

CONSTRUCTION PLANS

FOR

ST. LOUIS DOWNTOWN AIRPORT

CAHOKIA, ST. CLAIR COUNTY, ILLINOIS

WIDEN RUNWAY 12R/30L

SCOPE OF WORK

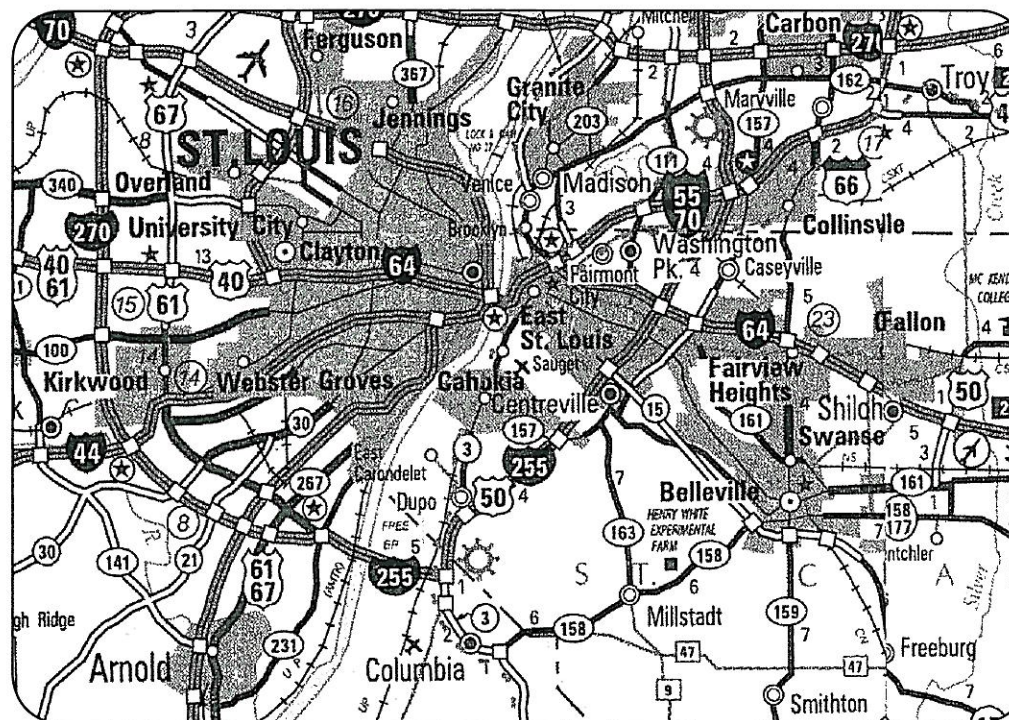
THE SCOPE OF WORK SHALL CONSIST OF WIDENING RUNWAY 12R/30L FROM 100' TO 150' AND THE REMOVAL OF TAXIWAY B2, INCLUDING PAVEMENT REMOVAL, GRADING, PAVING, LIGHTING, AND MARKING. ASSOCIATED WORK INCLUDES THE INSTALLATION OF NAVIGATIONAL AIDS (PAPI), RELOCATION OF EXISTING AIRPORT HOMERUN CABLES, RECONSTRUCTION OF THE MALSR THRESHOLD LIGHTS, AND IMPROVEMENT TO THE ELECTRICAL VAULT.

ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

LATITUDE: 38° 34' 14"
LONGITUDE: 90° 09' 22"
ELEVATION: 413' M.S.L.
DATE: APRIL 16, 2010



LOCATION OF COUNTY



LOCATION



COVERING ELECTRICAL DESIGN

HANSON
Hanson Professional Services Inc.
ELECTRICAL ENGINEER
Submitted by: *Kevin N. Lightfoot* ENG'R
Date Submitted: APRIL 16, 2010
Lic. Exp. Date: NOVEMBER 30, 2011

HANSON
Hanson Professional Services Inc.
Submitted by: *Robert A. Waller* ENG'R
Date Submitted: APRIL 16, 2010
Lic. Exp. Date: NOVEMBER 30, 2011

BI-STATE DEVELOPMENT AGENCY
Approved: *Robert M. Daniel* DIRECTOR OF THE AIRPORT
Date: 4/20/10

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22



Project No.	Date
08A0211D	01/13/09
R-0011CVR.DWG	01/13/09
Scale	NOT TO SCALE
Date	
LAYOUT	KNL
DRAWN	MV
REVIEWED	RAW

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY
12R/30L
COVER SHEET

APR 16, 2010 8:23 PM WALLE00723
I:\ARPOBIS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\P-0011CVR.DWG

INDEX TO SHEETS

SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
1	COVER SHEET	73	PROPOSED PAPI DETAILS AND NOTES RUNWAY END 30L	145	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 140+50 TO STA. 141+00
2	INDEX TO SHEETS	74	PAPI FOUNDATION DETAILS	146	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 141+50 TO STA. 142+00
3	SUMMARY OF QUANTITIES	75	MALSR FOUNDATION DETAILS FOR STEADY-BURN LIGHT BAR AT RUNWAY THRESHOLD (1)	147	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 142+50 TO STA. 143+00
4	PROPOSED SAFETY PLAN SHEET NO. 1	76	MALSR TYPICAL WIRING DIAGRAMS FOR STEADY-BURNING LIGHT BARS (2)	148	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 143+50 TO STA. 144+00
5	PROPOSED SAFETY PLAN SHEET NO. 2	77	MALSR SYSTEM WIRING DIAGRAM RUNWAY 30L (3)	149	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 144+50 TO STA. 145+00
6	PROPOSED SEQUENCING AND TEMPORARY LIGHTING PLAN	78	ELECTRICAL NOTES SHEET 1	150	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 145+50 TO STA. 146+00
7	PROPOSED TEMPORARY LIGHTING DETAILS	79	ELECTRICAL NOTES SHEET 2	151	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 146+50 TO STA. 147+00
8	EXISTING AND PROPOSED RUNWAY TYPICAL SECTIONS	80	ELECTRICAL LEGEND AND ABBREVIATIONS	152	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 147+50 TO STA. 148+00
9	EXISTING AND PROPOSED TAXIWAY TYPICAL SECTIONS	81	EXISTING ELECTRICAL PLAN FOR AIRPORT VAULT	153	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 148+50 TO STA. 149+00
10	PROPOSED SITE PREPARATION PLAN STA. 99+00 TO STA. 112+00	82	PROPOSED ELECTRICAL PLAN FOR AIRPORT VAULT	154	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 149+50 TO STA. 150+00
11	PROPOSED SITE PREPARATION PLAN STA. 112+00 TO STA. 125+00	83	RUNWAY REGULATORS ELEVATION DETAIL	155	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 150+50 TO STA. 151+00
12	PROPOSED SITE PREPARATION PLAN STA. 125+00 TO STA. 138+00	84	EXISTING ELECTRICAL ONE-LINE FOR AIRPORT VAULT	156	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 151+50 TO STA. 152+00
13	PROPOSED SITE PREPARATION PLAN STA. 138+00 TO STA. 151+00	85	PROPOSED ELECTRICAL ONE-LINE FOR AIRPORT VAULT	157	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 152+50 TO STA. 153+00
14	PROPOSED SITE PREPARATION PLAN STA. 151+00 TO STA. 164+00	86	PANELBOARD SCHEDULES	158	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 153+50 TO STA. 154+00
15	PROPOSED SITE PREPARATION PLAN STA. 164+00 TO STA. 173+00	87	EXISTING ONE-LINE DIAGRAM FOR RUNWAY 30L VASI	159	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 154+50 TO STA. 155+00
16	PROPOSED CONSTRUCTION PLAN STA. 99+00 TO STA. 112+00	88	ONE-LINE DIAGRAM FOR RUNWAY 30L PAPI	160	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 155+50 TO STA. 156+00
17	PROPOSED CONSTRUCTION PLAN STA. 112+00 TO STA. 125+00	89	PAPI FIELD WIRING CONNECTIONS	161	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 156+50 TO STA. 157+00
18	PROPOSED CONSTRUCTION PLAN STA. 125+00 TO STA. 138+00	90	CONTROL BLOCK DIAGRAM FOR AIRFIELD LIGHTING	162	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 157+50 TO STA. 158+00
19	PROPOSED CONSTRUCTION PLAN STA. 138+00 TO STA. 151+00	91	AIRFIELD LIGHTING WIRING SCHEMATIC FOR RWY 5-23	163	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 158+50 TO STA. 159+00
20	PROPOSED CONSTRUCTION PLAN STA. 151+00 TO STA. 164+00	92	AIRFIELD LIGHTING WIRING SCHEMATIC FOR RWY 12R-30L	164	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 159+50
21	PROPOSED CONSTRUCTION PLAN STA. 164+00 TO STA. 177+00	93	AIRFIELD LIGHTING WIRING SCHEMATIC FOR RWY 12L-30R	165	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 160+00 TO STA. 160+50
22	PROPOSED PLAN AND PROFILE TAXIWAY B1	94	EXISTING L-821 CONTROL PANEL DETAILS	166	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 161+00 TO STA. 161+50
23	PROPOSED PLAN AND PROFILE TAXIWAY B4	95	EXISTING PILOT RELAY PANEL 48 VDC DETAILS	167	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 162+00
24	PROPOSED PLAN AND PROFILE TAXIWAY B5	96	RELAY ASSIGNMENTS FOR PILOT RELAY PANELS	168	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 162+50
25	PROPOSED PLAN AND PROFILE TAXIWAY B6	97	EXISTING LIGHTING CONTACTOR PANEL DETAIL	169	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 163+00 TO STA. 163+50
26	PROPOSED PLAN AND PROFILE TAXIWAY B7	98	HIGH VOLTAGE WIRING SCHEMATICS FOR TAXIWAYS	170	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 164+00
27	PROPOSED DRAINAGE PLAN STA. 99+00 TO STA. 112+00	99	HIGH VOLTAGE WIRING SCHEMATICS FOR RUNWAYS	171	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 164+50
28	PROPOSED DRAINAGE PLAN STA. 112+00 TO STA. 125+00	100	LEGEND PLATE SCHEDULE	172	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 165+00
29	PROPOSED DRAINAGE PLAN STA. 125+00 TO STA. 138+00	101	GROUNDING DETAILS	173	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 165+50
30	PROPOSED DRAINAGE PLAN STA. 138+00 TO STA. 151+00	102	GROUNDING NOTES	174	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 166+00
31	PROPOSED DRAINAGE PLAN STA. 151+00 TO STA. 164+00	103	WATER UTILITY ADJUSTMENT DETAIL	175	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 166+50
32	PROPOSED DRAINAGE PLAN STA. 164+00 TO STA. 173+00	104	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 99+96 TO STA. 100+50	176	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 167+00
33	PROPOSED DRAINAGE DETAILS	105	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 101+00 TO STA. 101+50	177	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 167+50
34	EXISTING MARKING REMOVAL PLAN STA. 99+00 TO STA. 112+00	106	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 102+00 TO STA. 102+50	178	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 168+00
35	EXISTING MARKING REMOVAL PLAN STA. 112+00 TO STA. 125+00	107	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 103+00 TO STA. 103+50	179	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 168+50
36	EXISTING MARKING REMOVAL PLAN STA. 125+00 TO STA. 138+00	108	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 104+00 TO STA. 104+50	180	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 169+00
37	EXISTING MARKING REMOVAL PLAN STA. 138+00 TO STA. 151+00	109	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 105+00 TO STA. 105+50	181	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 169+50
38	EXISTING MARKING REMOVAL PLAN STA. 151+00 TO STA. 164+00	110	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 106+00 TO STA. 106+50	182	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 169+96
39	EXISTING MARKING REMOVAL PLAN STA. 164+00 TO STA. 173+00	111	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 107+00 TO STA. 107+50	183	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 170+50
40	PROPOSED MARKING PLAN STA. 99+00 TO STA. 112+00	112	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 108+00 TO STA. 108+50	184	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 171+00
41	PROPOSED MARKING PLAN STA. 112+00 TO STA. 125+00	113	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 109+00 TO STA. 109+50	185	PROPOSED EARTHWORK VOLUME TABLES
42	PROPOSED MARKING PLAN STA. 125+00 TO STA. 138+00	114	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 110+00 TO STA. 110+50	186	PROPOSED GRADING AREA
43	PROPOSED MARKING PLAN STA. 138+00 TO STA. 151+00	115	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 111+00 TO STA. 111+50		(1) FAA CPS-D-MALSR30L-C01
44	PROPOSED MARKING PLAN STA. 151+00 TO STA. 164+00	116	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 112+00 TO STA. 112+50		(2) FAA CPS-D-MALSR30L-E01
45	PROPOSED MARKING PLAN STA. 164+00 TO STA. 173+00	117	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 113+00 TO STA. 113+50		(3) FAA CPS-D-MALSR30L-E02
46	EXISTING ELECTRICAL PLAN STA. 98+00 TO STA. 106+00	118	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 114+00 TO STA. 114+50		
47	EXISTING ELECTRICAL PLAN STA. 106+00 TO STA. 120+00	119	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 115+00 TO STA. 115+50		
48	EXISTING ELECTRICAL PLAN VAULT 275' RT.	120	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 116+00 TO STA. 116+50		
49	EXISTING ELECTRICAL PLAN STA. 120+00 TO STA. 134+00	121	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 117+00 TO STA. 117+50		
50	EXISTING ELECTRICAL PLAN STA. 134+00 TO STA. 148+00	122	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 118+00 TO STA. 118+50		
51	EXISTING ELECTRICAL PLAN STA. 148+00 TO STA. 162+00	123	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 119+00 TO STA. 119+50		
52	EXISTING ELECTRICAL PLAN GLIDE SLOPE 250' RT.	124	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 120+00 TO STA. 120+50		
53	EXISTING ELECTRICAL PLAN STA. 162+00 TO STA. 175+00	125	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 121+00 TO STA. 121+50		
54	EXISTING ELECTRICAL PLAN STA. 175+00 TO STA. 186+00	126	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 122+00 TO STA. 122+50		
55	PROPOSED ELECTRICAL PLAN STA. 98+00 TO STA. 106+00	127	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 123+00 TO STA. 123+50		
56	PROPOSED ELECTRICAL PLAN STA. 106+00 TO STA. 120+00	128	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 124+00 TO STA. 124+50		
57	PROPOSED ELECTRICAL PLAN VAULT 275' RT.	129	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 125+00 TO STA. 125+50		
58	PROPOSED ELECTRICAL PLAN STA. 120+00 TO STA. 134+00	130	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 126+00 TO STA. 126+50		
59	PROPOSED ELECTRICAL PLAN STA. 134+00 TO STA. 148+00	131	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 127+00 TO STA. 127+50		
60	PROPOSED ELECTRICAL PLAN STA. 148+00 TO STA. 162+00	132	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 128+00 TO STA. 128+50		
61	PROPOSED ELECTRICAL PLAN GLIDE SLOPE 250' RT.	133	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 129+00		
62	PROPOSED ELECTRICAL PLAN STA. 162+00 TO STA. 175+00	134	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 129+50 TO STA. 130+00		
63	PROPOSED ELECTRICAL PLAN STA. 175+00 TO STA. 186+00	135	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 130+50 TO STA. 131+00		
64	THRESHOLD LIGHT DETAILS, LIGHT LOCATION AND LIGHT LENS SCHEDULES	136	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 131+50 TO STA. 132+00		
65	REIL INSTALLATION DETAILS	137	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 132+50 TO STA. 133+00		
66	ELECTRICAL DETAILS SHEET 1	138	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 133+50 TO STA. 134+00		
67	ELECTRICAL DETAILS SHEET 2	139	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 134+50 TO STA. 135+00		
68	ELECTRICAL DETAILS SHEET 3	140	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 135+50 TO STA. 136+00		
69	ELECTRICAL MANHOLE SCHEDULE & HANDHOLE DETAIL	141	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 136+50 TO STA. 137+00		
70	4'X4'X4' AIRPORT MANHOLE	142	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 137+50 TO STA. 138+00		
71	4'X4'X4' ELECTRICAL MANHOLE	143	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 138+50 TO STA. 139+00		
72	PROPOSED PAPI DETAILS AND NOTES RUNWAY END 12R	144	PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 139+50 TO STA. 140+00		

BY	
REVISION	
DATE	

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

L. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-003FLP.DWG
Scale	NOT TO SCALE
Date	04/16/2010
LAYOUT	KNL 05/11/07
DRAWN	MV 05/11/07
REVIEWED	CAH 04/01/10

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
INDEX TO SHEETS

JUN 01, 2010 8:26 AM GSTER06065
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET R-003FLP.DWG

SUMMARY OF QUANTITIES - BASE BID

Table with columns: ITEM NO., DESCRIPTION, UNIT, TOTAL F/S/L QUANTITIES, TOTAL LOCAL QUANTITIES, AS BUILT QUANTITIES. Lists various construction items like cables, ducts, and pavement.

SUMMARY OF QUANTITIES - ADDITIVE ALTERNATE NO. 1

Table with columns: ITEM NO., DESCRIPTION, UNIT, TOTAL F/S/L QUANTITIES, TOTAL LOCAL QUANTITIES, AS BUILT QUANTITIES. Lists items like PVC storm sewer, porous backfill, and underdrains.

PAYMENT WILL BE MADE UNDER THE ITEM NUMBERS, DESCRIPTIONS, AND UNITS NOTED IN THE TABLES SHOWN IN ACCORDANCE WITH THE BASIS OF PAYMENT FOR EACH RESPECTIVE WORK ITEM COMPLETED AND ACCEPTED BY THE ENGINEER.

Table with columns: DATE, REVISION, BY. A grid for tracking changes.

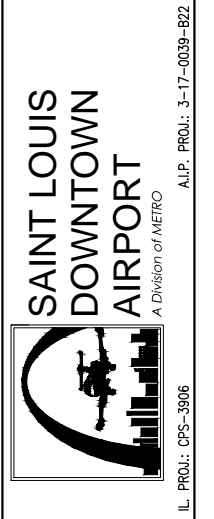


Table with columns: Project No., Filename, Scale, Date, LAYOUT, DRAWN, REVIEWED, KNL, MW, RAW, 05/11/07, 05/11/07, 04/01/10.

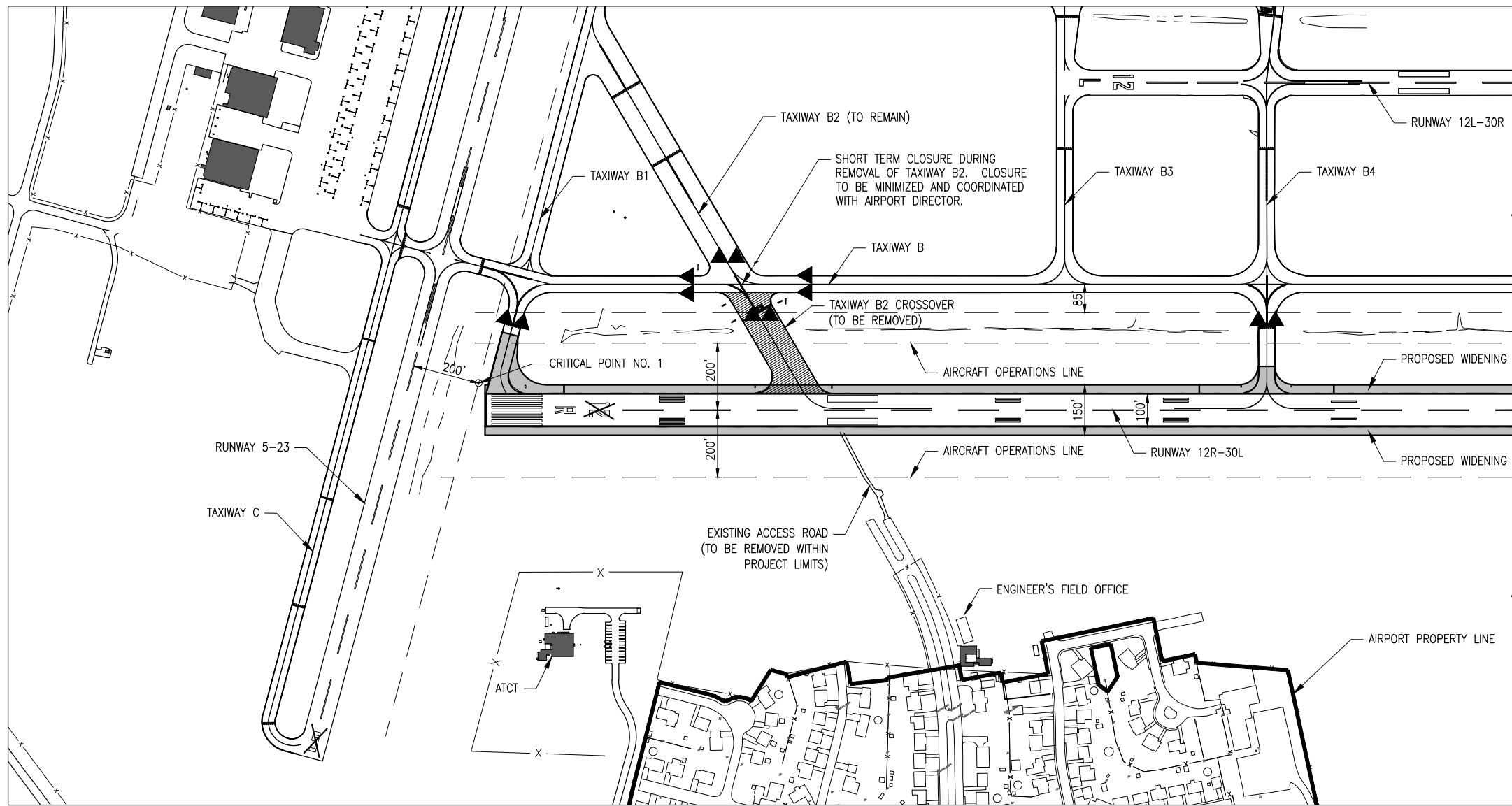


WIDEN RUNWAY 12R/30L SUMMARY OF QUANTITIES

JUN 01, 2010 8:26 AM GSTER00605 I:\AIRPORTS\ST. LOUIS DOWNTOWN\0840211D\CADD\AIRPORT\SHEET R--002FLP.DWG

IL PROJ.: CPS-3906 A.I.P. PROJ.: 3--17-0039-B22

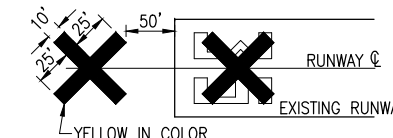
JUN 01, 2010 8:27 AM GSTER00605
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET R--003SFY.DWG



AIRPORT SECURITY NOTE

SD052

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR WILL CLOSE AND LOCK THE EXISTING GATE IN THE HAUL ROUTE AT THE END OF EACH WORKING DAY.



DETAIL OF CROSS FOR CLOSED RUNWAY

NOTE: "NOT TO SCALE"

COST OF CONSTRUCTING, PLACING, MAINTAINING AND REMOVING CROSSES WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THE CROSSES WILL BE YELLOW IN COLOR AND SHALL BE MADE OF A SUITABLE MATERIAL AS APPROVED BY THE AIRPORT MANAGER. THE CROSSES WILL BE PLACED OVER THE NUMERALS 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.

PROPOSED SAFETY PLAN

GENERAL - THE ST. LOUIS DOWNTOWN AIRPORT IS COMPRISED OF THREE RUNWAYS. THE PROPOSED CONSTRUCTION WILL NECESSITATE CLOSING RUNWAYS 12R-30L AND 5-23. CLOSURE OF RUNWAY 5-23 WILL ONLY BE PERIODIC DUE TO PROXIMITY OF SPECIFIC WORK ITEMS. ALSO TAXIWAYS B1, B2, B4, B5, B6, AND B7 WILL BE CLOSED. WHEN CONSTRUCTION ACTIVITIES ARE WITHIN 200' OF A RUNWAY CENTERLINE OR 85' OF A TAXIWAY CENTERLINE, THAT RUNWAY OR TAXIWAY MUST BE CLOSED. CLOSURE OF A RUNWAY IS BY ISSUANCE OF A NOTAM AND PLACEMENT OF CROSSES OR LIGHTED RUNWAY CLOSURE MARKERS (LIGHTED MARKERS PROVIDED BY THE AIRPORT FOR USE BY THE CONTRACTOR) OVER THE NUMERALS. A TAXIWAY IS CLOSED BY THE PLACEMENT OF BARRICADES AND/OR TRAFFIC CONES ACROSS THE TAXIWAY TO DISALLOW USE OF THE TAXIWAY BY AIRCRAFT. UNLESS OTHERWISE NOTED, AT THE END OF THE PROJECT THE CONTRACTOR WILL SMOOTH GRADE ALL AREAS WITHIN THE RESPECTIVE SAFETY AREAS TO THE SATISFACTION OF THE RESIDENT ENGINEER AND RE-OPEN THE RUNWAY/TAXIWAYS. ALL WORK INCLUDED IN OPENING AND CLOSING THE RUNWAY/TAXIWAY WILL BE CONSIDERED PART OF ITEM AR150530 - TRAFFIC MAINTENANCE 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 CONTRACTOR WILL ALSO PROVIDE WORKERS WITH SOME TYPE OF TAG OR GARMENT TO IDENTIFY THE PERSON AS BEING PART OF THE CONSTRUCTION CREW.

RADIO CONTROL - THE CONTRACTOR WILL BE REQUIRED TO BE IN TWO-WAY RADIO CONTACT (121.80 Mhz.) WITH THE AIRPORT GROUND CONTROL. THIS WILL KEEP THE CONTRACTOR IN CONSTANT CONTACT WITH THE ST. LOUIS DOWNTOWN 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.

EROSION CONTROL

THIS PROJECT WILL DISTURB MORE THAN 1 ACRE OF LAND, THEREFORE AN N.P.D.E.S. PERMIT WILL BE REQUIRED. AN EROSION CONTROL PLAN IS INCLUDED ON SHEETS 10-15.

HEIGHT OF CONSTRUCTION EQUIPMENT

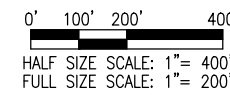
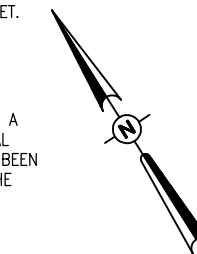
THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT WILL BE 25 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A SEMI TRUCK WITH THE BED RAISED.

MATERIAL CERTIFICATION

COMPLETED WORK CANNOT BE PLACED ON A CONSTRUCTION REPORT UNTIL ALL MATERIAL CERTIFICATIONS FOR THAT PAY ITEM HAVE BEEN RECEIVED, REVIEWED AND ACCEPTED BY THE RESIDENT ENGINEER.

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.



SCOPE OF WORK

THE SCOPE OF WORK SHALL CONSIST OF WIDENING RUNWAY 12R/30L FROM 100' TO 150' AND THE REMOVAL OF TAXIWAY B2, INCLUDING PAVEMENT REMOVAL, GRADING, PAVING, LIGHTING, AND MARKING. ASSOCIATED WORK INCLUDES THE INSTALLATION OF NAVIGATIONAL AIDS (PAPI), RELOCATION OF EXISTING AIRPORT HOMERUN CABLES, RECONSTRUCTION OF THE MALSR THRESHOLD LIGHTS, AND IMPROVEMENT TO THE ELECTRICAL VAULT.

HAUL ROUTE AND VEHICLE PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND PARKING AREA AS SHOWN ON SHEET 5. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE AND PARKING AREA 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 ROUTE AND PARKING AREA AS NEEDED TO RESTORE IT TO ITS' ORIGINAL STATE. RESTORATION OF THE HAUL ROUTE AND PARKING AREA WILL BE PAID FOR UNDER ITEM AR150540, HAUL ROUTE, PER LUMP SUM.

LEGEND

- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- EXISTING BUILDINGS
- PROPOSED HAUL ROUTE AND EQUIPMENT PARKING AREA
- PROPOSED BARRICADE

BARRICADES AND TRAFFIC CONES

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS DIRECTED BY THE AIRPORT DIRECTOR. 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 PAID FOR WITHIN ITEM AR150530, TRAFFIC MAINTENANCE, PER LUMP SUM.

CONTRACTOR RESPONSIBILITIES

THE CONTRACTOR'S EQUIPMENT PARKING AND STORAGE AREA WILL BE AS SHOWN ON SHEET 5. 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 AND ALL OTHER AREAS OF THE AIRPORT ARE "OFF LIMITS" TO THEM.

THE CONTRACTOR SHALL KEEP ONE RUNWAY OPEN AT ALL TIMES AND MAINTAIN CONTINUOUS TAXIWAY ACCESS TO ALL HANGARS AND ADMINISTRATIVE AREAS.

ALL WORK PERFORMED SHALL BE DONE IN A ORDERLY AND EFFECTIVE MANNER TO MINIMIZE RUNWAY CLOSURE.

NO TRENCHES OR HOLES WILL REMAIN OPEN OVERNIGHT WITHOUT PROTECTIVE BARRIERS OR BARRICADES.

AIRCRAFT OPERATION LINE

THE CONTRACTOR WILL LOCATE THIS LINE AT THE START OF CONSTRUCTION AND PLACE A FRANGIBLE MARKER 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 MARKER LINE FOR RUNWAYS FOR THE DURATION OF THE PROJECT.

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. 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 ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.

UTILITY NOTE

THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND AGENCIES WHICH HAVE LINES OR CONDUITS IN THE PROPOSED WORK AREA. ALL LINES AND CONDUITS SHALL BE LOCATED AND IDENTIFIED FOR DEPTH BEFORE ANY EXCAVATION BEGINS. THE CONTRACTOR WILL CALL J.U.L.I.E. (1-800-892-0123) TO ACCOMPLISH THE ABOVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL UNDERGROUND NON-JULIE UTILITIES LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UNDERGROUND IMPROVEMENTS WILL BE LOCATED AT THE CONTRACTOR'S OWN EXPENSE PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

J.U.L.I.E. INFORMATION

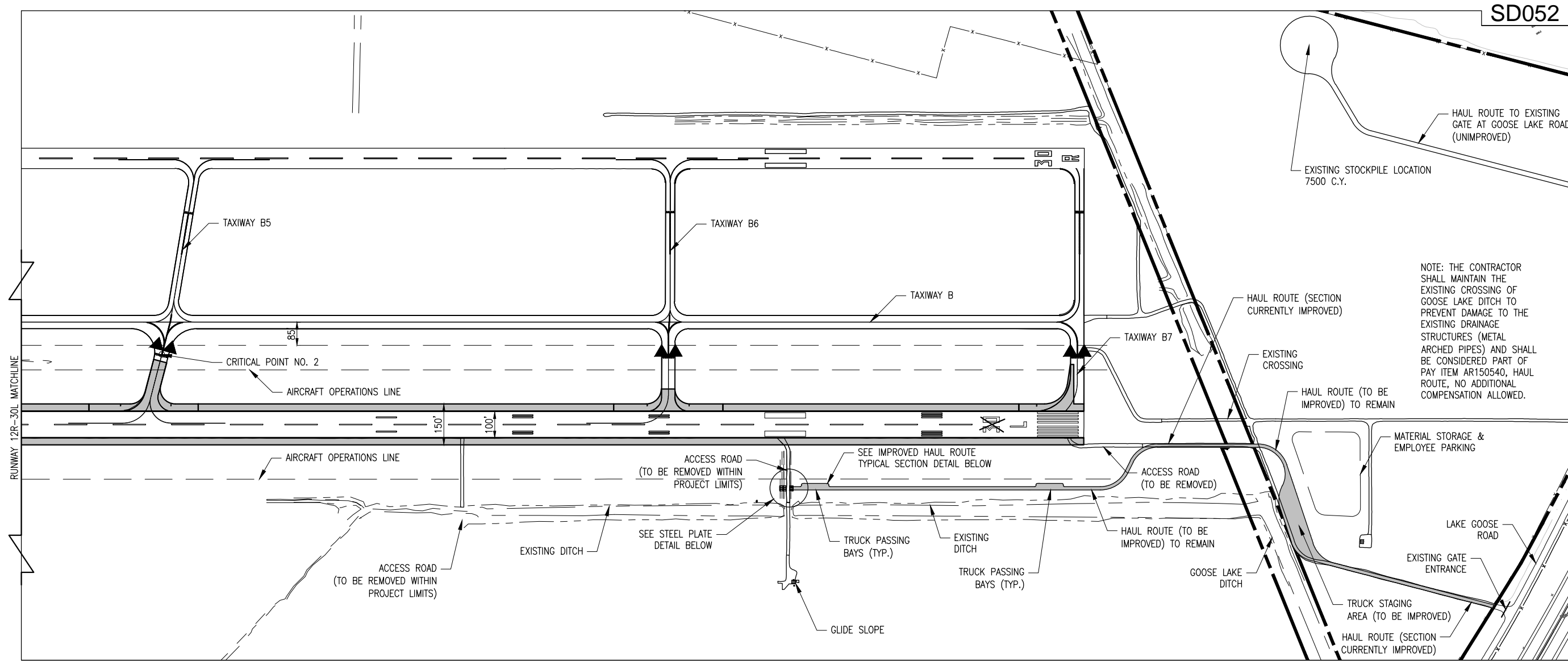
COUNTY: ST. CLAIR
 CITY: CAHOKIA
 TOWNSHIP: CENTERVILLE
 SECTION NO.: T.1N. - R.10W.
 ADDRESS: ST. LOUIS DOWNTOWN AIRPORT
 1690 SAUGET INDUSTRIAL PARKWAY
 SAUGET, ILLINOIS 62206-1449

CRITICAL POINT DATA

NO. 1 - SHOWN THIS SHEET
 LATITUDE: 38° 34' 27.17"
 LONGITUDE: 90° 09' 53.89"
 ELEVATION: 411.25' M.S.L.
 NO. 2 - SHOWN SHEET 5
 LATITUDE: 38° 34' 09.47"
 LONGITUDE: 90° 09' 13.94"
 ELEVATION: 411.25' M.S.L.

BY	
REVISION	
DATE	
SAINT LOUIS DOWNTOWN AIRPORT <small>A Division of METRO</small>	
Project No. 08A0211D Filename R-003SFY.DWG Scale Date 04/16/2010	LAYOUT RAW 04/23/09 DRAWN BAK 04/23/09 REVIEWED CAH 04/01/10
<small>Hanson Professional Services Inc. 4227 Earth City Expressway, Suite 130 St. Louis, MO. 63046-1308 Offices Nationwide</small>	
WIDEN RUNWAY 12R/30L	PROPOSED SAFETY PLAN SHEET 1
4 <small>4 of 186 sheets</small>	

SD052



NOTE: THE CONTRACTOR SHALL MAINTAIN THE EXISTING CROSSING OF GOOSE LAKE DITCH TO PREVENT DAMAGE TO THE EXISTING DRAINAGE STRUCTURES (METAL ARCHED PIPES) AND SHALL BE CONSIDERED PART OF PAY ITEM AR150540, HAUL ROUTE, NO ADDITIONAL COMPENSATION ALLOWED.

HAUL ROUTE AND VEHICLE PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND PARKING AREA AS SHOWN THIS SHEET. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE AND PARKING AREA 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 ROUTE AND PARKING AREA AS NEEDED TO RESTORE IT TO ITS' ORIGINAL STATE. RESTORATION OF THE HAUL ROUTE AND PARKING AREA WILL BE PAID FOR UNDER ITEM AR150540, HAUL ROUTE, PER LUMP SUM.

SITE ENTRANCE SIGNAGE AND CLEANUP, PERMITS

THE CONTRACTOR SHALL KEEP THE FRONTAGE ROAD (GOOSE LAKE ROAD) FREE FROM DEBRIS AND MATERIAL RESULTING FROM HAULING AND CONSTRUCTION OPERATIONS, TO THE SATISFACTION OF THE RESIDENT ENGINEER AND/OR THE DESIGNATED AIRPORT REPRESENTATIVE. THE COST OF THE CLEANUP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. ANY AND ALL SIGNAGE REQUIRED TO ACQUIRE PERMITS TO UTILIZE THE ROAD, IF APPLICABLE, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL PERMITS TO UTILIZE ANY PUBLIC ROAD ON THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND NO ADDITIONAL COMPENSATION ALLOWED.

UTILITY NOTE

THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND AGENCIES WHICH HAVE LINES OR CONDUITS IN THE PROPOSED WORK AREA. ALL LINES AND CONDUITS SHALL BE LOCATED AND IDENTIFIED FOR DEPTH BEFORE ANY EXCAVATION BEGINS. THE CONTRACTOR WILL CALL J.U.L.I.E. (1-800-892-0123) TO ACCOMPLISH THE ABOVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL UNDERGROUND NON-JULIE UTILITIES LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UNDERGROUND IMPROVEMENTS WILL BE LOCATED AT THE CONTRACTOR'S OWN EXPENSE PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. 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 ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

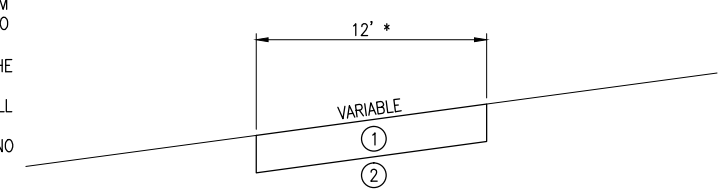
CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.

J.U.L.I.E. INFORMATION

COUNTY: ST. CLAIR
 CITY: CAHOKIA
 TOWNSHIP: CENTERVILLE
 SECTION NO.: T.1N. - R.10W.
 ADDRESS: ST. LOUIS DOWNTOWN AIRPORT
 1690 SAUGET INDUSTRIAL PARKWAY
 SAUGET, ILLINOIS 62206-1449

LEGEND

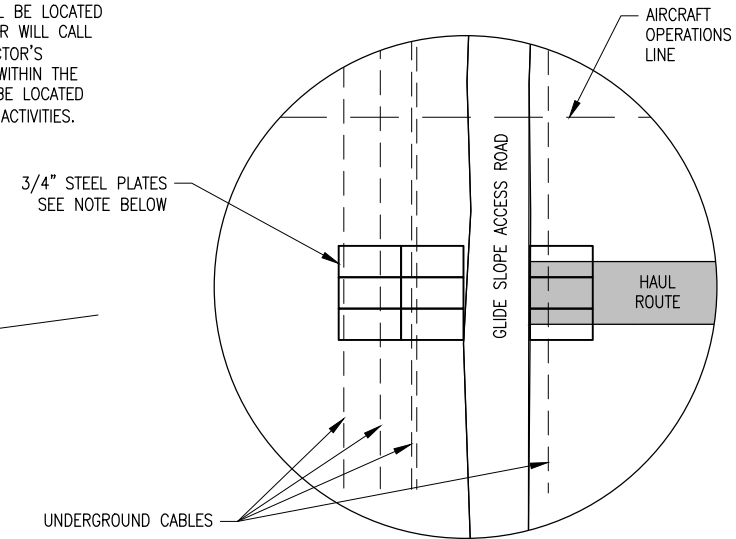
- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- EXISTING BUILDINGS
- PROPOSED HAUL ROUTE AND EQUIPMENT PARKING AREA
- PROPOSED BARRICADE



- ① OVERSIZE AGGREGATE (6")
- ② PROPOSED SUBGRADE

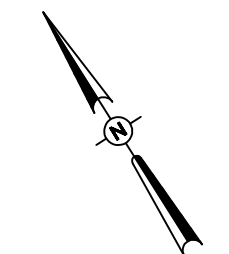
* BAYS AND STAGING AREA AS NEEDED

HAUL ROUTE IMPROVEMENT TYPICAL SECTION



STEEL PLATE DETAIL

NOTE: 3/4" STEEL PLATES PLACED TO PROTECT EXISTING AND PROPOSED CABLING. THIS WORK WILL BE INCIDENTAL TO PAY ITEM AR150540, HAUL ROUTE, PER LUMP SUM.



0' 100' 200' 400'
 HALF SIZE SCALE: 1"= 400'
 FULL SIZE SCALE: 1"= 200'

DATE	REVISION	BY

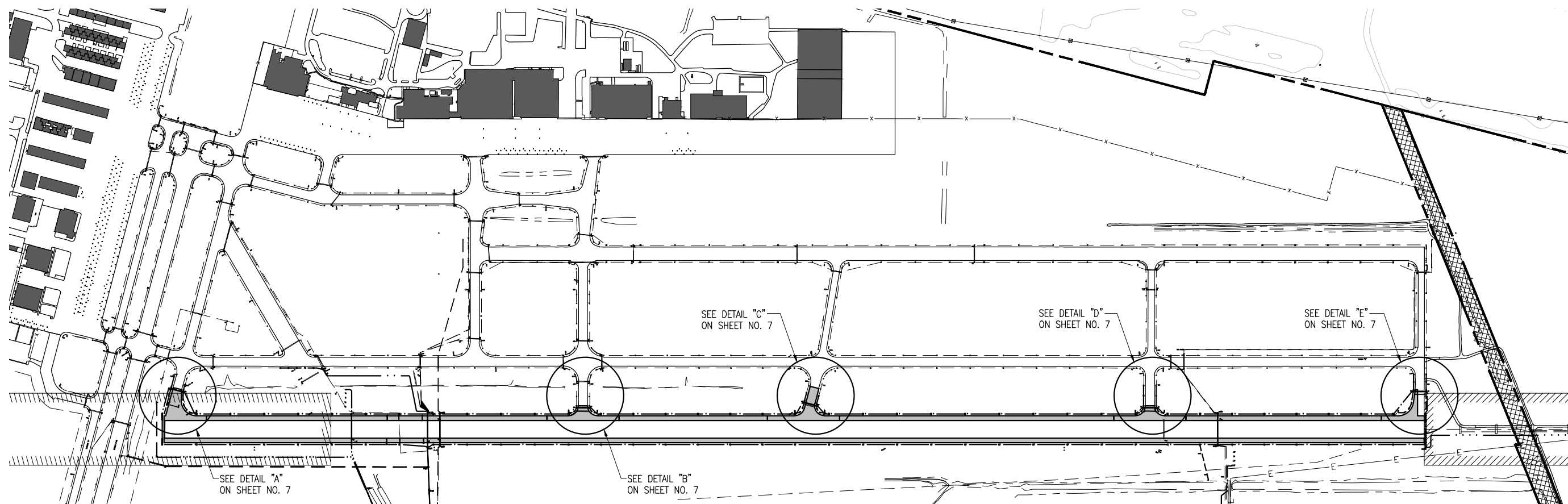
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO
 I.L. PROJ.: 3-17-0039-B22

Project No.	File Name	Scale	Date	LAYOUT	RAW	BAK	CAH
08A0211D	R-0035F.DWG	SCALE	04/16/2010		04/23/09	04/23/09	04/01/10
				DRAWN			
				REVIEWED			

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED SAFETY PLAN SHEET 2

JUN 01, 2010 8:28 AM GSTER00605
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET R-0035F.DWG



SEQUENCING NOTES

THE CONTRACTOR WILL PROVIDE A TWO WEEK ADVANCE NOTICE ON CLOSING RUNWAY 12R-30L. THIS WILL ALLOW TIME FOR THE AIRPORT DIRECTOR TO NOTIFY TENANTS WHO USE THIS RUNWAY.

THE AIRPORT DIRECTOR WILL ISSUE ALL NOTICE TO AIRMEN (NOTAM) CONCERNING RUNWAY/TAXIWAY CLOSURES.

THE FEDERAL AVIATION ADMINISTRATION (FAA) WILL BE RESPONSIBLE FOR THE DEACTIVATION /ACTIVATION OF ALL FAA OWNED AND OPERATED NAVAIDS THAT ARE ASSOCIATED WITH RUNWAY 12R-30L.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE DEACTIVATION/ACTIVATION OF ALL AIRPORT OWNED/OPERATED LIGHTING SYSTEMS THAT WILL BE AFFECTED BY THIS PROJECT.

ALL REQUIRED ELECTRICAL EQUIPMENT NEEDED TO COMPLETE THE PROJECT SHALL BE PROCURED AND IN THE ELECTRICAL CONTRACTORS' WAREHOUSE PRIOR TO STARTING THE PROJECT.

THE CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES WITH THE AIRPORT DIRECTOR AND THE RESIDENT ENGINEER. ANY SHUTDOWN OF EXISTING SYSTEMS SHALL BE SCHEDULED WITH AND APPROVED BY THE AIRPORT DIRECTOR PRIOR TO SHUTDOWN. 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 AND HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY AND 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).

ON THE FIRST DAY RUNWAY 12R-30L IS CLOSED:

1. THE AIRPORT DIRECTOR WILL ISSUE A NOTAM CLOSING THE RUNWAY.
2. THE FAA WILL DEACTIVATE THEIR NAVAIDS.
3. THE CONTRACTOR WILL PLACE CROSSES ON RUNWAY 12R-30L IN ACCORDANCE WITH THE PROPOSED SAFETY PLAN.
4. THE AFFECTED AIRPORT LIGHTING CIRCUITS WILL BE DEACTIVATED BY THE ELECTRICAL CONTRACTOR.
5. THE ELECTRICAL CONTRACTOR WILL TEMPORARILY DEACTIVATE THE POWER TO TAXIWAYS B, B1, B2, B4, B5, B6 AND B7 IN ORDER TO INSTALL DESIGNATED JUMPER CABLES ACROSS THESE TAXIWAYS.

6. THE DESIGNATED JUMPERS WILL CONSIST OF 1/C, #8, 5KV FAA L-824 UG CABLE IN UNIT DUCT OR CONDUIT.
7. ALL TAXIWAY LIGHTS DESIGNATED TO BE "BLACKED OUT" WILL BE COVERED SO NO LIGHT WILL BE EMITTED WHEN THE CIRCUIT IS ACTIVATED. METHOD OF BLACKING OUT THESE LIGHTS WILL BE APPROVED BY THE RESIDENT ENGINEER. ALL SIGNS CONTAINING CHARACTERS PERTAINING TO AFFECTED PAVEMENTS SHALL ALSO BE BLOCKED. THE METHOD OF "BLOCKING" SHALL BE APPROVED BY THE RESIDENT ENGINEER.
8. LOW PROFILE BARRICADES WILL BE PLACED OVER THE JUMPER CABLES WHERE THEY CROSS EXISTING PAVEMENT. THE BARRICADES WILL BE PLACED 3' APART.
9. UPON COMPLETING THE DESIGNATED JUMPERS THE ELECTRICAL CONTRACTOR WILL BEGIN REMOVING THE EXISTING RUNWAY 12R-30L EDGE LIGHTS STARTING ALONG THE RIGHT SIDE OF THE RUNWAY AT RUNWAY END 30L.
10. THE CONTRACTOR WILL BEGIN CONSTRUCTION ON THE PROPOSED HAUL ROUTE, EQUIPMENT PARKING AND MATERIAL STORAGE AREAS.
11. AT THE END OF THE THIS CONSTRUCTION DAY (AND EACH PROCEEDING CONSTRUCTION DAY) ALL LIGHTING CIRCUITS THAT HAVE NOT BEEN DEACTIVATED FOR THIS CONSTRUCTION PROJECT MUST BE OPERATING.

DURING THE FIRST WEEK:

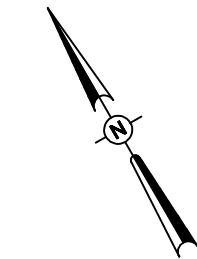
1. COMPLETE THE HAUL ROUTE, EQUIPMENT PARKING AND MATERIAL STORAGE AREAS.
2. THE ELECTRICAL CONTRACTOR WILL CONTINUE REMOVING THE REMAINING RUNWAY AND TAXIWAY LIGHTS WHILE CONCENTRATING HIS MAIN EFFORTS TO:
 - A. BORE THE ELECTRICAL CONDUITS UNDER RUNWAY 12R-30L.
 - B. INSTALL ELECTRICAL HANDHOLES AND MANHOLES ON THE INSTALLED ELECTRICAL CONDUITS.
 - C. INTERCEPT AND INSTALL THE HOMERUN CABLES FOR RUNWAY 5-23 AND TAXIWAY C.
 - D. INTERCEPT THE REMAINING HOMERUN CABLES AND DIRECT THEM THROUGH THE NEWLY INSTALLED ELECTRICAL CONDUITS UNDER RUNWAY 12R-30L.
3. THE UNCLASSIFIED EXCAVATION CONTRACTOR WILL START HIS EXCAVATION OPERATION ALONG THE SOUTH SIDE OF RUNWAY 12R-30L. HE WILL NOT BE ALLOWED TO REMOVE EARTH FROM STATION 100+00 TO STATION 116+00 OR STATION 157+00 TO STATION 160+00 UNTIL THE ELECTRICAL CONTRACTOR HAS COMPLETED HIS WORK WITHIN THESE AREAS.
4. CONCURRENT OPERATIONS:
 - A. DESIGNATED STORMWATER POLLUTION PREVENTION METHOD INSTALLED.
 - B. THE ELECTRICAL CONTRACTOR MAY CONTINUE TO DIRECTIONAL BORE CONDUITS AFTER HE HAS COMPLETED THE BORES UNDER RUNWAY 12R-30L.
 - C. PAVEMENT AREAS DESIGNATED FOR REMOVAL CAN BE SAWED AND REMOVED.

FOLLOWING WEEKS:

THE CONTRACTOR WILL CONTINUE HIS UNCLASSIFIED EXCAVATION OPERATION ON THE SOUTH SIDE UNTIL IT IS COMPLETED. HE WILL THEN MOVE TO THE NORTH SIDE AND BEGIN THERE. HE WILL FOLLOW THE UNCLASSIFIED EXCAVATION WITH THE INSTALLATION OF THE SOIL STABILIZATION FABRIC, OVERSIZE AGGREGATE, CRUSHED AGGREGATE BASE COURSE, BITUMINOUS PRIME COAT, BITUMINOUS BASE COURSE, BITUMINOUS SURFACE COURSE, EDGE DRAINS, AND HIGH INTENSITY LIGHTING SYSTEM. AS HE COMPLETES AN OPERATION ON THE SOUTH SIDE OF THE RUNWAY HE WILL MOVE THAT OPERATION ON TO THE NORTH SIDE AND CONTINUE THAT OPERATION ON THAT SIDE. ONCE ONE OPERATION IS COMPLETED ON THE SOUTH SIDE THE NEXT OPERATION WILL IMMEDIATELY BEGIN.

WHEN THE RUNWAY PAVEMENT WIDENING AND THE WORK ON THE CROSS-OVER TAXIWAYS HAS BEEN COMPLETED THE CONTRACTOR WILL SMOOTH GRADE, SEED AND MULCH THE EARTH SHOULDERS AND OTHER EARTH AREAS THAT HAVE BEEN DISTURBED. REMOVE THE EXISTING MARKING THAT IS DESIGNATED TO BE REMOVED AND THEN PAINT THE RUNWAY AND TAXIWAYS.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE MULTIPLE CREWS THROUGHOUT THIS PROJECT IN ORDER TO INSURE THAT ALL HIS WORK IS ACCOMPLISHED IN A TIMELY MANNER AND SHALL NOT IMPEDE ANOTHER OPERATION.



0' 150' 300' 600'
 HALF SIZE SCALE: 1" = 600'
 FULL SIZE SCALE: 1" = 300'

TEMPORARY LIGHTING NOTES

1. IN ORDER TO MAINTAIN THE TAXIWAY LIGHTING CIRCUITS FOR THE DURATION OF THIS PROJECT, THE CONTRACTOR WILL BE REQUIRED TO INSTALL TEMPORARY JUMPER CABLES AS SHOWN ON THIS SHEET AND DETAILED ON SHEET NO. 7.
2. THE CONTRACTOR SHALL SECURE, IDENTIFY AND PLACE ALL TEMPORARY EXPOSED WIRING IN CONDUIT TO PREVENT ELECTROCUTION AND FIRE IGNITION SOURCES AS PER THE REQUIREMENTS OF FAA AC 150/5370-2E, PART 3-6, C.
3. THE CONTRACTOR WILL INSTALL NEW NO. 8, 5 KV, L-824 1/C CABLE IN UNIT DUCT BETWEEN THE EXISTING TAXIWAY LIGHTS AS DETAILED ON SHEET NO. 7. THE CABLE MUST BE FAA APPROVED AND IN COMPLIANCE WITH THE BUY AMERICAN ACT.
4. ONCE THE CONTRACTOR HAS INSTALLED THE PROPOSED TAXIWAY LIGHTS AND CABLING AS SHOWN ON THE PROPOSED LIGHTING PLAN SHEETS AND THE TAXIWAYS ARE READY TO BE OPENED TO AIRCRAFT, THE TEMPORARY JUMPER CABLES WILL NO LONGER BE NEEDED.
5. CONTRACTOR SHALL PROVIDE TEMPORARY JUMPER CABLES TO ACCOMMODATE NEW DUCT WORK AND EXISTING HOMERUN CABLES WHERE EXISTING CABLES HAVE A CONFLICT WITH THE RESPECTIVE DUCT WORK AND THE RESPECTIVE CIRCUIT NEEDS TO BE OPERATIONAL.
6. WHEN THE JUMPER CABLES ARE NO LONGER NEEDED THE CONTRACTOR WILL DISCONNECT THE JUMPER CABLES FROM THE EXISTING CABLES, ROLL UP THE JUMPER CABLES AND SECURELY TIE THEM IN THE ROLLED UP POSITION, AND TURN THEM OVER TO THE AIRPORT DIRECTOR.
7. ALL WORK, CABLES, SPLICES, COORDINATION, LABOR, EQUIPMENT, AND MATERIALS TO PROVIDE TEMPORARY LIGHTING WILL BE PAID FOR UNDER ITEM AR800405 INSTALL TEMPORARY LIGHTING PER LUMP SUM.

MAY 25, 2010 3:14 PM KINC000394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-143ELE.DWG

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

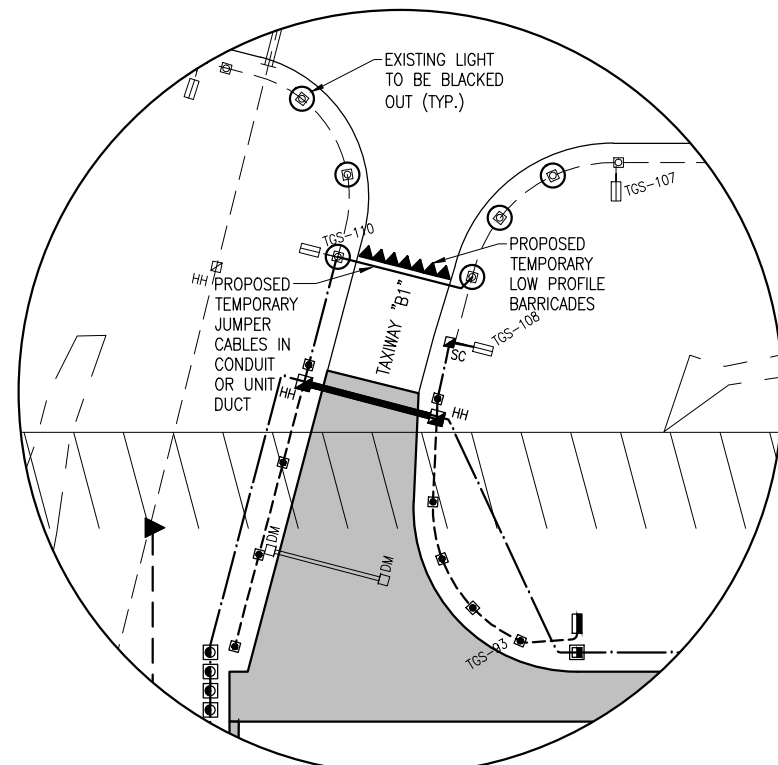
Hanson Project No. 08A0211D	File Name: R-143ELE.DWG	Date: 04/16/2010
Scale: 1" = 300'	LAYOUT: CAH	03/24/10
	DRAWN: CAH	03/24/10
	REVIEWED: KNL/RAW	03/30/10

HANSON

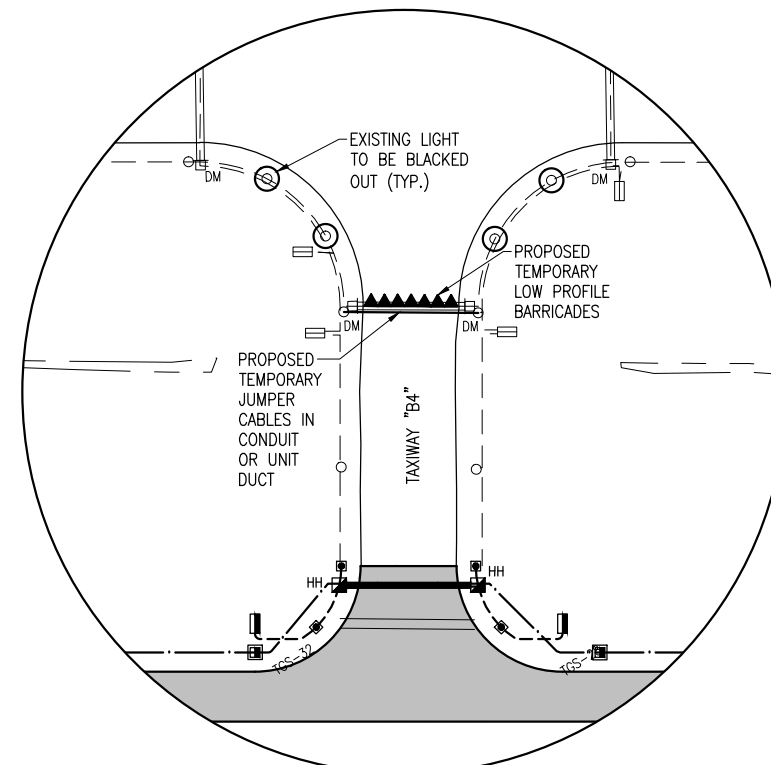
Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED SEQUENCING AND TEMPORARY LIGHTING PLAN



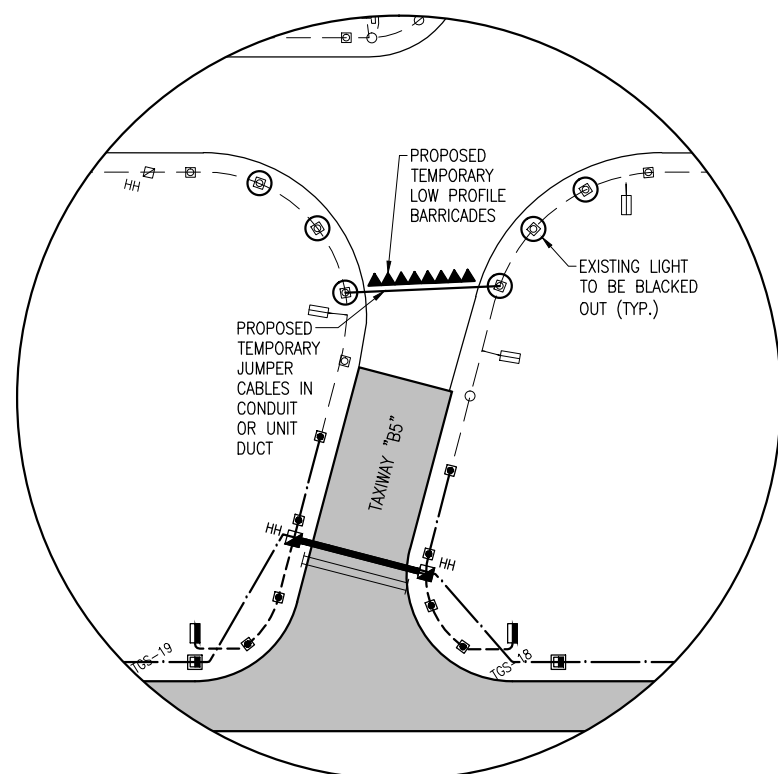
DETAIL "A"
SCALE 1"=50'



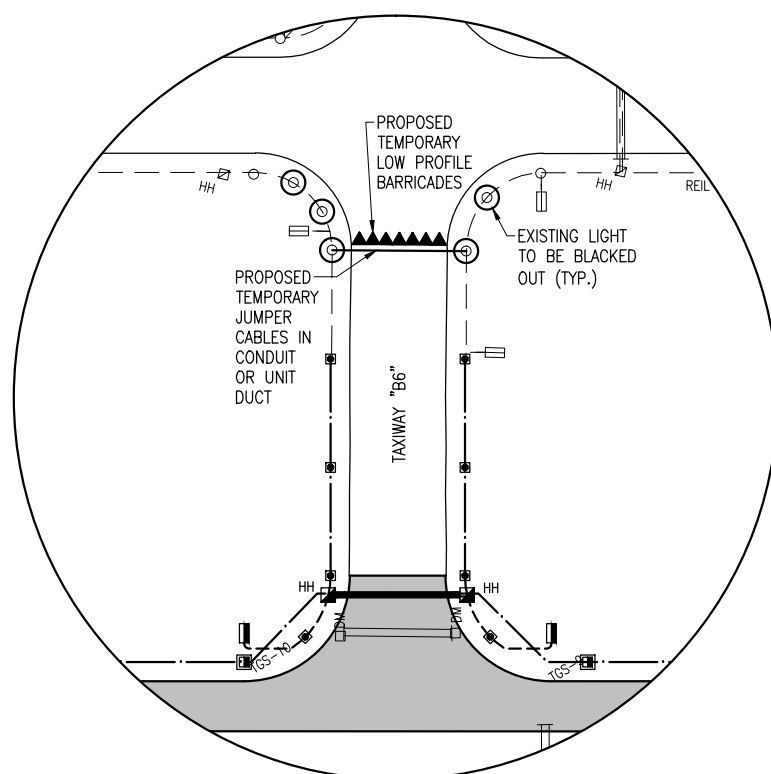
DETAIL "B"
SCALE 1"=50'

TEMPORARY LIGHTING NOTES
THE CONTRACTOR SHALL SECURE, IDENTIFY AND PLACE ALL TEMPORARY EXPOSED WIRING IN CONDUIT TO PREVENT ELECTROCUTION AND FIRE IGNITION SOURCES AS PER THE REQUIREMENTS OF FAA AC 150/5370-2E, PART 3-6, C.

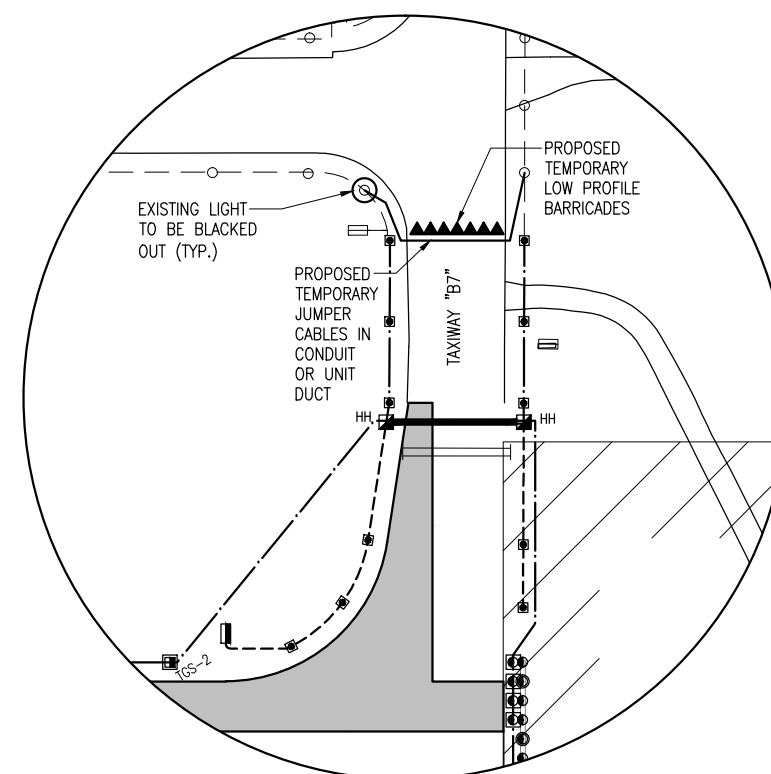
PROPOSED TEMPORARY LOW PROFILE BARRICADE NOTE
THE PROPOSED TEMPORARY LOW PROFILE BARRICADES WILL BE PLACED 3 FEET APART FROM EACH OTHER. THE BARRICADES WILL BE EQUIPPED WITH RED STEADY-BURN OR FLASHING LIGHTS AND 20" SQUARE ORANGE FLAGS. THE OVERALL HEIGHT OF THE BARRICADES WITH LIGHT MOUNTED ON TOP WILL ALLOW THE WING OF A LOW WING AIRCRAFT TO PASS OVER THEM.



DETAIL "C"
SCALE 1"=50'



DETAIL "D"
SCALE 1"=50'



DETAIL "E"
SCALE 1"=50'

MAY 25, 2010 3:16 PM KINC00394
I:\AIRPORTS\ST. LOUIS DOWNTOWN\0840211D\CADD\AIRPORT\SHEET R-143ELE.DWG

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

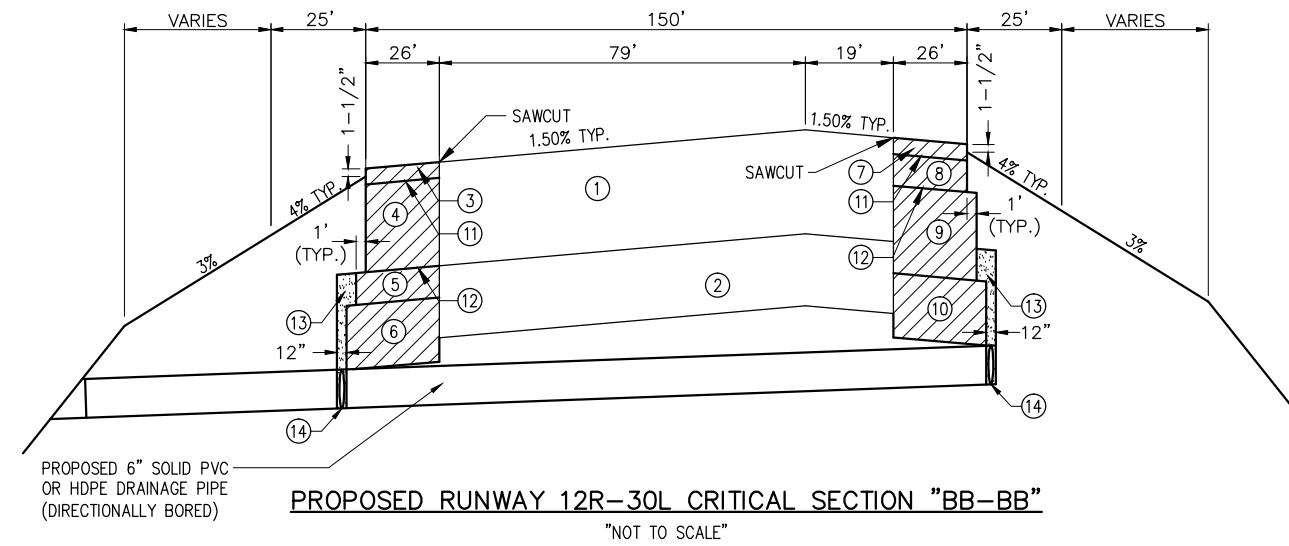
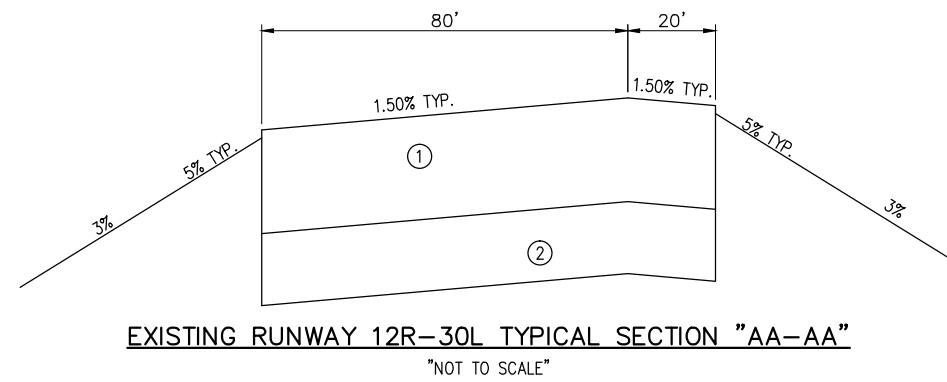
Hanson Project No.	0840211D
Filename	R-143ELE.DWG
Scale	NOT TO SCALE
Date	04/16/2010
LAYOUT	CAH 03/24/10
DRAWN	CAH 03/24/10
REVIEWED	KNL/RAW 03/30/10

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

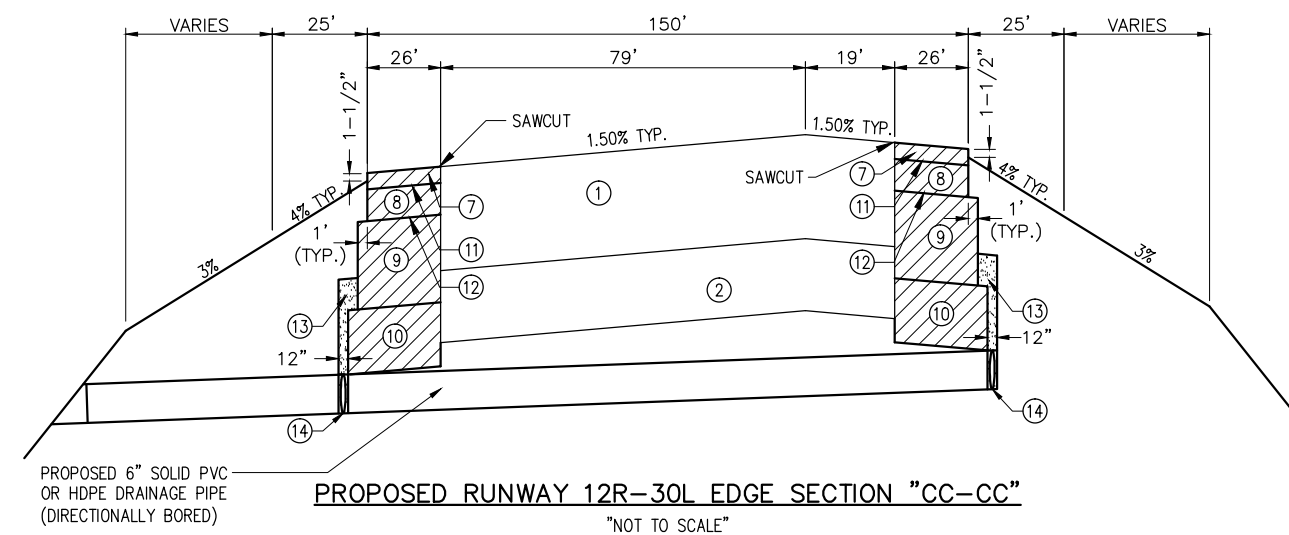
WIDEN RUNWAY 12R/30L

PROPOSED TEMPORARY LIGHTING DETAILS



LEGEND FOR EXISTING AND PROPOSED TYPICAL SECTIONS

- ① EXISTING 401/201 BITUMINOUS PAVEMENT (13" DEPTH)
- ② EXISTING 209 CRUSHED AGGREGATE BASE (9" DEPTH)
- ③ PROPOSED 401 BITUMINOUS SURFACE COURSE (2" DEPTH)
- ④ PROPOSED 403 BITUMINOUS BASE COURSE (11" DEPTH)
- ⑤ PROPOSED 209 CRUSHED AGGREGATE BASE COURSE (4" DEPTH)
- ⑥ PROPOSED 208 OVERSIZE AGGREGATE (CA-1) (8" DEPTH)
- ⑦ PROPOSED 401 BITUMINOUS SURFACE COURSE (2" DEPTH)
- ⑧ PROPOSED 403 BITUMINOUS BASE COURSE (4" DEPTH)
- ⑨ PROPOSED 209 CRUSHED AGGREGATE BASE COURSE (11" DEPTH)
- ⑩ PROPOSED 208 OVERSIZE AGGREGATE (CA-1) (8" DEPTH)
- ⑪ PROPOSED 603 BITUMINOUS TACK COAT (0.15 GAL./S.Y.)
- ⑫ PROPOSED 602 BITUMINOUS PRIME COAT (0.35 GAL./S.Y.)
- ⑬ PROPOSED POROUS BACKFILL
- ⑭ PROPOSED 705 - 6" PERFORATED UNDERDRAIN W/ SOCK



JUN 01, 2010 8:28 AM GSTER00605
I:\AIRPORTS\ST. LOUIS DOWNTOWN\0840211D\CADD\AIRPORT\SHEET\R-52.TYP.DWG

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

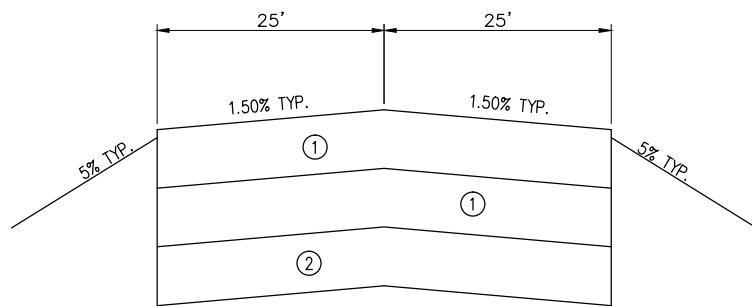
ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 0840211D	RAW	02/15/10
Filename: R-52.TYP.DWG	BAK	02/15/10
Scale: NOT TO SCALE	CAH	04/16/2010
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

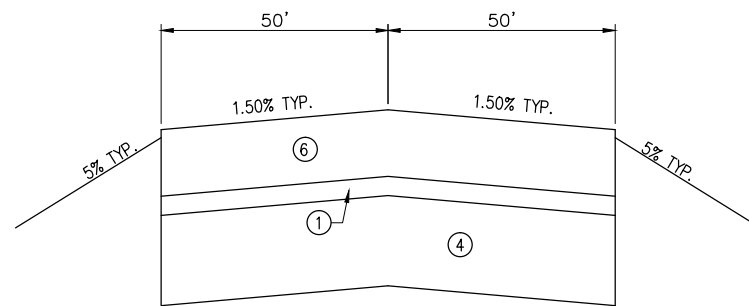
HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

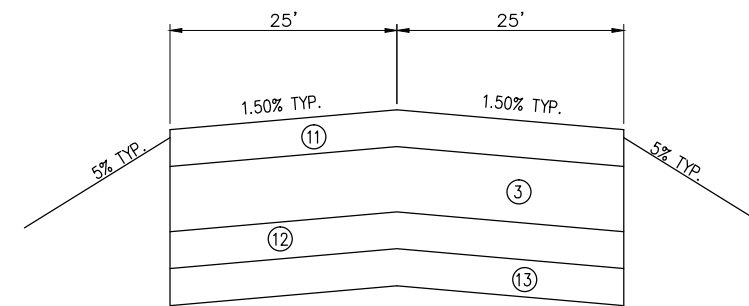
WIDEN RUNWAY 12R/30L
EXISTING AND PROPOSED RUNWAY TYPICAL SECTIONS



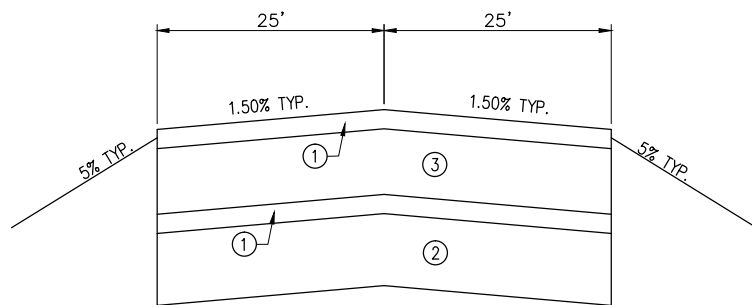
EXISTING TAXIWAY "B1" TYPICAL SECTION "A-A"
"NOT TO SCALE"



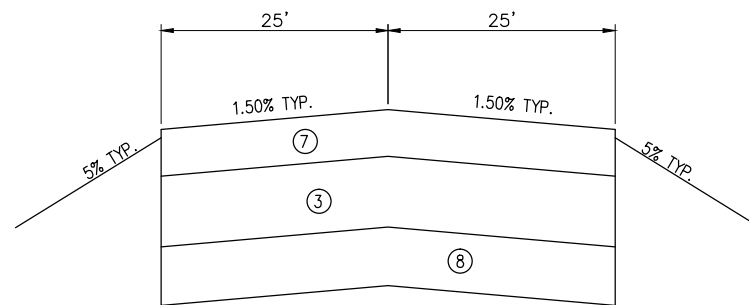
EXISTING TAXIWAY "B2" TYPICAL SECTION "E-E"
"NOT TO SCALE"



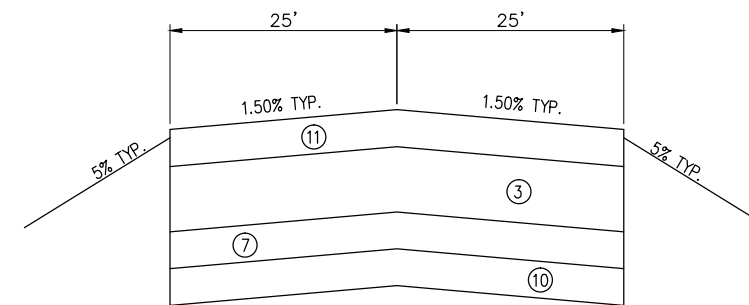
EXISTING TAXIWAY "B6" TYPICAL SECTION "I-I"
"NOT TO SCALE"



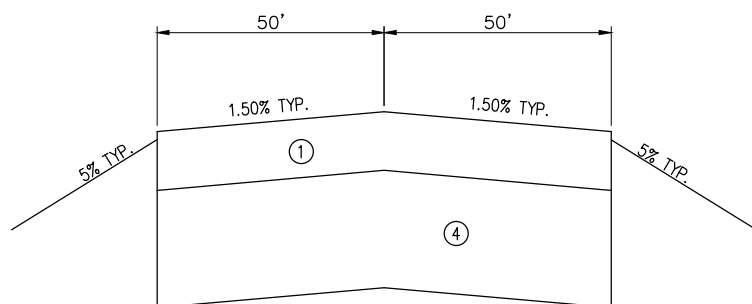
EXISTING TAXIWAY "B1" TYPICAL SECTION "B-B"
"NOT TO SCALE"



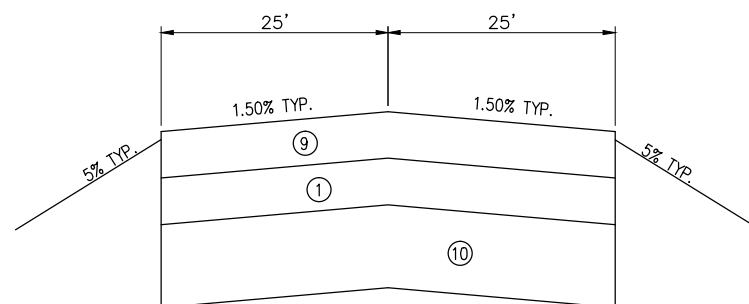
EXISTING TAXIWAY "B4" TYPICAL SECTION "F-F"
"NOT TO SCALE"



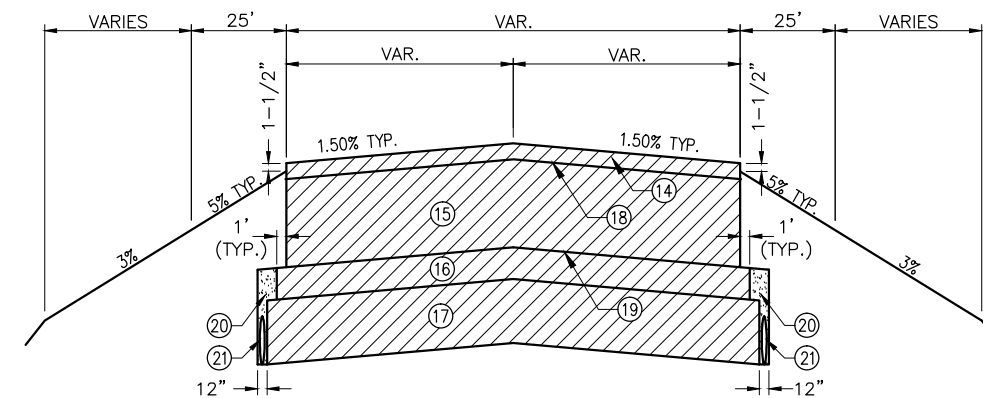
EXISTING TAXIWAY "B7" TYPICAL SECTION "J-J"
"NOT TO SCALE"



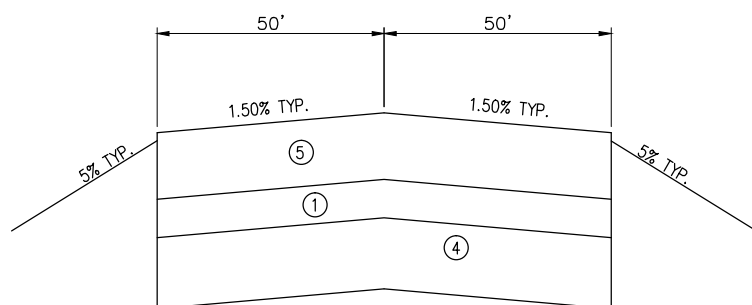
EXISTING TAXIWAY "B2" TYPICAL SECTION "C-C"
"NOT TO SCALE"



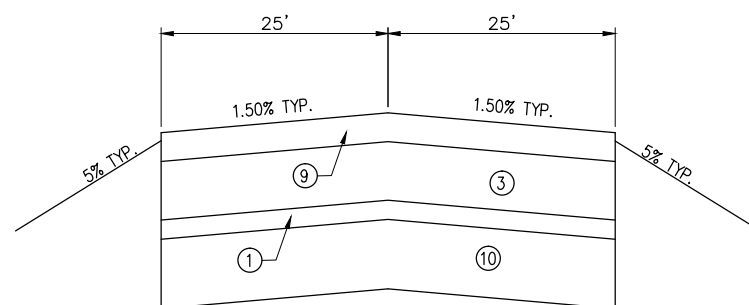
EXISTING TAXIWAY "B5" TYPICAL SECTION "G-G"
"NOT TO SCALE"



PROPOSED TYPICAL SECTION FOR TXY. "B1" AND "B5"
"NOT TO SCALE"



EXISTING TAXIWAY "B2" TYPICAL SECTION "D-D"
"NOT TO SCALE"



EXISTING TAXIWAY "B5" TYPICAL SECTION "H-H"
"NOT TO SCALE"

LEGENDS FOR EXISTING AND PROPOSED TYPICAL SECTIONS

- ① EXISTING 401 BITUMINOUS PAVEMENT (2" DEPTH)
- ② EXISTING 209 CRUSHED AGGREGATE BASE COURSE (8" DEPTH)
- ③ EXISTING 401, 201 BITUMINOUS PAVEMENT (8"-1" TAPER)
- ④ EXISTING 501 PCC PAVEMENT (6" DEPTH)
- ⑤ EXISTING 401, 201 BITUMINOUS PAVEMENT (4"-1" TAPER)
- ⑥ EXISTING 401, 201 BITUMINOUS PAVEMENT (8"-4" TAPER)
- ⑦ EXISTING 401, 201 BITUMINOUS PAVEMENT (4" DEPTH)
- ⑧ PROPOSED 401, 201 BITUMINOUS PAVEMENT (10" DEPTH)
- ⑨ EXISTING 401 BITUMINOUS PAVEMENT (3" DEPTH)
- ⑩ EXISTING 209 CRUSHED AGGREGATE BASE COURSE (9" DEPTH)
- ⑪ EXISTING 401, 201 BITUMINOUS PAVEMENT (5-1/2"-7" DEPTH)
- ⑫ EXISTING 401 BITUMINOUS PAVEMENT (4" DEPTH)
- ⑬ EXISTING 201 BITUMINOUS PAVEMENT (6" DEPTH)
- ⑭ PROPOSED 401 BITUMINOUS SURFACE COURSE (2" DEPTH)
- ⑮ PROPOSED 403 BITUMINOUS BASE COURSE (11" DEPTH)
- ⑯ PROPOSED 209 CRUSHED AGGREGATE BASE COURSE (4" DEPTH)
- ⑰ PROPOSED 208 OVERSIZED AGGREGATE (CA-1) (8" DEPTH)
- ⑱ PROPOSED 603 BITUMINOUS TACK COAT (0.15 GAL./S.Y.)
- ⑲ PROPOSED 602 BITUMINOUS PRIME COAT (0.35 GAL./S.Y.)
- ⑳ PROPOSED POROUS BACKFILL
- ㉑ PROPOSED 705 6" PERFORATED UNDERDRAIN W/SOCK

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

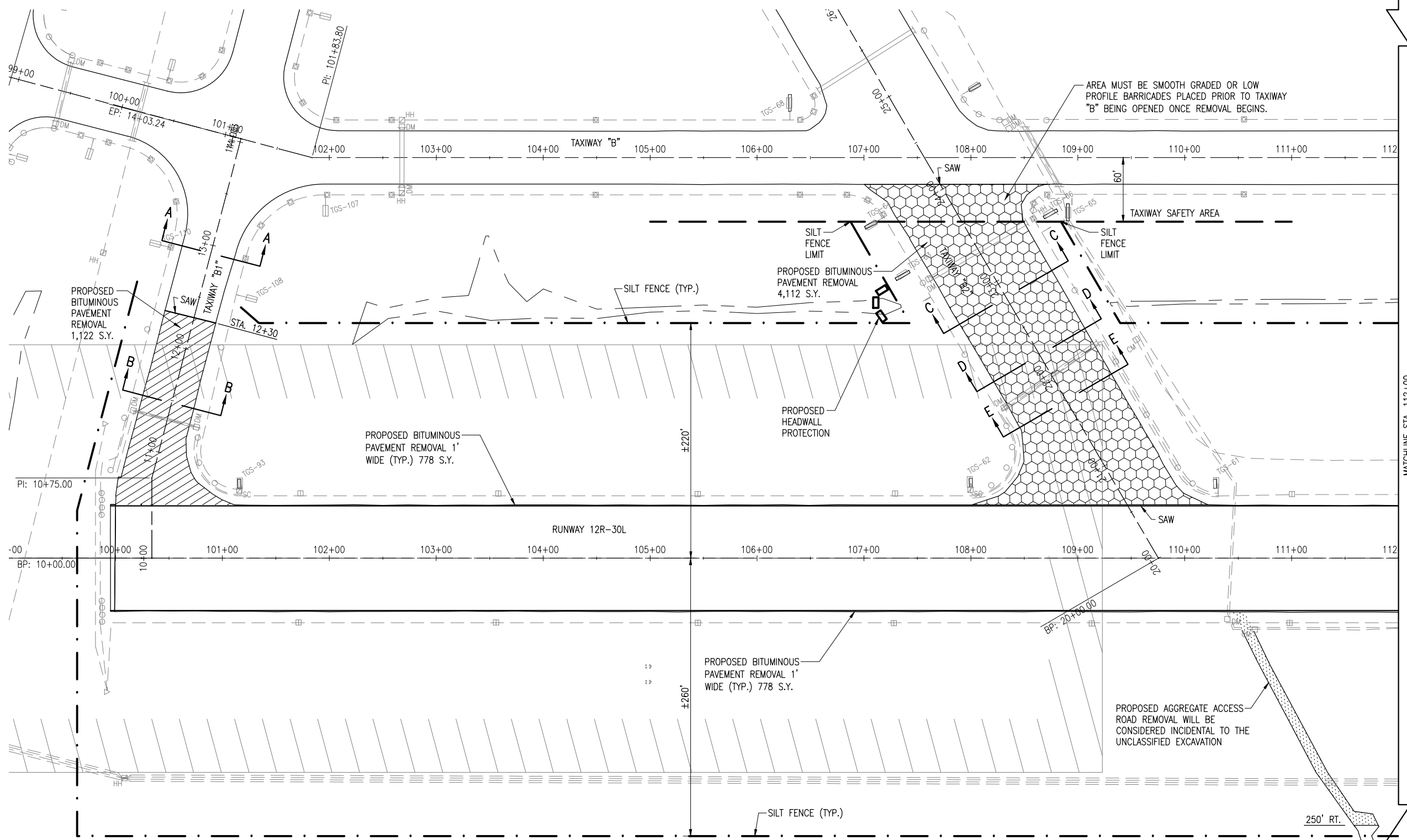
ALP PROJ: 3-17-0039-B22
L PROJ: CPS-3906

Hanson Project No. 08A0211D	RAW	02/15/10
Filename: R-522TYP.DWG	BAK	02/15/10
Scale: NOT TO SCALE	CAH	04/01/10
Date: 04/16/2010		

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
EXISTING AND PROPOSED TAXIWAY TYPICAL SECTIONS

JUN 01, 2010 8:28 AM GSTER00605
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-522TYP.DWG



PAVEMENT REMOVAL NOTES

THE PAVEMENT REMOVAL (TAXIWAY B2 ONLY - SEE NEXT SHEET FOR BITUMINOUS PAVEMENT REMOVAL NOTE) SHALL CONSIST OF REMOVING THE EXISTING BITUMINOUS AND THE UNDERLYING PCC PAVEMENT AT THE LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS. THE EXISTING BITUMINOUS SURFACE WILL BE REMOVED BY ROTO-MILLING AND THE MILLINGS PLACED ON THE HAUL ROUTE TO REMAIN AT THE PROJECTS CONCLUSION. THE UNDERLYING PCC MATERIAL, INCLUDING PCC AND REINFORCEMENT WILL BE DEMOLISHED OR RUBBLIZED AND DISPOSED OF OFF THE AIRPORT SITE BY THE CONTRACTOR AT HIS EXPENSE.

THE CONTRACTOR IS REQUIRED TO SAWCUT THE EXISTING PAVEMENT AT THE LOCATIONS WHERE THE PROPOSED REMOVAL ABUTS EXISTING PAVEMENT TO REMAIN, AS SHOWN.

THE PAVEMENT SAWING WILL BE CONSIDERED INCIDENTAL TO THE PAVEMENT REMOVAL AND NO ADDITIONAL COMPENSATION WILL BE MADE.

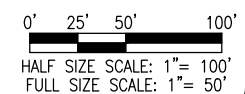
ANY ADJACENT PAVEMENT DAMAGED BY THE PAVEMENT REMOVAL OPERATIONS WILL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE.

THE QUANTITY OF BITUMINOUS REMOVAL TO BE PAID FOR SHALL BE THE NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED, AND DISPOSED OF IN ACCORDANCE WITH THE SPECIFICATIONS, CONSTRUCTION DRAWINGS, AND ACCEPTED BY THE RESIDENT ENGINEER. MEASUREMENT OF THE PAVEMENT REMOVAL SHALL BE TO THE NEAREST SQUARE YARD.

ALL PAVEMENT REMOVAL OF TAXIWAY B2 WILL BE PAID FOR UNDER ITEM NO: AR800500 - REMOVE PAVEMENT, PER S.Y.

LEGEND

- EXISTING PAVEMENT
- PROPOSED BITUMINOUS PAVEMENT REMOVAL
- PROPOSED AGGREGATE ACCESS ROAD REMOVAL
- PROPOSED PAVEMENT REMOVAL



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO



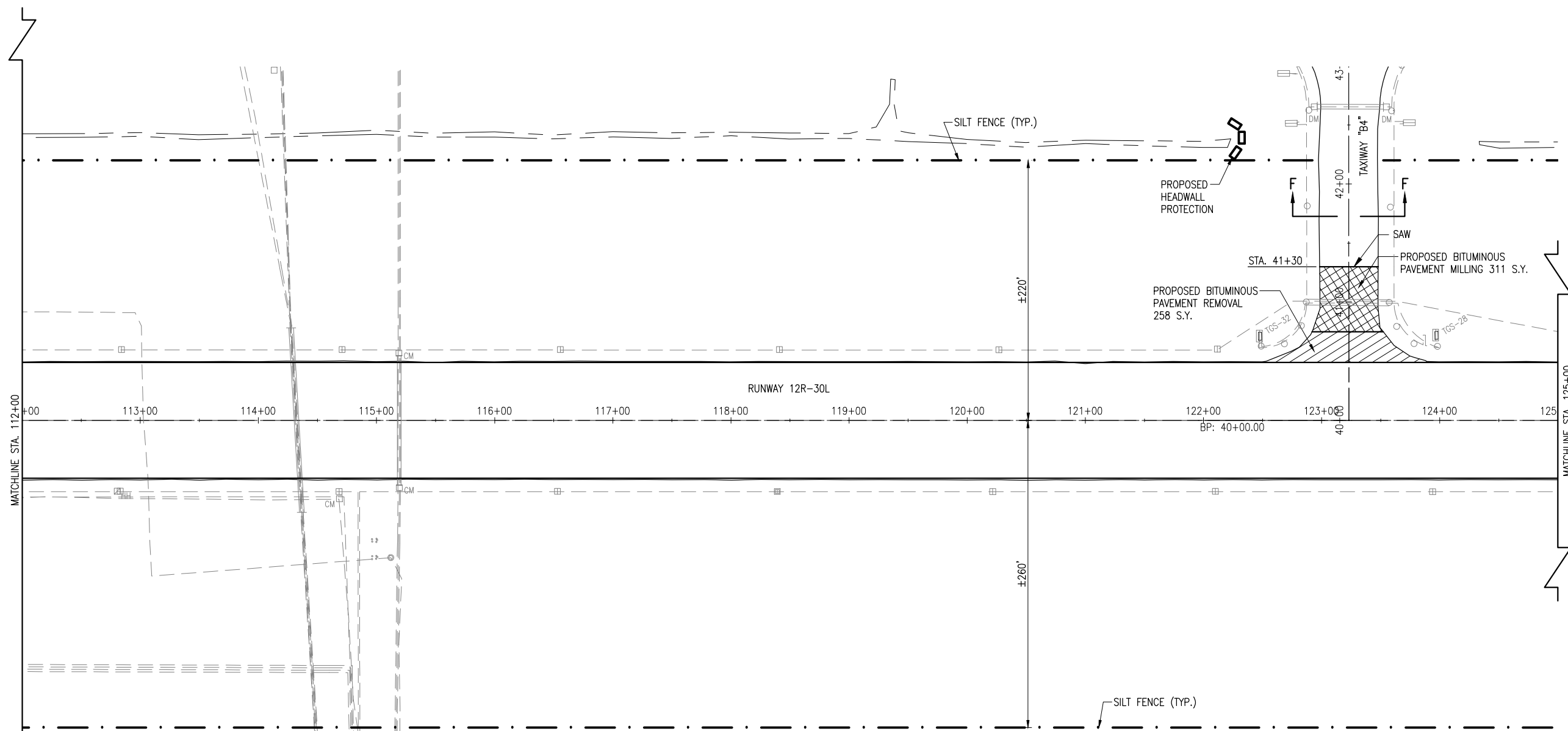
Hanson Project No. 08A0211D	RAW	02/16/10
Filename: R-111PRP.DWG	BAK	02/16/10
Scale: 1"= 50'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED SITE PREPARATION PLAN
STA. 99+00 TO STA. 112+00

MAY 25, 2010 2:01 PM KINC000394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-111PRP.DWG

I.L. PROJ.: CPS-3906 A.L.P. PROJ.: 3-17-0039-B22



BITUMINOUS PAVEMENT REMOVAL NOTES

THE BITUMINOUS PAVEMENT REMOVAL SHALL CONSIST OF REMOVING THE EXISTING RUNWAY AND TAXIWAY PAVEMENT (WITH EXCEPTION OF TAXIWAY B2 WHICH WILL BE REMOVED UNDER ITEM AR800500) AT THE LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS. THE EXISTING BITUMINOUS SURFACE AND AGGREGATE BASE SHALL BE REMOVED FULL DEPTH AND DISPOSED OF BY THE CONTRACTOR OFF THE AIRPORT PROPERTY.

THE CONTRACTOR IS REQUIRED TO SAWCUT THE EXISTING PAVEMENT AT THE LOCATIONS WHERE THE PROPOSED WIDENINGS OR RECONSTRUCTIONS WILL MATCH THE EXISTING PAVEMENT, AS SHOWN.

THE PAVEMENT SAWING WILL BE CONSIDERED INCIDENTAL TO THE PAVEMENT REMOVAL AND NO ADDITIONAL COMPENSATION WILL BE MADE.

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

THE QUANTITY OF BITUMINOUS PAVEMENT REMOVAL TO BE PAID FOR SHALL BE THE NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED, AND DISPOSED OF IN ACCORDANCE WITH THE SPECIFICATIONS, CONSTRUCTION DRAWINGS, AND ACCEPTED BY THE ENGINEER. MEASUREMENT OF THE BITUMINOUS PAVEMENT REMOVAL SHALL BE TO THE NEAREST SQUARE YARD.

ALL BITUMINOUS PAVEMENT REMOVAL, WITH THE EXCEPTION OF REMOVAL OF TAXIWAY B2 WILL BE PAID FOR UNDER ITEM NO:
AR401900 - REMOVE BITUMINOUS PAVEMENT, PER S.Y.

BITUMINOUS PAVEMENT MILLING

THE AREA(S) DESIGNATED AS [Hatched Box] ON SHEETS 11-15 WILL BE CUT OR TRIMMED AS SHOWN ON THE CROSS-SECTIONS. THE CUTTING OR TRIMMING WILL BE DONE BY ROTO-MILLING. THE TOLERANCE OF THE MILLING WILL BE AS STATED IN THE STANDARD SPECIFICATIONS.

IF A SQUARE STRAIGHT EDGE IS NOT OBTAINED FROM THE MILLING OPERATIONS, THE EXISTING PAVEMENT WILL BE SAWS AS SHOWN ON THESE SHEETS. 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 PROPOSED HAUL ROUTE THAT WILL REMAIN AFTER THE PROJECT IS COMPLETED.

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.

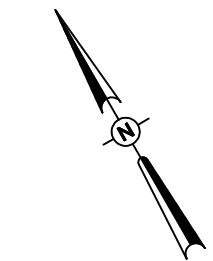
ANY ADJACENT PAVEMENT DAMAGED BY THE MILLING OPERATIONS WILL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE.

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.

LEGEND

- [Solid Line] EXISTING PAVEMENT
- [Hatched Box] PROPOSED BITUMINOUS PAVEMENT REMOVAL
- [Cross-hatched Box] PROPOSED BITUMINOUS PAVEMENT MILLING



0' 25' 50' 100'
HALF SIZE SCALE: 1" = 100'
FULL SIZE SCALE: 1" = 50'

MAY 25, 2010 2:02 PM KINC400394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\0840211D\CADD\AIRPORT\SHEET\R-111.PRP.DWG

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

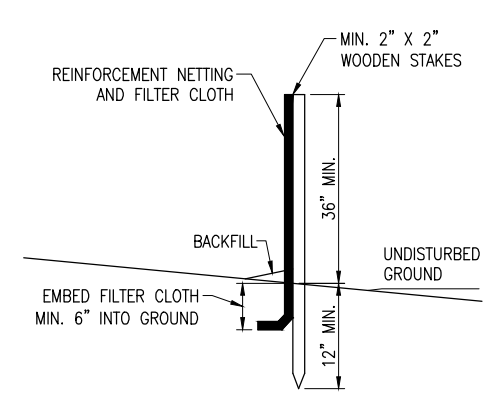
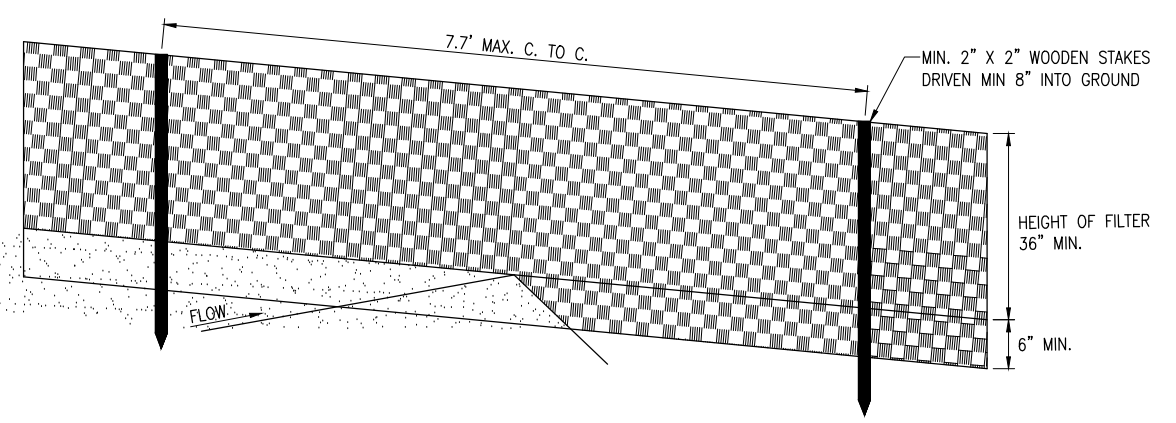
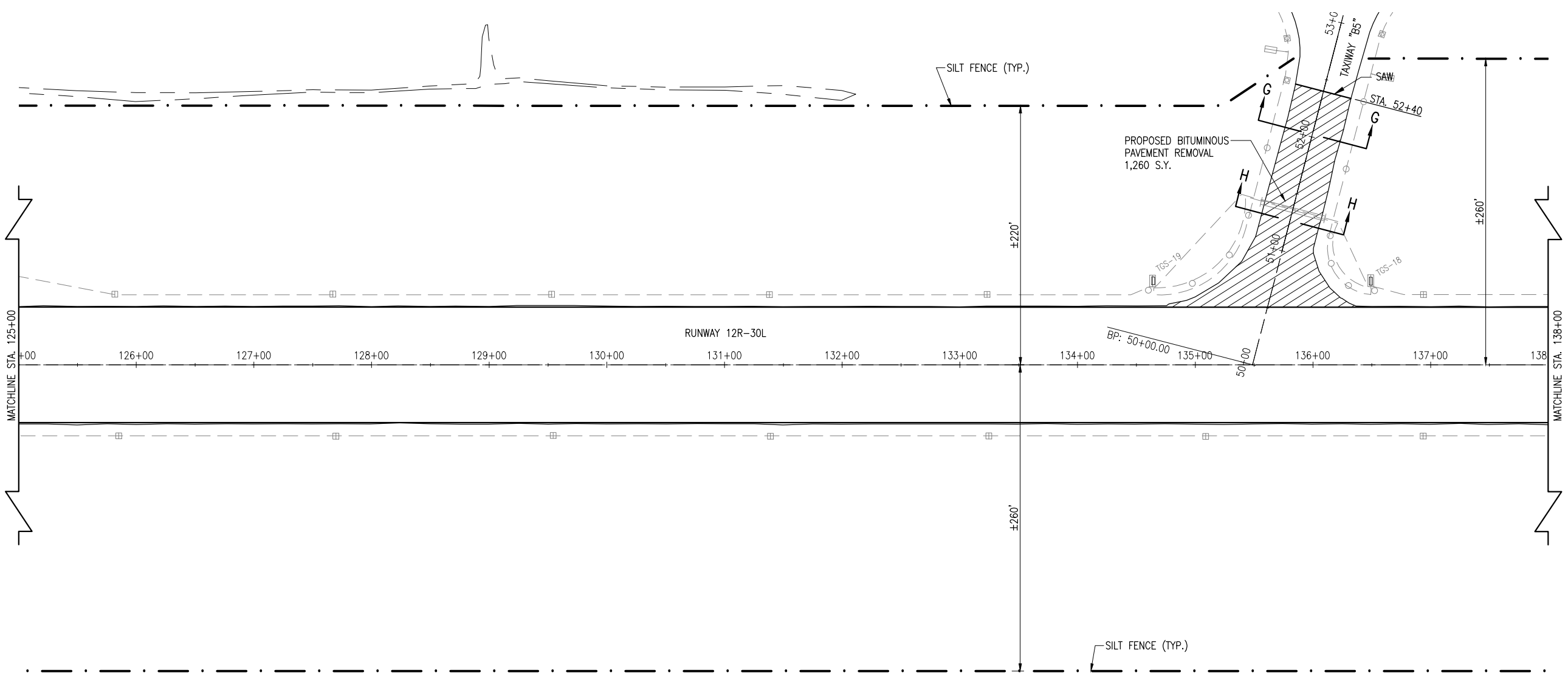
Hanson Project No. 0840211D	RAW	02/16/10
Filename: R-111.PRP.DWG	BAK	02/16/10
Scale 1" = 50'	CAH	04/01/10
Date 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

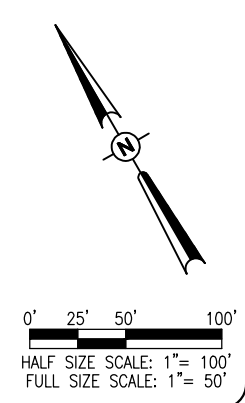
WIDEN RUNWAY 12R/30L

PROPOSED SITE PREPARATION PLAN
STA. 112+00 TO STA. 125+00



FILTER FENCE DETAIL
"NOT TO SCALE"

- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED BITUMINOUS PAVEMENT REMOVAL



MAY 25, 2010 2:02 PM KINC400394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-111.PRP.DWG

DATE	REVISION	BY

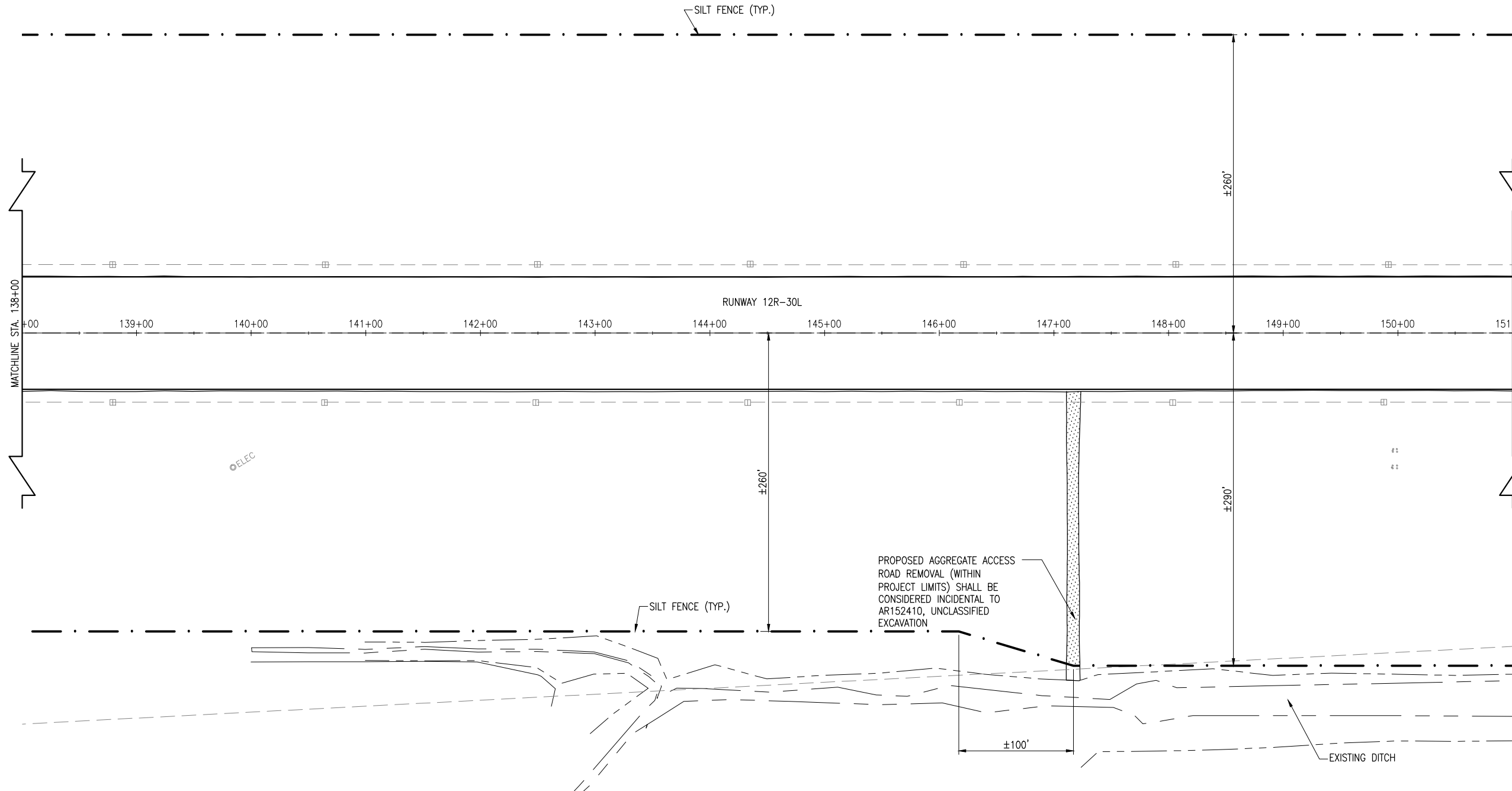
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	RAW	02/16/10
Filename: R-111.PRP.DWG	BAK	02/16/10
Scale: 1"= 50'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED SITE PREPARATION PLAN
STA. 125+00 TO STA. 138+00



LEGEND
 [Solid Line] EXISTING PAVEMENT
 [Dotted Area] PROPOSED ACCESS ROAD REMOVAL

0' 25' 50' 100'
 HALF SIZE SCALE: 1" = 100'
 FULL SIZE SCALE: 1" = 50'

DATE	REVISION	BY

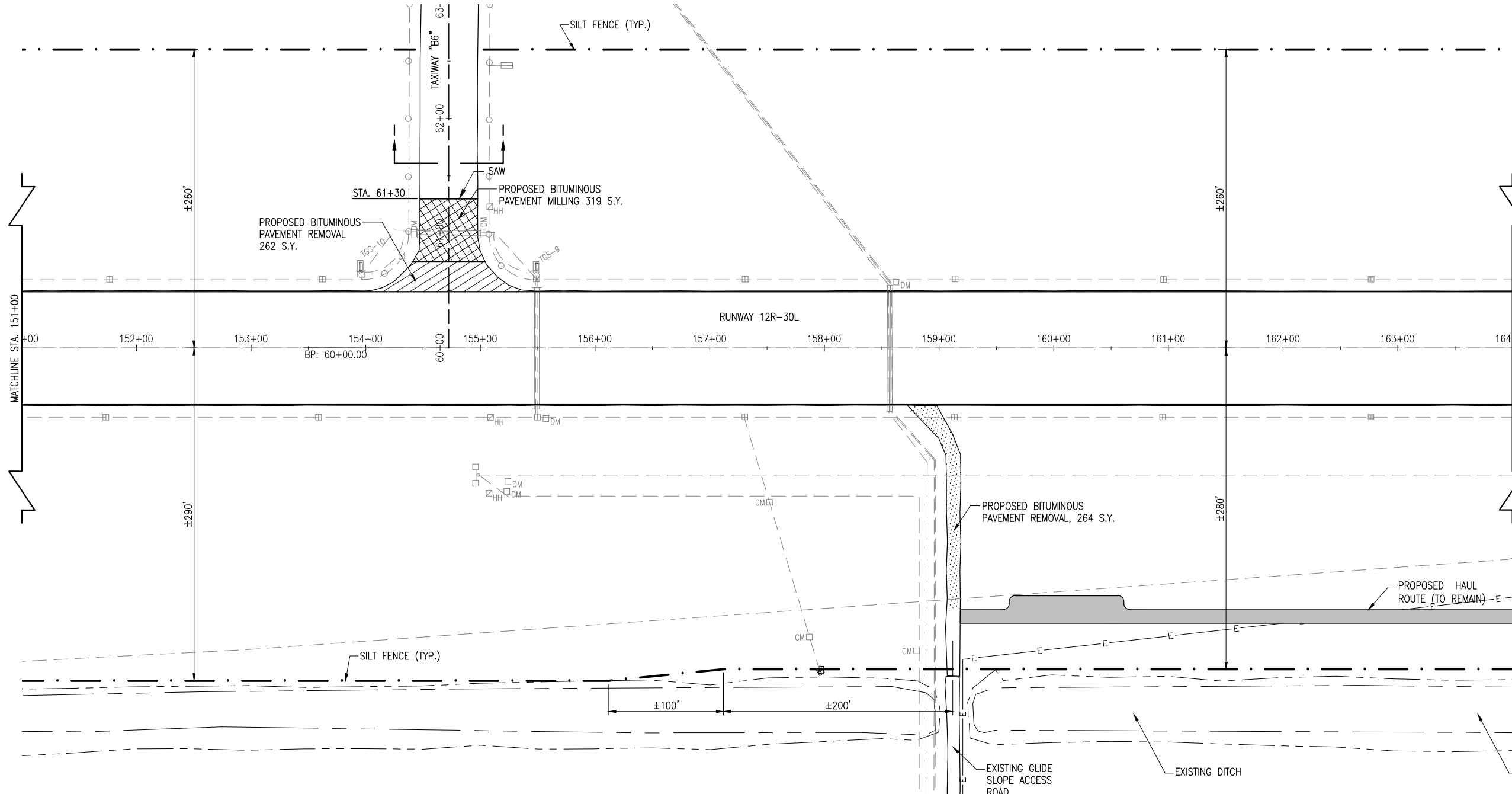
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

 I.L. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

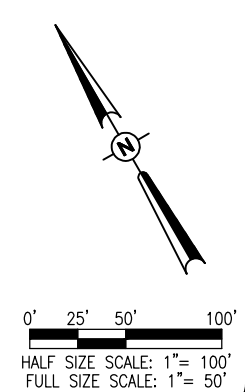
Hanson Project No. 08A0211D	RAW	02/16/10
Filename: R-111PRP.DWG	BAK	02/16/10
Scale: 1" = 50'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED SITE PREPARATION PLAN
 STA. 138+00 TO STA. 151+00



- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED BITUMINOUS PAVEMENT REMOVAL
 - PROPOSED BITUMINOUS PAVEMENT MILLING
 - PROPOSED BITUMINOUS ROAD REMOVAL



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

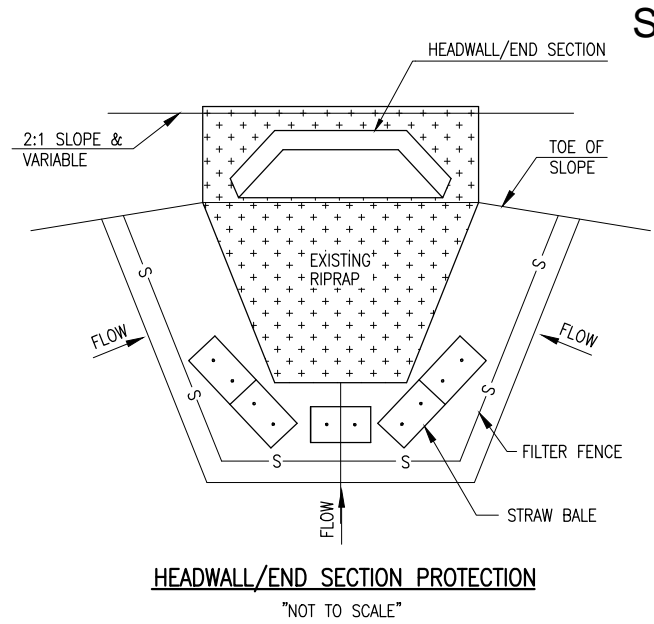
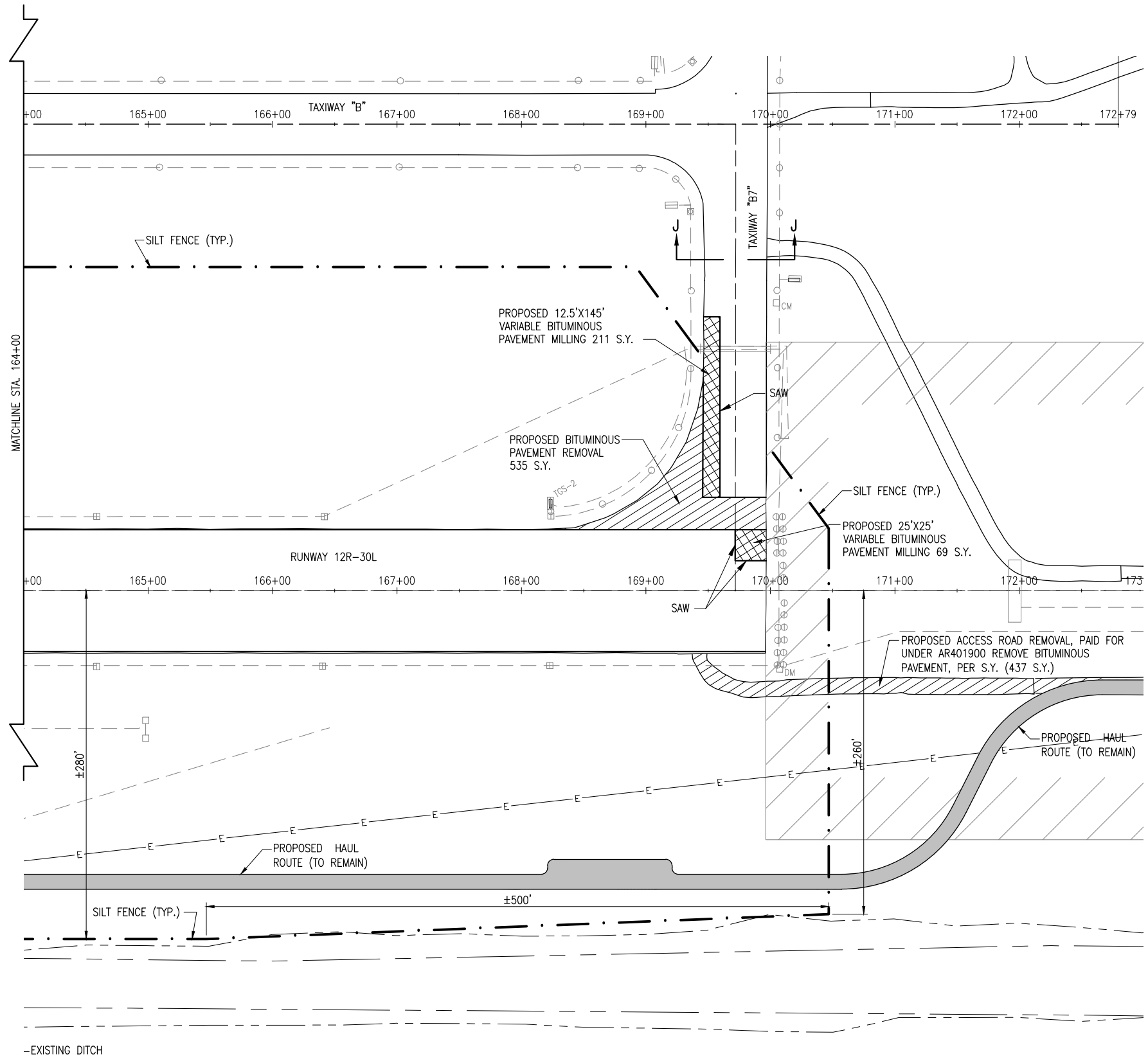
 I.L. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	RAW	02/16/10
Filename: R-111PRP.DWG	BAK	02/16/10
Scale: 1" = 50'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

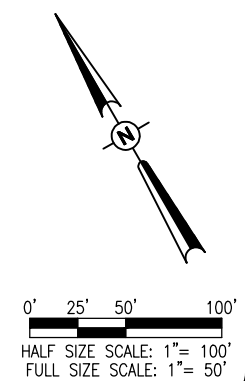
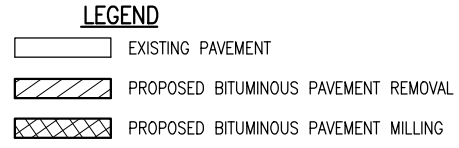
HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED SITE PREPARATION PLAN
 STA. 151+00 TO STA. 164+00

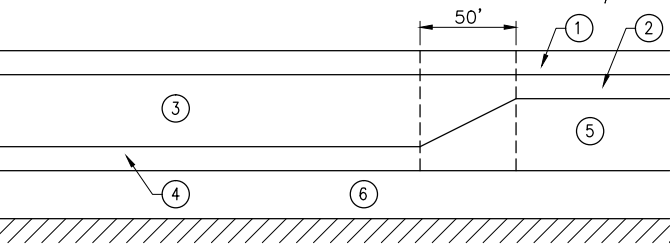
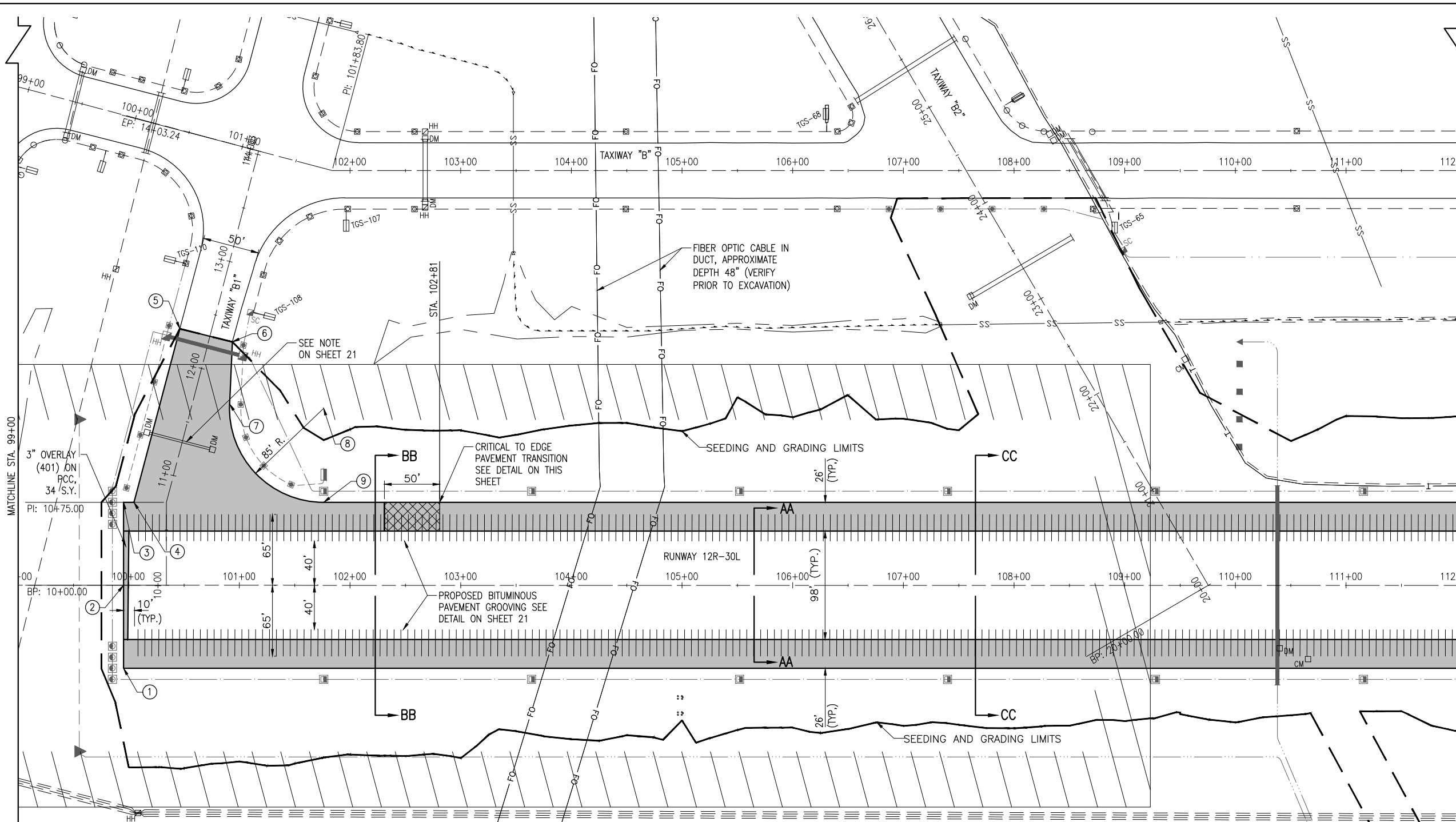
MAY 25, 2010 2:03 PM KINC400394
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-111PRP.DWG



NOTE:
 HEADWALL/END SECTION PROTECTION WILL REQUIRE 5 STRAW BALES AND 20 L.F. OF SILT FILTER FENCE. THIS ITEM SHALL BE PAID FOR UNDER ITEM AR156521 "HEADWALL PROTECTION" PER EACH.

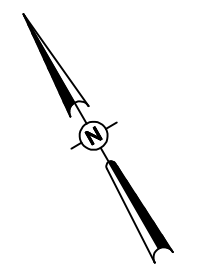


BY														
REVISION														
DATE														
<p>SAINT LOUIS DOWNTOWN AIRPORT A Division of METRO</p>														
<p>Project No. 08A0211D Filename: R-111.PRP.DWG Scale: 1" = 50' Date: 04/16/2010</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>LAYOUT</td> <td>RAW</td> <td>02/16/10</td> </tr> <tr> <td>DRAWN</td> <td>BAK</td> <td>02/16/10</td> </tr> <tr> <td>REVIEWED</td> <td>CAH</td> <td>04/01/10</td> </tr> </table>						LAYOUT	RAW	02/16/10	DRAWN	BAK	02/16/10	REVIEWED	CAH	04/01/10
LAYOUT	RAW	02/16/10												
DRAWN	BAK	02/16/10												
REVIEWED	CAH	04/01/10												
<p>HANSON Hanson Professional Services Inc. 4227 Earth City Expressway, Suite 130 St. Louis, MO 63045-1308 Offices Nationwide</p>														
<p>WIDEN RUNWAY 12R/30L</p>			<p>PROPOSED SITE PREPARATION PLAN STA. 164+00 TO STA. 173+00</p>											
<p style="font-size: 2em; font-weight: bold;">15</p>														
15 of 186 sheets														



- ① PROPOSED 401 BITUMINOUS SURFACE COURSE (2" DEPTH)
- ② PROPOSED 403 BITUMINOUS BASE COURSE (4" DEPTH)
- ③ PROPOSED 403 BITUMINOUS BASE COURSE (11" DEPTH)
- ④ PROPOSED 209 CRUSHED AGGREGATE BASE COURSE (4" DEPTH)
- ⑤ PROPOSED 209 CRUSHED AGGREGATE BASE COURSE (11" DEPTH)
- ⑥ PROPOSED 208 OVERSIZE AGGREGATE (CA-1) (8" DEPTH)

- LEGEND**
- [Hatched Box] EXISTING PAVEMENT
 - [Solid Grey Box] PROPOSED IMPROVEMENTS
 - [Dashed Box] EXISTING ELECTRICAL DUCT
 - [Dashed Line] EXISTING DITCH
 - [Dotted Line] EXISTING ELECTRICAL CABLES
 - [SS Line] EXISTING STORM SEWER
 - [FO Line] EXISTING TELEPHONE LINE
 - [T Line] EXISTING FIBER OPTIC CABLES
 - [Circle] EXISTING STAKE MOUNTED TAXIWAY LIGHT
 - [Square with X] EXISTING BASE MOUNTED TAXIWAY LIGHT
 - [Square with H] EXISTING TAXI GUIDANCE SIGN
 - [Square with H] EXISTING ELECTRICAL HANDHOLE
 - [Square with SC] EXISTING ELECTRICAL SPLICE CAN
 - [Square with CM] EXISTING CABLE MARKER
 - [Square with DM] EXISTING DUCT MARKER
 - [Triangle] EXISTING END SECTION
 - [Thick Line] PROPOSED ELECTRICAL DUCT
 - [Thin Line] PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
 - [Dashed Line] PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
 - [Dotted Line] PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT)
 - [Dotted Line] PROPOSED 3-1/C #6 XLP-USE 600V UG CABLE IN UNIT DUCT
 - [Square] PROPOSED BASE MOUNTED TAXIWAY LIGHT
 - [Square] PROPOSED BASE MOUNTED RUNWAY LIGHT
 - [Square] PROPOSED BASE MOUNTED THRESHOLD LIGHT
 - [Square] PROPOSED TAXI GUIDANCE SIGN
 - [Square with MH] PROPOSED MANHOLE
 - [Square with HH] PROPOSED HANDHOLE
 - [Square with SC] PROPOSED SPLICE CAN
 - [Triangle] PROPOSED REIL
 - [Square with H] PROPOSED PAPI



0' 25' 50' 100'
 HALF SIZE SCALE: 1" = 100'
 FULL SIZE SCALE: 1" = 50'

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

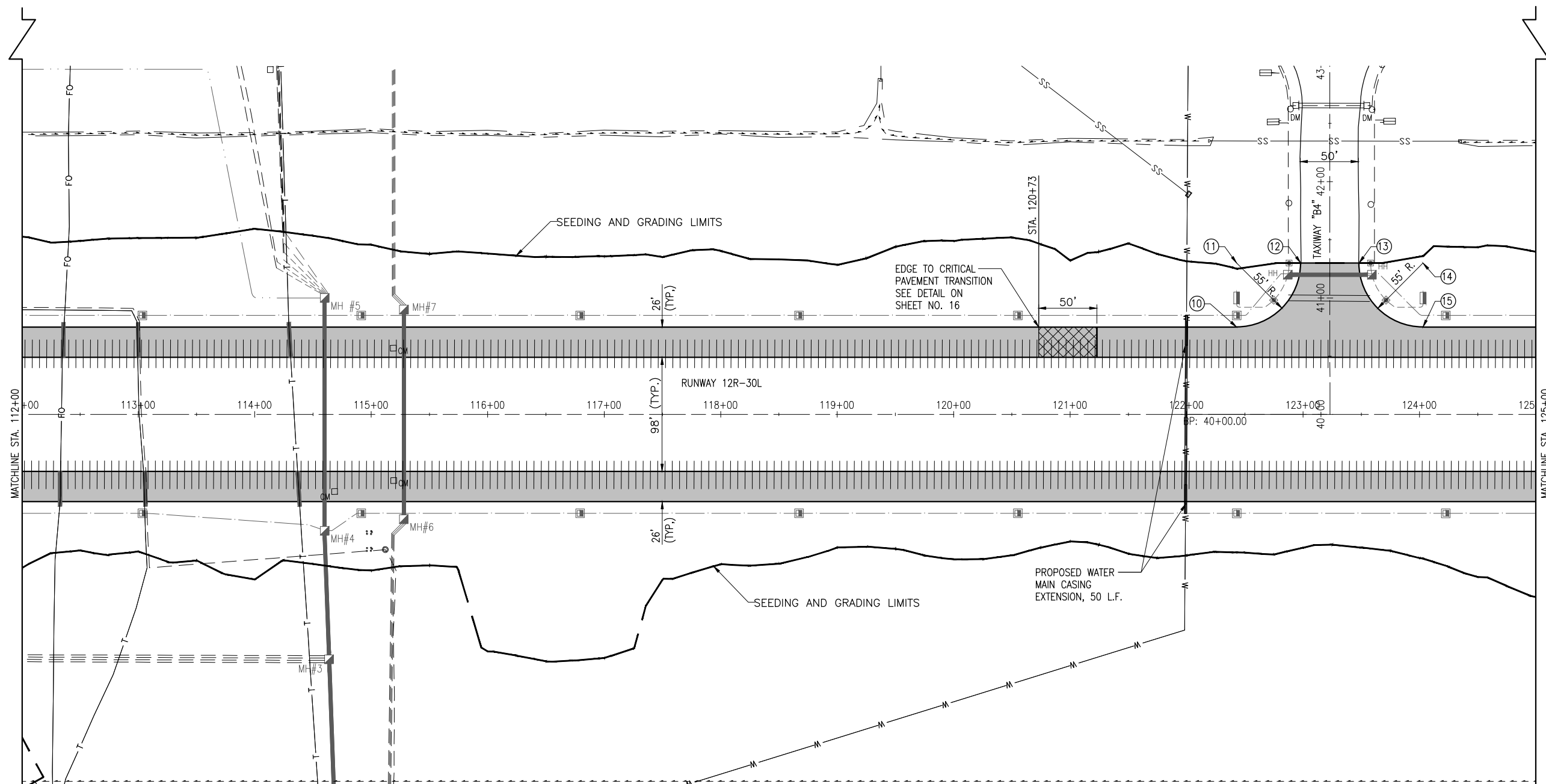
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	RAW	03/26/10
Filename: R-121CON.DWG	BAK	03/26/10
Scale: 1" = 50'	CAH	04/16/2010
Date: 04/16/2010		

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED CONSTRUCTION PLAN
 STA. 99+00 TO STA. 112+00

MAY 28, 2010 6:54 AM KINC00394
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET R-121CON.DWG



AR209-CRUSHED AGGREGATE BASE COURSE NOTES

THE CRUSHED AGGREGATE BASE COURSE (209) SHALL BE PLACED IN ACCORDANCE WITH ITEM 209 "CRUSHED AGGREGATE BASE COURSE" AS STATED ON PAGE 93 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS, ADOPTED NOVEMBER 2, 2009.

