

**FLORIDA DEPARTMENT OF
TRANSPORTATION**



ATTACHMENTS

ITB-DOT-14/15-8005-GB

INSTALLATION OF FENCE AND CANTILEVER SLIDE SECURITY GATE

FLORIDA'S TURNPIKE (S.R. 91), MILEPOST 99.0

428395-1-52-11

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

F.P.I.D. 428395-1-52-09

WEST PALM BEACH COUNTY

FENCING AND CANTILEVER SLIDE SECURITY GATE
CENTRAL REPAIR DEPOT MP 99
6401 OKEECHOBEE BLVD.

SEPTEMBER 8, 2014

COMPONENTS OF CONTRACT PLANS SET
SYSTEM PLANS

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GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION, 2013 DESIGN
STANDARDS AND 2013 STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION, AS AMENDED BY CONTRACT DOCUMENTS,
AND THE SPECIFICATIONS WITHIN THESE PLANS.

FOR DESIGN STANDARDS CLICK ON THE "DESIGN
STANDARDS" LINK AT THE FOLLOWING WEBSITE:
[HTTP://WWW.DOT.STATE.FL.US/RDDISIGN/](http://www.dot.state.fl.us/rddesign/)

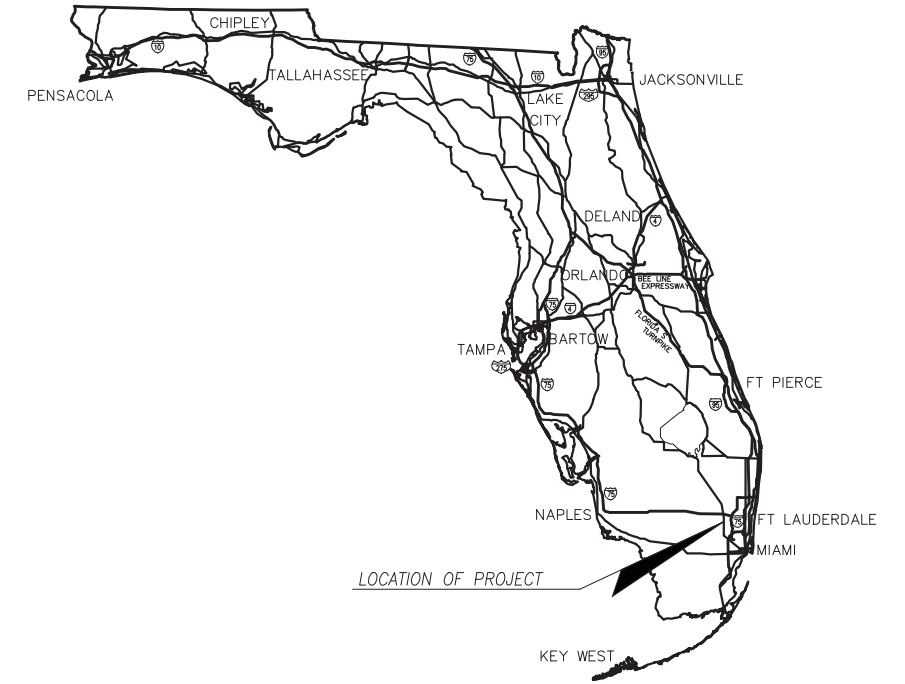
FOR THE STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION CLICK ON THE
"SPECIFICATIONS" LINK AT THE FOLLOWING WEBSITE:
[HTTP://WWW.DOT.STATE.FL.US/SPECIFICATIONSOFFICE/](http://www.dot.state.fl.us/specificationsoffice/)



PROJECT LOCATION

KEY SHEET REVISIONS		
DATE	BY	DESCRIPTION

FDOT PROJECT MANAGER: PATRICK M. MAGGIO
G.E.C. PROJECT MANAGER: JAMES E. VICK P.E.



SHOP DRAWINGS
TO BE SUBMITTED TO:

JAMES E. VICK, P.E.
Sr CONSTRUCTION MANAGEMENT REPRESENTATIVE
FLORIDA'S TURNPIKE ENTERPRISE / ATKINS
MILEPOST 263, BUILDING 5315
OCOOE, FL 34761
PHONE: (407) 264-3410

PLANS PREPARED BY:

**TOLL FACILITIES
ENGINEERING**

FLORIDA'S TURNPIKE ENTERPRISE
MILE POST 263 - BUILDING 5319
OCOOE, FLORIDA 34761

NOTE: THE SCALE OF THESE PLANS MAY
HAVE CHANGED DUE TO REPRODUCTION.

CIVIL PLANS
ENGINEER OF RECORD: JAMES E. VICK P.E.

P.E. NO.: 39901

ELECTRICAL PLANS
ENGINEER OF RECORD: JEFFERY SCOTT KIPFINGER, P.E.

P.E. NO.: 61085

ARCHITECTURAL PLANS
ARCHITECT OF RECORD: JEFFREY N. WARMINGTON, AIA.

