LETTING ITEM NUMBER
2A

LETTING CONTRACT NUMBER
WI056

TOTAL SHEETS: 30

CONSTRUCT

TAXIWAY E5
PARKING APRON AND ACCESS ROAD

AT

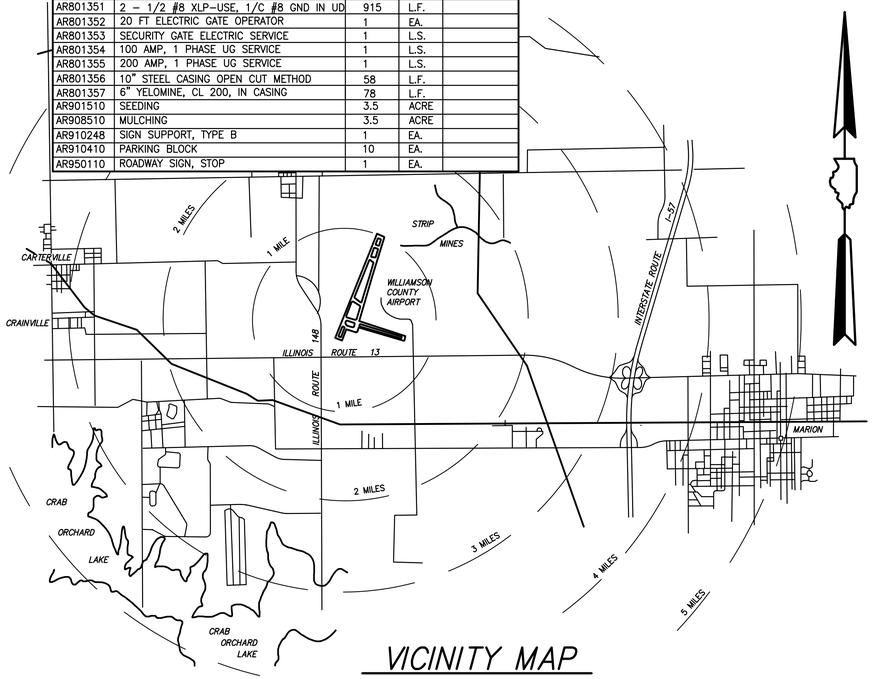
WILLIAMSON COUNTY REGIONAL AIRPORT
MARION - HERRIN, WILLIAMSON COUNTY, ILLINOIS

DATE : 3/9/2015

ILLINOIS PROJECT No. MWA-4273
S.B.G. PROJECT No. N/A

SUMMARY OF QUANTITIES
ROAD/PARKING/UTILITIES

ITEM NO.	DESCRIPTION	EST. QTY.	UNIT	AS BUILT QTY.
AR106611	TYPE A ASSEMBLY - 1 FIXTURE	4	EA.	
AR106621	TYPE B ASSEMBLY - 1 FIXTURE	1	EA.	
AR108108	1/C #8 5 KV UG CABLE	1520	L.F.	
AR108158	1/C #8 5 KV UG CABLE IN UD	1275	L.F.	
AR109311	7.5 KW REGULATOR, STYLE 1	1	L.S.	
AR109610	L-854 PCAL SYSTEM	1	L.S.	
AR109902	REMOVE ELECTRICAL EQUIPMENT	1	L.S.	
AR110012	2" DIRECTIONAL BORE	155	L.F.	
AR110013	3" DIRECTIONAL BORE	310	L.F.	
AR110101	CABLE MARKER	4	EA.	
AR110203	3" PVC DUCT, DIRECT BURY	1017	L.F.	
AR110312	2" STEEL DUCT, JACKED	40	L.F.	
AR110313	3" STEEL DUCT, JACKED	80	L.F.	
AR110503	3-WAY CONCRETE ENCASED DUCT	177	L.F.	
AR110710	ELECTRIC MANHOLE	1	EA.	
AR125410	MITL-STAKE MOUNTED	27	EA.	
AR125415	MITL-BASE MOUNTED	1	EA.	
AR125443	TAXI GUIDANCE SIGN, 3 CHARACTER	1	EA.	
AR125444	TAXI GUIDANCE SIGN, 4 CHARACTER	1	EA.	
AR125445	TAXI GUIDANCE SIGN, 5 CHARACTER	1	EA.	
AR125461	TAXI GUIDANCE SIGN, SPECIAL	2	EA.	
AR125565	SPLICE CAN	2	EA.	
AR125901	REMOVE STAKE MOUNTED LIGHT	3	EA.	
AR125942	ADJUST BASE MOUNTED LIGHT	4	EA.	
AR150510	ENGINEER'S FIELD OFFICE	1	L.S.	
AR152410	UNCLASSIFIED EXCAVATION	2290	C.Y.	
AR152440	BORROW EXCAVATION	12	C.Y.	
AR156510	SILT FENCE	1385	L.F.	
AR156514	DITCH CHECK	380	L.F.	
AR156520	INLET PROTECTION	4	EA.	
AR162510	CLASS E FENCE 10'	1420	L.F.	
AR162720	ELECTRIC GATE 20'	1	EA.	
AR162900	REMOVE CLASS E FENCE	280	L.F.	
AR209510	CRUSHED AGGREGATE BASE COURSE	1030	TON	
AR401610	BITUMINOUS SURFACE COURSE	182	TON	
AR403610	BITUMINOUS BASE COURSE	182	TON	
AR602510	BITUMINOUS PRIME COAT	1160	GAL	
AR603510	BITUMINOUS TACK COAT	315	GAL	
AR620520	PAVEMENT MARKING - WATERBORNE	850	S.F.	
AR701312	12" RCP, CLASS II	46	L.F.	
AR701318	18" RCP, CLASS II	26	L.F.	
AR701324	24" RCP, CLASS II	1254	L.F.	
AR701900	REMOVE PIPE	45	L.F.	
AR752412	PRECAST REINFORCED CONC. FES 12"	2	EA.	
AR752418	PRECAST REINFORCED CONC. FES 18"	2	EA.	
AR752424	PRECAST REINFORCED CONC. FES 24"	2	EA.	
AR760606	6" PVC WATER MAIN	345	L.F.	
AR760800	FIRE HYDRANT WITH AUXILIARY VALVE	1	EA.	
AR760860	TAPPING VALVE & SLEEVE (6"x6")	1	EA.	
AR801350	4/C #8 5 KV UG CABLE IN UD	2245	L.F.	
AR801351	2 - 1/2 #8 XLP-USE, 1/C #8 GND IN UD	915	L.F.	
AR801352	20 FT ELECTRIC GATE OPERATOR	1	EA.	
AR801353	SECURITY GATE ELECTRIC SERVICE	1	L.S.	
AR801354	100 AMP, 1 PHASE UG SERVICE	1	L.S.	
AR801355	200 AMP, 1 PHASE UG SERVICE	1	L.S.	
AR801356	10" STEEL CASING OPEN CUT METHOD	58	L.F.	
AR801357	6" YELOMINE, CL 200, IN CASING	78	L.F.	
AR901510	SEEDING	3.5	ACRE	
AR908510	MULCHING	3.5	ACRE	
AR910248	SIGN SUPPORT, TYPE B	1	EA.	
AR910410	PARKING BLOCK	10	EA.	
AR950110	ROADWAY SIGN, STOP	1	EA.	



VICINITY MAP

SUMMARY OF QUANTITIES
TAXIWAY/APRON ITEMS

ITEM NO.	DESCRIPTION	EST. QTY.	UNIT	AS BUILT QTY.
AR152410	UNCLASSIFIED EXCAVATION	2475	C.Y.	
AR152540	SOIL STABILIZATION FABRIC	375	S.Y.	
AR209510	CRUSHED AGGREGATE BASE COURSE	1440	TON	
AR401610	BITUMINOUS SURFACE COURSE	213	TON	
AR403610	BITUMINOUS BASE COURSE	213	TON	
AR602510	BITUMINOUS PRIME COAT	1280	GAL	
AR603510	BITUMINOUS TACK COAT	370	GAL	
AR620520	PAVEMENT MARKING - WATERBORNE	230	S.F.	
AR620525	PAVEMENT MARKING - BLACK BORDER	60	S.F.	
AR701315	15" RCP, CLASS II	82	L.F.	
AR752415	PRECAST REINFORCED CONC. FES 15"	2	E.A.	

INDEX OF SHEETS

BOARD MEMBERS

CHAIRMAN : BERNARD A. PAUL

MEMBERS : JAVIER MUNIZ
DARREN PULLEY
RICHARD PISONI
ROBERT MEES

SECRETARY : CRAIG PILLATSCH

AIRPORT MANAGER : DOUGLAS KIMMEL

W. BRIAN ZIEGLER
062-053881
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

EXPIRES : NOVEMBER 30, 2015

PROJECT 09123

PLANS PREPARED BY :

CLARIDA & ZIEGLER ENGINEERING COMPANY
P.O. Box 937, 410 North Court Street
Marion, Illinois 62959

REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
NO. 053881

SUBMITTED W. BRIAN ZIEGLER ENGINEER

DATE : 3/9/2015

WILLIAMSON COUNTY AIRPORT AUTHORITY

APPROVED _____ CHAIRMAN

DATE : 3/9/2015

APPROVED _____ SECRETARY

DATE : 3/9/2015

NOTES:

1. ALL FLARED END SECTIONS SHALL SATISFY IDOT STANDARD 542301-03.

CONTROL POINTS			
POINT NO.	NORTHING	EASTING	ELEVATION
109	396268.9510	786724.0540	454.22
110	396662.9660	786892.2240	457.03
111	397057.4210	787061.1280	460.36
500	396179.8200	786197.8600	454.51
501	396671.7170	786293.0670	453.11

RELOCATE EXISTING SPEED LIMIT SIGN (BY OTHERS)

PROPOSED PRECAST 18" REINFORCED CONCRETE FLARED END SECTION

PROPOSED STOP SIGN

TREE REMOVAL INCIDENTAL TO UNCLASSIFIED EXCAVATION

PROPOSED 18" RCP CULVERT

PROPOSED ACCESS ROAD

PROPOSED PRECAST 18" REINFORCED CONCRETE FLARED END SECTION

BEGINNING OF PROJECT

PROPOSED 12" RCP CULVERT

PROPOSED PRECAST 12" REINFORCED CONCRETE FLARED END SECTION

PROPOSED AUTOMATIC GATE 20'

SEE PARKING LOT DETAIL THIS SHEET

REMOVE EXISTING 12" CMP

PROPOSED 6" YELOMINE CL200, IN CASING ~ 78'

ADJUST CLEAN OUT AS NECESSARY

PROPOSED TAPPING SLEEVE AND VALVE – 1 EACH

PROPOSED 6" PVC WATER MAIN ~ 345'

PROPOSED PRECAST 12" REINFORCED CONCRETE FLARED END SECTION

PROPOSED FIRE HYDRANT WITH AUXILIARY VALVE – 1 EACH

PROPOSED CAP & RESTRAINT

PROPOSED 10" STEEL CASING OPEN CUT ~ 58'

PROPOSED APRON

PROPOSED HANGAR (BY OTHERS)

PROPOSED 10' FENCE

TOFA

TSA

PROPOSED TAXIWAY E5

PROPOSED PRECAST 15" REINFORCED CONCRETE FLARED END SECTION

PROPOSED 15" RCP CULVERT

END OF PROJECT

PROPOSED PRECAST 15" REINFORCED CONCRETE FLARED END SECTION

REMOVE CLASS E FENCE ~ 280'

PROPOSED PRECAST 24" REINFORCED CONCRETE FLARED END SECTION

PROPOSED 24" RCP CULVERT

451.58

457.08

457.50

501

110

500

109

PARKING LOT DETAIL

9 10'x20' PARKING SPACES

PARKING BLOCK (TYP.)

SCALE: 1:16

SCALE : 1" = 50'

50 0 50 100 150

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-004515

REVISIONS	
DATE	NO.

CLARIDA & ZIEGLER ENGINEERING CO.
410 North Court St, P.O. Box 937
Marion, Illinois 62959
Phone – (618)993-6411, Fax – (618)993-6750

GENERAL LAYOUT
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By GEG | CK'D By WBZ
Scale 1:50 | Job No. 09123 | Sheet No. 2 of 30

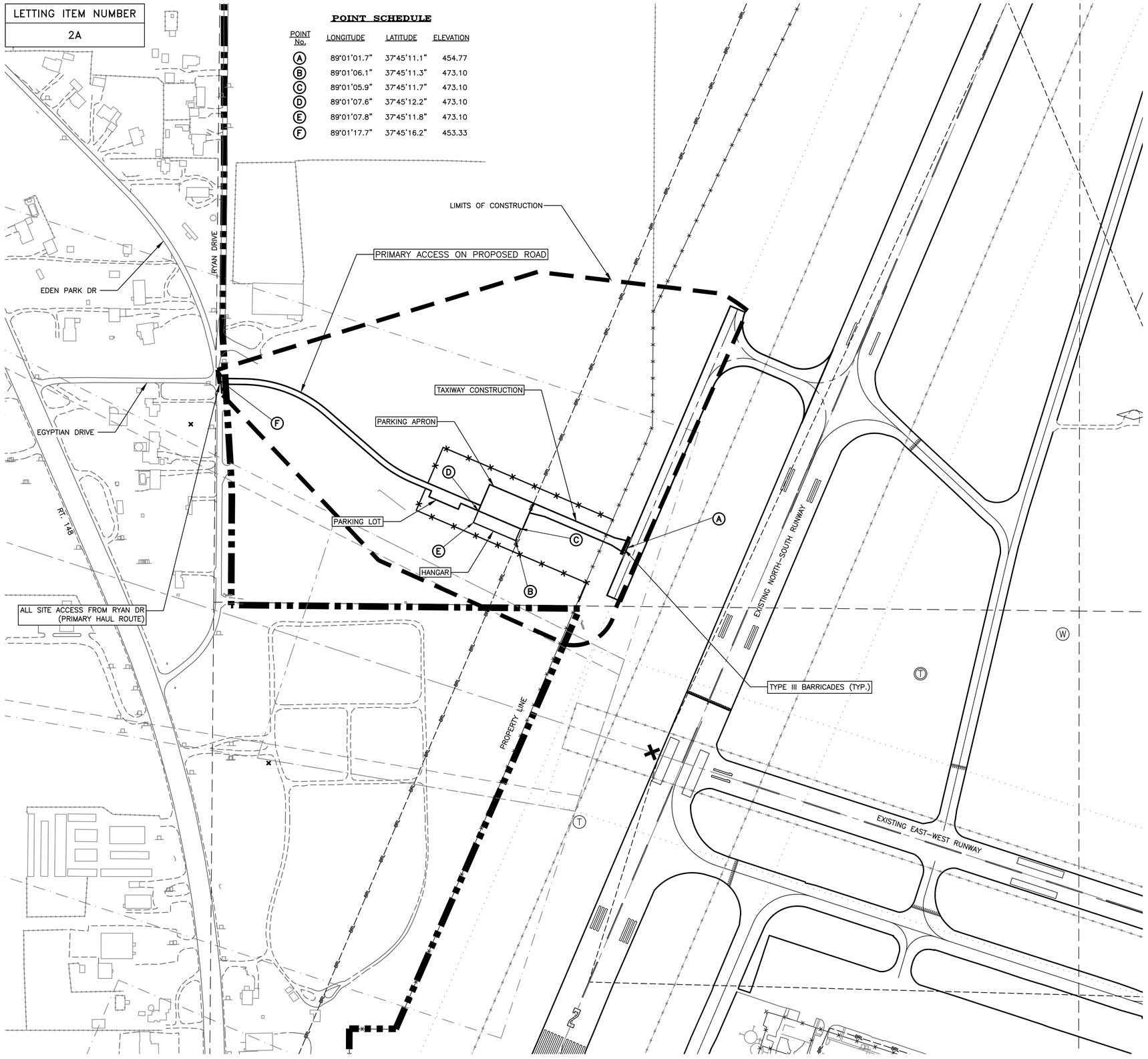
LETTING ITEM NUMBER
2A

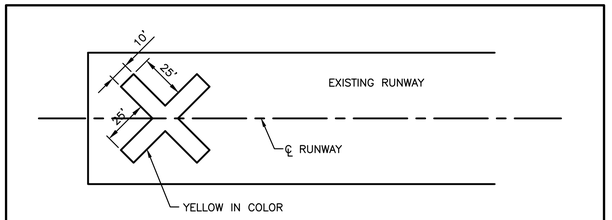
LETTING CONTRACT NUMBER
WI056

TOTAL SHEETS: 30

POINT SCHEDULE

POINT No.	LONGITUDE	LATITUDE	ELEVATION
A	89°01'01.7"	37°45'11.1"	454.77
B	89°01'06.1"	37°45'11.3"	473.10
C	89°01'05.9"	37°45'11.7"	473.10
D	89°01'07.6"	37°45'12.2"	473.10
E	89°01'07.8"	37°45'11.8"	473.10
F	89°01'17.7"	37°45'16.2"	453.33





DETAIL OF CROSS FOR CLOSED RUNWAY

~N.T.S.~

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

GENERAL NOTES

1. THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL CONSTRUCTION AREAS WHEN THE PROJECT IS COMPLETED.
2. ALL AREAS UTILIZED BY THE CONTRACTOR FOR EQUIPMENT PARKING AND STORAGE SHALL BE KEPT CLEAN, MAINTAINED AND REPAIRED TO THE SATISFACTION OF THE ENGINEER. NO ADDITIONAL COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR THIS WORK.
3. EXISTING TURF AREAS DISTURBED BY THE CONTRACTORS OPERATIONS SHALL BE RESTORED BY HIM AT HIS EXPENSE TO THE SATISFACTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL WORK ONLY IN THE LIMITS SHOWN ON THE PLANS.
5. THE CONTRACTOR SHOULD NOT WORK WITHIN 200 FEET OF EITHER RUNWAY UNLESS THE RUNWAY IS CLOSED.
6. HEIGHT OF CONSTRUCTION EQUIPMENT MAXIMUM IS ANTICIPATED TO BE 25', WHICH IS A RAISED TRUCK BED.
7. EROSION CONTROL – THIS PROJECT WILL DISTURB MORE THAN 5 ACRES. A STORM WATER POLLUTION PREVENTION PLAN HAS BEEN PREPARED AND A N.P.D.E.S. PERMIT WILL BE REQUIRED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT HAVE LINES IN THE WORK AREA AND GET THEM LOCATED. CALL J.U.L.I.E. (1-800-892-0123) FOR UTILITY LOCATING.
9. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS DIRECTED BY THE AIRPORT MANAGER. THE BARRICADES WILL BE EQUIPPED WITH RED FLASHING LIGHTS AND 20" SQUARE ORANGE FLAGS. THE BARRICADES, THEIR MAINTENANCE, PLACEMENT AND REMOVAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
10. IDENTIFICATION – WHEN THE CONTRACTOR'S VEHICLES AND EQUIPMENT ARE ON THE AIRPORT THEY SHALL BE PROPERLY MARKED WITH THREE FOOT (3') SQUARE CHECKERED FLAGS (INTERNATIONAL ORANGE AND WHITE).
11. THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND PARKING AREA AS SHOWN ON 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 THESE AREAS WILL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE. AT THE CONCLUSION OF THE PROJECT THE CONTRACTOR WILL PERFORM ANY AND ALL WORK NECESSARY TO RESTORE THE HAUL ROUTE AND EQUIPMENT PARKING AND STORAGE AREA TO ITS ORIGINAL STATE. RESTORATION OF THE HAUL ROUTE AND PARKING AREA WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
12. PRIMARY SITE ACCESS FROM RYAN DRIVE.

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-004515

REVISIONS	
DATE	NO.

CLARIDA & ZIEGLER ENGINEERING CO.
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Marion, Illinois 62959
Phone – (618)993-6411, Fax – (618)993-6750

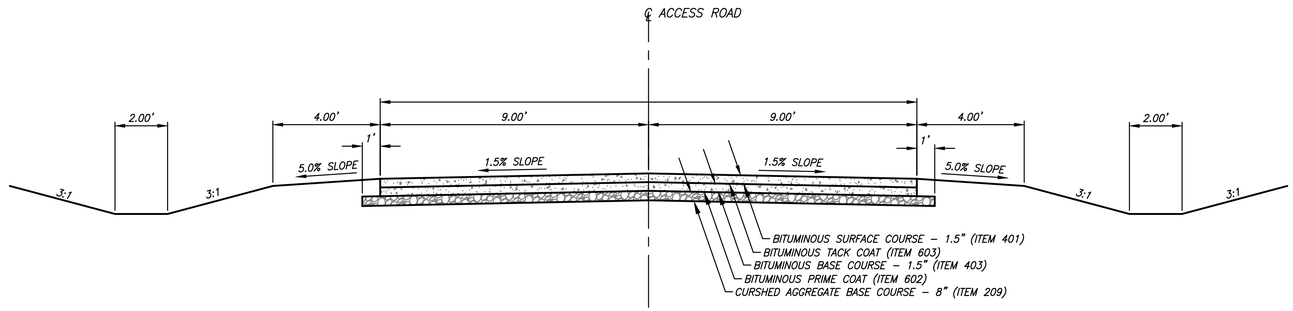
SAFETY PLAN
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By GEG | CK'D By WBZ
Scale 1:150 | Job No. 09123 | Sheet No. 3 of 30

LETTING ITEM NUMBER
2A

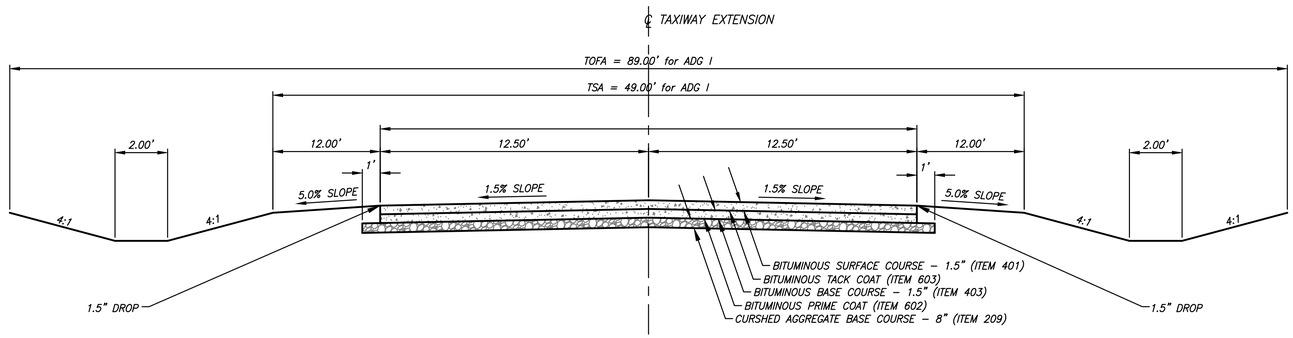
LETTING CONTRACT NUMBER
WI056

TOTAL SHEETS: 30



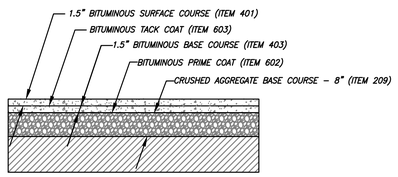
TYPICAL SECTION - ACCESS ROAD

STATION 1+00.00 AR TO STATION 6+88.46 AR



TYPICAL SECTION - TAXIWAY E5

STATION 0+48.57 TE5 TO STATION 2+60.74 TE5



TYPICAL SECTION - APRON

NOTES:

1. SOIL STABILIZATION FABRIC SHALL BE USED ONLY AS NEEDED AND AS DIRECTED BY THE ENGINEER.

ILLINOIS PROJECT NO. MWA-4273
PROJECT NO. N/A

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184–004515

REVISIONS	
DATE	NO.