THE CRUSHED AGGREGATE BASE COURSE MATERIAL (CA-6) WILL BE USED TO CONSTRUCT A BASE COURSE FOR THE PROPOSED BITUMINOUS BASE COURSE (201). THE CRUSHED AGGREGATE BASE COURSE MATERIAL WILL BE 4"-11" IN DEPTH AND COMPACTED TO NOT LESS THAN 95 PERCENT DENSITY.

THE PROPOSED AGGREGATE FOR THE BASE COURSE MATERIAL SHALL MEET THE REQUIREMENTS OF GRADATION "B" IN TABLE 1 OF THE STANDARD SPECIFICATIONS.

602-BITUMINOUS PRIME COAT NOTES:

THE BITUMINOUS PRIME COAT (602) SHALL BE PLACED IN ACCORDANCE WITH ITEM AR602 "BITUMINOUS PRIME COAT" AS STATED ON PAGE 251 OF THE STANDARD SPECIFICATION FOR CONSTRUCTION OF AIRPORTS, ADOPTED NOVEMBER 2, 2009.

THE PROPOSED BITUMINOUS PRIME COAT SHALL BE PLACED ON THE PROPOSED AGGREGATE BASE COURSE PRIOR TO THE PLACEMENT OF THE FIRST LIFT OF PROPOSED BITUMINOUS BASE COURSE. THE PROPOSED AGGREGATE BASE COURSE SHALL HAVE A PRIME COAT OF BITUMINOUS MATERIAL APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS.

THE PROPOSED BITUMINOUS PRIME COAT WILL BE PAID FOR UNDER ITEM: AR602510 BITUMINOUS PRIME COAT, PER GAL.

AR208-AGGREGATE BASE COURSE NOTES

THE AGGREGATE BASE COURSE (208) SHALL BE PLACED IN ACCORDANCE WITH ITEM 208 "AGGREGATE BASE COURSE" AS STATED ON PAGE 87 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS, ADOPTED NOVEMBER 2, 2009.

THE AGGREGATE BASE COURSE MATERIAL (CA-1) WILL BE USED TO CONSTRUCT A BASE COURSE FOR THE PROPOSED BITUMINOUS BASE COURSE (201). THE AGGREGATE BASE COURSE MATERIAL WILL BE 8" IN DEPTH AND COMPACTED TO NOT LESS THAN 95 PERCENT DENSITY.

THE PROPOSED AGGREGATE FOR THE BASE COURSE MATERIAL SHALL MEET THE REQUIREMENTS OF GRADATION "A" IN TABLE 1 OF THE STANDARD SPECIFICATIONS.

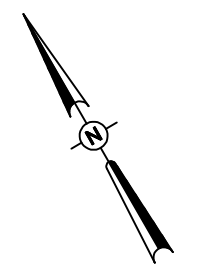
603-BITUMINOUS TACK COAT NOTES:

THE BITUMINOUS TACK COAT (603) SHALL BE PLACED IN ACCORDANCE WITH ITEM AR603 "BITUMINOUS TACK COAT" AS STATED ON PAGE 254 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS, ADOPTED NOVEMBER 2, 2009.

THE PROPOSED BITUMINOUS TACK COAT SHALL BE PLACED ON THE PROPOSED BITUMINOUS PAVEMENT PRIOR TO THE PLACEMENT OF THE NEXT LIFT OF PROPOSED BITUMINOUS SURFACE COURSE. THE PROPOSED BITUMINOUS PAVEMENT SHALL HAVE A TACK COAT OF BITUMINOUS MATERIAL APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS.

THE PROPOSED BITUMINOUS TACK COAT WILL BE PAID FOR UNDER ITEM: AR603510 BITUMINOUS TACK COAT, PER GAL.

- LEGEND**
- [Symbol] EXISTING PAVEMENT
 - [Symbol] PROPOSED IMPROVEMENTS
 - [Symbol] EXISTING ELECTRICAL DUCT
 - [Symbol] EXISTING DITCH
 - [Symbol] EXISTING ELECTRICAL CABLES
 - [Symbol] EXISTING FIBER OPTIC CABLES
 - [Symbol] EXISTING WATER LINE
 - [Symbol] EXISTING TELEPHONE LINE
 - [Symbol] EXISTING STAKE MOUNTED TAXIWAY LIGHT
 - [Symbol] EXISTING TAXI GUIDANCE SIGN
 - [Symbol] EXISTING ELECTRICAL MANHOLE
 - [Symbol] EXISTING DUCT MARKER
 - [Symbol] PROPOSED ELECTRICAL DUCT
 - [Symbol] PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
 - [Symbol] PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
 - [Symbol] PROPOSED 2-1/C #8 5 KV, L-824 TYP C UG CABLE IN UNIT DUCT (HOMERUN CKT)
 - [Symbol] PROPOSED BASE MOUNTED TAXIWAY LIGHT
 - [Symbol] PROPOSED BASE MOUNTED RUNWAY LIGHT
 - [Symbol] PROPOSED TAXI GUIDANCE SIGN
 - [Symbol] PROPOSED MANHOLE
 - [Symbol] PROPOSED HANDHOLE



0' 25' 50' 100'
 HALF SIZE SCALE: 1" = 100'
 FULL SIZE SCALE: 1" = 50'

MAY 28, 2010 6:54 AM K:\KIC\0394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-121CON.DWG

DATE	REVISION	BY

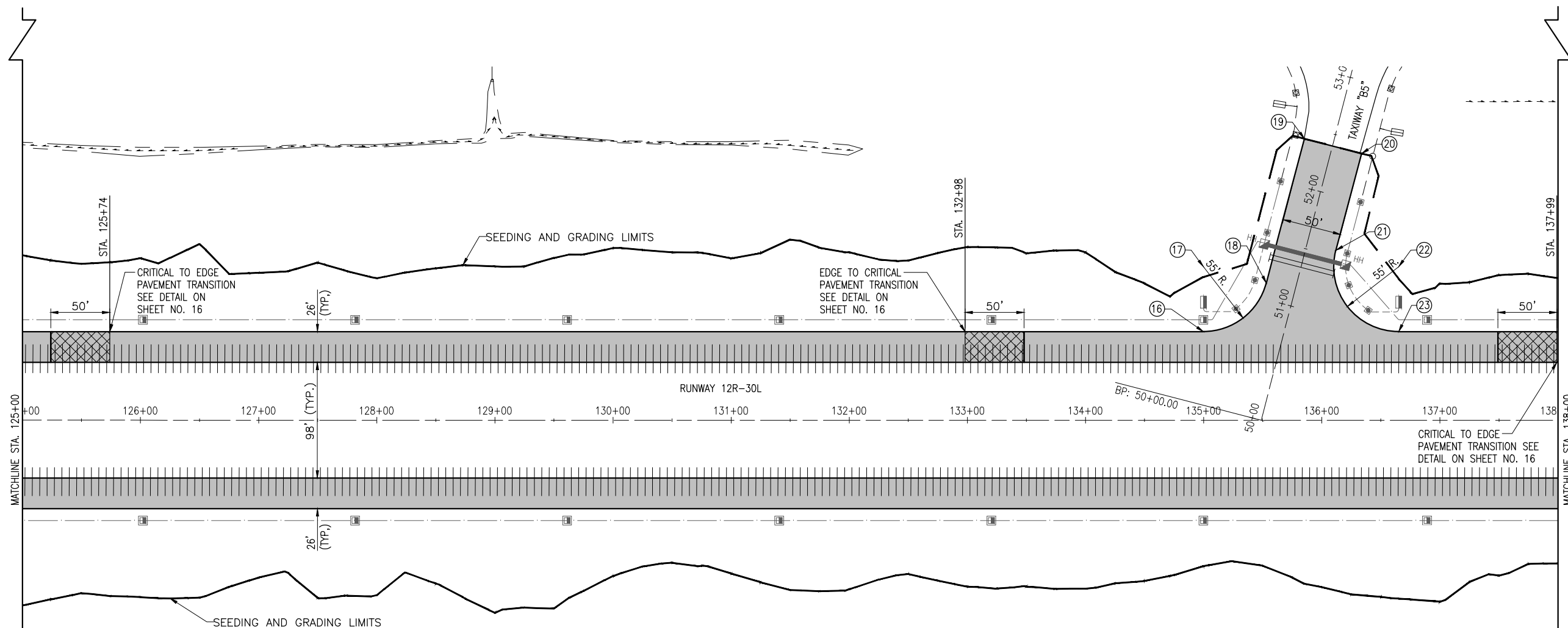
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

 I.L. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	RAW	03/26/10
Filename: R-121CON.DWG	BAK	03/26/10
Scale: 1" = 50'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

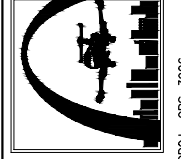
HANSON
 Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED CONSTRUCTION PLAN
 STA. 112+00 TO STA. 125+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO



Hanson Project No. 08A0211D	RAW	03/26/10
Filename: R-121CON.DWG	BAK	03/26/10
Scale: 1" = 50'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CONSTRUCTION PLAN
STA. 125+00 TO STA. 138+00

MAY 28, 2010 6:55 AM KINC400394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-121CON.DWG

AR401614 BITUMINOUS SURFACE COURSE—METHOD II, SUPERPAVE

THE BITUMINOUS SURFACE COURSE (401) SHALL BE PLACED IN ACCORDANCE WITH ITEM 401 "BITUMINOUS SURFACE COURSE—SUPERPAVE" AS STATED ON PAGE 129 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS, ADOPTED NOVEMBER 2, 2009

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING 1 LIFT OF BITUMINOUS SURFACE COURSE—SUPERPAVE (METHOD II, 2 INCH DEPTH) ON THE BITUMINOUS BASE COURSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE QUALITY CONTROL IN THE PRODUCTION AND CONSTRUCTION OF THE BITUMINOUS SURFACE COURSE SUPERPAVE (METHOD II),

PRIOR TO STARTING THE BITUMINOUS SURFACE COURSE—SUPERPAVE (METHOD II) OPERATION, THE CONTRACTOR SHALL SUBMIT TO THE RESIDENT ENGINEER A DETAILED OUTLINE SHOWING AREAS AND ORDER OF PAVING WIDTHS OF PAVING LANES, AND REQUIRED OFFSETS FOR ELECTRONIC GRADE.

THE PROPOSED BITUMINOUS SURFACE COURSE—SUPERPAVE (METHOD II) WILL BE DESIGNED TO A SUPERPAVE DESIGN FOR AIRCRAFT OF MORE THAN 60,000 POUNDS.

401-4.9 ADD THE FOLLOWING TO THIS SECTION:

WHEN HAND SPREADING IS PERMITTED, THE MIXTURE WILL BE DISTRIBUTED AND SPREAD USING HAND TOOLS. WHEN THE WORK IS COMPLETED, THE LAYER WILL HAVE THE REQUIRED THICKNESS AND CONFORM TO THE GRADE AND SURFACE CONTOUR SHOWN ON THE PLANS.

401-4.12 ADD THE FOLLOWING TO THIS PARAGRAPH:

ALL PAVEMENT EDGES (LONGITUDINAL, RADIUS, AND PAVEMENT ENDS) MUST BE LEFT IN PROPER ALIGNMENT AS SHOWN ON THE PLANS. THIS MAY BE ACCOMPLISHED BY THE TRIMMING METHOD OUTLINED ABOVE OR AT THE CONTRACTOR'S OPTION BY SAWING AFTER THE PAVING HAS BEEN COMPLETED. NO ADDITIONAL COMPENSATION WILL BE MADE IF THE SAWING METHOD IS USED.

AR403614 BITUMINOUS BASE COURSE—METHOD II, SUPERPAVE

THE BITUMINOUS BASE COURSE (403) SHALL BE PLACED IN ACCORDANCE WITH ITEM 403 "BITUMINOUS BASE COURSE—SUPERPAVE" AS STATED ON PAGE 188 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS, ADOPTED NOVEMBER 2, 2009

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING 4 LIFTS OF BITUMINOUS BASE COURSE—SUPERPAVE (METHOD II) (NO GREATER THAN 3 INCH DEPTH EACH) ON THE CRUSHED AGGREGATE BASE COURSE, FOR AREA OF "CRITICAL" PAVEMENT.

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING 2 LIFTS OF BITUMINOUS BASE COURSE—SUPERPAVE (METHOD II) (NO GREATER THAN 2 INCH DEPTH EACH) ON THE CRUSHED AGGREGATE BASE COURSE, FOR AREA OF "EDGE" PAVEMENT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE QUALITY CONTROL IN THE PRODUCTION AND CONSTRUCTION OF THE BITUMINOUS BASE COURSE—SUPERPAVE (METHOD II).

PRIOR TO STARTING THE BITUMINOUS BASE COURSE—SUPERPAVE (METHOD II) OPERATION, THE CONTRACTOR SHALL SUBMIT TO THE RESIDENT ENGINEER A DETAILED OUTLINE SHOWING AREAS AND ORDER OF PAVING WIDTHS OF PAVING LANES, AND REQUIRED OFFSETS FOR ELECTRONIC GRADE.

THE PROPOSED BITUMINOUS BASE COURSE—SUPERPAVE (METHOD II) WILL BE DESIGNED TO A SUPERPAVE DESIGN FOR AIRCRAFT OF MORE THAN 60,000 POUNDS.

403-4.9 ADD THE FOLLOWING TO THIS SECTION:

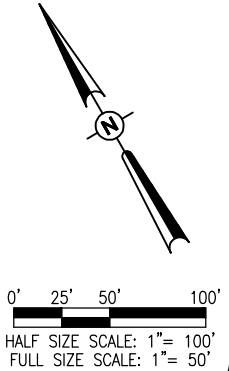
WHEN HAND SPREADING IS PERMITTED, THE MIXTURE WILL BE DISTRIBUTED AND SPREAD USING HAND TOOLS. WHEN THE WORK IS COMPLETED, THE LAYER WILL HAVE THE REQUIRED THICKNESS AND CONFORM TO THE GRADE AND SURFACE CONTOUR SHOWN ON THE PLANS.

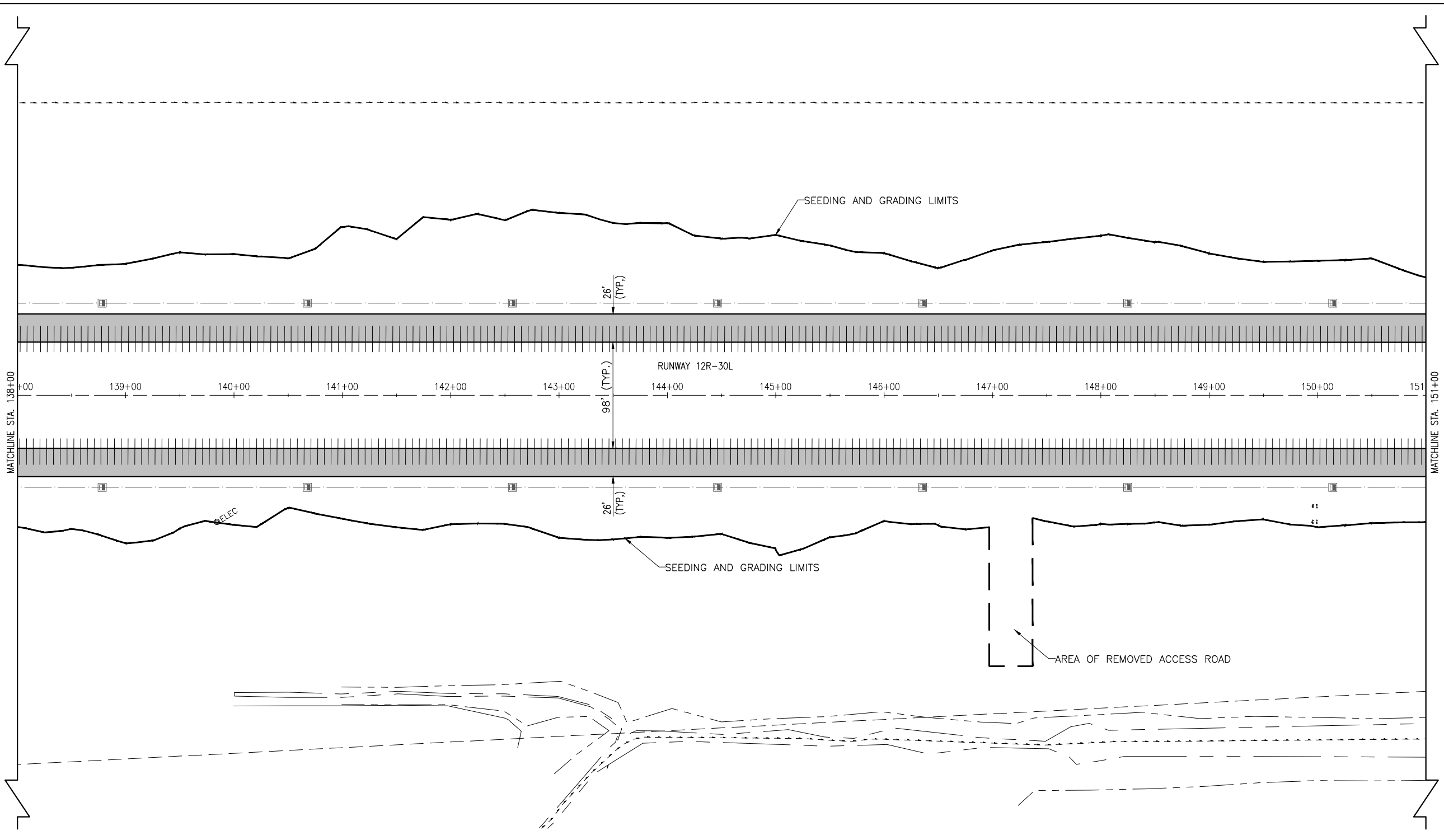
403-4.12 ADD THE FOLLOWING TO THIS PARAGRAPH:

ALL PAVEMENT EDGES (LONGITUDINAL, RADIUS, AND PAVEMENT ENDS) MUST BE LEFT IN PROPER ALIGNMENT AS SHOWN ON THE PLANS. THIS MAY BE ACCOMPLISHED BY THE TRIMMING METHOD OUTLINED ABOVE OR AT THE CONTRACTOR'S OPTION BY SAWING AFTER THE PAVING HAS BEEN COMPLETED. NO ADDITIONAL COMPENSATION WILL BE MADE IF THE SAWING METHOD IS USED.

LEGEND

- EXISTING PAVEMENT
- PROPOSED IMPROVEMENTS
- EXISTING ELECTRICAL DUCT
- EXISTING DITCH
- EXISTING ELECTRICAL CABLES
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING TAXI GUIDANCE SIGN
- PROPOSED ELECTRICAL DUCT
- PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- PROPOSED BASE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED RUNWAY LIGHT

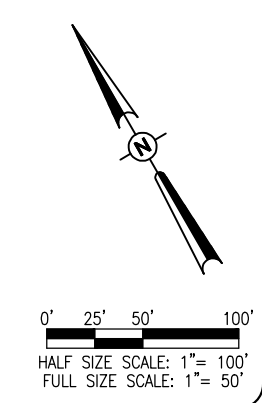




COORDINATE DATA - RUNWAY 12R/30L

NO.	STATION	OFFSET	NORTHING	EASTING	NO.	STATION	OFFSET	NORTHING	EASTING	NO.	STATION	OFFSET	NORTHING	EASTING
1	99+95.29	75' RT	694,427.6415	2,297,001.5481	13	123+48.00	130' LT.	693,374.0136	2,299,101.4346	25	153+92.42	130' LT.	691,724.2679	2,301,677.3130
2	99+95.29	CENTERLINE	694,491.0988	2,297,041.5252	14	124+03.00	130' LT.	693,317.7110	2,299,147.9788	26	154+47.42	130' LT.	691,694.9653	2,301,723.8571
3	99+95.29	75' LT.	694,554.5561	2,297,081.5024	15	124+03.00	75' LT.	693,271.1756	2,299,118.6622	27	154+97.42	130' LT.	691,668.2860	2,301,766.1444
4	100+04.69	75' LT.	694,549.5476	2,297,089.4525	16	134+99.80	75' LT.	692,686.5491	2,300,046.6627	28	155+52.42	130' LT.	691,638.9834	2,301,812.6885
5	100+46.22	232' LT.	694,660.0375	2,297,208.1432	17	134+99.80	130' LT.	692,733.0840	2,300,075.9793	29	155+52.42	75' LT.	691,592.4480	2,301,783.3720
6	100+93.74	220' LT.	694,624.7119	2,297,242.0635	18	135+53.04	116' LT.	692,693.0149	2,300,113.6547	30	168+51.74	75' LT.	690,899.8723	2,302,882.7244
7	100+91.22	164' LT.	694,578.5646	2,297,210.0125	19	135+85.30	239' LT.	692,779.2763	2,300,206.1276	31	168+51.74	160' LT.	690,971.7904	2,302,928.0319
8	101+76.14	160' LT.	694,530.0765	2,297,279.8257	20	136+33.70	226' LT.	692,742.8495	2,300,240.3780	32	169+35.75	147' LT.	690,916.0898	2,302,992.2381
9	101+76.14	75' LT.	694,458.1583	2,297,234.5184	21	136+11.87	144' LT.	692,685.0421	2,300,178.1672	33	169+46.95	220' LT.	690,971.8053	2,303,040.5728
10	122+43.00	75' LT.	693,356.4602	2,298,983.2866	22	136+65.11	130' LT.	692,644.9726	2,300,215.8426	34	169+96.98	220' LT.	690,945.1362	2,303,082.9056
11	122+43.00	130' LT.	693,402.9956	2,299,012.6032	23	136+65.11	75' LT.	629,598.4373	2,300,186.5260	35	169+96.51	CENTERLINE	690,759.2451	2,302,965.2421
12	122+98.00	130' LT.	693,373.6929	2,299,059.1473	24	153+92.42	75' LT.	691,677.7326	2,301,647.9964	36	169+96.51	75' RT.	690,696.0738	2,302,924.8109

- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - EXISTING DITCH
 - EXISTING TOP OF DITCH
 - EXISTING ELECTRICAL CABLES
 -
 -



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

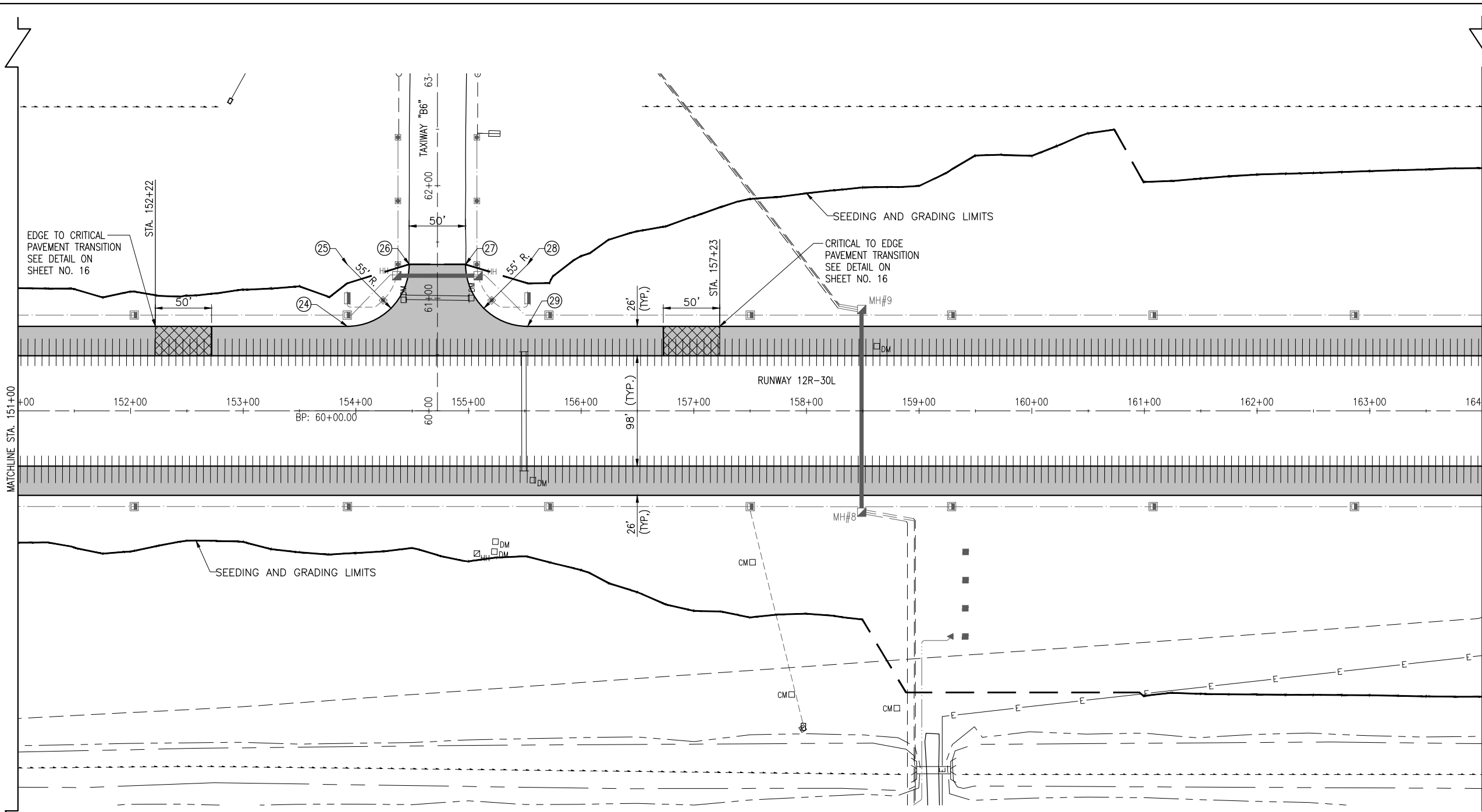
I.L. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-121CON.DWG
Scale	1" = 50'
Date	04/16/2010
LAYOUT	RAW
RAW	03/26/10
BAK	03/26/10
CAH	04/01/10
DRAWN	
REVIEWED	

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CONSTRUCTION PLAN
STA. 138+00 TO STA. 151+00

MAY 28, 2010 6:55 AM KINC00394
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-121CON.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

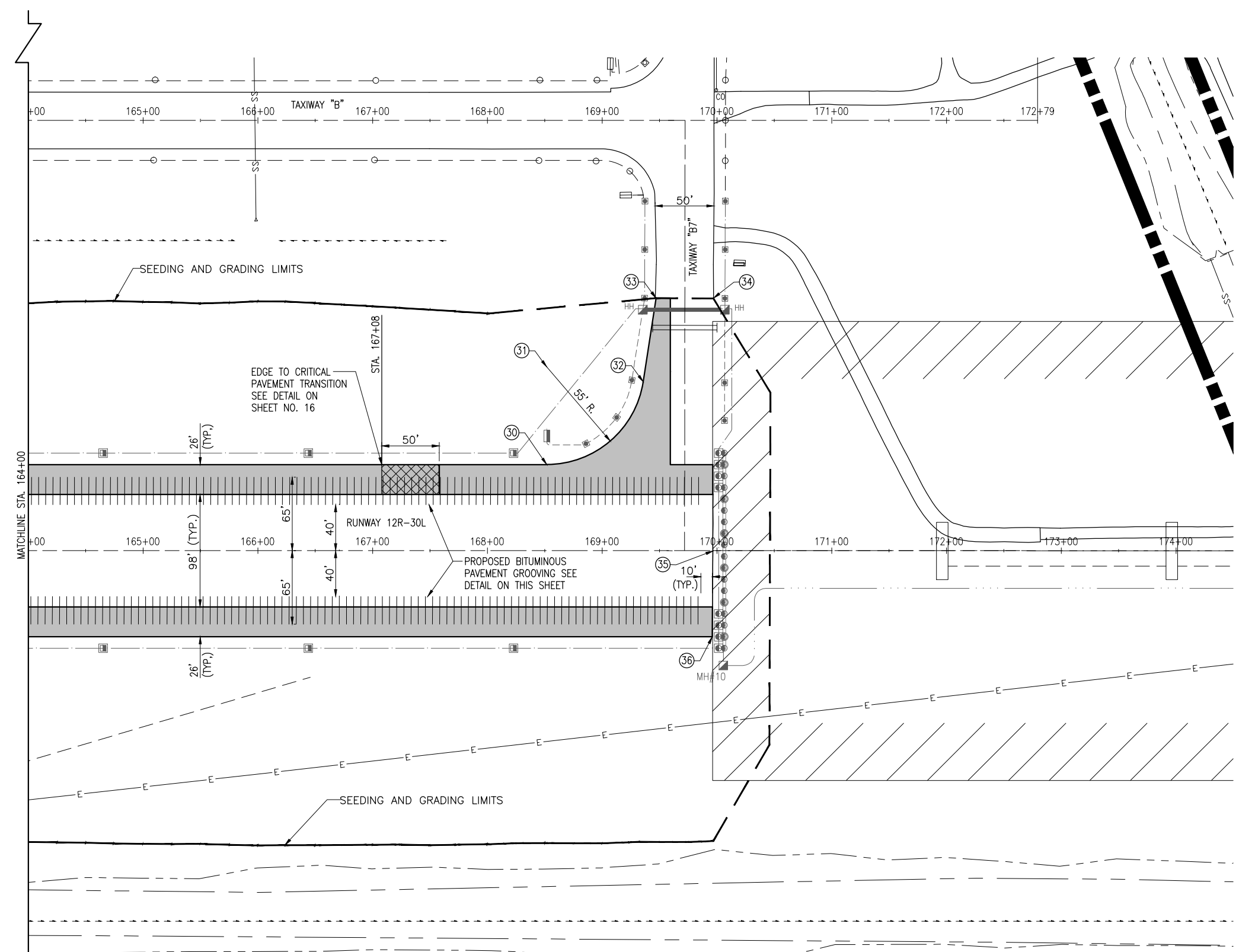
Hanson Project No. 08A0211D	Filename: R-121CON.DWG	Scale: 1" = 50'	Date: 04/16/2010
LAYOUT	RAW	03/26/10	BAK
DRAWN	BAK	03/26/10	CAH
REVIEWED	CAH	04/01/10	

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CONSTRUCTION PLAN
STA. 151+00 TO STA. 164+00

MAY 28, 2010 6:55 AM KINC400394
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-121CON.DWG

MAY 28, 2010 6:55 AM K:\KINC00394
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-12\CON.DWG



LEGEND			
	EXISTING PAVEMENT		EXISTING PROPERTY LINE
	PROPOSED IMPROVEMENTS		EXISTING STAKE MOUNTED TAXIWAY LIGHT
	EXISTING ELECTRICAL DUCT		EXISTING BASE MOUNTED TAXIWAY LIGHT
	EXISTING TOP OF DITCH		EXISTING GUIDANCE SIGN
	EXISTING DITCH		EXISTING DUCT MARKER
	EXISTING ELECTRICAL CABLES		EXISTING END SECTION
	EXISTING STORM SEWER		PROPOSED ELECTRICAL DUCT
			PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
			PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
			PROPOSED 3-1/C #6 XLP-USE 600V UG CABLE IN UNIT DUCT
			PROPOSED BASE MOUNTED TAXIWAY LIGHT
			PROPOSED BASE MOUNTED RUNWAY LIGHT
			PROPOSED BASE MOUNTED THRESHOLD LIGHT
			PROPOSED TAXI GUIDANCE SIGN
			PROPOSED MANHOLE
			PROPOSED HANDHOLE

ABANDONED ELECTRICAL DUCT AND CABLING NOTE SD052

ALL ELECTRICAL DUCTS AND CABLING TO BE ABANDONED THAT ARE ENCOUNTERED DURING EXCAVATION SHALL BE REMOVED AND SHALL BE CONSIDERED INCIDENTAL TO ITEM AR152410 UNCLASSIFIED EXCAVATION AND NO ADDITIONAL COMPENSATION ALLOWED.

GROOVING NOTES

GROOVING WILL NOT COMMENCE UNTIL THE PAVEMENT HAS CURED SUFFICIENTLY THAT IT DOES NOT RAVEL OR SUSTAIN OTHER DAMAGE DURING THE GROOVING OPERATIONS.

THE PROPOSED GROOVES WILL BE CUT PERPENDICULAR TO THE RUNWAY CENTERLINE AND WILL TERMINATE 10' FROM THE RUNWAY PAVEMENT EDGE.

RUNWAY 12R/30L WILL BE GROOVED CONTINUOUSLY FROM STA. 100+05.29 TO STA. 169+86.51.

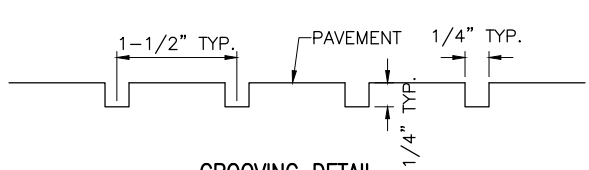
THE GROOVES WILL BE 1/4" WIDE, 1/4" DEEP AND PLACED 1-1/2" CENTERS.

ALL SOLID MATERIALS GENERATED FROM GROOVING OPERATIONS WILL BE PICKED UP AND HAULED TO A LOCATION OFF AIRPORT SITE AT THE CONTRACTOR'S OWN EXPENSE.

NO MATERIAL THAT IS HARMFUL TO VEGETATION WILL BE FLUSHED FROM THE GROOVED PAVEMENT ON TO THE TURFED SHOULDER, BUT WILL BE PICKED UP AND HAUL TO A LOCATION OFF THE AIRPORT SITE AT THE CONTRACTOR'S OWN EXPENSE.

AT THE END OF EACH WORK DAY, THE RUNWAY WILL BE FLUSHED, CLEANED AND CLEARED OF ALL MATERIAL GENERATED BY THE GROOVING OPERATIONS.

PAVEMENT GROOVING WILL BE PAID FOR UNDER ITEM:
 AR401640 "BITUMINOUS PAVEMENT GROOVING" PER S.Y.



RUNWAY 12R/30L PAVEMENT GROOVING QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
AR401640	BITUMINOUS PAVEMENT GROOVING	S.Y.	38,783

DATE	REVISION	BY

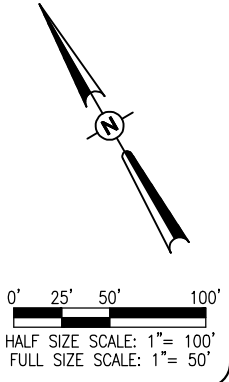
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

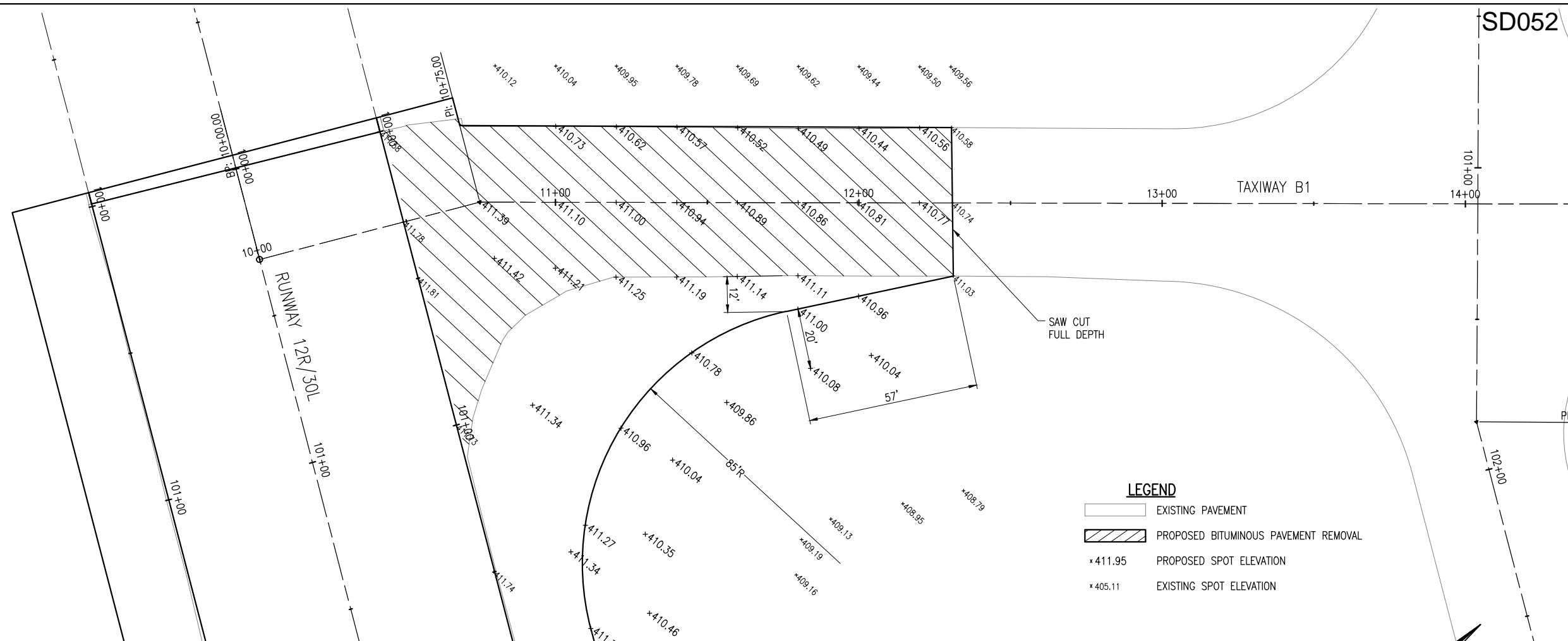
A.I.P. PROJ.: 3-17-0039-B22
 I.L. PROJ.: CPS-3906

Hanson Project No. 08A0211D	RAW	03/26/10
Filename: R-12\CON.DWG	BAK	03/26/10
Scale: 1"=50'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

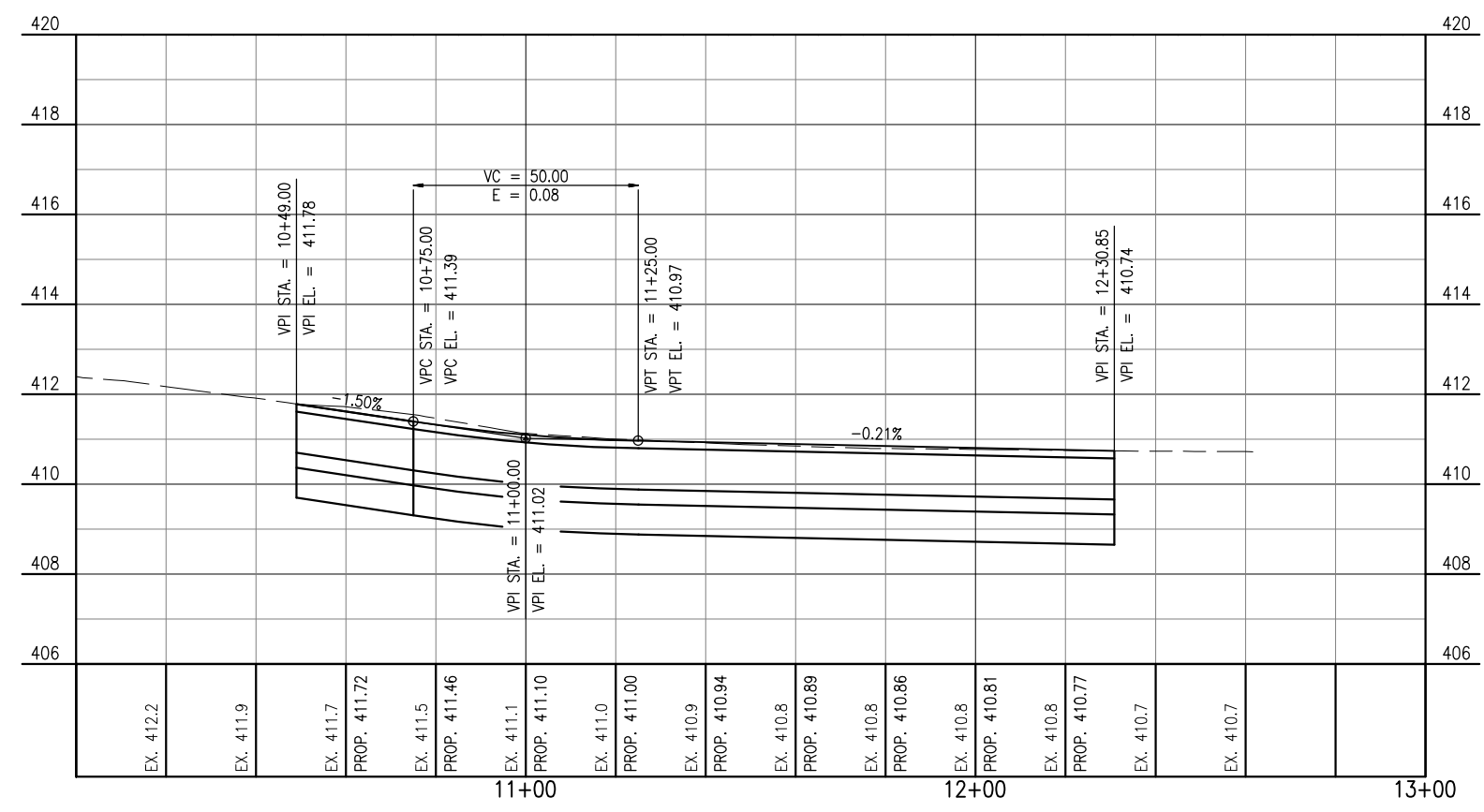
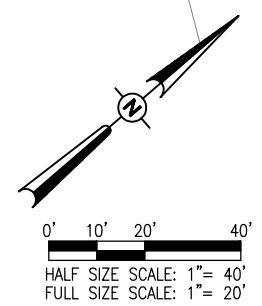
HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED CONSTRUCTION PLAN
 STA. 164+00 TO STA. 174+50





- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED BITUMINOUS PAVEMENT REMOVAL
 - x 411.95 PROPOSED SPOT ELEVATION
 - * 405.11 EXISTING SPOT ELEVATION



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

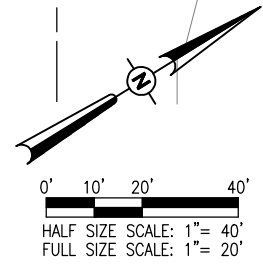
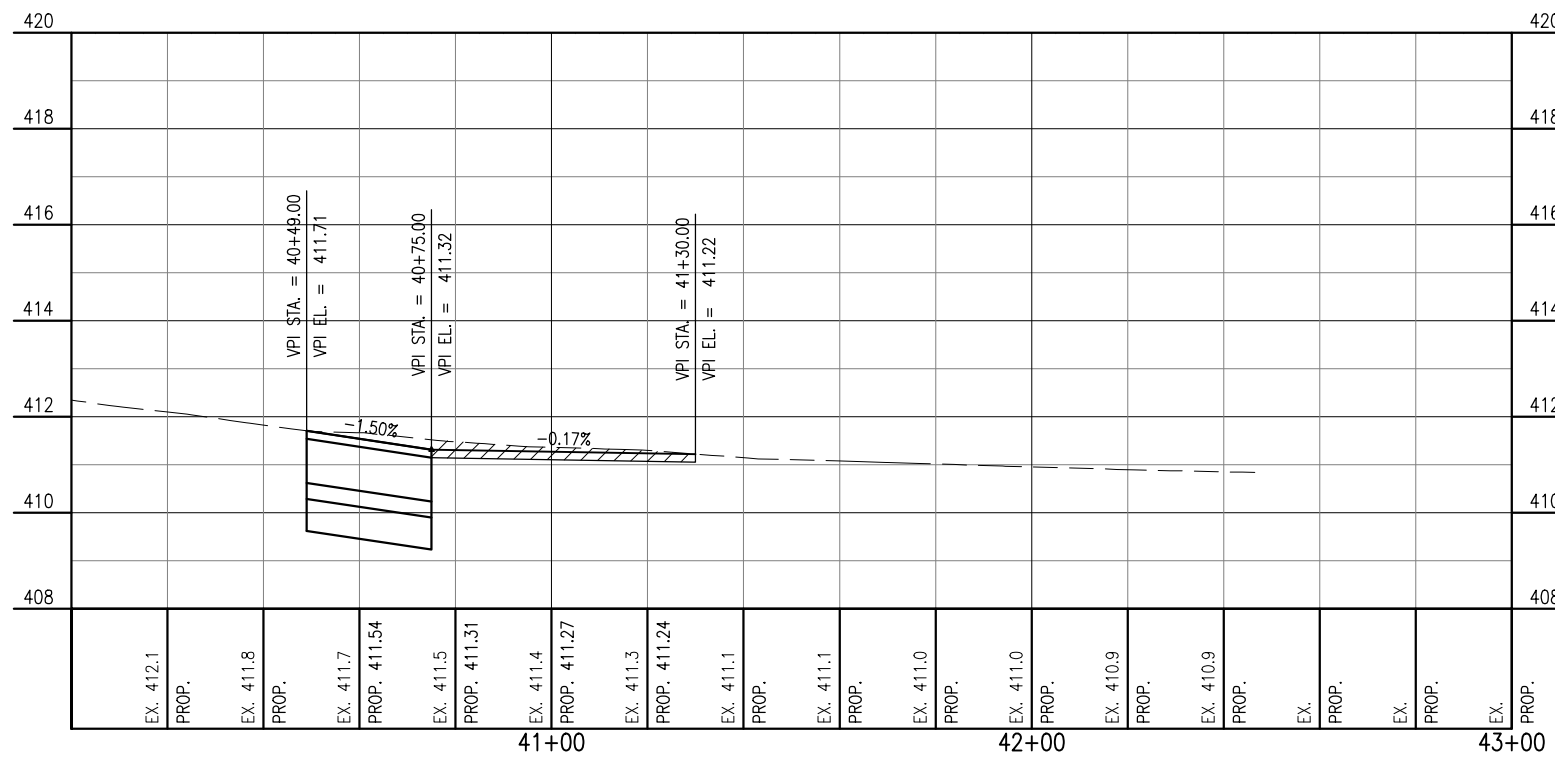
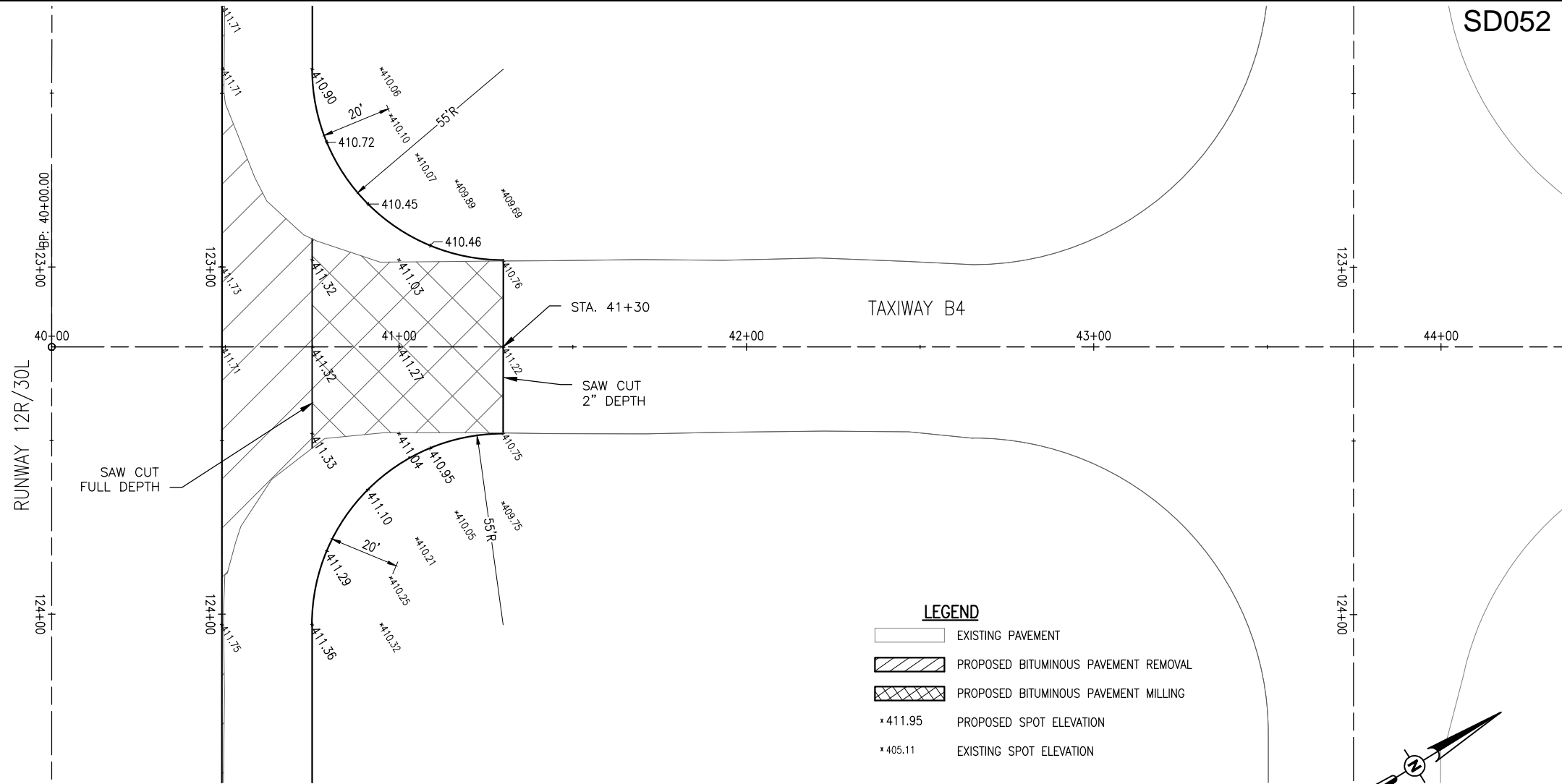
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	02/16/10
Filename: R-701-B1.DWG	JEO	02/16/10
Scale: H, 1" = 20'; V, 1" = 2'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED PLAN AND PROFILE TAXIWAY B1



SD052

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

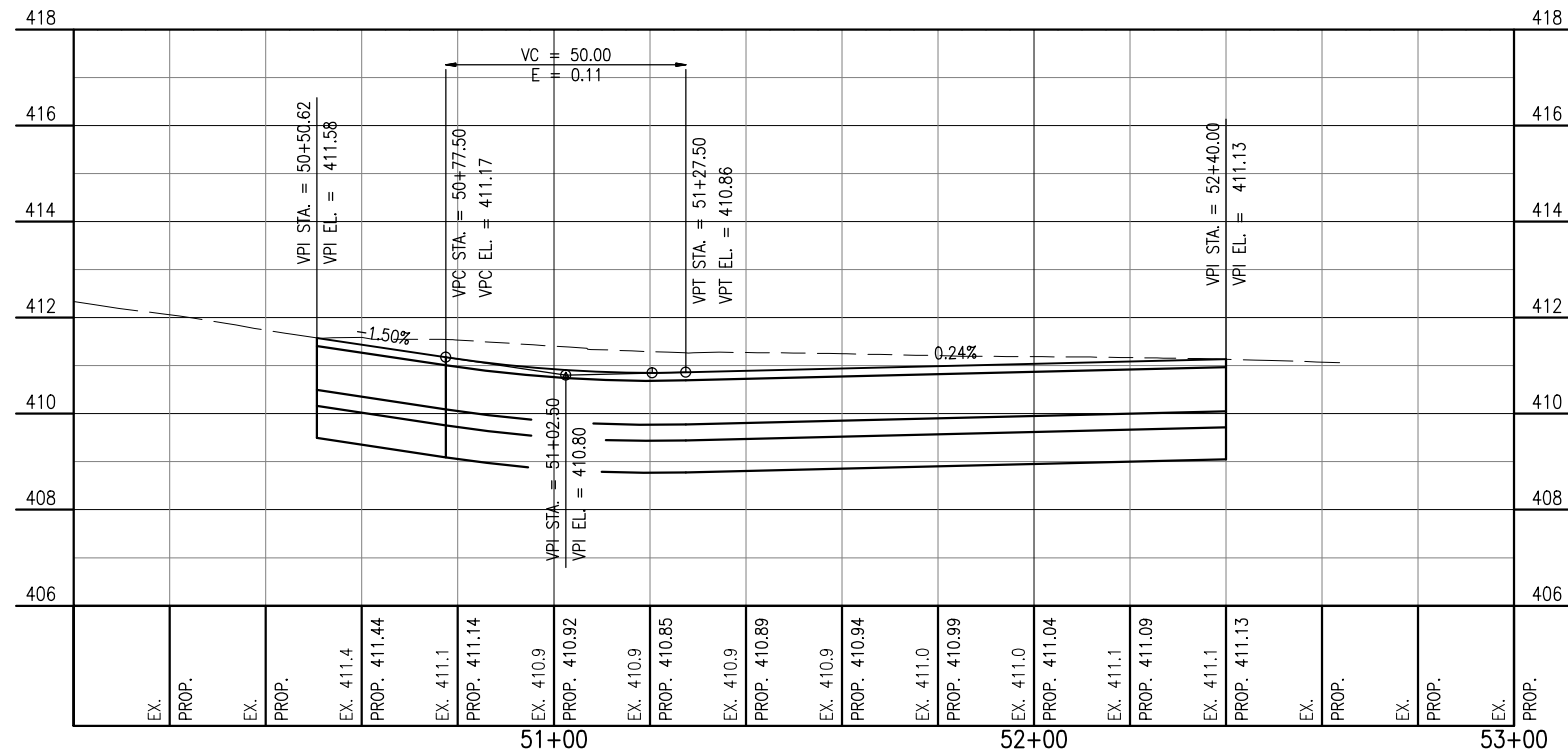
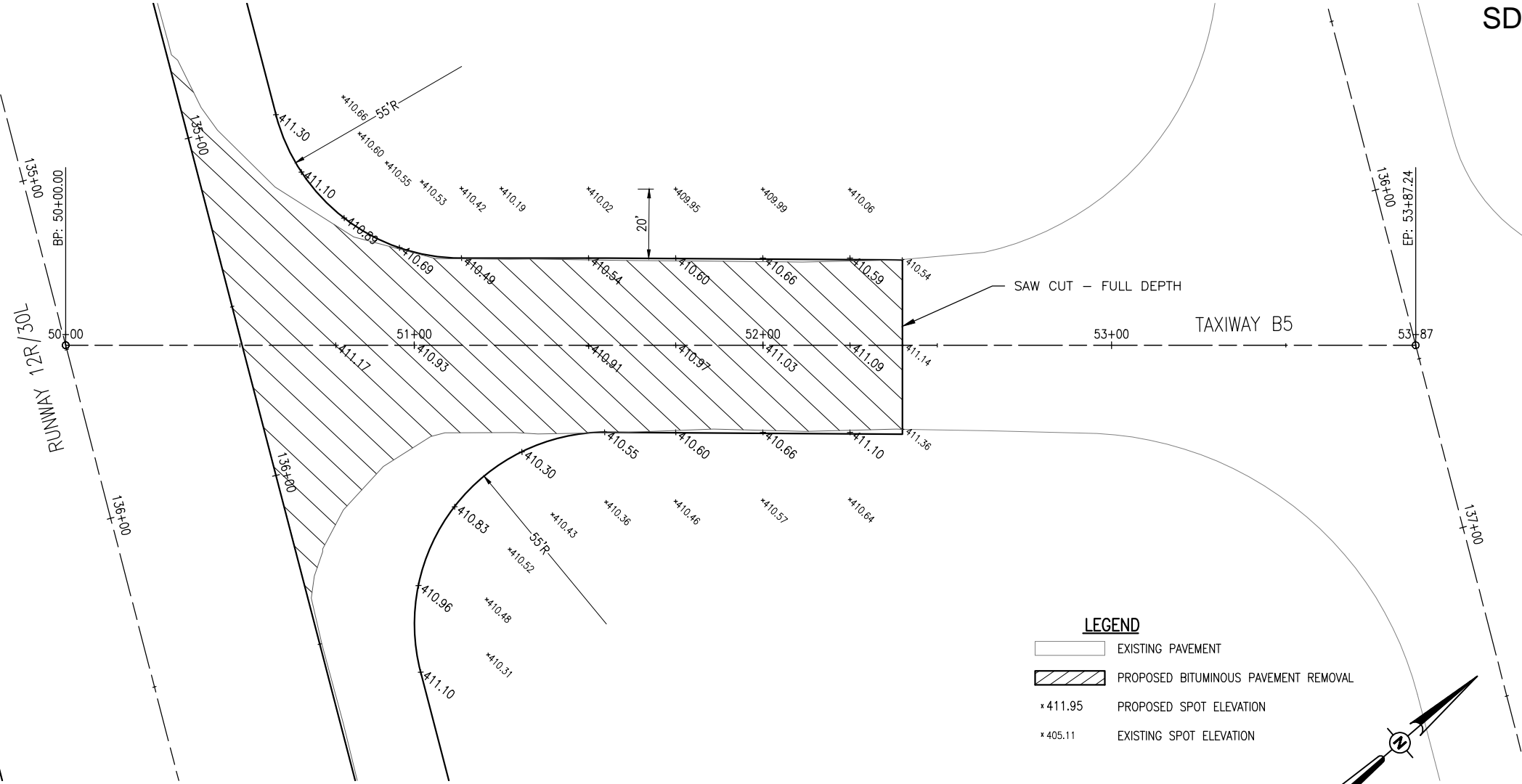
ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	02/16/10
Filename: R-701-B4.DWG	JEO	02/16/10
Scale: H. 1" = 20', V. 1" = 2'	JEO	02/16/10
Date: 04/16/2010	JEO	02/16/10
LAYOUT	JEO	02/16/10
DRAWN	JEO	02/16/10
REVIEWED	JEO	04/01/10

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED PLAN AND PROFILE TAXIWAY B4



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

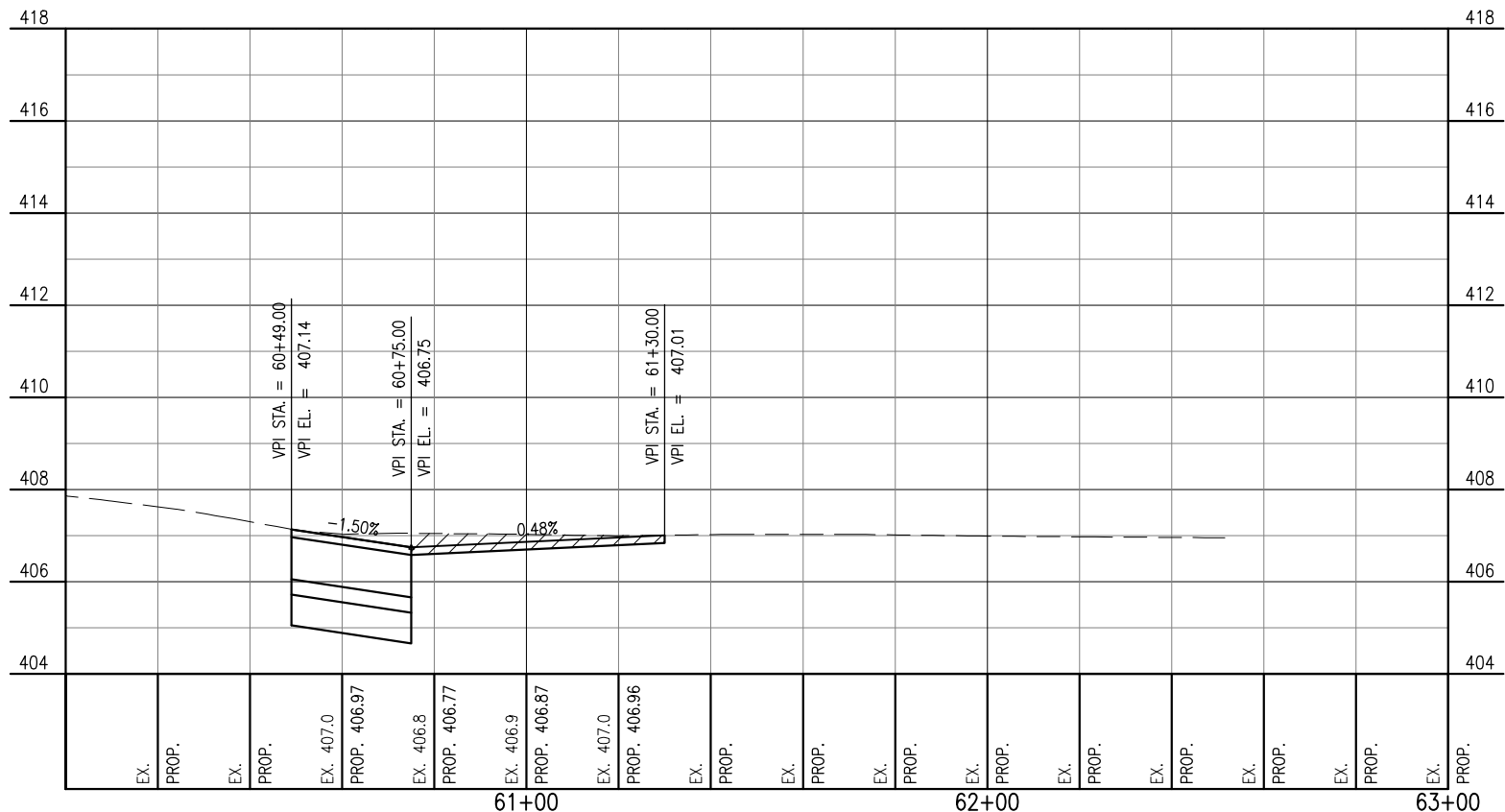
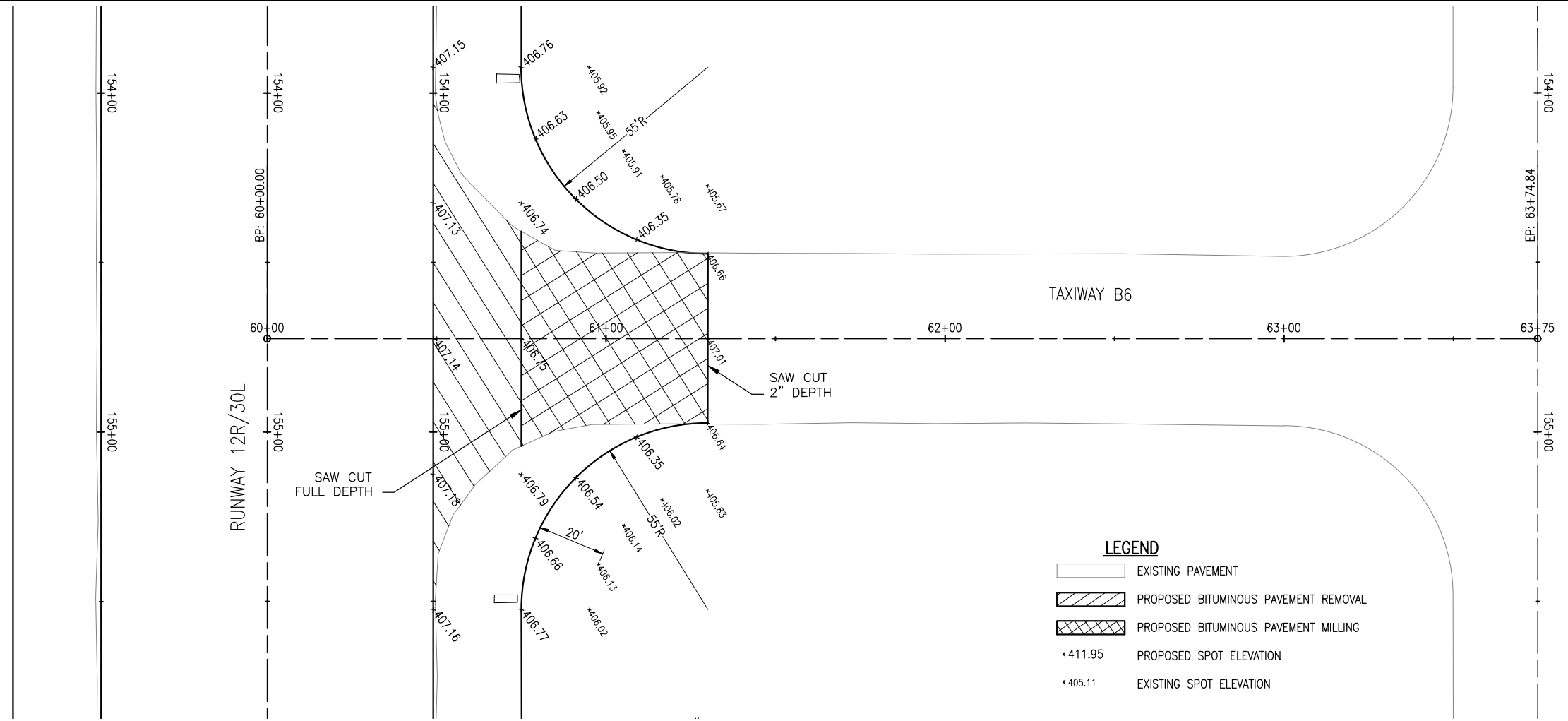
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	JEO	02/16/10
Filename: R-701-B5.DWG	JEO	02/16/10
Scale: H. 1" = 20', V. 1" = 2'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

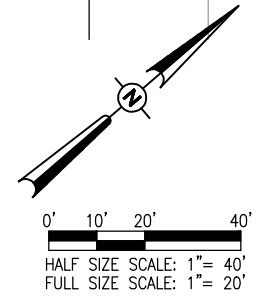
Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED PLAN AND PROFILE TAXIWAY B5



LEGEND

	EXISTING PAVEMENT
	PROPOSED BITUMINOUS PAVEMENT REMOVAL
	PROPOSED BITUMINOUS PAVEMENT MILLING
*411.95	PROPOSED SPOT ELEVATION
*405.11	EXISTING SPOT ELEVATION



SD052

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

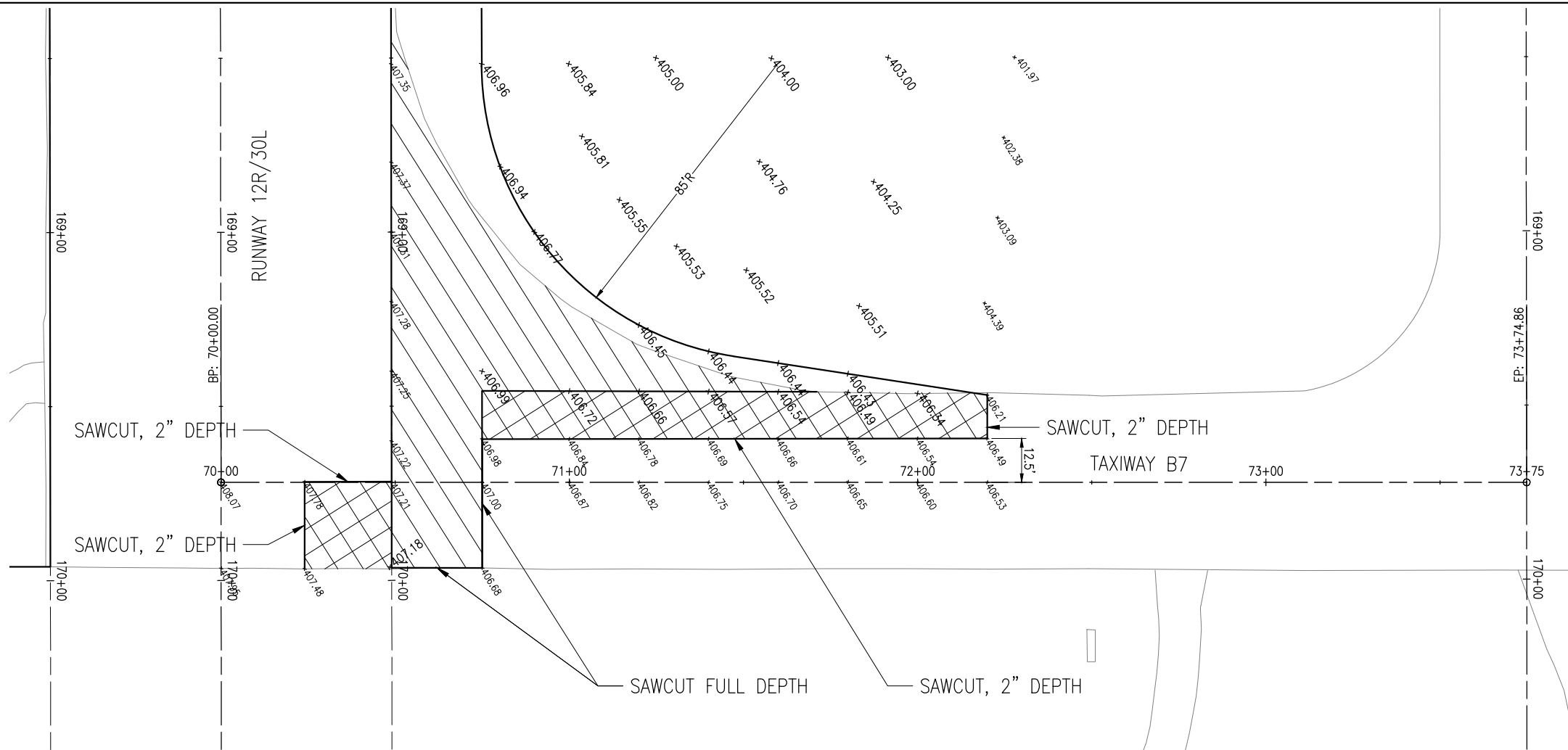
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	02/16/10
Filename: R-701-B6.DWG	JEO	02/16/10
Scale: H, 1" = 20'; V, 1" = 2'	RAW	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

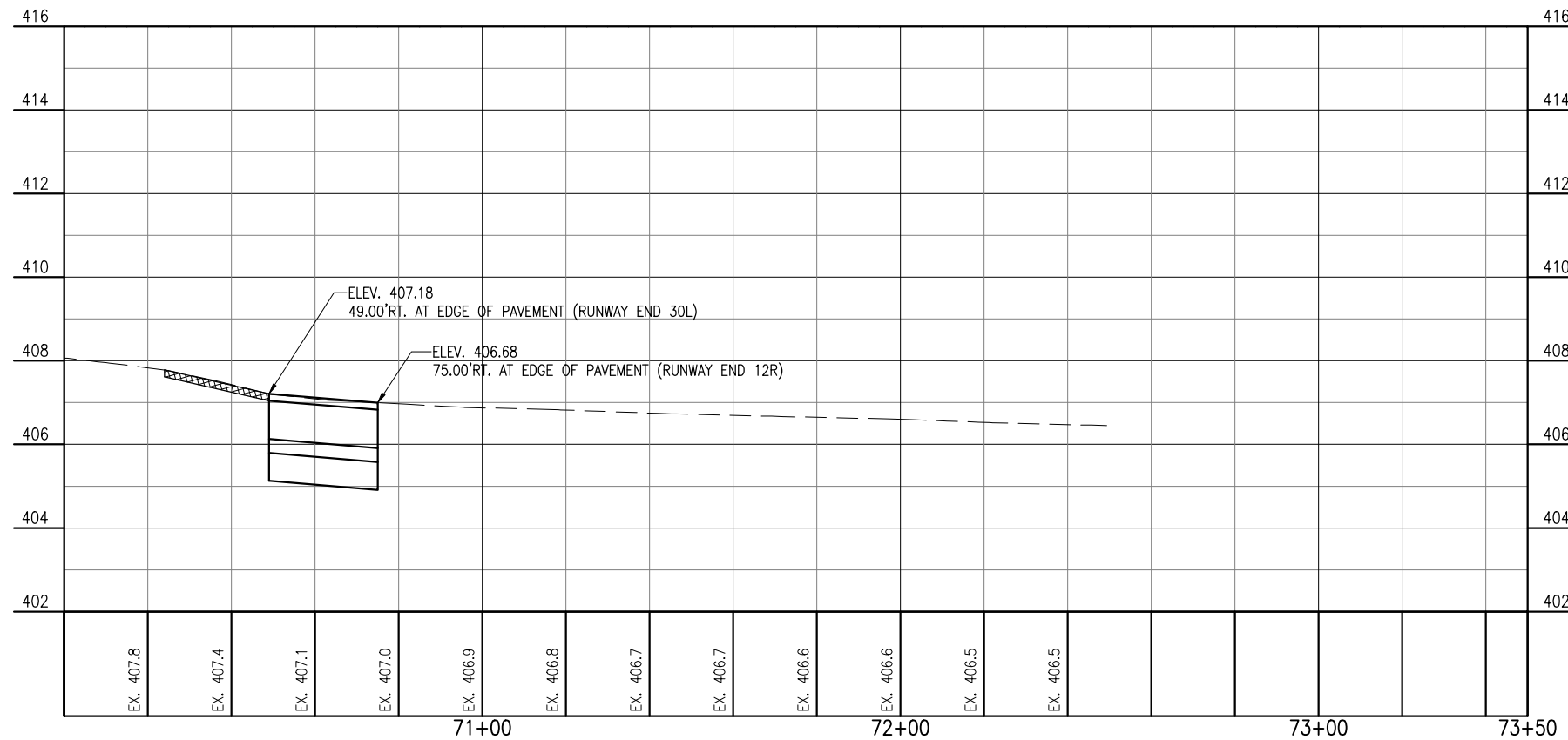
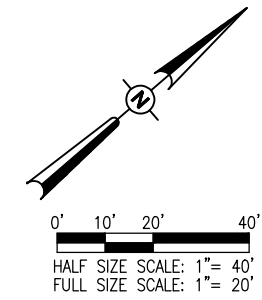
Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED PLAN AND PROFILE TAXIWAY B6



LEGEND

- EXISTING PAVEMENT
- PROPOSED BITUMINOUS PAVEMENT REMOVAL
- PROPOSED BITUMINOUS PAVEMENT MILLING
- *411.95 PROPOSED SPOT ELEVATION
- *405.11 EXISTING SPOT ELEVATION



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

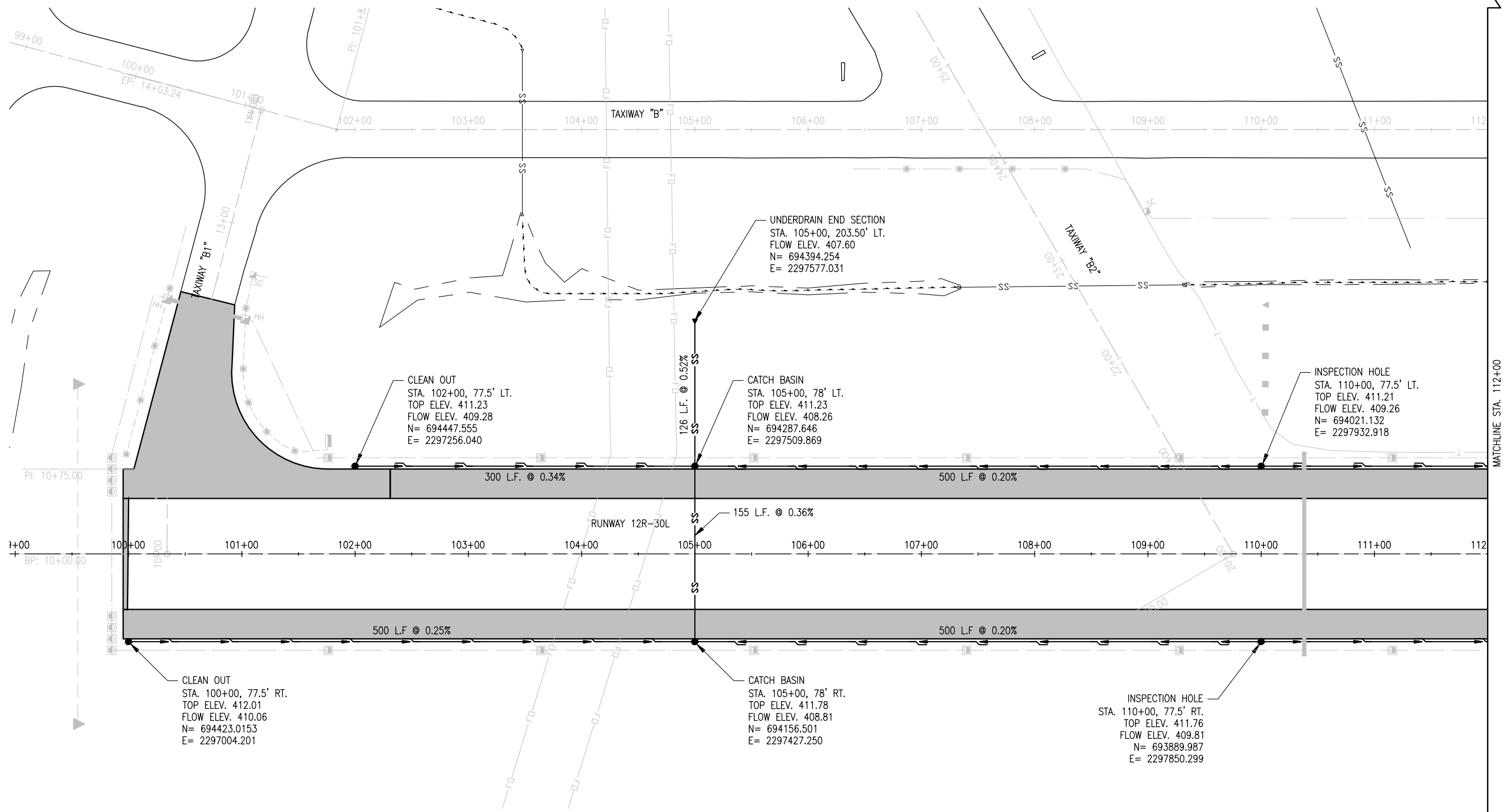
Hanson Project No. 08A0211D	JEO	02/16/10
Filename: R-701-B7.DWG	JEO	02/16/10
Scale: H. 1" = 20' V. 1" = 2'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

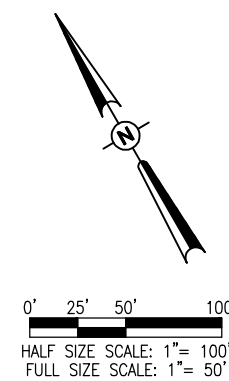
WIDEN RUNWAY 12R/30L

PROPOSED PLAN AND PROFILE TAXIWAY B7



ALL UNDERDRAIN WORK SHOWN APPLIES TO ADDITIVE ALTERNATE NO. 1

- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - PROPOSED CLEAN OUT, INSPECTION HOLE OR CATCH BASIN
 - PROPOSED STORM SEWER
 - PROPOSED UNDERDRAIN
 - PROPOSED FLARED END SECTION
 - EXISTING DITCH
 - EXISTING STORM SEWER
 - EXISTING INLET
 - EXISTING END SECTION



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

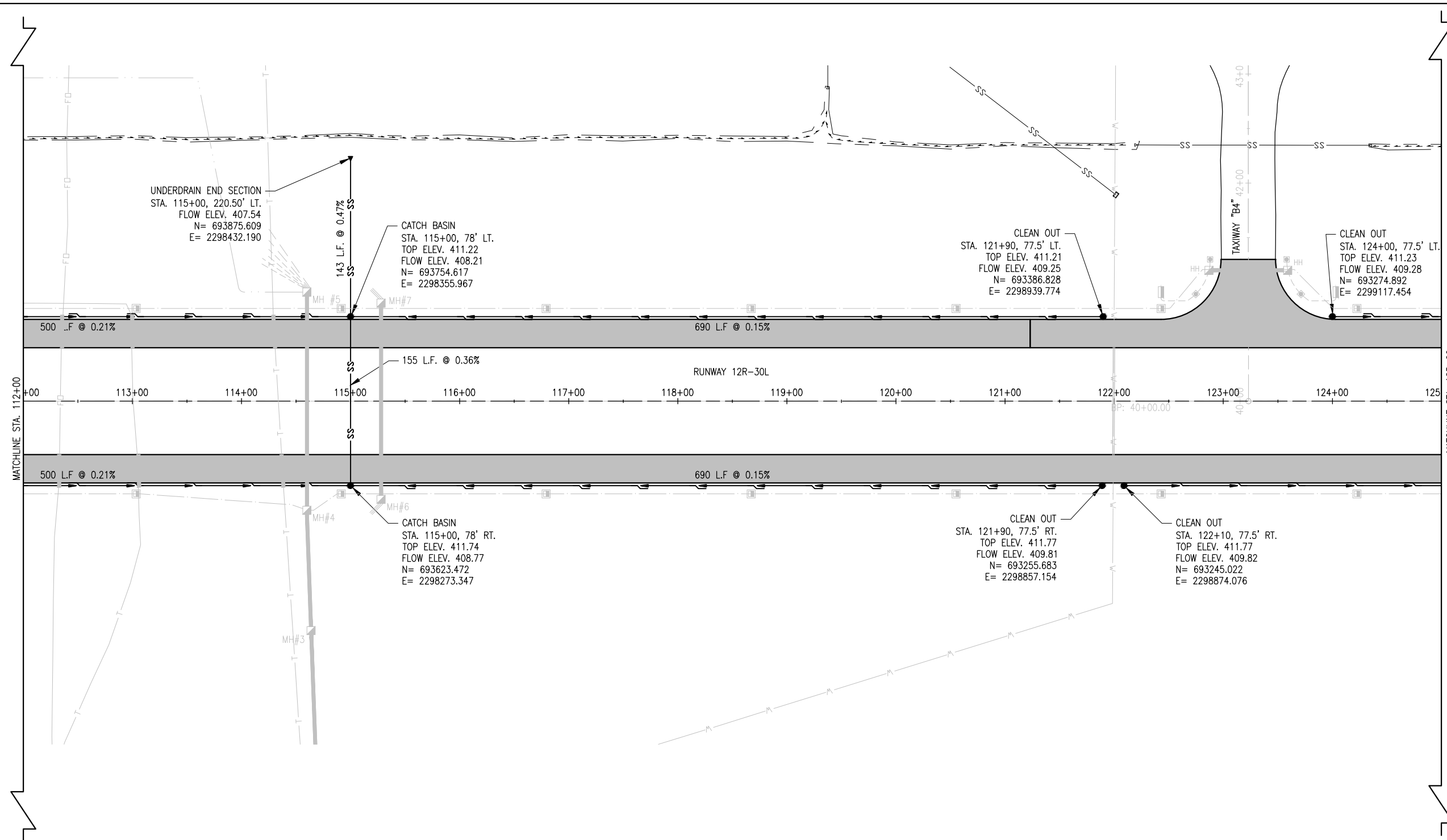
ALP PROJ: 3-17-0039-B22
I.L. PROJ: CPS-3906

Hanson Project No. 08A0211D	RAW	02/16/10
Filename: R-131DRN.DWG	BAK	02/16/10
Scale: 1" = 50'	CAH	04/01/10
Date: 02/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED DRAINAGE PLAN
STA. 99+00 TO STA. 112+00

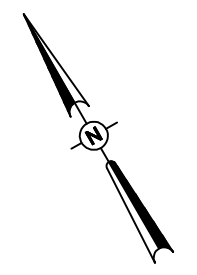
MAY 25, 2010 11:40 AM KINC00394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-131DRN.DWG



ALL UNDERDRAIN WORK SHOWN APPLIES TO ADDITIVE ALTERNATE NO. 1

LEGEND

- EXISTING PAVEMENT
- PROPOSED IMPROVEMENTS
- PROPOSED CLEAN OUT, INSPECTION HOLE OR CATCH BASIN
- PROPOSED STORM SEWER
- PROPOSED UNDERDRAIN
- PROPOSED FLARED END SECTION
- EXISTING DITCH
- EXISTING STORM SEWER
- EXISTING INLET
- EXISTING END SECTION



0' 25' 50' 100'
 HALF SIZE SCALE: 1" = 100'
 FULL SIZE SCALE: 1" = 50'

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

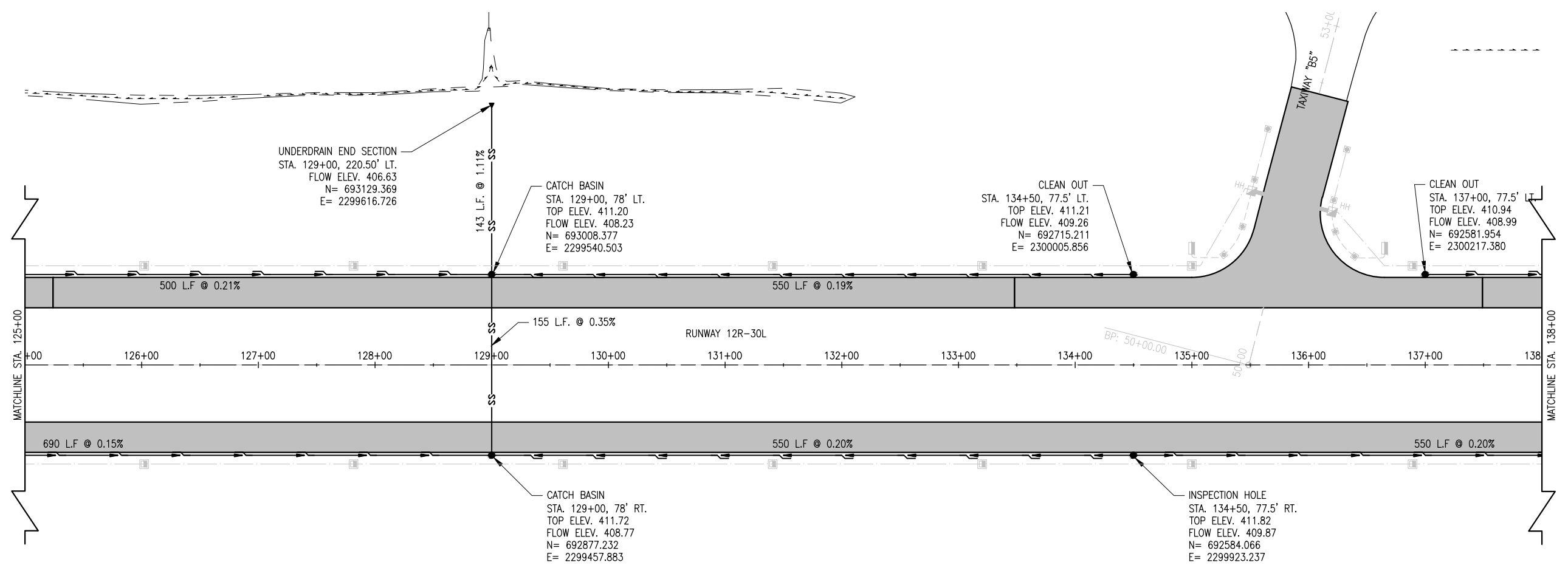
ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	RAW	02/16/10
Filename: R-131DRN.DWG	BAK	02/16/10
Scale: 1" = 50'	CAH	04/01/10
Date: 02/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
 Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

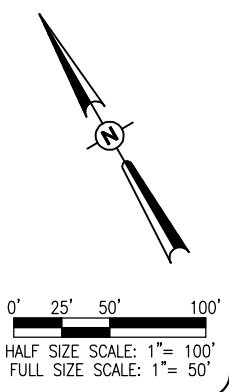
WIDEN RUNWAY 12R/30L
 PROPOSED DRAINAGE PLAN
 STA. 112+00 TO STA. 125+00

MAY 25, 2010 11:41 AM KINGA00394
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET R-131DRN.DWG



ALL UNDERDRAIN WORK SHOWN APPLIES TO ADDITIVE ALTERNATE NO. 1

- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - PROPOSED CLEAN OUT, INSPECTION HOLE OR CATCH BASIN
 - PROPOSED STORM SEWER
 - PROPOSED UNDERDRAIN
 - PROPOSED FLARED END SECTION
 - EXISTING DITCH
 - EXISTING STORM SEWER
 - EXISTING INLET
 - EXISTING END SECTION



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ILL. PROJ.: CPS-3906 A.I.P. PROJ.: 3-17-0039-B22

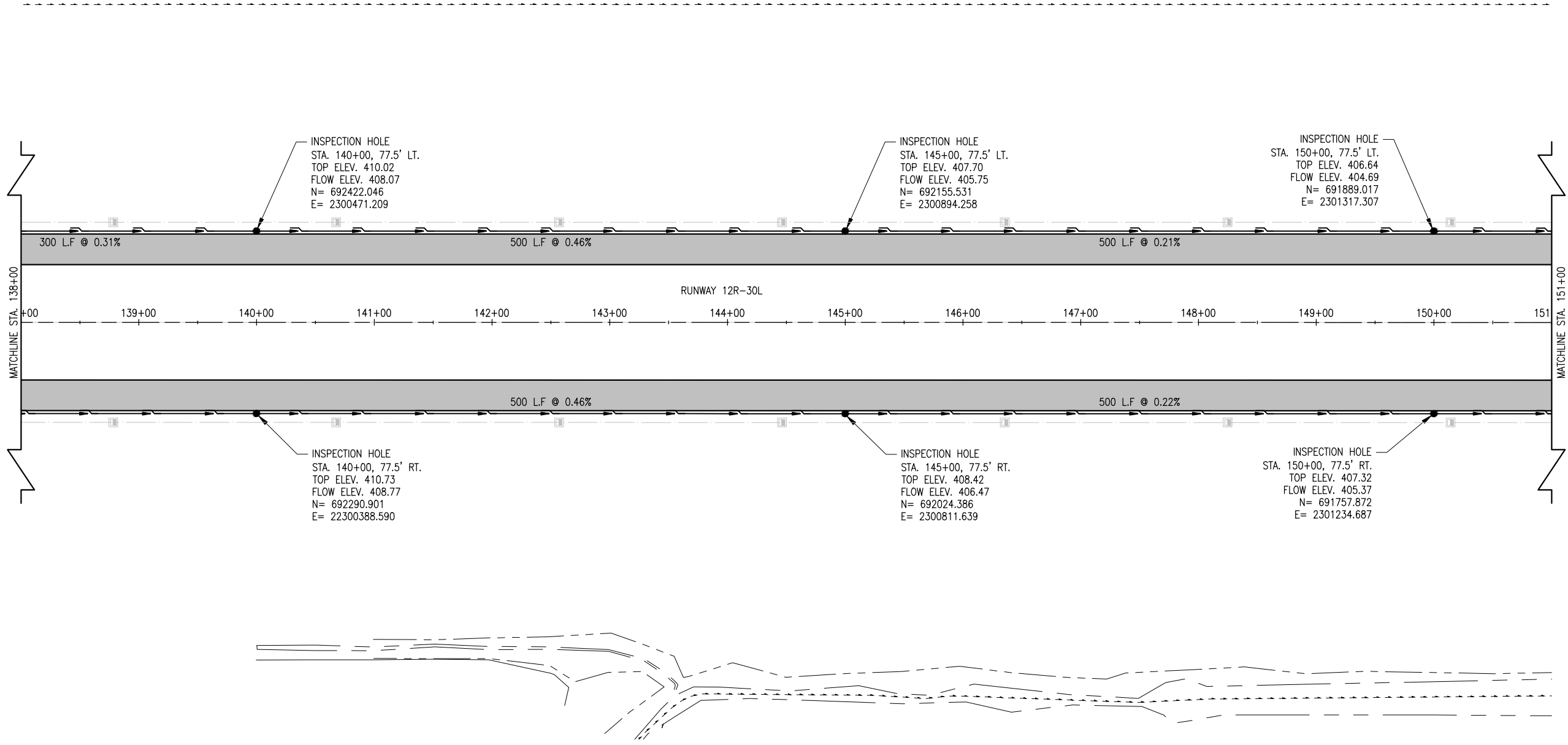
Hanson Project No. 08A0211D	RAW	02/16/10
Filename: R-131DRN.DWG	BAK	02/16/10
Scale: 1" = 50'	CAH	04/01/10
Date: 02/16/2010		

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

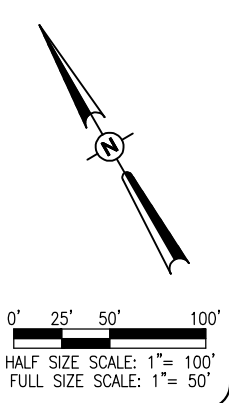
WIDEN RUNWAY 12R/30L

PROPOSED DRAINAGE PLAN
STA. 125+00 TO STA. 138+00



ALL UNDERDRAIN WORK SHOWN APPLIES TO ADDITIVE ALTERNATE NO. 1

- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - PROPOSED CLEAN OUT, INSPECTION HOLE OR CATCH BASIN
 - PROPOSED STORM SEWER
 - PROPOSED UNDERDRAIN
 - PROPOSED FLARED END SECTION
 - EXISTING DITCH
 - EXISTING STORM SEWER
 - EXISTING INLET
 - EXISTING END SECTION



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

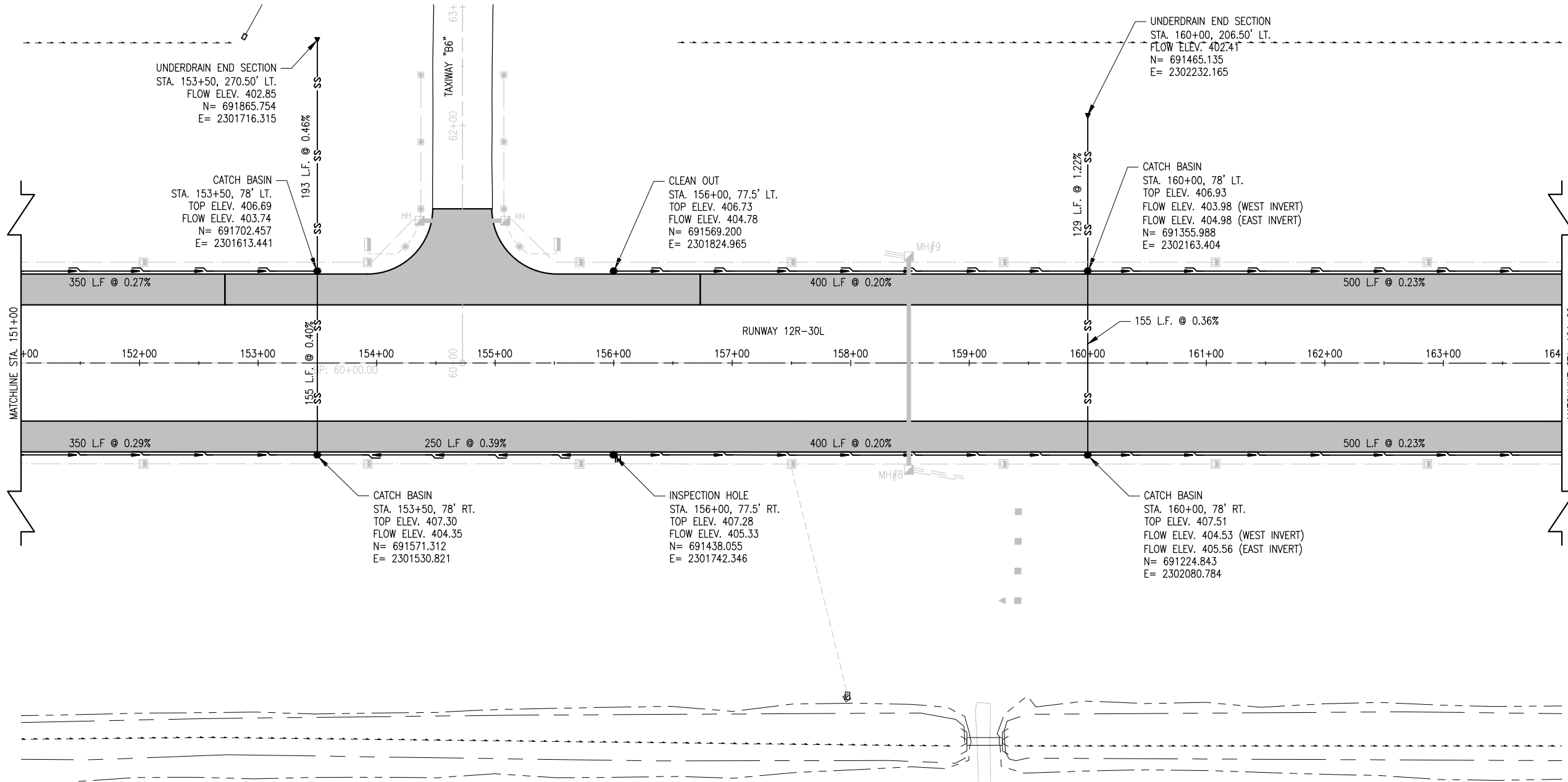
ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	RAW	02/16/10
Filename: R-131DRN.DWG	BAK	02/16/10
Scale: 1" = 50'	RAW	04/01/10
Date: 02/16/2010	REVIEWED	
LAYOUT		
DRAWN		

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

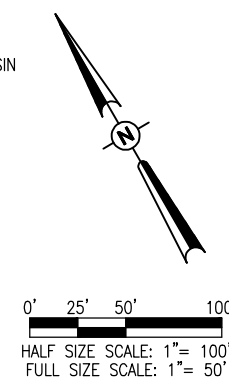
WIDEN RUNWAY 12R/30L
PROPOSED DRAINAGE PLAN
STA. 138+00 TO STA. 151+00

MAY 25, 2010 11:42 AM KINGA00394
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-131DRN.DWG



ALL UNDERDRAIN WORK SHOWN APPLIES TO ADDITIVE ALTERNATE NO. 1

- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - PROPOSED CLEAN OUT, INSPECTION HOLE OR CATCH BASIN
 - PROPOSED STORM SEWER
 - PROPOSED UNDERDRAIN
 - PROPOSED FLARED END SECTION
 - EXISTING DITCH
 - EXISTING STORM SEWER
 - EXISTING INLET
 - EXISTING END SECTION



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

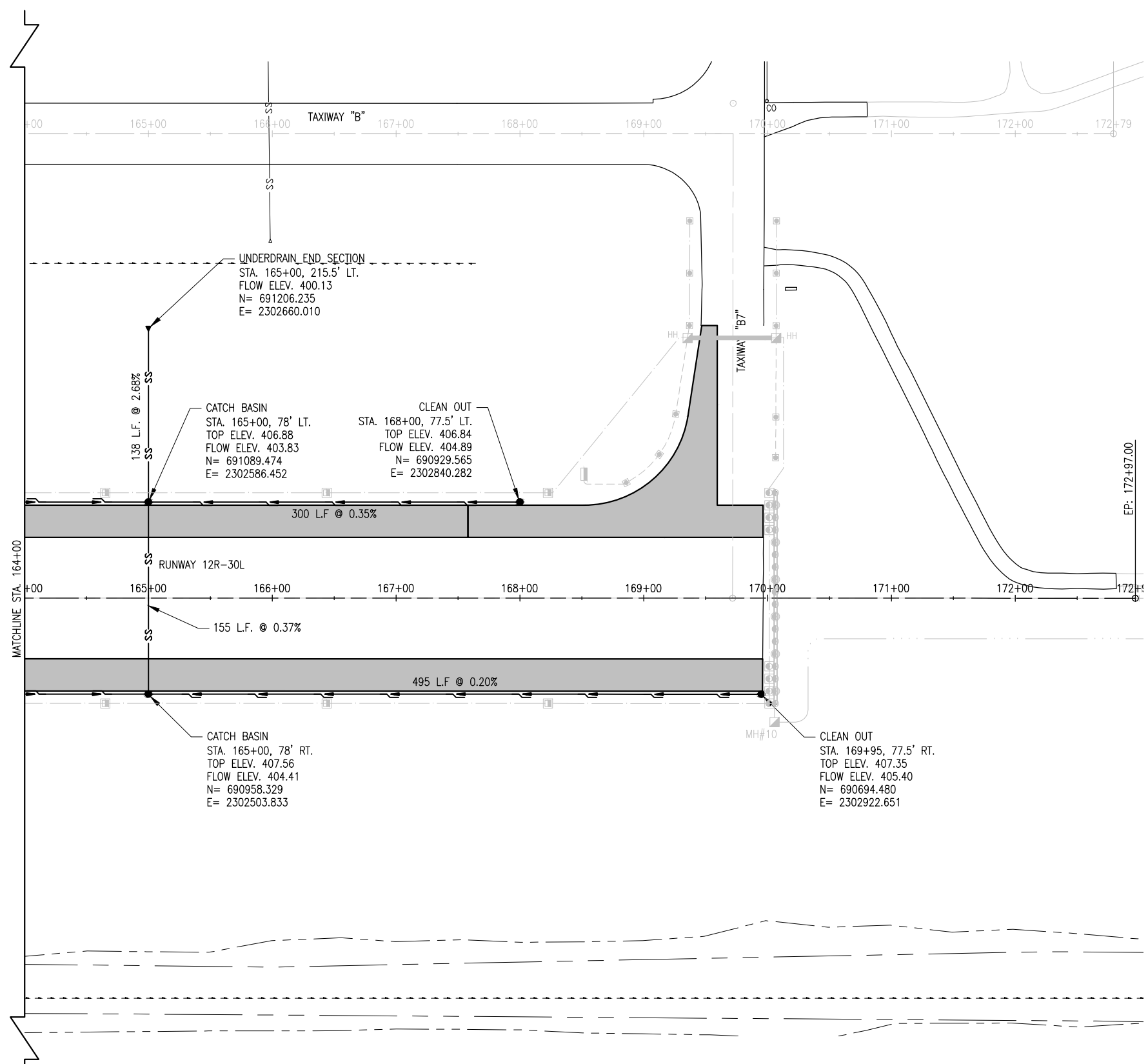
ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	RAW	02/16/10
Filename: R-131DRN.DWG	BAK	02/16/10
Scale: 1"= 50'	CAH	04/01/10
Date: 02/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED DRAINAGE PLAN
STA. 151+00 TO STA. 164+00

MAY 25, 2010 11:42 AM KINGA00394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-131DRN.DWG



ALL UNDERDRAIN WORK SHOWN APPLIES TO ADDITIVE ALTERNATE NO. 1

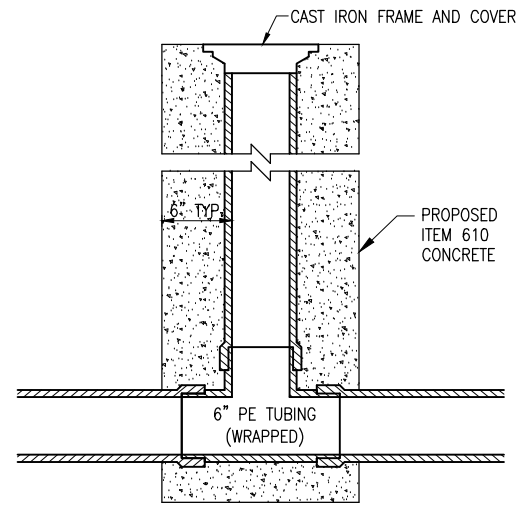
LEGEND

- EXISTING PAVEMENT
- PROPOSED IMPROVEMENTS
- PROPOSED CLEAN OUT, INSPECTION HOLE OR CATCH BASIN
- PROPOSED STORM SEWER
- PROPOSED UNDERDRAIN
- PROPOSED FLARED END SECTION
- EXISTING DITCH
- EXISTING STORM SEWER
- EXISTING INLET
- EXISTING END SECTION

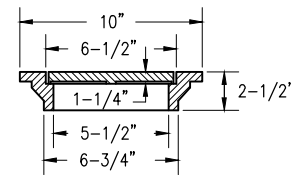
0' 25' 50' 100'
 HALF SIZE SCALE: 1" = 100'
 FULL SIZE SCALE: 1" = 50'

MAY 25, 2010 11:43 AM KINGA00394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-131DRN.DWG

<p>SAINT LOUIS DOWNTOWN AIRPORT A Division of METRO</p>	<p>IL PROJ.: CPS-3906 A.I.P. PROJ.: 3-17-0039-B22</p>									
<p>Hanson Project No. 08A0211D Filename: R-131DRN.DWG Scale: 1" = 50' Date: 02/16/2010</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>LAYOUT</td> <td>RAW</td> <td>02/16/10</td> </tr> <tr> <td>DRAWN</td> <td>BAK</td> <td>02/16/10</td> </tr> <tr> <td>REVIEWED</td> <td>CAH</td> <td>04/01/10</td> </tr> </table>	LAYOUT	RAW	02/16/10	DRAWN	BAK	02/16/10	REVIEWED	CAH	04/01/10
LAYOUT	RAW	02/16/10								
DRAWN	BAK	02/16/10								
REVIEWED	CAH	04/01/10								
<p>HANSON Hanson Professional Services Inc. 4227 Earth City Expressway, Suite 130 St. Louis, MO 63045-1308 Offices Nationwide</p>	<p>WIDEN RUNWAY 12R/30L PROPOSED DRAINAGE PLAN STA. 164+00 TO STA. 173+00</p>									
<p>32</p>	<p>32 of 186 sheets</p>									



INSPECTION HOLE
"NOT TO SCALE"

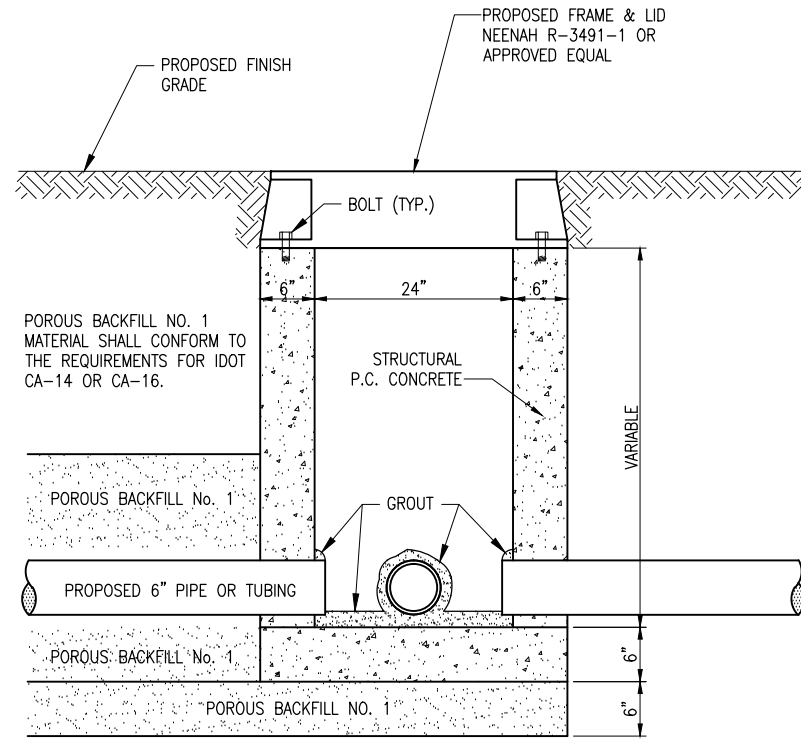


CAST IRON FRAME AND COVER

NEENAH R-6013, DEETER 1810,
EAST JORDAN 2790-6 OR
APPROVED EQUAL

INSPECTION HOLE NOTES

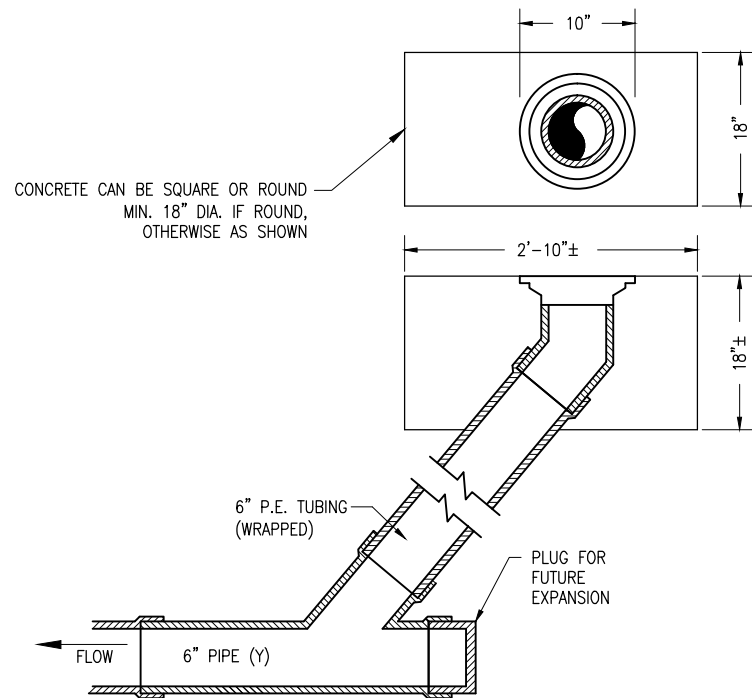
1. DIAMETER OF PIPE AS SPECIFIED.
2. 1/2" CHAMFER TO BE USED ON ALL EXPOSED EDGES OF INSPECTION HOLES.
3. THE CONCRETE SHALL BE STRUCTURAL PORTLAND CEMENT CONCRETE (NON-REINFORCED).
4. THE INSPECTION FRAME AND LID SHALL BE EAST JORDAN 2790-6, NEENAH R-6013 OR DEETER 1810.
5. TOP OF INSPECTION HOLES SHALL BE 2" ABOVE FINISH GROUND LINE AT LOCATION SHOWN ON PLANS.



CATCH BASIN DETAIL

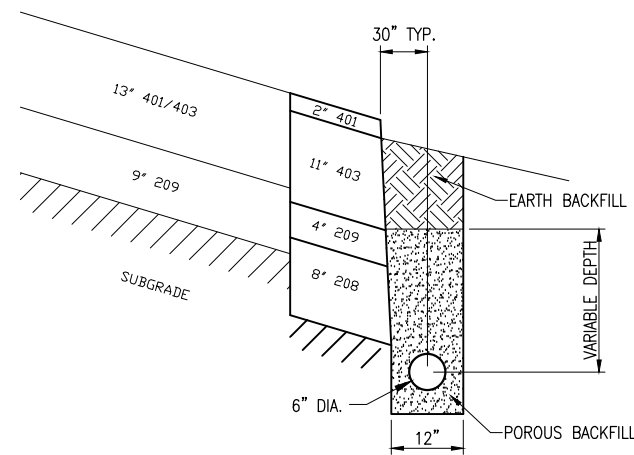
"NOT TO SCALE"

NOTE: CATCH BASIN WILL BE PLACED IMMEDIATELY ADJACENT TO THE PROPOSED COURSE OF OVERSIZED AGGREGATE (HORIZONTALLY) AND THE TUBING DIRECTED TO INTERSECT AS SHOWN.



CLEAN OUT DETAIL

"NOT TO SCALE"



TYPICAL SECTION FOR EDGE DRAINS

"NOT TO SCALE"

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

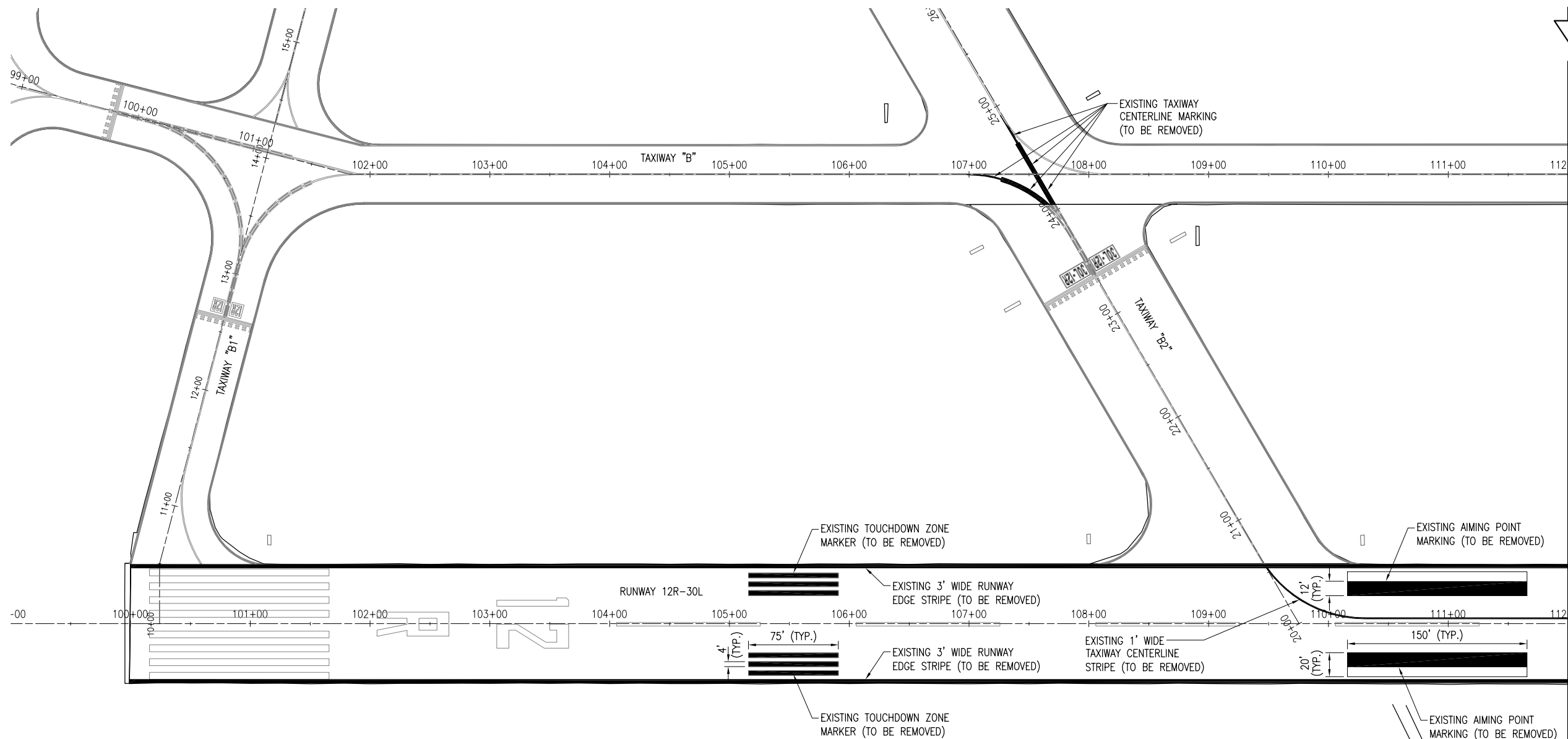
IL PROJ: CPS-3906
A.I.P. PROJ: 3-17-0039-B22

PROJECT No.	DATE	BY	REVIEWED
08A0211D	04/16/2010	CAH	CAH
R-131DRN.DWG	02/16/10	BAK	BAK
Scale 1" = 50'	02/16/10	RAW	RAW
Date	04/16/2010		

HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED DRAINAGE DETAILS

MAY 25, 2010 11:43 AM KINGA00394
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET R-131DRN.DWG



MATCHLINE STA. 112+00

MARKING REMOVAL QUANTITIES	
DESCRIPTION	TOTAL AREA
EXISTING TAXIWAY CENTERLINE STRIPE	1,170
RUNWAY EDGE STRIPE	42,000
RUNWAY TOUCHDOWN ZONE MARKING	9,600
RUNWAY AIMING POINT MARKING	7,200
TOTAL MARKING	59,970 S.F.

620900-PAVEMENT MARKING REMOVAL NOTES

THE EXISTING PAVEMENT MARKING SHALL BE REMOVED IN ACCORDANCE WITH ITEM 620 "PAVEMENT MARKING" AS STATED ON PAGE 277 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS, ADOPTED NOVEMBER 2, 2009.

THE AREAS THAT ARE DESIGNATED FOR REMOVAL ARE SHOWN ON THE CONSTRUCTION PLANS

ALL DEBRIS GENERATED FROM THE REMOVALS SHALL BE REMOVED FROM ALL ACTIVE AIRFIELD PAVEMENTS BY BROOM, WATER, OR OTHER METHOD ACCEPTABLE TO THE AIRPORT, AND SHALL BE CONSIDERED INCIDENTAL TO ITEM AR620900.

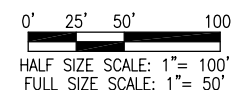
ADJACENT MARKING (TO REMAIN) DISTURBED BY THE REMOVAL OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH ITEM 620, AND SHALL BE CONSIDERED INCIDENTAL TO ITEM AR620900 PAVEMENT MARKING REMOVAL AND NO ADDITIONAL COMPENSATION ALLOWED.

ALL AREAS TO BE REMOVED ARE CALCULATED AREAS. ANY ADDITIONAL AREAS, DUE TO OVER SPRAY, SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE PROPOSED MARKING REMOVAL WILL BE PAID FOR UNDER ITEM: AR620900 PAVEMENT MARKING REMOVAL ___ PER S.F.

LEGEND

	EXISTING PAVEMENT
	EXISTING MARKING
	EXISTING MARKING (TO BE REMOVED)



REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

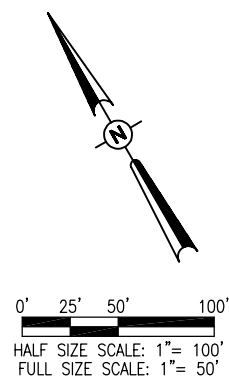
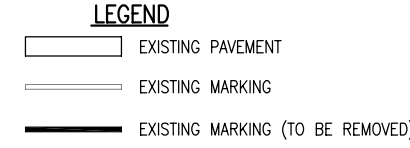
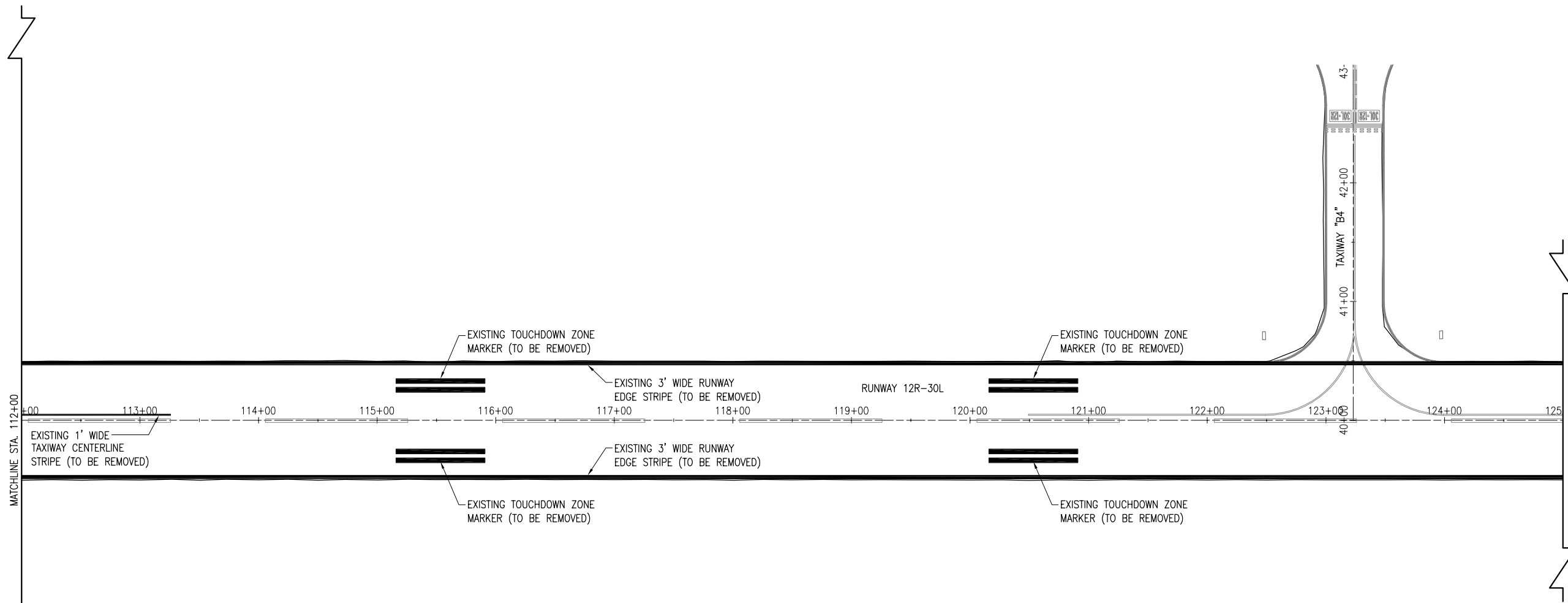
A.I.P. PROJ.: 3-17-0039-B22
I.L. PROJ.: CPS-3906

Hanson Project No. 08A0211D	RAW	02/16/10
File Name: R-151MRK.DWG	BAK	02/16/10
Scale: 1" = 50'	CAH	04/01/10
Date: 04/16/10		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services, Inc.
4227 Fernside Court, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
EXISTING MARKING REMOVAL PLAN
STA. 99+00 TO STA. 112+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

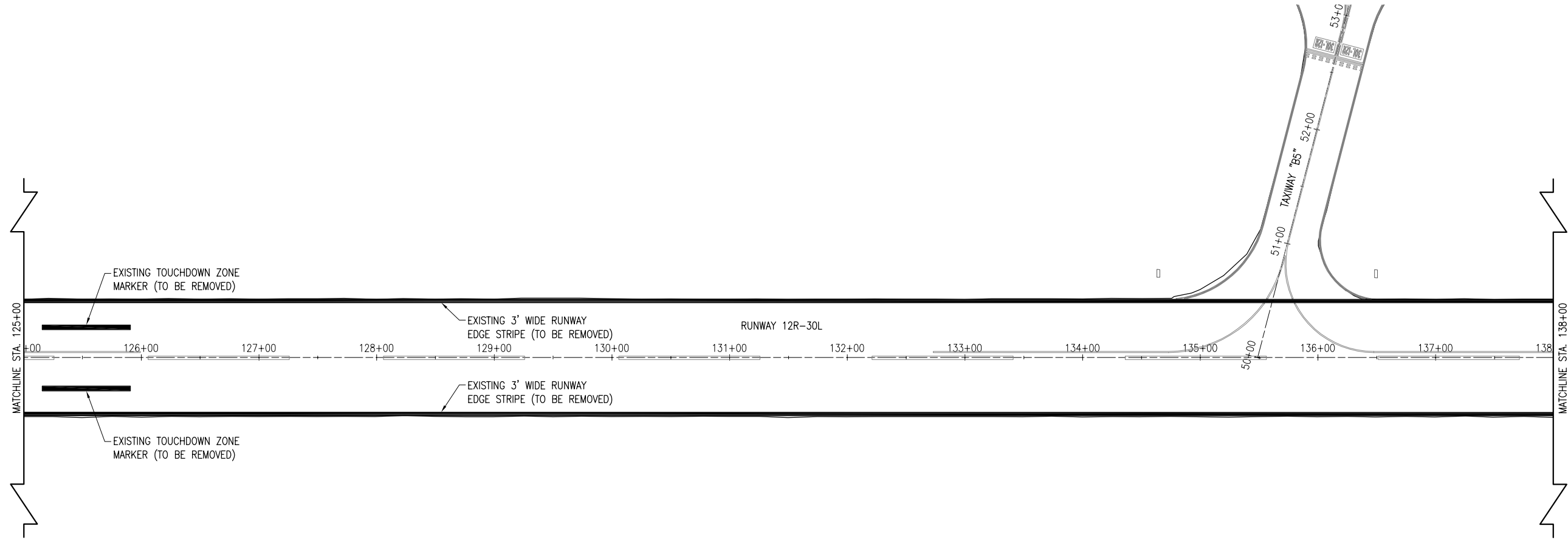
 ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D
 Filename: R-151MRK.DWG
 Scale: 1" = 50'
 Date: 04/16/10




LAYOUT	RAW	02/16/10
DRAWN	BAK	02/16/10
REVIEWED	CAH	04/01/10

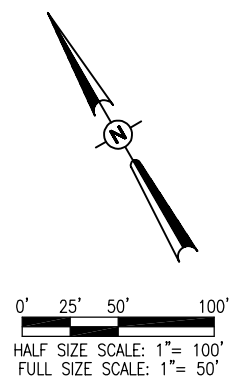
HANSON
 Hanson Professional Services, Inc.
 4227 Fairway Court, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 EXISTING MARKING REMOVAL PLAN
 STA. 112+00 TO STA. 125+00



LEGEND

-  EXISTING PAVEMENT
-  EXISTING MARKING
-  EXISTING MARKING (TO BE REMOVED)



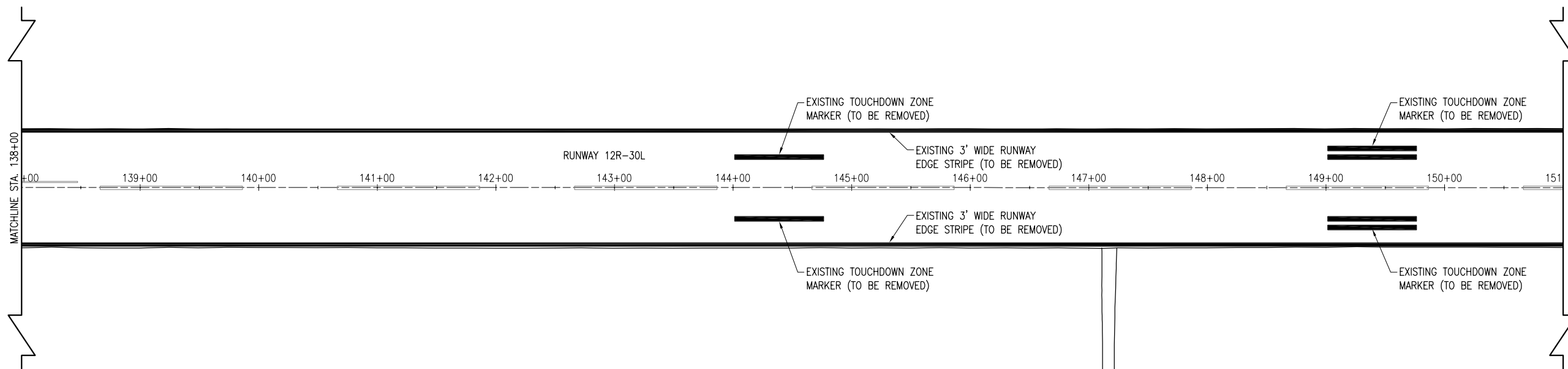
DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO
 ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-151MRK.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW 02/16/10
DRAWN	BAK 02/16/10
REVIEWED	CAH 04/01/10




HANSON
 Hanson Professional Services, Inc.
 4227 Fernside Drive, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

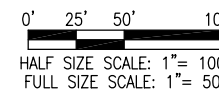
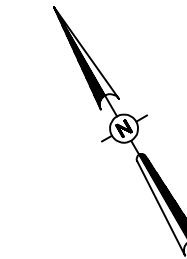
WIDEN RUNWAY 12R/30L
 EXISTING MARKING REMOVAL PLAN
 STA. 125+00 TO STA. 138+00




MAY 25, 2010 10:59 AM HARRI01115
 E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-151MRK.DWG

LEGEND

-  EXISTING PAVEMENT
-  EXISTING MARKING
-  EXISTING MARKING (TO BE REMOVED)



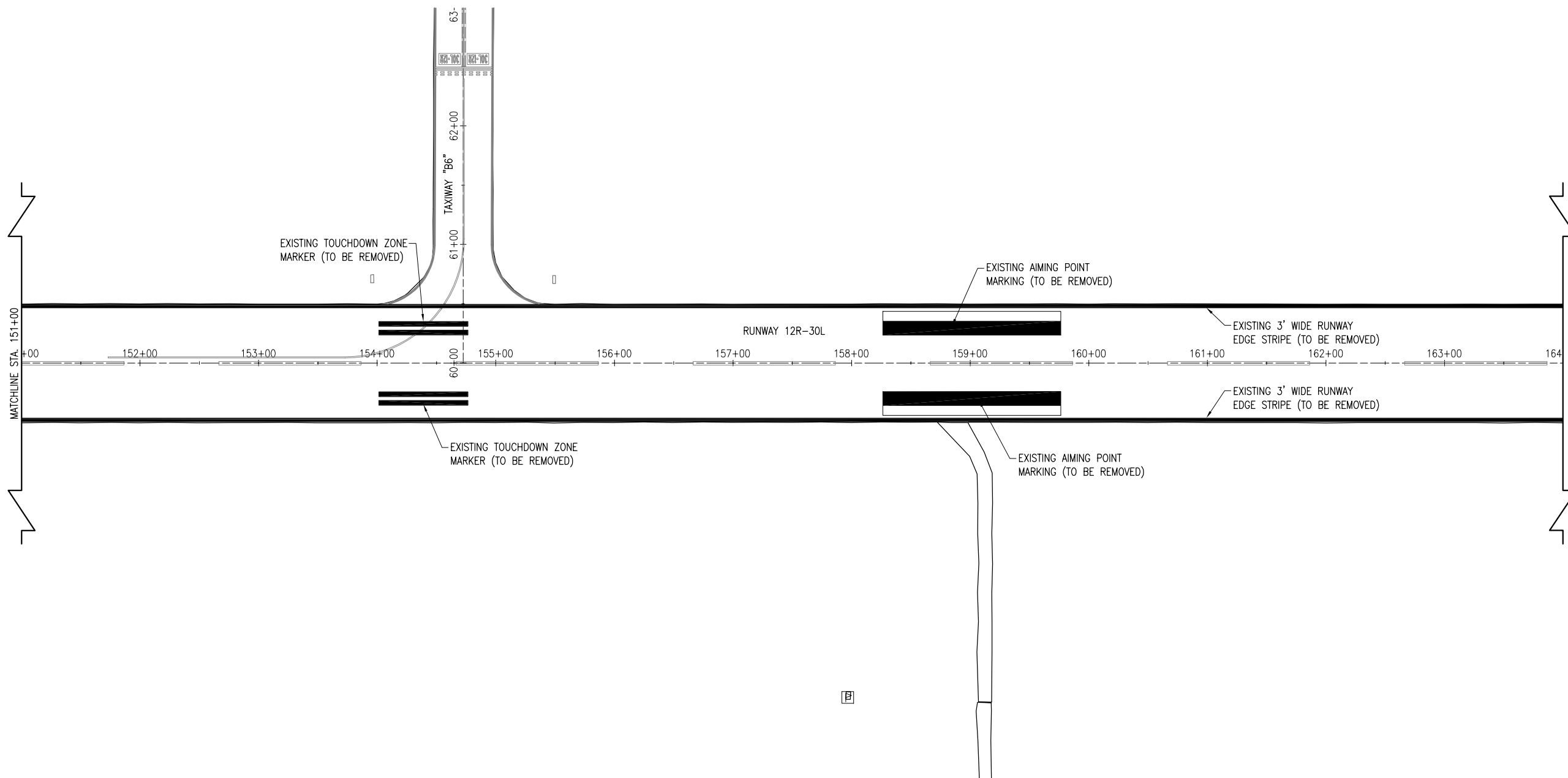
DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

 ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D		
Filename	R-151MRK.DWG		
Scale	1" = 50'		
Date	04/16/10		
LAYOUT	RAW	02/16/10	
DRAWN	BAK	02/16/10	
REVIEWED	CAH	04/01/10	




HANSON
 Hanson Professional Services, Inc.
 4227 Fairway Court, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

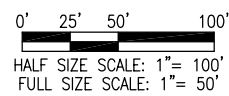
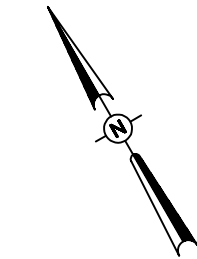
WIDEN RUNWAY 12R/30L
 EXISTING MARKING REMOVAL PLAN
 STA. 138+00 TO STA. 151+00




MAY 25, 2010 11:00 AM HARRIC01115
 E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-151MRK.DWG

LEGEND

-  EXISTING PAVEMENT
-  EXISTING MARKING
-  EXISTING MARKING (TO BE REMOVED)



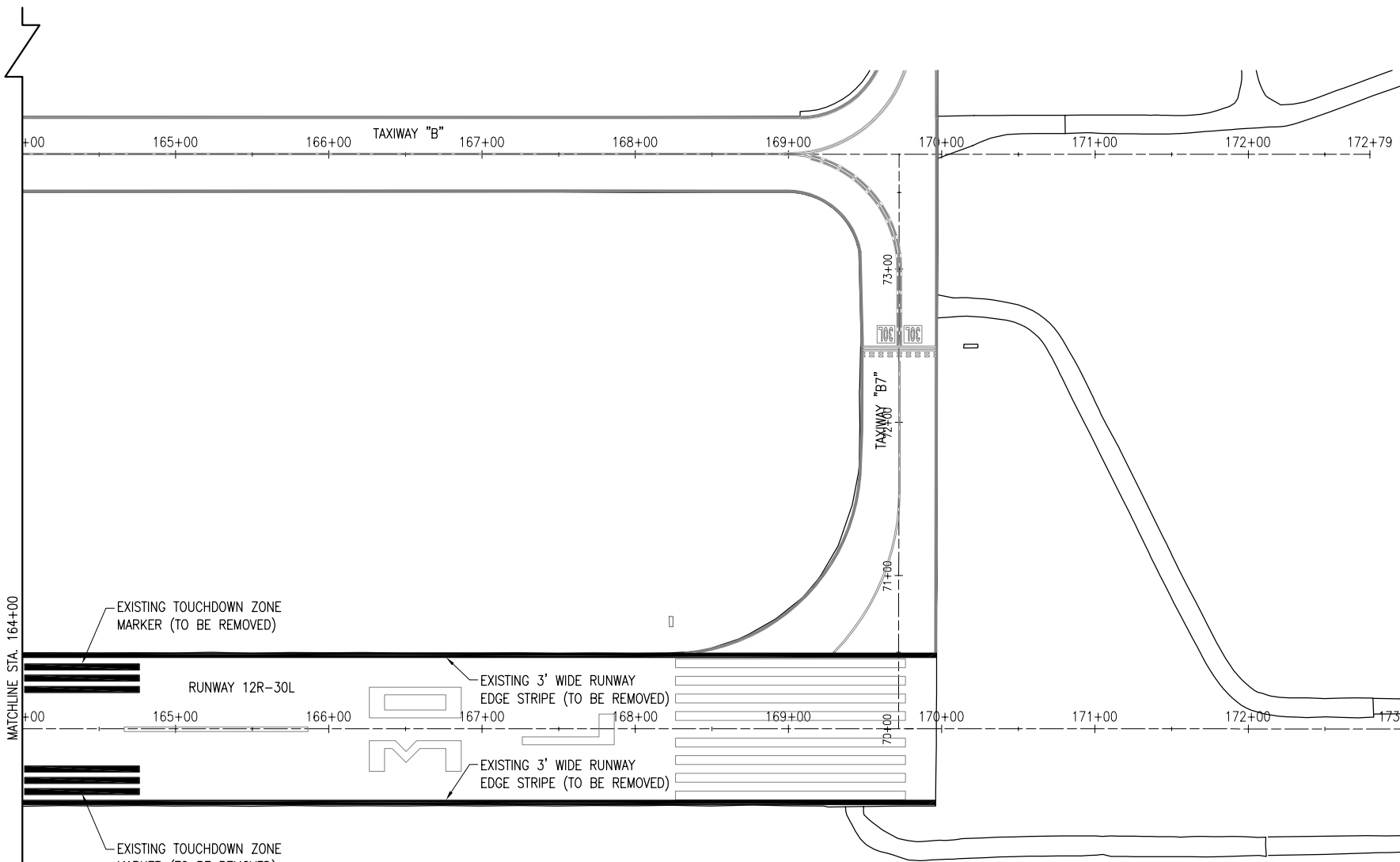
REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

 ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22




Hanson Project No.	08A0211D
Filename	R-151MRK.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW 02/16/10
DRAWN	BAK 02/16/10
REVIEWED	CAH 04/01/10

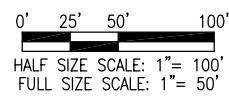
HANSON
 Hanson Professional Services, Inc.
 4227 Fernside Court, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 EXISTING MARKING REMOVAL PLAN
 STA. 151+00 TO STA. 164+00



LEGEND

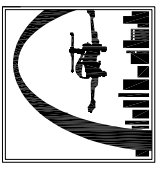
-  EXISTING PAVEMENT
-  EXISTING MARKING
-  EXISTING MARKING (TO BE REMOVED)



MAY 25, 2010 11:00 AM HARRI01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-151MRK.DWG

REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO



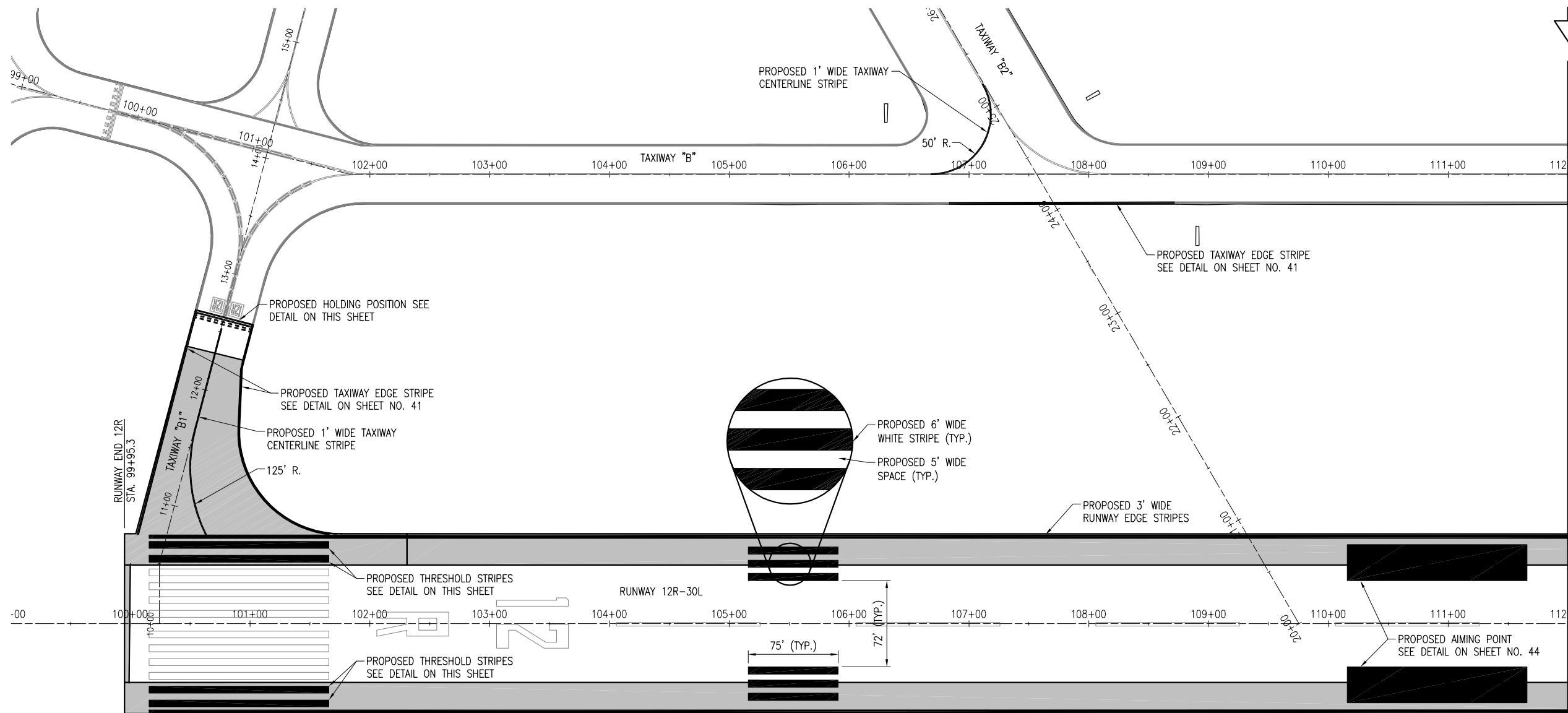
ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-151MRK.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW 02/16/10
DRAWN	BAK 02/16/10
REVIEWED	CAH 04/01/10



Hanson Professional Services, Inc.
4227 Fairway Court, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
EXISTING MARKING REMOVAL PLAN
STA. 164+00 TO STA. 173+00



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 TAXIWAY CENTERLINE, HOLDING LINE, RUNWAY EDGE STRIPE AND THRESHOLD BARS IN ACCORDANCE WITH THESE SPECIFICATIONS AND AT THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. ALL TAXIWAY CENTERLINES AND HOLDING LINES MARKING WILL BE YELLOW IN COLOR WITH A 6-IN BLACK BORDER. ALL RUNWAY EDGE STRIPES AND THRESHOLD STRIPES WILL BE WHITE IN COLOR BUT WILL NOT HAVE A 6-IN BLACK BORDER. THE PROPOSED PAVEMENT MARKING WILL BE APPLIED IN TWO APPLICATIONS.

