEADING TO TAXIWAY SIGNS AND PAPI/REIL EQUIPMENT.
- ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY. TWO CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL NOT BE TAPED.
- DEB ISOLATION TRANSFORMERS SHALL BE BURIED AT A DEPTH OF TEN (10") INCHES ON A LINE CROSSING THE LIGHT AND PERPENDICULAR TO THE RUNWAY/TAXIWAY CENTERLINE AT A LOCATION TWELVE (12") INCHES FROM THE LIGHT OPPOSITE FROM THE RIINWAY/TAXIWAY
- 10. A SLACK OF THREE (3') FEET, MINIMUM, SHALL BE PROVIDED IN THE PRIMARY CABLE AT FACH TRANSFORMER/CONNECTOR TERMINATION. AT STAKE-MOUNTED LIGHTS. THE SLACK SHALL BE LOOSELY COILED IMMEDIATELY BELOW THE ISOLATION TRANSFORMER
- DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT, CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY ONE ENTRANCE.
- 12. L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I, UNLESS OTHERWISE NOTED.
- 13. BASE MOUNTED BREAKABLE COUPLINGS SHALL NOT HAVE WEEP HOLES TO THE OUTSIDE. PLUGGED UP HOLES SHALL NOT BE ACCEPTABLE. IT SHALL BE A 1/4"
 DIAMETER, MINIMUM, OR EQUIVALENT OPENING FOR DRAINAGE FROM THE SPACE AROUND THE SECONDARY CONNECTOR INTO THE L-867 BASE.
- 14. THE ELEVATION OF THE BREAKABLE COUPLING GROOVE SHALL NOT EXCEED 1-1/2" ABOVE THE EDGE OF THE COVER IN CASE OF BASE MOUNTED COUPLINGS, OR THE TOP OF THE STAKE IN CASE OF STAKE MOUNTED COUPLINGS.
- 15. WHERE THE BREAKABLE COUPLING IS NOT AN INTEGRAL PART OF THE LIGHT FIXTURE STEM OR MOUNTING LEG, A BEAD OF SILICON SEAL SHALL BE APPLIED COMPLETELY AROUND LIGHT STEM OR WIREWAY AT BREAKABLE COUPLING TO PROVIDE A WATERTIGHT
- TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE
- 17. PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE
- 18. THE TOLERANCE FOR THE HEIGHT OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE: ONE (1) INCH. IN CASE OF STAKE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE STAKE AND THE TOP OF THE LENS. IN CASE OF BASE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE BASE FLANGE AND THE TOP OF THE LENS, THUS INCLUDING THE BASE COVER, THE FRANGIBLE COUPLING, THE STEM, THE LAMP HOUSING AND THE LENS.
- THE TOLERANCE FOR THE LATERAL SPACING (LIGHT LANE TO RUNWAY/TAXIWAY CENTERLINE) OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ONE (1) INCH. THIS ALSO APPLIES AT INTERSECTIONS TO LATERAL SPACING BETWEEN LIGHTS OF A RUNWAY/TAXIWAY AND THE INTERSECTING RUNWAY/TAXIWAY.

- 20. ENTRANCES INTO L-867 BASES SHALL HAVE CONDUIT COUPLINGS OR REDUCERS TO INTERFACE UNIT DUCT/CONDUIT TO L-867 BASE HUBS, OR SHALL BE SEALED WITH HEAT SHRINK AS SHOWN IN DETAIL "B" ON ELECTRICAL DETAILS SHEET 1.
- 21. GALVANIZED/PAINTED EQUIPMENT/COMPONENT SURFACES SHALL NOT BE DAMAGED BY DRILLING, FÍLING, ETC. DRAIN HOLES IN METAL TRANSFORMER HOUSINGS SHALL BE MADE REFORE GALVANIZING
- 22. EDGE LIGHT NUMBERING TAGS SHALL BE FACING THE PAVEMENT.
- CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF THE SIZE SHOWN. LETTERS/NUMBERS/ARROWS FOR THE LEGEND TO BE IMPRESSED INTO THE TOPS OF THE MARKERS SHÁLL BE PRE-ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE
- ALL UNDERGROUND CABLE RUNS SHALL BE IDENTIFIED BY CABLE MARKERS AT 200 FEET MAXIMUM SPACING, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF THE CABLE RUN. CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE
- THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE
- APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND 26.
- 27. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT
- WHERE A PARALLEL, CONSTANT VOLTAGE PAPI SYSTEM IS PROVIDED. THE "T" SPLICES SHALL BE OF THE CAST TYPE.
- CONCRETE USED FOR SLABS, FOOTINGS, BACKFILL AROUND TRANSFORMER HOUSINGS, MARKINGS, ETC. SHALL BE 3500 PSI, AIR-ENTRAINED.
- ALL POWER AND CONTROL CABLES IN MAN/HAND HOLES SHALL BE TAGGED. USE EMBOSSED COPPER STRIPS TO BE ATTACHED AT BOTH ENDS TO THE CABLE BY THE USE OF PLASTIC STRAPS. MINIMUM OF TWO TAGS SHALL BE PROVIDED ON FACH CABLE IN A MAN/HAND HOLE-ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE
- THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO 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 FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL
- 32. WHEN PREPARING CABLE FOR SPLICES, THE CONTRACTOR SHALL USE A CABLE STRIPPER/PENCILLER WHENEVER CABLE CONNECTIONS ARE MADE.

GROUNDING NOTES FOR AIRFIELD LIGHTING

- GROUNDING FOR RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS SHALL BE AS DETAILED ON THE PLANS AND AS SPECIFIED HEREIN. PER FAA AC 150/5340-30E DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, CHAPTER 12, PART 12.6; A GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. THE PURPOSE OF THE LIGHT BASE GROUND IS TO PROVIDE A DEGREE OF PROTECTION FOR MAINTENANCE PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE THAT MAY RESULT FROM A SHORTED POWER CABLE OR ISOLATION TRANSFORMER. A LIGHT BASE GROUND SHALL BE INSTALLED AT EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. A LIGHT BASE GROUND SHALL ALSO BE INSTALLED AT EACH STAKE MOUNTED LIGHT FIXTURE. A LIGHT BASE GROUND SHALL BE INSTALLED AND CONNECTED TO THE METAL FRAME OF FACH TAXL GUIDANCE SIGN AS DETAILED ON THE PLANS AND IN ACCORDANCE WITH THE RESPECTIVE TAXI GUIDANCE SIGN MANUFACTURER RECOMMENDATIONS. THE LIGHT BASE GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR BONDED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A 5/8-INCH DIAMETER BY 8-FOOT LONG (MINIMUM) UL LISTED COPPER CLAD GROUND ROD. CONNECTIONS TO GROUND LUGS ON THE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE SHALL BE WITH A UL LISTED GROUNDING CONNECTOR. CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY ERICO PRODUCTS, INC., SOLON, OHIO, (PHONE: 800-248-9353), THERMOWELD BY CONTINENTAL INDUSTRIES, INC., TULSA, OKLAHOMA (PHONE: 918-663-1440), ULTRAWELD BY HARGER, GRAYSLAKE, ILLINOIS (PHONE: 800-842-7437), OR APPROVED EQUAL. EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS. TOP OF GROUND RODS SHALL BE BURIED 12 INCHES MINIMUM BELOW GRADE, UNLESS SPECIFIED OTHERWISE HEREIN, FOR RESPECTIVE APPLICATIONS.
- CLEAN ALL METAL SURFACES BEFORE MAKING GROUND CONNECTIONS. METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL PER 2008 NATIONAL ELECTRICAL CODE ARTICLE 250-12.
- PER FAA 150/5340-30E THE RESISTANCE TO GROUND OF THE RESPECTIVE MOUNTING STAKE OR LIGHT BASE (WITH GROUND ROD CONNECTED) MUST BE 25 OHMS OR LESS.

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COUNTY AIRPORT RIS, ILLINOIS

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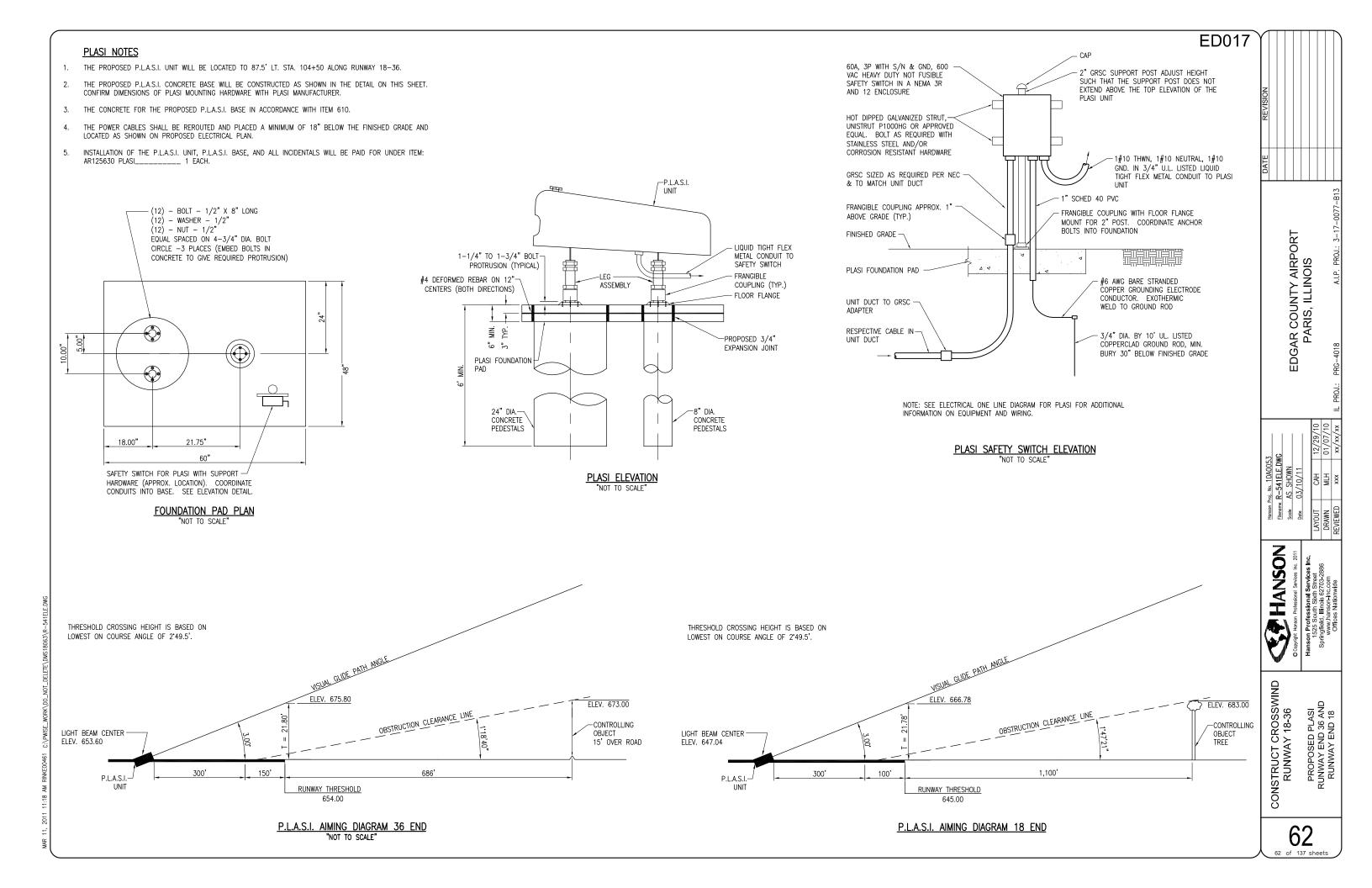
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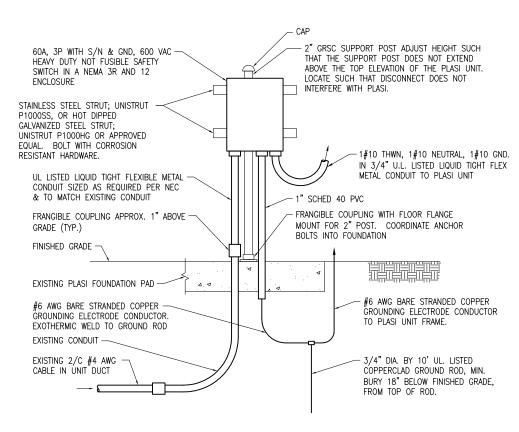
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CONSTRUCT CROSSWIND RUNWAY 18-36

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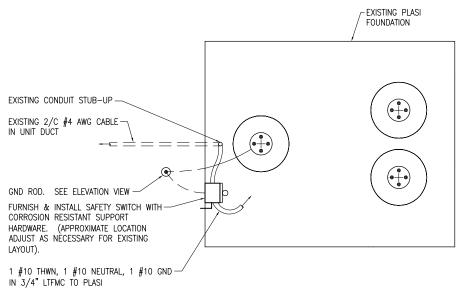


- 1. PLASI UNITS LOCATED ON RUNWAY 9-27 ARE EXISTING. A HEAVY DUTY 60 AMP, 2 POLE OR 3 POLE WITH SOLID NEUTRAL & GND, 600 VAC NOT FUSIBLE SAFETY SWITCH IN A NEMA 3R AND 12 ENCLOSURE SHALL BE FURNISHED & INSTALLED AT EACH PLASI. 60 AMP SAFETY SWITCH IS REQUIRED TO ACCOMMODATE #4 AWG OR #2 AWG CONDUCTORS FOR LUG TERMINATIONS & WIRE BENDING SPACE. NEUTRAL SHALL BE BONDED TO GROUND IN SAFETY SWITCH & GND ROD SHALL BE INSTALLED TO CONFORM WITH NEC 250.32
- LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUITABLE FOR GROUNDING, AND SUNLIGHT
 RESISTANT. NEC 350.6 NOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE
 LISTED. DO NOT INSTALL LTFMC THAT IS NOT UL LISTED. CONFIRM LTFMC BEARS THE UL LABEL PRIOR TO
 INSTALLATION
- 3. CONTRACTOR SHALL FURNISH & INSTALL BOOST TRANSFORMERS FOR PLASI UNITS IN THE VAULT. BOOST TRANSFORMERS SHALL BE SIZED & CONNECTED TO PROVIDE THE PROPER VOLTAGE AT THE RESPECTIVE PLASI UNIT AS RECOMMENDED BY THE PLASI MANUFACTURER (DEVORE AVIATION CORPORATION, 6104 JEFFERSON BLVD, N.E., ALBUQUERQUE, NEW MEXICO 87109-3410, PHONE: 505-345-8713, FAX: 505-344-3835).
- 4. INSTALLATION OF THE SAFETY SWITCH AND ASSOCIATED CONDUIT, WIRING, FITTINGS, GROUNDING, & ACCESSORIES FOR EACH PLASI UNIT SHALL BE PAID FOR UNDER ITEM AR125989 REFURBISH PLASI PER EACH.
- SAFETY SWITCHES SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENTS. PROVIDE CERTIFICATION OF MANUFACTURE IN THE UNITED STATES WITH SHOP DRAWING SUBMITTAL.

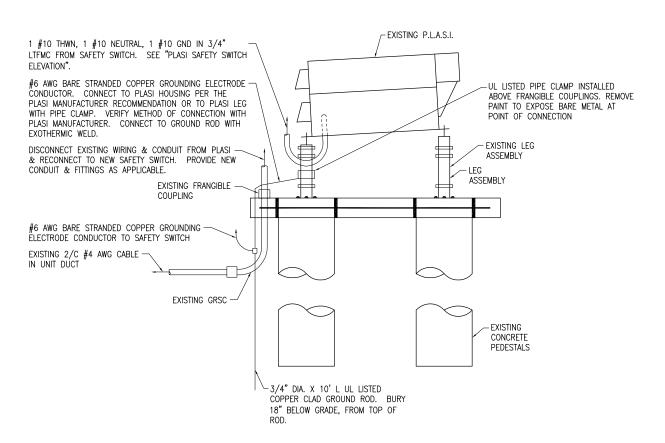


NOTE: SEE NEW ELECTRICAL ONE LINE DIAGRAM FOR VAULT AND PLASI FOR ADDITIONAL INFORMATION ON EQUIPMENT AND WIRING.

PLASI SAFETY SWITCH ELEVATION
"NOT TO SCALE"



PLASI FOUNDATION PLAN VIEW



PLASI ELEVATION

ALL WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AR125989 — REFURBISH PLASI — PER EA.

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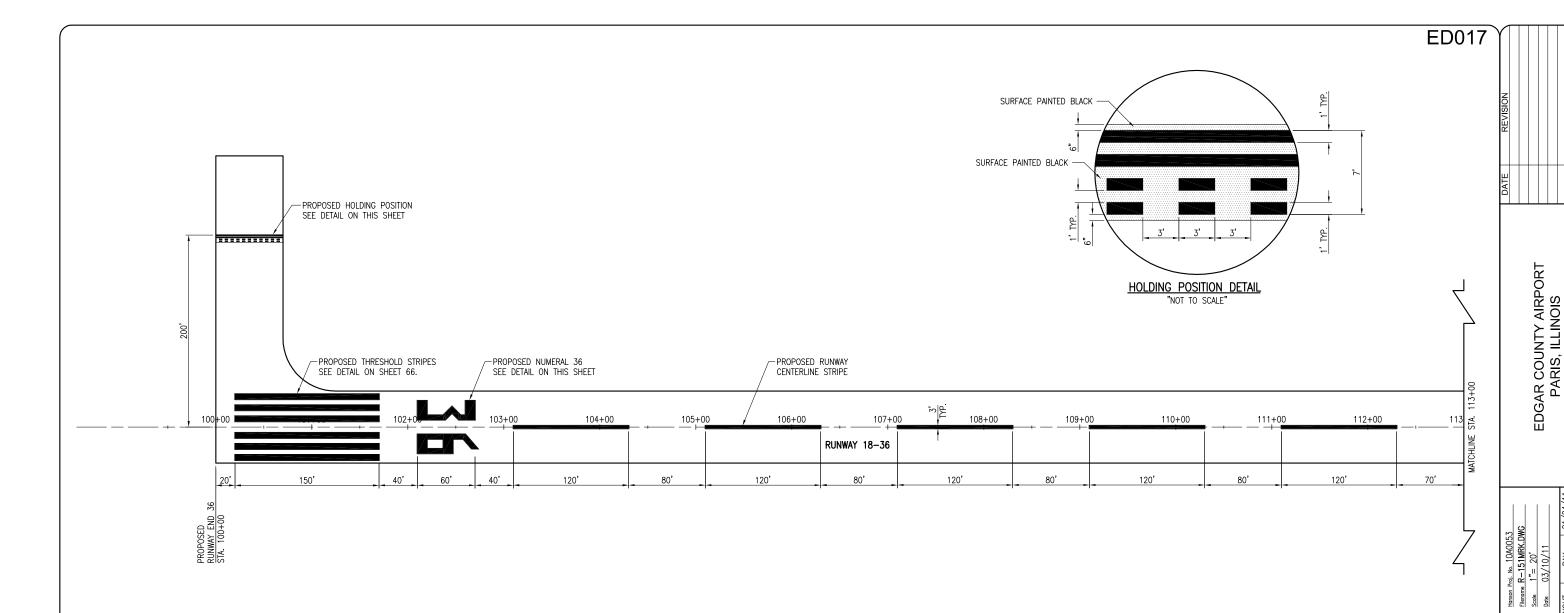
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RUNWAY 9-27 PLASI WIRING DETAILS AND NOTES

COUNTY AIRPORT RIS, ILLINOIS

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620-PAVEMENT MARKING-WATERBORNE NOTES

THE PAVEMENT MARKING-WATERBORNE (620) SHALL BE PLACED IN ACCORDANCE WITH ITEM 620 "PAVEMENT MARKING" AS STATED ON PAGE 277 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS, ADOPTED NOV. 2, 2009.

THIS ITEM SHALL CONSIST OF RUNWAY AND TAXIWAY CENTERLINE, AND MARKING IN ACCORDANCE WITH THESE SPECIFICATIONS AND AT THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. ALL TAXIWAY AND TURNAROUND MARKING WILL BE YELLOW IN COLOR WITH A 6-IN BLACK BORDER. THE PROPOSED PAVEMENT MARKING WILL BE APPLIED IN TWO APPLICATIONS

ALL RUNWAY MARKING WILL BE WHITE IN COLOR WITH A 6" BLACK BORDER.

ANY MATERIAL DELIVERED THAT FAILS TO MEET THE SPECIFICATIONS SHALL BE DISPOSED OF BY THE VENDOR AND IMMEDIATELY REPLACED WITH ACCEPTABLE MATERIAL ENTIRELY AT THE VENDOR'S EXPENSE, INCLUDING HANDLING AND TRANSPORTATION CHARGES.

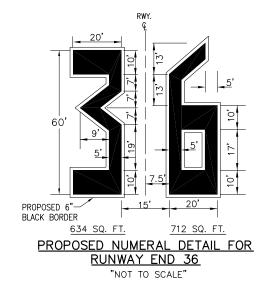
ALL PROPOSED MARKING WILL BE COMPLETED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION PLANS.

GLASS BEADS SHALL BE REQUIRED ONLY ON THE SECOND APPLICATION OF YELLOW MARKING.

CUT-OFF SHEETS WILL BE REQUIRED TO INSURE STRAIGHT EDGES.

ALL PROPOSED PAVEMENT MARKING PAINT SHALL BE WATERBORNE PAINT IN ACCORDANCE WITH ITEM 620.

THE PROPOSED MARKING WILL BE PAID FOR UNDER ITEM:
AR620520 PAVEMENT MARKING-WATERBORNE ____ PER S.F.
AR620525 PAVEMENT MARKING-BLACK BORDER ____ PER S.F.