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Marion, Illinois 62959
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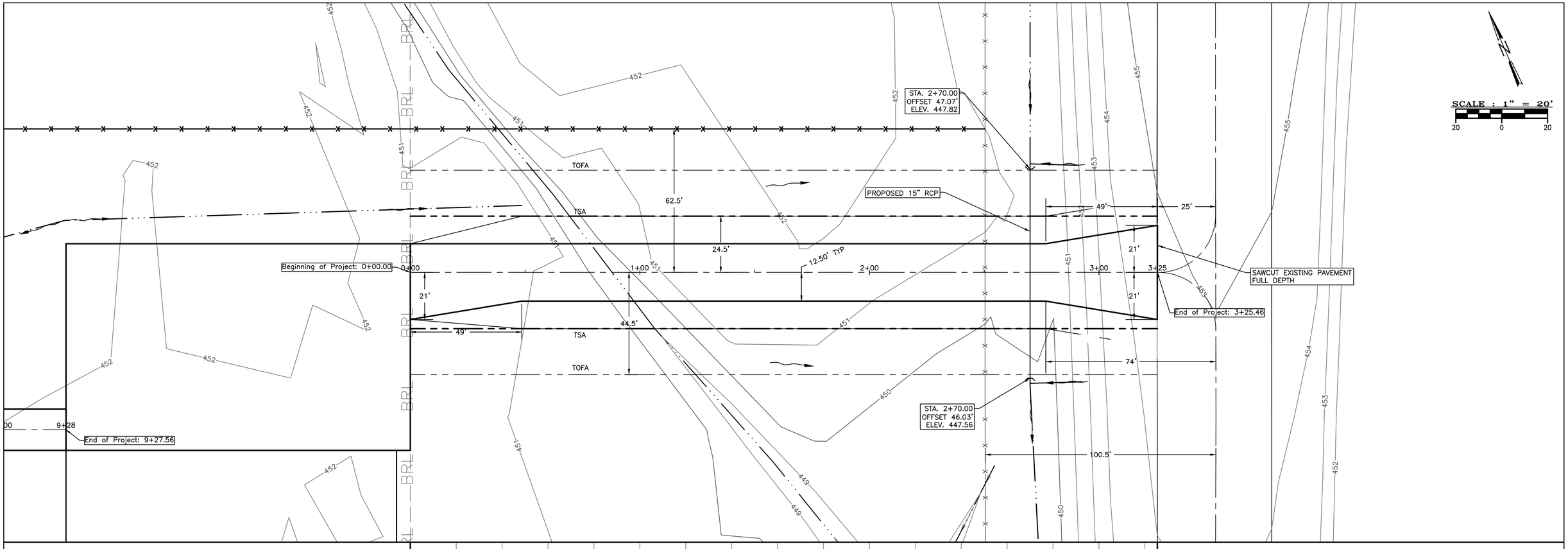
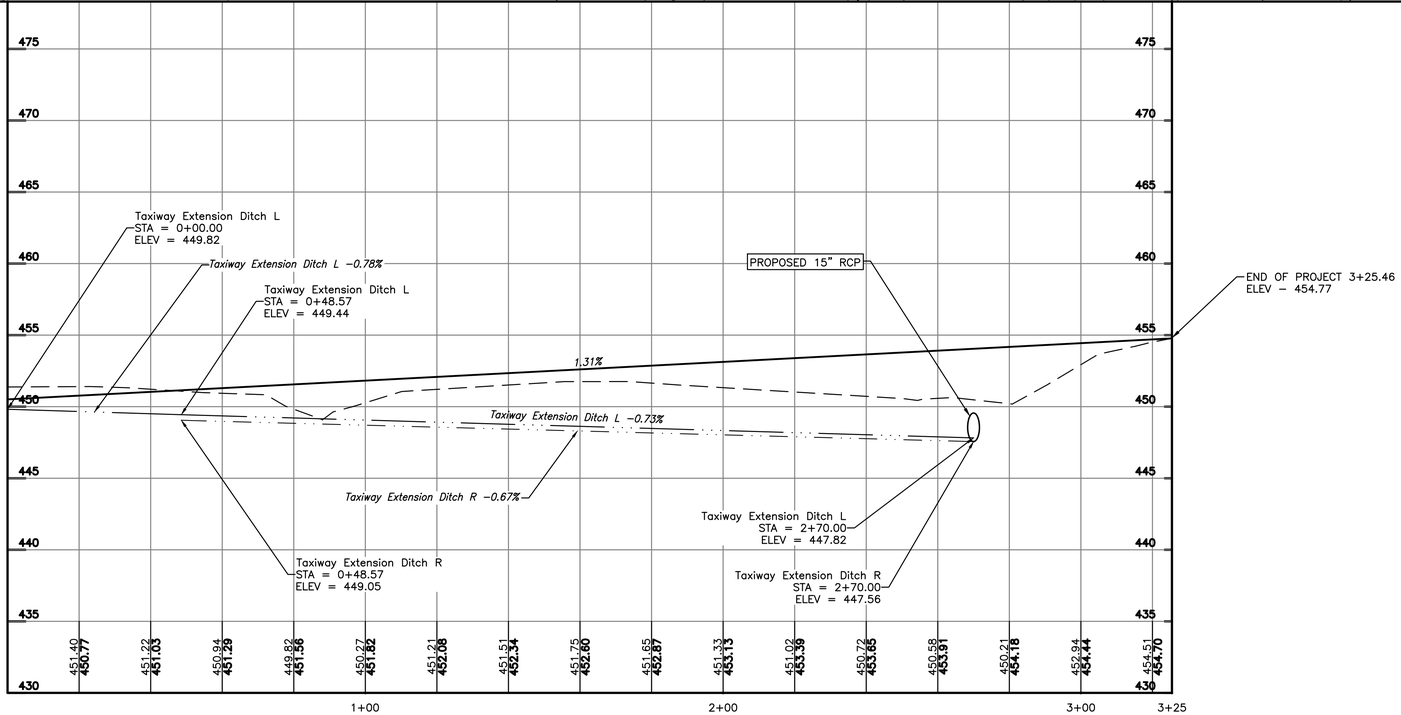
TYPICAL SECTIONS
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

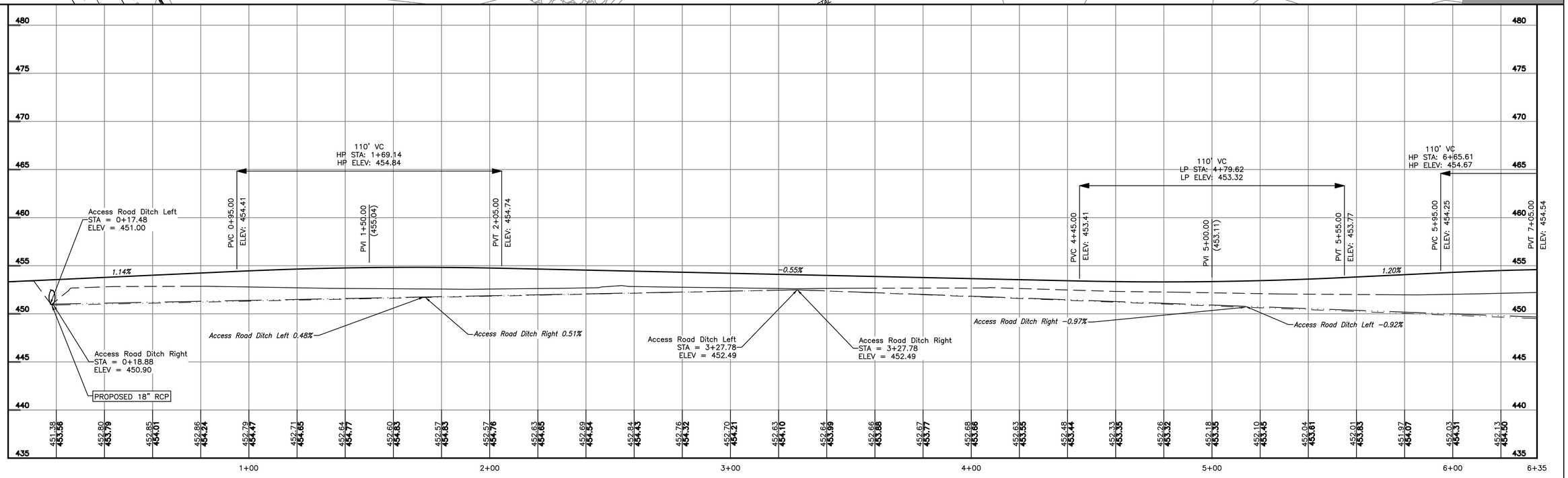
Date MARCH 2015 | DR. By GEG | CK'D By WBZ
Scale N/A | Job No. 09123 | Sheet No. 4 of 30





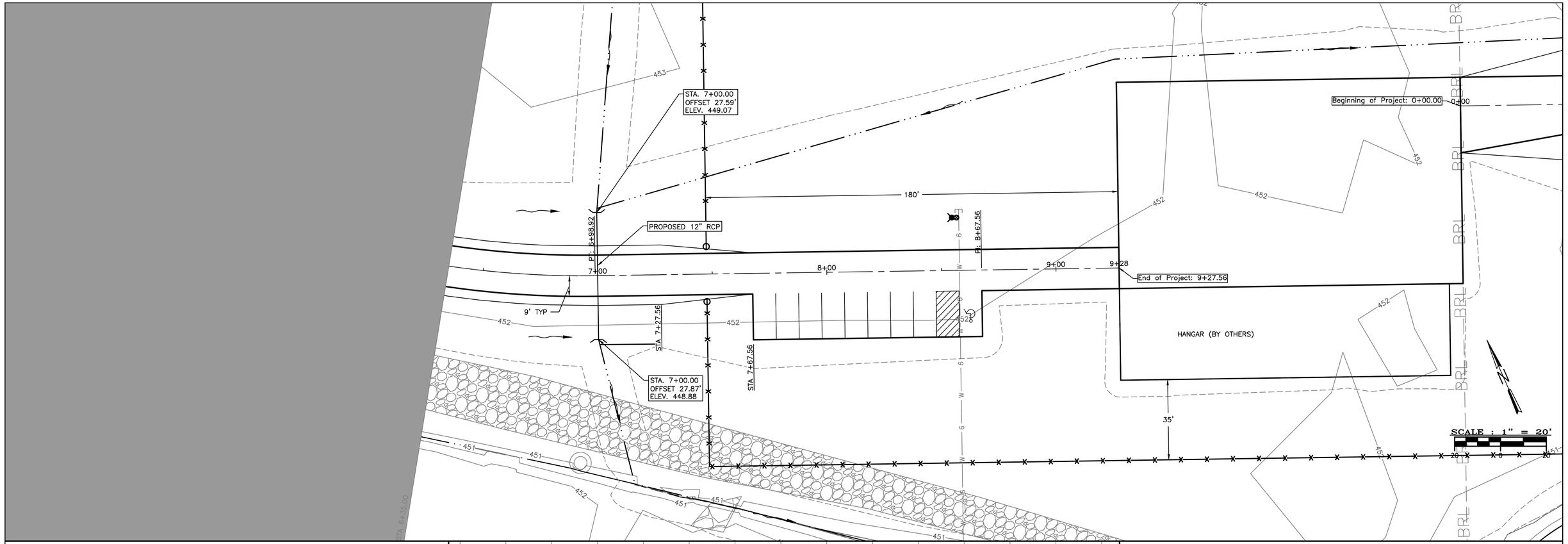
TAXIWAY E5 – PLAN AND PROFILE STATION 0+00 TO 3+25.46

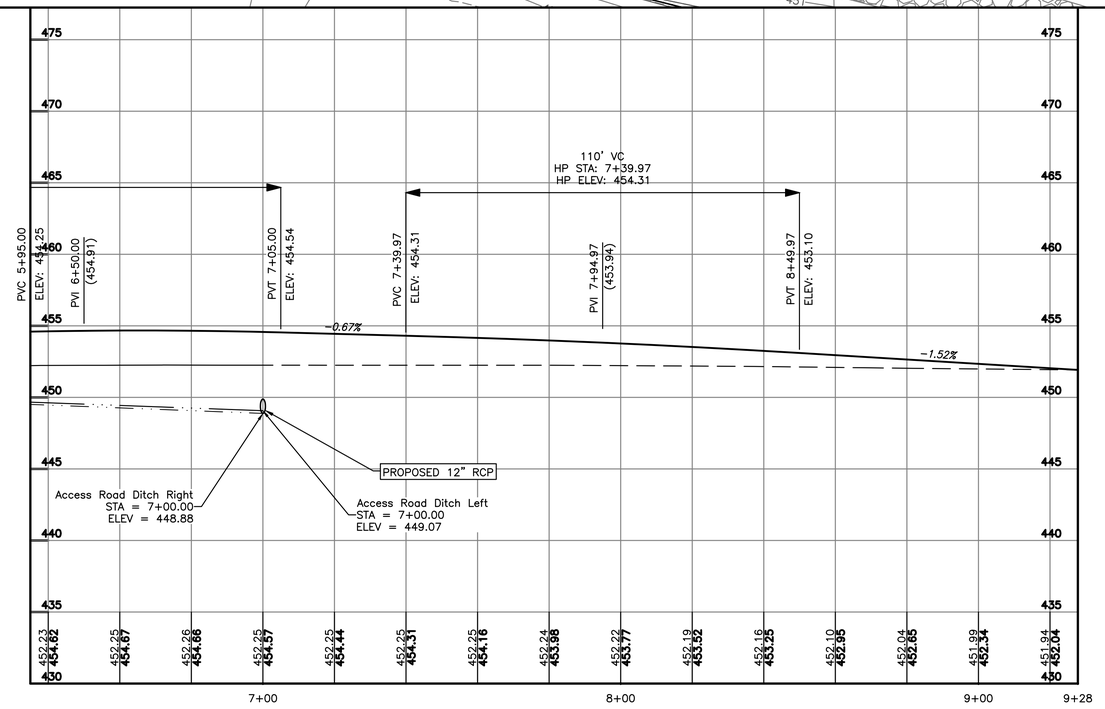
PROJECT No. 09123
SHT. 5 OF 30.



ACCESS ROAD – PLAN AND PROFILE STATION 0+00 TO 6+35

PROJECT No. 09123
SHT. 6 OF 30.





ACCESS ROAD – PLAN AND PROFILE STATION 6+35 TO 9+27.78

PROJECT No. 09123
SHT. 7 OF 30.

SEE GENERAL LAYOUT FOR BEGINNING ELEVATION

PROPOSED SPECIAL DITCH 2

I.E. – 447.82

EXISTING DITCH TO BE FILLED

453.93

454.13

454.91 MATCH EXIST

454.77 MATCH EXIST

PROPOSED 15" RCP ~82'

453.85

I.E. – 447.56

454.64 MATCH EXIST

PROPOSED SPECIAL DITCH 2

I.E. – 443.35

PROPOSED 24" RCP ~1254'

SCALE: 1" = 30'

30 0 30

N

SEE GENERAL LAYOUT FOR BEGINNING ELEVATION

GRADING LIMITS (TYP.)

PROPOSED SPECIAL DITCH 2

I.E. – 449.07

PROPOSED 12" RCP ~46'

PROPOSED SPECIAL DITCH 1

EXISTING DITCH TO BE FILLED

5:1

VARIES

454.28

454.39

453.73

453.86

454.26

454.00

454.30

I.E. – 448.88

453.10

453.24

453.37

452.71

452.86

453.00

453.87

FFE – 453.10

451.00

451.65

451.84

450.98

451.15

450.56

452.15

-1.50%

SCALE : 1" = 20'

20 0 20

N

MATCH EXIST 453.30

I.E. – 451.00

453.51

453.65

MATCH EXIST 453.37

PROPOSED 18" RCP ~27'

453.51

4:1

I.E. – 450.90

MATCH EXIST 450.76

MATCH EXIST 450.64

PROPOSED SPECIAL DITCH 2

SCALE : 1" = 10'

10 0 10

N

PROPOSED SPECIAL DITCH 2

PROPOSED SPECIAL DITCH 1 DETAIL

VARIES *

VARIES *

EXISTING GROUND

EXISTING GROUND

PROPOSED FLOWLINE

* SEE PLAN VIEW FOR SLOPE

PROPOSED SPECIAL DITCH 2 DETAIL

3:1

3:1

EXISTING GROUND

EXISTING GROUND

PROPOSED FLOWLINE

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-004515

REVISIONS	
DATE	NO.

CLARIDA & ZIEGLER ENGINEERING CO.
410 North Court St, P.O. Box 937
Marion, Illinois 62959
Phone – (618)993-6411, Fax – (618)993-6750

GRADING PLAN
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By GEG | CK'D By WBZ

Scale N/A | Job No. 09123 | Sheet No. 8 of 30

GENERAL EROSION NOTES

A. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING ("SITE MAP"), THE STANDARD DETAILS, THE PLAN NARRATIVE, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.

B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF ILLINOIS NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.

C. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE EMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

D. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRCTED BY PERMITTING AGENCY OR OWNER.

E. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS MUST BE MAINTAINED ON SITE AT ALL TIMES.

F. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.

G. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.

H. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

I. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN–UP FUEL OR CHEMICAL SPILLS AND LEAKS.

J. DUST ON THE SITE SHALL NOT BE CONTOLLED BY THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS.

K. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS, MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

L. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.

M. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 21 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.

N. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANSCAPE PLAN.

O. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.

P. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

Q. ON–SITE & OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

R. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.

S. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SEDIMENT FENCES, ETC.) TO PREVENT EROSION.

T. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

MAINTENANCE

ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIES SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.
3. SEDIMENT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT FENCES WHEN IT REACHES ONE–THIRD THE HEIGHT OF THE SEDIMENT FENCE.
4. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
6. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.

LEGEND

PERIMETER EROSION BARRIER

PROPOSED DITCH CHECK

PROPOSED INLET AND PIPE PROTECTION

N

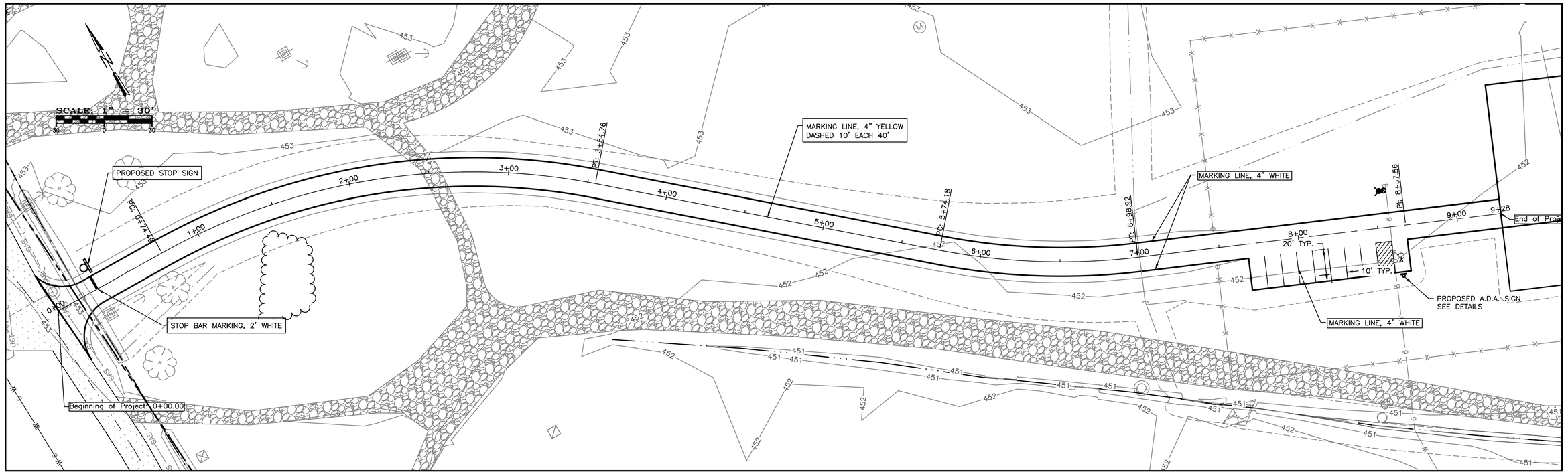
STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184–004515

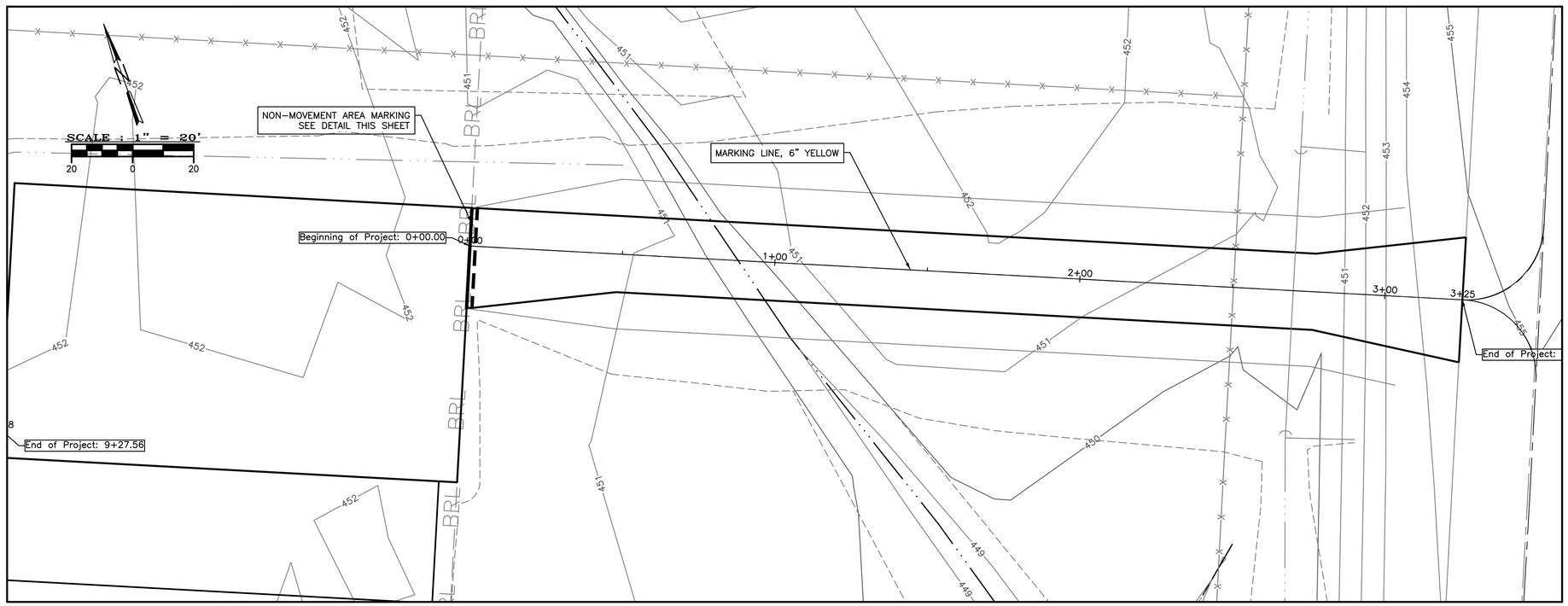
REVISIONS	
DATE	NO.