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.

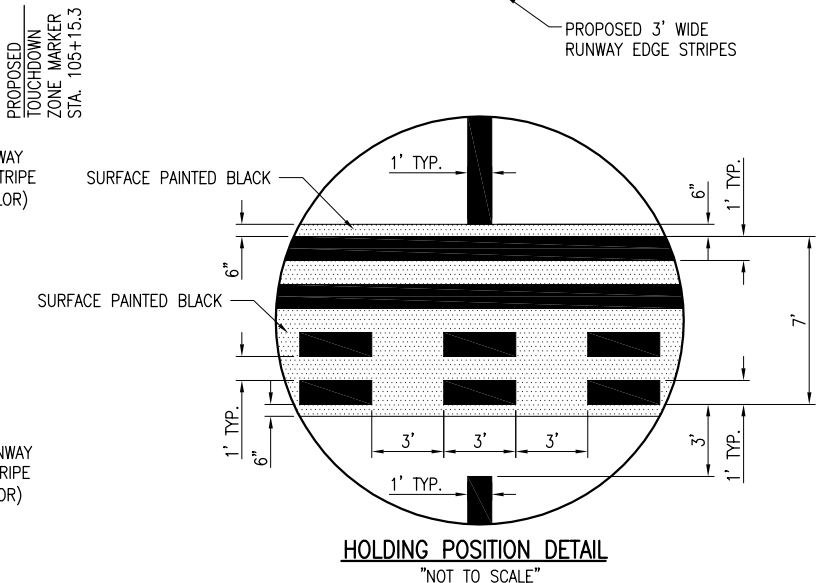
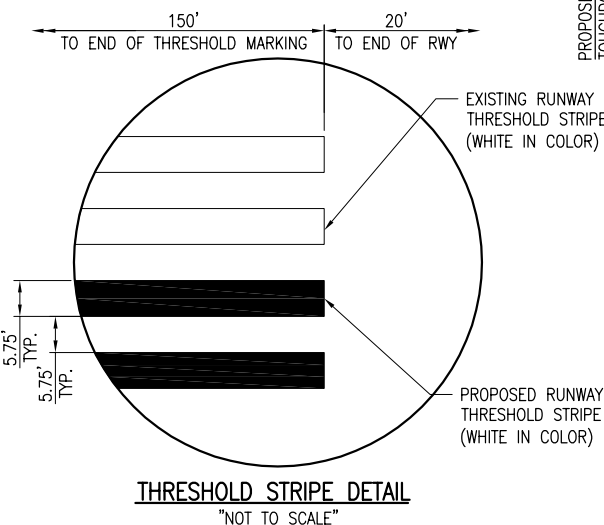
ALL CURING COMPOUND WILL BE CLEANED FROM CONCRETE PAVEMENT PRIOR TO APPLYING PAINT WHERE APPLICABLE. NO EXCEPTIONS.

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 MARKING.

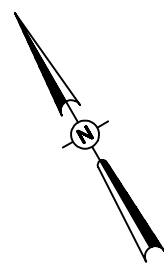
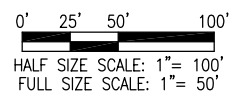
CUT-OFF SHEETS WILL BE REQUIRED TO INSURE STRAIGHT EDGES.

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



LEGEND

	EXISTING PAVEMENT
	PROPOSED IMPROVEMENTS
	EXISTING MARKING
	PROPOSED MARKING



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

 ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	RAW	02/16/10
File Name: R-152MRK.DWG	BAK	02/16/10
Scale: 1" = 50'	CAH	04/01/10
Date: 04/16/10		

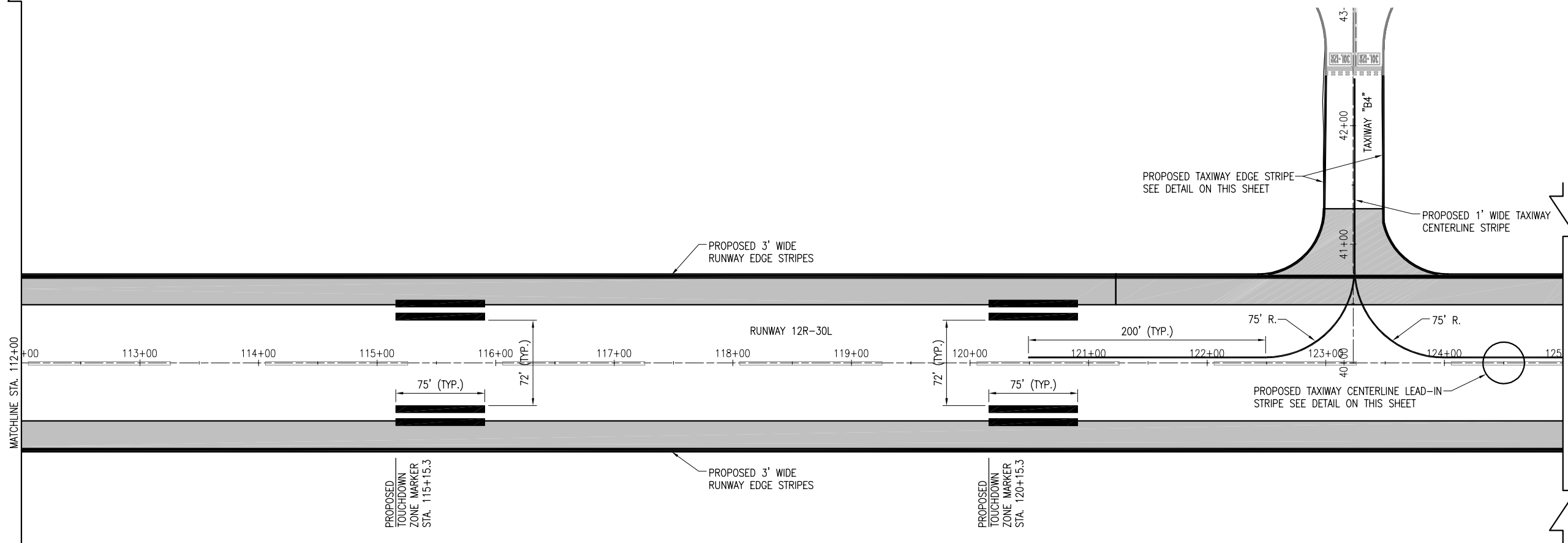
HANSON
 Hanson Professional Services, Inc.
 4227 Fernside Court, Ste. 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED MARKING PLAN
 STA. 99+00 TO STA. 112+00

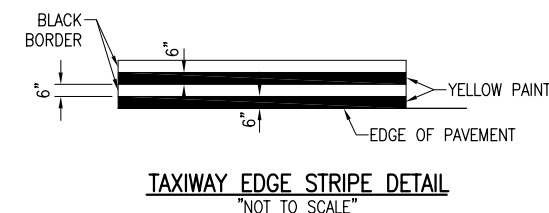
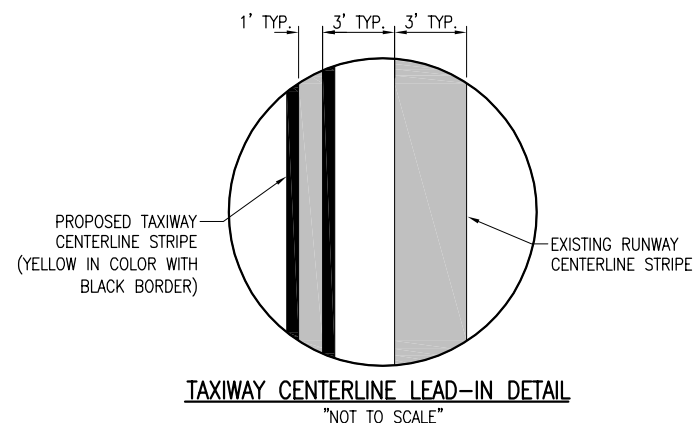
MAY 25, 2010 11:08 AM HARR01115 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-152MRK.DWG

MATCHLINE STA. 112+00

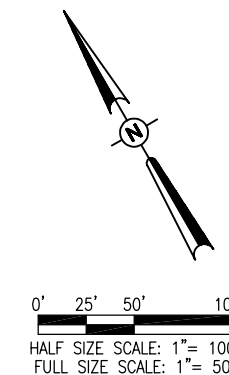
MATCHLINE STA. 125+00



MARKING QUANTITIES			
DESCRIPTION	UNIT AREA	NO. REQUIRED	TOTAL AREA
THRESHOLD STRIPES	862.5	8	6,900
TOUCHDOWN ZONE MARKERS	450.0	32	14,400
AIMING POINT MARKERS	4,500.0	4	18,000
RUNWAY EDGE STRIPES	20,880.0	2	41,768
TOTAL WHITE			81,068
HOLDING LINE	120.0	2	240
TAXIWAY CENTERLINE	2,535.0	1	2,535
TAXIWAY EDGE STRIPE	2,222.0	1	2,222
TOTAL YELLOW			4,997
HOLDING LINE	160.0	2	320
TAXIWAY CENTERLINE	2,535.0	1	2,535
TAXIWAY EDGE STRIPE	2,222.0	1	2,222
TOTAL BLACK			5,077
TOTAL MARKING			91,142



- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - EXISTING MARKING
 - PROPOSED MARKING



DATE	REVISION	BY

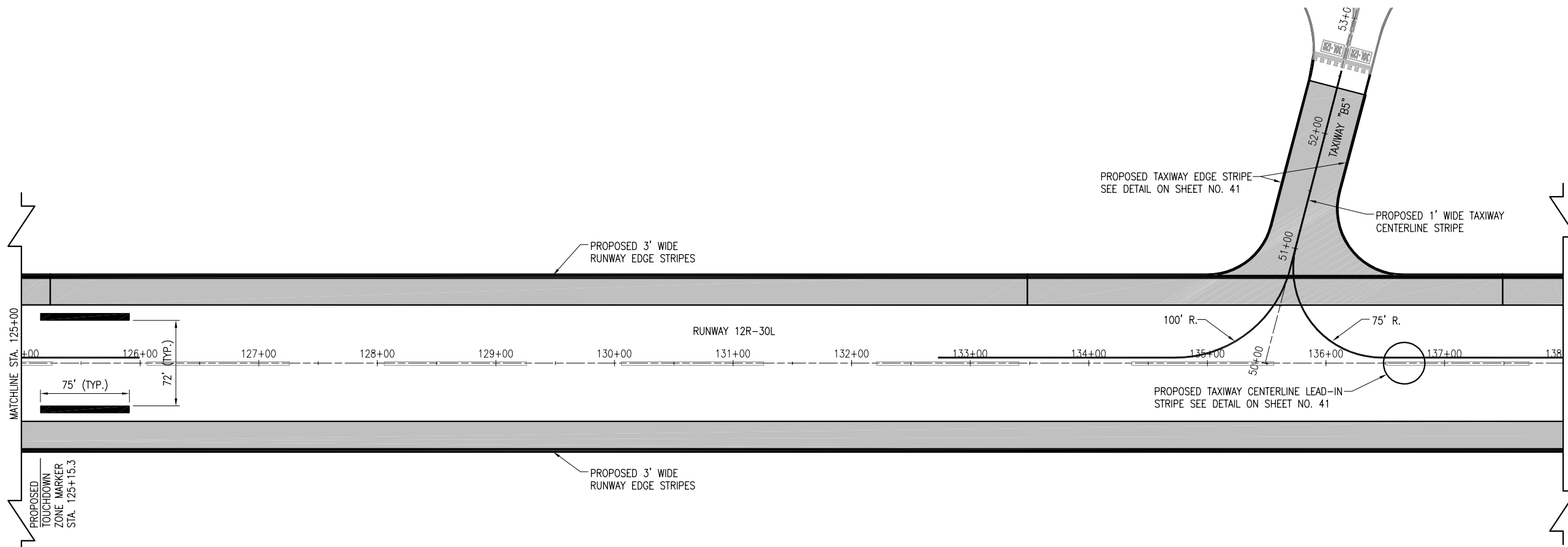
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22

IL PROJ.: CPS-3906

Hanson Project No.	08A0211D
File Name	R-152MRK.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW
DRAWN	BAK
REVIEWED	CAH
	02/16/10
	02/16/10
	04/01/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Court, Ste. 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED MARKING PLAN
STA. 112+00 TO STA. 125+00



PROPOSED TAXIWAY EDGE STRIPE
SEE DETAIL ON SHEET NO. 41

PROPOSED 1' WIDE TAXIWAY
CENTERLINE STRIPE

PROPOSED TAXIWAY CENTERLINE LEAD-IN
STRIPE SEE DETAIL ON SHEET NO. 41

PROPOSED 3' WIDE
RUNWAY EDGE STRIPES

PROPOSED 3' WIDE
RUNWAY EDGE STRIPES

PROPOSED TOUCHDOWN
ZONE MARKER
STA. 125+15.3

75' (TYP.)

72' (TYP.)

100' R.

75' R.

50+00

51+00

52+00

53+00

TAXIWAY 'Bs'

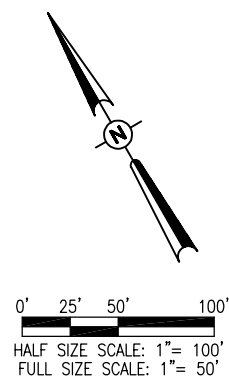
MATCHLINE STA. 125+00

MATCHLINE STA. 138+00

MAY 25, 2010 11:09 AM HARRI01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-152MRK.DWG

LEGEND

	EXISTING PAVEMENT
	PROPOSED IMPROVEMENTS
	EXISTING MARKING
	PROPOSED MARKING



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D	
Filename	R-152MRK.DWG	
Scale	1" = 50'	
Date	04/16/10	
LAYOUT	RAW	02/16/10
DRAWN	BAK	02/16/10
REVIEWED	CAH	04/01/10

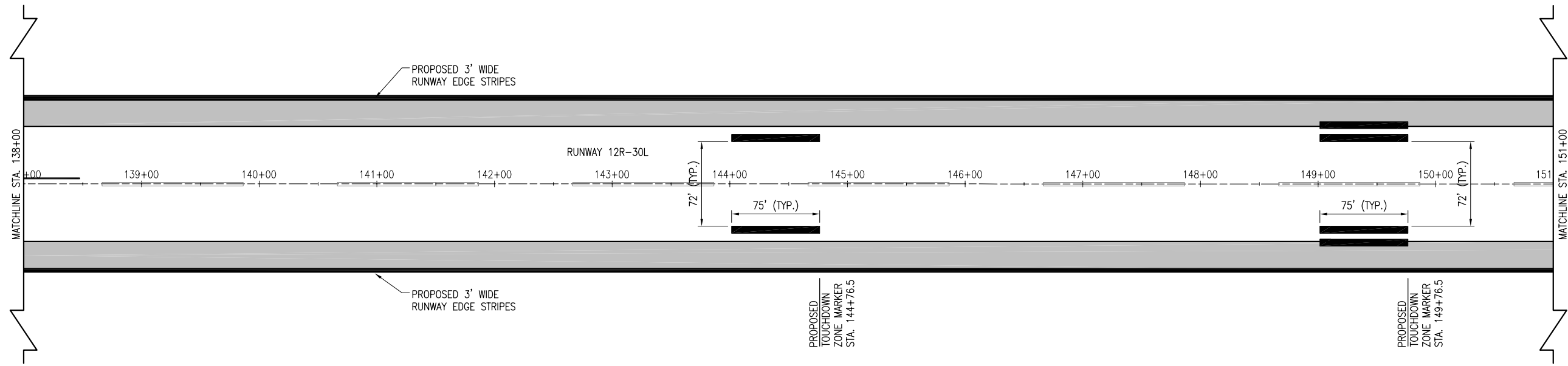
HANSON

Hanson Professional Services, Inc.
4227 Fairway Court, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

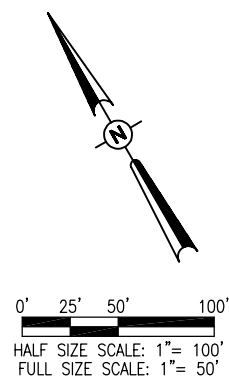
PROPOSED MARKING PLAN

STA. 125+00 TO STA. 138+00



LEGEND

	EXISTING PAVEMENT
	PROPOSED IMPROVEMENTS
	EXISTING MARKING
	PROPOSED MARKING



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-152MRK.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW 02/16/10
DRAWN	BAK 02/16/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services, Inc.
 4227 Fairway Court, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED MARKING PLAN

STA. 138+00 TO STA. 151+00

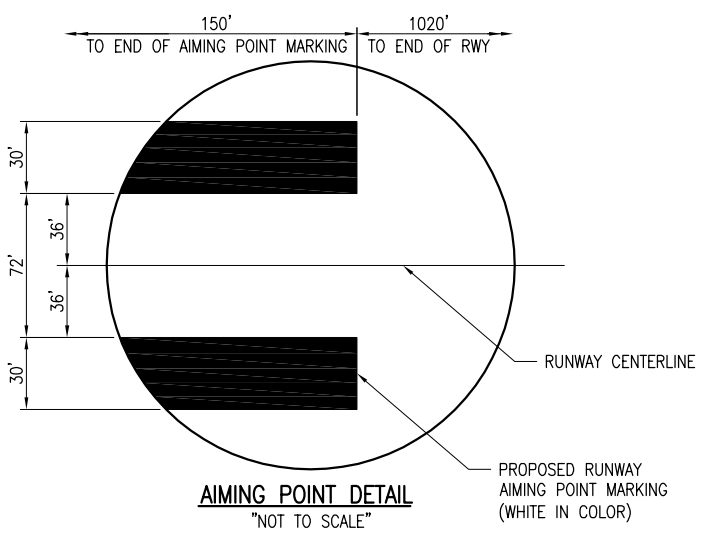
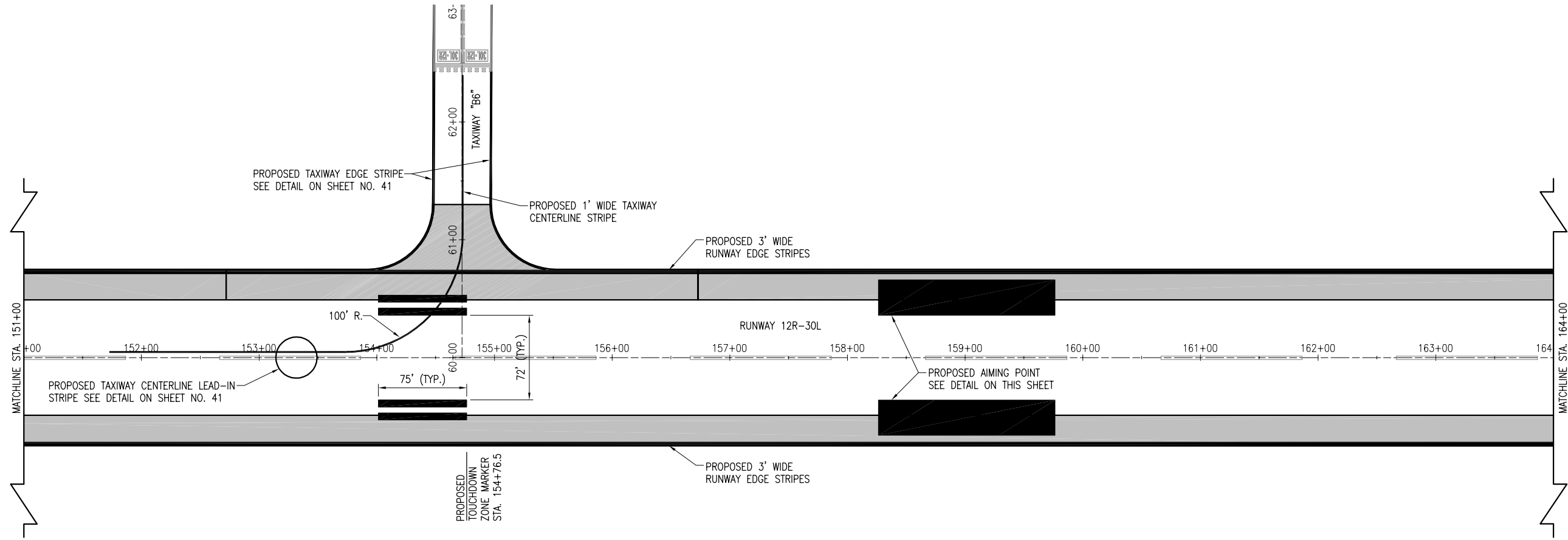
BY	
REVISION	
DATE	

SAINT LOUIS
DOWNTOWN
AIRPORT
A Division of METRO
ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

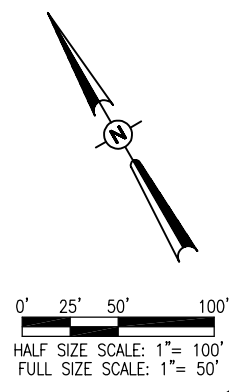
Hanson Project No.	08A0211D
File Name	R-152MRK.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW 02/16/10
DRAWN	BAK 02/16/10
REVIEWED	CAH 04/01/10

HANSON
Hanson Professional Services, Inc.
4227 Fairway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

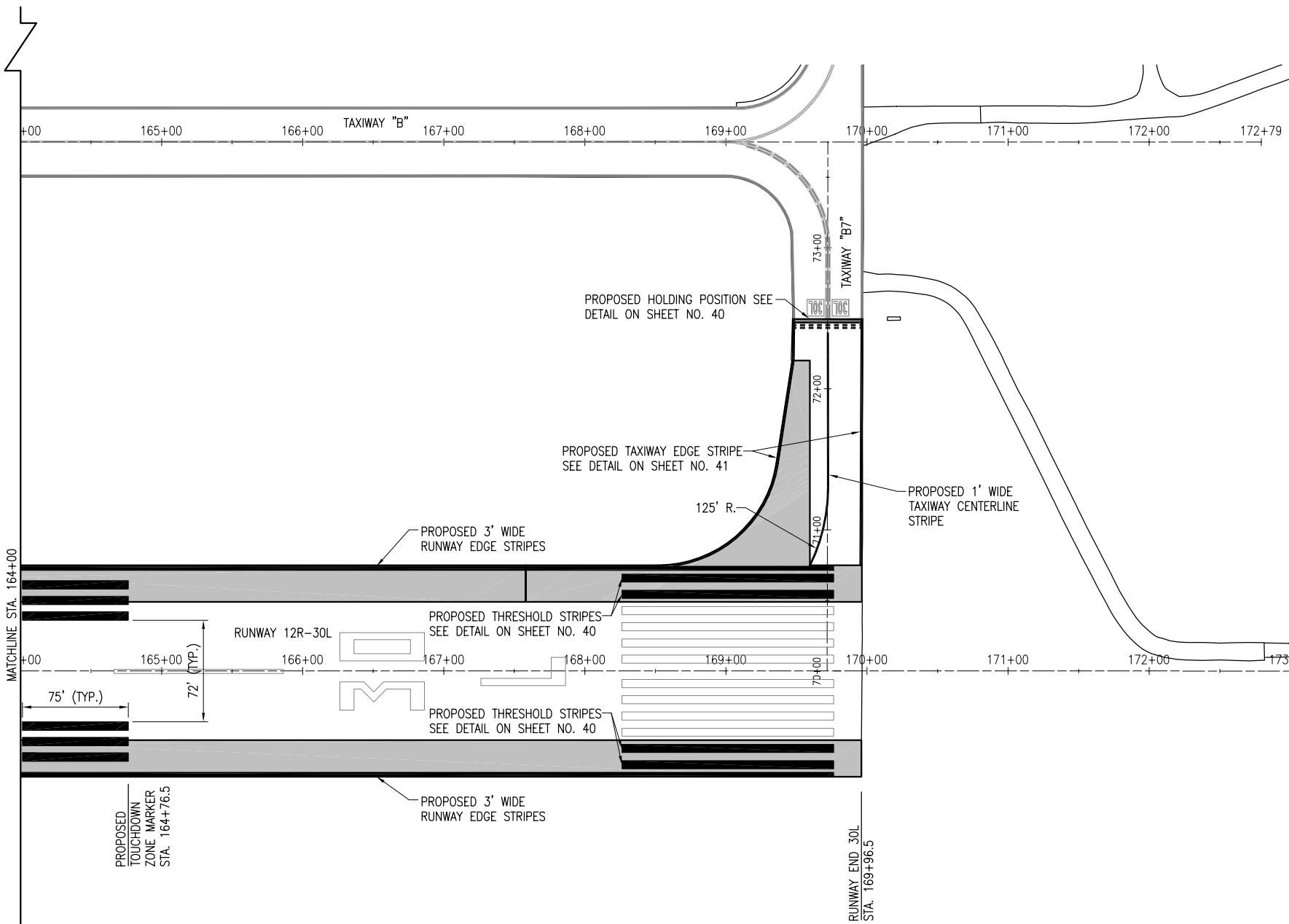
WIDEN RUNWAY
12R/30L
PROPOSED
MARKING PLAN
STA. 151+00 TO STA. 164+00



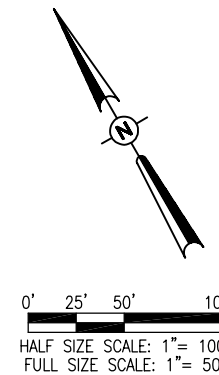
- LEGEND**
- [White Box] EXISTING PAVEMENT
 - [Grey Box] PROPOSED IMPROVEMENTS
 - [Dashed Line] EXISTING MARKING
 - [Solid Line] PROPOSED MARKING



MAY 25, 2010 11:09 AM HARRIC0115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-152MRK.DWG



- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - EXISTING MARKING
 - PROPOSED MARKING



MAY 25, 2010 11:09 AM HARRI01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-152MRK.DWG

REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

A.I.P. PROJ.: 3-17-0039-B22
I.L. PROJ.: CPS-3906

Hanson Project No.	08A0211D
Filename	R-152MRK.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW 02/16/10
DRAWN	BAK 02/16/10
REVIEWED	CAH 04/01/10

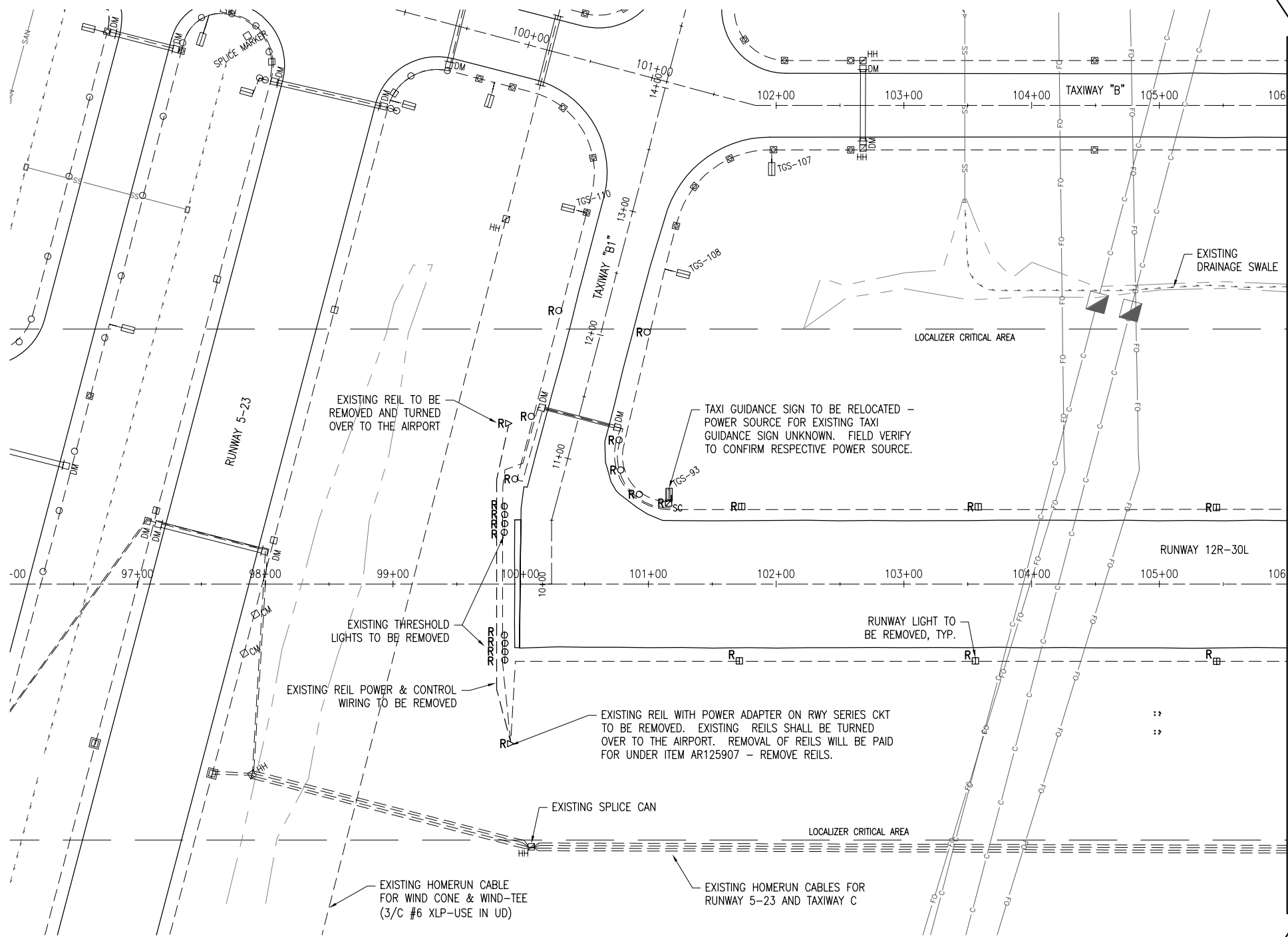
HANSON

Hanson Professional Services, Inc.
4227 Fairway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED MARKING PLAN
STA. 164+00 TO STA. 173+00

LIGHT REMOVAL NOTES

1. ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT 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).
2. CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. SOME OF THE TAXI GUIDANCE SIGNS AT THE INTERSECTIONS OF RUNWAY AND TAXIWAYS MIGHT BE ON THE RUNWAY CIRCUIT. CONTRACTOR SHALL FIELD VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING LIGHTS.
3. ALL EXISTING TAXI GUIDANCE SIGNS, RUNWAY LIGHTS AND TAXIWAY LIGHTS THAT ARE DESIGNATED FOR REMOVAL SHALL BE REMOVED. THE LIGHTS, SIGNS AND THEIR ISOLATING TRANSFORMER SHALL BE TURNED OVER TO THE AIRPORT. THE CONCRETE LIGHT BASES AND STAKES SHALL BE REMOVED AND DISPOSED OF LEGALLY OFF THE AIRPORT SITE.
4. THE HOLE LEFT FROM THE LIGHT OR BASE REMOVAL SHALL BE FILLED IN WITH EARTH AND COMPACTED TO PREVENT FUTURE SETTLEMENT. THE EARTH MATERIAL WILL COME FROM ON-SITE AND WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE LIGHT REMOVAL. THE DISTURBED AREAS SHALL BE FERTILIZED AND SEEDED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
5. THE EXISTING AIRFIELD LIGHTING CABLES ASSOCIATED WITH LIGHT REMOVALS SHALL ALSO BE REMOVED TO ACCOMMODATE NEW WORK.
6. REMOVAL OF THE EXISTING LIGHTS, TAXI GUIDANCE SIGNS, AND ISOLATING TRANSFORMERS WILL BE PAID FOR UNDER ITEMS:
 AR125901 "REMOVE STAKE MOUNTED LIGHT" PER EACH
 AR125902 "REMOVE BASE MOUNTED LIGHT" PER EACH
 AR125904 "REMOVE TAXI GUIDANCE SIGN" PER EACH
7. POWER FOR REIL SYSTEM ON RUNWAY 12R SHALL BE DISCONNECTED AT THE RESPECTIVE POWER SOURCE PRIOR TO REMOVING THE RESPECTIVE REIL SYSTEM. POWER FOR THE EXISTING REIL SYSTEM LOCATED ON RUNWAY END 12R IS UNDERSTOOD TO BE POWERED FROM A POWER ADAPTER (A DEVICE THAT PROVIDES 120 VAC OR 120/240 VAC WHEN CONNECTED ON A 6.6 AMP SERIES CIRCUIT) CONNECTED TO THE RUNWAY 12R-30L SERIES CIRCUIT THAT IS POWERED BY A CONSTANT CURRENT REGULATOR LOCATED IN THE AIRPORT ELECTRICAL VAULT. CONTRACTOR SHALL FIELD VERIFY TO CONFIRM THE RESPECTIVE POWER SOURCE FOR EACH REIL SYSTEM.
8. REMOVAL OF REILS WILL BE PAID FOR UNDER ITEM AR125907 "REMOVE REILS" PER PAIR.

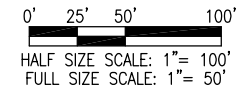
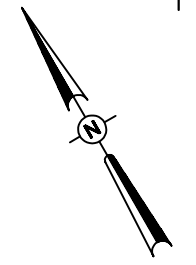


THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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 JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL 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.

LEGEND

- | | | | | | |
|--|--|--|--|--|-------------------------------|
| | EXISTING PAVEMENT | | EXISTING THRESHOLD LIGHT (TO BE REMOVED) | | EXISTING FENCE |
| | EXISTING ELECTRICAL DUCT | | EXISTING TAXI GUIDANCE SIGN | | EXISTING TELEPHONE |
| | EXISTING ELECTRICAL CABLE | | EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED) | | EXISTING WATER |
| | EXISTING STAKE MOUNTED TAXIWAY LIGHT | | EXISTING REIL (TO BE REMOVED) | | EXISTING COMMUNICATIONS LINE |
| | EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN) | | EXISTING SANITARY |
| | EXISTING BASE MOUNTED TAXIWAY LIGHT | | EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN) | | EXISTING ELECTRIC PRIMARY |
| | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN) | | EXISTING STORM SEWER |
| | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | | EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER) | | EXISTING FIBER OPTIC |
| | EXISTING BASE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | | | | EXISTING DRAINAGE SWALE/DITCH |



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

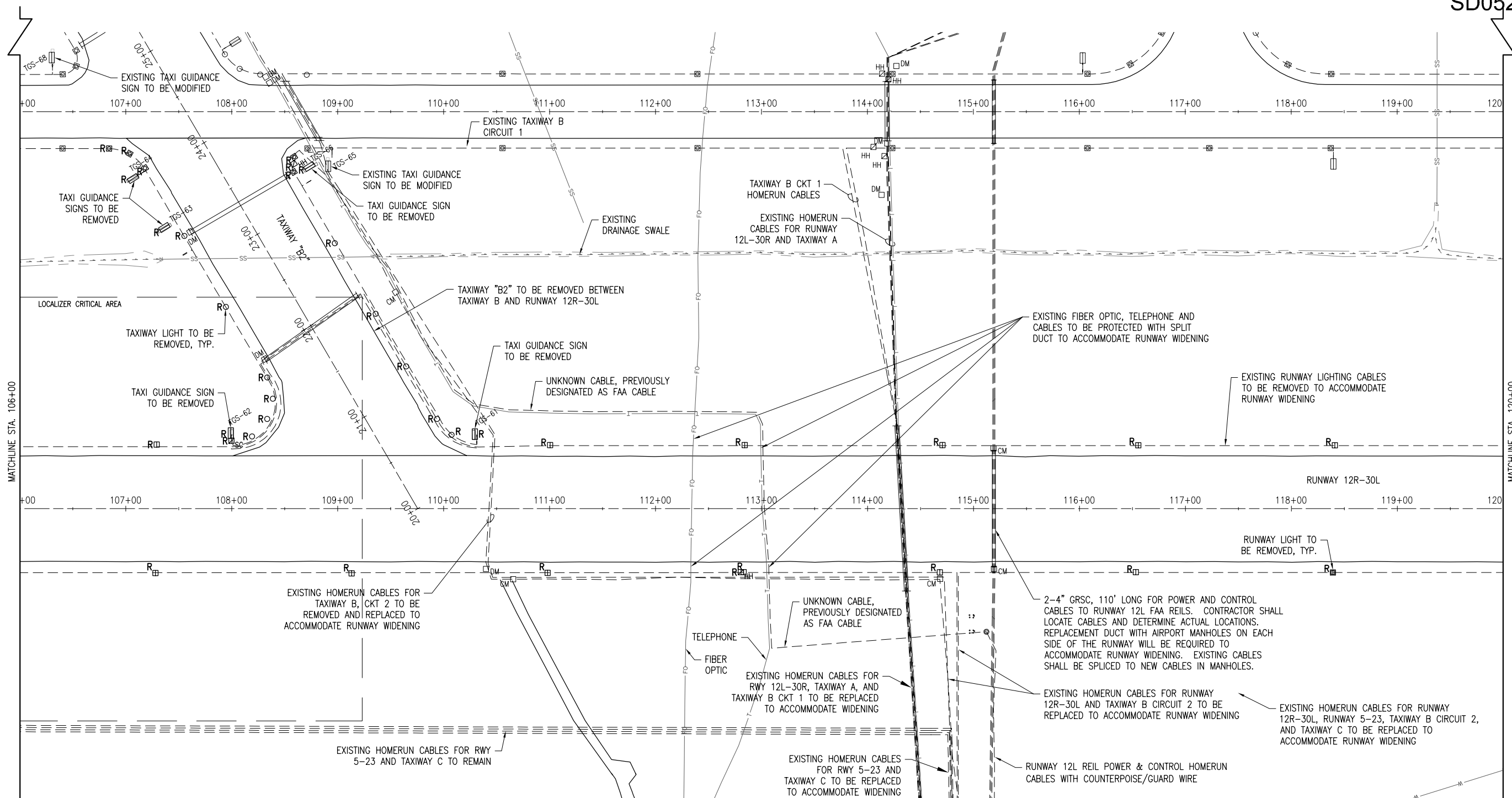
 A.I.P. PROJ.: 3-17-0039-B22
 I.L. PROJ.: CPS-3906

Hanson Project No.	08A0211D
File Name	R-141ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/16/10
REVIEWED	KNL/CAH 03/30/10

HANSON
 Hanson Professional Services, Inc.
 4227 Fernside Court, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 EXISTING ELECTRICAL PLAN
 STA. 98+00 TO STA. 106+00

MAY 25, 2010 11:31 AM HARRI01115 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-141ELE.DWG



MATCHLINE STA. 106+00

MATCHLINE STA. 120+00

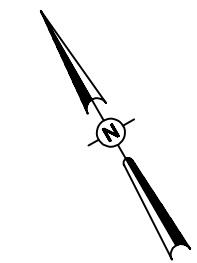
MATCHLINE 275' RT. - SEE NEXT SHEET

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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 JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL 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.

LEGEND

- ▭ EXISTING PAVEMENT
- ▭ EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLE
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- RO EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- ⊠ EXISTING BASE MOUNTED TAXIWAY LIGHT
- R⊠ EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- R▭ EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- R▭ EXISTING BASE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- R⊠ EXISTING THRESHOLD LIGHT (TO BE REMOVED)
- ▭ EXISTING TAXI GUIDANCE SIGN
- R▭ EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED)
- R< EXISTING REIL (TO BE REMOVED)
- ⊠_{HH} ⊠_{SC} EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- R⊠_{HH} R⊠_{SC} EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN)
- _{DM} □_{CM} EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)
- x— EXISTING FENCE
- T— EXISTING TELEPHONE
- W— EXISTING WATER
- C— EXISTING COMMUNICATIONS LINE
- S— EXISTING SANITARY
- E— EXISTING ELECTRIC PRIMARY
- SS— EXISTING STORM SEWER
- FO— EXISTING FIBER OPTIC
- EXISTING DRAINAGE SWALE/DITCH



REVISION	DATE	BY

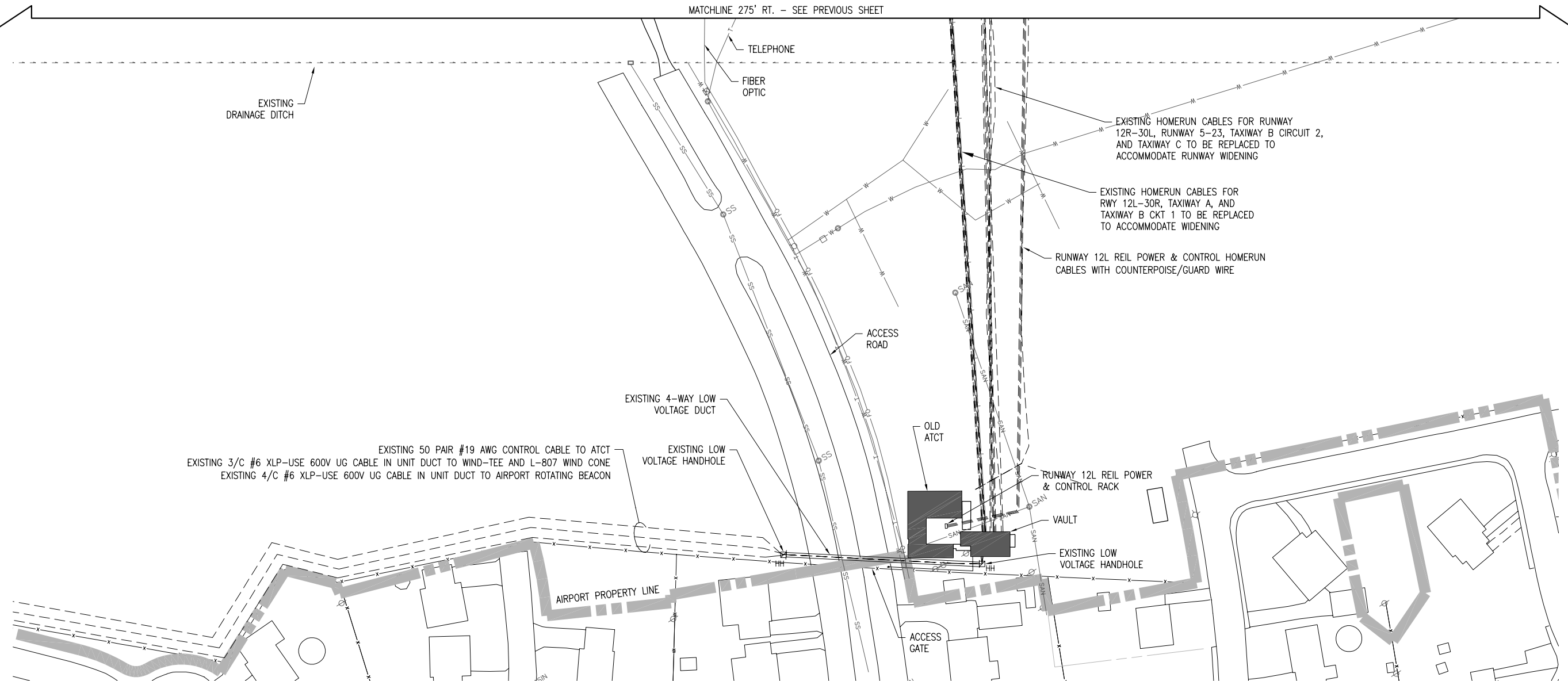
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22
IL PROJ.: CPS-3906

Hanson Project No.	08A0211D
File Name	R-14TELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/16/10
REVIEWED	KNL/CAH 03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Court, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
EXISTING ELECTRICAL PLAN
STA. 106+00 TO STA. 120+00

MATCHLINE 275' RT. - SEE PREVIOUS SHEET



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22
ILL. PROJ.: CPS-3906

Hanson Project No.	08A0211D
File Name	R-141ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/16/10
REVIEWED	KNL/CAH 03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Circle, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

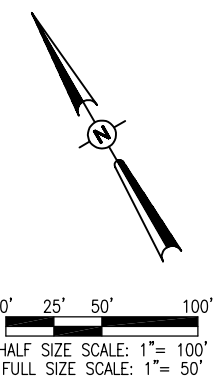
WIDEN RUNWAY 12R/30L
EXISTING ELECTRICAL PLAN
VAULT 275 RT.

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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.

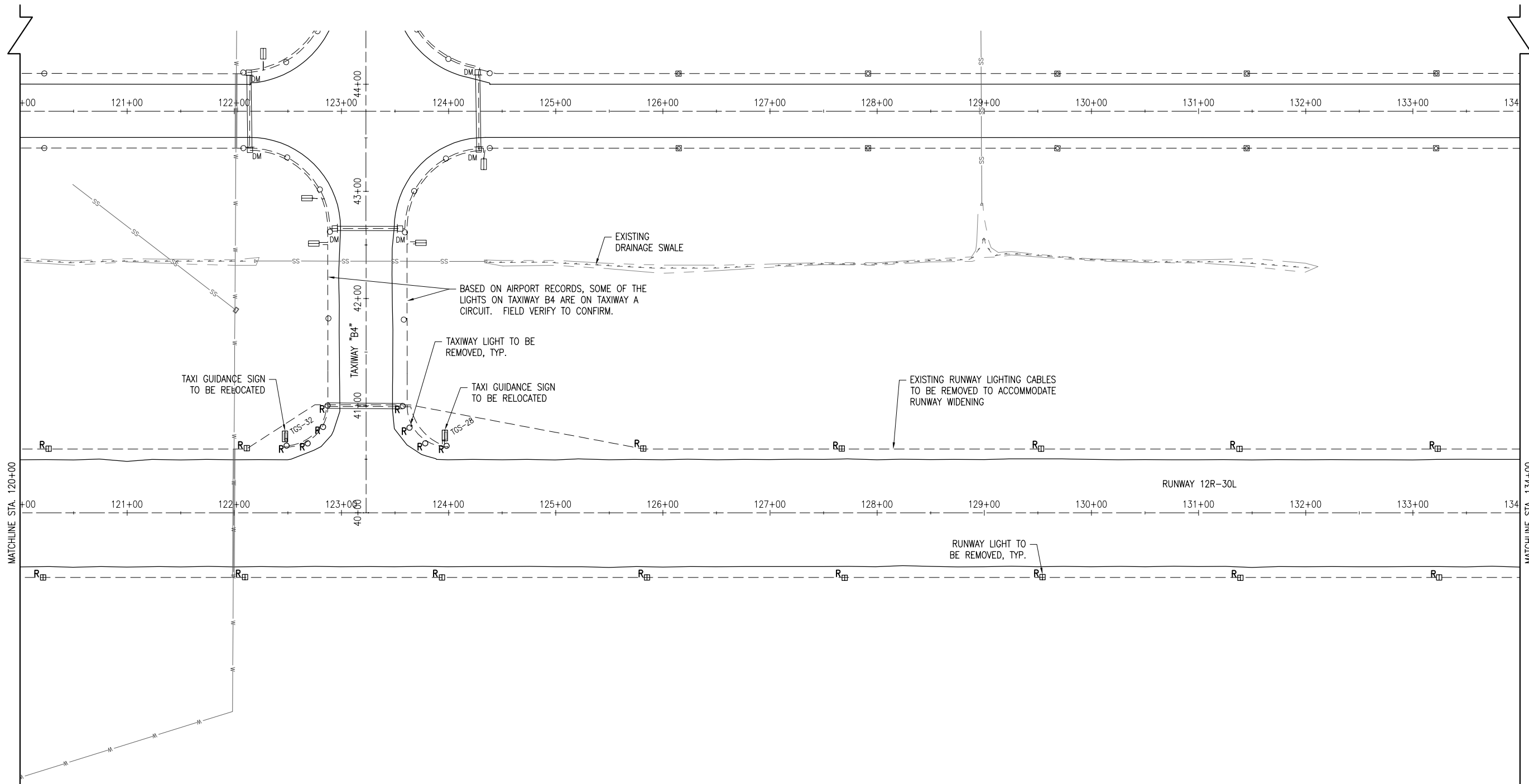
ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. **CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123.** CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION 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.

LEGEND

- | | | | |
|--|--|--|-------------------------------|
| EXISTING PAVEMENT | EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | EXISTING THRESHOLD LIGHT (TO BE REMOVED) | EXISTING FENCE |
| EXISTING ELECTRICAL DUCT | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | EXISTING TAXI GUIDANCE SIGN | EXISTING TELEPHONE |
| EXISTING ELECTRICAL CABLE | EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED) | EXISTING WATER |
| EXISTING STAKE MOUNTED TAXIWAY LIGHT | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | EXISTING REIL (TO BE REMOVED) | EXISTING COMMUNICATIONS LINE |
| EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN) | EXISTING SANITARY |
| EXISTING BASE MOUNTED TAXIWAY LIGHT | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN) | EXISTING ELECTRIC PRIMARY |
| EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN) | EXISTING STORM SEWER |
| EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | EXISTING BASE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER) | EXISTING FIBER OPTIC |
| EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | | EXISTING DRAINAGE SWALE/DITCH |



MAY 25, 2010 11:31 AM HARR01115
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-141ELE.DWG



MATCHLINE STA. 120+00

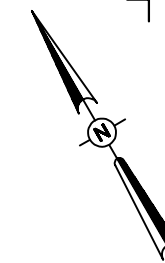
MATCHLINE STA. 134+00

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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 JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL 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.

LEGEND

- ▭ EXISTING PAVEMENT
- ▭ EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLE
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- ⊠ EXISTING BASE MOUNTED TAXIWAY LIGHT
- ⊠ EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- ⊠ EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- ⊠ EXISTING BASE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- EXISTING THRESHOLD LIGHT (TO BE REMOVED)
- ⊠ EXISTING TAXI GUIDANCE SIGN
- ⊠ EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED)
- ⊠ EXISTING REIL (TO BE REMOVED)
- ⊠_{HH} ⊠_{SC} EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- ⊠_{HH} ⊠_{SC} EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN)
- ⊠_{DM} ⊠_{CM} EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)
- x— EXISTING FENCE
- T— EXISTING TELEPHONE
- W— EXISTING WATER
- C— EXISTING COMMUNICATIONS LINE
- S— EXISTING SANITARY
- E— EXISTING ELECTRIC PRIMARY
- SS— EXISTING STORM SEWER
- FO— EXISTING FIBER OPTIC
- EXISTING DRAINAGE SWALE/DITCH



0' 25' 50' 100'
 HALF SIZE SCALE: 1" = 100'
 FULL SIZE SCALE: 1" = 50'

MAY 25, 2010 11:31 AM HARRI01115 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-141ELE.DWG

REVISION	DATE	BY

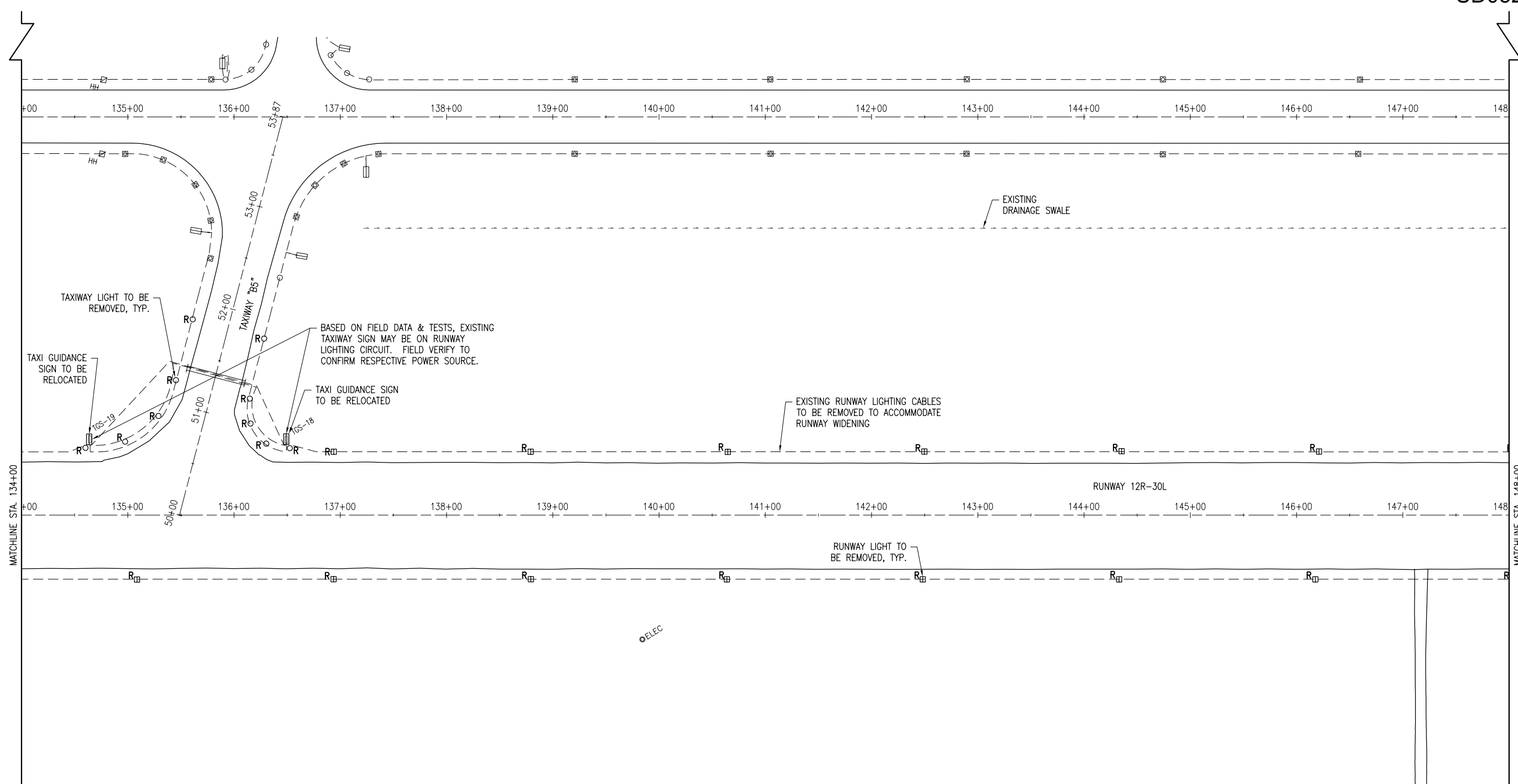
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

 ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
File Name	R-141ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/16/10
REVIEWED	KNL/CAH 03/30/10

HANSON
 Hanson Professional Services, Inc.
 4227 Fernside Drive, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 EXISTING ELECTRICAL PLAN
 STA. 120+00 TO STA. 134+00



REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-141ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/16/10
REVIEWED	KNL/CAH 03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Drive, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

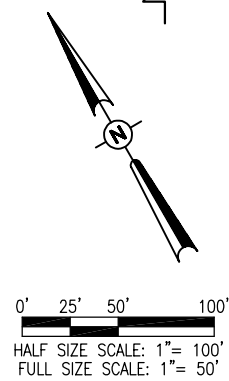
WIDEN RUNWAY 12R/30L
EXISTING ELECTRICAL PLAN
STA. 134+00 TO STA. 148+00

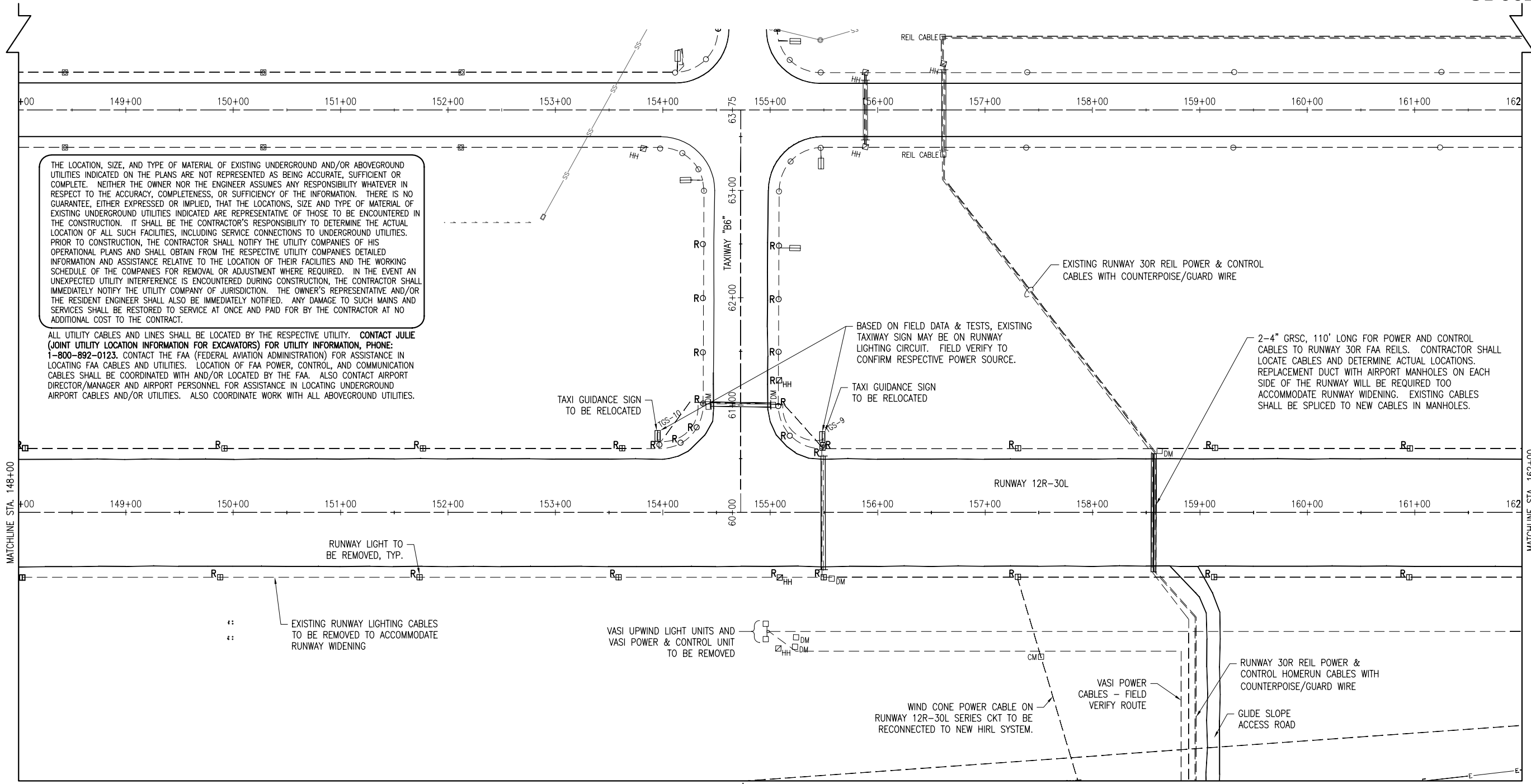
THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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 JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123.** CONTACT THE FAA (FEDERAL 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.

LEGEND

- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLE
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- EXISTING BASE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- EXISTING THRESHOLD LIGHT (TO BE REMOVED)
- EXISTING TAXI GUIDANCE SIGN
- EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED)
- EXISTING REIL (TO BE REMOVED)
- EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)
- EXISTING STORM SEWER
- EXISTING DRAINAGE SWALE/DITCH





MATCHLINE STA. 148+00

MATCHLINE STA. 162+00

MATCHLINE 250' RT. - SEE NEXT SHEET

VASI REMOVAL NOTES

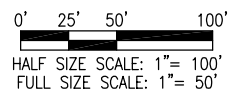
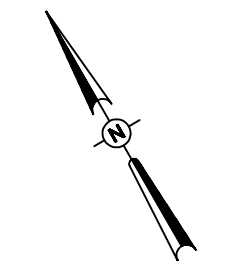
- ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & 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 EXISTING VASI AND POWER & CONTROL UNITS SHOWN TO BE REMOVED ARE TO BE UNBOLTED, REMOVED AND TURNED OVER TO THE AIRPORT. THE EXISTING VASI CONCRETE BASES ARE TO BE REMOVED TO THEIR FULL DEPTH AND DISPOSED OF OFF THE AIRPORT SITE.
- THE HOLES LEFT FROM THE REMOVAL OF VASI BASES AND POWER & CONTROL UNITS SHALL BE FILLED IN WITH EARTH AND COMPACTED TO PREVENT FUTURE SETTLEMENT. THE EARTH MATERIAL WILL COME FROM ON-SITE AND WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE LIGHT REMOVAL. THE DISTURBED AREAS SHALL BE FERTILIZED AND SEEDED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

VASI REMOVAL NOTES (CONT.)

- THE EXISTING VASI CABLES WILL BE ABANDONED IN PLACE UNLESS IT CONFLICTS WITH THE INSTALLATION OF A PROPOSED LIGHT OR CABLE, THEN IT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE CONTRACT.
- AN EXISTING VASI UNIT CONSISTS OF THE DOWNWIND VASI LIGHT UNITS, UPWIND VASI LIGHT UNITS AND VASI POWER & CONTROL UNIT.
- REMOVAL OF THE EXISTING VASI UNITS WILL BE PAID FOR UNDER ITEM: AR125909 "REMOVE VASI" PER EACH QUANTITY OF VASI UNITS TO BE REMOVED-----1 EACH
- REMOVAL OF THE EXISTING ELECTRIC SERVICE FOR RUNWAY 30L VASI WILL BE PAID FOR UNDER ITEM: AR109924 "REPLACE ELECTRIC SERVICES" PER LUMP SUM

LEGEND

- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLE
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- EXISTING BASE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- EXISTING TAXI GUIDANCE SIGN
- EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED)
- EXISTING REIL (TO BE REMOVED)
- EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)
- EXISTING ELECTRIC UTILITY PRIMARY
- EXISTING STORM SEWER
- EXISTING DRAINAGE SWALE/DITCH



REVISION	DATE

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No.	08A0211D
Filename	R-141ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/16/10
REVIEWED	KNL/CAH 03/30/10

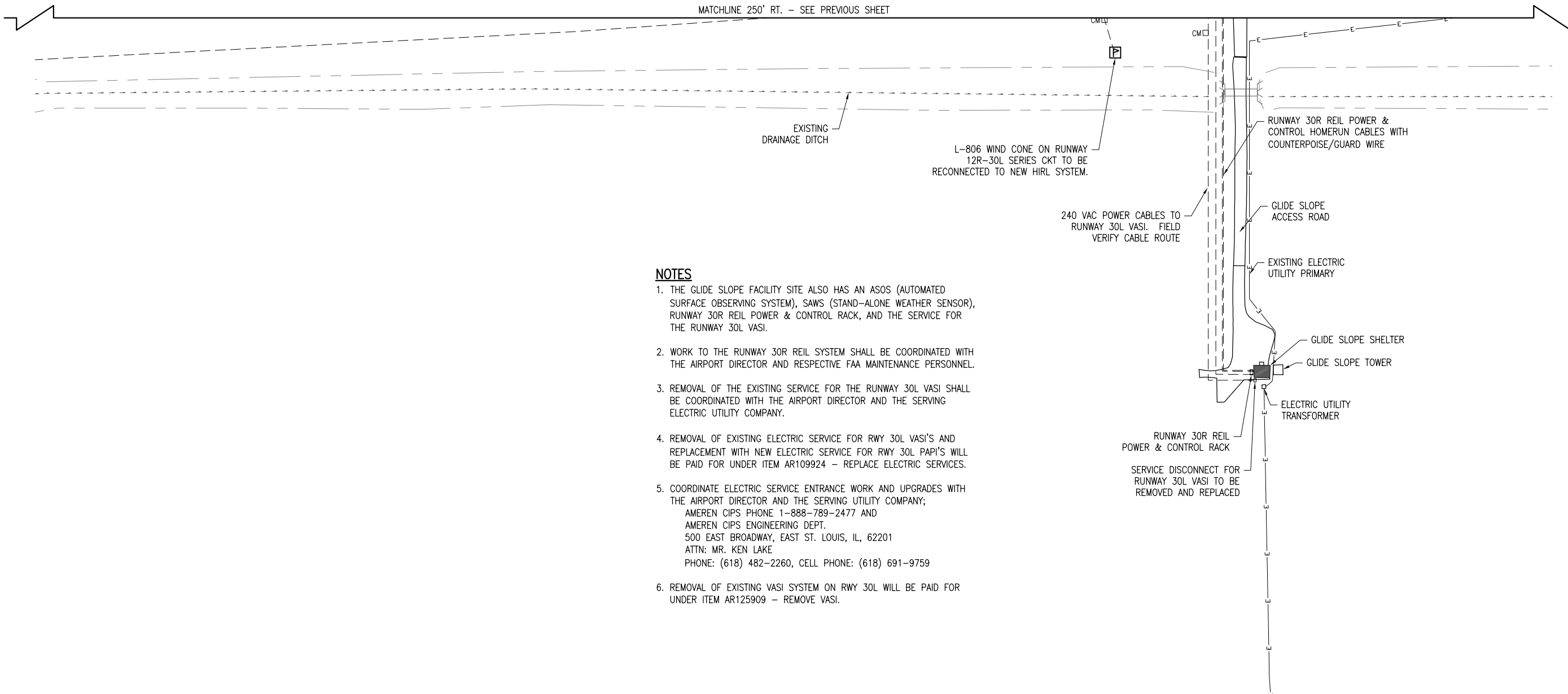
HANSON

Hanson Professional Services, Inc.
4227 Farmington Blvd., Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
EXISTING ELECTRICAL PLAN
STA. 148+00 TO STA. 162+00

MAY 25, 2010 11:32 AM HARRI01115 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-141ELE.DWG

MATCHLINE 250' RT. - SEE PREVIOUS SHEET



NOTES

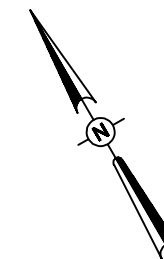
1. THE GLIDE SLOPE FACILITY SITE ALSO HAS AN ASOS (AUTOMATED SURFACE OBSERVING SYSTEM), SAWS (STAND-ALONE WEATHER SENSOR), RUNWAY 30R REIL POWER & CONTROL RACK, AND THE SERVICE FOR THE RUNWAY 30L VASI.
2. WORK TO THE RUNWAY 30R REIL SYSTEM SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR AND RESPECTIVE FAA MAINTENANCE PERSONNEL.
3. REMOVAL OF THE EXISTING SERVICE FOR THE RUNWAY 30L VASI SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR AND THE SERVING ELECTRIC UTILITY COMPANY.
4. REMOVAL OF EXISTING ELECTRIC SERVICE FOR RWY 30L VASI'S AND REPLACEMENT WITH NEW ELECTRIC SERVICE FOR RWY 30L PAPI'S WILL BE PAID FOR UNDER ITEM AR109924 - REPLACE ELECTRIC SERVICES.
5. COORDINATE ELECTRIC SERVICE ENTRANCE WORK AND UPGRADES WITH THE AIRPORT DIRECTOR AND THE SERVING UTILITY COMPANY; AMEREN CIPS PHONE 1-888-789-2477 AND AMEREN CIPS ENGINEERING DEPT. 500 EAST BROADWAY, EAST ST. LOUIS, IL, 62201 ATTN: MR. KEN LAKE PHONE: (618) 482-2260, CELL PHONE: (618) 691-9759
6. REMOVAL OF EXISTING VASI SYSTEM ON RWY 30L WILL BE PAID FOR UNDER ITEM AR125909 - REMOVE VASI.

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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 JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL 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.

LEGEND

- | | | | | | | | |
|--|--|--|--|--|--|--|--|
| | EXISTING PAVEMENT | | EXISTING STAKE MOUNTED TAXIWAY LIGHT | | EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING THRESHOLD LIGHT (TO BE REMOVED) |
| | EXISTING ELECTRICAL DUCT | | EXISTING BASE MOUNTED TAXIWAY LIGHT | | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING TAXI GUIDANCE SIGN |
| | EXISTING ELECTRICAL CABLE | | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED) |
| | EXISTING STAKE MOUNTED TAXIWAY LIGHT | | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING REIL (TO BE REMOVED) |
| | EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | | EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN) |
| | EXISTING BASE MOUNTED TAXIWAY LIGHT | | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN) |
| | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | | EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER) |
| | EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | | EXISTING ELECTRIC UTILITY PRIMARY |
| | EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED) | | EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED) | | EXISTING DRAINAGE SWALE/DITCH |



0' 25' 50' 100'
 HALF SIZE SCALE: 1" = 100'
 FULL SIZE SCALE: 1" = 50'

MAY 25, 2010 11:32 AM HARRI01115
 E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-14\ELE.DWG

DATE	REVISION	BY

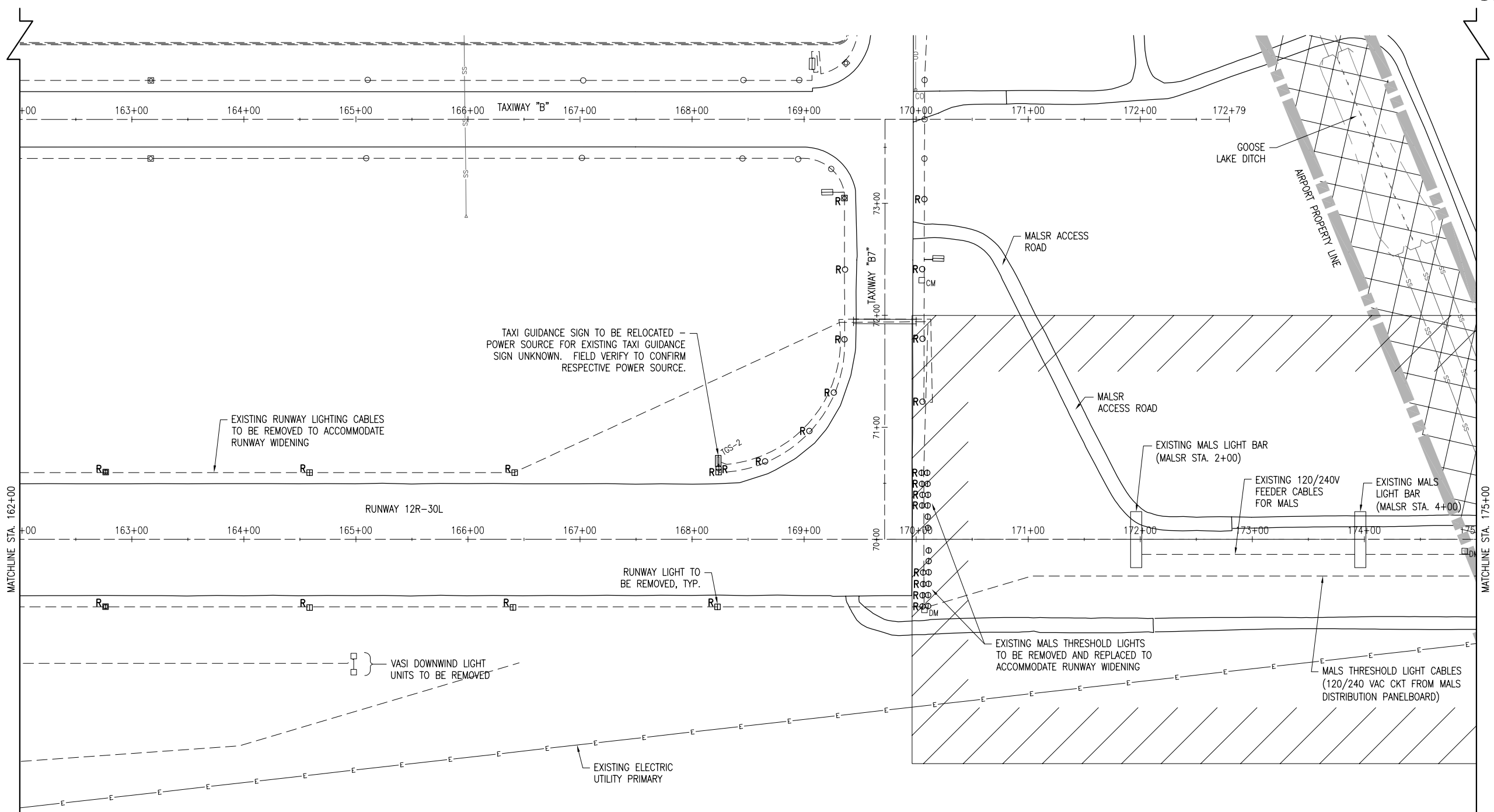
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

 ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	02/16/10
Filename R-14ELE.DWG	03/16/10
Scale 1" = 50'	03/30/10
Date 04/16/10	
LAYOUT RAW/KNL	
DRAWN MLH	
REVIEWED KNL/CAH	

HANSON
 Hanson Professional Services, Inc.
 4227 Parkview Court, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 EXISTING ELECTRICAL PLAN
 GLIDE SLOPE 250' RT.



TAXI GUIDANCE SIGN TO BE RELOCATED - POWER SOURCE FOR EXISTING TAXI GUIDANCE SIGN UNKNOWN. FIELD VERIFY TO CONFIRM RESPECTIVE POWER SOURCE.

EXISTING RUNWAY LIGHTING CABLES TO BE REMOVED TO ACCOMMODATE RUNWAY WIDENING

RUNWAY LIGHT TO BE REMOVED, TYP.

VASI DOWNWIND LIGHT UNITS TO BE REMOVED

EXISTING ELECTRIC UTILITY PRIMARY

EXISTING MALS THRESHOLD LIGHTS TO BE REMOVED AND REPLACED TO ACCOMMODATE RUNWAY WIDENING

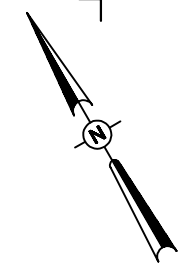
MALS THRESHOLD LIGHT CABLES (120/240 VAC CKT FROM MALS DISTRIBUTION PANELBOARD)

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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 JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL 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.

LEGEND

- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLE
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- EXISTING BASE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- EXISTING THRESHOLD LIGHT (TO BE REMOVED)
- EXISTING TAXI GUIDANCE SIGN
- EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED)
- EXISTING REIL (TO BE REMOVED)
- EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)
- EXISTING ELECTRIC UTILITY PRIMARY
- EXISTING STORM SEWER
- EXISTING DRAINAGE SWALE/DITCH



0' 25' 50' 100'
 HALF SIZE SCALE: 1" = 100'
 FULL SIZE SCALE: 1" = 50'

MAY 25, 2010 11:32 AM HARRI01115 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-141ELE.DWG

REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

 A.I.P. PROJ.: 3-17-0039-B22
 I.L. PROJ.: CPS-3906

Hanson Project No.	08A0211D
Filename	R-141ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/16/10
REVIEWED	KNL/CAH 03/30/10

HANSON
 Hanson Professional Services, Inc.
 4227 Fernside Court, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 EXISTING ELECTRICAL PLAN
 STA. 162+00 TO STA. 175+00

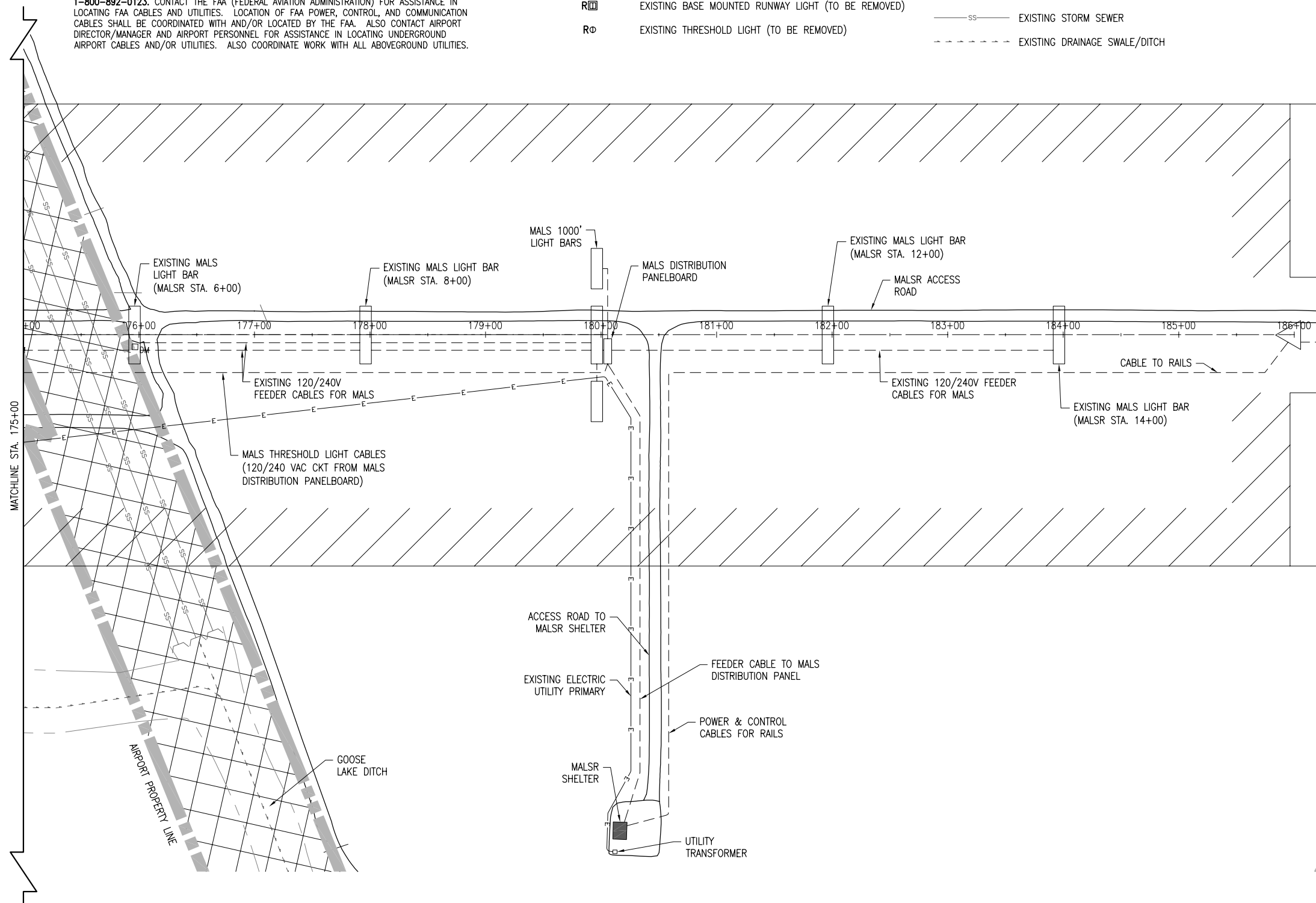
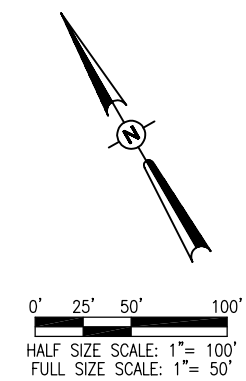
BY	
REVISION	
DATE	

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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 JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL 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.

LEGEND

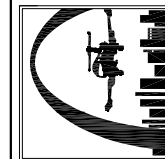
- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- - - - - EXISTING ELECTRICAL CABLE
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- ⊠ EXISTING BASE MOUNTED TAXIWAY LIGHT
- ⊠ EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
- ⊠ EXISTING STAKE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- ⊠ EXISTING BASE MOUNTED RUNWAY LIGHT (TO BE REMOVED)
- ⊠ EXISTING THRESHOLD LIGHT (TO BE REMOVED)
- ⊠ EXISTING TAXI GUIDANCE SIGN
- ⊠ EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED)
- R< EXISTING REIL (TO BE REMOVED)
- ⊠_{HH} ⊠_{SC} EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- R⊠_{HH} R⊠_{SC} EXISTING ELECTRICAL STRUCTURE (TO BE REMOVED) (HANDHOLE, SPLICE CAN)
- _{DM} □_{CM} EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)
- E — EXISTING ELECTRIC UTILITY PRIMARY
- SS — EXISTING STORM SEWER
- - - - - EXISTING DRAINAGE SWALE/DITCH



NOTES

- REMOVAL AND REPLACEMENT OF MALS THRESHOLD LIGHTS AND WORK ON MALS (MEDIUM-INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS) SHALL BE COORDINATED WITH THE RESPECTIVE FAA MAINTENANCE PERSONNEL, THE AIRPORT DIRECTOR, AND THE RESIDENT ENGINEER.
- MALS SHALL BE SHUT OFF ANY TIME RUNWAY 12R-30L IS CLOSED.
- ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING MALS SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR AND THE RESPECTIVE FAA MAINTENANCE PERSONNEL. 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).
- CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS.

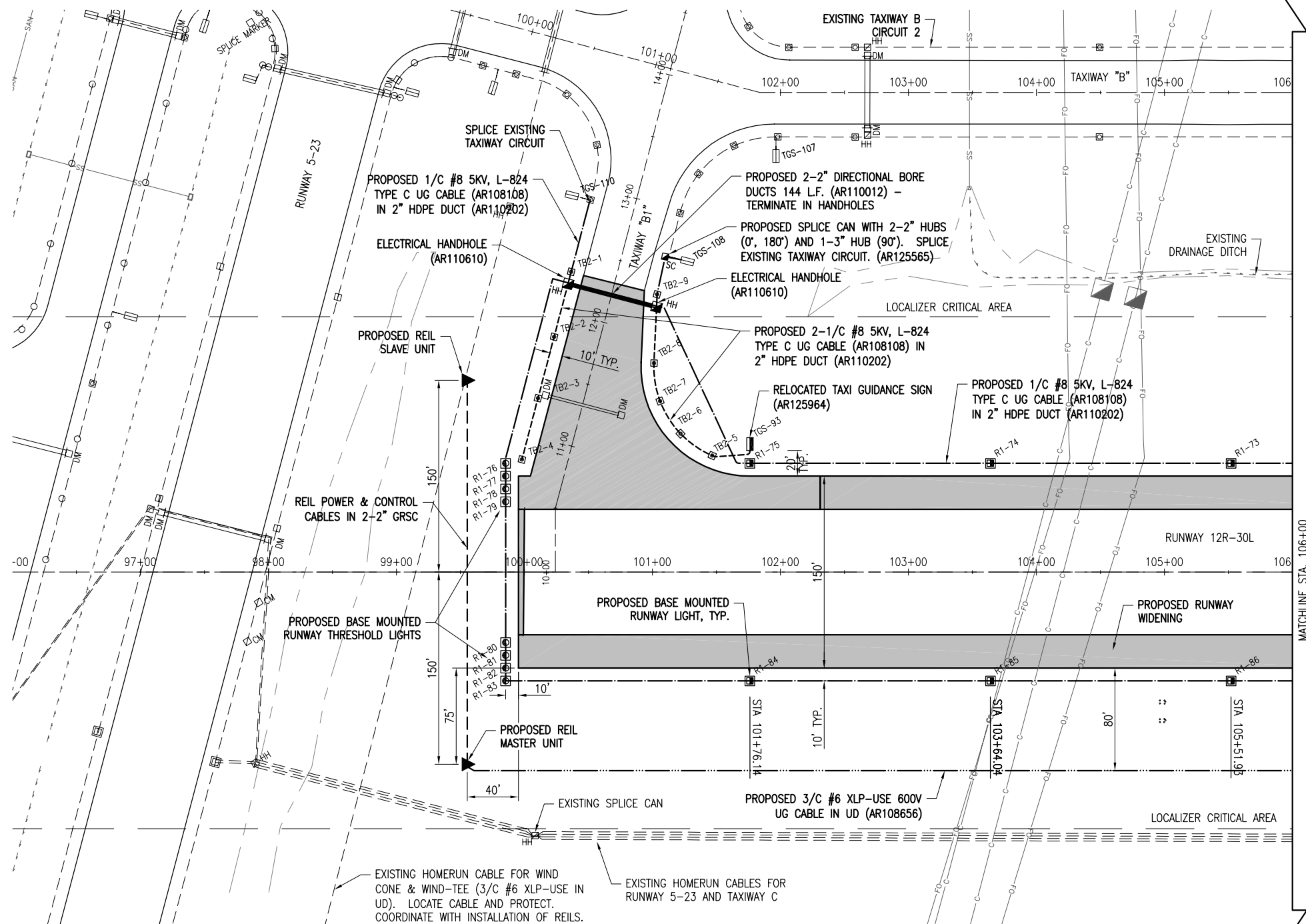
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO



Hanson Project No.	08A0211D
File Name	R-141ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/17/10
REVIEWED	KNL/CAH 03/30/10

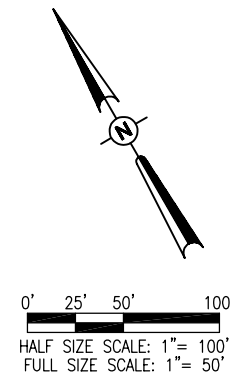
HANSON
Hanson Professional Services, Inc.
4227 Fairway Dr., Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
EXISTING ELECTRICAL PLAN
STA. 175+00 TO STA. 186+00



LEGEND

	EXISTING PAVEMENT		EXISTING STAKE MOUNTED TAXIWAY LIGHT
	PROPOSED PAVEMENT		EXISTING BASE MOUNTED TAXIWAY LIGHT
	EXISTING ELECTRICAL DUCT		PROPOSED BASE MOUNTED TAXIWAY LIGHT
	PROPOSED ELECTRICAL DUCT		PROPOSED BASE MOUNTED RUNWAY LIGHT
	EXISTING ELECTRICAL CABLES		PROPOSED BASE MOUNTED THRESHOLD LIGHT
	PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT		EXISTING TAXI GUIDANCE SIGN
	PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT		RELOCATED TAXI GUIDANCE SIGN
	PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT)		EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
	PROPOSED 3-1/C #6 XLP-USE 600V UG CABLE IN UNIT DUCT		PROPOSED ELECTRICAL STRUCTURE (MANHOLE, HANDHOLE, SPLICE CAN)
			EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)



MAY 25, 2010 11:37 AM HARRIC01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-14ZELE.DWG

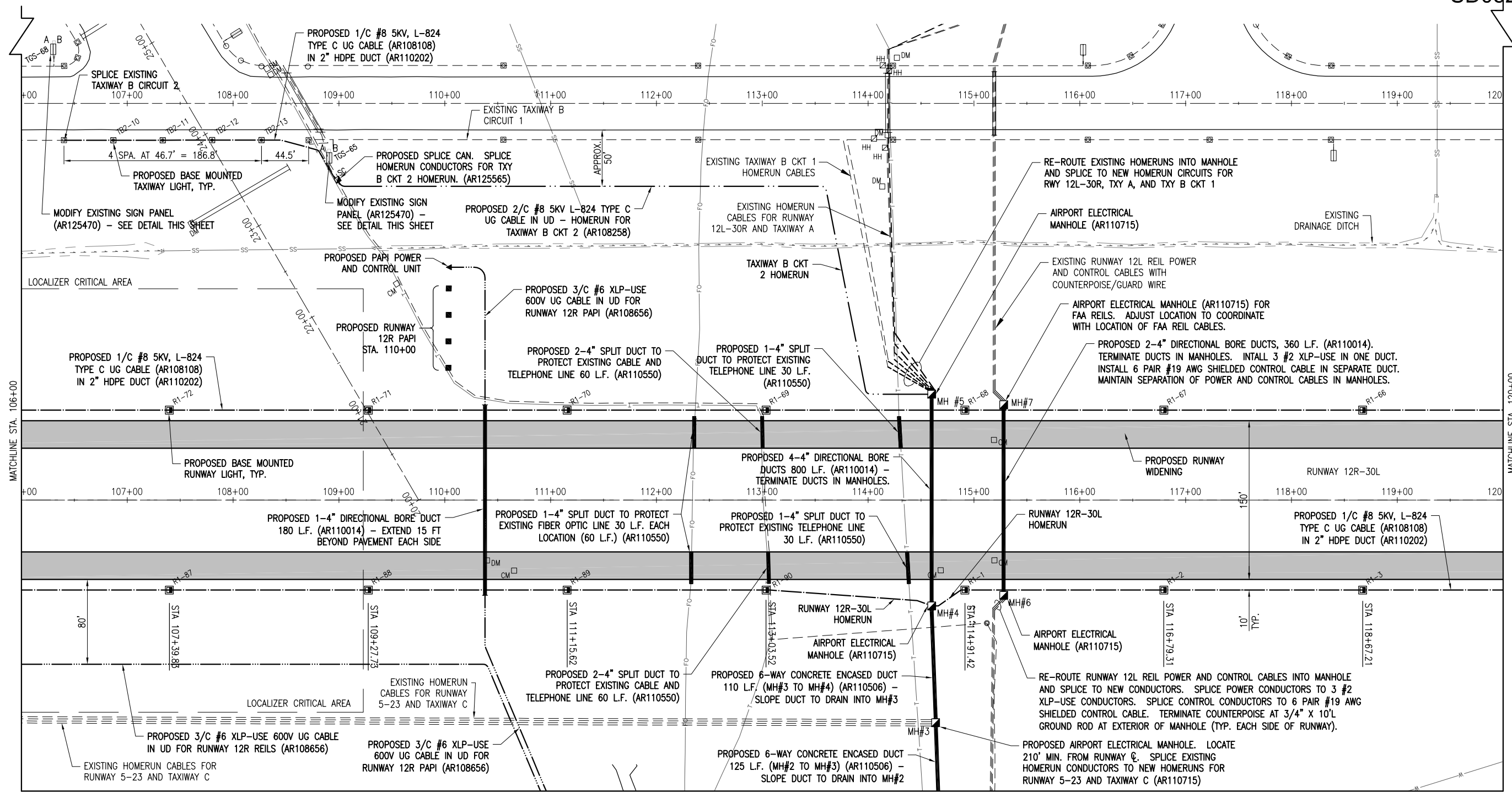
DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22
ILL. PROJ.: CPS-3906

Hanson Project No.	08A0211D
Filename	R-14ZELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/17/10
REVIEWED	KNL/CAH 03/30/10

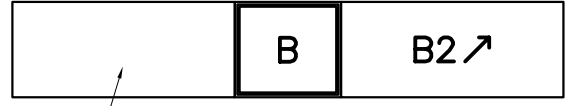
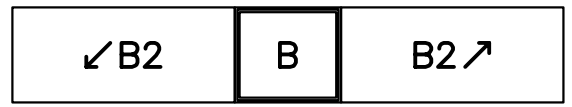
HANSON
Professional Services, Inc.
4227 Fairway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED ELECTRICAL PLAN
STA. 98+00 TO STA. 106+00

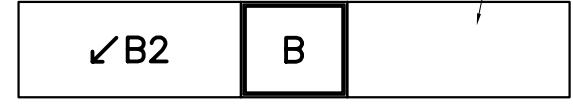
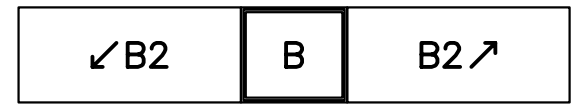


LEGEND

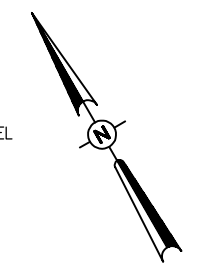
	EXISTING PAVEMENT		EXISTING STAKE MOUNTED TAXIWAY LIGHT
	PROPOSED PAVEMENT		EXISTING BASE MOUNTED TAXIWAY LIGHT
	EXISTING ELECTRICAL DUCT		PROPOSED BASE MOUNTED TAXIWAY LIGHT
	PROPOSED ELECTRICAL DUCT		PROPOSED BASE MOUNTED RUNWAY LIGHT
	EXISTING ELECTRICAL CABLES		PROPOSED BASE MOUNTED THRESHOLD LIGHT
	PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT		EXISTING TAXI GUIDANCE SIGN
	PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT		RELOCATED TAXI GUIDANCE SIGN
	PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT)		EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
	PROPOSED 3-1/C #6 XLP-USE 600V UG CABLE IN UNIT DUCT		PROPOSED ELECTRICAL STRUCTURE (MANHOLE, HANDHOLE, SPLICE CAN)
			EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)



MODIFY TAXI GUIDANCE SIGN DETAIL 'TGS-65'
"NOT TO SCALE"



MODIFY TAXI GUIDANCE SIGN DETAIL 'TGS-68'
"NOT TO SCALE"



0' 25' 50' 100'
HALF SIZE SCALE: 1"= 100'
FULL SIZE SCALE: 1"= 50'

BY	
REVISION	
DATE	

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

A.I.P. PROJ.: 3-17-0039-B22
I.L. PROJ.: CPS-3906

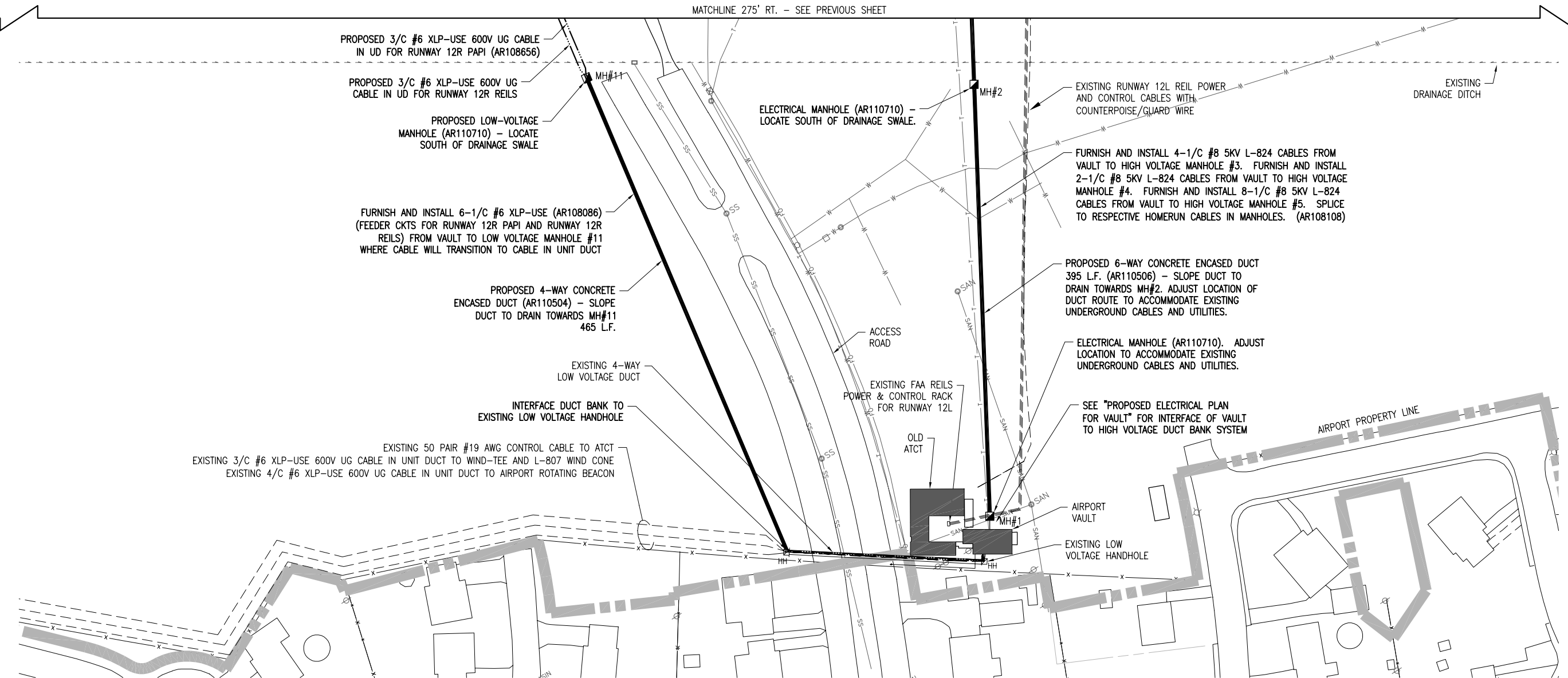
Hanson Project No.	08A0211D
Filename	R-142ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/17/10
REVIEWED	KNL/CAH 03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Dr., Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED ELECTRICAL PLAN
STA. 106+00 TO STA. 120+00

MAY 25, 2010 11:38 AM HARR01115
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-142ELE.DWG

MATCHLINE 275' RT. - SEE PREVIOUS SHEET



THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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.

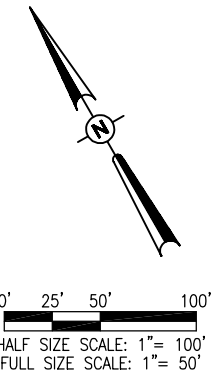
ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF 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.

NOTES

1. WORK TO THE RUNWAY 12L REIL SYSTEM SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR AND THE RESPECTIVE FAA MAINTENANCE PERSONNEL.
2. SEE VAULT PLANS FOR DETAILS ON VAULT WORK.
3. HOMERUN CABLES FOR A RESPECTIVE CIRCUIT THAT ARE INSTALLED IN CONDUIT OR DUCT SHALL BE RUN TOGETHER IN THE SAME RACEWAY OR DUCT.

LEGEND

- [Symbol] EXISTING PAVEMENT
- [Symbol] PROPOSED PAVEMENT
- [Symbol] EXISTING ELECTRICAL DUCT
- [Symbol] PROPOSED ELECTRICAL DUCT
- [Symbol] EXISTING ELECTRICAL CABLES
- [Symbol] PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- [Symbol] PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- [Symbol] PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT)
- [Symbol] PROPOSED 3-1/C #6 XLP-USE 600V UG CABLE IN UNIT DUCT
- [Symbol] EXISTING STAKE MOUNTED TAXIWAY LIGHT
- [Symbol] EXISTING BASE MOUNTED TAXIWAY LIGHT
- [Symbol] PROPOSED BASE MOUNTED TAXIWAY LIGHT
- [Symbol] PROPOSED BASE MOUNTED RUNWAY LIGHT
- [Symbol] PROPOSED BASE MOUNTED THRESHOLD LIGHT
- [Symbol] EXISTING TAXI GUIDANCE SIGN
- [Symbol] RELOCATED TAXI GUIDANCE SIGN
- [Symbol] EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- [Symbol] PROPOSED ELECTRICAL STRUCTURE (MANHOLE, HANDHOLE, SPLICE CAN)
- [Symbol] EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)



MAY 25, 2010 11:38 AM HARR01115 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-14ZELE.DWG

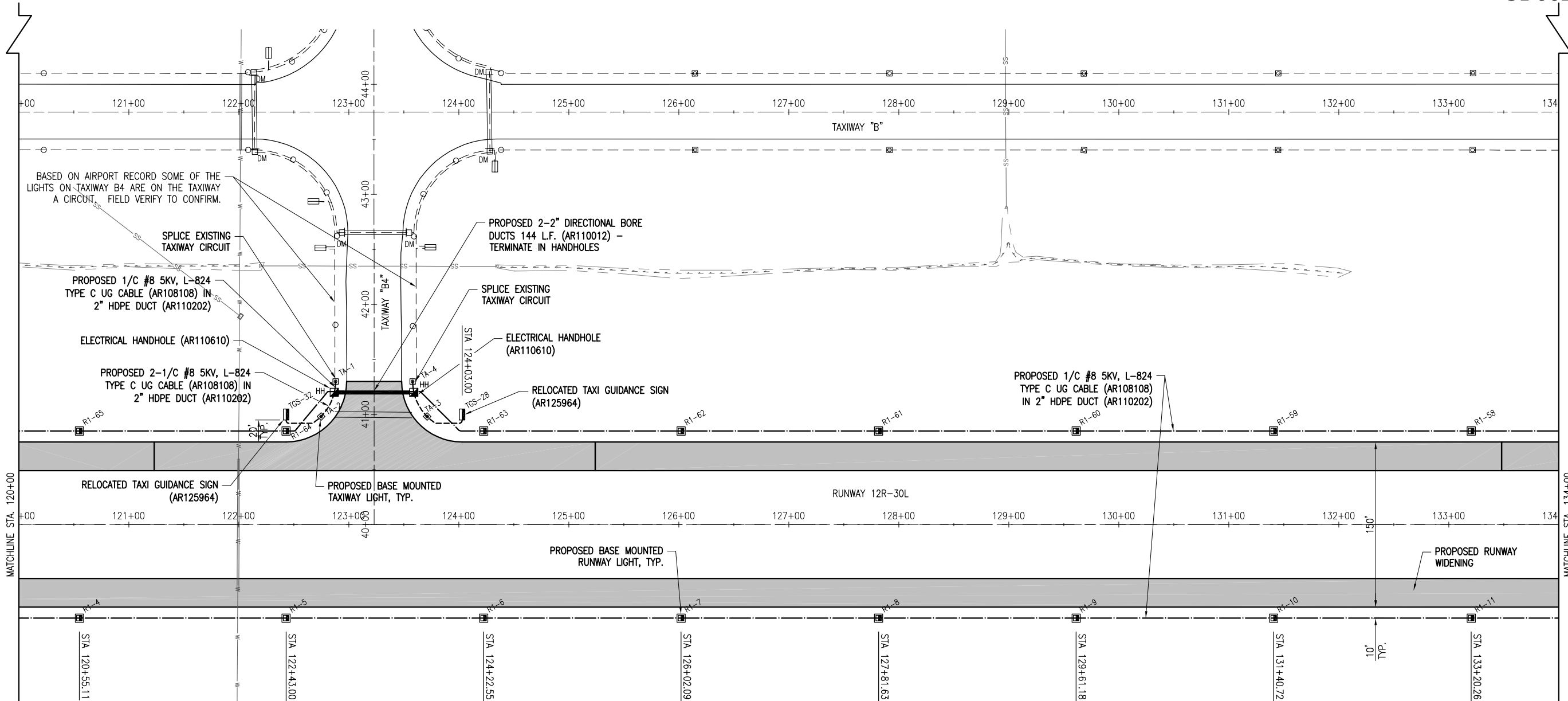
BY	
REVISION	
DATE	

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22
ILL. PROJ.: CPS-3906

Hanson Project No.	08A0211D
File Name	R-14ZELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW 02/16/10
DRAWN	MLH 03/17/10
REVIEWED	KNL/CAH 03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Parkview Square, Ste. 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED ELECTRICAL PLAN
VAULT 275' RT.



MATCHLINE STA. 120+00

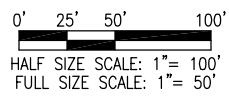
MATCHLINE STA. 134+00

LEGEND

- | | | | |
|--|---|--|---|
| | EXISTING PAVEMENT | | EXISTING STAKE MOUNTED TAXIWAY LIGHT |
| | PROPOSED PAVEMENT | | EXISTING BASE MOUNTED TAXIWAY LIGHT |
| | EXISTING ELECTRICAL DUCT | | PROPOSED BASE MOUNTED TAXIWAY LIGHT |
| | PROPOSED ELECTRICAL DUCT | | PROPOSED BASE MOUNTED RUNWAY LIGHT |
| | EXISTING ELECTRICAL CABLES | | PROPOSED BASE MOUNTED THRESHOLD LIGHT |
| | PROPOSED 1/2 #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT | | EXISTING TAXI GUIDANCE SIGN |
| | PROPOSED 2-1/2 #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT | | RELOCATED TAXI GUIDANCE SIGN |
| | PROPOSED 2-1/2 #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT) | | EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN) |
| | PROPOSED 3-1/2 #6 XLP-USE 600V UG CABLE IN UNIT DUCT | | PROPOSED ELECTRICAL STRUCTURE (MANHOLE, HANDHOLE, SPLICE CAN) |
| | | | EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER) |

AIRFIELD LIGHTING NOTES

1. PROPOSED RUNWAY AND TAXIWAY LIGHTS SHALL BE PLACED 10' FROM THE PAVEMENT EDGE UNLESS SHOWN OTHERWISE. PROPOSED RUNWAY THRESHOLD LIGHTS SHALL BE PLACED 10' FROM THRESHOLD AT RUNWAY 12R END AND 5' FROM THRESHOLD AT RUNWAY 30L END. PROPOSED MALTS THRESHOLD LIGHTS SHALL BE PLACED 10' FROM THRESHOLD AT RUNWAY 30L END.
2. ALL PROPOSED RUNWAY, TAXIWAY, AND THRESHOLD LIGHTS SHALL BE CONSTRUCTED AS SHOWN ON THE PROPOSED ELECTRICAL PLANS AND IN ACCORDANCE WITH THE ELECTRICAL DETAILS SHEETS AND THE SPECIFICATIONS.
3. PROPOSED RUNWAY LIGHTING CABLES SHALL BE PLACED APPROXIMATELY 10' FROM THE PAVEMENT EDGE UNLESS SHOWN OTHERWISE. CABLES SHALL BE INSTALLED A MINIMUM OF 18" BELOW FINISHED GRADE.
4. THE PROPOSED RUNWAY LIGHTING CABLE SHALL BE 1/2, #8, 5KV FAA L-824 TYPE C UNDERGROUND CABLE IN 2" HDPE UNIT DUCT.
5. IN AREAS WHERE THERE IS A CONGESTION OF CABLES OR WHERE THE PROPOSED CABLE/DUCT CROSSES AN EXISTING CABLE, THE PROPOSED DUCT/CABLE SHALL BE TRENCHED INTO PLACE. IN ALL OTHER LOCATIONS THE PROPOSED CABLE/DUCT MAY BE EITHER TRENCHED OR PLOWED INTO PLACE. TRENCHING AND/OR PLOWING WILL BE CONSIDERED INCIDENTAL TO THE PROPOSED CABLES AND/OR DUCT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
6. THE PROPOSED LIGHTS SHALL BE FITTED WITH LENSES ACCORDING TO THE SCHEDULE ON SHEET 64.
7. ALL PROPOSED RUNWAY AND TAXIWAY LIGHTS WILL BE TAGGED IN ACCORDANCE WITH THE LIGHT'S NUMBER SHOWN ON THE PLANS.
8. SEE "ELECTRICAL DETAILS SHEET 1 (SHEET 66) AND SPECIAL PROVISION SPECS FOR REQUIREMENTS ON ITEM AR125964 RELOCATE TAXI GUIDANCE SIGN.
9. ALL RELOCATED TAXI GUIDANCE SIGNS WILL BE LOCATED SUCH THAT THE CLOSEST SIDE OF THE SIGN IS 20' FROM THE PAVEMENT EDGE, UNLESS SHOWN OTHERWISE.



REVISION	DATE	BY

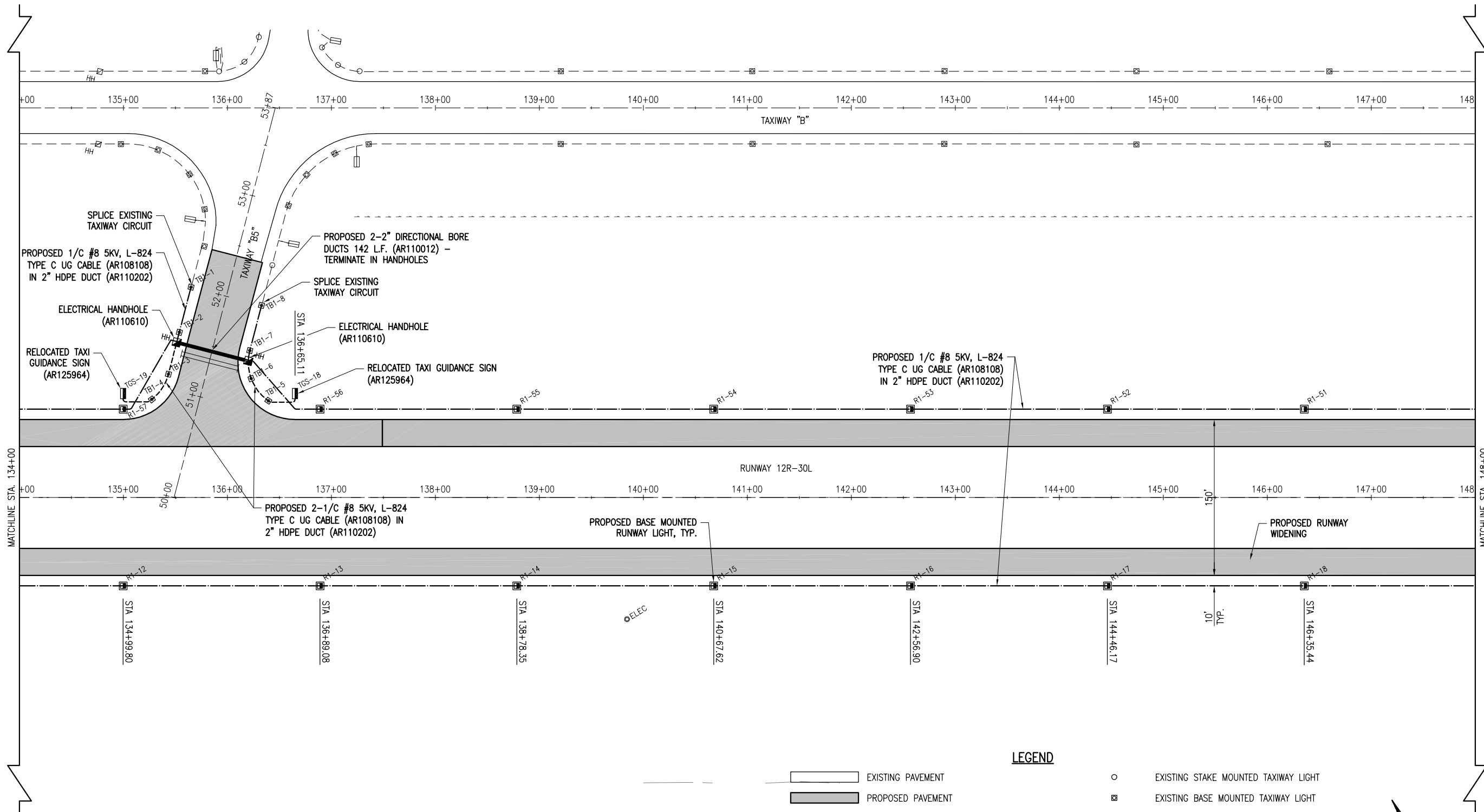
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-142ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/17/10
REVIEWED	KNL/CAH 03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Court, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED ELECTRICAL PLAN
STA. 120+00 TO STA. 134+00

MAY 25, 2010 11:38 AM HARRI01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-142ELE.DWG

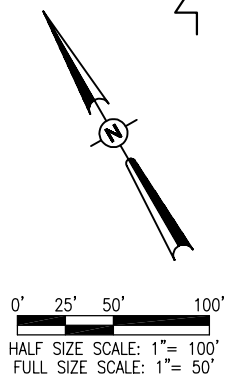


MATCHLINE STA. 134+00

MATCHLINE STA. 148+00

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT)
- PROPOSED 3-1/C #6 XLP-USE 600V UG CABLE IN UNIT DUCT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED RUNWAY LIGHT
- PROPOSED BASE MOUNTED THRESHOLD LIGHT
- EXISTING TAXI GUIDANCE SIGN
- RELOCATED TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- PROPOSED ELECTRICAL STRUCTURE (MANHOLE, HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)



REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

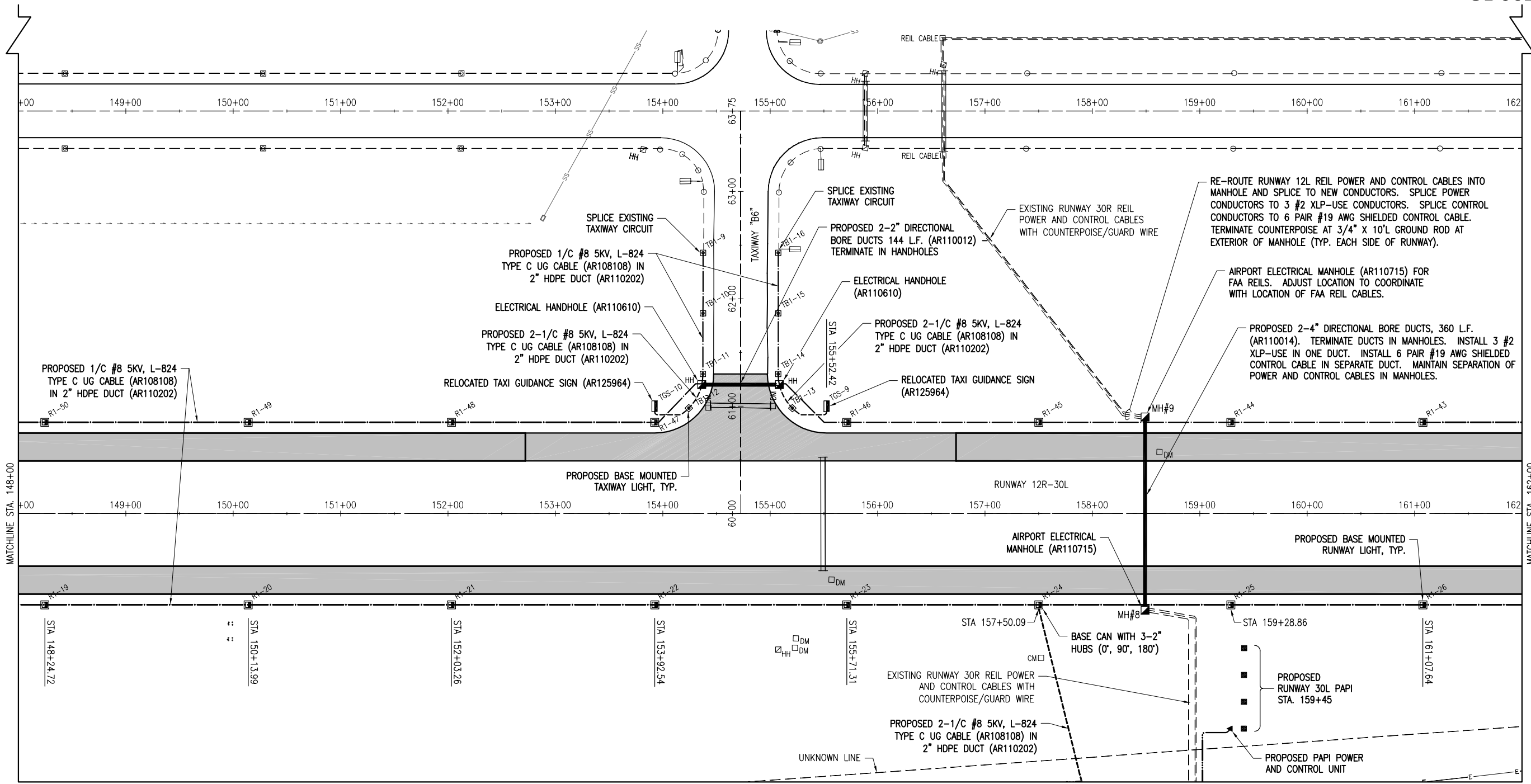
A.I.P. PROJ.: 3-17-0039-B22
ILL. PROJ.: CPS-3906

Hanson Project No.	08A0211D
File Name	R-142ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/17/10
REVIEWED	KNL/CAH 03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Drive, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED ELECTRICAL PLAN
STA. 134+00 TO STA. 148+00

MAY 25, 2010 11:38 AM HARRIO1115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-142ELE.DWG



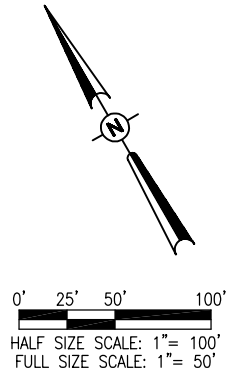
MATCHLINE STA. 148+00

MATCHLINE STA. 162+00

MATCHLINE 250' RT. - SEE NEXT SHEET

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- PROPOSED 1/2" #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- PROPOSED 2-1/2" #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT)
- PROPOSED 3-1/2" #6 XLP-USE 600V UG CABLE IN UNIT DUCT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED RUNWAY LIGHT
- PROPOSED BASE MOUNTED THRESHOLD LIGHT
- EXISTING TAXI GUIDANCE SIGN
- RELOCATED TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- PROPOSED ELECTRICAL STRUCTURE (MANHOLE, HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)



REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

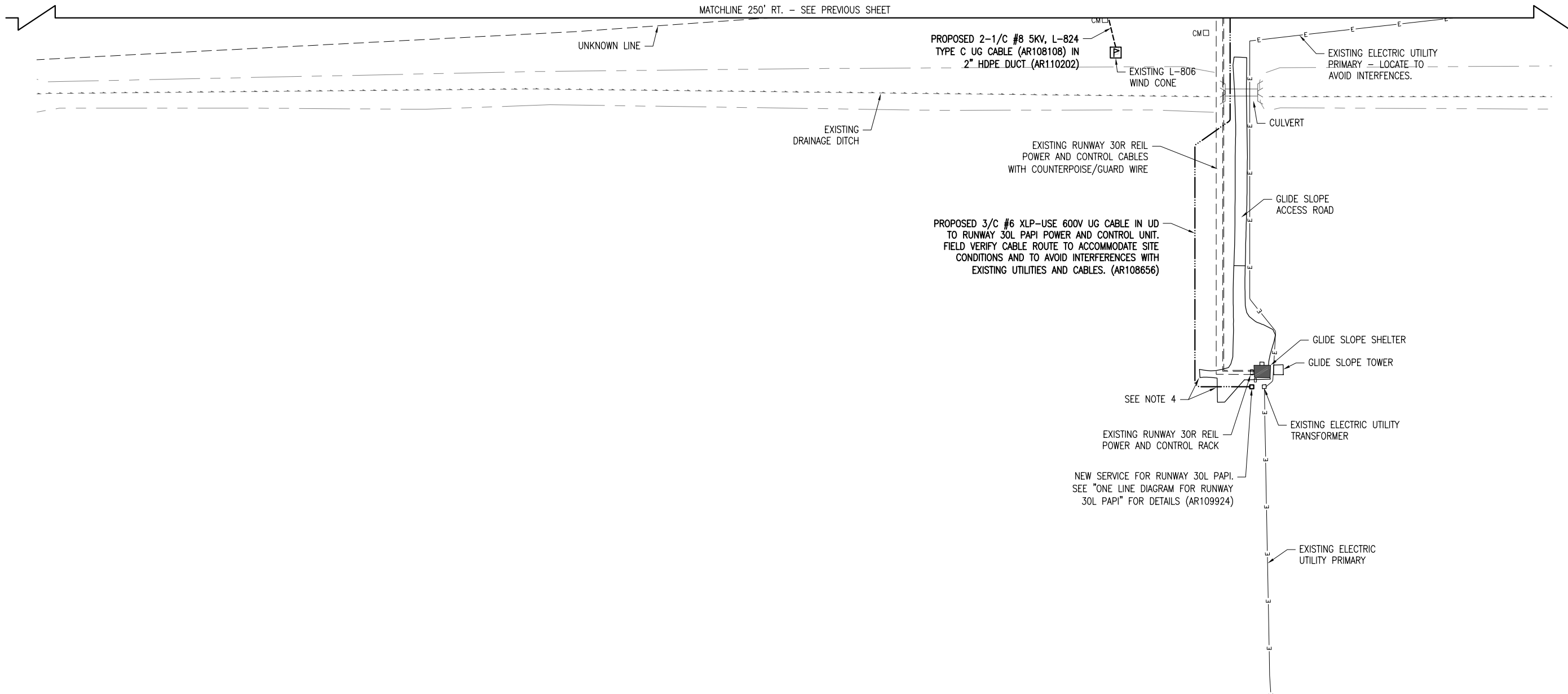
ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
File Name	R-142ELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/17/10
REVIEWED	KNL/CAH 03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Drive, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED ELECTRICAL PLAN
STA. 148+00 TO STA. 162+00

MAY 25, 2010 11:38 AM HARRI01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-142ELE.DWG



THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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.

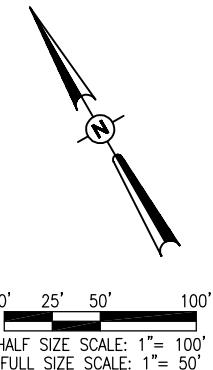
ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF 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.