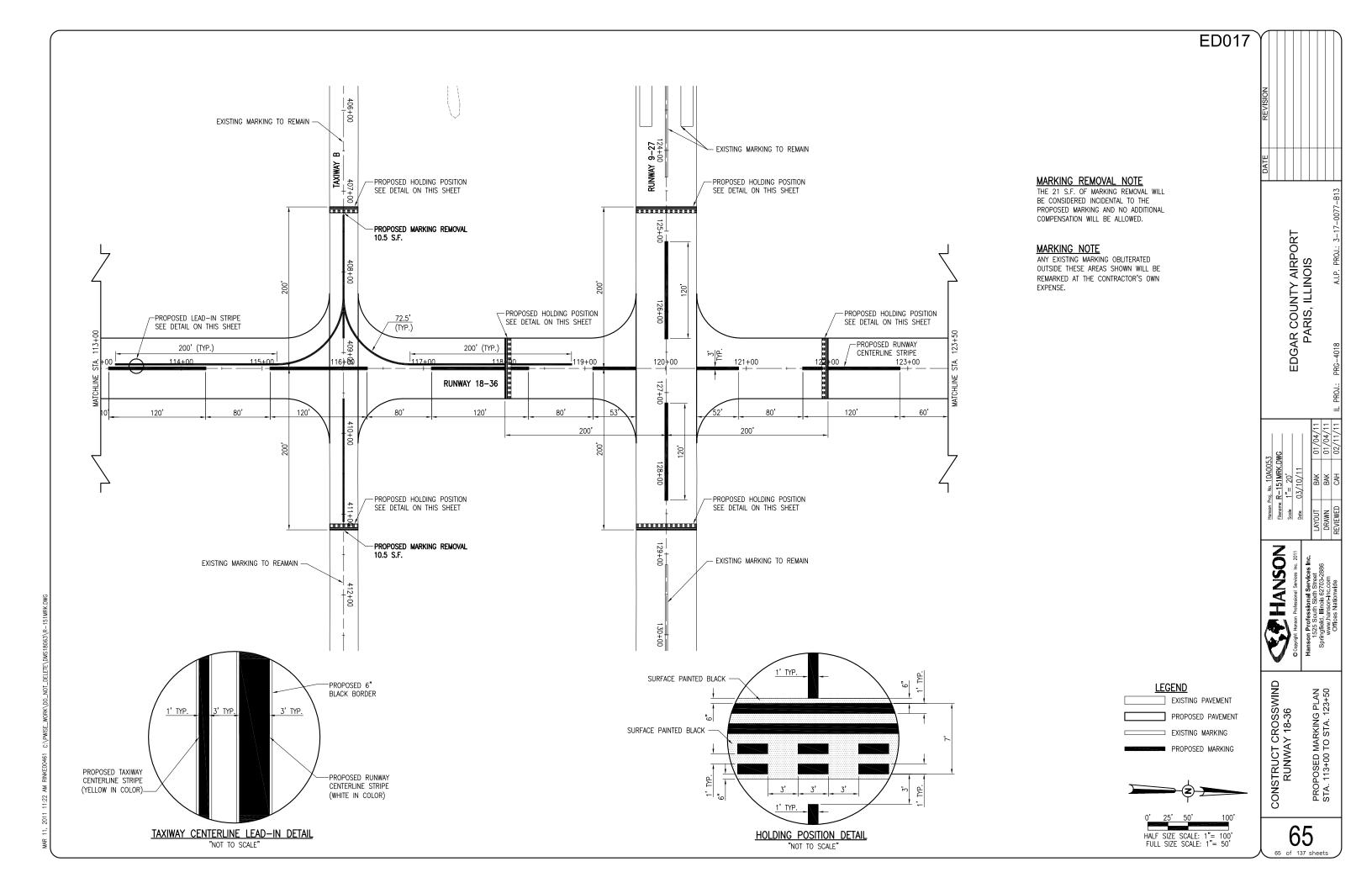


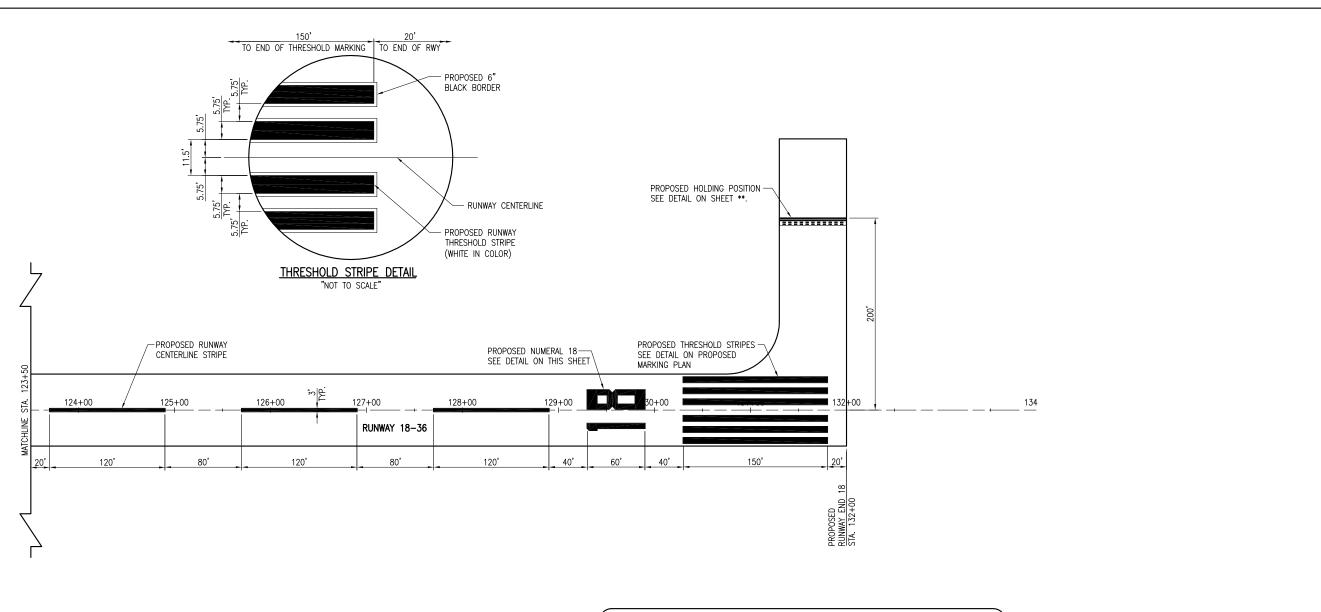


0' 25' 50' 100'

HALF SIZE SCALE: 1"= 100' FULL SIZE SCALE: 1"= 50' CONSTRUCT CROSSWIND RUNWAY 18-36
PROPOSED MARKING PLAN STA. 98+50 TO STA. 113+00

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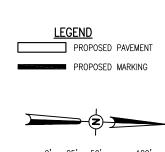




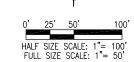
RWY. O PROPOSED 6" BLACK BORDER
14' 1' 20'
318 S.F. 876 S.F. PROPOSED NUMERAL DETAIL FOR RUNWAY END 18

"NOT TO SCALE"

MARKING QUANTITIES								
DESCRIPTION	UNIT AREA	NO. REQUIRED	TOTAL AREA					
RUNWAY CENTERLINE STRIPE	360	14.74	5,306					
NUMBER 1	318	1	318					
NUMBER 3	634	1	634					
NUMBER 6	712	1	712					
NUMBER 8	876	1	876					
THRESHOLD STRIPES	862.50	12	10,350					
	Ţ	OTAL WHITE	18,196					
TURNAROUND HOLDING LINE	210	2	420					
RUNWAY 18-36 HOLDING LINE	225	2	450					
RUNWAY 9-27 HOLDING LINE	225	2	450					
TAXIWAY B HOLDING LINE	105	2	210					
TAXIWAY CENTERLINE STRIPE	1,008	1	933					
	T	OTAL YELLOW	2,463					
RUNWAY CENTERLINE STRIPE	124	14.74	1,828					
NUMBER 1	67.25	1	67					
NUMBER 3	106	1	106					
NUMBER 6	113.37	1	113					
NUMBER 8	131.31	1	131					
THRESHOLD STRIPES	156.75	12	1,881					
TURAROUND HOLDING LINE	350	2	700					
RUNWAY 18-36 HOLDING LINE	375	2	750					
RUNWAY 9-27 HOLDING LINE	375	2	750					
TAXIWAY B HOLDING LINE	177.09	2	354					
TAXIWAY CENTERLINE STRIPE	1,008	1	933					
	Ţ	OTAL BLACK	7,613					
	T	OTAL MARKING	28,272					



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66 6 of 137 sheets

PROPOSED MARKING PLAN STA. 123+50 TO STA. 134+00

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CONSTRUCT CROSSWIND RUNWAY 18-36

EDGAR COUNTY AIRPORT PARIS, ILLINOIS

		EARTHW	ORK SUMM	IARY - RU	JNWAY 18-36		
STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)
96+50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97+50.00	0.00	16.02	0.00	18.54	0.00	18.54	-18.54
98+00.00	0.00	153.44	0.00	196.13	0.00	214.68	-214.68
98+50.00	0.00	270.22	0.00	490.35	0.00	705.02	-705.02
99+00.00	56.03	326.81	51.88	691.01	51.88	1396.03	-1344.15
99+50.00	163.60	364.58	203.36	800.22	255.24	2196.25	-1941.0
100+00.00	0.10	214.52	151.57	670.25	406.81	2866.50	-2459.69
100+50.00	0.00	229.49	0.09	513.90	406.91	3380.41	-2973.50
101+00.00	0.00	208.65	0.00	507.11	406.91	3887.51	-3480.60
101+50.00	103.03	307.28	95.40	597.14	502.31	4484.65	-3982.3
102+00.00	119.92	279.11	206.44	678.69	708.74	5163.34	-4454.60
102+50.00	185.57	171.96	282.86	522.07	991.60	5685.42	-4693.8
103+00.00	260.01	123.26	412.57	341.69	1404.18	6027.11	-4622.93
103+50.00	323.87	102.43	540.63	261.22	1944.81	6288.32	-4343.52
104+00.00	308.44	129.17	585.47	268.06	2530.28	6556.38	-4026.10
104+50.00	243.04	181.44	510.63	359.50	3040.91	6915.88	-3874.9
105+00.00	198.83	205.58	409.14	447.94	3450.05	7363.82	-3913.7
105+50.00	176.04	211.41	347.10	482.63	3797.15	7846.45	-4049.30
106+00.00	140.47	200.51	293.06	476.76	4090.21	8323.21	-4232.99
106+50.00	134.93	216.13	255.00	482.22	4345.21	8805.43	-4460.22
107+00.00	191.99	155.34		429.94	4647.92	9235.37	-4587.45
			302.70				
107+50.00	172.74	181.47	337.71	389.83	4985.63	9625.20	-4639.5
108+00.00	189.02	155.69	334.96	390.23	5320.59	10015.43	-4694.84
108+50.00	253.96	120.87	410.17	320.09	5730.76	10335.52	-4604.70 4370.51
109+00.00	281.88	105.43	496.15	261.92	6226.91	10597.44	-4370.5
109+50.00	270.56	109.98	511.52	249.32	6738.43	10846.76	-4108.3
110+00.00	281.81	107.52	511.45	251.74	7249.88	11098.50	-3848.6
110+50.00	366.32	82.45	600.12	219.87	7850.00	11318.37	-3468.3
111+00.00	394.19	56.00	704.18	160.24	8554.18	11478.61	-2924.44
111+50.00	450.20	32.21	781.84	102.09	9336.02	11580.71	-2244.69
112+00.00	459.61	26.24	842.42	67.65	10178.44	11648.36	-1469.92
112+50.00	509.86	7.11	897.66	38.60	11076.09	11686.96	-610.86
113+00.00	493.38	19.02	928.93	30.24	12005.02	11717.20	287.82
113+50.00	435.31	24.51	859.90	50.38	12864.92	11767.58	1097.34
114+00.00	408.39	61.02	781.20	98.99	13646.12	11866.57	1779.55
114+50.00	451.77	80.33	796.44	163.60	14442.56	12030.17	2412.39
115+00.00	486.58	120.30	868.84	232.21	15311.41	12262.38	3049.02
115+25.00	0.00	188.24	225.27	178.55	15536.68	12440.94	3095.74
115+50.00	0.00	75.99	0.00	152.91	15536.68	12593.85	2942.83
116+00.00	35.31	0.00	32.69	87.95	15569.37	12681.80	2887.57
116+50.00	0.00	63.41	32.69	73.39	15602.06	12755.19	2846.87
117+00.00	0.00	209.82	0.00	316.24	15602.06	13071.43	2530.64
117+50.00	0.00	520.69	0.00	845.50	15602.06	13916.93	1685.14
118+00.00	0.15	342.46	0.14	999.02	15602.20	14915.94	686.26
118+50.00	0.00	300.16	0.14	743.77	15602.34	15659.72	-57.37
119+00.00	2.56	27.24	2.37	378.94	15604.71	16038.65	-433.94
119+50.00	18.14	23.81	19.17	59.09	15623.88	16097.74	-473.86
120+00.00	65.67	0.00	77.60	27.56	15701.48	16125.30	-423.81
120+50.00	74.77	0.00	130.04	0.00	15831.52	16125.30	-293.78

		EARTHW	ORK SUMW	IARY - RU	INWAY 18-36		
STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)
121+00.00	140.83	104.42	199.63	120.86	16031.15	16246.15	-215.00
121+50.00	289.43	161.28	398.39	307.52	16429.54	16553.67	-124.14
122+00.00	275.82	399.71	523.38	649.29	16952.92	17202.97	-250.05
122+50.00	238.80	551.57	476.50	1,101.02	17429.42	18303.99	-874.57
123+00.00	206.46	672.59	412.28	1,416.85	17841.69	19720.84	-1879.14
123+50.00	168.47	660.73	347.16	1,543.19	18188.85	21264.03	-3075.18
124+00.00	97.07	525.37	245.87	1,372.80	18434.72	22636.83	-4202.11
124+50.00	152.44	331.21	231.03	991.41	18665.75	23628.25	-4962.50
125+00.00	172.00	167.15	300.41	576.81	18966.16	24205.05	-5238.89
125+50.00	150.17	67.20	298.31	271.24	19264.46	24476.29	-5211.83
126+00.00	209.17	2.93	332.72	81.17	19597.19	24557.46	-4960.27
126+50.00	300.14	0.02	471.58	3.41	20068.77	24560.87	-4492.11
127+00.00	322.80	0.00	576.80	0.02	20645.56	24560.90	-3915.33
127+50.00	339.49	0.12	613.23	0.14	21258.80	24561.04	-3302.24
128+00.00	411.71	0.00	695.56	0.14	21954.35	24561.17	-2606.82
128+50.00	365.06	0.08	719.23	0.09	22673.58	24561.27	-1887.68
129+00.00	260.99	2.56	579.68	3.06	23253.26	24564.32	-1311.06
129+50.00	156.69	13.32	386.74	18.38	23640.00	24582.70	-942.70
130+00.00	130.18	42.11	265.62	64.16	23905.62	24646.86	-741.24
130+50.00	128.13	39.98	239.18	95.01	24144.80	24741.87	-597.07
131+00.00	25.70	20.52	142.44	70.02	24287.23	24811.89	-524.66
131+50.00	30.74	23.20	52.26	50.60	24339.49	24862.49	-523.00
132+00.00	29.34	65.53	55.63	102.70	24395.12	24965.19	-570.07
132+50.00	24.11	75.25	49.49	162.94	24444.61	25128.13	-683.52
133+00.00	71.44	67.28	88.47	164.97	24533.08	25293.10	-760.01
133+50.00	124.04	21.18	181.00	102.38	24714.08	25395.48	-681.40
134+00.00	189.12	0.00	289.96	24.51	25004.05	25419.99	-415.95
134+50.00	286.37	0.00	440.27	0.00	25444.31	25419.99	24.32
135+00.00	236.30	5.22	483.95	6.04	25928.27	25426.04	502.23
135+50.00	158.15	30.55	365.23	41.40	26293.50	25467.44	826.06
136+00.00	193.91	122.92	325.98	177.63	26619.48	25645.06	974.42
136+50.00	0.00	0.00	179.55	142.27	26799.03	25787.33	1011.70
137+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
137+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
138+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
138+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
139+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
139+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
140+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
140+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
141+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
141+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
142+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
142+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
143+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70
143+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70

NOTE: CUMULATIVE FILL VOLUMES INCLUDE A 25% SHRINKAGE AND LOSS FACTOR.

EARTHWORK SUMMARY - RUNWAY 18-36								
STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)	
121+00.00	140.83	104.42	199.63	120.86	16031.15	16246.15	-215.00	
121+50.00	289.43	161.28	398.39	307.52	16429.54	16553.67	-124.14	
122+00.00	275.82	399.71	523.38	649.29	16952.92	17202.97	-250.05	
122+50.00	238.80	551.57	476.50	1,101.02	17429.42	18303.99	-874.57	
123+00.00	206.46	672.59	412.28	1,416.85	17841.69	19720.84	-1879.14	
123+50.00	168.47	660.73	347.16	1,543.19	18188.85	21264.03	-3075.18	
124+00.00	97.07	525.37	245.87	1,372.80	18434.72	22636.83	-4202.11	
124+50.00	152.44	331.21	231.03	991.41	18665.75	23628.25	-4962.50	
125+00.00	172.00	167.15	300.41	576.81	18966.16	24205.05	-5238.89	
125+50.00	150.17	67.20	298.31	271.24	19264.46	24476.29	-5211.83	
126+00.00	209.17	2.93	332.72	81.17	19597.19	24557.46	-4960.27	
126+50.00	300.14	0.02	471.58	3.41	20068.77	24560.87	-4492.11	
127+00.00	322.80	0.00	576.80	0.02	20645.56	24560.90	-3915.33	
127+50.00	339.49	0.12	613.23	0.14	21258.80	24561.04	-3302.24	
128+00.00	411.71	0.00	695.56	0.14	21954.35	24561.17	-2606.82	
128+50.00	365.06	0.08	719.23	0.09	22673.58	24561.27	-1887.68	
129+00.00	260.99	2.56	579.68	3.06	23253.26	24564.32	-1311.06	
129+50.00	156.69	13.32	386.74	18.38	23640.00	24582.70	-942.70	
130+00.00	130.18	42.11	265.62	64.16	23905.62	24646.86	-741.24	
130+50.00	128.13	39.98	239.18	95.01	24144.80	24741.87	-597.07	
131+00.00	25.70	20.52	142.44	70.02	24287.23	24811.89	-524.66	
131+50.00	30.74	23.20	52.26	50.60	24339.49	24862.49	-523.00	
132+00.00	29.34	65.53	55.63	102.70	24395.12	24965.19	-570.07	
132+50.00	24.11	75.25	49.49	162.94	24444.61	25128.13	-683.52	
133+00.00	71.44	67.28	88.47	164.97	24533.08	25293.10	-760.01	
133+50.00	124.04	21.18	181.00	102.38	24714.08	25395.48	-681.40	
134+00.00	189.12	0.00	289.96	24.51	25004.05	25419.99	-415.95	
134+50.00	286.37	0.00	440.27	0.00	25444.31	25419.99	24.32	
135+00.00	236.30	5.22	483.95	6.04	25928.27	25426.04	502.23	
135+50.00	158.15	30.55	365.23	41.40	26293.50	25467.44	826.06	
136+00.00	193.91	122.92	325.98	177.63	26619.48	25645.06	974.42	
136+50.00	0.00	0.00	179.55	142.27	26799.03	25787.33	1011.70	
137+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
137+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
138+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
138+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
139+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
139+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
140+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
140+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
141+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
141+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
142+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
142+50.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
143+00.00	0.00	0.00	0.00	0.00	26799.03	25787.33	1011.70	
143+50.00	0.00	0.00	0.00	0.00	26799.03	25787 33	1011 70	

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EDGAR COUNTY AIRPORT PARIS, ILLINOIS

HANSON

N-S RUNWAY EARTHWORK

CONSTRUCT CROSSWIND RUNWAY 18-36

EARTHWORK SUMMARY — TAXIWAY B								
STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL	CUM FILL VOL	NET VOL	
403+50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
404+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
404+50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
405+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
405+50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
406+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
406+50.00	50.03	0.60	46.32	0.69	46.32	0.69	45.63	
407+00.00	129.23	0.03	165.98	0.72	212.30	1.41	210.89	
407+50.00	244.58	0.00	346.12	0.03	558.42	1.44	556.98	
408+00.00	255.35	0.00	462.90	0.00	1021.32	1.44	1019.87	
408+50.00	0.00	0.00	236.44	0.00	1257.75	1.44	1256.31	
409+00.00	0.00	0.00	0.00	0.00	1257.75	1.44	1256.31	
409+50.00	0.00	0.00	0.00	0.00	1257.75	1.44	1256.31	
410+00.00	0.00	0.00	0.00	0.00	1257.75	1.44	1256.31	
410+50.00	190.79	1.76	176.66	2.04	1434.41	3.49	1430.93	
411+00.00	121.28	0.53	288.96	2.65	1723.37	6.14	1717.23	
411+50.00	57.81	0.06	165.82	0.68	1889.19	6.82	1882.38	
412+00.00	18.67	0.10	70.81	0.19	1960.00	7.00	1953.00	
412+50.00	0.00	0.00	17.28	0.12	1977.29	7.12	1970.17	
413+00.00	0.00	0.00	0.00	0.00	1977.29	7.12	1970.17	
413+50.00	0.00	0.00	0.00	0.00	1977.29	7.12	1970.17	
414+00.00	0.00	0.00	0.00	0.00	1977.29	7.12	1970.17	

EARTHWORK SUMMARY — SOUTH TURNAROUND									
STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)		
1+25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1+50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1+75.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2+17.50	20.94	2.73	6.79	1.11	6.79	1.11	5.68		
2+25.00	20.39	5.19	5.74	1.38	12.53	2.48	10.04		
2+50.00	27.13	17.42	22.00	13.09	34.52	15.57	18.96		
2+75.00	40.62	34.03	31.37	29.78	65.89	45.35	20.54		
3+00.00	60.07	59.17	46.62	53.94	112.51	99.28	13.22		
3+25.00	85.75	76.65	67.51	78.60	180.01	177.88	2.13		
3+50.00	45.45	98.73	60.74	101.49	240.75	279.37	-38.63		
3+75.00	21.31	93.76	30.91	111.39	271.65	390.77	-119.11		
4+00.00	6.16	95.37	12.72	109.45	284.37	500.22	-215.85		
4+25.00	0.01	118.74	2.86	123.91	287.23	624.12	-336.90		
4+50.00	0.00	70.70	0.00	109.63	287.23	733.75	-446.52		
4+62.50	0.00	57.49	0.00	37.09	287.23	770.84	-483.61		

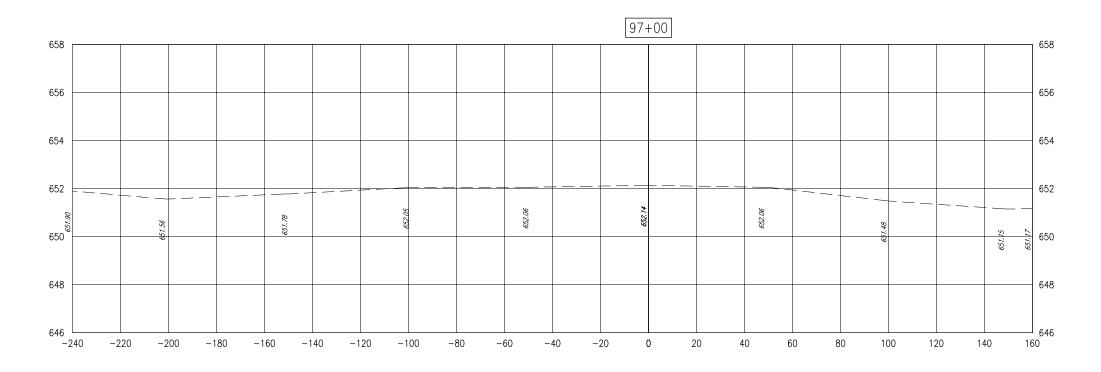
EARTHWORK SUMMARY — NORTH TURNAROUND							
STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)
10+25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10+50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10+75.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11+17.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11+25.00	20.69	75.90	2.87	13.18	2.87	13.18	-10.30
11+50.00	22.22	60.36	19.87	78.86	22.74	92.04	-69.30
11+75.00	31.17	35.94	24.72	55.73	47.46	147.77	-100.31
12+00.00	49.08	17.71	37.15	31.04	84.61	178.81	-94.20
12+25.00	89.49	3.76	64.15	12.42	148.76	191.23	-42.46
12+50.00	176.15	0.11	122.98	2.24	271.74	193.47	78.28
12+75.00	249.59	0.00	197.10	0.06	468.84	193.53	275.31
13+00.00	0.00	0.00	115.55	0.00	584.39	193.53	390.86
13+25.00	65.85	0.00	30.48	0.00	614.88	193.53	421.35
13+50.00	115.45	0.00	83.93	0.00	698.81	193.53	505.28
13+62.50	62.77	0.00	41.25	0.00	740.06	193.53	546.53

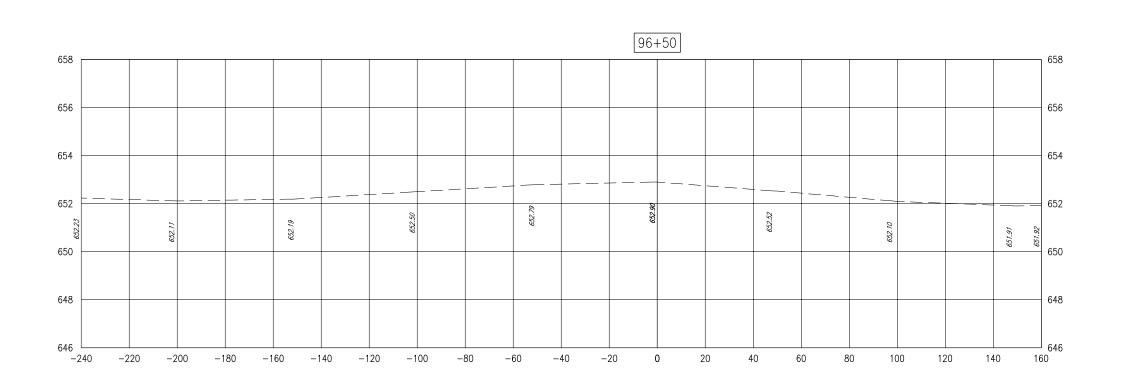
NOTE: CUMULATIVE FILL VOLUMES INCLUDE A 25% SHRINKAGE AND LOSS FACTOR.