CLARIDA & ZIEGLER ENGINEERING CO.
410 North Court St, P.O. Box 937
Marion, Illinois 62959
Phone – (618)993–6411, Fax – (618)993–6750

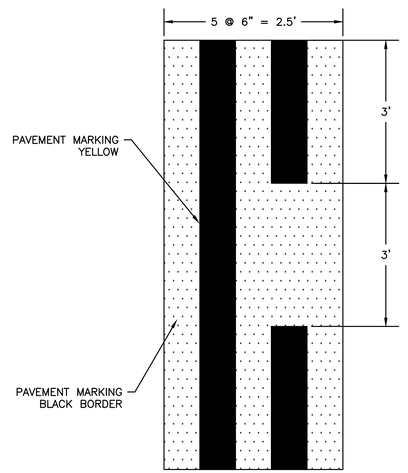
EROSION CONTROL
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By GEG | CK'D By WBZ
Scale 1:50 | Job No. 09123 | Sheet No. 9 of 30





NON-MOVEMENT AREA MARKING DETAIL



STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-004515

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MARKING PLAN
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By GEG | CK'D By WBZ

Scale N/A | Job No. 09123 | Sheet No. 10 of 30

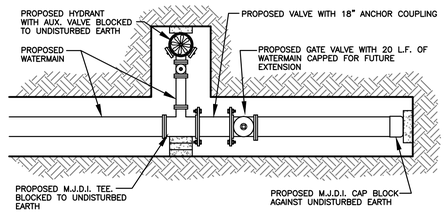
NOTES

WATER NOTES

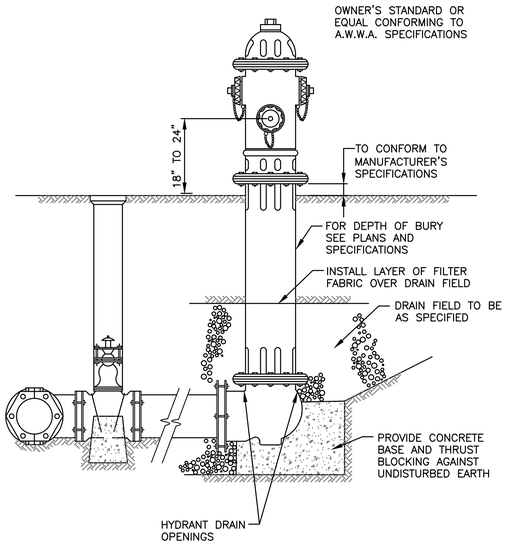
1. *ALL PVC PIPE SHALL BE SDR 26, AND BEAR THE SEAL OF APPROVAL AND CONFORM TO ASTM D-2241. ALL JOINTS SHALL MEET THE REQUIREMENTS OF ASTM F477 AND ASTM D-3139.*
2. *ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL COMPLY WITH THE "STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS," LATEST EDITION.*
3. *DEPTH OF COVER SHALL BE A MINIMUM OF 36" UNLESS OTHERWISE NOTED.*
4. *#14 COPPER, SINGLE STRAND, UNDERGROUND LOCATION WIRE TO BE INSTALLED IN THE SAME TRENCH AS WATER LINE.*
5. *WATER MAINS SHALL BE SEPARATED FROM SEPTIC TANKS, DISPOSAL FIELDS, AND SEEPAGE BEDS A MINIMUM OF 25 FEET.*
6. *ALL PIPE FITTINGS SHALL BE DUCTILE IRON, SHALL COMPLY WITH ANSI/AWWA C110/A21.20 AND SHALL USE STAINLESS STEEL NUTS AND BOLTS. WHERE A CHANGE IN DIRECTION OF THE PIPE OCCURS, RESTRAINT DEVICES EQUAL TO EBAA IRON'S MEGA LUGS SHALL BE INSTALLED. THE RESTRAINT DEVICE SHALL BE THAT RECOMMENDED FOR THE PROPER PVC CLASSIFICATION OF PIPE.*
7. *WATER MAINS SHALL BE SEPARATED FROM SANITARY SEWER MAINS A MINIMUM OF 10' HORIZONTAL AND 18" VERTICAL AND SHALL BE INSTALLED AS DETAILED IN STANDARD DRAWINGS 18-24 IN THE "STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS," 5TH EDITION. LOCATIONS AND ELEVATIONS OF SEWER LATERALS IS NOT PRESENTLY KNOWN. CONTRACTOR SHALL CHANGE LOCATION, ELEVATION, AND/OR CASE WATER MAIN PER THE STANDARD DRAWINGS WHEN LATERALS ARE ENCOUNTERED.*
8. *INTERCONNECTIONS SHALL CONSIST OF MAKING A PRESSURE TAP ON THE EXISTING WATER MAIN WITH A TAPPING SLEEVE AND A TAPPING VALVE. TAPPING SLEEVE AND ALL BOLTS AND NUTS SHALL BE STAINLESS STEEL.*
9. *GATE VALVES SHALL HAVE A NON-RISING STEM AND A 2 INCH SQUARE WRENCH NUT. VALVE BOXES SHALL BE TWO OR THREE PIECE AND HEIGHT ADJUSTABLE.*
10. *ALL NUTS AND BOLTS FOR GATE VALVES & FIRE HYDRANTS SHALL BE STAINLESS STEEL.*

GENERAL NOTES

1. *UNDERGROUND STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND, THEREFORE, THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.*
2. *WATER AND SEWER CROSSINGS UNDER STREET AREAS AND DRIVEWAYS SHALL BE BACKFILLED WITH TRENCH WATERMAIN, AND COMPACTED TO 95% DENSITY.*
3. *CONTRACTOR SHALL CONTACT J.U.L.I.E. OPERATOR AT 1-800-892-0123 FOR MARKING OF EXISTING UNDERGROUND UTILITIES. J.U.L.I.E. SHOULD BE CONTACTED A MINIMUM OF 96 HOURS IN ADVANCE OF CONSTRUCTION. CONTRACTOR SHALL MEET ALL REQUIREMENTS FOR CROSSING OF ANY EXISTING UTILITIES.*

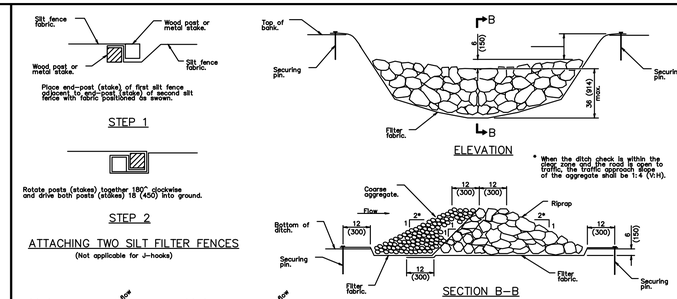


TYPICAL RESTRAINED WATER VALVE FOR FUTURE EXTENSION
N.T.S.



NOTE: CONCRETE BASE AND BLOCKING MATERIAL SHALL NOT BLOCK NOR OBSTRUCT HYDRANT DRAIN AS SHOWN IN AWWA MANUAL M 17.

TYPICAL HYDRANT INSTALLATION

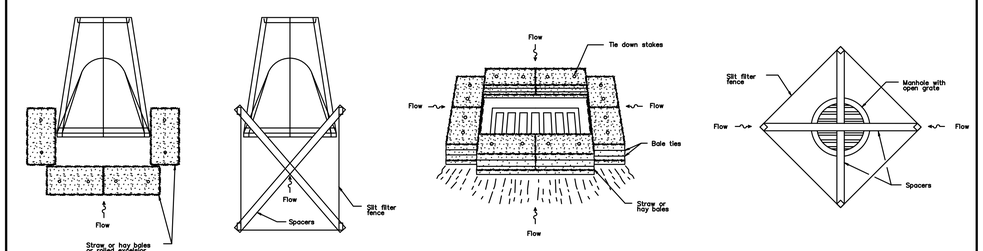


GENERAL NOTES

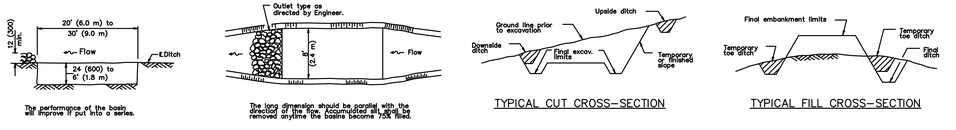
The installation details and dimensions shown for perimeter erosion barriers shall also apply for inlet and pipe protection.

All dimensions are in inches (millimeters) unless otherwise shown.

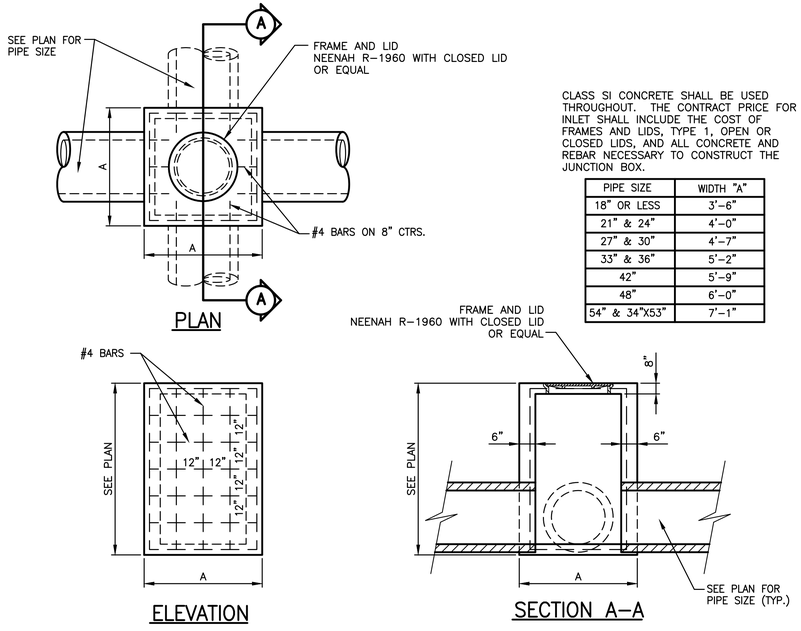
TEMPORARY EROSION CONTROL SYSTEMS
(Sheet 1 of 2)
STANDARD 280001-07



INLET AND PIPE PROTECTION

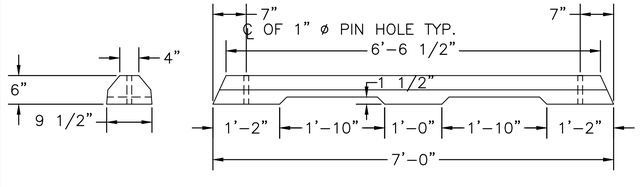


TEMPORARY EROSION CONTROL SYSTEMS
(Sheet 2 of 2)
STANDARD 280001-07



PIPE SIZE	WIDTH "A"
18" OR LESS	3'-6"
21" & 24"	4'-0"
27" & 30"	4'-7"
33" & 36"	5'-2"
42"	5'-9"
48"	6'-0"
54" & 34"X53"	7'-1"

JUNCTION BOX DETAIL



PARKING BLOCK
WT ±260lbs.

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-004515

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Marion, Illinois 62959
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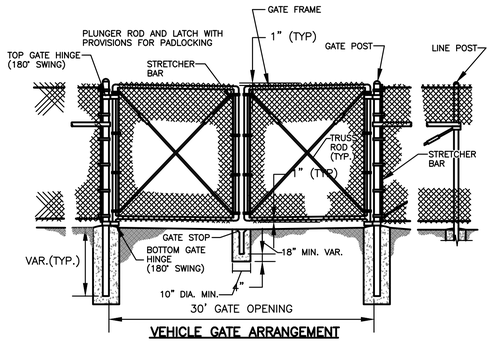
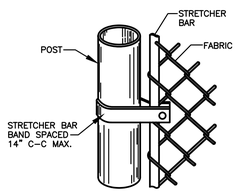
MISC. DETAILS 1
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

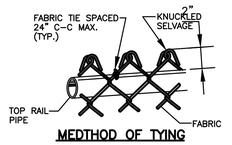
Date	MARCH 2015	DR. By	GEG	CK'D By	WBZ
Scale	N/A	Job No.	09123	Sheet No.	11 of 30



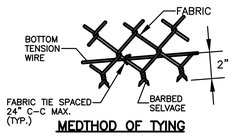
VEHICLE GATE ARRANGEMENT



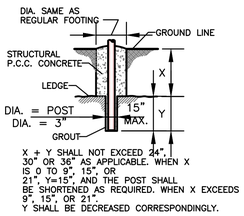
MEDTHOD OF FASTENING STRETCHER BAR TO POST



MEDTHOD OF TYING FABRIC TO PIPE

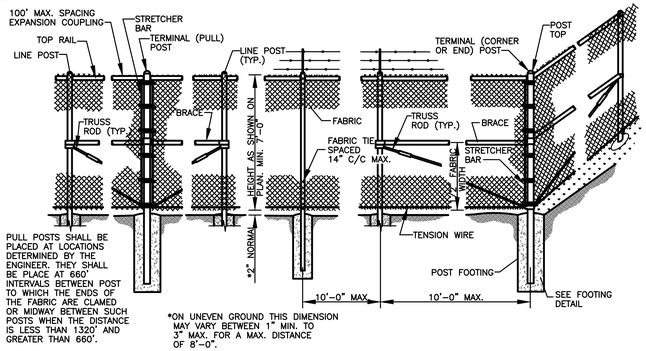


MEDTHOD OF TYING FABRIC TO TENSION WIRES



X + Y SHALL NOT EXCEED 24". 30" OR 36" AS APPLICABLE. WHEN X IS 0 TO 9", 15", OR 21", Y=15", AND THE POST SHALL BE SHORTENED AS REQUIRED. WHEN X EXCEEDS 9", 15", OR 21" Y SHALL BE DECREASED CORRESPONDINGLY.

FOOTING FOR POST IN ROCK LEDGE



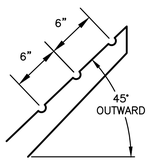
PULL POSTS SHALL BE PLACED AT LOCATIONS DETERMINED BY THE ENGINEER. THEY SHALL BE PLACE AT 660' INTERVALS BETWEEN POST TO WHICH THE ENDS OF THE FABRIC ARE CLAMED OR MIDWAY BETWEEN SUCH POSTS WHEN THE DISTANCE IS LESS THAN 1320' AND GREATER THAN 660'.

*ON UNEVEN GROUND THIS DIMENSION MAY VARY BETWEEN 1" MIN. TO 3" MAX. FOR A MAX. DISTANCE OF 8'-0".

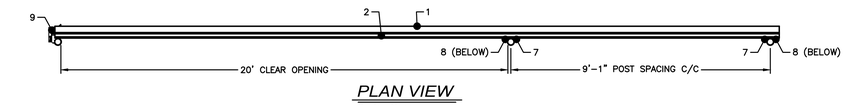
PULL POST ARRANGEMENT

LINE POST ARRANGEMENT

CORNER OR END POST ARRANGEMENT



FENCE DETAILS



PLAN VIEW
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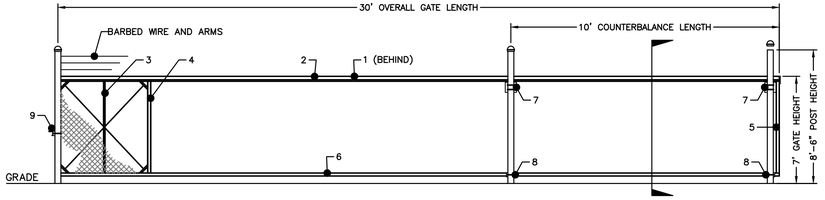

ELEVATION
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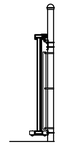

SECTION
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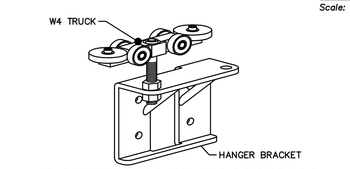

7 GATE HANGER ASSEMBLY
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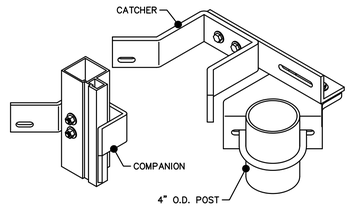
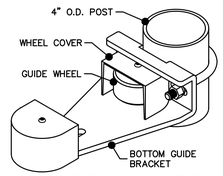


9 CATCH ASSEMBLY
Scale: None

NOTES:
1. ALL FITTINGS STANDARDLY PROVIDED FOR 4" O.D. POSTS. OTHER SIZES AVAILABLE UPON REQUEST.
2. BARB ARMS (FOR BARBED WIRE) OPTIONAL.



8 BOTTOM GUIDE
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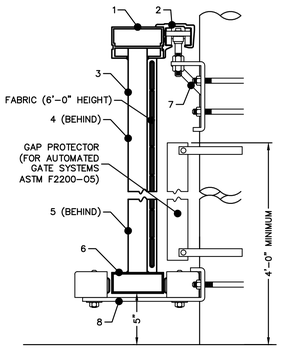

ENLARGED SECTION
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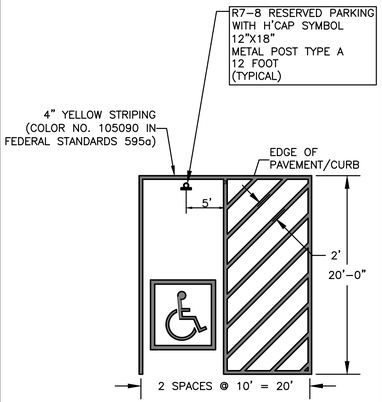
ELECTRIC GATE DETAIL



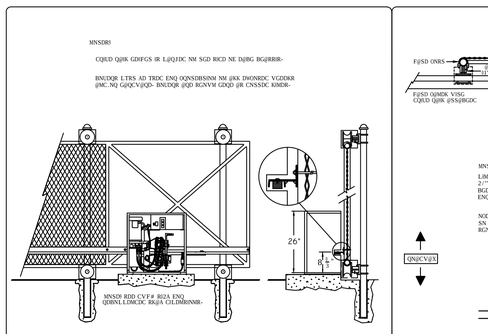
TYPICAL HANDICAP PARKING STALL
NOT TO SCALE

SITE GRADING & ACCESSIBILITY

GRADES ON HANDICAP PARKING STALLS SHALL NOT EXCEED 2% (1:50) IN ALL DIRECTIONS.

GRADES ON ALL OTHER SITE ROADS AND SIDEWALKS SHALL NOT HAVE A RUNNING SLOPE GREATER THAN 5% (1:20), NOR A CROSS SLOPE GREATER THAN 2% (1:50).

THE SITE SHALL COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN." FURTHER INFORMATION CAN BE FOUND ON THE INTERNET AT "http://www.ada.gov/".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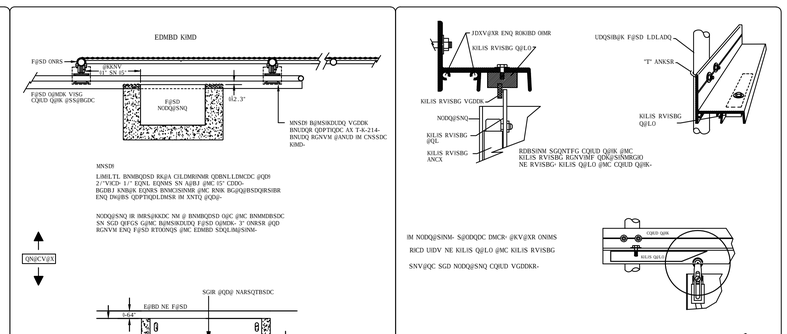
BNUDQR LTRS AD TRDC ENQ OQNSDI$NM NM @KK DWJNRDC VGDDKR @MC.NQ G@QCV@D- BNUDQR @QD RGNVM GDQD @R CNSSDC KMDR-
26'
8'-6"
MNSD9 RDD CVF# B[2A ENQ QDBNI.LDMCDC RK@A CLDMR6NMR-
DKDU@SI!NM
RDBS!INM
MNSD8
BNMRTKS EDMBD BNMSQ@SNQ ENQ QDBNI.LDMCDC BJMSIKDUDQ ONRS RO@BMF- 4/% NE FJ!SD NODMMF FDMDQ@KX OQNUCDR RLJNSG NODQ@SJNM-
QIFGS GJMC BJMSIKDUDQ FJ!SD IR RGNVM IM SGD ETKKX BKNRDC ONRISINM- NODQ@SNQ BNUDQ NLJ.SSDC EQNL CDS@IK- 'CN MNS RBJKDJ-
IS LJ@X AD MDBDRRJQX SN RGJL CQIUD QJIK IE FJ!SD OJMDK IR 'ANVDC'- QJIK LTRS AD IMRS@KKDC IM @ RSQ@FGS KMD-
SHEET
Slide Gate Operator (typ) R.H. Cantilever Gate Panel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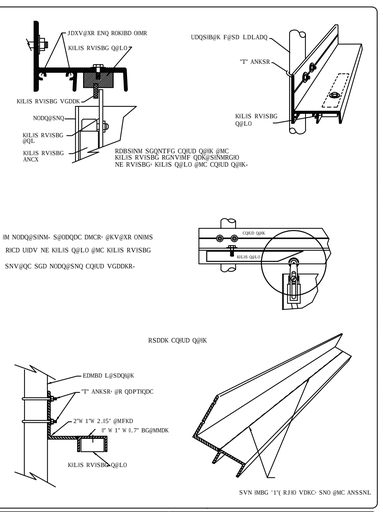
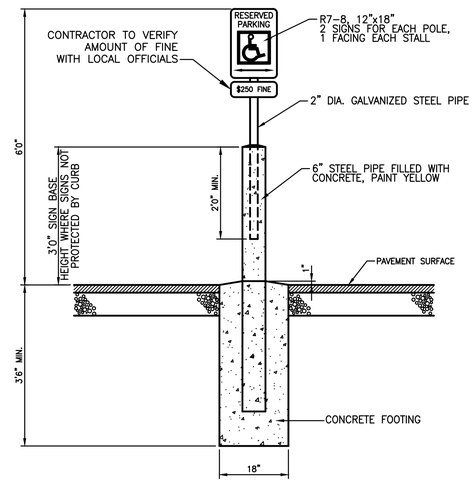
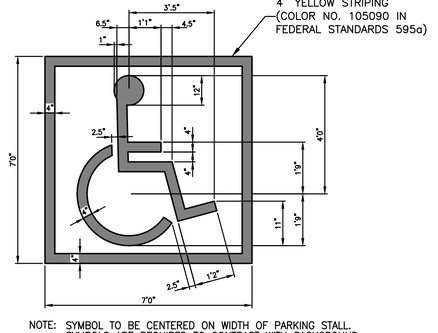
FJ!SD ONRS
@KNVM 11'- 5/8.15"
FJ!SD NODQ@SNQ
FJ!SD OJMDK VJSG CQIUD QJIK @%$J@GDC
Ø2.3"
MNSD9 BJMSIKDUDQ VGDDK- BNUDQR QDPTFQDC AX T-K-214- BNUDQ RGNVM @ANUD IM CNSSDC KIMD-
MNSD8
L.IMLTL BNMBQDSD RK@A CJLDMRNMR QDBNI.LDMCDC @QD# 2/"VKD- 1-" EQNL EQMNS SN AJJBJ @MC 15" CDDO- BGDBJ KNBJK EQNES BNMCJSNMR @MC RNK BG@QJBSDQRSIBR ENQ DWJ@S QDPTFQDLDMSR IM XNTQ @QSJ-
NODQ@SNQ IR IMRS@KKDC NM @ BNMJQDSD OJC @MC BNMMDBSDC SN SGD QEFGS G@MC BJMSIKDUDQ FJ!SD OJMDK- 3" ONRSR @QD RGNVM ENQ FJ!SD RTDDNQS @MC. EDMDD SDQL@SJNM-
QNJCV@X
SGJR @QDJ NARSQTBSDC
EJ/BD NE FJ!SD
3-1/4"
13-4"
6-14"
1"
15"
MNSD8 BNMS@BS @ EDMBD BNMSQ@SNQ ENQ DWJBS RO@BMF NM BJMSIKDUDQ ONRSR- 4/% NE NODMMF VICSG FDMDQ@KX OQNUCDR @ RLJNSG NODQ@SJNM-
SHEET
Slide Gate Operator (typ) R.H. Cantilever Gate Panel


JDXV@XR ENQ RO6BD OMR
KILIS RVISBG QJ!LO
KILIS RVISBG VGDDK
NODQ@SNQ
KILIS RVISBG @QL
KILIS RVISBG ANCX
UDQSIB@K FJ!SD LDLADQ
"T" ANKSR-
KILIS RVISBG QJ!LO
RDBSINM SGQNTFG CQIUD QJ@K @MC KILIS RVISBG RGNVMF QDK@SNMRGO NE RVISBG- KILIS QJ!LO @MC CQIUD QJ@K-
IM NODQ@SINM- SJ!ODQDC DMCR- @KV@XR ONIMS
RICD UIDV NE KILIS QJ!LO @MC KILIS RVISBG
SNVJ@QC SGD NODQ@SNQ CQIUD VGDDKR-
CQIUD QJ@K
KILIS QJ!LO
RSDDK CQIUD QJ@K
EDMBD L@SDQJ@K
"T" ANKSR- @R QDPTFQDC
2"W 1"W 2.15" @MFKD
3" W 1" W 1.7" BG@MMDK
KILIS RVISBG QJ!LO
SVN IMBG '1'(RJID VDKC- SNO @MC ANSSNL
SHEET
DRIVE RAIL SIDE GATE OPERATION



HANDICAP SIGN POST DETAIL
NOT TO SCALE



NOTE: SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL. SYMBOLS ARE REQUIRED TO CONTRAST WITH BACKGROUND. (COLOR NO. 105090 IN FEDERAL STANDARDS 595a) DOUBLE COAT. (TYP.)