NOTES

1. WORK TO THE RUNWAY 30R REIL SYSTEM SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR AND THE RESPECTIVE FAA MAINTENANCE PERSONNEL.
2. REMOVAL OF EXISTING ELECTRIC SERVICE FOR RWY 30L VASI'S AND REPLACEMENT WITH NEW ELECTRIC SERVICE FOR RWY 30L PAPI'S WILL BE PAID FOR UNDER ITEM AR109924 - REPLACE ELECTRIC SERVICES.
3. COORDINATE ELECTRIC SERVICE ENTRANCE WORK AND UPGRADES WITH THE AIRPORT DIRECTOR AND THE SERVING UTILITY COMPANY; AMEREN CIPS PHONE 1-888-789-2477 AND AMEREN CIPS ENGINEERING DEPT. 500 EAST BROADWAY, EAST ST. LOUIS, IL, 62201 ATTN: MR. KEN LAKE PHONE: (618) 482-2260, CELL PHONE: (618) 691-9759
4. THE GLIDE SLOPE FACILITY ALSO HAS AN ASOS (AUTOMATED SURFACE OBSERVING SYSTEM), SAWS (STAND-ALONE WEATHER SENSOR), RUNWAY 30R REIL POWER & CONTROL RACK, AND THE SERVICE FOR THE RUNWAY 30L VASI. USE CAUTION WHEN EXCAVATING, TRENCHING, PLOWING, DIGGING, ETC. AND PROTECT EXISTING UTILITIES AND CABLES.

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT)
- PROPOSED 3-1/C #6 XLP-USE 600V UG CABLE IN UNIT DUCT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED RUNWAY LIGHT
- PROPOSED BASE MOUNTED THRESHOLD LIGHT
- EXISTING TAXI GUIDANCE SIGN
- RELOCATED TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- PROPOSED ELECTRICAL STRUCTURE (MANHOLE, HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)
- EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)



MAY 25, 2010 11:39 AM HARR01115 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-142ELE.DWG

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

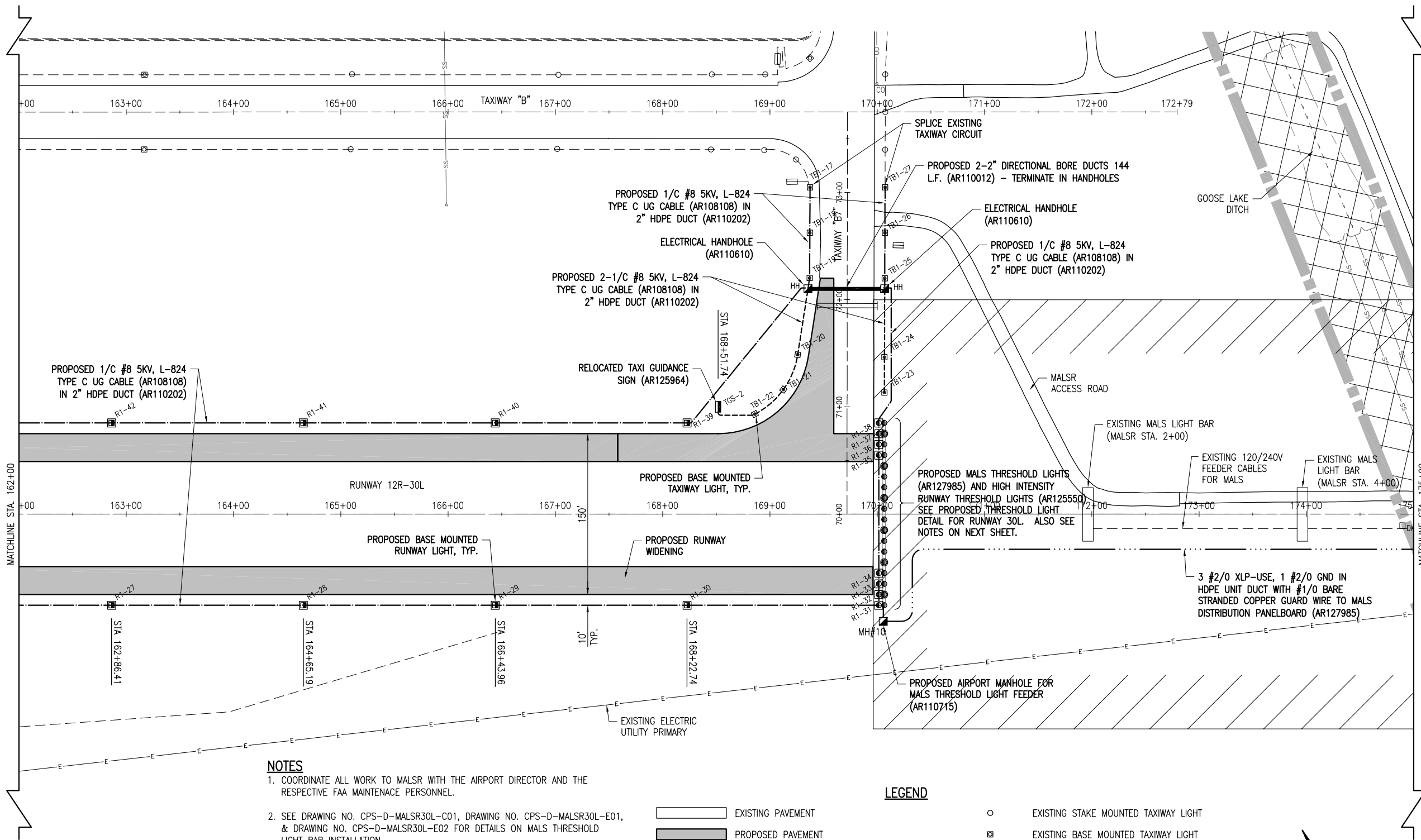
A.I.P. PROJ.: 3-17-0039-B22
IL PROJ.: CPS-3906

Hanson Project No. 08A0211D	02/16/10
Filename R-142ELE.DWG	03/17/10
Scale 1" = 50'	03/30/10
Date 04/16/10	
LAYOUT RAW/KNL	
DRAWN MLH	
REVIEWED KNL/CAH	

HANSON
Hanson Professional Services, Inc.
4227 Fairview Court, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED ELECTRICAL PLAN
GLIDE SLOPE 250' RT.

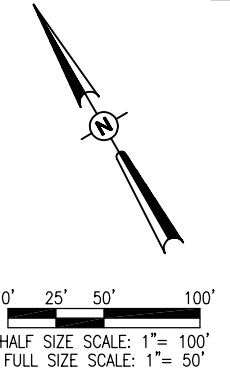


NOTES

- COORDINATE ALL WORK TO MALSR WITH THE AIRPORT DIRECTOR AND THE RESPECTIVE FAA MAINTENACE PERSONNEL.
- SEE DRAWING NO. CPS-D-MALSR30L-C01, DRAWING NO. CPS-D-MALSR30L-E01, & DRAWING NO. CPS-D-MALSR30L-E02 FOR DETAILS ON MALS THRESHOLD LIGHT BAR INSTALLATION.
- REMOVAL OF EXISTING MALS THRESHOLD LIGHTS AND INSTALLATION OF NEW MALS THRESHOLD LIGHT SYSTEM WILL BE PAID FOR UNDER ITEM AR127985 - RECONSTRUCT MALSR, PER LUMP SUM.
- THE GUARD WIRE IS 10" ABOVE AND IN THE SAME TRENCH AS THE POWER CABLES RUNNING FROM THE MALS DISTRIBUTION PANEL TO THE MALS THRESHOLD LIGHT BAR. THE GUARD WIRE SHALL BE A 1/0 AWG BARE COPPER CONDUCTOR BONDED TO GROUND RODS AT APPROXIMATELY 90 FT. INTERVALS. THE SPACING OF GROUND RODS MUST VARY 10% TO 20% TO PREVENT RESONANCE. INSTALL GROUND RODS AT APPROXIMATELY 6 FT. ON EITHER SIDE OF THE TRENCH. THE GUARD WIRE SHALL BE BONDED TO THE EARTH ELECTRODE SYSTEM (GROUND RING OR GROUND ROD) AT THE MALS DISTRIBUTION PANEL AND AT THE GROUND ROD LOCATED AT THE MALS THRESHOLD LIGHT BAR JUST OUTSIDE OF THE MANHOLE. SEE FAA STD 19e, PART 4.2.1.5 GUARD WIRES FOR ADDITIONAL INFORMATION.

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT)
- PROPOSED 3-1/C #6 XLP-USE 600V UG CABLE IN UNIT DUCT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED RUNWAY LIGHT
- PROPOSED BASE MOUNTED THRESHOLD LIGHT
- EXISTING TAXI GUIDANCE SIGN
- RELOCATED TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- PROPOSED ELECTRICAL STRUCTURE (MANHOLE, HANDHOLE, SPLICE CAN)
- EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)



MAY 25, 2010 11:39 AM HARRI01115 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-142ELE.DWG

REVISION	DATE	BY

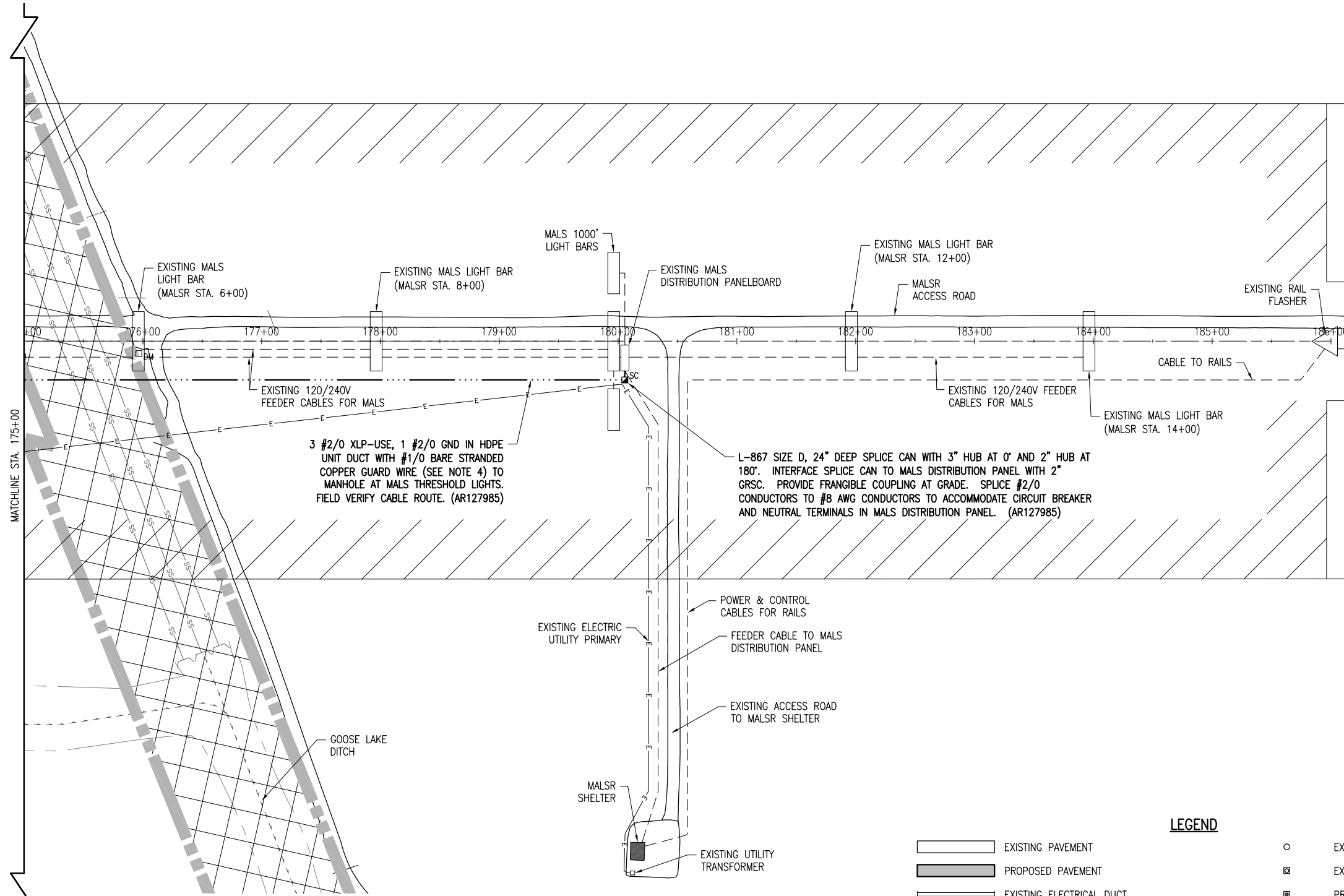
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ILL. PROJ.: CPS-3906
A.L.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D	LAYOUT	RAW/KNL	02/16/10
File Name	R-142ELE.DWG	DRAWN	MLH	03/17/10
Scale	1" = 50'	REVIEWED	KNL/CAH	03/30/10
Date	04/16/10			

HANSON
Hanson Professional Services, Inc.
4227 Fernside Dr., Ste. 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED ELECTRICAL PLAN
STA. 162+00 TO STA. 175+00



3 #2/0 XLP-USE, 1 #2/0 GND IN HDPE UNIT DUCT WITH #1/0 BARE STRANDED COPPER GUARD WIRE (SEE NOTE 4) TO MANHOLE AT MALS THRESHOLD LIGHTS. FIELD VERIFY CABLE ROUTE. (AR127985)

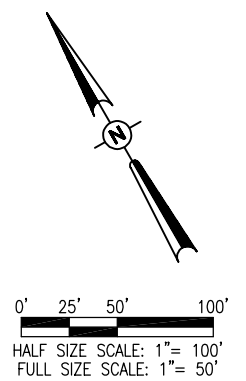
L-867 SIZE D, 24" DEEP SPLICE CAN WITH 3" HUB AT 0' AND 2" HUB AT 180'. INTERFACE SPLICE CAN TO MALS DISTRIBUTION PANEL WITH 2" GRSC. PROVIDE FRANGIBLE COUPLING AT GRADE. SPLICE #2/0 CONDUCTORS TO #8 AWG CONDUCTORS TO ACCOMMODATE CIRCUIT BREAKER AND NEUTRAL TERMINALS IN MALS DISTRIBUTION PANEL. (AR127985)

NOTES

- COORDINATE ALL WORK TO MALS WITH THE AIRPORT DIRECTOR AND THE RESPECTIVE FAA MAINTENACE PERSONNEL.
- SEE DRAWING NO. CPS-D-MALSR30L-C01, DRAWING NO. CPS-D-MALSR30L-E01, & DRAWING NO. CPS-D-MALSR30L-E02 FOR DETAILS ON MALS THRESHOLD LIGHT BAR INSTALLATION.
- REMOVAL OF EXISTING MALS THRESHOLD LIGHTS AND INSTALLATION OF NEW MALS THRESHOLD LIGHT SYSTEM WILL BE PAID FOR UNDER ITEM AR127985 - RECONSTRUCT MALS, PER LUMP SUM.
- THE GUARD WIRE IS 10" ABOVE AND IN THE SAME TRENCH AS THE POWER CABLES RUNNING FROM THE MALS DISTRIBUTION PANEL TO THE MALS THRESHOLD LIGHT BAR. THE GUARD WIRE SHALL BE A 1/0 AWG BARE COPPER CONDUCTOR BONDED TO GROUND RODS AT APPROXIMATELY 90 FT. INTERVALS. THE SPACING OF GROUND RODS MUST VARY 10% TO 20% TO PREVENT RESONANCE. INSTALL GROUND RODS AT APPROXIMATELY 6 FT. ON EITHER SIDE OF THE TRENCH. THE GUARD WIRE SHALL BE BONDED TO THE EARTH ELECTRODE SYSTEM (GROUND RING OR GROUND ROD) AT THE MALS DISTRIBUTION PANEL AND AT THE GROUND ROD LOCATED AT THE MALS THRESHOLD LIGHT BAR JUST OUTSIDE OF THE MANHOLE. SEE FAA STD 19e, PART 4.2.1.5 GUARD WIRES FOR ADDITIONAL INFORMATION.

LEGEND

- [Hatched Box] EXISTING PAVEMENT
- [Solid Grey Box] PROPOSED PAVEMENT
- [Dashed Line] EXISTING ELECTRICAL DUCT
- [Solid Line] PROPOSED ELECTRICAL DUCT
- [Dotted Line] EXISTING ELECTRICAL CABLES
- [Dash-dot Line] PROPOSED 1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- [Long Dash-dot Line] PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN 2" HDPE DUCT
- [Short Dash-dot Line] PROPOSED 2-1/C #8 5KV, L-824 TYPE C UG CABLE IN UNIT DUCT (HOMERUN CKT)
- [Dash-dot-dot Line] PROPOSED 3-1/C #6 XLP-USE 600V UG CABLE IN UNIT DUCT
- [Circle with X] EXISTING STAKE MOUNTED TAXIWAY LIGHT
- [Square with X] EXISTING BASE MOUNTED TAXIWAY LIGHT
- [Square with dot] PROPOSED BASE MOUNTED TAXIWAY LIGHT
- [Square with circle] PROPOSED BASE MOUNTED RUNWAY LIGHT
- [Square with square] PROPOSED BASE MOUNTED THRESHOLD LIGHT
- [Square with horizontal lines] EXISTING TAXI GUIDANCE SIGN
- [Square with vertical lines] RELOCATED TAXI GUIDANCE SIGN
- [Square with HH/SC] EXISTING ELECTRICAL STRUCTURE (HANDHOLE, SPLICE CAN)
- [Square with MH/HH/SC] PROPOSED ELECTRICAL STRUCTURE (MANHOLE, HANDHOLE, SPLICE CAN)
- [Square with DM/CM] EXISTING ELECTRICAL MARKER (DUCT MARKER, CABLE MARKER)



MAY 25, 2010 11:39 AM HARRIC01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-14ZELE.DWG

REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
File Name	R-14ZELE.DWG
Scale	1" = 50'
Date	04/16/10
LAYOUT	RAW/KNL 02/16/10
DRAWN	MLH 03/17/10
REVIEWED	KNL/CAH 03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Court, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

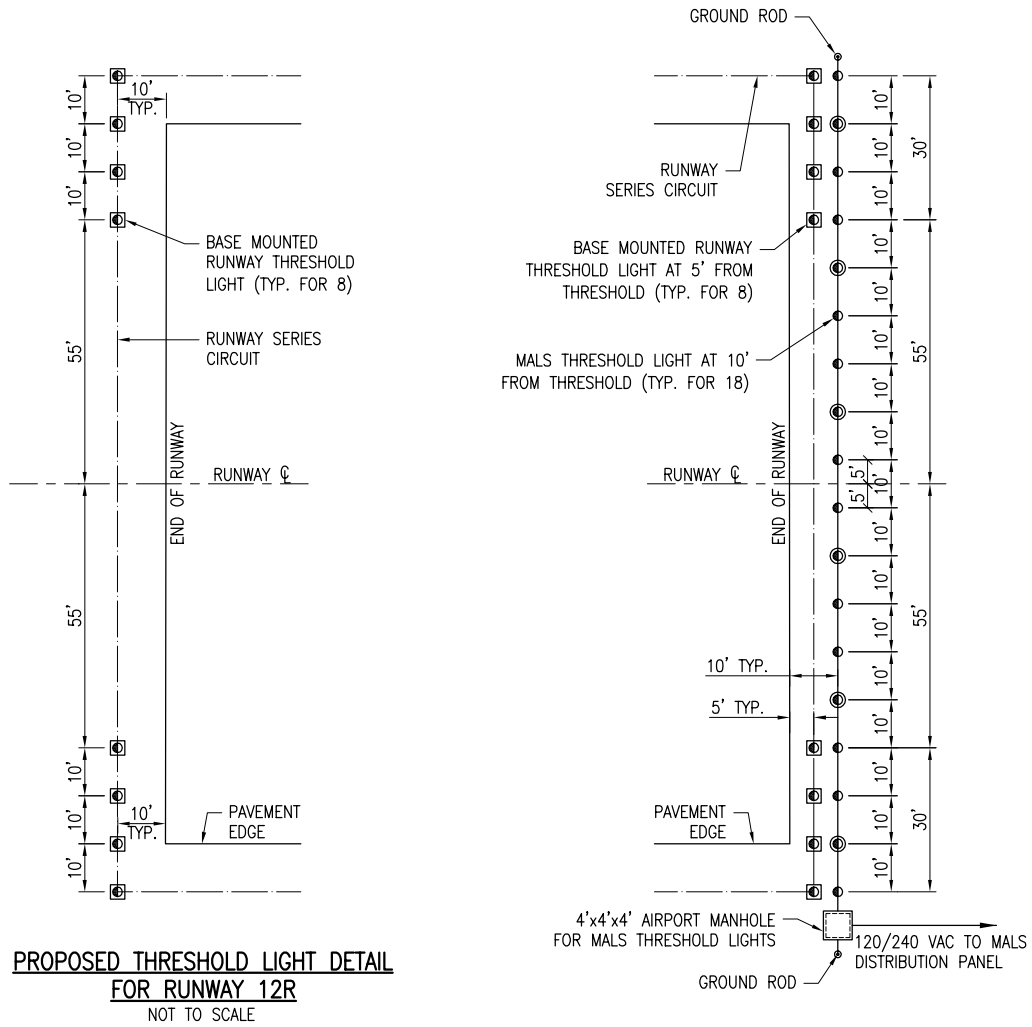
WIDEN RUNWAY 12R/30L
PROPOSED ELECTRICAL PLAN
STA. 175+00 TO STA. 186+00

LIGHT LENS SCHEDULE		
LIGHT NUMBERS	LENS	ORIENTATION
R1-1 TO R1-3	CLEAR WHITE/AMBER	AMBER SIDE FACING EAST
R1-4 TO R1-19	CLEAR WHITE	CLEAR WHITE ON BOTH SIDES
R1-20 TO R1-30	CLEAR WHITE/AMBER	AMBER SIDE FACING WEST
R1-31 TO R1-38	RED/GREEN	RED SIDE FACING WEST (TOWARDS THRESHOLD)
R1-39 TO R1-49	CLEAR WHITE/AMBER	AMBER SIDE FACING WEST
R1-50 TO R1-65	CLEAR WHITE	CLEAR WHITE ON BOTH SIDES
R1-66 TO R1-75	CLEAR WHITE/AMBER	AMBER SIDE FACING EAST
R1-76 TO R1-83	RED/GREEN	RED SIDE FACING EAST (TOWARDS THRESHOLD)
R1-84 TO R1-90	CLEAR WHITE/AMBER	AMBER SIDE FACING EAST
ALL TAXIWAY EDGE LIGHTS	BLUE	---

LIGHT FIXTURE LOCATION SCHEDULE			
NO.	LOCATION	NORTHING	EASTING
R1-1	RUNWAY 12R-30L	693621.70	2298262.09
R1-2	RUNWAY 12R-30L	693521.55	2298421.07
R1-3	RUNWAY 12R-30L	693421.39	2298580.04
R1-4	RUNWAY 12R-30L	693321.24	2298739.02
R1-5	RUNWAY 12R-30L	693221.08	2298898.00
R1-6	RUNWAY 12R-30L	693125.38	2299049.91
R1-7	RUNWAY 12R-30L	693029.68	2299201.82
R1-8	RUNWAY 12R-30L	692933.98	2299353.73
R1-9	RUNWAY 12R-30L	692838.28	2299505.65
R1-10	RUNWAY 12R-30L	692742.58	2299657.56
R1-11	RUNWAY 12R-30L	692646.88	2299809.47
R1-12	RUNWAY 12R-30L	692551.17	2299961.38
R1-13	RUNWAY 12R-30L	692455.29	2300121.52
R1-14	RUNWAY 12R-30L	692349.40	2300281.67
R1-15	RUNWAY 12R-30L	692248.51	2300441.81
R1-16	RUNWAY 12R-30L	692147.62	2300601.95
R1-17	RUNWAY 12R-30L	692046.73	2300762.10
R1-18	RUNWAY 12R-30L	691945.84	2300922.24
R1-19	RUNWAY 12R-30L	691844.96	2301082.38
R1-20	RUNWAY 12R-30L	691744.07	2301242.53
R1-21	RUNWAY 12R-30L	691643.18	2301402.67
R1-22	RUNWAY 12R-30L	691542.29	2301562.81
R1-23	RUNWAY 12R-30L	691447.00	2301714.08
R1-24	RUNWAY 12R-30L	691351.71	2301865.34
R1-25	RUNWAY 12R-30L	691256.42	2302016.60
R1-26	RUNWAY 12R-30L	691161.12	2302167.86
R1-27	RUNWAY 12R-30L	691065.83	2302319.12
R1-28	RUNWAY 12R-30L	690970.54	2302470.38
R1-29	RUNWAY 12R-30L	690875.25	2302621.64
R1-30	RUNWAY 12R-30L	690779.95	2302772.90
R1-31	RUNWAY 12R-30L	690684.70	2302924.10
R1-32	RUNWAY 12R-30L	690693.16	2302929.43
R1-33	RUNWAY 12R-30L	690701.62	2302934.76
R1-34	RUNWAY 12R-30L	690710.08	2302940.09
R1-35	RUNWAY 12R-30L	690803.15	2302998.73
R1-36	RUNWAY 12R-30L	690811.62	2303004.06
R1-37	RUNWAY 12R-30L	690820.08	2303009.39
R1-38	RUNWAY 12R-30L	690828.54	2303014.72
R1-39	RUNWAY 12R-30L	690923.79	2302863.52
R1-40	RUNWAY 12R-30L	691019.08	2302712.26
R1-41	RUNWAY 12R-30L	691114.38	2302561.00
R1-42	RUNWAY 12R-30L	691209.67	2302409.74
R1-43	RUNWAY 12R-30L	691304.96	2302258.47
R1-44	RUNWAY 12R-30L	691400.25	2302107.21
R1-45	RUNWAY 12R-30L	691495.54	2301955.95

LIGHT FIXTURE LOCATION SCHEDULE			
NO.	LOCATION	NORTHING	EASTING
R1-46	RUNWAY 12R-30L	691590.84	2301804.69
R1-47	RUNWAY 12R-30L	691686.19	2301653.33
R1-48	RUNWAY 12R-30L	691787.02	2301493.29
R1-49	RUNWAY 12R-30L	691887.90	2301333.14
R1-50	RUNWAY 12R-30L	691988.79	2301173.00
R1-51	RUNWAY 12R-30L	692089.68	2301012.86
R1-52	RUNWAY 12R-30L	692190.57	2300852.71
R1-53	RUNWAY 12R-30L	692291.46	2300692.57
R1-54	RUNWAY 12R-30L	692392.35	2300532.42
R1-55	RUNWAY 12R-30L	692493.23	2300372.28
R1-56	RUNWAY 12R-30L	692594.12	2300212.14
R1-57	RUNWAY 12R-30L	692695.01	2300051.99
R1-58	RUNWAY 12R-30L	692790.71	2299900.08
R1-59	RUNWAY 12R-30L	692886.41	2299748.17
R1-60	RUNWAY 12R-30L	692982.11	2299596.26
R1-61	RUNWAY 12R-30L	693077.82	2299444.35
R1-62	RUNWAY 12R-30L	693173.52	2299292.44
R1-63	RUNWAY 12R-30L	693269.22	2299140.53
R1-64	RUNWAY 12R-30L	693364.92	2298988.62
R1-65	RUNWAY 12R-30L	693465.08	2298836.71
R1-66	RUNWAY 12R-30L	693565.23	2298684.80
R1-67	RUNWAY 12R-30L	693665.38	2298532.89
R1-68	RUNWAY 12R-30L	693765.54	2298380.98
R1-69	RUNWAY 12R-30L	693865.69	2298229.07
R1-70	RUNWAY 12R-30L	693965.85	2298077.16
R1-71	RUNWAY 12R-30L	694066.00	2297925.25
R1-72	RUNWAY 12R-30L	694166.16	2297773.34
R1-73	RUNWAY 12R-30L	694266.31	2297621.43
R1-74	RUNWAY 12R-30L	694366.46	2297469.52
R1-75	RUNWAY 12R-30L	694466.62	2297317.61
R1-76	RUNWAY 12R-30L	694568.35	2297165.70
R1-77	RUNWAY 12R-30L	694559.89	2297013.79
R1-78	RUNWAY 12R-30L	694551.43	2296861.88
R1-79	RUNWAY 12R-30L	694542.96	2296709.97
R1-80	RUNWAY 12R-30L	694449.89	2296558.06
R1-81	RUNWAY 12R-30L	694441.43	2296406.15
R1-82	RUNWAY 12R-30L	694432.97	2296254.24
R1-83	RUNWAY 12R-30L	694424.51	2296102.33
R1-84	RUNWAY 12R-30L	694322.78	2295950.42
R1-85	RUNWAY 12R-30L	694222.63	2295798.51
R1-86	RUNWAY 12R-30L	694122.47	2295646.60
R1-87	RUNWAY 12R-30L	694022.32	2295494.69
R1-88	RUNWAY 12R-30L	693922.17	2295342.78
R1-89	RUNWAY 12R-30L	693822.01	2295190.87
R1-90	RUNWAY 12R-30L	693721.86	2295038.96

LIGHT FIXTURE LOCATION SCHEDULE			
NO.	LOCATION	NORTHING	EASTING
TB2-1	TAXIWAY B1	694667.65	2297201.47
TB2-2	TAXIWAY B1	694631.77	2297163.11
TB2-3	TAXIWAY B1	694597.93	2297126.93
TB2-4	TAXIWAY B1	694564.09	2297090.76
TB2-5	TAXIWAY B1	694487.44	2297218.13
TB2-6	TAXIWAY B1	694515.12	2297206.33
TB2-7	TAXIWAY B1	694545.20	2297206.37
TB2-8	TAXIWAY B1	694572.86	2297218.22
TB2-9	TAXIWAY B1	694616.98	2297248.87
TB2-10	TAXIWAY B	694410.16	2297807.89
TB2-11	TAXIWAY B	694385.29	2297847.38
TB2-12	TAXIWAY B	694360.43	2297886.87
TB2-13	TAXIWAY B	694335.57	2297926.37
TA-1	TAXIWAY B4	693379.02	2299050.68
TA-2	TAXIWAY B4	693359.11	2299022.57
TA-3	TAXIWAY B4	693307.74	2299104.10
TA-4	TAXIWAY B4	693341.69	2299109.90
TB1-1	TAXIWAY B5	692759.53	2300169.79
TB1-2	TAXIWAY B5	692728.75	2300137.07
TB1-3	TAXIWAY B5	692700.30	2300106.80
TB1-4	TAXIWAY B5	692688.29	2300080.30
TB1-5	TAXIWAY B5	692627.43	2300174.40
TB1-6	TAXIWAY B5	692654.26	2300171.81
TB1-7	TAXIWAY B5	692677.76	2300185.02
TB1-8	TAXIWAY B5	692708.53	2300217.74
TB1-9	TAXIWAY B6	691795.78	2301775.57
TB1-10	TAXIWAY B6	691748.04	2301745.48
TB1-11	TAXIWAY B6	691700.29	2301715.39
TB1-12	TAXIWAY B6	691680.39	2301687.28
TB1-13	TAXIWAY B6	691629.02	2301768.81
TB1-14	TAXIWAY B6	691662.96	2301774.61
TB1-15	TAXIWAY B6	691710.70	2301804.69
TB1-16	TAXIWAY B6	691758.44	2301834.78
TB1-17	TAXIWAY B7	691048.52	2303077.50
TB1-18	TAXIWAY B7	691012.86	2303054.84
TB1-19	TAXIWAY B7	690977.19	2303032.18
TB1-20	TAXIWAY B7	690922.64	2302984.68
TB1-21	TAXIWAY B7	690902.24	2302956.09
TB1-22	TAXIWAY B7	690897.09	2302921.34
TB1-23	TAXIWAY B7	690849.80	2303034.19
TB1-24	TAXIWAY B7	690877.57	2303051.83
TB1-25	TAXIWAY B7	690939.66	2303091.27
TB1-26	TAXIWAY B7	690975.54	2303114.07
TB1-27	TAXIWAY B7	691011.21	2303136.72



PROPOSED THRESHOLD LIGHT DETAIL FOR RUNWAY 30L
NOT TO SCALE

NOTE: SEE SHEET NOS. 75, 76 AND 77 FOR ADDITIONAL MALS THRESHOLD LIGHT BAR DETAILS

MAY 25, 2010 11:42 AM HARRI01115
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-546LE.DWG

BY

REVISION

DATE

PROJECT: 3-17-0039-BZ2

PROJ.: CPS-3906

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

<p>Hanson Project No. 08A0211D Filename R-546LE.DWG Scale AS SHOWN Date 04/16/10</p>	<p>LAYOUT RAW/KNL 02/16/10 DRAWN MLH 03/29/10 REVIEWED KNL/CAH 03/31/10</p>
---	---

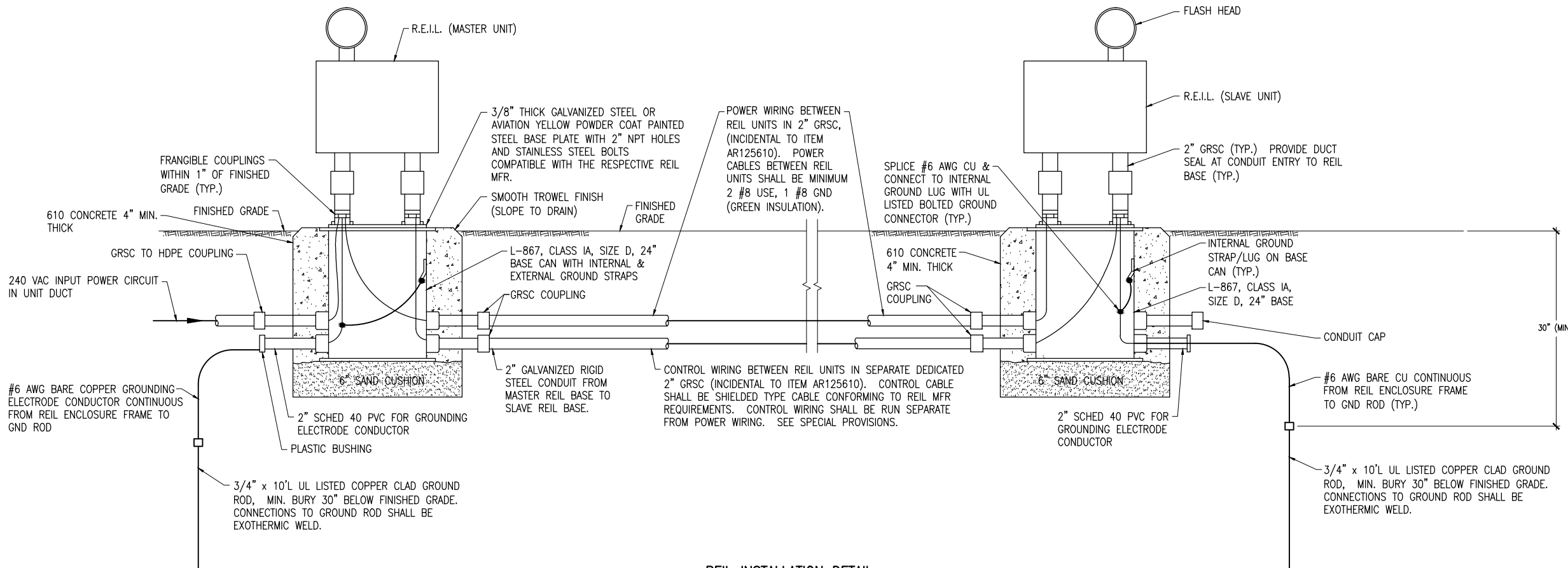
Hanson Professional Services, Inc.
 4227 Fernside Court, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L

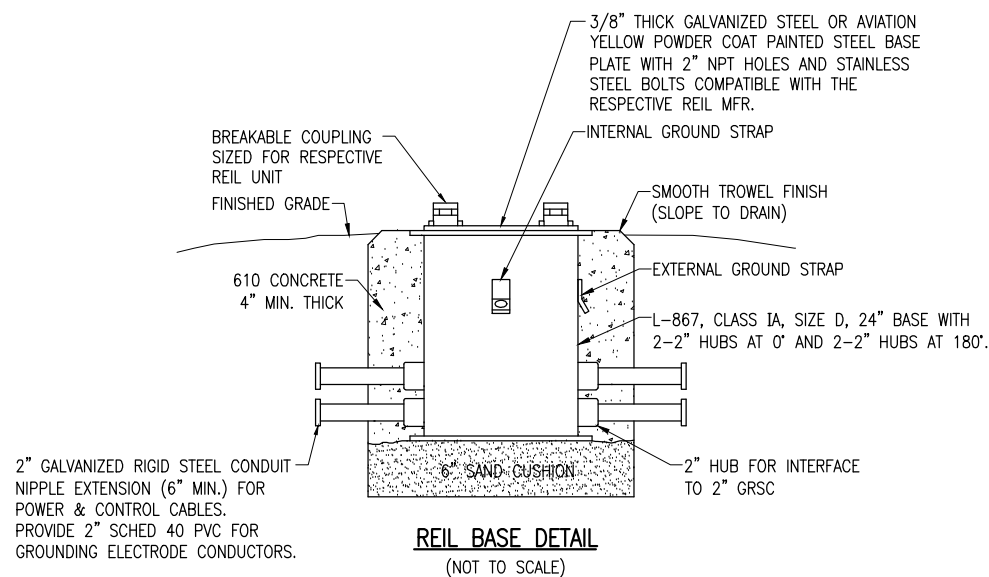
THRESHOLD LIGHT DETAILS,
 LIGHT LOCATION AND
 LIGHT LENS SCHEDULES

64

64 of 186 sheets



REIL INSTALLATION DETAIL
NOT TO SCALE

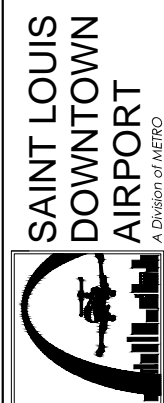


NOTE:
FOR THE PURPOSE OF ENHANCING SAFETY, EACH BASE MUST HAVE INSTALLED, BY THE MANUFACTURER, AN INTERNAL AND EXTERNAL GROUND STRAP THAT IS AVAILABLE FOR THE PURPOSE OF ATTACHING A GROUND LUG THAT IS CONNECTED TO AN EARTH GROUND OR A SAFETY GROUND CONDUCTOR INSTALLED WITH THE RESPECTIVE CIRCUIT. FOR AIRPORT PROJECTS RECEIVING FEDERAL FUNDS THIS REQUIREMENT IS MANDATORY PER FAA AC 150/5345-42F.

REIL INSTALLATION NOTES

- REILS SHALL BE FAA APPROVED TYPE L-849V, STYLE A (UNIDIRECTIONAL, HIGH INTENSITY, ONE BRIGHTNESS STEP), 240 VAC, 60 HZ INPUT POWER, FLASH TECHNOLOGY CORP. 812 SERIES OR APPROVED EQUAL. SEE SPECIAL PROVISION SPECS FOR ADDITIONAL REIL REQUIREMENTS.
- REILS SHALL BE AIMED AT ANGLE 10 DEGREES VERTICALLY AND TOED OUT 15 DEGREES FROM THE LINE PARALLEL TO THE RUNWAY CENTERLINE.
- REILS WILL BE PAID FOR UNDER ITEM AR125610 "REILS" PER PAIR.
- ANY AND ALL TRENCHES AND DISTURBED AREAS WILL BE BACKFILLED AND RESTORED TO A SMOOTH GRADE AND SEEDED TO THE SATISFACTION OF THE ENGINEER. ALL TRENCH SETTLEMENT SHALL BE CORRECTED FOR A PERIOD OF ONE YEAR. RESTORATION, GRADING, SEEDING, AND MULCHING OF AREAS DISTURBED DURING THE REIL INSTALLATION AND ASSOCIATED CABLE WILL BE INCIDENTAL TO ITEM AR125610 REILS.
- GROUNDING FOR REILS. GROUNDING FOR REILS SHALL CONFORM TO THE RESPECTIVE REIL MANUFACTURER'S INSTALLATION INSTRUCTIONS, AS DETAILED ON THE PLANS, AND AS SPECIFIED HEREIN. THE POWER CIRCUIT TO MASTER REIL UNIT, AND EACH SLAVE UNIT, SHALL INCLUDE AN EQUIPMENT GROUND WIRE OF THE SAME SIZE AND TYPE AS THE PAHSE CONDUCTORS. FURNISH AND INSTALL A 3/4-INCH DIAMETER BY 10-FOOT LONG COPPER CLAD GROUND ROD AT EACH REIL UNIT. GROUND RODS SHALL BE BURIED 30" MINIMUM BELOW GRADE. BOND EACH REIL UNIT HOUSING AND THE REIL BASE CAN TO THE RESPECTIVE GROUND ROD IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS WITH A #6 AWG BARE SOLID OR STRANDED (PER REIL MANUFACTURER REQUIREMENTS) COPPER GROUNDING ELECTRODE CONDUCTOR. ALL CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC WELD AS MANUFACTURED BY CADWELD, THERMOWELD, OR ULTRAWELD. CONNECTIONS TO REIL UNIT FRAMES SHALL BE AS RECOMMENDED BY THE MANUFACTURER OR WITH UL LISTED GROUNDING CONNECTORS. PROVIDE MULTI TERMINAL EQUIPMENT GROUND BAR OR INDIVIDUAL GROUND LUGS TO TERMINATE EACH GROUND WIRE IN EACH REIL UNIT.

DATE	REVISION	BY



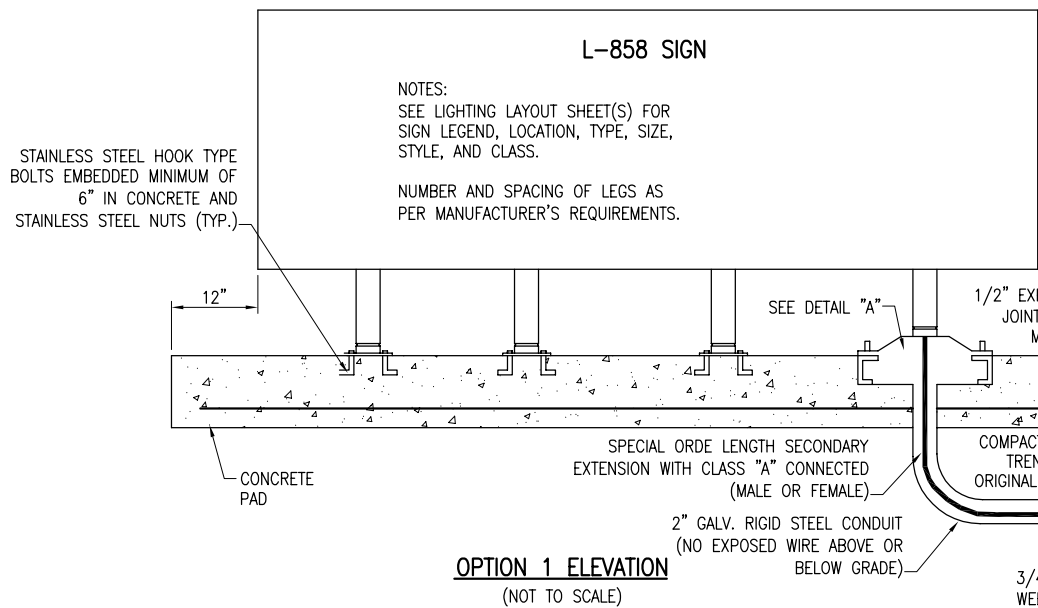
Hanson Project No. 08A0211D	File Name E-508.DWG	Scale NONE	Date 04/16/2010
LAYOUT	KNL	03/22/10	
DRAWN	MV	03/22/10	
REVIEWED	CAH/KNL	03/30/10	



WIDEN RUNWAY
12R/30L
REIL INSTALLATION
DETAILS

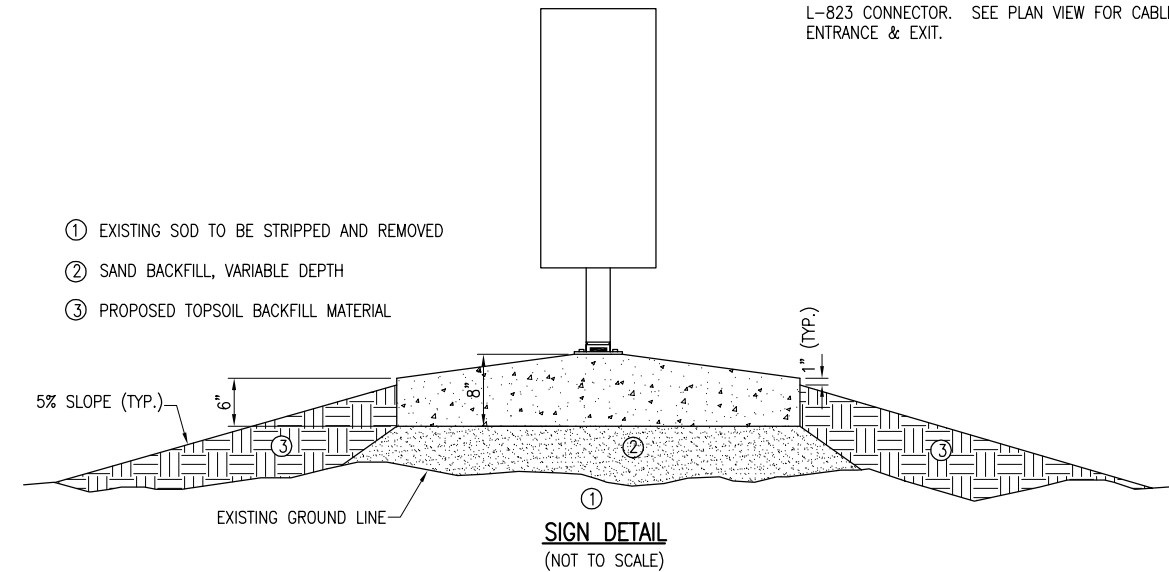
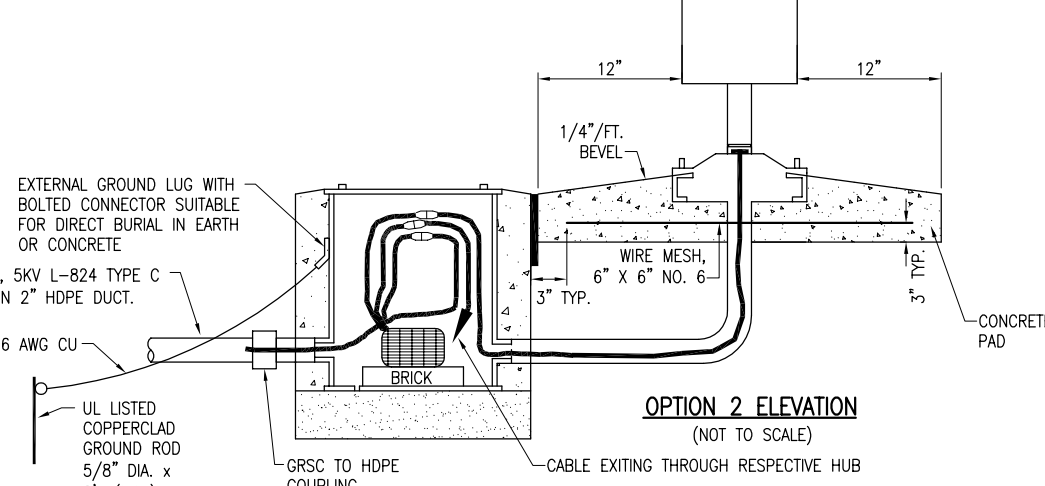
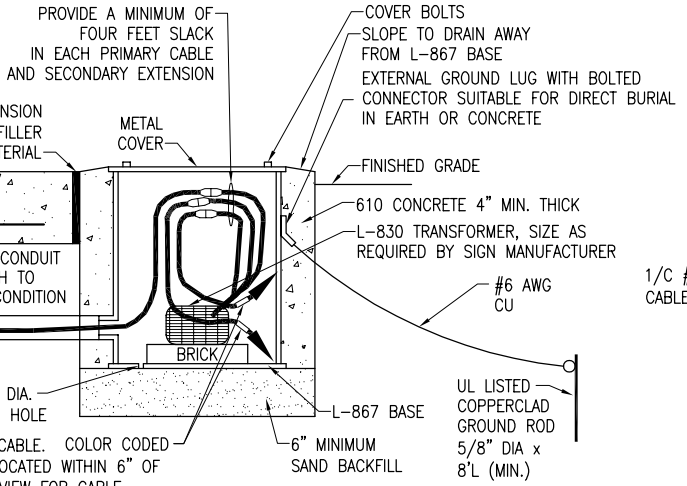
MAY 25, 2010 3:16 PM KINCAD00394
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET E-508.DWG

L. PROJ.: CFS-3906
A.I.P. PROJ.: 3-17-0039-B22



L-858 SIGN

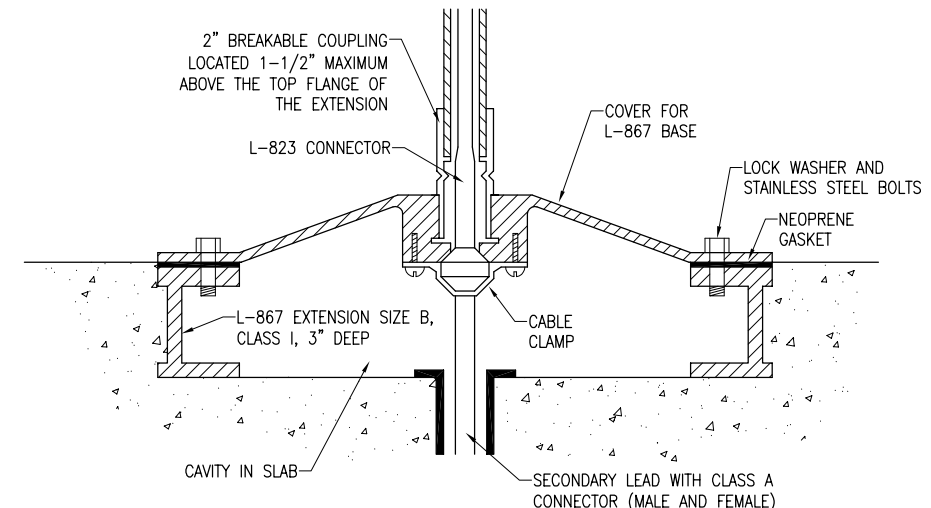
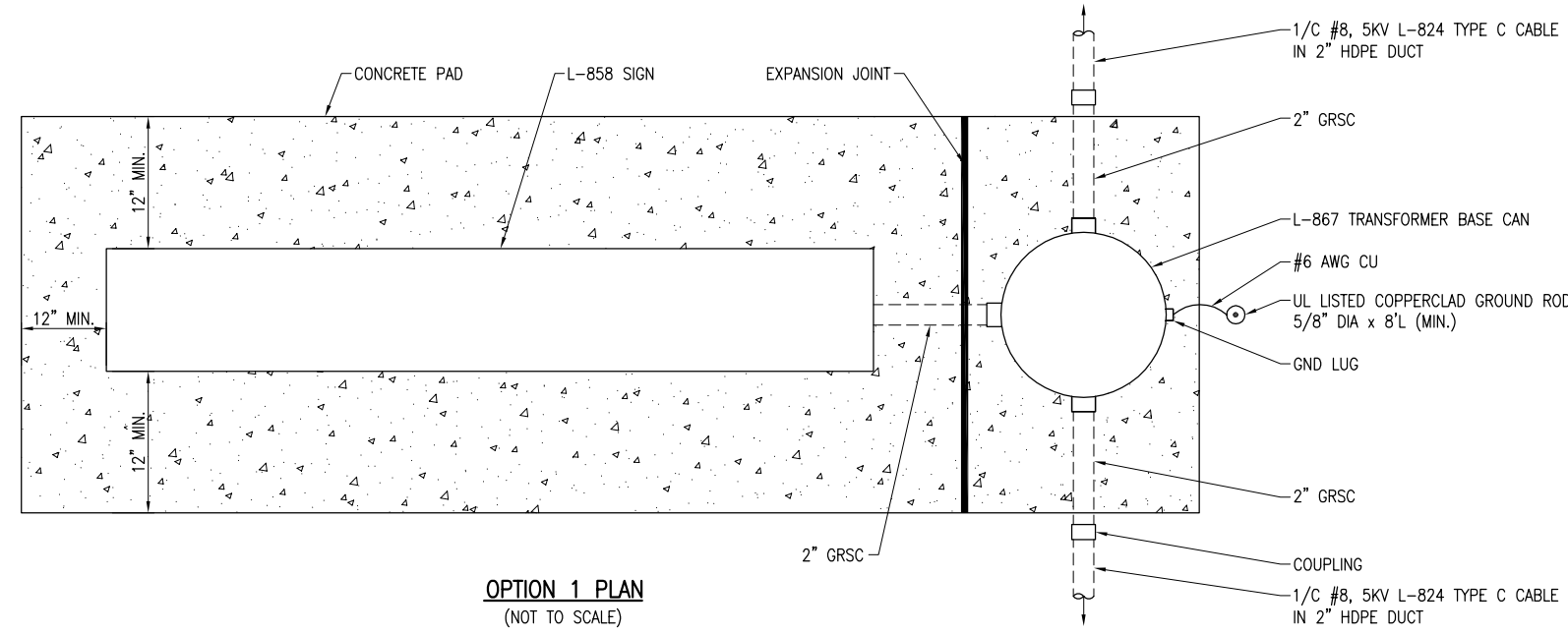
NOTES:
SEE LIGHTING LAYOUT SHEET(S) FOR SIGN LEGEND, LOCATION, TYPE, SIZE, STYLE, AND CLASS.
NUMBER AND SPACING OF LEGS AS PER MANUFACTURER'S REQUIREMENTS.



PER FAA AC 150/5340-30D DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, A SAFETY GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. A SAFETY GROUND MUST BE INSTALLED AT EACH STAKE MOUNTED LIGHT AND EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. THE SAFETY GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR CONNECTED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A 3/8-INCH DIAMETER BY 8-FOOT LONG (MINIMUM) UL LISTED COPPER CLAD GROUND ROD.

GENERAL NOTES

- SEE LIGHTING LAYOUT SHEET FOR SIGN LEGEND, LOCATION, TYPE, SIZE, STYLE, AND CLASS.
- RELOCATION OF EXISTING TAXI GUIDANCE SIGNS WILL BE PAID FOR UNDER ITEM AR125964 RELOCATE TAXI GUIDANCE SIGN PER EACH.



NOTE:
FOR THE PURPOSE OF ENHANCING SAFETY, EACH BASE MUST HAVE INSTALLED, BY THE MANUFACTURER, AN INTERNAL AND EXTERNAL GROUND STRAP THAT IS AVAILABLE FOR THE PURPOSE OF ATTACHING A GROUND LUG THAT IS CONNECTED TO AN EARTH GROUND OR A SAFETY GROUND CONDUCTOR INSTALLED WITH THE RESPECTIVE CIRCUIT. FOR AIRPORT PROJECTS RECEIVING FEDERAL FUNDS THIS REQUIREMENT IS MANDATORY PER FAA AC 150/5345-42F.

BY	
REVISION	
DATE	

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

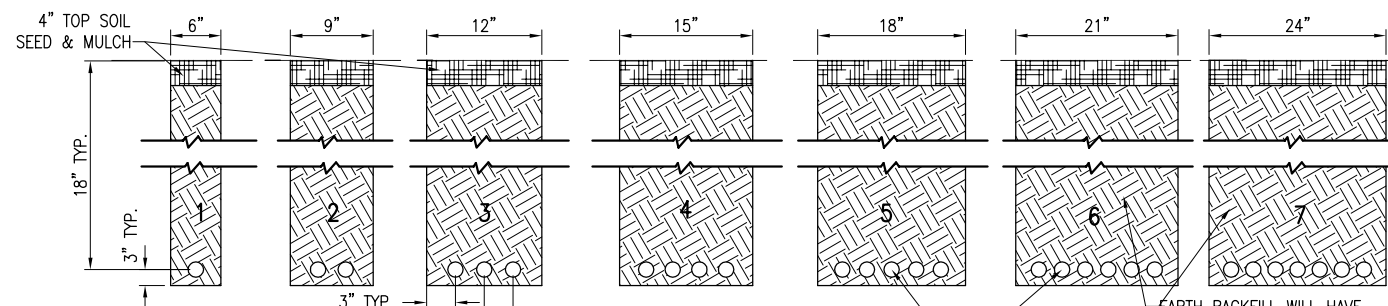
Hanson Project No.	08A0211D
Filename	R-545ELE.DWG
Scale	NONE
Date	04/16/10
LAYOUT	KNL 02/26/10
DRAWN	MV 02/26/10
REVIEWED	CAH/KNL 03/30/10

HANSON

Hanson Professional Services, Inc.
4227 Fairway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

ELECTRICAL DETAILS SHEET 1

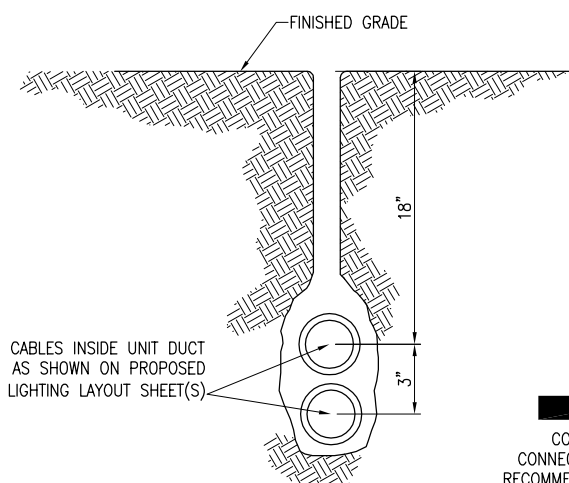


NOTES:

1. DETAIL NUMBERS INDICATE NO. OF CABLES.
2. TRENCHES WITH MORE THAN SEVEN CABLES SHALL BE INCREASED 3" IN WIDTH FOR EACH ADDITIONAL CABLE; IF SPECIFIED ON PLANS TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.
3. DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS.
4. ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO TRENCH.
5. CABLES INSTALLED IN AREAS SUBJECT TO FARMING SHALL BE INSTALLED 42" MINIMUM BELOW GRADE.

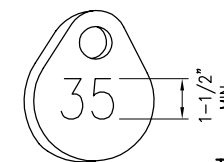
CABLE TRENCHES

(NOT TO SCALE)



PLOWED CABLE

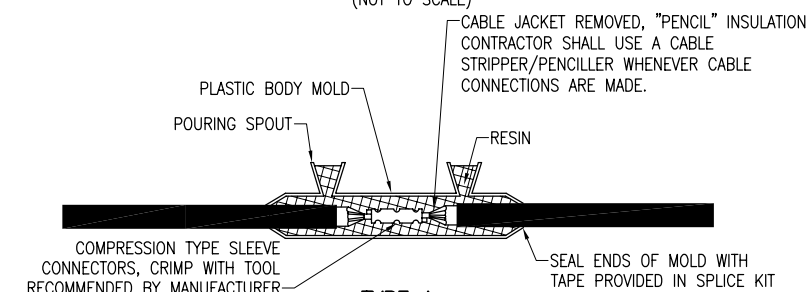
(NOT TO SCALE)



TAG DETAIL

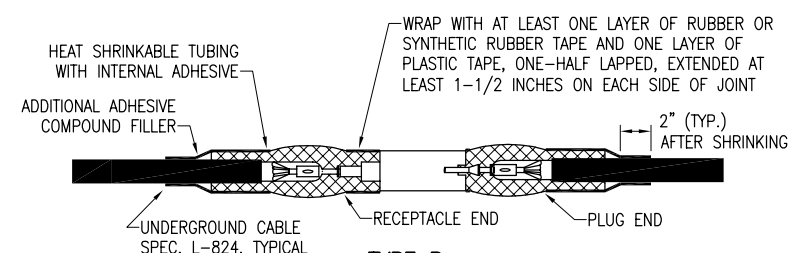
(NOT TO SCALE)

NOTE:
AFFIX NON-CORROSIVE TAG TO FIXTURE FACING RUNWAY WITH SET SCREW, WIRE TIE, OR METAL BAND. NUMERALS SHALL BE ENGRAVED FOR PERMANENT READABILITY.



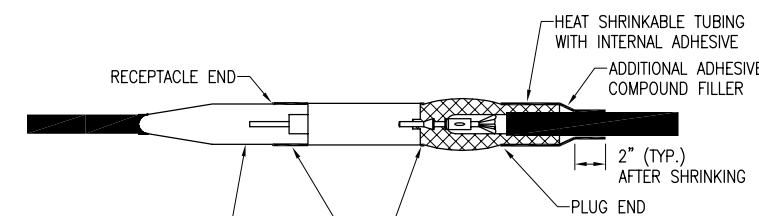
TYPE A

FOR SPLICES IN LOW VOLTAGE CABLE (600V) HOMERUNS FOR EXTENSIONS TO EXISTING LOW VOLTAGE CABLES ONLY



TYPE B

FOR SPLICES AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT AND FOR SPLICES IN HOMERUNS FOR EXTENSIONS TO EXISTING CABLES



TYPE C

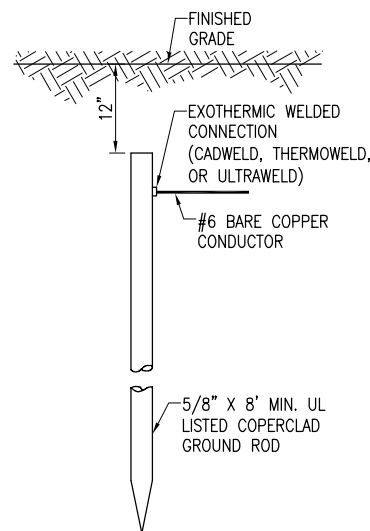
FOR SPLICES AT RUNWAY AND TAXIWAY LIGHTS

NOTES:

1. SEE PROPOSED LIGHTING LAYOUT SHEET(S) FOR SPLICE TYPE.
2. INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE.
3. SPLICES SHALL BE MADE IN SPLICE CANS, BASE CANS, HANDHOLES, MANHOLES, OR JUNCTION BOXES.

CABLE SPLICES

(NOT TO SCALE)



GROUND ROD

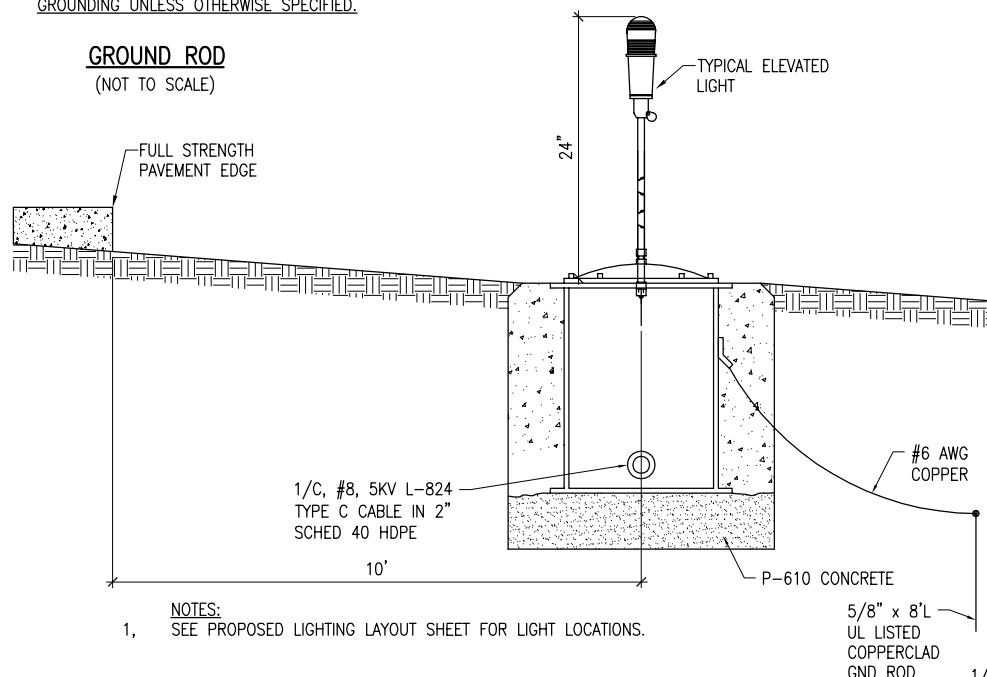
(NOT TO SCALE)

NOTES:
TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLAN.

THE RESISTANCE TO GROUND OF THE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.

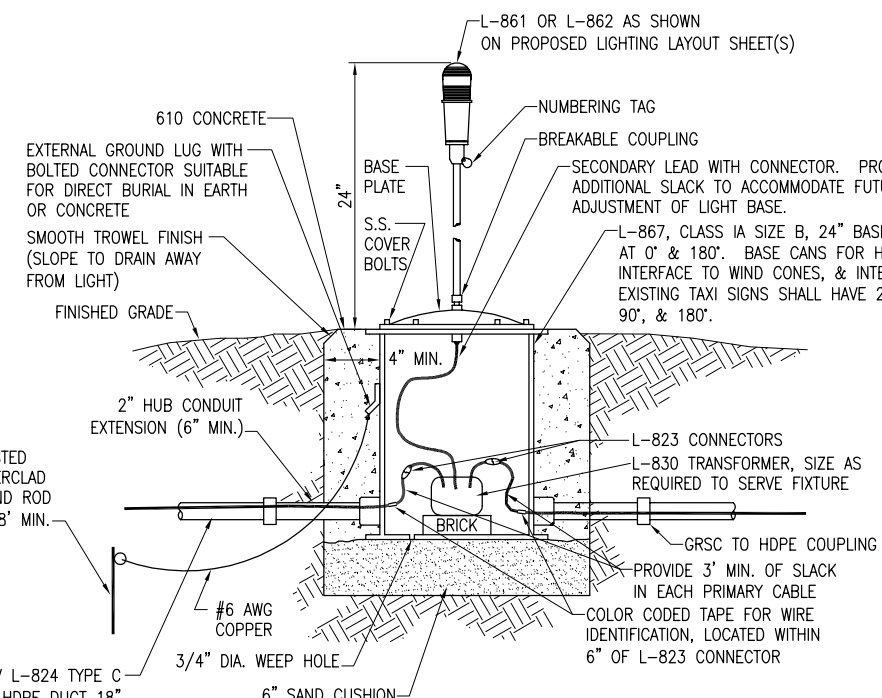
COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.

PER FAA AC 150/5340-30D DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, A SAFETY GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. A SAFETY GROUND SHALL BE INSTALLED AT EACH STAKE MOUNTED LIGHT AND EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. THE SAFETY GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR CONNECTED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A 3/8-INCH DIAMETER BY 8-FOOT LONG (MINIMUM) UL LISTED COPPER CLAD GROUND ROD.



PROFILE VIEW

LIGHT AND INSTALLATION DETAIL



MEDIUM/HIGH INTENSITY LIGHT - BASE MOUNTED

(NOT TO SCALE)

BY	
REVISION	
DATE	

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

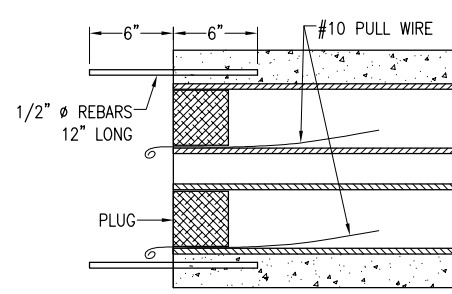
ILL. PROJ.: 3-17-0039-B22
ILL. PROJ.: CPS-3906

Hanson Project No.	08A0211D	LAYOUT	01/13/09
Filename	E-502.DWG	DRAWN	01/13/09
Scale	NONE	REVIEWED	03/30/10
Date	04/16/10		

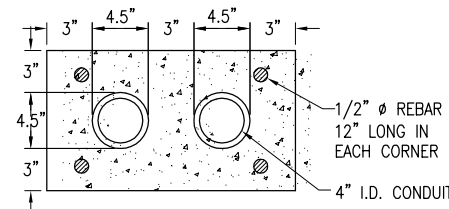
HANSON
Hanson Professional Services, Inc.
4227 Eastman Street, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
ELECTRICAL DETAILS
SHEET 2

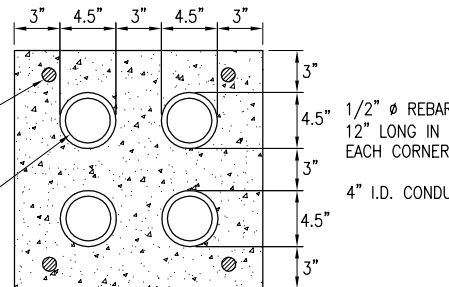
MAY 25, 2010 11:45 AM HARRI01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\E-502.DWG



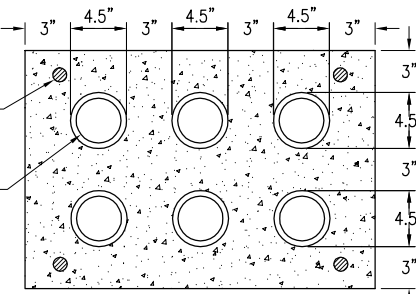
TYPICAL SECTION
(NOT TO SCALE)



2-DUCT BANK
(NOT TO SCALE)



4-DUCT BANK
(NOT TO SCALE)



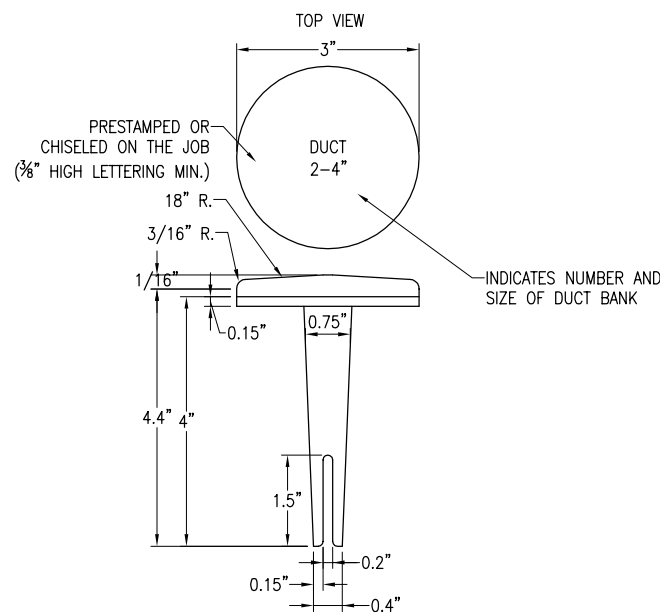
6-DUCT BANK
(NOT TO SCALE)

DUCT BANK NOTES:

1. ALL DIMENSION ARE MINIMUM.
2. INCLUDE DUCT SPACERS AS MANUFACTURED BY UNDERGROUND DEVICES INC., TO MAINTAIN PROPER SEPARATION OF CONDUITS.
3. REBAR IS REQUIRED TO ACCOMODATE FUTURE DUCT EXTENSIONS & INTERFACE AT DUCT BANK TERMINATIONS. DUCT BANKS TERMINATING IN MANHOLES DO NOT 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. DEPTH OF TOP OF DUCT ENCASEMENT SHALL BE 42" MINIMUM TO FINISHED GRADE IN CULTIVATED/FARMED AREAS.
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. INSTALL DUCT BANKS WITH SLOPE TO DRAIN WHERE TERMINATING IN MANHOLES OR HANDHOLES.

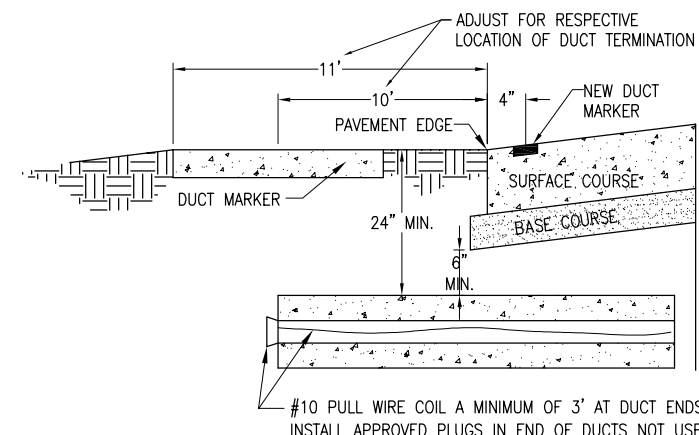
CABLE & DUCT MARKER NOTES:

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.
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 INFORMED AS DESCRIBED IN NOTE 4.
3. CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND APPROXIMATELY EVERY 200' ALONG CABLE RUNS.
4. CONCRETE CABLE MARKERS AND DUCT MARKERS SHALL HAVE LETTERS 4" HIGH, 3" WIDE WITH WIDTH OF STROKE 1/2" AND 3/4" DEEP. ALL LETTERS, NUMBERS AND ARROWS TO BE IMPRESSED.

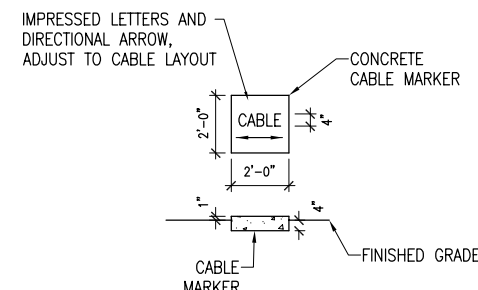


BITUMINOUS PAVEMENT DUCT MARKERS
"NOT TO SCALE"

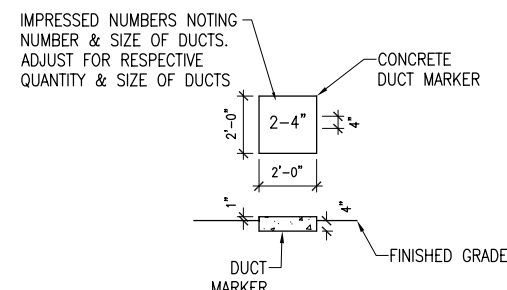
NOTE:
TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE.



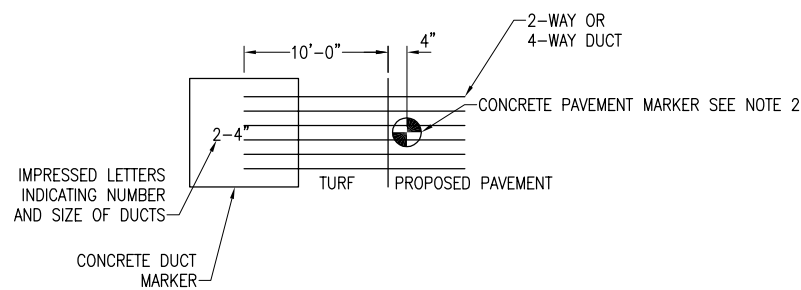
UNDERGROUND ELECTRICAL DUCT
(NOT TO SCALE)



TURF CABLE MARKERS
"NOT TO SCALE"



TURF DUCT MARKERS
"NOT TO SCALE"



DUCT MARKER DETAIL
"NOT TO SCALE"

DATE	REVISION

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22
ILL. PROJ.: CPS-3906

Hanson Project No.	08A0211D	LAYOUT	KNL	01/13/09
Filename	E-501.DWG	DRAWN	MV	01/13/09
Scale	NONE	REVIEWED	CAH/KNL	03/30/10
Date	04/16/10			

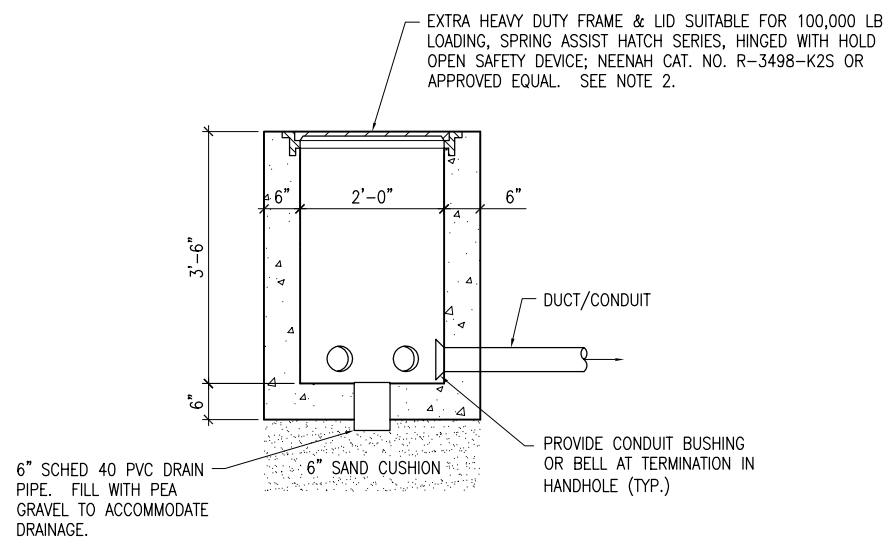
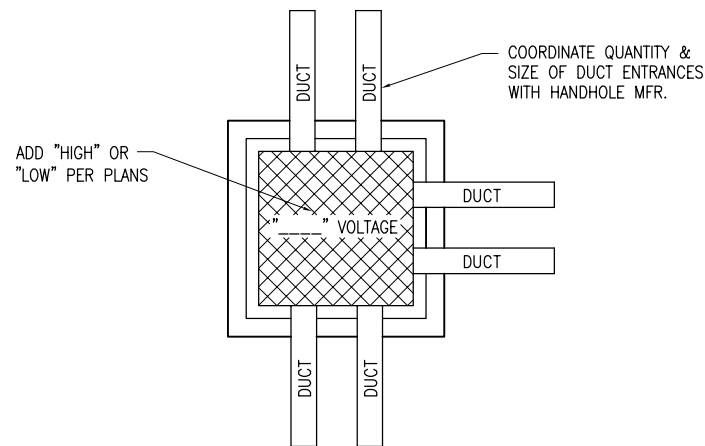
HANSON
Professional Services, Inc.
4227 Farmington Road, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
ELECTRICAL DETAILS
SHEET 3

ELECTRICAL MANHOLE SCHEDULE			
MANHOLE NUMBER	MANHOLE TYPE	LID LETTERING	PAY ITEM
MH #1	4'x4'x4' ELECTRICAL MANHOLE	"HIGH VOLTAGE"	AR110710
MH #2	4'x4'x4' ELECTRICAL MANHOLE	"HIGH VOLTAGE"	AR110710
MH #3	4'x4'x4' AIRPORT MANHOLE	"HIGH VOLTAGE"	AR110715
MH #4	4'x4'x4' AIRPORT MANHOLE	"HIGH VOLTAGE"	AR110715
MH #5	4'x4'x4' AIRPORT MANHOLE	"HIGH VOLTAGE"	AR110715
MH #6	4'x4'x4' AIRPORT MANHOLE	"FAA-REILS"	AR110715
MH #7	4'x4'x4' AIRPORT MANHOLE	"FAA-REILS"	AR110715
MH #8	4'x4'x4' AIRPORT MANHOLE	"FAA-REILS"	AR110715
MH #9	4'x4'x4' AIRPORT MANHOLE	"FAA-REILS"	AR110715
MH #10	4'x4'x4' AIRPORT MANHOLE	"FAA-MALSR" OR "FAA-POWER"	AR110715
MH #11	4'x4'x4' ELECTRICAL MANHOLE	"LOW VOLTAGE" OR "OV-600V ELECTRIC"	AR110710

NOTES:

- SEE "4'x4'x4' AIRPORT MANHOLE" SHEET FOR DETAILS ON AIRPORT RATED ELECTRICAL MANHOLES. AIRPORT RATED MANHOLES ARE REQUIRED FOR MANHOLES LOCATED WITHIN THE RUNWAY SAFETY AREA (250 FEET OR LESS FROM THE RUNWAY CENTER LINE).
- SEE "4'x4'x4' ELECTRICAL MANHOLE" SHEET FOR DETAILS ON ELECTRICAL MANHOLES LOCATED OUTSIDE OF THE RUNWAY SAFETY AREA (MORE THAN 250 FEET FROM THE RUNWAY CENTER LINE).
- SEE "2'x2'x3'-6" ELECTRICAL HANDHOLE" FOR DETAILS ON ELECTRICAL HANDHOLES. AIRPORT RATED HANDHOLES ARE REQUIRED FOR HANDHOLES LOCATED WITHIN THE RUNWAY SAFETY AREA (250 FEET OR LESS FROM THE RUNWAY CENTER LINE) AND FOR HANDHOLES LOCATED WITHIN THE TAXIWAY SAFETY AREA (WITHIN 60 FEET OF TAXIWAYS CENTERLINES).



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.
- ELECTRICAL HANDHOLE, FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 100,000 POUND LOADS AS CALLED FOR IN FAA ADVISORY CIRCULAR AC 150/5320-6D APPENDIX 3 ITEM 2.d. (1). AIRPORT HANDHOLE HOLE FRAME & LID SHALL BE NEENAH CATALOG NO. R-3498-K2S OR APPROVED EQUAL.
- REINFORCEMENT SHALL BE #6 BARS AT 6" CENTERS BASE & WALLS EACH WAY.
- CONCRETE SHALL BE 5000 PSI AT 28 DAYS.
- HANDHOLES SHALL BE PRECAST. PRECAST MANUFACTURERS MUST BE ON IDOT (ILLINOIS DEPT. OF TRANSPORTATION) LIST OF CERTIFIED PRECAST CONCRETE PRODUCERS.
- HANDHOLES WILL BE PAID FOR UNDER ITEM AR110610 ELECTRICAL HANDHOLE PER EACH.
- COORDINATE INSTALLATION OF HANDHOLES WITH RESPECTIVE FINISHED GRADE ELEVATION.

2'x2'x3'-6" ELECTRICAL HANDHOLE
"NOT TO SCALE"

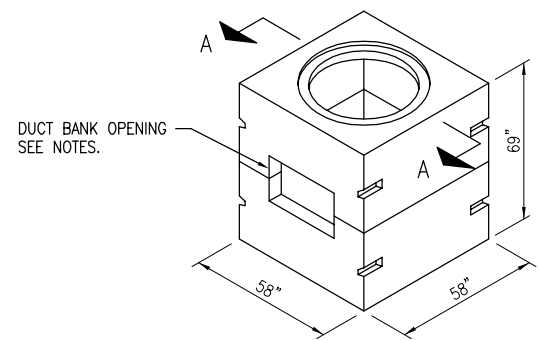
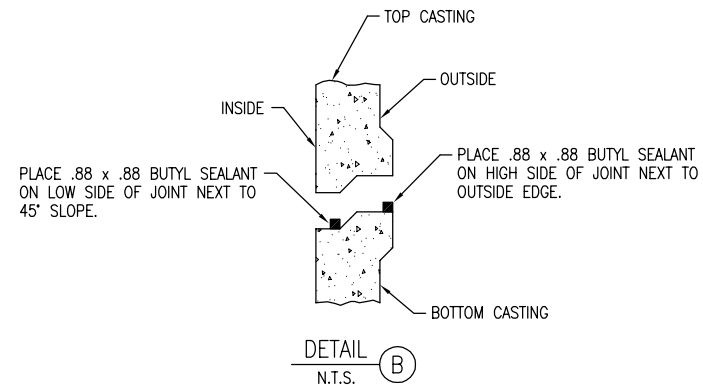
DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22
ILL. PROJ.: CPS-3906

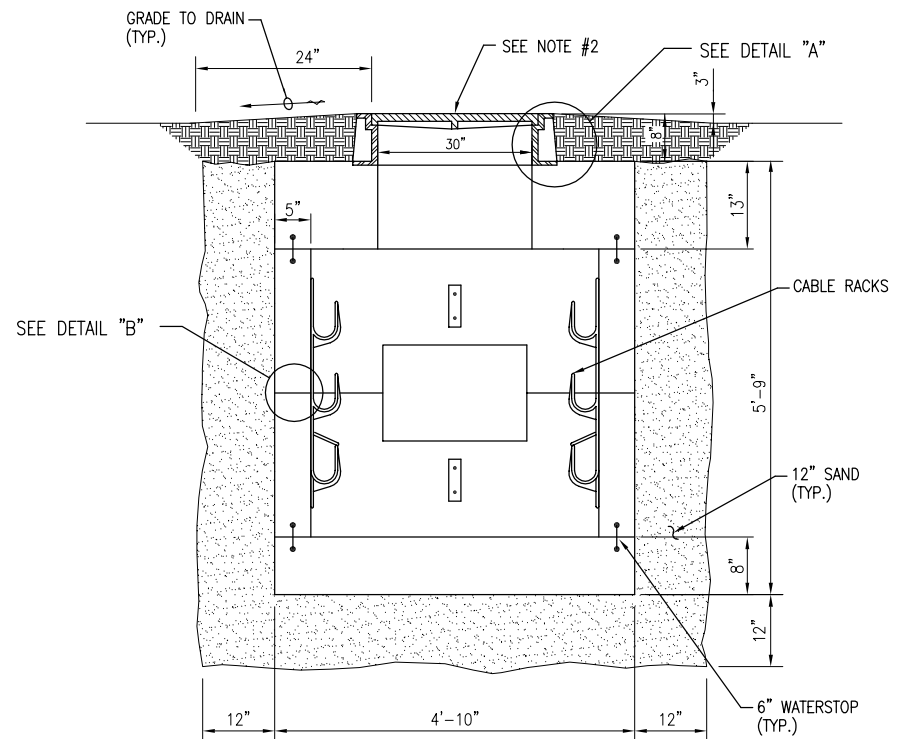
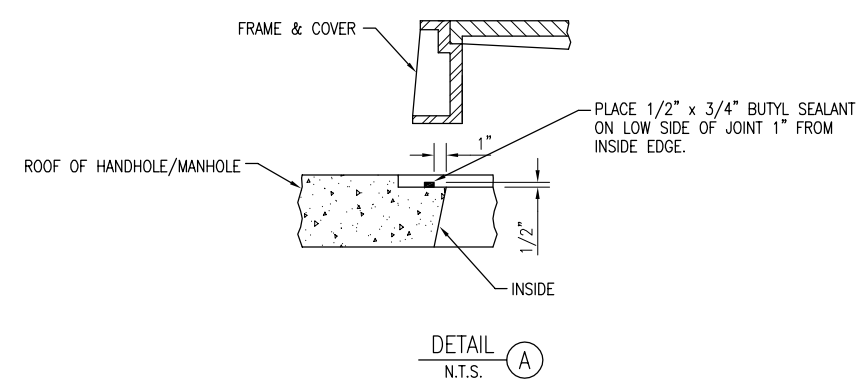
Hanson Project No.	08A0211D	LAYOUT	KNL	03/22/10
Filename	E-622.DWG	DRAWN	MV	03/22/10
Scale	NONE	REVIEWED	CAH/KNL	03/30/10
Date	04/16/10			

HANSON
Hanson Professional Services, Inc.
4227 East Chippewa Street, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
ELECTRICAL MANHOLE SCHEDULE & HANDHOLE DETAIL

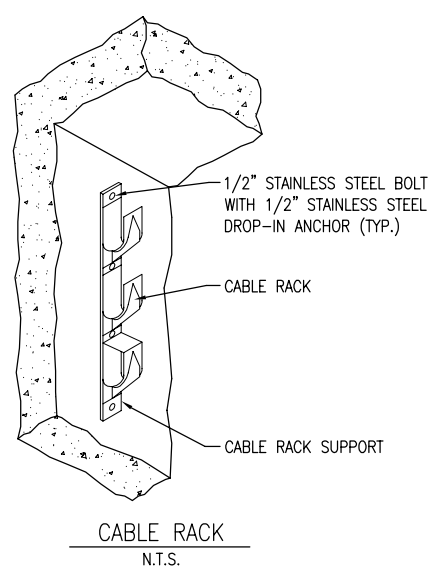


PRECAST 4'x4'x4' AIRPORT MANHOLE
N.T.S.



SECTION A
N.T.S.

4'x4'x4' AIRPORT MANHOLE DETAILS
N.T.S. (NOT TO SCALE)



PRECAST 4'x4'x4' AIRPORT MANHOLE NOTES

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

DESIGN CRITERIA:

- 1) DESIGN SPECIFICATIONS: ACI 318, ASTM C858, FAA AC 150/5320-6D
- 2) DESIGN LOADING:
B727-200 (210,000 LB. TAXI WEIGHT, 97,600 LB. MAX. GEAR)
B777-200/300 (752,000 LB. TAXI WEIGHT, 352,000 LB. MAX. GEAR)
- 3) LIVE LOAD SURCHARGE: 24.5% OF THE WHEEL LOAD SOIL PRESSURE
- 4) CONCRETE COMPRESSIVE STRENGTH: $f'_c = 5,000$ PSI
- 5) REINFORCING STEEL: ASTM A706, $F_y = 60,000$ PSI

DESIGN ASSUMPTIONS:

- 1) GROUND WATER LEVEL: 3'-6" BELOW GRADE
- 2) EARTH COVER: 0'-8" - 2'-0"
- 3) LIVE LOAD IMPACT: $I = 20\%$
- 4) COEFFICIENT OF ACTIVE EARTH PRESSURE: $K_a = 0.3$
- 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

2. AIRPORT MANHOLE FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 100,000 POUND LOADS AS CALLED FOR IN FAA ADVISORY CIRCULAR AC 150/5320-6D APPENDIX 3 ITEM 2.d. (1). AIRPORT MANHOLE FRAME & LID SHALL BE NEENAH CATALOG NO. R-3492-A OR APPROVED EQUAL. LID FOR HIGH VOLTAGE MANHOLE SHALL BE LABELED "HIGH VOLTAGE". LID FOR LOW VOLTAGE MANHOLE SHALL BE LABELED "LOW VOLTAGE". LID FOR FAA REILS SHALL BE LABELED "FAA REILS". LID FOR MALSR SHALL BE LABELED "FAA-MALSR" OR "FAA-POWER".

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.

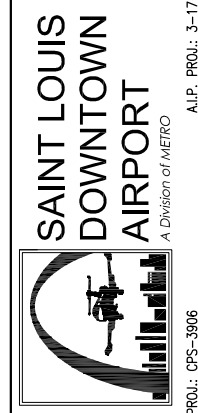
4. 4'x4'x4' AIRPORT MANHOLE SHALL BE MANUFACTURED BY A CONCRETE ELECTRICAL MANHOLE PRODUCER ON THE ILLINOIS DEPARTMENT OF TRANSPORTATION APPROVED LIST OF CERTIFIED PRECAST CONCRETE PRODUCERS.

5. 4'x4'x4' AIRPORT MANHOLE SHALL BE PAID FOR UNDER ITEM AR110715 ELECTRICAL MANHOLE SPECIAL PER EACH.

6. 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.

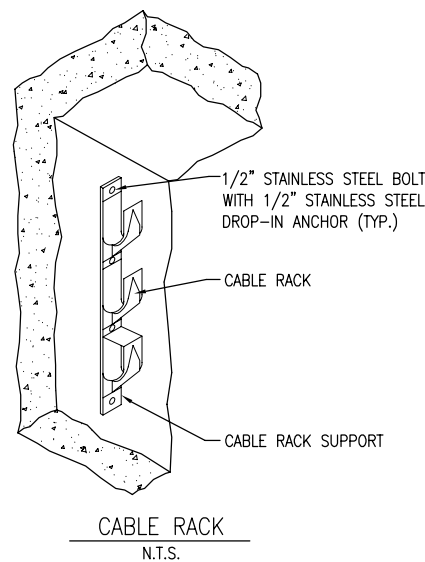
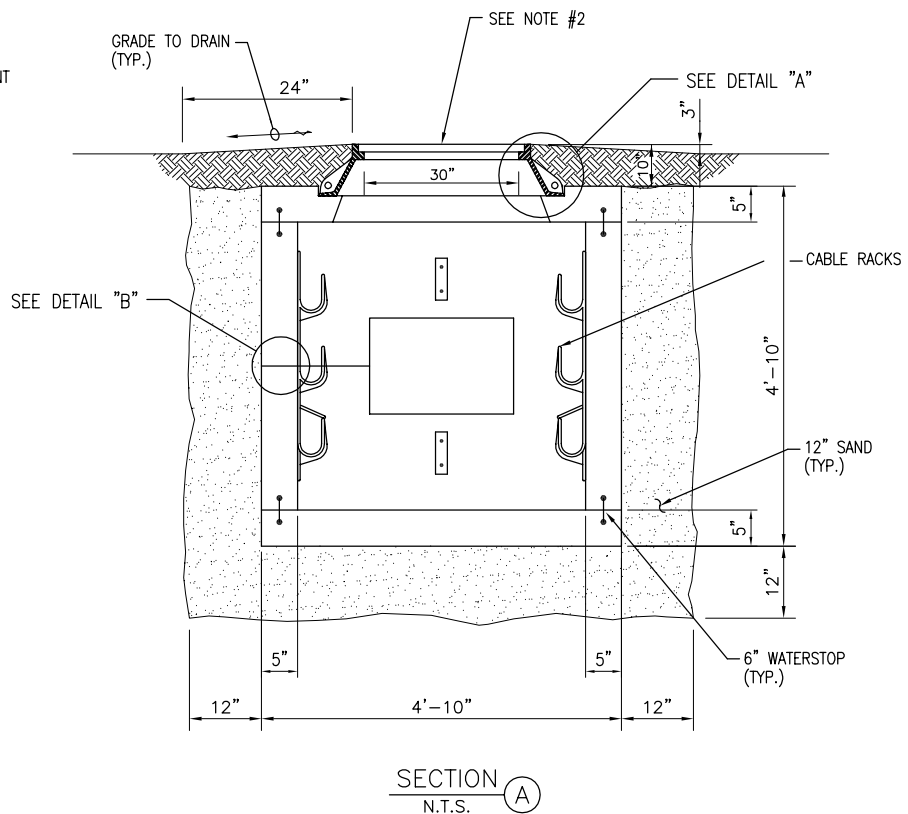
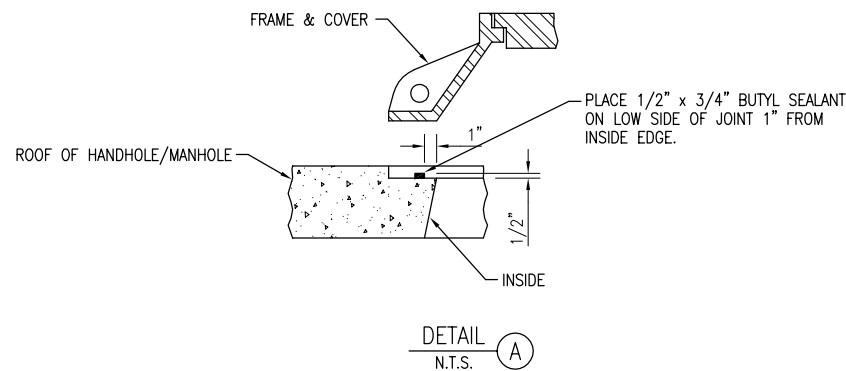
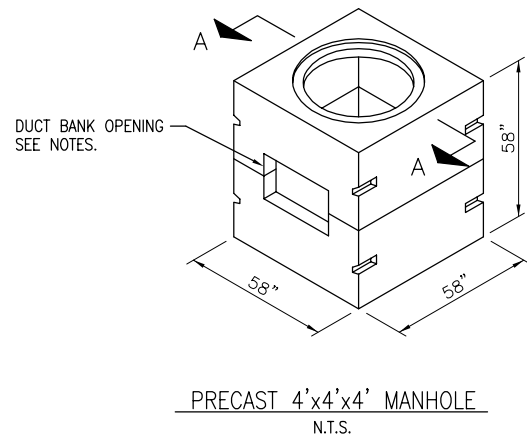
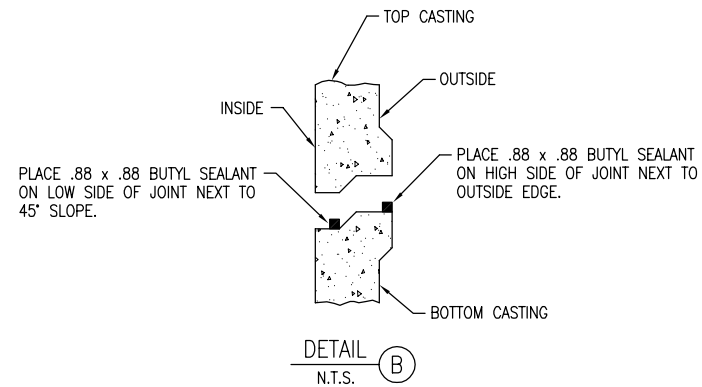
REVISION	DATE	BY



Hanson Project No.	08A0211D	LAYOUT	KNL	03/02/10
Filename	E-507.DWG	DRAWN	MV	03/02/10
Scale	NONE	REVIEWED	CAH/KNL	03/30/10
Date	04/16/10			



WIDEN RUNWAY
12R/30L
4' x 4' x 4'
AIRPORT MANHOLE



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

PRECAST 4'x4'x4' ELECTRICAL MANHOLE NOTES

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

- DESIGN CRITERIA:**
- 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, $F_y = 60000$ 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: $K_a = 0.3$
 - 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.

2. 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 "0V-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. 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 PRODUCERS..
5. 4'x4'x4' MANHOLE SHALL BE PAID FOR UNDER ITEM AR110710 ELECTRICAL MANHOLE PER EACH.
6. 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.

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22
IL PROJ.: CPS-3906

Hanson Project No.	08A0211D	LAYOUT	KNL	03/02/10
Filename	E-506.DWG	DRAWN	MV	03/02/10
Scale	NONE	REVIEWED	CAH/KNL	03/30/10
Date	04/16/10			

Hanson Professional Services, Inc.
4227 Fernside Drive, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY
12R/30L
4' x 4' x 4'
ELECTRICAL MANHOLE

P.A.P.I. NOTES

THE PROPOSED PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM WILL BE PLACED AT THE LOCATION SHOWN ON SHEET NO. 56.

THE PROPOSED CONCRETE PEDESTALS WILL BE AS DETAILED ON SHEET NO. ** THE NUMBER OF PEDESTALS CONSTRUCTED FOR EACH PAPI UNIT WILL DEPEND ON THE UNIT SELECTED BY THE CONTRACTOR FOR INSTALLATION.

SIX (6") INCHES OF GRAVEL ON TOP OF BLACK PLASTIC WILL BE PLACED UNDER EACH PAPI UNIT AND POWER/CONTROL UNIT TO HALT VEGETATION GROWTH.

EACH PAPI UNIT WILL BE CONSTRUCTED SUCH THAT THE BEAM CENTERS WILL BE WITHIN ±1" OF ELEVATION 412.57.

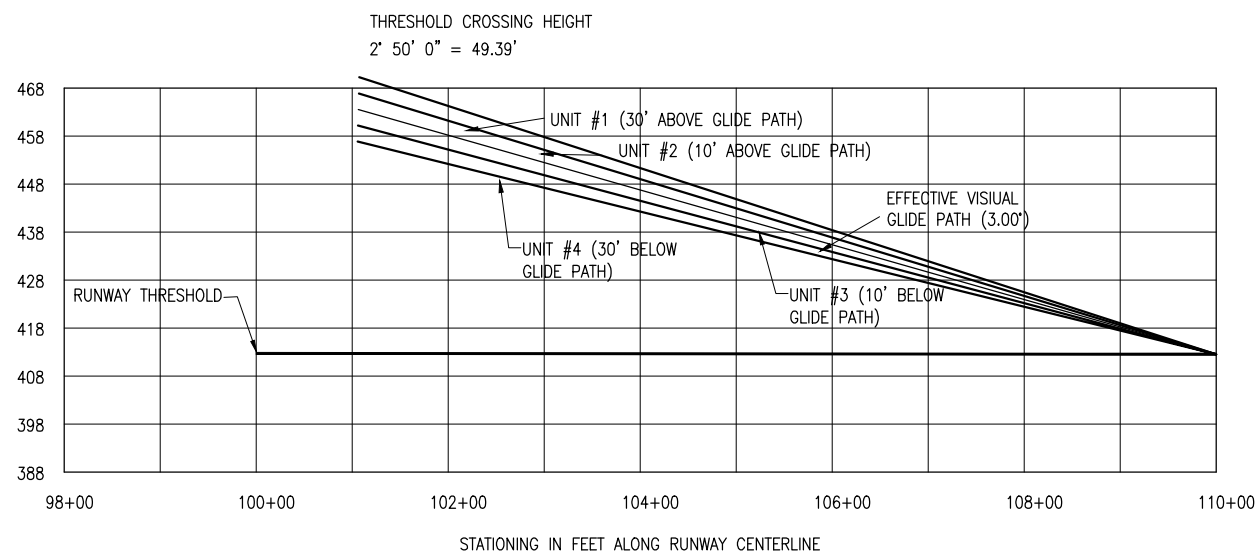
THE PROPOSED POWER CABLE TO THE PAPI SYSTEM WILL BE 3-1/C NO. 6, 600V., TYPE XLP-USE UNDERGROUND CABLE IN 1-1/4" UNIT DUCT. THIS CABLE WILL BE TRENCHED IN PLACE AT A MINIMUM DEPTH OF 18" BELOW FINISH GRADE.

THE PAPI INSTALLATION WILL BE PAID FOR UNDER ITEM: AR125615 PAPI (L-880 SYSTEM) PER LUMP SUM.

THE POWER CABLE WILL BE PAID FOR UNDER ITEM: AR108656 3/C #6 600V UG. CABLE IN UD PER LIN. FT.

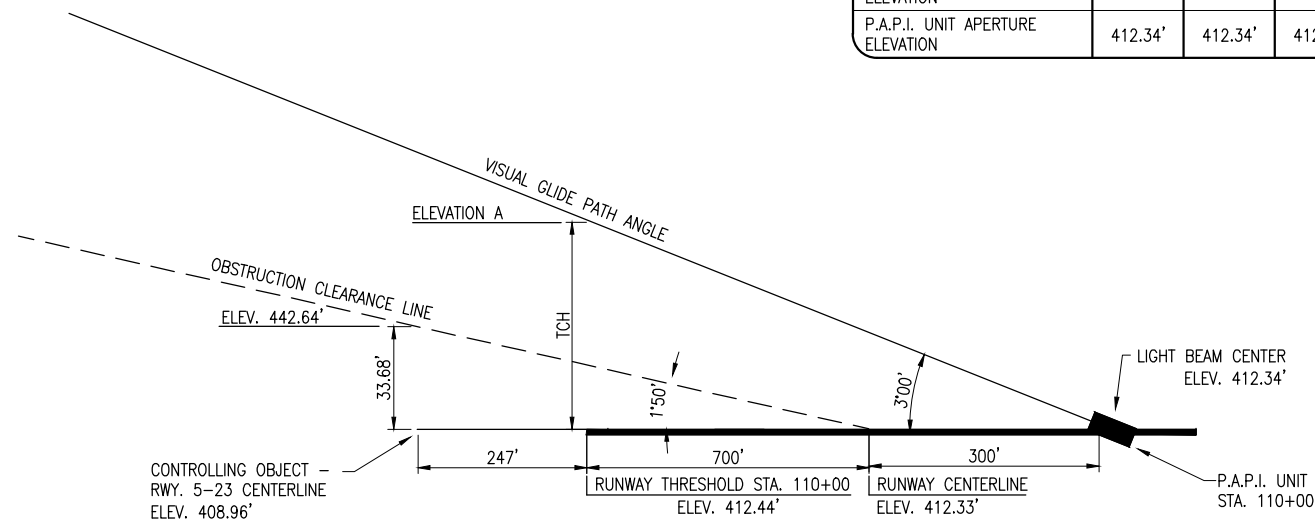
NOTE:

LOWEST ON-COURSE ANGLE - 2' 50" ELEVATION A = 461.83 TCH = 49.39'

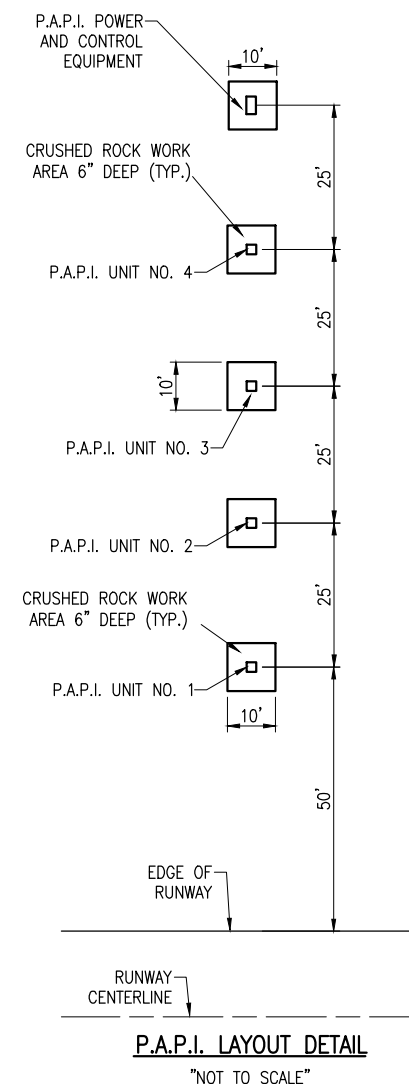


RUNWAY CENTERLINE PROFILE

PAPI DATA-RUNWAY END 12R					
	P.A.P.I. UNIT #1	P.A.P.I. UNIT #2	P.A.P.I. UNIT #3	P.A.P.I. UNIT #4	P AND C UNIT
DISTANCE FROM RUNWAY CL	100'	125'	150'	175'	200'
AIMING ANGLE	3'30"	3'10"	2'50"	2'30"	N/A
APPROXIMATE GROUND ELEVATION	410.0'	409.5'	409.0'	408.6'	407.9'
P.A.P.I. UNIT APERTURE ELEVATION	412.34'	412.34'	412.34'	412.34'	N/A



P.A.P.I. AIMING DIAGRAM 12R END
"NOT TO SCALE"



P.A.P.I. LAYOUT DETAIL
"NOT TO SCALE"

BY	REVISION	DATE

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ILL. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	File Name R-541ELE.DWG	Scale 1"=50'	Date 04/16/2010
LAYOUT	CAH	02/13/09	
DRAWN	CAH	02/13/09	
REVIEWED	KNL/RAW	03/30/10	

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO. 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED PAPI DETAILS AND NOTES
RUNWAY END 12R

MAY 25, 2010 3:16 PM KINC00394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-541ELE.DWG

P.A.P.I. NOTES

THE PROPOSED PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM WILL BE PLACED AT THE LOCATION SHOWN ON SHEET NO. 60.

THE PROPOSED CONCRETE PEDESTALS WILL BE AS DETAILED ON SHEET NO. ** THE NUMBER OF PEDESTALS CONSTRUCTED FOR EACH PAPI UNIT WILL DEPEND ON THE UNIT SELECTED BY THE CONTRACTOR FOR INSTALLATION.

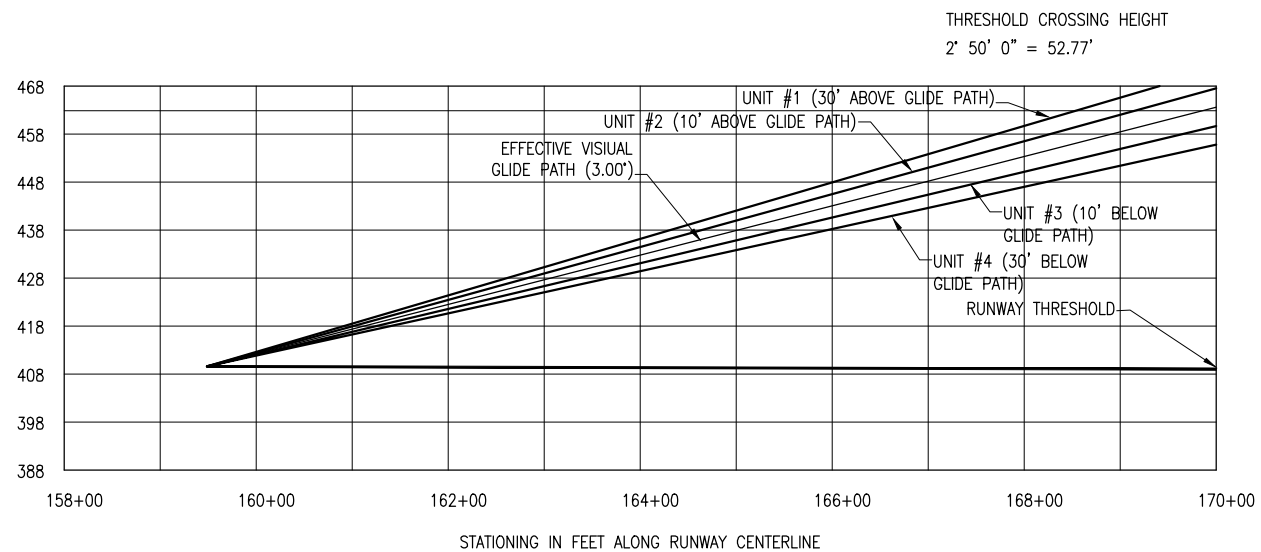
SIX (6") INCHES OF GRAVEL ON TOP OF BLACK PLASTIC WILL BE PLACED UNDER EACH PAPI UNIT AND POWER/CONTROL UNIT TO HALT VEGETATION GROWTH.

EACH PAPI UNIT WILL BE CONSTRUCTED SUCH THAT THE BEAM CENTERS WILL BE WITHIN ±1" OF ELEVATION 408.18.

THE PROPOSED POWER CABLE TO THE PAPI SYSTEM WILL BE 3-1/C NO. 6, 600V., TYPE XLP-USE UNDERGROUND CABLE IN 1-1/4" UNIT DUCT. THIS CABLE WILL BE TRENCHED IN PLACE AT A MINIMUM DEPTH OF 18" BELOW FINISH GRADE.

THE PAPI INSTALLATION WILL BE PAID FOR UNDER ITEM: AR125615 PAPI (L-880 SYSTEM) PER LUMP SUM.

THE POWER CABLE WILL BE PAID FOR UNDER ITEM: AR108656 3/C #6 600V UG. CABLE IN UD PER LIN. FT.



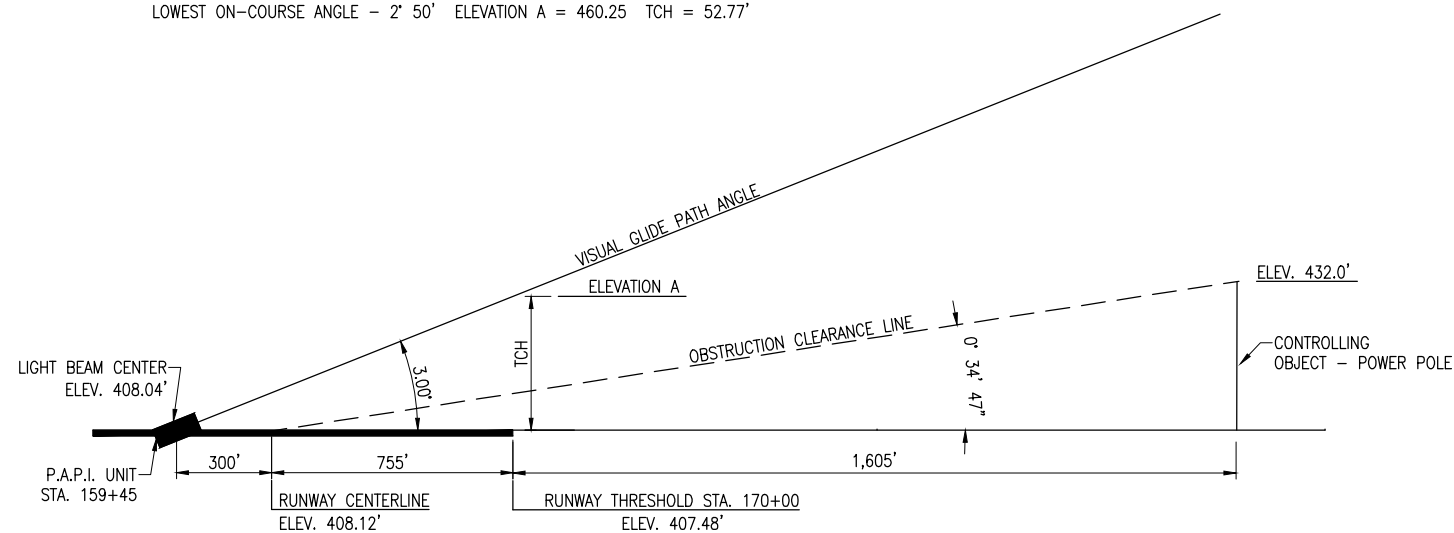
STATIONING IN FEET ALONG RUNWAY CENTERLINE

RUNWAY CENTERLINE PROFILE

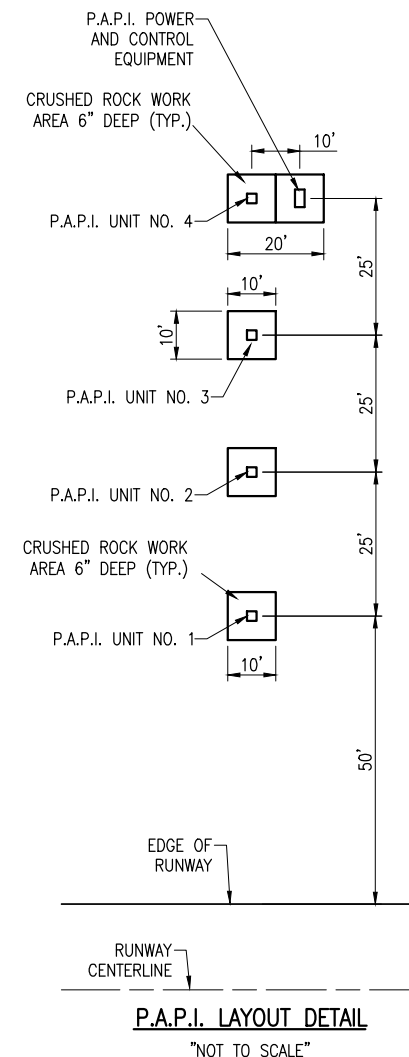
PAPI DATA--RUNWAY END 30L					
	P.A.P.I. UNIT #1	P.A.P.I. UNIT #2	P.A.P.I. UNIT #3	P.A.P.I. UNIT #4	P AND C UNIT
DISTANCE FROM RUNWAY CL	125'	150'	175'	200'	225'
AIMING ANGLE	3'30"	3'10"	2'50"	2'30"	N/A
APPROXIMATE GROUND ELEVATION	405.9'	405.5'	405.2'	404.8'	404.4'
P.A.P.I. UNIT APERTURE ELEVATION	408.04'	408.04'	408.04'	408.04'	N/A

NOTE:

LOWEST ON-COURSE ANGLE - 2' 50" ELEVATION A = 460.25 TCH = 52.77'



P.A.P.I. AIMING DIAGRAM 30L END
"NOT TO SCALE"



P.A.P.I. LAYOUT DETAIL

"NOT TO SCALE"

BY	REVISION	DATE

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

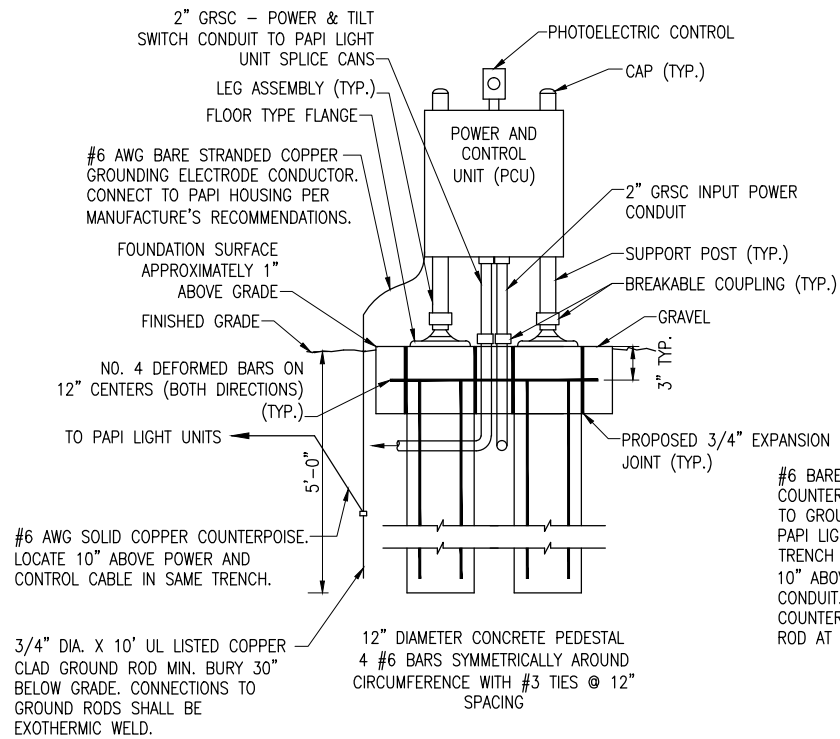
IL PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	CAH	02/12/09
Filename: R-542ELE.DWG	CAH	02/12/09
Scale: 1"=50'	KNL/RAW	03/30/10
Date: 04/16/2010		

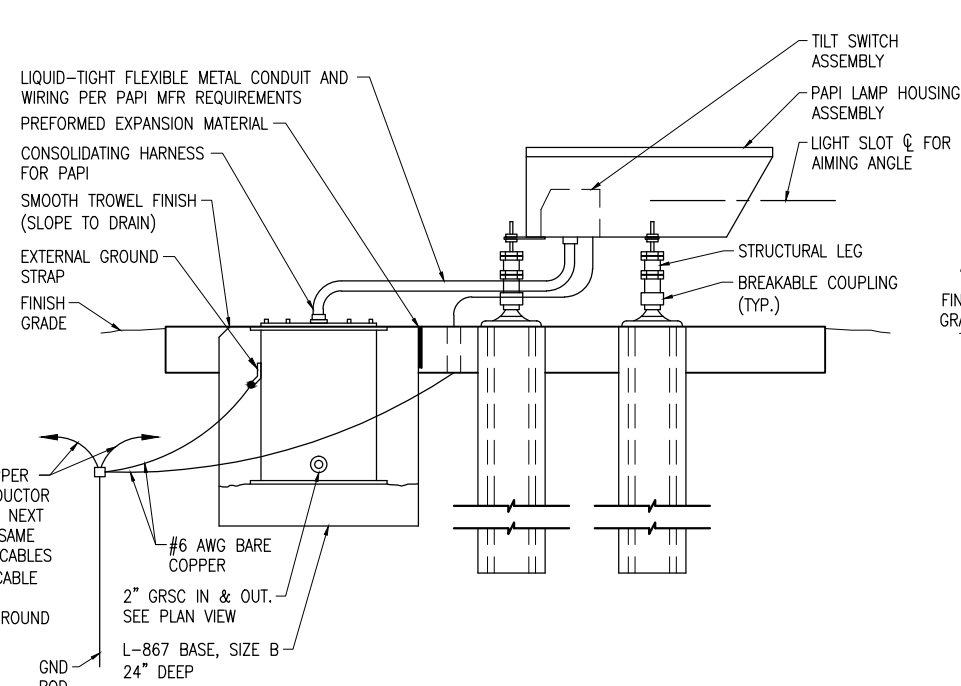
HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED PAPI DETAILS AND NOTES
RUNWAY END 30L

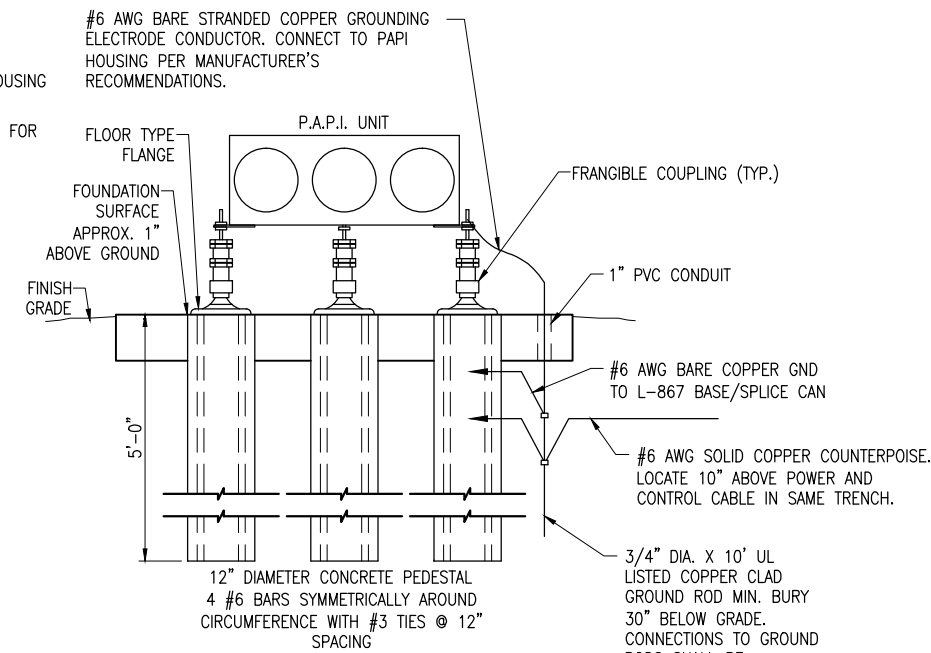
MAY 25, 2010 3:16 PM KINC00394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHSHEET\R-542ELE.DWG



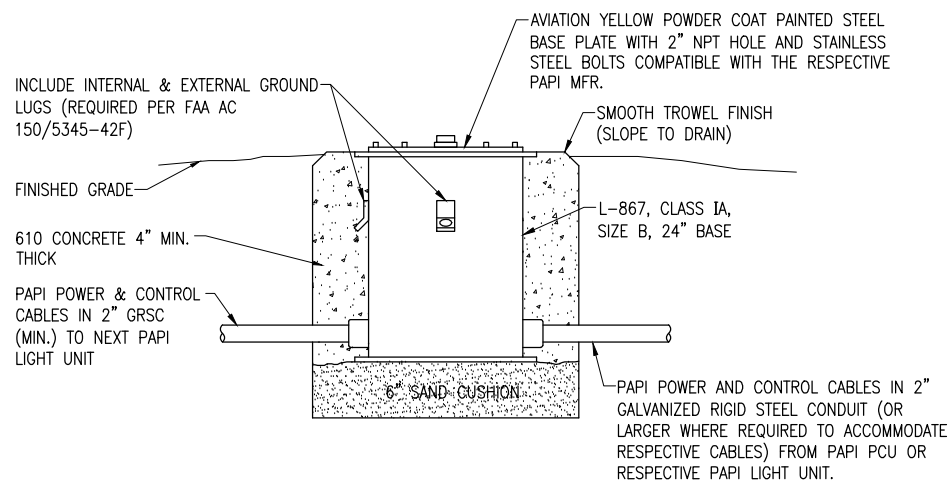
**FRONT ELEVATION
 POWER AND CONTROL UNIT**
 "NOT TO SCALE"



**SIDE ELEVATION
 P.A.P.I. LIGHT UNIT**
 "NOT TO SCALE"

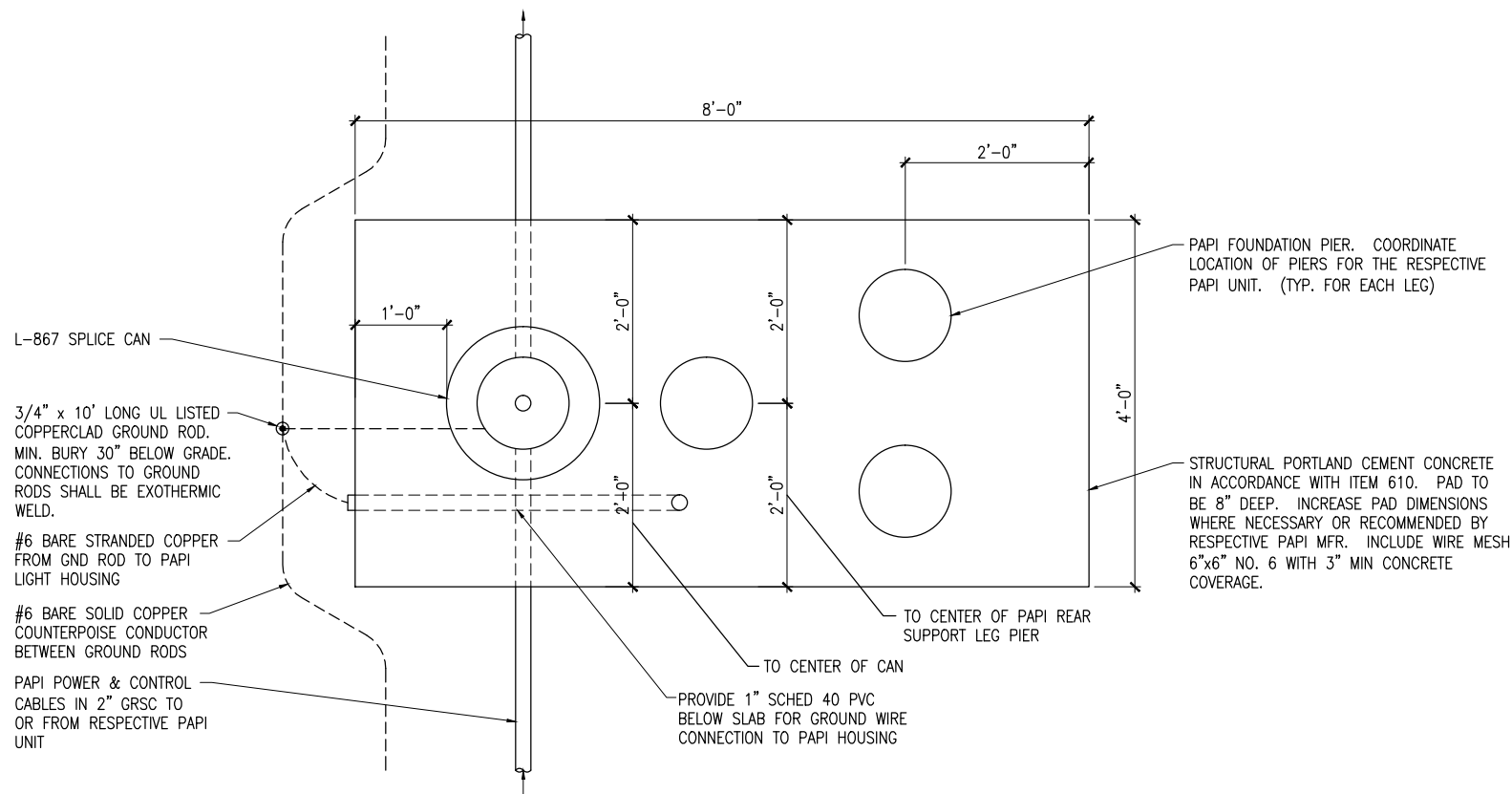


**FRONT ELEVATION
 P.A.P.I. LIGHT UNIT**
 "NOT TO SCALE"



PAPI L-867 SPLICE CAN DETAIL
 (NOT TO SCALE)

NOTE:
 FOR THE PURPOSE OF ENHANCING SAFETY, EACH BASE MUST HAVE INSTALLED, BY THE MANUFACTURER, AND INTERNAL AND EXTERNAL GROUND STRAP THAT IS AVAILABLE FOR THE PURPOSE OF ATTACHING A GROUND LUG THAT IS CONNECTED TO AN EARTH GROUND OR A SAFETY GROUND CONDUCTOR INSTALLED WITH THE RESPECTIVE CIRCUIT. FOR AIRPORT PROJECTS RECEIVING FEDERAL FUNDS THIS REQUIREMENT IS MANDATORY PER FAA AC 150/5345-42F.



CONCRETE PAD/FOUNDATION PLAN VIEW
 "NOT TO SCALE"

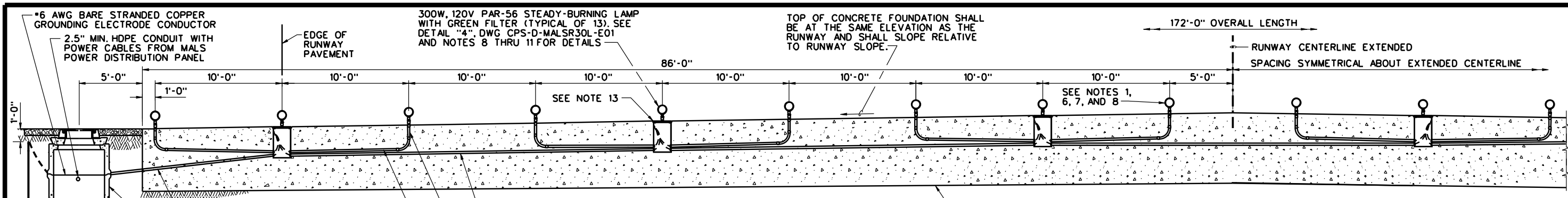
BY	
REVISION	
DATE	

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

Hanson Project No.	08A0211D
Filename	E-503.DWG
Scale	NONE
Date	04/16/2010
LAYOUT	KNL 01/13/09
DRAWN	MV 01/13/09
REVIEWED	CAH/KNL 03/30/10

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO. 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PAPI FOUNDATION DETAILS



**ELEVATION VIEW
STEADY-BURNING LIGHT BAR AT
RUNWAY THRESHOLD (MALSR STATION 0+10)**

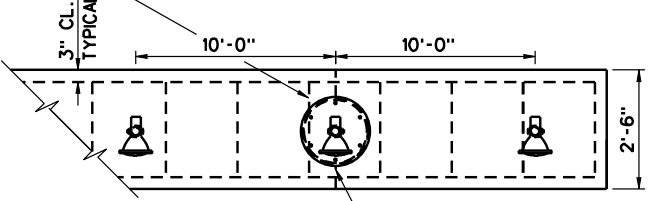


REINFORCED CONCRETE FOUNDATION PER DETAIL "4". SEE NOTES 1, 3, AND 4.

