Exhibit 3D - Part 4 of 4 Page 1 of 53

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

Kimley»Horn Kimley-Horn and Associates, Inc.

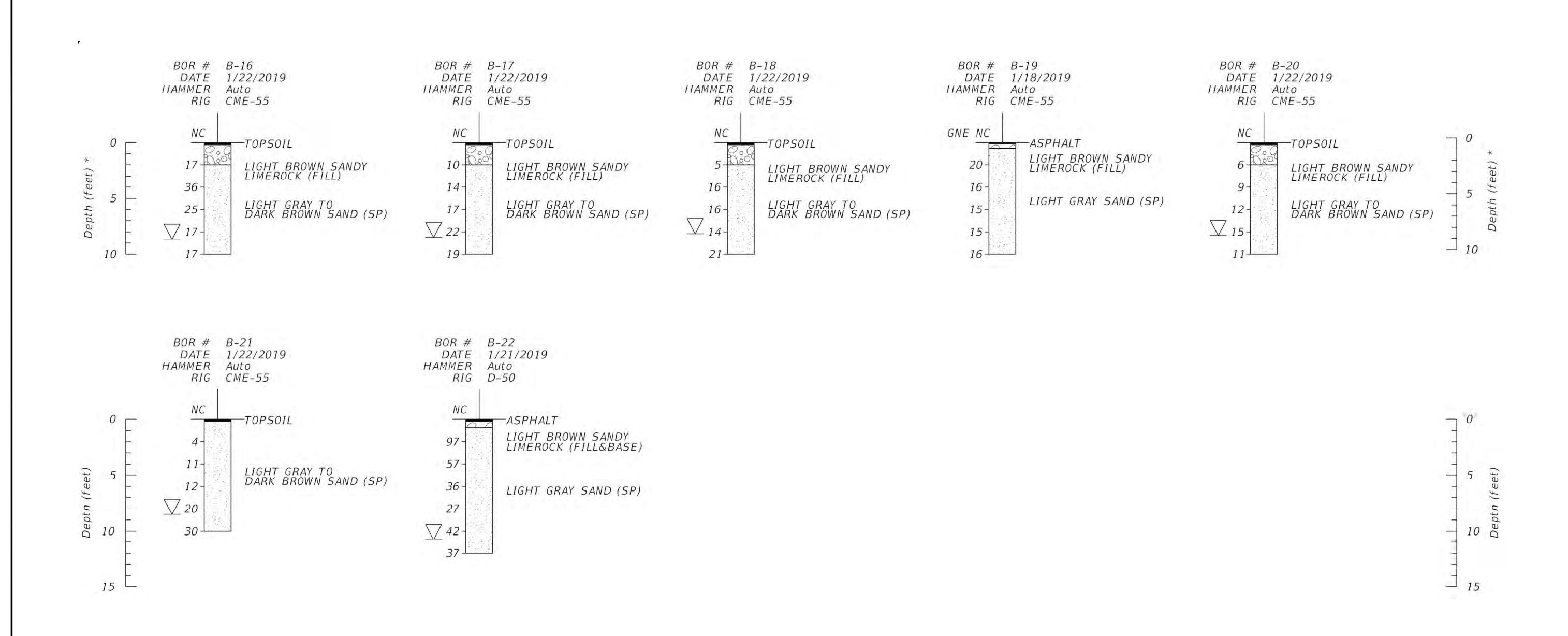
FBPE No. CA 00000696 044693068

HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 20 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411

S CAD FILE:

12243-MULTI-BORE DRAWING FILE NO.

4-141-45



Asphalt/Topsoil

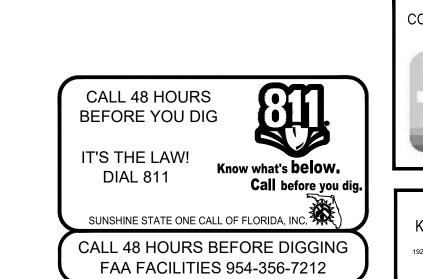
LEGEND

Sand

## NOTES

✓ ENCOUNTERED GROUNDWATER TABLE

- \* DENOTES DEPTH IN FEET FROM EXISTING GROUND SURFACE
- N NUMBERS TO THE LEFT OF BORINGS INDICATE
- SPT VALUE FOR 12" PENETRATION.
- NC NUMBERS TO THE LEFT OF BORINGS INDICATE CORRECTED SPT VALUE FOR 12" PENETRATION USING AN AUTOMATIC HAMMER CORRECTION FACTOR OF 1.24





**Kimley** Horn Kimley-Horn and Associates, Inc. (C)2019 KIMLEY-HORN AND ASSOCIATES, INC.

Vista Parkway Suite 10
West Palm Beach, Florida 33411
Phone: 561-687-8536
Fax: 561-687-8570 FL Cert. No.: 28073

HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

CAD FILE: 12243-MULTI-BORE DRAWING FILE NO. 4-141-45

S DEPARTMENT

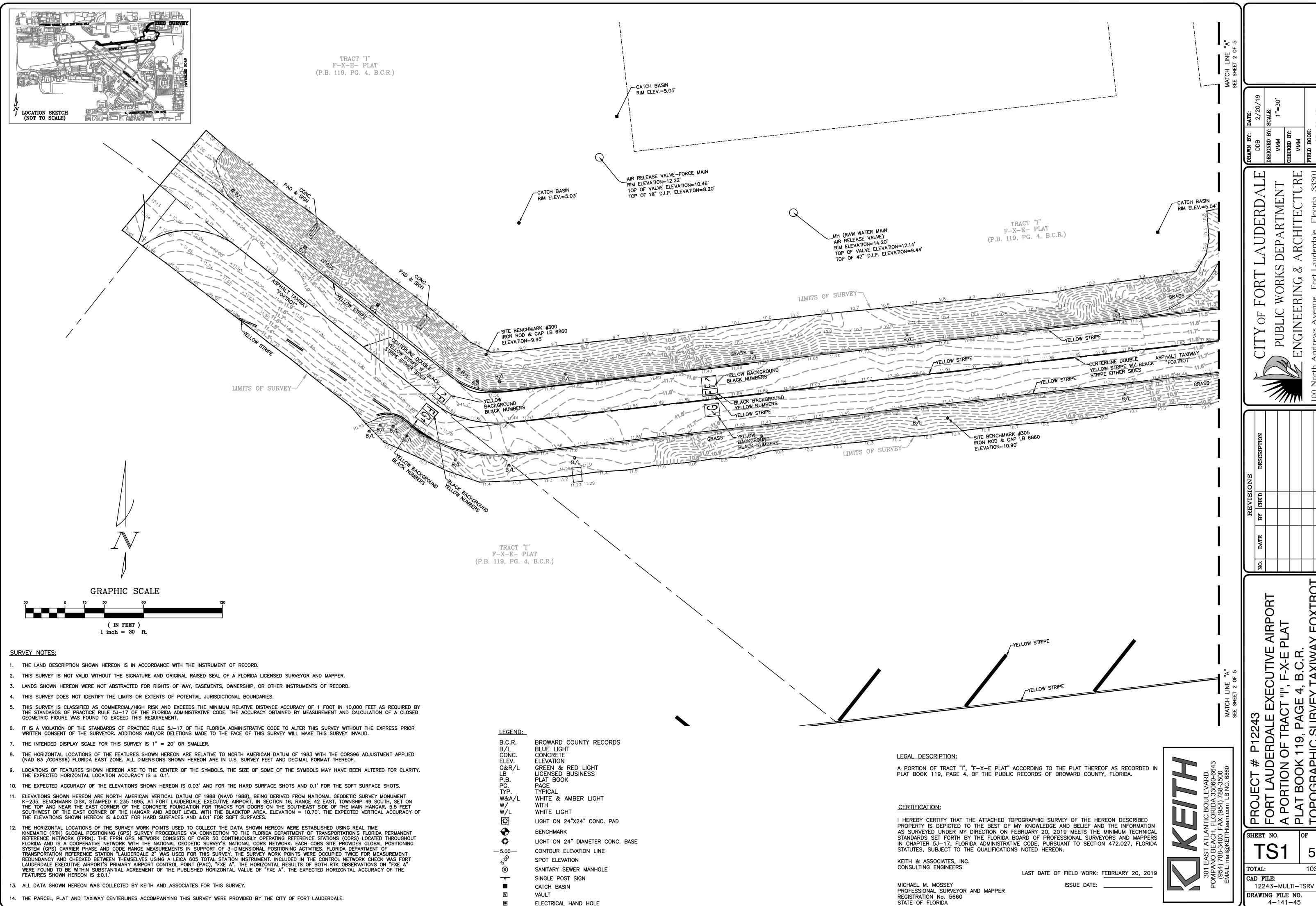
ARCHITECTURE

PUBLIC WORKS
ENGINEERING &

WORKS

CITY OF FORT LAUDERDALE

Exhibit 3D - Part 4 of 4 Page 2 of 53



4-141-45

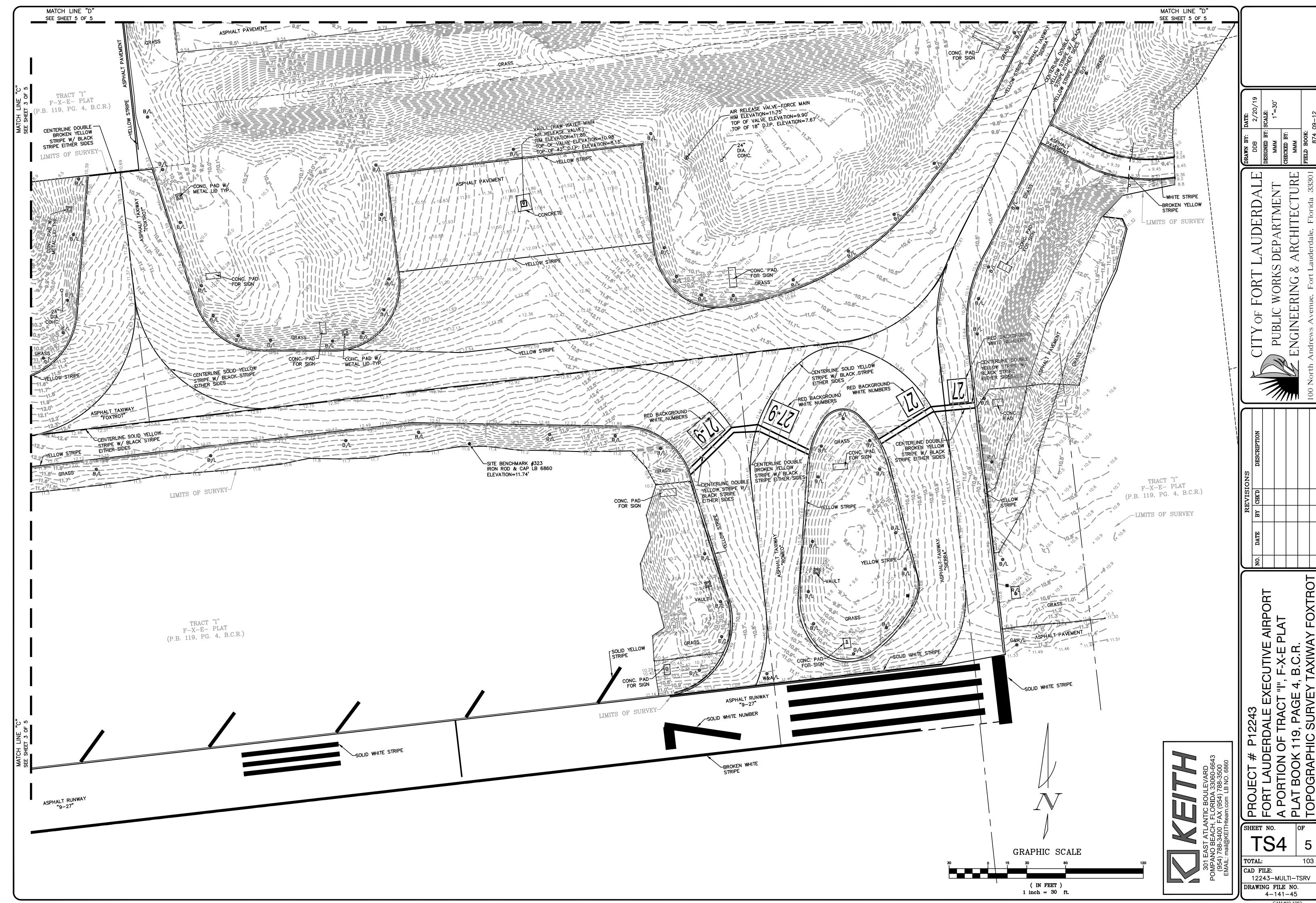
CAM #19-1062

Exhibit 3D - Part 4 of 4

Page 3 of 53

CAM #19-1062 Exhibit 3D - Part 4 of 4 Page 4 of 53

AWING FILE NO. 4-141-45 CAM #19-1062 Exhibit 3D - Part 4 of 4 Page 5 of 53



CAM #19-1062 Exhibit 3D - Part 4 of 4 Page 6 of 53

DRAWING FILE NO. 4-141-45 CAM #19-1062 Exhibit 3D - Part 4 of 4 Page 7 of 53

#### GENERAL NOTES

- 1. THE ELECTRICAL CONTRACTOR SHALL COMPLETE ALL ITEMS ON THE FOLLOWING ELECTRICAL
  - A. CONTRACTOR SHALL PROVIDE AND INSTALL NEW AIRFIELD LIGHTING AND SIGNAGE SYSTEMS WITHIN THE PROJECT LIMITS COMPLETE IN PLACE, AS SHOWN ON PLANS
  - B. CONTRACTOR SHALL REMOVE THE EXISTING AIRFIELD LIGHTING AND SIGNAGE SYSTEMS WITHIN THE PROJECT LIMITS, COMPLETE, AS SHOWN ON PLANS.
- 2. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
- 3. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, LOCAL CODES, CITY CODES, ALL LATEST FEDERAL AVIATION ADMINISTRATION STANDARDS AND ADVISORIES, AND ALL CITY OF FORT LAUDERDALE FLORIDA BUILDING CODES
- 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS, AND APPROVALS.
- 5. THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE ENGINEER, RESIDENT PROJECT REPRESENTATIVE (RPR), CITY OF FORT LAUDERDALE AND FAA.
- 6. THE CONTRACTOR SHALL, BEFORE SUBMITTING THEIR BID, VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM.
- 7. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE BEFORE BIDDING WITH ALL LOCAL UTILITIES. INCLUDING THE POWER, TELEPHONE, FEDERAL AVIATION ADMINISTRATION, FUEL PIPE LINES, WATER AND SEWER MAINS AND TO MEET ALL OF THEIR INSTALLATION REQUIREMENTS. ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO MEET THESE REQUIREMENTS IS TO BE INCLUDED IN THE BID. THE CONTRACTOR SHALL OBTAIN, DELIVER AND INSTALL ALL CONDUITS, PULLBOXES AND EQUIPMENT REQUIRED BY THE UTILITIES TO THEIR SPECIFICATIONS.
- 8. FXE REPRESENTATIVES ARE AS FOLLOWS: CITY OF FORT LAUDERDALE AIRPORT - NICK SLAGLE - 954-828-4963 CITY OF FORT LAUDERDALE PROJECT MANAGER - FERNANDO BLANCO - 954-828-6536 FAA REPRESENTATIVE - JOSE RODRIGUEZ - 954-410-8035 AIRPORT ELECTRICAL MAINTENANCE - FRANK CHESSER - 954-828-7491
- 9. GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH SPEC SECTION L-108. THE COUNTEROISE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS. THE EARTH SHALL BE DRY FOR 48 HOURS PRIOR TO TESTING. GROUNDING AND BONDING SHALL NOT BE PAINTED.
- 10. AN EQUIPMENT GROUND WIRE SIZED PER NEC SHALL BE PULLED IN ALL AIRFIELD VAULT ELECTRICAL CONDUITS, POWER AND CONTROL, WHETHER OR NOT INDICATED ON DRAWINGS.
- 11. ALL EQUIPMENT SHALL BE NEW AND UNUSED, U.L. LISTED AND FAA APPROVED.
- 12. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING EQUIPMENT: LIGHTING ASSEMBLIES, BASE CANS, EXTENSIONS, SPACERS, SIGNS, SPLICE KITS, CONDUITS, CABLES, TRANSFORMERS, GROUNDING AND OTHERS AS REQUESTED.
- 13. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS AND REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND CITY OF FORT LAUDERDALE.
- 14. ALL EQUIPMENT FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE OF ENTIRE PROJECT.
- 15. COORDINATE ALL ELECTRICAL EQUIPMENT, LOCATIONS, AND POWER REQUIREMENTS AND VERIFY ALL OBSTRUCTIONS WITH ALL SUBCONTRACTORS AND EQUIPMENT SUPPLIERS PRIOR TO ANY INSTALLATION.
- 16. THE DRAWINGS ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUIT RUNS. THESE ARE TO BE COORDINATED WITH OTHER TRADES SO THAT CONFLICTS ARE AVOIDED PRIOR TO INSTALLATIONS.
- 17. AIRFIELD CONDUCTORS SHALL BE FAA APPROVED 5KV L-824 CABLE. GROUND CONDUCTORS SHALL BE 600V, XHHW. COUNTERPOISE SHALL BE BARE #6 SOLID COPPER UNLESS OTHERWISE INDICATED.
- 18. SCHEDULE 40 PVC SHALL BE USED UNDERGROUND. ALL ABOVE GROUND CONDUITS SHALL BE RIGID GALVANIZED STEEL. MINIMUM CONDUIT SIZE SHALL BE 3/4".
- 19. FLEXIBLE CONDUITS SHALL BE USED TO TERMINATE ALL MOTORS AND OTHER VIBRATING EQUIPMENT AND SHALL BE BETWEEN 18" AND 3' IN LENGTH.
- 20. TYPEWRITTEN PANEL SCHEDULES SHALL BE INSTALLED IN EACH PANELBOARD AND TERMINAL BLOCK SCHEDULES IN EACH CONTROL CABINET.
- 21. ALL REFERENCES TO A MANUFACTURER ARE GIVEN ON AN "FAA APPROVED EQUAL" BASIS.
- 22. ALL SPARE CONDUITS SHALL HAVE PULL STRINGS AND BE CAPPED WITH A PVC CAP.
- 23. ALL CIRCUITS SHALL BE IDENTIFIED IN PULL BOXES, LIGHTING FIXTURES, MANHOLES, BASE CANS, JUNCTION CANS, AND PANELBOARDS. IDENTIFICATIONS SHALL MATCH PANEL SCHEDULE.
- 24. EXPOSED RUNS OF CONDUITS SHALL BE INSTALLED WITH RUNS PARALLEL OR PERPENDICULAR TO WALL, STRUCTURAL MEMBERS OR INTERSECTIONS OF VERTICAL PLANES AND CEILINGS, WITH RIGHT ANGLE TURNS CONSISTING OF SYMMETRICAL BENDS OR PULL BOXES AS INDICATED ON THE DRAWINGS. BENDS AND OFFSETS SHALL BE AVOIDED WHERE POSSIBLE.
- 25. ALL CONDUITS PENETRATING RATED FIRE WALLS OR RATED FIRE FLOORS SHALL BE U.L. APPROVED DEVICES TO MAINTAIN THE FIRE RATING OF THE FLOOR OR WALL PENETRATED.
- 26. BALANCE ALL LOADS AT END OF PROJECT WITH ALL LIGHTS ON.