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CONSTRUCT CROSSWIND RUNWAY 18-36 TAXIWAY B AND TURNAROUND EARTHWORK

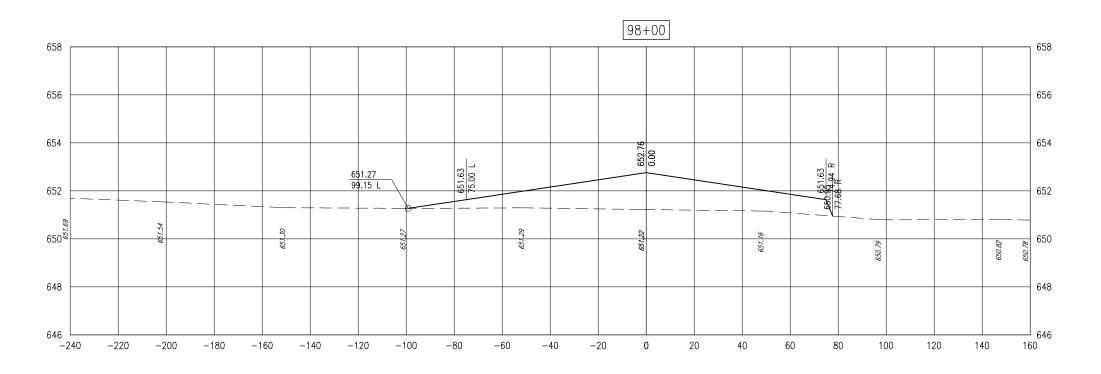


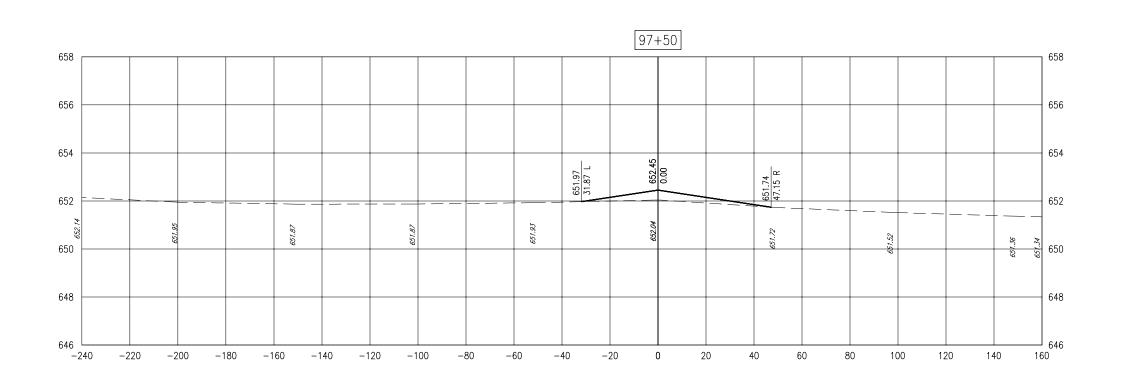


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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA. 96+50 TO STA. 97+00





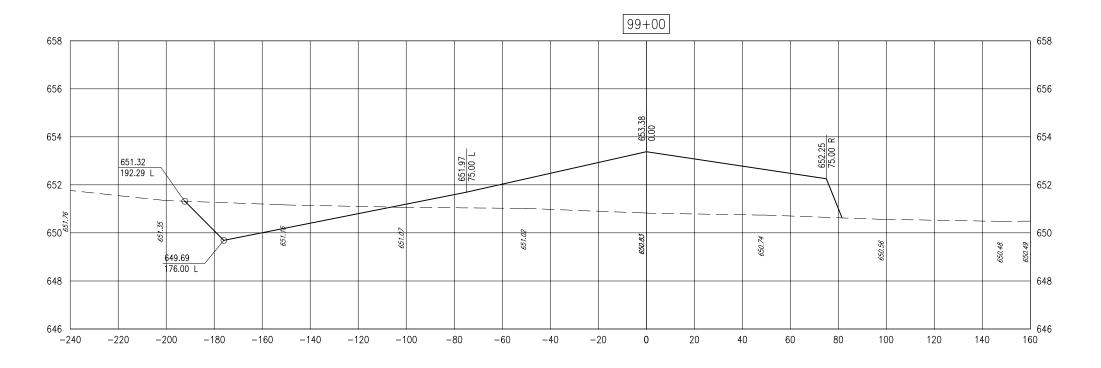
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PARIS, ILLINOIS

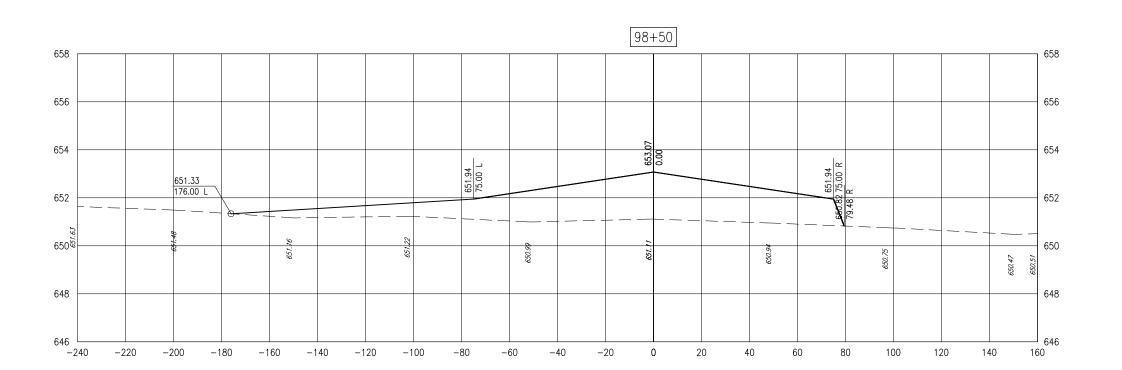
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Date 03/10/11

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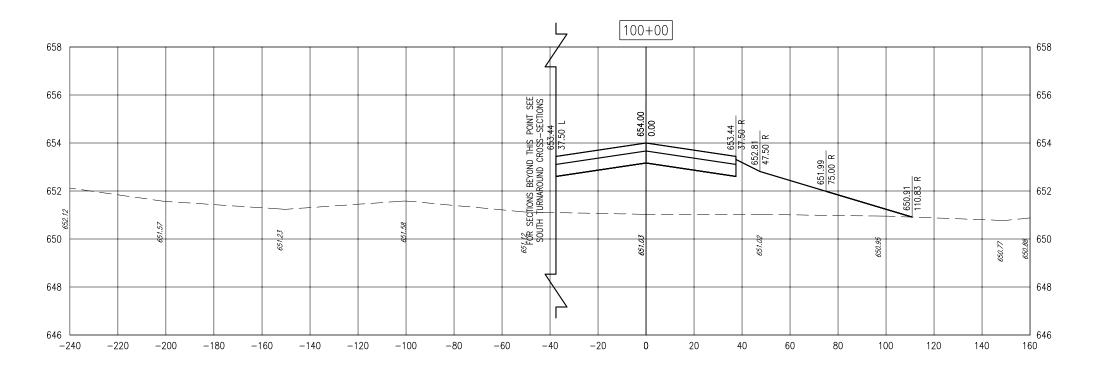


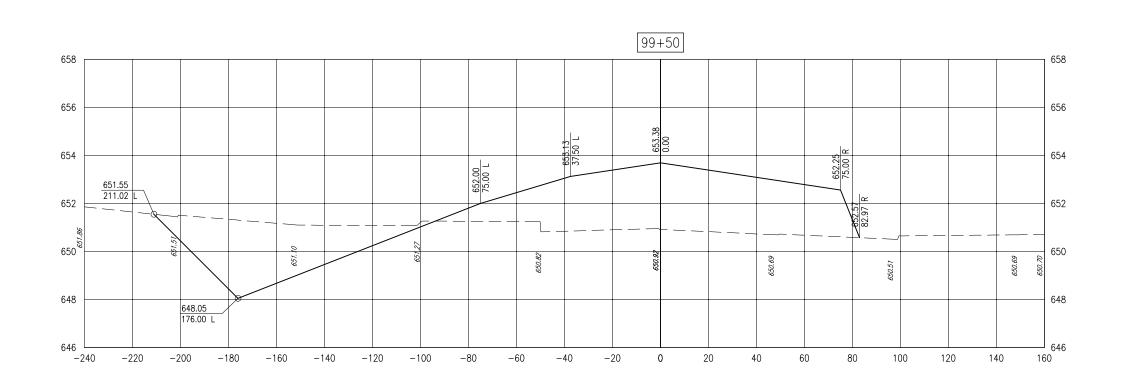


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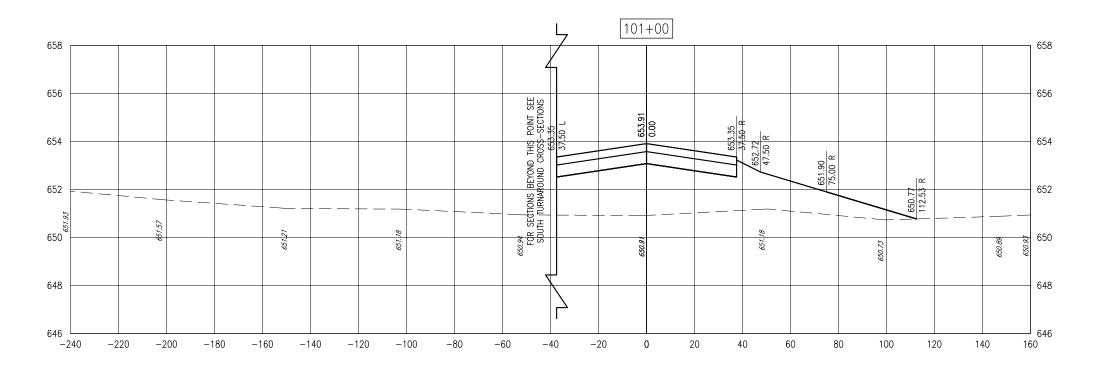
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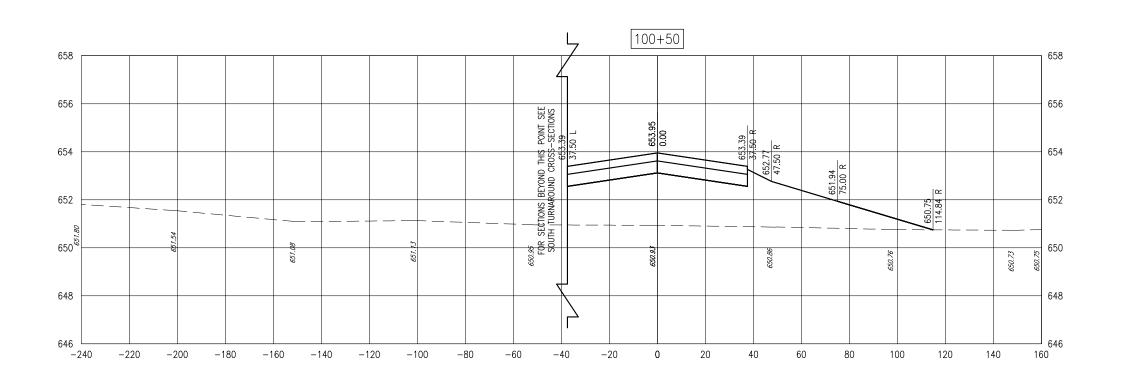
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1525 South
Springfield Single

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PARIS, ILLINOIS

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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA. 100+50 TO STA. 101+00

102+00 658 658 656 656 653.82 0.00 655.25 77.50 F 652.63 47.50 R 654 654 651.69 202.37 L 651.09 150.00 L 652 652 650 650 650.79 650.76 650.5 648 648 646 646 644 644 [⊥] 642 160 642 -240 -220 -200 -180 -160 -140-120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 101+50 658 658 656 656 654 654 651.58 200.83 L 652 652 650 650 620.3 651 648 648 646 646 644 644 642 -220 -200 -180 -160 -140-120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 160

ED017

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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA. 101+50 TO STA. 102+00

ED017 103+00 658 658 656 656 653.72 0.00 652.97 211.85 L 654 654 651.71 75.00 R 55.78581.00 150.00 L 652² 652 651.94 8 650 651.12 650 648 648 646 646 644 644 642 -220 -200 -180 -160 -140 -120 -100-80 -60 -40 -20 0 20 40 60 80 100 120 140 160 102+50 658 658 HANSON 656 656 654 654 652.35 651.04 150.00 L 652 652 650 650 CONSTRUCT CROSSWIND RUNWAY 18-36 648 648 646 646 644 644

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CROSS-SECTIONS FOR RUNWAY 18-36 STA. 102+50 TO STA. 103+00

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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA. 103+50 TO STA. 104+00

76

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CONSTRUCT CROSSWIND RUNWAY 18-36

CROSS-SECTIONS FOR RUNWAY 18-36 STA. 104+50 TO STA. 105+00

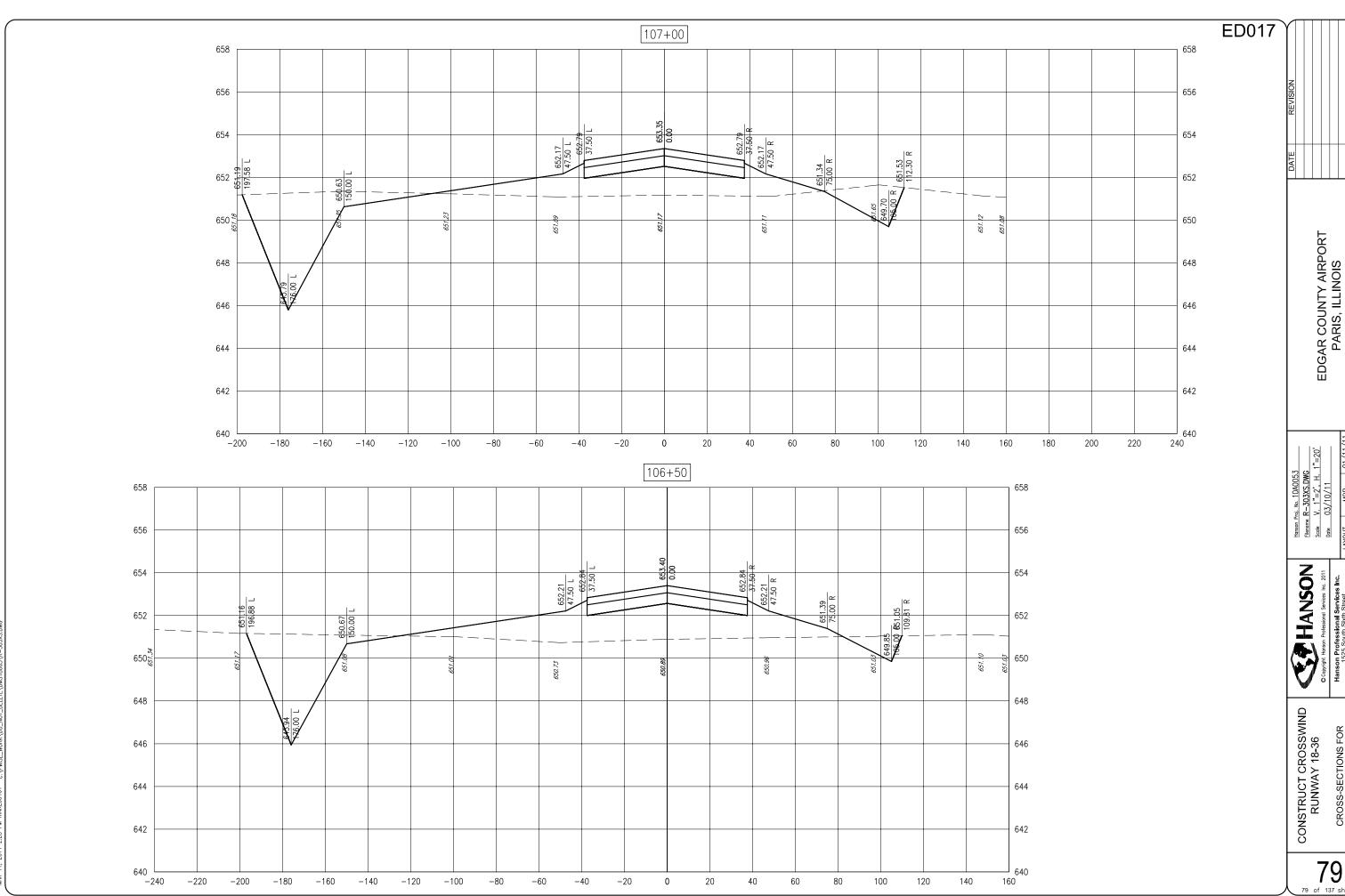
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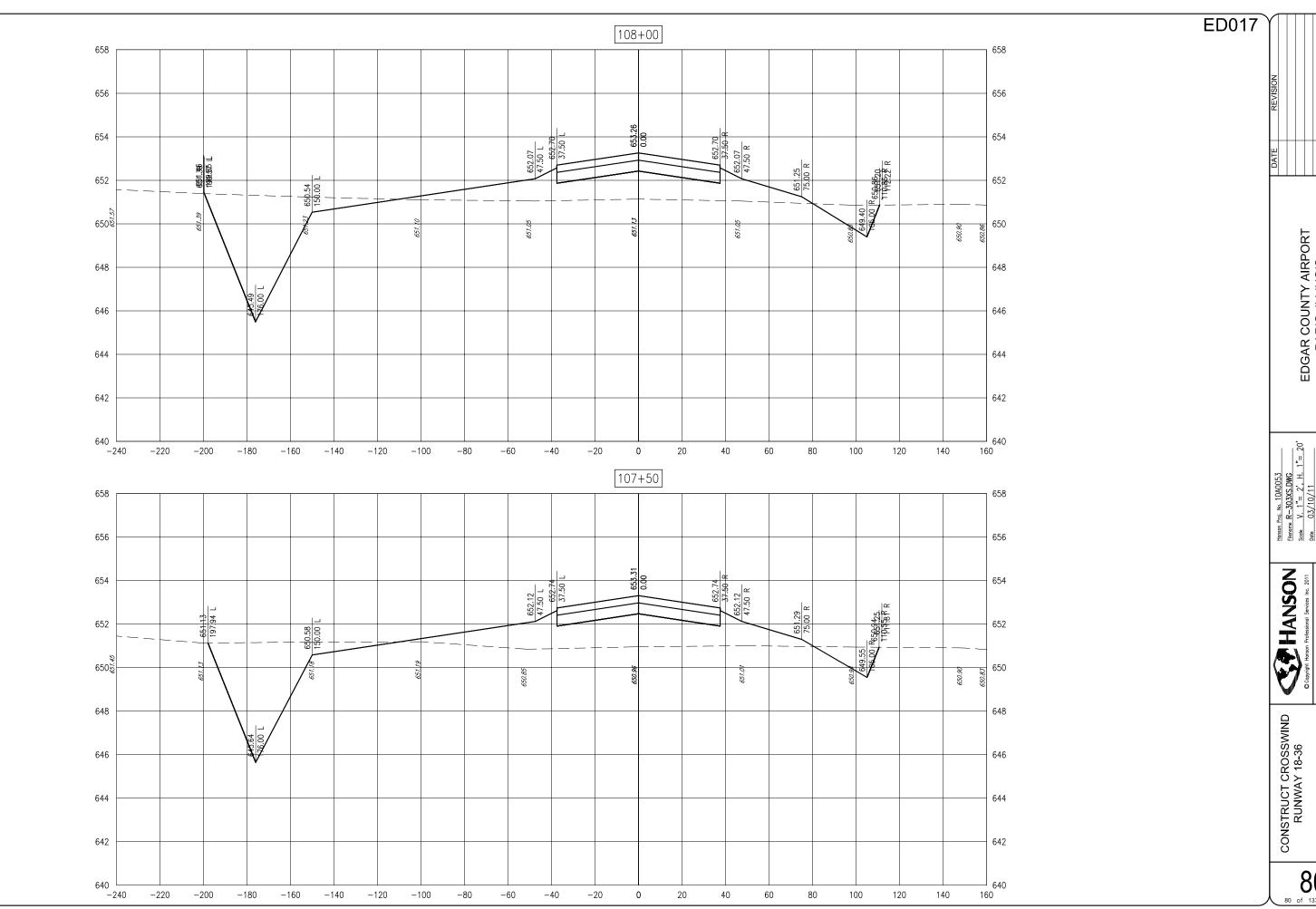
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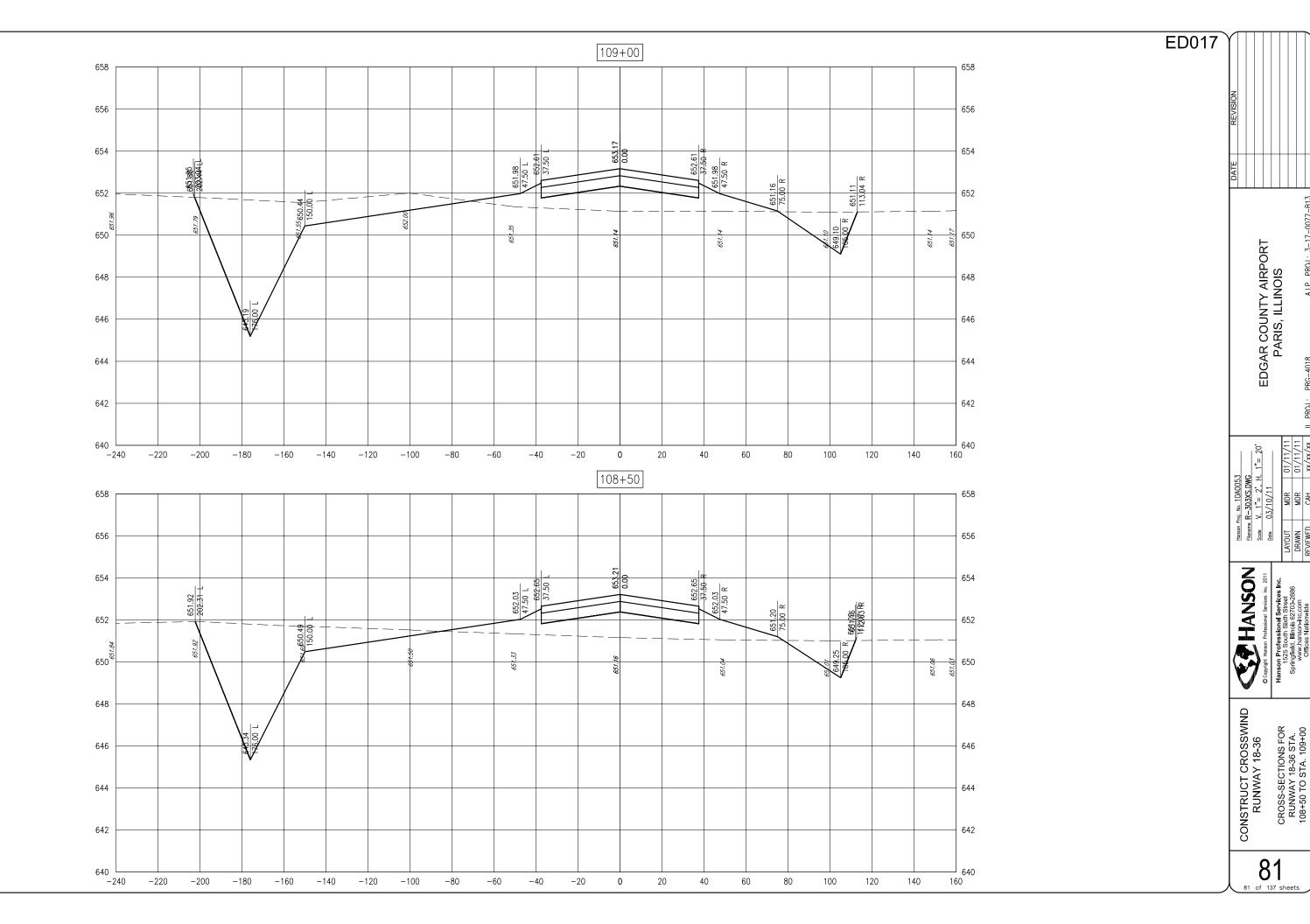