NOTES:

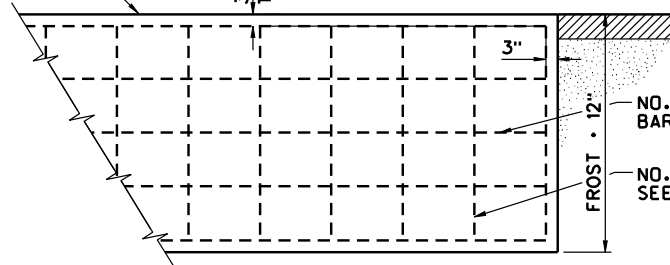
- SEE PLAN AND PROFILE DWG FOR LAMP CENTERLINE AND FOUNDATION TOP ELEVATIONS.
- RIGID STEEL COUPLINGS SHALL BE INSTALLED PLUMB. THE TOP OF THE COUPLING SHALL PROTRUDE 1/4" ABOVE THE TOP OF THE CONCRETE FOUNDATION. THE FRANGIBLE COUPLING SHALL BE LOCKED AGAINST TURNING USING A LOCKING RING. TIGHTEN LOCKING RING AGAINST TOP OF COUPLING TO PREVENT ROTATION OF THE LAMPHOLDER. SEE SECTION 13A.2d OF THE SPECIFICATION FAA-GL-918C.
- SEE SECTION 2A OF THE SPECIFICATION FAA-GL-918C FOR EXCAVATION AND BACKFILL REQUIREMENTS. EXCAVATION SHALL BE SHORED OR SHAPED PER OSHA REQUIREMENTS.
- SEE SECTIONS 3A AND 3B OF THE SPECIFICATION FAA-GL-918C FOR CONCRETE FORM WORK, REINFORCEMENT, MATERIAL, PLACEMENT, AND CURING SPECIFICATIONS.
- ALL CONNECTIONS TO GROUNDING RODS SHALL BE MADE USING EXOTHERMIC WELDS PER SPECIFICATIONS.
- GREEN GLASS FILTER SHALL BE INSTALLED PER NOTE 8 AND DETAIL "4", DWG CPS-D-MALSR30L-E01.
- LAMPHOLDER RETAINING RINGS SHALL BE INSTALLED ON PAR-56 LAMP HOLDERS AT THE THRESHOLD BAR. SEE NOTE 9 AND DETAIL "4", DWG CPS-D-MALSR30L-E01.
- SEE DETAIL "1", DWG CPS-D-MALSR30L-E01 FOR THRESHOLD BAR WIRING DETAILS.
- SEE DETAIL "4", DWG CPS-D-MALSR30L-E01 FOR THRESHOLD BAR PAR-56 LAMPHOLDER ASSEMBLY DETAILS.
- (RESERVED)
- 1/4" WIDE X 1/2" DEEP CONTRACTION JOINTS SHALL BE SAWCUT INTO THE SURFACE OF THE THRESHOLD BAR FOUNDATION AT LOCATIONS SHOWN.
- (RESERVED)
- THE LIGHT BASES INSTALLED AT THE THRESHOLD SHALL BE TYPE LB67D LIGHT BASES, CLASS I, 16 1/4" I.D., 20" DEEP, VEGA CAT. NO. AC63202060030X, WITH COVER PLATE, 17 3/8" X 1 1/4", VEGA CAT. NO. AP2020-20 AND GASKET, VEGA CAT. NO. 10530281. EACH LIGHT BASE SHALL HAVE TWO 2" DIA FLEXIBLE GROMMET CONNECTIONS (FLEX CONNEX) STACKED VERTICALLY AT 0° AND AT 180° (MUST SPECIFY WHEN ORDERING). THE PLYWOOD SHIPPING COVERS 18" DIA, 1 1/4" DEEP, VEGA CAT. NO. AJ20F1800, SHALL BE USED AS CONCRETE FORM TO PROVIDE A 5/16" WIDE AIR GAP AROUND COVER PLATE. TOP OF COVER PLATE SHALL BE FLUSH WITH TOP OF CONCRETE. CONFIRM PART NUMBERS WITH MANUFACTURER.

TIES MAY BE ADJUSTED TO ACCOMMODATE LIGHT BASE INSTALLATION. MAXIMUM SPACING 18" O.C.

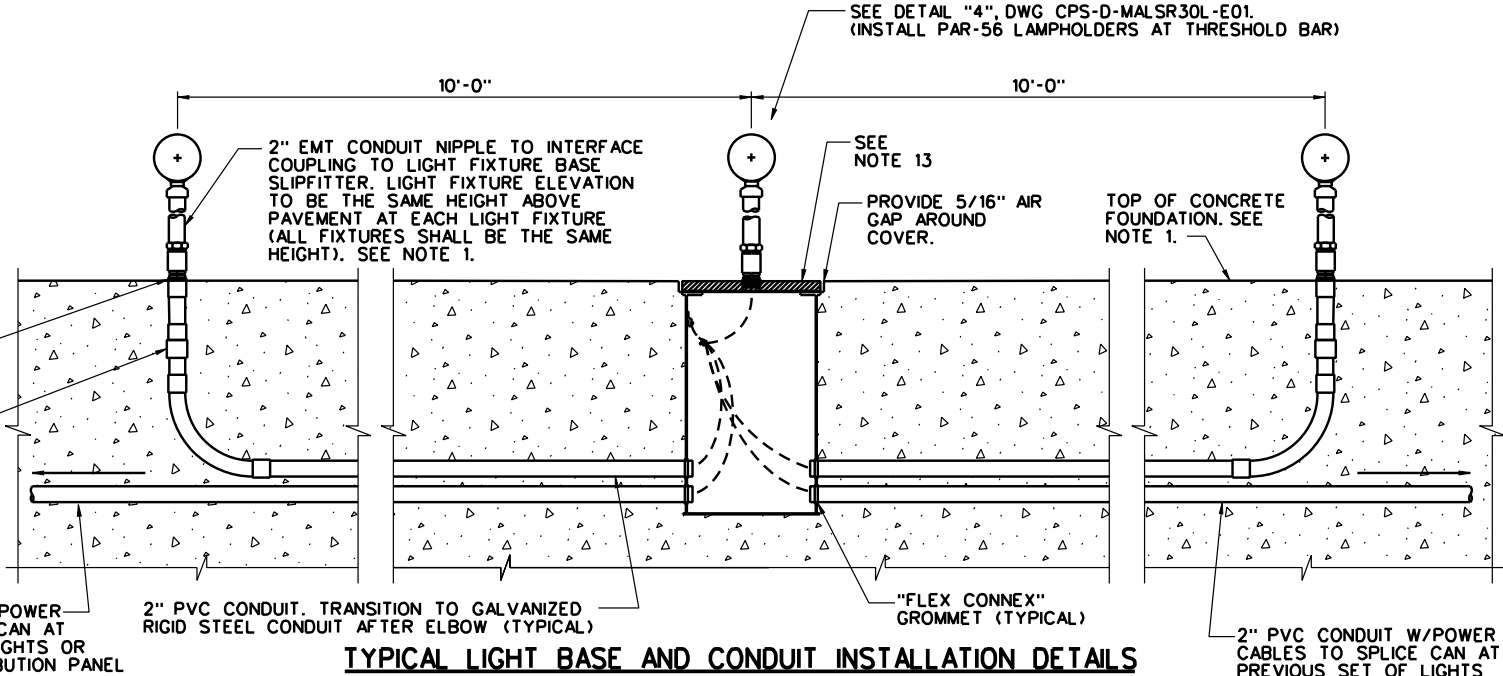
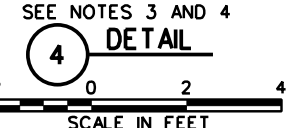


PLAN

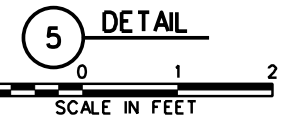
TOP OF CONCRETE FLUSH WITH SURROUNDING PAVEMENT. SEE NOTE 1.



CONCRETE FOUNDATION REINFORCEMENT DETAILS



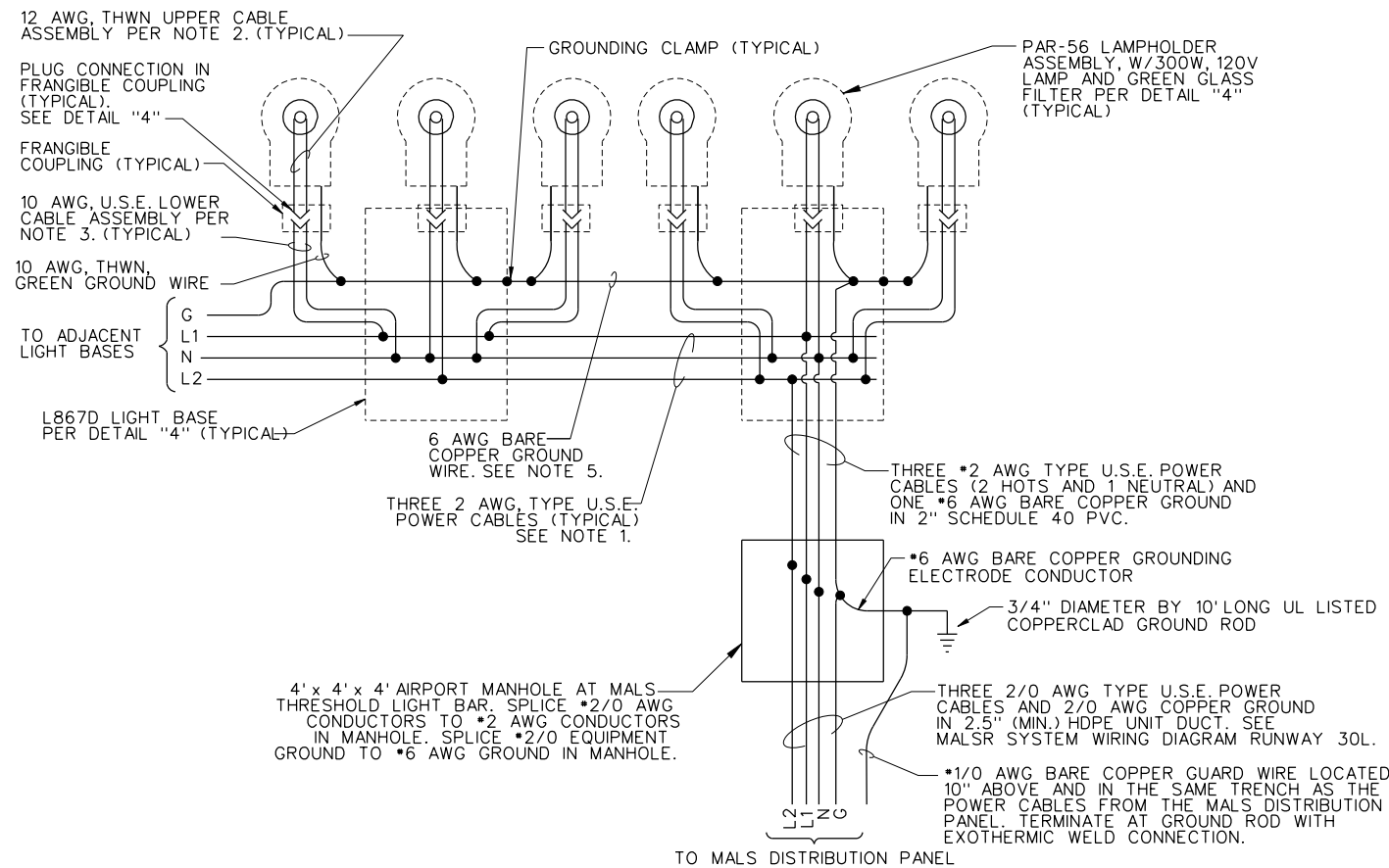
TYPICAL LIGHT BASE AND CONDUIT INSTALLATION DETAILS



REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD
DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION ATO - TECHNICAL OPERATIONS CENTRAL SERVICE AREA					
MALSR FOUNDATION DETAILS FOR STEADY-BURNING LIGHT BAR AT RUNWAY THRESHOLD					
REGIONAL STANDARD					
DESIGNED	DRAWN	CHECKED	ISSUED BY ENGINEERING SERVICES NAVAIDS	DATE	JCN
REVIEWED BY	SUBMITTED BY	APPROVED BY	DRAWING NO	CPS-D-MALSR30L-C01	REV

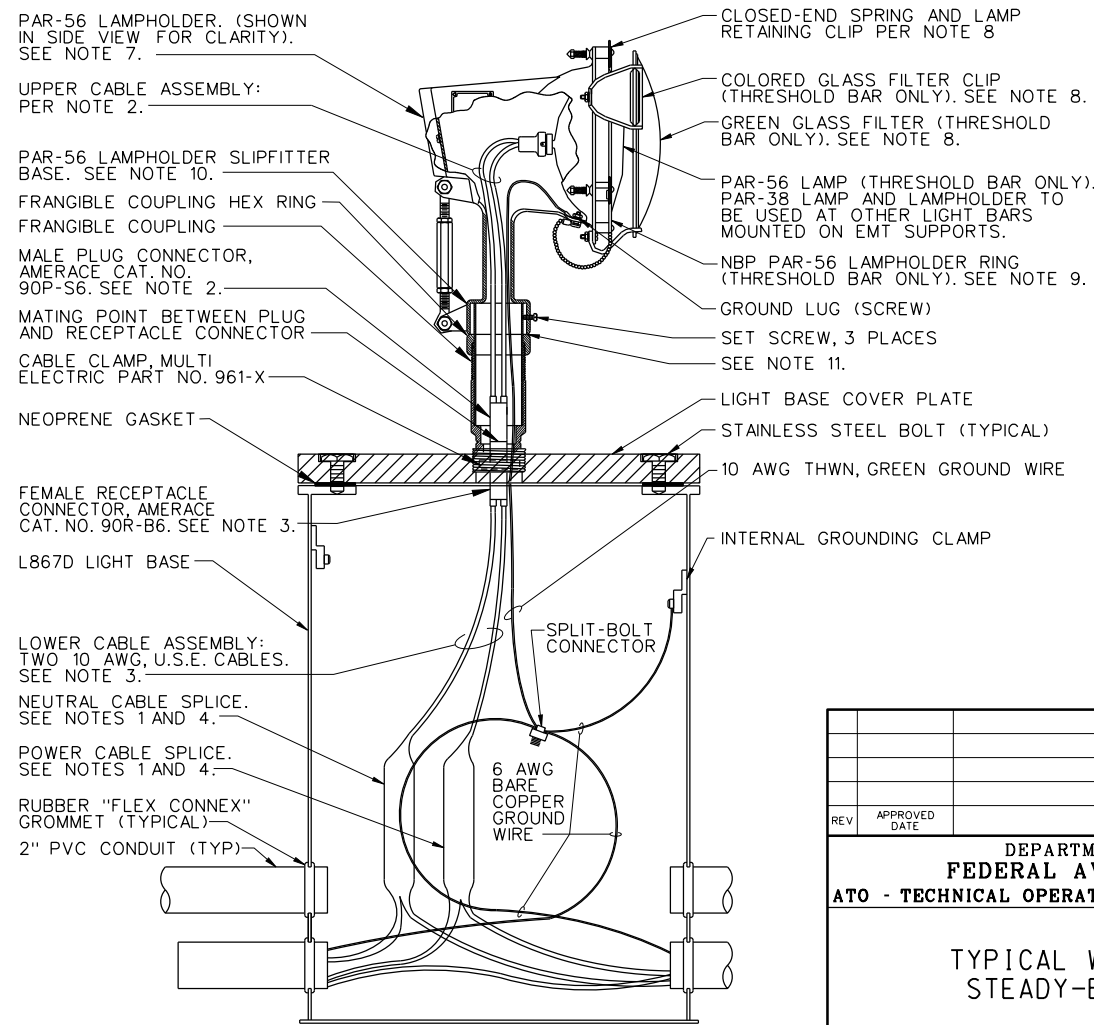
NOTES:

1. EACH CURRENT-CARRYING CABLE MAKING A CONNECTION IN THE LIGHT BASE SHALL HAVE A MINIMUM 4' SLACK LOOP COILED NEATLY INSIDE THE LIGHT BASE. (SLACK LOOP NOT REQUIRED FOR CABLE PASSING THROUGH LIGHT BASE WITHOUT CONNECTION).
2. THE UPPER CABLE ASSEMBLY SHALL BE TWO 12 AWG STRANDED THWN CABLES AND WATERTIGHT PLUG CONNECTOR, AMERACE CAT. NO. 90P-S8 FOR LIGHT BARS MOUNTED ON EMT SUPPORTS (EXCEPT THRESHOLD BAR). AT THRESHOLD BAR AND FOR STEADY-BURNING LAMPS MOUNTED ON LIR TOWERS, THE UPPER CABLE ASSEMBLY SHALL BE TWO 12 AWG STRANDED THWN CABLES AND WATERTIGHT PLUG CONNECTOR, AMERACE CAT. NO. 90P-S6.
3. THE LOWER CABLE ASSEMBLY SHALL BE TWO 10 AWG TYPE U.S.E. CABLES WITH RECEPTACLE CONNECTOR, AMERACE CAT. NO. 90R-B6 AT LIGHT BARS MOUNTED ON EMT SUPPORTS (INCLUDING THE THRESHOLD BAR). FOR STEADY-BURNING LIGHT BARS MOUNTED ON LIR TOWERS, THE LOWER CABLE ASSEMBLY SHALL BE TWO 8 AWG TYPE U.S.E. CABLES WITH RECEPTACLE CONNECTOR, AMERACE CAT. NO. 90R-C4.
4. CONNECTIONS OF 10 AWG CABLES TO 2 AWG CABLES ARE MADE WITH BURNDY CAT. NO. YPC2A8U STREET LIGHTING TAPS. CONNECTIONS OF 2 AWG CABLES TO 1/0 AWG OR 2/0 AWG CABLES, IN FEED-THROUGH SPLICES ONLY, ARE MADE WITH BURNDY CAT. NO. YC26C2 COPPER CRIMPITS. SPLICE BODIES ARE MADE WITH 3M SCOTCHCAST MULTI-MOLD SPLICING KITS, 3M NO. 85-16.
5. ALL CONNECTIONS TO GROUNDING RODS SHALL BE MADE USING EXOTHERMIC WELDS PER SPECIFICATIONS.
6. ALL THREADS ON BOLTS SHALL BE COATED WITH ANTI-SEIZE COMPOUND.
7. A SILICONE RUBBER INSULATOR DISK (GFM) SHALL BE SECURELY INSTALLED BETWEEN THE LAMPHOLDER AND THE PAR-56 LAMP (THRESHOLD BAR ONLY).
8. EACH GREEN GLASS FILTER (THRESHOLD BAR ONLY) IS SECURED WITH THREE STAINLESS STEEL FILTER CLIPS. THE CONTRACTOR SHALL BEND THE FILTER CLIPS SUCH THAT THEY HOLD THE FILTER SECURELY WHEN THEY ARE BOLTED.
9. THE CONTRACTOR SHALL FURNISH AND INSTALL AN NBP PAR-56 LAMPHOLDER RING ON EACH PAR-56 LAMPHOLDER (THRESHOLD BAR ONLY). THIS RING FITS OVER THE LAMP-RETAINING CLIPS, AND HOLDS THE LAMP POSITIVELY IN PLACE. THE RING COMES WITH AN ATTACHED CHAIN HAVING A SS BOLT AT THE FREE END. REPLACE THE LAMPHOLDER'S EXISTING STAINLESS STEEL GROUNDING BOLT WITH THE CHAIN'S BOLT.
10. WHEN INSTALLING PAR-38 LAMPHOLDER, FEED PIGTAIL ENDS OF CABLE INTO LAMPHOLDER AND CONNECT TO TERMINALS IN LAMPHOLDER SOCKET. USE CARE TO PREVENT THE SOCKET RETENTION BOLTS FROM DAMAGING CABLE INSULATION.
11. SEE PLAN AND PROFILE DRAWING FOR LAMP CENTERLINE ELEVATION TO DETERMINE LENGTH OF 2" EMT REQUIRED AT EACH EMT LIGHT BAR. AT THE THRESHOLD BAR, THE CONDUIT SHALL BE SIZED SO THAT THE BOTTOM OF THE PAR-56 LAMPHOLDER BASE IS IN CONTACT WITH THE TOP OF THE FRANGIBLE COUPLING. THE LAMP CENTERLINE ELEVATION SHALL FOLLOW THE CROWN ELEVATION AT THE THRESHOLD BAR.



THRESHOLD LIGHT BAR WIRING

1 DETAIL
NOT TO SCALE

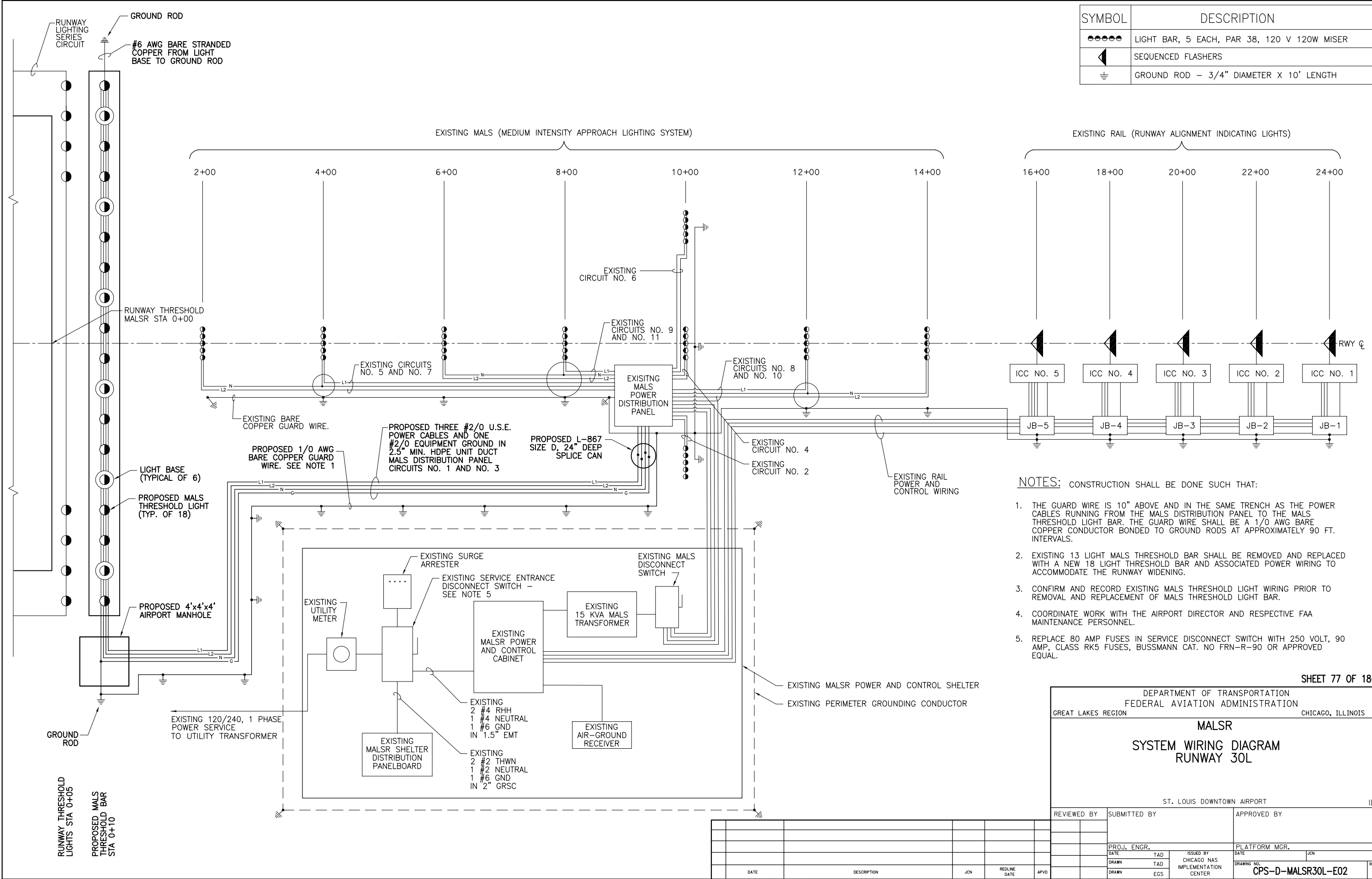


TYPICAL LIGHT BASE INSTALLATION

4 DETAIL
NOT TO SCALE

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD
DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION ATO - TECHNICAL OPERATIONS CENTRAL SERVICE AREA MALS R TYPICAL WIRING DIAGRAMS FOR STEADY-BURNING LIGHT BARS					
REGIONAL STANDARD GL					
REVIEWED BY	SUBMITTED BY	APPROVED BY			
	TIMOTHY DYER	CLELAND MICHEEL			
DESIGNED	TAD	MGR: ENGINEERING - CHICAGO			
DRAWN	TAD	ISSUED BY	DATE	JCN	
CHECKED	EGS	ENGINEERING SERVICES	03/01/2006		
		NAVADS	DRAWING NO		
			CPS-D-MALS R30L-E01		

SYMBOL	DESCRIPTION
●●●●●	LIGHT BAR, 5 EACH, PAR 38, 120 V 120W MISER
◀	SEQUENCED FLASHERS
⊥	GROUND ROD - 3/4" DIAMETER X 10' LENGTH



- NOTES:** CONSTRUCTION SHALL BE DONE SUCH THAT:
1. THE GUARD WIRE IS 10" ABOVE AND IN THE SAME TRENCH AS THE POWER CABLES RUNNING FROM THE MALS DISTRIBUTION PANEL TO THE MALS THRESHOLD LIGHT BAR. THE GUARD WIRE SHALL BE A 1/0 AWG BARE COPPER CONDUCTOR BONDED TO GROUND RODS AT APPROXIMATELY 90 FT. INTERVALS.
 2. EXISTING 13 LIGHT MALS THRESHOLD BAR SHALL BE REMOVED AND REPLACED WITH A NEW 18 LIGHT THRESHOLD BAR AND ASSOCIATED POWER WIRING TO ACCOMMODATE THE RUNWAY WIDENING.
 3. CONFIRM AND RECORD EXISTING MALS THRESHOLD LIGHT WIRING PRIOR TO REMOVAL AND REPLACEMENT OF MALS THRESHOLD LIGHT BAR.
 4. COORDINATE WORK WITH THE AIRPORT DIRECTOR AND RESPECTIVE FAA MAINTENANCE PERSONNEL.
 5. REPLACE 80 AMP FUSES IN SERVICE DISCONNECT SWITCH WITH 250 VOLT, 90 AMP, CLASS RK5 FUSES, BUSSMANN CAT. NO FRN-R-90 OR APPROVED EQUAL.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
GREAT LAKES REGION CHICAGO, ILLINOIS

MALS
SYSTEM WIRING DIAGRAM
RUNWAY 30L

ST. LOUIS DOWNTOWN AIRPORT IL

REVIEWED BY	SUBMITTED BY	APPROVED BY
PROJ. ENGR.	ISSUED BY	PLATFORM MGR.
DATE	CHICAGO NAS IMPLEMENTATION CENTER	DATE
DRAWN	TAD	JCN
DRAWN	EGS	DRAWING NO.
		CPS-D-MALS30L-E02

PLOT DATE = Mar 30, 2010 7:57 AM
 FILE NAME = I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0210\CADD\AIRPORT\SHEET\SYSTEM WIRING DIAGRAM FOR MALS
 USER NAME = HARRIS

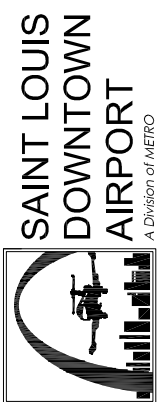

GENERAL NOTES

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. CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.
3. 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).
4. 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.
5. 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 EQUIPMENT COST.
6. 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 INTERFERENCE.
7. 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.
8. ANY AND ALL INSTRUCTIONS FROM THE 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 FAA FIELD OFFICE (ADO/AFO). THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
9. 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. A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
 - B. THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
 - C. INSTALLATION INSTRUCTION.
 - D. START-UP INSTRUCTIONS.
 - E. PREVENTATIVE MAINTENANCE REQUIREMENTS.
 - F. CHART FOR TROUBLE-SHOOTING.
 - G. 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 DIFFERENT MODES.
 - H. 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.
 - I. SAFETY INSTRUCTIONS.

POWER AND CONTROL NOTES

1. 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. 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.
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. BLACK, ORANGE (FOR HIGH LEG) AND BLUE SHALL BE USED FOR PHASE CONDUCTORS ON 240/120VAC THREE-PHASE, FOUR WIRE SYSTEMS. BLACK, RED, AND BLUE SHALL BE USED FOR PHASE CONDUCTORS ON 208/120VAC 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, ETC.
5. LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
6. NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
7. THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
 - A. 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.
 - B. 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.
8. 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 ENCLOSURES.
10. SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
11. CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.
12. DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.
13. ALL INTERIOR WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON HOT DIPPED GALVANIZED STEEL STRUT SUPPORT, OR STAINLESS STEEL STRUT SUPPORT, OR 3/4" WEATHER TREATED PLYWOOD WITH 2 COATS OF ENAMEL PAINT, WITH CORROSION RESISTANT HARDWARE.
14. 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.
15. 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 PVC.
16. 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 U.L. LISTED. CONFIRM LIQUID-TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLATION.
17. 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.
19. 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 EQUAL) AND COVER WITH VINYL ELECTRICAL TAPE (3M SCOTCH 88 VINYL ELECTRICAL TAPE OR APPROVED EQUAL) FOR FULL VALUE OF CABLE INSULATION VOLTAGE.
22. UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. COPPER MINIMUM.
23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
 - A. 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.
 - B. THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
 - C. ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
 - D. 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.
 - E. ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
 - F. EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
 - G. A COMPLETE WIRING DIAGRAM SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
 - H. THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
 - I. ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
 - J. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG COPPER.
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".

SD052

BY		REVISION		DATE	
 <p style="font-size: small;">A Division of METRO ILL. PROJ.: CPS-3906 A.I.P. PROJ.: 3-17-0039-BZ2</p>					
Hanson Project No. 08A0211D	E-002.DWG	Scale NONE	Date 04/16/10	LAYOUT KNL 01/13/09	DRAWN MW 01/13/09
				REVIEWED CAH/KNL 03/30/10	
 <p style="font-size: x-small;">Hanson Professional Services, Inc. 4227 Fernside St., Suite 130 St. Louis, MO 63045-1308 Offices Nationwide</p>					
WIDEN RUNWAY 12R/30L	ELECTRICAL NOTES SHEET 1				78
					78 of 186 sheets

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, PAPI, ETC.
- 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 APPLICABLE DETAILS.
- 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 SHEET NO. XX.
- 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 SHEET NO. XX.
- 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 RUNWAY/TAXIWAY.
- A SLACK OF THREE (3") FEET, MINIMUM, SHALL BE PROVIDED IN THE PRIMARY CABLE AT EACH 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.
- L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I, UNLESS OTHERWISE NOTED.
- 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.
- 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.
- 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 SEAL.
- TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE.
- PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE.
- 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.
- 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 SHEET NO. XX.
- GALVANIZED/PAINTED EQUIPMENT/COMPONENT SURFACES SHALL NOT BE DAMAGED BY DRILLING, FILING, ETC. DRAIN HOLES IN METAL TRANSFORMER HOUSINGS SHALL BE MADE BEFORE GALVANIZING.
- 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 SHALL BE PRE-ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
- 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 CABLES.
- THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN.
- APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
- LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT MARKERS.
- 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 EACH CABLE IN A MAN/HAND HOLE-ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT.
- THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH 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 JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123.** CONTACT THE FAA (FEDERAL 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.
- 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 150/5340-30D DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, CHAPTER 12, PART 12.6; A SAFETY GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. THE PURPOSE OF THE SAFETY GROUND IS TO PROTECT PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE AS THE RESULT OF A SHORTED CABLE OR ISOLATION TRANSFORMER. A SAFETY GROUND SHALL BE INSTALLED AT EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. A SAFETY GROUND SHALL ALSO BE INSTALLED AT EACH STAKE MOUNTED LIGHT FIXTURE. THE SAFETY GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR CONNECTED 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) OR ULTRAWELD BY HARGER, GRAYSLAKE, ILLINOIS (PHONE: 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. 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 150/5340-30D THE RESISTANCE TO GROUND OF THE RESPECTIVE MOUNTING STAKE OR LIGHT BASE (WITH GROUND ROD CONNECTED) MUST BE 25 OHMS OR LESS.
- GROUNDING FOR PAPI'S:** GROUNDING FOR PAPI'S SHALL CONFORM TO THE RESPECTIVE PAPI MANUFACTURER'S INSTALLATION INSTRUCTIONS, AS DETAILED ON THE PLANS, AND AS SPECIFIED HEREIN. THE POWER CIRCUIT TO EACH PAPI UNIT, INCLUDING THE PAPI PCU (POWER AND CONTROL UNIT), SHALL INCLUDE AN EQUIPMENT GROUND WIRE OF THE SAME SIZE AND TYPE AS THE PHASE CONDUCTORS. FURNISH AND INSTALL A 3/4-INCH DIAMETER BY 10-FOOT LONG COPPER CLAD GROUND ROD AT THE PAPI PCU AND AT EACH PAPI LIGHTING UNIT. BOND EACH PAPI UNIT (PCU AND LIGHTING UNITS) AND THE RESPECTIVE L-867 SPLICE CAN TO THE RESPECTIVE GROUND ROD WITH A #6 AWG STRANDED COPPER GROUNDING ELECTRODE CONDUCTOR. TOP OF GROUND RODS SHALL BE BURIED APPROXIMATELY 24 INCHES BELOW GRADE. ALL 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), OR ULTRAWELD BY HARGER LIGHTNING PROTECTION GROUNDING EQUIPMENT, GRAYSLAKE, ILLINOIS (PHONE: 800-842-7437). CONNECTIONS TO L-867 SPLICE CANS SHALL BE WITH UL LISTED GROUNDING CONNECTORS SUITABLE FOR USE IN DIRECT BURIAL OR CONCRETE ENCASEMENT APPLICATIONS. CONNECTIONS TO PAPI UNIT FRAME SHALL BE AS RECOMMENDED BY THE MANUFACTURER OR WITH A UL LISTED GROUNDING CONNECTOR. ALL GROUND RODS ASSOCIATED WITH THE COMPLETE PAPI INSTALLATION SHALL BE BONDED TOGETHER WITH A #6 AWG SOLID COPPER COUNTERPOISE CONDUCTOR. THIS COUNTERPOISE CONDUCTOR SHALL BE INSTALLED IN THE SAME TRENCH LOCATED 10 INCHES ABOVE THE POWER AND CONTROL CONDUCTORS, BETWEEN EACH RESPECTIVE PAPI UNIT (PCU AND/OR LIGHTING UNIT).
- GROUNDING FOR REILS:** GROUNDING FOR REILS SHALL CONFORM TO THE RESPECTIVE REIL MANUFACTURER'S INSTALLATION INSTRUCTIONS, AS DETAILED ON THE PLANS, AND AS SPECIFIED HEREIN. THE POWER CIRCUIT TO MASTER REIL UNIT, AND EACH SLAVE UNIT, SHALL INCLUDE AN EQUIPMENT GROUND WIRE OF THE SAME SIZE AND TYPE AS THE PHASE CONDUCTORS. FURNISH AND INSTALL A 3/4-INCH DIAMETER BY 10-FOOT LONG COPPER CLAD GROUND ROD AT EACH REIL UNIT. BOND EACH REIL UNIT HOUSING AND THE REIL BASE CAN TO THE RESPECTIVE GROUND ROD IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS WITH A #6 AWG BARE SOLID OR STRANDED (PER REIL MANUFACTURER REQUIREMENTS) COPPER GROUNDING ELECTRODE CONDUCTOR. TOP OF GROUND RODS SHALL BE BURIED 30 INCHES BELOW GRADE. ALL CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC WELD AS MANUFACTURED BY CADWELD, THERMOWELD, OR ULTRAWELD. CONNECTIONS TO REIL UNIT FRAMES SHALL BE AS RECOMMENDED BY THE MANUFACTURER OR WITH UL LISTED GROUNDING CONNECTORS. PROVIDE MULTI TERMINAL EQUIPMENT GROUND BAR OR INDIVIDUAL GROUND LUGS TO TERMINATE EACH GROUND WIRE IN EACH REIL UNIT. CONTRACTOR SHALL CONFIRM ADDITIONAL GROUNDING REQUIREMENTS WITH THE RESPECTIVE REIL MANUFACTURER'S INSTALLATION INSTRUCTIONS AND/OR RECOMMENDATIONS.

SD052


MAY 25, 2010 12:04 PM HARR01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\E-003.DWG

BY					
REVISION					
DATE					



SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

Hanson Project No. 08A0211D	File Name E-003.DWG	Scale NONE	Date 04/16/10	KML 01/13/09	MW 01/13/09	CAH/KML 03/30/10
				LAYOUT		
				DRAWN		
				REVIEWED		



HANSON
Professional Services, Inc.
4227 Parkview Center, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L ELECTRICAL NOTES SHEET 2	79 79 of 186 sheets
---	------------------------

ELECTRICAL LEGEND - ONE-LINE DIAGRAM	
	CABLE TERMINATOR/LUG
	TRANSFORMER
	DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	CIRCUIT BREAKER
	THERMAL MAGNETIC CIRCUIT BREAKER
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
	FUSE
	TRANSIENT VOLTAGE SURGE SUPPRESSOR OR SURGE PROTECTOR DEVICE
	GROUND - GROUND ROD, GROUNDING ELECTRODE, OR AT EARTH POTENTIAL
	INDICATING LIGHT
	MOTOR
	LOAD, MOTOR, # = HORSEPOWER
	ELECTRIC UTILITY METER BASE
	JUNCTION BOX WITH SPLICE
	EQUIPMENT, XXX = DEVICE DESCRIPTION
	GROUND BAR, GROUND BUS, OR GROUND TERMINAL
	SOLID NEUTRAL, NEUTRAL BUS, OR NEUTRAL TERMINAL
	PANELBOARD WITH MAIN LUGS
	PANELBOARD WITH MAIN BREAKER
	FUSE PANEL WITH MAIN FUSE PULLOUT
	DUPLEX RECEPTACLE 120V SINGLE PHASE GROUNDING TYPE
	CONTROL STATION
	TRANSFER SWITCH
	ENGINE GENERATOR SET

ELECTRICAL LEGEND - SCHEMATIC	
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
	STARTER COIL, * = STARTER NUMBER
	OVERLOAD RELAY CONTACT
	CONTROL RELAY, * = CONTROL RELAY NUMBER
	RELAY, * = RELAY NUMBER
	TOGGLE SWITCH / 2 POSITION SWITCH
	2-POSITION SELECTOR SWITCH
	3-POSITION SELECTOR SWITCH (H-O-A SHOWN)
	2 POLE DISCONNECT SWITCH
	3 POLE DISCONNECT SWITCH
	PHOTOCELL
	TERMINAL BLOCK, * = TERMINAL NUMBER
	DEVICE TERMINAL, * = DEVICE TERMINAL NUMBER
	INTERNAL PANEL WIRING
	FIELD WIRING
	FUSE
	GROUND BAR, GROUND BUS, OR GROUND TERMINAL
	SOLID NEUTRAL, NEUTRAL BUS, OR NEUTRAL TERMINAL
	GROUND, GROUND ROD, GROUND BUS
	INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR
	S1 CUTOUT HANDLE REMOVED
	S1 CUTOUT HANDLE INSERTED
	N.O. THERMAL SWITCH
	N.C. THERMAL SWITCH
	L-830 SERIES ISOLATION TRANSFORMER

ELECTRICAL ABBREVIATIONS	
A.F.F.	ABOVE FINISHED FLOOR
A, AMP	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CR	CONTROL RELAY
CU	COPPER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DTFSS	DOUBLE THROW FUSIBLE SAFETY SWITCH
DTNFSS	DOUBLE THROW NOT FUSIBLE SAFETY SWITCH
EM	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
MCM	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	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRIC
OL	OVERLOAD

ELECTRICAL 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
V	VOLTS
W/	WITH
W/O	WITHOUT
WP	WEATHER PROOF
XFER	TRANSFER
XFMR	TRANSFORMER

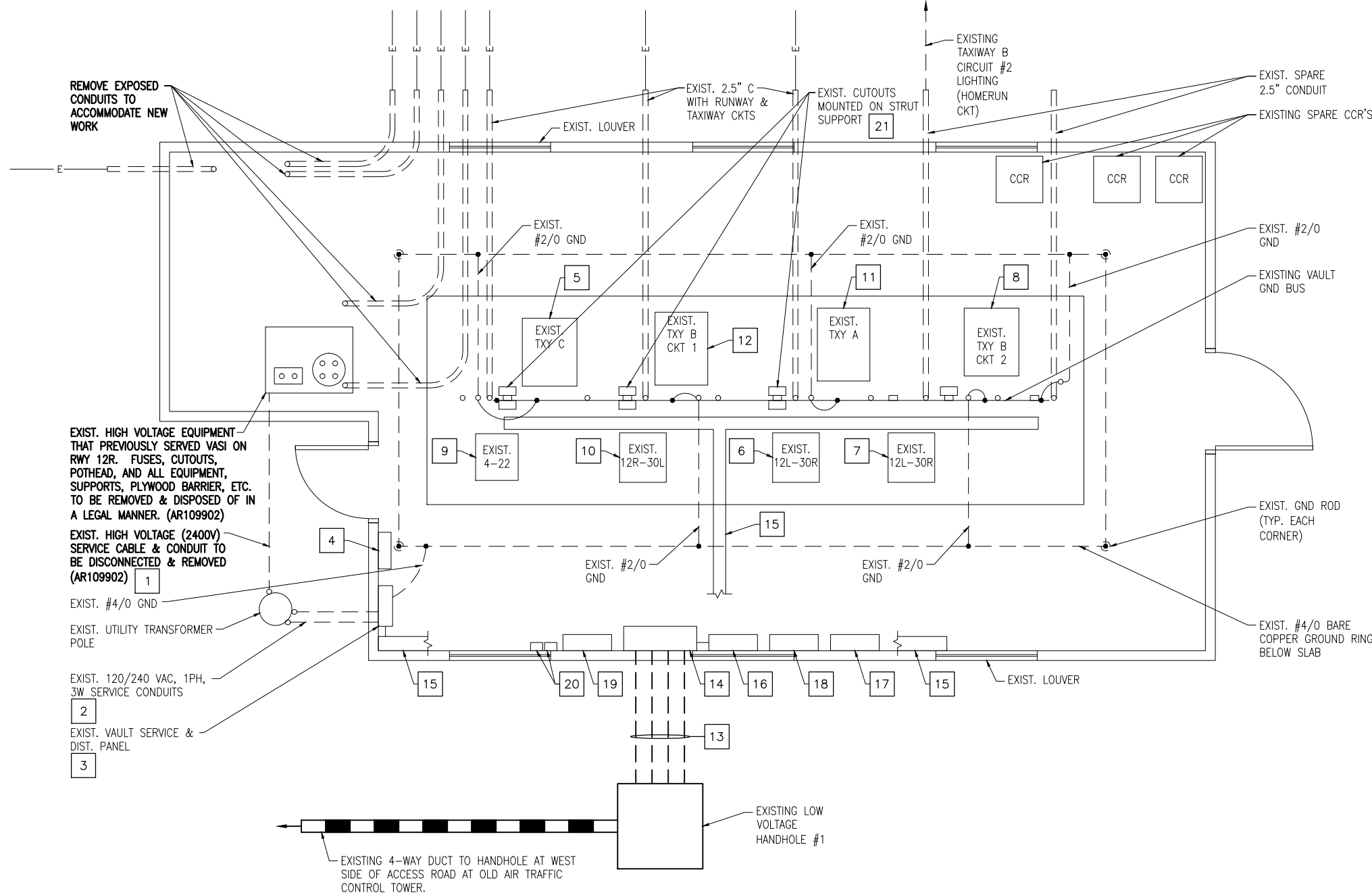
AIRPORT EQUIPMENT/FACILITY ABBREVIATIONS	
ASOS	AUTOMATED SURFACE OBSERVING SYSTEM
ATCT	AIR TRAFFIC CONTROL TOWER
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM
CCR	CONSTANT CURRENT REGULATOR
DME	DISTANCE MEASURING EQUIPMENT
FAR	FEDERAL AVIATION REGULATION
GS	GLIDE SLOPE FACILITY
HIRL	HIGH INTENSITY RUNWAY LIGHT
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:

- 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.
- ALL VAULT WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT 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).
- 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 KCML 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
- 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 SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LTFMC THAT IS NOT UL LISTED. CONFIRM LIQUID-TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLATION.
- ALL ENCLOSURES RATED NEMA 4, 4X SHALL HAVE WATERTIGHT HUBS AT CONDUIT ENTRANCES U.L. LISTED NEMA 4, 4X FOR THE RESPECTIVE ENCLOSURE, TO MAINTAIN THE NEMA 4, 4X RATING.
- HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, DUCT, OR HANDHOLE.

BY		DATE		REVISION										
<p>SAINT LOUIS DOWNTOWN AIRPORT A Division of METRO</p>														
<p>HANSON Hanson Professional Services Inc. 4227 Earth City Expressway, Suite 130 St. Louis, MO. 63045-1308 Offices Nationwide</p>														
WIDEN RUNWAY 12R/30L		ELECTRICAL LEGEND AND ABBREVIATIONS		<p>Hanson Project No. 08A0211D Filename: E-001.DWG Scale: NONE Date: 04/16/2010</p> <table border="1"> <tr><td>LAYOUT</td><td>KNL</td><td>01/13/09</td></tr> <tr><td>DRAWN</td><td>MW</td><td>01/13/09</td></tr> <tr><td>REVIEWED</td><td>CAH/KNL</td><td>03/30/10</td></tr> </table>		LAYOUT	KNL	01/13/09	DRAWN	MW	01/13/09	REVIEWED	CAH/KNL	03/30/10
LAYOUT	KNL	01/13/09												
DRAWN	MW	01/13/09												
REVIEWED	CAH/KNL	03/30/10												
80														
80 of 186 sheets														



EXISTING ELECTRICAL PLAN FOR VAULT

0 1'-4" 2'-8" 5'-4"
 HALF SIZE SCALE: 3/16" = 1'-0"
 FULL SIZE SCALE: 3/8" = 1'-0"

NOTES

1. ALL VAULT WORK AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR, THE AIRPORT MAINTENANCE MANAGER, THE RESPECTIVE FAA AIR TRAFFIC CONTROL TOWER PERSONNEL AND THE RESIDENT ENGINEER.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

KEYED NOTES

1. EXISTING 2400 VAC SERVICE TO THE VAULT TO BE DISCONNECTED & REMOVED. COORDINATE WITH SERVING ELECTRIC UTILITY.
2. EXISTING 600 AMP, 120/240 VAC, 1 PHASE SERVICE TO BE REMOVED AND REPLACED WITH AN 800 AMP, 120/240 VAC, 1 PHASE SERVICE. COORDINATE REMOVAL OF EXISTING SERVICE WITH INSTALLATION OF NEW SERVICE TO MINIMIZE DOWNTIME. PROVIDE TEMPORARY WIRING AND WORK TO KEEP AIRFIELD LIGHTING OPERATION AT NIGHTFALL.
3. EXISTING VAULT SERVICE & MAIN DISTRIBUTION PANEL TO BE REMOVED AND REPLACED WITH NEW DISTRIBUTION PANEL B. EXISTING FEEDER & BRANCH CIRCUITS SHALL BE RECONNECTED TO NEW DISTRIBUTION PANEL B.
4. EXISTING TVSS TO BE DISCONNECTED FROM VAULT SERVICE & MAIN DISTRIBUTION PANEL & RECONNECTED TO NEW DISTRIBUTION PANEL B.
5. EXISTING 15KW TXY C CCR TO REMAIN & BE RECONNECTED TO NEW DISTRIBUTION PANEL B.
6. EXISTING 7.5KW RWY 12L-30R BACKUP CCR TO BE RELOCATED & REWIRED AS A BACKUP UNIT FOR RWY 5-23 CCR.
7. EXISTING 7.5KW RWY 12L-30R CCR TO BE RELOCATED & REWIRED AS PRIMARY CCR FOR RWY 12L-30R.
8. EXISTING 15KW TXY B - CIRCUIT NO. 2 CCR TO REMAIN & BE RECONNECTED TO NEW MAIN DISTRIBUTION PANEL A.
9. EXISTING 4KW RWY 5-23 CCR TO BE RELOCATED & REWIRED AS PRIMARY CCR FOR RWY 5-23.
10. EXISTING 10KW RWY 12R-30L CCR TO BE RELOCATED & REWIRED AS BACKUP UNIT FOR RWY 12L-30R CCR.
11. EXISTING 30KW TXY A CCR TO REMAIN & BE REWIRED TO NEW MAIN DISTRIBUTION PANEL A.
12. EXISTING 30KW TXY B - CIRCUIT NO. 1 CCR TO REMAIN & BE REWIRED TO NEW MAIN DISTRIBUTION PANEL A.
13. EXISTING 4-4" GRSC FROM LOW VOLTAGE PULL BOX TO LOW VOLTAGE HANDHOLE.
14. EXISTING 36"H x 36"W x 12" D NEMA 12 LOW VOLTAGE PULL BOX.
15. EXISTING 6" x 6" LOW VOLTAGE WIREWAY.
16. EXISTING TERMINAL PANEL FOR 50 PAIR CONTROL CABLE.
17. EXISTING 48VDC PILOT RELAY PANEL #1.
18. EXISTING 48VDC PILOT RELAY PANEL #2.
19. EXISTING LIGHTING CONTACTOR PANEL.
20. EXISTING BOOST TRANSFORMERS.
21. ALL EXISTING EXPOSED CUTOUTS SHALL BE RELOCATED, INSTALLED IN A CUTOUT ENCLOSURE, AND REWIRED. SEE "HIGH VOLTAGE WIRING SCHEMATICS FOR TAXIWAYS" SHEET. CUTOUTS FOR RUNWAY CIRCUITS SHALL BE REMOVED AND REPLACED WITH NEW CUTOUTS AS DETAILED ON THE "HIGH VOLTAGE WIRING SCHEMATICS FOR RUNWAYS" SHEET.

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO



Hanson Project No. 08A0211D	File Name: E-102.DWG	Scale: NONE	Date: 04/16/2010
LAYOUT	KNL	01/13/09	01/13/09
DRAWN	MW	01/13/09	01/13/09
REVIEWED	CAH/KNL	03/30/10	03/30/10

HANSON
 Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

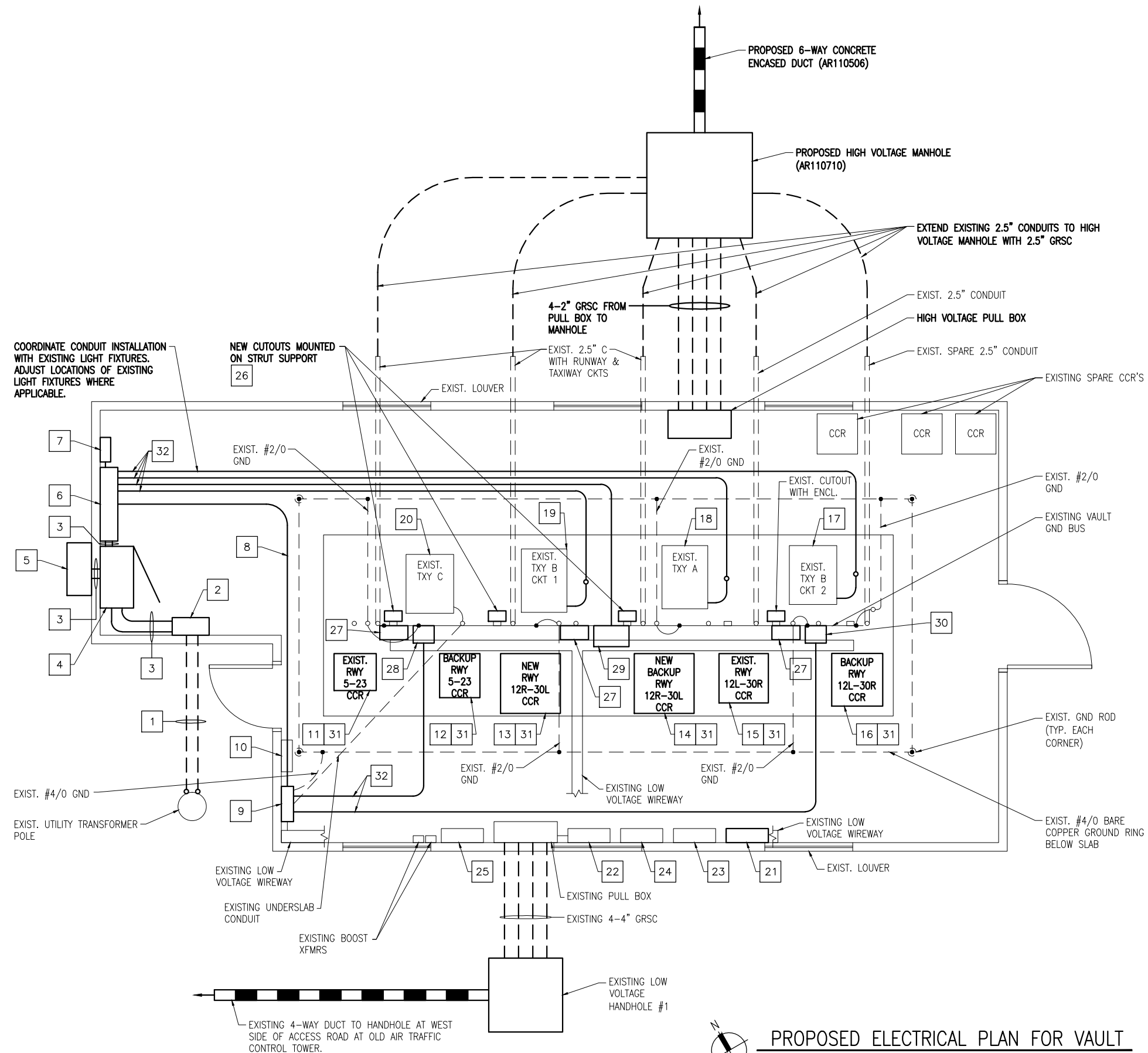
WIDEN RUNWAY 12R/30L
 EXISTING ELECTRICAL PLAN FOR AIRPORT VAULT

GENERAL NOTES

1. ALL VAULT WORK AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR, THE AIRPORT MAINTENANCE MANAGER, THE RESPECTIVE FAA AIR TRAFFIC CONTROL TOWER PERSONNEL AND THE RESIDENT ENGINEER.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, AND PROPOSED RACEWAY ROUTES.
3. SEE "NEW ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT" FOR LOW VOLTAGE INPUT POWER WIRING REQUIREMENTS TO CCR'S (CONSTANT CURRENT REGULATORS), SEE "HIGH VOLTAGE WIRING SCHEMATICS FOR TAXIWAYS" AND "HIGH VOLTAGE WIRING SCHEMATICS FOR RUNWAYS" FOR CCR OUTPUT WIRING REQUIREMENTS. SEE "CONTROL BLOCK DIAGRAM FOR AIRFIELD LIGHTING", RESPECTIVE WIRING SCHEMATICS AND DETAILS FOR CCR CONTROL WIRING REQUIREMENTS.
4. VAULT WORK WILL BE PAID FOR UNDER ITEM AR109200 UNLESS NOTED OTHERWISE HEREIN.

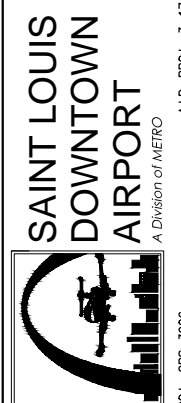
KEYED NOTES

- 1 NEW UNDERGROUND 800 AMP, 120/240 VAC, 1PH, 3W SERVICE; 2 SETS OF 2-600 MCM XHHW, 1-600 MCM XHHW NEUTRAL IN 2-3.5" GRSC FROM UTILITY TRANSFORMER TO SERVICE BREAKER. COORDINATE INSTALLATION WITH SIDEWALK AND RESTORE DISTURBED AREAS.
- 2 NEW 800 AMP, 2 POLE CIRCUIT BREAKER SERVICE ENTRANCE DISCONNECT SWITCH.
- 3 2 SETS OF 2-600 MCM XHHW, 1-600 MCM NEUTRAL, 1 #1/0 GND IN 2-3.5" GRSC.
- 4 NEW 800 AMP, 120/240 VAC, 1 PHASE AUTO TRANSFER SWITCH IN A NEMA 12 ENCLOSURE WITH DOOR HINGE ON RIGHT HAND SIDE. (AR109800)
- 5 NEW 800 AMP, 120/240 VAC, 1 PHASE PORTABLE GENERATOR CONNECTION BOX IN A STAINLESS STEEL ENCLOSURE, SUITABLE FOR OUTDOOR USE. (AR109800)
- 6 NEW MAIN DISTRIBUTION PANELBOARD "A".
- 7 NEW TRANSIENT VOLTAGE SURGE SUPPRESSOR.
- 8 400 AMP FEEDER FROM PANEL A TO PANEL B; 2 #500 MCM THWN, 1 #500 MCM NEUTRAL, 1 #2 GND IN 3" GRSC.
- 9 NEW DISTRIBUTION PANELBOARD "B".
- 10 EXISTING TVSS. RECONNECT TO PANEL "B".
- 11 EXISTING 4KW RWY 5-23 CCR TO BE RELOCATED & REWIRED AS PRIMARY CCR FOR RWY 5-23.
- 12 RELOCATED 7.5KW CCR; BACKUP UNIT FOR RWY 5-23 CCR.
- 13 NEW RWY 12R-30L CCR.
- 14 NEW RWY 12R-30L BACKUP CCR.
- 15 RELOCATED 7.5KW RWY 12L-30R CCR; PRIMARY CCR FOR RWY 12L-30R.
- 16 RELOCATED 10KW RWY 12R-30L CCR; BACKUP UNIT FOR RWY 12L-30R CCR.
- 17 EXISTING 15KW TXY B - CIRCUIT NO. 2 CCR. REWIRE TO NEW MAIN DISTRIBUTION PANEL A.
- 18 EXISTING 30KW TXY A CCR. REWIRE TO NEW MAIN DISTRIBUTION PANEL A.
- 19 EXISTING 30KW TXY B - CIRCUIT NO. 1 CCR. REWIRE TO NEW MAIN DISTRIBUTION PANEL A.
- 20 EXISTING 15KW TXY C CCR TO BE RECONNECTED TO NEW DISTRIBUTION PANEL B.
- 21 NEW TRANSFER RELAY PANEL.
- 22 EXISTING TERMINAL PANEL FOR 50 PAIR CONTROL CABLE.
- 23 EXISTING 48VDC PILOT RELAY PANEL #1.
- 24 EXISTING 48VDC PILOT RELAY PANEL #2.
- 25 EXISTING LIGHTING CONTACTOR PANEL.
- 26 ALL EXISTING EXPOSED CUTOUTS SHALL BE RELOCATED, INSTALLED IN A CUTOUT ENCLOSURE, AND REWIRED. SEE "HIGH VOLTAGE WIRING SCHEMATICS FOR TAXIWAYS" SHEET.
- 27 NEW CUTOUTS WITH ENCLOSURE FOR RUNWAY CIRCUITS. SEE "HIGH VOLTAGE WIRING SCHEMATICS FOR RUNWAYS" SHEET.
- 28 NEW 60 AMP, 2P DTFSS IN A NEMA 1 ENCL.
- 29 NEW 200 AMP, 2P DTFSS IN A NEMA 1 ENCL.
- 30 NEW 100 AMP, 2P DTFSS IN A NEMA 1 ENCL.
- 31 BOND CCR TO VAULT GND BUS WITH #6 AWG COPPER BONDING JUMPER.
- 32 SEE GENERAL NOTES 2 & 3.



PROPOSED ELECTRICAL PLAN FOR VAULT
 0 1'-4" 2'-8" 5'-4"
 HALF SIZE SCALE: 3/16" = 1'-0"
 FULL SIZE SCALE: 3/8" = 1'-0"

DATE	REVISION	BY

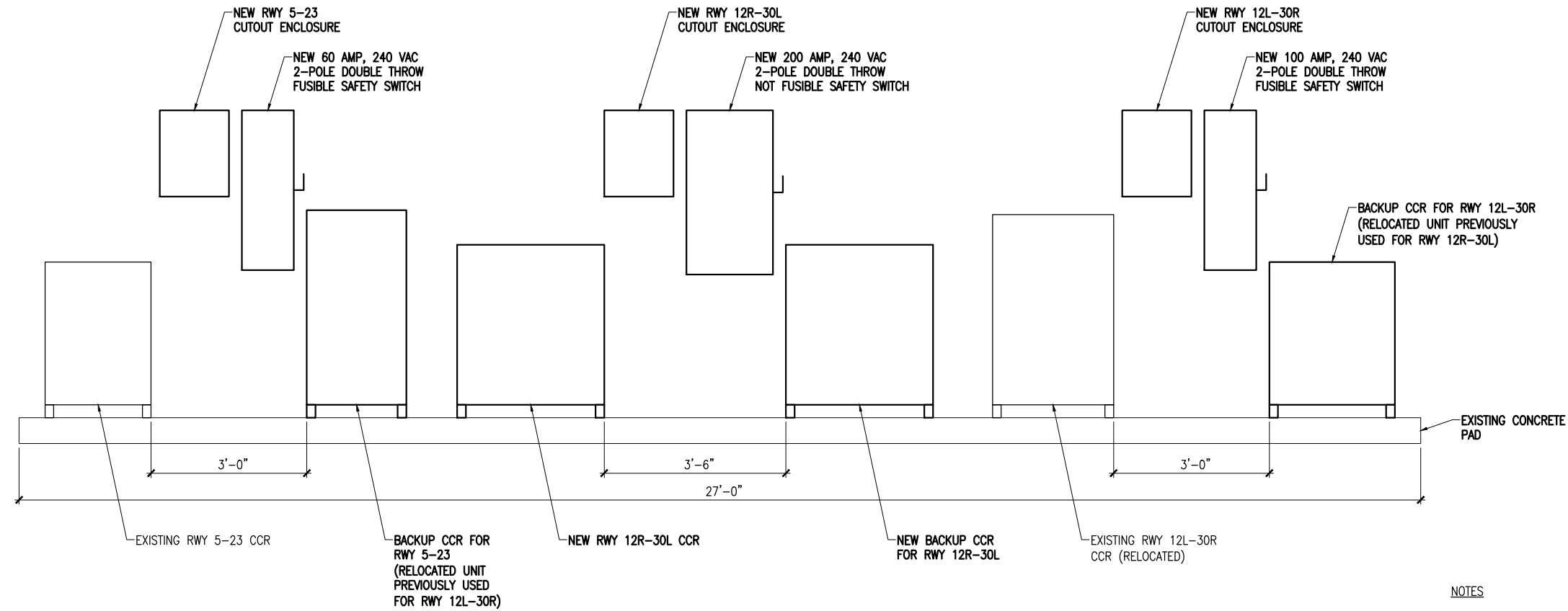


Hanson Project No. 08A0211D	FILENAME: E-103.DWG	Scale NONE	Date 04/16/2010
LAYOUT	KNL	01/13/09	
DRAWN	MV	01/13/09	
REVIEWED	CAH/KNL	03/30/10	

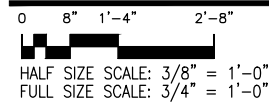


WIDEN RUNWAY 12R/30L
 PROPOSED ELECTRICAL PLAN FOR AIRPORT VAULT

MAY 25, 2010 3:17 PM K:\KAC00394\I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET E-103.DWG



RUNWAY REGULATORS ELEVATION DETAIL



NOTES

- SEE "NEW ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT" FOR INFO ON EQUIPMENT WIRING AND CONDUIT SIZES AND TYPES.
- SEE "HIGH VOLTAGE WIRING SCHEMATIC FOR RUNWAYS" FOR INFO ON CCR OUTPUT WIRING. PROVIDE 6"x6" HIGH VOLTAGE WIREWAYS, GALVANIZED RIGID STEEL CONDUITS, PULL BOXES, AND ASSOCIATED STRUT SUPPORT TO INTERFACE CONSTANT CURRENT REGULATORS AND CUTOUTS TO THE AIRFIELD LIGHTING SYSTEMS.
- SEE "CONTROL BLOCK DIAGRAM FOR AIRFIELD LIGHTING" FOR INFO ON CONTROL CIRCUITS TO CCR'S. ALSO SEE AIRFIELD LIGHTING WIRING SCHEMATICS FOR EACH RUNWAY FOR INFO ON CONTROL WIRING TO EACH CCR.
- FINAL CONNECTIONS TO REGULATORS SHALL BE WITH UL LISTED LIQUID TIGHT FLEXIBLE METAL CONDUIT. CONFIRM LIQUID TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLATION.
- HIGH VOLTAGE WIRING SHALL ENTER EACH RESPECTIVE CCR AT THE HIGH VOLTAGE/SERIES CIRCUIT OUTPUT SECTION OF THE CCR. 240 VAC INPUT POWER SHALL ENTER EACH RESPECTIVE CCR AT THE LOW VOLTAGE/INPUT POWER SECTION OF THE CCR. CONTROL WIRING SHALL ENTER EACH RESPECTIVE CCR AT THE CONTROL SECTION OF THE CCR. MAINTAIN SEPARATION OF HIGH VOLTAGE WIRING FROM LOW VOLTAGE WIRING.

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

PROJ.: 3-17-0039-B22
I.L. PROJ.: CFS-3906

Hanson Project No. 08A0211D	File Name E-201.DWG	Scale NONE	Date 04/16/2010
LAYOUT	KNL	03/02/10	
DRAWN	MW	03/02/10	
REVIEWED	CAH/KNL	03/30/10	

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

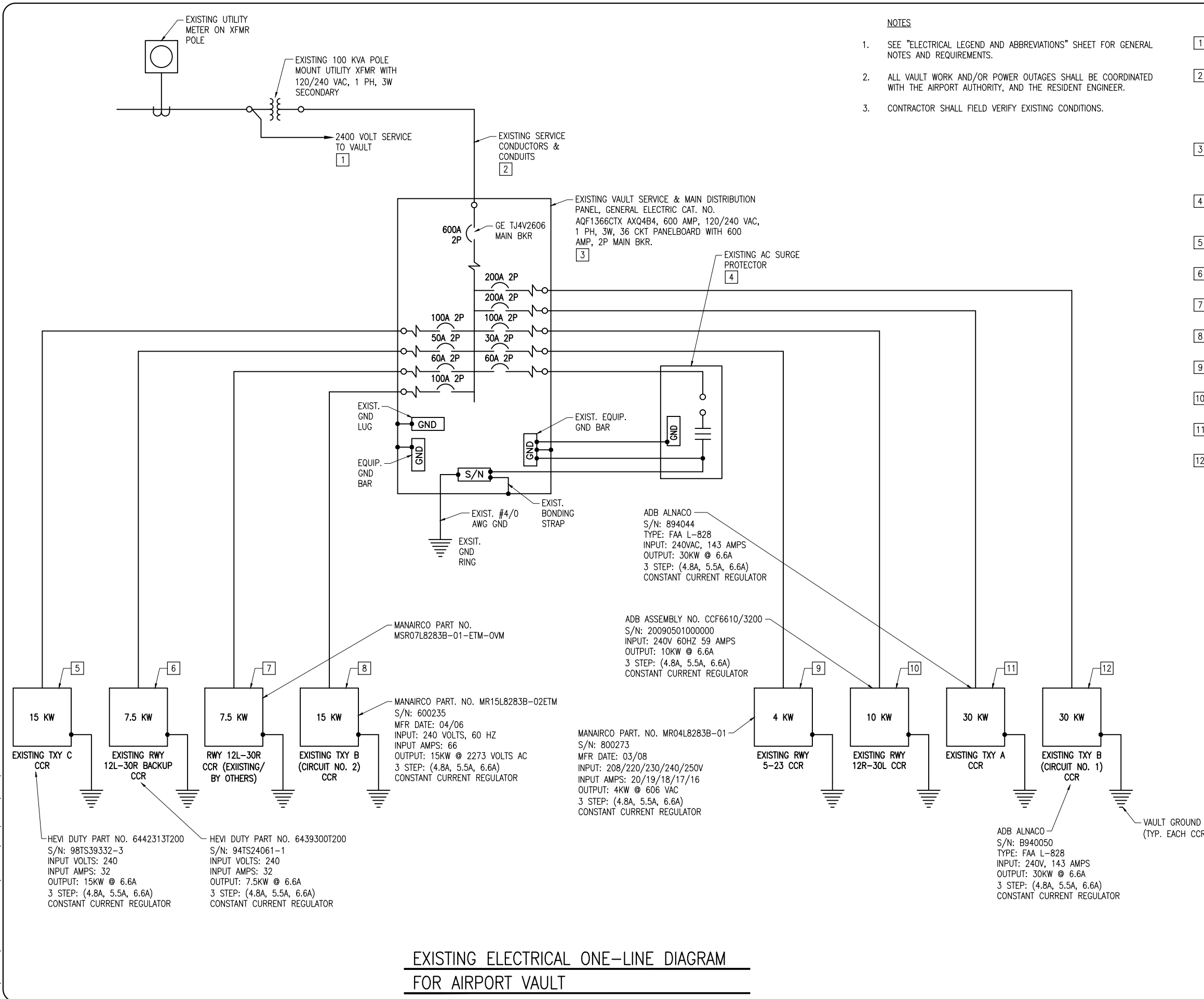
WIDEN RUNWAY 12R/30L
RUNWAY REGULATORS ELEVATION DETAIL

NOTES

- 1. SEE "ELECTRICAL LEGEND AND ABBREVIATIONS" SHEET FOR GENERAL NOTES AND REQUIREMENTS.
- 2. ALL VAULT WORK AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT AUTHORITY, AND THE RESIDENT ENGINEER.
- 3. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

KEYED NOTES

- 1 EXISTING 2400 VAC SERVICE TO THE VAULT TO BE DISCONNECTED & REMOVED. COORDINATE WITH SERVING ELECTRIC UTILITY.
- 2 EXISTING 600 AMP, 120/240 VAC, 1 PHASE SERVICE TO BE REMOVED AND REPLACED WITH AN 800 AMP, 120/240 VAC, 1 PHASE SERVICE. COORDINATE REMOVAL OF EXISTING SERVICE WITH INSTALLATION OF NEW SERVICE TO MINIMIZE DOWNTIME. PROVIDE TEMPORARY WIRING AND WORK TO KEEP AIRFIELD LIGHTING OPERATIONAL AT NIGHTFALL.
- 3 EXISTING VAULT SERVICE & MAIN DISTRIBUTION PANEL TO BE REMOVED AND REPLACED. WITH NEW DISTRIBUTION PANEL B. EXISTING FEEDER & BRANCH CIRCUITS SHALL BE RECONNECTED TO NEW DISTRIBUTION PANEL B.
- 4 EXISTING TVSS TO BE DISCONNECTED FROM VAULT SERVICE & MAIN DISTRIBUTION PANEL & RECONNECTED TO NEW DISTRIBUTION PANEL B.
- 5 EXISTING 15KW TXY C CCR TO REMAIN & BE RECONNECTED TO NEW DISTRIBUTION PANEL B.
- 6 EXISTING 7.5KW RWY 12L-30R BACKUP CCR TO BE RELOCATED & REWIRED AS A BACKUP UNIT FOR RWY 5-23 CCR.
- 7 EXISTING 7.5KW RWY 12L-30R CCR TO BE RELOCATED & REWIRED AS PRIMARY CCR FOR RWY 12L-30R.
- 8 EXISTING 15KW TXY B - CIRCUIT NO. 2 CCR TO REMAIN & BE RECONNECTED TO NEW MAIN DISTRIBUTION PANEL A.
- 9 EXISTING 4KW RWY 5-23 CCR TO BE RELOCATED & REWIRED AS PRIMARY CCR FOR RWY 5-23.
- 10 EXISTING 10KW RWY 12R-30L CCR TO BE RELOCATED & REWIRED AS BACKUP UNIT FOR RWY 12L-30R CCR.
- 11 EXISTING 30KW TXY A CCR TO REMAIN & BE REWIRED TO NEW MAIN DISTRIBUTION PANEL A.
- 12 EXISTING 30KW TXY B - CIRCUIT NO. 1 CCR TO REMAIN & BE REWIRED TO NEW MAIN DISTRIBUTION PANEL A.



EXISTING ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT

BY	
REVISION	
DATE	

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

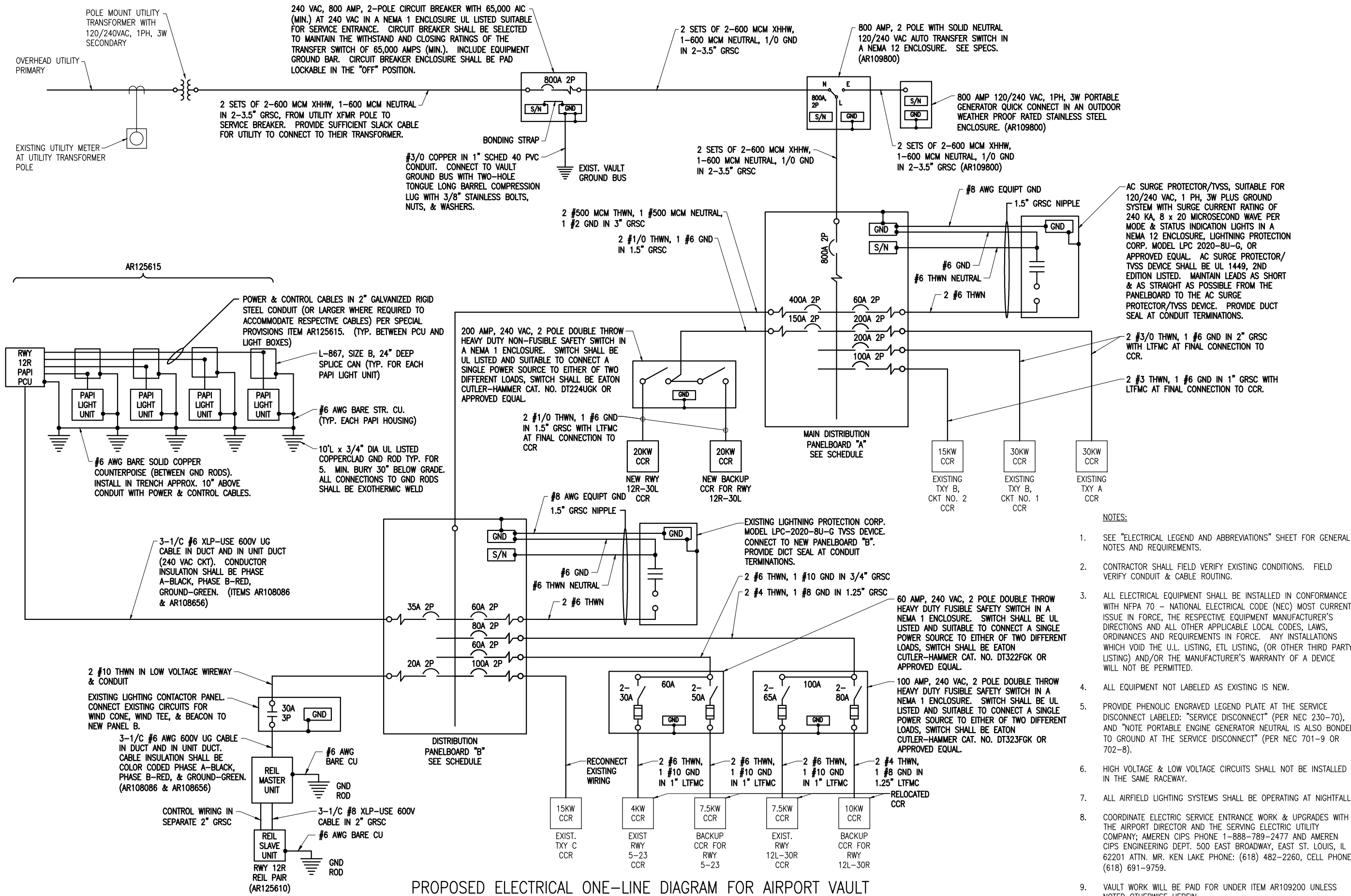
HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
EXISTING ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT

84

84 of 186 sheets

MAY 25, 2010 3:18 PM KINC400394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_E-611.DWG



PROPOSED ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT

BY

REVISION

DATE

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ: 3-17-0039-B22

IL PROJ: CFS-3906

Hanson Project No. 08A0211D
Filename: E-612.DWG
Scale: NONE
Date: 04/16/2010

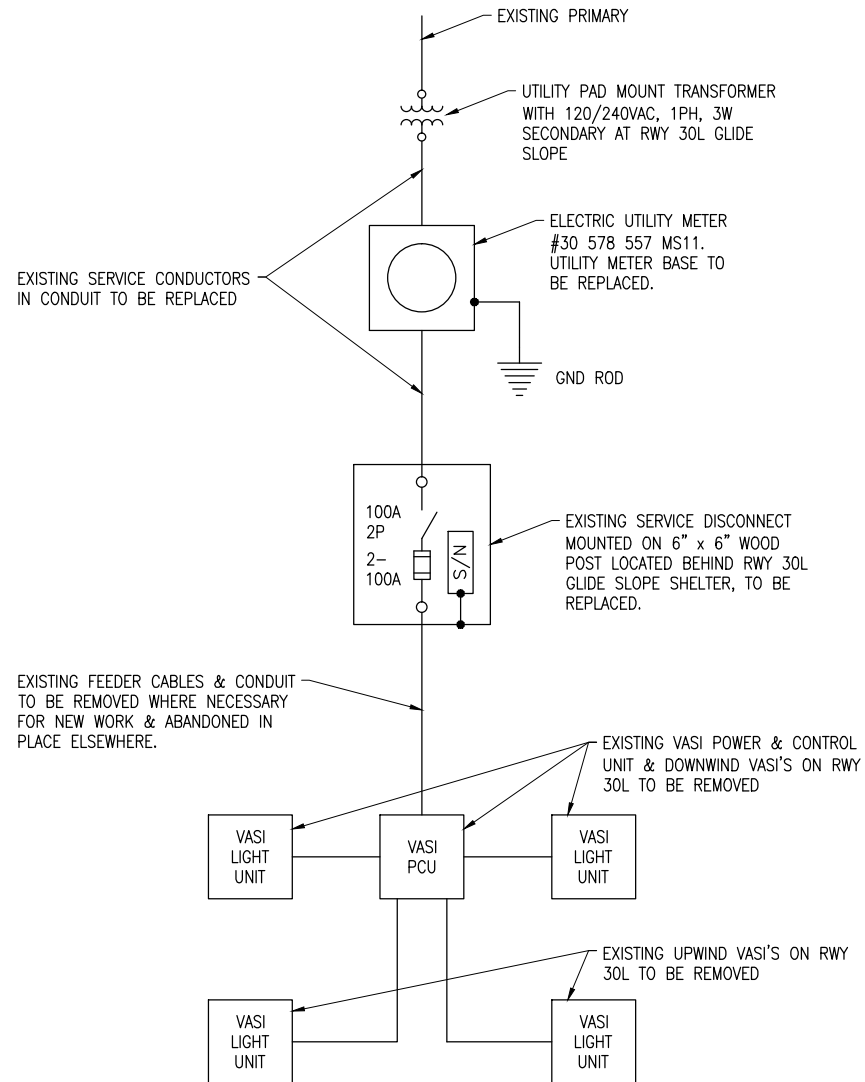
LAYOUT	KNL	02/26/10
DRAWN	MV	02/26/10
REVIEWED	CAH/KNL	03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT

85
85 of 186 sheets

MAY 25, 2010 3:17 PM KINC000394
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_E-612.DWG



NOTES:

1. SEE "ELECTRICAL LEGEND AND ABBREVIATIONS" SHEET FOR GENERAL NOTES AND REQUIREMENTS.
2. COORDINATE REMOVAL OF EXISTING SERVICE FOR RWY 30L VASI SYSTEM WITH INSTALLATION OF REPLACEMENT SERVICE FOR RUNWAY 30L PAPI SYSTEM TO MINIMIZE DOWNTIME OF RESPECTIVE VADI'S (VASI OR PAPI ON RUNWAY 30L).
3. REMOVAL OF EXISTING ELECTRIC SERVICE FOR RWY 30L VASI'S AND REPLACEMENT WITH NEW ELECTRIC SERVICE FOR RWY 30L PAPI'S WILL BE PAID FOR UNDER ITEM AR109924 - REPLACE ELECTRIC SERVICES.
4. COORDINATE ELECTRIC SERVICE ENTRANCE WORK & UPGRADES WITH THE SERVING ELECTRIC UTILITY COMPANY; AMEREN CIPS PHONE 1-888-789-2477 AND AMEREN CIPS ENGINEERING DEPT. 500 EAST BROADWAY, EAST ST. LOUIS, IL 62201 ATTN. MR KEN LAKE PHONE: (618) 482-2260, CELL PHONE: (618) 691-9759.
5. REMOVAL OF EXISTING VASI SYSTEM ON RWY 30L WILL BE PAID FOR UNDER ITEM AR125909 - REMOVE VASI.

EXISTING ONE LINE DIAGRAM FOR RUNWAY 30L VASI

DATE	REVISION	BY

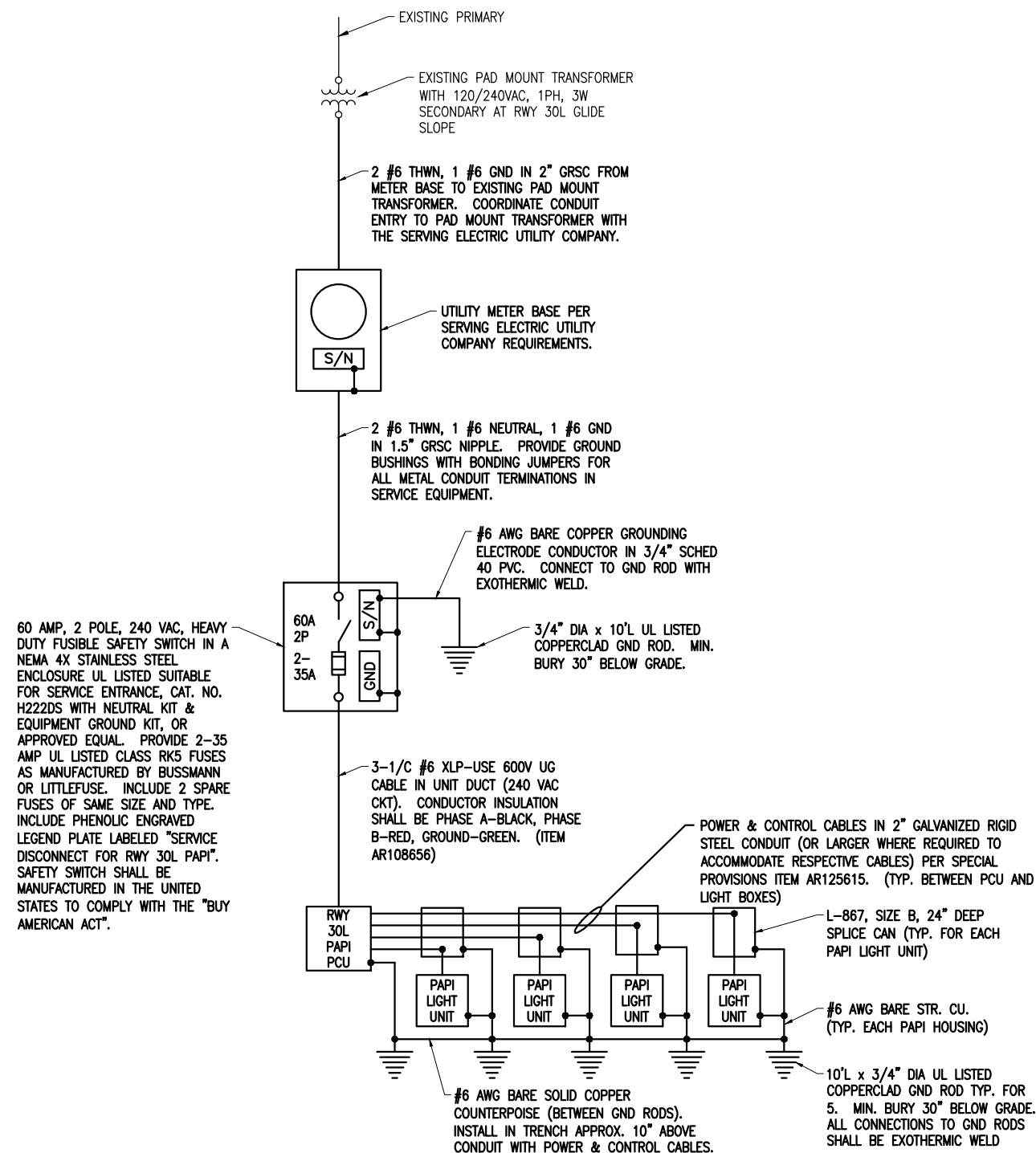
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	File Name E-603.DWG	Scale NONE	Date 04/16/2010
LAYOUT	KNL	01/13/09	01/13/09
DRAWN	MV	01/13/09	01/13/09
REVIEWED	CAH/KNL	03/30/10	03/30/10

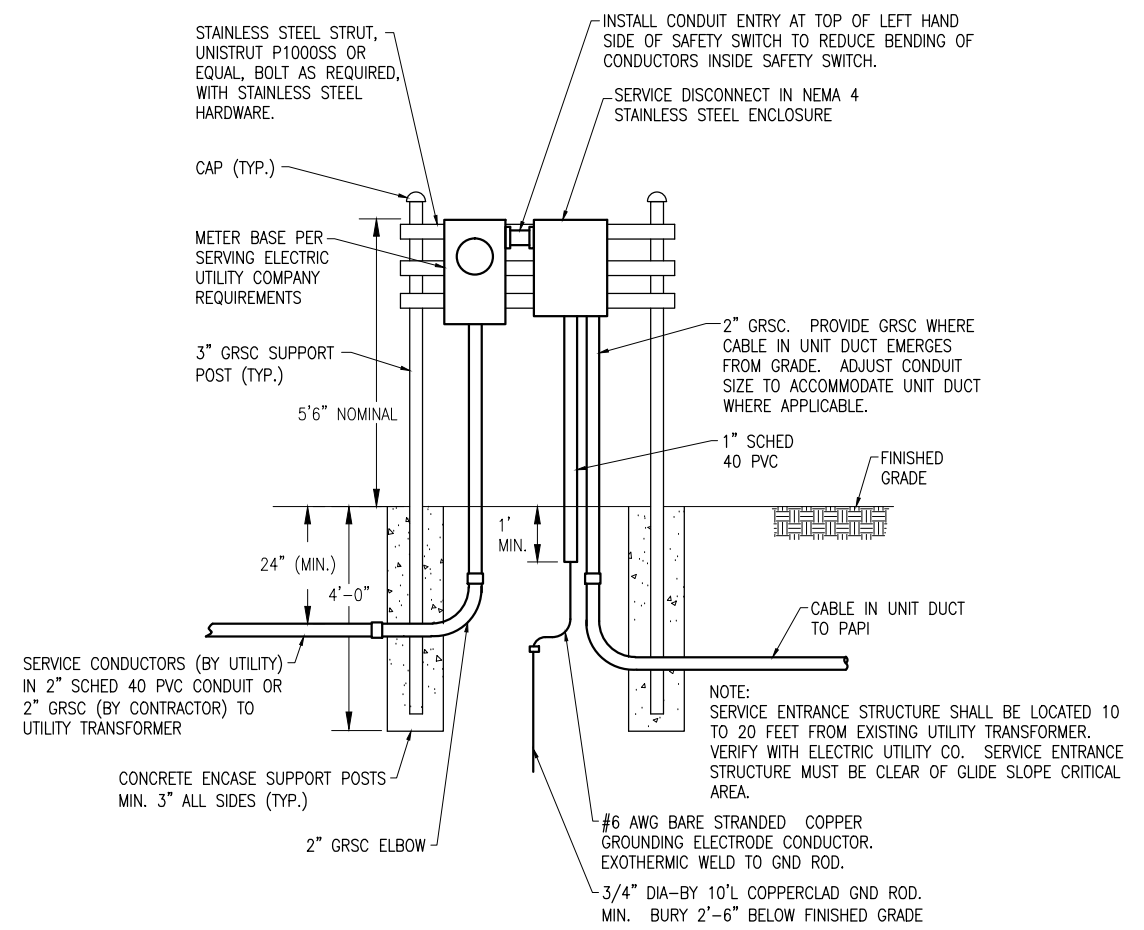
HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO. 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
EXISTING ONE LINE DIAGRAM FOR RUNWAY 30L VASI



ONE LINE DIAGRAM FOR RUNWAY 30L PAPI

- NOTES:
- SEE "ELECTRICAL LEGEND AND ABBREVIATIONS" SHEET FOR GENERAL NOTES AND REQUIREMENTS.
 - 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.
 - ALL EQUIPMENT SHOWN NOT LABELED AS EXISTING IS NEW.
 - REMOVAL OF EXISTING ELECTRIC SERVICE FOR RWY 30L VASI'S AND REPLACEMENT WITH NEW ELECTRIC SERVICE FOR RWY 30L PAPI'S WILL BE PAID FOR UNDER ITEM AR109924 - REPLACE ELECTRIC SERVICES.
 - COORDINATE ELECTRIC SERVICE ENTRANCE WORK & UPGRADES WITH THE AIRPORT DIRECTOR AND THE SERVING ELECTRIC UTILITY COMPANY; AMEREN CIPS PHONE 1-888-789-2477 AND AMEREN CIPS ENGINEERING DEPT. 500 EAST BROADWAY, EAST ST. LOUIS, IL 62201 ATTN. MR. KEN LAKE PHONE: (618) 482-2260, CELL PHONE: (618) 691-9759.
 - REMOVAL OF EXISTING VASI SYSTEM ON RWY 30L WILL BE PAID FOR UNDER ITEM AR125909 - REMOVE VASI.
 - PROVIDE NEMA 4 HUBS FOR ALL CONDUIT ENTRIES INTO NEMA 4 RATED ENCLOSURES, TO MAINTAIN THE NEMA 4 RATING OF THE RESPECTIVE ENCLOSURE.



SERVICE ENTRANCE ELEVATION

NOT TO SCALE

MAY 25, 2010 3:18 PM KINC000394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\E-604.DWG

BY					
REVISION					
DATE					

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

Project No. 08A0211D
Filename: E-604.DWG
Scale: NONE
Date: 04/16/2010

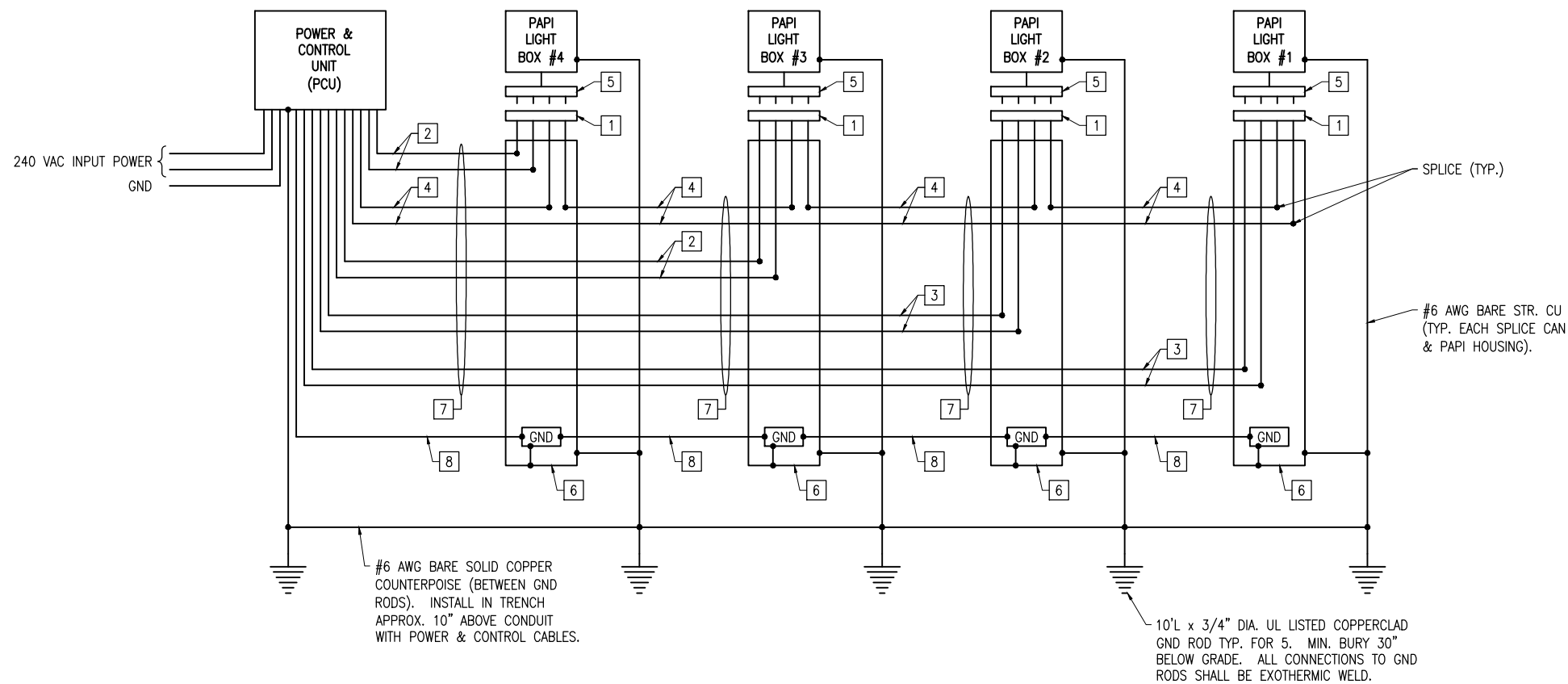
LAYOUT	KNL	01/13/09
DRAWN	MW	01/13/09
REVIEWED	CAH/KNL	03/30/10

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

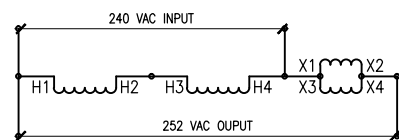
WIDEN RUNWAY 12R/30L
ONE LINE DIAGRAM FOR RUNWAY 30L PAPI

88
88 of 186 sheets

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22



PAPI FIELD WIRING CONNECTIONS
(FOR CROUSE-HINDS 880A3A-1 PAPI)



NOTES:

1. WIRING DIAGRAM SHOWN IS TYPICAL FOR MULTIPLE 120 x 240 VAC PRIMARY, 12/24 VAC SECONDARY BUCK-BOOST TRANSFORMERS FROM VARIOUS MANUFACTURERS. WIRING MIGHT VARY BETWEEN DIFFERENT MANUFACTURERS. CONFIRM WIRING WITH RESPECTIVE TRANSFORMER MFR.
2. PROVIDE BOOST TRANSFORMER AT VAULT WHERE VOLTAGE DROP FROM VAULT TO RESPECTIVE PAPI POWER AND CONTROL UNIT EXCEEDS 5% (12 VOLTS FOR 240 VAC NOMINAL SUPPLY). BOOST TRANSFORMER IS NOT REQUIRED WHERE PAPI PCU HAS INPUT POWER TRANSFORMER TAP ADJUSTMENTS SUITABLE FOR RESPECTIVE INPUT VOLTAGE AND CABLE LOSSES.
3. BOOST TRANSFORMERS SHALL BE MANUFACTURED IN THE UNITED STATES TO COMPLY WITH THE "BUY AMERICAN ACT".

240 VAC TO 252 VAC BOOST TRANSFORMER CONNECTION DIAGRAM FOR 120 x 240 VAC PRIMARY, 12/24 VAC SECONDARY TRANSFORMER

NOTES

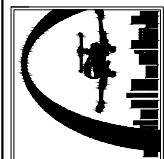
1. PAPI FIELD WIRING CONNECTION DIAGRAM IS BASED ON A CROUSE-HINDS PART NO 880A3A-1, L-880 STYLE A PAPI WITH 3 LAMPS PER LIGHT BOX, & INFORMATION PROVIDED BY CROUSE-HINDS FIELD SERVICE SUPPORT CENTER. WIRING REQUIREMENTS VARY FOR DIFFERENT PAPI MANUFACTURERS AND DIFFERENT PAPI MODEL NUMBERS BY THE SAME MANUFACTURER. CONTRACTOR SHALL CONFIRM WIRING REQUIREMENTS WITH THE RESPECTIVE PAPI MANUFACTURER AND ADJUST TO MEET MANUFACTURER INSTRUCTIONS AND RECOMMENDATIONS. POWER WIRING REQUIREMENTS SHOWN ARE MINIMUM, FOR THE RESPECTIVE PAPI SYSTEM.
2. INCLUDE #6 AWG EQUIPMENT GROUND WIRE IN CONDUIT WITH POWER & CONTROL WIRING BETWEEN THE POWER & CONTROL UNIT & THE PAPI LIGHT BOXES.
3. CONDUIT BETWEEN PAPI PCU AND SPLICE CANS AT PAPI LIGHT UNITS SHALL BE GALVANIZED RIGID STEEL CONDUIT.
4. PROVIDE DUCT SEAL FOR CONDUITS ENTERING/LEAVING THE PAPI POWER AND CONTROL UNIT.

KEYED NOTES

- 1 CONSOLIDATING HARNESS, 4 #14 AWG LEADS AS FURNISHED OR REQUIRED BY PAPI MFR.
- 2 OUTGOING POWER FEED FROM POWER & CONTROL UNIT TO THE TWO CLOSEST PAPI LIGHT BOXES (#1 & #2), #8 AWG XLP-USE OR THWN (MIN.)
- 3 OUTGOING POWER FEED FROM POWER & CONTROL UNIT TO THE TWO FURTHEST PAPI LIGHT BOXES (#3 & #4), #6 AWG XLP-USE OR THWN (MIN.)
- 4 TILT SWITCH WIRING #14 AWG XLP-USE OR THWN (MIN.) CONFIRM WIRING WITH PAPI MFR & ADJUST AS APPLICABLE.
- 5 PLUG WITH CABLE ASSEMBLY AS FURNISHED OR REQUIRED BY PAPI MFR.
- 6 L-867, CLASS IA, SIZE B, 24" DEEP SPLICE CAN.
- 7 2" MINIMUM GALVANIZED RIGID STEEL CONDUIT BETWEEN PAPI PCU AND L-867 SPLICE CANS AT PAPI LIGHT UNITS.
- 8 #6 AWG EQUIPMENT GROUND.

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO



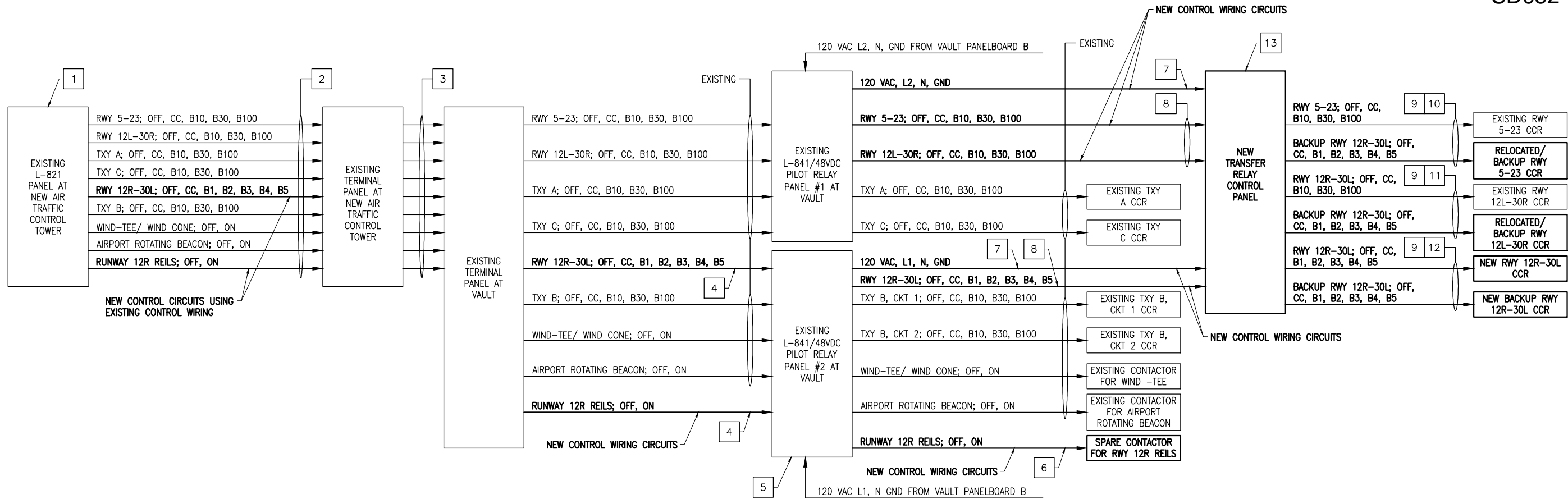
Hanson Project No. 08A0211D	File Name: E-602.DWG	Scale: NONE	Date: 04/16/2010
LAYOUT	KNL	01/13/09	
DRAWN	MV	01/13/09	
REVIEWED	CAH/KNL	03/30/10	

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PAPI FIELD WIRING CONNECTIONS

MAY 25, 2010 3:18 PM KINC400394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\E-602.DWG

I.L. PROJ.: 3--17--0039-BZ2 A.L.P. PROJ.: CPS-3906



CONTROL BLOCK DIAGRAM FOR AIRFIELD LIGHTING

KEYED NOTES:

- 1 EXISTING L-821 CONTROL PANEL AT AIR TRAFFIC CONTROL TOWER. PERFORM & COORDINATE CONNECTIONS TO AVAILABLE 2-POSITION "OFF-ON" TOGGLE SWITCHES FOR CONTROL OF RUNWAY 12R REILS. UPGRADE CONNECTIONS TO RUNWAY 12R-30L SELECTOR SWITCH (6-POSITION) TO ACCOMMODATE THE NEW HIGH INTENSITY RUNWAY LIGHTING SYSTEM.
- 2 EXISTING CONTROL WIRING FROM L-821 PANEL TO TERMINAL PANEL AT NEW AIR TRAFFIC CONTROL TOWER IS 2 SETS OF 37/C #12 AWG, 600 VOLT TYPE TC CONTROL CABLE. FIELD VERIFY EXISTING CONDITIONS.
- 3 EXISTING 50-PAIR #19 AWG COMMUNICATION CABLE DIRECT BURY AND/OR IN DUCT FROM THE VAULT TO THE NEW ATCT.
- 4 CONTROL WIRING FROM TERMINAL PANEL AT VAULT TO PILOT RELAY PANELS SHALL BE #12 AWG THWN COPPER IN WIREWAY & GRSC. DO NOT USE INSULATION COLORS THAT ARE WHITE OR GREEN FOR CONTROL WIRING. WHITE INSULATED CONDUCTORS SHALL BE FOR NEUTRAL CONDUCTORS. GREEN INSULATED CONDUCTORS SHALL BE FOR GROUND WIRES.
- 5 EXISTING PILOT RELAY PANEL 48 VDC. INTERFACE CONTROL WIRING FOR RUNWAY 12R REILS AND RWY 12R-30L LIGHTING TO AVAILABLE RELAYS.
- 6 PROVIDE #12 THWN CONTROL WIRING IN LOW VOLTAGE WIREWAY AND GRSC BETWEEN EXISTING LIGHTING CONTACTOR PANEL AND RESPECTIVE PILOT RELAY PANEL. SEE "LIGHTING CONTACTOR PANEL DETAIL" FOR WIRING REQUIREMENTS BETWEEN RESPECTIVE PILOT RELAY PANEL AND LIGHTING CONTACTORS.
- 7 NEW 120 VAC CONTROL POWER FROM THE RESPECTIVE 48 VDC PILOT RELAY PANEL CONTROLLING THE RESPECTIVE CONSTANT CURRENT REGULATOR. SEE AIRFIELD LIGHTING WIRING SCHEMATIC FOR EACH RUNWAY.
- 8 REROUTE EXISTING CONTROL WIRING TO THE NEW TRANSFER RELAY CONTROL PANEL. INCLUDE NEW CONTROL WIRING TO ACCOMMODATE HIGH INTENSITY LIGHTING FOR RUNWAY 12R-30L.

- 9 ESTABLISH A COLOR CODING FOR THE CONTROL WIRING TO EACH CONSTANT CURRENT REGULATOR AND BE CONSISTENT FOR ALL REGULATORS. EXAMPLE:

3-STEP		5-STEP	
NEUTRAL	-WHITE	NEUTRAL	-WHITE
CC	-RED	CC	-RED
10%	-ORANGE	B1-0.15%	-VIOLET
30%	-YELLOW	B2-1.2%	-BROWN
100%	-BLUE	B3-5%	-ORANGE
EQUIPT. GND	-GREEN	B4-25%	-YELLOW
		B5-100%	-BLUE
		EQUIPT. GND	-GREEN

- ALSO TAG THE CONTROL WIRES WITH THE RESPECTIVE DESIGNATION EXAMPLE: (CC, 10%, 30%, 100%).
- 10 NEW CONTROL WIRING FROM TRANSFER RELAY PANEL TO EACH RWY 5-23 CCR SHALL BE 4 #12 THWN, 1 #12 NEUTRAL, 1 #12 GND IN LOW VOLTAGE WIREWAY/GRSC WITH LTFMC AT FINAL CONNECTIONS TO CCR'S.
- 11 NEW CONTROL WIRING FROM TRANSFER RELAY PANEL TO EACH RWY 12R-30L CCR SHALL BE 4 #12 THWN, 1 #12 NEUTRAL, 1 #12 GND IN LOW VOLTAGE WIREWAY/GRSC WITH LTFMC AT FINAL CONNECTIONS TO CCR'S.
- 12 NEW CONTROL WIRING FROM TRANSFER RELAY PANEL TO EACH RWY 12L-30R CCR SHALL BE 6 #12 THWN, 1 #12 NEUTRAL, 1 #12 GND IN LOW VOLTAGE WIREWAY/GRSC WITH LTFMC AT FINAL CONNECTIONS TO CCR'S.
- 13 INCLUDE TWO POSITION SELECTOR SWITCH AND TRANSFER RELAY TO SELECT BETWEEN NORMAL CCR AND BACKUP CCR FOR EACH RUNWAY. SEE AIRFIELD LIGHTING WIRING SCHEMATIC FOR EACH RUNWAY.

NOTES:

- 1. EXISTING CONTROL SYSTEM AT THE ATCT, VAULT, & BETWEEN THE TWO FACILITIES WILL REQUIRE UPGRADES TO ACCOMMODATE CONTROL OF THE NEW RUNWAY 12R REILS & THE REPLACEMENT OF THE RUNWAY 12R-30L MEDIUM INTENSITY RUNWAY LIGHTING SYSTEM. EXISTING CONTROL WIRING IS AVAILABLE FOR USE FROM THE L-821 PANEL AT THE ATCT TO THE TERMINAL PANEL IN THE VAULT.
- 2. EQUIPMENT GROUND WIRES SHALL BE INCLUDED WITH EACH BRANCH CIRCUIT & EACH CONTROL CIRCUIT.
- 3. ALL WORK SHOWN ON THIS SHEET WILL BE PAID FOR UNDER ITEM AR109200 INSTALL ELECTRICAL EQUIPMENT PER LUMP SUM.

DATE	03/30/10
REVISION	

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

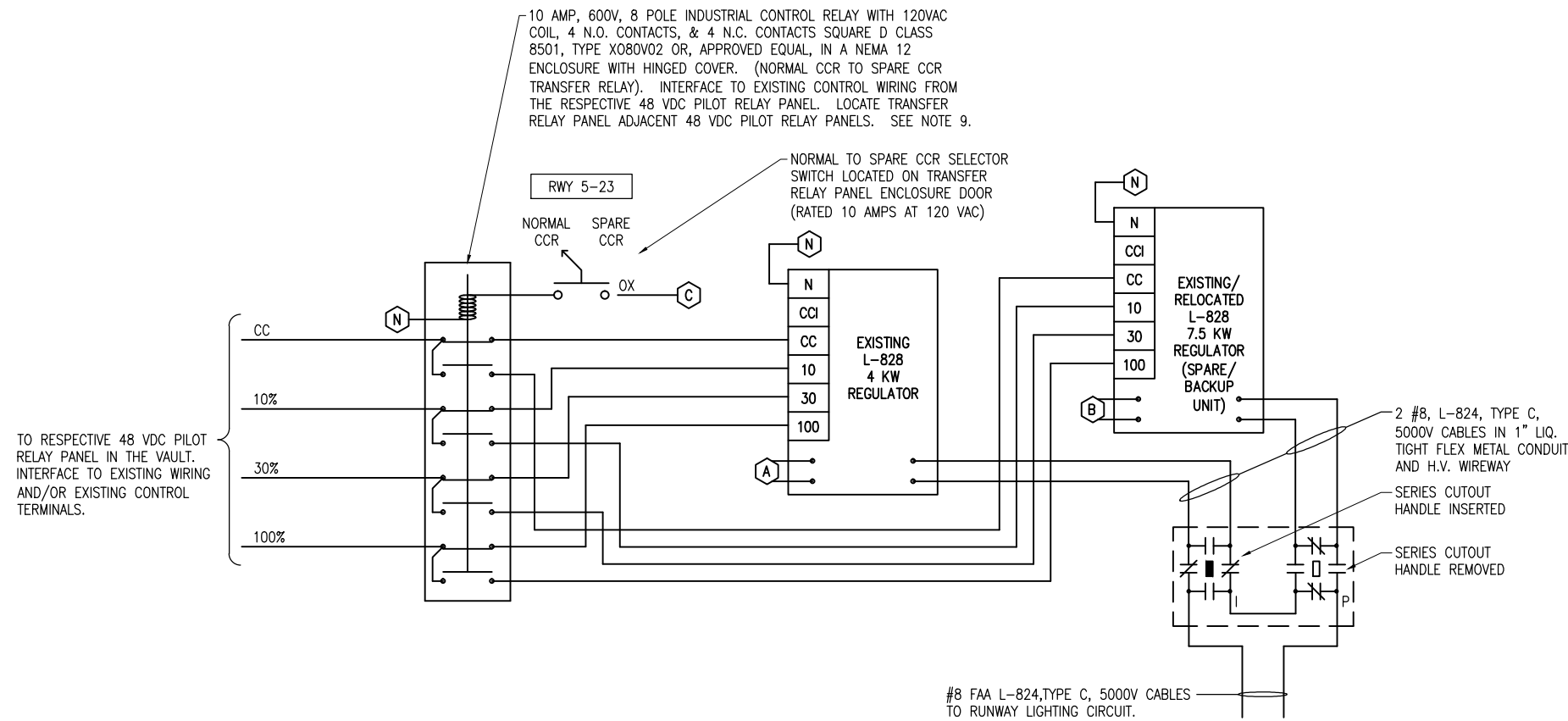
ALP PROJ: 3-17-0039-B22
L PROJ: CPS-3906

Hanson Project No.	08A0211D
Filename	E-606.DWG
Scale	NONE
Date	04/16/2010
LAYOUT	KNL
DRAWN	MW
REVIEWED	CAH
	KNL

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
CONTROL BLOCK DIAGRAM FOR AIRFIELD LIGHTING

MAY 25, 2010 3:18 PM KINC00394
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\E-606.DWG



TO RESPECTIVE 48 VDC PILOT RELAY PANEL IN THE VAULT. INTERFACE TO EXISTING WIRING AND/OR EXISTING CONTROL TERMINALS.

10 AMP, 600V, 8 POLE INDUSTRIAL CONTROL RELAY WITH 120VAC COIL, 4 N.O. CONTACTS, & 4 N.C. CONTACTS SQUARE D CLASS 8501, TYPE X080V02 OR, APPROVED EQUAL, IN A NEMA 12 ENCLOSURE WITH HINGED COVER. (NORMAL CCR TO SPARE CCR TRANSFER RELAY). INTERFACE TO EXISTING CONTROL WIRING FROM THE RESPECTIVE 48 VDC PILOT RELAY PANEL. LOCATE TRANSFER RELAY PANEL ADJACENT 48 VDC PILOT RELAY PANELS. SEE NOTE 9.

NORMAL TO SPARE CCR SELECTOR SWITCH LOCATED ON TRANSFER RELAY PANEL ENCLOSURE DOOR (RATED 10 AMPS AT 120 VAC)

EXISTING/RELOCATED L-828 7.5 KW REGULATOR (SPARE/BACKUP UNIT)

EXISTING L-828 4 KW REGULATOR

2 #8, L-824, TYPE C, 5000V CABLES IN 1" LIQ. TIGHT FLEX METAL CONDUIT AND H.V. WIREWAY

SERIES CUTOUT HANDLE INSERTED

SERIES CUTOUT HANDLE REMOVED

#8 FAA L-824, TYPE C, 5000V CABLES TO RUNWAY LIGHTING CIRCUIT.

RUNWAY 5-23 AIRFIELD LIGHTING SCHEMATIC WIRING DIAGRAM

NOTES

- ALL WORK & SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR, THE AIR TRAFFIC CONTROL TOWER, & THE RESIDENT ENGINEER. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, AND TEST THE EXISTING RWY 5-23 CCR PRIOR TO PERFORMING CONTROL WIRING MODIFICATIONS. TESTS SHALL INCLUDE ATCT CONTROL & MANUAL CONTROL OF CCR OUTPUT STEPS (4.8A, 5.5A, 6.6A). RECORD TEST RESULTS. CONTRACTOR SHALL CONFIRM & RECORD EXISTING CONTROL WIRING TO THE EXISTING RWY 5-23 CCR PRIOR TO DISCONNECTING EXISTING CONTROL WIRING.
- ALL CONTROL CABLE SHALL BE NO. 12 AWG, 600 VOLT CABLE.
- ALL ELECTRICAL EQUIPMENT SHALL BE PROPERLY LABELED AND ALL ELECTRICAL CABLES WILL BE TAGGED.
- ALL ELECTRICAL CABLES INSIDE THE VAULT SHALL BE IN CONDUIT OR DUCT.
- RWY 5-23 CONSTANT CURRENT REGULATORS (PRIMARY UNIT & BACKUP UNIT) SHALL BE CONTROLLED BY THE L-821 PANEL AT THE AIR TRAFFIC CONTROL TOWER THROUGH THE 48 VDC PILOT RELAY PANEL LOCATED IN THE VAULT. CONTROL STEPS SHALL BE AS FOLLOWS:
 - OFF
 - 10% BRIGHTNESS
 - 30% BRIGHTNESS
 - 100% BRIGHTNESS
- 120 VAC CONTROL POWER FOR CONSTANT CURRENT REGULATORS SHALL BE FROM THE RESPECTIVE 48 VDC PILOT CONTROL RELAY PANEL CONTROLLING THAT CONSTANT CURRENT REGULATOR.
- COLOR CODING FOR THE CONTROL WIRING TO EACH CONSTANT CURRENT REGULATOR SHALL BE CONSISTENT FOR ALL REGULATORS. FIELD VERIFY EXISTING COLOR CODING ARRANGEMENT AND REPORT VARIATIONS FROM THAT NOTED BELOW TO THE RESIDENT ENGINEER, PRIOR TO PERFORMING WORK. COLOR CODING SHALL BE AS FOLLOWS:
 - CC -RED
 - 10% -ORANGE
 - 30% -YELLOW
 - 100% -BLUE
 - NEUTRAL -WHITE
 - EQUIPT. GND -GREEN
 ALSO TAG THE CONTROL WIRES WITH THE RESPECTIVE DESIGNATION (CC, 10%, 30%, 100%)
- EQUIPMENT GROUND WIRES SHALL BE INCLUDED WITH EACH BRANCH CIRCUIT & EACH CONTROL CIRCUIT.
- TRANSFER RELAYS FOR CONTROL OF THE 3 RUNWAY REGULATORS SHALL BE INSTALLED IN ONE CONTROL PANEL ENCLOSURE. ALL TERMINAL BLOCKS SHALL BE NEMA RATED TERMINALS. IEC RATED TERMINAL BLOCKS ARE NOT ACCEPTABLE. TRANSFER RELAY CONTROL PANEL 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 "BUY AMERICAN ACT". GUS BERTHOLD ELECTRIC (1900 WEST CARROLL AVENUE, CHICAGO, IL 60612, PHONE: 312-243-5767) IS AN APPROVED UL 508 INDUSTRIAL CONTROL PANEL BUILDER.

- DIRECTIONS TO TRANSFER RUNWAY 5-23 LIGHTING FROM NORMAL CCR TO SPARE/BACKUP CCR.
- SHUT OFF INPUT POWER (CIRCUIT BREAKER) TO BOTH RWY 5-23 CCR'S & TURN CCR SELECTOR SWITCHES TO OFF.
 - OPERATE MANUAL TRANSFER SWITCH FOR RWY 5-23 AND MOVE HANDLE FROM "NORMAL" POSITION TO "SPARE/BACKUP" POSITION.
 - PULL CUTOUT HANDLE FROM NORMAL CCR UNIT & INSERT INTO SPARE CCR CUTOUT.
 - GO TO TRANSFER RELAY PANEL & TURN "RWY 5-23 CCR TRANSFER" SELECTOR SWITCH FROM "NORMAL" TO "SPARE" POSITION.
 - TURN ON INPUT POWER (CIRCUIT BREAKER) TO SPARE RWY 5-23 CCR.
 - TURN SELECTOR SWITCH 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 AS DIRECTED BY AIRPORT MAINTENANCE PERSONNEL.

CCR TRANSFER PROCEDURE PLACARD DETAIL

SHEET LEGEND

- (A)** OUTPUT POWER NORMAL POSITION FROM MANUAL TRANSFER SWITCH FOR RWY 5-23 REGULATORS.
- (B)** OUTPUT POWER BACKUP POSITION FROM MANUAL TRANSFER SWITCH FOR RWY 5-23 REGULATORS.
- (C)** 120 VAC CONTROL POWER FROM THE RESPECTIVE 48 VDC PILOT RELAY PANEL CONTROLLING RWY 5-23 CONSTANT CURRENT REGULATOR
- (N)** N DESIGNATES NEUTRAL FROM THE RESPECTIVE PANEL THAT POWERS THE DEVICE. FOR CONTROL CIRCUIT INPUTS TO CCR'S N SHALL BE FROM THE RESPECTIVE PILOT RELAY PANEL CIRCUIT NEUTRAL CONNECTION.

DATE	REVISION	BY

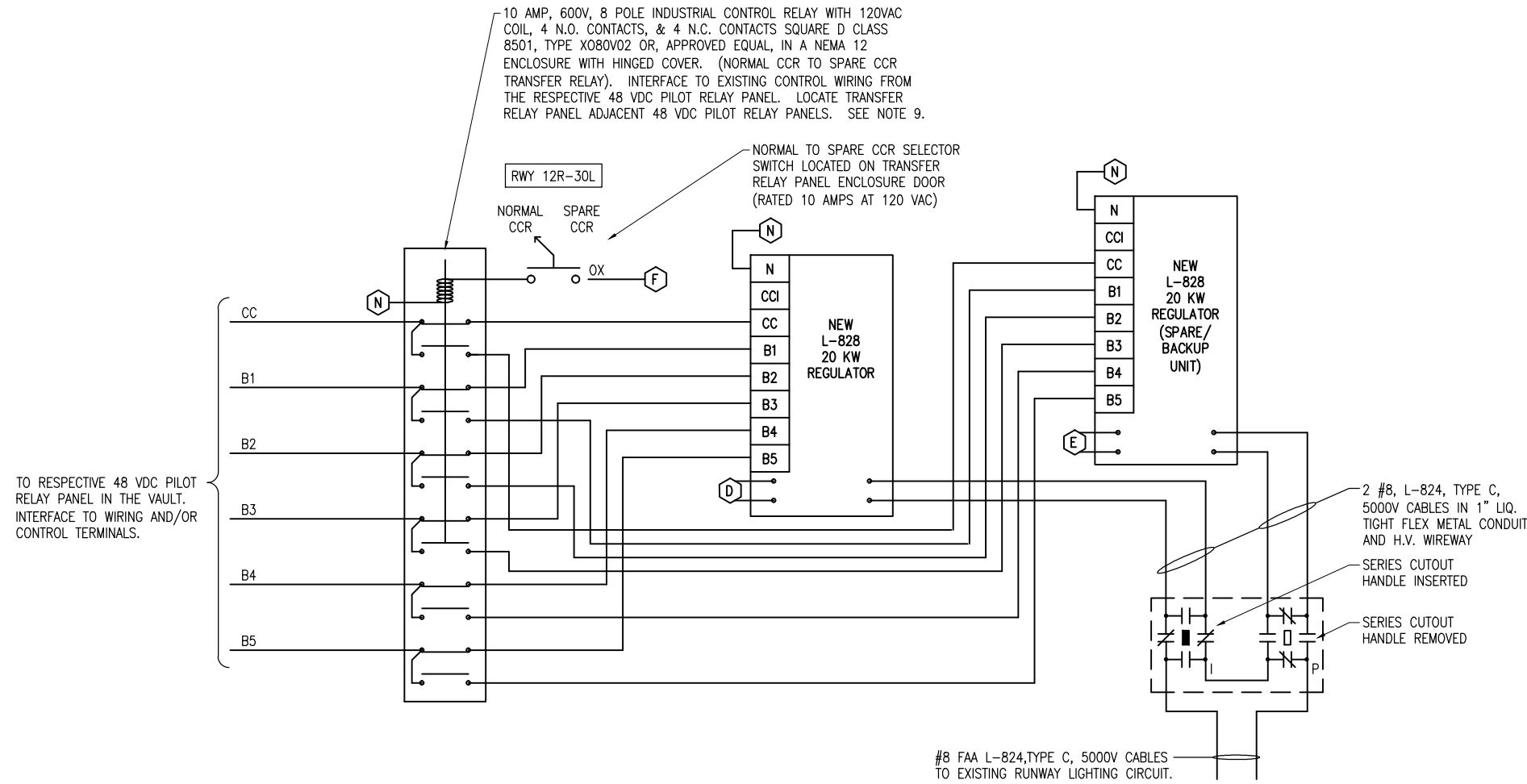
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ: CFS-3906
A.I.P. PROJ: 3-17-0039-B22

Hanson Project No. 08A0211D	Filename E-616.DWG	Scale NONE	Date 04/16/2010
LAYOUT	KNL	02/26/10	
DRAWN	MW	02/26/10	
REVIEWED	CAH/KNL	03/30/10	

HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
AIRFIELD LIGHTING WIRING SCHEMATIC FOR RWY 5-23



TO RESPECTIVE 48 VDC PILOT RELAY PANEL IN THE VAULT. INTERFACE TO WIRING AND/OR CONTROL TERMINALS.

NOTES

- ALL WORK & SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR, THE AIR TRAFFIC CONTROL TOWER, & THE RESIDENT ENGINEER. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, AND TEST THE EXISTING RWY 5-23 CCR PRIOR TO PERFORMING CONTROL WIRING MODIFICATIONS. TESTS SHALL INCLUDE ATCT CONTROL & MANUAL CONTROL OF CCR OUTPUT STEPS (4.8A, 5.5A, 6.6A). RECORD TEST RESULTS. CONTRACTOR SHALL CONFIRM & RECORD EXISTING CONTROL WIRING TO THE EXISTING RWY 5-23 CCR PRIOR TO DISCONNECTING EXISTING CONTROL WIRING.
 - ALL CONTROL CABLE SHALL BE NO. 12 AWG, 600 VOLT CABLE.
 - ALL ELECTRICAL EQUIPMENT SHALL BE PROPERLY LABELED AND ALL ELECTRICAL CABLES WILL BE TAGGED.
 - ALL ELECTRICAL CABLES INSIDE THE VAULT SHALL BE IN CONDUIT OR DUCT.
- RWY 5-23 CONSTANT CURRENT REGULATORS (PRIMARY UNIT & BACKUP UNIT) SHALL BE CONTROLLED BY THE L-821 PANEL AT THE AIR TRAFFIC CONTROL TOWER THROUGH THE 48 VDC PILOT RELAY PANEL LOCATED IN THE VAULT. CONTROL STEPS SHALL BE AS FOLLOWS:
- OFF
 - 10% BRIGHTNESS
 - 30% BRIGHTNESS
 - 100% BRIGHTNESS
- 120 VAC CONTROL POWER FOR CONSTANT CURRENT REGULATORS SHALL BE FROM THE RESPECTIVE 48 VDC PILOT CONTROL RELAY PANEL CONTROLLING THAT CONSTANT CURRENT REGULATOR.
 - COLOR CODING FOR THE CONTROL WIRING TO EACH CONSTANT CURRENT REGULATOR SHALL BE CONSISTENT FOR ALL REGULATORS. FIELD VERIFY EXISTING COLOR CODING ARRANGEMENT AND REPORT VARIATIONS FROM THAT NOTED BELOW TO THE RESIDENT ENGINEER, PRIOR TO PERFORMING WORK. COLOR CODING SHALL BE AS FOLLOWS:
 - CC -RED
 - 10% -ORANGE
 - 30% -YELLOW
 - 100% -BLUE
 - NEUTRAL -WHITE
 - EQUIPT. GND -GREEN
 ALSO TAG THE CONTROL WIRES WITH THE RESPECTIVE DESIGNATION (CC, 10%, 30%, 100%)
 - EQUIPMENT GROUND WIRES SHALL BE INCLUDED WITH EACH BRANCH CIRCUIT & EACH CONTROL CIRCUIT.
 - TRANSFER RELAYS FOR CONTROL OF THE 3 RUNWAY REGULATORS SHALL BE INSTALLED IN ONE CONTROL PANEL ENCLOSURE. ALL TERMINAL BLOCKS SHALL BE NEMA RATED TERMINALS. IEC RATED TERMINAL BLOCKS ARE NOT ACCEPTABLE. TRANSFER RELAY CONTROL PANEL 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 "BUY AMERICAN ACT". GUS BERTHOLD ELECTRIC (1900 WEST CARROLL AVENUE, CHICAGO, IL 60612, PHONE: 312-243-5767) IS AN APPROVED UL 508 INDUSTRIAL CONTROL PANEL BUILDER.

RUNWAY 12R-30L AIRFIELD LIGHTING SCHEMATIC WIRING DIAGRAM

DIRECTIONS TO TRANSFER RUNWAY 12R-30L LIGHTING FROM NORMAL CCR TO SPARE/BACKUP CCR.

- SHUT OFF INPUT POWER (CIRCUIT BREAKER) TO BOTH RWY 12R-30L CCR'S & TURN CCR SELECTOR SWITCHES TO OFF.
- OPERATE MANUAL TRANSFER SWITCH FOR RWY 12R-30L AND MOVE HANDLE FROM "NORMAL" POSITION TO "SPARE/BACKUP" POSITION.
- PULL CUTOUT HANDLE FROM NORMAL CCR UNIT & INSERT INTO SPARE CCR CUTOUT.
- GO TO TRANSFER RELAY PANEL & TURN "RWY 12R-30L CCR TRANSFER" SELECTOR SWITCH FROM "NORMAL" TO "SPARE" POSITION.
- TURN ON INPUT POWER (CIRCUIT BREAKER) TO SPARE RWY 12R-30L CCR.
- TURN SELECTOR SWITCH 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 AS DIRECTED BY AIRPORT MAINTENANCE PERSONNEL.

CCR TRANSFER PROCEDURE PLACARD DETAIL

SHEET LEGEND

- (A) OUTPUT POWER NORMAL POSITION FROM MANUAL TRANSFER SWITCH FOR RWY 5-23 REGULATORS.
- (B) OUTPUT POWER BACKUP POSITION FROM MANUAL TRANSFER SWITCH FOR RWY 5-23 REGULATORS.
- (C) 120 VAC CONTROL POWER FROM THE RESPECTIVE 48 VDC PILOT RELAY PANEL CONTROLLING RWY 5-23 CONSTANT CURRENT REGULATOR
- (N) N DESIGNATES NEUTRAL FROM THE RESPECTIVE PANEL THAT POWERS THE DEVICE. FOR CONTROL CIRCUIT INPUTS TO CCR'S N SHALL BE FROM THE RESPECTIVE PILOT RELAY PANEL CIRCUIT NEUTRAL CONNECTION.

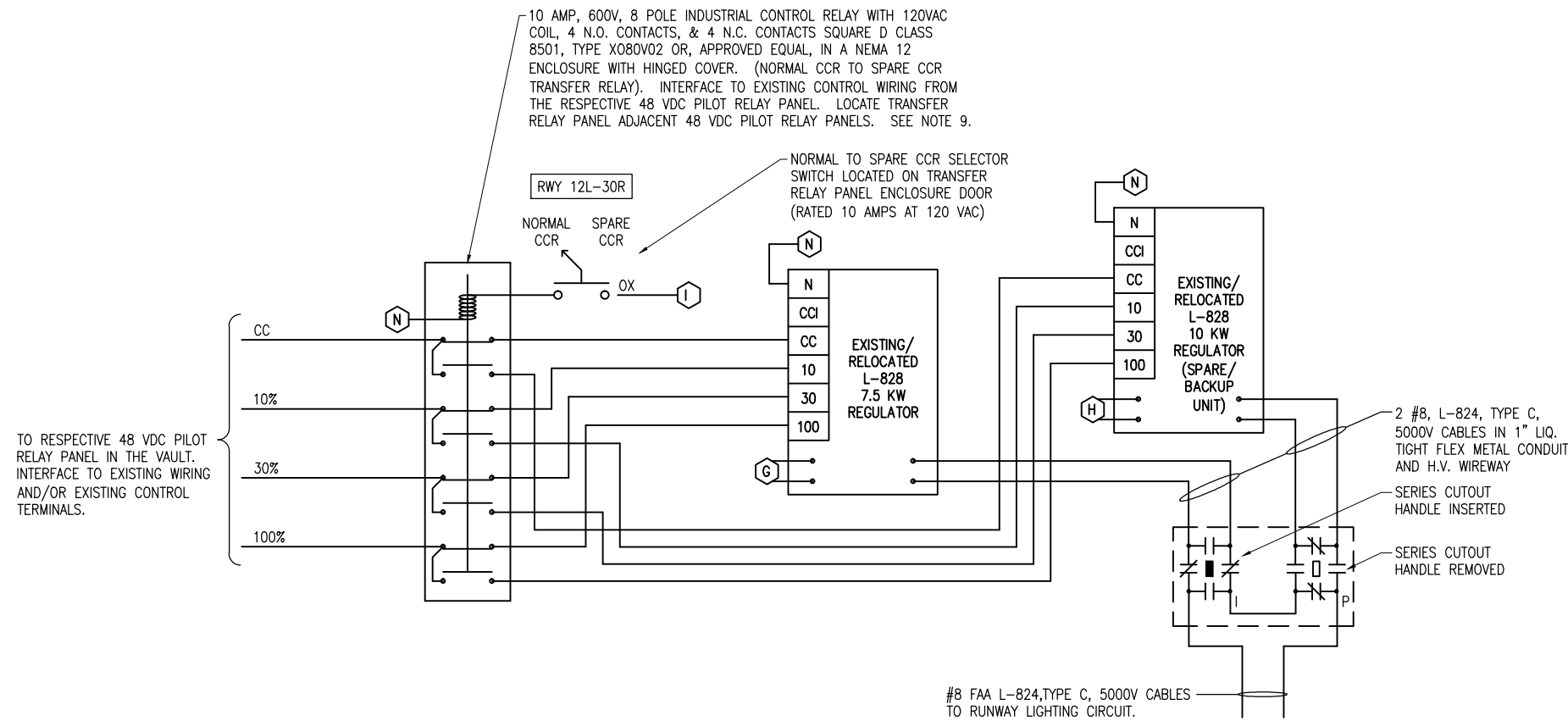
DATE	REVISION	BY



Hanson Project No. 08A0211D	File Name: E-618.DWG	Scale: NONE	Date: 04/16/2010
LAYOUT	KNL	02/26/10	
DRAWN	MW	02/26/10	
REVIEWED	CAH/KNL	03/30/10	



WIDEN RUNWAY 12R/30L
AIRFIELD LIGHTING WIRING SCHEMATIC FOR RWY 12R-30L



RUNWAY 12L-30R AIRFIELD LIGHTING SCHEMATIC WIRING DIAGRAM

- DIRECTIONS TO TRANSFER RUNWAY 12L-30R LIGHTING FROM NORMAL CCR TO SPARE/BACKUP CCR.
1. SHUT OFF INPUT POWER (CIRCUIT BREAKER) TO BOTH RWY 12L-30R CCR'S & TURN CCR SELECTOR SWITCHES TO OFF.
 2. OPERATE MANUAL TRANSFER SWITCH FOR RWY 12L-30R AND MOVE HANDLE FROM "NORMAL" POSITION TO "SPARE/BACKUP" POSITION.
 3. PULL CUTOUT HANDLE FROM NORMAL CCR UNIT & INSERT INTO SPARE CCR CUTOUT.
 4. GO TO TRANSFER RELAY PANEL & TURN "RWY 12L-30R CCR TRANSFER" SELECTOR SWITCH FROM "NORMAL" TO "SPARE" POSITION.
 5. TURN ON INPUT POWER (CIRCUIT BREAKER) TO SPARE RWY 12L-30R CCR.
 6. TURN SELECTOR SWITCH 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 AS DIRECTED BY AIRPORT MAINTENANCE PERSONNEL.