HANDICAP PAVEMENT DETAIL
NOT TO SCALE

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-004515

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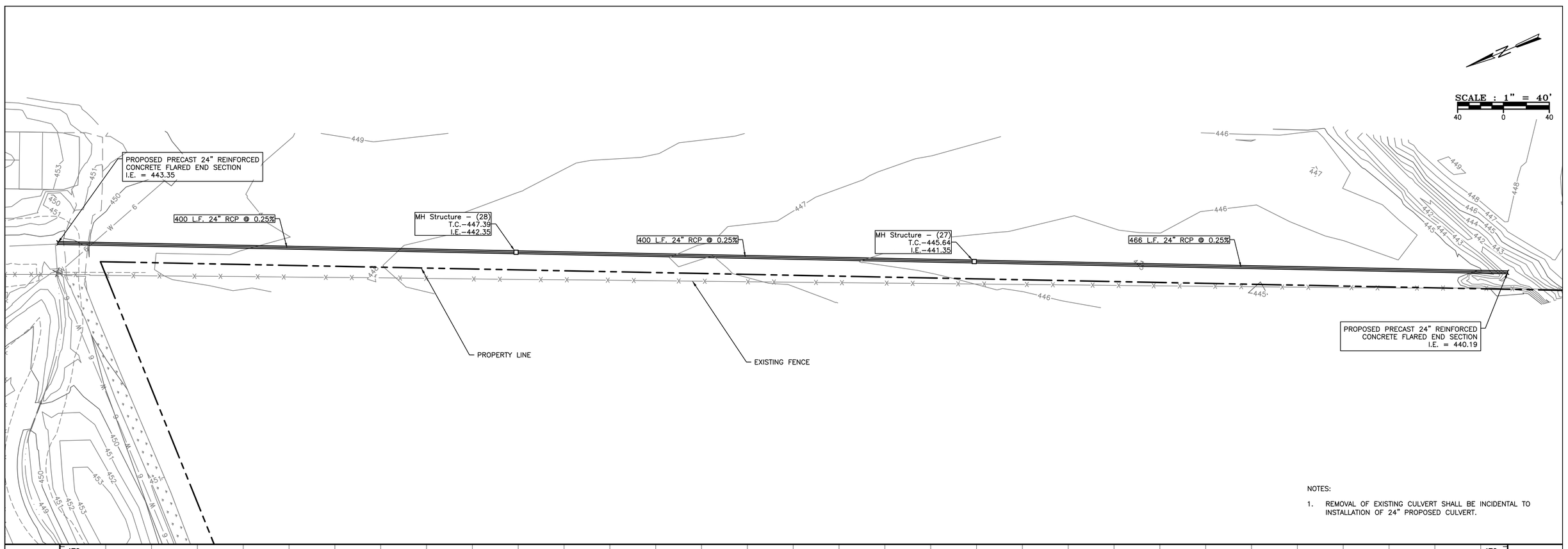
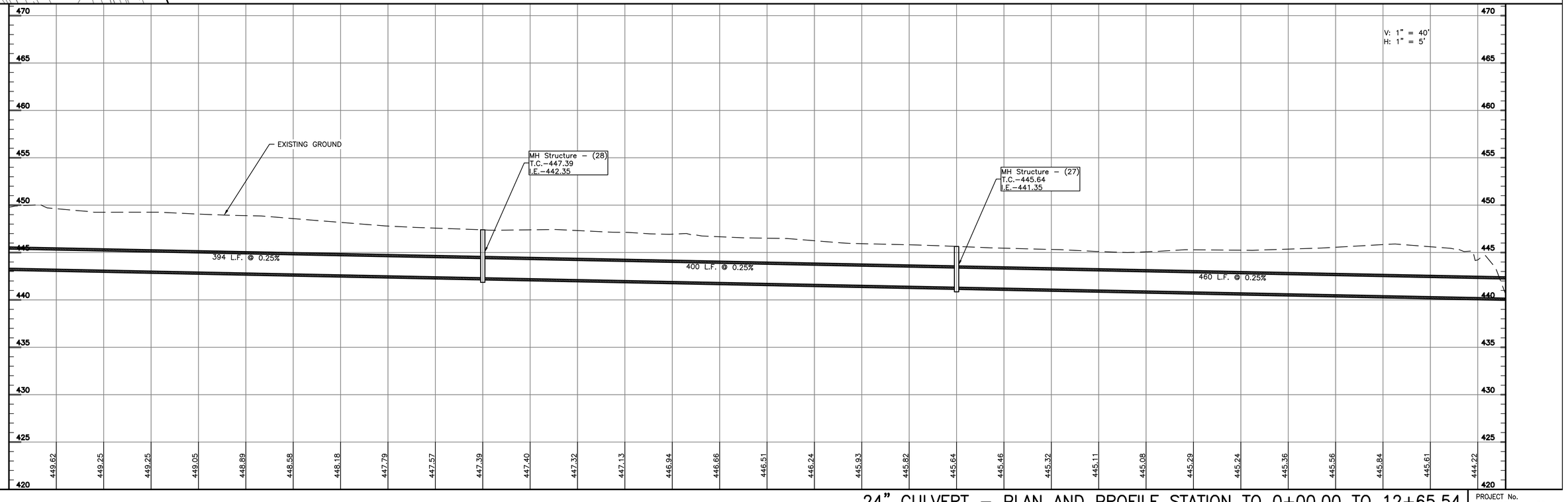
MISC. DETAILS 2
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015	DR. By GEG	CK'D By WBZ
Scale N/A	Job No. 09123	Sheet No. 12 of 30



NOTES:

1. REMOVAL OF EXISTING CULVERT SHALL BE INCIDENTAL TO INSTALLATION OF 24" PROPOSED CULVERT.



24" CULVERT – PLAN AND PROFILE STATION TO 0+00.00 TO 12+65.54

PROJECT No.
SHT. 13 OF 30.

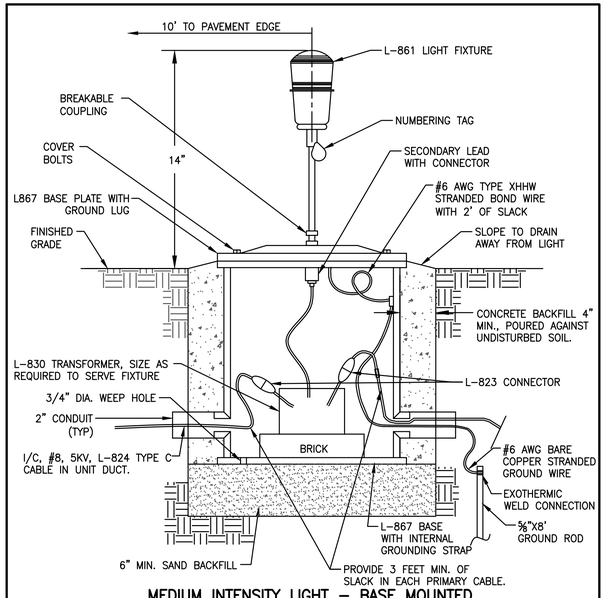
LETTING ITEM NUMBER
2A

GENERAL ELECTRICAL NOTES

1. THE ELECTRICAL INSTALLATION, AS A MINIMUM, SHALL MEET THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.
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 SINGLE PHASE, THREE WIRE SYSTEMS, AND BLACK, RED AND BLUE SHALL BE USED FOR THREE PHASE 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 SIZE LARGER THAN NO. 6 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 ENCLOSURES.
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. NEATLY LACE WIRING IN DISTRIBUTION PANELS, SWITCHES AND JUNCTION/PULL BOXES.
5. GROUND ALL NONCURRENT–CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT BY USING INSULATED COPPER WIRE TO BE RUN INSIDE CABINETS AND IN CONDUITS TOGETHER WITH OTHER WIRES.
6. ALL GROUND CONNECTIONS TO BUSSES, PANELS, ETC., SHALL BE MADE WITH PRESSURE TYPE SOLDERLESS LUG CLAMPS. SOLDERED OR BOLT & WASHER TYPE CONNECTIONS ARE NOT ACCEPTABLE. CLEAN ALL METAL SURFACES BEFORE MAKING GROUND CONNECTIONS. CONNECTIONS TO GROUND RODS & GROUND RING SHALL BE MADE WITH EXOTHERMIC WELDING PROCESS.
7. SCHEDULE 40 RIGID STEEL CONDUIT SHALL BE USED THROUGHOUT THE INSTALLATION UNLESS OTHERWISE SPECIFIED.
8. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC., SHALL BE GALVANIZED.
9. USE INSULATED CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION.
10. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
11. UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
12. UNLESS OTHERWISE NOTED, ALL SINGLE CONTROL CONDUCTORS SHALL BE NO. 12 AWG, THHN, STRANDED COPPER. EXTENSIONS TO EXISTING CONTROL CONDUCTORS SHALL BE THE SAME COLOR AS EXISTING.
13. BOTH ENDS OF EACH CONTROL CONDUCTOR SHALL BE TERMINATED AT A TERMINAL BLOCK. THE TERMINAL BLOCKS SHALL BE OF PROPER RATING AND SIZE AND THEY SHALL BE LOCATED IN EQUIPMENT ENCLOSURES OR SPECIAL TERMINAL CABINETS.
14. BOTH ENDS OF ALL CONTROL CONDUCTORS SHALL BE IDENTIFIED AS TO THE CIRCUIT, TERMINAL BLOCK, AND TERMINAL NUMBER. ONLY SHRINKABLE PERMANENT LABELS SHALL BE USED.
15. A SEPARATE AND CONTINUOUS NEUTRAL CONDUCTOR SHALL BE INSTALLED AND CONNECTED FOR EACH CIRCUIT IN THE POWER PANEL(S) FROM THE NEUTRAL BAR TO EACH POWER/CONTROL CIRCUIT.
16. SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, LIGHT BASES, WIREWAYS EQUIPPED WITH REMOVABLE COVERS AND AT EASILY ACCESSIBLE LOCATIONS.
17. UNLESS OTHERWISE NOTED, ALL UNDERGROUND FIELD POWER MULTIPLE AND SERIES CIRCUIT CONDUCTORS SHALL BE FAA APPROVED L–824, TYPE, INSULATION, VOLTAGE AND SIZE SHALL BE AS SPECIFIED.
18. THE JOINT OF THE PRIMARY L–823 PRIMARY CONNECTORS SHALL BE WRAPPED WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE–HALF LAPPED, EXTENDING AT LEAST 1–1/2 INCHES ON EACH SIDE OF THE JOINT. HEAT–SHRINK TUBING SHALL BE APPLIED WHERE CABLE ENTERS BACK OF CONNECTOR, SEE DETAIL DWG., SHEET E2.
19. THE ID OF THE PRIMARY L–823 FIELD ATTACHED CONNECTORS SHALL MATCH THE CABLE OD TO PROVIDE A WATERTIGHT CABLE ENTRANCE.
20. THE RESISTANCE TO GROUND OF THE GROUNDING SYSTEM WITH COMMERCIAL POWER LINE NEUTRAL DISCONNECTED SHALL NOT EXCEED 10 OHMS.
21. ALL POWER AND CONTROL CIRCUIT CONDUCTORS SHALL BE COPPER, ALUMINUM SHALL NOT BE ACCEPTED. THIS INCLUDES WIRE, CABLE, BUSSES, TERMINALS, SWITCH/PANEL COMPONENTS, ETC.
22. CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF SIZE SHOWN. LETTERS/NUMBERS FOR THE LEGEND TO BE IMPRESSED INTO TOPS OF THE MARKERS SHALL BE PREASSEMBLED AND SECURED IN MOLD BEFORE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
23. THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM (INCLUDING FAA APPROVED EQUIPMENT) ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OF DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.
24. IN CASE THE CONTRACTOR SELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING , TRANSFORMERS, ADAPTERS, MOUNTINGS, ETC., DIFFERENT FROM THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATIONS, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.
25. THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTRO–MAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST BY EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.
26. UNLESS NOTED OTHERWISE FOR IN PAVEMENT LIGHTS, WHERE EXISTING FIELD LIGHTS ARE TO BE REMOVED, THE AREA SHALL BE BACKFILLED WITH EARTH TO THE ORIGINAL GRADE, COMPACTED AND SEEDED. SUCH LIGHTS AND CONCRETE BASES SHALL BECOME CONTRACTOR SALVAGE AND SHALL BE REMOVED FROM THE PREMISES ENTIRELY.
27. WHERE PROPOSED LIGHTS OR SIGNS ARE SHOWN IN THE SAME LOCATION AS EXISTING LIGHTS OR SIGNS, CONTRACTOR SHALL REMOVE THE EXISTING WIRING TO AT LEAST ONE FOOT AWAY FROM PROPOSED WIRING.
28. CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND CIRCUITS WITH A PORTABLE CABLE LOCATOR WHERE POSSIBLE TO AVOID DAMAGE TO EXISTING CIRCUITS TO BE RETAINED. EXCAVATION REQUIRED IN CONGESTED AREAS CONTAINING OTHER CIRCUITS SHALL BE DONE BY HAND. ANY SUCH WIRING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY AFTER DISCOVERY AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. ALL UNDERGROUND SPLICES SHALL BE INSPECTED BY THE ENGINEER PRIOR TO BACKFILLING TRENCHES.
29. SHOP DRAWINGS SHALL BE REQUIRED FOR THE FOLLOWING ITEMS: CONDUIT, WIRE & CABLE, CABLE IN UNIT DUCT, FIELD LIGHTS, LAMPS, SPLICE CANS, FIELD LIGHT MODIFICATIONS, AND CABLE CONNECTORS, REGULATOR, PCAL SYSTEM, PCAL CONTROL PANEL, PULL BOXES, GATE OPERATOR, HANGAR LOAD CENTER, PRECAST CONCRETE MANHOLES, & ROADWAY LIGHTING ASSEMBLIES.
30. A MINIMUM OF FOUR HOURS SHALL BE PROVIDED FOR TRAINING AIRPORT MAINTENANCE PERSONNEL ON THE PROPOSED AIRFIELD LIGHTING SYSTEMS.

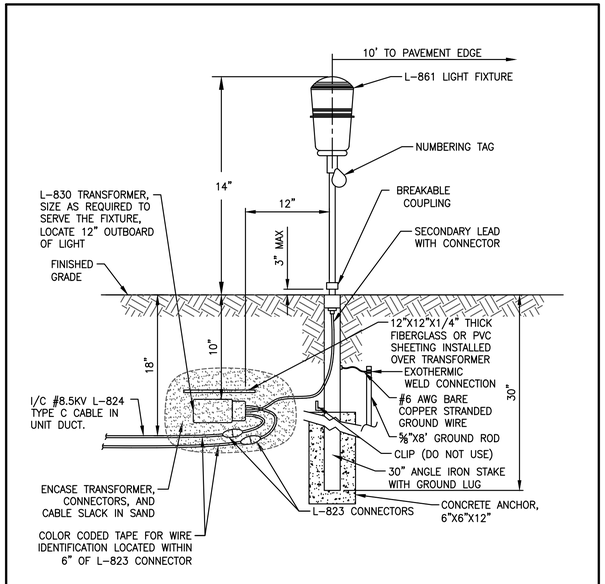
FIELD LIGHTING LEGEND

- EXISTING MITL – TO REMAIN
- EXISTING MITL – TO BE REMOVED
- EXISTING MITL – TO BE ADJUSTED
- EXISTING SPLICE BOX
- EXISTING DUCT
- PROPOSED DUCT
- PROPOSED MITL – BASE MOUNTED
- PROPOSED MITL – STAKE MOUNTED
- PROPOSED TAXI GUIDANCE SIGN – 'A' & 'B' DESIGNATE LEGENDS PER PLANS
- PROPOSED SPLICE CAN
- PROPOSED MANHOLE
- DIR — PROPOSED DIRECTIONAL BORE
- EJ — PROPOSED DUCT – JACKED
- CE — PROPOSED CONCRETE ENCASED DUCT BANK
- E — PROPOSED UNDERGROUND ELECTRICAL – AS NOTED
- E — EXISTING UNDERGROUND ELECTRICAL
- E — EXISTING ELECTRICAL – MODIFIED AS NOTED
- TE — TEMPORARY ELECTRICAL – TO BE REMOVED
- PROPOSED ROADWAY LIGHT – 'A' & 'B' DESIGNATE TYPES
- PROPOSED UTILITY TRANSFORMER



MEDIUM INTENSITY LIGHT – BASE MOUNTED

NOT TO SCALE



MEDIUM INTENSITY LIGHT – STAKE MOUNTED

NOT TO SCALE

SIGN SCHEDULE LEGEND

R = WHITE LTR/RED BACKGROUND – HOLDING SIGN

Y = BLACK LTR./YELLOW BACKGROUND – DIRECTION OR DESTINATION SIGN.

L = YELLOW LTR./BLACK BACKGROUND – TAXIWAY LOCATION SIGN

W = WHITE LTR./BLACK BACKGROUND – RUNWAY DISTANCE REMAINING SIGN

A = SIGN FACE A

B = SIGN FACE B – IF NOT SHOWN. THIS FACE SHALL REMAIN BLANK

C = YELLOW/BLACK DIAGONAL STRIPES – END MARKER

SIGN SCHEDULE

SIGN NO.	SIDE	R/Y/ L/W	LEGEND	REMARKS
82	A	C		
83	A	L/Y	E | E4 →	90 DEG. ARROW
	B	L	E	
84	A	Y	E 5 →	90 DEG. ARROW
85	A	Y	↑ RAMP	360 DEG. ARROW
	B	L/Y	E5 ← E	270 DEG. ARROW
	A	C		

SIGN LOADING

SIGN SIZE & LAMPS			FAA STYLE 2 (4.8A–6.6A) XTL 20W QUARTZ		
MODULE	LENGTH	LAMPS	ISOL XFMR	MAX VA	PWR FACTR
SIZE 1.	1–MOD	1	100W	71	0.89
	2–MOD	2	100W	79	0.93
	3–MOD	3	200W	102	0.93
	4–MOD	4	200W	127	0.93
SIZE 2.	1–MOD	2	100W	79	0.93
	2–MOD	4	200W	127	0.93

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184–004515

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CLARIDA & ZIEGLER ENGINEERING CO.
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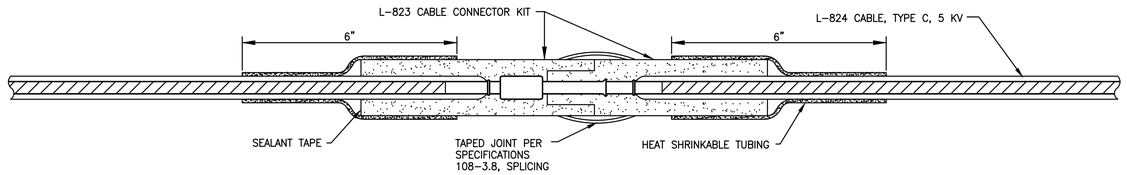
ELECTRICAL NOTES
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By PJD | CK'D By WBZ
Scale N/A | Job No. 09123 | Sheet No. 14 of 30

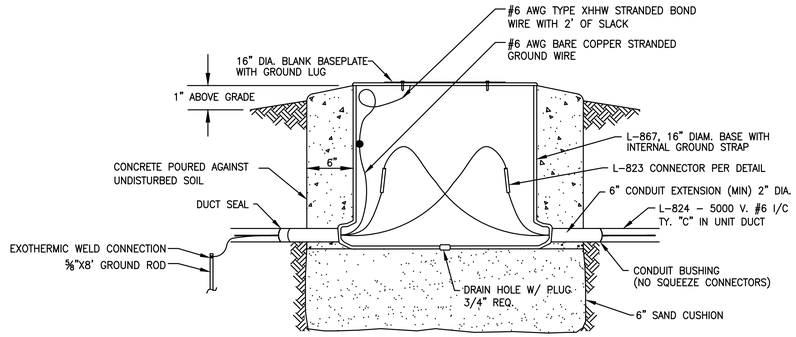
LETTING ITEM NUMBER
2A

CABLE SPLICING NOTES:

1. HEAT–SHRINKABLE TUBING WILL NOT BE REQUIRED FOR ISOLATION TRANSFORMER PRIMARY CONNECTORS WHICH ARE MOLDED ON TO THE CABLE LEADS AT THE FACTORY.
2. THE SEALANT TAPE AROUND THE CONNECTOR SHALL BE WATER INSOLUBLE, MAINTAINING ELASTICITY OVER WIDE RANGE OF TEMPERATURE, AND SHALL BE RAYCHEM NO. 5–1011 OR APPROVED EQUAL.
3. HEAT–SHRINKABLE TUBING SHALL HAVE MINIMUM EXPANDED I.D. OF 1.200", MAXIMUM RECOVERED I.D. OF .300", MINIMUM EXPANDED WALL THICKNESS OF .04", NOMINAL RECOVERED WALL THICKNESS OF 0.17", A MASTIC WATER SEALANT COATING APPLIED ON THE INSIDE, AND SHALL BE RAYCHEM NO. WCS–300–6–S OR APROVED EQUAL.
4. MINIMUM LENGTH OF THE HEAT–SHRINKABLE TUBING SHALL BE 6".
5. CLEAN THE CABLE INSULATION BEFORE APPLYING THE TUBING WITH A SOLVENT SPECIFIED BY THE TUBING MANUFACTURER.
6. TO HEAT THE TUBING, USE PROPANE TORCH, OR ELECTRIC HEATER RECOMMENDED BY THE TUBING MANUFACTURER.
7. BEGIN HEATING THE TUBING AT THE CENTER, GO COMPLETELY AROUND, THEN MOVE TOWARD THE ENDS.
8. CONTINUE HEATING THE TUBING UNTIL IT SHRINKS COMPLETELY AND THE SEALANT IS BEING SQUEEZED OUT AT BOTH ENDS.
9. IF THERE IS ANY NOTICEABLE HEAT DAMAGE TO THE CABLE OR THE TUBING, THE CONNECTION, INCLUDING THE DAMANGED PORTION, WILL BE REMOVED AND ANOTHER CONNECTION MADE.
10. ALLOW THE CONNECTION TO COOL BEFORE HANDLING.
11. INSTALL THE CONNECTIONS WITHOUT BENDING THEM.