R.A. NO.: 13828

FISCAL YEAR	SHEET NO.
14	T-1

GENERAL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE TO ACQUIRE ALL REQUIRED PERMITS, PAY ALL FEES INCLUDING TESTING & INSPECTION FEES, PROVIDE SHOP DRAWINGS TO BE SUBMITTED TO THE DEPARTMENT FOR REVIEW AND APPROVAL, RESPONSIBLE FOR DISPOSAL OF ALL DEBRIS, SITE CLEAN-UP, PAY TOLLS, COMPLY WITH APPLICABLE LAWS, REGULATIONS, AND FLORIDA BUILDING CODE REQUIREMENTS.
2. THE CONTRACTOR SHALL BE CURRENTLY LICENSED BY THE STATE OF FLORIDA AS A GENERAL CONTRACTOR, SHALL HAVE A CURRENT COUNTY OCCUPATIONAL LICENSE TO PERFORM THE WORK IN PALM BEACH COUNTY AND SHALL HAVE A MINIMUM OF FIVE YEARS EXPERIENCE IN PERFORMING THE TYPE OF WORK REQUIRED IN THIS CONTRACT.
3. THE CONTRACTOR MUST HAVE IN HIS EMPLOY (ON STAFF OR AS A SUBCONTRACTOR) PROPERLY LICENSED SPECIALTY TRADES PERSONNEL (ELECTRICAL, MECHANICAL, HVAC, TELECOMMUNICATIONS) WITH AT LEAST FIVE YEARS EXPERIENCE OF THE TYPE OF SPECIALTY WORK REQUIRED UNDER THE CONTRACT.
4. THE CONTRACTOR SHALL SUPPLY TO THE DEPARTMENT AND KEEP IN FORCE AT ALL TIMES DURING THE TERM OF THIS CONTRACT, A PERFORMANCE BOND PROVIDED BY A SURETY AUTHORIZED TO DO BUSINESS IN THE STATE OF FLORIDA.
5. THE PROJECT LOCATION IS AT EXIT 99 ON FLORIDA'S TURNPIKE. THE PROJECT INCLUDES MODIFICATIONS TO SECURITY FENCE AT THE WAREHOUSE AND MAINTENANCE AREA BEHIND THE TOLL PLAZA AND THE INSTALLATION OF ACCESS CONTROLS ON THE GATES.
6. THE PROJECT LOCATION IS ONLY ACCESSIBLE ONLY FROM THE NORTHBOUND AND SOUTHBOUND TURNPIKE EXIT 99 ON THE FLORIDA'S TURNPIKE.
7. FENCING: DEMOLISH/REMOVE ANY EXISTING FENCING NOTED FOR REMOVAL WITHIN THE PROJECT LIMITS INDICATED ON THE PLANS. PROVIDE AND INSTALL NEW FENCING AND GATES AS SHOWN ON THE DRAWINGS AND AS SPECIFIED.
8. ELECTRICAL: INSTALL NEW ELECTRICAL WORK AS SHOWN ON THE DRAWINGS AND AS SPECIFIED. MODIFY AND EXTEND THE POWER SYSTEMS AS SHOWN. PROVIDE AND INSTALL ALL NECESSARY CIRCUITRY, CONDUIT AND ASSOCIATED WIRING FOR THE MODIFICATIONS AND NEW EQUIPMENT, AS SHOWN ON THE DRAWINGS. PROVIDE AND INSTALL ALL CONDUIT, CONDUCTORS, TRANSFORMERS, ELECTRICAL PANELS, AND ALL OTHER ITEMS OF WORK NEEDED TO PROVIDE THE ELECTRICAL POWER NECESSARY TO OPERATE THE NEW INSTALLED WORK. DISCONNECT AND REMOVE TEMPORARY SERVICES REQUIRED DURING CONSTRUCTION WHEN PERMANENT SERVICE IS CONNECTED, TESTED AND IS OPERATING SATISFACTORILY.
9. PROVIDE AND INSTALL ALL EXCAVATION, SAWCUTTING, CONCRETE, LIMEROCK, AND ASPHALT REQUIRED AS NOTED ON THE PLANS
10. GATE ACCESS CONTROL SYSTEM: INSTALL NEW GATE ACCESS CONTROL SYSTEM AS DESCRIBED IN THE PLANS INCLUDING ALL CONDUITS, CABLING, CONTROLS, SYSTEM DEVICES, TERMINATIONS AND ANY AND ALL OTHER ITEMS REQUIRED TO MAKE IT A FULLY FUNCTIONAL SYSTEM.
11. SHOP DRAWINGS: BEFORE ANY WORK IS BEGUN, SHOP DRAWINGS, INCLUDING CALCULATIONS, MANUFACTURER'S CATALOG CUTS, PRODUCT DATA, SCHEMATICS, WIRING DIAGRAMS, EQUIPMENT AND MATERIALS LISTS AND SCHEDULES, COORDINATION DRAWINGS AND SAMPLES SHALL BE SUBMITTED ON ALL NEW EQUIPMENT, MATERIALS, AND DEVICES TO BE PROVIDED AND AS NECESSARY TO SATISFY SPECIFIED REQUIREMENTS.
12. WARRANTIES: AT THE CONCLUSION OF THE PROJECT, PROVIDE A WRITTEN CERTIFICATION TO THE DEPARTMENT THAT ALL WORK HAS BEEN PROVIDED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND A WRITTEN WARRANTY AGAINST THE OCCURRENCE OF DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE PROJECT BY THE DEPARTMENT. AT THE EXPIRATION OF THE ONE-YEAR WARRANTY PERIOD, FORMALLY ASSIGN TO THE DEPARTMENT ALL EXTENDED AND SPECIAL WARRANTIES GIVEN BY SUBCONTRACTORS, MANUFACTURERS OR SUPPLIERS FOR THEIR WORK OR PRODUCTS ON THE PROJECT AND FORMALLY NOTIFY SUCH SUBCONTRACTORS AND SUPPLIERS OF THE ASSIGNMENTS.
13. PROJECT CLOSEOUT DOCUMENTS: AT THE CONCLUSION OF THE PROJECT, PROVIDE THE REQUIRED DOCUMENTATION TO THE DEPARTMENT (I.E., AS-BUILT DRAWINGS, SHOP DRAWINGS AND OTHER REQUIRED CLOSEOUT DOCUMENTS)
14. GENERAL: THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION AND SUPERVISION AND FOR PERFORMING ALL WORK AS REQUIRED TO COMPLETE THE WORK OF THIS PROJECT AS SHOWN ON THE DRAWINGS AND SPECIFIED OR DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR MAY SUBCONTRACT SPECIALTY AND OTHER ITEMS OF WORK BUT WILL BE REQUIRED TO PROVIDE NOT LESS THAN 40% OF THE PROJECT EFFORT WITH THE CONTRACTOR'S OWN FORCES. ALL SUBCONTRACTORS SHALL BE QUALIFIED AND/OR CERTIFIED FOR THE WORK THEY INTEND TO PERFORM, IN ACCORDANCE WITH REQUIREMENTS HEREIN AND ANY AND ALL LOCAL, STATE AND FEDERAL REGULATIONS, AND APPROVED BY THE DEPARTMENT. THE CONTRACTOR, SUBCONTRACTORS, OR ANY OF THEIR EMPLOYEES SHALL NOT PERFORM ANY WORK THAT IS BEYOND THEIR TECHNICAL CAPABILITIES OR FOR WHICH THEY ARE NOT LICENSED OR CERTIFIED.
15. PERMITTING: PALM BEACH COUNTY, FLORIDA HAS JURISDICTION OVER PERMITTING THE WORK OF THIS PROJECT AND ENFORCING THE APPLICABLE BUILDING CODES AND STANDARDS. A PERMIT FROM THE LOCAL GOVERNMENT AGENCY IS REQUIRED. THE TURNPIKE WILL PROVIDE FIVE SIGNED AND SEALED SETS OF DRAWINGS TO THE CONTRACTOR FOR THE PERMIT APPLICATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING THE CONSTRUCTION PERMIT AND SHALL SUBMIT TO PALM BEACH COUNTY THE PERMIT APPLICATION AND PAY THE REQUIRED PERMIT FEES. SUBSEQUENTLY, THE CONTRACTOR WILL BE RESPONSIBLE FOR SCHEDULING REQUIRED INSPECTIONS DURING THE CONSTRUCTION PROCESS AND FOR PAYMENT OF INSPECTION FEES TO ORANGE COUNTY.
16. CONTRACTOR'S SUPERINTENDENT: THE CONTRACTOR SHALL AT ALL TIMES HAVE ON THE WORKSITE AS THE CONTRACTOR'S AGENT, A COMPETENT SUPERINTENDENT CAPABLE OF THOROUGHLY INTERPRETING THE PLANS AND SPECIFICATIONS AND THOROUGHLY EXPERIENCED IN THE TYPE OF WORK BEING PERFORMED. SUCH SUPERINTENDENT SHALL RECEIVE INSTRUCTIONS FROM THE DEPARTMENT'S REPRESENTATIVE AND SHALL HAVE THE CONTRACTOR'S FULL AUTHORITY TO EXECUTE THE ORDERS OR DIRECTIONS OF THE DEPARTMENT AND TO SUPPLY PROMPTLY ANY MATERIALS, TOOLS, EQUIPMENT, LABOR, AND INCIDENTALS THAT MAY BE REQUIRED. SUCH SUPERINTENDENCE SHALL BE FURNISHED REGARDLESS OF THE AMOUNT OF WORK SUBLET. THE CONTRACTOR'S SUPERINTENDENT SHALL SPEAK AND UNDERSTAND ENGLISH, AND AT LEAST ONE RESPONSIBLE PERSON, WHO SPEAKS AND UNDERSTANDS ENGLISH, SHALL BE ON THE WORKSITE DURING ALL WORKING HOURS.
17. SITE ACTIVITIES AND ACCESS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A SAFE AND SECURE WORKSITE FOR THE DURATION OF THE WORK. THE CONTRACTOR SHALL MAINTAIN ALL WORK AND STAGING AREAS IN A NEAT AND PRESENTABLE CONDITION AND CLEAN UP ALL DEBRIS DAILY AND PLACE IT IN A CONTRACTOR PROVIDED DUMPSTER. CLEANUP SHALL BE PERFORMED TO THE SATISFACTION OF THE DEPARTMENT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DEPARTMENT OF ANY DAMAGES TO THE FACILITIES AS A RESULT OF THE CONTRACTOR'S OPERATIONS.
18. THE CONTRACTOR WILL BE REQUIRED TO PAY TOLL CHARGES AT THE STANDARD RATES APPLICABLE TO THE GENERAL PUBLIC FOR ALL VEHICLES AND OTHER EQUIPMENT USING THE TURNPIKE. THE COST OF TOLL CHARGES MAY BE INCLUDED IN THE CONTRACT LUMP SUM PRICE BID FOR THE WORK. THE CONTRACTOR SHALL ENSURE THAT ALL MOTOR VEHICLES USED ON THE CONTRACT ARE REGISTERED AND INSURED TO AT LEAST THE MINIMUM STANDARDS OF THE STATE OF FLORIDA. ALL DRIVERS SHALL BE LICENSED IN THE STATE OF FLORIDA. THE CONTRACTOR SHALL NOT KNOWINGLY, NOR WILLINGLY, ALLOW EMPLOYEES TO DRIVE UNREGISTERED VEHICLES OR ALLOW UNLICENSED AND/OR UNINSURED MOTORISTS TO OPERATE VEHICLES ON THIS PROJECT.
19. HARMONY CLAUSE: THE CONTRACTOR HEREBY AGREES TO EXERT EVERY REASONABLE AND DILIGENT EFFORT TO ASSURE THAT ALL LABOR EMPLOYED BY THE CONTRACTOR AND ALL SUBCONTRACTORS ON THE PROJECT, SHALL WORK IN HARMONY WITH AND BE COMPATIBLE WITH ALL OTHER LABOR BEING USED BY OTHER CONTRACTORS, VENDORS, OR SUPPLIERS, NOW OR HEREAFTER ON THE SITE OF THE PROJECT. CONTRACTOR FURTHER AGREES THAT THIS PROVISION WILL BE INCLUDED IN ALL SUBCONTRACTS OF ALL SUBCONTRACTORS AS WELL AS IN THE CONTRACTOR'S OWN CONTRACT; PROVIDED HOWEVER, THAT THIS PROVISION SHALL NOT BE INTERPRETED OR ENFORCED SO AS TO DENY OR ABRIDGE BASED ON MEMBERSHIP OR NON-MEMBERSHIP IN ANY LABOR UNION OR LABOR ORGANIZATION, THE RIGHT OF ANY PERSON TO WORK AS GUARANTEED BY ARTICLE 1, SECTION 6, OF THE FLORIDA CONSTITUTION.
20. WORK BY OTHERS: THE CONTRACTOR IS ADVISED THAT THERE MAY BE CONSTRUCTION AND/OR MAINTENANCE ACTIVITIES IN PROGRESS BY THE DEPARTMENT OR OTHER CONTRACTORS DURING THE TERM OF THE CONTRACT. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH THE DEPARTMENT PERSONNEL OR CONTRACTORS RESPONSIBLE FOR SUCH OTHER WORK. WHEN THE WORK IS DELAYED OR PRECLUDED FROM BEING DONE ON THE SCHEDULE BY INCLEMENT WEATHER, NATURAL DISASTER OR EMERGENCY CONDITIONS, OR BECAUSE OF OTHER WORK PERFORMED BY DEPARTMENT PERSONNEL OR ANOTHER DEPARTMENT CONTRACTOR, THE CONTRACTOR SHALL COOPERATE WITH THE DEPARTMENT IN RESCHEDULING THE WORK.
21. CONSTRUCTION AND SEVERANCE CLAUSE: THIS AGREEMENT SHALL BE LIBERALLY CONSTRUED AND UNDERSTOOD BY THE PARTIES HERETO, IN ORDER TO EFFECTUATE THE PURPOSES THEREOF, THAT IF ANY PHRASE, CLAUSE, SENTENCE, PART, TERM OR PROVISION OF THIS CONTRACT IS, BY THE COURTS, HELD TO BE ILLEGAL OR IN CONFLICT WITH ANY LAW OF THE STATE OF FLORIDA, THE VALIDITY OF THE REMAINING PORTIONS OR PROVISIONS SHALL NOT BE AFFECTED, AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES SHALL BE CONSTRUED AND ENFORCED AS IF THE CONTRACT DID NOT CONTAIN THE PARTICULAR PART, TERM OR PROVISION HELD TO BE INVALID. THE AGREEMENT WOULD THEN REMAIN IN FULL FORCE AND EFFECT AS TO ALL SEVERABLE MATTERS.
22. PRE-WORK CONFERENCE: THE DEPARTMENT WILL ARRANGE FOR A PRE-WORK CONFERENCE WITH THE CONTRACTOR PRIOR TO THE START DATE OF THE CONTRACT TO REVIEW THE WORK INVOLVED AND THE REQUIREMENTS OF THE CONTRACT.
23. PERIODIC INSPECTION: THE DEPARTMENT WILL HAVE THE RIGHT TO INSPECT AND WILL CONDUCT PERIODIC INSPECTIONS OF THE WORK AND MATERIALS TO DETERMINE COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT. ANY WORK OR MATERIALS REJECTED BY THE DEPARTMENT FOR NON-COMPLIANCE SHALL BE REPLACED / CORRECTED AT THE CONTRACTOR'S EXPENSE. FAILURE TO REJECT DEFECTIVE WORK OR MATERIALS, WHETHER FROM LACK OF DISCOVERY OF SUCH DEFECT OR FOR ANY OTHER REASON, WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY TO COMPLETE THE WORK IN FULL COMPLIANCE WITH ALL CONTRACT REQUIREMENTS AND SHALL IN NO WAY PREVENT LATER REJECTION OF SUCH DEFECTIVE WORK WHEN DISCOVERED.
24. TEMPORARY SUSPENSION OF THE WORK: THE DEPARTMENT SHALL RETAIN THE RIGHT TO SUSPEND THE WORK WHOLLY OR IN PART, FOR SUCH PERIOD OR PERIODS AS MAY BE DEEMED NECESSARY. SUCH SUSPENSION WILL BE ORDERED AND VERIFIED IN WRITING, LISTING IN DETAIL THE REASONS FOR THE SUSPENSION.
25. THE CONTRACTOR WILL PROVIDE RESTROOM FACILITIES FOR HIS AND HIS SUBCONTRACTORS PERSONNEL.