CCR TRANSFER PROCEDURE PLACARD DETAIL

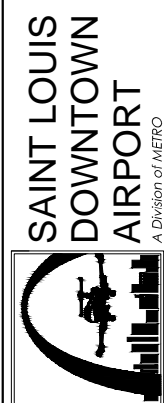
NOTES

1. ALL WORK & SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR, THE AIR TRAFFIC CONTROL TOWER, & THE RESIDENT ENGINEER. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, AND TEST THE EXISTING RWY 5-23 CCR PRIOR TO PERFORMING CONTROL WIRING MODIFICATIONS. TESTS SHALL INCLUDE ATCT CONTROL & MANUAL CONTROL OF CCR OUTPUT STEPS (4.8A, 5.5A, 6.6A). RECORD TEST RESULTS. CONTRACTOR SHALL CONFIRM & RECORD EXISTING CONTROL WIRING TO THE EXISTING RWY 5-23 CCR PRIOR TO DISCONNECTING EXISTING CONTROL WIRING.
2. ALL CONTROL CABLE SHALL BE NO. 12 AWG, 600 VOLT CABLE.
3. ALL ELECTRICAL EQUIPMENT SHALL BE PROPERLY LABELED AND ALL ELECTRICAL CABLES WILL BE TAGGED.
4. ALL ELECTRICAL CABLES INSIDE THE VAULT SHALL BE IN CONDUIT OR DUCT.
5. RWY 5-23 CONSTANT CURRENT REGULATORS (PRIMARY UNIT & BACKUP UNIT) SHALL BE CONTROLLED BY THE L-821 PANEL AT THE AIR TRAFFIC CONTROL TOWER THROUGH THE 48 VDC PILOT RELAY PANEL LOCATED IN THE VAULT. CONTROL STEPS SHALL BE AS FOLLOWS:
 - OFF
 - 10% BRIGHTNESS
 - 30% BRIGHTNESS
 - 100% BRIGHTNESS
6. 120 VAC CONTROL POWER FOR CONSTANT CURRENT REGULATORS SHALL BE FROM THE RESPECTIVE 48 VDC PILOT CONTROL RELAY PANEL CONTROLLING THAT CONSTANT CURRENT REGULATOR.
7. COLOR CODING FOR THE CONTROL WIRING TO EACH CONSTANT CURRENT REGULATOR SHALL BE CONSISTENT FOR ALL REGULATORS. FIELD VERIFY EXISTING COLOR CODING ARRANGEMENT AND REPORT VARIATIONS FROM THAT NOTED BELOW TO THE RESIDENT ENGINEER, PRIOR TO PERFORMING WORK. COLOR CODING SHALL BE AS FOLLOWS:
 - CC -RED
 - 10% -ORANGE
 - 30% -YELLOW
 - 100% -BLUE
 - NEUTRAL -WHITE
 - EQUIPT. GND -GREEN
 ALSO TAG THE CONTROL WIRES WITH THE RESPECTIVE DESIGNATION (CC, 10%, 30%, 100%)
8. EQUIPMENT GROUND WIRES SHALL BE INCLUDED WITH EACH BRANCH CIRCUIT & EACH CONTROL CIRCUIT.
9. TRANSFER RELAYS FOR CONTROL OF THE 3 RUNWAY REGULATORS SHALL BE INSTALLED IN ONE CONTROL PANEL ENCLOSURE. ALL TERMINAL BLOCKS SHALL BE NEMA RATED TERMINALS. IEC RATED TERMINAL BLOCKS ARE NOT ACCEPTABLE. TRANSFER RELAY CONTROL PANEL 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 "BUY AMERICAN ACT". GUS BERTHOLD ELECTRIC (1900 WEST CARROLL AVENUE, CHICAGO, IL 60612, PHONE: 312-243-5767) IS AN APPROVED UL 508 INDUSTRIAL CONTROL PANEL BUILDER.

SHEET LEGEND

- (A) OUTPUT POWER NORMAL POSITION FROM MANUAL TRANSFER SWITCH FOR RWY 5-23 REGULATORS.
- (B) OUTPUT POWER BACKUP POSITION FROM MANUAL TRANSFER SWITCH FOR RWY 5-23 REGULATORS.
- (C) 120 VAC CONTROL POWER FROM THE RESPECTIVE 48 VDC PILOT RELAY PANEL CONTROLLING RWY 5-23 CONSTANT CURRENT REGULATOR
- (N) N DESIGNATES NEUTRAL FROM THE RESPECTIVE PANEL THAT POWERS THE DEVICE. FOR CONTROL CIRCUIT INPUTS TO CCR'S N SHALL BE FROM THE RESPECTIVE PILOT RELAY PANEL CIRCUIT NEUTRAL CONNECTION.

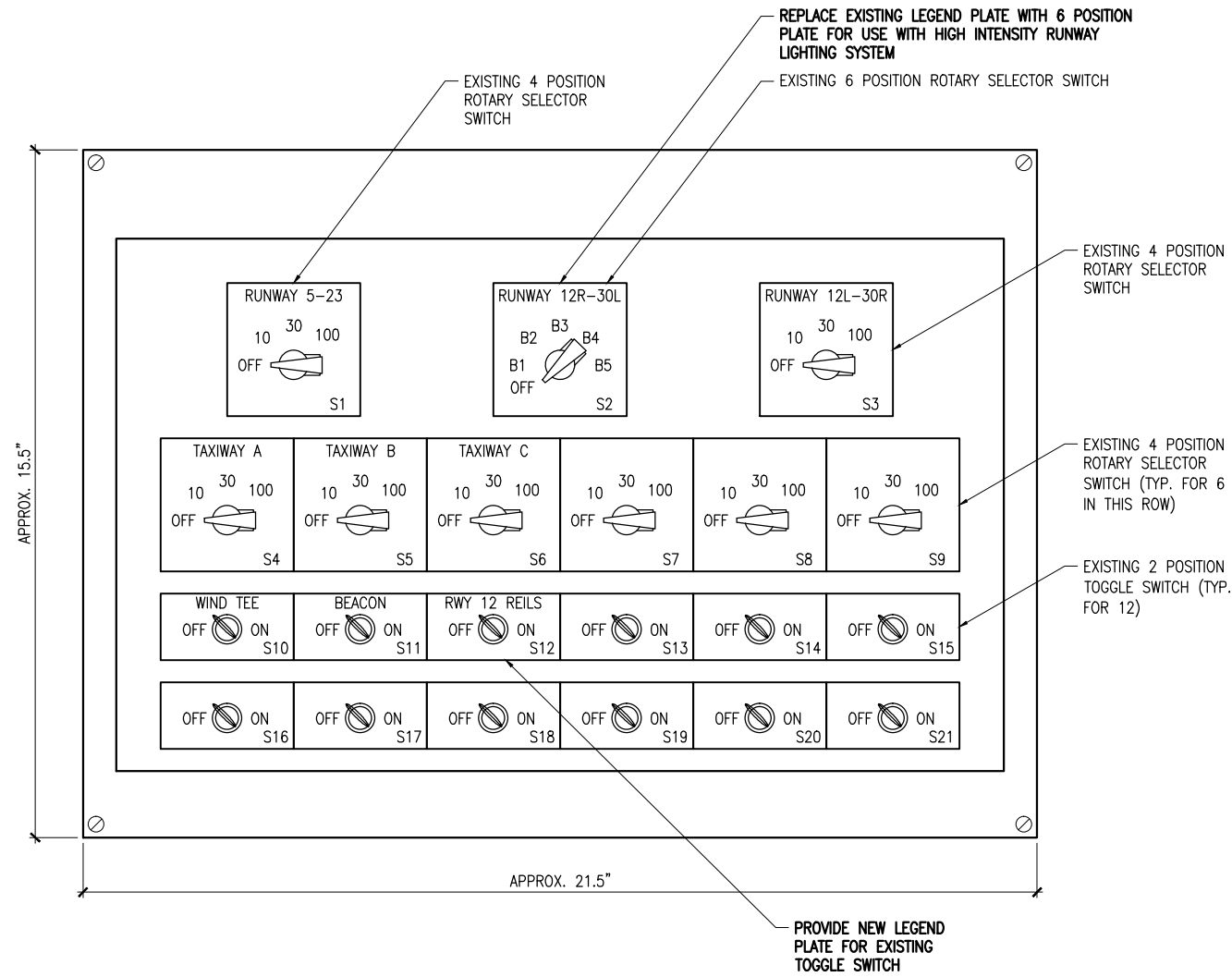
DATE	REVISION	BY



Hanson Project No. 08A0211D	File Name E-617.DWG	Scale NONE	Date 04/16/2010
LAYOUT	KNL	02/26/10	
DRAWN	MW	02/26/10	
REVIEWED	CAH/KNL	03/30/10	



WIDEN RUNWAY 12R/30L
AIRFIELD LIGHTING WIRING SCHEMATIC FOR RWY 12L-30R



- NOTES**
1. PROVIDE WIRING CONNECTIONS TO "OFF-ON" SELECTOR SWITCH FOR CONTROL OF RUNWAY 12R REILS.
 2. PROVIDE WIRING CONNECTIONS TO "OFF-B1-B2-B3-B4-B5" SELECTOR SWITCH FOR CONTROL OF RUNWAY 12R-30L HIGH INTENSITY LIGHTING SYSTEM.
 3. THE EXISTING L-821 CONTROL PANEL IS MANUFACTURED BY: RURAL ELECTRIC INC., CONNECTIC CONTROL SOLUTIONS, 9502 EAST MAIN STREET, MESA, ARIZONA 85207, PHONE: (480)-986-1488 OR (888)-964-1488, FAX (480)-984-0319.
 4. CONTROL WIRING CONNECTIONS AND ASSOCIATED LEGEND PLATES, LABOR, TOOLS, COORDINATION AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN THE AIR TRAFFIC CONTROL TOWER WILL BE PAID FOR UNDER ITEM AR109200 INSTALL ELECTRICAL EQUIPMENT PER LUMP SUM.

EXISTING L-821 CONTROL PANEL AT THE ATCT

DATE	REVISION

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ALP PROJ: 3-17-0039-B22
L PROJ: CPS-3906

Hanson Project No.	08A0211D
Filename	E-504.DWG
Scale	NONE
Date	04/16/2010
LAYOUT	KNL 01/13/09
DRAWN	MV 01/13/09
REVIEWED	CAH/KNL 03/30/10

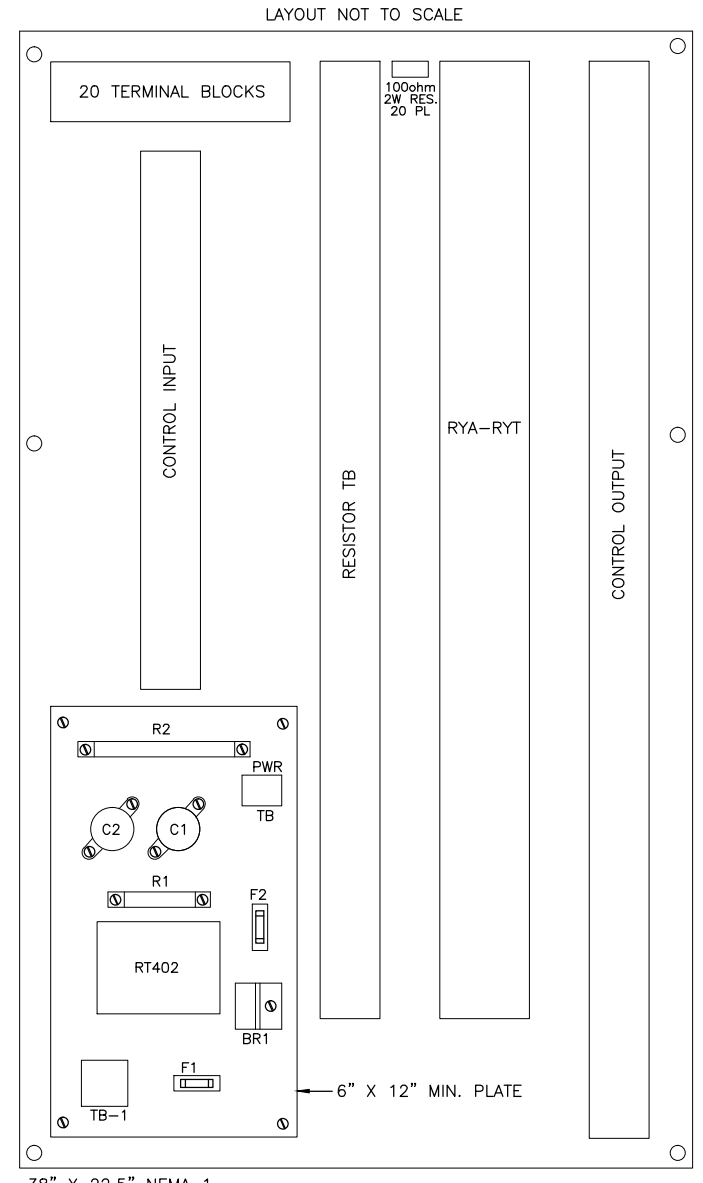
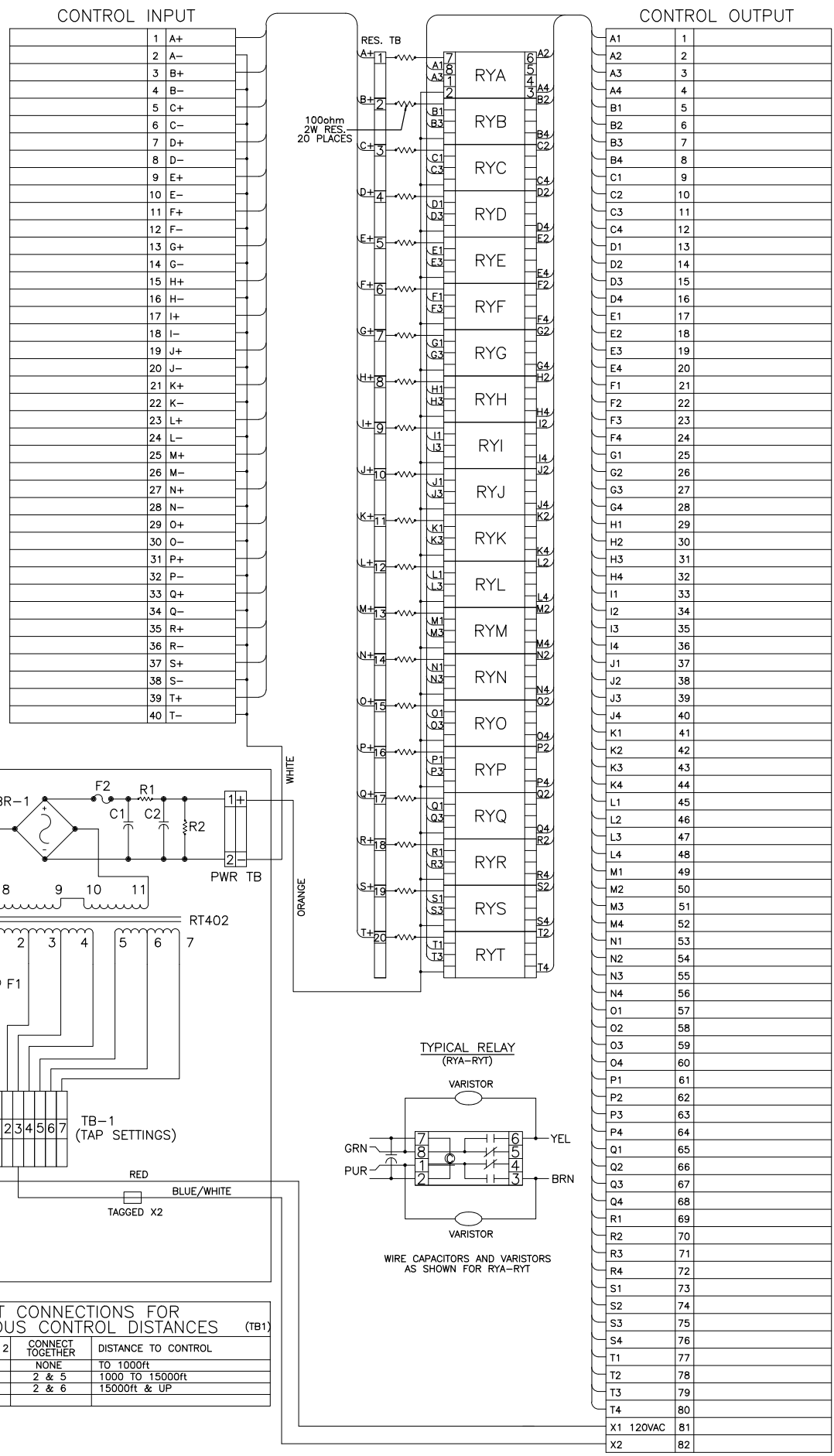
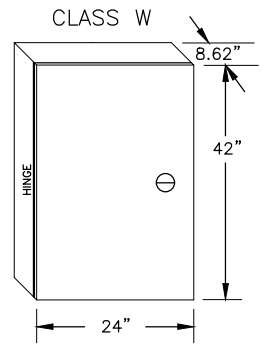
HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

EXISTING L-821 CONTROL PANEL DETAILS

MAY 25, 2010 3:19 PM KINC400394
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\E-504.DWG



- NOTES**
- 48 VDC PILOT RELAY PANEL IS SIMILAR TO AN L-841 AUXILIARY RELAY PANEL.
 - 48 VDC PILOT RELAY PANELS ARE EXISTING PANELS MANUFACTURED BY UNIVERSE, INC.
 - USE AVAILABLE SPARE RELAYS IN PANEL #2 FOR CONTROL INTERFACE BETWEEN THE L-821 PANEL AT THE ATCT AND THE LIGHTING CONTACTOR PANEL AT THE VAULT FOR "OFF-ON" CONTROL OF RUNWAY 12R REILS.
 - UPGRADE CONTROL WIRING FOR RUNWAY 12R-30L LIGHTING SYSTEM FROM A MEDIUM INTENSITY RUNWAY LIGHTING SYSTEM (3-STEPS) TO A HIGH INTENSITY LIGHTING SYSTEM (5-STEPS).

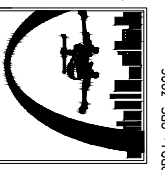
MAY 25, 2010 3:19 PM KINC400394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET E-608.DWG

PARTS LIST

PART	DESCRIPTION
PANEL BOX	A-42N24B NEMA 1 W/PANEL
RYA-RYT	MK2P-S OMRON
TRANS.	RT402 STANCOR
BR-1	3A-5A 200PIV
F1	3A
F2	2A
R1	15ohm 20/25W
R2	200ohm 40/50W
20 RES.	100ohm 2W
C1,C2	2900uF 75V
20 CAPS	.47uF 100V
40 VARIS.	VP130
TERM BLK	9080-GK6 SQ D
WIRE	MIL-P16878D-B16

INPUT CONNECTIONS FOR VARIOUS CONTROL DISTANCES (TB1)

INPUT x 2	CONNECT TOGETHER	DISTANCE TO CONTROL
3	NONE	TO 1000ft
7	2 & 5	1000 TO 15000ft
7	2 & 6	15000ft & UP

 SAINT LOUIS DOWNTOWN AIRPORT <small>A Division of METRO</small>	HANSON <small>Hanson Professional Services Inc. 4227 Earth City Expressway, Suite 130 St. Louis, MO 63045-1308 Offices Nationwide</small>	WIDEN RUNWAY 12R/30L EXISTING PILOT RELAY PANEL 48 VDC DETAILS	DATE: _____ REVISION: _____ BY: _____	PROJECT: 3-17-0039-B22 I.L. PROJ.: CPS-3906 Hanson Project No. 08A0211D Filename: E-608.DWG Scale: NONE Date: 04/16/2010 LAYOUT: KNL 01/13/09 DRAWN: MW 01/13/09 REVIEWED: CAH/KNL 03/30/10
---	---	--	---	---

48VDC PILOT RELAY PANEL #1 EXISTING RELAY ASSIGNMENT	
CCR CONTROL INPUT	RELAY
RWY 5-23 CCR CC	RELAY A, A2
RWY 5-23 CCR B10	RELAY B, B2
RWY 5-23 CCR B30	RELAY C, C2
RWY 5-23 CCR B100	RELAY D, D2
RWY 12L-30R CCR CC	RELAY E, E2
RWY 12L-30R CCR B10	RELAY F, F2
RWY 12L-30R CCR B30	RELAY G, G2
RWY 12L-30R CCR B100	RELAY H, H2
TXY A CCR CC	RELAY I, I2
TXY A CCR B10	RELAY J, J2
TXY A CCR B30	RELAY K, K2
TXY A CCR B100	RELAY L, L2
TXY C CCR CC	RELAY M, M2
TXY C CCR B10	RELAY N, N2
TXY C CCR B30	RELAY O, O2
TXY C CCR B100	RELAY P, P2
SPARE	RELAY Q
SPARE	RELAY R
SPARE	RELAY S
SPARE	RELAY T

48VDC PILOT RELAY PANEL #2 EXISTING RELAY ASSIGNMENT	
CCR/CONTACTOR CONTROL INPUT	RELAY
RWY 12R-30L CCR CC	RELAY A, A2
RWY 12R-30L CCR B10	RELAY B, B2
RWY 12R-30L CCR B30	RELAY C, C2
RWY 12R-30L CCR B100	RELAY D, D2
RESERVE FOR FUTURE RWY 12R-30L CCR B4	RELAY E, E2
RESERVE FOR FUTURE RWY 12R-30L CCR B5	RELAY F, F2
TXY B, CKT 1 CCR CC	RELAY G, G2
TXY B, CKT 1 CCR B10	RELAY H, H2
TXY B, CKT 1 CCR B30	RELAY I, I2
TXY B, CKT 1 CCR B100	RELAY J, J2
TXY B, CKT 2 CCR CC	RELAY G, G4
TXY B, CKT 2 CCR B10	RELAY H, H4
TXY B, CKT 2 CCR B30	RELAY I, I4
TXY B, CKT 2 CCR B100	RELAY J, J4
WIND-TEE CONTACTOR - AUTO	RELAY K, K1 & K2
AIRPORT ROTATING BEACON - AUTO	RELAY L, L1 & L2
SPARE	RELAY M
SPARE	RELAY N
SPARE	RELAY O
SPARE	RELAY P
SPARE	RELAY Q
SPARE	RELAY R
SPARE	RELAY S
SPARE	RELAY T

NOTES

- 48 VDC PILOT RELAY PANELS ARE EXISTING.
- FIELD VERIFY EXISTING CONDITIONS AND REPORT ANY VARIATIONS TO PROJECT ENGINEER.
- EACH 48 VDC PILOT CONTROL RELAY PANEL IS FED FROM A DEDICATED 15 AMP, 1 POLE, 120 VAC BRANCH CIRCUIT BREAKER OUT OF THE VAULT SERVICE PANELBOARD. RECONNECT THESE BRANCH CIRCUITS TO THE REPLACEMENT VAULT PANELBOARD "B".
- 120 VAC CONTROL POWER FOR CONSTANT CURRENT REGULATORS SHALL BE FROM THE RESPECTIVE PILOT CONTROL RELAY PANEL CONTROLLING THAT CONSTANT CURRENT REGULATOR. CONNECT 120 VAC POWER TO THE CORRESPONDING RELAY INPUT CONTACT TERMINALS (EXAMPLE A1, B1, C1, D1, E1, F1, G1, H1, I1, J1, ETC. FOR CORRESPONDING RELAY OUTPUT TERMINALS A2, B2, C2, D2, E2, F2, G2, H2, I2, J2, ETC.).
- 120 VAC CONTROL POWER FOR THE LIGHTING CONTACTOR CONTROL PANEL SHALL BE FROM THE RESPECTIVE PILOT CONTROL RELAY PANEL CONTROLLING THE LIGHTING CONTACTORS.
- COLOR CODING FOR THE CONTROL WIRING TO EACH CONSTANT CURRENT REGULATOR SHALL BE CONSISTENT FOR ALL REGULATORS. COLOR CODING SHALL BE AS FOLLOWS:

3-STEP		5-STEP	
NEUTRAL	-WHITE	NEUTRAL	-WHITE
CC	-RED	CC	-RED
10%	-ORANGE	B1-0.15%	-VIOLET
30%	-YELLOW	B2-1.2%	-BROWN
100%	-BLUE	B3-5%	-ORANGE
EQUIPT. GND	-GREEN	B4-25%	-YELLOW
		B5-100%	-BLUE
		EQUIPT. GND	-GREEN

48VDC PILOT RELAY PANEL #2 PROPOSED RELAY ASSIGNMENT	
CCR/CONTACTOR CONTROL INPUT	RELAY
RWY 12R-30L CCR CC	RELAY A, A2
RWY 12R-30L CCR B1	RELAY B, B2
RWY 12R-30L CCR B2	RELAY C, C2
RWY 12R-30L CCR B3	RELAY D, D2
RWY 12R-30L CCR B4	RELAY E, E2
RWY 12R-30L CCR B5	RELAY F, F2
TXY B, CKT 1 CCR CC	RELAY G, G2
TXY B, CKT 1 CCR B10	RELAY H, H2
TXY B, CKT 1 CCR B30	RELAY I, I2
TXY B, CKT 1 CCR B100	RELAY J, J2
TXY B, CKT 2 CCR CC	RELAY G, G4
TXY B, CKT 2 CCR B10	RELAY H, H4
TXY B, CKT 2 CCR B30	RELAY I, I4
TXY B, CKT 2 CCR B100	RELAY J, J4
WIND-TEE CONTACTOR - AUTO	RELAY K, K1 & K2
AIRPORT ROTATING BEACON - AUTO	RELAY L, L1 & L2
RWY 12R REILS - AUTO	RELAY M, M1, & M2
SPARE	RELAY N
SPARE	RELAY O
SPARE	RELAY P
SPARE	RELAY Q
SPARE	RELAY R
SPARE	RELAY S
SPARE	RELAY T

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO



A.I.P. PROJ.: 3-17-0039-BZ2
I.L. PROJ.: CFS-3906

Hanson Project No. 08A0211D	File Name E-619.DWG	Scale NONE	Date 04/16/2010
LAYOUT	KNL	03/22/10	
DRAWN	MV	03/22/10	
REVIEWED	CAH/KNL	03/30/10	

HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO. 63046-1308
Offices Nationwide

**WIDEN RUNWAY
12R/30L
RELAY ASSIGNMENTS
FOR PILOT
RELAY PANELS**

BY	
REVISION	
DATE	

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

A.I.P. PROJ.: 3-17-0039-BZ2

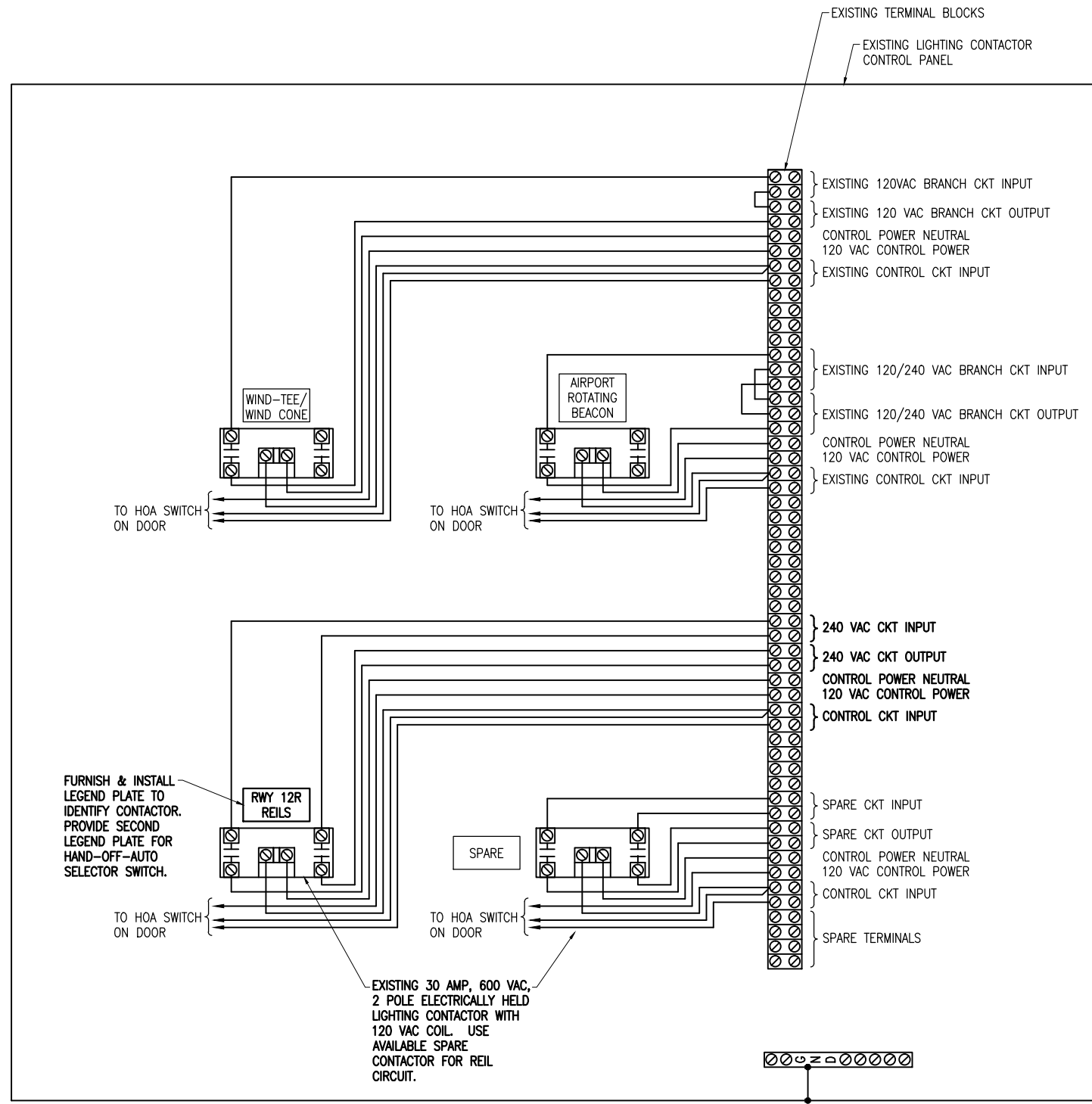
Hanson Project No.	08A0211D	LAYOUT	KNL	03/22/10
Filename	E-620.DWG	DRAWN	MV	03/22/10
Scale	NONE	REVIEWED	CAH/KNL	03/30/10
Date	04/16/2010			

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO. 63045-1308
Offices Nationwide

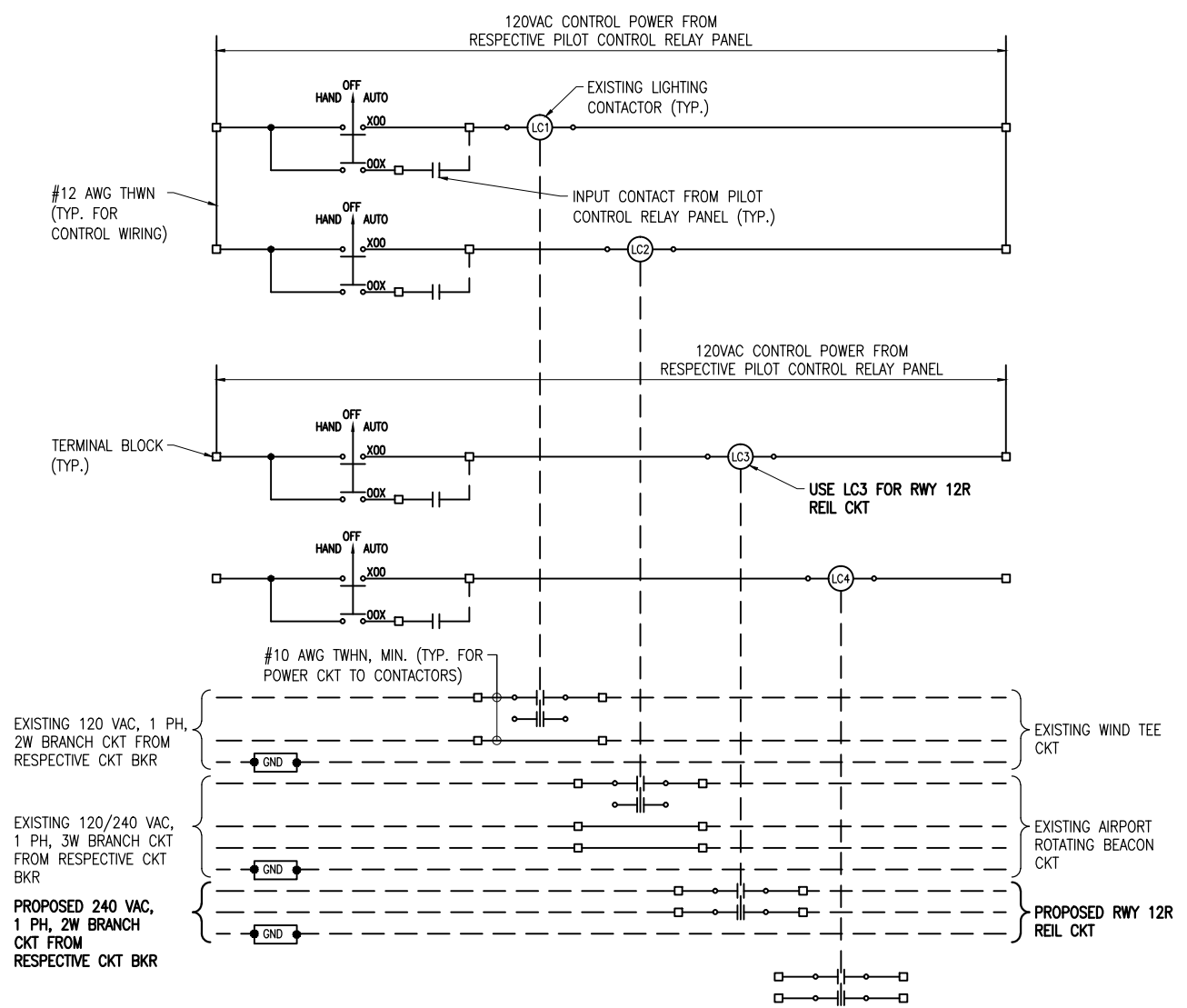
WIDEN RUNWAY 12R/30L
EXISTING LIGHTING CONTACTOR PANEL DETAIL

NOTES

- 15 AMP & 20 AMP INPUT POWER/BRANCH CIRCUITS SHALL BE #10 AWG COPPER THWN FROM THE RESPECTIVE POWER SOURCE TO THE LIGHTING CONTACTOR/RELAY PANEL. 30 AMP INPUT POWER/BRANCH CIRCUITS SHALL BE #8 AWG COPPER THWN (MIN.) FROM THE RESPECTIVE POWER SOURCE TO THE LIGHTING CONTACTOR/RELAY PANEL.
- INPUT CONTROL CIRCUITS SHALL BE #12 AWG COPPER THWN.

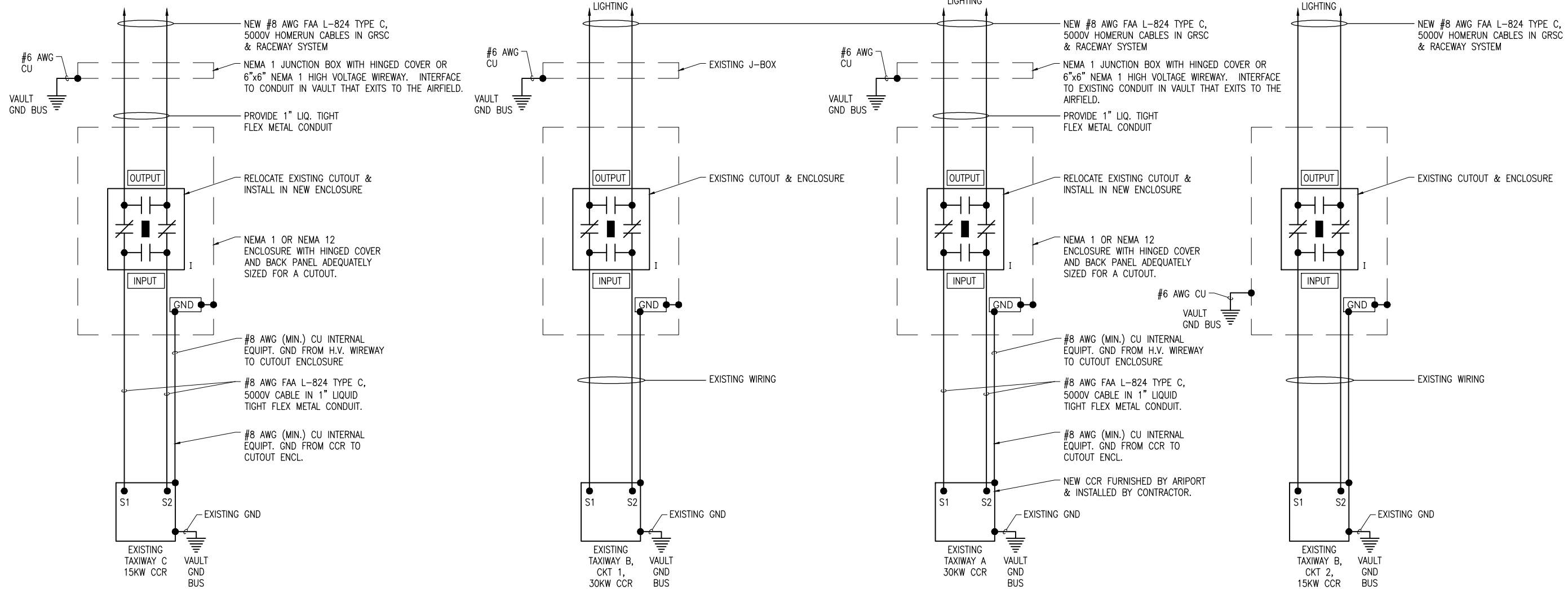


EXISTING CONTROL PANEL FOR BEACON & WIND TEE



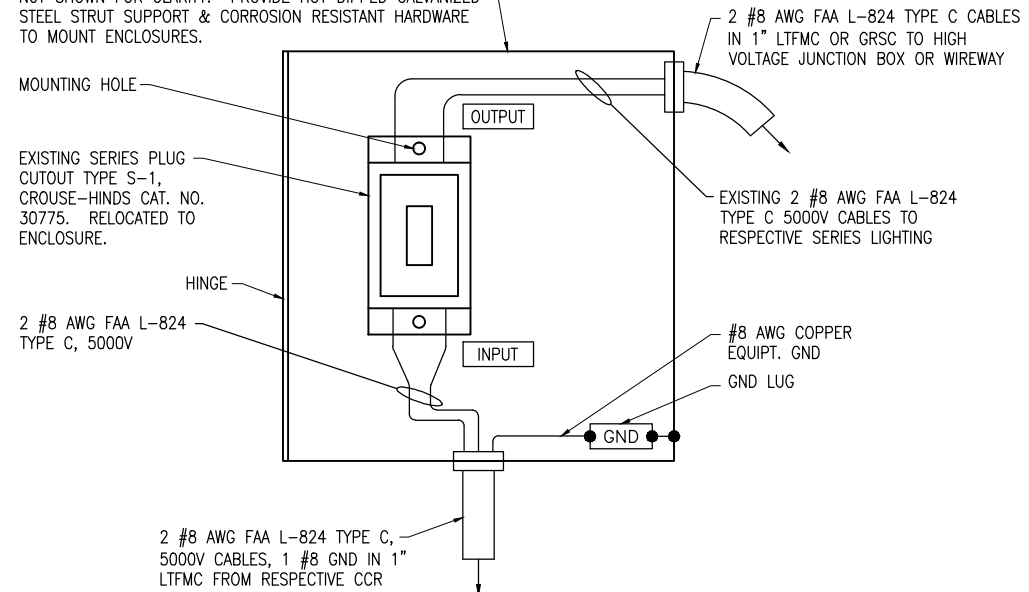
SCHEMATIC

MAY 25, 2010 3:20 PM KINC400394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\E-620.DWG



HIGH VOLTAGE WIRING SCHEMATIC FOR TAXIWAYS

14"H x 12"W x 8" (APPROXIMATE DIMENSIONS) NEMA 1 OR NEMA 12 ENCLOSURE WITH HINGED COVER & BACK PANEL. HOFFMAN CAT. NO. A14N128 WITH BACK PANEL, OR EQUAL. INCLUDE PAD LOCK KIT, HOFFMAN ACCESSORY CAT. NO. APLKJIC, OR EQUAL. NOTE FRONT DOOR OF ENCLOSURE NOT SHOWN FOR CLARITY. PROVIDE HOT DIPPED GALVANIZED STEEL STRUT SUPPORT & CORROSION RESISTANT HARDWARE TO MOUNT ENCLOSURES.



INDIVIDUAL SERIES PLUG CUTOUT MOUNTING DETAIL
(TYPICAL FOR TAXIWAY A & TAXIWAY C)

LEGEND

- "I" DENOTES PLUG CUTOUT WITH PLUG INSERTED
- "P" DENOTES PLUG CUTOUT WITH PLUG PULLED
- "CCR" DENOTES CONSTANT CURRENT REGULATOR

NOTES:

1. ALL POWER WIRING SHALL BE INSTALLED IN CONDUIT OR ENCLOSED WIREWAYS TO CONFORM TO THE REQUIREMENTS OF FAA AC 150/5340-30D, PART 13.2 POWER DISTRIBUTION, E. INSTALLATION OF CABLES. EXPOSED SERIES CIRCUIT CABLES ARE NOT ACCEPTABLE.
2. EACH PLUG CUTOUT CABINET SHALL BE FURNISHED WITH A PHENOLIC ENGRAVED LEGEND PLATE THAT IDENTIFIES THE RESPECTIVE CIRCUIT OR REGULATOR. INCLUDE AN ADDITIONAL LEGEND PLATE LABELED "CAUTION OPERATE CUTOUTS WITH CCR SHUT OFF". FURNISH & INSTALL A WARNING LABEL FOR CUTOUT ENCLOSURE TO WARN PERSONS OF POTENTIAL ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION".
3. PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CUTOUT TO IDENTIFY THE RESPECTIVE CUTOUT INPUT CONNECTION AND THE RESPECTIVE CUTOUT OUTPUT CONNECTION.
4. PROVIDE ADEQUATE WORKING SPACE IN FRONT OF EACH CUTOUT ENCLOSURE TO MEET NEC CLEARANCE REQUIREMENTS.
5. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING AND SUNLIGHT RESISTANT. 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 LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL LISTED. CONFIRM LIQUID TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLING IT.
6. HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME WIREWAY.
7. ALL WORK SHOWN ON THIS SHEET WILL BE PAID FOR UNDER ITEM AR109200 INSTALL ELECTRICAL EQUIPMENT PER LUMP SUM.

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	File Name E-614.DWG	Scale NONE	Date 04/16/2010
LAYOUT	KNL	02/26/10	
DRAWN	MV	02/26/10	
REVIEWED	CAH/KNL	03/30/10	

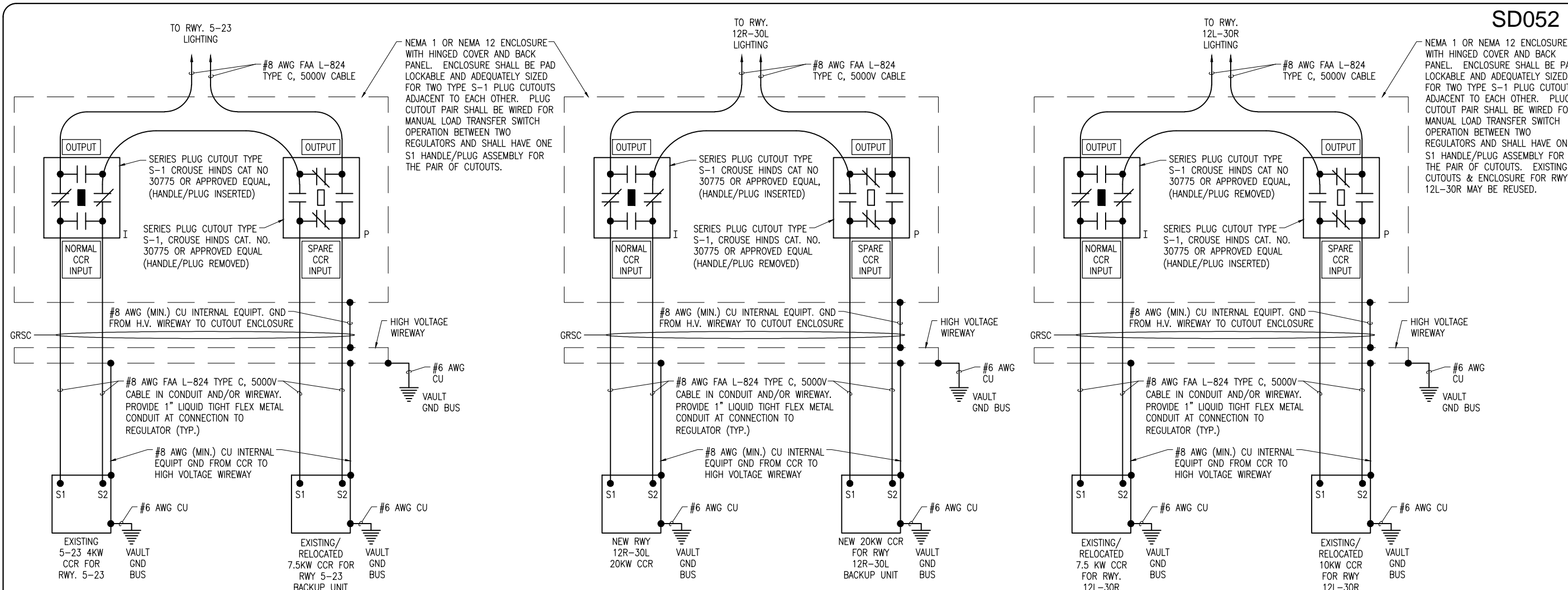
HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

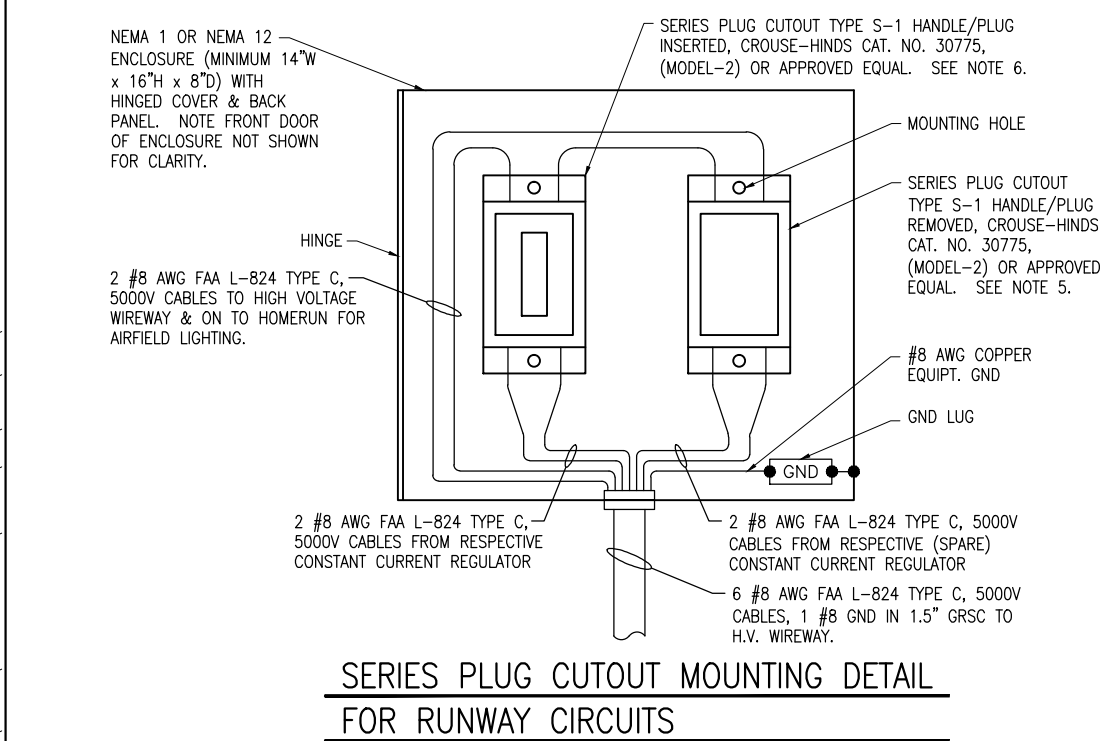
WIDEN RUNWAY 12R/30L

HIGH VOLTAGE WIRING SCHEMATICS FOR TAXIWAYS

MAY 25, 2010 3:20 PM KINC400394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET E-614.DWG



HIGH VOLTAGE WIRING SCHEMATIC FOR RUNWAYS



SERIES PLUG CUTOUT MOUNTING DETAIL FOR RUNWAY CIRCUITS

LEGEND
 "I" DENOTES PLUG CUTOUT WITH PLUG INSERTED
 "P" DENOTES PLUG CUTOUT WITH PLUG PULLED
 "CCR" DENOTES CONSTANT CURRENT REGULATOR

NOTES:

1. PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CONSTANT CURRENT REGULATOR NOTING THE REGULATOR DESIGNATION AND THE RUNWAY OR TAXIWAY SERVED.
2. EACH PLUG CUTOUT CABINET SHALL BE FURNISHED WITH A PHENOLIC ENGRAVED LEGEND PLATE THAT IDENTIFIES THE RESPECTIVE CIRCUIT OR REGULATOR. INCLUDE AN ADDITIONAL LEGEND PLATE LABELED "CAUTION OPERATE CUTOUTS WITH CCR SHUT OFF". FURNISH & INSTALL A WARNING LABEL FOR CUTOUT ENCLOSURE TO WARN PERSONS OF POTENTIAL ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION". PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CUTOUT TO IDENTIFY THE RESPECTIVE CUTOUT INPUT CONNECTION AND THE RESPECTIVE CUTOUT OUTPUT CONNECTION.
3. PROVIDE ADEQUATE WORKING SPACE IN FRONT OF EACH CUTOUT ENCLOSURE TO MEET NEC CLEARANCE REQUIREMENTS.
4. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING AND SUNLIGHT RESISTANT. 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 LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL LISTED. CONFIRM LIQUID TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLATION
5. CUTOUTS SHALL BE CERTIFIED BY THE MFR AS SUITABLE FOR THE RESPECTIVE APPLICATION; CROUSE-HINDS CAT. NO. 30775 OR APPROVED EQUAL. CROUSE-HINDS CAT. NO. 30771, (MODEL-3) SERIES PLUG CUTOUTS ARE NOT ACCEPTABLE, BECAUSE THE HANDLE IS NOT REMOVABLE. SIEMENS SCO SERIES CUTOUTS ARE NOT ACCEPTABLE BECAUSE THEY DO NOT FUNCTION THE SAME AS THE CROUSE-HINDS CAT. NO. 30775 CUTOUT. AIRPORT LIGHTING COMPANY S-1 SERIES CUTOUTS ARE NOT ACCEPTABLE BECAUSE THE MANUFACTURER HAS NOTED THEIR CUTOUTS ARE NOT RECOMMENDED TO OPERATE WITH THE HANDLE PULLED/REMOVED. OTHER CUTOUTS THAT DO NOT FUNCTION THE SAME AS CROUSE-HINDS CAT. NO. 30775 (MODEL-2) ARE NOT ACCEPTABLE.
6. HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME WIREWAY.
7. BOND ALL REGULATORS TO THE RESPECTIVE VAULT GROUND BUS WITH A DEDICATED #6 AWG BONDING JUMPER FOR EACH REGULATOR.
8. ALL WORK SHOWN ON THIS SHEET WILL BE PAID FOR UNDER ITEM AR109200 INSTALL ELECTRICAL EQUIPMENT PER LUMP SUM.

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO
 I.L. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	File Name: F-615.DWG	Scale: NONE	Date: 04/16/2010
LAYOUT	KNL	02/26/10	
DRAWN	MV	02/26/10	
REVIEWED	CAH/KNL	03/30/10	

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO. 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
HIGH VOLTAGE WIRING SCHEMATICS FOR RUNWAYS

MAY 25, 2010 3:20 PM KINC000394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_E-615.DWG

VAULT LEGEND PLATE SCHEDULE	
DEVICE	LABEL
SERVICE MAIN BREAKER	SERVICE DISCONNECT 120/240 VAC, 1 PH, 3 W
SERVICE MAIN BREAKER	NOTE PORTABLE ENGINE GENERATOR NEUTRAL IS ALSO BONDED TO GROUND AT THE SERVICE DISCONNECT
PORTABLE GENERATOR QUICK CONNECT	NOTE PORTABLE ENGINE GENERATOR NEUTRAL IS BONDED TO GROUND AT THE SERVICE DISCONNECT
MAIN POWER DISTRIBUTION PANEL	MAIN DIST. PANEL "A" 120/240 VAC, 1PH, 3W
MAIN POWER DIST. PANEL MAIN BREAKER	MAIN BREAKER
MAIN POWER DIST. PANEL FEEDER BREAKER FOR PANELBOARD "B"	PANEL "B"
MAIN POWER DIST. PANEL BREAKER FOR TRANSIENT VOLTAGE SURGE SUPPRESSOR	TVSS
MAIN POWER DIST. PANEL BREAKER FOR RWY 12R-30L CCR'S	RWY 12R-30L CCR'S
MAIN POWER DIST. PANEL BREAKER FOR TXY A CCR	TXY A CCR
MAIN POWER DIST. PANEL BREAKER FOR TXY B, CIRCUIT 1 CCR	TXY B, CKT 1 CCR
MAIN POWER DIST. PANEL BREAKER FOR TXY B, CIRCUIT 2 CCR	TXY B, CKT 2 CCR
AUTO TRANSFER SWITCH	AUTO TRANSFER SWITCH 120/240 VAC, 1PH, 3W
PORTABLE GENERATOR QUICK CONNECT BOX	PORTABLE GENERATOR QUICK CONNECT 800 AMP 120/240 VAC, 1PH, 3W
VAULT PANELBOARD B	PANEL B 120/240 VAC, 1PH, 3W FED FROM PANEL A
MANUAL TRANSFER SWITCH FOR RUNWAY 12R-30L NORMAL CCR AND SPARE/BACKUP CCR	TRANSFER SWITCH FOR RUNWAY 12R-30L CONSTANT CURRENT REGULATORS
MANUAL TRANSFER SWITCH FOR RUNWAY 12R-30L NORMAL CCR AND SPARE/BACKUP CCR - NORMAL SWITCH POSITION	NORMAL CCR
MANUAL TRANSFER SWITCH FOR RUNWAY 12R-30L NORMAL CCR AND SPARE/BACKUP CCR - BACKUP SWITCH POSITION	SPARE/BACKUP CCR
CCR FOR RWY 12R-30L	RUNWAY 12R-30L
BACKUP CCR FOR RWY 12R-30L	RUNWAY 12R-30L BACKUP UNIT
TAXIWAY A CCR	TAXIWAY A FED FROM PANEL A
TAXIWAY B CKT 1 CCR	TAXIWAY B, CKT 1 FED FROM PANEL A
TAXIWAY B CKT 2 CCR	TAXIWAY B, CKT 2 FED FROM PANEL A
TAXIWAY C CCR	TAXIWAY C FED FROM PANEL B

VAULT LEGEND PLATE SCHEDULE	
DEVICE	LABEL
MANUAL TRANSFER SWITCH FOR RUNWAY 5-23 NORMAL CCR AND SPARE/BACKUP CCR	TRANSFER SWITCH FOR RUNWAY 5-23 CONSTANT CURRENT REGULATORS
MANUAL TRANSFER SWITCH FOR RUNWAY 5-23 NORMAL CCR AND SPARE/BACKUP CCR - NORMAL SWITCH POSITION	NORMAL CCR
MANUAL TRANSFER SWITCH FOR RUNWAY 5-23 NORMAL CCR AND SPARE/BACKUP CCR - BACKUP SWITCH POSITION	SPARE/BACKUP CCR
CCR FOR RWY 5-23	RUNWAY 5-23
BACKUP CCR FOR RWY 5-23	RUNWAY 5-23 BACKUP UNIT
MANUAL TRANSFER SWITCH FOR RUNWAY 12L-30R NORMAL CCR AND SPARE/BACKUP CCR	TRANSFER SWITCH FOR RUNWAY 12L-30R CONSTANT CURRENT REGULATORS
MANUAL TRANSFER SWITCH FOR RUNWAY 12L-30R NORMAL CCR AND SPARE/BACKUP CCR - NORMAL SWITCH POSITION	NORMAL CCR
MANUAL TRANSFER SWITCH FOR RUNWAY 12L-30R NORMAL CCR AND SPARE/BACKUP CCR - BACKUP SWITCH POSITION	SPARE/BACKUP CCR
CCR FOR RWY 12L-30R	RUNWAY 12L-30R
BACKUP CCR FOR RWY 12L-30R	RUNWAY 12L-30R BACKUP UNIT
CUTOUT ENCLOSURE FOR TAXIWAY A	TAXIWAY A
CUTOUT ENCLOSURE FOR TXY B, CKT 1	TAXIWAY B CIRCUIT 1
CUTOUT ENCLOSURE FOR TXY B, CKT 2	TAXIWAY B CIRCUIT 2
CUTOUT ENCLOSURE FOR TXY C	TAXIWAY C
EACH TAXIWAY CCR CUTOUT INPUT SIDE (TYP. FOR 4)	INPUT
EACH TAXIWAY CCR CUTOUT OUTPUT SIDE (TYP. FOR 4)	OUTPUT
CUTOUT ENCLOSURE FOR RUNWAY 12R-30L CCR'S	RUNWAY 12R-30L
NORMAL RUNWAY 12R-30L CCR CUTOUT INPUT SIDE	NORMAL CCR INPUT
BACKUP RUNWAY 12R-30L CCR CUTOUT INPUT SIDE	SPARE CCR INPUT
NORMAL RUNWAY 12R-30L CCR CUTOUT OUTPUT SIDE	OUTPUT
BACKUP RUNWAY 12R-30L CCR CUTOUT OUTPUT SIDE	OUTPUT

VAULT LEGEND PLATE SCHEDULE	
DEVICE	LABEL
CUTOUT ENCLOSURE FOR RWY 5-23	RUNWAY 5-23
NORMAL RUNWAY 5-23 CCR CUTOUT INPUT SIDE	NORMAL CCR INPUT
BACKUP RUNWAY 5-23 CCR CUTOUT INPUT SIDE	SPARE CCR INPUT
NORMAL RUNWAY 5-23 CCR CUTOUT OUTPUT SIDE	OUTPUT
BACKUP RUNWAY 5-23 CCR CUTOUT OUTPUT SIDE	OUTPUT
CUTOUT ENCLOSURE FOR RWY 12L-30R	RUNWAY 12L-30R
NORMAL RUNWAY 12L-30R CCR CUTOUT INPUT SIDE	NORMAL CCR INPUT
BACKUP RUNWAY 12L-30R CCR CUTOUT INPUT SIDE	SPARE CCR INPUT
NORMAL RUNWAY 12L-30R CCR CUTOUT OUTPUT SIDE	OUTPUT
BACKUP RUNWAY 12L-30R CCR CUTOUT OUTPUT SIDE	OUTPUT
EACH CUTOUT ENCLOSURE (TYP. FOR 7)	CAUTION OPERATE CUTOUTS WITH CCR SHUT OFF
HIGH VOLTAGE WIREWAYS & PULL BOXES (TYP. FOR 10)	HIGH VOLTAGE

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, LLC (190 OLD MILFORD RD., BOX 1174, MILFORD, PA 18337, PHONE: 1-877-748-0244) PART NO. H6010-9VWHBJ OR APPROVED EQUAL.

BY	
REVISION	
DATE	

**SAINT LOUIS
DOWNTOWN
AIRPORT**
A Division of METRO

I.L. PROJ.: 3-17-0039-BZ2
I.L. PROJ.: CFS-3906

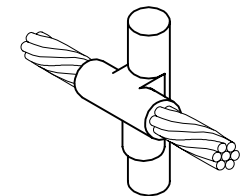
Hanson Project No. 08A0211D	File Name: E-621.DWG	Scale: NONE	Date: 04/16/2010
LAYOUT	KNL	03/22/10	
DRAWN	MW	03/22/10	
REVIEWED	CAH/KNL	03/30/10	

HANSON

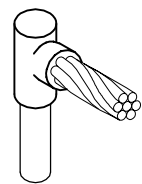
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

**WIDEN RUNWAY
12R/30L**

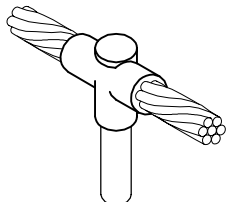
LEGEND PLATE
SCHEDULE



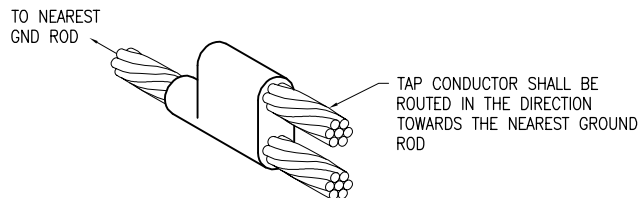
CABLE TO GROUND ROD



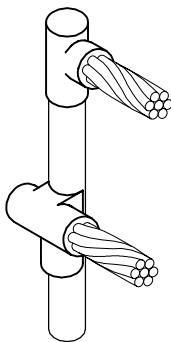
CABLE TO GROUND ROD



CABLE TO GROUND ROD



**CABLE TO CABLE
HORIZONTAL PARALLEL TAP**

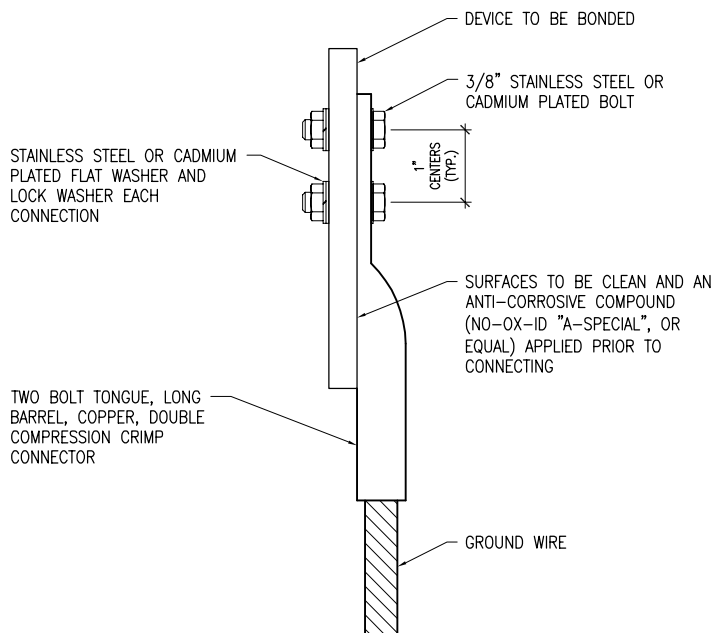


CABLES TO GROUND ROD

DETAIL NOTES

1. ALL BELOW GRADE CONNECTIONS TO GROUND RODS & GROUND RING CONDUCTORS SHALL BE EXOTHERMIC WELD TYPE CONNECTIONS. EXOTHERMIC WELDS SHALL BE CADWELDED AS MANUFACTURED BY ERICO PRODUCTS, SOLON, OHIO, ULTRAWELDED AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, GRAYSLAKE, IL, OR THERMOWELDED 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.
2. 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. INDIVIDUAL GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE INSTALLED IN METAL CONDUIT. INSTALL GROUNDING ELECTRODE CONDUCTORS IN SCHED 40 PVC CONDUIT AS REQUIRED IN FOUNDATIONS, FOR PROTECTION, WHERE ENTERING ENCLOSURES, ETC. 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.

EXOTHERMIC WELD DETAILS

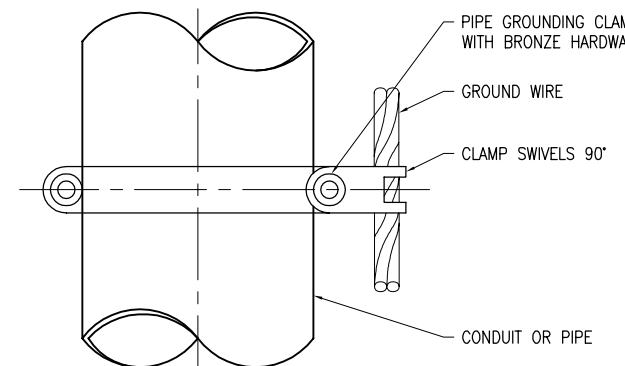
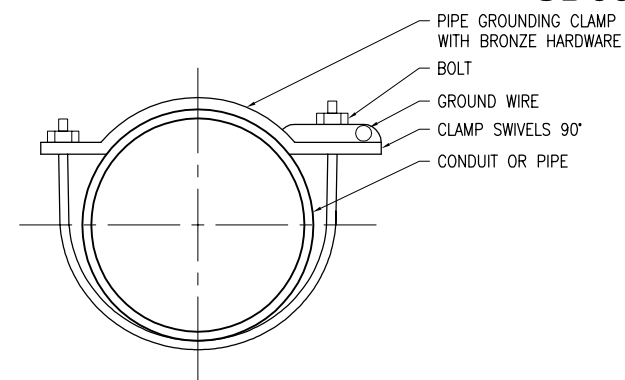


2 HOLE LONG BARREL COMPRESSION LUG TABLE			
WIRE SIZE	BURNDY CAT. NO.	THOMAS & BETTS CAT. NO.	PENN-UNION CAT. NO.
#8 AWG STRANDED	YA8C-2TC38	256-30695-1157	BBLU-8D-2TC38
#6 AWG SOLID	YA8C-2TC38 OR YGA6C-2TC38E2G1		
#6 AWG STRANDED	YA6C-2TC38	256-30695-1158	BBLU-6D-2TC38
#4 AWG STRANDED	YA4C-2TC38	256-30695-1159	BBLU-4D-2TC38
#2 AWG STRANDED	YA2C-2TC38	256-30695-1160	BBLU-2D-2TC38
#2 AWG SOLID	YA3C-2TC38	256-30695-1160	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-2/0D-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

1. ALL CONNECTIONS TO GROUND BUS BAR SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE BUS BAR.
2. 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 APPLICABLE.
3. 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 APTH FROM ENCIRCLING THE CONDUIT.
4. 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.

GROUNDING LUG CONNECTION DETAIL



PIPE GROUNDING 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	4" - 5"
GAR3906-BU	6"

NOTES

1. 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

BY	REVISION	DATE

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO
A.I.P. PROJ.: 3-17-0039-B22
ILL. PROJ.: CPS-3906

Hanson Project No. 08A0211D	02/26/10
Filename E-505.DWG	KNL
Scale NONE	MV
Date 04/16/10	02/26/10
LAYOUT	REVIEWED CAH/KNL
DRAWN	03/30/10

HANSON
Hanson Professional Services, Inc.
4227 Fernside Court, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
GROUNDING DETAILS


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 SHIELDING 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. THE FOLLOWING FUNCTIONS ARE PARTICULARLY IMPORTANT TO ENSURE A RELIABLE GROUND SYSTEM:
- FURNISH AND INSTALL GROUND RODS AS DETAILED HEREIN. GROUND RODS FOR AIRFIELD LIGHTING (RUNWAY LIGHTING, TAXIWAY LIGHTING, TAXI GUIDANCE SIGNS, & DISTANCE REMAINING 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.
- ALL PRODUCTS ASSOCIATED WITH THE GROUNDING SYSTEM SHALL BE UL-LISTED AND LABELED.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- BOND ALL NONCURRENT-CARRYING PARTS OF METAL EQUIPMENT TO GROUND SYSTEM.
- BUILDING STRUCTURAL STEEL SYSTEM SHALL BE BONDED TO ELECTRICAL GROUND SYSTEM.
- 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.
- 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.
- 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.

MAY 25, 2010 12:06 PM HARR01115
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\E-004.DWG

DATE	REVISION	BY

**SAINT LOUIS
DOWNTOWN
AIRPORT**
A Division of METRO



A.I.P. PROJ.: 3-17-0039-BZ2
IL PROJ.: CPS-3906

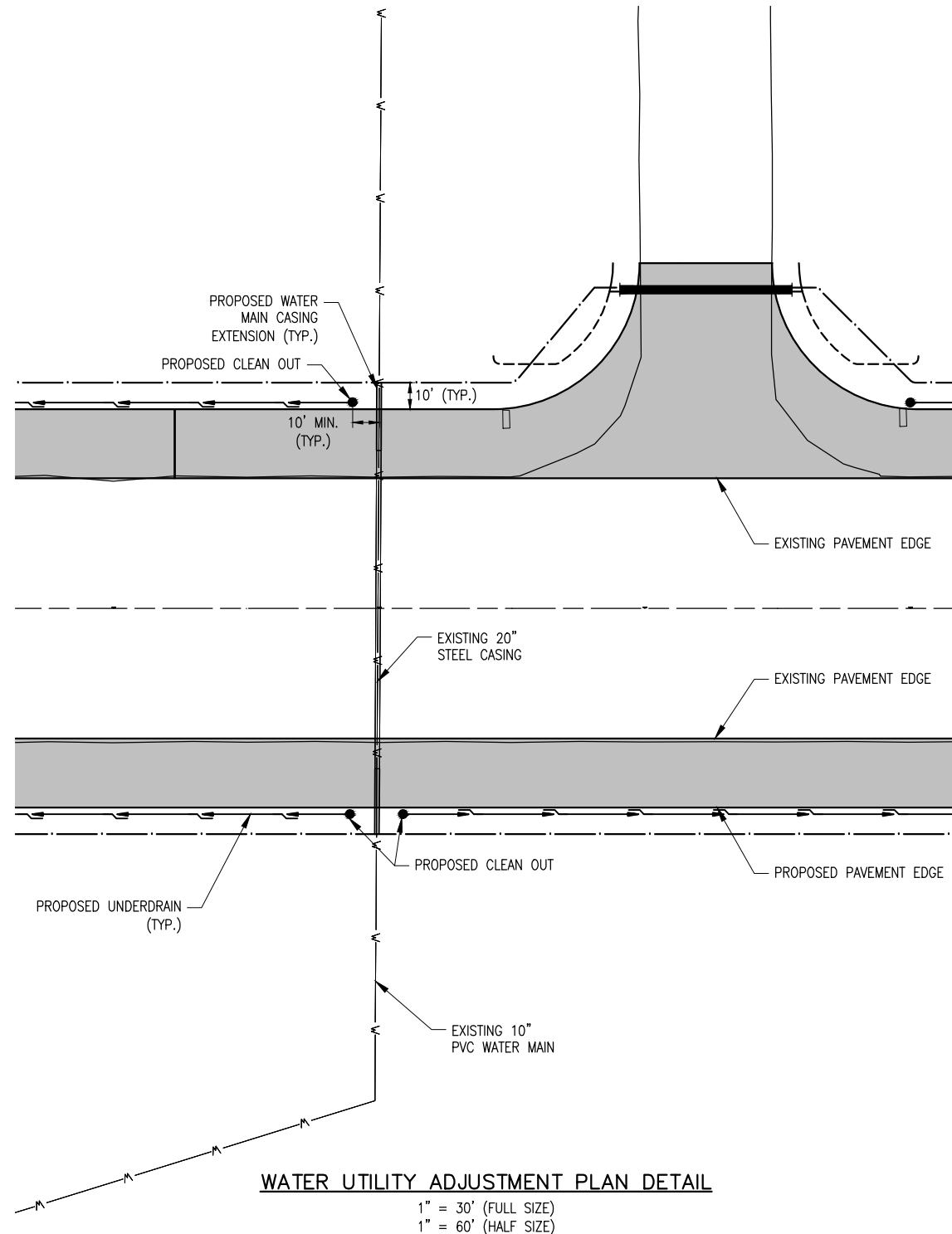
Hanson Project No. 08A0211D	02/25/10
Filename E-004.DWG	KNL
Scale NONE	MW
Date 04/16/10	CAH/KNL
LAYOUT	02/25/10
DRAWN	02/25/10
REVIEWED	03/30/10

HANSON

Hanson Professional Services, Inc.
4227 Fernhill Court, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

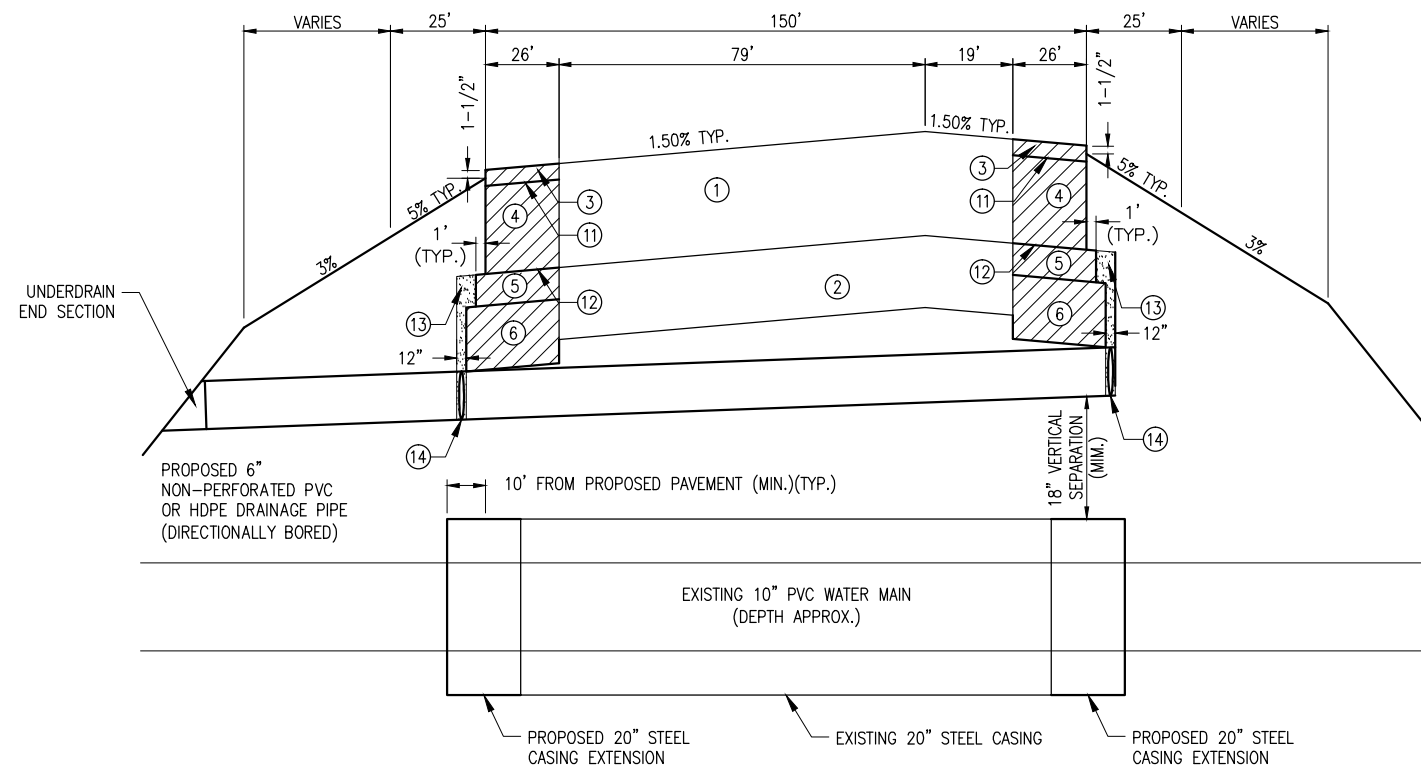
**WIDEN RUNWAY
12R/30L**

GROUNDING NOTES



WATER UTILITY ADJUSTMENT PLAN DETAIL
 1" = 30' (FULL SIZE)
 1" = 60' (HALF SIZE)

- NOTES:
1. WATER MAIN INTERRUPTION SHALL BE MINIMIZED AND MAY NOT REMAIN OFF FOR MORE THAN A SINGLE WORK DAY, PRESSURE SHALL BE RESTORED AND THE WORK ACCEPTED BY THE AIRPORT AND/OR THE RESIDENT ENGINEER PRIOR TO THE REPECTIVE CONTRACTOR LEAVING THE SITE THAT DAY.
 2. ALL PROPOSED UTILITY WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN THE STATE OF ILLINOIS (6TH ED., JULY 2009), AND WITHIN THE SPECIAL PROVISIONS.



WATER UTILITY ADJUSTMENT ELEVATION DETAIL
 "NOT TO SCALE"

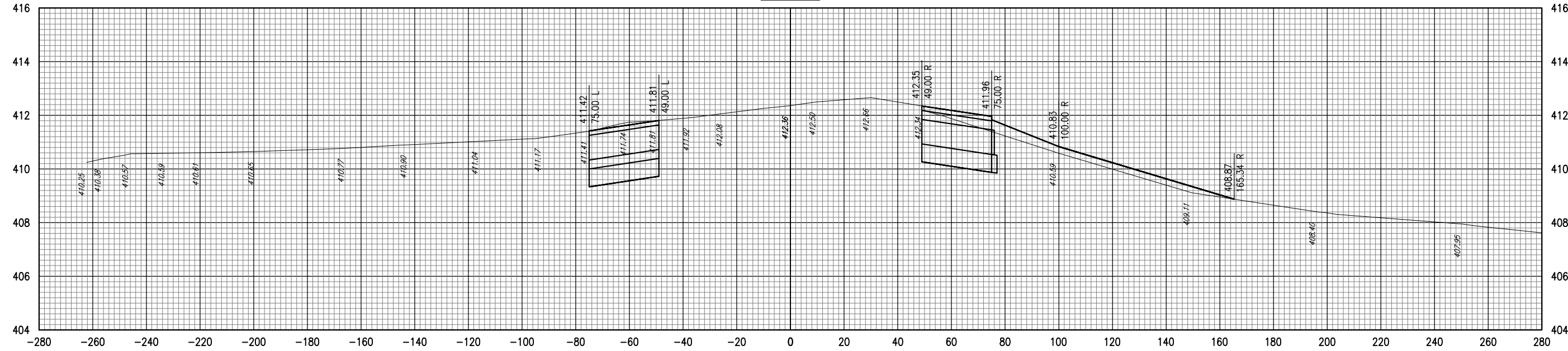
LEGEND FOR EXISTING AND PROPOSED TYPICAL SECTIONS

- ① EXISTING 401/201 BITUMINOUS PAVEMENT (13' DEPTH)
- ② EXISTING 209 CRUSHED AGGREGATE BASE (9" DEPTH)
- ③ PROPOSED 401 BITUMINOUS SURFACE COURSE (2" DEPTH)
- ④ PROPOSED 403 BITUMINOUS BASE COURSE (11" DEPTH)
- ⑤ PROPOSED 209 CRUSHED AGGREGATE BASE COURSE (4" DEPTH)
- ⑥ PROPOSED 208 OVERSIZE AGGREGATE (CA-1) (8" DEPTH)
- ⑦ PROPOSED 401 BITUMINOUS SURFACE COURSE (2" DEPTH)
- ⑧ PROPOSED 403 BITUMINOUS BASE COURSE (4" DEPTH)
- ⑨ PROPOSED 209 CRUSHED AGGREGATE BASE COURSE (11" DEPTH)
- ⑩ PROPOSED 208 OVERSIZE AGGREGATE (CA-1) (8" DEPTH)
- ⑪ PROPOSED 603 BITUMINOUS TACK COAT (0.15 GAL./S.Y.)
- ⑫ PROPOSED 602 BITUMINOUS PRIME COAT (0.35 GAL./S.Y.)
- ⑬ PROPOSED POROUS BACKFILL
- ⑭ PROPOSED 705 - 6" PERFORATED UNDERDRAIN W/ SOCK

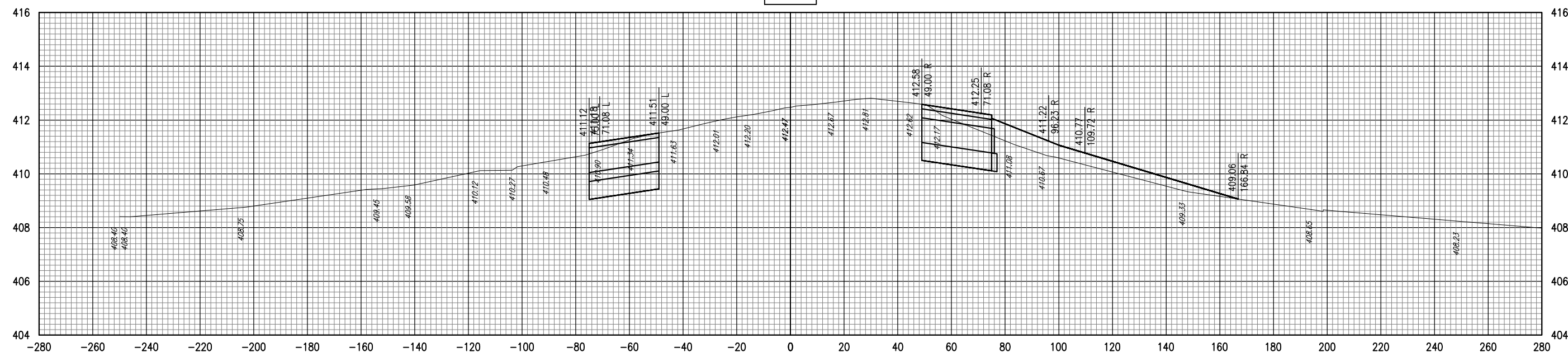
MAY 25, 2010 2:11 PM KINC00394 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-52\WTR.DWG

BY		REVISION		DATE	
<p>SAINT LOUIS DOWNTOWN AIRPORT A Division of METRO</p>					
<p>IL PROJ.: CPS-3906 A.I.P. PROJ.: 3-17-0039-B22</p>					
Hanson Project No. 08A0211D Filename: R-52\WTR.DWG Scale: NOT TO SCALE Date: 04/16/2010		LAYOUT: RAW DRAWN: BAK REVIEWED: CAH		02/15/10 02/15/10 04/01/10	
<p>HANSON Hanson Professional Services Inc. 4227 Earth City Expressway, Suite 130 St. Louis, MO 63045-1308 Offices Nationwide</p>					
WIDEN RUNWAY 12R/30L			WATER UTILITY ADJUSTMENT DETAIL		
103					
103 of 186 sheets					

100+50



99+96



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.L.P. PROJ.: 3-17-0039-B22

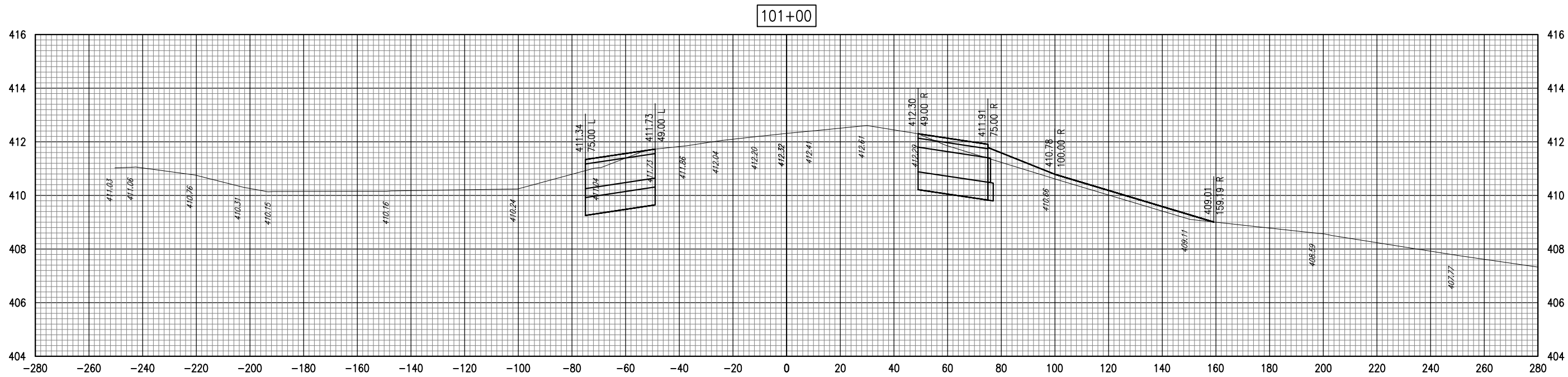
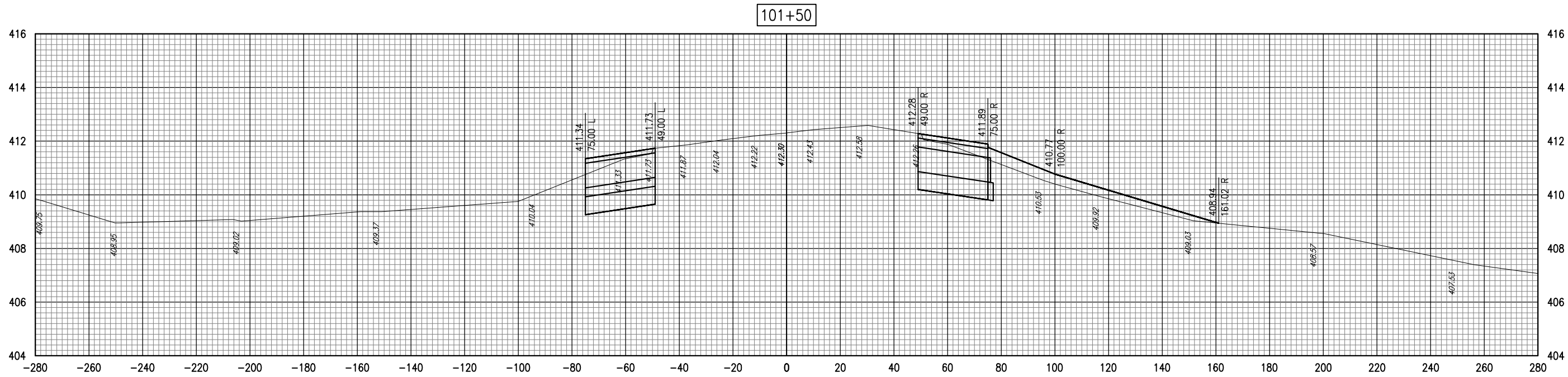
Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-301XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 99+96 TO STA. 100+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

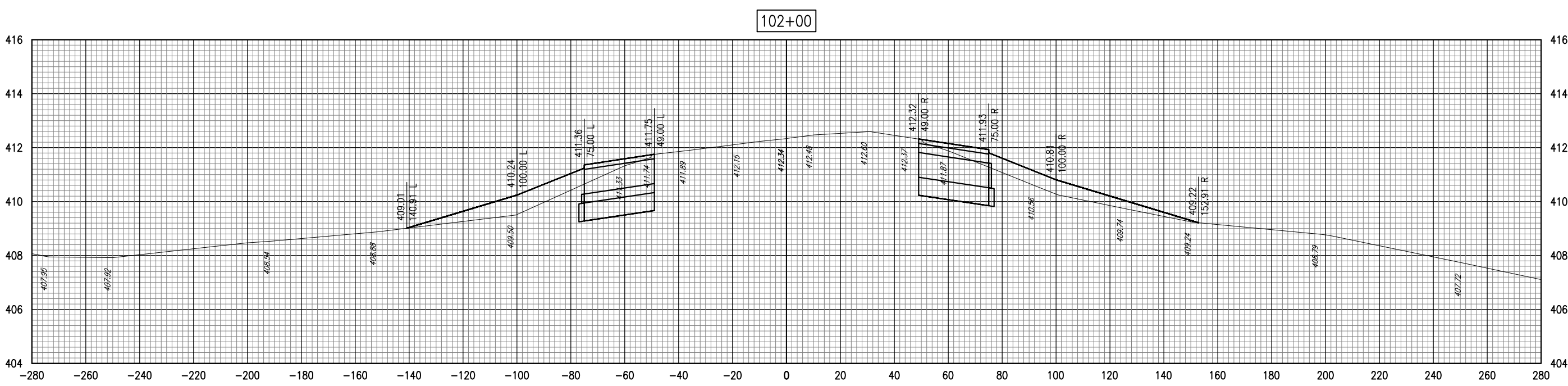
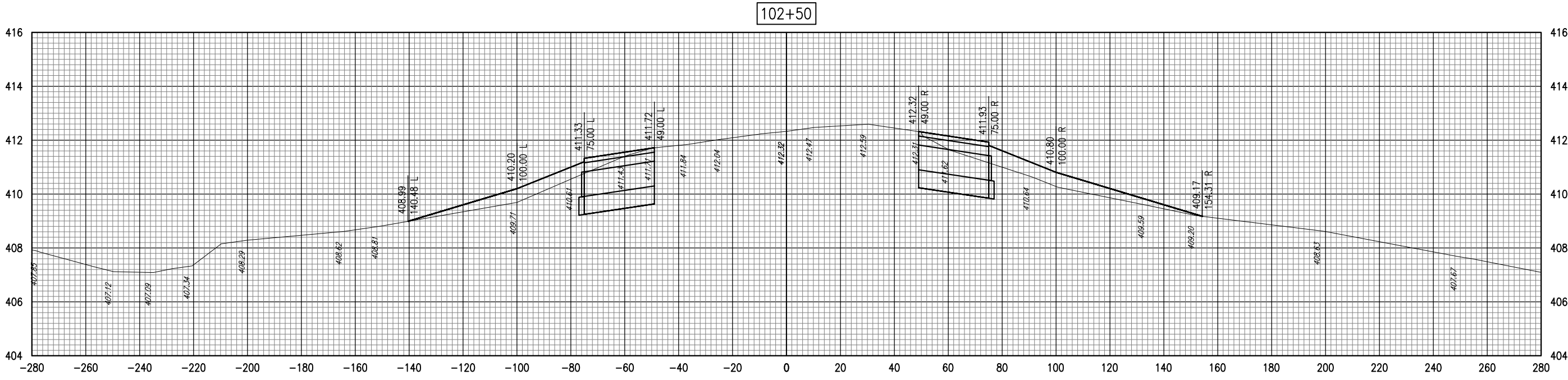
Hanson Project No. 08A02110	JEO	03/11/10
Filename: R-301XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 101+00 TO STA. 101+50

MAY 25, 2010 12:04 PM OSTER00005
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A02110\CADD\AIRPORT\SHEET\R-301XS-RWY.DWG

MAY 25, 2010 12:04 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-301XS-RWY.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

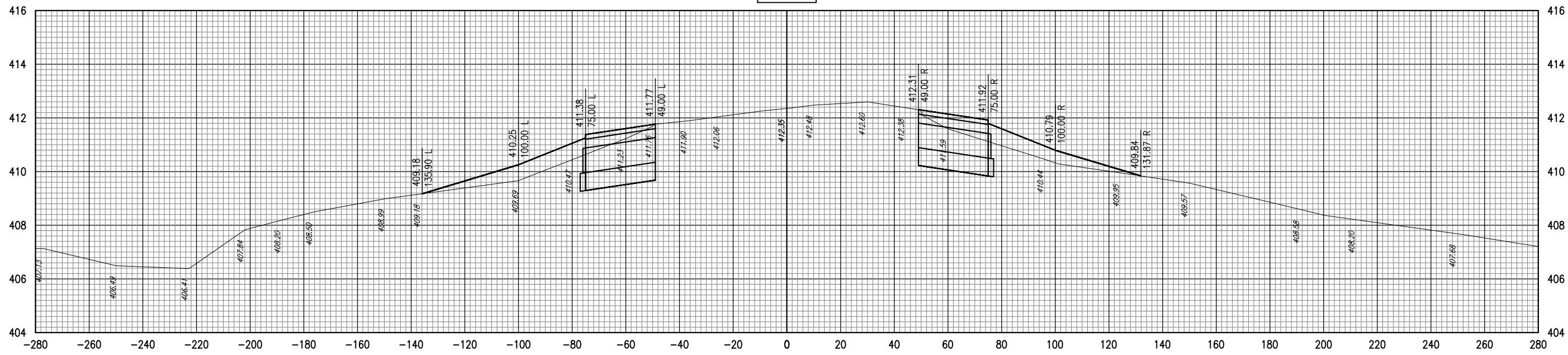
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No.	08A0211D
Filename	R-301XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

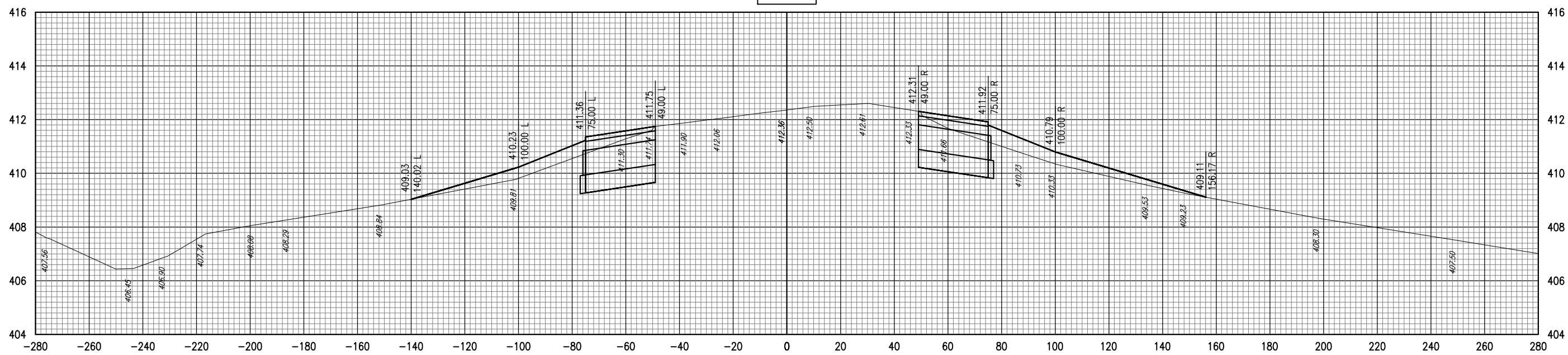
HANSON
 Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED CROSS-SECTIONS
 FOR RUNWAY 12R-30L
 STA. 102+00 TO STA. 102+50

103+50



103+00



DATE	REVISION	BY

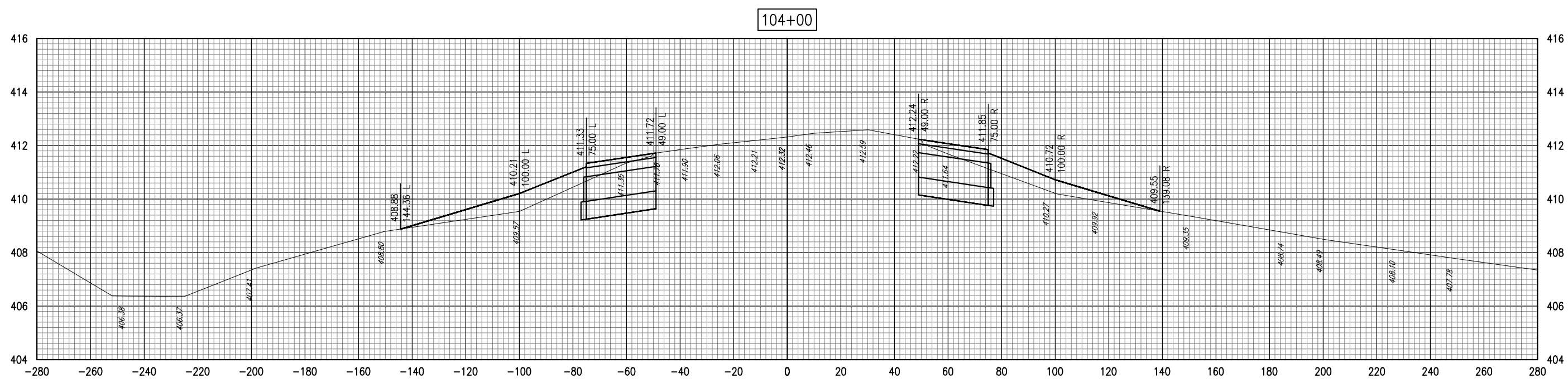
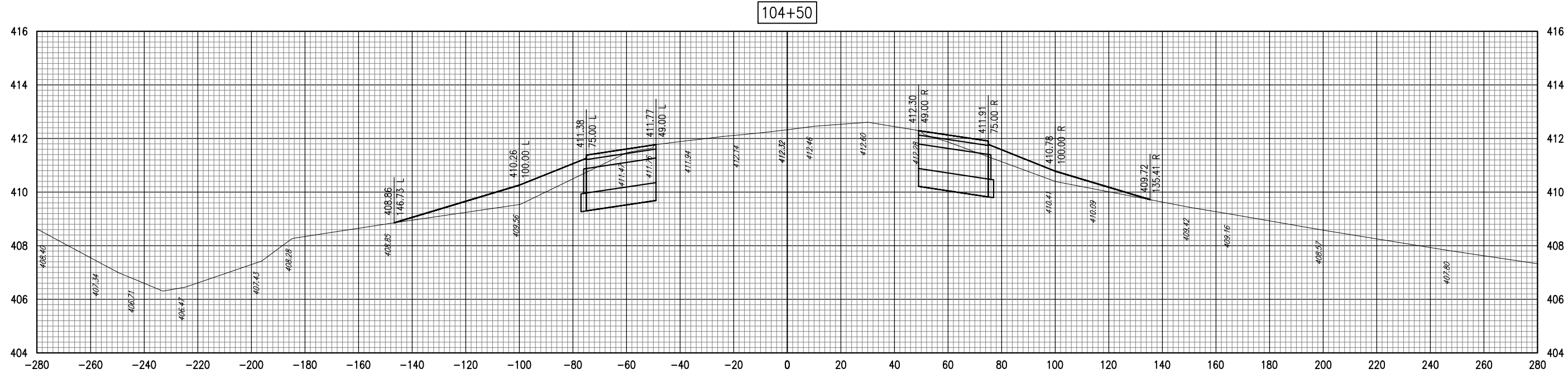
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

L. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-301XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 103+00 TO STA. 103+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

Project: 3--17--0039-B22
L. PROJ.: CPS-3906

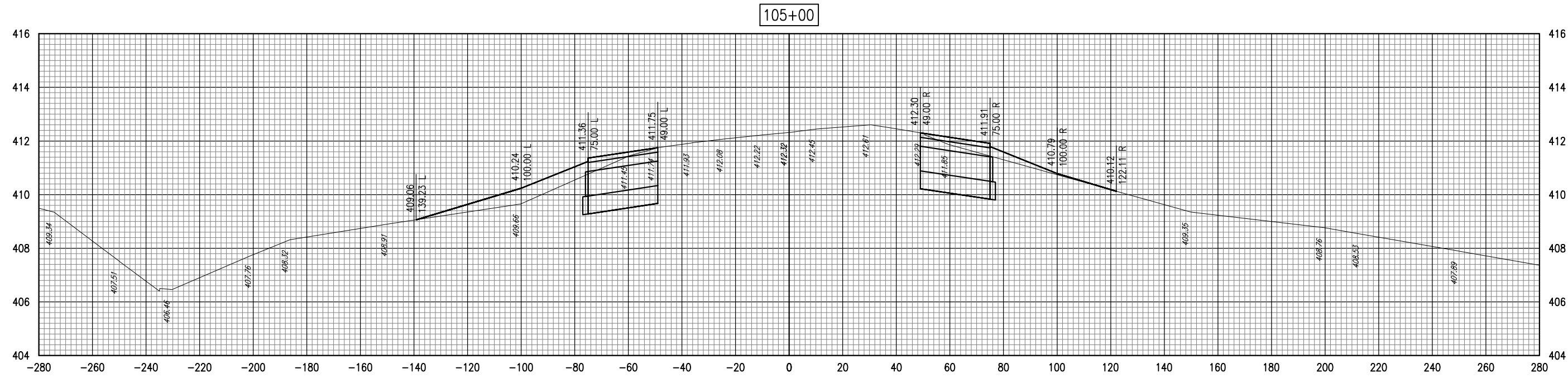
Hanson Project No.	08A0211D
Filename	R-301XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 104+00 TO STA. 104+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

Project No. 08A0211D
 File Name: R-302XS-RWY.DWG
 Scale: V. 1" = 2' H. 1" = 20'
 Date: 04/16/2010

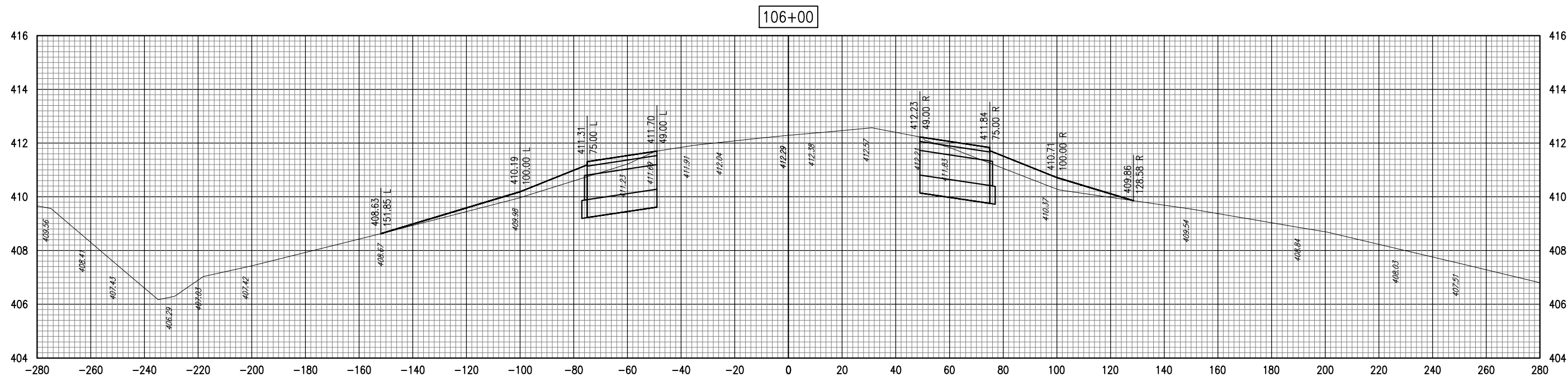
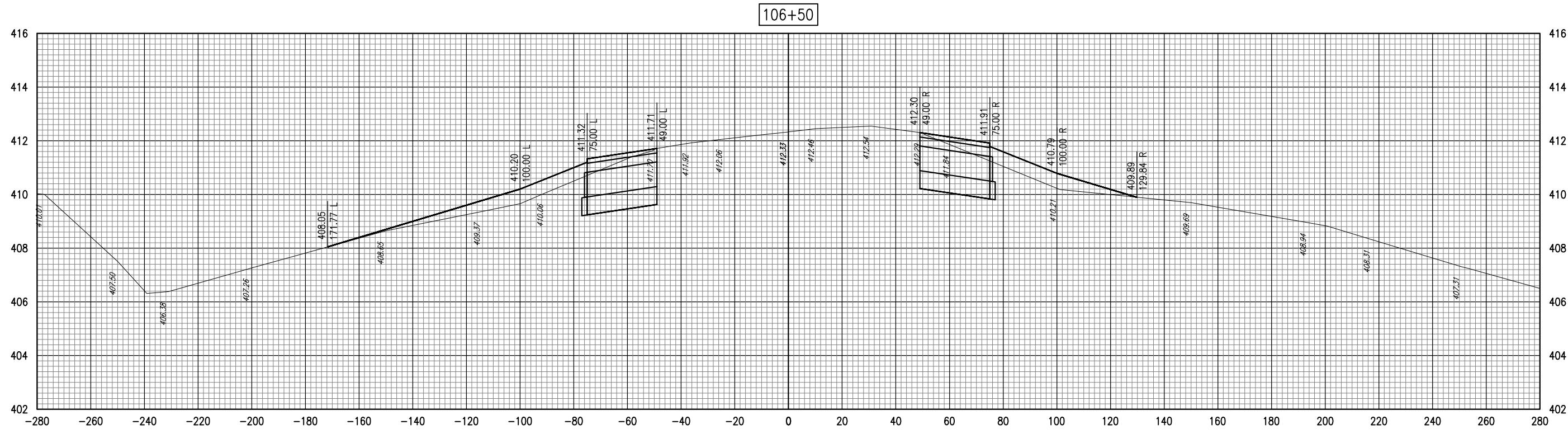
Author: JEO
 Date: 03/11/10
 Drawn: JEO
 Date: 03/11/10
 Reviewed: CAH
 Date: 04/01/10

Project: 3-17-0039-B22
 L.P. PROJ.: CPS-3906

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 105+00 TO STA. 105+50

109
 109 of 186 sheets



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

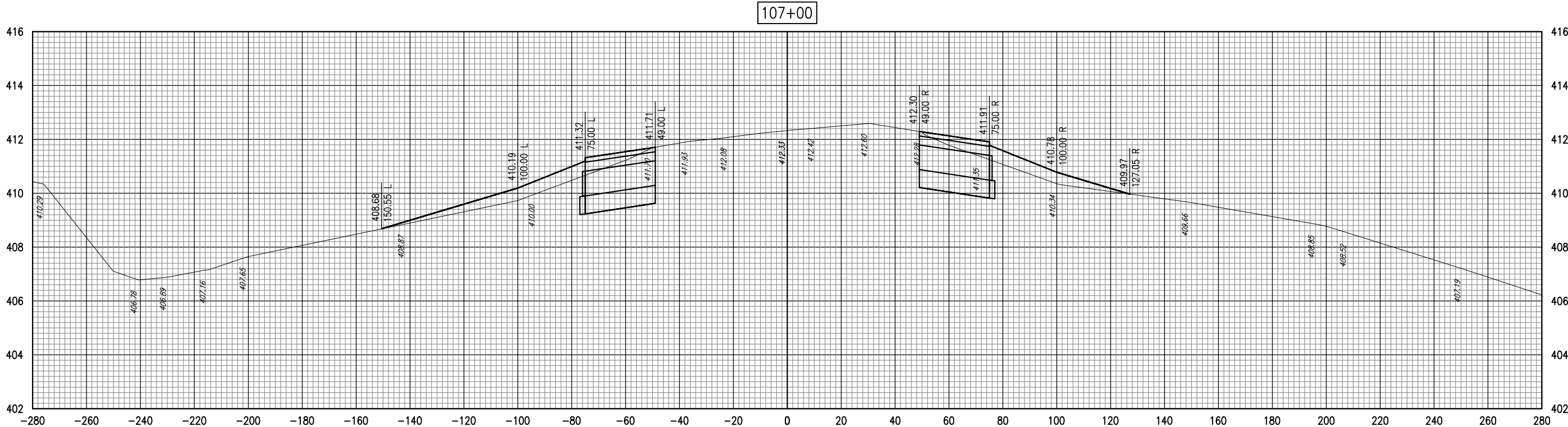
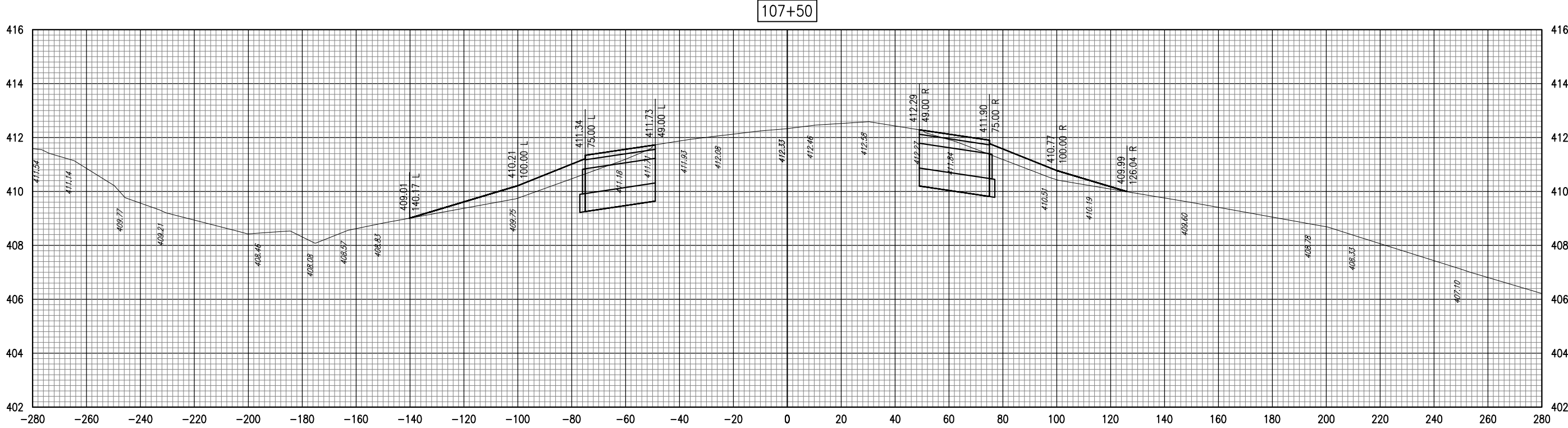
ILL. PROJ.: 3--17--0039-B22
 I.L. PROJ.: CPS-3906

Hanson Project No.	08A0211D
Filename	R-302XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

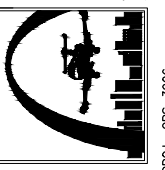
Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 106+00 TO STA. 106+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO



IL PROJ.: CPS-3906
A.I.P. PROJ.: 3--17--0039-B22

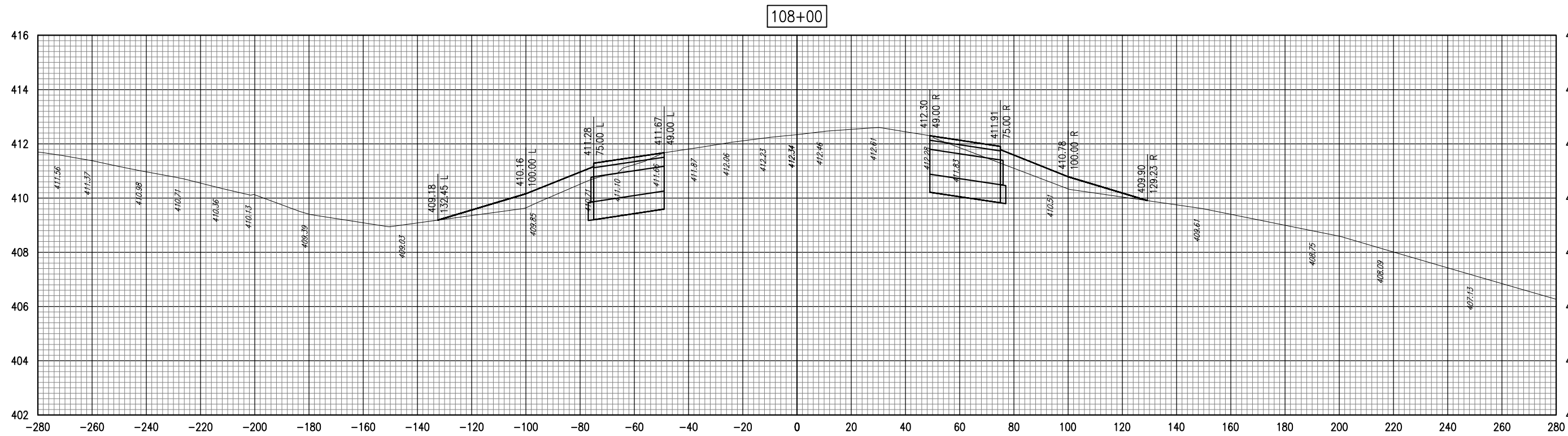
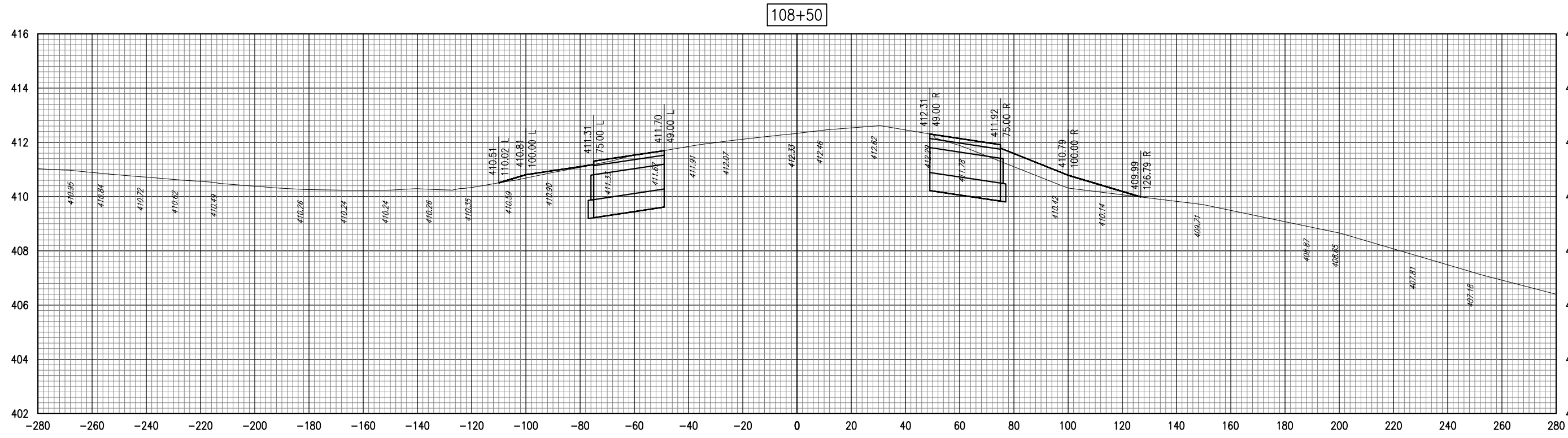
Hanson Project No. 08A0211D	JEO	03/11/10
Filename R-302XS-RWY.DWG	JEO	03/11/10
Scale V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

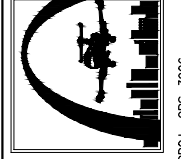
WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 107+00 TO STA. 107+50

MAY 25, 2010 12:09 PM OSTER00005
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-302XS-RWY.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO



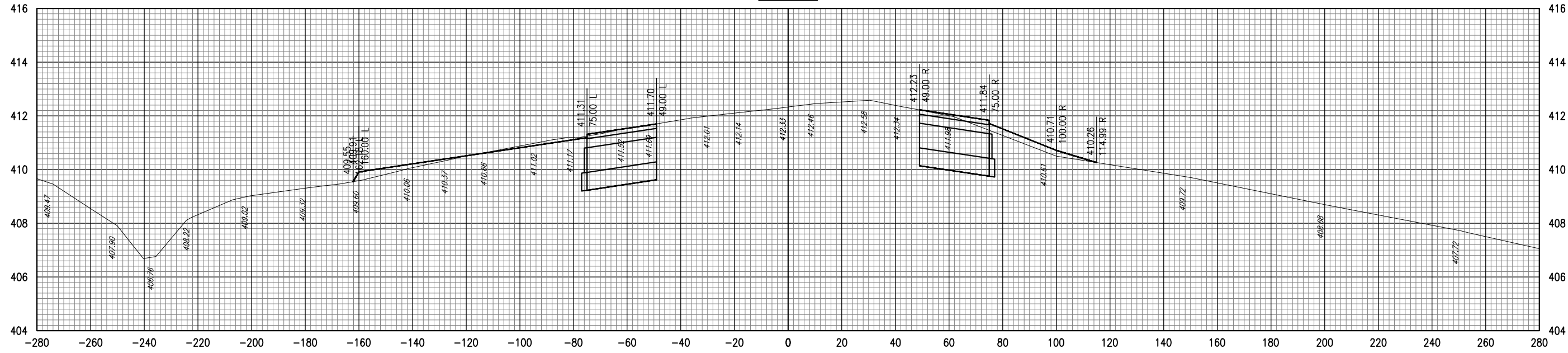
Hanson Project No. 08A0211D	File Name R-302XS-RWY.DWG	Scale V. 1" = 2' H. 1" = 20'	Date 04/16/2010
LAYOUT	JEO	03/11/10	
DRAWN	JEO	03/11/10	
REVIEWED	CAH	04/01/10	

HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

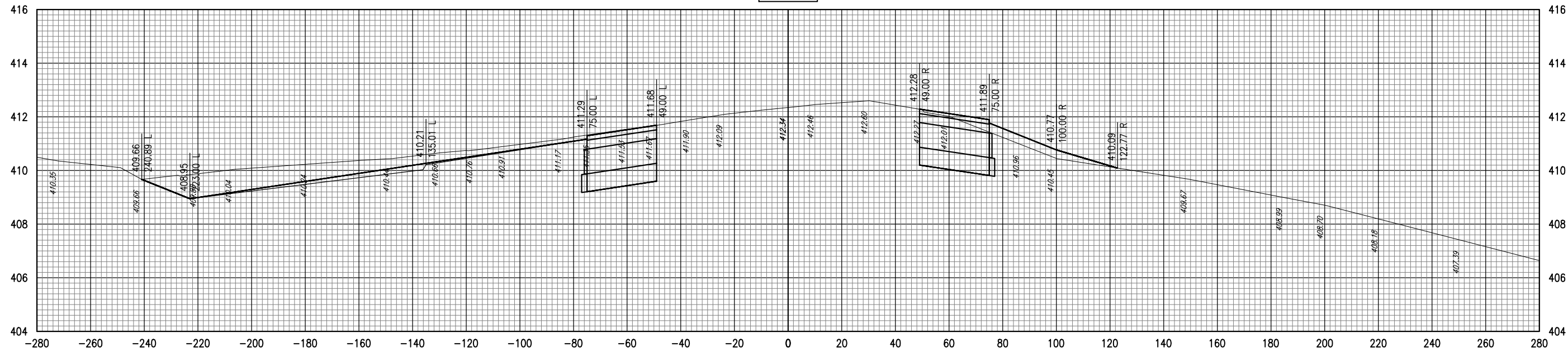
WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 108+00 TO STA. 108+50

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

109+50



109+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-302XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

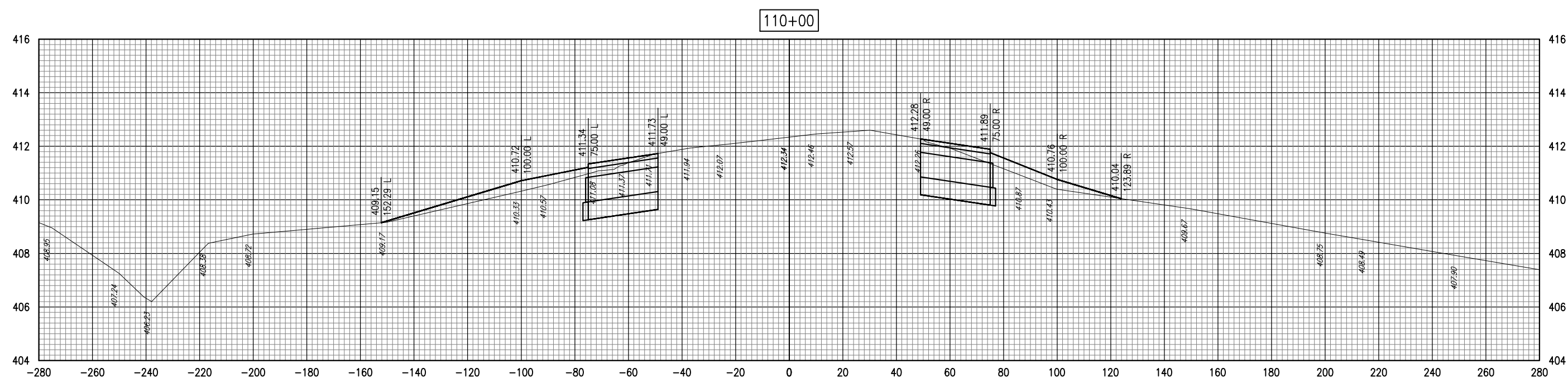
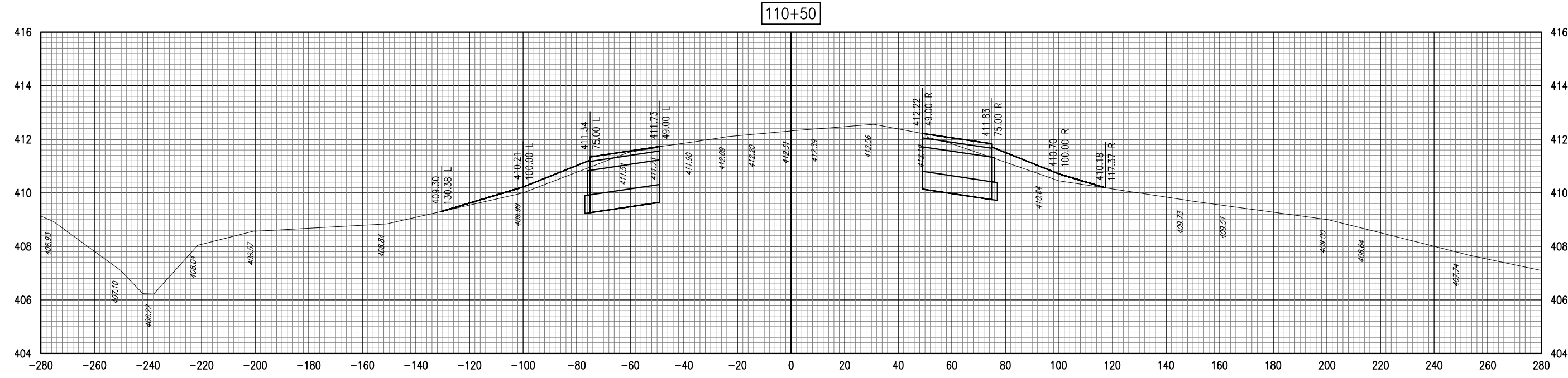
HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 109+00 TO STA. 109+50

MAY 25, 2010 12:11 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET R-303XS-RWY.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

L. PROJ.: CPS-3906
 A.L.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename R-303XS-RWY.DWG	JEO	03/11/10
Scale V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date 04/16/2010		

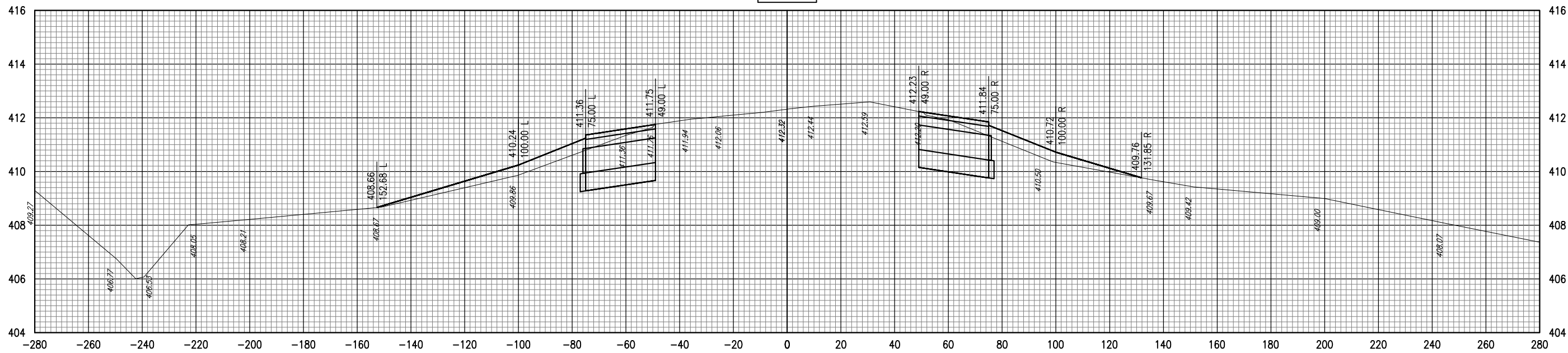
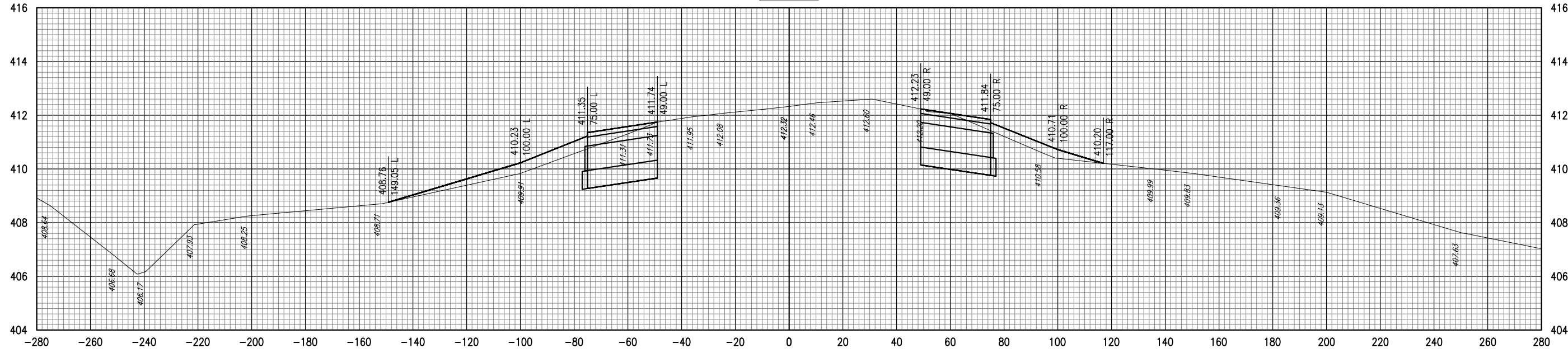
HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 110+00 TO STA. 110+50

112+50

112+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-303XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

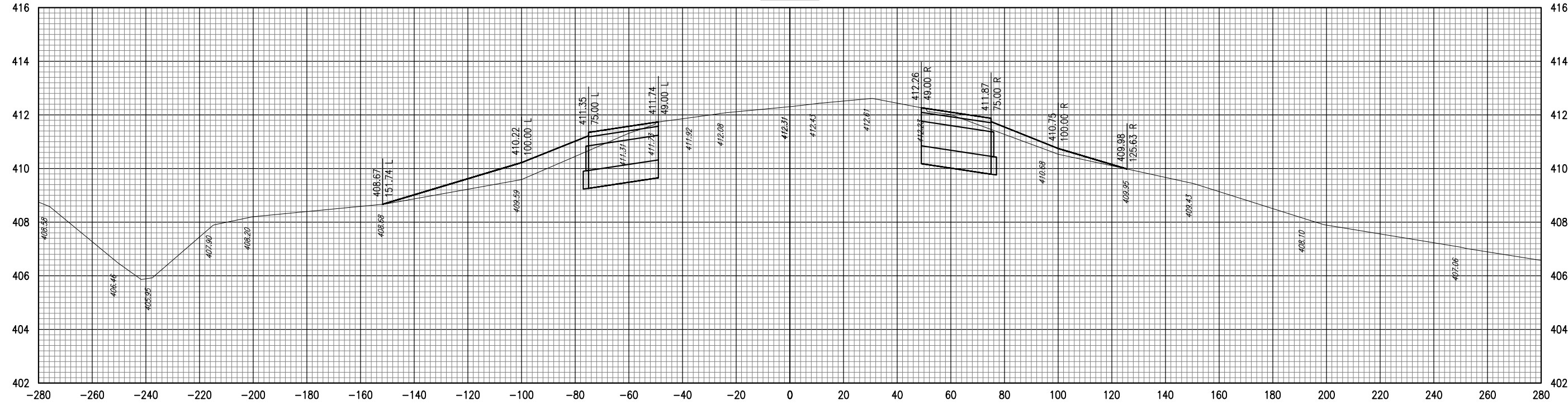
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

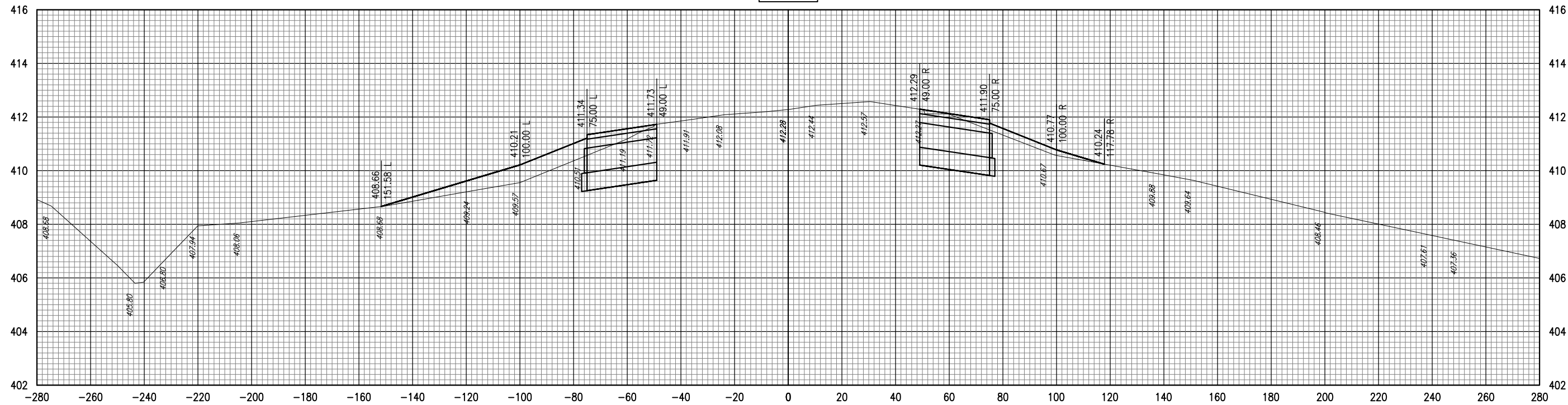
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L

STA. 112+00 TO STA. 112+50

113+50



113+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

L. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-303XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