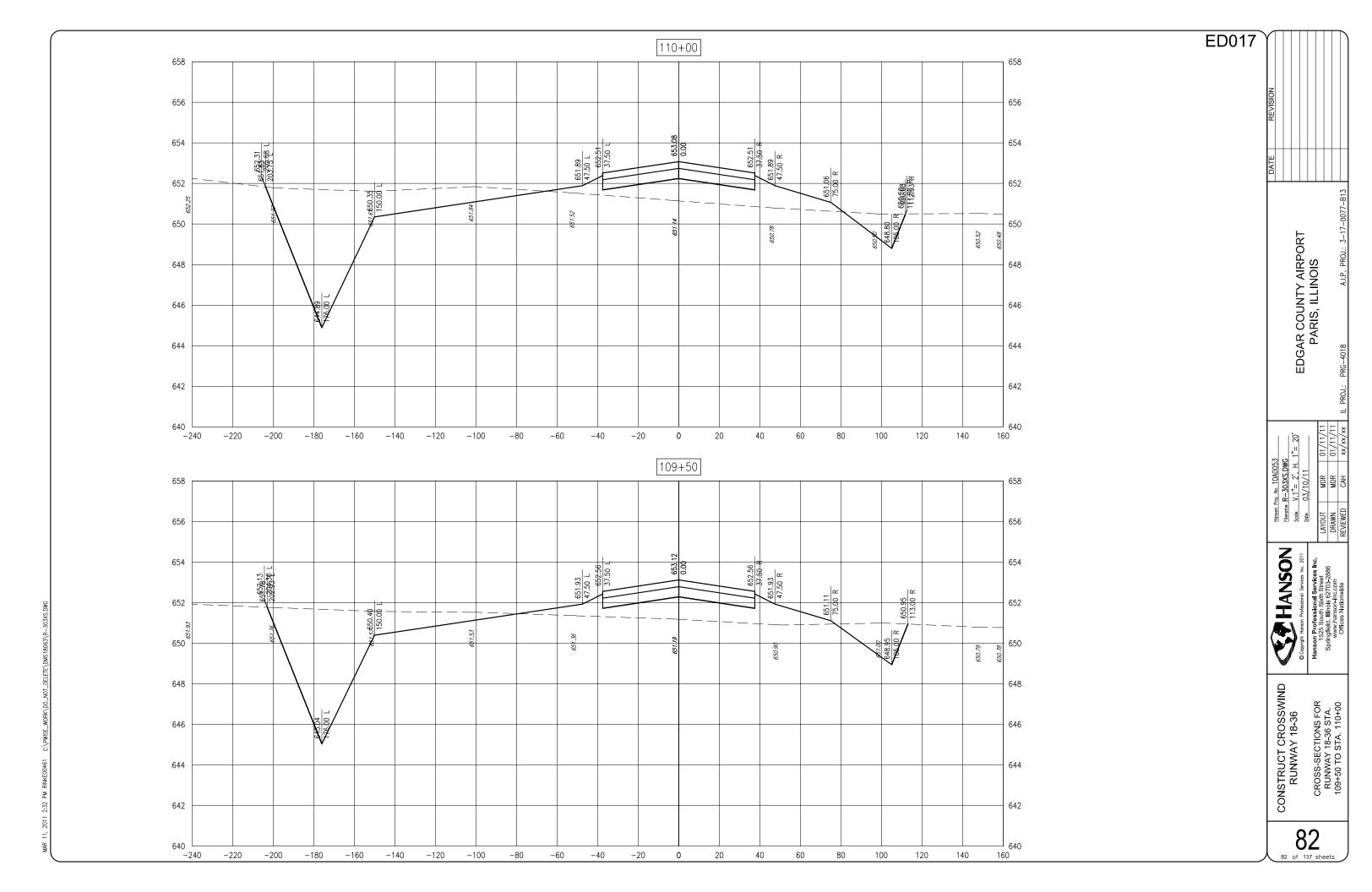
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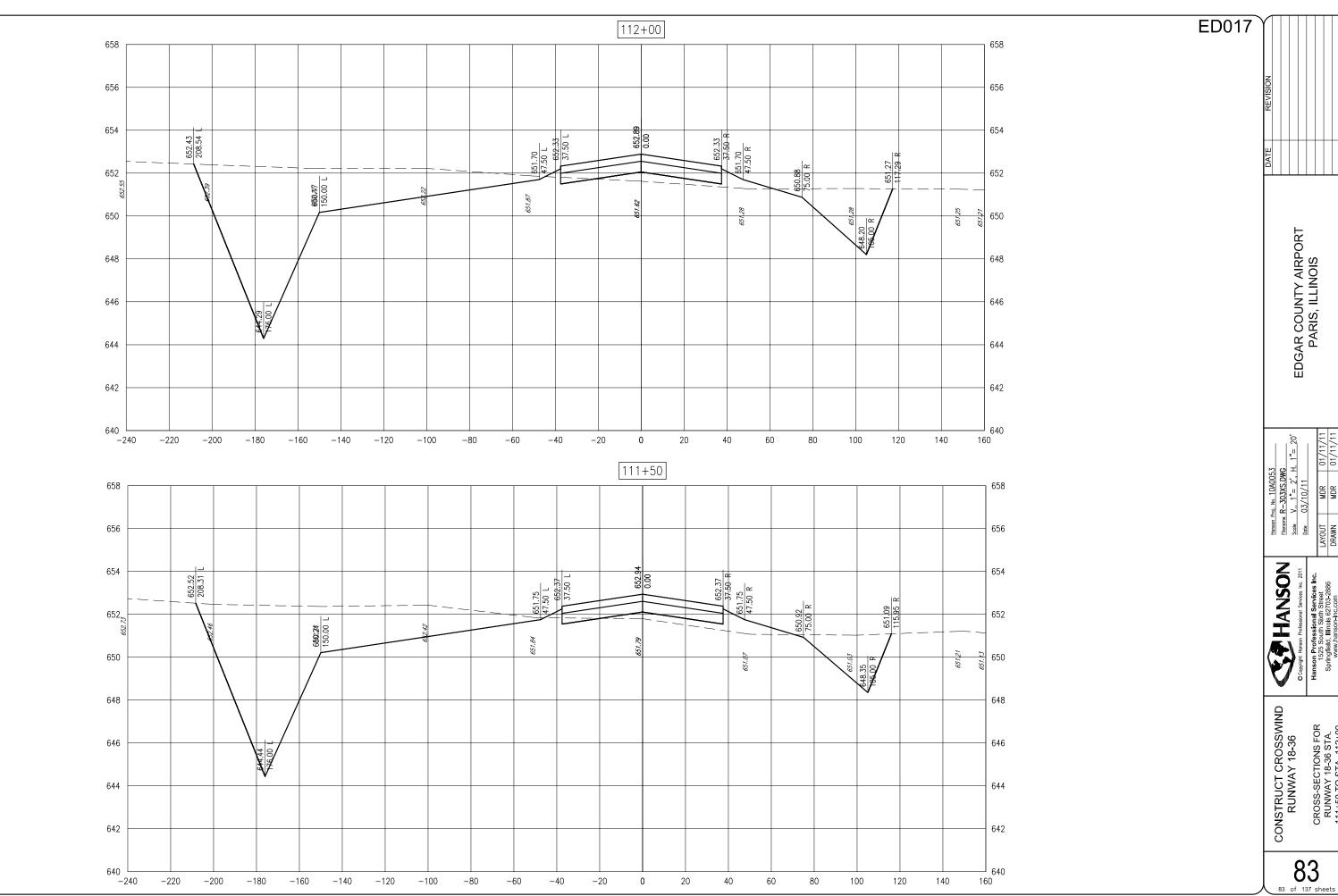


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CROSS-SECTIONS FOR RUNWAY 18-36 STA. 107+50 TO STA. 108+00







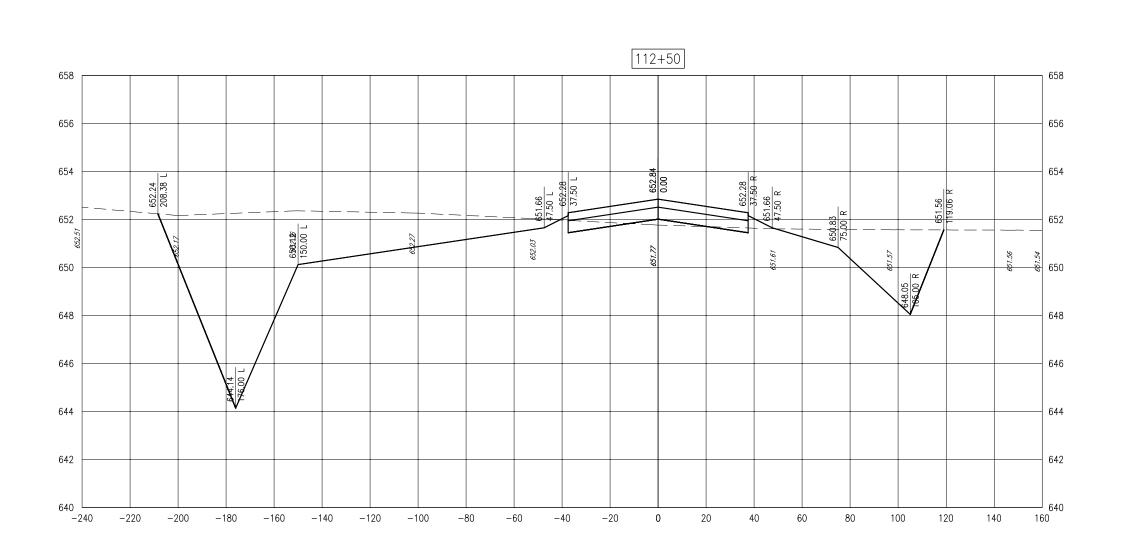
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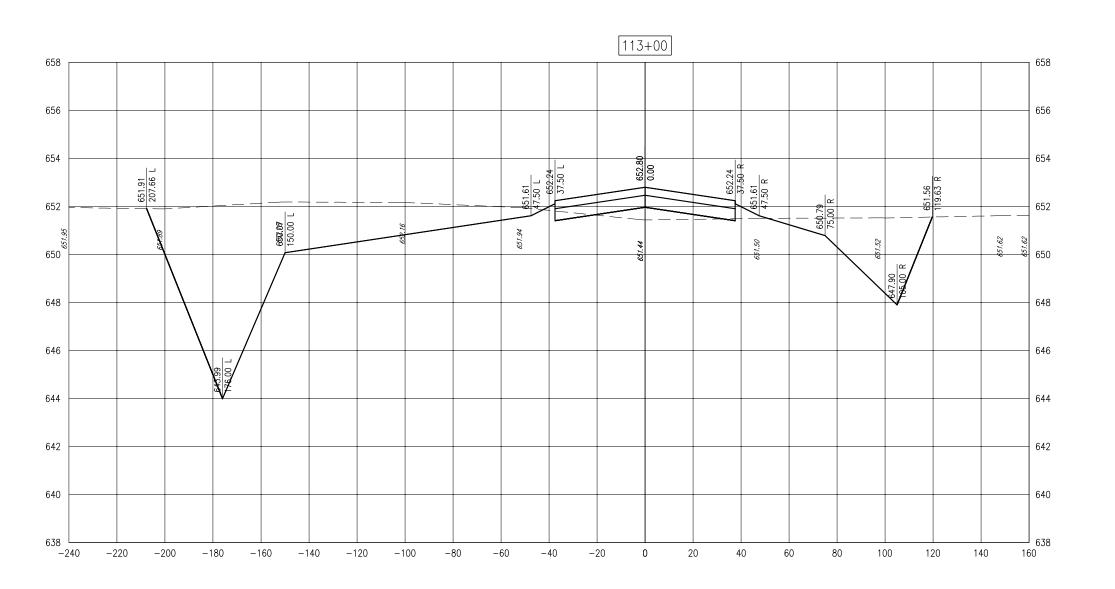


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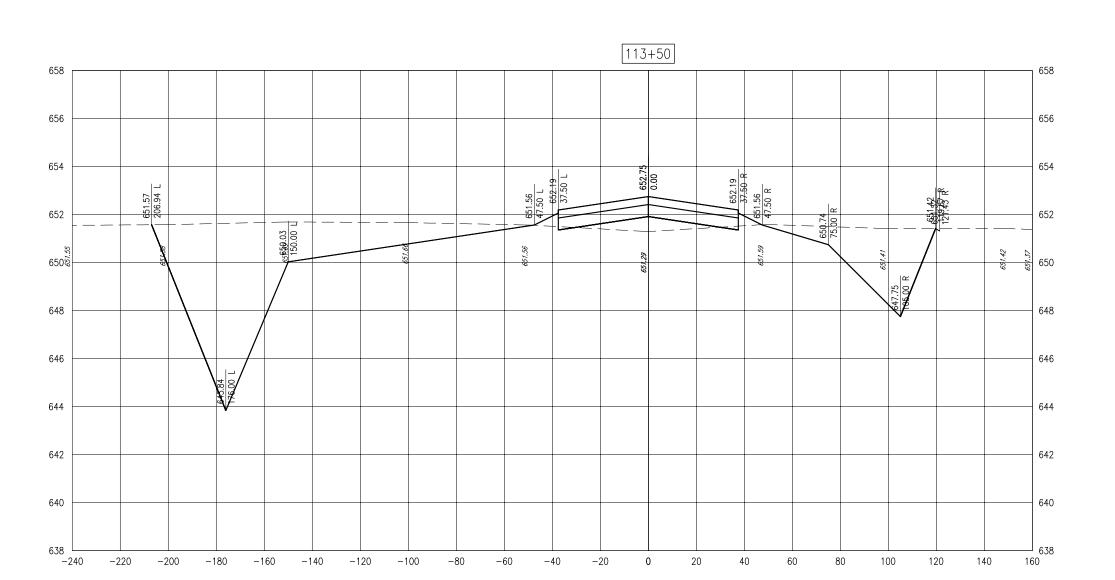




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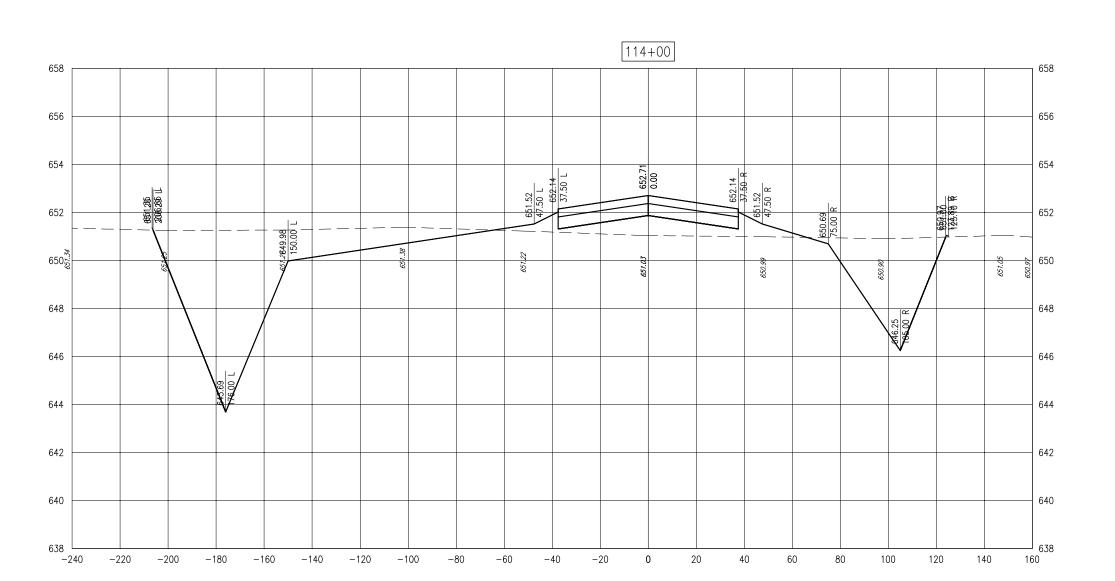
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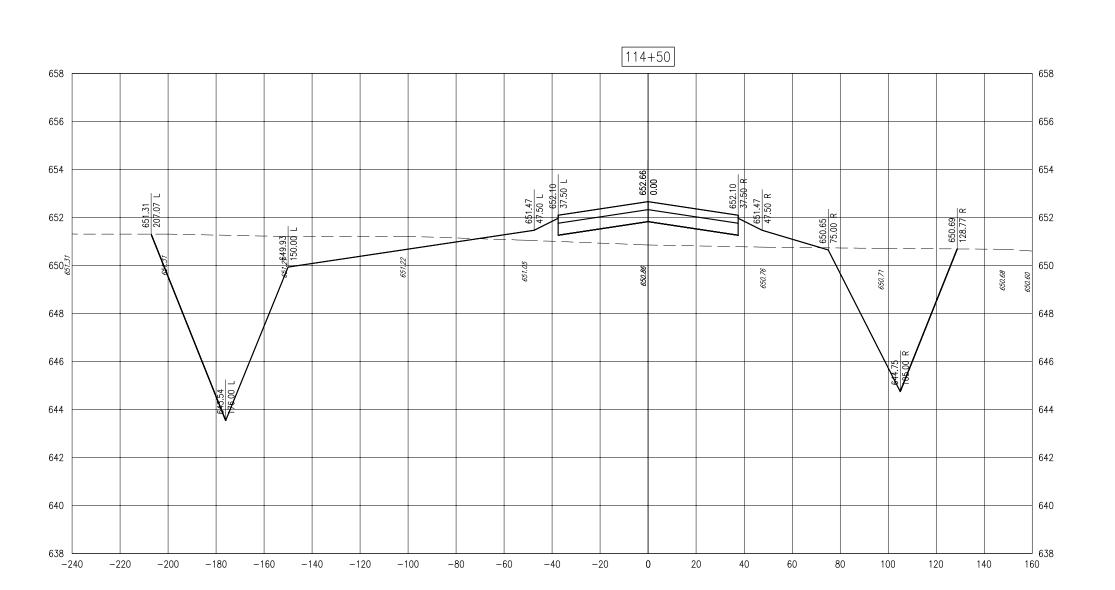
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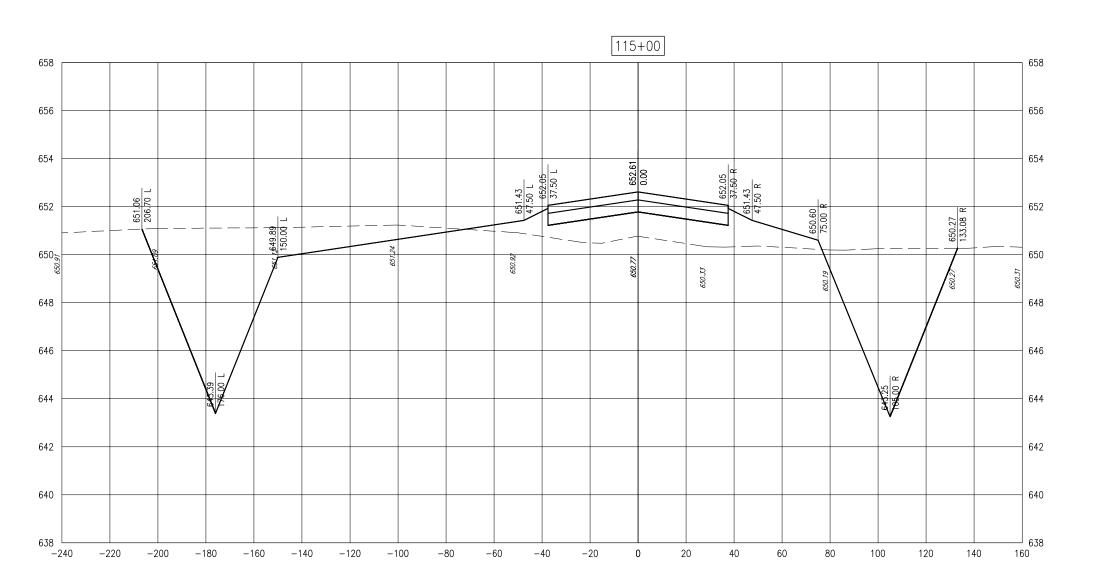
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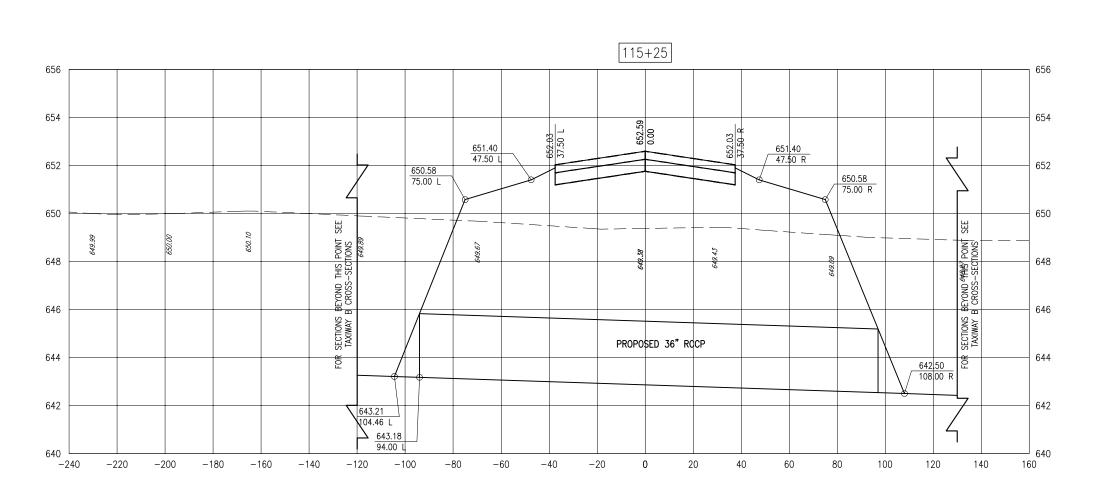
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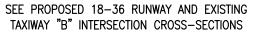
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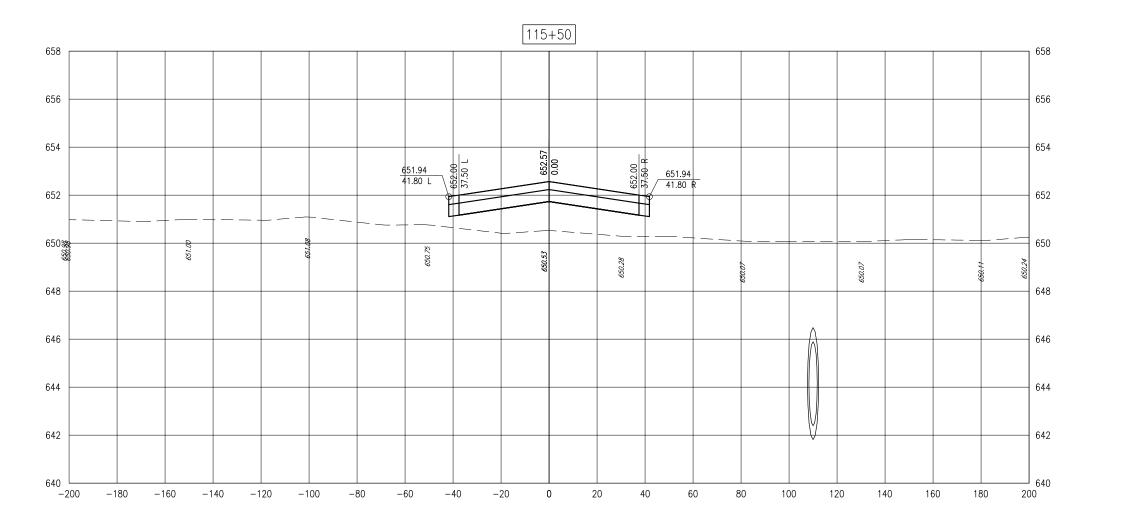
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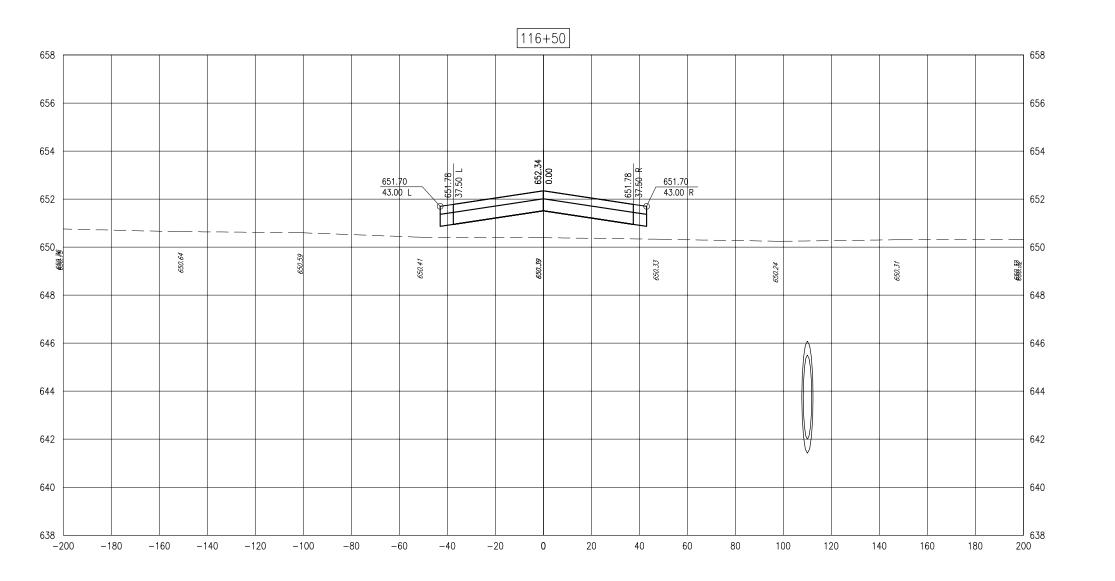




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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA 115+50



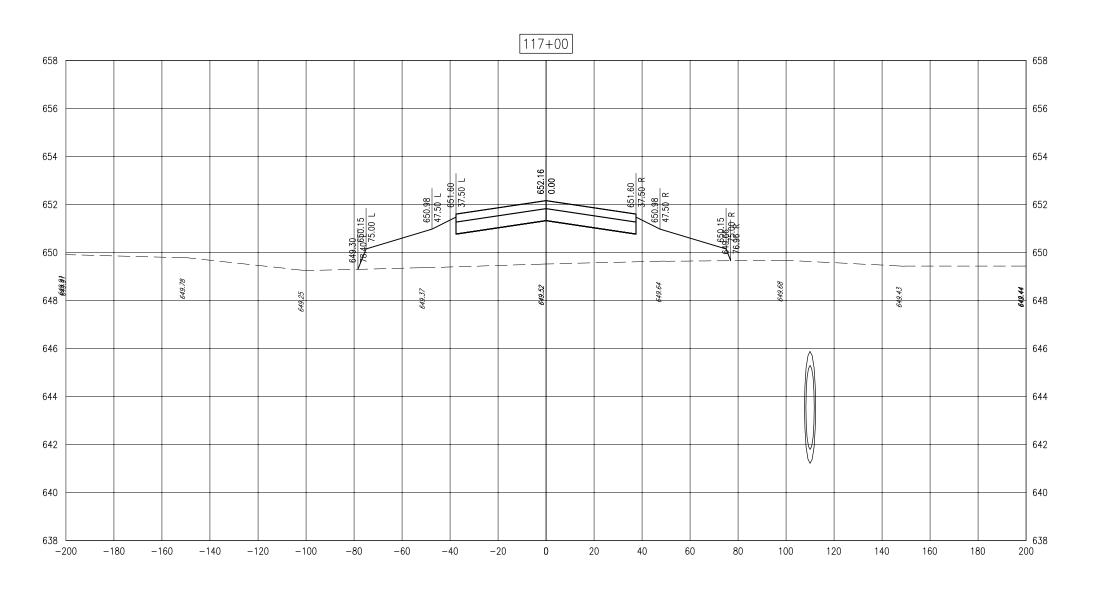
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CROSS-SECTIONS FOR RUNWAY 18-36 STA. 116+50