JAMES E. VICK, P.E.
FLORIDA LICENSE No.: 39901

REVISIONS						<div style="font-size: 24pt; font-weight: bold; margin: 0;">ATKINS</div> <div style="font-size: 10pt; margin: 0;">2001 NW 107th Avenue Miami, FL 33172-2507 Certificate of Authorization No. AA 000723</div>	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<div style="font-size: 12pt; font-weight: bold; margin: 0;">ELECTRONIC SECURITY GATE CENTRAL REPAIR DEPOT - MP 99 GENERAL NOTES</div>	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		G-1
								WEST PALM BEACH			

ELECTRICAL SYMBOLS LEGEND:

ABBREVIATIONS:

SYMBOL	DESCRIPTION
A	FLUORESCENT LAY-IN FIXTURE 2x4, 3 LAMP, 32 WATT T8 LAMPS DAYBRITE CATALOG # 2SPG332
B	FLUORESCENT LIGHT FIXTURE, CEILING OR JOIST MOUNTED WITH OUTLET BOX. 2x2, 3 LAMP, 17 WATT T8 LAMPS DAYBRITE CATALOG # 2SPG317R-FA01120EB10I
	CEILING OR WALL MOUNTED EXIT SIGN LIGHT FIXTURE WITH ARROW AS INDICATED. LED LAMPS WITH 90 MINUTE BATTERY BACKUP.
S _a	SINGLE POLE TOGGLE SWITCH 20 AMP. FLUSH MOUNTED TOP 48" A.F.F., α INDICATES LIGHTS CONTROLLED BY THIS SWITCH.
S _{OS}	SINGLE POLE WITH OCCUPANCY SENSOR TOGGLE SWITCH. MOUNTED TOP 48" A.F.F.
S _k	KEY LOCKED, SINGLE POLE SWITCH. MOUNTED TOP 48" AFF.
S3 S4	THREE WAY AND FOUR WAY TOGGLE SWITCH. MOUNTED TOP 48" A.F.F.
	EMERGENCY LIGHT UNIT WALL MOUNTED 7'-0" AFF. CONNECT TO LINE SIDE (UNSWITCHED) OF CIRCUIT, WITH 90 MIN BATTERY BACKUP.
GFI WP	DUPLEX RECEPTACLE. NEMA 5-20R, 'WP' INDICATES WEATHERPROOF, 'GFI' INDICATES GROUND FAULT INTERRUPTER, 'IG' INDICATES "ISOLATED GROUND" ORANGE COLORED, FLUSH MOUNTED, BOTTOM 16" A.F.F., UNLESS OTHERWISE NOTED.
IG	QUAD (TWO DUPLEX) RECEPTACLE, NEMA 5-20R, FLUSH MOUNTED BOTTOM 16" A.F.F. 'IG' INDICATES "ISOLATED GROUND" ORANGE COLORED,
	DUPLEX RECEPTACLE MOUNTED @ 8" ABOVE COUNTER
	SIMPLEX RECEPTACLE, NEMA 5-20R. MOUNTED BOTTOM 16" A.F.F.
	SPECIAL RECEPTACLE. SEE PLANS.
WP	JUNCTION BOX. 4" SQ. OR AS NOTED, WP INDICATES WEATHER PROOF
	EXHAUST MOTOR, 2 HP
	PUSHBUTTON. MOUNTED TOP 48" AFF.
S _M	MANUAL MOTOR STARTER WITH OVERLOAD ELEMENT
30/20	DISCONNECT SWITCH, 30 AMP RATED 20 AMP FUSED, 2-POLE. (NF INDICATES NON-FUSED)
	COMBINATION MOTOR STARTER
	FLEXIBLE CONDUIT CONNECTION
	OUTLET OR JUNCTION BOX, FLUSH MOUNT
	PANELBOARD
	CONTROL PANEL
ATS	AUTOMATIC TRANSFER SWITCH
	LIGHTNING PROTECTION AIR TERMINAL
5A	30A FUSE HOLDER, "5A" INDICATES FUSE AMPS
PC	PHOTOCELL

	COPPER GROUND BAR 2"x6"x1/4" WITH STANDOFF INSULATORS
	AMBER WARNING LIGHT
	LANE CONTROL SIGNAL LIGHTS RED
	GROUND ROD
	ELECTRIC MOTOR. NUMBER INDICATES HORSEPOWER
	PAD MOUNTED TRANSFORMER, PROVIDED BY POWER COMPANY
	TRANSFORMER
PB1	PULL BOX #1
	LIGHTNING PROTECTION CONDUCTOR
	UNDERGROUND LIGHTNING PROTECTION CONDUCTOR
	CONDUIT RACEWAY CONCEALED IN CEILING SPACE OR WALLS
	CONDUIT RACEWAY IN CONCRETE SLAB OR UNDER PAVEMENT, MINIMUM OF 24"
	CONDUIT UP
	CONDUIT DOWN
	HOMERUN TO PANEL. LETTER INDICATES PANEL, NUMBERS INDICATE BRANCH CIRCUITS. ALL RACEWAYS WITHOUT FURTHER DESIGNATION INDICATED (2) #12AWG, (1) #12 GND, 3/4" CND, FOUR WIRES ARE INDICATED , ETC. LONG MARKS INDICATE NEUTRAL CONDUCTOR. PROVIDE GREEN GROUND CONDUCTOR IN ALL CONDUITS.
	DEVICE OR EQUIPMENT AS NOTED

SECURITY SYSTEM

TVM	OUTLET BOX FOR CCTV MONITOR (FUTURE)
J _C	OUTLET BOX FOR FUTURE CCTV CAMERA
	CCTV CAMERA
RDR2	DOOR CONTROLLER JCI RDR2SA

INTERCOM SYSTEM

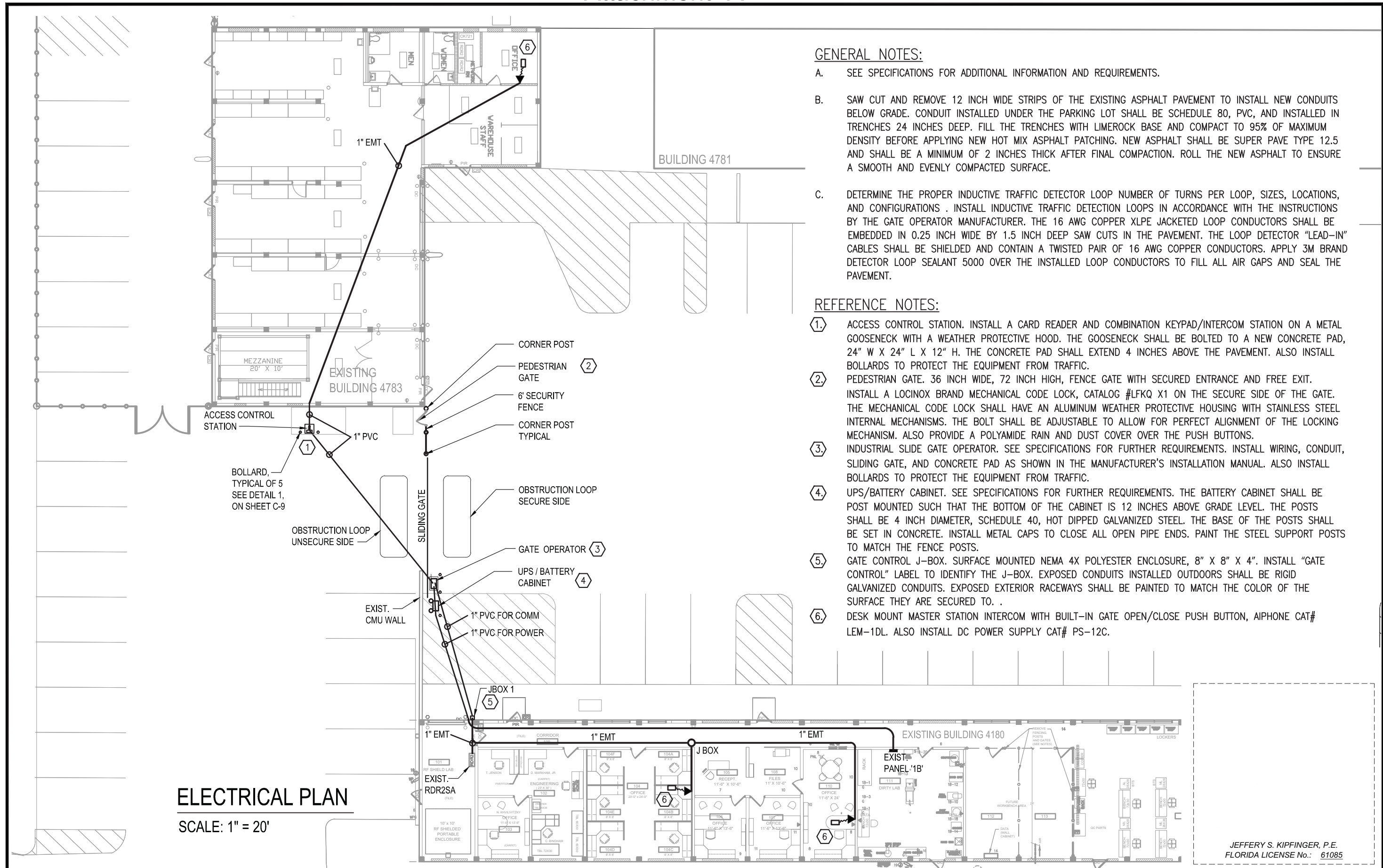
	OUTLET BOX FLUSH MOUNTED ABOVE DESK, WITH NYLON FACEPLATE.
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ABV	ABOVE	IG	ISOLATED GROUND
ACM	AUTOMATIC COIN MACHINE	KW	KILOWATT
AFF	ABOVE FINISH FLOOR	KVA	KILOVOLT AMPERES
AFG	ABOVE FINISH GRADE	LCP	LIGHTING CONTROL PANEL
AMPS	AMPERES	LN CTR	LANE CONTROLLER
ATS	AUTOMATIC TRANSFER SWITCH	L.P.	LIGHTNING PROTECTION
AVI	AUTOMATIC VEHICLE IDENTIFICATION	LTG	LIGHTING
AWG	AMERICAN WIRE GAUGE	MIN	MINIMUM
BKR	BREAKER	MTD	MOUNTED
BLDG.	BUILDING	N.I.C.	NOT IN CONTRACT
C	CONDUIT	NF	NON-FUSED
CAM	CAMERA	N.T.S.	NOT TO SCALE
CCTV	CLOSED CIRCUIT TELEVISION	ODC	ORLANDO DATA CENTER
CKT	CIRCUIT	OFF	OFFICE
CL	CENTER LINE	PB	PULL BOX
CMS	CHANGEABLE MESSAGE SIGN	PH	PHASE
COMP	COMPUTER	PRT	PRINTER
CT	CURRENT TRANSFORMER	RECEP	RECEPTACLE
CTRL	CONTROL	RGS	RIGID GALVANIZED STEEL
DMS	DYNAMIC MESSAGE SIGN	RM	ROOM
DN	DOWN	SPD	SURGE PROTECTION DEVICE
EM	EMERGENCY	S.S.	STAINLESS STEEL
ETBR	EXISTING TO BE RELOCATED	T.E.C.	TOLL EQUIPMENT CONTRACTOR
ETC	ELECTRONIC TOLL COLLECTION	TEL	TELEPHONE
ETR	EXISTING TO REMAIN	T.E.P.	TECHNICAL SPECIAL PROVISIONS
EWC	ELECTRIC WATER COOLER	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
EWH	ELECTRIC WATER HEATER	TYP	TYPICAL
EQUIP.	EQUIPMENT	UON	UNLESS OTHERWISE NOTED
FTE	FLORIDA'S TURNPIKE ENTERPRISE	UPS	UNINTERRUPTIBLE POWER SUPPLY
FUT	FUTURE	UTP	UNTWISTED SHIELDED PAIR
GENSET	GENERATOR	V	VOLTAGE / VOLT
GFI	GROUND FAULT INTERRUPTER	VDT	VIDEO DISPLAY TERMINAL
GND	GROUND	W/	WITH
HP	HORSEPOWER	WP	WEATHERPROOF (NEMA 3R)
HTR	HEATER	XFMR	TRANSFORMER

NOTE:
SYMBOLS AND ABBREVIATIONS SHOWN MAY OR MAY NOT
BE USED ON ALL SHEETS.