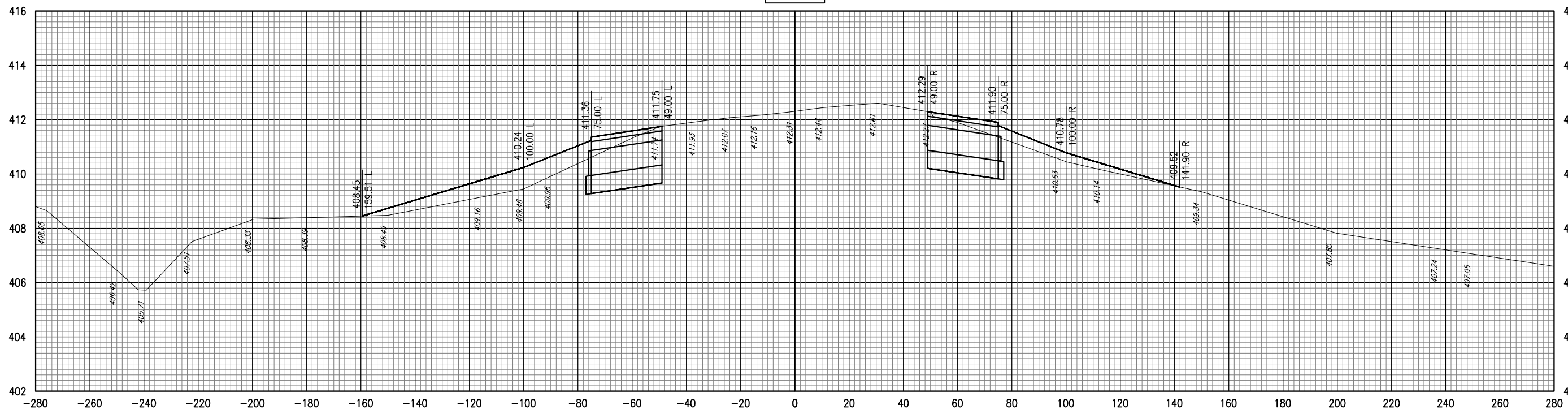
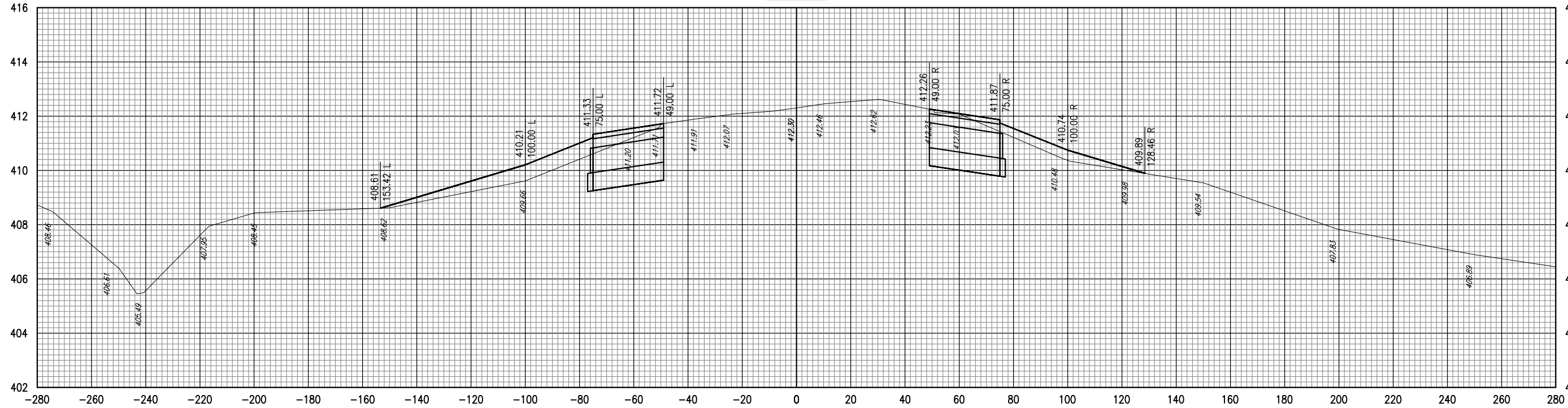
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 113+00 TO STA. 113+50

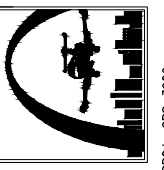
114+50

114+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO



IL PROJ.: CPS-3906
A.I.P. PROJ.: 3--17--0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-303XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

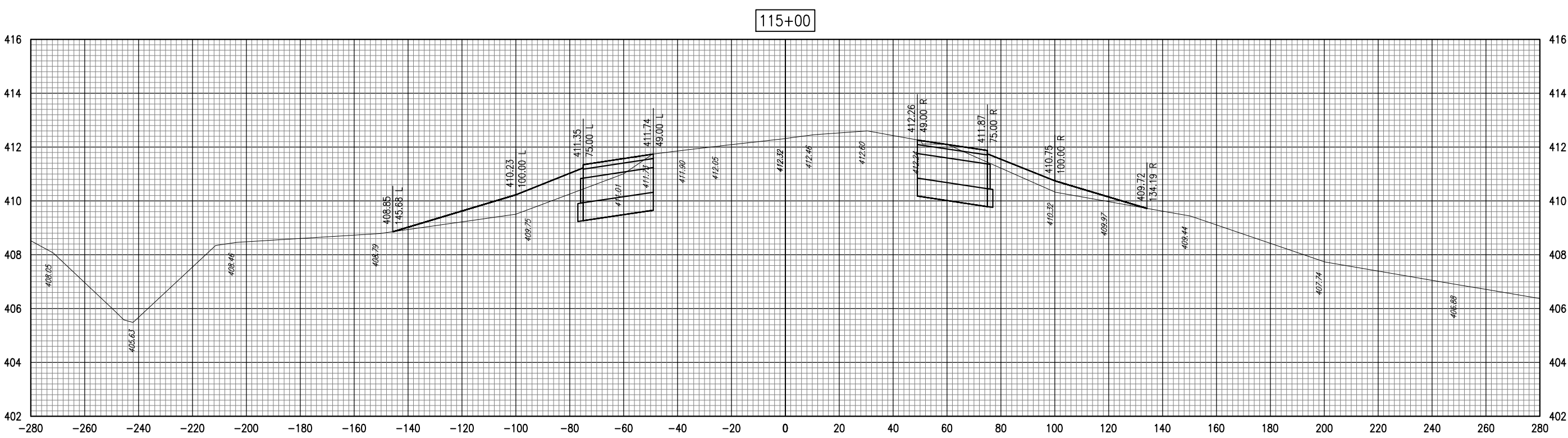
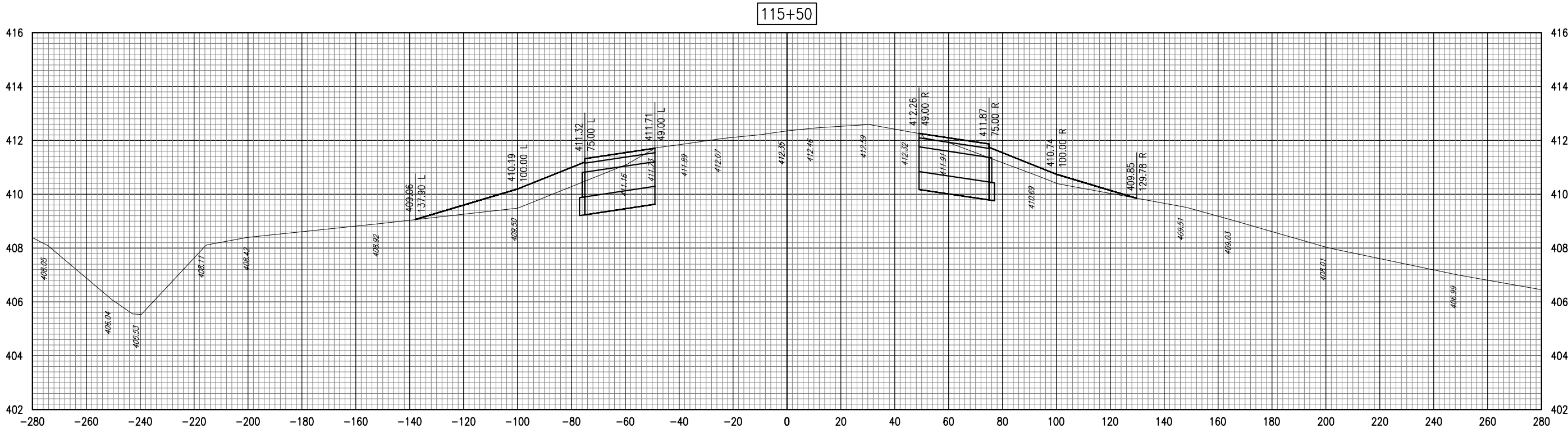
HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 114+00 TO STA. 114+50

MAY 25, 2010 12:14 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-304XS-RWY.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

L. PROJ.: CPS-3906
 A.L.P. PROJ.: 3-17-0039-B22

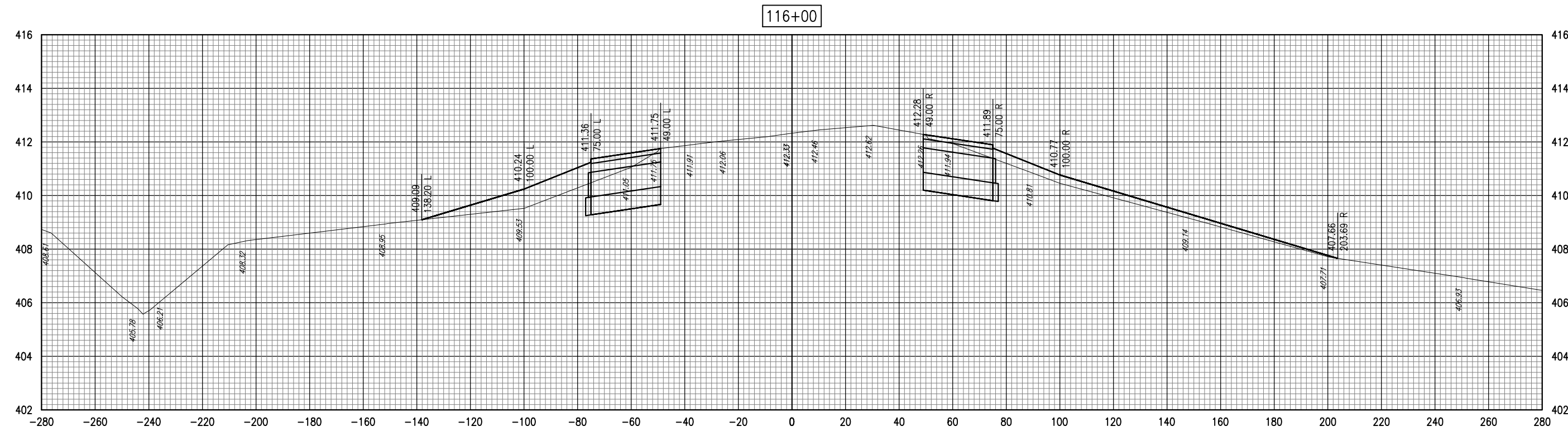
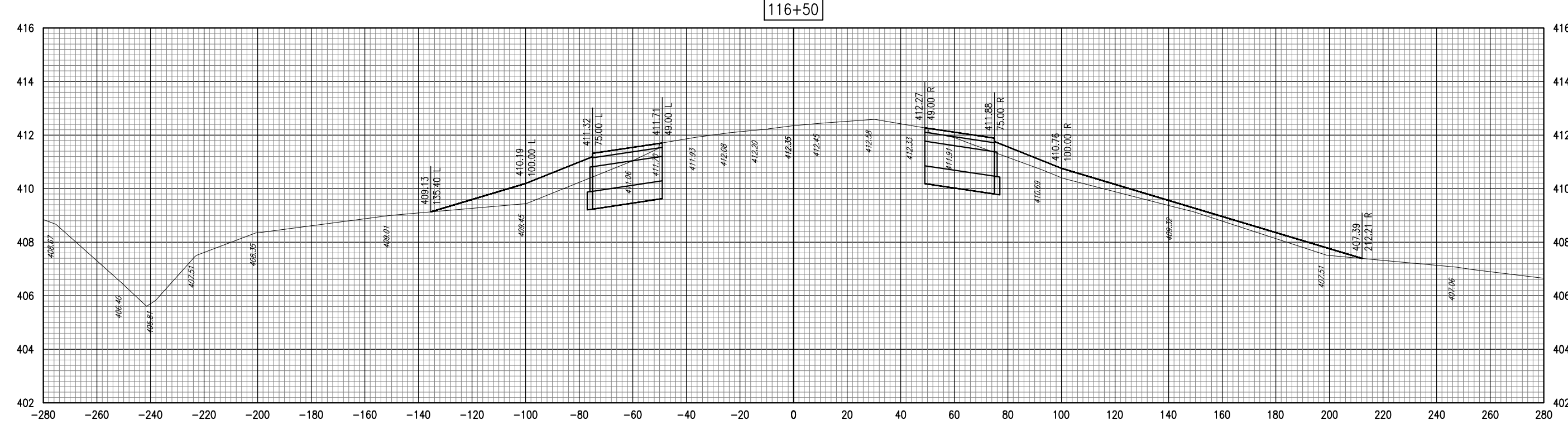
Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-304XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 115+00 TO STA. 115+50

MAY 25, 2010 12:15 PM OSTER00005
I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-304XS-RWY.DWG



DATE	REVISION	BY

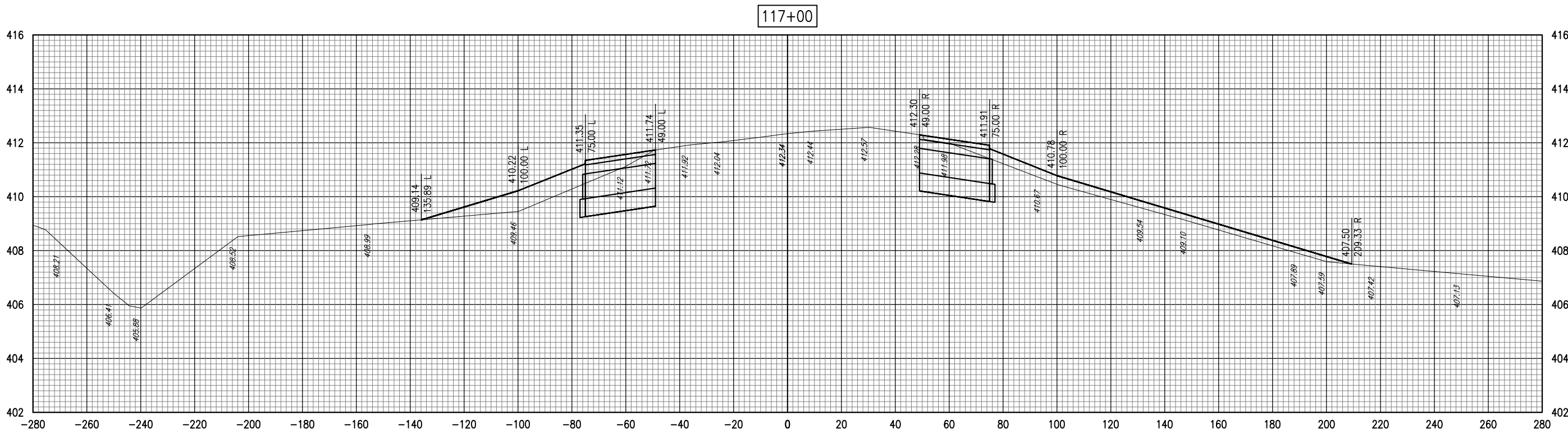
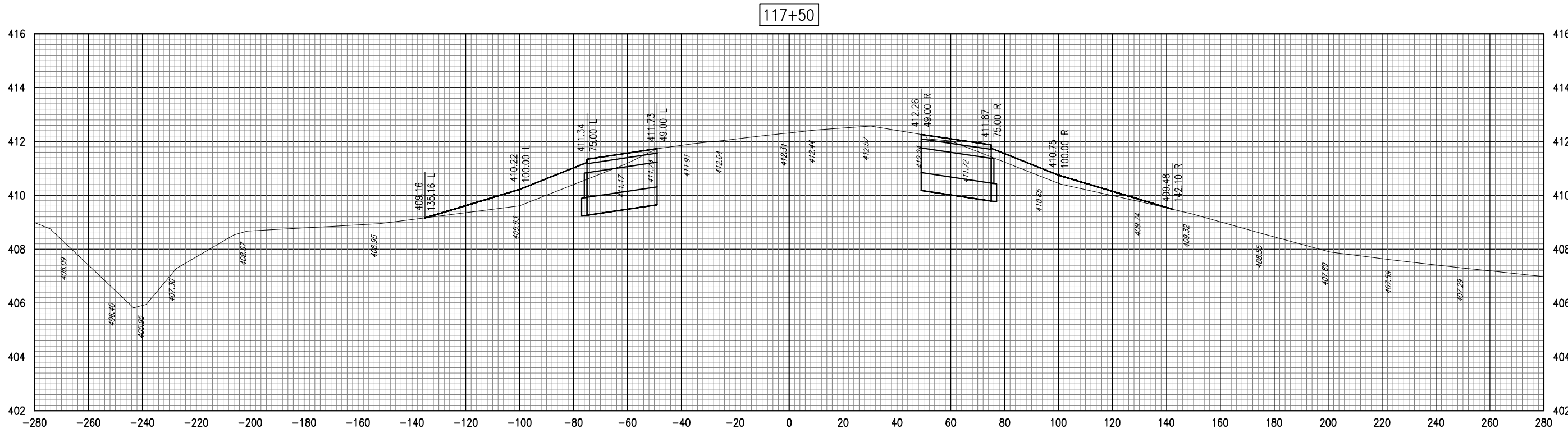
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

L. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-304XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 116+00 TO STA. 116+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

L. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	File Name: R-304XS-RWY.DWG
Scale: V. 1" = 2' H. 1" = 20'	Date: 04/16/2010
LAYOUT: JEO 03/11/10	DRAWN: JEO 03/11/10
REVIEWED: CAH 04/01/10	

HANSON

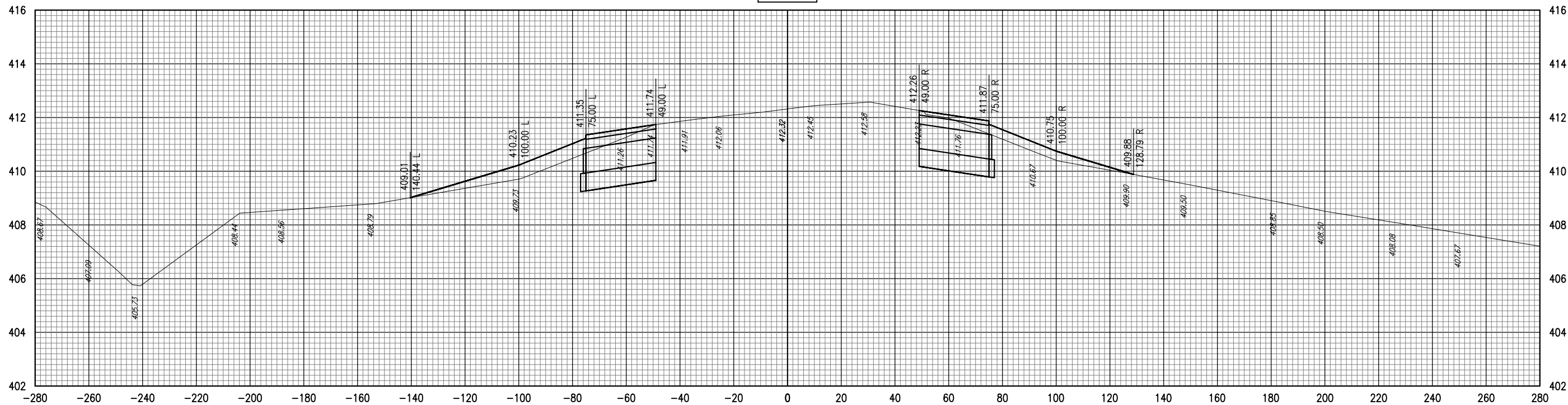
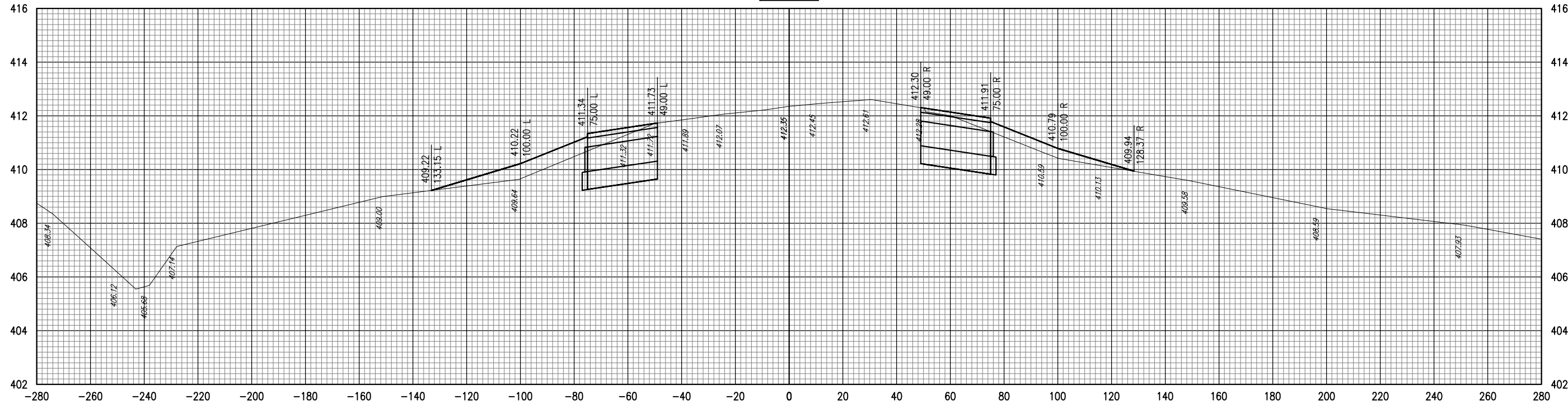
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 117+00 TO STA. 117+50

118+50

118+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

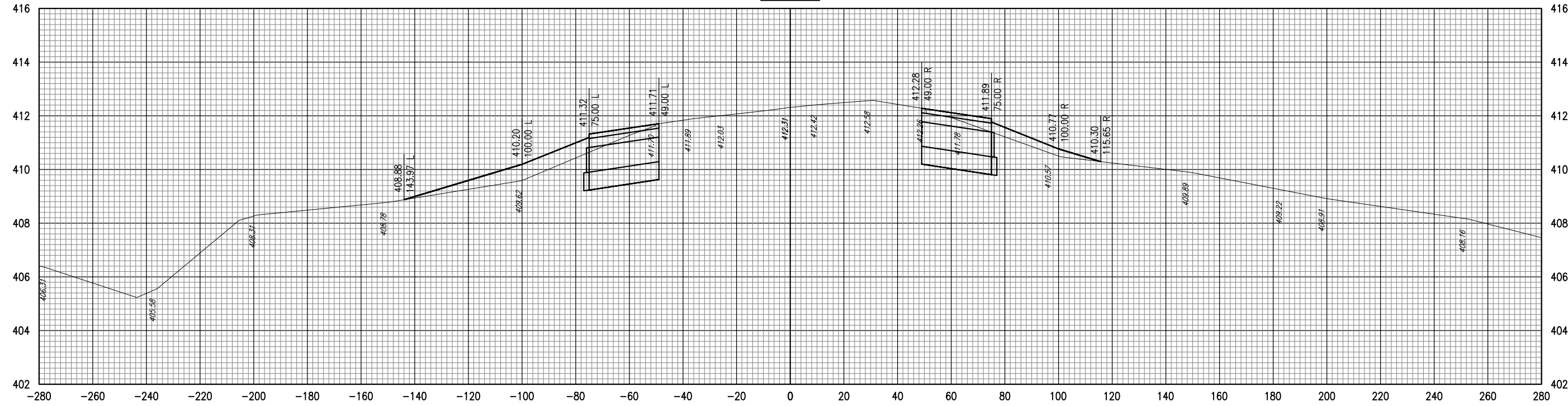
Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-304XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

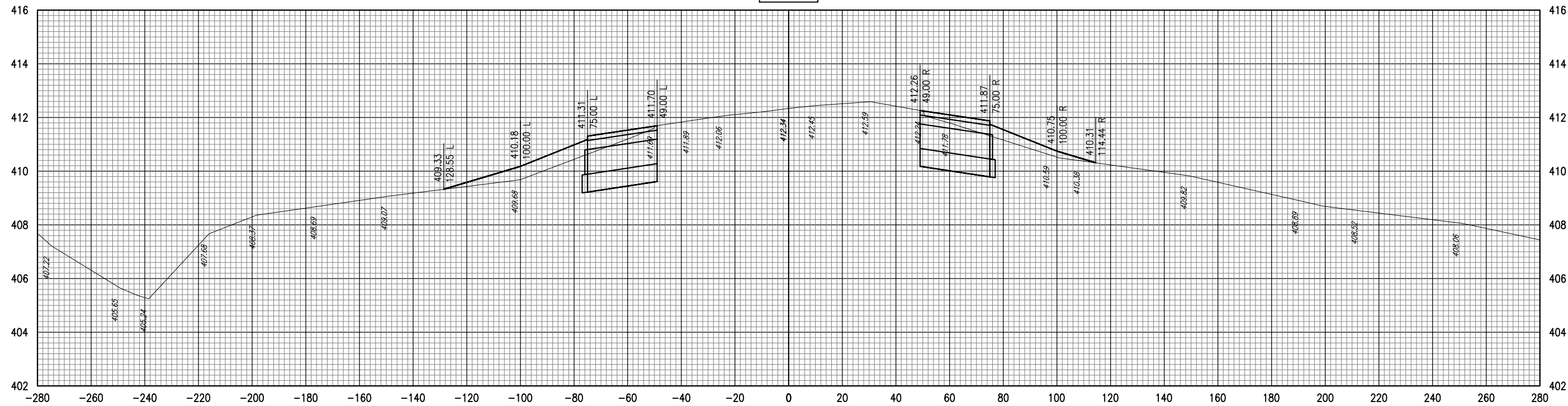
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 118+00 TO STA. 118+50

119+50



119+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-304XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		

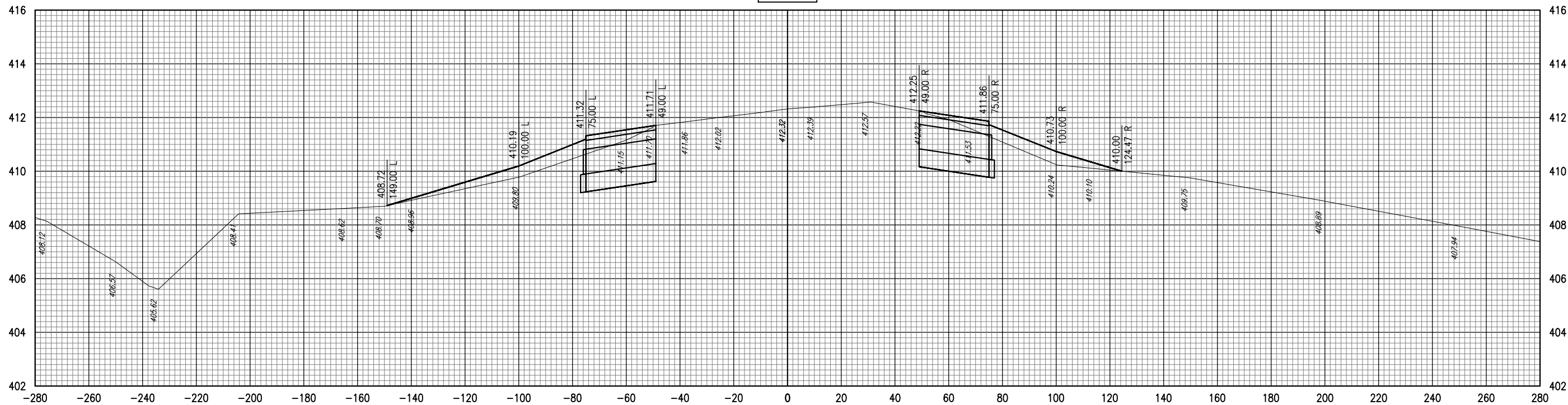
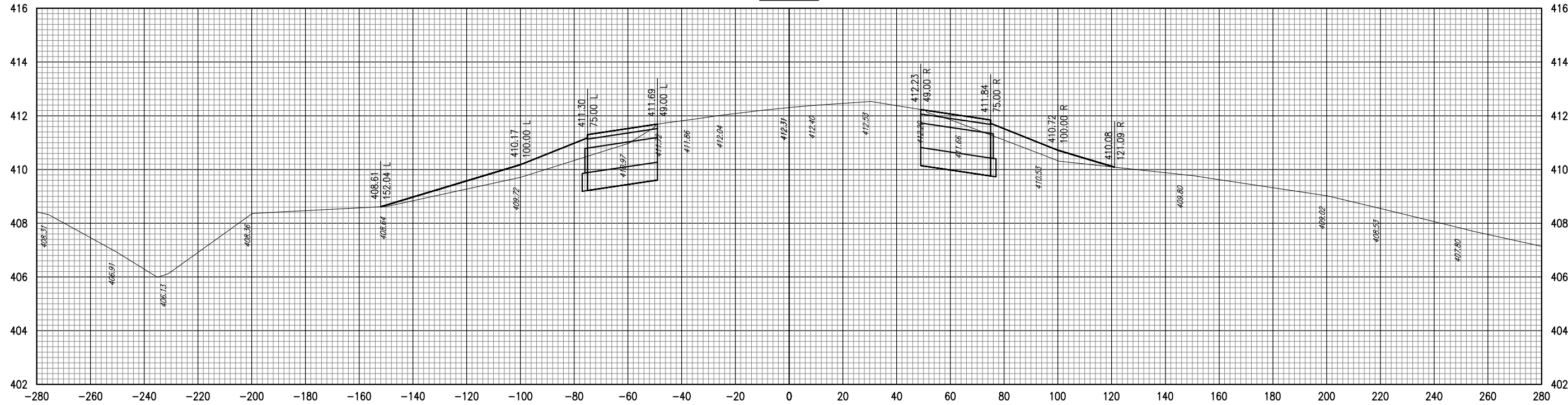
HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 119+00 TO STA. 119+50

120+50

120+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

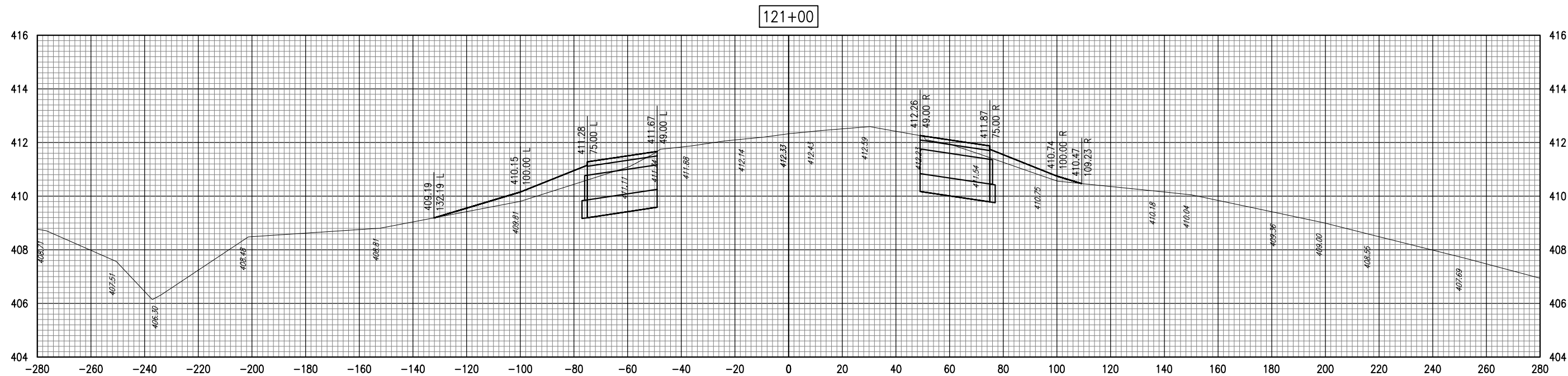
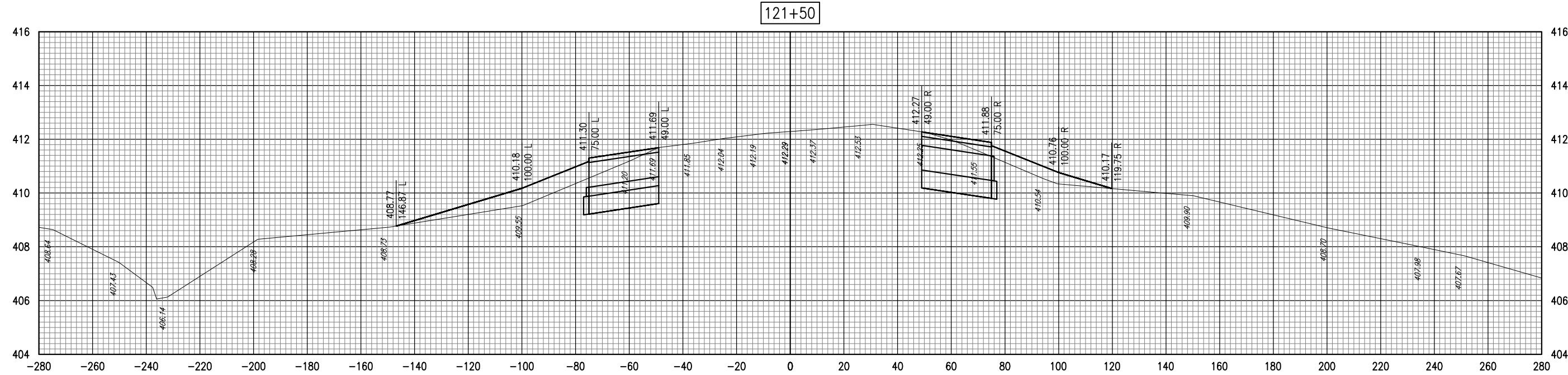
IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-305XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 120+00 TO STA. 120+50

MAY 25, 2010 12:18 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-305XS-RWY.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

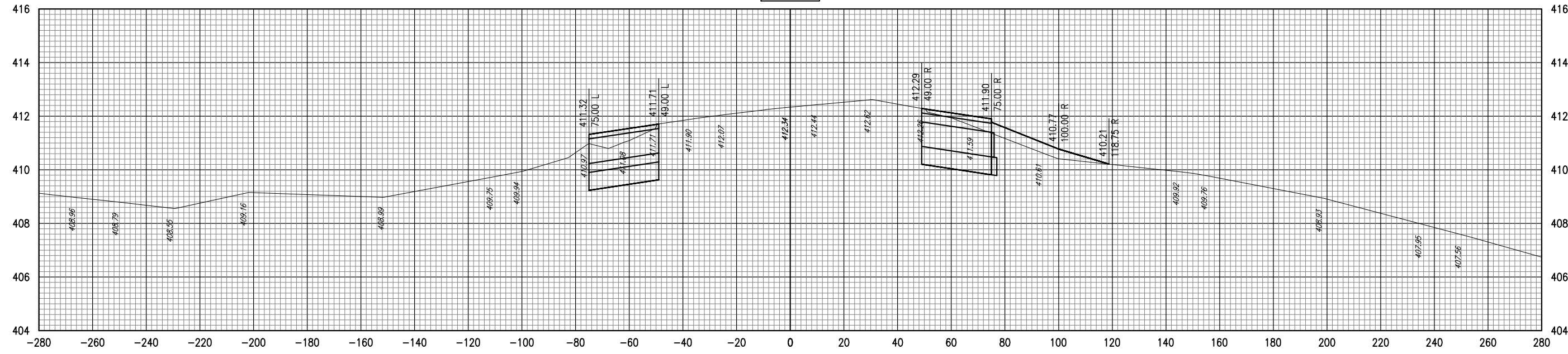
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-305XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

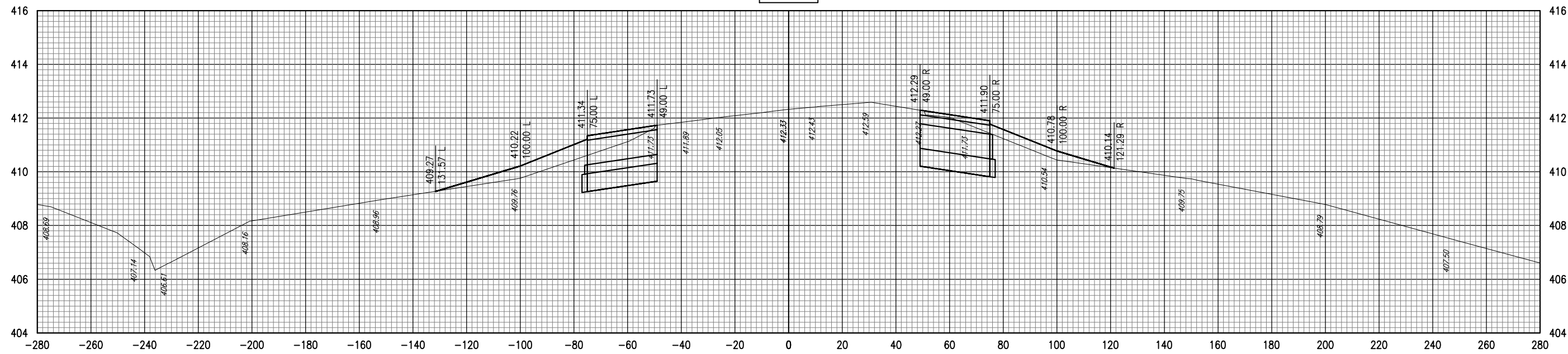
HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 121+00 TO STA. 121+50

122+50



122+00



DATE	REVISION	BY

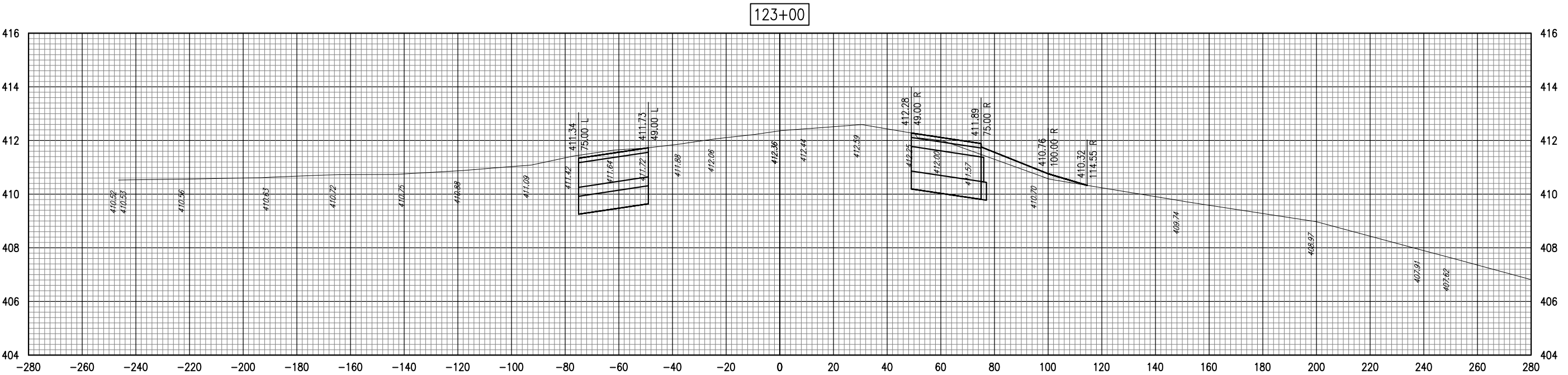
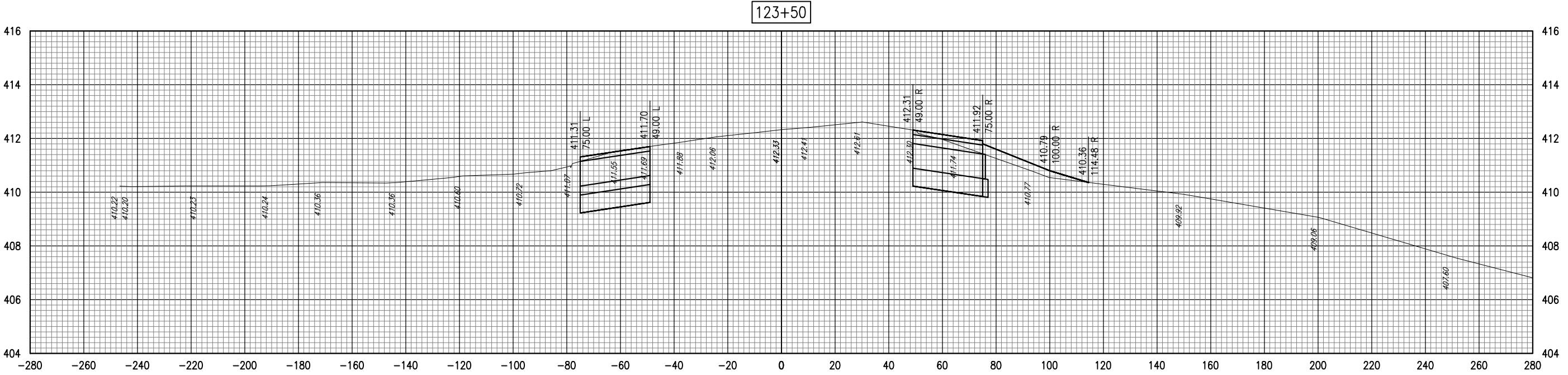
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

L. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-305XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 122+00 TO STA. 122+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

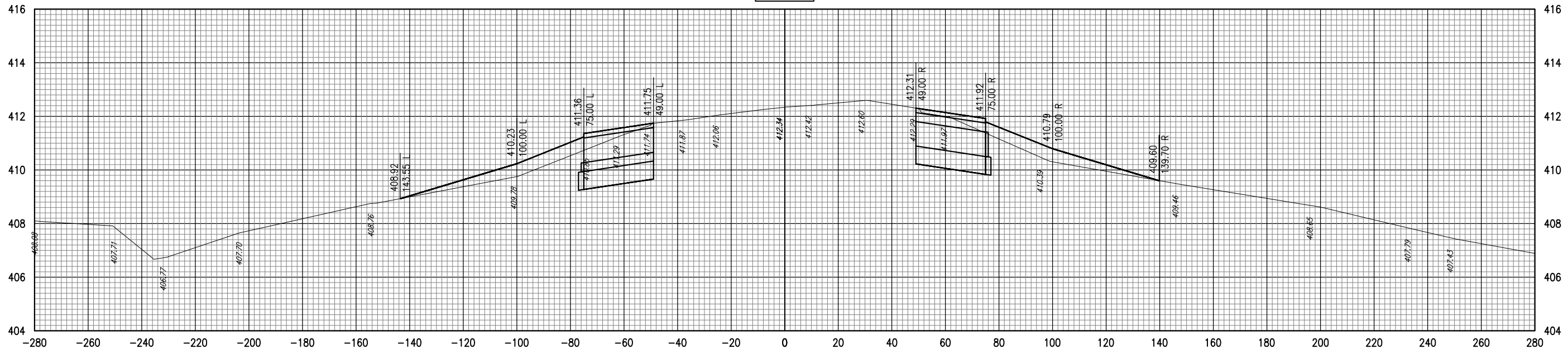
L. PROJ.: CPS-3906
A.L.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-305XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

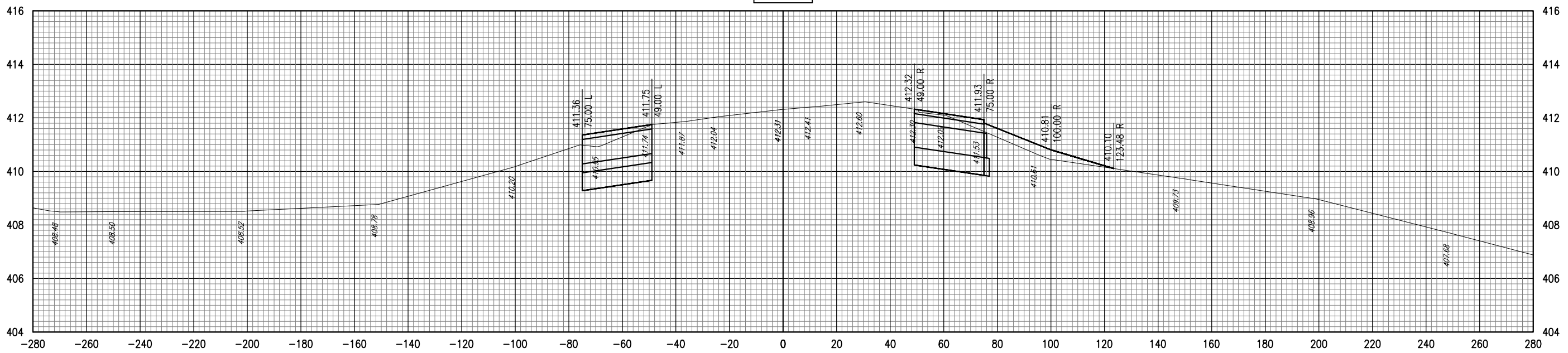
HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 123+00 TO STA. 123+50

124+50



124+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

L. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-305XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

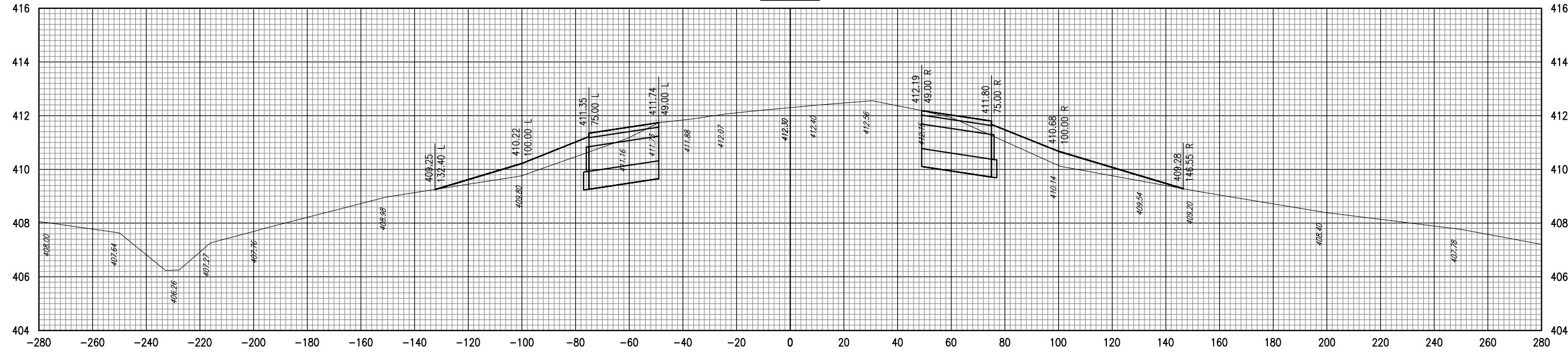
HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

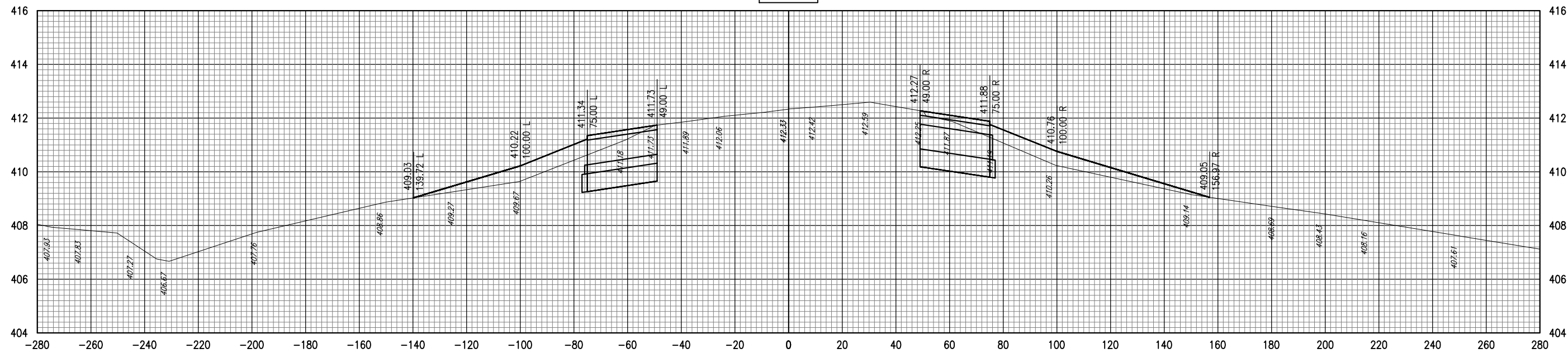
WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 124+00 TO STA. 124+50

125+50



125+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

PROJECT: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

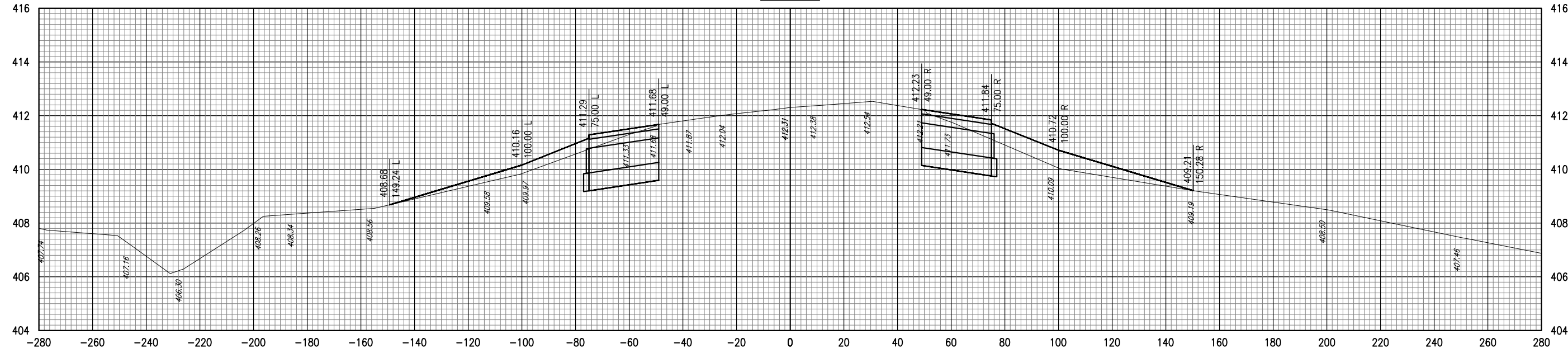
Hanson Project No.	08A0211D
Filename	R-306XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

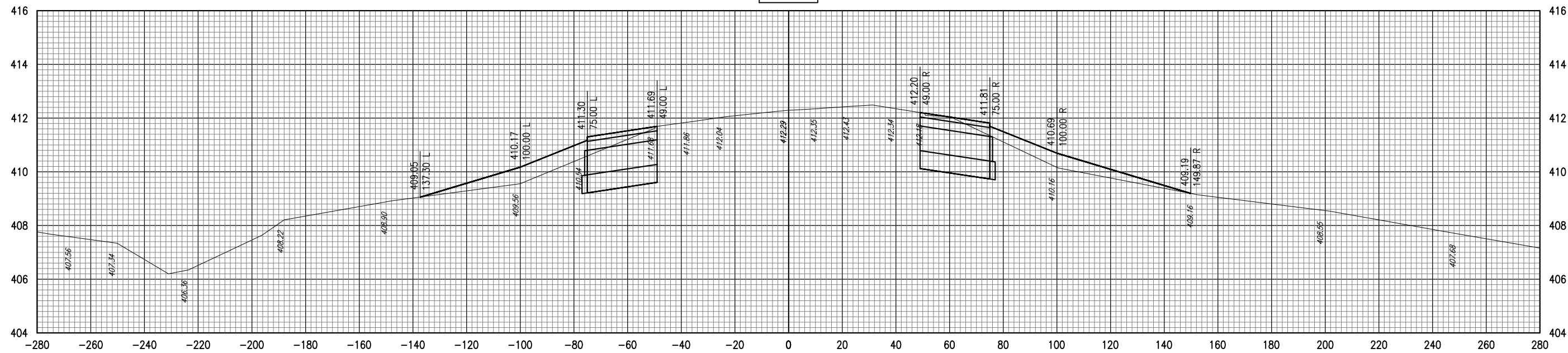
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 125+00 TO STA. 125+50

126+50



126+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.L.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-306XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

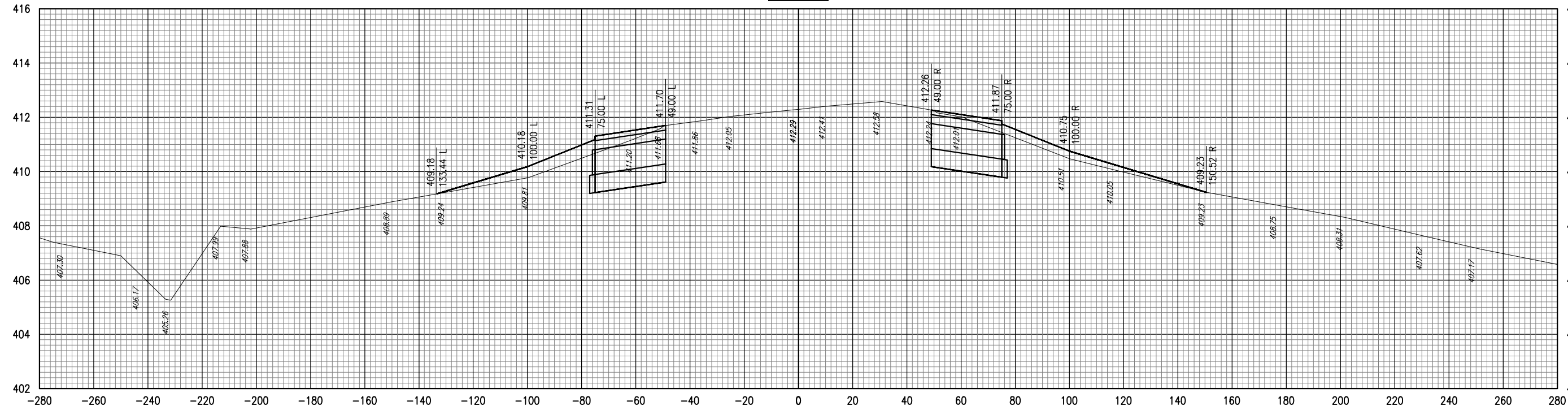
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

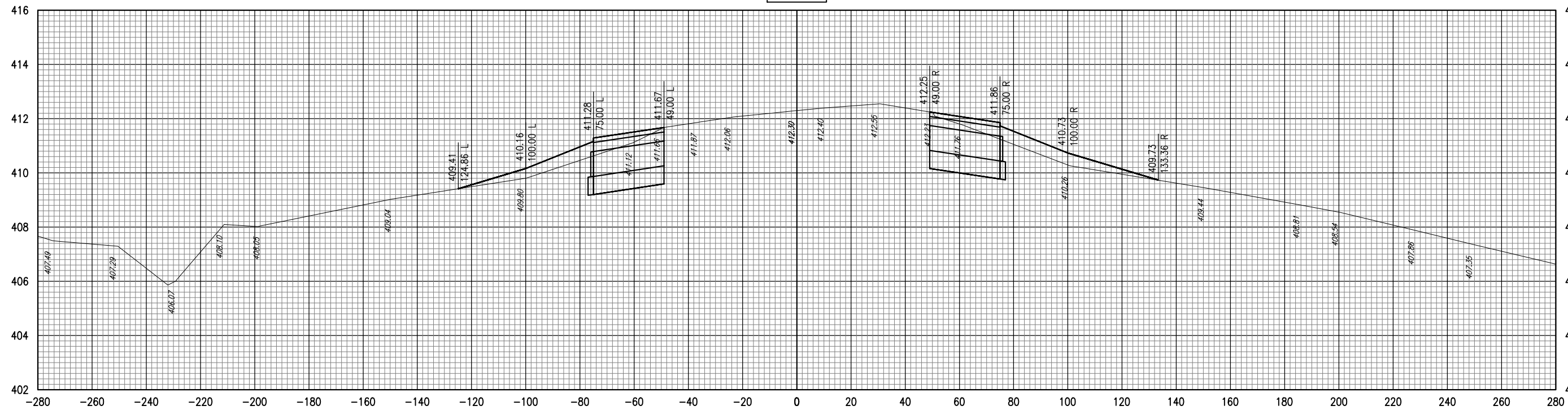
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L

STA. 126+00 TO STA. 126+50

127+50



127+00



REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

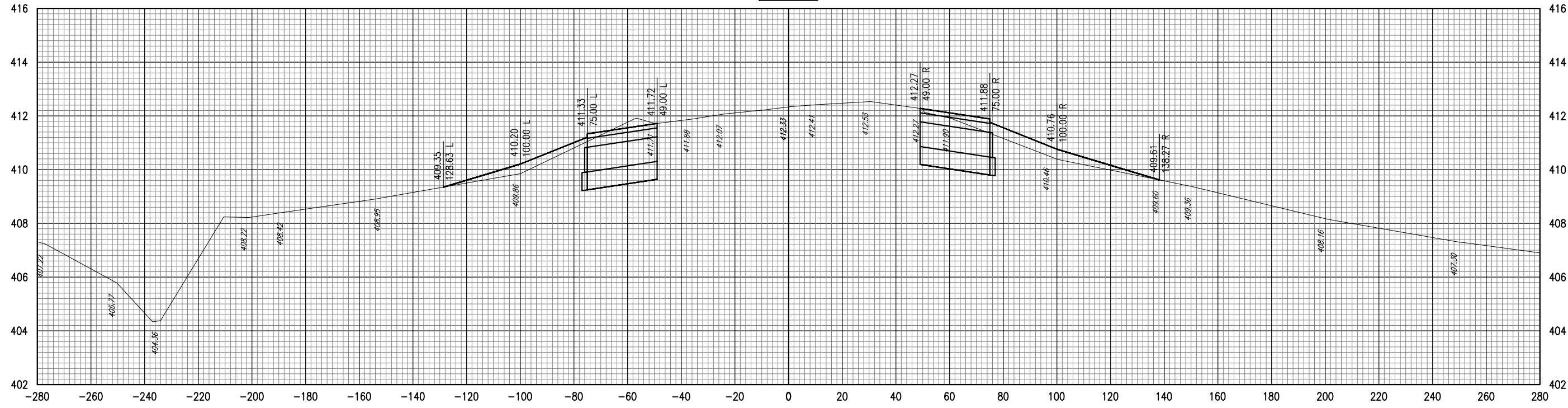


Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-306XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		

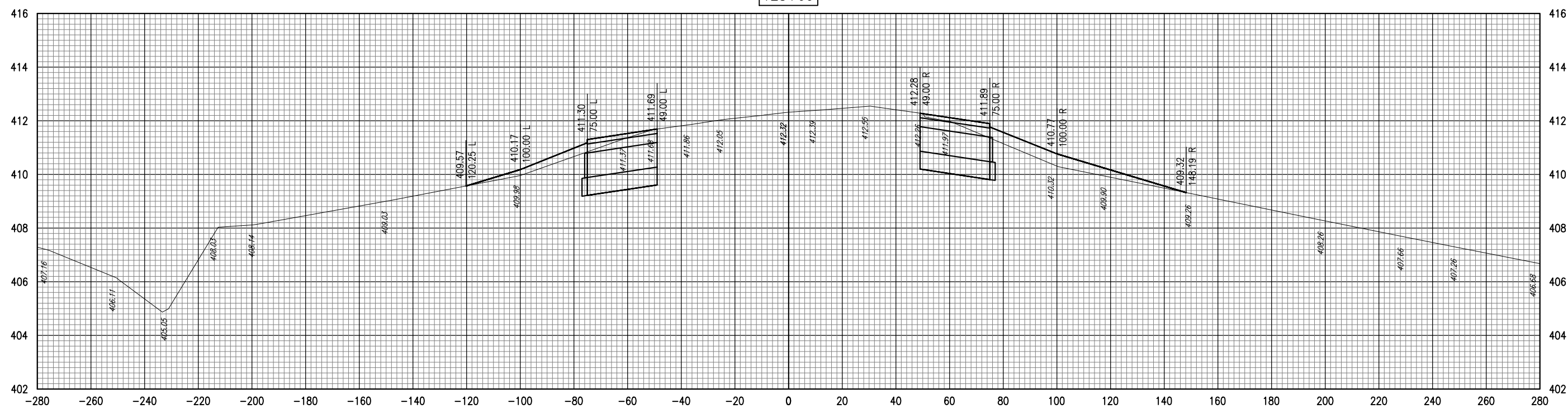


WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 127+00 TO STA. 127+50

128+50



128+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

L. PROJ.: CPS-3906
A.L.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-306XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

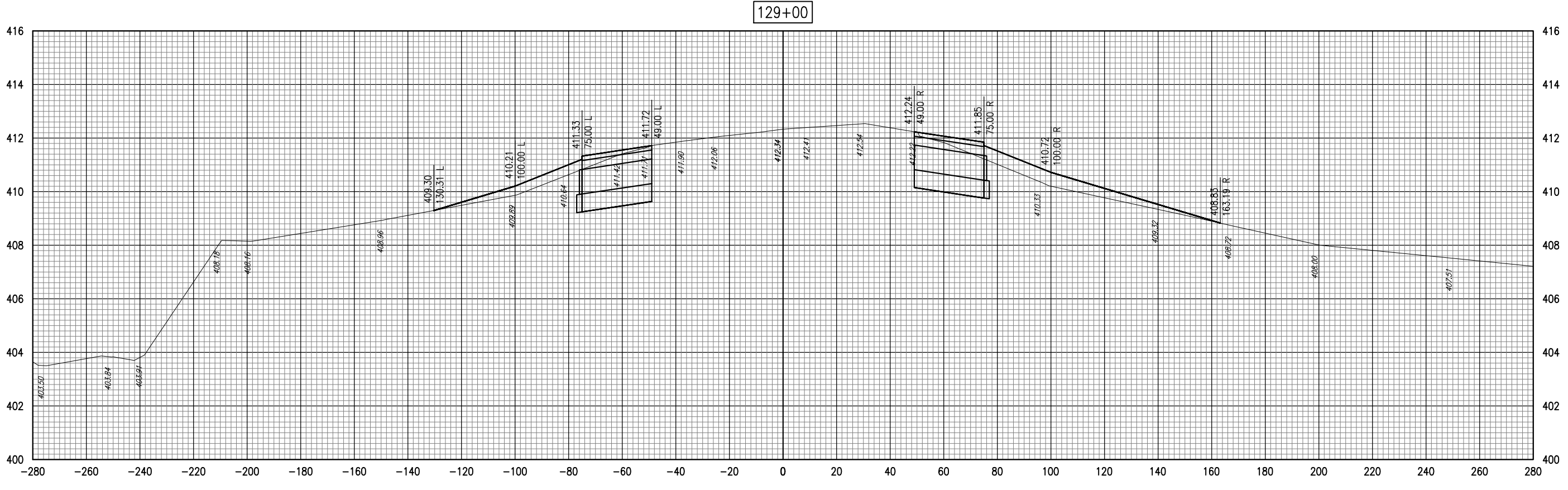
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L

STA. 128+00 TO STA. 128+50

MAY 25, 2010 12:24 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-306XS-RWY.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-306XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

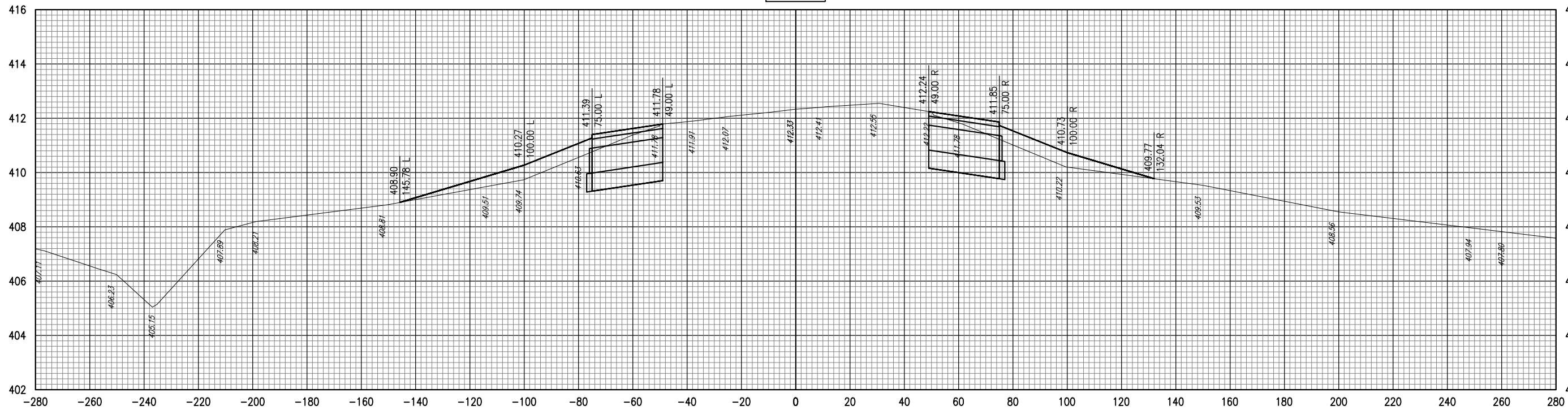
HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

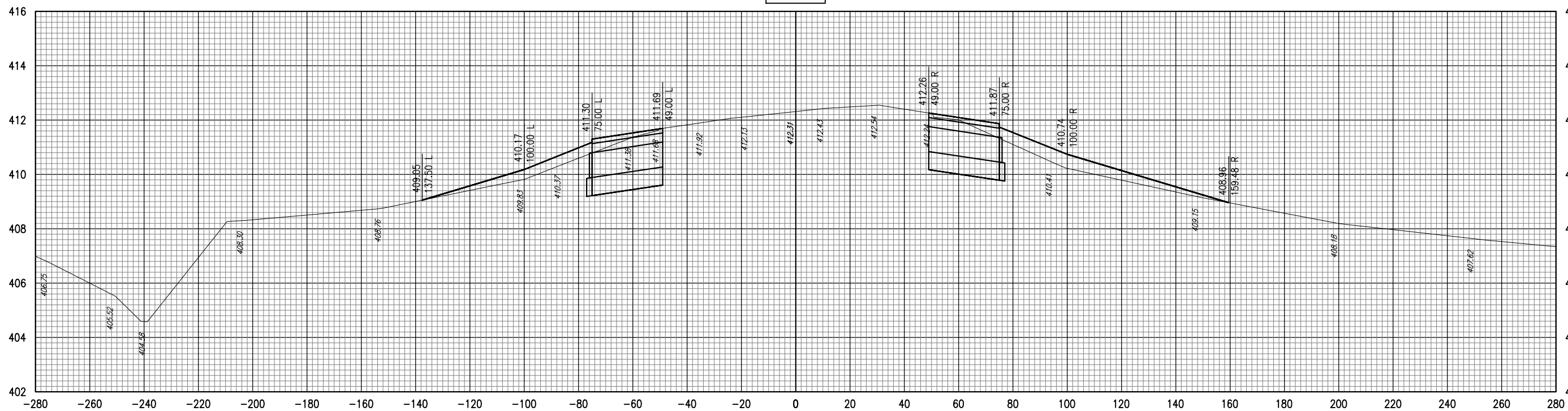
WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 129+00

SD052

130+00



129+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

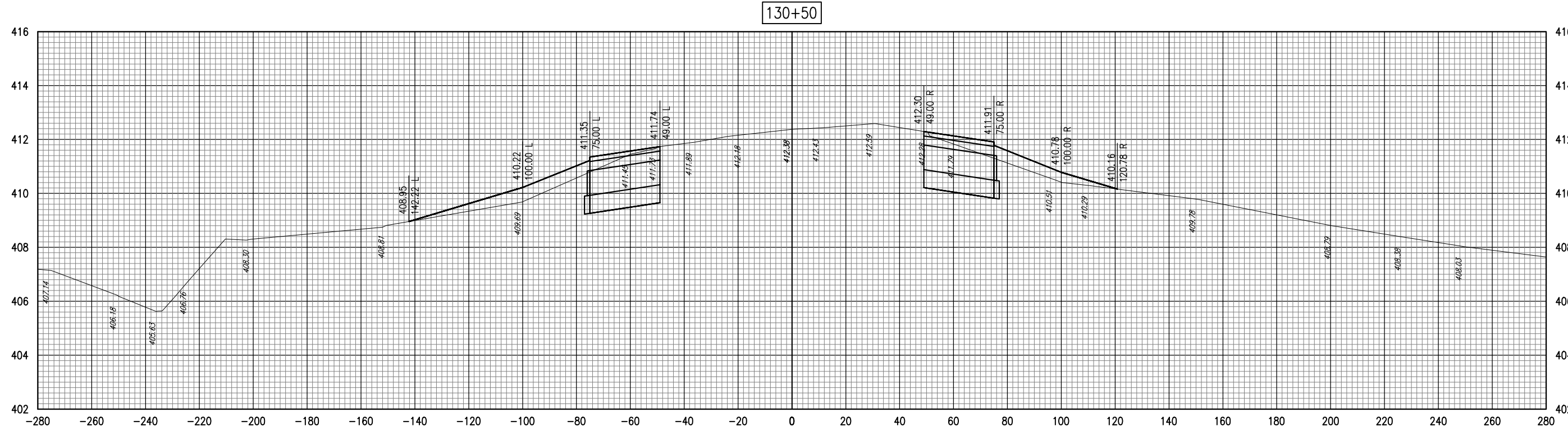
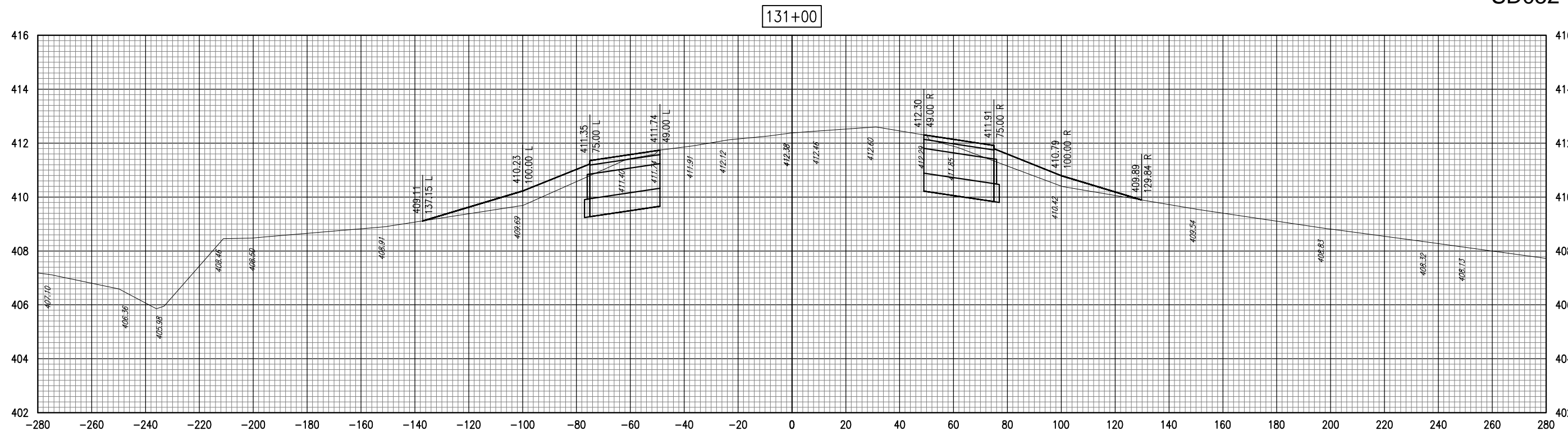
Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-307XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 129+50 TO STA. 130+00

SD052



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

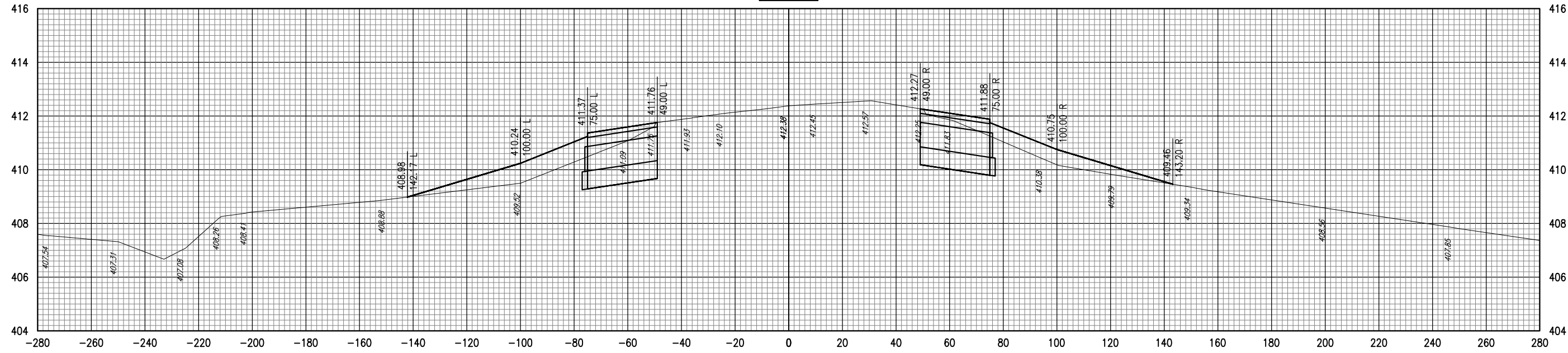
Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-307XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

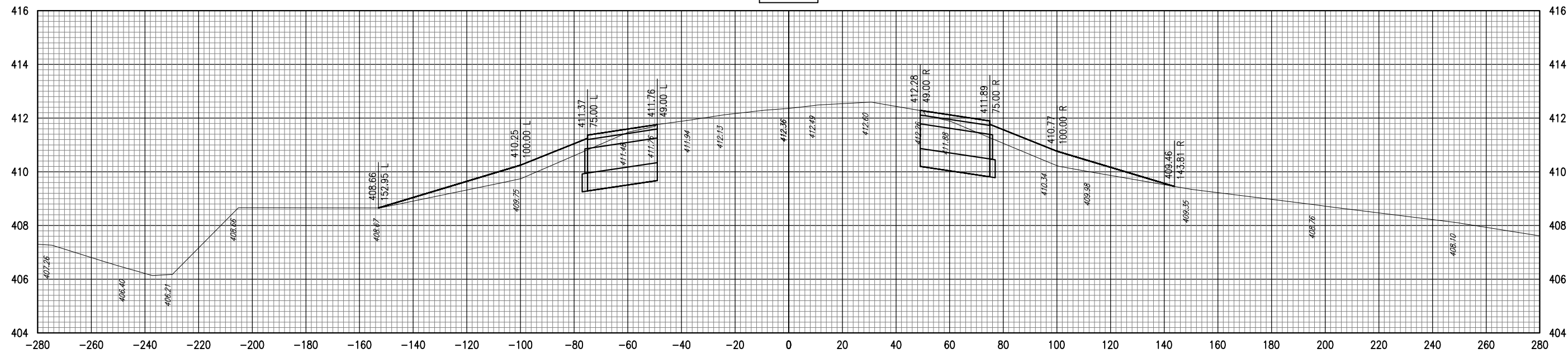
Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 130+50 TO STA. 131+00

132+00



131+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ALP PROJ: 3-17-0039-B22
I.L. PROJ: CPS-3906

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-307XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

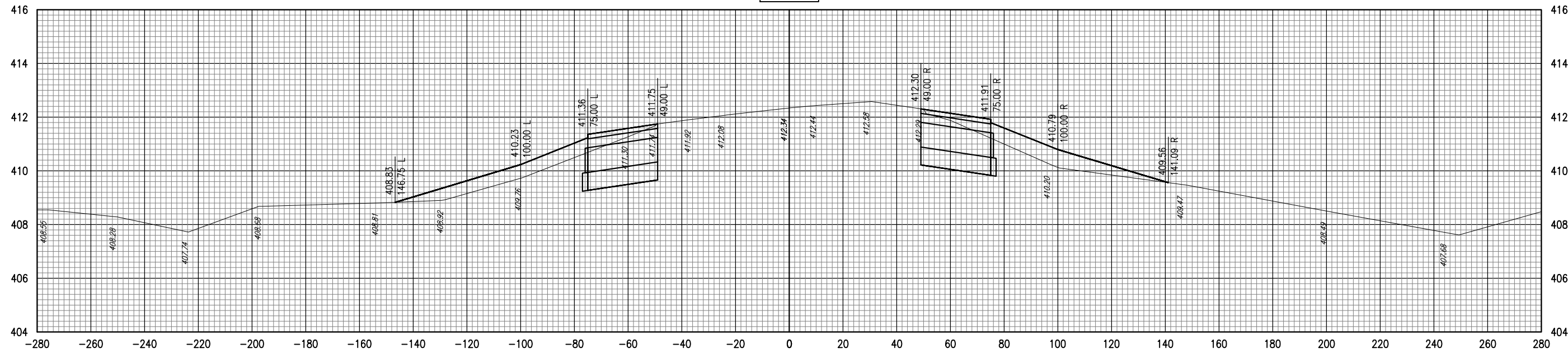
HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

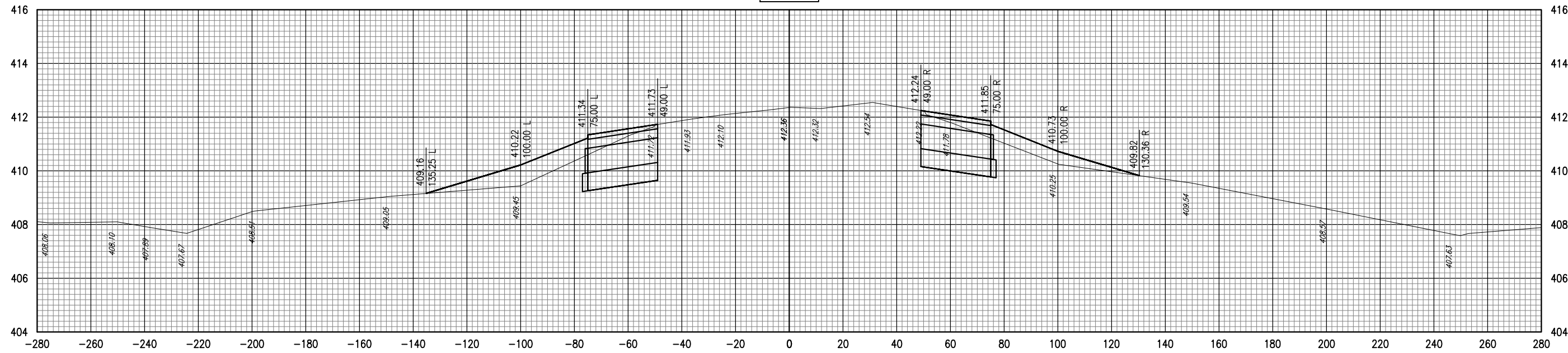
WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 131+50 TO STA. 132+00

133+00



132+50



DATE	REVISION	BY

**SAINT LOUIS
DOWNTOWN
AIRPORT**
A Division of METRO

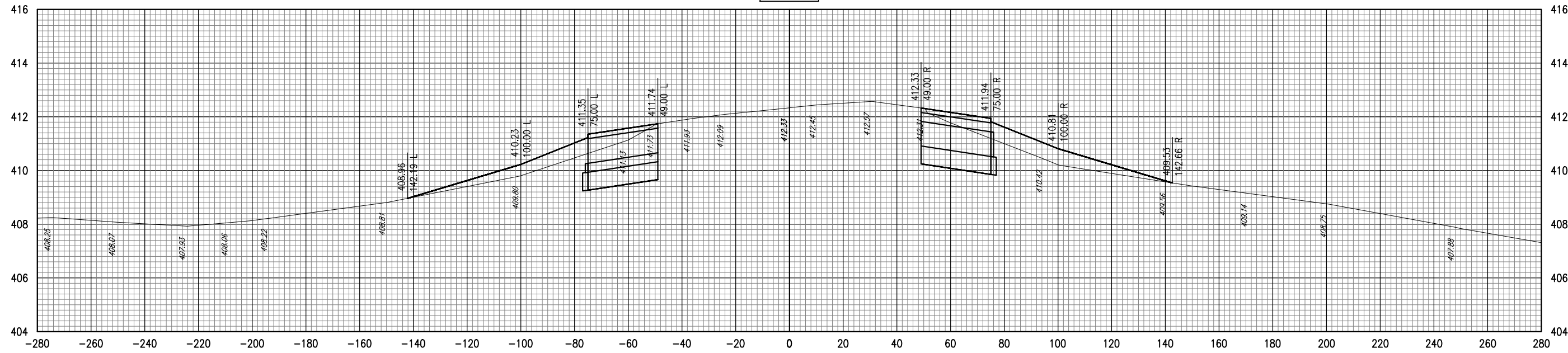


Hanson Project No.	08A0211D
Filename	R-307XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

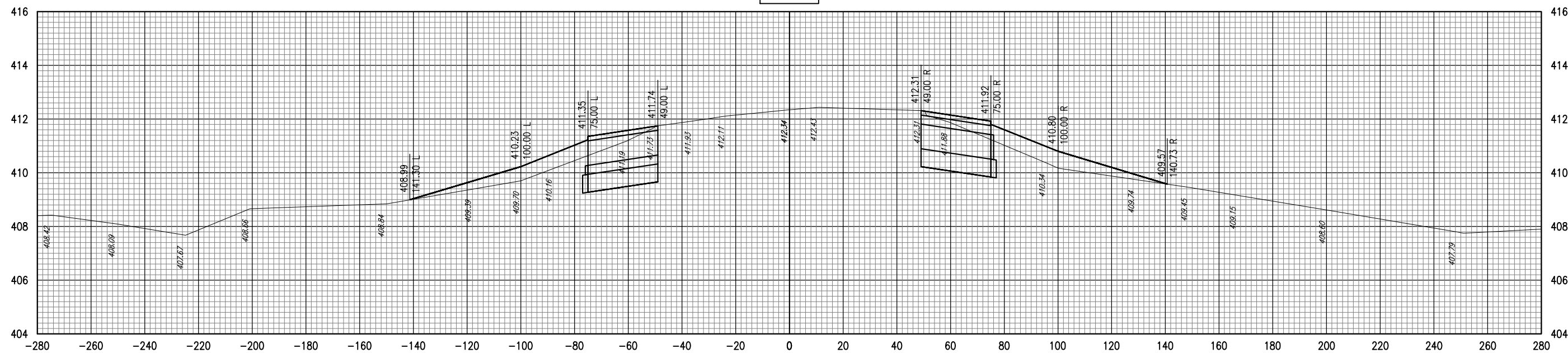


**WIDEN RUNWAY
12R/30L**
**PROPOSED CROSS-SECTIONS
FOR RUNWAY 12R-30L
STA. 132+50 TO STA. 133+00**

134+00



133+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

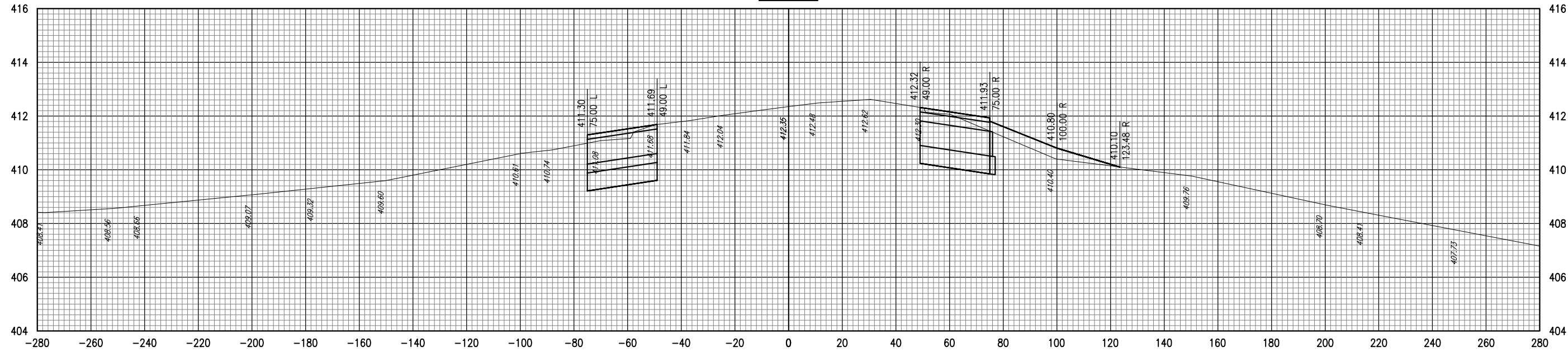


Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-307XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

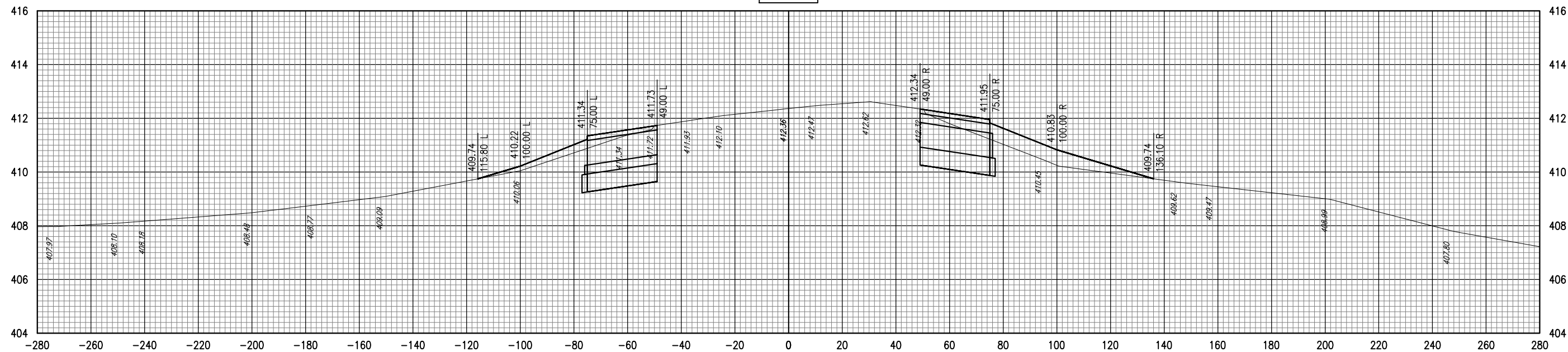


WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 133+50 TO 134+00

135+00



134+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

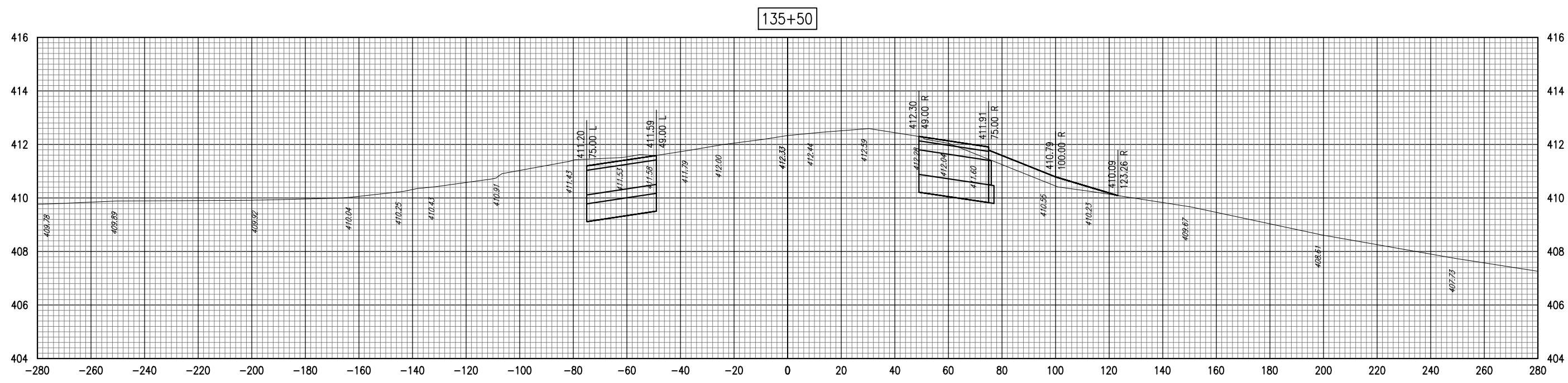
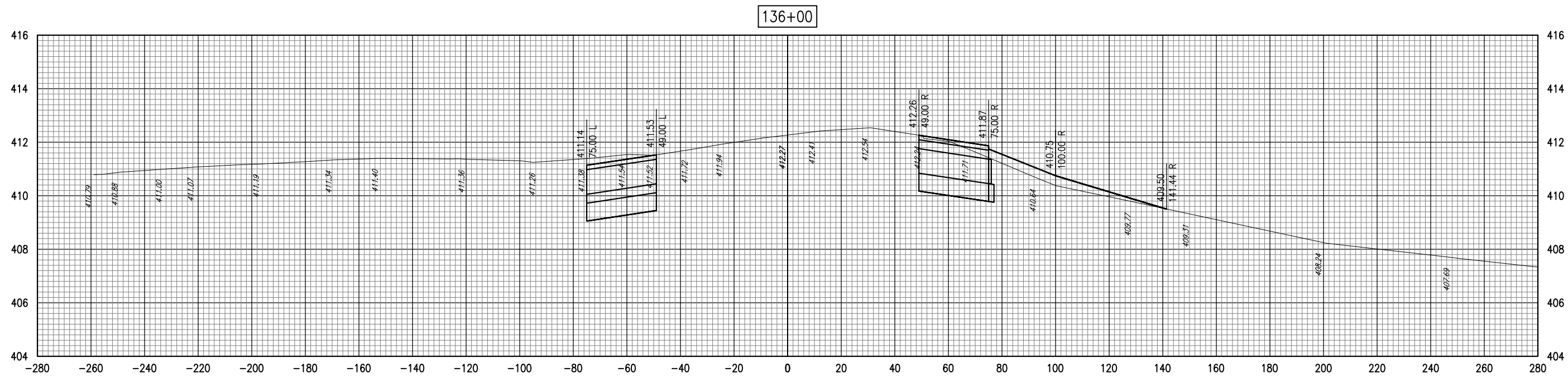
A.L.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-308XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 134+50 TO STA. 135+00



MAY 25, 2010 12:30 PM OSTER0005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET R-308XS-RWY.DWG

DATE	REVISION	BY

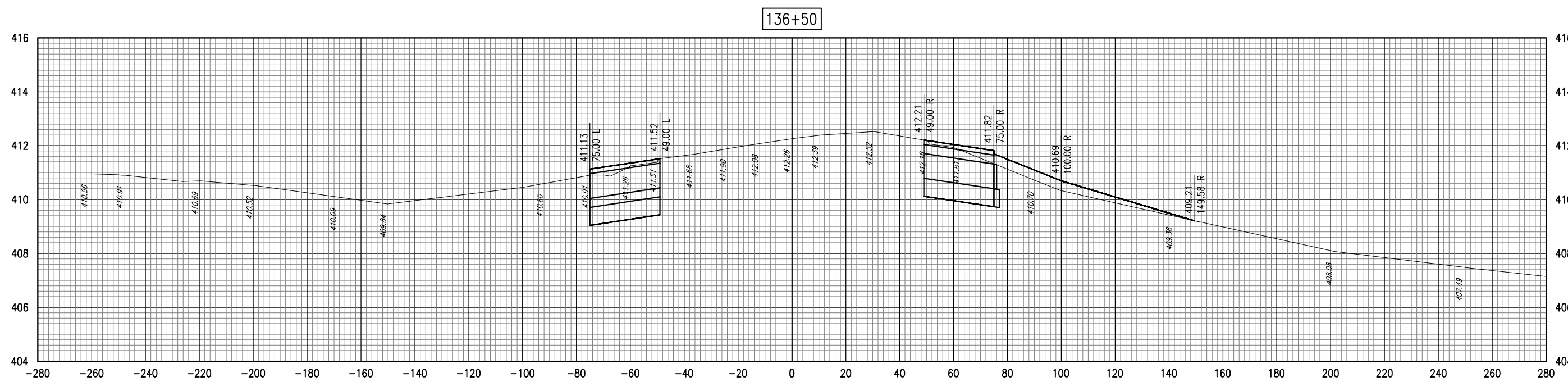
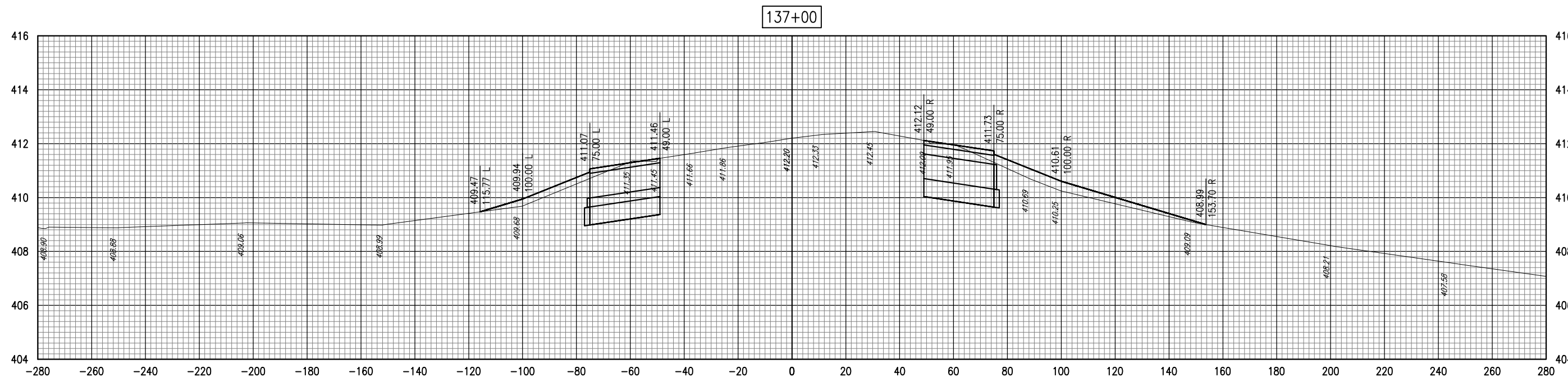
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-308XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 135+50 TO STA. 136+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-308XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

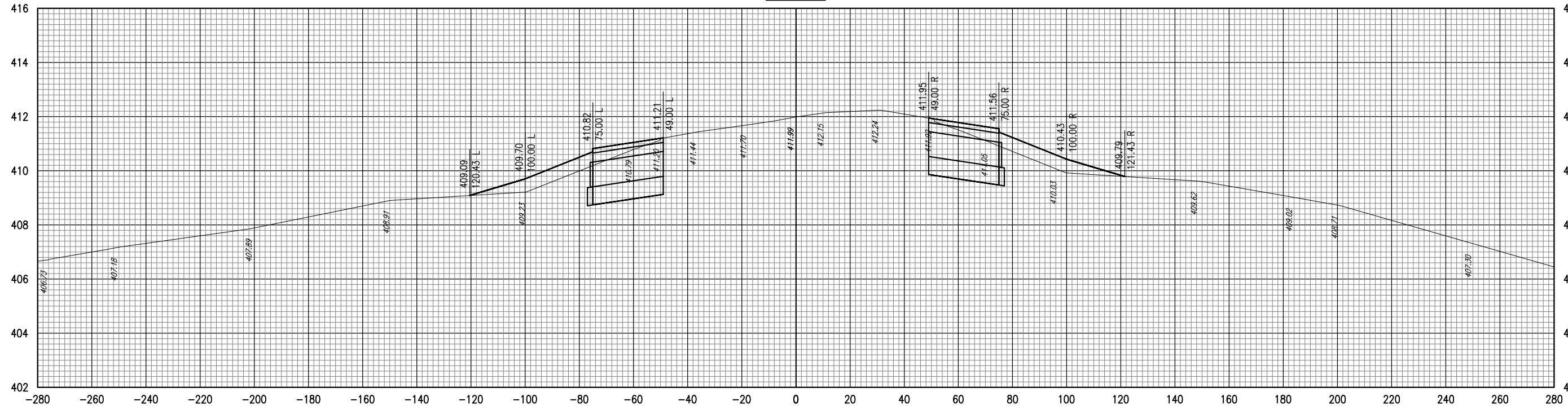
HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

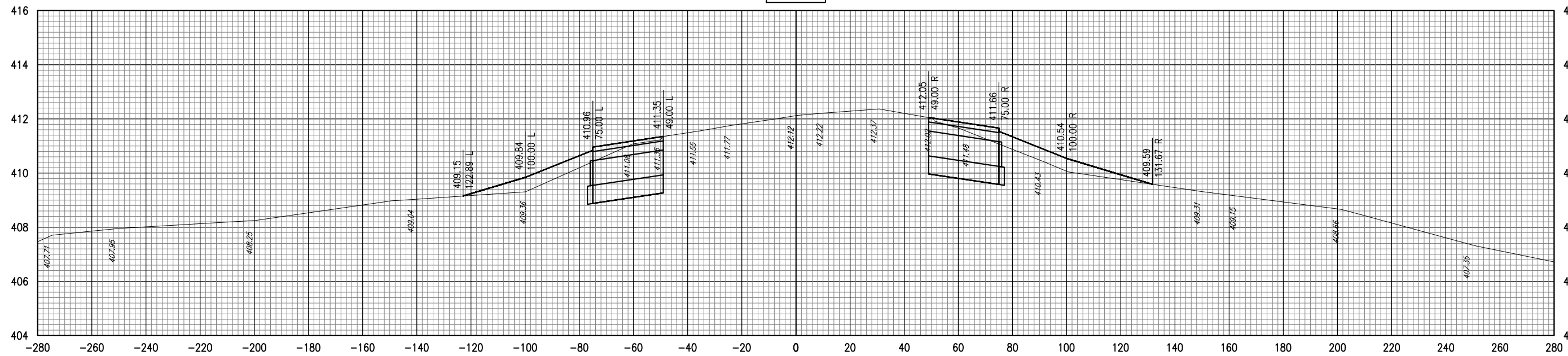
WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 136+50 TO STA. 137+00

138+00



137+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.L.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-308XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

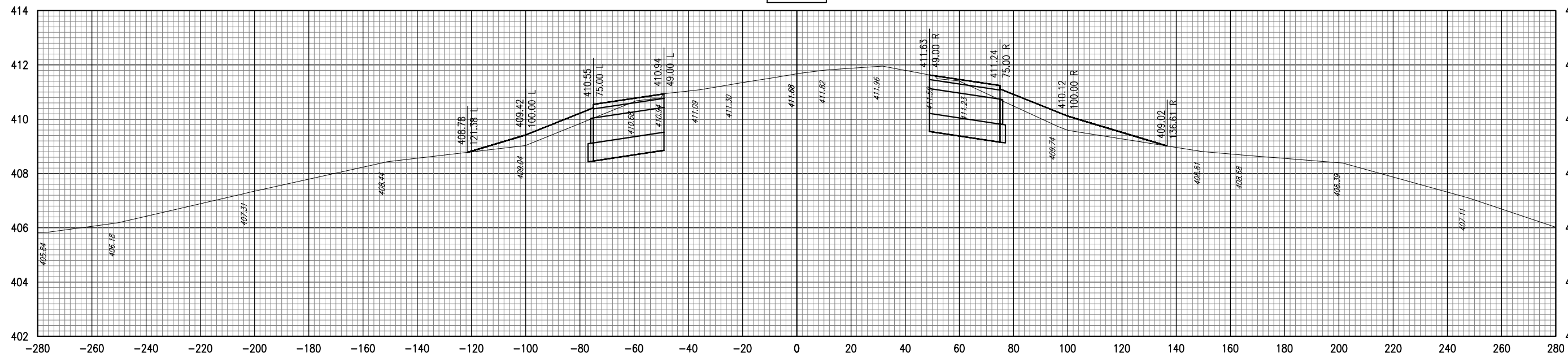
HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

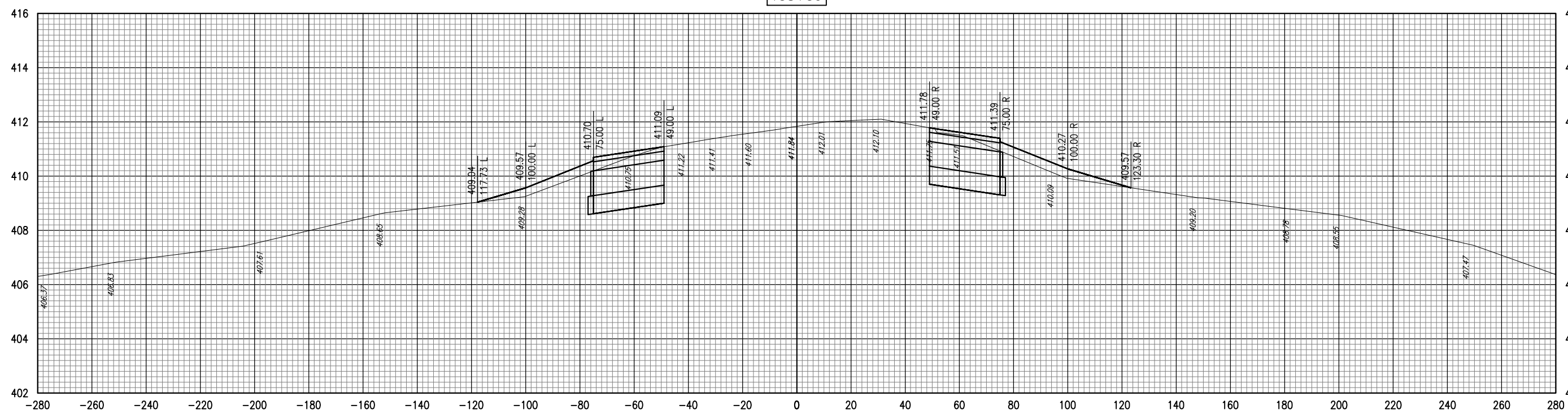
WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 137+50 TO STA. 138+00

139+00



138+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-308XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

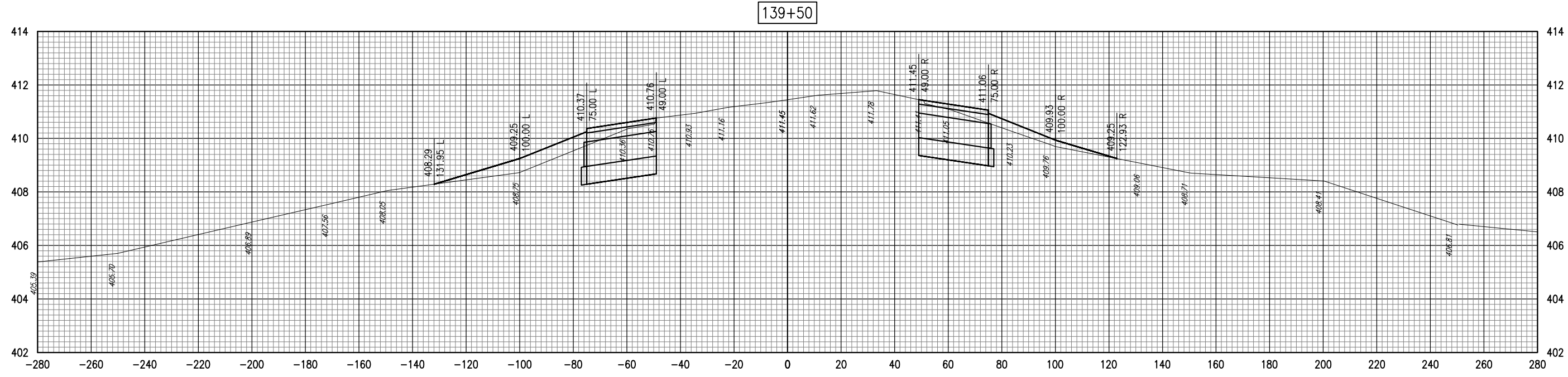
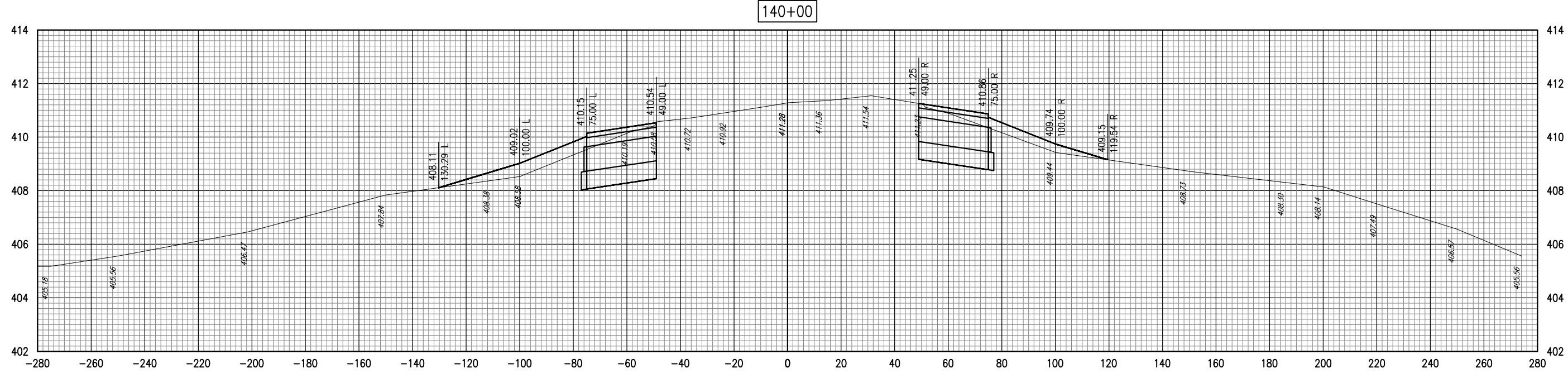
HANSON

Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 138+50 TO 139+00

MAY 25, 2010 12:33 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-309XS-RWY.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3--17--0039-B22

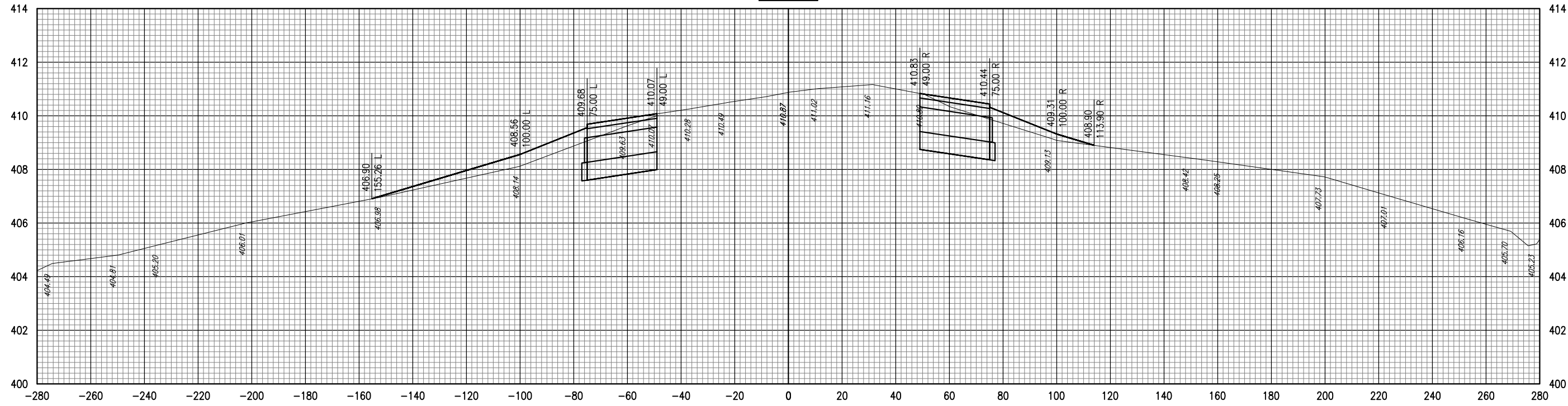
Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-309XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 139+50 TO STA. 140+00

141+00



140+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

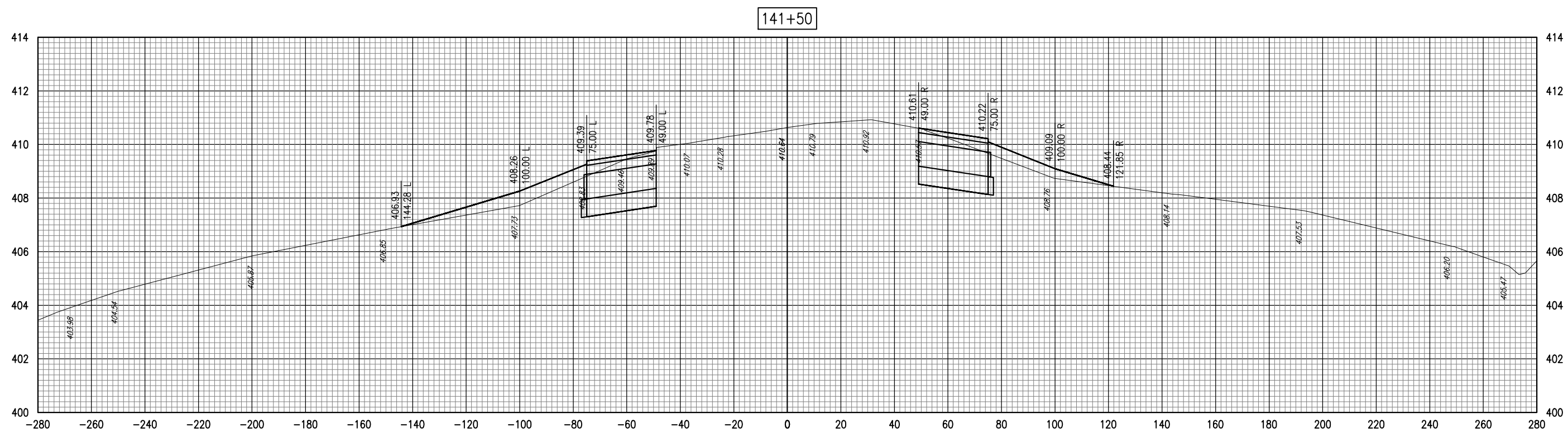
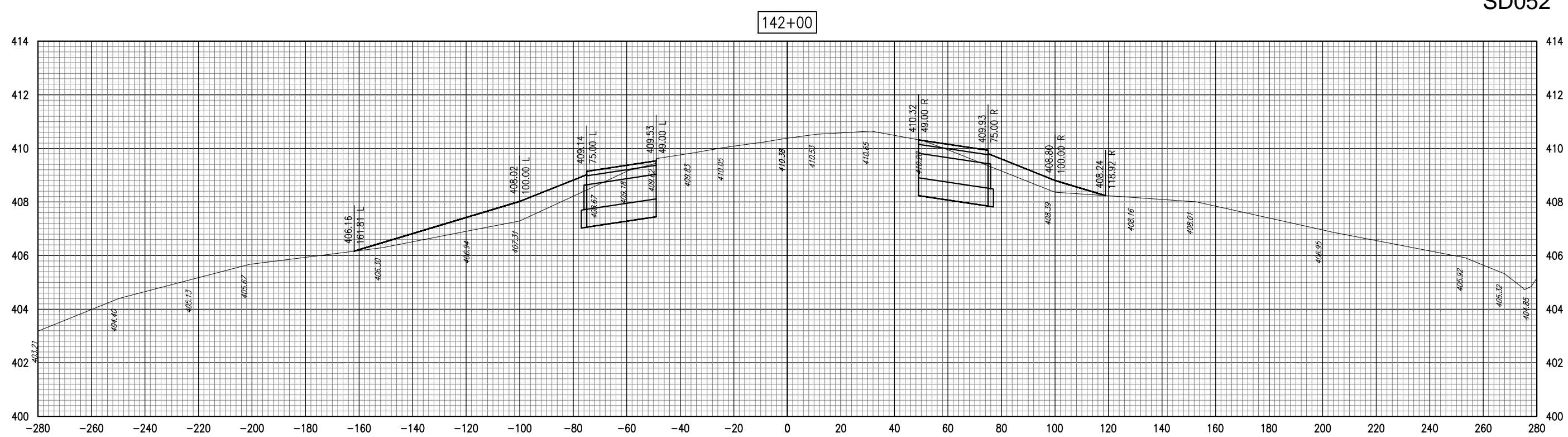
IL PROJ.: CPS-3906
A.L.P. PROJ.: 3-17-0039-BZ2

Hanson Project No.	08A0211D
Filename	R-309XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 140+50 TO STA. 141+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

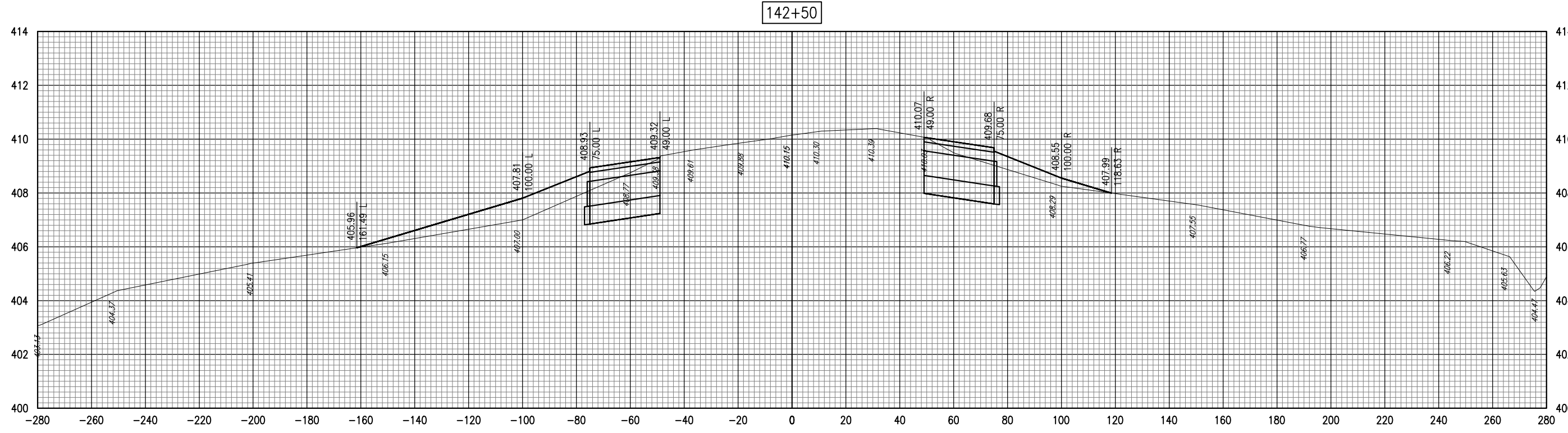
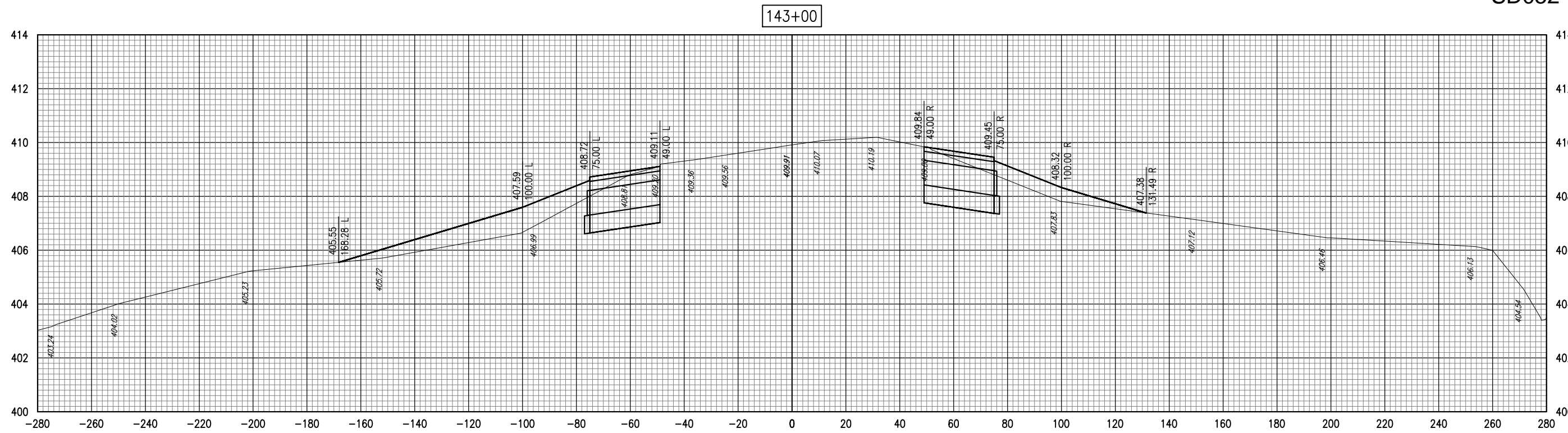
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-309XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 141+50 TO STA. 142+00



SD052

143+00

142+50

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

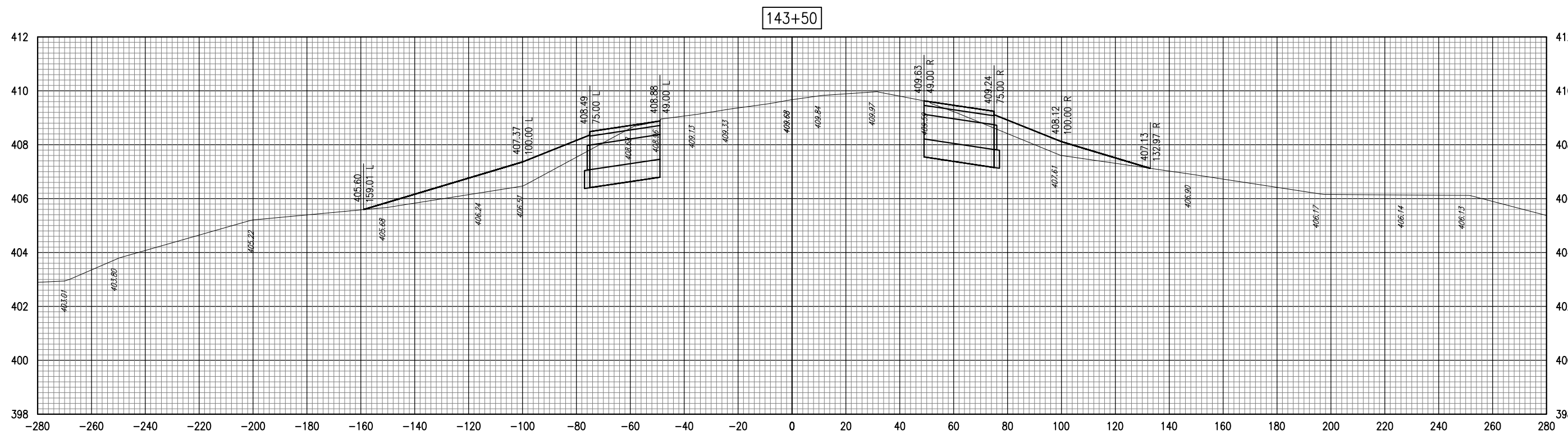
ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3--17--0039-B22

Hanson Project No.	08A0211D
Filename	R-309XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 142+50 TO STA. 143+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

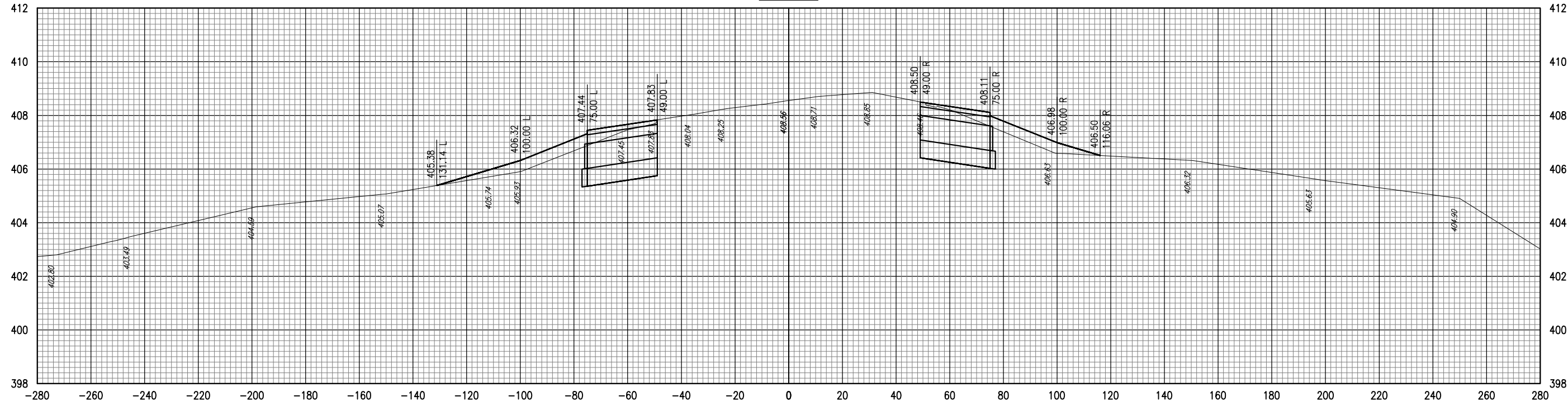
Hanson Project No.	08A0211D
Filename	R-309XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

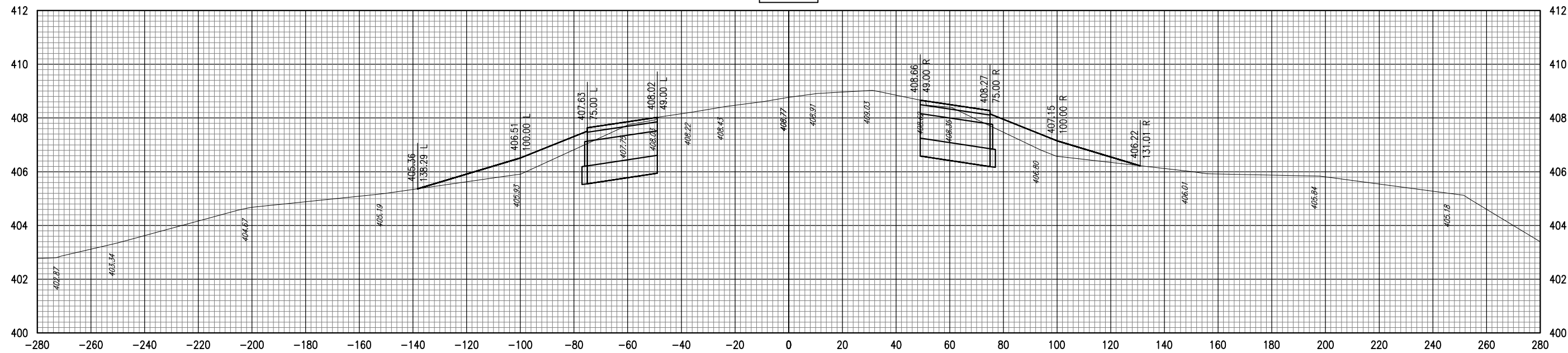
Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 143+50 TO 144+00

146+00



145+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

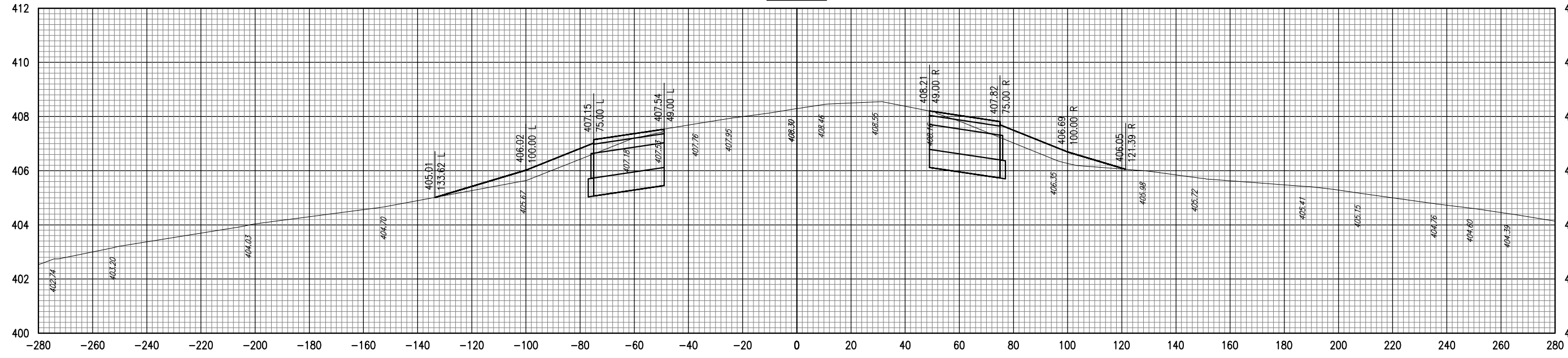
IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	FILENAME R-310XS-RWY.DWG	Scale V. 1" = 2' H. 1" = 20'	Date 04/16/2010
LAYOUT	JEO	03/11/10	
DRAWN	JEO	03/11/10	
REVIEWED	CAH	04/01/10	

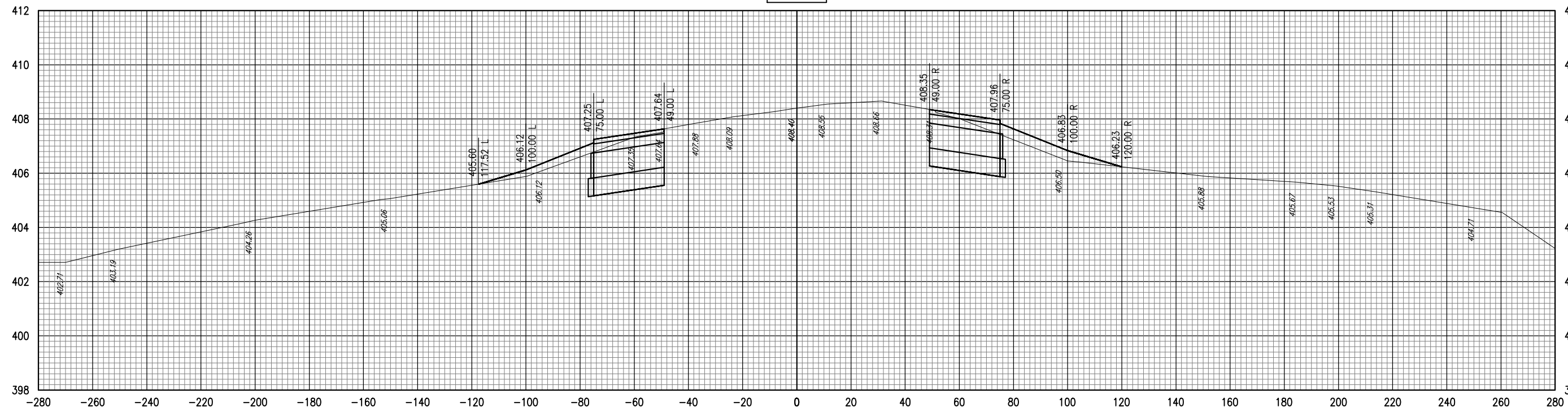
HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 145+50 TO STA. 146+00

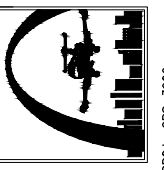
147+00



146+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

 I.L. PROJ.: CPS-3906
 A.L.P. PROJ.: 3-17-0039-B22

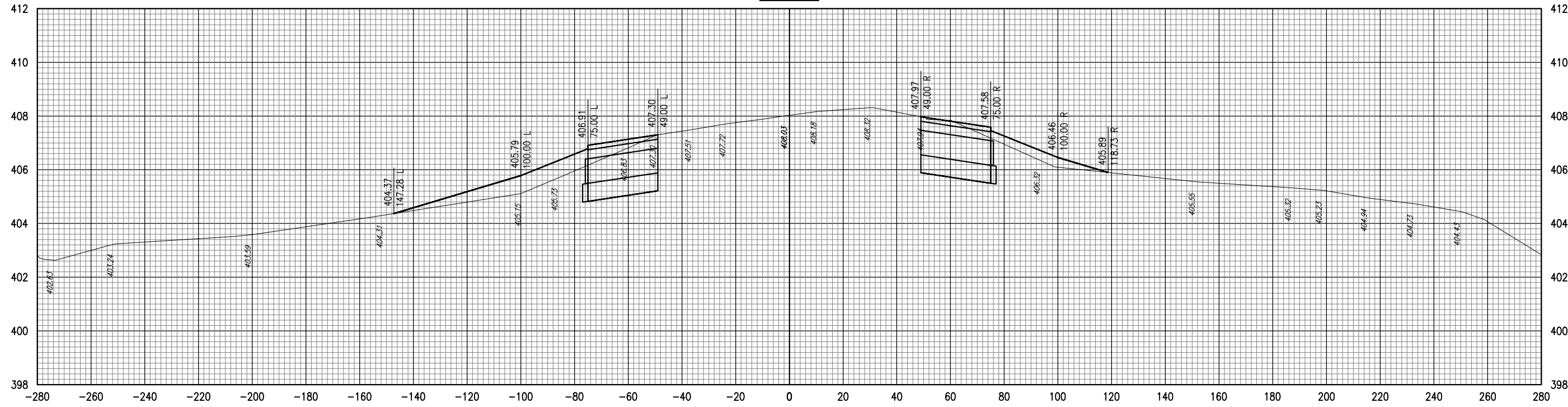
Hanson Project No.	08A0211D
Filename	R-310XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

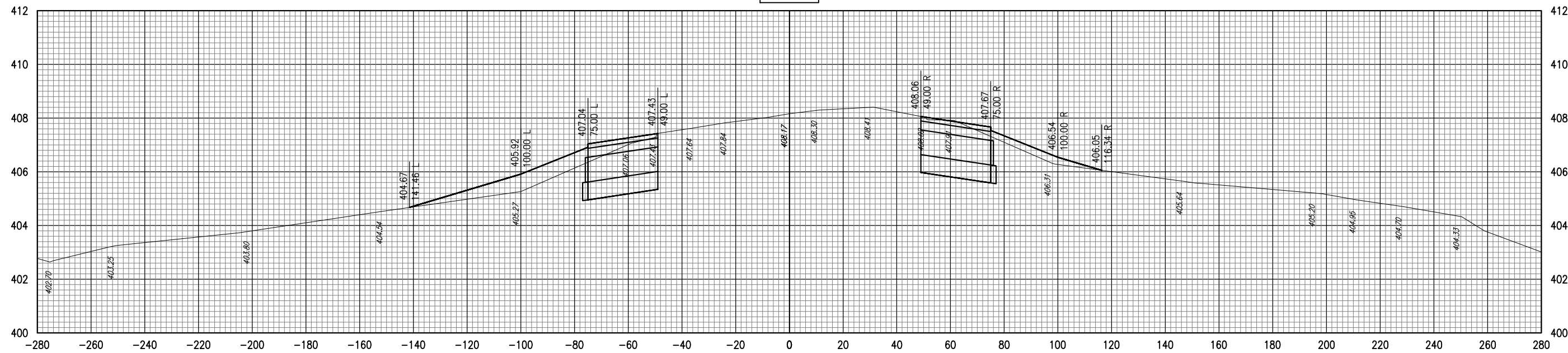
WIDEN RUNWAY 12R/30L
 PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 146+50 TO STA. 147+00