#### GENERAL INSTALLATION NOTES:

- 1. INFORMATION PROVIDED ON THE DRAWINGS FOR EXISTING UTILITIES, CABLES, DUCTS, MANHOLES, FIXTURES, ETC. ARE APPROXIMATE AND ARE NOT INTENDED TO PROVIDE EXACT LOCATIONS, TYPE OF COMPONENT OR MANNER OF CONSTRUCTION AND SHOULD NOT BE SCALED FROM DRAWINGS. THE LOCATION OF MANHOLES PULL BOXES, JUNCTION CANS, ETC. ALONG WITH THE ROUTE(S) (AND IDENTIFICATION) FOR CIRCUITS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND SATISFY HIMSELF/HERSELF AS TO THE LOCATION OF ALL UNDERGROUND FACILITIES WITHIN THE AREA OF CONSTRUCTION. THE CONTRACTOR SHALL REQUEST TO THE RPR IN WRITING FOR ALL RECORD DRAWINGS OF THE AREA IN CONSTRUCTION. THE CONTRACTOR SHALL REVIEW ALL RECORD DRAWINGS AND BECOME FAMILIAR WITH EXISTING CONDITIONS PRIOR TO ANY CONSTRUCTION. ALL EXISTING UTILITIES, CABLES, EQUIPMENT, DEVICES DAMAGED IN THE COURSE OF THIS CONTRACT SHALL BE IMMEDIATELY REPAIRED AT THE EXPENSE OF THE CONTRACTOR TO THE SATISFACTION OF THE OWNER. WHERE ANY ITEM IS FOUND TO BE LOCATED DIFFERENTLY THAN IS SHOWN ON THE DRAWINGS, THE ACTUAL LOCATION SHALL BE IMMEDIATELY MEASURED AND RECORDED ON THE RECORD DRAWING.
- 2. VARIOUS DIRECT BURIED FAA CABLES PASS THROUGH THE WORK AREA. THESE CABLES SERVE FAA FACILITIES (NAVAIDS) WHICH ARE CRITICAL FOR SAFE AIRPORT OPERATION. IT IS OF THE UTMOST IMPORTANCE THAT DAMAGE TO THESE CABLES BE PREVENTED. CABLE LOCATIONS SHOWN ON THE DRAWINGS ARE BASED ON THE BEST INFORMATION AVAILABLE, BUT ARE NOT INTENDED TO BE PRECISE. THE CONTRACTOR IS SPECIFICALLY WARNED AGAINST SCALING FAA CABLE LOCATIONS FROM THE APPROXIMATE DATA SHOWN ON DRAWINGS. THE CONTRACTOR SHALL KEEP THE RPR INFORMED OF HIS/HER EXCAVATION SCHEDULE AND OPERATIONS AT LEAST FIVE WORKING DAYS IN ADVANCE. THE CONTRACTOR SHALL NOTIFY THE FAA AND OTHER UTILITY COMPANIES AND REQUEST THAT THE CABLES AND UTILITIES BE STAKED IN THE FIELD. EVEN AFTER THE CABLES AND UTILITIES ARE STAKED, THE CONTRACTOR SHALL USE ELECTRONIC DETECTION DEVICES AND CAREFUL HAND EXCAVATION TO LOCATE CABLES AND UTILITIES. AFTER CABLES AND UTILITIES ARE LOCATED, CONTRACTOR SHALL SPECIFY EXACT LOCATIONS (STATIONING, OFFSET, ELEVATION, AND TYPE OF CABLE AND UTILITIES) AND SHALL BE ACCURATELY MEASURED AND RECORDED ON THE RECORD DRAWING. COPIES OF THIS MEASUREMENT AND RECORDING OF THE DATA SHALL BE CONSIDERED AN IMPORTANT PART OF THE CONTRACT REQUIREMENTS. WHEN ENCASING EXISTING FAA CABLES IN DUCT OR OTHERWISE EXCAVATING IN THEIR VICINITY, CONTRACTOR SHALL USE EXTREME CAUTION TO AVOID DAMAGING CABLES AND UTILITIES. ANY DAMAGE, EVEN IF APPEARING TO BE SUPERFICIAL, SHALL BE IMMEDIATELY REPORTED TO THE RPR.
- 3. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING UTILITY COMPANIES AND FAA TO IDENTIFY AND LOCATE ANY UNDERGROUND UTILITIES AND/OR CABLE WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL ASSIST FAA/UTILITY COMPANIES IN EFFORTS TO FIELD VERIFY UNDERGROUND UTILITIES. THE CONTRACTOR SHALL REVIEW ALL AIRFIELD UTILITIES WITH AIRFIELD MAINTENANCE BEFORE BEGINNING WORK.
- 4. TEMPORARY WIRING SHALL BE REQUIRED TO MAINTAIN THE TAXIWAY EDGE LIGHTING SYSTEM AND RUNWAY EDGE LIGHT SYSTEMS INCLUDING LIGHTED SIGNS AND RUNWAY GUARD LIGHTS (RGLs). EDGE LIGHTING, SIGNS AND HOLD BARS TEMPORARY TAKEN OUT OF SERVICE SHALL BE RETURNED TO OPERATING CONDITION AT THE END OF EACH WORK PERIOD. CONTRACTOR SHALL PROVIDE TEMPORARY CABLES DURING CONSTRUCTION FOR TEMPORARY LIGHTS. TAXIWAY/RUNWAY EDGE LIGHTS SHALL REMAIN IN OPERATING CONDITION FOR ALL TAXIWAYS/RUNWAYS WHICH ARE OR COULD BE OPENED TO TRAFFIC AT THE END OF THE WORK PERIOD, OTHER LIGHTING SYSTEMS WITHIN THE WORK AREA, WHICH WILL BE TAKEN OUT OF SERVICE WHEN REQUIRED BY CONSTRUCTION SHALL BE RESTORED AT THE EARLIEST POSSIBLE DATE. IT IS NOT PERMISSIBLE TO ALLOW PORTIONS OF EXISTING SYSTEMS EXTENDING BEYOND THE WORK AREA TO BE AFFECTED. TEMPORARY WIRING SHALL BE PROVIDED TO MAINTAIN CONTINUITY OF AIRFIELD LIGHTING SYSTEMS, ETC. EXTENDING BEYOND THE WORK AREA.
- 5. TEMPORARY CABLE SHALL BE INSTALLED IN CONDUIT AND ANCHORED AT FREQUENT INTERVALS TO PREVENT MOVING. IF TEMPORARY CABLES MUST BE INSTALLED IN AREAS SUBJECT TO VEHICULAR TRAFFIC. CABLES SHALL BE INSTALLED IN RIGID GALVANIZED STEEL CONDUIT ANCHORED AT FREQUENT INTERVALS TO PREVENT MOVING. ALL TEMPORARY CABLES SHALL BE CLEARLY LABELED AND MARKED SO AS TO BE VISIBLE FROM A DISTANCE. SOME JUMPERS MAY BE OF SIGNIFICANT LENGTH, SEE PHASING PLANS FOR ADDITIONAL INFORMATION.
- 6. PRIOR TO WORKING ON ANY CIRCUIT, THE CONTRACTOR SHALL PROVIDE TO THE ELECTRICAL MAINTENANCE DEPARTMENT A WRITTEN LOCKOUT PROCEDURE FOR APPROVAL. THE ELECTRICAL MAINTENANCE DEPARTMENT SHALL REVIEW AND STATE FINAL LOCKOUT RULES. CONTRACTOR SHALL NOT RELY UPON DEACTIVATION OF THE CIRCUITS BY THE TOWER OR BY OTHERS. CONTRACTOR SHALL NOTIFY ELECTRICAL MAINTENANCE 48 HOURS PRIOR TO LOCKOUT/TAGOUT.
- 7. THERE SHALL BE NO SPLICES OF CONDUCTORS BETWEEN LIGHTS OR IN CONDUITS OR DUCTS. SPLICES SHALL BE PERMITTED IN MANHOLES, JUNCTION CANS, LIGHT BASES, AND OTHER APPROVED LOCATIONS USING L-823 CONNECTORS.
- 8. CONTRACTOR SHALL IDENTIFY ALL CABLES IN AFFECTED MANHOLES, JUNCTION CANS AND BASE CANS. CONTRACTOR SHALL USE A MINIMUM OF OF 1-STAINLESS STEEL TAG PER CABLE AND 1-TAG ON EACH SIDE OF A L-823 CONNECTOR.
- 9. WHEN CONTRACTOR IS WORKING WITH EXISTING CONDUITS. HE/SHE SHALL REMOVE ALL ABANDONED CABLES WITHIN PROJECT LIMITS AND IDENTIFY ALL ACTIVE CIRCUITS ON RECORD DRAWINGS.

- 10. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ALL CABLE ROUTING AND CIRCUIT DESIGNATIONS ON THE RECORD DRAWINGS.
- 11. CONTRACTOR SHALL PROVIDE AND INSTALL CONCRETE DUCT/CABLE MARKERS AS PER FAA SPECIFICATIONS, CONTRACTOR SHALL MARK THE LOCATION OF ALL NEW DUCT BANKS WITH CONCRETE DUCT MARKERS IN UNPAVED AREAS SPACED NOT MORE THAN 200' APART AND WITH PAINTED MARKINGS AT THE EDGE OF PAVED
- 12. CONTRACTOR SHALL PROVIDE ALL CONNECTOR KITS, TESTING, STAINLESS TAGS, AND ALL INCIDENTALS THAT WILL ALLOW FOR QUALITY ASSURANCE OF SUCCESSFULLY DISCONNECTING AND RECONNECTING CIRCUITS.
- 13. ALL IDENTIFICATION OF CONTROL PANEL INSTALLATIONS, CONSTANT CURRENT REGULATORS, BREAKER LABELS, ETC. SHALL BE PERFORMED BY THE CONTRACTOR. THE CONTRACTOR SHALL RECORD ALL CALLOUT CHANGES ON THE "RECORD" DRAWINGS FOR THIS PROJECT.
- 14. NAMEPLATES SHALL BE PROVIDED FOR ALL ELECTRICAL EQUPMENT TO IDENTIFY FUNCTION, CIRCUIT, VOLTAGE, AND PHASE. WHERE EQUIPMENT CONTAINS FUSES. INCLUDE THE FUSE RATINGS.
- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL CABLES AND UTILITIES, THEIR DEPTHS, ETC. INCLUDING THE USE OF SOFT DIG OR OTHER MEANS AVAILABLE TO ACCURATELY LOCATE ALL CABLES AND UTILITIES AND TO SURVEY AND STAKE THOSE CABLES AND UTILITIES ON RECORD DRAWINGS PRIOR TO CONSTRUCTION.
- 16. ALL EXISTING CONDUCTORS SHALL BE TESTED FOR INSULATION RESISTANCE PRIOR TO WORKING ON CIRCUIT, USING A 1000V MEGOHMMETER AND SHALL BE RETURNED TO SERVICE WITH MATCHING OR BETTER INSULATION RESISTANCE READINGS. ALL PROPOSED CONDUCTORS SHALL BE TESTED FOR INSULATION RESISTANCE PRIOR TO CONNECTING TO EXISTING CIRCUIT, USING A 1000V MEGOHMMETER. CIRCUITS OR NEW PORTIONS OF CIRCUITS SHALL BE AS COMPLETE AS POSSIBLE FOR TESTING. ALL TESTING SHALL BE WITNESSED BY THE RPR AND REPORT TURNED OVER TO OWNER.
- 17. CONNECTION OF CONDUCTORS MUST BE MADE BY USING CRIMP CONNECTORS AND CRIMPING TOOL APPROVED BY THE CONNECTOR/LUG MANUFACTURER. THE TOOL MUST PRODUCE A COMPLETE CRIMP BEFORE IT CAN BE REMOVED. THE CRIMPING TOOL USED MUST BE LISTED BY THE L-823 KIT MANUFACTURER. MAKE THE NUMBER AND TYPE OF CRIMPS PER KIT MANUFACTURER'S INSTRUCTIONS. ELECTRICIANS THAT WILL BE MAKING CONNECTOR KIT TERMINATIONS SHALL BE TRAINED AND CERTIFIED BY THE CONNECTOR KIT MANUFACTURER.
- 18. THE OWNER SHALL HAVE THE RIGHT TO SALVAGE MATERIALS THAT ARE TO BE REMOVED IN THE DEMOLITION PLANS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO DEMOLITION AND DELIVER SALVAGE MATERIAL TO THE AIRPORT ELECTRICAL MAINTENANCE.
- 19. ALL BOLTS FOR LIGHT FIXTURES, SIGNS, JUNCTION CANS SHALL BE CARBON STEEL COATED COLORED ORANGE AND INSTALLED PER FAA ENGINEERING BRIEF 83 AND MANUFACTURER'S RECOMMENDATIONS.
- 20. CONTRACTOR SHALL INSTALL NEW CARBON STEEL COATED BOLTS COLORED ORANGE IN ALL EXISTING LIGHT BASE CANS. SIGN CANS. JUNCTION CANS. JUNCTION CAN PLAZAS AND ETC.. THAT THE CONTRACTOR UTILIZES TO INSTALL CABLE. ADDITIONALLY, THE CONTRACTOR SHALL DRILL AND TAP OUT ANY DAMAGED AND/OR MISSING BOLTS AT THESE LOCATIONS COST SHALL BE INCIDENTAL TO THE LINE ITEMS FOR INSTALLATION/INTERCEPTION.
- 21. CONTRACTOR TO USE LOCTITE LB8023 MARINE GRADE ANTI-SEIZE OR APPROVED EQUAL ON COUPLINGS AND ANY APPLICATION WHERE ANTI-SEIZE IS REQUIRED.

RI

UDERD,

12243 (TROT I PROJE GENEF Y FOX TION ICAL ( Ö' ROJI AXIM ELO LEC 四十四回 SHEET NO.

COTAL:

CAD FILE:

S

DRAWING FILE NO. 4-141-45 Exhibit 3D - Part 4 of 4

12243-E01-NOTE

103

OTE

CT AL

Щ×

Kimlev»Horn HILLERS ELECTRICAI imley-Horn and Associates, Inc. ENGINEERING, INC 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411

#### DEMOLITION NOTES

- CONTRACTOR SHALL REMOVE THE EXISTING TAXIWAY LIGHT BASE CAN/JUNCTION CAN, DISCONNECT THE EXISTING CIRCUITS AND REMOVE CONDUCTORS BACK TO THE LAST UNAFFECTED LOCATION. REMOVE AND DISPOSE OF THE EXISTING CONDUCTORS, TRANSFORMERS, BASE CAN AND FIXTURE. BACKFILL AND RESTORE SOD/PAVEMENT ACCORDINGLY. PROVIDE, MAINTAIN AND INSTALL TEMPORARY CONDUITS AND CONDUCTOR SYSTEMS TO MAINTAIN CIRCUITS BEYOND WORK AREA IN OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION. SEE PHASING PLANS FOR SEQUENCING OF WORK. THE LINE ITEM COST SHALL INCLUDE DEWATERING EXISTING CONDUITS, DUCTBANKS, BASE CANS AND MANHOLES.
- 2 CONTRACTOR SHALL DISCONNECT THE EXISTING CIRCUIT CONDUCTORS AND REMOVE BACK TO THE LAST UNAFFECTED MANHOLES/ JUNCTION CANS AND REMOVE AND DISPOSE OF THE EXISTING CONCRETE MANHOLE, COMPLETE. BACKFILL AND RESTORE SOD/PAVEMENT ACCORDINGLY. PROVIDE, MAINTAIN AND INSTALL TEMPORARY CONDUITS AND CONDUCTOR SYSTEMS TO MAINTAIN CIRCUITS BEYOND WORK AREA IN OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION. COORDINATE WITH PHASING PLANS FOR SEQUENCING OF WORK. THE LINE ITEM COST SHALL INCLUDE DEWATERING EXISTING CONDUITS. DUCTBANKS. BASE CANS AND MANHOLES.
- CONTRACTOR SHALL DISCONNECT THE EXISTING AIRFIELD GUIDANCE SIGN FROM THE LIGHTING CIRCUIT, AND PULL BACK THE EXISTING CONDUCTORS TO THE EXISTING LIGHT FIXTURE/JUNCTION CAN/MANHOLE AND RECONNECT THE EXISTING EDGE LIGHT CONDUCTORS TO REMOVE THE SIGN FROM THE CIRCUIT. REMOVE AND DISPOSE OF THE EXISTING SIGN, CONCRETE BASE, TRANSFORMER, CONDUITS AND CABLES. BACKFILL AND RESTORE SOD/PAVEMENT ACCORDINGLY. PROVIDE, MAINTAIN AND INSTALL TEMPORARY CONDUITS AND CONDUCTOR SYSTEMS TO MAINTAIN CIRCUITS BEYOND WORK AREA IN OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION. COORDINATE WITH PHASING PLANS FOR SEQUENCING OF WORK. THE LINE ITEM COST SHALL INCLUDE DEWATERING EXISTING CONDUITS. DUCTBANKS. BASE CANS AND MANHOLES.
- 4 CONTRACTOR SHALL SURVEY THE EXACT LOCATION OF THE EXISTING LIGHT FIXTURE/BASE CAN PRIOR TO CONSTRUCTION AND RECORD THE LOCATION FOR FUTURE USE. REMOVE THE EXISTING LIGHT FIXTURE, CORE DRILL THE EXISTING FULL STRENGTH PAVEMENT AND REMOVE AND DISPOSE OF THE EXISTING SPACERS, EXTENSION RINGS AND TOP SECTIONS, TRANSFORMER AND PROTECT EXISTING FIXTURE DURING CONSTRUCTION FOR RE-INSTALLATION AS SHOWN ON ELECTRICAL CIRCUITRY PLANS. DRILL AND TAP OUT THE EXISTING BOLT HOLES TO REMOVE ANY DAMAGED BOLTS FROM THE EXISTING BASE CAN BOTTOM SECTION. PROVIDE AND INSTALL TEMPORARY L-868 STEEL COVER ON THE EXISTING BOTTOM SECTION ALONG WITH A MUD PLATE AND BACKFILL ACCORDINGLY. PROVIDE, MAINTAIN AND INSTALL TEMPORARY CONDUITS AND CONDUCTOR SYSTEMS TO MAINTAIN CIRCUITS BEYOND WORK AREA IN OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION. SEE THE PHASING PLANS FOR SEQUENCING OF WORK. THE LINE ITEM COST SHALL INCLUDE DEWATERING OF EXISTING CONDUITS, DUCTBANKS, BASE CANS AND MANHOLES.
- 5 CONTRACTOR SHALL DISCONNECT AND REMOVE THE EXISTING LIGHT FIXTURE AND TRANSFORMER. DRILL AND TAP OUT THE EXISTING BOLT HOLES TO REMOVE ANY DAMAGED BOLTS FROM THE EXISTING BASE CAN, PROVIDE AND INSTALL NEW LIGHT FIXTURE AND TRANSFORMER AS SHOWN ON THE ELECTRICAL CIRCUITRY PLANS. PROVIDE, MAINTAIN AND INSTALL TEMPORARY CONDUITS AND CONDUCTOR SYSTEMS TO MAINTAIN CIRCUITS BEYOND WORK AREA IN OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION. SEE THE PHASING PLANS FOR SEQUENCING OF WORK. THE LINE ITEM COST SHALL INCLUDE DEWATERING OF EXISTING CONDUITS. DUCTBANKS, BASE CANS AND MANHOLES.
- 6 CONTRACTOR SHALL REMOVE THE EXISTING TAXIWAY LIGHT, DISCONNECT THE EXISTING CIRCUITS AND REMOVE CONDUCTORS BACK TO THE LAST UNAFFECTED LOCATION. CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING CONDUCTORS, TRANSFORMERS, AND FIXTURE. EXISTING BASE CAN TO REMAIN AND BE ABANDONED IN PLACE. CONTRACTOR SHALL PROVIDE AND INSTALL A NEW L-867B 1/2" THICK STEEL COVER. PROVIDE, MAINTAIN AND INSTALL TEMPORARY CONDUITS AND CONDUCTOR SYSTEMS TO MAINTAIN CIRCUITS BEYOND WORK AREA IN OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION. SEE THE PHASING PLANS FOR SEQUENCING OF WORK. THE LINE ITEM COST SHALL INCLUDE DEWATERING EXISTING CONDUITS, DUCTBANKS, BASE CANS AND MANHOLES.
- CONTRACTOR SHALL DISCONNECT THE EXISTING AIRFIELD GUIDANCE SIGN FROM THE LIGHTING CIRCUIT, AND PULL BACK THE EXISTING CONDUCTORS TO THE EXISTING LIGHT FIXTURE/JUNCTION CAN/MANHOLE AND RECONNECT THE EXISTING EDGE LIGHT CONDUCTORS TO REMOVE THE SIGN FROM THE CIRCUIT. REMOVE AND DISPOSE OF THE EXISTING SIGN. TRANSFORMER. CONDUITS AND CABLES AND ABANDONED CONCRETE BASE. PROVIDE. MAINTAIN AND INSTALL TEMPORARY CONDUITS AND CONDUCTOR SYSTEMS TO MAINTAIN CIRCUITS BEYOND WORK AREA IN OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION. COORDINATE WITH PHASING PLANS FOR SEQUENCING OF WORK. THE LINE ITEM COST SHALL INCLUDE DEWATERING EXISTING CONDUITS, DUCTBANKS, BASE CANS AND MANHOLES.
- 8 CONTRACTOR SHALL DISCONNECT THE EXISTING AIRFIELD GUIDANCE SIGN FROM THE LIGHTING CIRCUIT, AND PULL BACK THE EXISTING CONDUCTORS TO THE EXISTING LIGHT FIXTURE/JUNCTION CAN/MANHOLE AND RECONNECT THE EXISTING EDGE LIGHT CONDUCTORS TO REMOVE THE SIGN FROM THE CIRCUIT. REMOVE AND DISPOSE OF THE EXISTING CONCRETE BASE, TRANSFORMER, CONDUITS AND CABLES AND RELOCATE SIGN TO NEW LOCATION AS SHOWN ON PLANS. BACKFILL AND RESTORE SOD/PAVEMENT ACCORDINGLY. PROVIDE. MAINTAIN AND INSTALL TEMPORARY CONDUITS AND CONDUCTOR SYSTEMS TO MAINTAIN CIRCUITS BEYOND WORK AREA IN OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION. COORDINATE WITH PHASING PLANS FOR SEQUENCING OF WORK. THE LINE ITEM COST SHALL INCLUDE DEWATERING EXISTING CONDUITS, DUCTBANKS, BASE CANS AND MANHOLES.
- 9 CONTRACTOR SHALL SURVEY THE EXACT LOCATION OF THE EXISTING LIGHT FIXTURE/BASE CAN PRIOR TO CONSTRUCTION AND RECORD THE LOCATION FOR FUTURE USE. REMOVE THE EXISTING LIGHT FIXTURE. CORE DRILL THE EXISTING FULL STRENGTH PAVEMENT AND REMOVE AND DISPOSE OF THE EXISTING SPACERS. EXTENSION RINGS AND BASE CAN, TRANSFORMER AND PROTECT EXISTING FIXTURE DURING CONSTRUCTION FOR RE-INSTALLATION AS SHOWN ON ELECTRICAL CIRCUITRY PLANS. PROVIDE, MAINTAIN AND INSTALL TEMPORARY CONDUITS AND CONDUCTOR SYSTEMS TO MAINTAIN CIRCUITS BEYOND WORK AREA IN OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION. SEE THE PHASING PLANS FOR SEQUENCING OF WORK. THE LINE ITEM COST SHALL INCLUDE DEWATERING OF EXISTING CONDUITS. DUCTBANKS, BASE CANS AND MANHOLES.