JEFFERY S. KIPFINGER, P.E.
FLORIDA LICENSE No.: 61085

REVISIONS						HNTB	HNTB CORPORATION 8700 W. FLAGLER ST. SUITE 200 MIAMI, FLORIDA 33174 CA# F92000000884	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ELECTRONIC SECURITY GATE CENTRAL REPAIR DEPOT - MP 99 ELECTRICAL S SYMBOLS LEGEND AND ABBREVIATIONS	SHEET NO. E-1
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		



GENERAL NOTES:

- A. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- B. SAW CUT AND REMOVE 12 INCH WIDE STRIPS OF THE EXISTING ASPHALT PAVEMENT TO INSTALL NEW CONDUITS BELOW GRADE. CONDUIT INSTALLED UNDER THE PARKING LOT SHALL BE SCHEDULE 80, PVC, AND INSTALLED IN TRENCHES 24 INCHES DEEP. FILL THE TRENCHES WITH LIMEROCK BASE AND COMPACT TO 95% OF MAXIMUM DENSITY BEFORE APPLYING NEW HOT MIX ASPHALT PATCHING. NEW ASPHALT SHALL BE SUPER PAVE TYPE 12.5 AND SHALL BE A MINIMUM OF 2 INCHES THICK AFTER FINAL COMPACTION. ROLL THE NEW ASPHALT TO ENSURE A SMOOTH AND EVENLY COMPACTED SURFACE.
- C. DETERMINE THE PROPER INDUCTIVE TRAFFIC DETECTOR LOOP NUMBER OF TURNS PER LOOP, SIZES, LOCATIONS, AND CONFIGURATIONS . INSTALL INDUCTIVE TRAFFIC DETECTION LOOPS IN ACCORDANCE WITH THE INSTRUCTIONS BY THE GATE OPERATOR MANUFACTURER. THE 16 AWG COPPER XLPE JACKETED LOOP CONDUCTORS SHALL BE EMBEDDED IN 0.25 INCH WIDE BY 1.5 INCH DEEP SAW CUTS IN THE PAVEMENT. THE LOOP DETECTOR "LEAD-IN" CABLES SHALL BE SHIELDED AND CONTAIN A TWISTED PAIR OF 16 AWG COPPER CONDUCTORS. APPLY 3M BRAND DETECTOR LOOP SEALANT 5000 OVER THE INSTALLED LOOP CONDUCTORS TO FILL ALL AIR GAPS AND SEAL THE PAVEMENT.

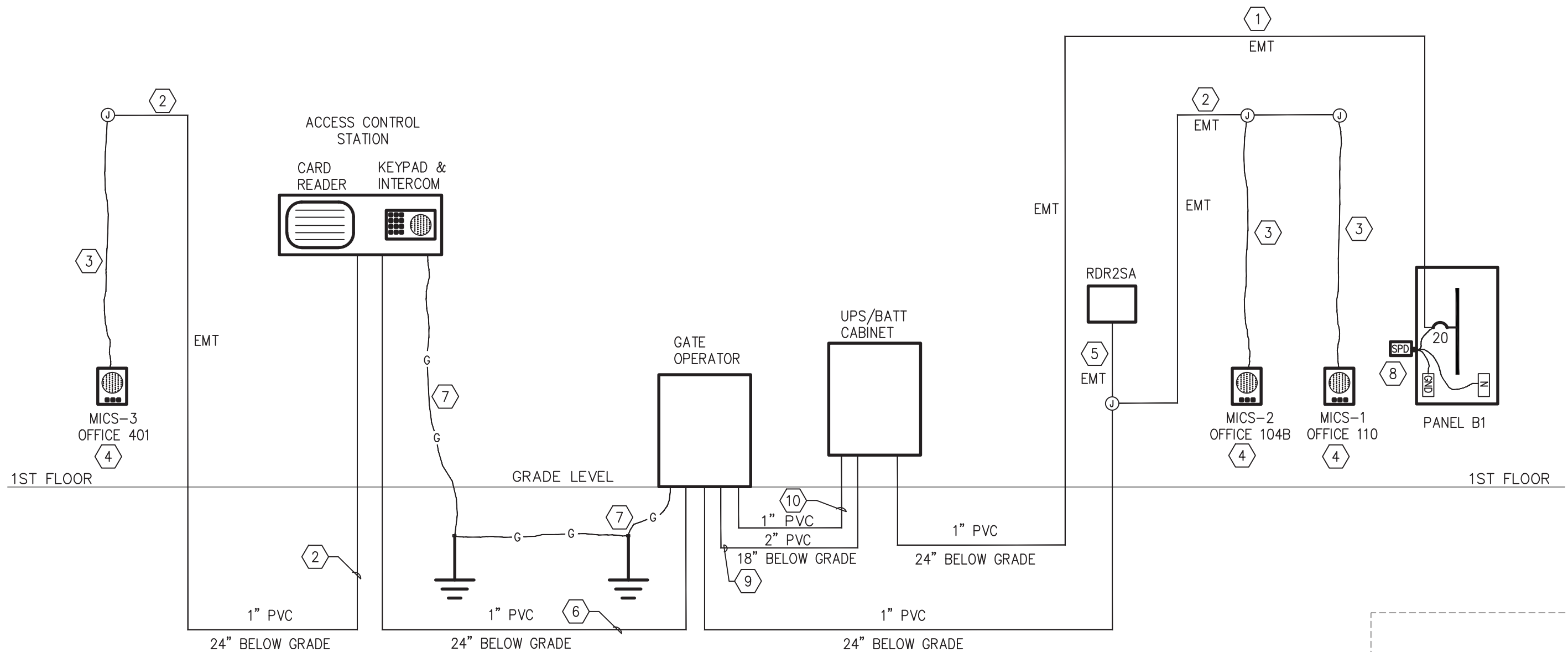
REFERENCE NOTES:

- ①. ACCESS CONTROL STATION. INSTALL A CARD READER AND COMBINATION KEYPAD/INTERCOM STATION ON A METAL GOOSENECK WITH A WEATHER PROTECTIVE HOOD. THE GOOSENECK SHALL BE BOLTED TO A NEW CONCRETE PAD, 24" W X 24" L X 12" H. THE CONCRETE PAD SHALL EXTEND 4 INCHES ABOVE THE PAVEMENT. ALSO INSTALL BOLLARDS TO PROTECT THE EQUIPMENT FROM TRAFFIC.
- ②. PEDESTRIAN GATE. 36 INCH WIDE, 72 INCH HIGH, FENCE GATE WITH SECURED ENTRANCE AND FREE EXIT. INSTALL A LOCINOX BRAND MECHANICAL CODE LOCK, CATALOG #LFKQ X1 ON THE SECURE SIDE OF THE GATE. THE MECHANICAL CODE LOCK SHALL HAVE AN ALUMINUM WEATHER PROTECTIVE HOUSING WITH STAINLESS STEEL INTERNAL MECHANISMS. THE BOLT SHALL BE ADJUSTABLE TO ALLOW FOR PERFECT ALIGNMENT OF THE LOCKING MECHANISM. ALSO PROVIDE A POLYAMIDE RAIN AND DUST COVER OVER THE PUSH BUTTONS.
- ③. INDUSTRIAL SLIDE GATE OPERATOR. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS. INSTALL WIRING, CONDUIT, SLIDING GATE, AND CONCRETE PAD AS SHOWN IN THE MANUFACTURER'S INSTALLATION MANUAL. ALSO INSTALL BOLLARDS TO PROTECT THE EQUIPMENT FROM TRAFFIC.
- ④. UPS/BATTERY CABINET. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS. THE BATTERY CABINET SHALL BE POST MOUNTED SUCH THAT THE BOTTOM OF THE CABINET IS 12 INCHES ABOVE GRADE LEVEL. THE POSTS SHALL BE 4 INCH DIAMETER, SCHEDULE 40, HOT DIPPED GALVANIZED STEEL. THE BASE OF THE POSTS SHALL BE SET IN CONCRETE. INSTALL METAL CAPS TO CLOSE ALL OPEN PIPE ENDS. PAINT THE STEEL SUPPORT POSTS TO MATCH THE FENCE POSTS.
- ⑤. GATE CONTROL J-BOX. SURFACE MOUNTED NEMA 4X POLYESTER ENCLOSURE, 8" X 8" X 4". INSTALL "GATE CONTROL" LABEL TO IDENTIFY THE J-BOX. EXPOSED CONDUITS INSTALLED OUTDOORS SHALL BE RIGID GALVANIZED CONDUITS. EXPOSED EXTERIOR RACEWAYS SHALL BE PAINTED TO MATCH THE COLOR OF THE SURFACE THEY ARE SECURED TO. .
- ⑥. DESK MOUNT MASTER STATION INTERCOM WITH BUILT-IN GATE OPEN/CLOSE PUSH BUTTON, AIPHONE CAT# LEM-1DL. ALSO INSTALL DC POWER SUPPLY CAT# PS-12C.

ELECTRICAL PLAN
SCALE: 1" = 20'

JEFFERY S. KIPFINGER, P.E.
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REVISIONS						HNTB CORPORATION 8700 W. FLAGLER ST. SUITE 200 MIAMI, FLORIDA 33174 CA# F92000000884	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ELECTRONIC SECURITY GATE CENTRAL REPAIR DEPOT - MP 99 ELECTRICAL PLAN	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		E-2
08/22/14	RvG	Deleted work					WEST PALM BEACH				



1 PARTIAL RISER DIAGRAM - POWER, GATE CONTROL, AND INTERCOM
NTS

NOTE:
SEE SHEET E-4 FOR RISER
DIAGRAM REFERENCE NOTES
AND GENERAL NOTES

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		E-3
							WEST PALM BEACH				

GENERAL NOTES

1. DURING THE SHOP DRAWING PROCESS, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL POINT TO POINT WIRING DIAGRAMS THAT SHOW THE TERMINAL POINT NUMBER/LETTER FOR EACH CONDUCTOR THAT WILL BE INSTALLED AND TERMINATED. ALSO INDICATE THE WIRE/CABLE SIZES, TYPES AND RATINGS ON THE DIAGRAMS.
2. SEE SPECIFICATIONS ON SHEET E-4 AND E-5 FOR ADDITIONAL REQUIREMENTS FOR THE GATE OPERATOR. UPS/BATTERY CABINET, ACCESS CONTROL DEVICES, GATE OPERATOR KEYPAD, GOOSENECK, ETC..
3. PAINT ALL NEW EXPOSED EXTERIOR CONDUITS TO MATCH THE BUILDING WALL THEY ARE SECURED TO.
4. CABLES AND CONDUCTORS INSTALLED OUTDOORS OR BELOW GRADE SHALL BE RATED FOR USE IN WET LOCATIONS.
5. THE 6 CONDUCTOR, 18 AWG, SHIELDED, CARD READER CABLE SHALL BE CONTINUOUS AND SHALL NOT BE SPLICED. CONNECT THE SHIELD TO GROUND AT ONE END ONLY.