MAY 25, 2010 12:38 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-310XS-RWY.DWG

148+00



147+50



DATE	REVISION	BY

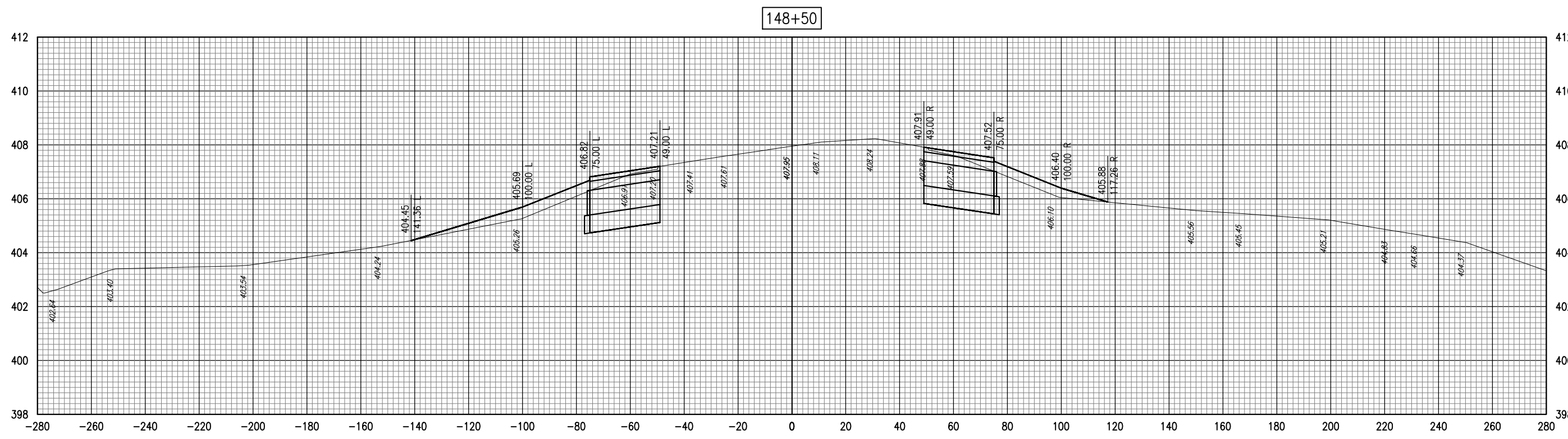
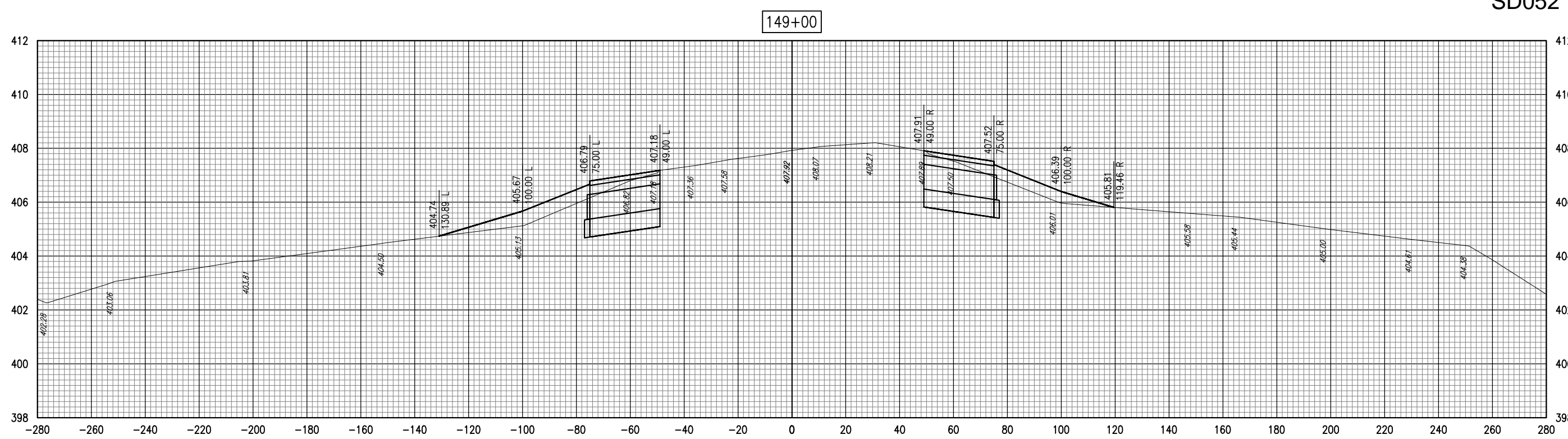
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ALP PROJ: 3-17-0039-B22
I.L. PROJ: CPS-3906

Project No.	Drawn	Checked	Date
08A0211D	JEO	JEO	03/11/10
R-310XS-RWY.DWG	JEO	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	CAH	04/16/2010
Date			

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 147+50 TO STA. 148+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-310XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

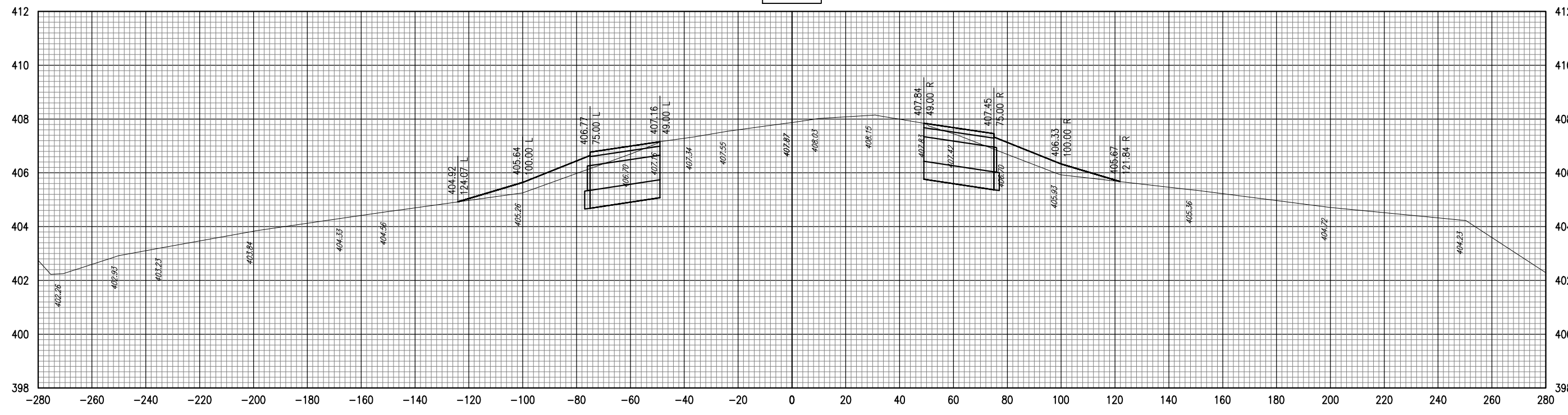
HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

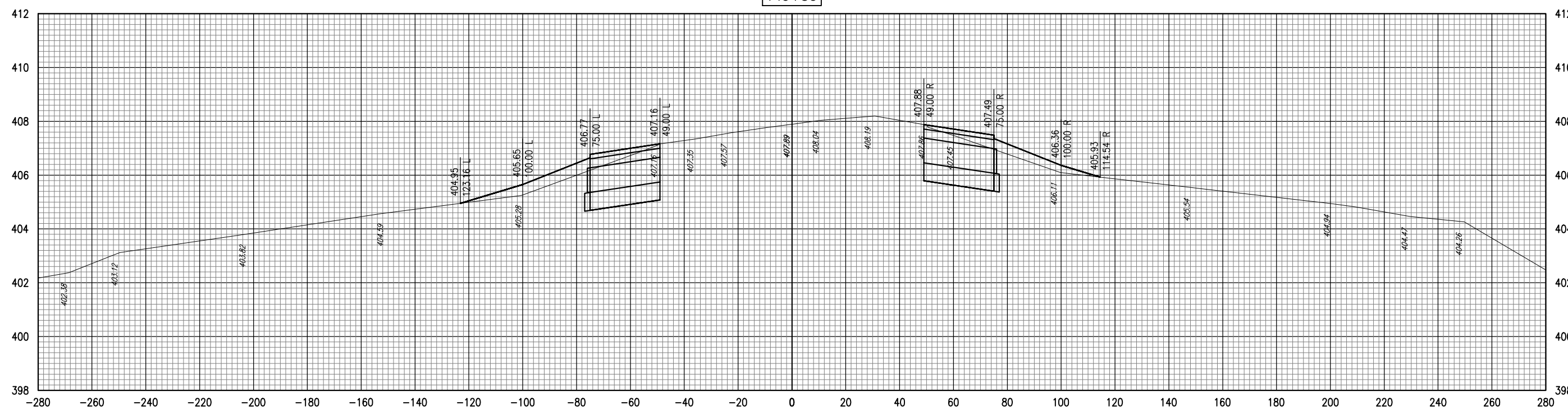
WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 148+50 TO 149+00

SD052

150+00



149+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

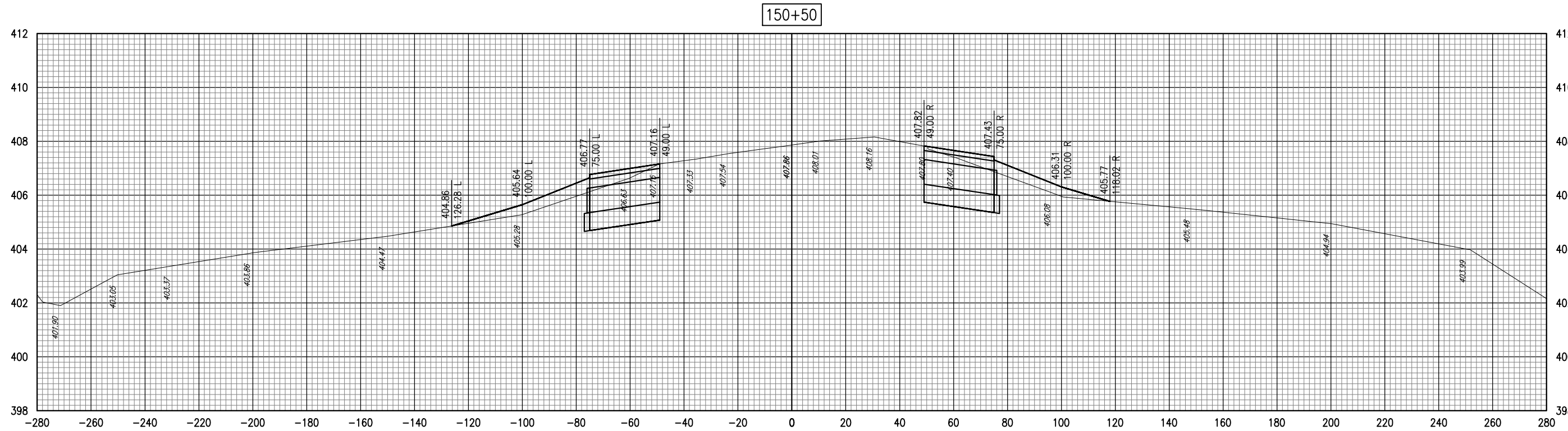
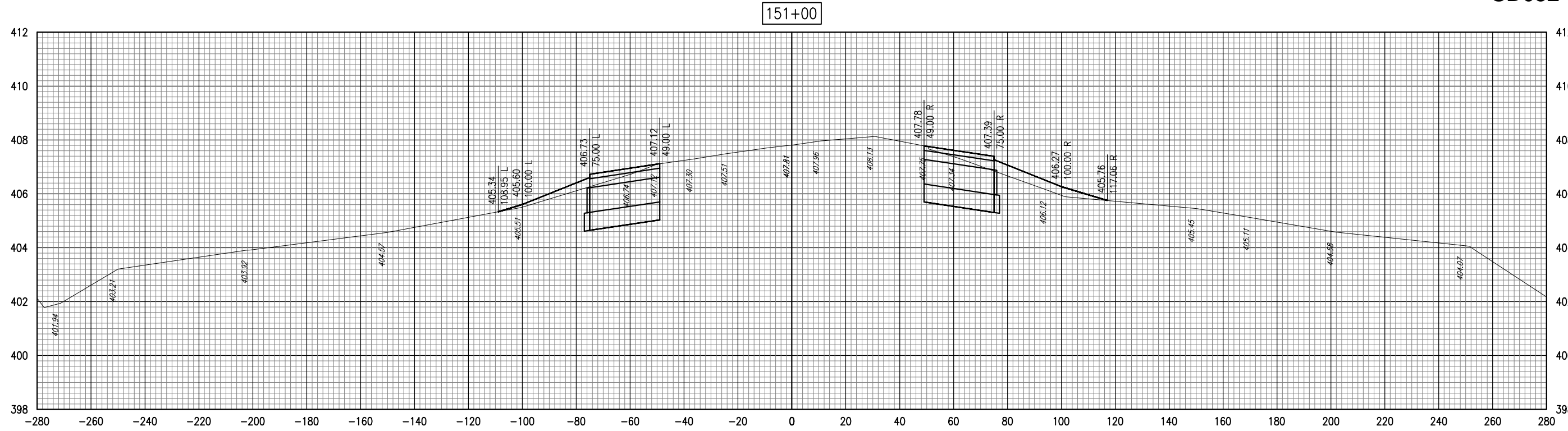
IL PROJ.: 3-17-0039-BZ2
 IL PROJ.: CPS-3906

Hanson Project No.	08A0211D
Filename	R-311XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 149+50 TO STA. 150+00



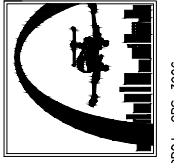
151+00

150+50

SD052

DATE	REVISION	BY

**SAINT LOUIS
 DOWNTOWN
 AIRPORT**
 A Division of METRO



IL PROJ: CFS-3906
 A.I.P. PROJ: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-311XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

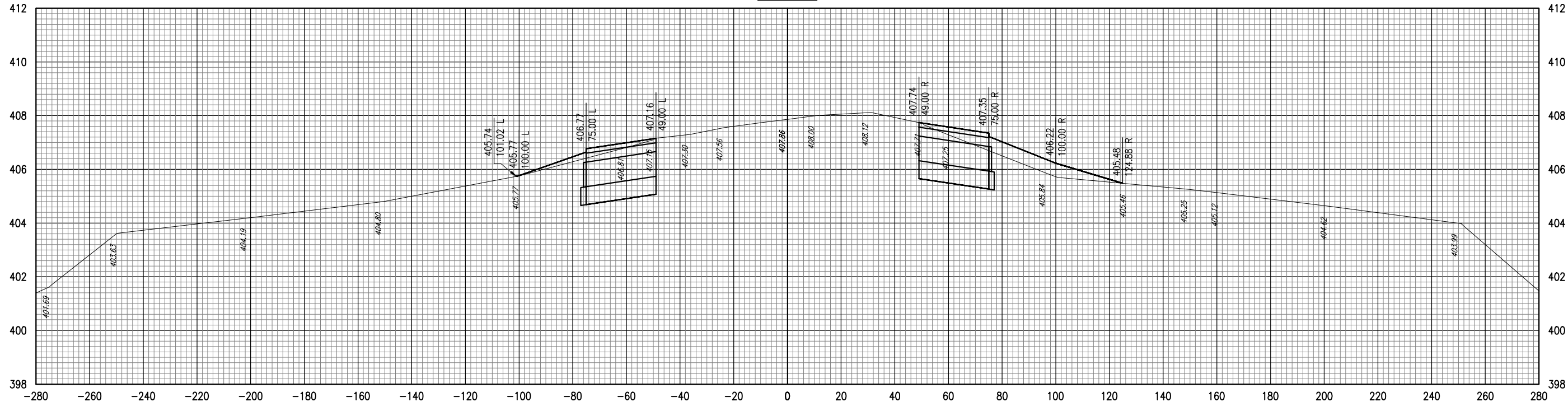


HANSON
 Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

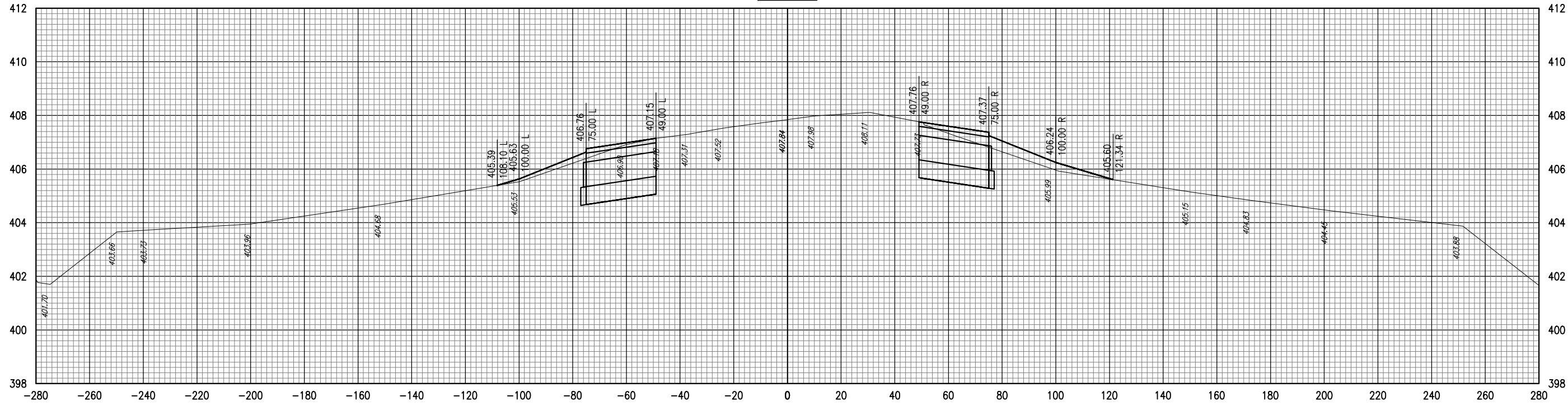
**WIDEN RUNWAY
 12R/30L**
 PROPOSED CROSS-SECTIONS
 FOR RUNWAY 12R-30L
 STA. 150+50 TO STA. 151+00

SD052

152+00



151+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

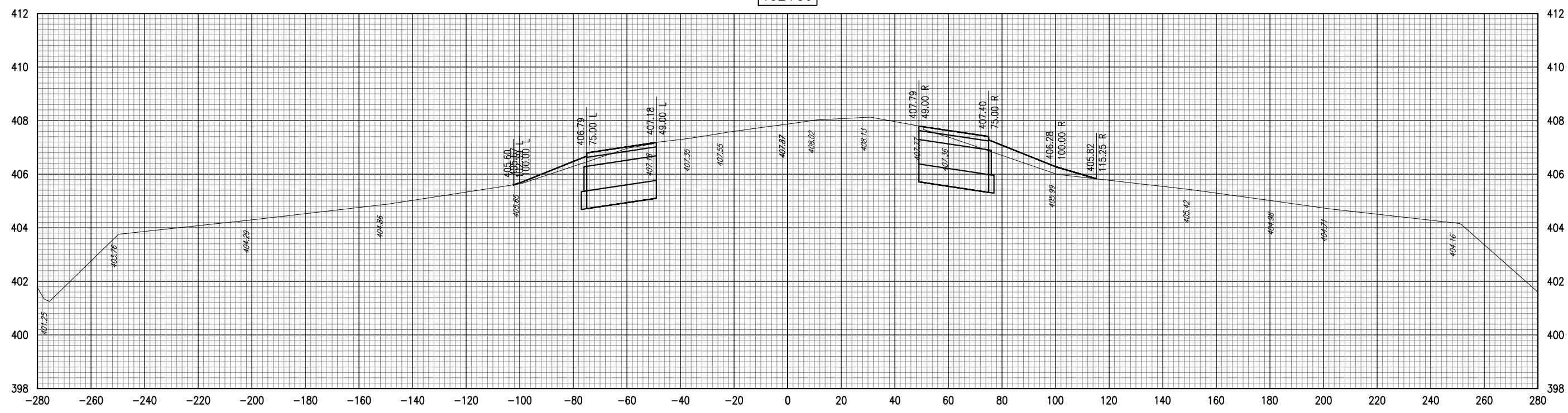
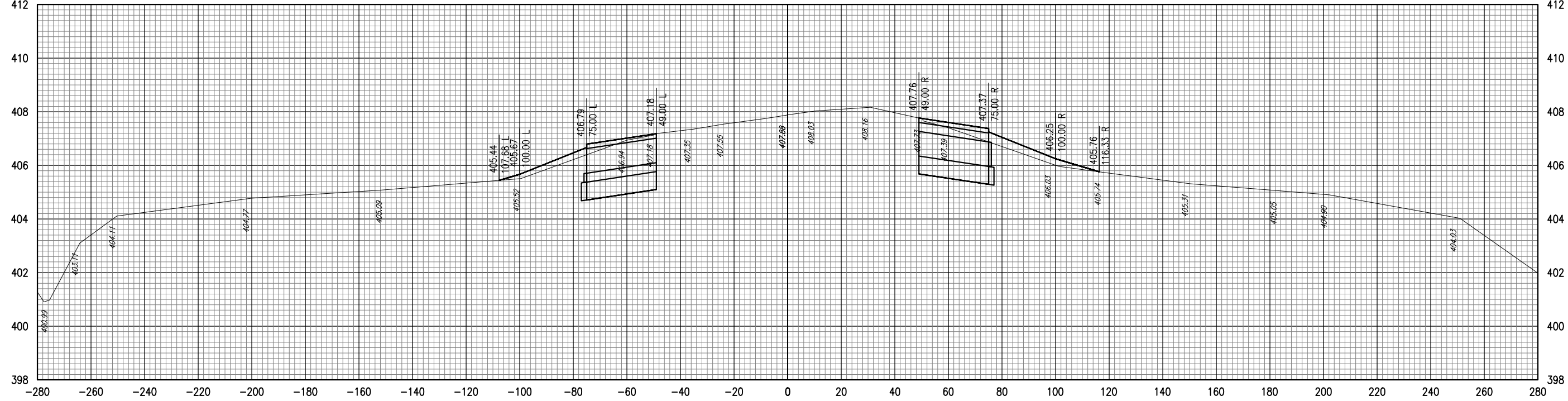
Hanson Project No.	08A0211D
Filename	R-311XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 151+50 TO STA. 152+00

MAY 25, 2010 12:42 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-311XS-RWY.DWG



153+00

152+50

SD052

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

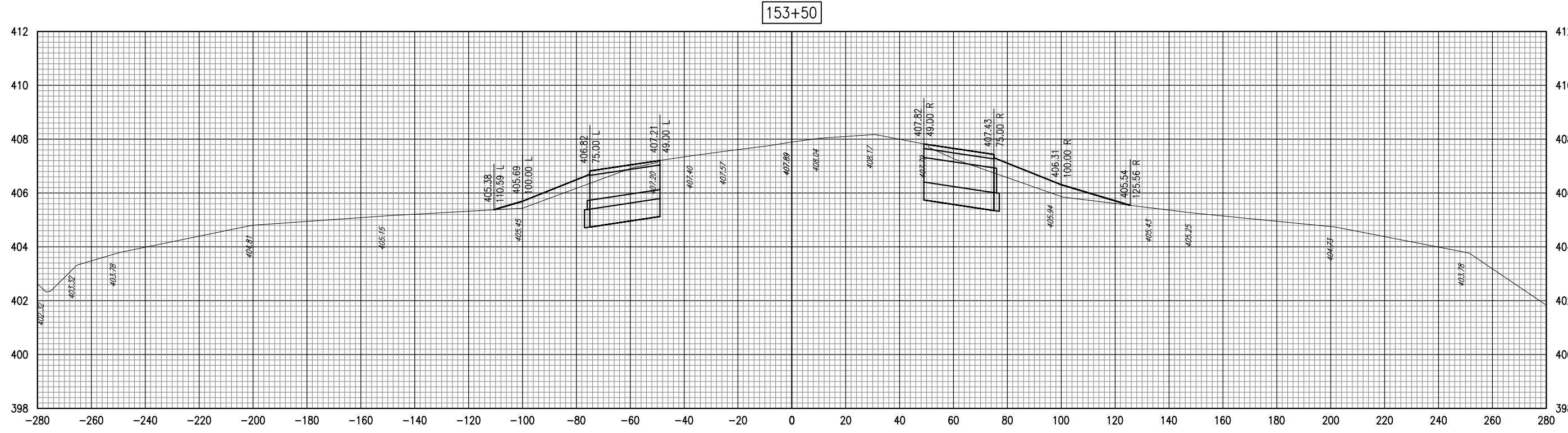
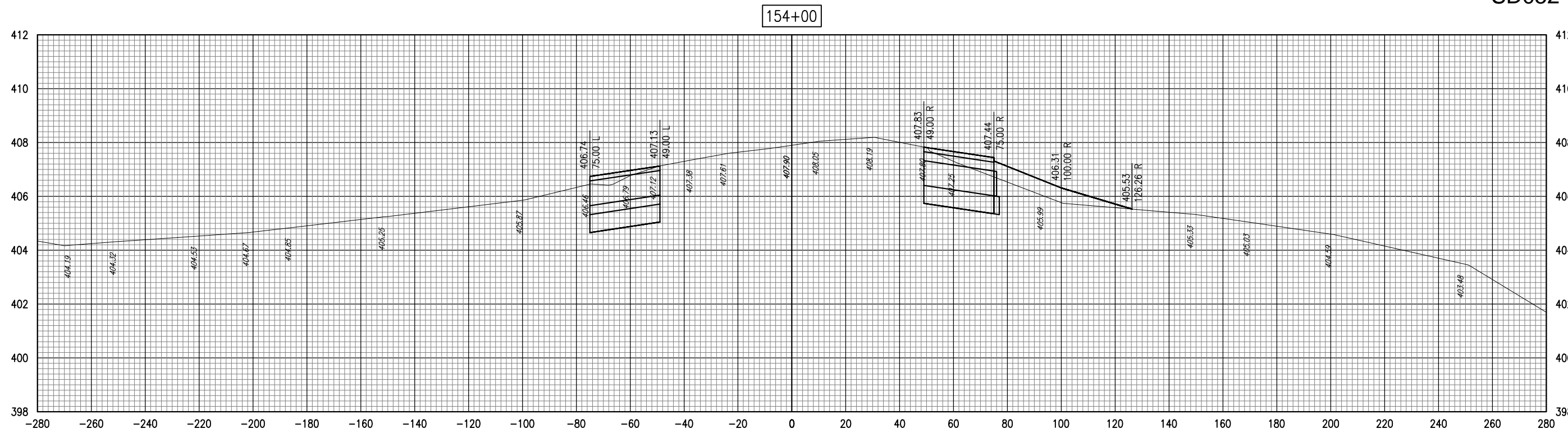
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-311XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 152+50 TO STA. 153+00



SD052

154+00

153+50

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

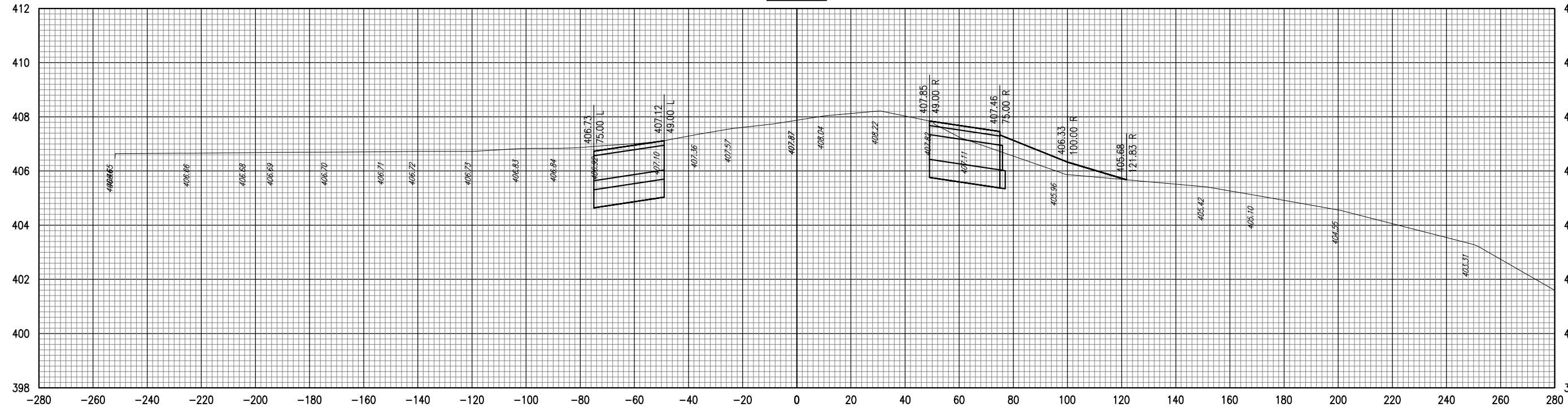
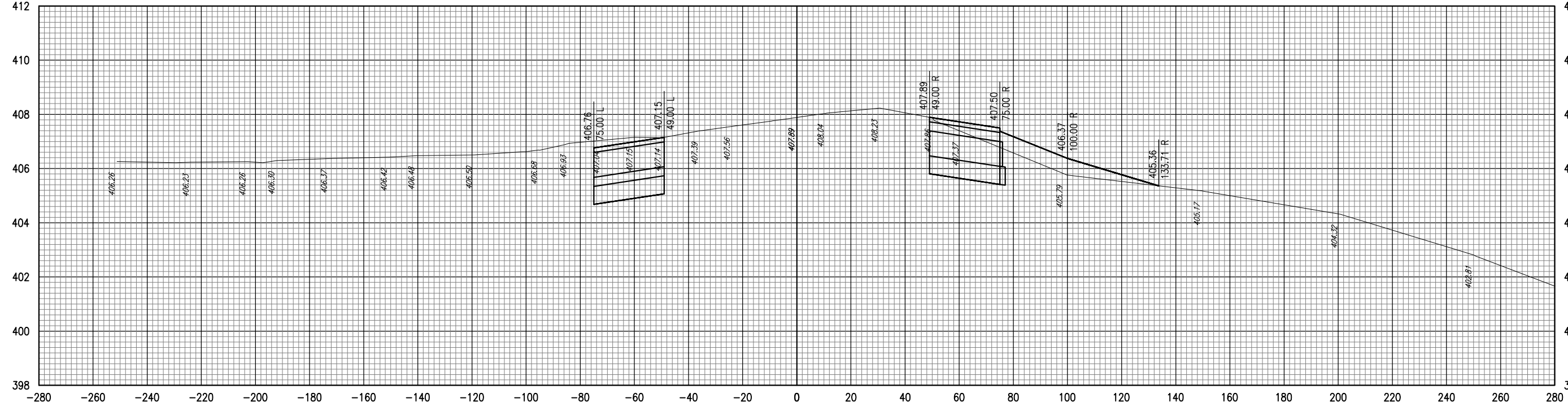
ILL. PROJ.: CPS-3906
 A.L.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-311XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 153+50 TO 154+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

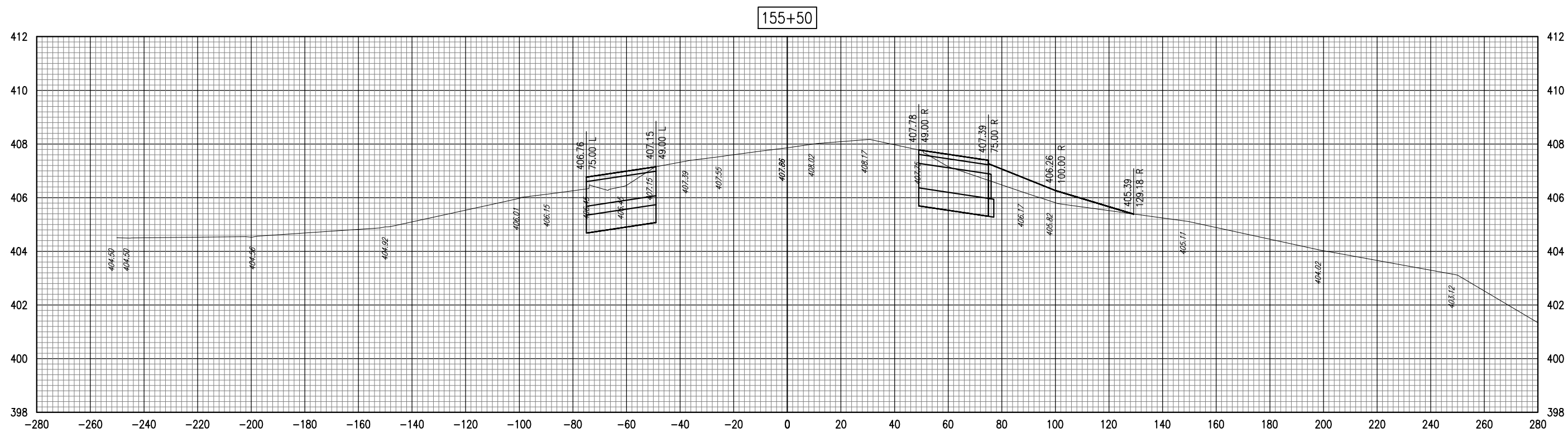
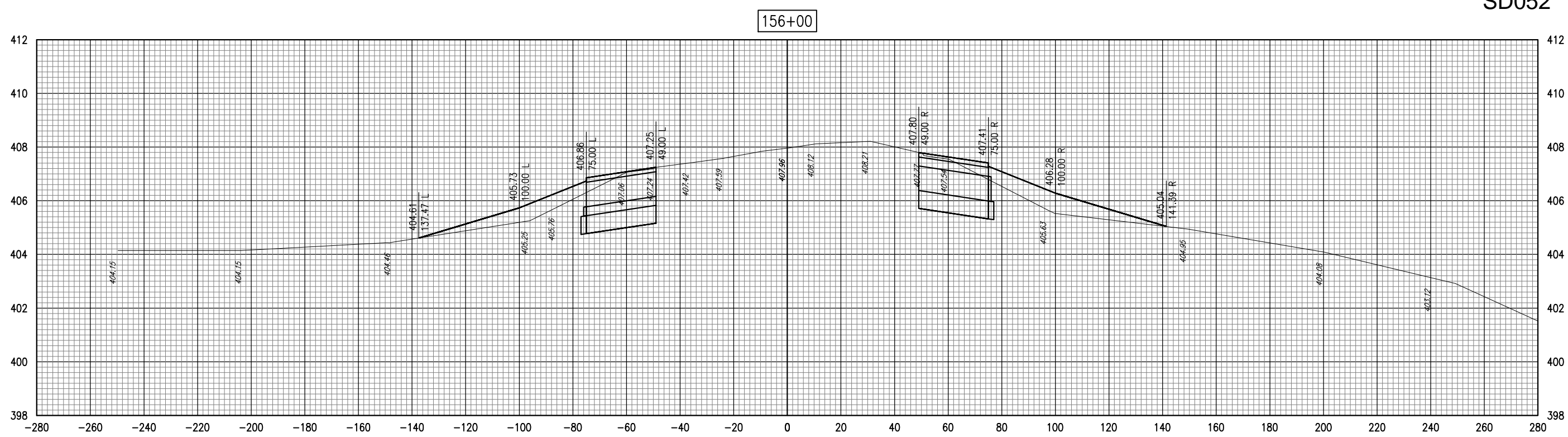
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-312XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 154+50 TO STA. 155+00



SD052

156+00

155+50

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

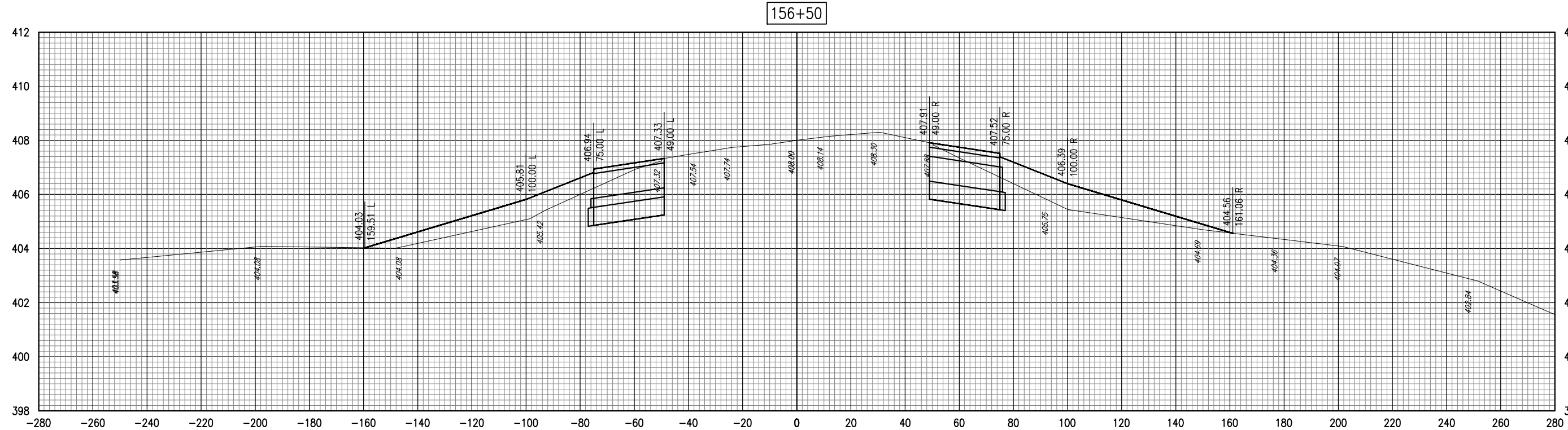
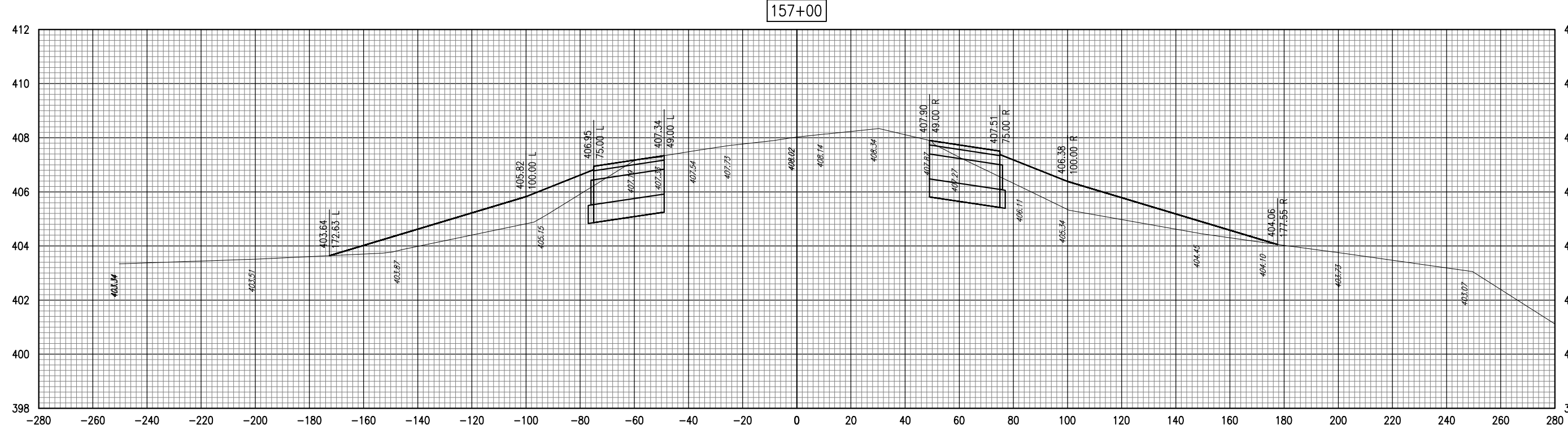
IL PROJ.: CFS-3906
 A.L.P. PROJ.: 3--17--0039-BZ2

Hanson Project No.	08A0211D
Filename	R-312XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 155+50 TO STA. 156+00



SD052

157+00

156+50

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-312XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

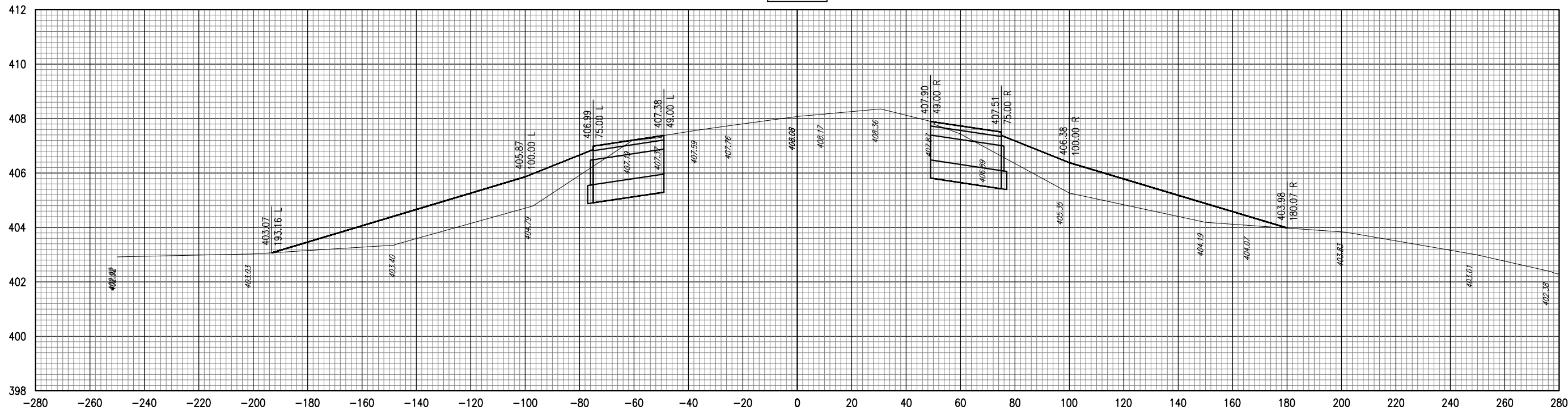
HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

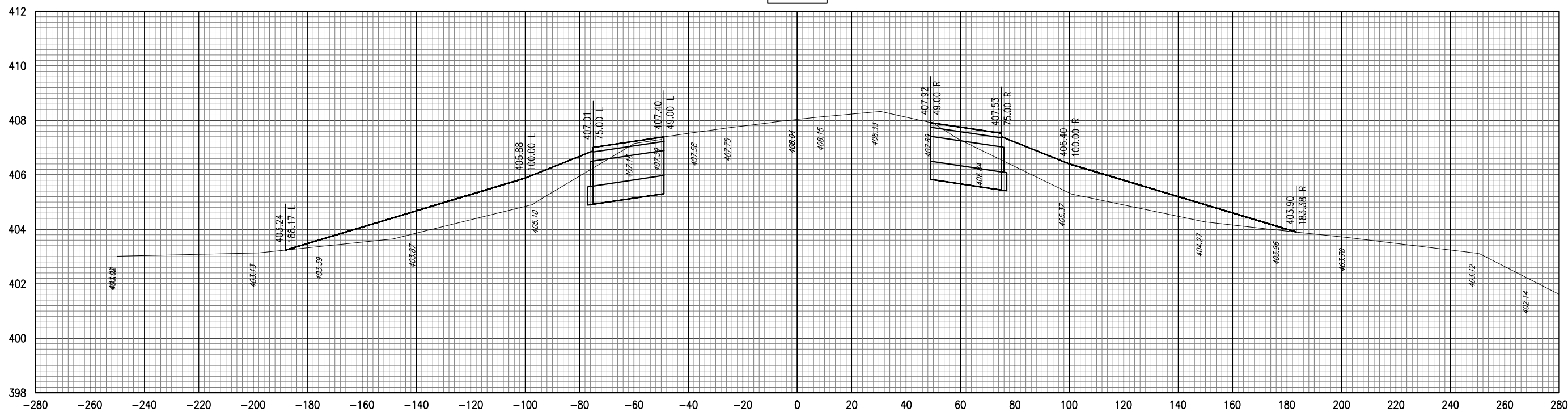
WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L STA. 156+50 TO STA. 157+00

SD052

158+00



157+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

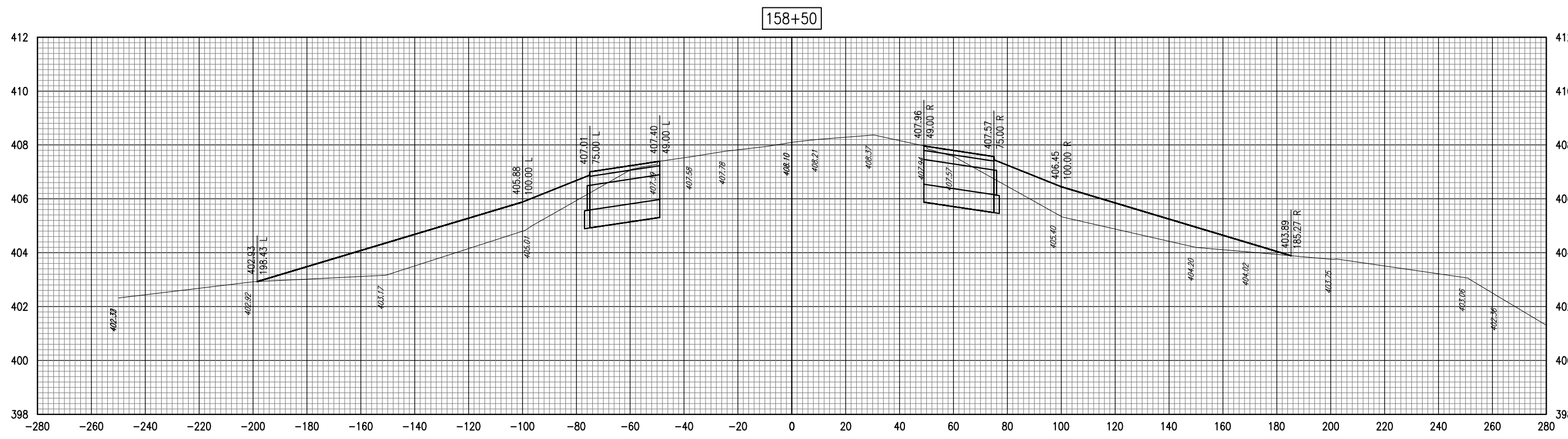
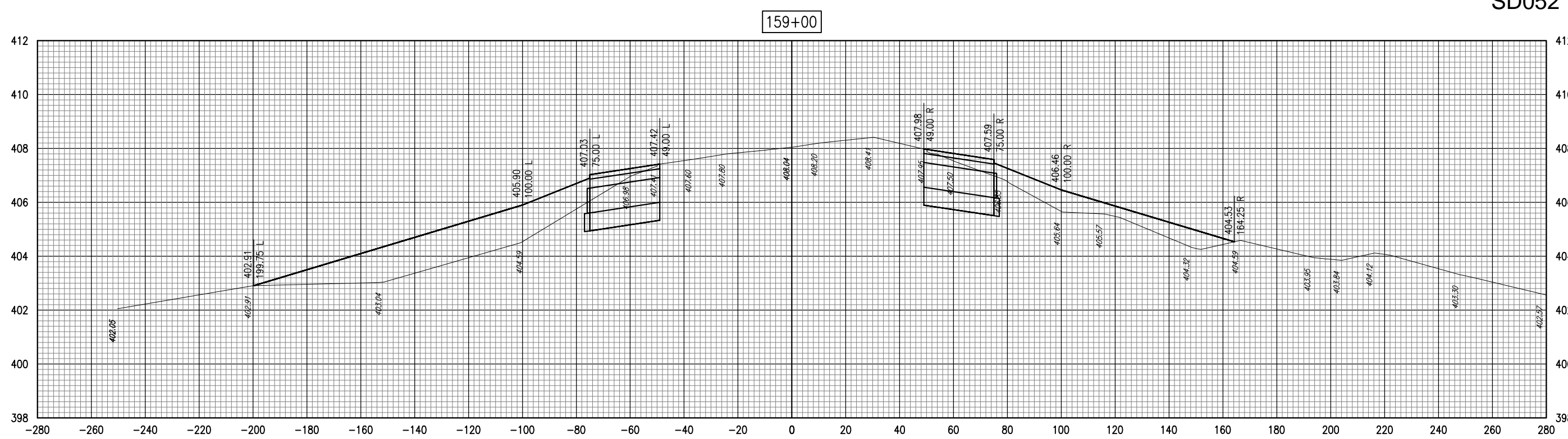
ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3--17--0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-312XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 157+50 TO STA. 158+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

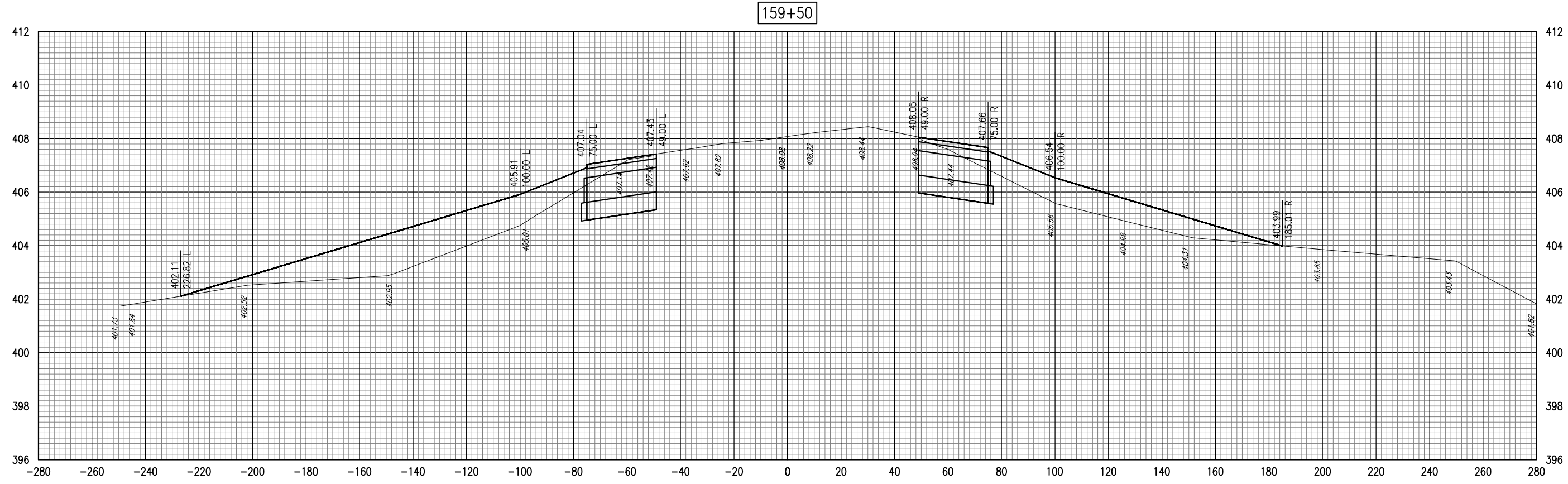
Hanson Project No.	08A0211D
Filename	R-312XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 158+50 TO 159+00

MAY 25, 2010 12:47 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-313XS-RWY.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

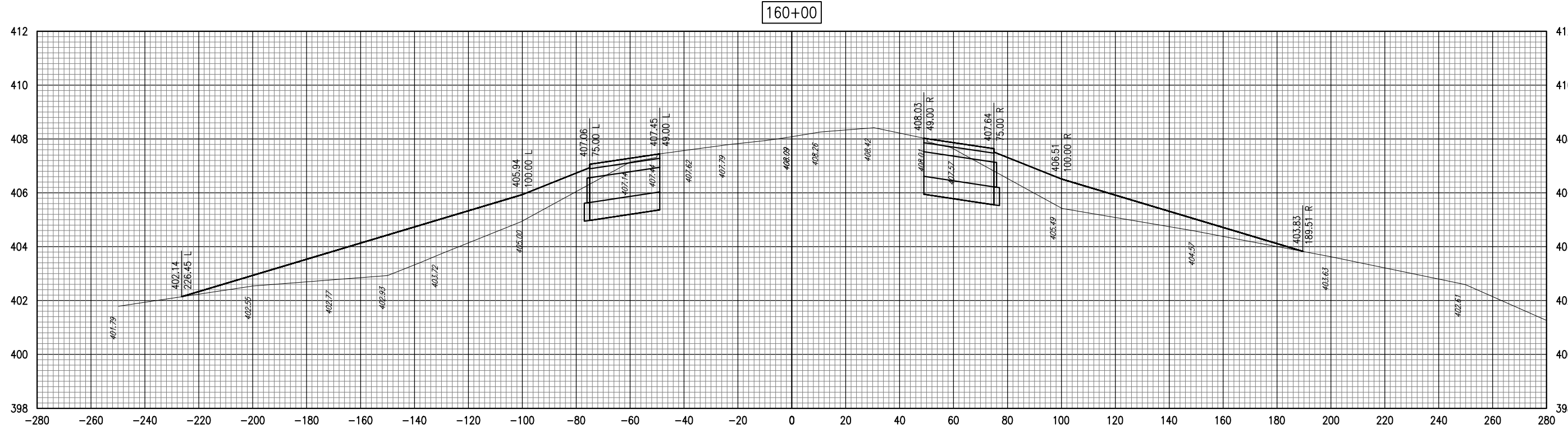
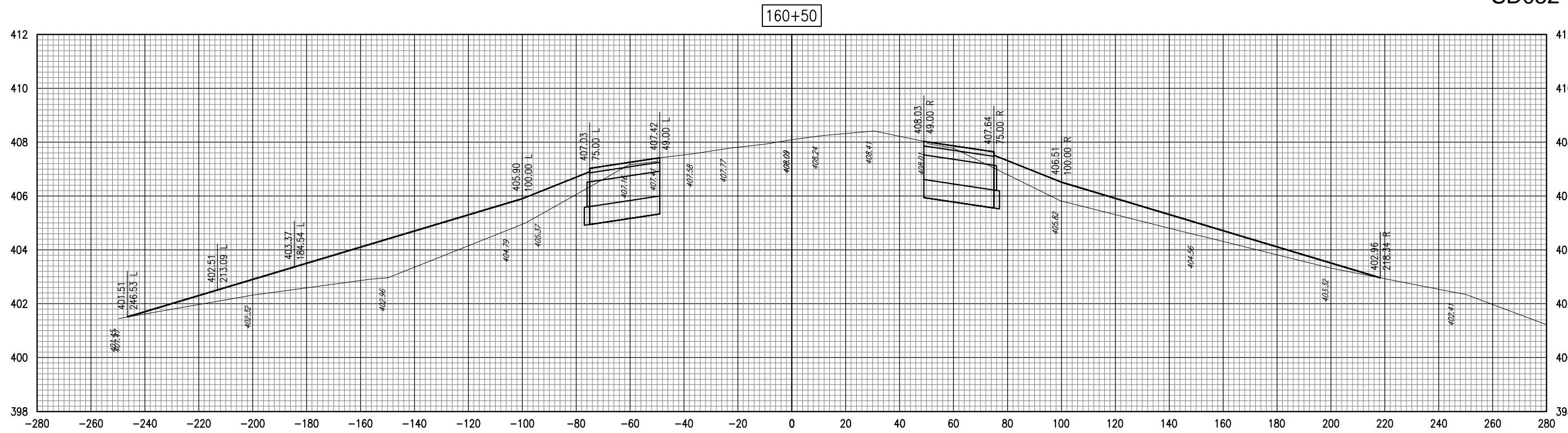
A.I.P. PROJ.: 3-17-0039-BZ2
 I.L. PROJ.: CPS-3906

Hanson Project No. 08A0211D	File Name: R-313XS-RWY.DWG
Scale: V. 1" = 2' H. 1" = 20'	Date: 04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 159+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

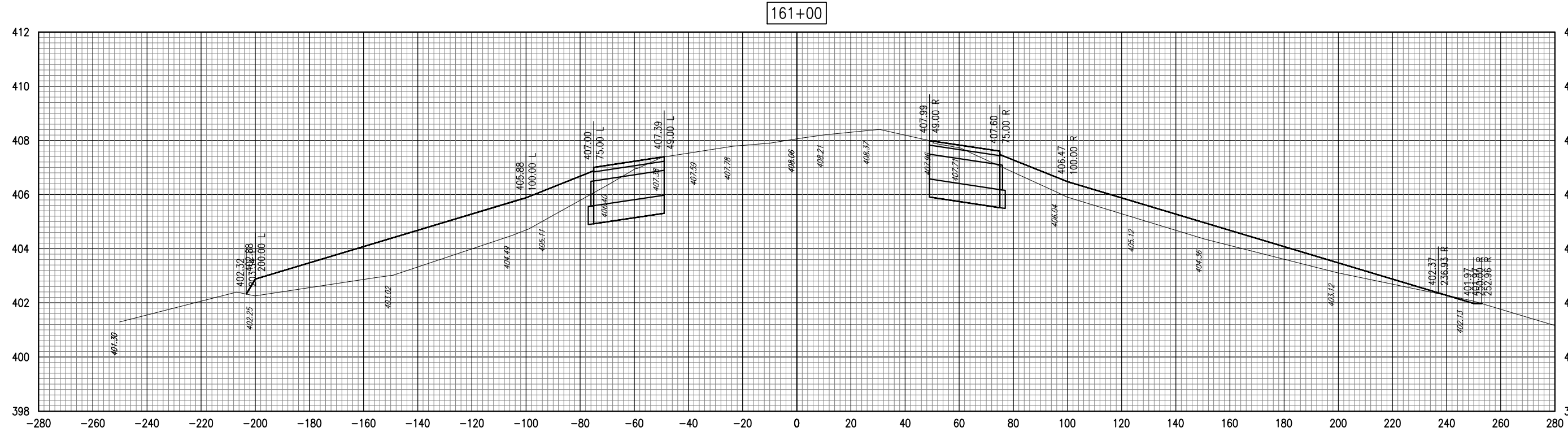
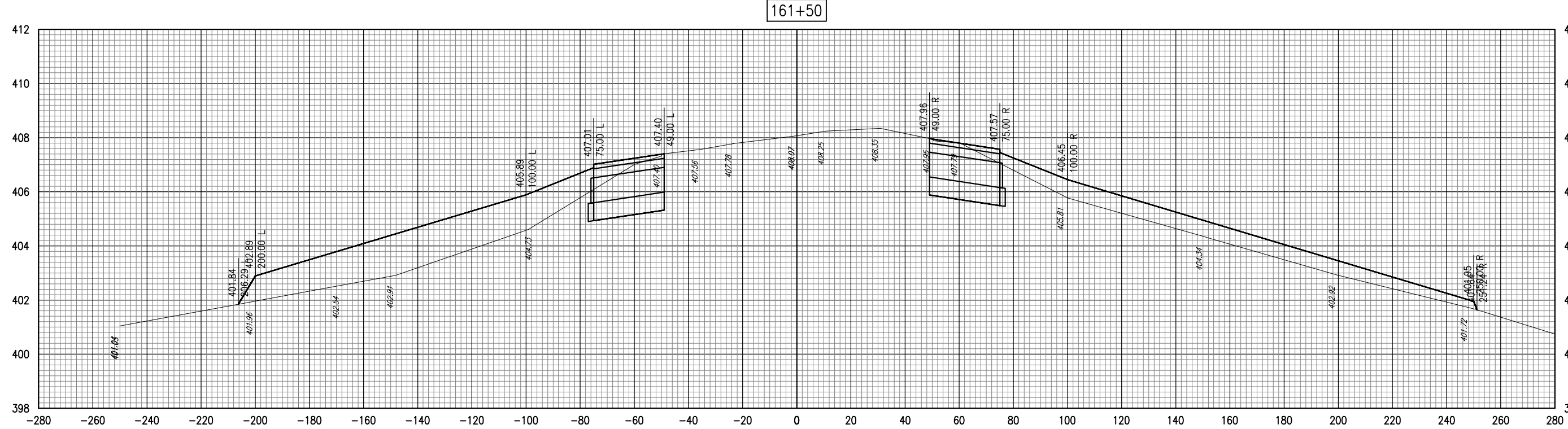
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-313XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 160+00 TO STA. 160+50



SD052

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

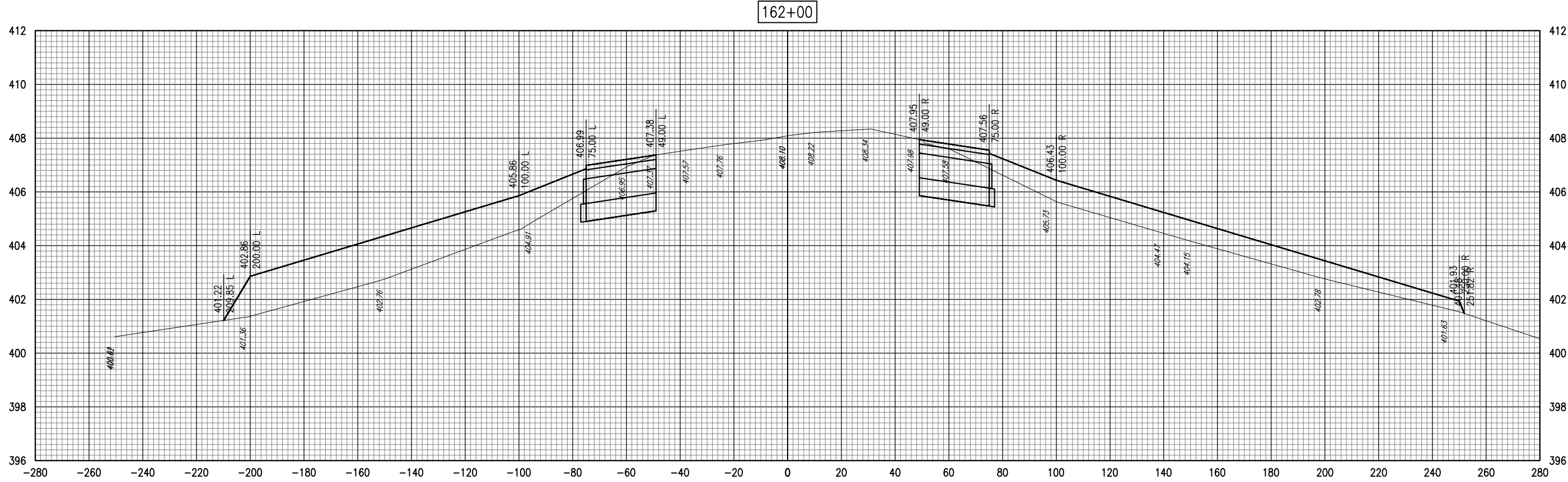
ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No.	08A0211D
Filename	R-313XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 161+00 TO STA. 161+50



DATE	REVISION	BY

**SAINT LOUIS
DOWNTOWN
AIRPORT**
A Division of METRO

IL PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	Filename: R-313XS-RWY.DWG
Scale: V. 1" = 2' H. 1" = 20'	Date: 04/16/2010
LAYOUT: JEO	03/11/10
DRAWN: JEO	03/11/10
REVIEWED: CAH	04/01/10

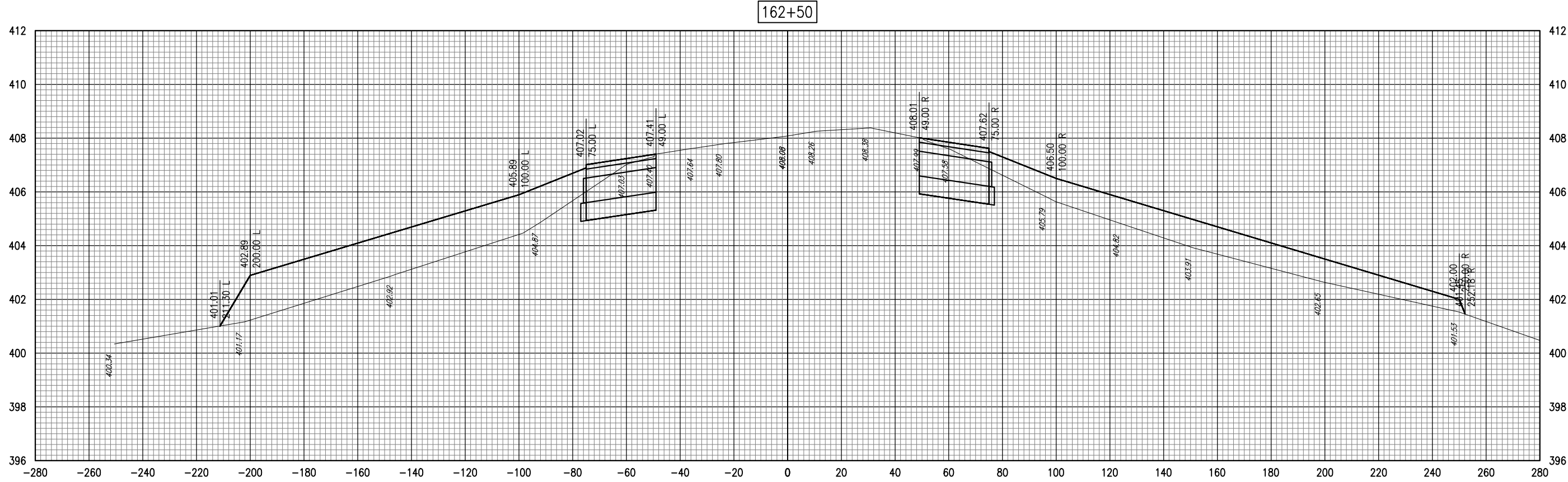
HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

**WIDEN RUNWAY
12R/30L**

**PROPOSED CROSS-SECTIONS
FOR RUNWAY 12R-30L**

STA. 162+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

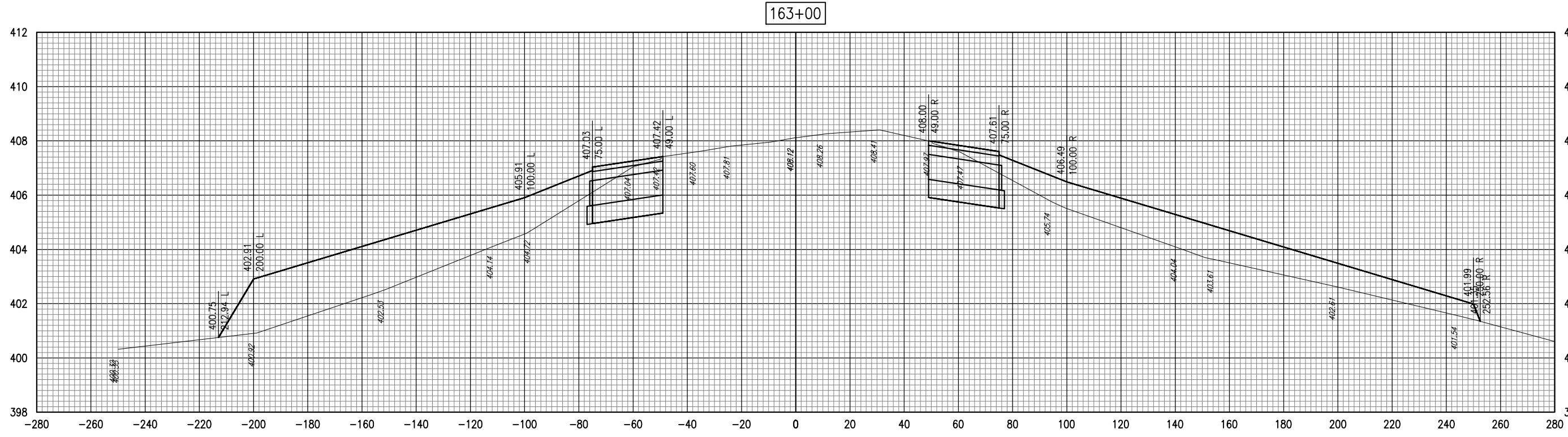
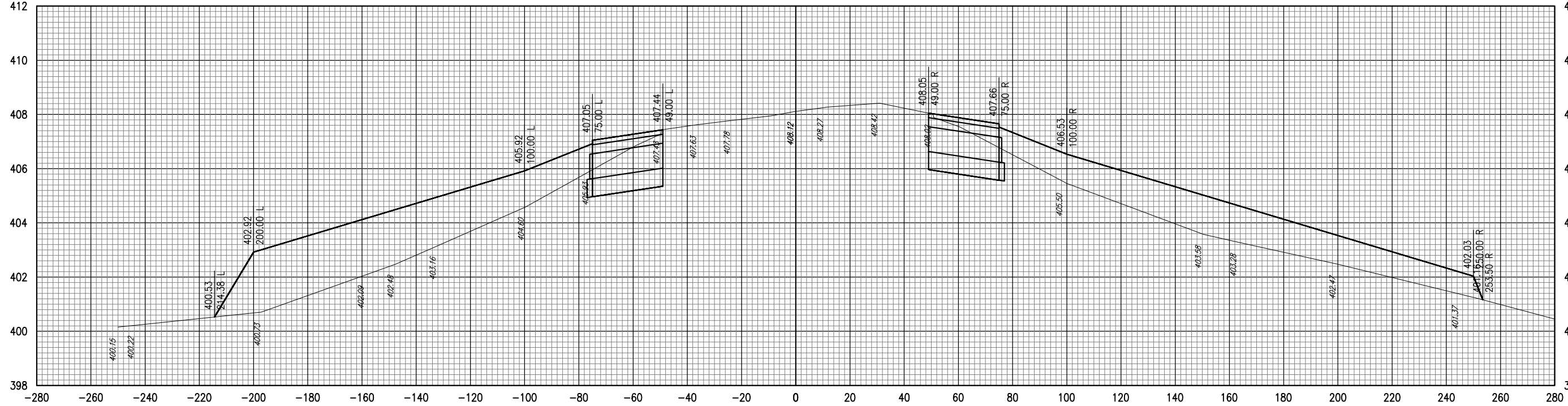
A.I.P. PROJ.: 3--17--0039--B22
 I.L. PROJ.: CPS--3906

Hanson Project No. 08A0211D	File Name: R-313XS-RWY.DWG
Scale: V. 1" = 2' H. 1" = 20'	Date: 04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 162+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

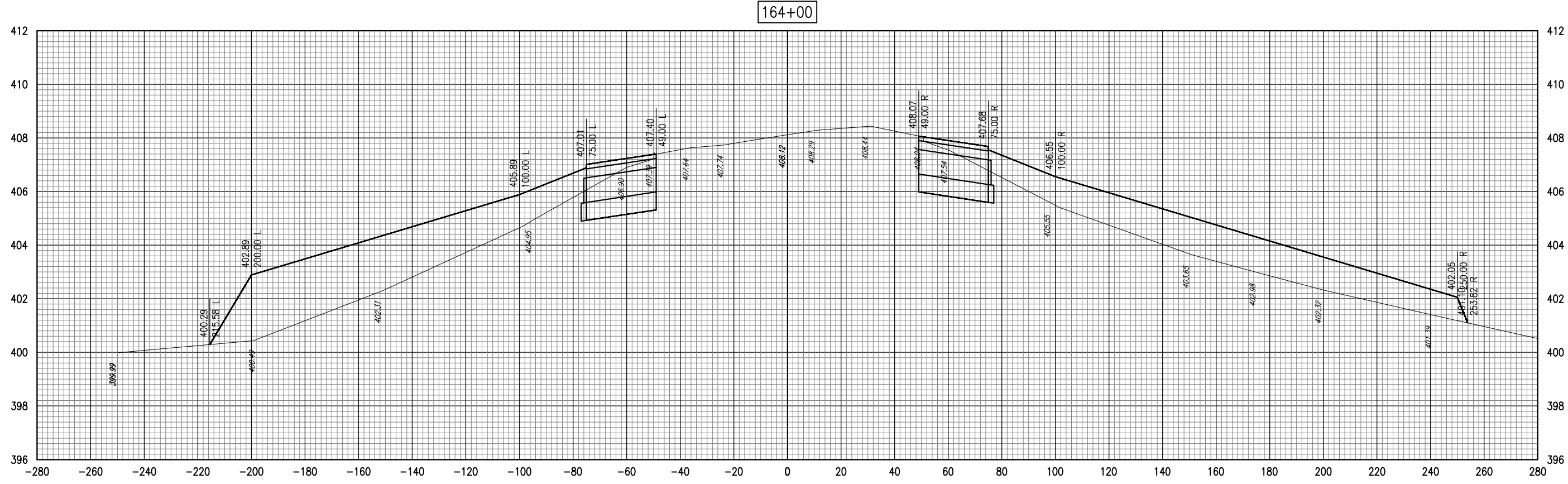
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-B22

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-314XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 163+00 TO STA. 163+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

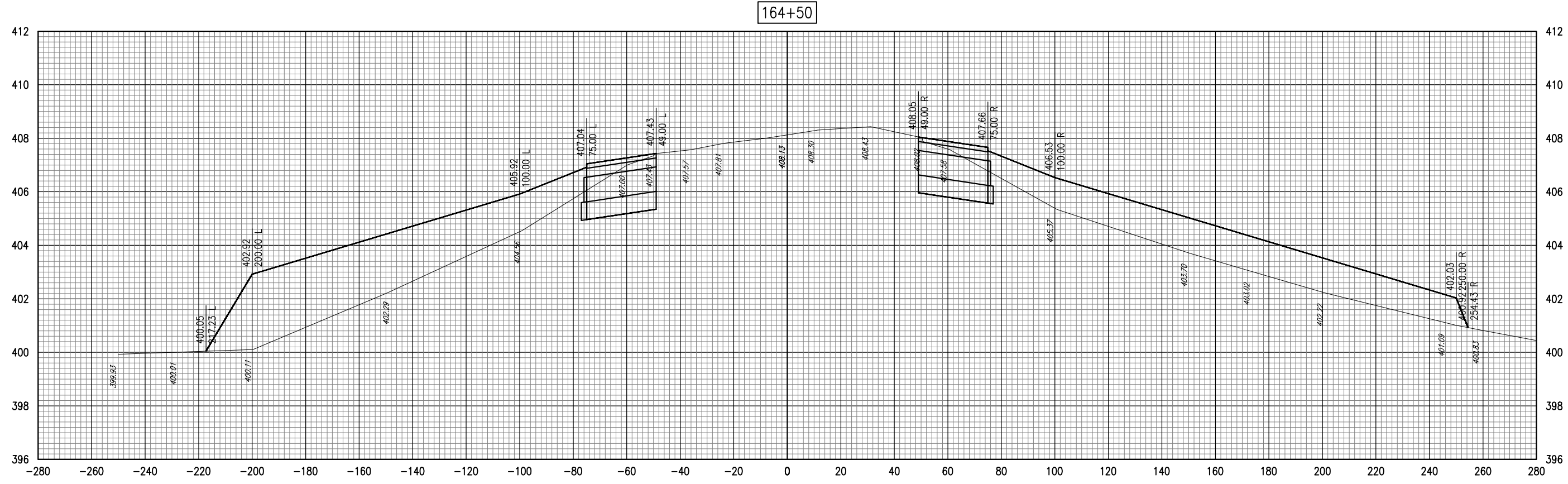
Hanson Project No. 08A0211D	File Name R-314XS-RWY.DWG	Scale V. 1" = 2' H. 1" = 20'	Date 04/16/2010
LAYOUT	JEO	JEO	03/11/10
DRAWN	JEO	JEO	03/11/10
REVIEWED	CAH	CAH	04/01/10

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 164+00

MAY 25, 2010 12:52 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-314XS-RWY.DWG



DATE	REVISION	BY

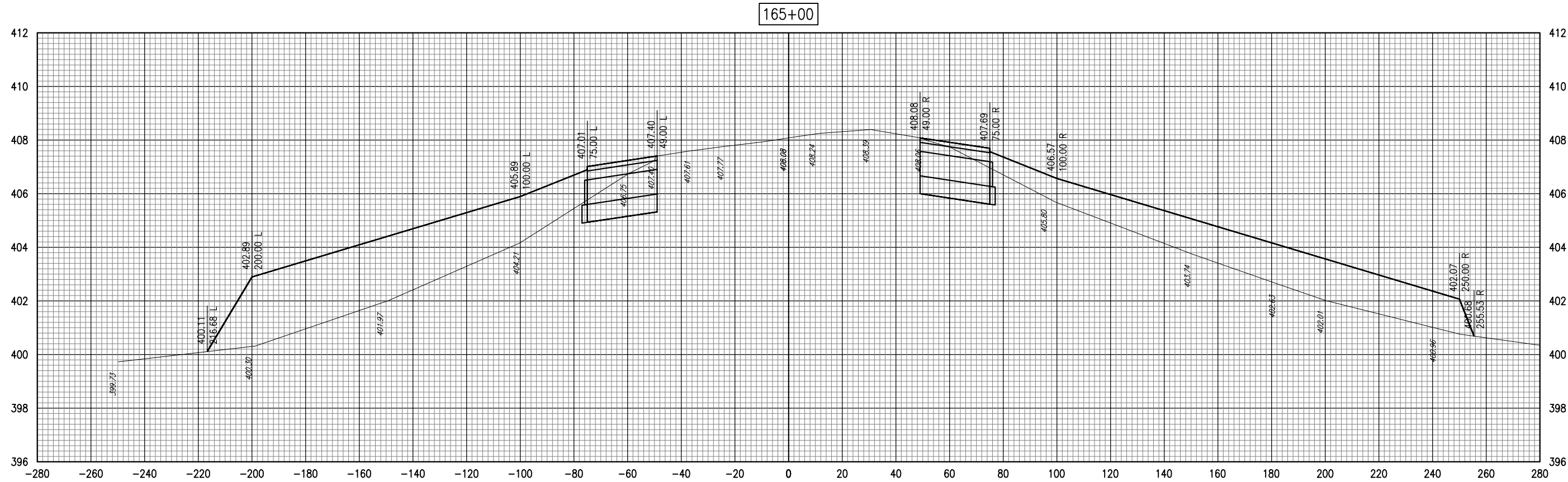
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No.	08A0211D
Filename	R-314XS-RWY.DWG
Scale	V. 1" = 2' H. 1" = 20'
Date	04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 164+50



DATE	REVISION	BY

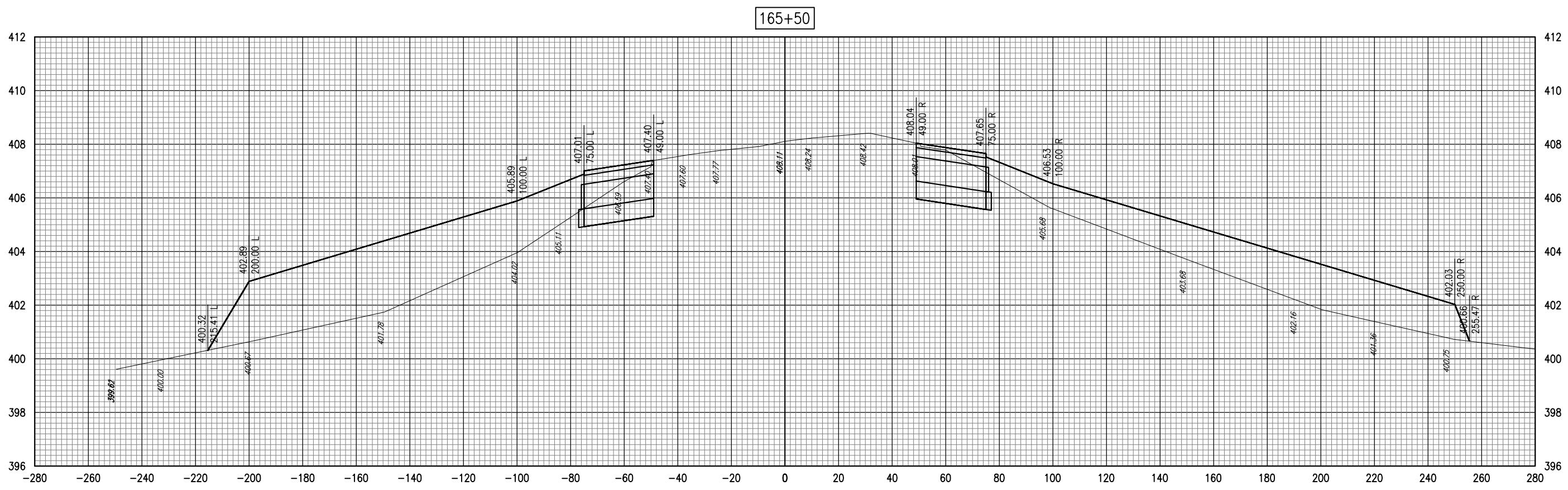
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	File Name: R-314XS-RWY.DWG
Scale: V. 1" = 2' H. 1" = 20'	Date: 04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO. 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 165+00



165+50

DATE	REVISION	BY

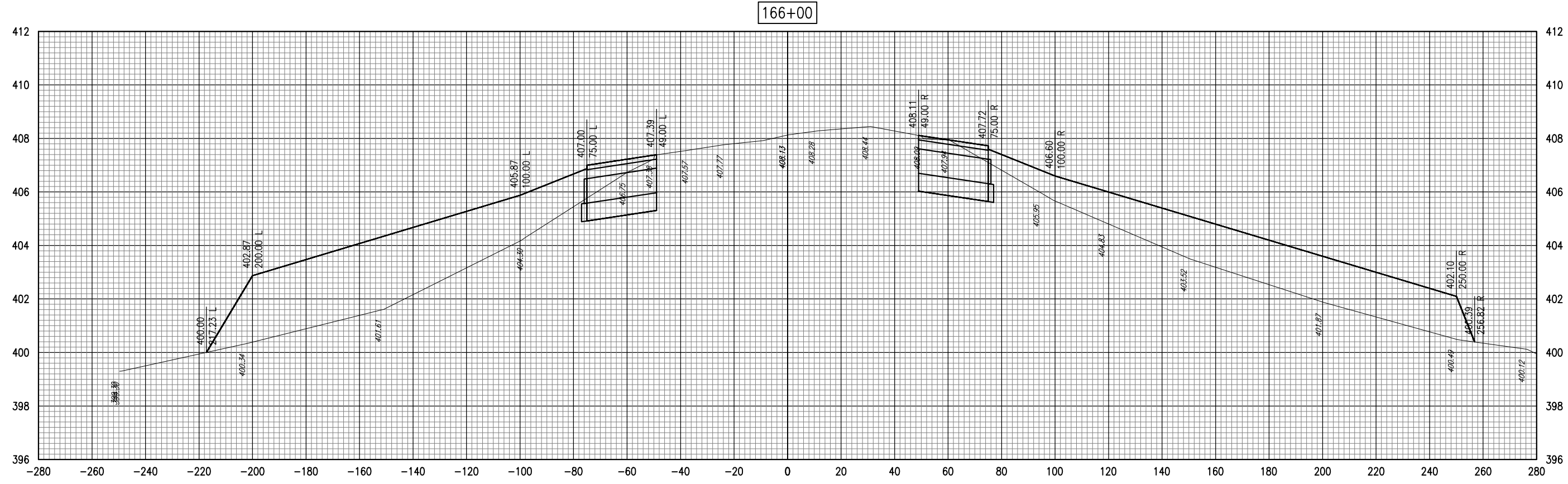
SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-314XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 165+50



DATE	REVISION	BY

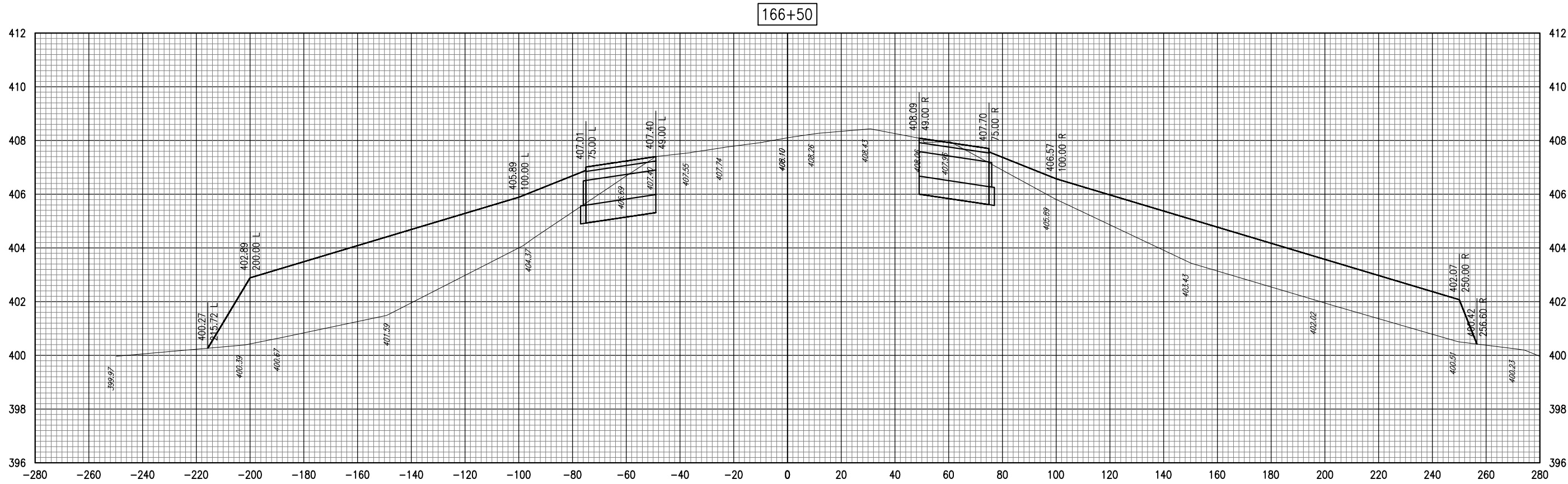
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	File Name: R-315XS-RWY.DWG
Scale: V. 1" = 2' H. 1" = 20'	Date: 04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 166+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

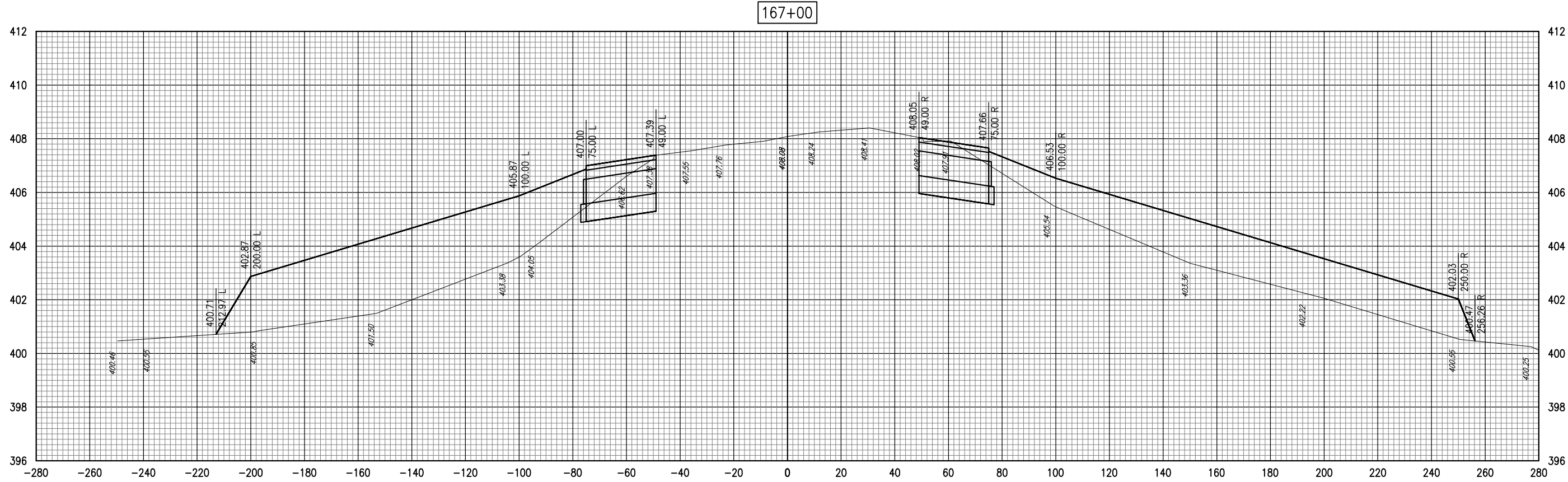
I.L. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	File Name: R-315XS-RWY.DWG
Scale: V. 1" = 2' H. 1" = 20'	Date: 04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
STA. 166+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

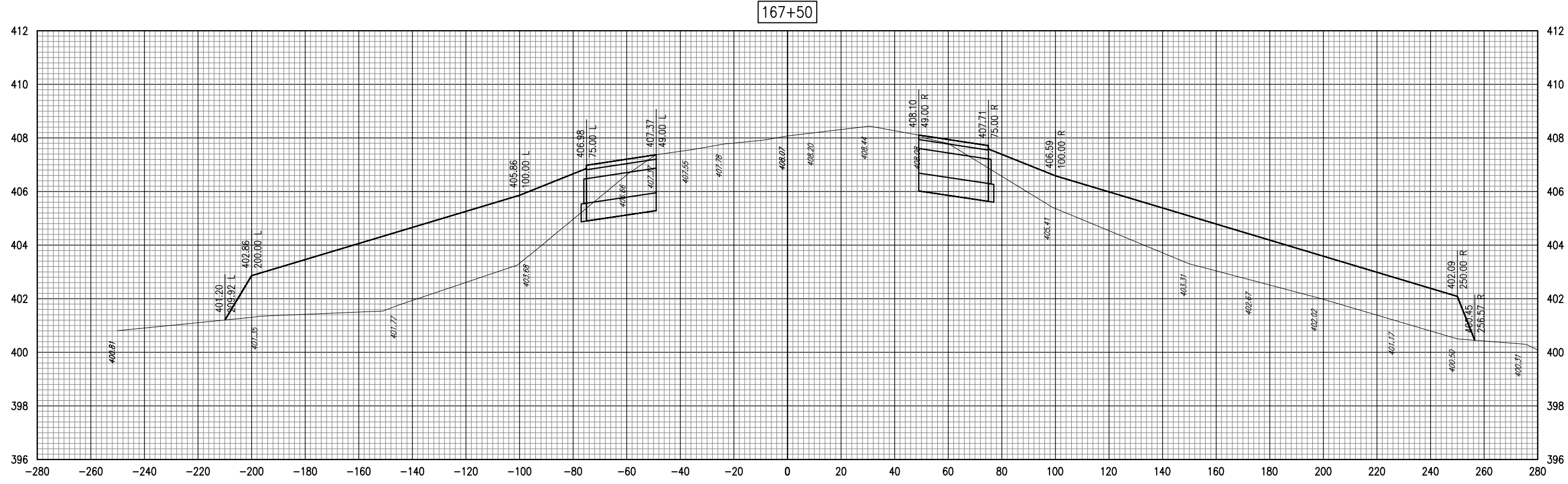
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	FILENAME R-315XS-RWY.DWG
Scale V. 1" = 2' H. 1" = 20'	Date 04/16/2010
LAYOUT JEO 03/11/10	DRAWN JEO 03/11/10
REVIEWED CAH 04/01/10	

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 167+00



DATE	REVISION	BY

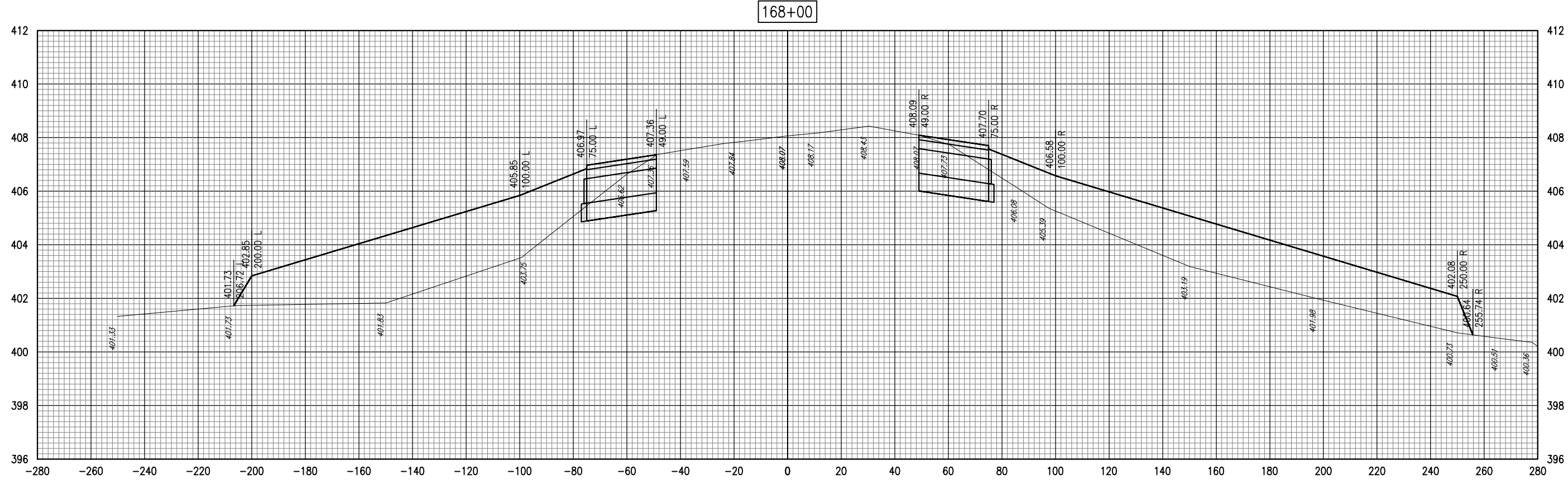
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	Filename: R-315XS-RWY.DWG
Scale: V. 1" = 2' H. 1" = 20'	Date: 04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 167+50



168+00

DATE	REVISION	BY

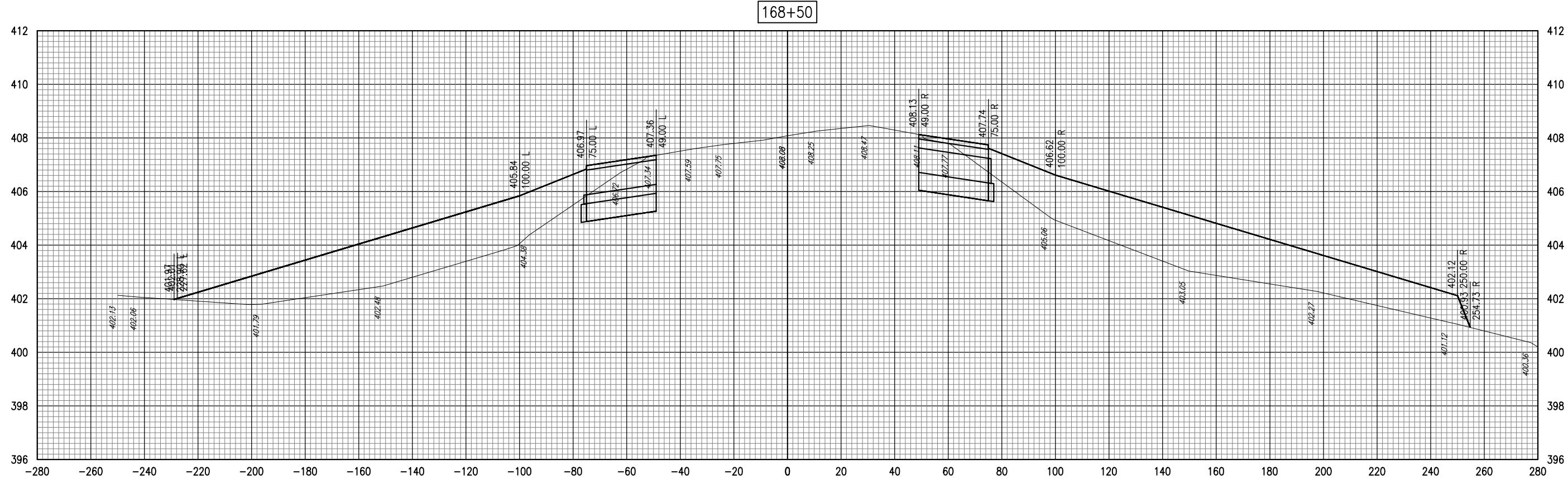
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ: CPS-3906
 A.I.P. PROJ: 3-17-0039-BZ2

Hanson Project No. 08A0211D	File Name R-315XS-RWY.DWG
Scale V. 1" = 2' H. 1" = 20'	Date 04/16/2010
LAYOUT JEO 03/11/10	DRAWN JEO 03/11/10
REVIEWED CAH	04/01/10

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 168+00



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

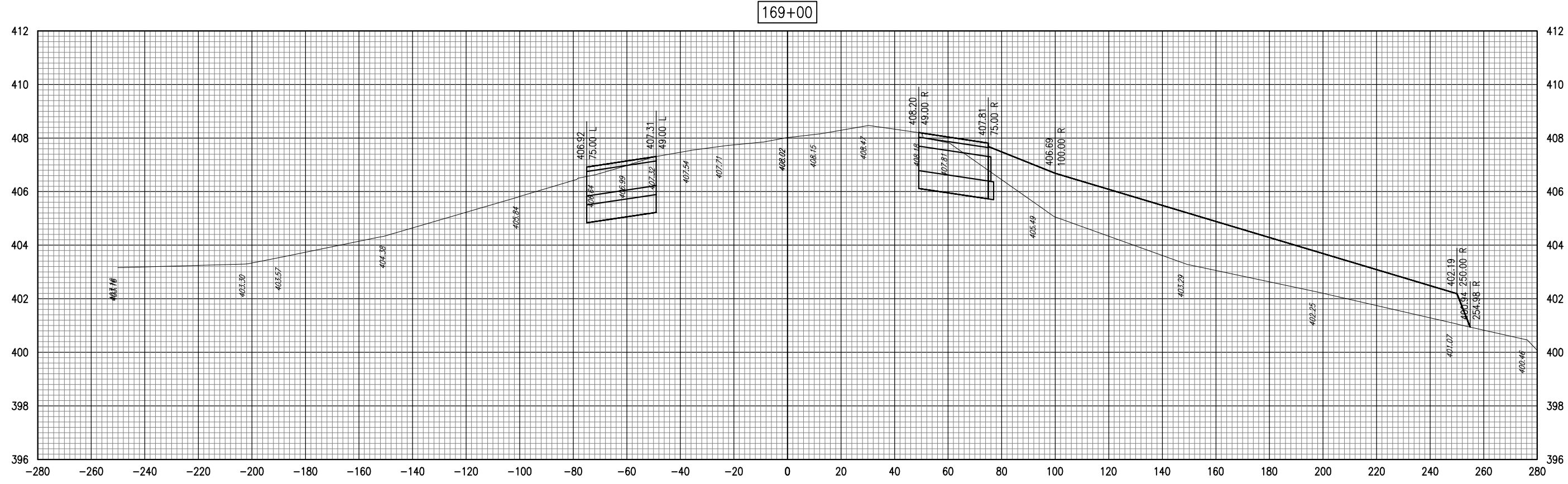
A.I.P. PROJ.: 3-17-0039-BZ2
 I.L. PROJ.: CPS-3906

Hanson Project No. 08A0211D	File Name R-316XS-RWY.DWG
Scale V. 1" = 2' H. 1" = 20'	Date 04/16/2010
LAYOUT JEO 03/11/10	DRAWN JEO 03/11/10
REVIEWED CAH 04/01/10	

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63046-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 168+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

A.I.P. PROJ.: 3-17-0039-BZ2
 I.L. PROJ.: CPS-3906

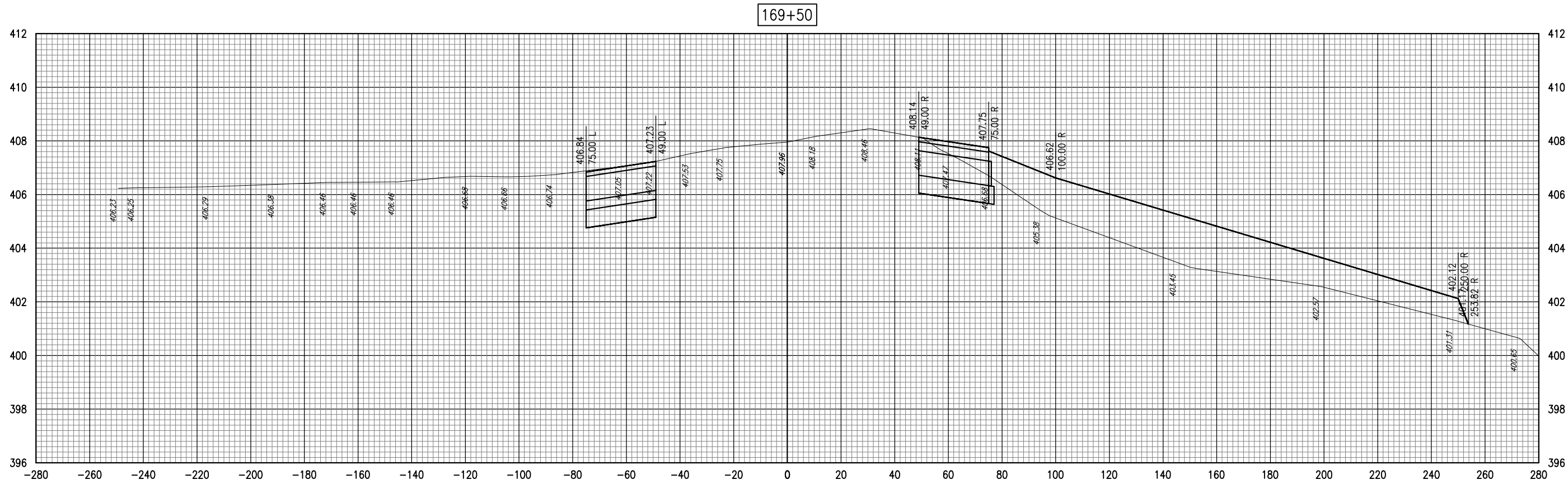
Hanson Project No. 08A0211D	Filename: R-316XS-RWY.DWG	Date	04/16/2010
Scale	V. 1" = 2' H. 1" = 20'	LAYOUT	JEO 03/11/10
Drawn	JEO 03/11/10	REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
 PROPOSED CROSS-SECTIONS
 FOR RUNWAY 12R-30L
 STA. 169+00

MAY 25, 2010 12:59 PM OSTER00005
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-316XS-RWY.DWG



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

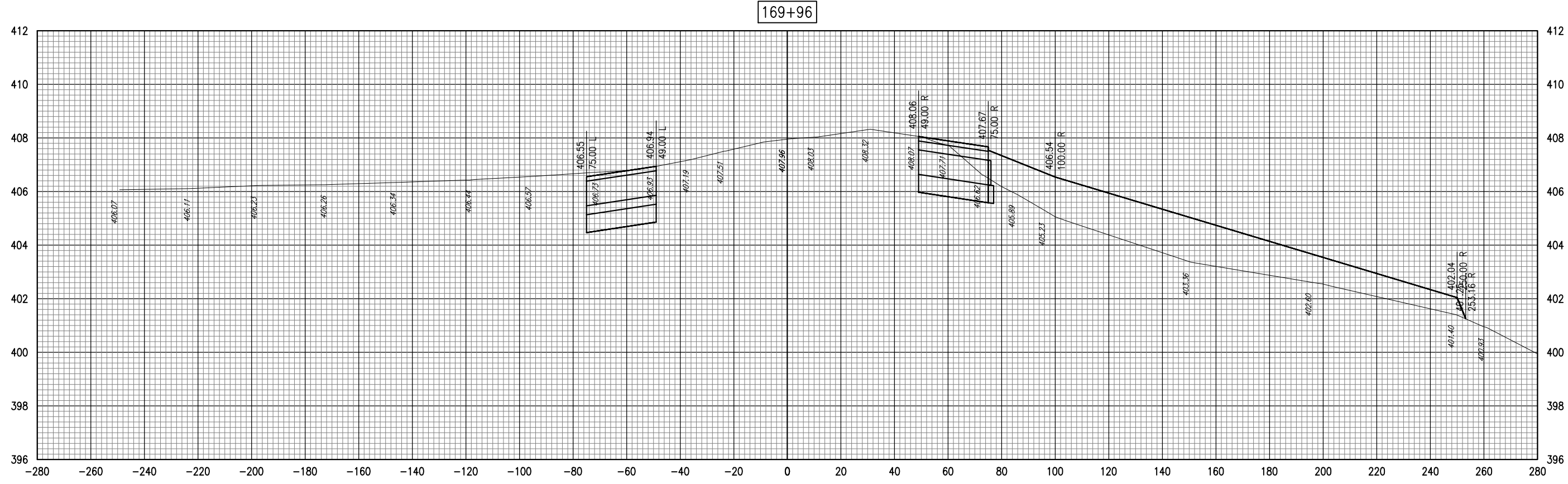
Hanson Project No. 08A0211D	FILENAME R-316XS-RWY.DWG
Scale V. 1" = 2' H. 1" = 20'	Date 04/16/2010
LAYOUT	JEO 03/11/10
DRAWN	JEO 03/11/10
REVIEWED	CAH 04/01/10

HANSON

Hanson Professional Services, Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY
 12R/30L

PROPOSED CROSS-SECTIONS
 FOR RUNWAY 12R-30L
 STA. 169+50



DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

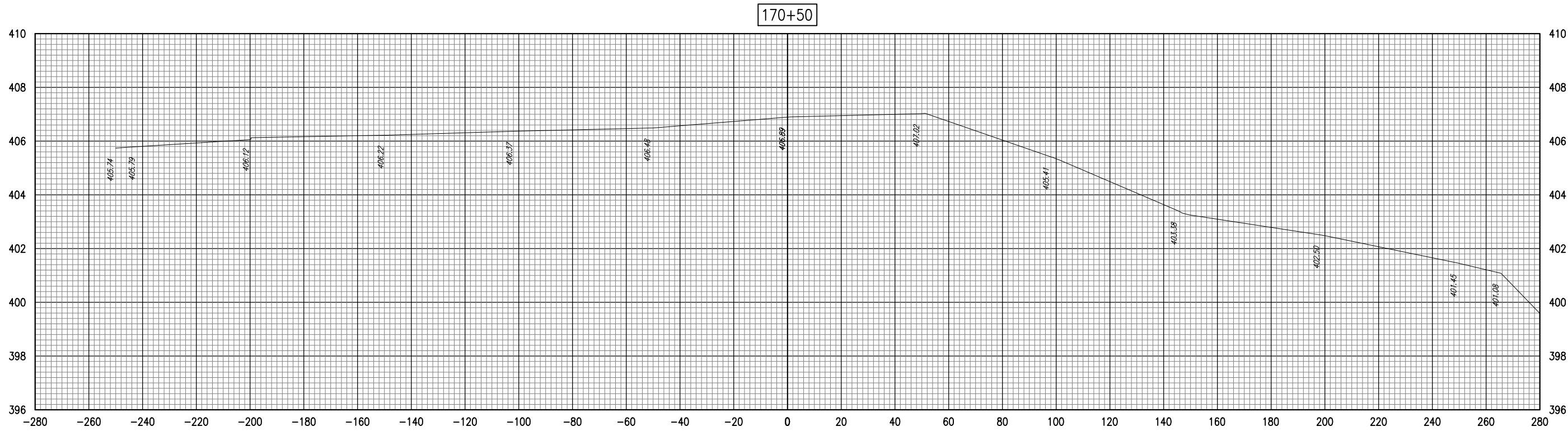
IL PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-316XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON

Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 170+00



170+50

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

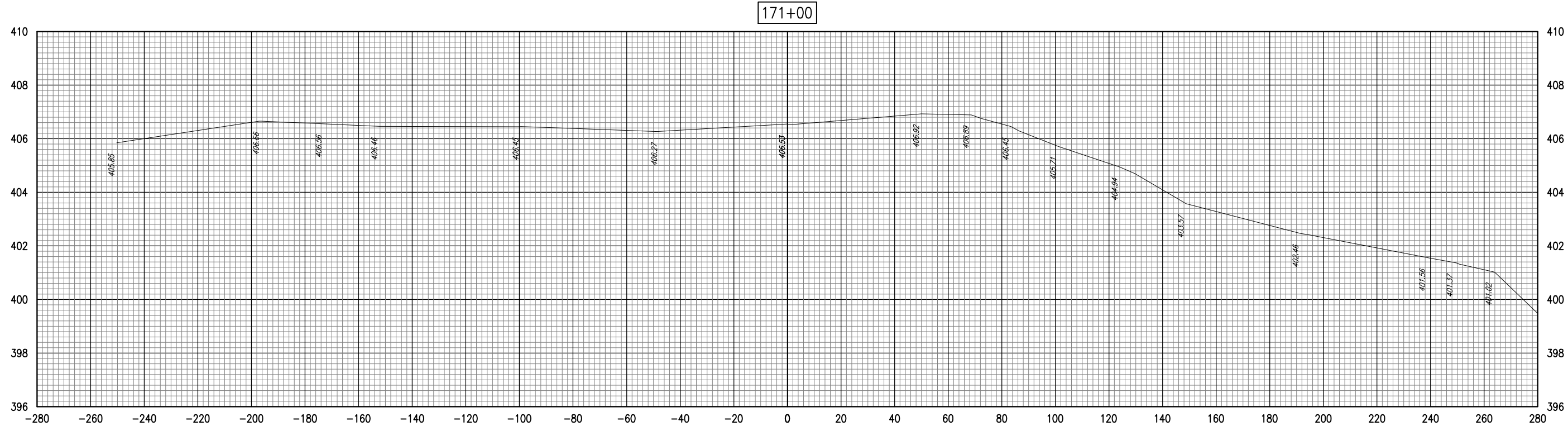
ILL. PROJ.: CPS-3906
A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	FILENAME R-316XS-RWY.DWG
Scale V. 1" = 2' H. 1" = 20'	Date 04/16/2010
LAYOUT JEO 03/11/10	REVIEWED CAH 04/01/10
DRAWN JEO 03/11/10	

HANSON
Hanson Professional Services, Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63045-1308
Offices Nationwide

WIDEN RUNWAY
12R/30L
PROPOSED CROSS-SECTIONS
FOR RUNWAY 12R-30L
STA. 170+50

MAY 25, 2010 1:01 PM GSTER00605
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET\R-317XS-RWY.DWG



171+00

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of METRO

ILL. PROJ.: CPS-3906
 A.I.P. PROJ.: 3-17-0039-BZ2

Hanson Project No. 08A0211D	JEO	03/11/10
Filename: R-317XS-RWY.DWG	JEO	03/11/10
Scale: V. 1" = 2' H. 1" = 20'	CAH	04/01/10
Date: 04/16/2010		
LAYOUT		
DRAWN		
REVIEWED		

HANSON
 Hanson Professional Services Inc.
 4227 Earth City Expressway, Suite 130
 St. Louis, MO 63045-1308
 Offices Nationwide

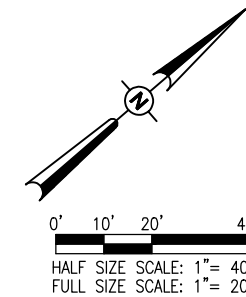
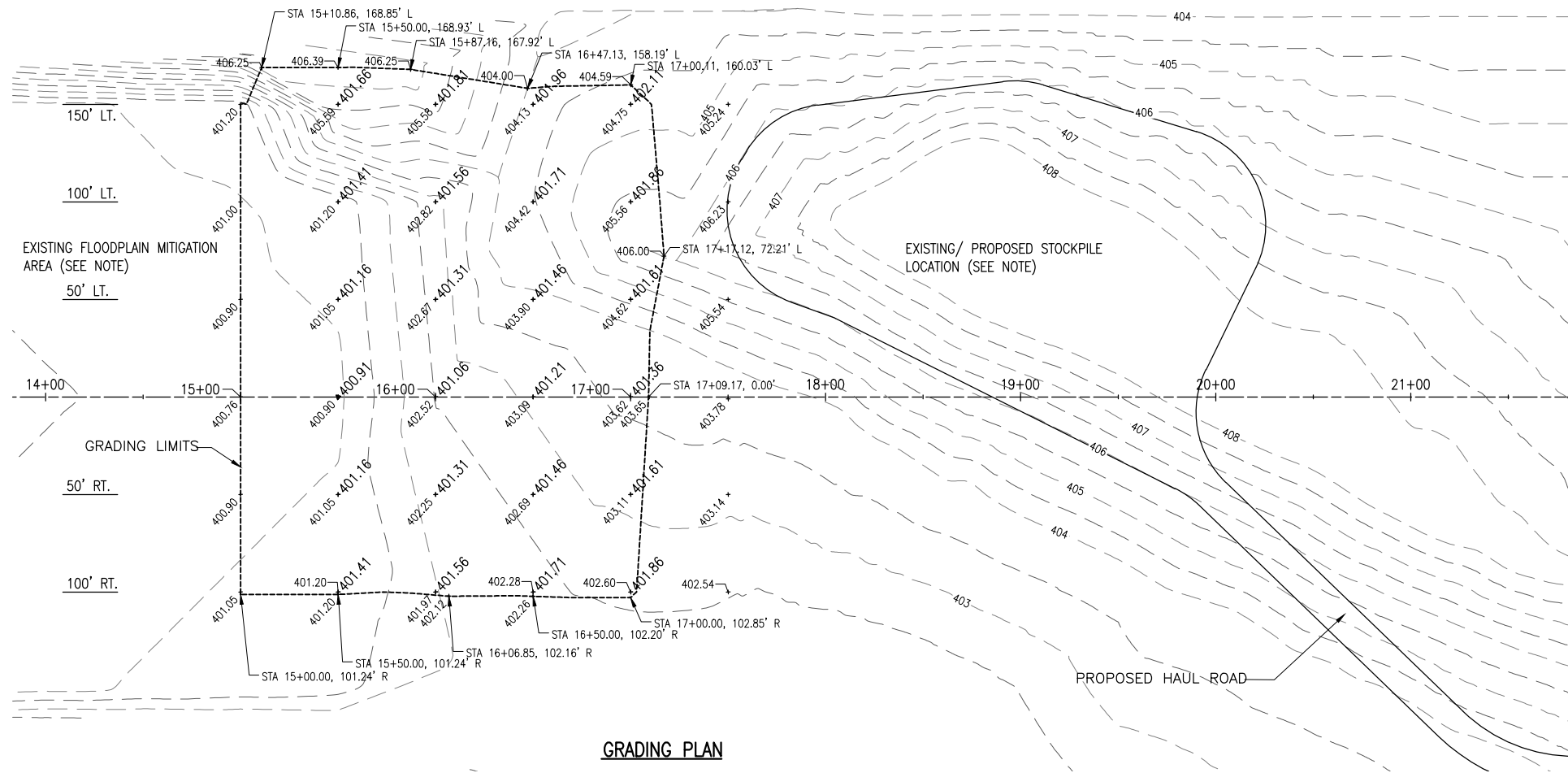
WIDEN RUNWAY 12R/30L
PROPOSED CROSS-SECTIONS FOR RUNWAY 12R-30L
 STA. 171+00

JUN 01, 2010 6:36 AM GSTER00605
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0211D\CADD\AIRPORT\SHEET_R-521CON.DWG

TOTAL VOLUME							
STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)
99+50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99+96.00	96.49	50.98	82.19	54.28	82.19	54.28	27.91
100+50.00	103.74	31.48	200.22	103.08	282.42	157.36	125.05
101+00.00	98.29	29.56	187.06	70.66	469.48	228.02	241.46
101+50.00	95.24	42.44	179.19	83.34	648.67	311.36	337.31
102+00.00	96.16	77.32	177.22	138.62	825.89	449.98	375.91
102+50.00	95.35	69.75	177.32	170.22	1003.21	620.20	383.01
103+00.00	92.86	68.21	174.27	159.67	1177.48	779.88	397.60
103+50.00	89.39	71.67	168.76	161.90	1346.23	941.77	404.46
104+00.00	94.97	72.66	170.70	167.05	1516.94	1108.82	408.12
104+50.00	98.87	65.18	179.47	159.54	1696.41	1268.36	428.05
105+00.00	100.74	43.83	184.82	126.17	1881.23	1394.53	486.70
105+50.00	98.76	67.72	184.72	129.11	2065.95	1523.64	542.31
106+00.00	98.56	47.14	182.71	132.94	2248.66	1656.57	592.08
106+50.00	98.01	66.99	182.01	132.09	2430.66	1788.67	641.99
107+00.00	95.35	60.83	179.03	147.94	2609.69	1936.61	673.09
107+50.00	97.35	53.10	178.42	131.87	2788.12	2068.48	719.64
108+00.00	97.49	55.54	180.40	125.74	2968.52	2194.22	774.30
108+50.00	105.83	30.15	188.26	99.18	3156.78	2293.40	863.38
109+00.00	197.38	17.23	280.75	54.84	3437.53	2348.24	1089.29
109+50.00	114.32	18.06	288.62	40.85	3726.15	2389.08	1337.06
110+00.00	102.78	45.22	201.02	73.24	3927.16	2462.33	1464.83
110+50.00	104.32	30.12	191.76	87.20	4118.92	2549.53	1569.40
111+00.00	99.00	46.35	188.27	88.50	4307.19	2638.03	1669.16
111+50.00	102.79	39.84	186.84	99.75	4494.03	2737.77	1756.26
112+00.00	100.62	50.59	188.34	104.66	4682.37	2842.43	1839.94
112+50.00	102.99	43.26	188.53	108.62	4870.90	2951.06	1919.84
113+00.00	99.88	55.57	187.85	114.39	5058.75	3065.45	1993.30
113+50.00	101.03	54.19	186.03	127.04	5244.79	3192.49	2052.30
114+00.00	97.54	77.75	183.87	152.71	5428.65	3345.20	2083.46
114+50.00	100.13	60.58	183.03	160.10	5611.68	3505.30	2106.38
115+00.00	96.13	69.15	181.72	150.15	5793.41	3655.45	2137.96
115+50.00	94.90	64.39	176.89	154.55	5970.29	3810.00	2160.29
116+00.00	93.45	78.54	174.40	165.43	6144.69	3975.43	2169.26
116+50.00	92.88	87.08	172.53	191.70	6317.22	4167.12	2150.10
117+00.00	95.74	84.29	174.66	198.35	6491.88	4365.47	2126.40
117+50.00	98.77	55.72	180.10	162.05	6671.98	4527.53	2144.45
118+00.00	99.77	52.26	183.83	124.97	6855.81	4652.50	2203.31
118+50.00	100.25	51.72	185.20	120.34	7041.01	4772.84	2268.17
119+00.00	95.83	48.35	181.55	115.82	7222.56	4888.66	2333.90
119+50.00	98.81	53.50	180.22	117.88	7402.77	5006.55	2396.23
120+00.00	97.65	56.26	181.90	127.04	7584.68	5133.59	2451.09
120+50.00	93.23	62.83	176.74	137.84	7761.42	5271.43	2489.99
121+00.00	97.96	40.24	177.02	119.30	7938.44	5390.73	2547.71
121+50.00	98.52	61.51	181.92	117.77	8120.36	5508.50	2611.86
122+00.00	97.30	49.60	181.32	128.60	8301.68	5637.10	2664.58
122+50.00	94.07	30.47	177.20	92.68	8478.88	5729.78	2749.10
123+00.00	108.87	12.15	187.90	49.34	8666.78	5779.12	2887.67
123+50.00	104.38	16.74	197.45	33.44	8864.23	5812.56	3051.67
124+00.00	99.16	25.47	188.46	48.85	9052.69	5861.41	3191.28

TOTAL VOLUME							
STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)
124+50.00	99.80	58.67	184.22	97.39	9236.91	5958.80	3278.11
125+00.00	96.44	72.56	181.71	151.89	9418.62	6110.69	3307.93
125+50.00	98.61	60.44	180.60	153.93	9599.22	6264.62	3334.60
126+00.00	101.03	64.14	184.85	144.19	9784.07	6408.81	3375.26
126+50.00	97.61	66.49	183.93	151.19	9967.99	6560.00	3407.99
127+00.00	95.65	53.25	178.95	138.59	10146.94	6698.59	3448.35
127+50.00	101.07	46.34	182.15	115.27	10329.09	6813.87	3515.23
128+00.00	103.02	42.95	188.98	103.34	10518.08	6917.21	3600.86
128+50.00	109.46	36.71	196.74	92.19	10714.82	7009.40	3705.41
129+00.00	100.53	57.12	194.43	108.60	10909.25	7118.00	3791.24
129+50.00	102.75	56.15	188.22	131.11	11097.47	7249.11	3848.36
130+00.00	97.76	63.40	185.66	138.36	11283.13	7387.47	3895.65
130+50.00	99.61	52.42	182.74	134.04	11465.87	7521.52	3944.36
131+00.00	99.83	53.02	184.67	122.04	11650.54	7643.55	4006.99
131+50.00	100.08	64.93	185.11	136.52	11835.65	7780.07	4055.58
132+00.00	91.61	82.94	177.49	171.15	12013.14	7951.22	4061.92
132+50.00	95.96	68.48	173.67	175.25	12186.81	8126.47	4060.34
133+00.00	95.51	79.21	177.28	170.93	12364.09	8297.40	4066.69
133+50.00	94.39	72.03	175.83	175.04	12539.93	8472.44	4067.48
134+00.00	91.74	71.78	172.35	166.44	12712.27	8638.88	4073.39
134+50.00	97.21	50.41	174.95	141.42	12887.23	8780.30	4106.93
135+00.00	100.08	26.00	182.67	88.43	13069.90	8868.73	4201.17
135+50.00	110.17	17.38	194.68	50.20	13264.58	8918.94	4345.64
136+00.00	111.28	20.62	205.05	43.98	13469.62	8962.92	4506.70
136+50.00	100.90	28.72	196.46	57.11	13666.08	9020.03	4646.06
137+00.00	109.12	33.27	194.47	71.74	13860.55	9091.77	4768.79
137+50.00	100.78	50.77	194.35	97.26	14054.90	9189.03	4865.88
138+00.00	97.14	52.93	183.26	120.02	14238.16	9309.05	4929.11
138+50.00	103.68	35.50	185.94	102.35	14424.10	9411.39	5012.71
139+00.00	103.54	46.24	191.87	94.60	14615.98	9506.00	5109.98
139+50.00	98.82	46.92	187.38	107.82	14803.36	9613.81	5189.54
140+00.00	99.71	46.15	183.82	107.71	14987.18	9721.53	5265.65
140+50.00	102.23	30.50	186.98	88.72	15174.15	9810.24	5363.91
141+00.00	97.35	51.09	184.79	94.44	15358.95	9904.68	5454.26
141+50.00	101.19	51.23	183.83	118.42	15542.78	10023.11	5519.67
142+00.00	98.52	71.51	184.92	142.06	15727.70	10165.16	5562.53
142+50.00	91.90	79.38	176.31	174.64	15904.00	10339.80	5564.20
143+00.00	98.43	91.62	176.23	197.91	16080.23	10537.72	5542.51
143+50.00	100.04	81.53	183.77	200.41	16264.00	10738.12	5525.88
144+00.00	97.82	79.71	183.21	186.62	16447.20	10924.74	5522.46
144+50.00	100.26	69.12	183.41	172.26	16630.61	11097.00	5533.61
145+00.00	100.34	68.87	185.74	159.71	16816.35	11256.72	5559.63
145+50.00	101.89	59.41	187.25	148.48	17003.61	11405.19	5598.41
146+00.00	101.25	43.79	188.10	119.45	17191.70	11524.64	5667.06
146+50.00	102.19	35.51	188.38	91.78	17380.08	11616.42	5763.65
147+00.00	100.67	46.58	187.84	95.01	17567.91	11711.43	5856.48
147+50.00	103.23	49.12	188.79	110.77	17756.71	11822.20	5934.50
148+00.00	101.72	56.59	189.77	122.36	17946.48	11944.56	6001.92
148+50.00	103.10	42.84	189.65	115.08	18136.13	12059.64	6076.48
149+00.00	99.00	52.08	187.13	109.86	18323.26	12169.51	6153.75

TOTAL VOLUME							
STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)
149+50.00	99.08	41.03	183.41	107.77	18506.67	12277.27	6229.39
150+00.00	98.33	46.84	182.79	101.70	18689.45	12378.97	6310.48
150+50.00	97.32	45.91	181.16	107.35	18870.61	12486.32	6384.29
151+00.00	100.89	31.95	183.53	90.11	19054.14	12576.43	6477.71
151+50.00	103.40	28.35	189.16	69.79	19243.31	12646.22	6597.08
152+00.00	100.76	36.22	189.04	74.73	19432.35	12720.95	6711.39
152+50.00	103.99	24.74	189.59	70.56	19621.94	12791.51	6830.42
153+00.00	104.15	26.86	192.73	59.73	19814.66	12851.24	6963.42
153+50.00	98.58	42.85	187.71	80.68	20002.38	12931.92	7070.46
154+00.00	94.61	38.11	178.88	93.71	20181.26	13025.63	7155.63
154+50.00	101.91	29.77	181.97	78.57	20363.23	13104.19	7259.03
155+00.00	105.32	35.23	191.88	75.22	20555.11	13179.42	7375.69
155+50.00	89.16	42.24	180.07	89.66	20735.18	13269.08	7466.11
156+00.00	103.65	65.78	178.53	125.02	20913.72	13394.10	7519.62
156+50.00	92.71	116.84	181.82	211.36	21095.54	13605.46	7490.08
157+00.00	94.38	151.82	173.24	310.95	21268.78	13916.41	7352.37
157+50.00	92.59	179.06	173.12	382.96	21441.89	14299.37	7142.52
158+00.00	96.78	196.23	175.34	434.36	21617.24	14733.74	6883.50
158+50.00	95.64	208.10	178.17	467.98	21795.41	15201.72	6593.69
159+00.00	93.95	196.87	175.54	468.72	21970.95	15670.44	6300.51
159+50.00	96.16	236.36	176.02	501.42	22146.97	16171.86	5975.11

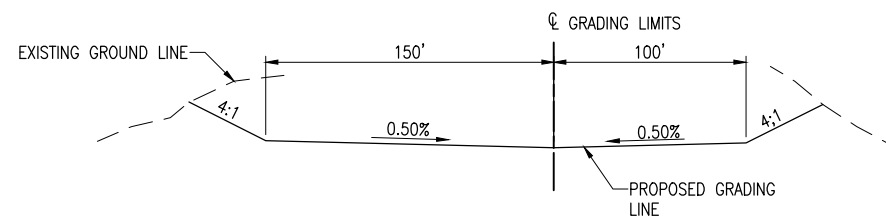


LEGEND

- * 411.95 PROPOSED SPOT ELEVATION
- * 405.11 EXISTING SPOT ELEVATION

GRADING PLAN

NOTE



PROPOSED TYPICAL SECTION

EARTHWORK VOLUME TABLE

STATION	CUT AREA (SF)	FILL AREA (SF)	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)
14+50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15+00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15+50	146.00	0.00	135	0.00	135	0.00	135
16+00	450.17	0.00	552	0.00	687	0.00	687
16+50	475.65	0.00	857	0.00	1544	0.00	1544
17+00	634.35	0.00	1028	0.00	2572	0.00	2572
17+15	0.00	0.00	176	0.00	2748	0.00	2748

UNCLASSIFIED EXCAVATION NOTE

ITEM AR152410, UNCLASSIFIED EXCAVATION, SHALL INCLUDE ALL EXCAVATION OF MATERIAL ON THE PROJECT INCLUDING: THE CORING OF THE EXISTING SHOULDERS ADJACENT TO THE RUNWAY, THE CORING OF THE SUBGRADES BENEATH THE PROPOSED TAXIWAY PAVEMENTS, AND THE EXCAVATION ASSOCIATED WITH THE FLOODPLAIN MITIGATION AREA. THE HAULING AND FORMATION OF EMBANKMENTS WITH THE MATERIAL OBTAINED ON THE AIRPORT SITE, AND ADJACENT TO THE RUNWAY AND TAXIWAYS, SHALL BE INCLUDED IN ITEM AR152410. THE STOCKPIILING OF THE MATERIAL EXCAVATED FROM THE FLOODPLAIN MITIGATION AREA IN THE STOCKPILE AREA SHOWN SHALL BE CONSIDERED INCIDENTAL TO ITEM AR152410.

THE HAULING AND DISTRIBUTION OF THE MATERIAL OBTAINED FROM THE EXISTING STOCKPILE (OFFSITE, ADJACENT TO THE FLOODPLAIN MITIGATION AREA), AS WELL AS THAT GENERATED FROM THE MITIGATION SITE AND ADDITIONALLY STOCKPILED SHALL BE PAID FOR UNDER ITEM AR152442, OFFSITE BORROW EXCAVATION PER CUBIC YARD, AS DEFINED BELOW.

THE HAUL ROUTE TO ACCESS BOTH THE STOCKPILE AND MITIGATION AREA SHALL BE PAID FOR UNDER ITEM AR150540 HAUL ROUTE, PER LUMP SUM, AND NO ADDITIONAL COMPENSATION ALLOWED.

OFFSITE BORROW EXCAVATION NOTE

ITEM AR152442, OFFSITE BORROW EXCAVATION, SHALL INCLUDE THE HAULING AND DISTRIBUTION OF MATERIAL NECESSARY TO ACHIEVE THE GRADES PROPOSED. A STOCKPILE EXISTS FROM WHICH THE CONTRACTOR CAN OBTAIN APPROXIMATELY 7500 CY OF FILL MATERIAL. AN ADDITIONAL 2748 CY IS PROPOSED FOR EXCAVATION OUT OF THE MITIGATION AREA AND SHALL BE AVAILABLE AS NEEDED TO BALANCE THE FILL MATERIAL NEEDED FOR THE PROJECT. THE AMOUNT HAULED FROM THE STOCKPILE AREA AND DISTRIBUTED WITHIN THE PROJECT LIMITS SHALL BE PAID FOR AS PART OF ITEM AR152442, PER C.Y.

FLOODPLAIN MITIGATION AREA AND STOCKPILE NOTE

AN EXISTING FLOODPLAIN MITIGATION AREA EXISTS FROM A PREVIOUS PROJECT AND IS IDENTIFIED IN THE ABOVE SKETCH. THIS AREA WILL BE INCREASED IN SIZE AS PART OF THIS PROJECT AND A PORTION OF THE MATERIAL GENERATED FROM THE EXCAVATION SHALL BE STOCKPILED AS SHOWN ON THE CONSTRUCTION PLANS. THE CONTRACTOR SHALL STOCKPILE THE EXCAVATED MATERIAL ABOVE THE ELEVATION OF 406'. SURVEY OF THE AREA TO ENSURE THIS REQUIREMENT IS MET SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE SURVEY. THE AREA OF THE EXISTING MITIGATION AREA DISTURBED SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH ITEMS 901 AND 908, RESPECTIVELY. THE AREAS OF WITHIN THE LIMITS OF THE EXCAVATED AREA FOR THESE ITEMS IS INCLUDED IN THE PLAN QUANTITY FOR ITEMS AR901510 AND AR908510, RESPECTIVELY.

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of METRO

A.I.P. PROJ.: 3-17-0039-B22

Project No.	Date	Reviewed
08A0211D	04/16/2010	CAH
R-522CON.DWG	02/16/10	JEO
Scale: H. 1" = 20', V. 1" = 2'	02/16/10	JEO
Date: 04/16/2010	04/01/10	JEO

HANSON

Hanson Professional Services Inc.
4227 Earth City Expressway, Suite 130
St. Louis, MO 63046-1308
Offices Nationwide

WIDEN RUNWAY 12R/30L

PROPOSED GRADING AREA