DETAIL – CABLE SPLICING
NOT TO SCALE



ELECTRICAL SPLICE CAN DETAIL
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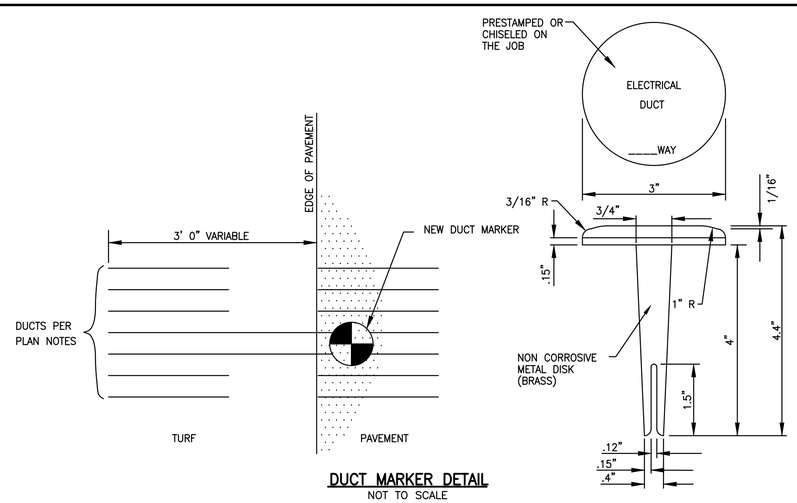

DUCT MARKER DETAIL
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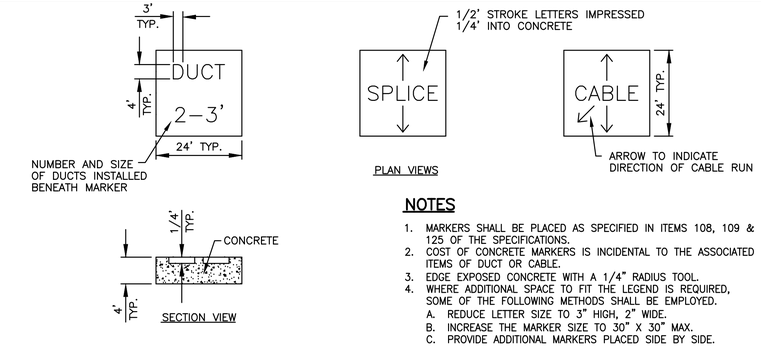
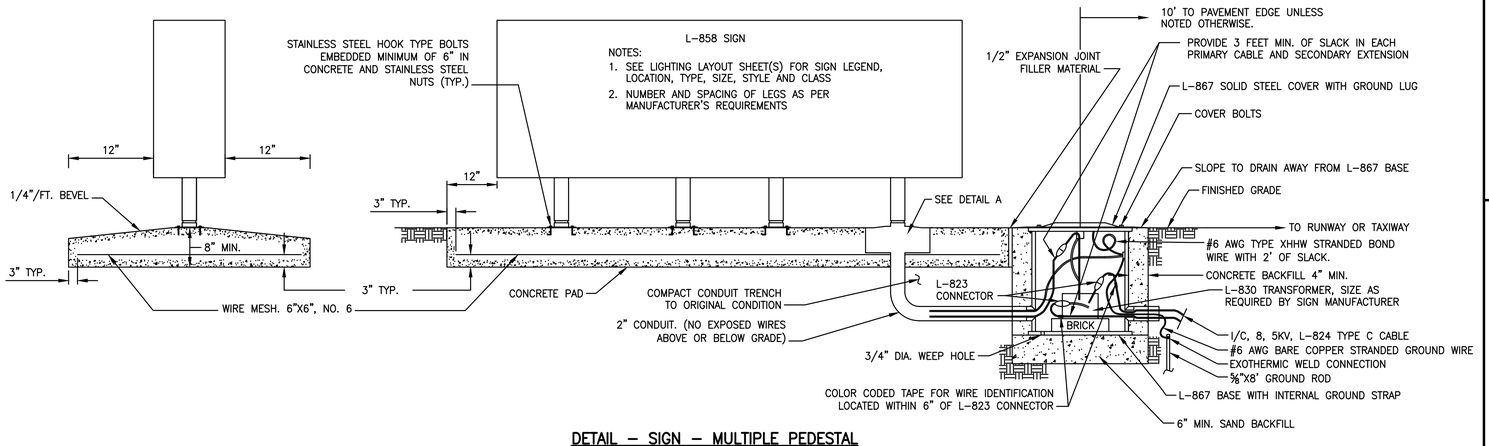


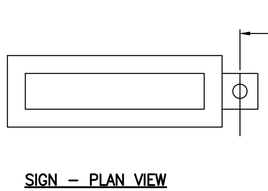
NOTES

1. MARKERS SHALL BE PLACED AS SPECIFIED IN ITEMS 108, 109 & 125 OF THE SPECIFICATIONS.
2. COST OF CONCRETE MARKERS IS INCIDENTAL TO THE ASSOCIATED ITEMS OF DUCT OR CABLE.
3. EDGE EXPOSED CONCRETE WITH A 1/4" RADIUS TOOL.
4. WHERE ADDITIONAL SPACE TO FIT THE LEGEND IS REQUIRED, SOME OF THE FOLLOWING METHODS SHALL BE EMPLOYED.
   A. REDUCE LETTER SIZE TO 3" HIGH, 2" WIDE.
   B. INCREASE THE MARKER SIZE TO 30" X 30" MAX.
   C. PROVIDE ADDITIONAL MARKERS PLACED SIDE BY SIDE.

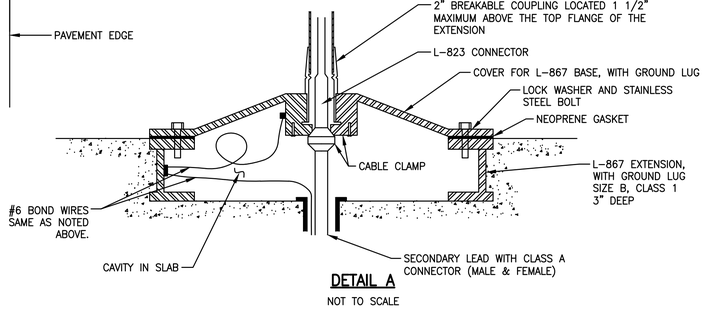
CABLE AND DUCT MARKERS
NOT TO SCALE



DETAIL – SIGN – MULTIPLE PEDESTAL
NOT TO SCALE



SIGN – PLAN VIEW
NOT TO SCALE



DETAIL A
NOT TO SCALE

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184–004515

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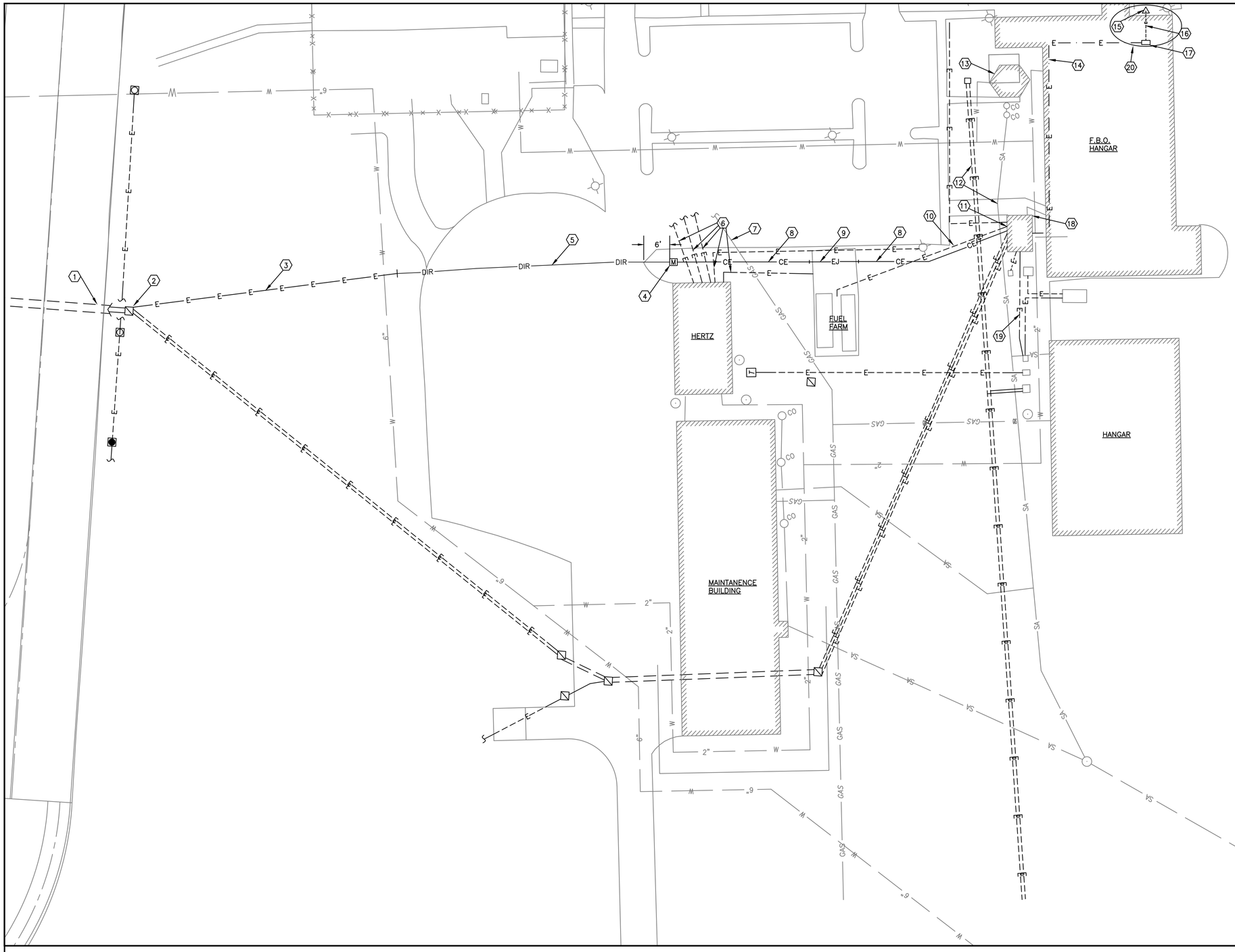
MISC. ELECTRICAL DETAILS
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015	DR. By PJD	CK'D By WBZ
Scale N/A	Job No. 09123	Sheet No. 15 of 30



PLAN NOTES (*Sheet 2*)

1. LOCATE AND EXPOSE ENDS OF EXISTING DUCT FOR ADDITION OF PROPOSED CABLES. HAND-EXCAVATE AS NECESSARY TO AVOID DAMAGE TO EXISTING CABLES.
2. CABLE SPLICING ALLOWED IN THIS EXISTING SPLICE BOX. HAND-EXCAVATE AS NECESSARY AROUND BOX TO AVOID DAMAGE TO EXISTING CABLES.
3. 1 - 4/C, #8, 5 KV TYPE C CABLE IN UNIT DUCT (2 CONDUCTORS SPARE FOR FUTURE USE).
4. SEE MANHOLE DETAILS, SHEET 21.
5. 2 - 3" PVC SCHEDULE 40 AND 1 - 2" PVC SCHEDULE 40, DIRECTIONAL BORE 36" UNDER EXISTING PAVEMENT.CONDUIT FOR DIRECTIONAL BORING SHALL BE TYPE HDPE, SCHEDULE 80, UL EPEC-80, NEC ARTICLE 353 COMPLIANT. IN ONE 3" CONDUIT PROVIDE 4- #8, 5KV TO THE VAULT LIGHTING POWER WIREWAY.
6. LOCATE EXISTING UNDERGROUND CONDUITS LEAVING BUILDING. LOWER DUCT BANK AS NEEDED TO PASS BENEATH.
7. LOCATE EXISTING NATURAL GAS LINE. LOWER DUCT BANK AS NEEDED TO PASS BENEATH.
8. PROPOSED CONCRETE-ENCASED DUCT BANK CONSISTING OF 2 - 3" SCHED 40 AND 1 - 2" SCHED 40 CONDUITS. IN ONE 3" CONDUIT PROVIDE 4- #8, 5KV TO THE VAULT LIGHTING POWER WIREWAY.
9. 2 - 3" RMC AND 1 - 2" RMC CONDUITS JACKED UNDER EXISTING FUEL FARM CONCRETE FOUNDATION. CONDUITS SHALL EXTEND A MINIMUM OF 5 FT EITHER SIDE OF SLAB BEFORE ENTERING CONCRETE ENCASEMENT. PROVIDE CONCRETE ENCASEMENT OF NO LESS THAN 1 FT AROUND RMC CONDUITS BEFORE CONVERSION TO PVC.
10. LOCATE AND AVOID DAMAGING EXISTING UNDERGROUND FEED TO FUEL FARM. LOWER DUCT BANK AS NEEDED TO PASS BENEATH.
11. SEE DETAIL, SHEET 22 FOR CONDUIT ENTRY INTO BUILDING.
12. LOCATE EXISTING UNDERGROUND UTILITIES AND AVOID DAMAGING.
13. EXISTING FAA CONTROL TOWER. SEE DETAILS, SHEET 23 FOR ADDITIONS TO AIRFIELD LIGHTING CONTROL WIRING.
14. REMOVE ALL EXISTING CONTROL WIRES FROM THIS 2" CONDUIT AND REPLACE PER DETAIL, SHEET 23.
15. REMOVE EXISTING PCAL SYSTEM ANTENNA AND CABLE, AND PROVIDE NEW.
16. PROPOSED PCAL SYSTEM ANTENNA CABLE ROUTED SAME AS EXISTING.
17. REMOVE AND REPLACE EXISTING PCAL SYSTEM, OFFICE AIRFIELD LIGHTING CONTROL PANEL, RELAYS, AND ASSOCIATED WIRING PER DETAILS, SHEETS 23 & 24.
18. SEE SHEET 22 FOR MODIFICATIONS TO EXISTING AIRPORT LIGHTING VAULT.
19. DISCONNECT AND REMOVE THE EXISTING 2400 VOLT UNDERGROUND FEED TO AN EXISTING VAULT FIELD LIGHTING REGULATOR. SEE VAULT PLAN VIEW, SHEET 22.
20. SEE EXPANDED VIEW, SHEET 23.

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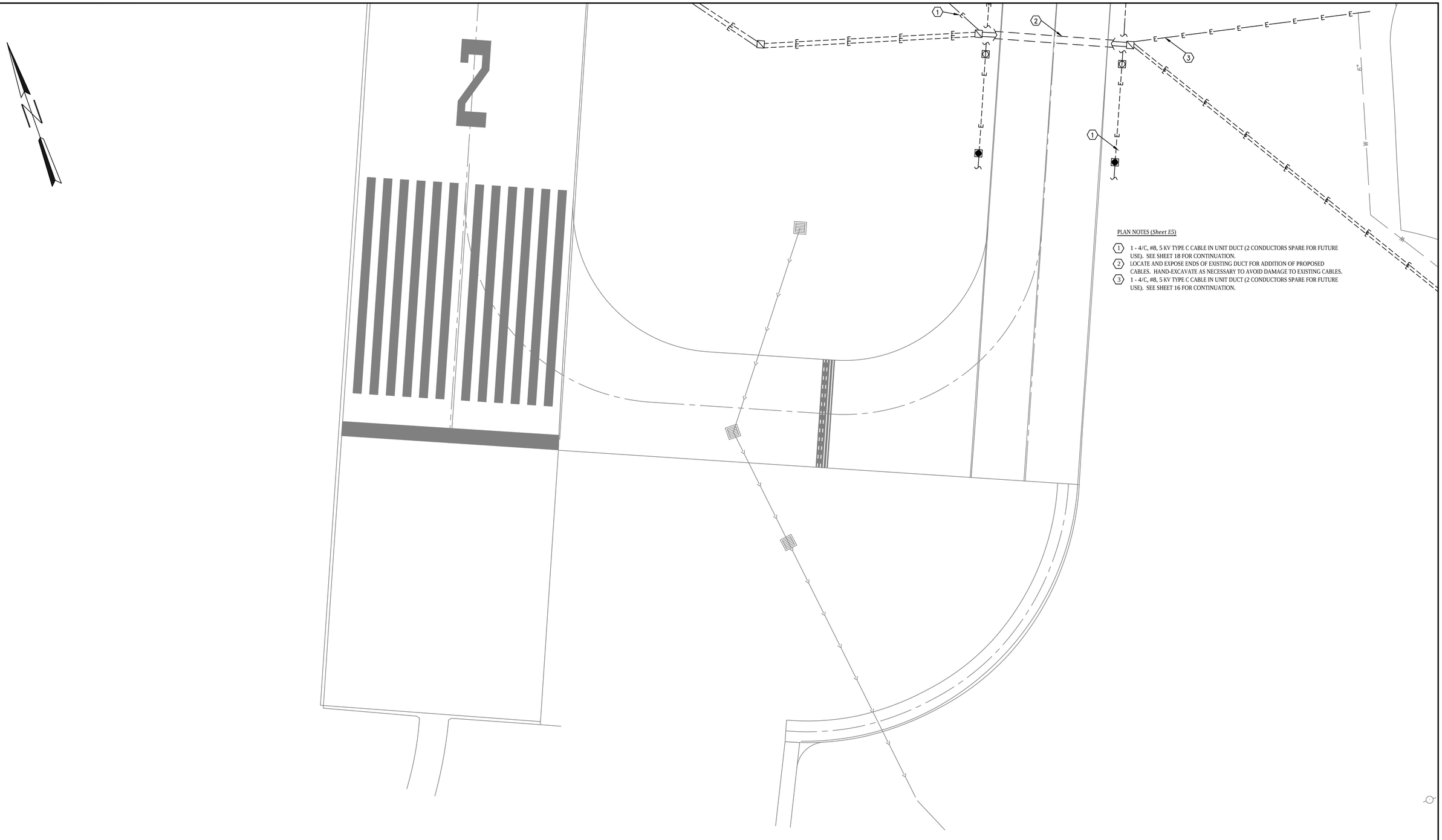
ELECTRICAL PLAN 1
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By GEG | CK'D By WBZ
Scale 1:30 | Job No. 09123 | Sheet No. 16 of 30



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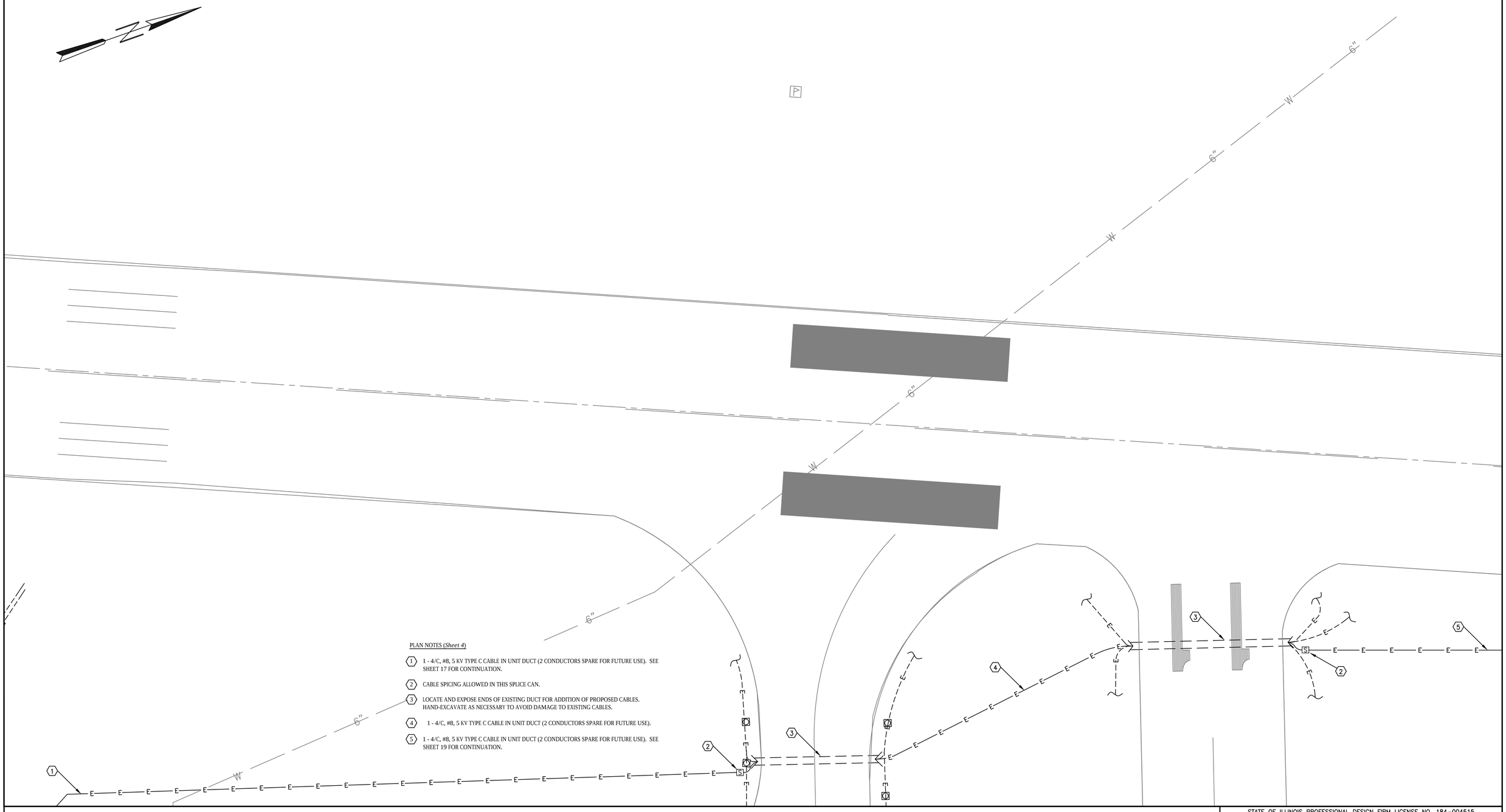
ELECTRICAL PLAN 2
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By GEG | CK'D By WBZ
Scale 1:30 | Job No. 09123 | Sheet No. 17 of 30



PLAN NOTES (*Sheet 4*)

1. 1 - 4/C, #8, 5 KV TYPE C CABLE IN UNIT DUCT (2 CONDUCTORS SPARE FOR FUTURE USE). SEE SHEET 17 FOR CONTINUATION.
2. CABLE SPICING ALLOWED IN THIS SPLICE CAN.
3. LOCATE AND EXPOSE ENDS OF EXISTING DUCT FOR ADDITION OF PROPOSED CABLES. HAND-EXCAVATE AS NECESSARY TO AVOID DAMAGE TO EXISTING CABLES.
4. 1 - 4/C, #8, 5 KV TYPE C CABLE IN UNIT DUCT (2 CONDUCTORS SPARE FOR FUTURE USE).
5. 1 - 4/C, #8, 5 KV TYPE C CABLE IN UNIT DUCT (2 CONDUCTORS SPARE FOR FUTURE USE). SEE SHEET 19 FOR CONTINUATION.

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-004515

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CLARIDA & ZIEGLER ENGINEERING CO.
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ELECTRICAL PLAN 3
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

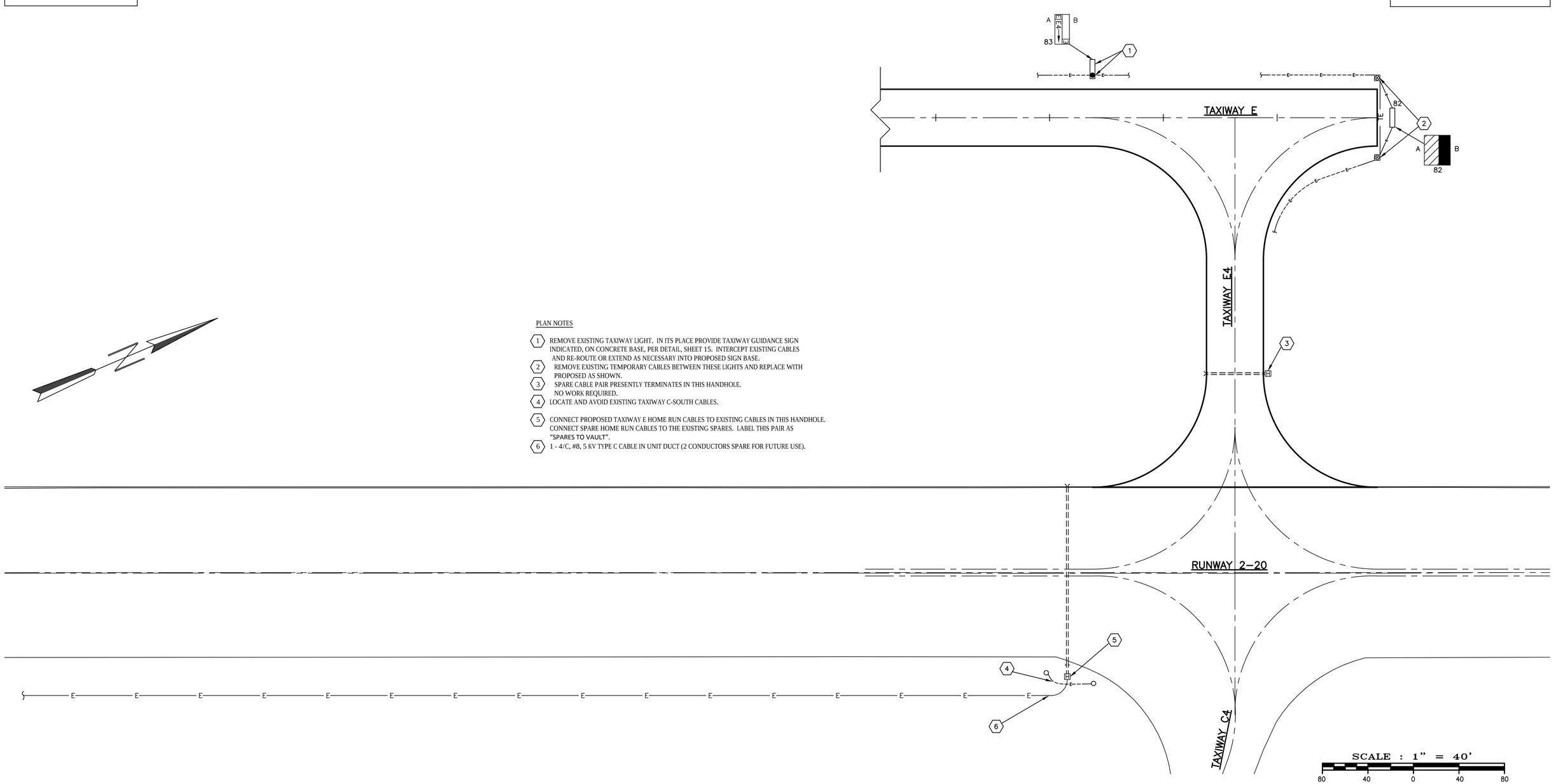
Date MARCH 2015 | DR. By GEG | CK'D By WBZ
Scale 1:30 | Job No. 09123 | Sheet No. 18 of 30

LETTING ITEM NUMBER
2A

LETTING CONTRACT NUMBER
WI056

PLAN NOTES

1. REMOVE EXISTING TAXIWAY LIGHT. IN ITS PLACE PROVIDE TAXIWAY GUIDANCE SIGN INDICATED, ON CONCRETE BASE, PER DETAIL, SHEET 15. INTERCEPT EXISTING CABLES AND RE-ROUTE OR EXTEND AS NECESSARY INTO PROPOSED SIGN BASE.
2. REMOVE EXISTING TEMPORARY CABLES BETWEEN THESE LIGHTS AND REPLACE WITH PROPOSED AS SHOWN.
3. SPARE CABLE PAIR PRESENTLY TERMINATES IN THIS HANDHOLE. NO WORK REQUIRED.
4. LOCATE AND AVOID EXISTING TAXIWAY C-SOUTH CABLES.
5. CONNECT PROPOSED TAXIWAY E HOME RUN CABLES TO EXISTING CABLES IN THIS HANDHOLE. CONNECT SPARE HOME RUN CABLES TO THE EXISTING SPARES. LABEL THIS PAIR AS "SPARES TO VAULT".
6. 1 - 4/C, #8, 5 KV TYPE C CABLE IN UNIT DUCT (2 CONDUCTORS SPARE FOR FUTURE USE).