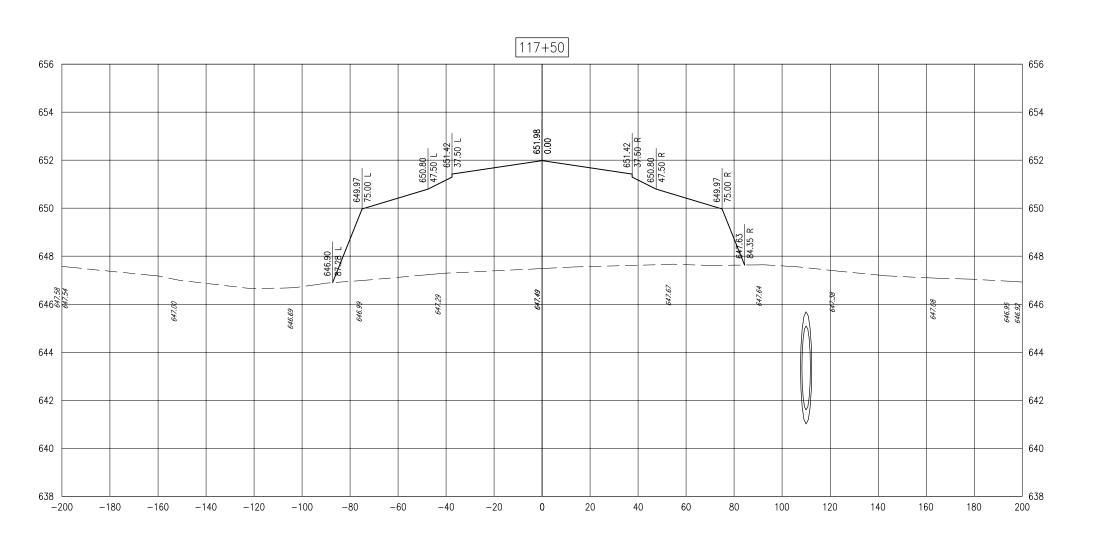
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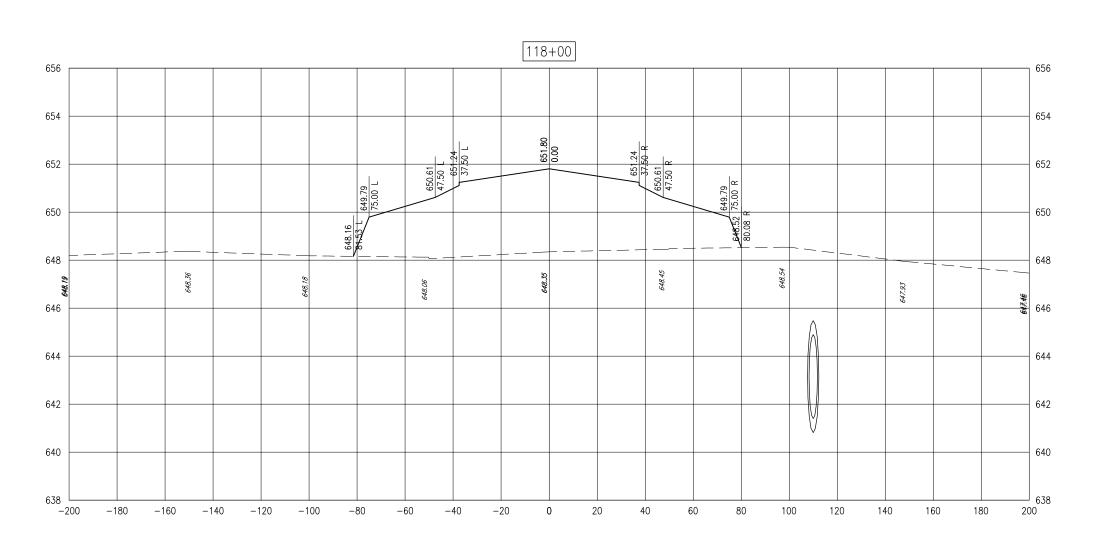
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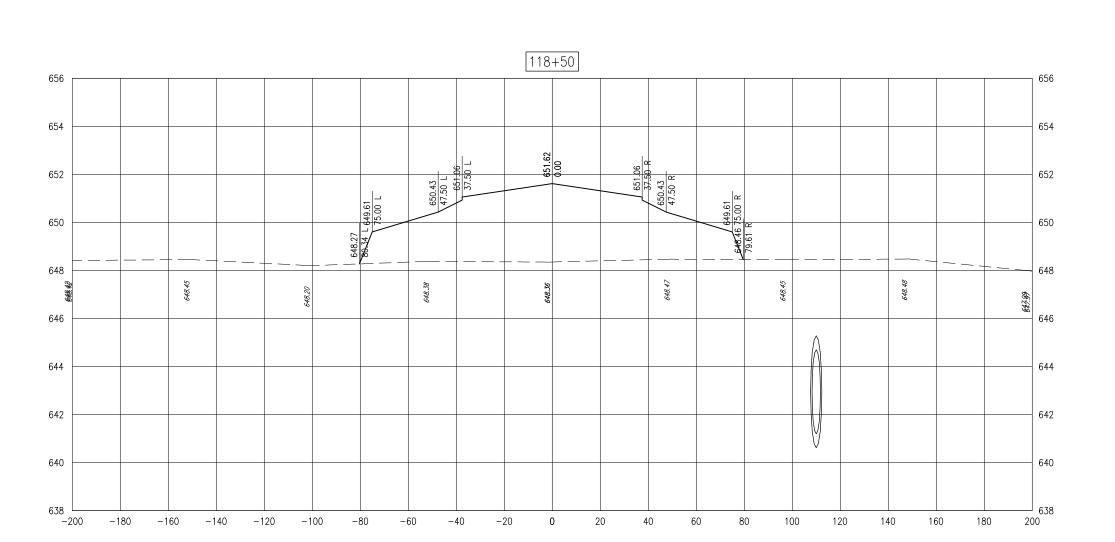
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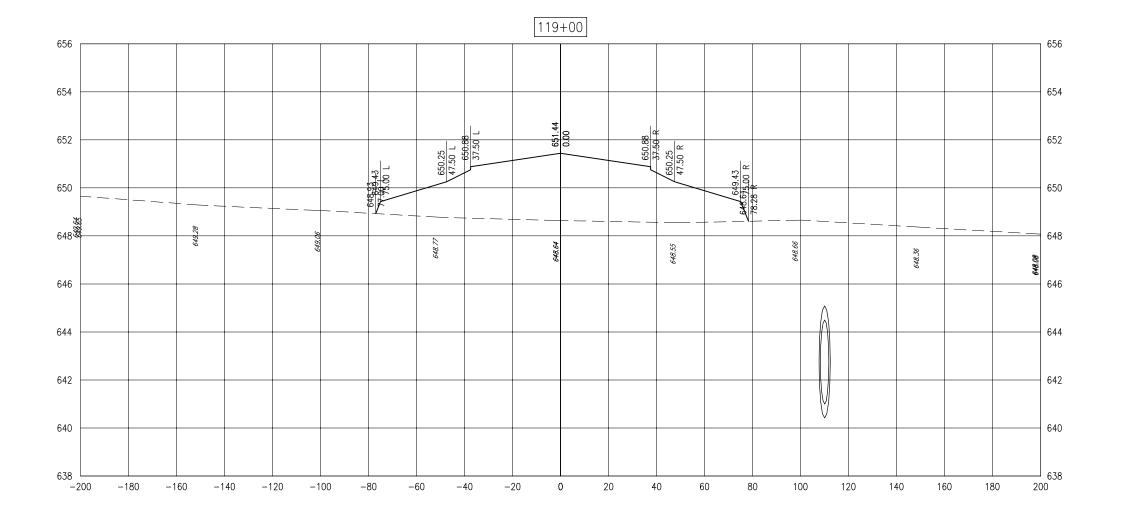
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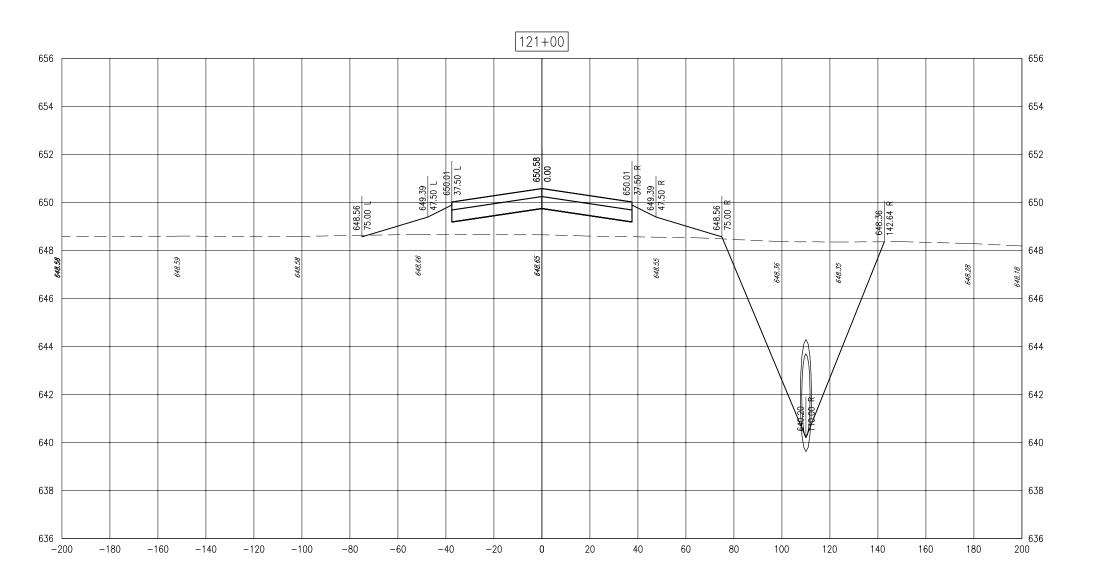
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97

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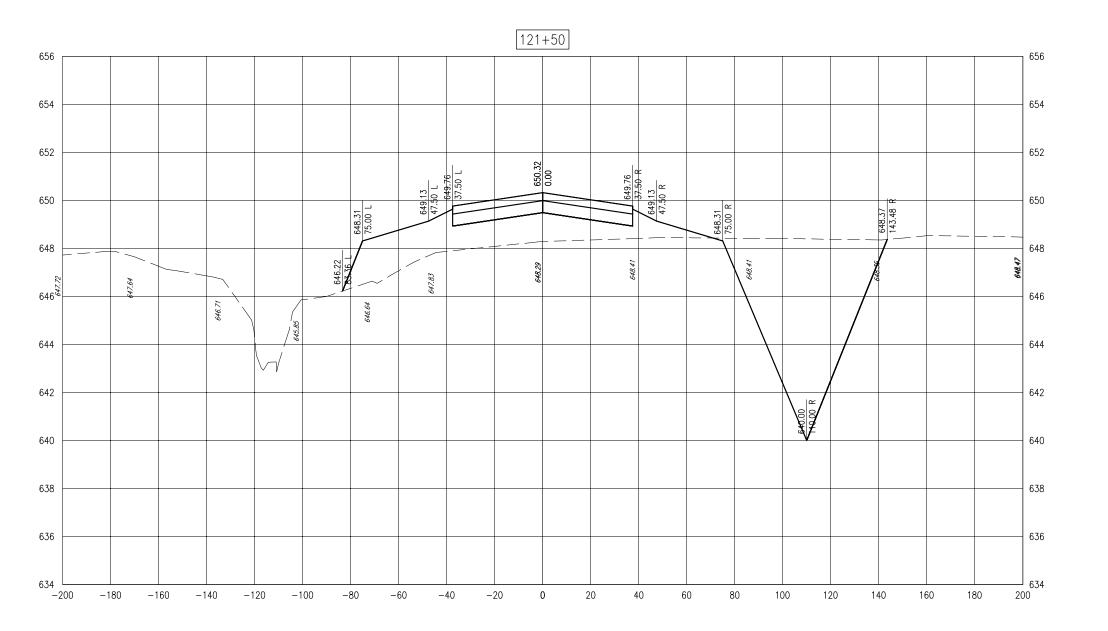




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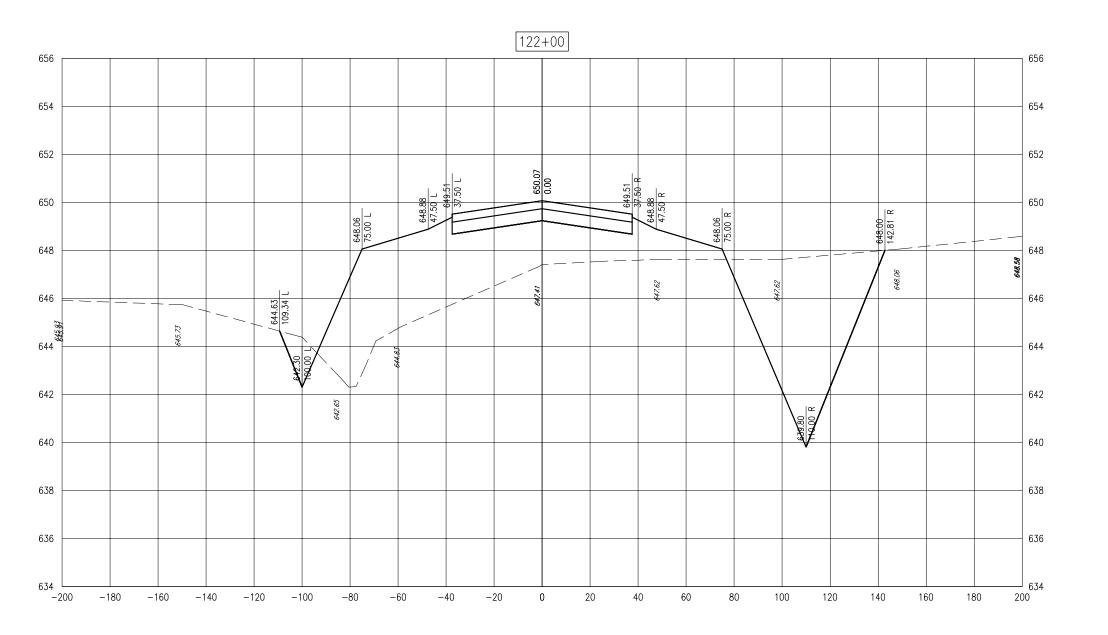
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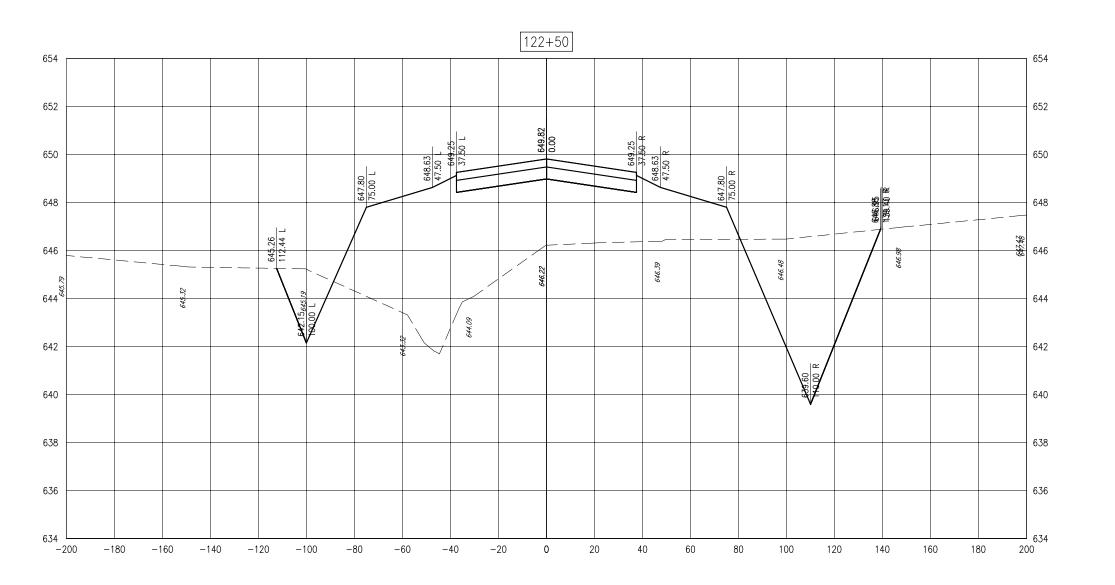
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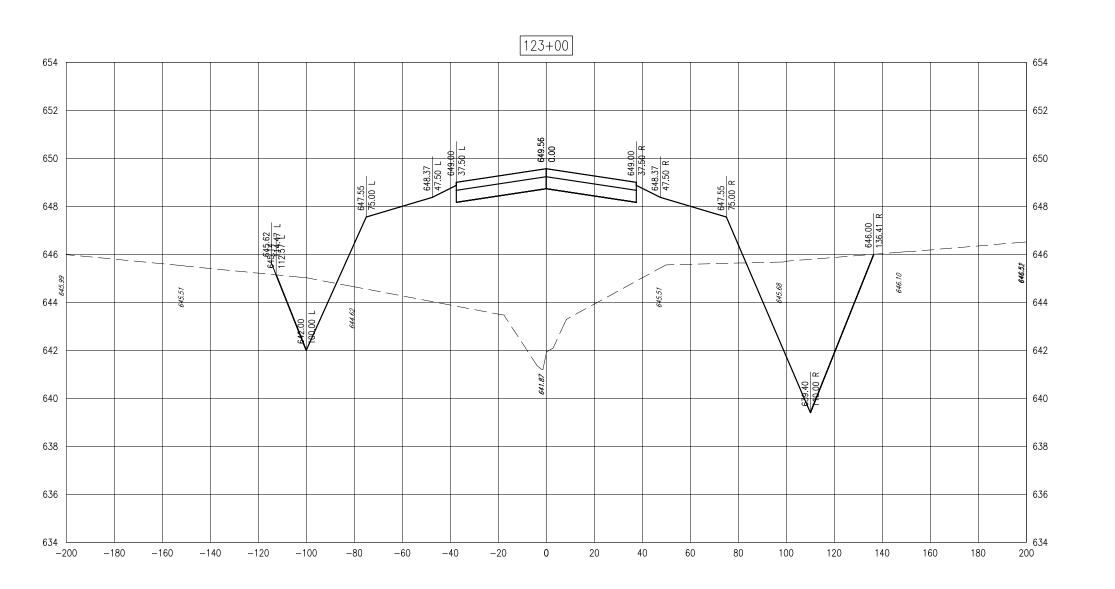
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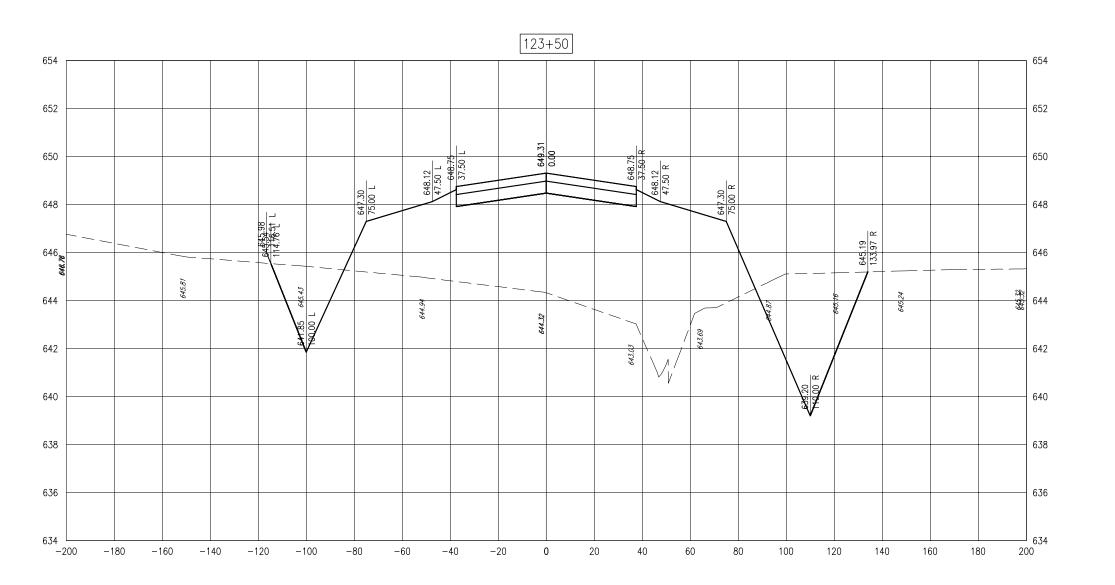
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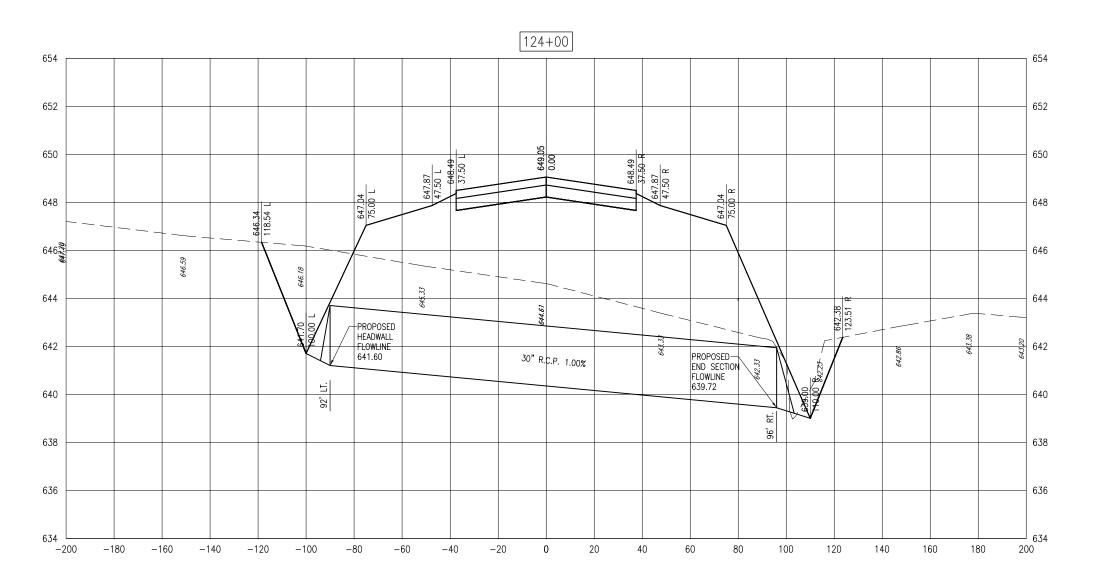
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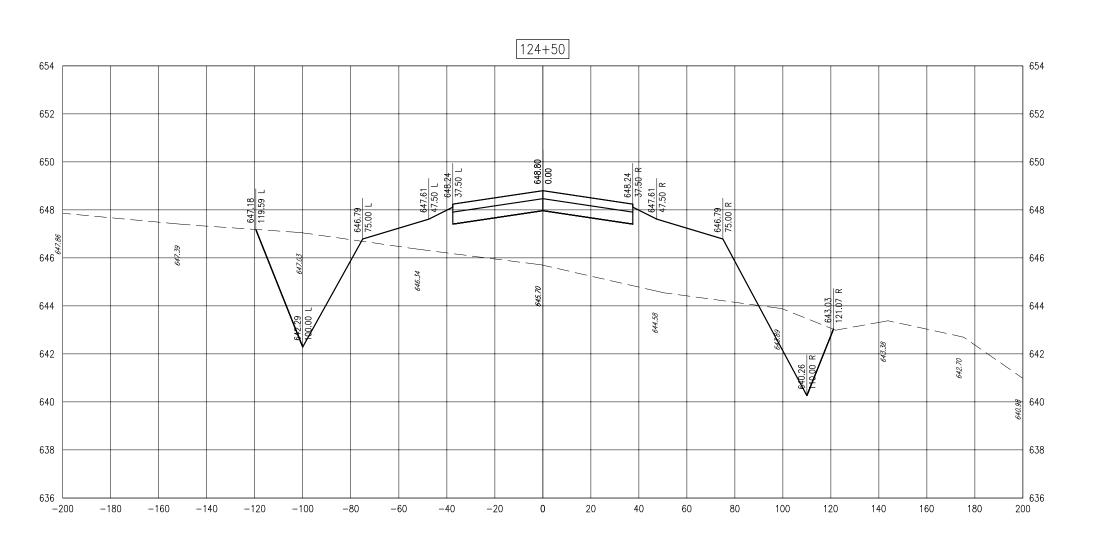
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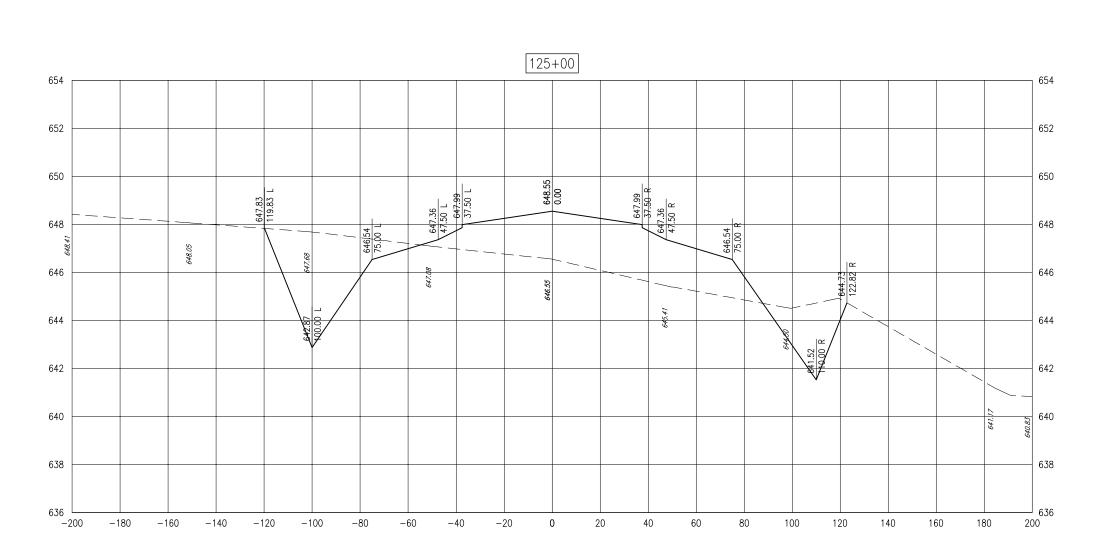
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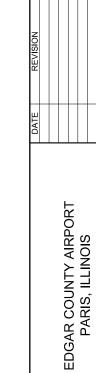