### **INSTALLATION NOTES:**

- CONTRACTOR SHALL HAND EXCAVATE, CORE DRILL THE EXISTING JUNCTION CAN/BASE CAN AND PROVIDE AND INSTALL NEW CONDUIT AND CONDUCTOR SYSTEM, COMPLETE. SEAL, PATCH AND REPAIR JUNCTION CAN/BASE CAN, BACKFILL AND SOD ACCORDINGLY AND MAKE ALL NECESSARY CONNECTIONS FOR A COMPLETE WORKING SYSTEM IN PLACE.
- CONTRACTOR SHALL HAND EXCAVATE, LOCATE, INTERCEPT AND EXTEND EXISTING CONDUIT SYSTEM TO NEW LIGHT BASE/JUNCTION CAN/SIGN. CLEAN OUT AND DEWATER THE EXISTING CONDUIT SYSTEM. CONTRACTOR SHALL INCLUDE DEWATERING IN THE LINE ITEM COST FOR THE INTERCEPTION OF THE CONDUIT SYSTEM.
- (3) CONTRACTOR SHALL IDENTIFY AND INTERCEPT THE EXISTING CIRCUIT CONDUCTORS IN THE EXISTING BASE CAN/MANHOLE/JUNCTION CAN AND PROVIDE AND INSTALL NEW SPLICE KITS AND EXTEND THE NEW CIRCUIT CONDUCTORS ACCORDINGLY. MAKE ALL NECESSARY CONNECTIONS FOR A COMPLETE WORKING SYSTEM IN PLACE.
- CONTRACTOR SHALL REMOVE THE EXISTING "FC" HOMERUN CONDUCTORS BACK TO AIRFIELD VAULT REGULATOR. REMOVE EXISTING IDENTIFICATION MARKER AND PROVIDE AND INSTALL A NEW "BLANK" IDENTIFICATION MARKER AT EACH JUNCTION CAN PLAZA ACCORDINGLY. THIS WORK SHALL BE INCIDENTAL TO THE PAY ITEM FOR IDENTIFICATION OF CABLES DUCTBANKS AND LIGHTING FIXTURES PER FAA SPECIFICATIONS.

JCPID	1	2	3	4
JCP-17	FE	FW	SP	SP
JCP-18	FE	FW	SP	SP
JCP-19	FE	SP	><	><
JCP-20	FE	SP	><	><
JCP-21	FE	SP	SP	SP
JCP-22	FE	SP	SP	SP
JCP-23	FE.	SP	><	><
JCP-24	FE	SP	><	><
JCP-25	FE	SP	><	><
JCP-26	FE	SP	><	> <
JCP-27	FE	SP	SP	SP
JCP-28	FE	SP	SP	SP
JCP-29	FE	SP	><	><
JCP-30	FE	SP	><	><
JCP-31	FE	SP	SP	SP
JCP-32	FE	SP	SP	SP
JCP-33	FE	SP	SP	SP
JCP-34	FE	SP	SP	SP
	SP =	SPARE CO	DUIT	

Junction Can Identification with Future Circuit ID

CIRCUIT ID:	TYPE OF CABLE	CABLE JACKET COLOR
FE = TAXIWAY FOXTROT EAST CIRCUIT	#8, L-824, 5KV CABLE	BLACK
FW = TAXIWAY FOXTROT WEST CIRCUIT	#8, L-824, 5KV CABLE	BLACK
9E = RUNWAY 9-27 EAST CIRCUIT	#8, L-824, 5KV CABLE	RED/BLACK

Kimlev»Horn mley-Horn and Associates, Inc. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

HILLERS ELECTRICA ENGINEERING, INC 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 RI

URI

RD

DE

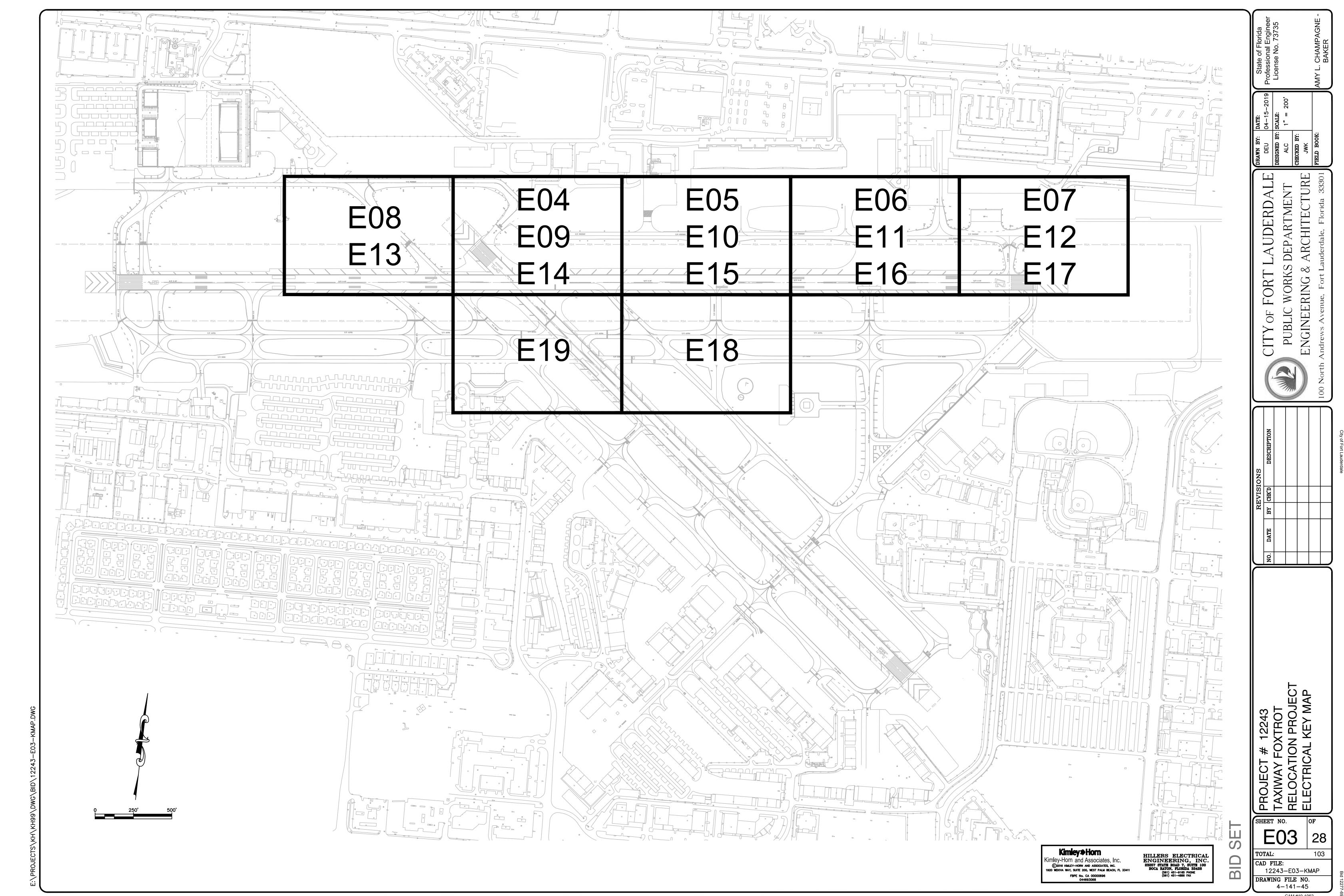
ORT

PRO TAXI REL ELE

CAD FILE: 12243-E02-LEGD DRAWING FILE NO.

4-141-45 Exhibit 3D - Part 4 of 4

S



CAM #19-1062 Exhibit 3D - Part 4 of 4 Page 10 of 53

CAM #19-1062 Exhibit 3D - Part 4 of 4 Page 11 of 53

CAM #19-1062 Exhibit 3D - Part 4 of 4 Page 12 of 53

p. 672

p. 673

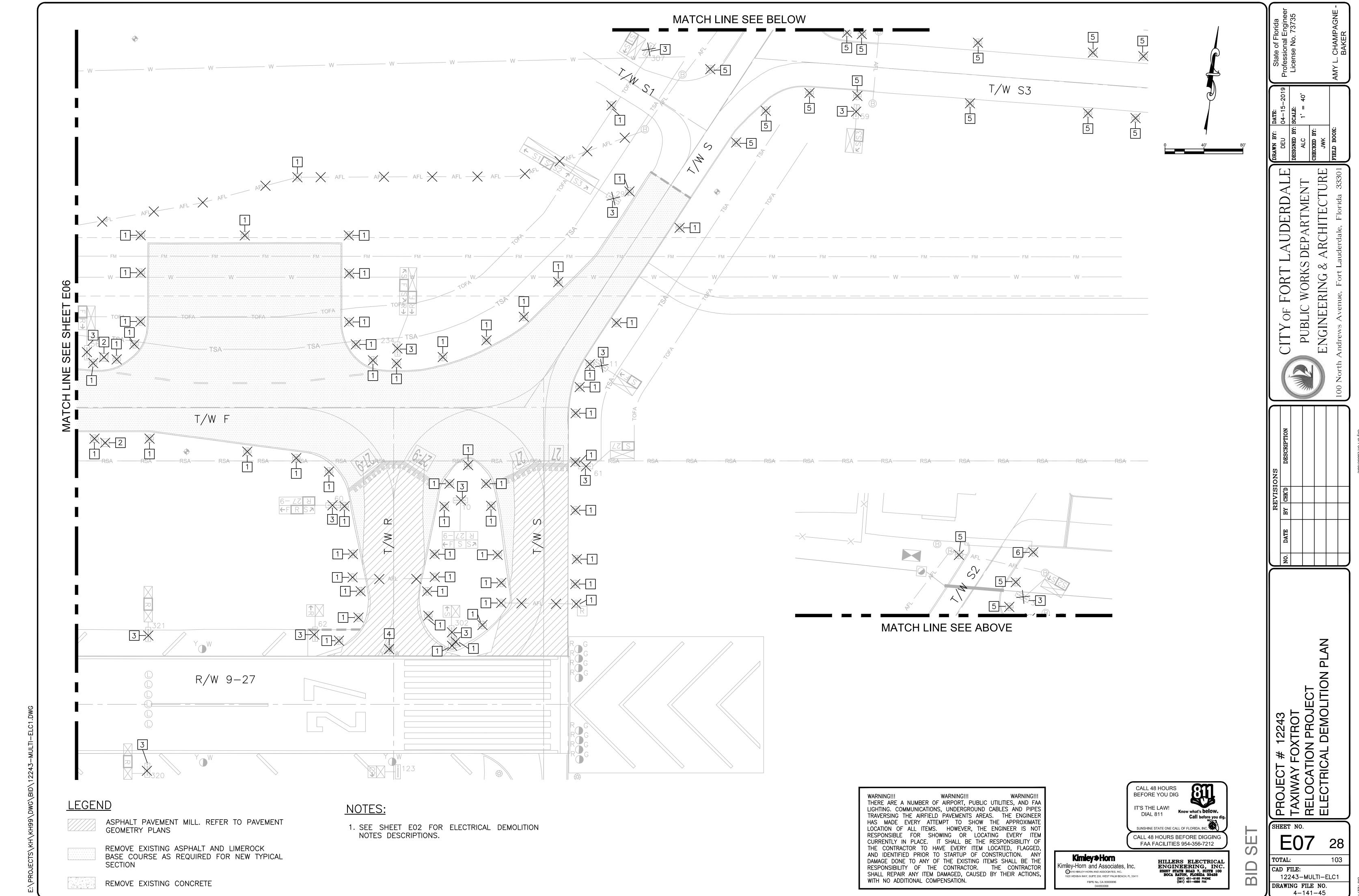


Exhibit 3D - Part 4 of 4 Page 14 of 53

- 1. REFER TO TYPICAL TAXIWAY EDGE LIGHT CONFIGURATION DETAIL FOR LAYOUT AND INSTALLATION INFORMATION OF NEW EDGE LIGHTS AND BASE CANS.
- 2. PT AND IP LOCATIONS ARE PER GEOMETRY PLAN.
- 3. CONTRACTOR SHALL UTILIZE EQUAL SPACING, IP(s) AND PT(s) FOR THE LIGHTING LAYOUT.
- 4. TYPICAL NEW SIGN OFFSET TO BE INSTALLED AT 15' FROM EDGE OF FULL STRENGTH PAVEMENT UNLESS NOTED OTHERWISE. SEE SIGN DETAIL AND NOTES FOR ADDITIONAL INFORMATION.
- 6. TAXIWAY EDGE LIGHT NOT INSTALLED AT IP LOCATED CLOSEST TO RUNWAY. TAXIWAY EDGE LIGHT TO BE INSTALLED 3' BEHIND RUNWAY EDGE LIGHT OFFSET.
- CONTRACTOR SHALL REMOVE THE EXISTING JUNCTION CAN PLAZA AND TAXIWAY EDGE LIGHT IDENTIFICATION 7. MARKERS AND CABLE TAGS FOR JUNCTION CAN PLAZAS AND EDGE LIGHTS SHOWN WITH NEW IDENTIFICATION NUMBERS ON LAYOUT PLANS AND PROVIDE AND INSTALL NEW IDENTIFICATION MARKERS AND CABLE TAGS ACCORDINGLY. THIS WORK SHALL BE INCIDENTAL TO THE PAY ITEM FOR IDENTIFICATION OF CABLES DUCTBANKS AND LIGHTING FIXTURES PER FAA SPECIFICATIONS.
- 8. FIXTURE INSTALLED AT A 10' OFFSET FROM RUNWAY THRESHOLD/EDGE LIGHT.

THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES, AND FAA LIGHTING. COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL REPAIR ANY ITEM DAMAGED, CAUSED BY THEIR ACTIONS, WITH NO ADDITIONAL COMPENSATION.

IT'S THE LAW! DIAL 811 Call before you di CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212 Kimley»Horn

(imley-Horn and Associates, Inc.

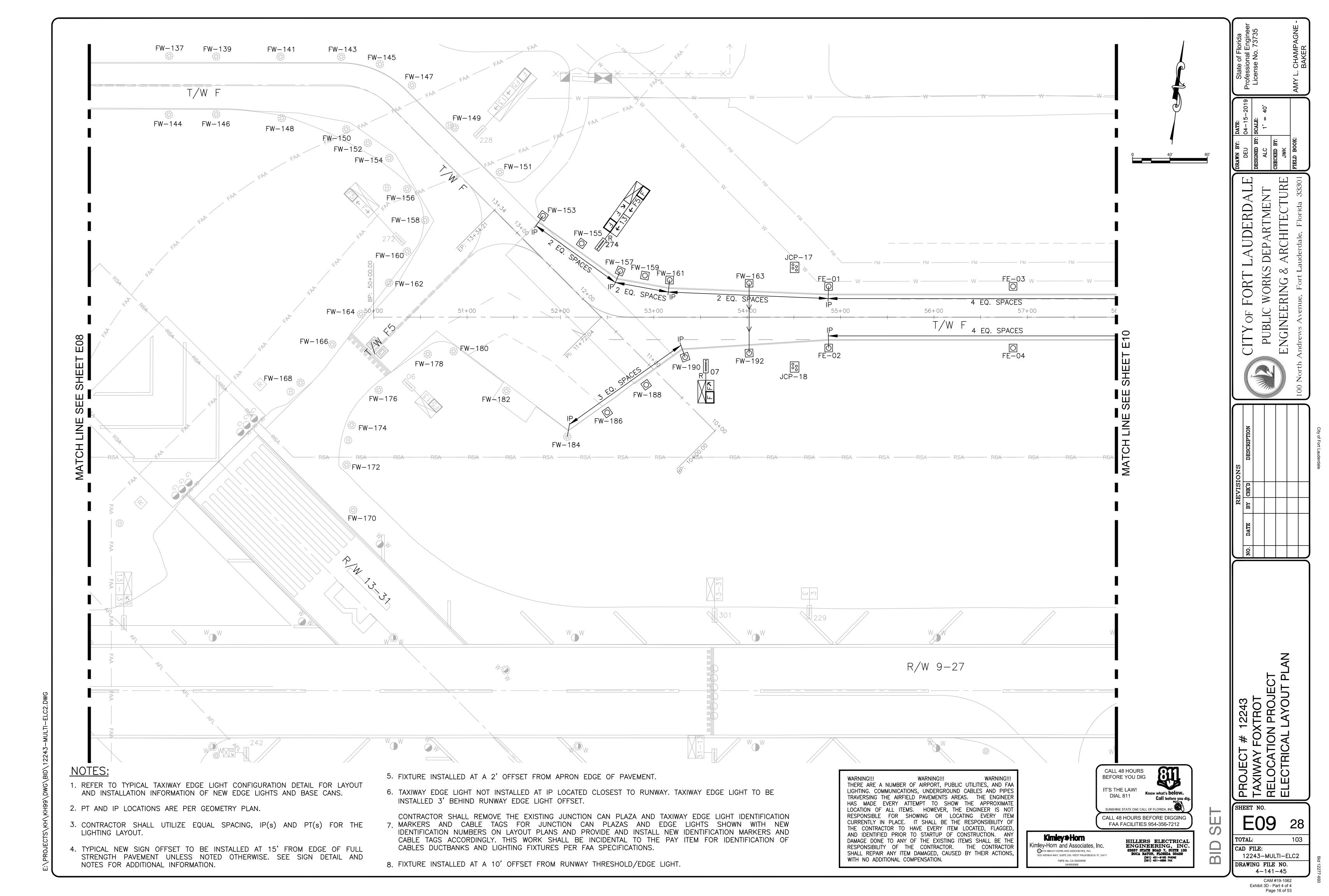
1920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411

FBPE No. CA 00000696 044693068

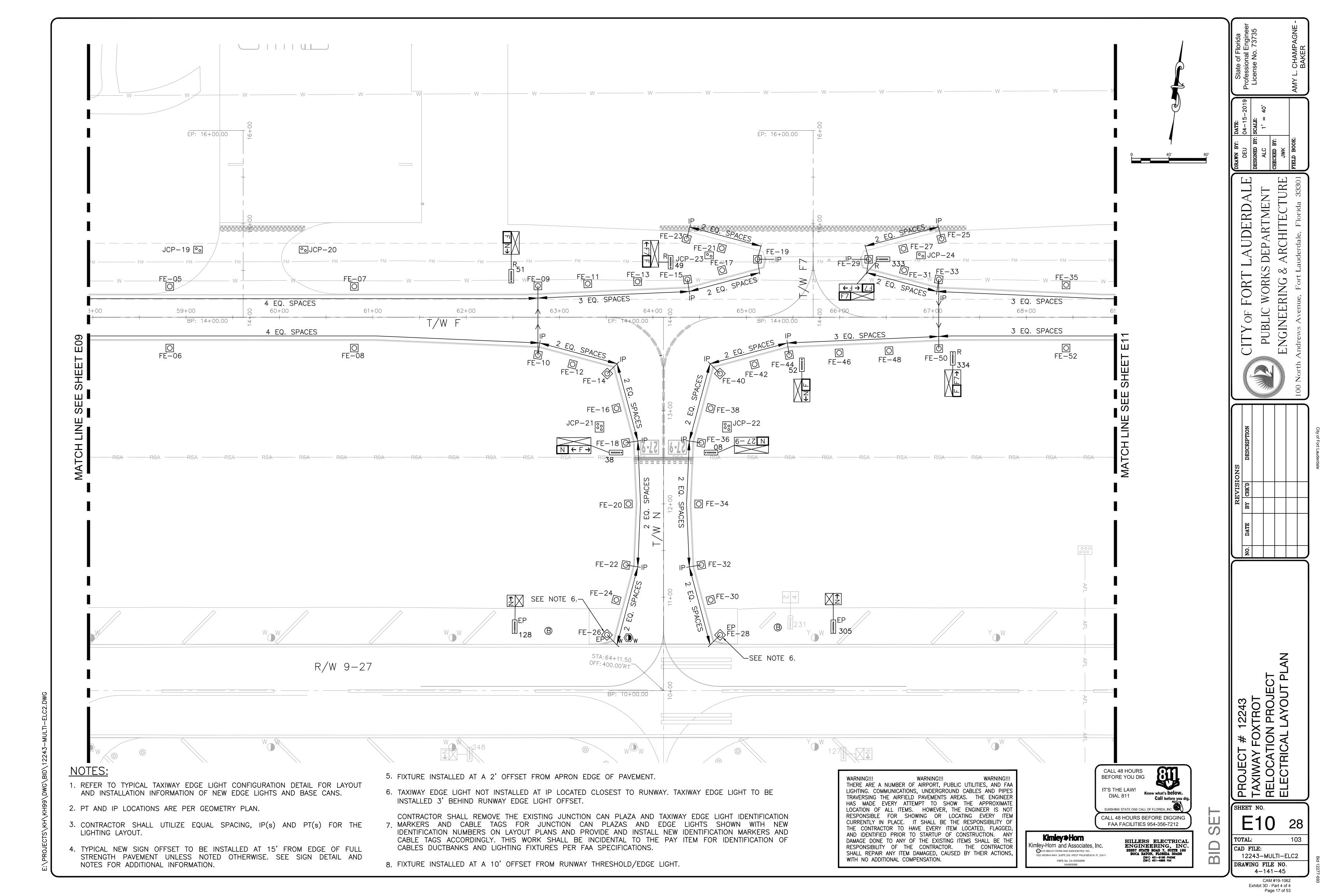
HILLERS ELECTRICAL
ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165 PHONE
(561) 451-4886 FAX

CAD FILE: 12243-MULTI-ELC2 DRAWING FILE NO. 4-141-45

Exhibit 3D - Part 4 of 4 Page 15 of 53



p. 676



p. 677

NOTES:

1. REFER TO TYPICAL TAXIWAY EDGE LIGHT CONFIGURATION DETAIL FOR LAYOUT AND INSTALLATION INFORMATION OF NEW EDGE LIGHTS AND BASE CANS.