RISER DIAGRAM REFERENCE NOTES

- ① (2)#10, (1)#10 GND, 1" CND. 120 VAC, 20 AMP, BRANCH CIRCUIT FOR THE NEW GATE OPERATOR UPS/BATTERY CHARGER.
- ② INTERCOM & GATE OPEN/CLOSE WIRING. (1) 3 CONDUCTOR, 18 AWG CABLE AND (1) 2 CONDUCTOR, 18 AWG CABLE IN 3/4" EMT CONCEALED ABOVE CEILINGS IN THE OFFICE AREAS AND SURFACE MOUNTED HIGH IN THE CORRIDORS WITH NO CEILINGS.
- ③ INTERCOM SYSTEM LOW VOLTAGE WIRING. INSTALL CABLES IN POLYETHYLENE TEREPHTHALATE (PET) BRAIDED EXPANDABLE SLEEVING WHEN FISHED INTO HOLLOW AREAS OF OFFICE WALLS AND WHERE CONDUCTORS TRAVEL ACROSS DESKTOPS TO REACH THE MASTER INTERCOM STATIONS (MICS). INSTALL A SINGLE GANG DEVICE BOX ADJACENT TO THE DESK AND EXTEND THE INTERCOM CABLING OVER TO THE DESK TOP INTERCOM STATION.
- ④ MASTER INTERCOM STATION WITH GATE OPEN/CLOSE PUSH BUTTON EQUAL TO AIPHONE CAT#LEM-1DL/C. EACH MASTER INTERCOM WILL COMMUNICATE WITH THE GATE INTERCOM STATION. THE PUSH BUTTON ON EACH MASTER INTERCOM STATION WILL OPEN/CLOSE THE NEW SECURITY GATE WHEN DEPRESSED.
- ⑤ HID, iCLASS, R90, CARD READER CABLE, 6 CONDUCTOR, 18 AWG, SHIELDED, RATED FOR WET LOCATIONS. ALSO INCLUDE A GATE OPEN/CLOSE CABLE, 2 CONDUCTOR, 18 AWG, RATED FOR WET LOCATIONS.
- ⑥ CONDUIT CONTAINS THE FOLLOWING:
 (1) HID iCLASS R90 CARD READER CABLE, 6 CONDUCTOR, 18 AWG SHIELDED.
 (1) GATE OPEN/CLOSE CABLE, 2 CONDUCTOR, 18 AWG.
 (1) MASTER INTERCOM SPEAKER CABLE, 3 CONDUCTOR, 18 AWG.
 (1) MASTER INTERCOM STATION GATE OPEN/CLOSE CABLE, 2 CONDUCTOR, 18 AWG.
 (1) INTERCOM/KEY PAD 24VDC CONTROL POWER CABLE, 2 CONDUCTORS COLORED BLACK AND RED, 12 AWG. ROUTE TO THE UPS/BATTERY CABINET AND FUSE AT 2 AMPS DC.
- ⑦ #10 BARE GROUNDING CONDUCTOR CONNECTED TO THE EQUIPMENT METAL ENCLOSURE AND CONNECTED TO A DRIVEN GROUND ROD
- ⑧ INSTALL A NEW SURGE PROTECTION DEVICE, RATED FOR 120 VAC NOMINAL VOLTAGE, 50KA/LINE, WITH In =10kA, APT CAT# S50A1201PN.
- ⑨ INSTALL TWO #2 AWG THHN/THWN POWER CONDUCTORS (ONE RED AND ONE BLACK) BETWEEN THE UPS/BATTERY CABINET AND THE GATE OPERATOR MOTOR. MAXIMUM CONDUCTOR LENGTH IS 10 FT.
- ⑩ INSTALL FOUR #14 AWG THHN/THWN CONTROL WIRES BETWEEN THE UPS/BATTERY CABINET AND THE GATE OPERATOR CONTROL PANEL. ALSO INSTALL TWO #12 AWG THHN/THWN CONDUCTORS BETWEEN THE UPS/BATTERY CABINET AND THE ACCESS CONTROL STATION FOR USE AS 24 VDC CONTROL POWER.

EXISTING PANEL SCHEDULE

KVA		PHASE		KVA													
OTHER	REC	LTG	LOAD	BKR	PL	A	B	C	PL	BKR	LOAD	LTG	REC	OTHER			
1.08			Receptacles Rm 111	20	1	*			2	50/2	Water Heater			3.10			
1.08			Receptacles Rm 111	20	3	*			4	---	---			3.10			
0.36			Receptacles - exterior	20	5	*			6	20/2	Spare			0.00			
1.90			Air Compressor 5 HP	20/2	7	*			8	---	Spare			0.00			
1.90			---	---	9	*			10	20	Drill Press			1.20			
		1.10	Lighting Rm 111	20	11	*			12	20	Band Saw			1.50			
1.50			Metal Lathe	20	13	*			14	20	Grinder			0.50			
1.20			Sander	20	15	*			16	20	Parts Cleaner			0.70			
		0.36	Receptacle Rooftop	20	17	*			18	20	Dust collector			1.25			
** 1.60			Security Gate	20	19	*			20	20	Spare						
			Spare	20	21	*			22	20	Spare						
			Spare	20	23	*			24	20	Spare						
			Spare	20	25	*			26	20	Spare						
			Spare	20	27	*			28	20	Spare						
			Spare	20	29	*			30	20	Spare						
			Spare	20	31	*			32	20	Spare						
			Spare		33	*			34		Spare						
			Spare		35	*			36		Spare						
			Spare		37	*			38		Spare						
			Spare		39	*			40		Spare						
			Spare		41	*			42		Spare						
8.10	2.88	1.10	SUB TOTALS														
TOTAL CORR. KVA			23.43			CONNECTED KVA			0.00			0.00			11.35		
TOTAL DEMAND KVA			23.71			DEMAND FACTOR			1.25			*			1.0		
VOLTAGE			208			DEMAND KVA			1.38			2.88			19.45		
DEMAND AMPS			65.80														

** NEW LOAD ADDED TO EXISTING PANELBOARD * FIRST 10KVA @ 100%, REMAINDER OVER 10KVA @ 50%

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
							WEST PALM BEACH					

16010 GENERAL PROVISIONS

- A. ALL WORK AND EQUIPMENT UNDER THIS DIVISION SHALL BE IN STRICT COMPLIANCE WITH THE APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS:
 - 1. FLORIDA BUILDING CODE, 2008 EDITION
 - 2. NATIONAL ELECTRICAL CODE - NFPA 70, 2008 EDITION
- B. ALL MATERIALS SHALL BE NEW, FREE FROM DEFECTS AND SHALL BE EITHER UL LABELED, UL LISTED OR BEAR THE SEAL OF A NATIONALLY RECOGNIZED ELECTRICAL TESTING LABORATORY.
- C. THE WORK REQUIRED UNDER THIS DIVISION SHALL INCLUDE ALL MATERIALS, LABOR AND AUXILIARIES REQUIRED TO INSTALL A COMPLETE AND PROPERLY OPERATING ELECTRICAL SYSTEM, AND TELEPHONE SYSTEM.
- D. THE CONTRACTOR SHALL FURNISH, PERFORM, OR PROVIDE ALL LABOR INCLUDING PLANNING, PURCHASING, TRANSPORTING, STORING, INSTALLING, TESTING, CUTTING AND PATCHING, TRENCHING, EXCAVATING, BACKFILLING, COORDINATION, FIELD VERIFICATION, EQUIPMENT (INSTALLATION AND SAFETY), SUPPLIES, AND MATERIALS NECESSARY FOR THE CORRECT INSTALLATION OF COMPLETE ELECTRICAL SYSTEMS (AS DESCRIBED OR IMPLIED BY THESE SPECIFICATIONS AND THE APPLICABLE DRAWINGS) IN STRICT ACCORDANCE WITH APPLICABLE CODES, WHICH MAY NOT BE REPEATED IN THESE SPECIFICATIONS, BUT ARE EXPECTED TO BE COMMON KNOWLEDGE OF QUALIFIED BIDDERS.
- E. THE SPECIFICATIONS (DIVISION 16) AND CONTRACT DOCUMENTS REFERS TO WORK REQUIRED IN ADDITION TO (OR ABOVE) THE MINIMUM REQUIREMENTS OF THE NEC AND APPLICABLE LOCAL CODES. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES AS A MINIMUM AND WITH THE ADDITIONAL REQUIREMENTS CALLED FOR IN THESE CONTRACT DOCUMENTS (PLANS AND SPECS).
- F. SPECIAL REQUIREMENTS: SUBMIT (5) COPIES OF TECHNICAL INFORMATION ON ALL EQUIPMENT IN BINDER INCLUDING ALL LIGHT FIXTURES, DISTRIBUTION EQUIPMENT AND SPECIAL SYSTEMS. MARK UP PRINTS OF THE DESIGN DRAWINGS WITH RED PENCIL SHOWING AN ACCURATE "AS-BUILT" RECORD OF THE ENTIRE SYSTEM. TEST EACH ITEM OF EQUIPMENT. GIVE THE OWNER INSTRUCTION IN THE OPERATION OF THE SYSTEM. SECURE FROM THE OWNER A SIGNED MEMO STATING THAT TECHNICAL INFORMATION, AS-BUILT DRAWINGS AND INSTRUCTIONS IN OPERATION HAVE BEEN RECEIVED. SUBMIT MEMO TO THE ARCHITECT/ENGINEER.
- G. COORDINATE AND VERIFY POWER AND TELEPHONE COMPANY SERVICE REQUIREMENTS PRIOR TO BID. BID TO INCLUDE ALL WORK REQUIRED.

16111 RACEWAYS AND FITTINGS

- A. POWER DISTRIBUTION SYSTEM WIRING SHALL BE INSTALLED IN APPROPRIATE RACEWAY SYSTEMS OF RIGID GALVANIZED CONDUIT, ELECTRIC METALLIC TUBING, SCHEDULE 40 PVC, FLEXIBLE STEEL CONDUIT AND LIQUID-TITE FLEXIBLE CONDUIT AS CONDITIONS AND CODE DICTATE. EMT SHALL BE JOINED WITH STEEL SET SCREW TYPE FITTINGS. PVC SHALL BE USED BELOW GRADE OR IN SLABS ONLY.
- B. ALL CONDUIT SHALL HAVE AN INSULATED COPPER EQUIPMENT GROUNDING CONDUCTOR THROUGHOUT THE ENTIRE LENGTH OF CIRCUIT WITHIN CONDUIT.
- C. MINIMUM CONDUIT SIZE TO BE 3/4".
- D. ALL PENETRATIONS THROUGH FIRE RESISTANCE RATED PARTITIONS AND OTHER ASSEMBLIES, INCLUDING EMPTY OPENINGS AND OPENINGS CONTAINING CABLES, CONDUITS AND OTHER PENETRATING ITEMS, SHALL BE FIRE-STOPPED TO PRESERVE THE FIRE RESISTANCE RATING OF THE ASSEMBLY. FIRE-STOPPING SHALL COMPLY WITH THE FOLLOWING:
 - 1. COMPATIBILITY: PROVIDE FIRESTOPPING COMPOSED OF COMPONENTS THAT ARE COMPATIBLE WITH EACH OTHER, THE SUBSTRATES FORMING OPENINGS, AND THE ITEMS, IF ANY, PENETRATING THE FIRESTOPPING UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY FIRESTOPPING MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
 - 2. FIRESTOPPING SHALL BE LISTED IN THE UNDERWRITERS LABORATORIES FIRE RESISTANCE DIRECTORY AND INSTALLATION SHALL BE IDENTICAL TO THAT SHOWN IN THE DIRECTORY.
 - 3. FIRESTOPPING DETAILS SHALL BE SUBMITTED AND APPROVED BY THE ARCHITECT, ENGINEER AND AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.

16123 BUILDING WIRE AND CABLE

- A. ALL BRANCH CIRCUITS SHALL BE COPPER WITH THHN/THWN INSULATION. MINIMUM SIZE #12 AWG.
- B. FEEDERS AND SUBFEEDERS SHALL BE THHN/THWN COPPER.
- C. COLOR CODING SHALL COMPLY WITH THE APPLICABLE NATIONAL ELECTRICAL CODE, EXCEPT PHASE CONDUCTORS OF EACH VOLTAGE SYSTEM MUST BE OF A DIFFERENT COLOR AND COLOR CODE SHALL COMPLY WITH THE 1975 EDITION OF THE NEC.
- D. ALL FEEDERS AND BRANCH CIRCUITS SHALL BE PROVIDED WITH AN EQUIPMENT GROUNDING CONDUCTOR.