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CROSS-SECTIONS FOR RUNWAY 18-36 STA. 125+00





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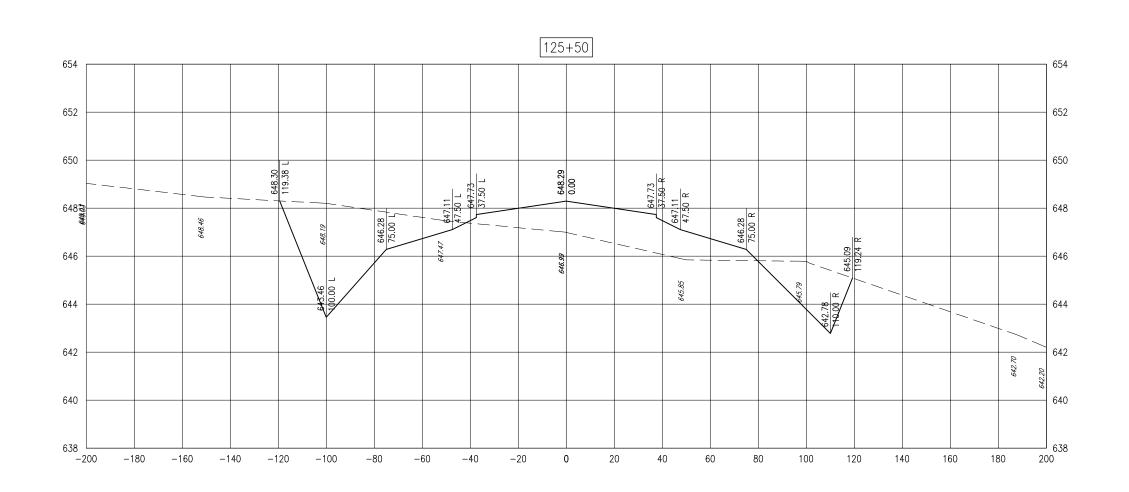
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Springfield, Illinois 62702-2886

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107 107 of 137 sheets



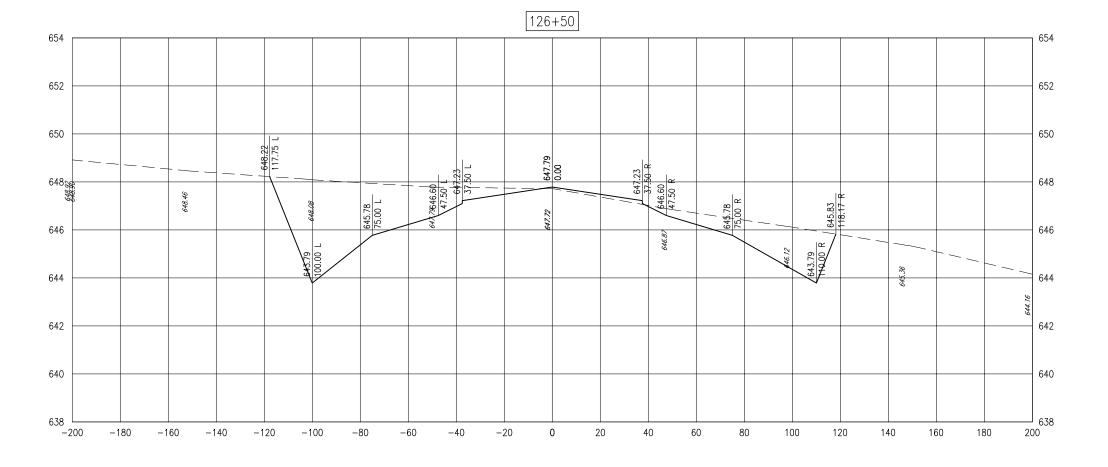
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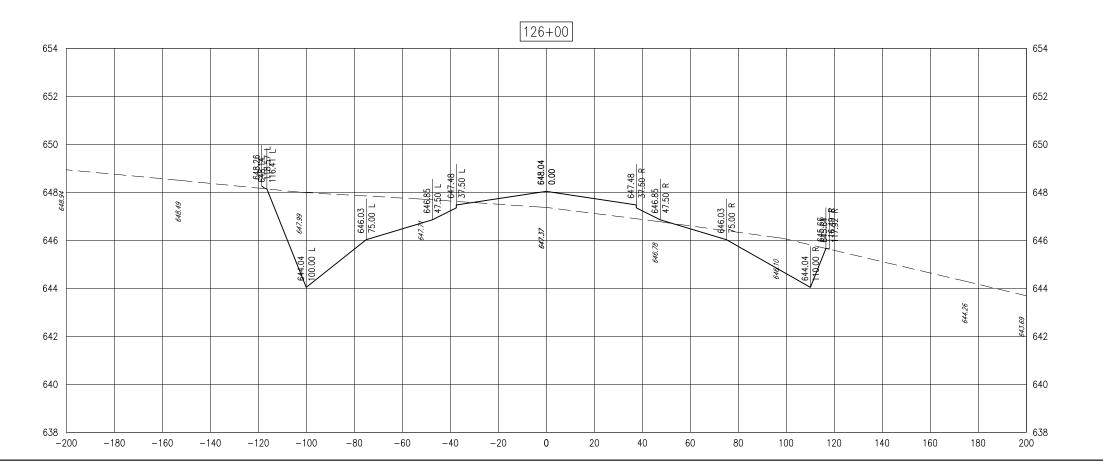
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PARIS, ILLINOIS

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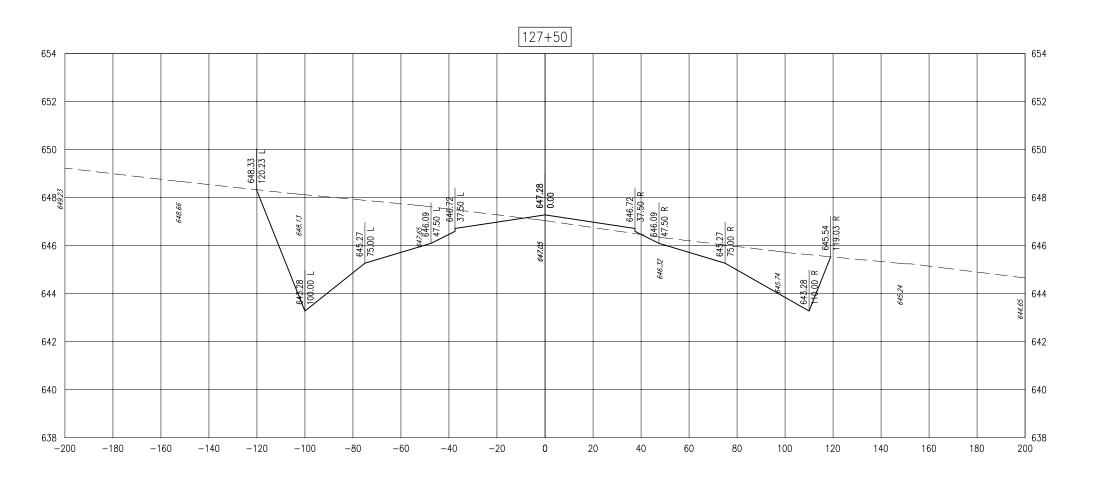
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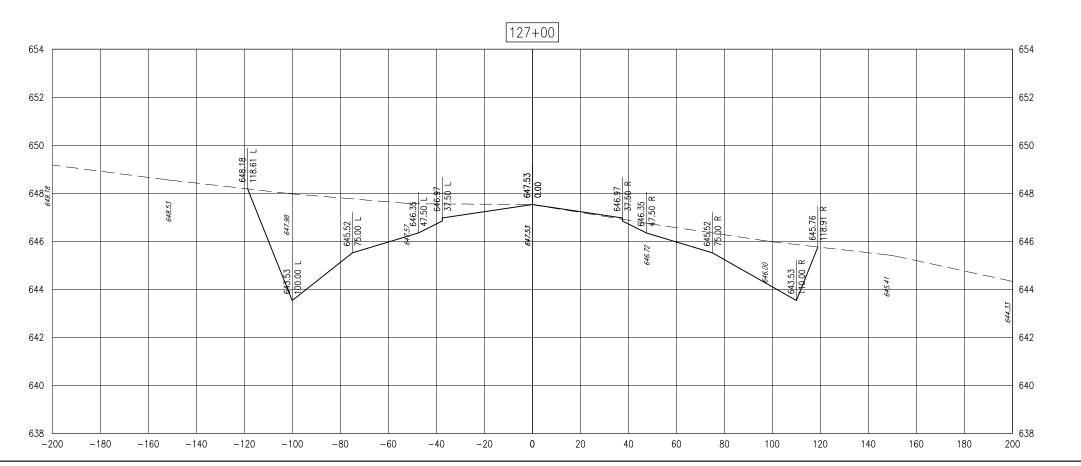
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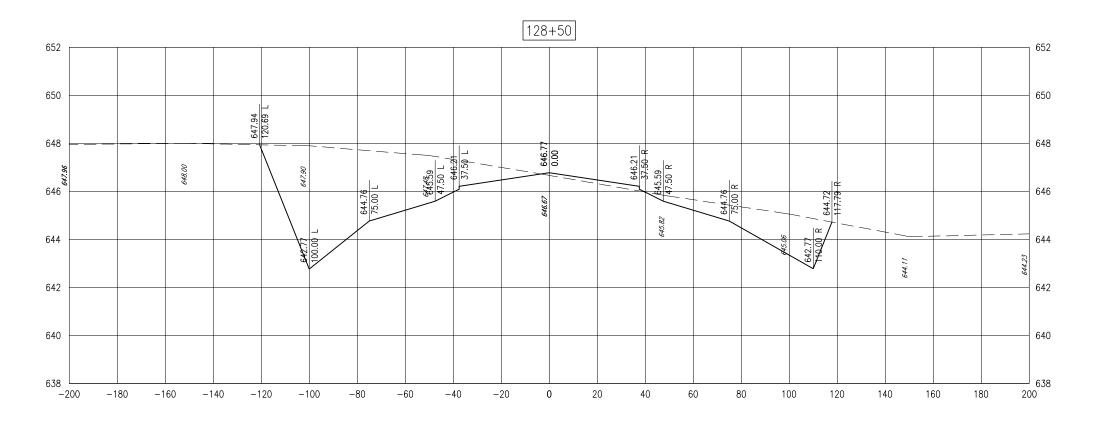


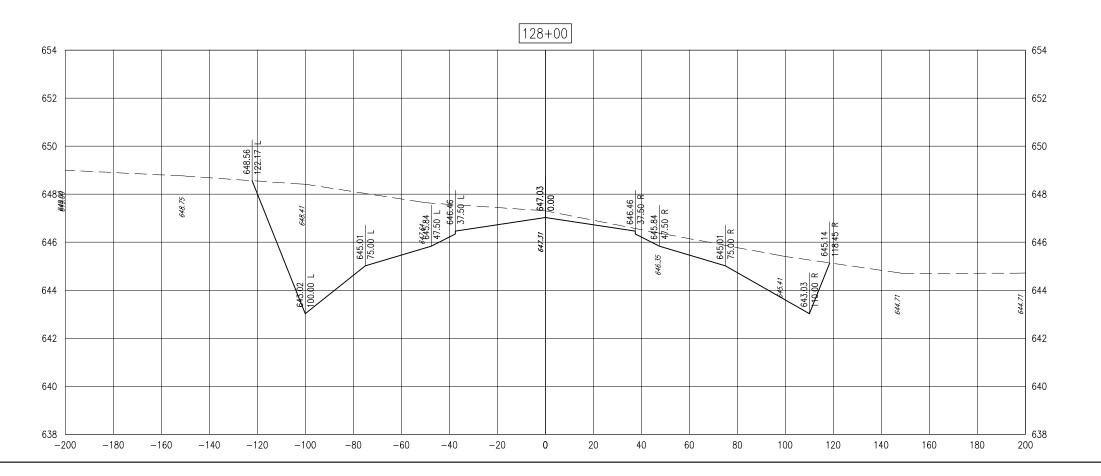
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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA. 127+00 TO STA. 127+50









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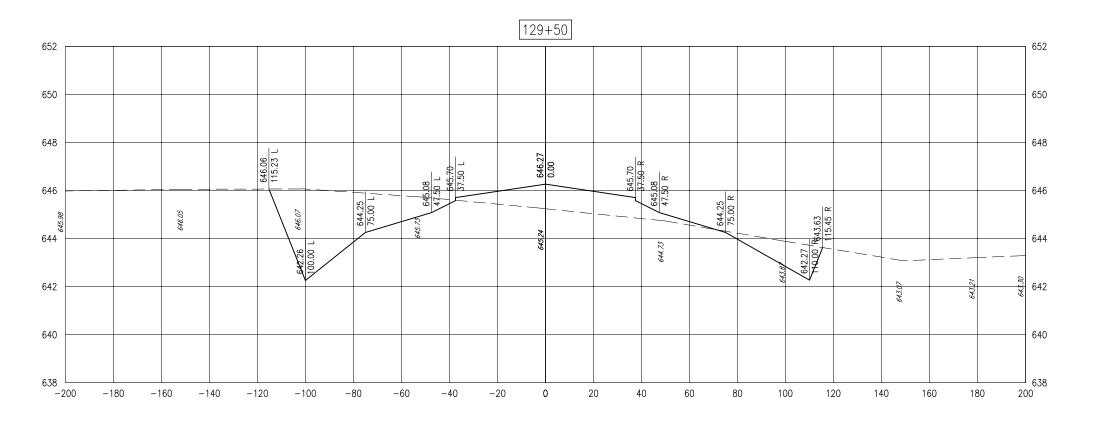
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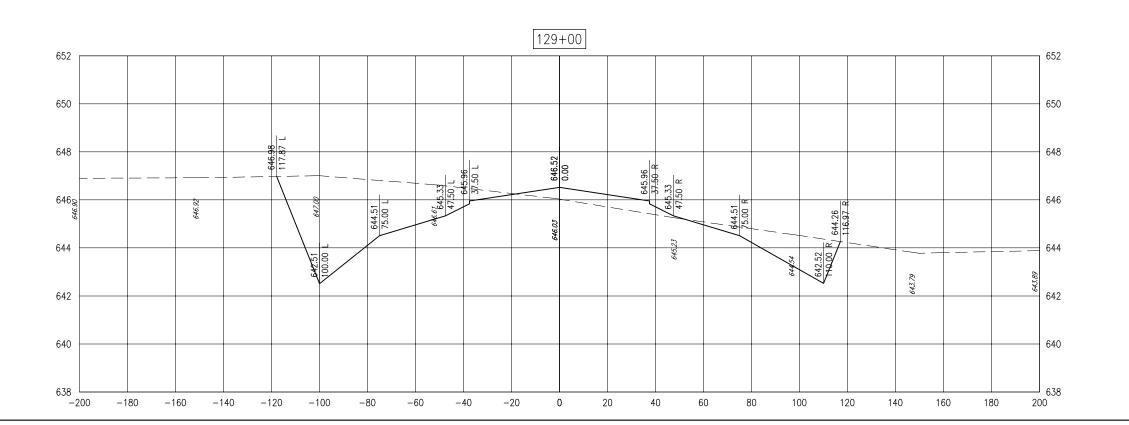
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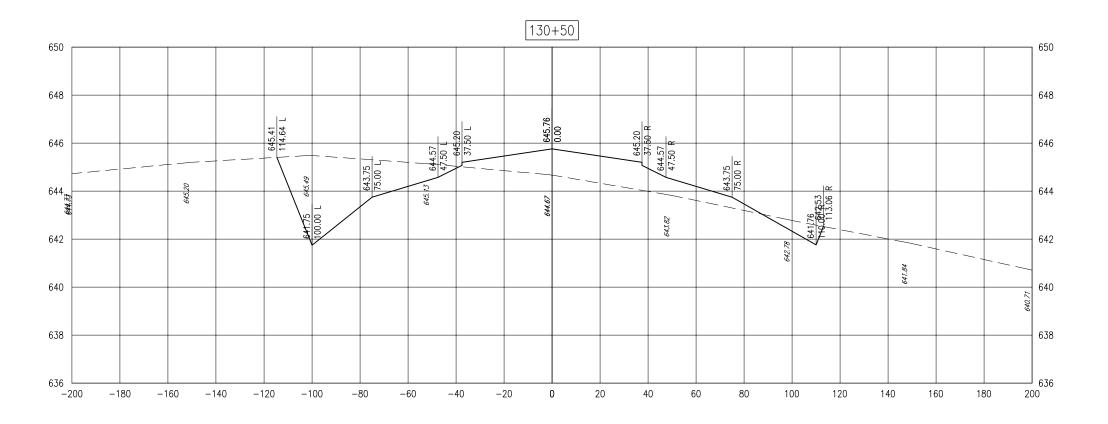


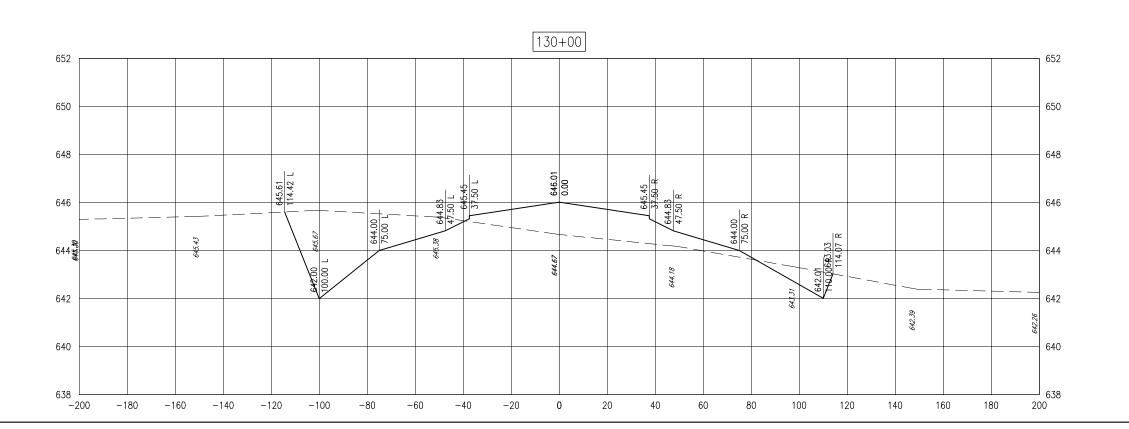


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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA. 129+00 TO STA. 129+50





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PARIS, ILLINOIS

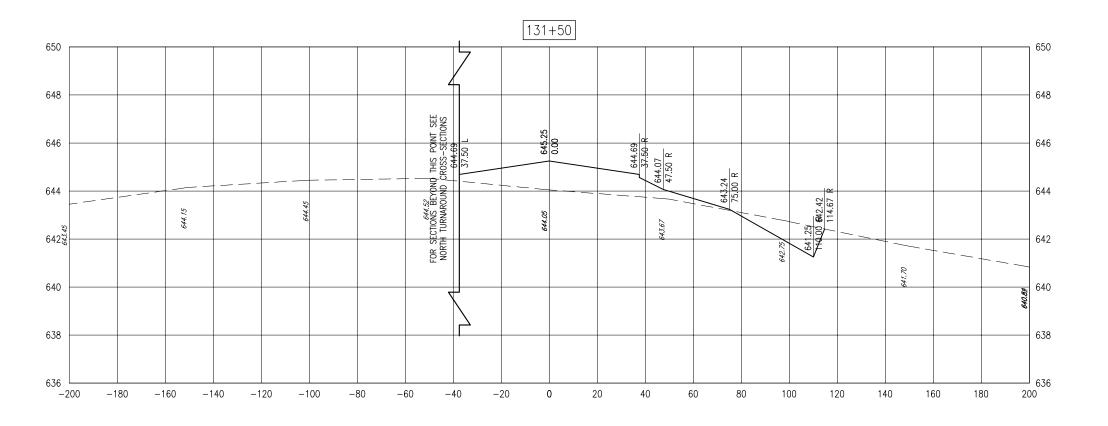
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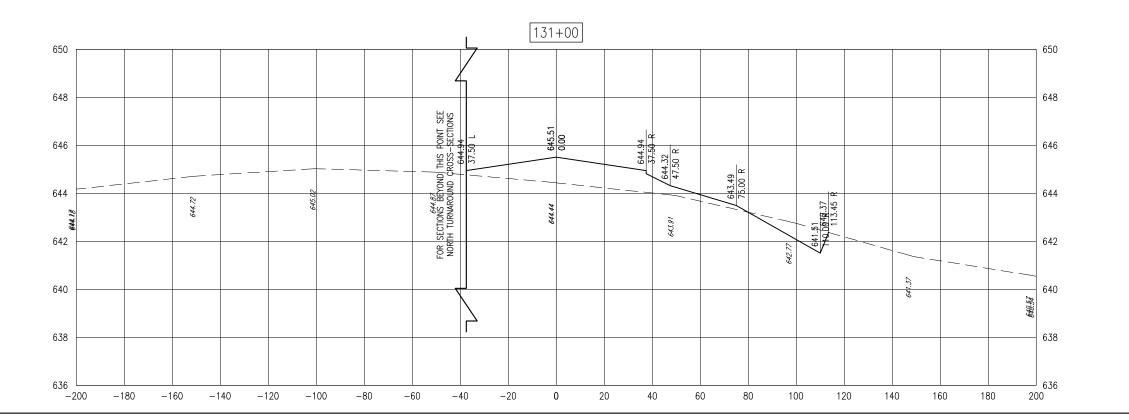
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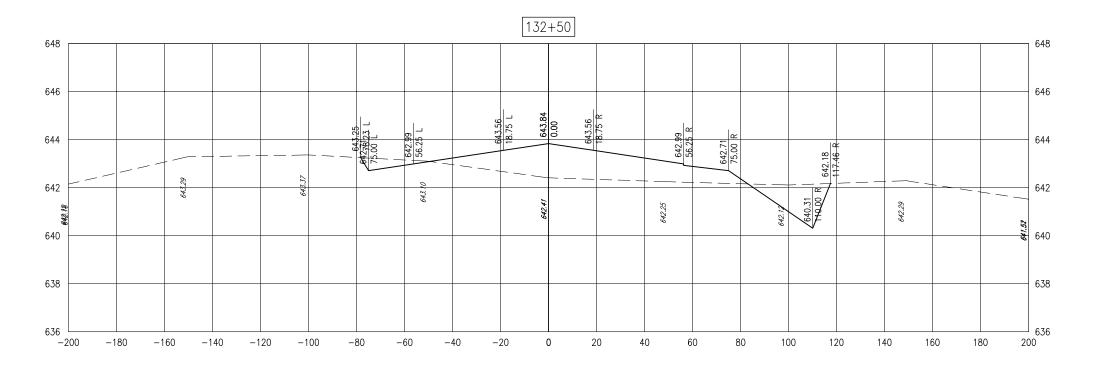


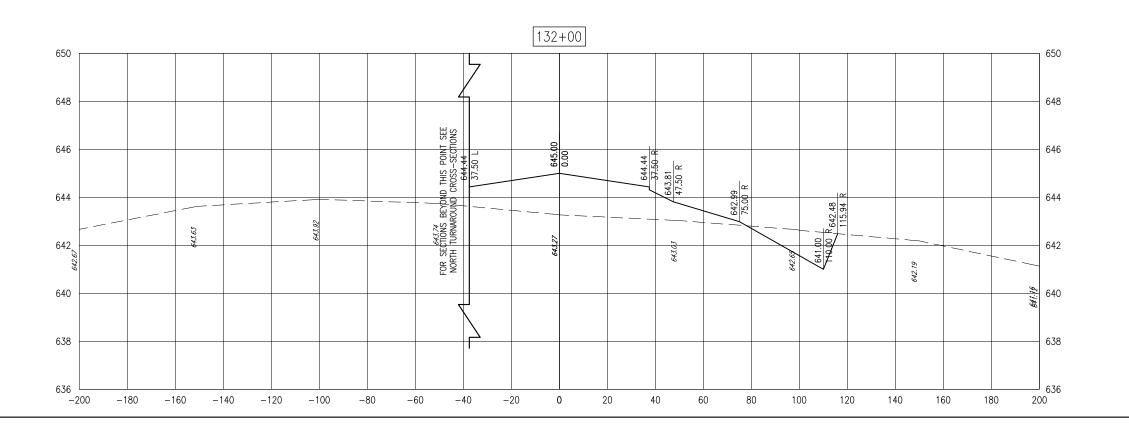
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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA. 131+00 TO STA. 131+50