2. PT AND IP LOCATIONS ARE PER GEOMETRY PLAN.

- 3. CONTRACTOR SHALL UTILIZE EQUAL SPACING, IP(s) AND PT(s) FOR THE LIGHTING LAYOUT.
- 4. TYPICAL NEW SIGN OFFSET TO BE INSTALLED AT 15' FROM EDGE OF FULL STRENGTH PAVEMENT UNLESS NOTED OTHERWISE. SEE SIGN DETAIL AND NOTES FOR ADDITIONAL INFORMATION.
- 5. FIXTURE INSTALLED AT A 2' OFFSET FROM APRON EDGE OF PAVEMENT.
- 6. TAXIWAY EDGE LIGHT NOT INSTALLED AT IP LOCATED CLOSEST TO RUNWAY. TAXIWAY EDGE LIGHT TO BE INSTALLED 3' BEHIND RUNWAY EDGE LIGHT OFFSET.
- CONTRACTOR SHALL REMOVE THE EXISTING JUNCTION CAN PLAZA AND TAXIWAY EDGE LIGHT IDENTIFICATION 7. MARKERS AND CABLE TAGS FOR JUNCTION CAN PLAZAS AND EDGE LIGHTS SHOWN WITH NEW IDENTIFICATION NUMBERS ON LAYOUT PLANS AND PROVIDE AND INSTALL NEW IDENTIFICATION MARKERS AND CABLE TAGS ACCORDINGLY. THIS WORK SHALL BE INCIDENTAL TO THE PAY ITEM FOR IDENTIFICATION OF CABLES DUCTBANKS AND LIGHTING FIXTURES PER FAA SPECIFICATIONS.
- 8. FIXTURE INSTALLED AT A 10' OFFSET FROM RUNWAY THRESHOLD/EDGE LIGHT.

WARNING!!! THERE ARE A NUMBER OF AIRPORT, PUBLIC UTILITIES, AND FAA LIGHTING. COMMUNICATIONS, UNDERGROUND CABLES AND PIPES TRAVERSING THE AIRFIELD PAVEMENTS AREAS. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO STARTUP OF CONSTRUCTION. ANY DAMAGE DONE TO ANY OF THE EXISTING ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL REPAIR ANY ITEM DAMAGED, CAUSED BY THEIR ACTIONS WITH NO ADDITIONAL COMPENSATION.

CALL 48 HOURS BEFORE YOU DIG IT'S THE LAW! **DIAL** 811 Call before you di CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

Kimley»Horn mley-Horn and Associates, Inc. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

SHEET NO. HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 (561) 451-9165 PHONE (561) 451-4686 FAX CAD FILE: 12243-MULTI-ELC2

4-141-45

DRAWING FILE NO.

Exhibit 3D - Part 4 of 4 Page 18 of 53

Exhibit 3D - Part 4 of 4 Page 19 of 53

Exhibit 3D - Part 4 of 4 Page 20 of 53

p. 681

CAM #19-1062 Exhibit 3D - Part 4 of 4 Page 21 of 53

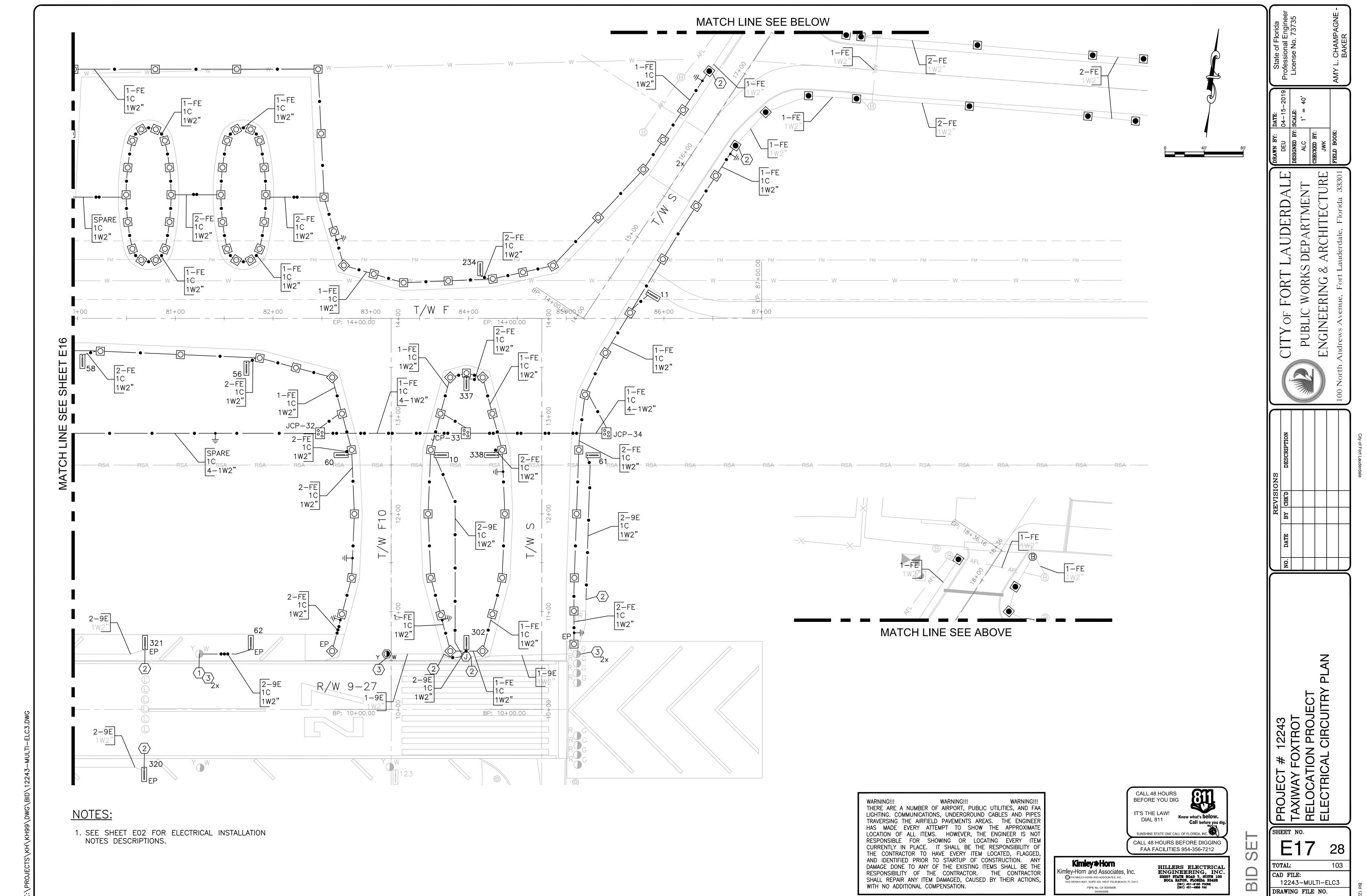
4-141-45

Exhibit 3D - Part 4 of 4 Page 22 of 53

p. 682

Exhibit 3D - Part 4 of 4 Page 23 of 53

p. 683



4-141-45

Exhibit 3D - Part 4 of 4 Page 24 of 53

4-141-45 Exhibit 3D - Part 4 of 4 Page 25 of 53

Exhibit 3D - Part 4 of 4 Page 26 of 53

TYPICAL CONDUIT INSTALLATIONS IN EARTH NOT TO SCALE

-NEW FULL STRENGTH PAVEMENT **THICKNESS** VARIES NO.6 AWG BARE SOLID COUNTERPOISE LOCATE COUNTERPOISE ABOVE CONDUIT -CONCRETE BACKFILL, SEE CONCRETE NOTE NEW SINGLE OR MULTIPLE CONDUITS SHALL BE SCH. 40 PVC. -3/4"DIA x20' GROUND ROD (COPPER CLAD) 500' MAX EXOTHERMICALLY WELDED

TYPICAL CONDUIT INSTALLED IN NEW FULL STRENGTH PAVEMENT

NOT TO SCALE

PAVEMENT REPAIR SEE NOTE 2 SEE NOTES BELOW -EXISTING PAVEMENT SAWCUT -LIMEROCK BASE NO.6 AWG BARE SOLID COUNTERPOISE LOCATE COUNTERPOISE ABOVE CONDUIT -CONCRETE BACKFILL, SEE CONCRETE NOTE -SINGLE OR MULTIPLE CONDUITS SHALL BE SCH. 40 PVC. -3/4"DIA x20' GROUND ROD (COPPER CLAD) 500' MAX EXOTHERMICALLY WELDED

- 1. SAWCUT EXISTING PAVEMENT AND REMOVE 3 FT. WIDE SECTION OF EXISTING BITUMINOUS PAVEMENT TO EXISTING LIMEROCK BASE.
- 2. REPAIR OF BITUMINOUS PAVEMENT SHALL BE AS SHOWN ON PAVEMENT

3. MINIMUM COVER OVER CONDUIT SHALL BE 24" UNDER AIRFIELD PAVEMENTS. TYPICAL CONDUIT INSTALLED IN EXISTING FULL STRENGTH / PAVEMENT

NOT TO SCALE

1. MAXIMUM DISTANCE BETWEEN SPACERS IS 5'-0". 2. MINIMUM DISTANCE BETWEEN COUPLINGS IS 9".

HORIZONTAL STAGGERING OF SPACERS AND JOINTS NOT TO SCALE

APPLIES TO CONCRETE ENCASED-\

CONDUIT. USE QUEEN CITY

PLASTIC SPACERS OR EQUAL.

EXISTING DUCT TO BE REMOVED AND EXISTING DUCT TO REMAIN | REPLACED CHIP OUT CONCRETE -TO EXPOSE WIRE REMOVE CONDUCTORS / EXOTHERMIC PIGTAIL (2" MIN.) AND SAW ACROSS CONNECTION EXISTING DUCT TO CONSTRUCTION — FULL DEPTH OVERLAY **EXISTING** SURFACE -INSTALL NEW COUNTERPOISE AND CONNECT TO PIGTAIL. -NEW COUPLINGS -PLACE CONCRETE ENCASEMENT Δ · · -EXISTING PVC CONDUITS (NUMBER -NEW COUPLING AND DIA. AS INDICATED ON PLAN. 2W2 DUCT SHOWN IN THIS DETAIL.)

CONNECTION OF PROPOSED TO EXISTING DUCT

NOT TO SCALE
TYPICAL FOR 1 WAY DUCT OR MULTI-DUCT COMBINATIONS

---- INSTALL DUCK MARKERS FLUSH WITH GRADE AT ALL TURNS AND IMPRESS 1/2" WIDE -JUNCTIONS, AT NOT LESS THAN 200' STROKES 1/4" DEEP IN INTERVALS ON STRAIGHT TRENCH RUN, CONCRETE SLAB AND 5' FROM ENDS OF DUCT RUNS. -MARKERS SHALL HAVE DUCT 1" CHAMPER — 6" MIN CONCRETE SLAB -ARROWS TO BE ORIENTED IN DIRECTIONS OF CABLE RUN DUCT MARKERS NOT TO SCALE

TYPICAL

CONCRETE NOTE: CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS IN THE RUNWAY/TAXIWAY SAFETY AREAS AND IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, OR IN AREAS OTHERWISE INDICATED IN THE DETAILS AND DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM 5 HOUR STRENGTH OF 2,500 PSI AND A MINIMUM 28 DAY STRENGTH OF 5,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.

CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS NOT IN THE RUNWAY/TAXIWAY SAFETY AREAS OR IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM 28 DAY STRENGTH OF 4,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.

> Kimley>Horn imley-Horn and Associates, Inc. ©2016 KIMLEY-HORN AND ASSOCIATES, INC. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428

PRO TAXII REL( S COTAL: BID CAD FILE:

DRAWING FILE NO.

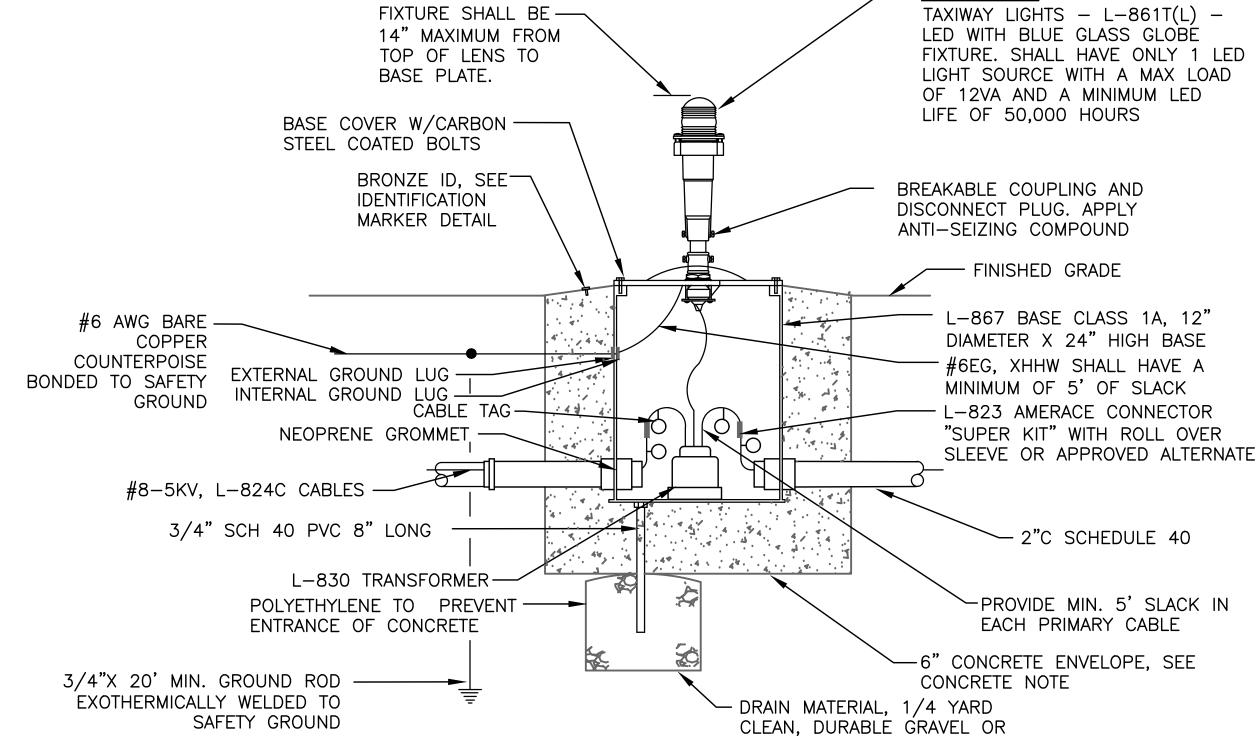
12243-E20-DETL

103

(TROT PROJECT DETAILS

RING

4-141-45 Exhibit 3D - Part 4 of 4 Page 27 of 53

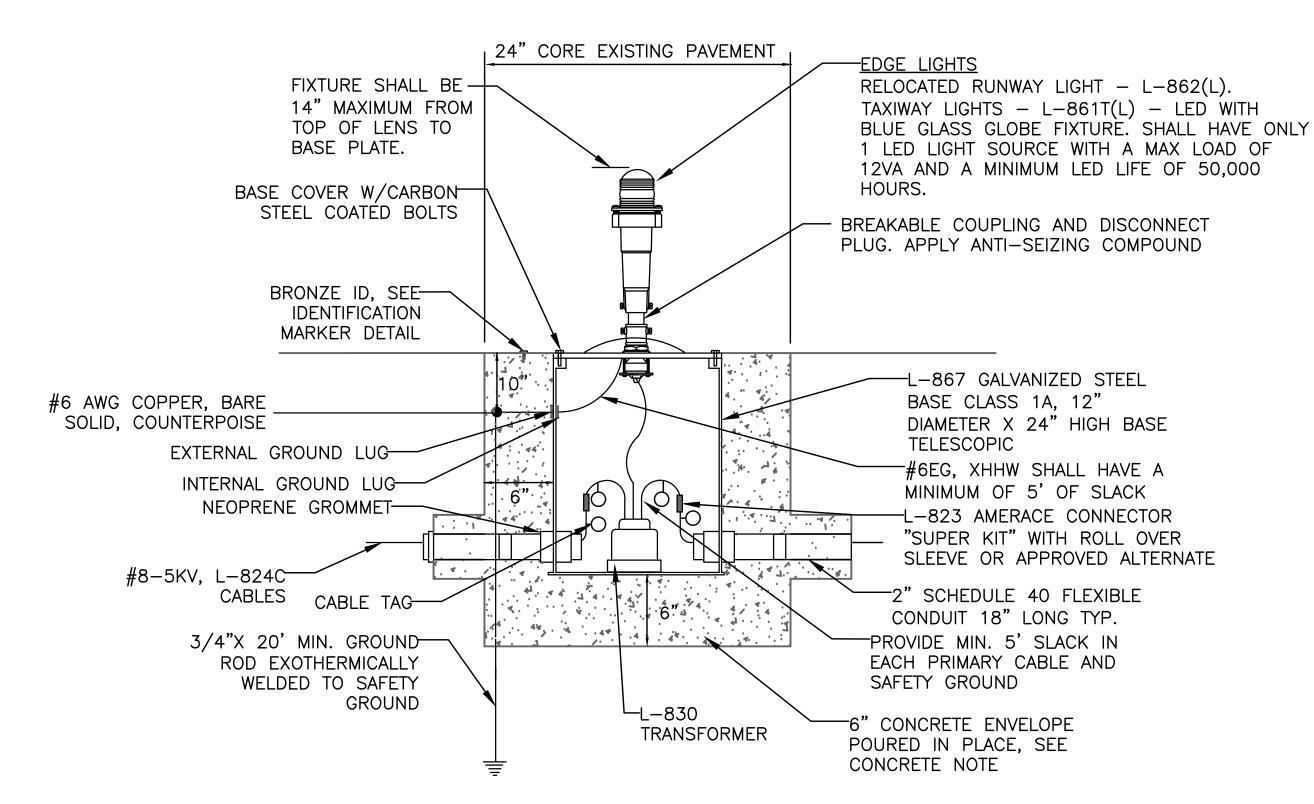


NEW ELEVATED TAXIWAY BASE MOUNTED LIGHT ON NEW BASE CAN IN EARTH NOT TO SCALE

EDGE LIGHTS TAXIWAY LIGHTS - L-861T(L)-LED WITH BLUE GLASS GLOBE FIXTURE SHALL HAVE ONLY 1 LED LIGHT SOURCE WITH A MAX LOAD OF 12VA AND A MINIMUM LED LIFE OF 50,000 HOURS. -BREAKABLE COUPLING AND DISCONNECT PLUG. APPLY ANTI-SEIZING COMPOUND 14" MAX. DRILL AND TAP EXISTING--NEW BASE PLATE BOLT HOLES, INSTALL NEW CARBON STEEL COATED -DRILL, TAP AND COUNTER SINK STAINLESS **BOLTS** STEEL BOLT INTO BASE CAN FLANGE AND INSTALL GROUND LUG FOR FIXTURE GROUND FINISHED GRADE BRONZE ID, SEE-IDENTIFICATION MARKER #6EG, XHHW SHALL BE A DETAIL MINIMUM OF 5' OF SLACK EXISTING L-867 BASE 12' STAINLESS STEEL CABLE DIAMETER X 24" HIGH BASE L-823 AMERACE CONNECTOR "SUPER KIT" WITH ROLL OVER #8-5KV, L-824C SLEEVE OR APPROVED ALTERNATE CABLES - EXISTING CONDUIT -PROVIDE MIN. 5' SLACK IN EACH PRIMARY CABLE NEW L-830 **TRANSFORMER** NEW ELEVATED TAXIWAY EDGE LIGHT

ON EXISTING BASE CAN

NOT TO SCALE



NEW ELEVATED TAXIWAY MOUNTED LIGHT ON NEW BASE CAN IN EXISTING PAVEMENT

NOT TO SCALE

CONCRETE NOTE: CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS IN THE RUNWAY/TAXIWAY SAFETY AREAS AND IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, OR IN AREAS OTHERWISE INDICATED IN THE DETAILS AND DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM 5 HOUR STRENGTH OF 2,500 PSI AND A MINIMUM 28 DAY STRENGTH OF 5,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.

CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS NOT IN THE RUNWAY/TAXIWAY SAFETY AREAS OR IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM 28 DAY STRENGTH OF 4,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.

> (TROT PROJECT DETAILS PROJEC TAXIWA RELOC/ ELECTF

HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 imley-Horn and Associates, Inc. ©2016 KIMLEY-HORN AND ASSOCIATES, INC. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

S M COTAL: BID CAD FILE: 12243-E21-DETL

DRAWING FILE NO. 4-141-45 Exhibit 3D - Part 4 of 4 Page 28 of 53

28

103

ARCHITECTURE

NGINEERING

TYPICAL TAXIWAY EDGE LIGHTING CONFIGURATION

NOT TO SCALE

#### **EDGE LIGHT CONFIGURATION NOTES:**

- 1. EDGE LIGHTS INSTALLED IN NEW SHOULDER/FULL STRENGTH PAVEMENT OR EARTH SHALL BE INSTALLED AT 8' FROM OUTSIDE EDGE OF TAXIWAY/RUNWAY EDGE STRIPE TO CENTER OF LIGHT FIXTURE.
- 2. EDGE LIGHTS INSTALLED IN THE EXISTING FULL STRENGTH/SHOULDER PAVEMENT OR EARTH SHALL MATCH THE EXISTING LIGHT OFFSET FROM OUTSIDE EDGE OF TAXIWAY/RUNWAY EDGE STRIPE, NOT TO EXCEED 10' TO CENTER OF LIGHT FIXTURE. SHOULD NEW OFFSET DIFFER FROM EXISTING OFFSET, CONTRACTOR SHALL COORDINATE AND VERIFY OFFSETS WITH ENGINEER/OWNER PRIOR TO INSTALLATION.
- 3. ALL EDGE LIGHTS SHALL BE INSTALLED PER FAA AC150/5340-30, LATEST EDITION. LIGHTS INSTALLED ON OPPOSITE SIDES OF RUNWAYS AND STRAIGHT SECTIONS OF TAXIWAYS ARE ALIGNED SUCH THAT OPPOSING LIGHTS ARE IN A LINE PERPENDICULAR WITH THE CENTERLINE.
- 4. THE LAST TAXIWAY EDGE LIGHT AT A RUNWAY/TAXIWAY EDGE INTERSECTION MUST BE PLACED AT AN ADDITIONAL 3 FEET FROM THE RUNWAY EDGE LIGHT OFFSET LINE. THE OFFSET IS NECESSARY TO MINIMIZE ANY POTENTIAL CONFLICT WITH RUNWAY EDGE LIGHTS.

Kimley»Horn imley-Horn and Associates, Inc. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411

HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 (561) 451-9165 PHONE (561) 451-4886 FAX

S BID

12243-E22-DETL DRAWING FILE NO. 4-141-45

Exhibit 3D - Part 4 of 4 Page 29 of 53

FBPE No. CA 00000696 044693068

NGINEERING

AFTER THE TOTAL BITUMINOUS PAVEMENT IS INSTALLED, CORE A 4" DIAMETER PILOT HOLE AND LOCATE THE CENTER POINT OF THE STEEL MUD PLATE. CORE 13" TO 14 1/2" DIAMETER HOLE FOR 12" DIAMETER CANS AND 16" TO 17 1/2" DIAMETER HOLE FOR 15" DIAMETER CANS, CENTERING IT ON THE CENTER POINT OF THE STEEL MUD PLATE, REMOVE THE STEEL MUD PLATE AND STEEL COVER, INSTALL L-868 EXTENSION (SPACER, FLANGE RING OR SHIM) AND LIGHT ASSEMBLY. SEAL ANNULAR SPACE AROUND NEW EXTENSION/TOP SECTION TO NEW DAM RING WITH P-606 RIGID CEMENTING COMPOUND AND SEAL AROUND NEW DAM RING TO TOP EDGE OF PAVEMENT RING WITH P-605 FLEXIBLE SEALANT. SEALANT SHALL BE MANUFACTURED BY SYMONS, 3M OR APPROVED EQUAL. CONTRACTOR SHALL APPLY A THIN LAYER OF SELF-LEVELING SILICONE (RTV118) BETWEEN L-868 BASE, SPACERS AND FLANGE RING.

THE HEIGHT OF THE L-868 EXTENSION SHALL BE DETERMINED AS FOLLOWS:

NEW L-868 TOP SECTION —

EXISTING L-868 BOTTOM ·

SECTION TO REMAIN IN PLACE

· A : D. A V.

(3)(4)(5) AND DAM RING

**NEW FIXTURE PLUG** 

**CONNECTOR** 

A. RECORD FINAL ELEVATION OF THE TOP AND AT THE MIDPOINT OF THE 3/4" STEEL COVER AFTER THE BOTTOM SECTION OF THE BASE HAS BEEN INSTALLED

B. RECORD FINAL ELEVATION OF THE PAVEMENT DIRECTLY ABOVE THE MIDPOINT OF THE STEEL COVER AFTER THE PAVING IS COMPLETELY INSTALLED.

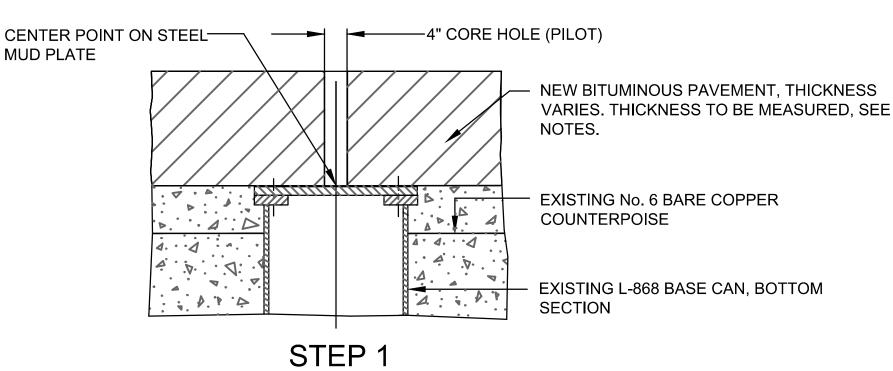
C. THE EDGE OF THE LIGHT FIXTURE SHALL MATCH THE FINISHED PAVEMENT SURFACE TO (+) 0" (-) 1/16" TOLERANCE.

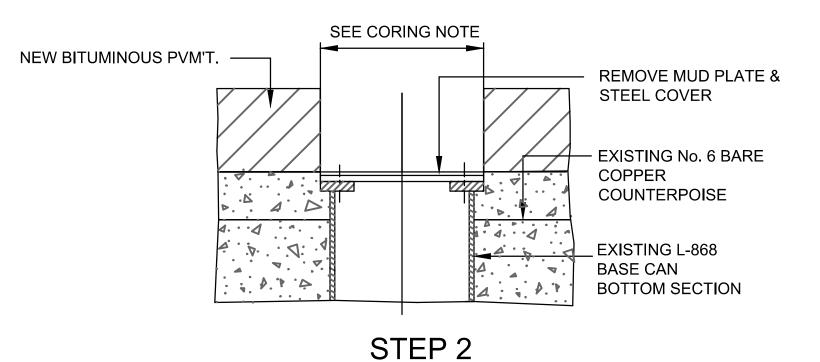
DO NOT REUSE SHIPPING OR EXISTING BOLTS. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CARBON STEEL COATED BOLTS OF THE PROPER LENGTH AND 2-PIECE LOCKWASHERS SHALL BE FURNISHED WITH THE SPACER RING, INSTALL LIGHT FIXTURE WITH THE NEW CARBON STEEL COATED BOLTS AND LOCKWASHERS AND TORQUE TO MANUFACTURERS INSTRUCTIONS.

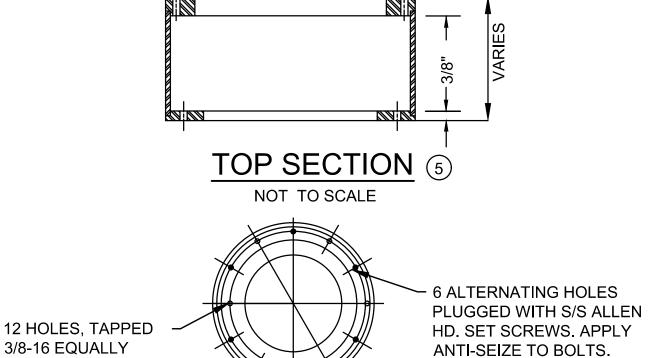
AFTER FIXTURE INSTALLATION, CONTRACTOR SHALL FURNISH AND INSTALL P-605 FLEXIBLE SEALANT IN SPACE AROUND DAM RING AND P-606 RIGID CEMENTING COMPOUND IN SPACE AROUND THE EXTENSIONS AND SPACERS.

7. THE CONTRACTOR SHALL CONFORM TO THE CURRENT FAA ADVISORY CIRCULARS, FAA 150/5340-30, LATEST EDITION FOR RUNWAY AND TAXIWAY IN-PAVEMENT LIGHTING SYSTEMS INSTALLATION AND INSTALLATION TOLERACES.

#### STEP 1



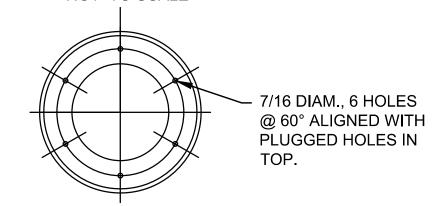




TOP VIEW OF TOP SECTION NOT TO SCALE

VERIFY WITH FIXTURE

MANUFACTURER



**BOTTOM VIEW OF TOP SECTION** 

FAA SPEC. L-868 CLASS I

NOT TO SCALE

PROVIDE NEW CARBON STEEL COATED BOLTS AND NORD-LOCK INC. VIBRATION PROOF WASHERS FOR ALL MOUNTING BOLTS.

SPACED.

PROVIDE STEEL MUD PLATE FOR BOTTOM SECTION.

MAKE SMALL DIAMETER TEST CORE TO DETERMINE EXACT CENTER OF BASE AND TO DETERMINE REQUIRED HEIGHT OF TOP SECTION.

CORE HOLE THROUGH SURFACE COURSE

INSTALL NEW L-868 TOP SECTION.

SEAL ANNULAR SPACE AROUND NEW EXTENSION/TOP SECTION TO NEW DAM RING WITH P-606 RIGID CEMENTING COMPOUND AND SEAL AROUND NEW DAM RING TO TOP EDGE OF PAVEMENT RING WITH P-605 FLEXIBLE SEALANT. SEALANT SHALL BE MANUFACTURED BY SYMONS, 3M OR APPROVED EQUAL. CONTRACTOR SHALL APPLY A THIN LAYER OF SELF-LEVELING SILICONE (RTV118) BETWEEN L-868 BASE, SPACERS, AND FLANGE RING.

INSTALL FLUSH MOUNT FIXTURE. SEE FLUSH FIXTURE ELEVATION DETAIL

ALL BOLTS SHALL EXTEND 3/4" BEYOND BASE CAN MACHINED THREAD SYSTEMS.

STYLE 2 FIXTURES SHALL BE A MAX OF 1/2" ABOVE GRADE

# **NOTES:**

NEW TOP SECTIONS INSTALLED ON EXISTING BASE CAN IN EXISTING FULL STRENGTH PAVEMENT INSTALLATION DETAILS NOT TO SCALE TYPICAL L-850C

STEP 3

NEW P-605 FLEXIBLE SEALANT

NEW BITUMINOUS

-823 AMERACE CONNECTOR "SUPER

KIT" WITH ROLL OVER SLEEVE OR

PAVEMENT

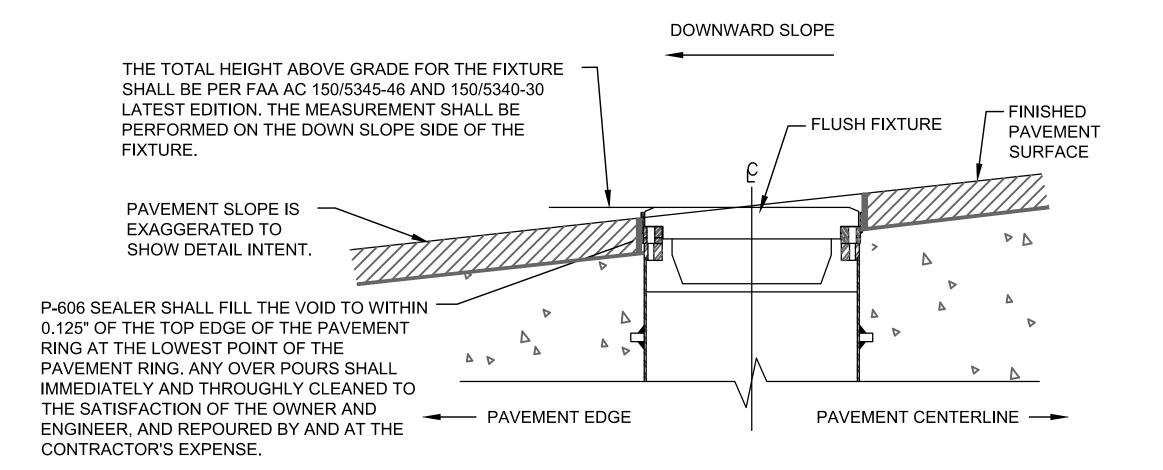
APPROVED ALTERNATE

-PROTECT EXISTING CABLES

- NEW P-606 RIGID (6)

NEW L-830 TRANSFORMER

CEMENTING COMPOUND



**FLUSH FIXTURE ELEVATION** 

NOT TO SCALE

CONCRETE NOTE: CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS IN THE RUNWAY/TAXIWAY SAFETY AREAS AND IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, OR IN AREAS OTHERWISE INDICATED IN THE DETAILS AND DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM HOUR STRENGTH OF 2,500 PSI AND A MINIMUM 28 DAY STRENGTH OF 5,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK

CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS NOT IN THE RUNWAY/TAXIWAY SAFETY AREAS OR IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM 28 DAY STRENGTH OF 4,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.

> Kimley >> Horn mley-Horn and Associates, Inc. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

HILLERS ELECTRICA ENGINEERING, INC 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428

S

BID CAD FILE: 12243-E23-DETL

RAWING FILE NO. 4-141-45 Exhibit 3D - Part 4 of 4

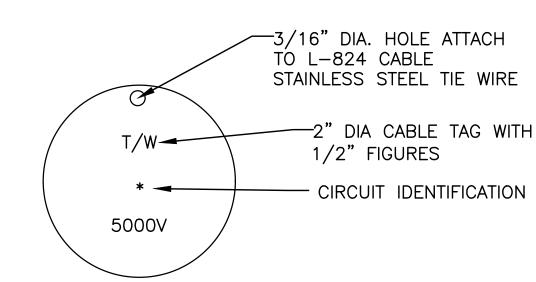
ECT

RI

-2" DIA. DOMED BRONZE MARKER (BERNTSEN CD2B OR EQUIVALENT) TOP OF CONCRETE -3/4" DIA. NOTCHED STEM

- 1. IDENTIFICATION SHALL BE STAMPED USING 1/2" FIGURES AND LETTERS UNIFORMLY SPACED ON THE BRONZE MARKER.
- IDENTIFICATION MARKERS SHALL BE UNIFORMLY INSTALLED ADJACENT TO TAXIWAY AND RUNWAY ELEVATED EDGE LIGHTS. PREFERRED LOCATION IS ON A LINE PERPENDICULAR TO RUNWAY OR TAXIWAY CENTERLINE, INBOARD OF LIGHT FIXTURE

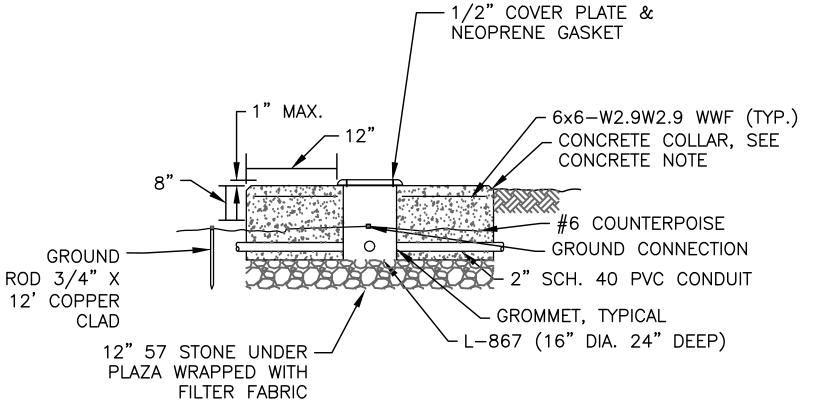
IDENTIFICATION MARKER FOR LIGHT BASE CANS, JUNCTION CANS AND JUNCTION CAN PLAZAS NOT TO SCALE



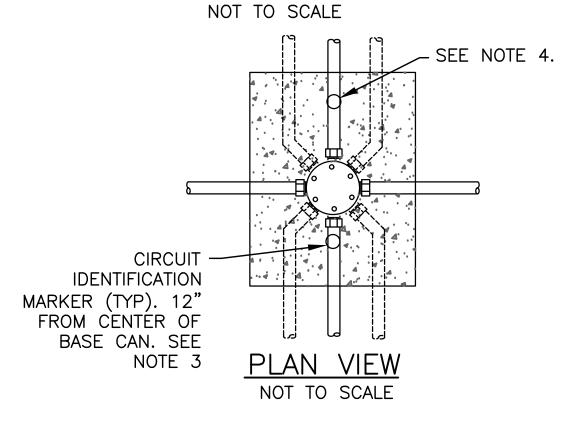
STAINLESS STEEL CABLE ID TAG DETAIL NOT TO SCALE

#### NOTES:

- 1. NUMBER AND ORIENTATION OF CONDUITS VARY. SEE PLAN SHEETS FOR DETAILS.
- 2. INSTALL GROUND RODS AT ALL JUNCTION CAN PLAZAS AS SHOWN. TWO GROUND RODS PER PLAZA LOCATED AT OPPOSITE CORNERS SHALL BE PROVIDED.
- 3. CONTRACTOR SHALL PROVIDE A 2" DIA DOMED BRONZE MARKER AT EACH JUNCTION CAN AS SHOWN. MARKER SHALL BE STAMPED WITH CIRCUIT IDENTIFICATION AS COORDINATED WITH AIRPORT AND ENGINEER. IF CAN IS LEFT EMPTY INSTALL A BLANK MARKER FOR FUTURE USE.
- CONTRACTOR SHALL PROVIDE A 2" DIA DOMED BRONZE MARKER STAMPED WITH THE PLAZA IDENTIFICATION NUMBER AS SHOWN ON THE DRAWINGS.
- 5. 2 AND 4 CAN L-867 JUNCTION CANS AND CONDUIT CONFIGURATION. SEE LAYOUT PLAN SHEETS FOR ORIENTATION.
- 6. EACH CAN SHALL HAVE A MINIMUM OF FOUR OPENINGS, LOCATIONS OF OPENINGS CAN BE AT 0, 45, 90, 135, 180, 225, 270 AND 315 DEGREES THAT EXTEND 3 FEET BEYOND PLAZA EDGE. LOCATIONS WILL VARY DEPENDING ON SIZE OF JUNCTION CAN PLAZA. CONDUIT OPENINGS AT 45, 135, 225 AND 315 DEGREES WILL HAVE A 3" OFFSET FROM THE REMAINING THREE OPENINGS. CONTRACTOR SHALL COORDINATE OPENINGS PRIOR TO INSTALLATION. CANS SHALL NOT BE CONNECTED TOGETHER INSIDE JUNCTION PLAZA. ALL CONDUITS EXITING THE CANS SHALL BE DEDICATED. CONDUITS WHICH ARE NOT USED IN THIS PROJECT SHALL BE CAPPED.
- 7. CONDUITS WHICH ARE NOT USED IN THIS PROJECT SHALL BE CAPPED 3' OUTSIDE OF PLAZA CONCRETE.
- 8. CONTRACTOR SHALL COORDINATE THE ORIENTATION OF THE PLAZA WITH THE ENGINEER AND OAR PRIOR INSTALLATION.
- 9. SEE DETAIL FOR CONNECTION TO JUNCTION CANS.