16131 OUTLET BOXES

- A. OUTLET BOXES SHALL BE GALVANIZED STEEL. BOXES SHALL BE 4" SQUARE AND 1-1/2" DEEP GENERALLY. LARGER BOXES WILL BE USED AS REQUIRED BY CODE.
- B. INSTALL BOXES TO PRESERVE FIRE RESISTANCE RATING OF PARTITIONS AND OTHER ELEMENTS.

16141 WIRING DEVICES

- A. ALL RECEPTACLES SHALL BE 20 AMP, 125 VOLT GROUNDING TYPE, SPECIFICATION GRADE.
- B. SWITCHES SHALL BE 20 AMP, 120/277V SILENT TYPE, SPECIFICATION GRADE.
- C. RECEPTACLES LOCATED WHERE WATER OR WET CONDITIONS EXIST SHALL BE ON GROUND FAULT CIRCUITS OR BE GROUND FAULT INTERRUPTING TYPE.
- D. DEVICE PLATES SHALL BE IVORY IN COLOR.

16190 SUPPORTING DEVICES

- A. ALL EQUIPMENT SHALL BE FIRMLY MOUNTED USING APPROVED HANGERS ATTACHED TO STRUCTURAL PORTIONS OF THE BUILDING.
- B. SUPPORTING WITH TIE WIRE IS PROHIBITED.
- C. LIGHT FIXTURES IN OR ON CEILINGS MAY BE SUPPORTED BY THE CEILING SYSTEM, IF ACCEPTABLE TO CEILING SYSTEM MANUFACTURER AND IS FASTENED TO THE CEILING FRAMING MEMBER BY MECHANICAL MEANS.

16441 ENCLOSED DISCONNECT SWITCHES

- A. DISCONNECT SWITCHES SHALL BE HEAVY DUTY AND SHALL USE A QUICK-MAKE, QUICK-BREAK MECHANISM WITH AN ENCLOSURE OF A NEMA TYPE CONFORMING TO AREA IN WHICH IT IS INSTALLED.
- B. DISCONNECTS FOR MOTORS SHALL BE HORSEPOWER RATED.
- C. FUSIBLE DISCONNECTS SHALL BE PROVIDED WITH CURRENT LIMITING TYPE FUSES AND REJECTION CLIPS. FUSES SERVING MOTOR LOADS SHALL BE DUAL ELEMENT TYPE.

16478 OVERCURRENT PROTECTIVE DEVICES

- A. PANELS SHALL BE FULL SIZE, I.E. MINIMUM 20" WIDE X 5-3/4" DEEP USING FULL SIZE, PLUG-ON, QUICK-MAKE, QUICK-BREAK CIRCUIT BREAKERS OF THE THERMAL MAGNETIC TYPE.
- B. MAINS SHALL BE LUGS ONLY OR MAIN BREAKERS AS REQUIRED.
- C. ALL PANELS TO HAVE SEPARATE EQUIPMENT GROUND BAR AND TYPEWRITTEN DIRECTORIES.
- D. CIRCUIT BREAKERS FEEDING AIR-CONDITIONING AND REFRIGERATION EQUIPMENT SHALL BE HACR RATED.
- E. CIRCUIT BREAKERS FEEDING HID LIGHTING SHALL BE HID RATED.
- F. CIRCUIT BREAKERS USED FOR SWITCHING OF LIGHT FIXTURES SHALL BE SWITCH DUTY RATED.
- G. CIRCUIT BREAKERS FEEDING 125V, SINGLE PHASE 15A AND 20A OUTLETS INSTALLED IN DWELLING UNIT BEDROOMS SHALL BE AFCI RATED FOR ARC-FAULT PROTECTION.
- H. COORDINATE THE REQUIRED SIZE OF ALL CONDUCTORS CIRCUIT BREAKERS AND FUSES FEEDING EQUIPMENT, (I.E. MOTORS, HVAC, KITCHEN EQUIPMENT, SPECIAL PURPOSE OUTLETS, ELEVATORS, OWNER FURNISHED EQUIPMENT ETC.) WITH APPROVED EQUIPMENT SHOP DRAWINGS AND OWNER REPRESENTATIVES PRIOR TO ORDERING PANELBOARDS BREAKERS AND FUSES SHALL BE SIZED PER THE NEC, THE EQUIPMENT NAME PLATE AND MANUFACTURERS RECOMMENDATIONS.
- I. PANELS: PANELBOARDS SHALL BE DEADFRONT, COMPLETELY ENCLOSED FOR SURFACE OR FLUSH MOUNTING AS SHOWN ON THE DRAWINGS. THE PANELBOARD BUSSES SHALL BE COPPER. THE CIRCUIT BREAKERS SHALL BE BOLT ON, THERMAL MAGNETIC TYPE. PERMANENT CIRCUIT NUMBERS SHALL BE SECURED TO THE ENCLOSURE ADJACENT TO EACH BREAKER. A METAL DIRECTORY CARD FRAME SHALL BE PROVIDED INSIDE THE PANELBOARD HINGED DOOR. THE TYPED DIRECTORY CARD SHALL CLEARLY DESCRIBE THE LOADS SERVED BY EACH CIRCUIT NUMBER. EACH MULTI-POLE BREAKER IN MAIN AND/OR POWER PANELS SHALL BE FURNISHED WITH A NAMEPLATE AFFIXED TO THE PANEL ENCLOSURE INDICATING THE CIRCUIT CONTROLLED.
 - 1. ALL PANELBOARDS, BUSSING AND CIRCUIT BREAKERS SHALL BE FULLY RATED TO SAFELY INTERRUPT THE AVAILABLE SHORT CIRCUIT AMPS (SCA). THE AIC RATINGS SHOWN ON THE DRAWINGS ARE THE MINIMUM RATINGS WHICH CAN BE PROVIDED WHEN THE AVAILABLE FAULT CURRENT IS LESS THAN THE AIC RATING INDICATED.
 - 2. THE POWER COMPANY SHALL BE CONTACTED, IN WRITING, WITHIN 10 DAYS OF THE AWARD OF THE CONTRACT BY THE CONTRACTOR TO VERIFY THE ACTUAL AVAILABLE SHORT CIRCUIT FAULT CURRENT (SCC) AT THE TRANSFORMER SECONDARY BUSHINGS. THE CONTRACTOR SHALL PROVIDE ELECTRICAL DISTRIBUTION AND UTILIZATION EQUIPMENT AND PANELBOARDS WHICH HAVE AIC/WITHSTAND RATINGS GREATER THAN THE AVAILABLE SSC AT EACH POINT IN THE ELECTRICAL SYSTEM.

HIGH SPEED HEAVY DUTY DC BATTERY BACKUP SLIDE GATE OPERATOR AND CONTROLLER

PART I - GENERAL

- 1.01 INCLUDED IN THIS SECTION
 - A. HIGH SPEED SLIDE GATE OPERATOR FOR HORIZONTAL SLIDING GATES, INCLUDING ALL SELECTED ATTACHMENTS AND ACCESSORY EQUIPMENT.
- 1.02 RELATED WORK SPECIFIED ELSEWHERE
 - A. FENCING
 - B. CAST IN PLACE CONCRETE
 - C. ELECTRICAL SERVICE AND CONNECTIONS

1.03 SHOP DRAWING SUBMITTALS

- A. SUBMIT FIVE SETS OF SHOP DRAWINGS SHOWING ALL CONNECTIONS TO THE ADJACENT CONSTRUCTION, THE RANGE OF GATE TRAVEL, AND ALL ELECTRICAL AND MECHANICAL CONNECTIONS TO THE GATE OPERATOR AND UPS BATTERY ENCLOSURE. SUBMIT SCALED DRAWINGS ON 11" X 17" SHEETS THAT SHOW:
 - 1. LOCATIONS OF THE GATE, GATE OPERATOR, UPS/BATTERY ENCLOSURE, ACCESS CONTROL STATION AND ASSOCIATED CONCRETE PADS.
 - 2. ELECTRICAL RACEWAYS AND CONDUCTORS CONNECTING EACH COMPONENT.
 - 3. COMMUNICATION RACEWAYS CABLES CONNECTING TO EACH COMPONENT.
 - 4. INDUCTIVE VEHICLE DETECTION LOOPS, LAYOUTS, DIMENSIONS, AND SIZES.
 - 5. ACCESS CONTROL STATION THAT CONSISTS OF A WEATHERPROOF PROXIMITY CARD READER AND COMBINATION PUSH BUTTON/INTERCOM SUBSTATION INSTALLED ON A METAL GOOSE NECK ON THE UNSECURE SIDE OF THE GATE.
 - B. ALSO SUBMIT 8 1/2" X 11" CATALOG/SPECIFICATION SHEETS FOR THE FOLLOWING:
 - 1. GATE OPERATOR SHOWING ALL INTERNAL COMPONENTS AND SPECIFIED ACCESSORIES
 - 2. UPS/BATTERY CABINET INCLUDING ALL INTERNAL COMPONENTS, BATTERIES, AND DC WIRING CONNECTIONS TO THE GATE OPERATOR.
 - 3. ACCESS CONTROL HID ICLASS CONTACTLESS CARD READER, THE PUSH BUTTON/INTERCOM, AND THE PAINTED GOOSE NECK.
 - 4. STEEL POSTS FOR MOUNTING THE UPS/BATTERY ENCLOSURE.
 - 5. CONCRETE MIX FOR MAKING THE PADS AND SETTING THE POSTS.
 - 6. SURGE PROTECTION DEVICES.
 - 7. INDUCTION TYPE VEHICLE DETECTION LOOP CONDUCTORS.
 - 8. ASPHALT SEALANT TO SEAL OVER THE INSTALLED LOOP CONDUCTORS.
 - 9. ACCESS CONTROL HID ICLASS CONTACTLESS CARD READER
 - 10. COMBINATION PUSH BUTTON & INTERCOM CONTROL STATION INSTALLED ON A METAL GOOSE NECK ON THE UNSECURE SIDE OF THE GATE.
 - 11. SUBMIT INFORMATION ON THE QUALIFICATIONS OF THE ASPHALT PATCHING COMPANY OR PERSON.
 - 12. SUBMIT INFORMATION ON THE ASPHALT MIX THAT WILL BE USED TO PATCH THE DAMAGED AREAS OF THE PARKING LOT.
 - 13. SUBMIT INFORMATION ON THE CONCRETE MIX THAT WILL BE USED TO
 - C. SUBMIT THREE COPIES OF MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR THIS SPECIFIC PROJECT.
 - D. TEST REPORTS:
 - 1. SUBMIT AFFIDAVITS FROM THE MANUFACTURER DEMONSTRATING THAT THE GATE MECHANISM HAS BEEN TESTED TO 200,000 CYCLES WITHOUT BREAKDOWN.
 - 2. EACH OPERATOR SHALL BEAR A LABEL INDICATING THAT THE OPERATOR MECHANISM HAS BEEN TESTED FOR FULL POWER AND PRESSURE OF ALL HYDRAULIC COMPONENTS, FULL STRESS TESTS OF ALL MECHANICAL COMPONENTS AND ELECTRICAL TESTS OF ALL OVERLOAD DEVICES.
 - E. ALL SHOP DRAWINGS MUST BE REVIEWED AND APPROVED BY FLORIDA'S TURNPIKE ENTERPRISE. MATERIALS AND EQUIPMENT SHOULD NOT BE ORDERED UNTIL THE SHOP DRAWINGS HAVE BEEN STAMPED "REVIEWED". IF THE SUBMITTED INFORMATION IS NOT ADEQUATE FOR REVIEWING OR DOES NOT MEET SPECIFICATIONS, THE SHOP DRAWINGS WILL BE STAMPED "REVISE AND RESUBMIT" OR "REJECTED". REJECTED MATERIALS OR EQUIPMENT MAY NOT BE USED ON THIS PROJECT.
- 1.04 QUALITY ASSURANCE
THE MANUFACTURER SHALL BE A COMPANY SPECIALIZING IN THE MANUFACTURE OF HYDRAULIC GATE OPERATORS OF THE TYPE SPECIFIED, WITH A MINIMUM OF TEN YEARS EXPERIENCE. INSTALLER: A MINIMUM OF THREE YEARS EXPERIENCE INSTALLING SIMILAR EQUIPMENT.
- 1.05 CODES AND REGULATORY REQUIREMENTS
A. OPERATORS SHALL BE BUILT TO UL 325 STANDARDS AND BE LISTED BY A TESTING LABORATORY. COMPLETE ALL ELECTRICAL WORK ACCORDING TO LOCAL CODES AND NATIONAL ELECTRICAL CODE. ALL FIELDWORK SHALL BE PERFORMED IN A NEAT AND PROFESSIONAL MANNER, COMPLETED TO JOURNEYMAN STANDARDS.
B. CURRENT SAFETY STANDARDS REQUIRE THE USE OF MULTIPLE EXTERNAL SENSORS TO BE CAPABLE OF REVERSING THE GATE IN EITHER DIRECTION UPON SENSING AN OBSTRUCTION.
C. VEHICLE GATES SHOULD NEVER BE USED BY PEDESTRIANS. SEPARATE PEDESTRIAN GATES MUST ALWAYS BE PROVIDED WHEN FOOT TRAFFIC IS PRESENT.
D. THE GATE OPERATORS SHALL BE DESIGNED AND LABELED FOR USE IN UL 325 USAGE CLASSES III AND IV ONLY.
- 1.06 PRODUCT DELIVERY AND STORAGE
A. STORE PRODUCTS UPRIGHT IN THE ORIGINAL SHIPPING CONTAINERS, COVERED, VENTILATED AND PROTECTED FROM ALL WEATHER CONDITIONS.