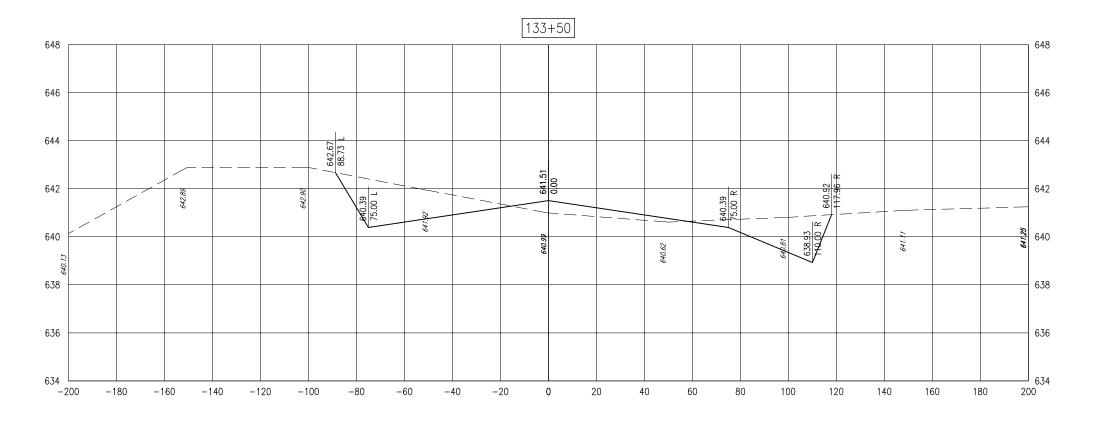


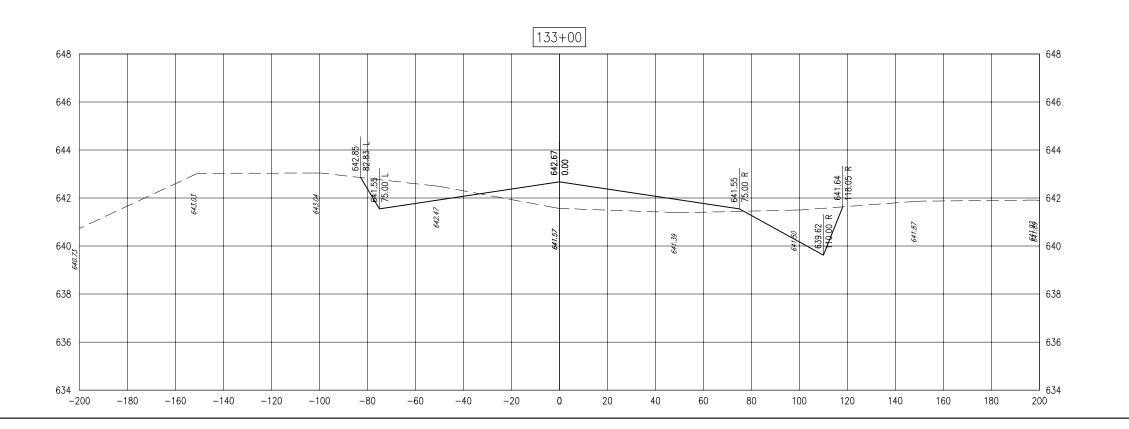


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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA. 132+00 TO STA. 132+50

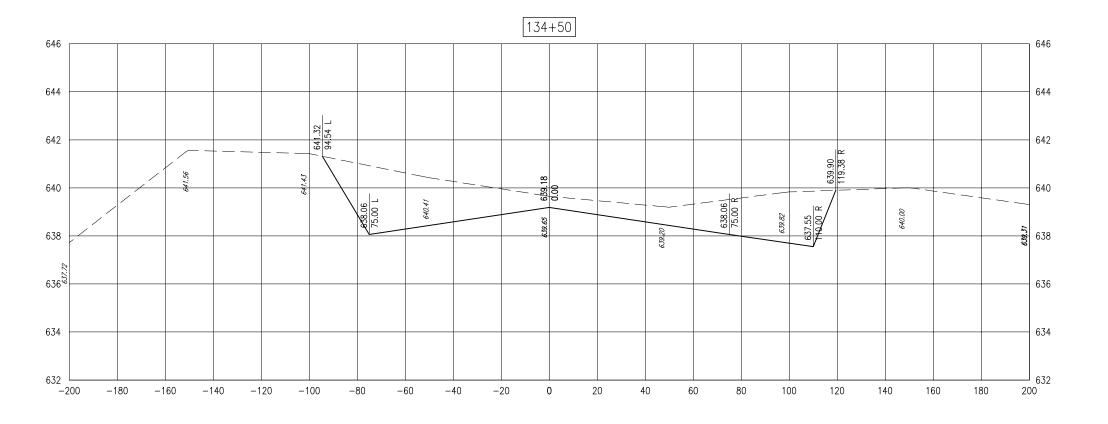


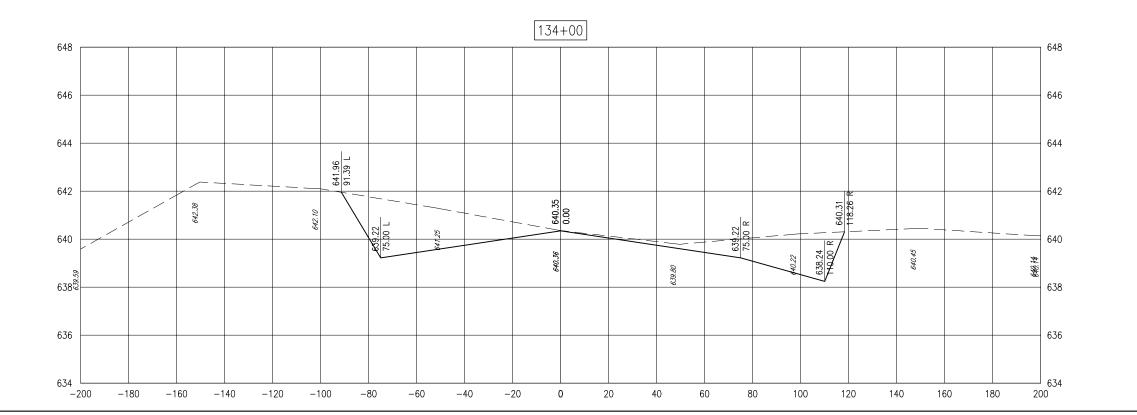


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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR RUNWAY 18-36 STA. 133+00 TO STA. 133+50





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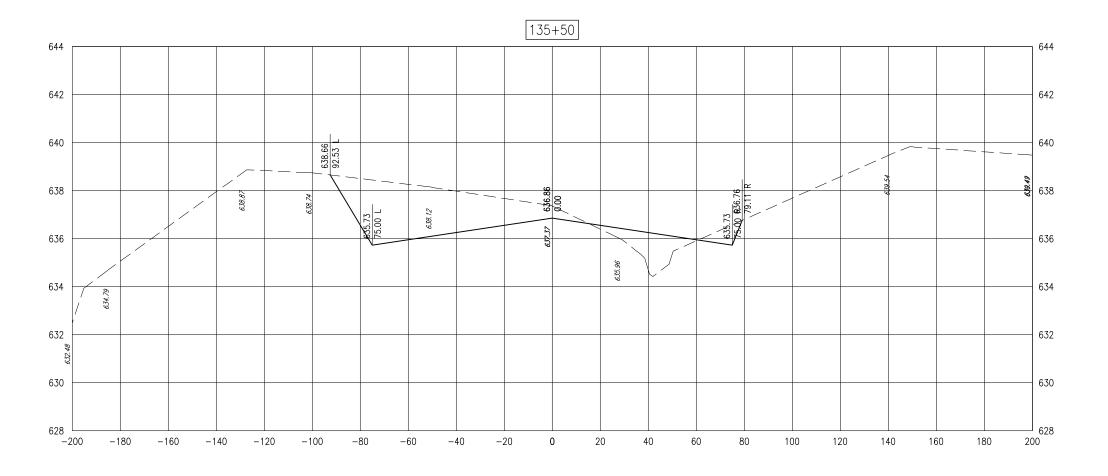
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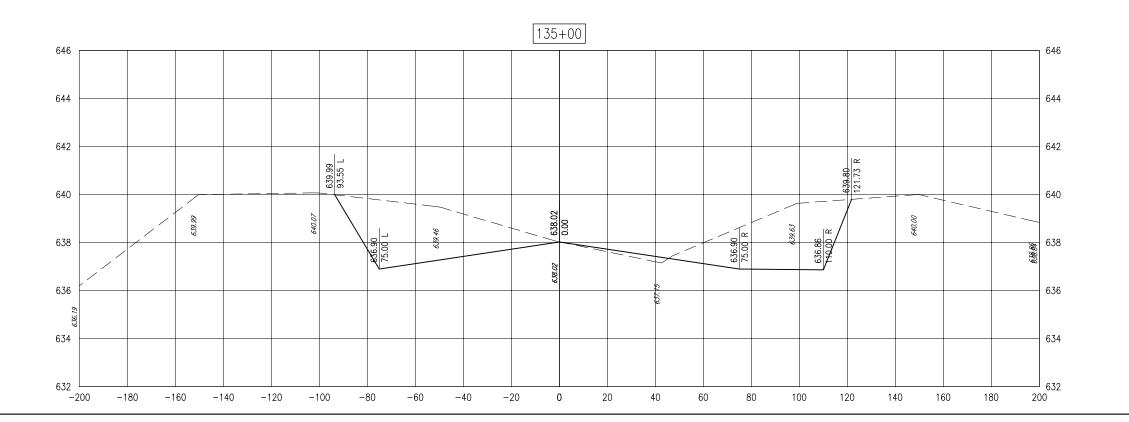
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CROSS-SECTIONS FOR RUNWAY 18-36 STA. 134+00 TO STA. 134+50





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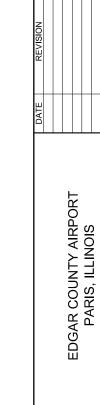
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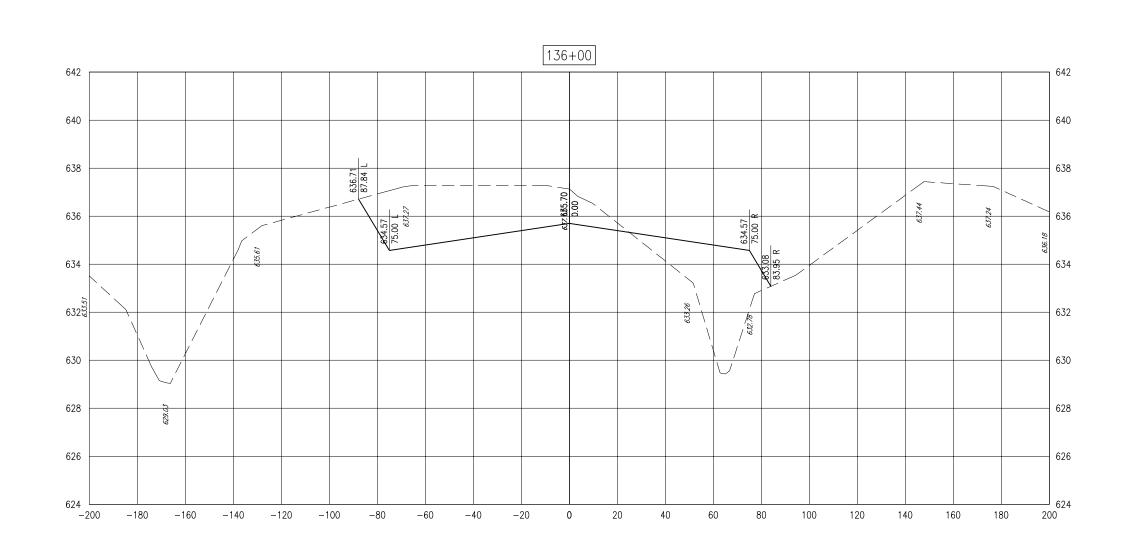
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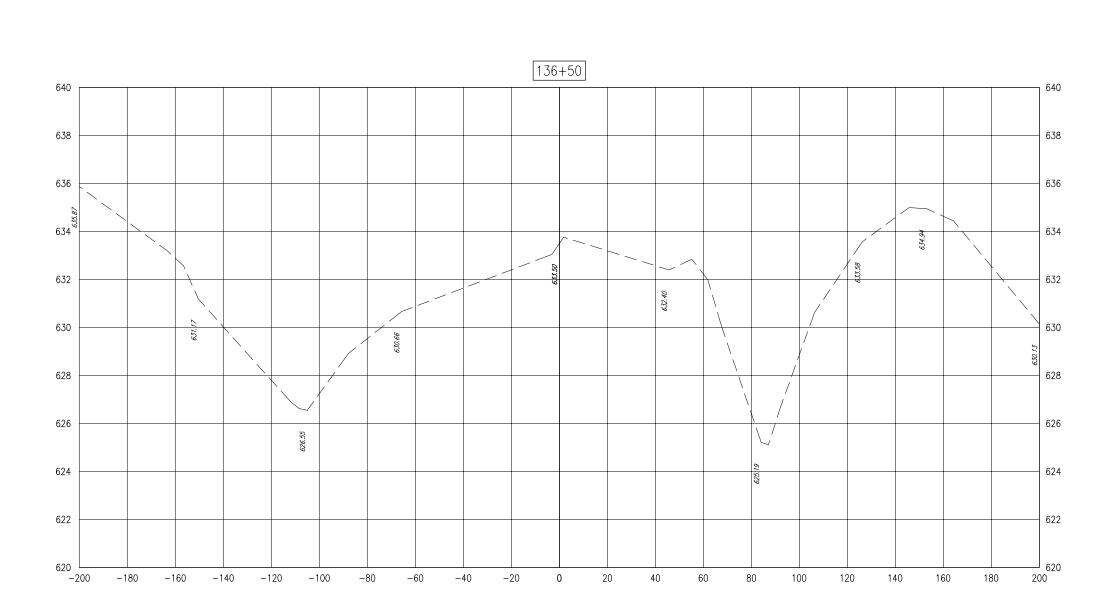




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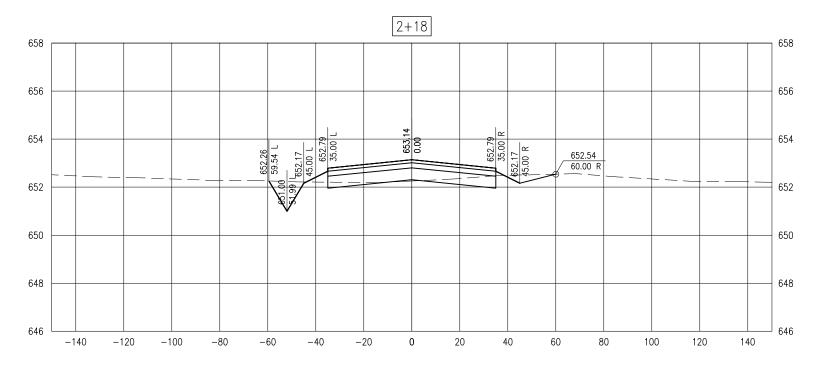
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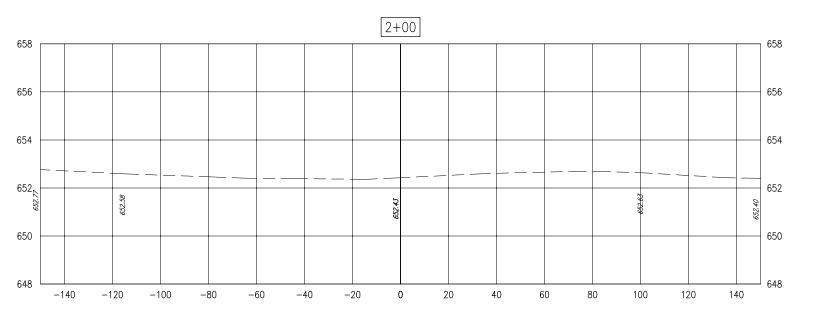
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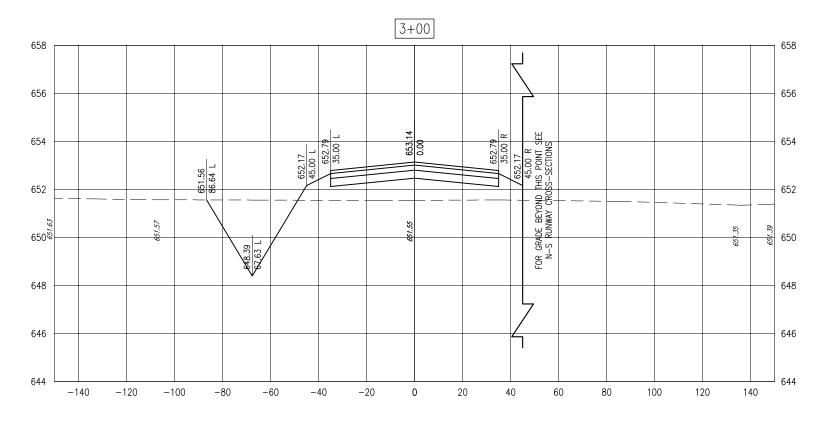


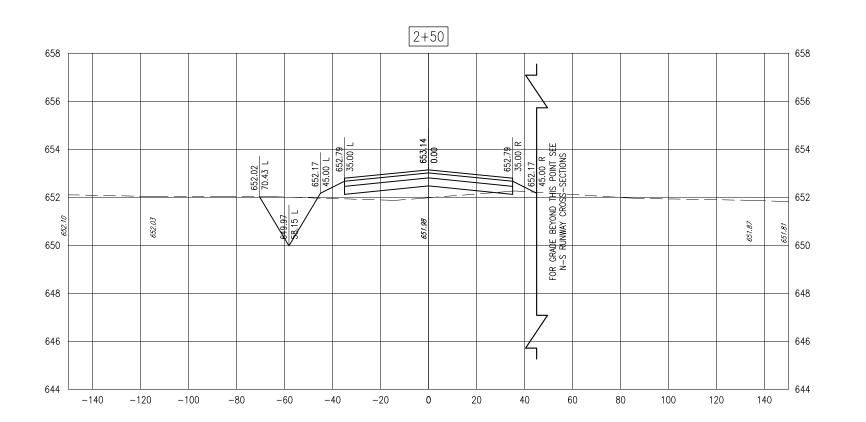


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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR SOUTH TURNAROUND STA. 2+00 TO STA. 2+18





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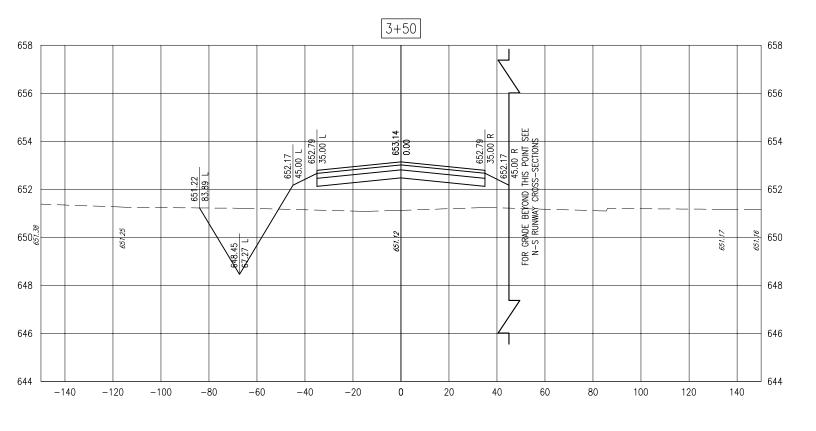
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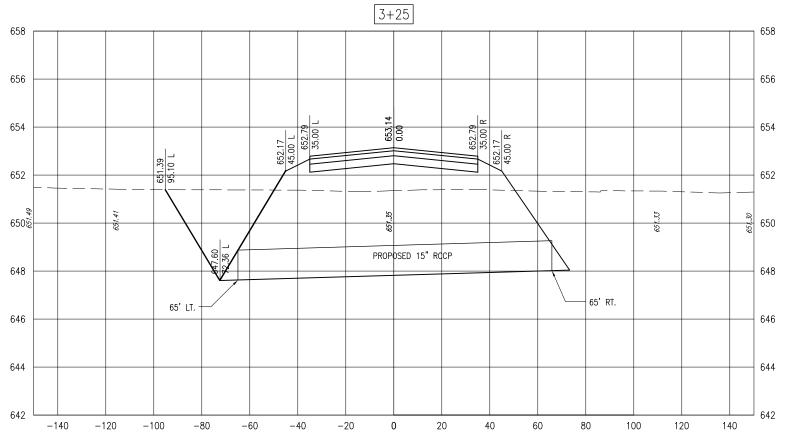
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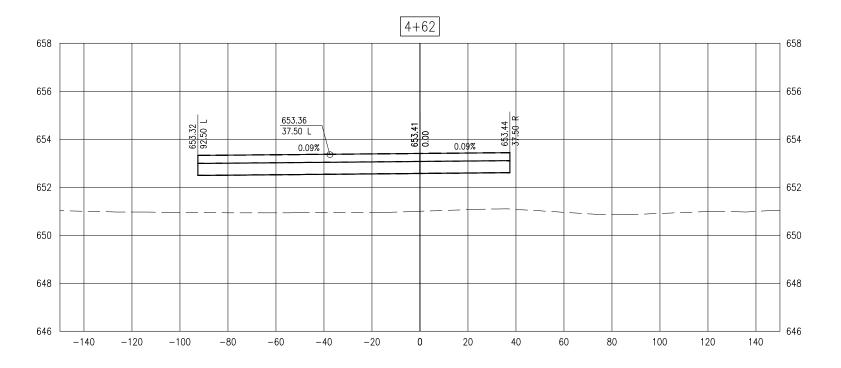
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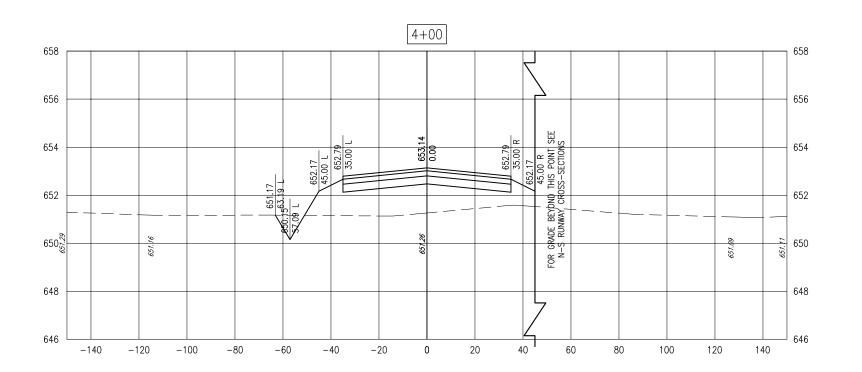
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CONSTRUCT CROSSWIND RUNWAY 18-36 CROSS-SECTIONS FOR SOUTH TURNAROUND STA. 3+25 TO STA. 3+50

FOR SECTIONS BEYOND THIS POINT SEE N-S RUNWAY CROSS-SECTIONS





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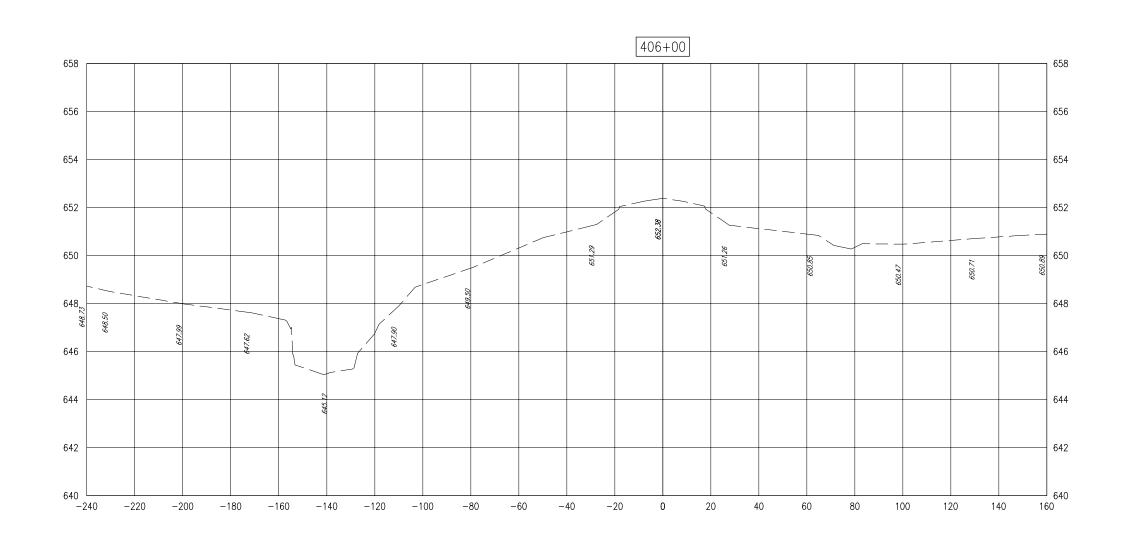


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CROSS-SECTIONS FOR TAXIWAY B STA. 406+00