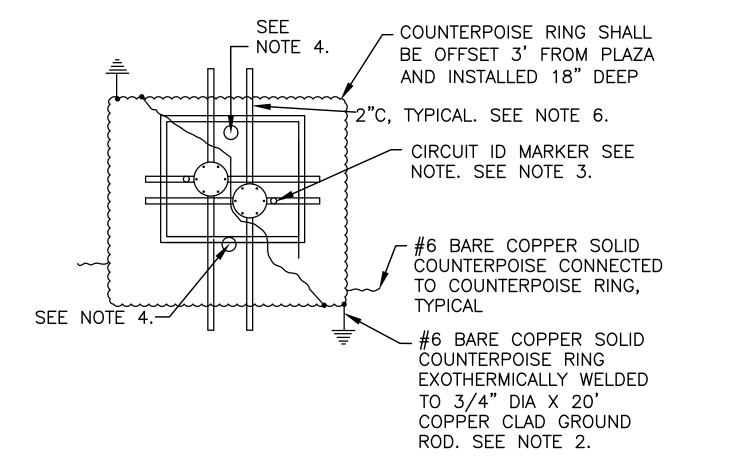


# JUNCTION CAN PLAZA ELEVATION

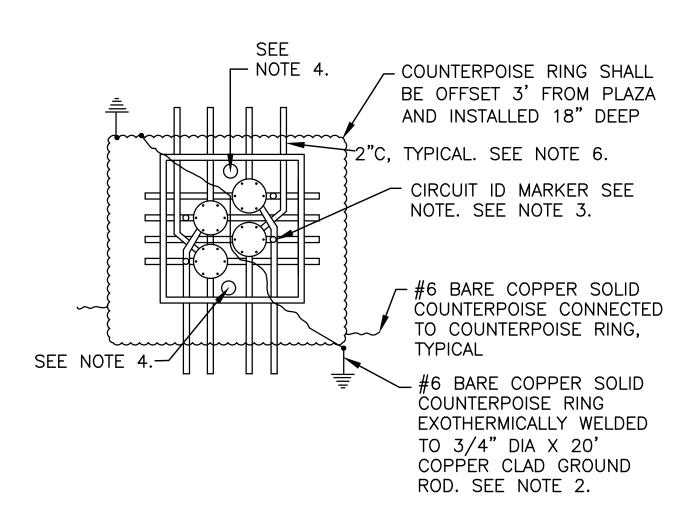


CONCRETE NOTE: CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS IN THE RUNWAY/TAXIWAY SAFETY AREAS AND IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, OR IN AREAS OTHERWISE INDICATED IN THE DETAILS AND DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM HOUR STRENGTH OF 2,500 PSI AND A MINIMUM 28 DAY STRENGTH OF 5,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.

CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS NOT IN THE RUNWAY/TAXIWAY SAFETY AREAS OR IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM 28 DAY STRENGTH OF 4,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.



#### 2 JUNCTION CAN PLAZA NOT TO SCALE



4 JUNCTION CAN PLAZA NOT TO SCALE

> Kimley»Horn imley-Horn and Associates, Inc. ©2016 KIMLEY-HORN AND ASSOCIATES, INC. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428

PRO, TAXII RELC S

COTAL: 103 CAD FILE: 12243-E24-DETL

Exhibit 3D - Part 4 of 4 Page 31 of 53

ECT S

TROT PROJE DETAIL

TURE

RING

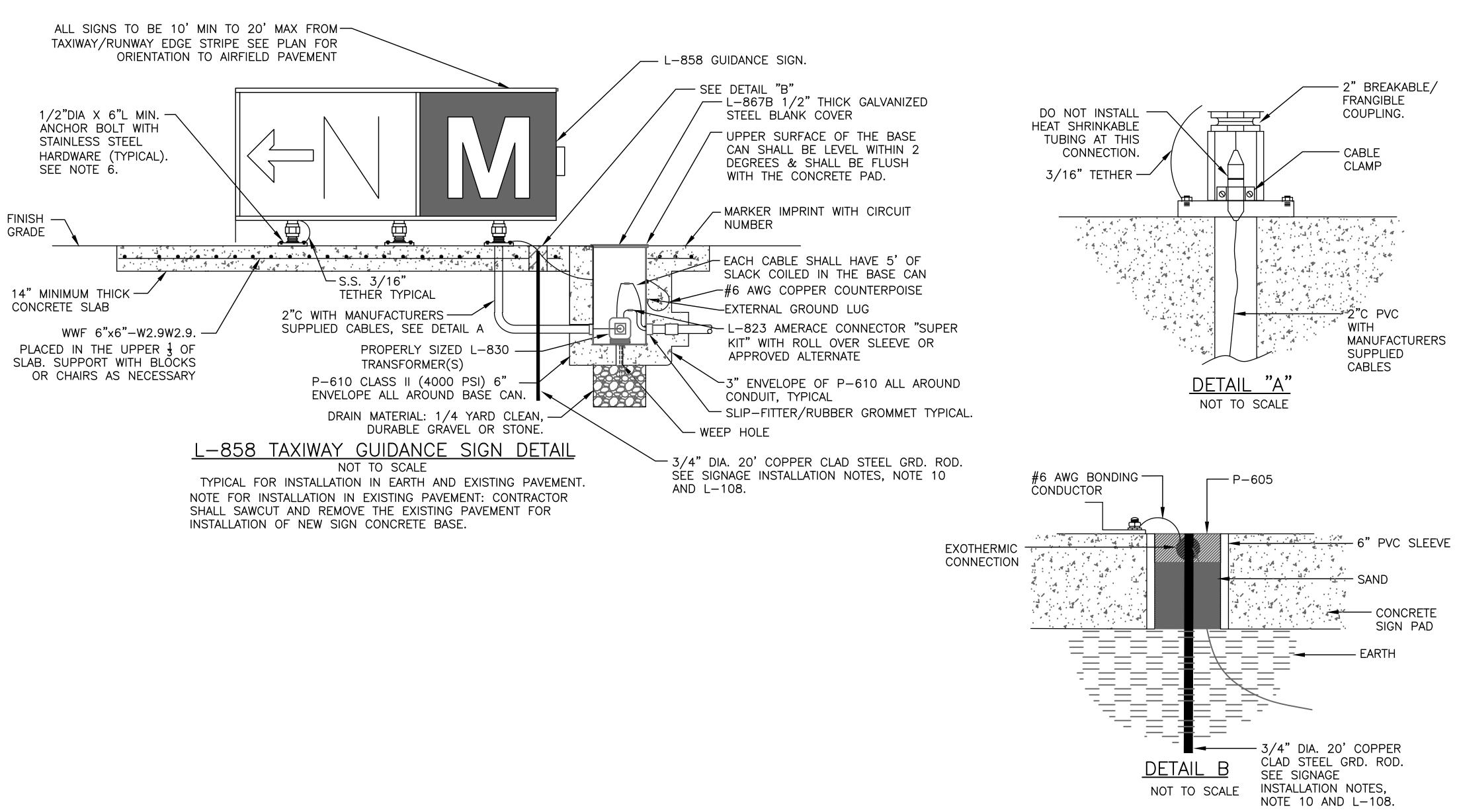
UDERDALE

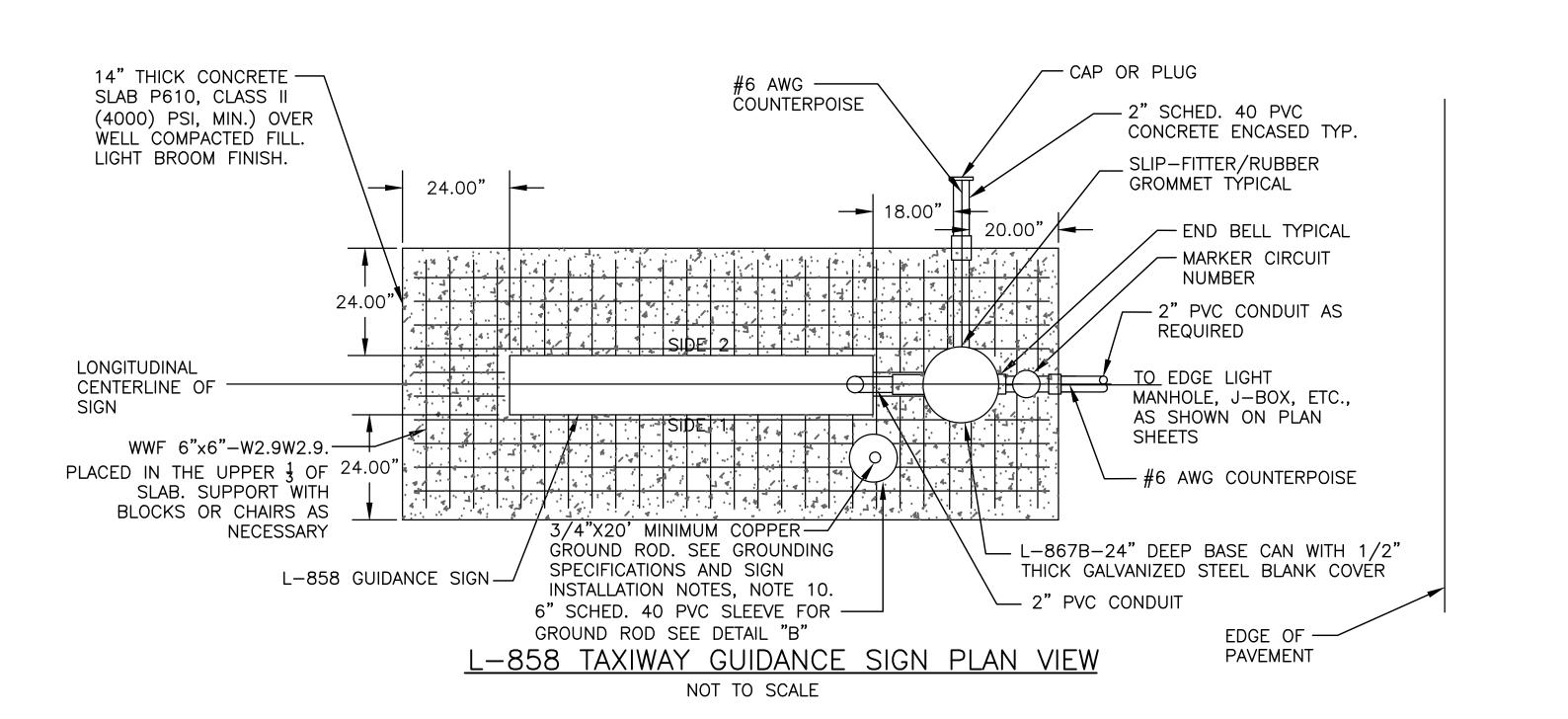
DRAWING FILE NO. 4-141-45

- 2. THE CONCRETE SHALL COMPLY WITH P-610 SPECIFICATION, CLASS II.
- 3. P-610 CONCRETE STEEL REINFORCEMENT SHALL BE TYPE ATM A615 GRADE 60. ALL REINFORCEMENTS SHALL HAVE A 2" MINIMUM CONCRETE COVER. REINFORCEMENT MAY BE ADJUSTED TO MISS INTERFERENCES
- 4. FOR LOCATION AND ORIENTATION OF SIGN AND FOUNDATION SEE PLANS.
- 5. THE ORIENTATION, INSTALLATION AND DEPTH OF THE 2" CONDUIT FOR SIGN CIRCUITS SHALL BE COORDINATED WITH THE PLANS.
- 6. METHODS OF SIGN INSTALLATION INCLUDING BOLT PATTERNS, ANCHOR METHODS AND ATTACHMENT DETAILS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS.
- 7. ALL SIGNS SHALL BE INSTALLED WITH TETHERS ON A MINIMUM OF 2 LEGS PER SIGN. TETHERS SHALL BE 3/16" STAINLESS STEEL AIRCRAFT CABLE WITH A FORMED EYE ON BOTH ENDS. THE TETHER SHALL BE OF SUFFICIENT LENGTH TO HAVE 2" SLACK (MIN.) WHEN ATTACHED BETWEEN SIGN AND THE FIXTURE PLATE.
- 8. SIDE VIEW, PLAN VIEW, GRADE AND FILL DETAILS AND DETAILS A AND B ARE TYPICAL FOR ALL SIGNS.
- 9. ALL CONDUIT SHALL BE 2" SCHEDULE 40 PVC UNLESS NOTED OTHERWISE.
- 10. THE CONTRACTOR SHALL VERIFY THAT THE 6" SLEEVE IS LARGE ENOUGH TO ACCOMMODATE THE EXOTHERMIC CONNECTION. THE TOP OF THE GROUND ROD SHALL BE FLUSH WITH THE TOP OF THE SLAB. THE GROUND ROD SHALL NOT BE DRIVEN AFTER THE GROUNDING CONNECTION HAS BEEN MADE.
- 11. ALL SIZE 1 SIGNS SHALL BE INSTALLED AT 15' FROM THE DEFINED EDGE OF PAVEMENT TO THE NEAREST EDGE OF THE GUIDANCE SIGN FRAME. IF A SIGN CANNOT BE INSTALLED AT ITS STANDARD LOCATION DUE TO AN OBSTRUCTION, A TOLERANCE OF 10 TO 20 FEET FROM THE DEFINED EDGE OF PAVEMENT TO THE NEAREST EDGE OF THE GUIDANCE SIGN FRAME IS ALLOWED AS STATED IN FAA AC150/5340-18 LATEST EDITION. SIGNS SHALL BE STAKED IN THE FIELD, ORIENTATION AND LOCATION SHALL BE APPROVED BY THE RPR PRIOR TO INSTALLATION.
- 12. THE SIGN TETHER AND BONDING CONDUCTOR SHALL NOT BE ATTACHED AT THE SAME ANCHOR BOLT. AN APPROVED MECHANICAL OR COMPRESSION LUG SHALL BE USED TO CONNECT THE BONDING CONDUCTOR TO THE SIGN FLANGE AND SIGN. THE TETHERS AND BONDING CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLING TO OPERATE WITHOUT RESTRICTIONS AND TO ALLOW THE CABLE TO UNPLUG IF THE SIGN FALLS OVER.
- 13 STRUCTURAL FILL FOR SIGN CONCRETE FOUNDATION PADS SHALL BE FREE-DRAINING, AS APPROVED BY THE ENGINEER SHALL BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED 4" IN LOOSE DEPTH AND COMPACT TO 95% MAXIMUM DENSITY AT 0 TO 2% ABOVE OPTIMUM MOISTURE AS DETERMINED BY ASTM D698 PAYMENT FOR EMBANKMENT MATERIALS AND PLACEMENT SHALL BE INCIDENTAL TO SIGN BID ITEM. SLOPE SHALL NOT EXCEED 1:20 WITHOUT PERMISSION OF THE ENGINEER.
- 14 ALL AREAS FOR THE LEG FLANGE PLATES SHALL BE IN THE SAME PLANE.
- 15 MINIMUM BURIAL DEPTH OF 2" SCHEDULE 40 PVC CONDUIT IS 24" TO FINISHED GRADE.

CONCRETE NOTE: CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS IN THE RUNWAY/TAXIWAY SAFETY AREAS AND IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, OR IN AREAS OTHERWISE INDICATED IN THE DETAILS AND DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM S HOUR STRENGTH OF 2,500 PSI AND A MINIMUM 28 DAY STRENGTH OF 5,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.

CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS NOT IN THE RUNWAY/TAXIWAY SAFETY AREAS OR IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM 28 DAY STRENGTH OF 4,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.





Kimley>Horn ENGINEERING, INC 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 imley-Horn and Associates, Inc. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

PRO, TAXI REL( S COTAL: HILLERS ELECTRICA

103 CAD FILE: 12243-E25-DETL

CT I

ЩU

XTROT I PROJI SIGNA

DRAWING FILE NO. 4-141-45 Exhibit 3D - Part 4 of 4

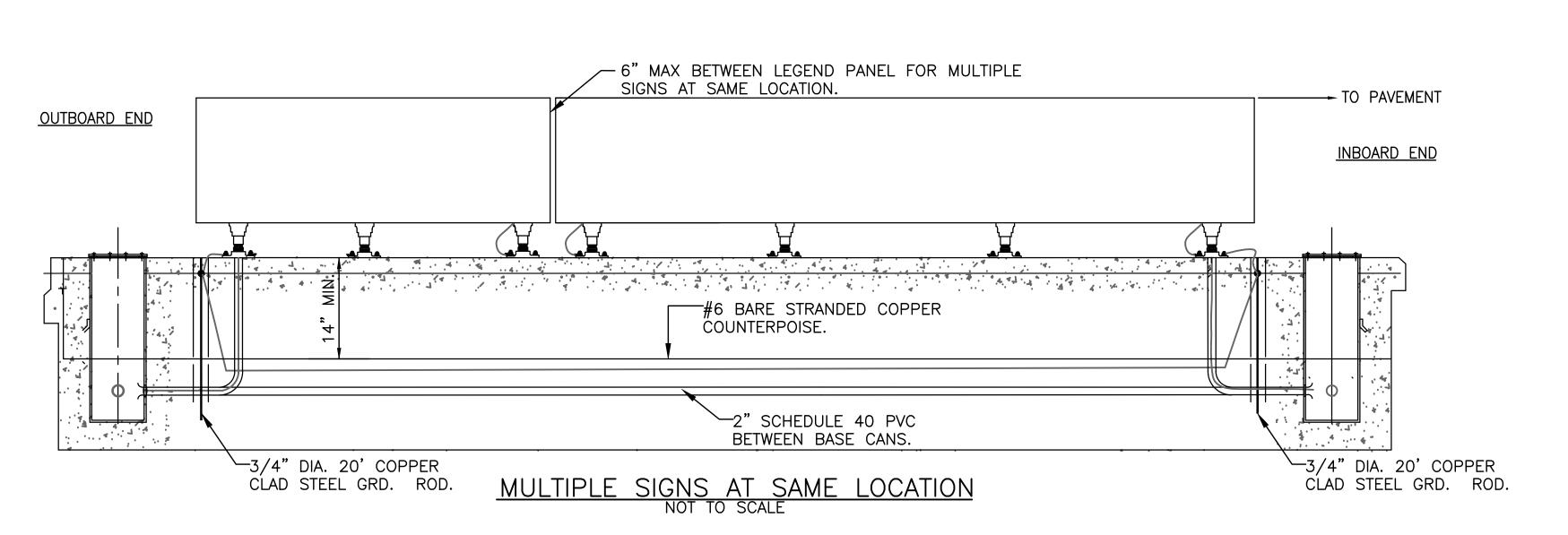
URE

RC

RI

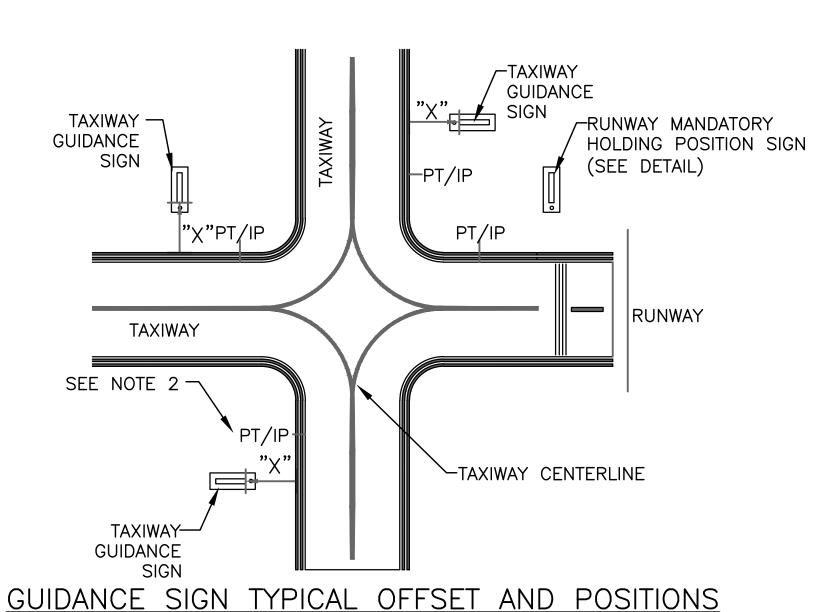
UDERD

 $\triangleleft$ 

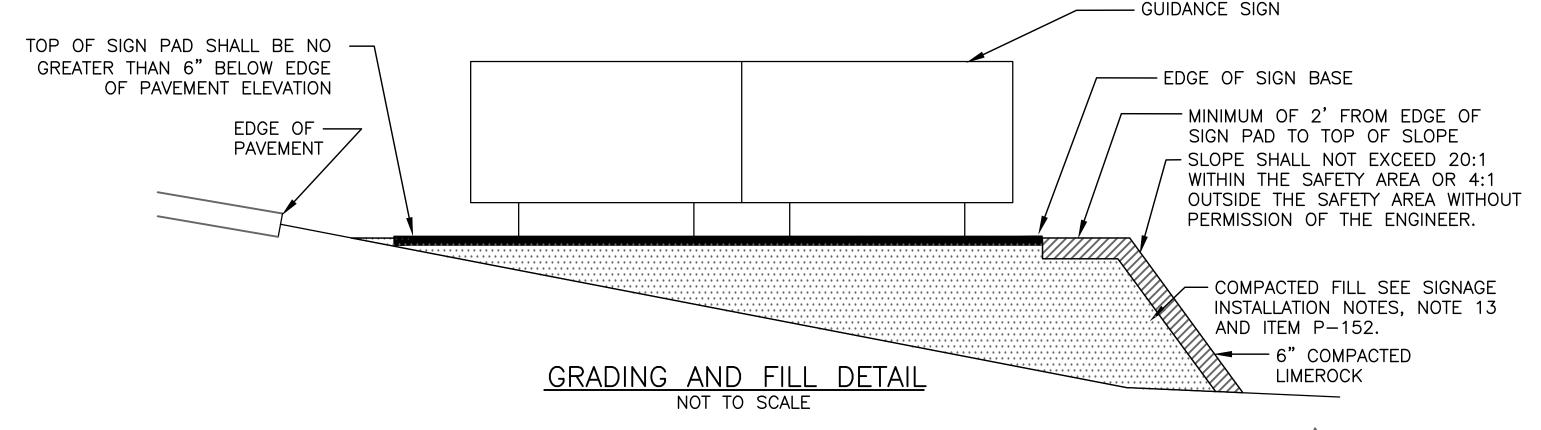


CONCRETE NOTE: CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS IN THE RUNWAY/TAXIWAY SAFETY AREAS AND IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, OR IN AREAS OTHERWISE INDICATED IN THE DETAILS AND DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM HOUR STRENGTH OF 2,500 PSI AND A MINIMUM 28 DAY STRENGTH OF 5,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.