SCALE : 1" = 40'

80 40 0 40 80

ILLINOIS PROJECT NO. MWA–4273
S.B.G. PROJECT NO. N/A

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184–004515

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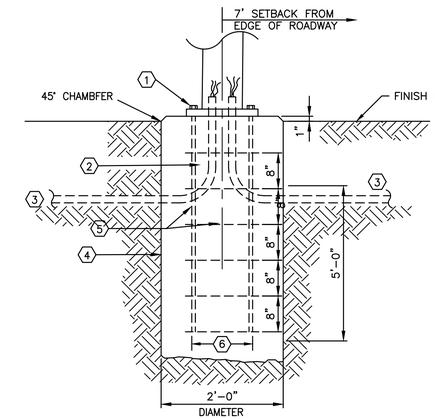
ELECTRICAL PLAN 4
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By PJD | CK'D By WBZ
Scale 1:40 | Job No. 09123 | Sheet No. 19 of 30



DETAIL – ROADWAY LIGHT FOUNDATION

(TYP. FOR FIVE) N.T.S.

DETAIL NOTES:

1. ANCHOR BOLT PROJECTION AS REQUIRED BY POLE MANUFACTURER.
2. ANCHOR BOLTS SHALL BE FASTENED TO REBAR FOR FULL VERTICAL LENGTH.
3. WIRING PER SITE PLAN.
4. CONCRETE BASE SHALL BE POURED AGAINST UNDISTURBED SOIL. THE TOP 1" ONLY SHALL BE FORMED.
5. REBAR BASKET WITH #4 VERTICAL BARS WELDED TO #4 RINGS AT 8" INTERVALS AS SHOWN.
6. REBAR BASKET DIAMETER SHALL BE ADJUSTED TO FIT THE ANCHOR BOLT CIRCLE.

PROPOSED ACCESS ROAD

PROPOSED AUTOMATIC GATE 20'

PROPOSED HANGAR (BY OTHERS)

TAXIWAY E5

TAXIWAY E

192.5' TYP

10' TYP

PLAN NOTES ACCESS ROAD ELECTRICAL

General - Underground low and high voltage electrical components shall be provided in accordance with Ameren Illinois specifications. Coordinate all such requirements with this utility prior to bidding. Any alterations required by this utility shall be provided as though shown herein with no additional compensation allowed.

1. Existing Ameren utility pole. Stub 3" PVC Schedule 80 conduit up pole to height required by Ameren. Provide conduit standoff support type and spacing per Ameren specifications.
2. Existing storage barn.
3. Existing storage barn 200 amp load center to remain in place. Disconnect and remove existing feed and replace as noted.
4. 200 amp, 120/240 volt, 1 phase, 3-wire meter base for underground service. Contractor to provide per Ameren specifications and locate opposite the existing load center. Provide 3 - #3/0 and 1 - #4 equipment ground in 2" PVC through building wall to the existing load center main breaker.
5. In a 40" deep trench, Contractor to provide 1 - 3" PVC Schedule 80 empty conduit with a 3/8" nylon pull rope rated for 2400 lb minimum load. All sweep elbows shall be 36" radius, minimum, galvanized Schedule 40 steel conduit, and terminated with grounding type insulated bushings. Primary cable shall be furnished and installed by Ameren.
6. 3 - #3/0 in 2" PVC Schedule 80 for 120/240 volt, 200 amp, 1 phase underground feed from Ameren pad-mount transformer to the building meter base. Install in 36" deep trench.
7. Pad-mount transformer shall be provided by Ameren. Verify exact location of primary and secondary conduit stubs prior to installation.
8. When proposed storage barn service is operational, disconnect the existing underground feed. Remove all above-grade portions of this feed as Contractor salvage.
9. When proposed storage barn service is operational, disconnect and remove existing secondary poles and all service equipment as Contractor salvage.
10. 2 - #8 and 1 - #8 equipment ground 600 volt cable in unit duct, plowed in.
11. See typical lighting assembly concrete base detail, this Sheet.
12. Underground secondary service feeder shall be 3 - #2 in 2" Schedule 80 PVC.
13. See gate operator 1-Line Diagram, Sheet 21.
14. Electric gate operator. See detail, Sheet 21.
15. 100 amp, 120/240 volt, 1 phase, 3-wire meter base for underground service - Contractor to provide per Ameren specifications and locate opposite the proposed load center. Provide 3 - #2 and 1 - #6 equipment ground in 1½" PVC through building wall to the load center main breaker.
16. 2 - #8 and 1 - #8 equipment ground 600 volt cable in unit duct, plowed-in for roadway lighting home run to hangar load center.
17. 100 amp, 120/240 volt, single-phase, main breaker, 3-wire S/N, 16 circuit load center - Square D #QO116M100 with ground bar #PK12GTA, or equal. Verify and coordinate exact location of load center with hangar Plans prior to installation. Provide plug-on branch breakers as follows:
    1 - 15 amp, 2-pole - Roadway Lighting
    1 - 15 amp, 1-pole - Gate Operator
    6 - 20 amp, 1-pole - spares
18. Provide galvanized steel 10 ft section field-bent for this change in direction.

PLAN NOTES TAXIWAY ELECTRICAL

1. 1/C, #8, 5 KV TYPE C CABLE IN UNIT DUCT – TYPICAL FOR ALL TAXIWAY LIGHTING CABLE EXCEPT FOR HOME RUNS.
2. LOCATE EXISTING TAXIWAY CABLE IN THIS AREA. HAND–EXCAVATE SUFFICIENT AMOUNT OF CABLE TO RE–ROUTE, SPLICE AS NECESSARY, AND EXTEND INTO PROPOSED BASE–MOUNTED LIGHT.
3. REMOVE EXISTING TAXIWAY LIGHTING AND DELIVER TO MAINTENANCE DEPT FOR STORAGE.
4. 37 LINEAL FEET OF 3" PVC CONDUIT IN TRENCH.
5. EXISTING TAXIWAY LIGHTING CABLE TO BE ABANDONED IN PLACE.
6. REMOVE EXISTING TEMPORARY CABLES BETWEEN THESE LIGHTS AND REPLACE WITH PROPOSED AS SHOWN.

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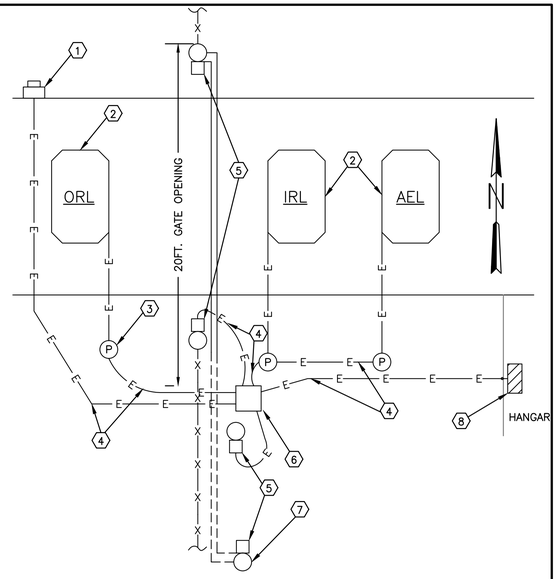
ELECTRICAL PLAN 5
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

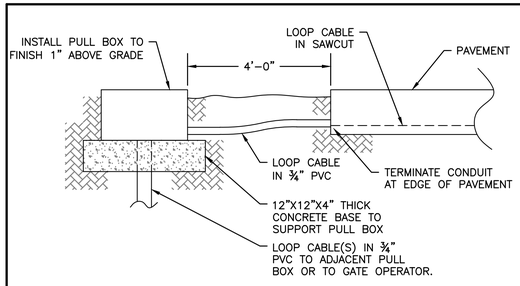
Date MARCH 2015 | DR. By PJD | CK'D By WBZ
Scale 1:50 | Job No. 09123 | Sheet No. 20 of 30



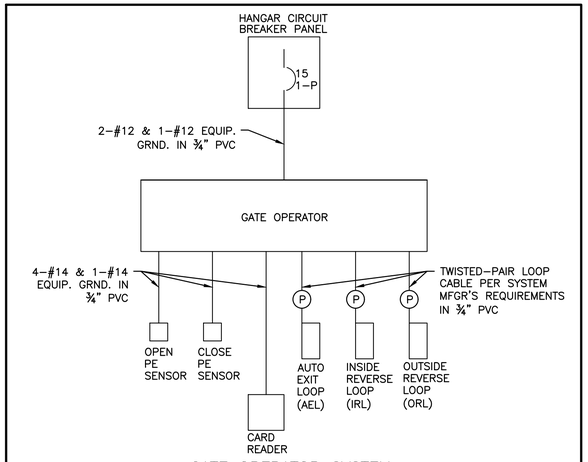
PLAN VIEW – GATE OPERATOR
N.T.S.

PLAN NOTES

1. ENTRY CARD READER AND GOOSE-NECK POST. PROVIDE POST CONCRETE FOUNDATION IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS, EXCEPT DEPTH SHALL BE 2 FT MINIMUM AND POURED AGAINST UNDISTURBED SOIL.
2. SAWCUT, INSTALL AND SEAL PAVEMENT LOOPS PER SYSTEM MANUFACTURER'S REQUIREMENTS. EXACT LOCATIONS TO BE DETERMINED AT TIME OF INSTALLATION BASED UPON MANUFACTURER'S RECOMMENDATIONS.
3. SUBGRADE PULL BOX FOR LOOP CABLE SHALL BE 6" X 8" X 7" DEEP, OPEN BOTTOM, COMPOSITE CONCRETE TYPE WITH BOLTED AND GASKETED COVER LABELED "ELECTRIC". ASSEMBLY SHALL BE QUAZITE #PC0608BA06/PC0608HG0017, OR EQUAL. SEE DETAIL THIS SHEET.
4. SEE 1-LINE DIAGRAM.
5. POST-MOUNTED PHOTOELECTRIC SAFETY SWITCHES FOR OPENING AND CLOSING OPERATING MODES. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
6. GATE OPERATOR INSTALLED ON CONCRETE BASE SIZED PER MANUFACTURER'S REQUIREMENTS, EXCEPT MINIMUM BASE DEPTH SHALL BE 2 FT, AND SHALL BE POURED AGAINST UNDISTURBED SOIL. EXACT DISTANCE FROM PAVEMENT EDGE TO BE DETERMINED AT TIME OF INSTALLATION.
7. LOCATE POST AND CONCRETE FOUNDATION FOR PHOTOELECTRIC REFLECTOR AT THE END OF GATE TRAVEL.
8. CONNECT 120 VAC FEED TO GATE OPERATOR TO A 15 AMP, 1-POLE DEDICATED CIRCUIT BREAKER IN THE HANGAR LOAD CENTER.

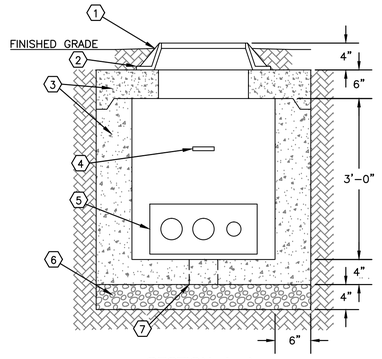


DETAIL – DETECTOR LOOP PULL BOX
N.T.S.

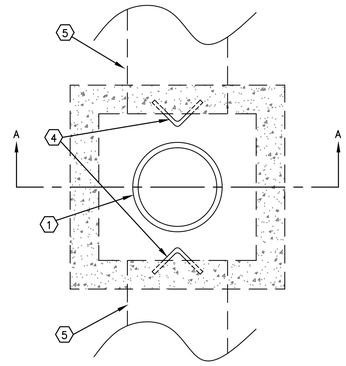


GATE OPERATOR SYSTEM 1–LINE DIAGRAM

NOTE: 1–LINE DIAGRAM SHOWN IS TYPICAL. ANY ALTERATIONS REQUIRED BY THE APPROVED SYSTEM MANUFACTURER/VENDOR SHALL BE SUPPLIED AS THOUGH SHOWN HEREIN, WITH NO ADDITIONAL COMPENSATION ALLOWED.



SECTION A–A



PLAN VIEW
N.T.S.

TYPICAL MANHOLE

DETAIL NOTES

1. 24" DIAMETER MANHOLE ACCESS COVER.
2. SEAL JOINT WATERTIGHT WITH NON-SHRINK GROUT.
3. PRE-CAST CONCRETE MANHOLE AND TOP.
4. TYPICAL GALVANIZED PULLING IRON LOCATED 1 FT FROM TOP AND INSTALLED OPPOSITE ANY DUCT BANK ENTRANCE INTO MANHOLE.
5. TYPICAL SINGLE-LAYER DUCT BANK OR CONDUIT ENTRANCES PER PLANS. SEAL ENTRANCES INTO MANHOLE WATERTIGHT.
6. POROUS GRANULAR BASE INSTALLED ON UNDISTURBED SOIL.
7. 6" DIAMETER DRAIN HOLE IN MANHOLE BASE.

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ELECTRICAL DETAILS 1
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By PJD | CK'D By WBZ
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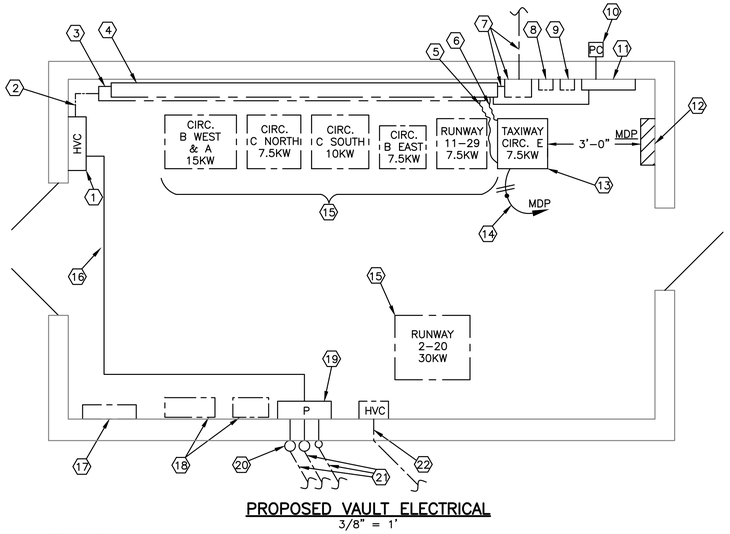
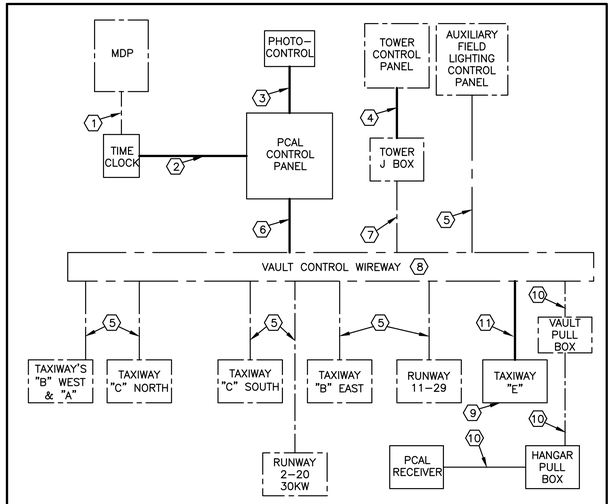


PROPOSED VAULT ELECTRICAL

3/8" = 1'

DETAIL NOTES

1. EXISTING HIGH VOLTAGE CUTOUT PANEL. CONNECT PROPOSED TAXIWAY E FIELD LIGHTING CABLES TO THE REMAINING SPARE CUTOUT.
2. 2 - #8, 5 KV, TYPE C CABLES IN THE EXISTING CONDUIT FOR PROPOSED TAXIWAY E FIELD LIGHTING.
3. EXISTING HIGH VOLTAGE FIELD LIGHTING WIREWAY. REUSE FOR ROUTING PROPOSED TAXIWAY 'E' FIELD CABLES. SEE 1-LINE DIAGRAM AND SCHEMATIC.
4. EXISTING CONTROL WIRING WIREWAY. REUSE FOR PROPOSED CONTROL WIRING ADDITIONS AND MODIFICATIONS. THIS WIREWAY CONTAINS 12 SPARE CONDUCTORS TO THE CONTROL TOWER JUNCTION BOX BELOW THE CAB LEVEL. TRACE AND USE THESE SPARES AS NECESSARY. SEE CONTROL TOWER DETAILS.
5. 2 - #8, 5 KV, TYPE C CABLES IN 1" FLEX CONDUIT.
6. SEE PCAL CONTROL SYSTEM 1-LINE DIAGRAM.
7. EXISTING PCAL SYSTEM JUNCTION BOX AT FLOOR LEVEL. REMOVE ALL EXISTING CONDUCTORS IN AN EXISTING 2" CONDUIT AS CONTRACTOR SALVAGE, AND REPLACE PER PCAL CONTROL SYSTEM 1-LINE DIAGRAM.
8. EXISTING FIELD LIGHTING TRANSFER CONTROL RELAY. DISCONNECT AND REMOVE AS CONTRACTOR SALVAGE. THIS FUNCTION SHALL BE INCORPORATED INTO THE PROPOSED CONTROL PANEL PER SCHEMATIC, SHEET 24.
9. EXISTING FIELD LIGHTING TRANSFER TIME CLOCK. REMOVE AS CONTRACTOR SALVAGE AND REPLACE PER PCAL SYSTEM SCHEMATIC.
10. PROPOSED PHOTOCONTROL - MOUNT AS HIGH AS POSSIBLE UNDER EAVE. SEAL WALL PENETRATION WATERTIGHT. SEE PCAL SYSTEM 1-LINE DIAGRAM.
11. PROPOSED PCAL SYSTEM CONTROL PANEL. SEE 1-LINE DIAGRAM AND SCHEMATIC.
12. EXISTING 120/240 VOLT, SINGLE PHASE, MAIN DISTRIBUTION PANEL. PROVIDE ONE 40 AMP, 2-POLE, SQUARE D CIRCUIT BREAKER TO FEED THE PROPOSED TAXIWAY E REGULATOR.
13. PROPOSED TAXIWAY 'E' 7.5 KW LIGHTING REGULATOR. LOCATE TO MAINTAIN CLEARANCE SHOWN FROM THE MDP.
14. 3 - #8 & 1 - #8 EQUIPMENT GROUND IN ¾" EMT FOR 240 VOLT FEED.
15. INTERCEPT EXISTING CONTROL WIRING FOR THESE FIELD LIGHTING REGULATORS IN THE WIREWAY AND EXTEND PER THE 1-LINE DIAGRAM AND SCHEMATIC TO THE PROPOSED PCAL SYSTEM CONTROL PANEL.
16. 6 - #8, 5 KV, TYPE C CABLES (4 SPARES) IN 2" EMT.
17. EXISTING AUXILIARY FIELD LIGHTING CONTROL PANEL TO REMAIN - NO WORK. CIRCUIT 1 FEEDS EXISTING 120 VOLT CONTROL WIRING FOR MISCELLANEOUS FIELD LIGHTING EQUIPMENT. CIRCUIT 2 FEED EXISTING 120 CONTROL FOR ALL FIELD LIGHTING REGULATORS. VERIFY BEFORE DISCONNECTING ANY LOADS.
18. DISCONNECT AND REMOVE THE EXISTING ADD-A-PHASE UNIT, CONTACTOR, AND ALL ASSOCIATED WIRE AND CONDUIT. DELIVER WALL UNITS TO MAINTENANCE DEPT FOR STORAGE.
19. 24" X 24" X 8" DEEP, NEMA 1 SCREW COVER PULL BOX. MOUNT 3 FT TO THE TOP AFF.
20. SEE DETAIL, THIS SHEET FOR EXTERIOR CONDUIT RISERS.
21. SEE SITE PLAN FOR CONTINUATION OF CONCRETE-ENCASED DUCT BANK.
22. LOCATE AND AVOID EXISTING UNDERGROUND FEED TO RUNWAY 2-20 FIELD LIGHTS.