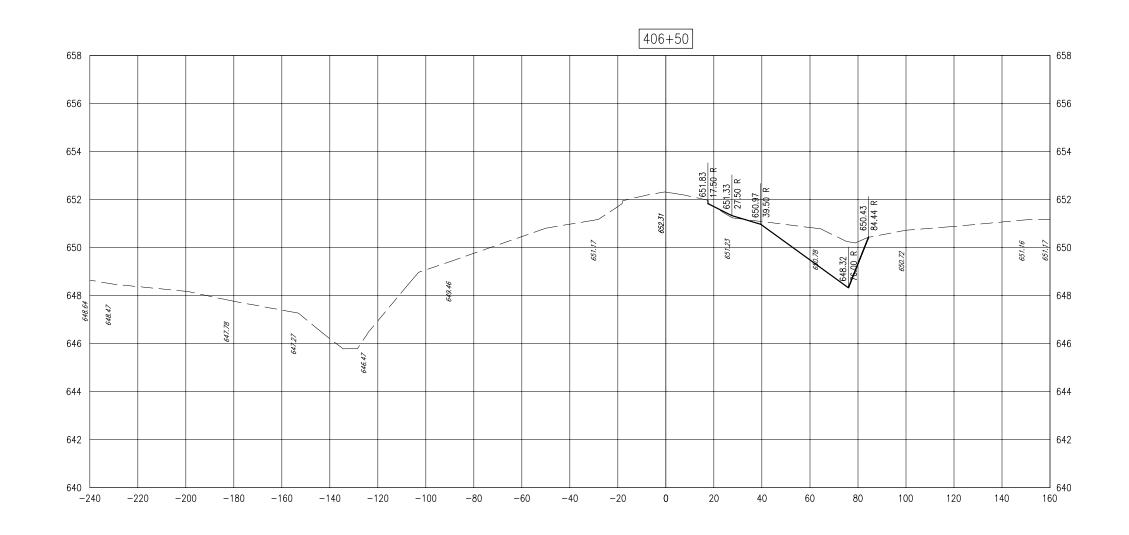




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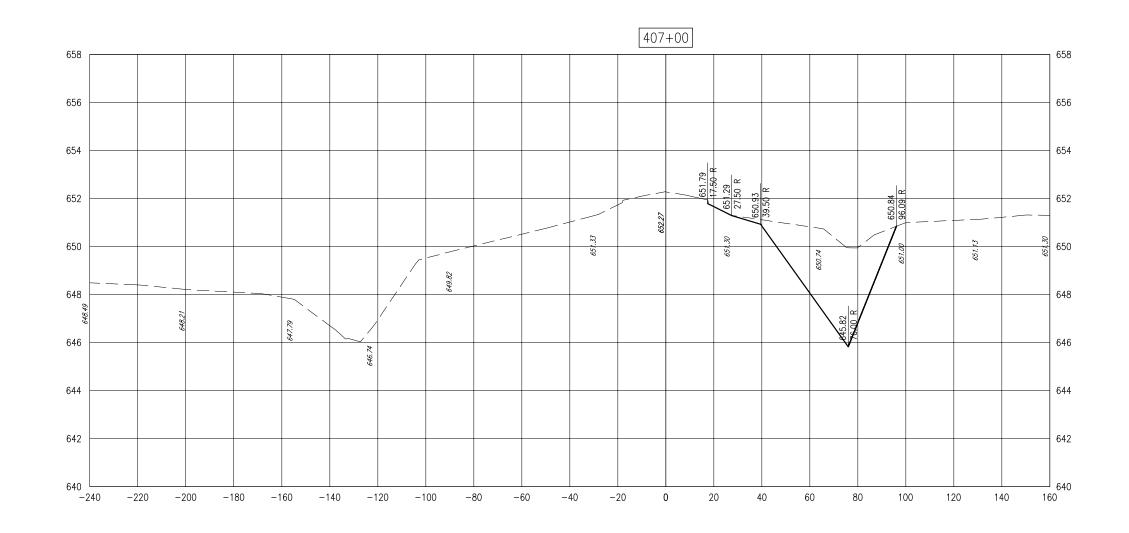




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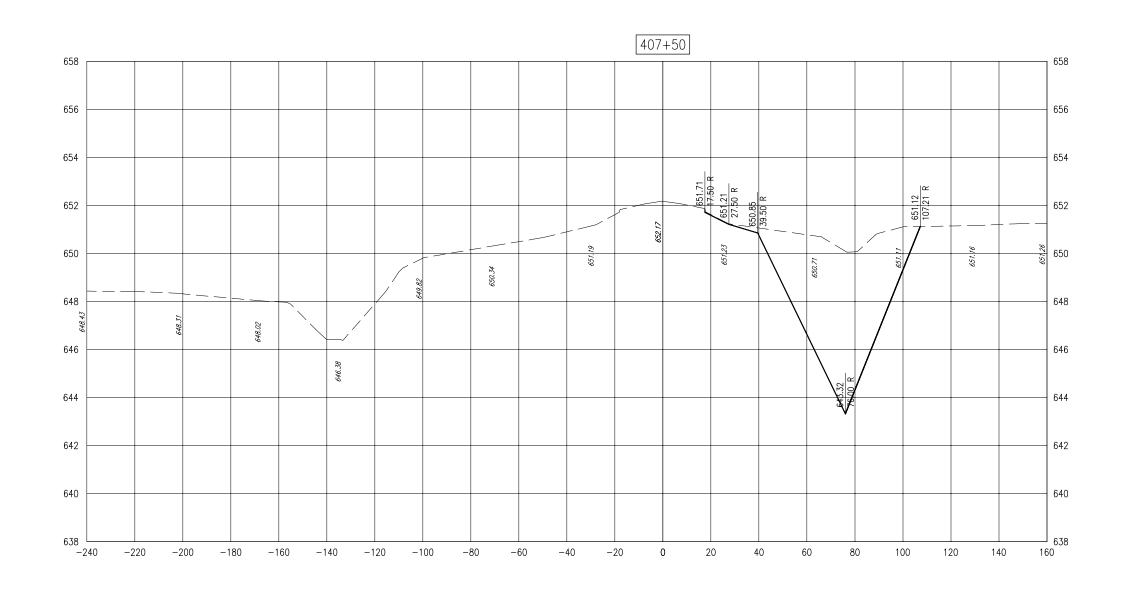




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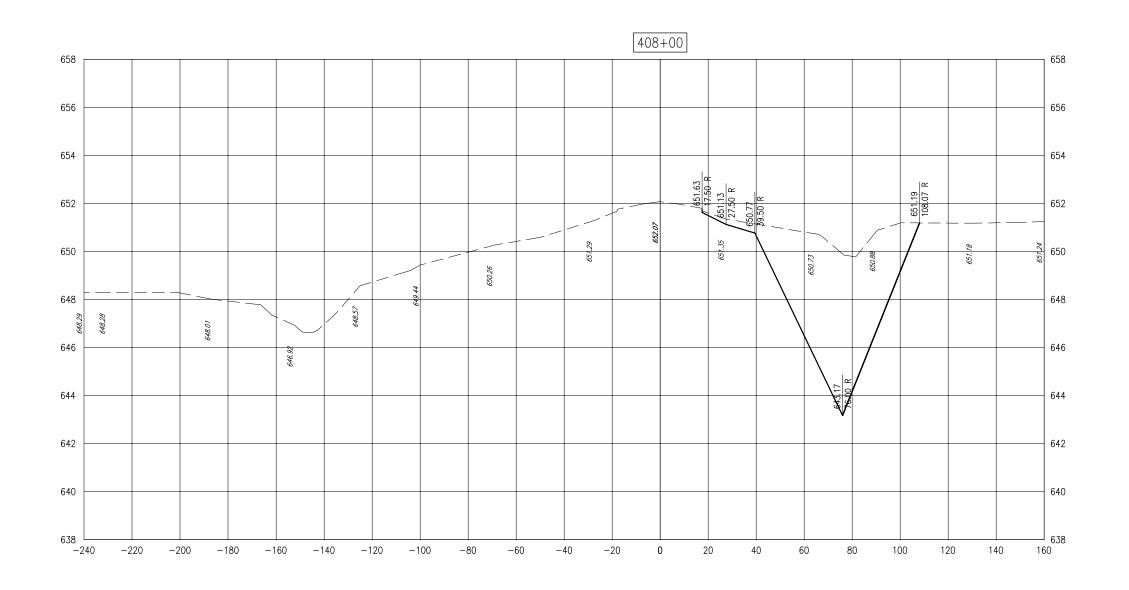




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CROSS-SECTIONS FOR TAXIWAY B STA. 408+00



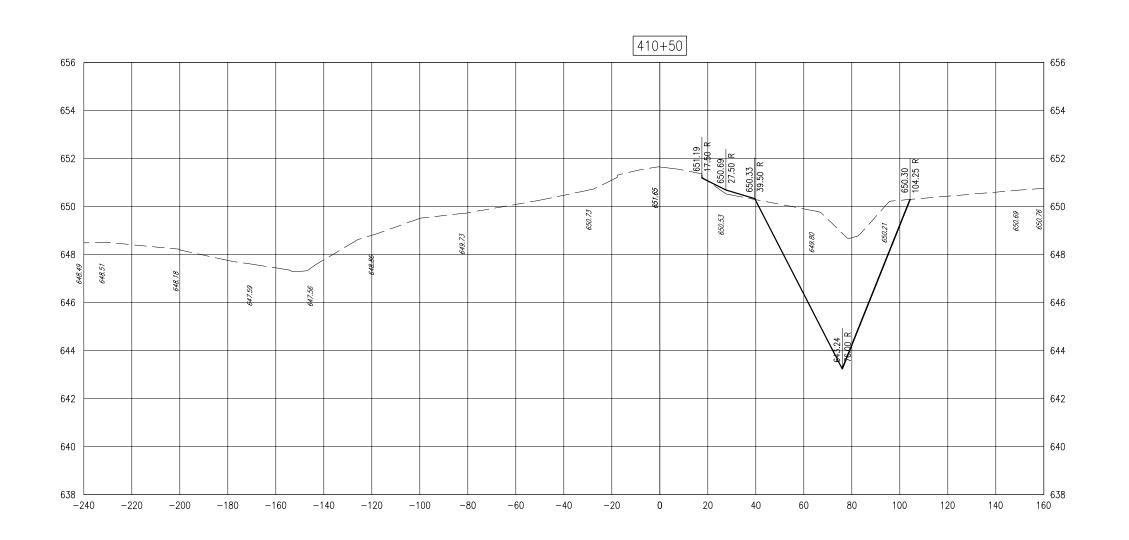
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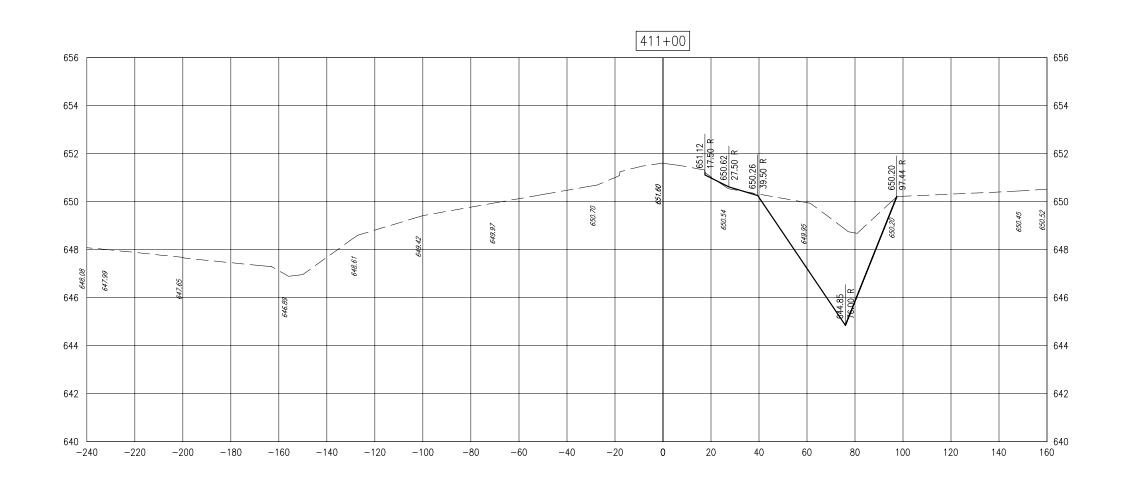




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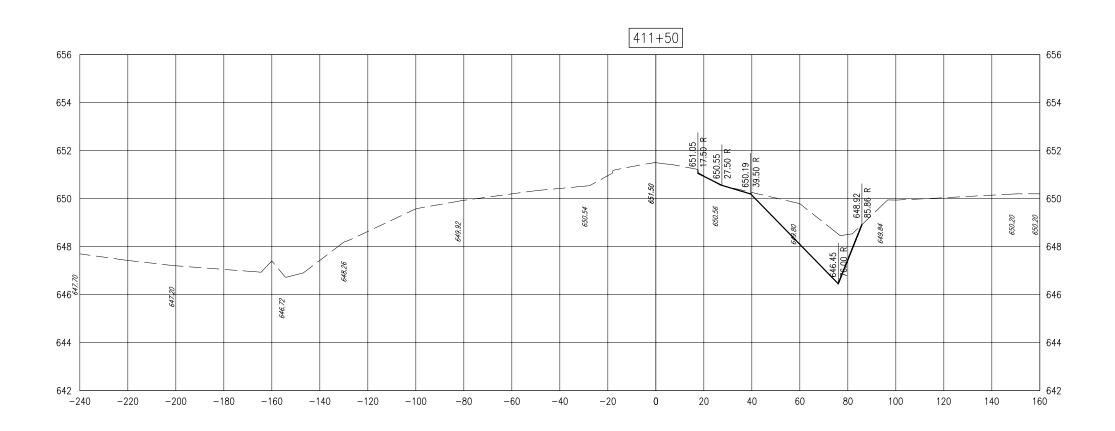




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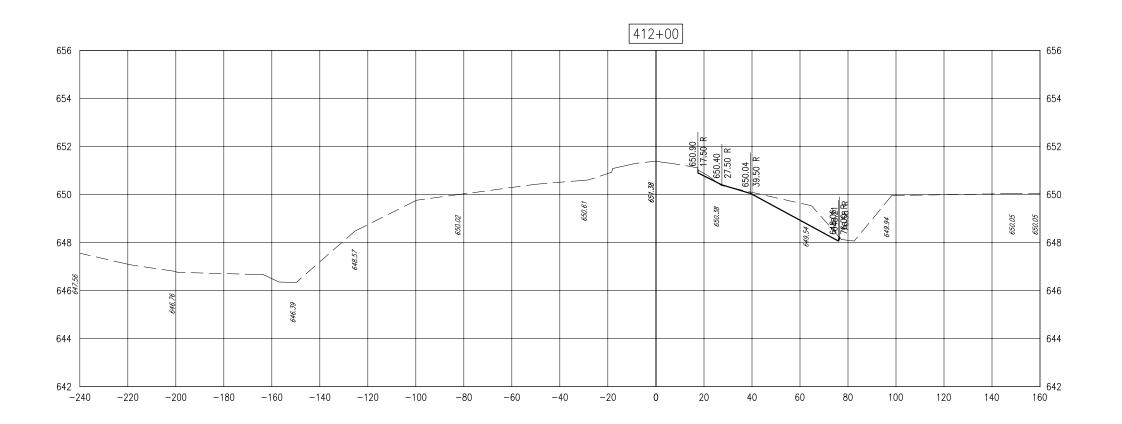
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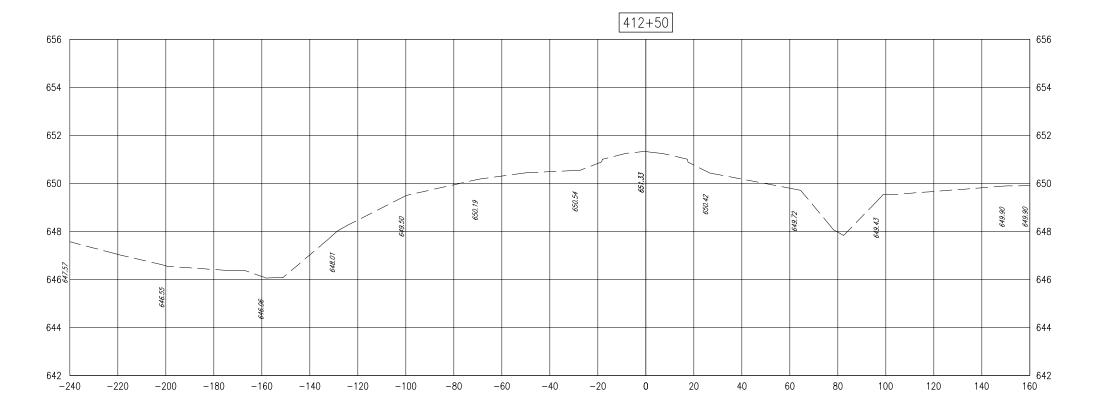


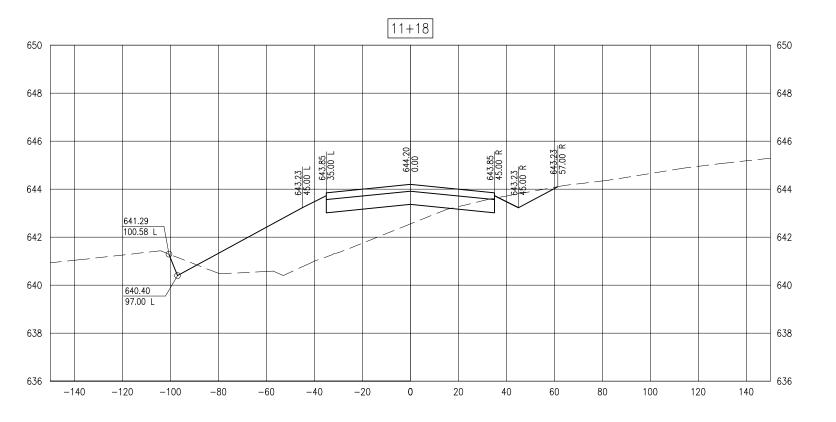
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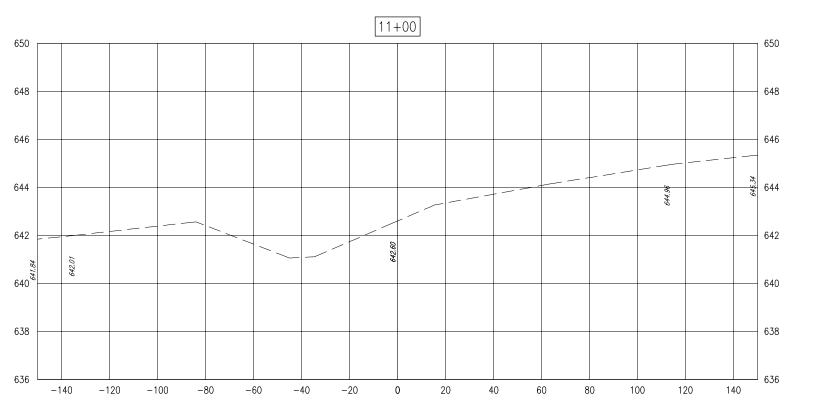
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CROSS-SECTIONS FOR TAXIWAY B STA. 412+50



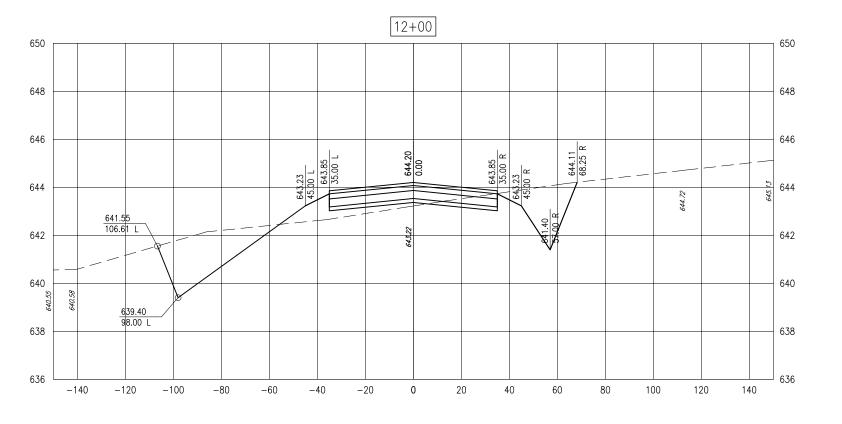


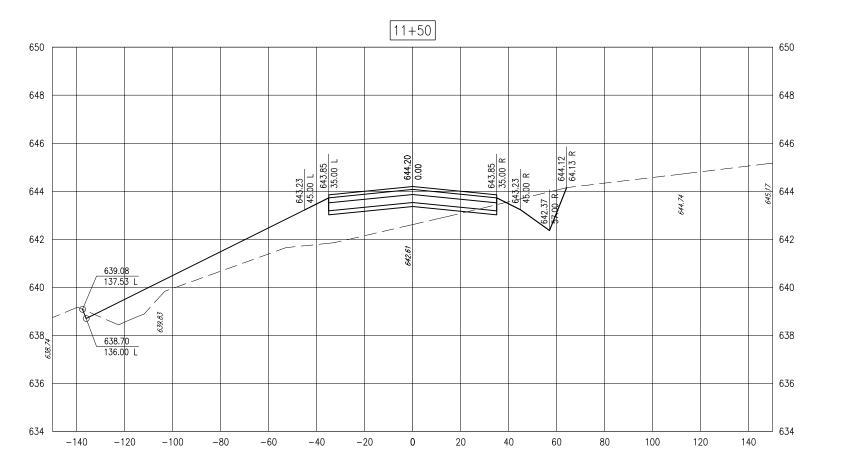


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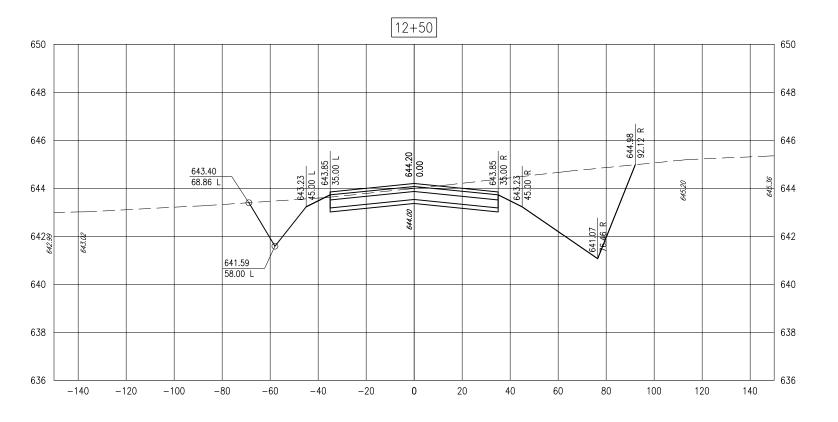
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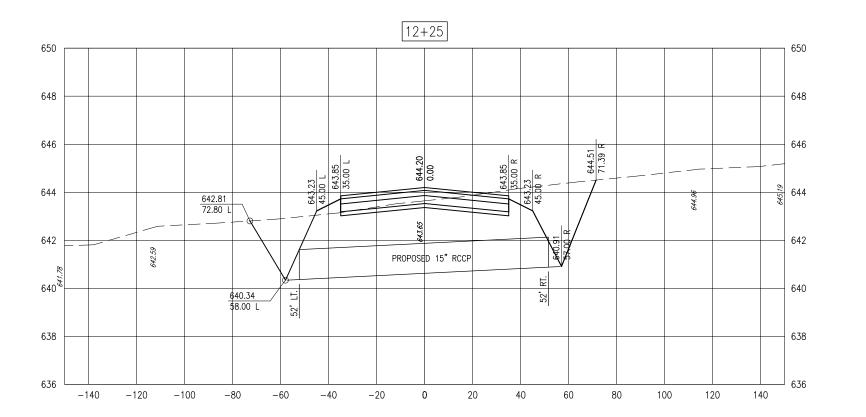
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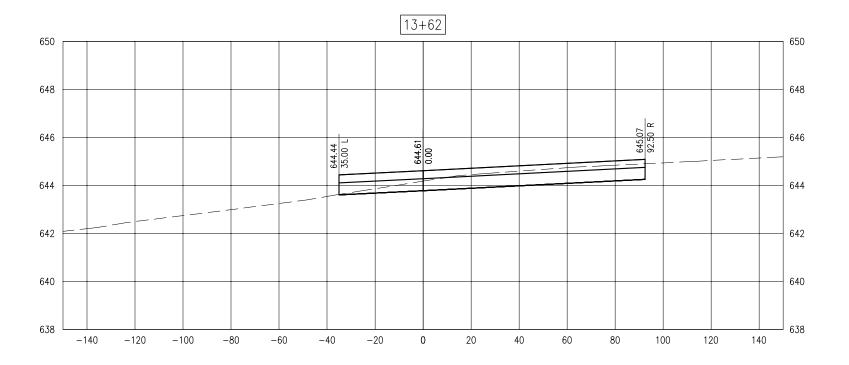
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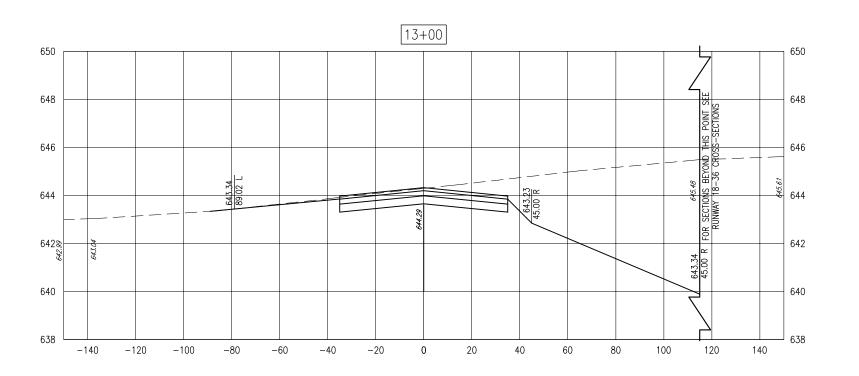
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V. 1"=20' 03/10/11 MDR 01/11/11

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