CONCRETE FOR BACKFILL, SIGN PADS AND BASE CANS NOT IN THE RUNWAY/TAXIWAY SAFETY AREAS OR IN EXISTING PAVEMENT WHERE AIRCRAFT TRAFFIC WILL RESUME IMMEDIATELY UPON RE-OPENING, SHALL CONFORM TO THE REQUIREMENTS OF P-610 CONCRETE WITH A MINIMUM 28 DAY STRENGTH OF 4,000 PSI. A CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE COMMENCEMENT OF WORK.

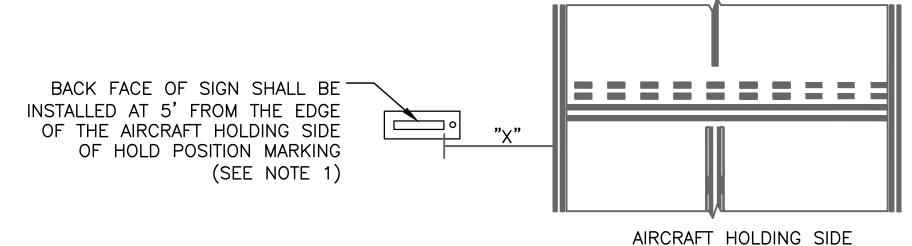


EXAMPLE OF A PERPENDICULAR TAXIWAY CONNECTOR LESS THAN 150' WIDE NOT TO SCALE "X" = OFFSET DISTANCE FROM DEFINED PAVEMENT EDGE (OUTSIDE EDGE OF OUTBOARD STRIPE) TO THE NEAREST EDGE OF THE GUIDANCE SIGN FRAME. SIZE 1 SIGNS = 15



#### SIGN LAYOUT AND OFFSET NOTES:

- 1. MANDATORY HOLDING POSITION SIGNS SHALL BE LOCATED 5' FROM THE FIRST STRIPE CLOSEST TO THE TAXIWAY CENTERLINE OF THE HOLDING POSITION MARKINGS WITH A TOLERANCE OF 0'/+10' FARTHER AWAY FROM HOLD POSITION MARKING, SEE FAA AC150/5340-18, LATEST EDITION.
- 2. RUNWAY EXIT SIGNS AND TAXIWAY GUIDANCE SIGNS SHALL BE TYPICALLY LOCATED 15' PRIOR TO THE POINT OF TANGENCY (PT)/INTERSECTION POINT(IP). SEE GEOMETRY PLANS FOR PT/IP LOCATIONS. ALL SIGNS SHALL BE STAKED IN THE FIELD AND THE FINAL LOCATION APPROVED BY RPR PRIOR TO INSTALLATION.
- 3. ALL SIZE 1 SIGNS SHALL BE INSTALLED AT 15' FROM THE DEFINED EDGE OF PAVEMENT TO THE NEAREST EDGE OF THE GUIDANCE SIGN FRAME. IF A SIGN CANNOT BE INSTALLED AT ITS STANDARD LOCATION DUE TO AN OBSTRUCTION, A TOLERANCE OF 10 TO 20 FEET FROM THE DEFINED EDGE OF PAVEMENT TO THE NEAREST EDGE OF THE GUIDANCE SIGN FRAME IS ALLOWED AS STATED IN FAA AC150/5340-18 LATEST EDITION.
- 4. MANDATORY HOLDING POSITION SIGNS AT LAHSO SHALL BE LOCATED 5' PRIOR TO THE FIRST STRIPE CLOSET TO THE APPROACHING AIRCRAFT OF THE HOLDING POSITION MARKINGS WITH A TOLERANCE OF 0'/+10' FARTHER AWAY FROM HOLD POSITION MARKING, SEE FAA AC150/5340-18, LATEST EDITION.



### RUNWAY MANDATORY HOLDING POSITION SIGN LAYOUT DETAIL

EXAMPLE OF A PERPENDICULAR TAXIWAY CONNECTOR LESS THAN 150' WIDE NOT TO SCALE

"X" = OFFSET DISTANCE FROM DEFINED PAVEMENT EDGE (OUTSIDE EDGE OF OUTBOARD STRIPE) TO THE NEAREST EDGE OF THE GUIDANCE SIGN FRAME. SIZE 1 SIGNS = 15'

> Kimley>Horn imley-Horn and Associates, Inc. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428

S 用 S

PRO TAXI REL ELE CAD FILE: 12243-E26-DETL

Exhibit 3D - Part 4 of 4 Page 33 of 53

DETAIL

ECT GE I

RING

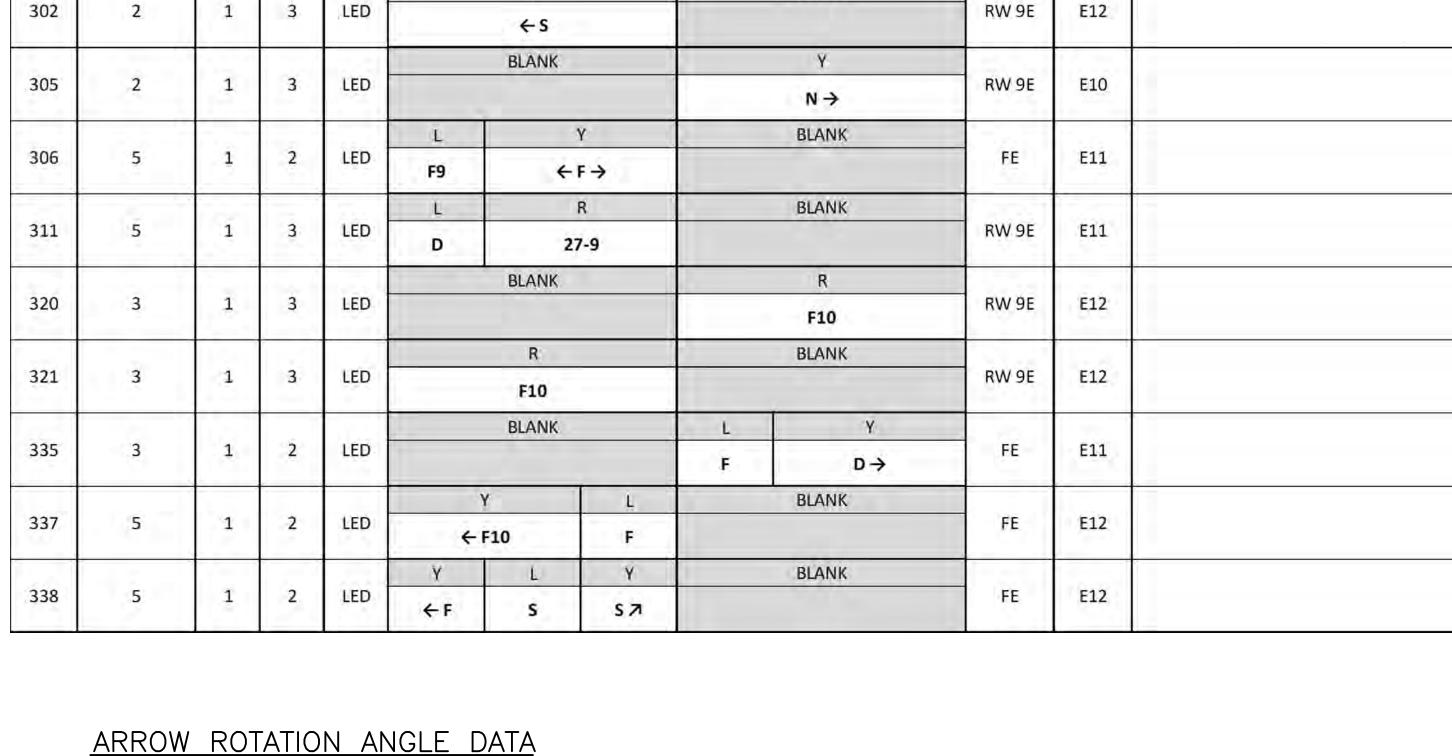
DRAWING FILE NO. 4-141-45

				1 1			LIGHTE	D SIGN	PANEL SCHE	DULE																		
SIGN NO.	NO. OF CHARACTERS	SIZE	STYLE	LAMP	TYPE SIDE 1 LEGEND		TYPE SIDE 2 LEGEND		CIRCUIT	Sheet No.	Remarks																	
					L I		R		BLANK																			
80	5	1	3	LED	N	27-9				RW 9E	E10																	
					L R		R		BLANK																			
10	7	1	3	LED	F10	0 27-9				RW 9E	E12																	
	1				Υ	L	Υ	L	BLANK	000	7.507																	
11	5	5 1 2 LED	LED	K S	S	F 7	S		FE	E12																		
20	1				L		Υ		BLANK		F10																	
38	4	1	2	LED	N	+	F→			FE	E10																	
20		i ngi i		150	L	1	Υ		BLANK		F44																	
39	4	1	2	LED	D +		F→			FE	E11																	
<b>-</b> 2	3 1 2	2	2	155	Ÿ		L		BLANK		540																	
52			LED	<b>←</b> 1	N	F			FE	E10																		
F F	4 1 2 LED	2	7	2	2 JED	Y		L		BLANK	FE	E11																
55		LED	<b>←</b> F	9	F			PE.	EII																			
56	5	1	2	LED	BLANK		L.			E12																		
50	3			LLD				F F10 →		FE																		
57	3	1	2	LED	Y				BLANK	FE	E11																	
3,74	11.7	118	35.7	275	<b>←</b> D F																							
58	4	1	2	2	LED	L		γ		BLANK	FE	E12																
X.0.1				1	F	IIV.	i →		2000		~~~																	
50	6	1	2	LED	L		Y		BLANK	FE	E12																	
		117.	4		F10		F→		We will also		-000																	
51	3	1	3	3	3	3	LED	L S		R		BLANK	RW 9E	F12														
		17.7		4 4	100			100	100	100		100	1000	100	100	100	4	4			100	S		27		DUANIZ		722
52	4	1	3	LED	γ ← F10				BLANK	RW 9E	E12																	
									DI AANZ		114																	
26	2	1	3	LED	Y				BLANK	RW 9E	E11																	
					<b>←</b> D				DLANK																			
28	2	1	3	LED	D Y				BLANK	RW 9E	E10																	
				← N					Y																			
233	2	1	3	LED		BLANK				RW 9E	E11																	
		1						D→		E'YE 1																		

BLANK

KS

S ->



**NEW LIGHTED SIGN PANEL SCHEDULE** 

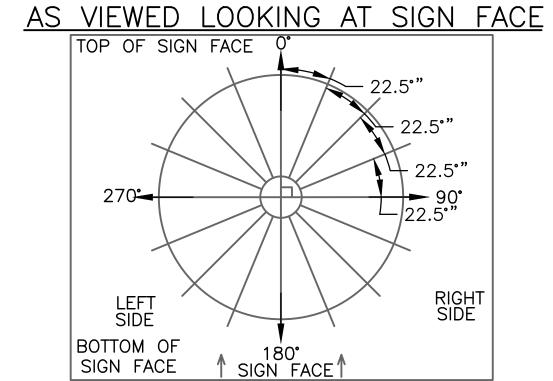
TYPE

SIDE 2 LEGEND

BLANK

CIRCUIT Sheet No.

Remarks



NO. OF

CHARACTERS

SIZE STYLE LAMP

SIDE 1 LEGEND

Υ

		ADDROVIMAT			TYPE TYPE						TYPE																				
SIGN NO.	NO. OF CHARACTERS	APPROXIMAT E LENGTH OF SIGN	SIZE	STYLE	LAMP	41.3.7			EXISTING SIDE 2 LEGEND			NEW SIDE 1 LEGEND			NEW SIDE 2 LEGEND			CIRCUIT	Sheet No.	Remarks											
100		1.53,50	100	1751		L		γ	BLANK L Y		γ		BLANK		1000	1	RELOCATE EXISTING LED SIGN 07. EXISTING														
07	3	59 in	1	2	LED	F F7				F F7					FW	E09	MANUFACTURER: ADB														
100						Y L ED ← F7 F		BLANK		1	Y			BLANK			l agai	RELOCATE EXISTING LED SIGN 51A. EXISTING													
49	4	59 in	1	2	LED			F				+	F7 F				FE	E10	MANUFACTURER: ADB												
3,71		1.000				Ý		L		BLANK		L		Υ		BLANK				RELOCATE AND REPANEL EXISTING LED SIGN											
51	3	59 in	1	2	LED	K.F. F		F				F	N	v →				FE	E10	49. EXISTING MANUFACTURER: ADB											
38	53 4 59 in 1				2	2	2	2	2	2	17.	Y		L		BLANK			γ.	L		BLANK			Fa.5-	RELOCATE EXISTING LED SIGN 53. EXISTING					
53		1	2	2							2	2	2	2	LED	+	F8	F				← F8 F				FE	E11	MANUFACTURER: ADB			
.50		11.00		131	NO.	L Ÿ		Y	BLANK		L Y		L	BL	ANK		2.3	RELOCATE AND REPANEL EXISTING LED SIGN													
54	.5	5 88 in 1		2	2	LED	F8	+	- F →				F8	<b>←</b>	F →	F8			FE	E11	54. EXISTING MANUFACTURER: ADB										
3.50	l la l'					BLA	NK	L	Y.	Υ	L	BLANK	Υ	YL		YYL	1	X72	RELOCATE AND REPANEL EXISTING LED SIGN												
274	7	118 in	1	2	LED			F	←13	← F5	F		<b>₹</b> F	F	←13	← F5	F	FW	E09	274. EXISTING MANUFACTURER: ADB											
500	118		88 in 1	1	2	2	2	2	2		L	Y		BLANK		L		Ÿ	L	BL	ANK			RELOCATE AND REPANEL EXISTING LED SIGN							
333	5	88 in								2	2	2	2	2	2	2	2	2	2	2	2	2	2 LED	F7	+	-F →				F7	+
						Ļ		Y		BLANK		L	L Y		BLANK		100000000000000000000000000000000000000		l ll and	RELOCATE EXISTING LED SIGN 51B. EXISTING											
334	34 4 59 in 1	1	2	2	2	2	2	2	2	2	2	2	2	2	LED	F	F	7 →			F F7 →				FE	E10	MANUFACTURER: ADB				
2.2.5		T.L.				1	BLANK		L		Υ		BLANK		L		Y	100	2.5	RELOCATE EXISTING LED SIGN 54A. EXISTING											
336 4 59 in 1	9 in 1	1	2	2 LED				F	F8	3 →				F	F	8 →	FE	E11	MANUFACTURER: ADB												

E12

RELOCATED LIGHTED SIGN PANEL SCHEDULE

#### SIGN PANEL NOTES:

- 1. ARROWS INDICATE DIRECTION OF TAXIWAYS.
- 2. ALL NEW SIGNS SHALL HAVE A FLAT/VERTICAL FACE.
- 3. IT IS THE RESPONSIBILITY OF CONTRACTOR TO ENSURE THAT THE DIRECTIONAL ARROWS ON ANGLED TAXIWAYS (NOT 90°) MATCHES CENTERLINE OF REFERENCED TAXIWAY TO THE NEAREST 22.5°: SEE ROSE COMPASS FOR GUIDANCE.
- 4. CONTRACTOR SHALL PROVIDE ALL SIGN LEGENDS AND BLANK PANELS REQUIRED BY THE SIGN PANEL SCHEDULE, MANUFACTURER AND FAA AC150/5340-18, LATEST EDITION.
- 5. CONTRACTOR SHALL PROVIDE MESSAGE DIVIDERS ON NEW AND EXISTING SIGNS TO BE REPANELED PER AC150/5340-18, LATEST EDITION. MESSAGE DIVIDERS SHALL BE INCLUSIVE TO THE LINE ITEMS FOR SIGNAGE.
- 6. SIGNS SHALL BE PAID BY CHARACTER, UNLESS OTHERWISE INDICATED. ONE CHARACTER SHALL BE DEFINED AS 1 LETTER, NUMERAL OR SPECIAL CHARACTER/PUNCTUATION REGARDLESS OF TEXT OR BACKGROUND COLOR CHANGES. SIGNS SHALL BE PAID FOR BY THE SIGN SIDE THAT HAS THE GREATEST NUMBER OF CHARACTERS AND SHALL NOT ACCOUNT FOR MESSAGE DIVIDERS OR CHANGE OF BACKGROUND COLOR. PANELS FOR BOTH SIDES OF SIGN SHALL BE INCLUSIVE TO THE LINE ITEM.

#### SIGN LEGEND NOTES:

SIGN TYPES:

- L = TAXI LOCATION SIGN, BLACK BACKGROUND WITH YELLOW LETTERING AND A YELLOW BORDER.
- D = RUNWAY DISTANCE TO GO SIGN, BLACK BACKGROUND WITH WHITE LETTERING.
- Y = TAXIWAY DIRECTIONAL SIGN, YELLOW BACKGROUND WITH BLACK LETTERING.
- R = MANDATORY HOLD SIGN, RED BACKGROUND WITH WHITE LETTERING OUTLINED IN BLACK.
- I = INFORMATIONAL SIGN WITH YELLOW BACKGROUND WITH BLACK LETTERING

**Kimley** Horn (imley-Horn and Associates, Inc. ©2016 KIMLEY-HORN AND ASSOCIATES, INC. 920 WEKIVA WAY, SUITE 200, WEST PALM BEACH, FL 33411 FBPE No. CA 00000696 044693068

HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428

S 103 BID CAD FILE: 12243-E27-DETL

DRAWING FILE NO. 4-141-45

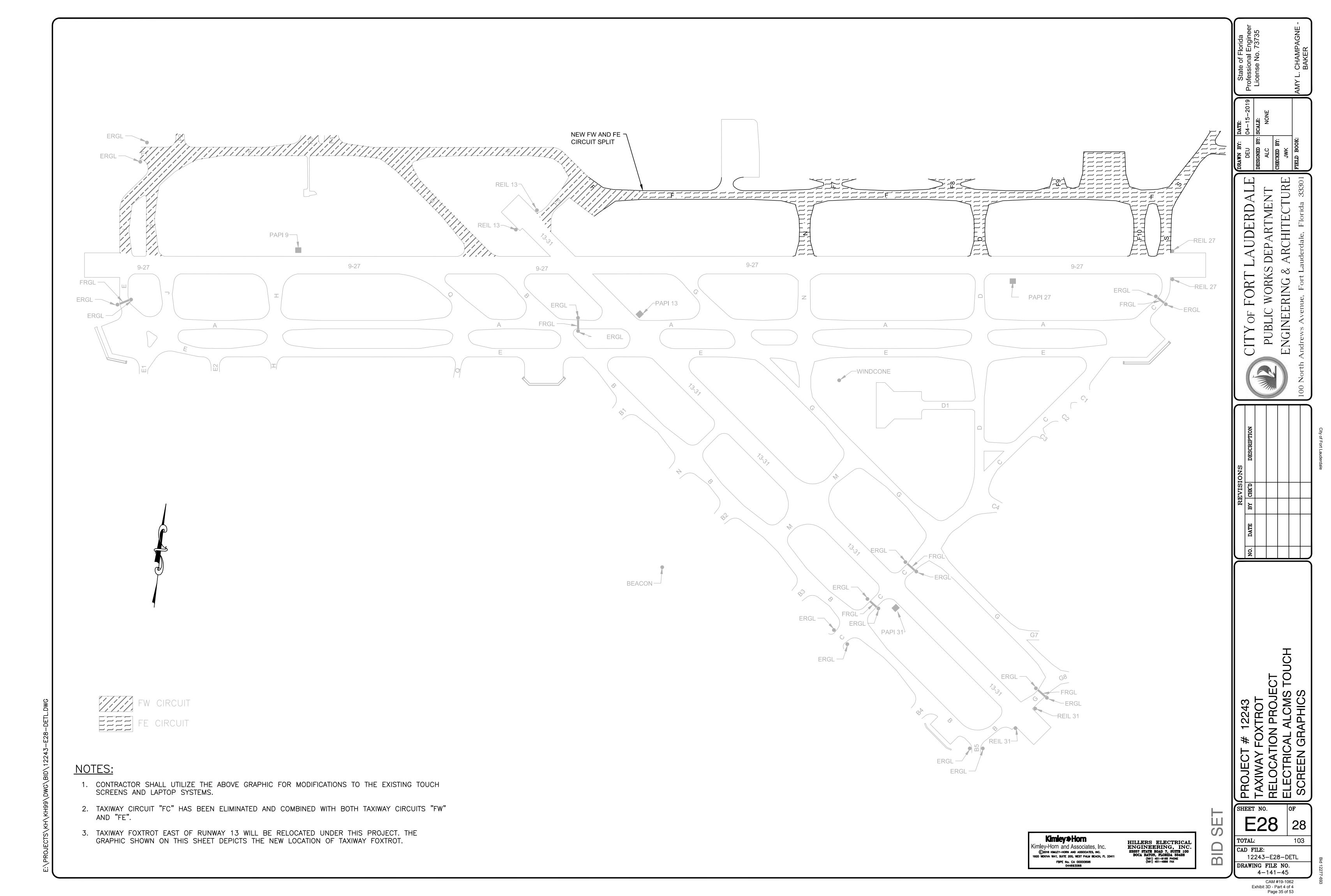
S DEPARTMENT ARCHITECTURE

NGINEERING

AUDERDALE

Exhibit 3D - Part 4 of 4 Page 34 of 53

234



p. 695

#### **CERTIFICATION OF RESTRICTIONS ON LOBBYING**

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) NO Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit standard Form-LLL, "Disclosure of Lobby Activities," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclosure accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into, submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 3 1, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of no less than \$10,000 and not more than \$100,000 for each such failure.