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JEFFERY S. KIPFINGER, P.E.
FLORIDA LICENSE No.: 61085

REVISIONS						HNTB	HNTB CORPORATION 8700 W. FLAGLER ST. SUITE 200 MIAMI, FLORIDA 33174 CA# F92000000884	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>ELECTRONIC SECURITY GATE CENTRAL REPAIR DEPOT - MP 99 ELECTRICAL S SPECIFICATIONS 1 OF 2</i>	SHEET NO. <i>E-5</i>
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		

1.07 WARRANTY

- A. PROVIDE A FIVE-YEAR LIMITED WARRANTY AGAINST ALL DEFECTS IN MATERIALS OR WORKMANSHIP, EXCEPT BATTERIES, WHICH ARE COVERED UNDER A ONE-YEAR WARRANTY. DEFECTIVE MATERIALS SHALL BE REPLACED WITH COMPARABLE MATERIALS FURNISHED BY THE MANUFACTURER, AT NO COST TO THE OWNER. FREIGHT, LABOR AND OTHER INCIDENTAL COSTS ARE NOT COVERED UNDER THE FACTORY WARRANTY, BUT MAY BE COVERED BY A SEPARATE SERVICE AGREEMENT BETWEEN INSTALLING COMPANY AND THE OWNER.
1. TO ENSURE VALIDATION OF WARRANTY, THE INSTALLING CONTRACTOR SHALL RETURN A COMPLETED WARRANTY REGISTRATION FORM TO THE MANUFACTURER

PART II - PRODUCTS

2.01 GATE OPERATORS AND ACCESSORIES

- A. HYSECURITY GATE OPERATORS MODEL SLIDEDRIVER 30F UPS (222 DX1.7 ST) WITH SMART TOUCH CONTROLLER, OR OTHER COMPARABLE OPERATOR, AS APPROVED BY THE ENGINEER. REQUESTS FOR SUBSTITUTIONS SHALL INCLUDE THE AMOUNT OF SAVINGS THAT WILL BE PASSED ON TO THE OWNER IF THE SUBSTITUTION IS APPROVED.
- B. ALSO PROVIDE AND INSTALL AN ACCESS CONTROL STATION WITH AN HID ICLASS PROXIMITY CARD READER, AN INTERCOM SUBSTATION, AND A 12 BUTTON KEYPAD. THE ACCESS CONTROL EQUIPMENT WILL BE MOUNTED ON A STEEL GOOSENECK ON THE UNSECURE SIDE OF THE GATE.
- C. PROVIDE AND INSTALL ACCESSORIES SUCH AS INTERCONNECTING CABLES, WIRING, CONDUIT, AND TRAFFIC DETECTION LOOPS.
- D. CUT AND PATCH THE PARKING LOT ASPHALT PAVEMENT IN ORDER TO INSTALL THE UNDERGROUND WIRING AND TRAFFIC DETECTION LOOPS. INSTALL SEALANT OVER THE LOOP CONDUCTORS.
- E. PROVIDE AND INSTALL TWO STEEL SUPPORT POSTS FOR MOUNTING THE UPS/BATTERY ENCLOSURE.

2.02 OPERATION

- A. OPERATION SHALL BE BY MEANS OF A METAL RAIL PASSING BETWEEN A PAIR OF SOLID METAL WHEELS WITH POLYURETHANE TREADS. OPERATOR MOTORS SHALL BE HYDRAULIC, GEAROLLER TYPE, AND SYSTEM SHALL NOT INCLUDE BELTS, GEARS, PULLEYS, ROLLER CHAINS OR SPROCKETS TO TRANSFER POWER FROM OPERATOR TO GATE PANEL. THE OPERATOR SHALL GENERATE A MINIMUM HORIZONTAL PULL OF 300 POUNDS (136 KG) WITHOUT THE DRIVE WHEELS SLIPPING AND WITHOUT DISTORTION OF SUPPORTING ARMS. OPERATOR SHALL BE CAPABLE OF HANDLING GATES WEIGHING UP TO 3,000 POUNDS (1,361 KG). GATE PANEL VELOCITY SHALL NOT BE LESS THAN 1.7 FEET PER SECOND AND SHALL BE STOPPED GRADUALLY TO PREVENT SHOCK LOADS TO THE GATE AND OPERATOR ASSEMBLY. THE "SOFT STOP" FEATURE OF THE GATE OPERATOR SHALL BE CONTROLLED BY TWO ADJUSTABLE HYDRAULIC BRAKE VALVES (ONE FOR EACH DIRECTION). THE "SOFT START" FEATURE SHALL ALLOW THE PUMP TO START AT ZERO PRESSURE, THEN PROGRESSIVELY INCREASE THE PRESSURE, OVER A PERIOD NOT LESS THAN TWO SECONDS, TO 1,000 PSI.
- B. STANDARD OPERATOR MECHANICAL COMPONENTS SHALL INCLUDE AS A MINIMUM:
- SUPPORTING ARMS: CAST ALUMINUM CHANNEL. ARMS SHALL INCORPORATE A FULLY BUSHED, 1-1/2" (38 MM) BRONZE BEARING SURFACE, ACTING ON ARM PIVOT PINS. (ITEM 2 BELOW)
 - ARM PIVOT PINS: 3/4" (19 MM) DIAMETER, STAINLESS STEEL, WITH INTEGRAL TABS FOR EASE OF REMOVAL.
 - TENSION SPRING: 2-1/2" (63.5 MM) HEAVY DUTY, 800 POUND (363 KG) CAPACITY.
 - TENSION ADJUSTMENT: FINGER TIGHTENED NUT, NOT REQUIRING THE USE OF TOOLS.
 - DRIVE RELEASE: MUST INSTANTLY RELEASE TENSION ON BOTH DRIVE WHEELS, AND DISENGAGE THEM FROM CONTACT WITH DRIVE RAIL IN A SINGLE MOTION, FOR MANUAL OPERATION.
 - LIMIT SWITCHES: FULLY ADJUSTABLE, TOGGLE TYPES, WITH PLUG CONNECTION TO CONTROL PANEL.
 - ELECTRICAL ENCLOSURE: OVERSIZED, METAL, WITH HINGED LID GASKETED FOR PROTECTION FROM INTRUSION OF FOREIGN OBJECTS, AND PROVIDING AMPLE SPACE FOR THE ADDITION OF ACCESSORIES.
 - CHASSIS: 1/4" (6.35 MM) STEEL BASE PLATE, AND 12 GA. (2.66 MM) SIDES AND BACK WELDED AND GROUND SMOOTH.
 - COVER: 16 GA. (1.52 MM) ZINC PLATED STEEL WITH TEXTURED TGIC POLYESTER POWDER COAT FINISH. ALL JOINTS WELDED.
 - FINISH: ZINC PLATED STEEL WITH TEXTURED TGIC POLYESTER POWDER COAT FINISH, PROVEN TO WITHSTAND 1000-HOUR SALT SPRAY TEST.
 - DRIVE WHEELS: TWO 6" (152 MM) DIA. METAL HUB WITH POLYURETHANE TREAD.
 - DRIVE RAIL: SHALL BE EXTRUDED 6061 T6, NOT LESS THAN 1/8" (3.17 MM) THICK. DRIVE RAIL SHALL INCORPORATE ALIGNMENT PINS FOR EASE OF REPLACEMENT OR SPLICING. PINS SHALL ENABLE A PERFECT BUTT SPLICE.
 - HYDRAULIC HOSE: SHALL BE 1/4" (6.35 MM) SYNTHETIC, RATED TO 2750 PSI (19 MPA).
 - HYDRAULIC VALVES: SHALL BE INDIVIDUALLY REPLACEABLE CARTRIDGE TYPE, IN AN INTEGRATED HYDRAULIC MANIFOLD.
 - HOSE FITTINGS: AT MANIFOLD SHALL BE QUICK-DISCONNECT TYPE, OTHERS SHALL BE SWIVEL TYPE.
 - HYDRAULIC FLUID: HIGH PERFORMANCE TYPE WITH A VISCOSITY INDEX GREATER THAN 375 AND TEMPERATURE RANGE -40F

TO 167F (-40C TO 75C) DEGREES.

- A ZERO TO 2000 PSI (13.79 MPA) PRESSURE GAUGE, MOUNTED ON THE MANIFOLD FOR DIAGNOSTICS, SHALL BE A STANDARD COMPONENT.
- THE HYDRAULIC FLUID RESERVOIR SHALL BE FORMED FROM A SINGLE PIECE OF METAL, NON-WELDED, AND SHALL BE POWDER PAINTED ON THE INSIDE AND THE OUTSIDE, TO PREVENT FLUID CONTAMINATION.