LEGEND

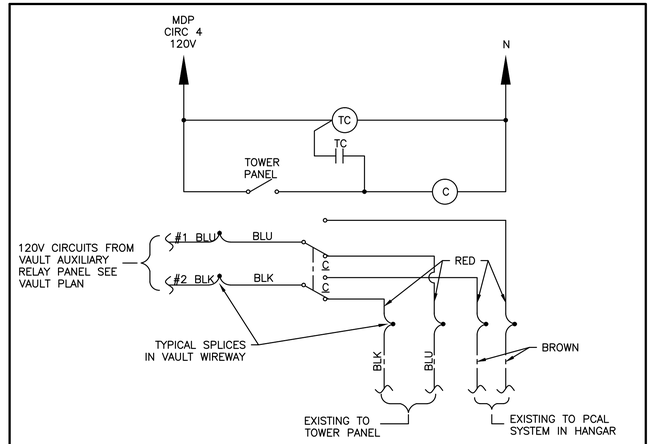
EXISTING WIRING OR COMPONENT

PROPOSED WIRING

1–LINE DIAGRAM
PROPOSED PCAL CONTROL SYSTEM

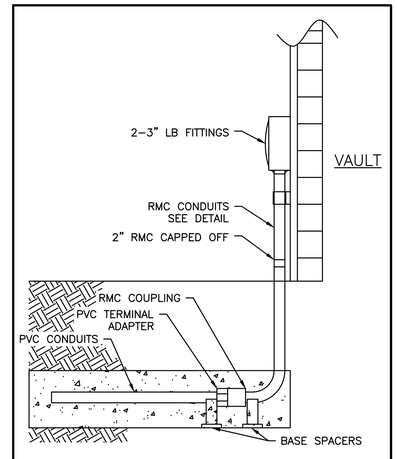
1-LINE DIAGRAM NOTES

1. EXISTING WIRING TO REMAIN CONNECTED TO PROPOSED TIME CLOCK.
2. 2 - #12 AND 1 - #12 EQUIPMENT GROUND IN ½" EMT.
3. 3 - #14 AND 1 - #14 EQUIPMENT GROUND IN ½" EMT.
4. EXTEND EXISTING SPARES FROM J BOX THROUGH EXISTING CONDUIT TO TOWER PANEL PER TOWER DETAILS.
5. EXISTING CONTROL AND POWER CONDUCTORS TO REMAIN.
6. 60 - #14 AND 1 - #14 EQUIPMENT GROUND, STRANDED TYPE THWN, IN 2" EMT CONDUIT. FOLLOW THE SAME WIRE COLOR CODING AS EXISTING CONTROL WIRING FROM THE TOWER LIGHTING CONTROL PANEL OR APPROPRIATE REGULATOR AS APPLICABLE.
7. EXISTING TO REMAIN, PLUS CONNECT SPARES AS REQUIRED PER SCHEMATIC, SHEET 24.
8. EXISTING VAULT CONTROL WIREWAY. DISCONNECT EXISTING SWITCHED RETURNS FROM THE EXISTING PCAL SYSTEM OR TOWER PANEL, AS NOTED, TO THE VARIOUS REGULATOR CONTROL WIRES IN THIS WIREWAY, AND REPLACE WITH CONNECTIONS NOTED BELOW. LABEL ALL WIRING. FOLLOW EXISTING COLOR CODES. EXISTING PCAL SYSTEM WIRING SHALL BE REMOVED ENTIRELY.
9. PROPOSED 7.5 KW, REGULATOR.
10. REMOVE ALL EXISTING CONTROL CONDUCTORS FROM AN EXISTING 2" CONDUIT AND PROVIDE 8 - #14, 1 - #14 NEUTRAL, AND 1 - #14 EQUIPMENT GROUND TO THE PROPOSED PCAL RECEIVER. SEE HANGAR PLAN VIEW, SHEET 23.
11. 6 - #14 IN ½" FLEX CONDUIT



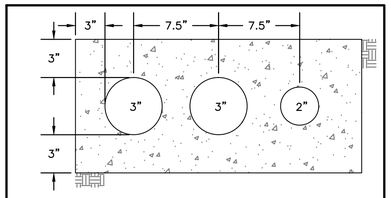
EXISTING FIELD LIGHTING CONTROL TRANSFER SCHEMATIC

EXISTING SCHEMATIC PRESENTED FOR INFORMATION ONLY. SEE PCAL SYSTEM PROPOSED CONTROL PANEL SCHEMATIC. TOWER CONTROLLER TO THROW TOGGLE SWITCH IN TOWER PANEL AT 7 PM TO ENABLE FIELD LIGHTING OPERATION FROM THE PCAL SYSTEM. TIME CLOCK WILL ALSO POWER THE TRANSFER RELAY IF CONTROLLER FORGETS TO ACCOMPLISH SAME FUNCTION. TIME CLOCK CYCLES OFF AT 7AM THROWING CONTROL BACK TO TOWER PANEL AND DE–ENERGIZING THE PCAL SYSTEM.



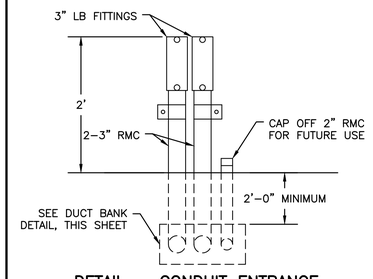
DETAIL – PVC TO RMC CONDUIT TRANSITION WITHIN DUCT BANK

N.T.S.



TYPICAL SECTION CONCRETE ENCASED DUCT BANK

N.T.S.



DETAIL – CONDUIT ENTRANCE AT VAULT

N.T.S.

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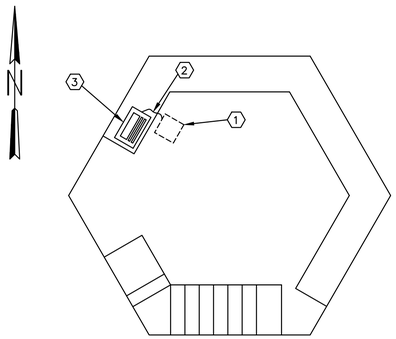
ELECTRICAL DETAILS 2
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

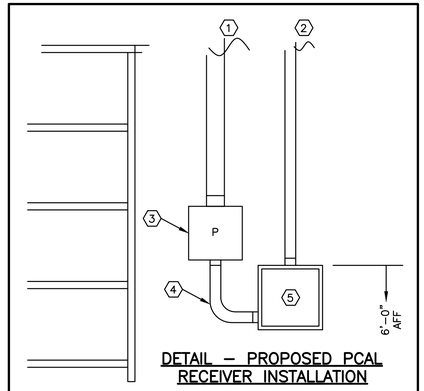
Date	MARCH 2015	DR. By	PJD	CK'D By	WBZ
Scale	N/A	Job No.	09123	Sheet No.	22 of 30



CONTROL TOWER CAB PLAN
N.T.S.

DETAIL NOTES

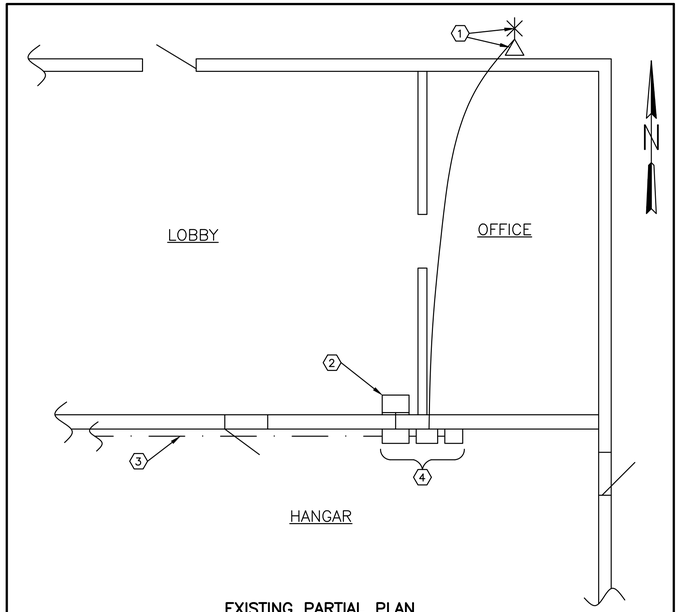
1. JUNCTION BOX BELOW FLOOR OF CAB CONTAINS TWELVE SPARE CONTROL CONDUCTORS FROM VAULT WIREWAY. SEE VAULT PLAN. NOTE FOR ACCESS TO JUNCTION BOX, THE LOWER LEVEL CEILING TILES & LIGHT FIXTURE SHALL BE REMOVED AND REPLACED AS NECESSARY.
2. EXTEND ALL SPARES THROUGH EXISTING 2" FLEX CONDUIT FROM JUNCTION BOX TO THE AIRFIELD LIGHTING CONTROL PANEL. CONNECT ONLY REQUIRED CONDUCTORS TO TERMINALS CORRESPONDING TO THE TAXIWAY E CONTROL SWITCHES INDICATED IN THE PANEL DETAIL. LABEL REMAINING CONDUCTORS AS "SPARES TO VAULT".
3. EXISTING AIRFIELD LIGHTING CONTROL PANEL. SEE DETAIL FOR MODIFICATIONS TO ADD PROPOSED TAXIWAY E SWITCHING.



DETAIL – PROPOSED PCAL RECEIVER INSTALLATION
N.T.S.

DETAIL NOTES

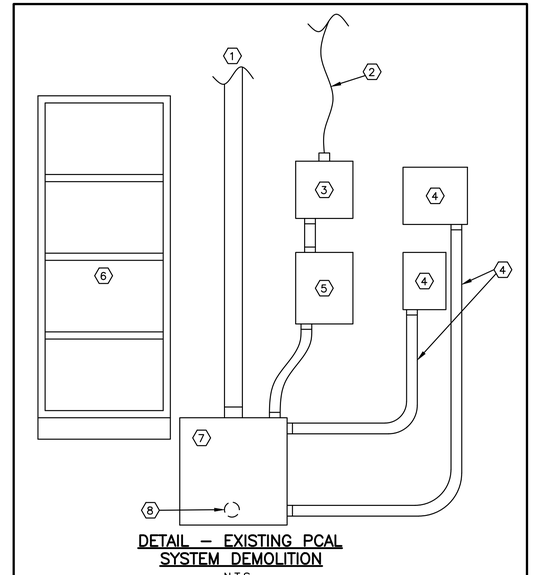
1. INTERCEPT THE EXISTING 2" CONDUIT AND REROUTE INTO PROPOSED PULL BOX AS SHOWN.
2. RECEIVER ANTENNA CABLE IN ¾" PVC TO THE POINT OF EXIT ONTO THE OFFICE ROOF. CONTINUATION FROM THERE IN FREE AIR OVER OFFICE ROOF.
3. 12" X 12" X 6" DEEP, NEMA 1 SCREW COVER PULL BOX.
4. 4 - #14, AND 1 - #14 EQUIPMENT GROUND IN ½" EMT.
5. PROPOSED PCAL RECEIVER



EXISTING PARTIAL PLAN F.B.O. HANGAR
1/4" = 1'

PLAN NOTES

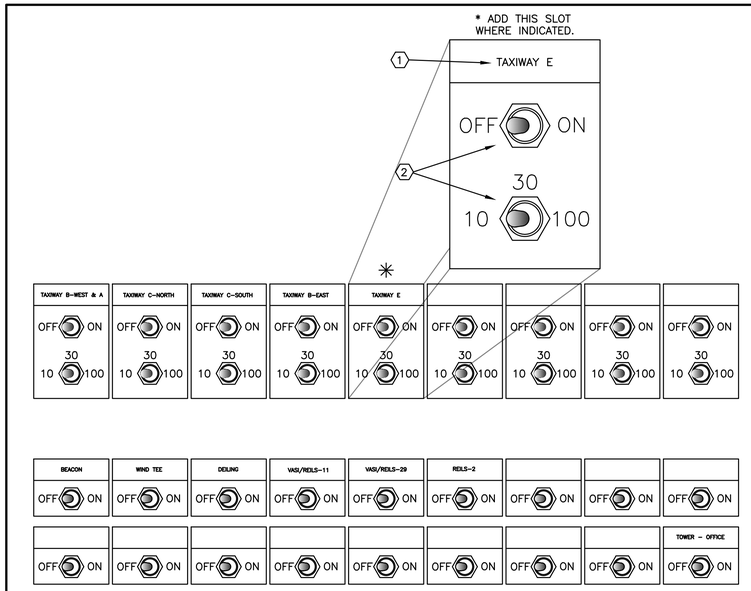
1. REMOVE EXISTING PCAL SYSTEM ANTENNA AND CABLE, AND PROVIDE NEW. INSTALL ANTENNA AT SAME LOCATION ON TOWER AS EXISTING.
2. DISCONNECT AND REMOVE THE EXISTING OFFICE FIELD LIGHTING CONTROL PANEL, WIRING AND CONDUIT THROUGH ADJACENT WALL. SEAL WALL OPENING WITH GROUT.
3. EXISTING 2" CONDUIT CONTAINING CONTROL WIRING ROUTED ALONG HANGAR WALL. REMOVE AND REPLACE WIRING PER 1-LINE DIAGRAM AND VAULT DETAIL.
4. SEE PCAL SYSTEM DEMOLITION DETAIL, THIS SHEET.



DETAIL – EXISTING PCAL SYSTEM DEMOLITION
N.T.S.

DETAIL NOTES

1. EXISTING 2" CONDUIT CONTAINING CONTROL WIRING ROUTED ALONG HANGAR WALL. REMOVE AND REPLACE WIRING PER 1-LINE DIAGRAM AND VAULT DETAIL.
2. EXISTING PCAL RADIO RECEIVER ANTENNA CABLE. REMOVE AND REPLACE PER DETAIL THIS SHEET.
3. EXISTING PCAL RADIO RECEIVER. REMOVE AND REPLACE PER DETAIL THIS SHEET. DELIVER UNIT TO MAINTENANCE DEPT FOR STORAGE.
4. DISCONNECT AND REMOVE EXISTING RELAYS PANELS AND ASSOCIATED WIRE AND CONDUIT AS CONTRACTOR SALVAGE.
5. DISCONNECT AND REMOVE EXISTING JUNCTION BOX, WIRE AND CONDUIT.
6. EXISTING WINDOW.
7. DISCONNECT AND REMOVE EXISTING JUNCTION BOX. REPLACE PER DETAIL THIS SHEET.
8. EXISTING CONTROL WIRING THROUGH WALL TO OFFICE CONTROL PANEL. DISCONNECT AND REMOVE PER PLAN VIEW THIS SHEET.



MODIFICATION TO EXISTING L-821 AIRFIELD LIGHTING CONTROL PANEL

DETAIL NOTES

1 PROVIDE ENGRAVED LEGEND AS SHOWN, SIZED TO MATCH EXISTING.

2 USE EXISTING TOGGLE SWITCHES.

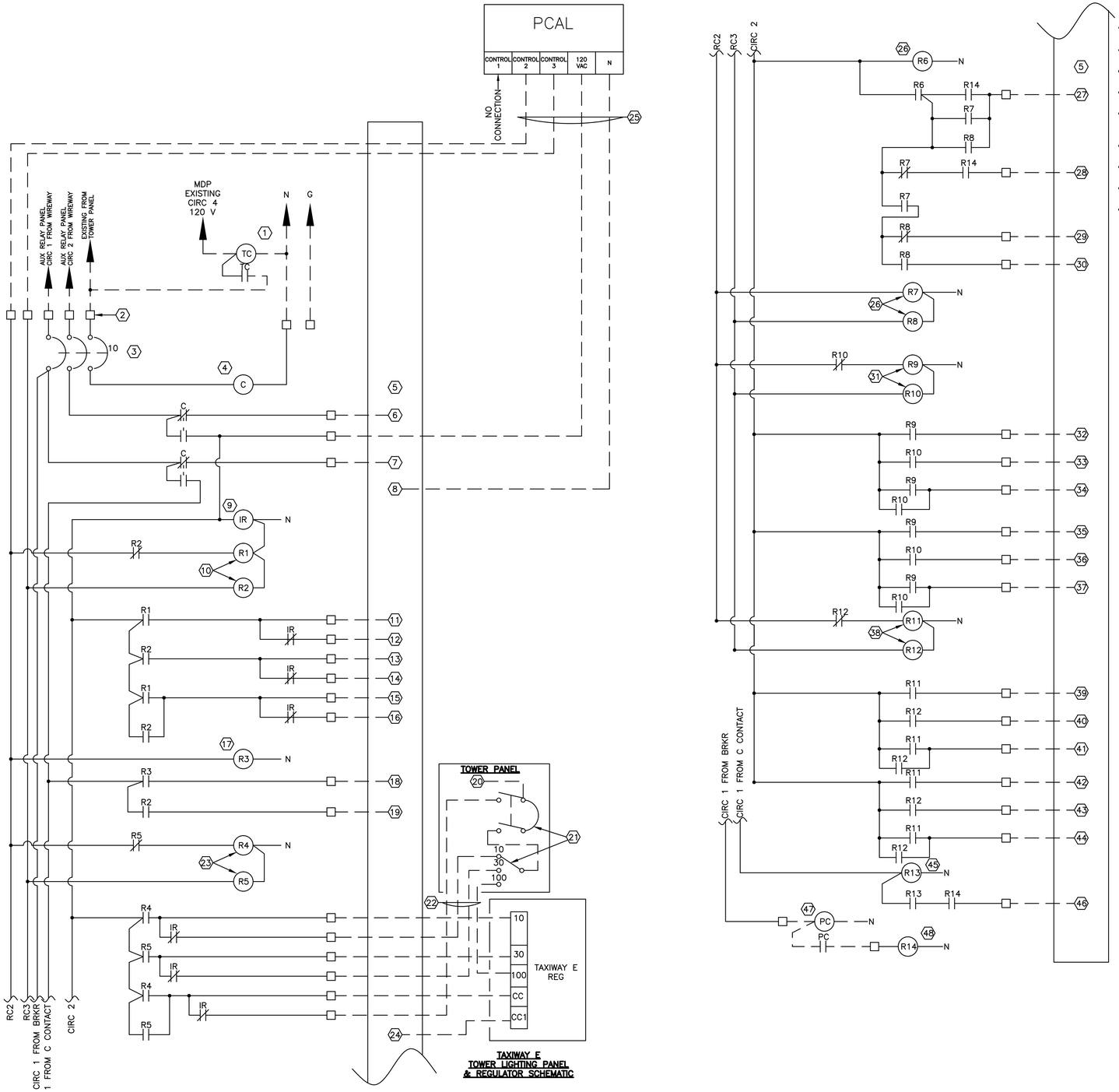
STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-004515

REVISIONS	
DATE	NO.

CLARIDA & ZIEGLER ENGINEERING CO.
410 North Court St, P.O. Box 937
Marion, Illinois 62959
Phone – (618)993-6411, Fax – (618)993-6750

ELECTRICAL DETAILS 3
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

Date MARCH 2015 | DR. By PJD | CK'D By WBZ
Scale N/A | Job No. 09123 | Sheet No. 23 of 30



PROPOSED PCAL SYSTEM CONTROL SCHEMATIC

SCHEMATIC NOTES

GENERAL - TRACE AND VERIFY ALL EXISTING CONTROL WIRING BEFORE DISCONNECTING.

1. REMOTE TIME CLOCK TO REPLACE EXISTING - SPST, 120 VAC, 24 HR, ELECTRONIC PROGRAMMABLE WITH FOUR-DAY CAPACITIVE TIME RETENTION ON POWER OUTAGE - TORK #E101B, OR EQUAL.
2. TYPICAL 15 AMP RATED, BOX LUG, MODULAR TYPE FIELD TERMINAL BLOCKS SUITABLE FOR DIN-RAIL MOUNTING. PROVIDE 20% ADDITIONAL SPARES.
3. UL489, SUPPLEMENTAL DIN-RAIL MOUNTED, 240 VOLT RATED, 3-POLE CIRCUIT BREAKER MAIN DISCONNECT - SQUARE D, CLASS 860, #60177, OR EQUAL.
4. 20 AMP, 2-POLE, 120 VAC, OPEN TYPE MASTER RELAY - SQUARE D, CLASS 8501, #XMO20-V02, OR EQUAL.
5. EXISTING VAULT CONTROL WIREWAY. DISCONNECT EXISTING SWITCHED RETURNS FROM THE EXISTING PCAL SYSTEM OR TOWER PANEL, AS NOTED, TO THE VARIOUS REGULATOR CONTROL WIRES IN THIS WIREWAY, AND REPLACE OR RECONNECT WITH CONNECTIONS NOTED. LABEL ALL WIRING. FOLLOW EXISTING COLOR CODES. EXISTING PCAL SYSTEM WIRING SHALL BE REMOVED ENTIRELY.
6. 120 VOLT CIRCUIT 2 FEED TO CONTROL TOWER L-821 FIELD LIGHTING PANEL. DISCONNECT EXISTING CONNECTION AND REPLACE AS SHOWN.
7. 120 VOLT CIRCUIT 1 FEED TO CONTROL TOWER L-821 FIELD LIGHTING PANEL. DISCONNECT EXISTING CONNECTION AND REPLACE AS SHOWN.
8. CONNECT TO CIRCUIT 1 EXISTING NEUTRAL IN WIREWAY.
9. CONTROL INTERLOCK RELAY - 120 VA , 8-POLE CONVERTIBLE CONTACTS, 10 AMP CONTINUOUS RATED - SQUARE D, CLASS 8501, #XO80-V02, OR EQUAL.
10. 120 VAC , 4-POLE CONVERTIBLE CONTACTS, 10 AMP CONTINUOUS RATED - SQUARE D, CLASS 8501, #XO40-V02, OR EQUAL. RELAY FUNCTION = EXISTING RUNWAY 11-29 PCAL CONTROL, AND RUNWAY 11 REIL SYSTEM (THRU RELAY R2 ONLY, PER NOTE 19).
11. RUNWAY 11-29 - 30% COMMON PCAL & TOWER INPUT.
12. RUNWAY 11-29 - 30% INPUT RETURN FROM TOWER CONTROL PANEL SWITCH.
13. RUNWAY 11-29 - 100% COMMON PCAL & TOWER INPUT.
14. RUNWAY 11-29 - 100% INPUT RETURN FROM TOWER CONTROL PANEL SWITCH.
15. RUNWAY 11-29 - COMMON PCAL & TOWER INPUT TO REGULATOR CC TERMINAL.
16. RUNWAY 11-29 - INPUT RETURN TO REGULATOR CC TERMINAL FROM TOWER CONTROL PANEL SWITCH.
17. 120 VAC , 2-POLE CONVERTIBLE CONTACTS, 10 AMP CONTINUOUS RATED - SQUARE D, CLASS 8501, #XO20-V02, OR EQUAL. RELAY FUNCTION = RUNWAY 11 PAPI SYSTEM FROM PCAL.
18. RUNWAY 11 - PAPI LIGHTING SYSTEM INPUT FROM PCAL.
19. RUNWAY 11 - REIL SYSTEM INPUT FROM PCAL RELAY R2 ABOVE.
20. CONNECT TO EXISTING CIRCUIT 2 FEED IN TOWER CONTROL PANEL.
21. SEE TOWER CONTROL PANEL DETAIL FOR EXISTING SPARE ON-OFF AND BRIGHTNESS SWITCHES TO CONNECT.
22. TRACE AND EXTEND EXISTING SPARES FROM TOWER PANEL AS REQUIRED FOR CONNECTIONS SHOWN. SEE CONTROL TOWER DETAILS.
23. RELAY SAME AS NOTE 10. RELAY FUNCTION = PROPOSED TAXIWAY 'E' CONTROL FROM PCAL SYSTEM.
24. CONNECT TO EXISTING 120 VOLT UNSWITCHED FEED FROM AUX RELAY PANEL CIRCUIT 2.
25. PROPOSED WIRING PLUS SPARES PER 1-LINE DIAGRAM.
26. RELAY SAME AS NOTE 17. RELAY FUNCTION = RUNWAY 2-20 CONTROL FROM PCAL SYSTEM.
27. RUNWAY 2-20 TERMINAL 74, MAIN CONTACTOR INPUT
28. RUNWAY 2-20 TERMINAL 81 - 10% PCAL INPUT.
29. RUNWAY 2-20 TERMINAL 82 - 50% PCAL INPUT.
30. RUNWAY 2-20 TERMINAL 83 - 100% PCAL INPUT.
31. RELAY SAME AS NOTE 10. RELAY FUNCTION = EXISTING TAXIWAY 'B' WEST AND 'A' PLUS TAXIWAY 'B' EAST PCAL CONTROL.
32. TAXIWAY 'B' WEST AND 'A' - 10% PCAL INPUT.
33. TAXIWAY 'B' WEST AND 'A' - 30% PCAL INPUT.
34. TAXIWAY 'B' WEST AND 'A' - PCAL INPUT TO REGULATOR CC TERMINAL.
35. TAXIWAY 'B' EAST - 10% PCAL INPUT.
36. TAXIWAY 'B' EAST - 30% PCAL INPUT.
37. TAXIWAY 'B' EAST - PCAL INPUT TO CC REGULATOR TERMINAL..
38. RELAY SAME AS NOTE 10. RELAY FUNCTION = EXISTING TAXIWAY 'C' NORTH AND 'C' SOUTH PCAL CONTROL.
39. TAXIWAY 'C' NORTH - 10% PCAL INPUT.
40. TAXIWAY 'C' NORTH - 30% PCAL INPUT.
41. TAXIWAY 'C' NORTH - PCAL INPUT TO REGULATOR CC TERMINAL.
42. TAXIWAY 'C' SOUTH - 10% PCAL INPUT.
43. TAXIWAY 'C' SOUTH - 30% PCAL INPUT.
44. TAXIWAY 'C' SOUTH - PCAL INPUT TO REGULATOR CC TERMINAL.
45. RELAY SAME AS NOTE 17. RELAY FUNCTION = EXISTING ROTATING BEACON AND WIND TEE CONTROL.
46. PARALLEL CONNECTION TO THE EXISTING ROTATING BEACON AND WIND TEE CONTACTOR COIL CIRCUITS SOURCED FROM THE AUXILIARY RELAY PANEL.
47. REMOTE 120 VOLT, 1900 VA, ADJUSTABLE, SWIVEL MOUNT PHOTOCONTROL - INTERMATIC #K4221C/K42SWA, OR EQUAL.
48. RELAY SAME AS NOTE 10. RELAY FUNCTION = PHOTOCONTROL RELAY OPERATION OF RUNWAY 2-20 (10% SETTING ONLY), ROTATING BEACON AND WIND TEE.