Signed		Dated	
•	Contractor's Authorized Representative		

#### 1. CERTIFICATE OF BUY AMERICAN COMPLIANCE – TOTAL FACILITY

As a matter of bid responsiveness, the bidder proposer must complete, sign, date, and submit this certification statement with their proposal. The bidder or proposer must indicate how they intend to comply with 49 USC  $\S$  50101 by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e. not both) by inserting a checkmark ( $\checkmark$ ) or the letter "X".

☐ Bidder or proposer hereby certifies that it will comply with 49 USC. 50101 by:

- a) Only installing steel and manufactured products produced in the United States; or
- Installing manufactured products for which the FAA has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
- c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or proposer agrees:

- 1. To provide to the City evidence that documents the source and origin of the steel and manufactured product.
- 2. To faithfully comply with providing US domestic products.
- 3. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.
- The bidder or proposer hereby certifies it cannot comply with the 100% Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or proposer with the apparent low bid agrees:
  - To the submit to the City within 15 calendar days of the bid opening, a formal waiver request and required documentation that support the type of waiver being requested.
  - 2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.
  - 3. To faithfully comply with providing US domestic products at or above the approved US domestic content percentage as approved by the FAA.
  - 4. To furnish US domestic product for any waiver request that the FAA rejects.
  - 5. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

#### **Required Documentation**

**Type 3 Waiver -** The cost of components and subcomponents produced in the United States is more that 60% of the cost of all components and subcomponents of the "facility". The required documentation for a type 3 waiver is:

a) Listing of all manufactured products that are not comprised of 100% US domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety)

- b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.
- c) Percentage of non-domestic component and subcomponent cost as compared to total "facility" component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

**Type 4 Waiver** – Total cost of project using US domestic source product exceeds the total project cost using non-domestic product by 25%. The required documentation for a type 4 of waiver is:

- a) Detailed cost information for total project using US domestic product
- b) Detailed cost information for total project using non-domestic product

**False Statements**: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date	Signature
Company Name	Title

# 2. CERTIFICATE OF BUY AMERICAN COMPLIANCE FOR MANUFACTURED PRODUCTS

As a matter of bid responsiveness, the bidder or proposer must complete, sign, date, and submit this certification statement with their proposal. The bidder or proposer must indicate how they intend to comply with 49 USC § 50101 by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark ( $\checkmark$ ) or the letter "X".

- ☐ Bidder or proposer hereby certifies that it will comply with 49 USC § 50101 by:
  - a) Only installing steel and manufactured products produced in the United States, or:
  - Installing manufactured products for which the FAA has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing, or;
  - c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or proposer agrees:

- 1. To provide to the City evidence that documents the source and origin of the steel and manufactured product.
- 2. To faithfully comply with providing US domestic product
- 3. To furnish US domestic product for any waiver request that the FAA rejects.
- 4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

- The bidder or proposer hereby certifies it cannot comply with the 100% Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or proposer with the apparent low bid agrees:
  - 1. To the submit to the City within 15 calendar days of the bid opening, a formal waiver request and required documentation that support the type of waiver being requested.
  - 2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
  - 3. To faithfully comply with providing US domestic products at or above the approved US domestic content percentage as approved by the FAA.
  - 4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

#### **Required Documentation**

**Type 3 Waiver -** The cost of the item components and subcomponents produced in the United States is more that 60% of the cost of all components and subcomponents of the "item". The required documentation for a type 3 waiver is:

- a) Listing of all product components and subcomponents that are not comprised of 100% US domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
- b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- c) Percentage of non-domestic component and subcomponent cost as compared to total "item" component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

**Type 4 Waiver** – Total cost of project using US domestic source product exceeds the total project cost using non-domestic product by 25%. The required documentation for a type 4 of waiver is:

- a) Detailed cost information for total project using US domestic product
- b) Detailed cost information for total project using non-domestic product

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date	Signature
Company Name	Title

#### **DISADVANTAGED BUSINESS ENTERPRISE**

Regulations: 49 CFR Part 26

The City of Fort Lauderdale's overall DBE race-conscious goal for this project is **7.70%**. The bidder shall exercise a good faith effort towards attainment of the overall goal. The bidder's performance towards attainment of the overall goal is to be measured as a percentage of the total dollar value of the contract. Contractors or subcontractors proposed for meeting the overall DBE goal **MUST BE CERTIFIED** as a DBE by one of the following public agencies: Palm Beach County, Broward County, Miami-Dade County, Florida Department of Transportation, or other public agency whose requirement for DBE certification are functionally equivalent to or more stringent than any of the above-listed agencies. The bidder must submit evidence of such **CERTIFICATION** with the bid. Previous or current **REGISTRATION** as a DBE contractor with the City of Fort Lauderdale, by itself, does not meet the above requirements, nor does completion of City of Fort Lauderdale "Prime Contractor Identification Form(s)" provided herein. Those forms are intended for purposes of identification and registration only, and do not meet the certification requirements for this project. Bidder must also submit evidence of current **CERTIFICATION** for proposed DBE contractors under other qualifying program(s) as identified above, with the bid proposal. The owner requires the submission of Forms 1 & 2 with the bid proposal.

#### DBE's

DBE Group Names/Addresses/Identity*	Subcontract Work Item	Dollar Value of Subcontract Work
		\$
	- <u></u>	\$
	-	\$
		\$
		\$
		Ψ
	Total Dollar Value of Subcontract Work	\$
	Total Dollar Value of Basic Bid	\$
	Total DBE Percent	\$

The bidder may be required to submit supplemental information in accordance with Appendix A, Part III, to document good faith efforts towards meeting the overall DBE Participation goal.

SEE DEFINITIONS IN APPENDIX A, PART III, SHEET DBE-5.

<sup>\* (</sup>Black, Hispanic, Asian American, American Indian, Women regardless of ethnicity, and other socially and economically disadvantaged)

# **Demonstration of Good Faith Efforts - Forms 1 & 2**

# FORM 1: DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION

The undersigned bidder/offeror has satisfied the requirements of the bid specification in the following manner (please check the appropriate space):

The bidder/offeror is committed to contract.	a minimum of % DBE utilization on this
	eet the DBE goal of%) is committed to a scontract and should submit documentation
Name of bidder/offeror's firm:	
State Registration No	
By(Signature)	Title

#### **FORM 2: LETTER OF INTENT**

Name of bidder/offeror's firm	າ:		_
Address:			
City:	State:	Zip:	
Name of DBE firm:			
Address:			
City:	State:	Zip:	
Telephone:			
Description of work to be pe	rformed by DBE firm:		
The bidder/offeror is commit The estimated dollar value of			the work described above
Affirmation			
The above-named DBE firm dollar value as stated above			
By(Signature)		Date:	
(Title)			

If the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

Submit this page for each DBE subcontractor.

5

# CITY OF FORT LAUDERDALE

### MINORITY BUSINESS ENTERPRISE (MBE) - WOMEN BUSINESS ENTERPRISE (WBE)

PUBLIC WORKS DEPARTMENT

#### PRIME CONTRACTOR IDENTIFICATION FORM

In order to assist us in identifying the status of those companies doing business with the City of Fort Lauderdale, this form <u>must be completed and returned</u> with your bid package.

Name of Firm:			
Address of Firm:			
Telephone Number:			
Name of Person Completing Form:			
Title:			
Signature:			
Date:			
City Project Number:			
City Project Description:			
Please check the item(s) which properly identify the status of your firm:			
☐ Our firm is not a MBE or WBE.			
	Our firm is a MBE, as at least 51 percent is owned and operated by one or more socially and economically disadvantaged individuals.		
☐ American Indian ☐ Asi	an ☐ Black ☐ Hispanic		
Our firm is a WBE, as at least	51 percent is owned and operated by one	or more women.	
☐ American Indian ☐ Asi	an □ Black □ Hispanic		

#### MBE/WBE CONTRACTOR INFORMATION

The City, in a continuing effort, is encouraging the increased participation of minority and womenowned businesses in Public Works Department related contracts. Along those lines, we are requiring that each firm provide documentation detailing their own programs for utilizing minority and women-owned businesses.

Submit this information as a part of this bid package and refer to the checklist, to ensure that all areas of concern are covered. The low responsive bidder may be contacted to schedule a meeting to discuss these objectives. It is our intention to proceed as quickly as possible with this project, so your cooperation in this matter is appreciated.

#### **CONTRACTOR CHECKLIST**

Ш	List Previous City of Fort Lauderdale Contracts
	5
	Number of Employees in your firm
	Percent ( %) Women
	Percent ( %) Minorities
	Job Classifications of Women and Minorities
	5
	Use of minority and/or women subcontractors on past projects.
	5
П	Nature of the work subcontracted to minority and/or women-owned firms.
	5
П	How are subcontractors notified of available opportunities with your firm?
	5
<u></u>	9

Anticipated amount to be subcontracted on this project.
6
Anticipated amount to be subcontracted to minority and/or women-owned businesses on this project.
6

5

# **QUESTIONNAIRE SHEET**

PLEASE PRINT OR TYPE:		
Firm Name:		
President		
Business Address:		
	<u>5</u>	
Telephone:		Fax:
E-Mail Address:		
What was the last project of this r contract value.	nature which you completed? Include the year, d	escription, and
	5	
have performed work similar to the	e corporations and representatives of those corpor at required by this contract, and which the City melephone numbers and e-mail addresses). Includue.	nay contact as your
How many years has your organi	zation been in business?	
Have you ever failed to complete	work awarded to you; if so, where and why?	
The name of the qualifying agent for the firm and his position is:		
Certificate of Competency Number of Qualifying Agent:		
Effective Date:	Expiration Date:	
Licensed in:	Engineering Contractor's License #	:
(County/State)		

Expiration Date:	

NOTE: To be considered for award of this contract, the bidder must submit a financial statement upon request.

NOTE: Contractor <u>must</u> have proper licensing and shall provide copy of same with his proposal.

# **QUESTIONNAIRE SHEET**

1.	Have you personally inspected the proposed work and have you a complete plan for its performance?
	<u>5</u>
2.	Will you sublet any part of this work? If so, list the portions or specialties of the work that you will.
a) [	
b) [	
c) [	
d) [	
e) [	
f) [	
g) [	
3.	What equipment do you own that is available for the work?
4.	What equipment will you purchase for the proposed work?
5.	What equipment will you rent for the proposed work?
3	

#### **NON-COLLUSION STATEMENT:**

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

- 3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).
- 3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

<u>NAME</u>	<u>RELATIONSHIPS</u>
-	
	'
	l

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

3

CAM #19-1062 Exhibit 3D - Part 4 of 4

# CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

- 1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").
- 2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.
- 3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.
- 4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.
- 5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale. Florida.

Authorized Signature	Print Name and Title	
Date		

6

#### CONSTRUCTION BID CERTIFICATION

	gistration)									
ddress:										
ty:				State:	Zip:					
.y				Otate. j	Zip.					
elephone No.	FAX No.	<u></u>	E	Email:						
					rtnership, state the na	mes of all partners. If a	trade name,	state the	names of the individuals w	/ho
Name			Title		Name			Title		
Name			Title		Name			Name		
DENDUM ACKNOV	<u> VLEDGEMENT</u> - Bidder	ackn	nowledges that the	e following addenda h	nave been received a	nd are included in the b	id:			
Addendum No.	Date Received	A	ddendum No.	Date Received	Addendum No.	Date Received	Addendu	ım No.	Date Received	
-	•		-		·				pace provided below or refe be deemed to be part of the	
the space provide bmitted unless su ntained in the belo	ed below all variances of the contains and contains	conta ned ir nplied	nined on other pa n the space prov d that your respor	ages within your bid. And ided below. The City has is in full compliance.	Additional pages may does not, by virtue o ce with this competitive	be attached if necessary f submitting a variance e solicitation. If you do	ary. No varia , necessarily	nces will accept a		he iei
the space provide bmitted unless su intained in the belo	ed below all variances of sich is listed and contain ow space, it is hereby in	conta ned ir nplied	nined on other pa n the space prov d that your respor	ages within your bid. And ided below. The City has is in full compliance.	Additional pages may does not, by virtue o ce with this competitive	be attached if necessary be attached if necessary be attached if necessary be attached in the same attached in the	ary. No varia , necessarily	nces will accept a	be deemed to be part of the no statement of the statement	he ier
the space provide bmitted unless su ntained in the belosponse electronical e below signatory low signatory agred contract docume the any other bidde inatory danages, esentations, or away a support of the second contract documents and the second contract documents are second contract documents.	affirms that he has or we sets to furnish all labor, to represent our properties to this bid voy agrees, by virtue of expenses, or lost profit	conta ned ir nplied ou mi iill obt ools, dicate whats subm ss aris	tain all required pure different awards of the space proving that your responds that your responds also click the stain all required pure different awarded a cooever. Furthermotiting or attempting out of this column amount of Five H	ages within your bid. And ided below. The City nse is in full compliant. "Take Exception" butto the ermits and licenses from the and supplies, and contract. The below signore, the undersigned ing to submit a bid, the impetitive solicitation p	Additional pages may does not, by virtue o ce with this competitivon.  On the appropriate agonal to sustain all the exponent year and to viug guarantees the truth that in no event shall to process, including but	encies, and that his firm ense incurred in doing ted to, discussed, or con and accuracy of all state City's liability for bonot limited to public adversed.	ary. No varia, necessarily not have vari is authorized the work set if npared this betements and dder's direct, ertisement, b	nces will r accept a ances, sin I to do bus orth in stri id with oth answers indirect, in id confere	be deemed to be part of the no statement of the statement	a. plube
the space provide bmitted unless su ntained in the belosponse electronical e below signatory low signatory agred contract docume the any other bidde unatory also herebemplary damages, esentations, or away other today of the sent of th	ad below all variances of the is listed and contain we space, it is hereby imply through BIDSYNC years.  affirms that he has or we sees to furnish all labor, to the interior or parties to this bid we pay agrees, by virtue of a expenses, or lost profit and proceedings exceed	conta ned ir nplied ou mi iill obt ools, dicate whats subm ss aris	tain all required pure different awards of the space proving that your responds that your responds also click the stain all required pure different awarded a cooever. Furthermotiting or attempting out of this column amount of Five H	ages within your bid. And ided below. The City nse is in full compliant. "Take Exception" butto the ermits and licenses from the and supplies, and contract. The below signore, the undersigned ing to submit a bid, the impetitive solicitation p	Additional pages may does not, by virtue o ce with this competitivon.  On the appropriate agonal to sustain all the exponent year and to viug guarantees the truth that in no event shall to process, including but	encies, and that his firm ense incurred in doing ted to, discussed, or con and accuracy of all state City's liability for bonot limited to public adversed.	ary. No varia, necessarily not have vari is authorized the work set if npared this betements and dder's direct, ertisement, b	nces will r accept a ances, sin I to do bus orth in stri id with oth answers indirect, in id confere	be deemed to be part of the control	a. plube
the space provide britted unless su ntained in the belosponse electronical e below signatory low signatory agred contract docume h any other bidde inatory also herebemplary damages, esentations, or awotest ordinance co	ad below all variances of the is listed and contain we space, it is hereby imply through BIDSYNC years.  affirms that he has or we sees to furnish all labor, to the interior or parties to this bid we pay agrees, by virtue of a expenses, or lost profit and proceedings exceed	conta ned ir nplied ou mi iill obt ools, dicate whats subm ss aris	tain all required pure different awards of the space proving that your responds that your responds also click the stain all required pure different awarded a cooever. Furthermotiting or attempting out of this column amount of Five H	ages within your bid. And ided below. The City nse is in full compliant. "Take Exception" butto the ermits and licenses from the and supplies, and contract. The below signore, the undersigned ing to submit a bid, the impetitive solicitation p	Additional pages may does not, by virtue o ce with this competitivon.  On the appropriate agonal to sustain all the exponent year and to viug guarantees the truth that in no event shall to process, including but	encies, and that his firm ense incurred in doing ted to, discussed, or con and accuracy of all state City's liability for bonot limited to public adversed.	ary. No varia, necessarily not have vari is authorized the work set if npared this betements and dder's direct, ertisement, b	nces will r accept a ances, sin I to do bus orth in stri id with oth answers indirect, in id confere	be deemed to be part of the control	a. plube
the space provide bmitted unless su ntained in the belosponse electronical e below signatory agreed to contract docume the any other bidde inatory also heretemplary damages, esentations, or awotest ordinance continuited by:	ad below all variances of the is listed and contain we space, it is hereby imply through BIDSYNC years.  affirms that he has or we sees to furnish all labor, to the interior or parties to this bid we pay agrees, by virtue of a expenses, or lost profit and proceedings exceed	conta ned ir nplied ou mi iill obt ools, dicate whats subm ss aris	tain all required pure different awards of the space proving that your responds that your responds also click the stain all required pure different awarded a cooever. Furthermotiting or attempting out of this column amount of Five H	ages within your bid. And ided below. The City nse is in full compliant. "Take Exception" butto the ermits and licenses from the and supplies, and contract. The below signore, the undersigned ing to submit a bid, the impetitive solicitation p	Additional pages may does not, by virtue o ce with this competitivon.  On the appropriate agonal to sustain all the exponent year and to viug guarantees the truth that in no event shall to process, including but	encies, and that his firm ense incurred in doing ted to, discussed, or con and accuracy of all state City's liability for bonot limited to public adversed.	ary. No varia, necessarily not have vari is authorized the work set if npared this betements and dder's direct, ertisement, b	nces will r accept a ances, sin I to do bus orth in stri id with oth answers indirect, in id confere	be deemed to be part of the control	a. plube
the space provide bmitted unless su ntained in the belosponse electronical e below signatory low signatory agred contract docume the any other bidde inatory danages, esentations, or away as the second of the seco	ad below all variances of the is listed and contain we space, it is hereby imply through BIDSYNC years.  affirms that he has or we sees to furnish all labor, to the interior or parties to this bid we pay agrees, by virtue of a expenses, or lost profit and proceedings exceed	conta ned ir nplied ou mi iill obt ools, dicate whats subm ss aris	tain all required pure different awards of the space proving that your responds that your responds also click the stain all required pure different awarded a cooever. Furthermotiting or attempting out of this column amount of Five H	ages within your bid. And ided below. The City inse is in full compliance. "Take Exception" butto the ermits and licenses from the ermits and supplies, and contract. The below signore, the undersigned ing to submit a bid, the mpetitive solicitation produced by the properties of the ermits and supplies and submit a bid, the model of the ermits and submit a bid, the model of the ermits and submit a bid, the model of the ermits and submit a bid, the model of the ermits and submit a bid, the model of the ermits and submit a bid, the ermits are ermits and submit a bid, the ermits are ermits and the ermits are ermits are ermits and ermits are ermits and ermits are ermit	Additional pages may does not, by virtue o ce with this competitivon.  On the appropriate agonal to sustain all the exponent year and to viug guarantees the truth that in no event shall to process, including but	encies, and that his firm ense incurred in doing ted to, discussed, or con and accuracy of all state City's liability for bonot limited to public adversed.	ary. No varia, necessarily not have vari is authorized the work set if npared this betements and dder's direct, ertisement, b	nces will r accept a ances, sin I to do bus orth in stri id with oth answers indirect, in id confere	be deemed to be part of the control	a. plube

# Question and Answers for Bid #12277-693 - Fort Lauderdale Executive Airport Taxiway Foxtrot Relocation (P12243)

# 5

#### **Overall Bid Questions**

#### Question 1

What is the engineers estimate for this project? (Submitted: Apr 28, 2019 8:43:17 PM EDT)