ELECTRICAL SCHEMATIC SYMBOLS

- WIRE CONNECTION POINT
- EXTERNAL CONNECTION POINT
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- STARTER, CONTRACTOR OR RELAY COIL
- INTERNAL CONTROL PANEL WIRING
- FIELD WIRING

STATE OF ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-004515

REVISIONS	
DATE	NO.

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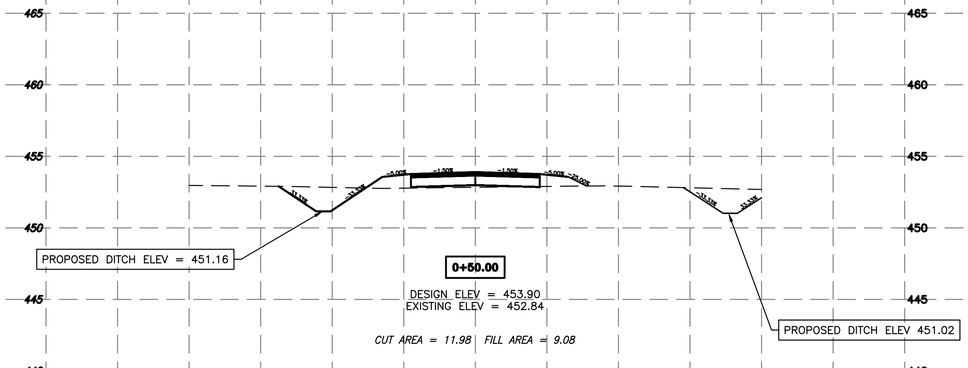
PCAL SYSTEM
WEST HANGAR AREA
WILLIAMSON COUNTY REGIONAL AIRPORT

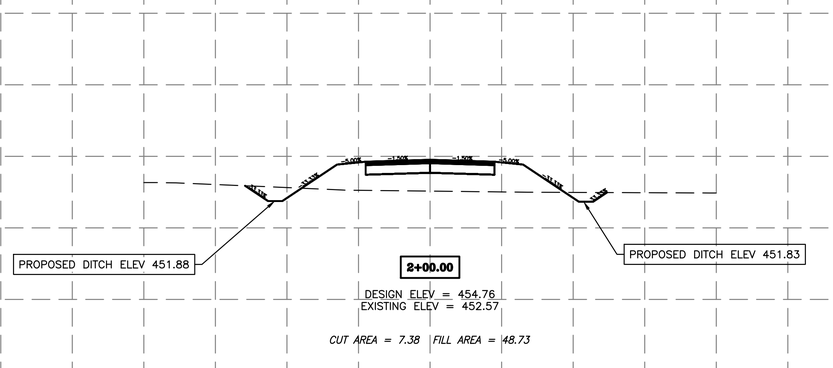
Date MARCH 2015 | DR. By PJD | CK'D By WBZ
Scale N/A | Job No. 09123 | Sheet No. 24 of 30



0+50.00

DESIGN ELEV = 453.90
EXISTING ELEV = 452.84

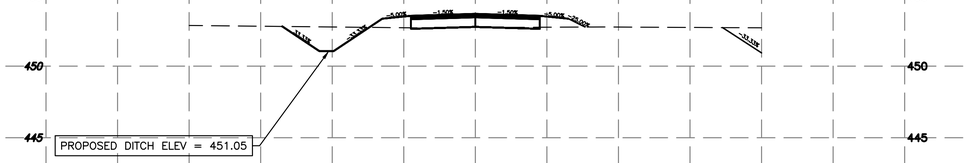
CUT AREA = 11.98 FILL AREA = 9.08



2+00.00

DESIGN ELEV = 454.76
EXISTING ELEV = 452.57

CUT AREA = 7.38 FILL AREA = 48.73



0+28.46

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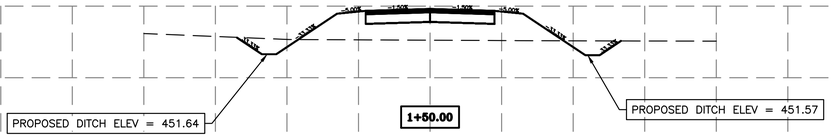
EXISTING ELEV = 452.70

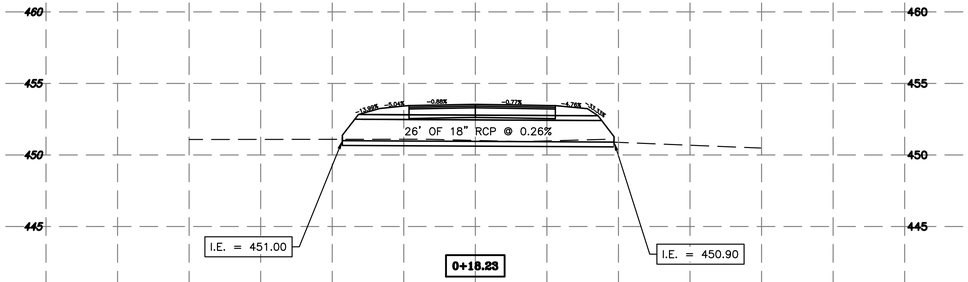
CUT AREA = 12.48 FILL AREA = 6.41



1+50.00

DESIGN ELEV = 454.81
EXISTING ELEV = 452.62

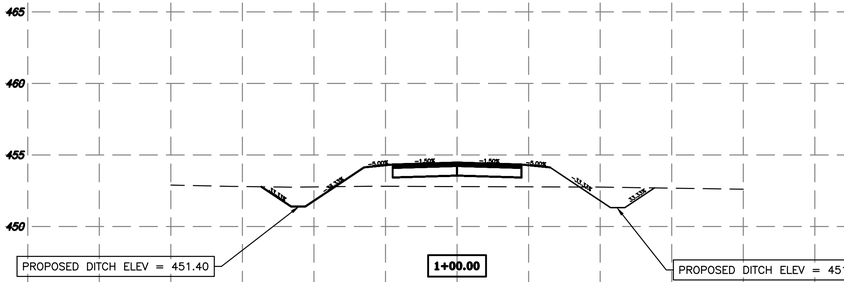
CUT AREA = 10.76 FILL AREA = 47.99



0+18.23

DESIGN ELEV = 453.53
EXISTING ELEV = 451.02

CUT AREA = 0.00 FILL AREA = 64.69



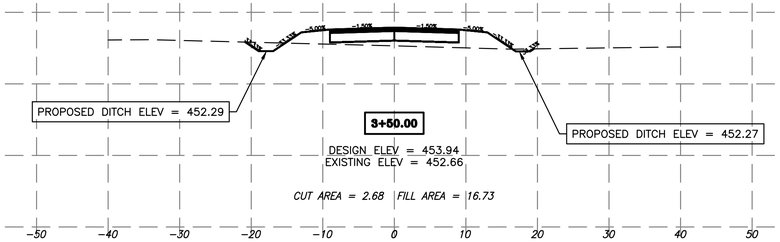
1+00.00

DESIGN ELEV = 454.47
EXISTING ELEV = 452.79

CUT AREA = 17.18 FILL AREA = 29.66

ACCESS ROAD – CROSS-SECTIONS – STA 0+18.23 TO 2+00

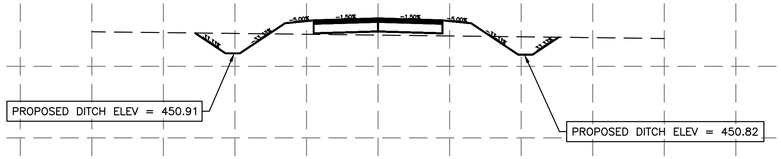
PROJECT No. **09123**
SHT. **25** OF **30**



3+50.00

DESIGN ELEV = 453.94
EXISTING ELEV = 452.66

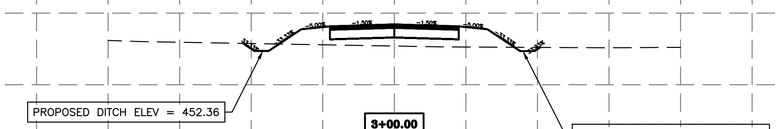
CUT AREA = 2.68 FILL AREA = 16.73



5+00.00

DESIGN ELEV = 453.35
EXISTING ELEV = 452.18

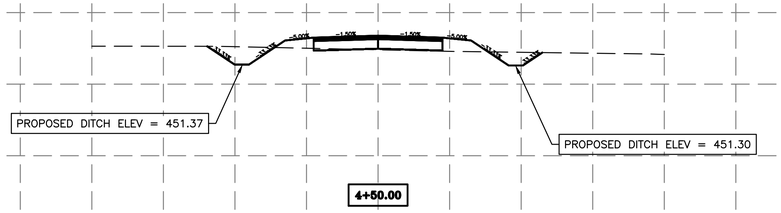
CUT AREA = 15.76 FILL AREA = 12.94



3+00.00

DESIGN ELEV = 454.21
EXISTING ELEV = 452.70

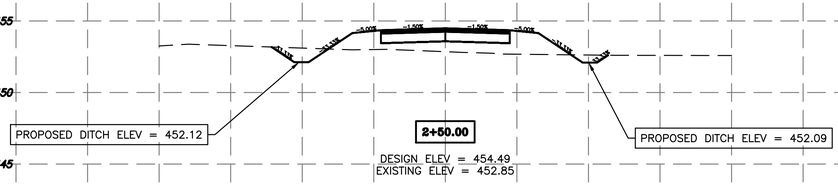
CUT AREA = 2.51 FILL AREA = 23.72



4+50.00

DESIGN ELEV = 453.39
EXISTING ELEV = 452.40

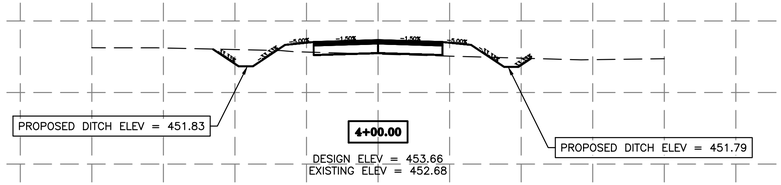
CUT AREA = 12.00 FILL AREA = 7.93



2+50.00

DESIGN ELEV = 454.49
EXISTING ELEV = 452.85

CUT AREA = 6.82 FILL AREA = 28.68



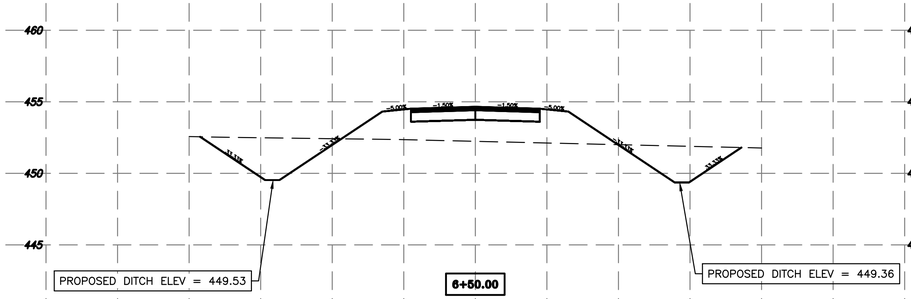
4+00.00

DESIGN ELEV = 453.66
EXISTING ELEV = 452.68

CUT AREA = 9.42 FILL AREA = 7.90

ACCESS ROAD – CROSS-SECTIONS – STA 2+50 TO 5+00

PROJECT No. **09123**
SHT. **26** OF **30**.



6+50.00

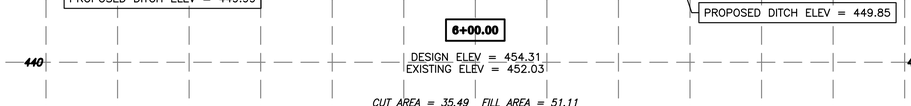
DESIGN ELEV = 454.65
EXISTING ELEV = 452.24

CUT AREA = 56.45 | FILL AREA = 56.58

8+00.00

DESIGN ELEV = 453.66
EXISTING ELEV = 452.22

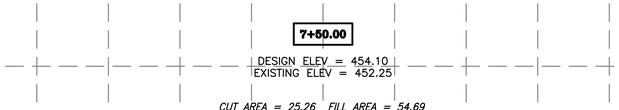
CUT AREA = 11.41 | FILL AREA = 51.39



6+00.00

DESIGN ELEV = 454.31
EXISTING ELEV = 452.03

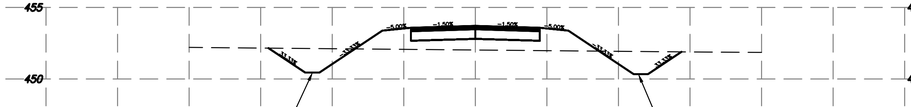
CUT AREA = 35.49 | FILL AREA = 51.11



7+50.00

DESIGN ELEV = 454.10
EXISTING ELEV = 452.25

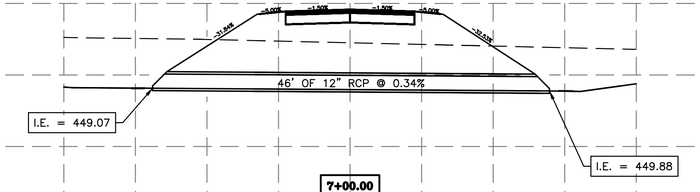
CUT AREA = 25.26 | FILL AREA = 54.69



5+50.00

DESIGN ELEV = 453.71
EXISTING ELEV = 452.02

CUT AREA = 22.48 | FILL AREA = 29.97



7+00.00

DESIGN ELEV = 454.57
EXISTING ELEV = 452.25

CUT AREA = 52.82 | FILL AREA = 53.16

ACCESS ROAD – CROSS-SECTIONS – STA 5+50 TO 8+00

PROJECT No. 09123
SHT. 27 OF 30.

9+00.00

DESIGN ELEV = 453.04
EXISTING ELEV = 451.99

CUT AREA = 0.25 FILL AREA = 19.10

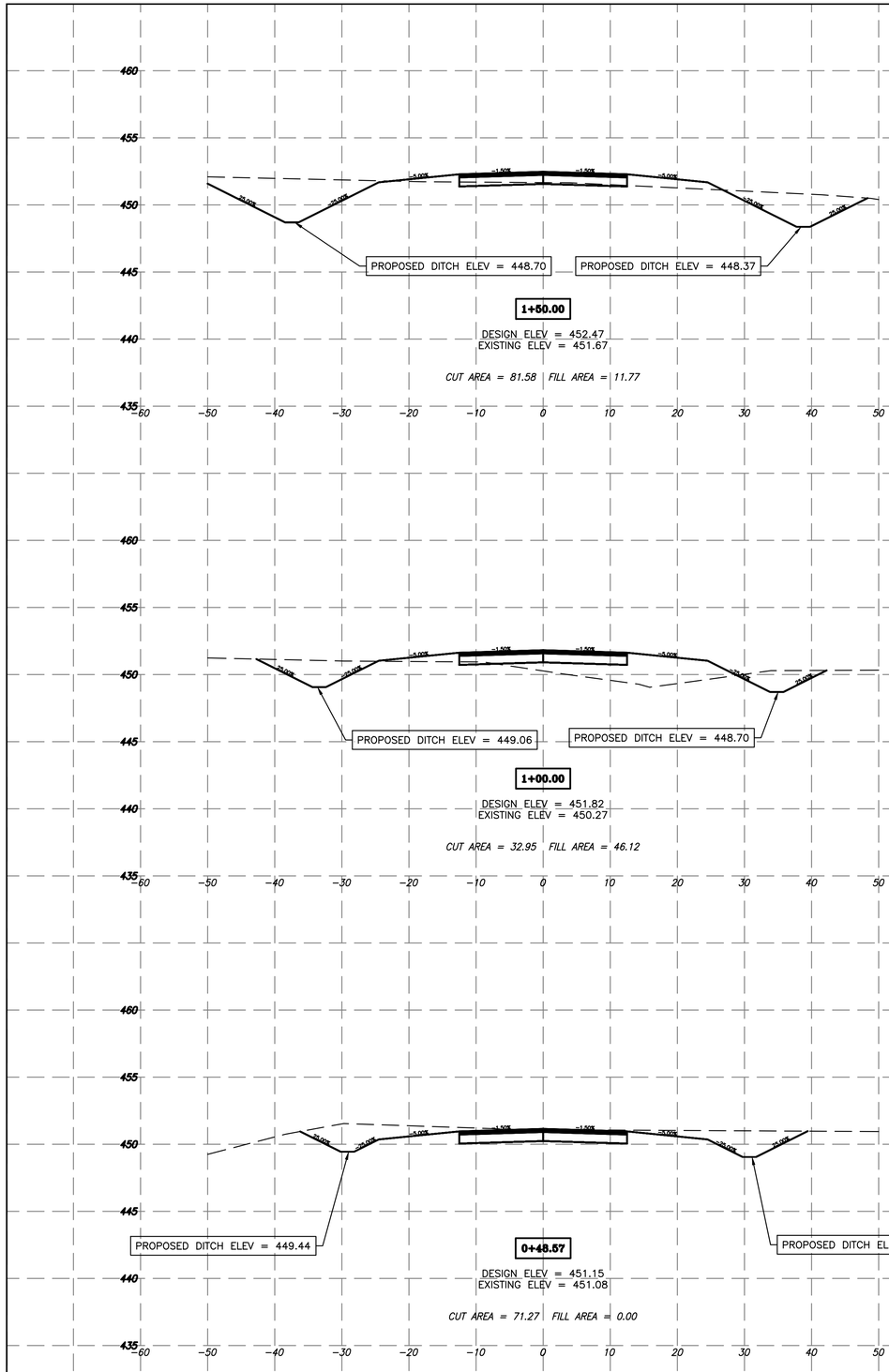
8+50.00

DESIGN ELEV = 453.35
EXISTING ELEV = 452.13

CUT AREA = 3.69 FILL AREA = 38.64

ACCESS ROAD – CROSS-SECTIONS – STA 8+50 TO 9+00

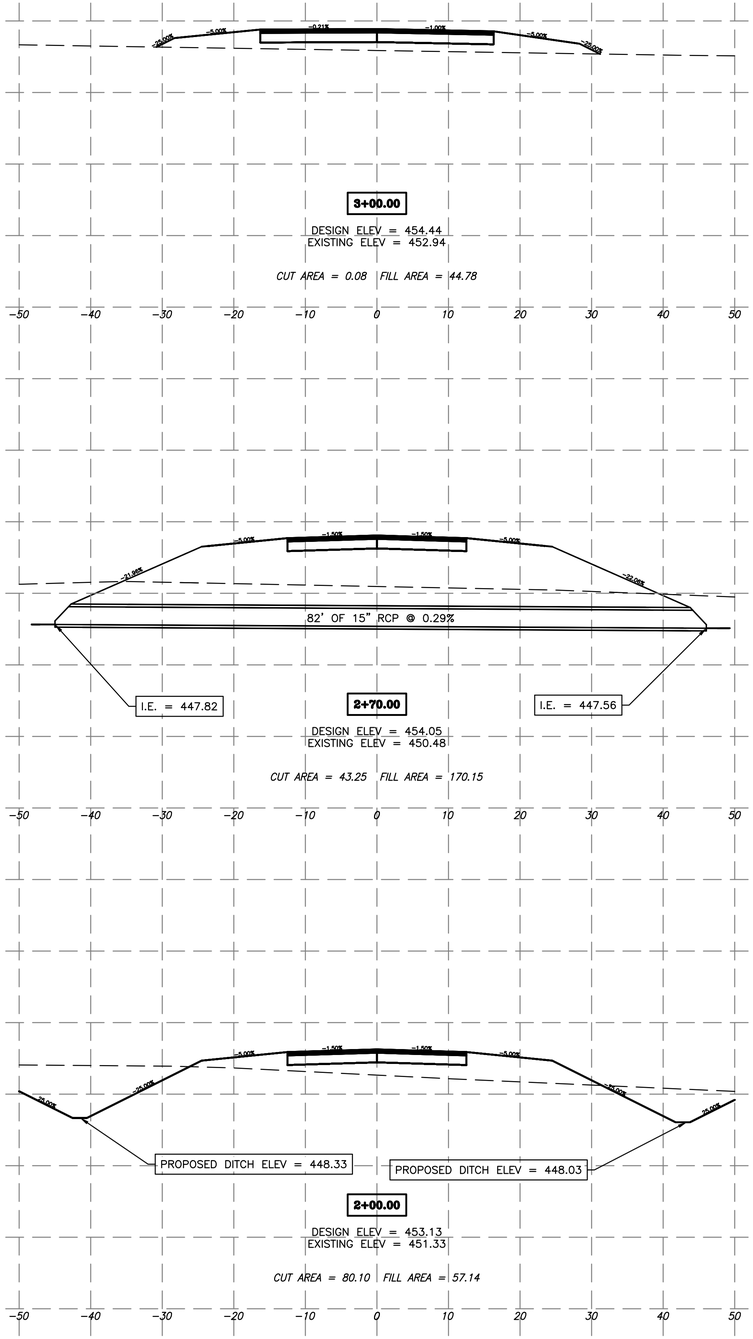
PROJECT No. **09123**
SHT. **28** OF **30**



1+50.00

DESIGN ELEV = 452.47
EXISTING ELEV = 451.67

CUT AREA = 81.58 | FILL AREA = 11.77



3+00.00

DESIGN ELEV = 454.44
EXISTING ELEV = 452.94

CUT AREA = 0.08 | FILL AREA = 44.78

1+00.00

DESIGN ELEV = 451.82
EXISTING ELEV = 450.27

CUT AREA = 32.95 | FILL AREA = 46.12

2+70.00

DESIGN ELEV = 454.05
EXISTING ELEV = 450.48

CUT AREA = 43.25 | FILL AREA = 170.15

0+48.57

DESIGN ELEV = 451.15
EXISTING ELEV = 451.08

CUT AREA = 71.27 | FILL AREA = 0.00

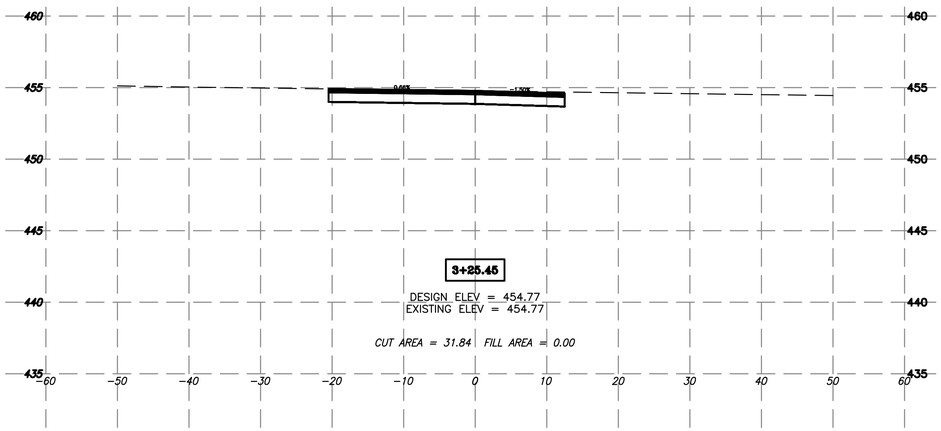
2+00.00

DESIGN ELEV = 453.13
EXISTING ELEV = 451.33

CUT AREA = 80.10 | FILL AREA = 57.14

TAXIWAY E5 – CROSS-SECTIONS – STA 0+48.57 TO 3+00

PROJECT No. **09123**
SHT. **29** OF **30**.



TAXIWAY E5 – CROSS–SECTIONS – STA 3+25.45

PROJECT No. 09123
SHT. 30 OF 30.