C. MINIMUM STANDARD ELECTRICAL COMPONENTS AS FOLLOWS:

- PUMP MOTOR: SHALL BE MINIMUM 2 HP, 56C, 24 V DC MOTOR.
 - ALL COMPONENTS SHALL HAVE OVERLOAD PROTECTION.
 - CONTROLS: SMART TOUCH CONTROLLER BOARD WITH 256K OF PROGRAM MEMORY CONTAINING:
 - INHERENT ENTRAPMENT SENSOR;
 - BUILT IN "WARN BEFORE OPERATE" SYSTEM;
 - BUILT IN TIMER TO CLOSE;
 - LIQUID CRYSTAL DISPLAY FOR REPORTING OF FUNCTIONS;
 - 26 PROGRAMMABLE OUTPUT RELAY OPTIONS;
 - ANTI-TAILGATE MODE;
 - BUILT-IN POWER SURGE/LIGHTNING STRIKE PROTECTION;
 - MENU CONFIGURATION, EVENT LOGGING AND SYSTEM DIAGNOSTICS EASILY ACCESSIBLE WITH A PC AND HYSECURITY'S FREE START SOFTWARE;
 - RS232 PORT FOR CONNECTION TO LAPTOP OR OTHER COMPUTER PERIPHERAL AND RS485 CONNECTION OF MASTER/SLAVE SYSTEMS OR NETWORK INTERFACE.
 - LOW VOLTAGE SENSOR TO PROTECT BATTERIES FROM OVER DISCHARGE. LAST OPERATION CAN BE PROGRAMMED FOR FAIL SECURE OR FAIL OPEN.
 - AC POWER LOSS OPERATION: THE OPERATION CAN BE PROGRAMMED TO OPEN IMMEDIATELY OR STAY OPEN AFTER NEXT NORMAL OPERATION, OR REMAIN IN NORMAL OPERATION UNTIL BATTERIES ARE LOW.
 - CONTROL CIRCUIT: 24VDC.
 - PERMANENTLY SEALED, MAINTENANCE FREE, LEAD ACID BATTERIES IN SEPARATE INSULATED AND VENTILATED ENCLOSURE.
 - UPS/BATTERY ENCLOSURE IS NEMA 3R 30" x 42" x 12", PRE-GALVANIZED AND PAINTED DARK GRAY ENAMEL. UNIT WEIGHT IS 325 POUNDS INCLUDING BATTERIES. POST MOUNT THE BATTERY ENCLOSURE ADJACENT TO THE GATE OPERATOR USING TWO 4 INCH DIAMETER GALVANIZED STEEL POSTS WITH GALVANIZED ATTACHMENT HARDWARE. THE STEEL POSTS SHALL BE HOT DIPPED GALVANIZED WITH A MINIMUM ZINC COATING OF 1.2 OUNCE PER SQUARE FOOT, IN ACCORDANCE WITH ASTM A53 TABLE X2.
 - A 20 AMP, FULLY AUTOMATIC, REGULATED BATTERY CHARGER.
- D. REQUIRED EXTERNAL SENSORS: SEE 1.05B. PHOTO EYES SHALL BE INSTALLED SUCH THAT THE GATE IS CAPABLE OF REVERSING IN EITHER DIRECTION UPON SENSING AN OBSTRUCTION.
- E. PAD MOUNT STYLE GOOSENECK POST, 42 INCHES HIGH. CONSTRUCTED FROM 2 X 2 STEEL WITH A 5" X 5" BASE PLATE. GOOSENECK SWEEP WILL BE APPROXIMATELY 12 INCHES. THE POST AND MOUNTING PLATES SHALL BE PROTECTED FROM THE ENVIRONMENT BY BAKED ON ENAMEL PAINT. MOUNT THE GOOSE NECK ON A CONCRETE PAD 24" W X 24" L X 12" .
- F. ACCESS CONTROL DEVICES INSTALLED ON THE GOOSENECK POST:
- HID ICLASS CONTACTLESS CARD READER.
 - COMBINATION KEYPAD AND INTERCOM SUBSTATION, DOORKING INC, MODEL 1504. MODEL 1504 COMBINES THE DKS DOORKING INC. CATALOG # 1503 KEYPAD INTO A COMMON HOUSING WITH AN INTERCOM SUB-STATION. THE KEYPAD ALSO STORES TWO 4-DIGIT ENTRY CODES, TWO 5-DIGIT ENTRY CODES AND TWO 4-DIGIT HOLD CODES. THE KEYPAD OPERATES A SINGLE "FORM C" DRY CONTACT RELAY. THE KEYPAD AND INTERCOM SHALL OPERATE ON 12 TO 24 VOLT AC OR DC POWER. DIMENSIONS ARE 6.125"H X 10"W X 5.25"D.
- G. ALERT DEVICES: CONFIGURABLE AUDIBLE BEACON.
- H. PROVIDE THE FOLLOWING OPTIONS FOR USE WITH THE GATE CONTROLLER:

- REFLECTIVE TYPE PHOTO EYES, OPEN AND CLOSE DIRECTION.
- HY-5A PLUG IN LOOP DETECTORS.
- HYSECURITY FACTORY DRIVE RAIL.
- 24 VDC POWER.

2.03 FACTORY TESTING

- FULLY ASSEMBLE AND TEST, AT THE FACTORY, EACH GATE OPERATOR TO ASSURE SMOOTH OPERATION, SEQUENCING AND ELECTRICAL CONNECTION INTEGRITY. APPLY PHYSICAL LOADS TO THE OPERATOR TO SIMULATE FIELD CONDITIONS. TESTS SHALL SIMULATE PHYSICAL AND ELECTRICAL LOADS EQUAL TO THE FULLY RATED CAPACITY OF THE OPERATOR COMPONENTS.
- CHECK ALL MECHANICAL CONNECTIONS FOR TIGHTNESS AND ALIGNMENT. CHECK ALL WELDS FOR COMPLETENESS AND CONTINUITY. CHECK WELDED CORNERS AND EDGES TO ASSURE THEY ARE SQUARE AND STRAIGHT.
- INSPECT PAINTED FINISH FOR COMPLETENESS. TOUCH UP IMPERFECTIONS PRIOR TO SHIPMENT.
- CHECK ALL HYDRAULIC HOSES AND ELECTRICAL WIRES TO ASSURE THAT CHAFING CANNOT OCCUR DURING SHIPPING OR OPERATION.

PART III - EXECUTION

3.01 SITE EXAMINATION

- LOCATE CONCRETE MOUNTING PAD IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
- MAKE SURE THAT GATE IS OPERATING SMOOTHLY UNDER MANUAL CONDITIONS BEFORE INSTALLATION OF GATE OPERATORS. DO NOT PROCEED UNTIL GATE PANEL IS ALIGNED AND OPERATES WITHOUT BINDING.

3.02 INSTALLATION

- INSTALL THE GATE OPERATOR AND BATTERY CABINET IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS THAT ARE CURRENT AT THE TIME OF INSTALLATION. COORDINATE LOCATIONS OF OPERATORS WITH CONTRACT DRAWINGS, OTHER TRADES, AND SHOP DRAWINGS.
- INSTALLER SHALL INSURE THAT THE ELECTRIC SERVICE TO THE OPERATOR IS AT LEAST 20 AMPS AT 208 VOLTS, 60 HZ.
- INSTALL VEHICLE DETECTION LOOPS ON BOTH SIDES OF THE AUTOMATIC GATE. MINIMUM INSTALLED RECTANGULAR SIZE OF EACH LOOP IS 26 FT X 6 FT. SAW CUT THE PAVEMENT, INSTALL 18 AWG XLPE INSULATED CONDUCTORS IN THE CUTS AND THEN FILL THE SAW CUTS WITH SEALANT.

3.03 FIELD QUALITY CONTROL

- TEST GATE OPERATOR THROUGH TEN FULL CYCLES AND ADJUST FOR OPERATION WITHOUT BINDING, SCRAPING OR UNEVEN MOTION. TEST LIMIT SWITCHES FOR PROPER "AT REST" GATE POSITION.
- ALL ANCHOR BOLTS SHALL BE FULLY CONCEALED IN THE FINISHED INSTALLATION.
- OWNER, OR OWNER'S REPRESENTATIVE, SHALL COMPLETE "PUNCH LIST" WITH INSTALLING CONTRACTOR PRIOR TO FINAL ACCEPTANCE OF THE INSTALLATION AND SUBMIT COMPLETED WARRANTY DOCUMENTATION TO MANUFACTURER.

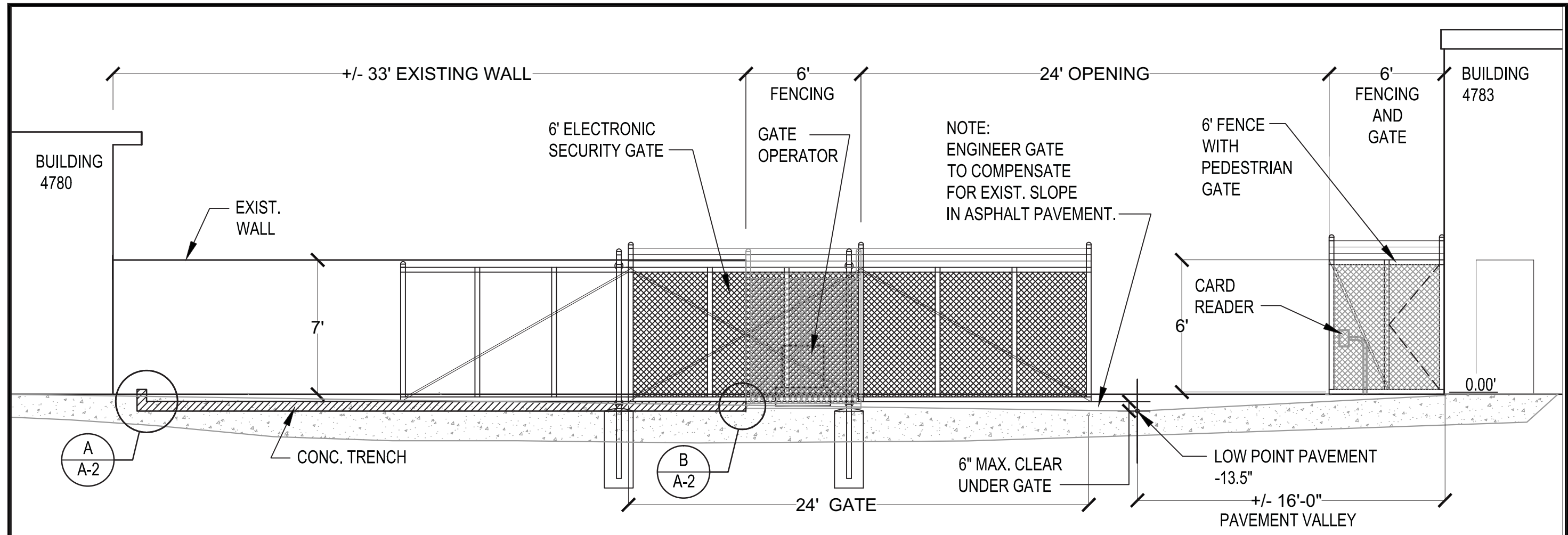
3.04 CONTINUED SERVICE AND DOCUMENTATION

- TRAIN THE DEPARTMENT'S PERSONNEL ON HOW TO SAFELY SHUT OFF ELECTRICAL POWER, RELEASE AND MANUALLY OPERATE THE GATE. ALSO DEMONSTRATE THE GENERAL MAINTENANCE FOR THE GATE OPERATOR AND ACCESSORIES AND PROVIDE ONE COPY OF "INSTALLATION AND REFERENCE" MANUAL.

JEFFERY S. KIPFINGER, P.E.
FLORIDA LICENSE No.: 61085

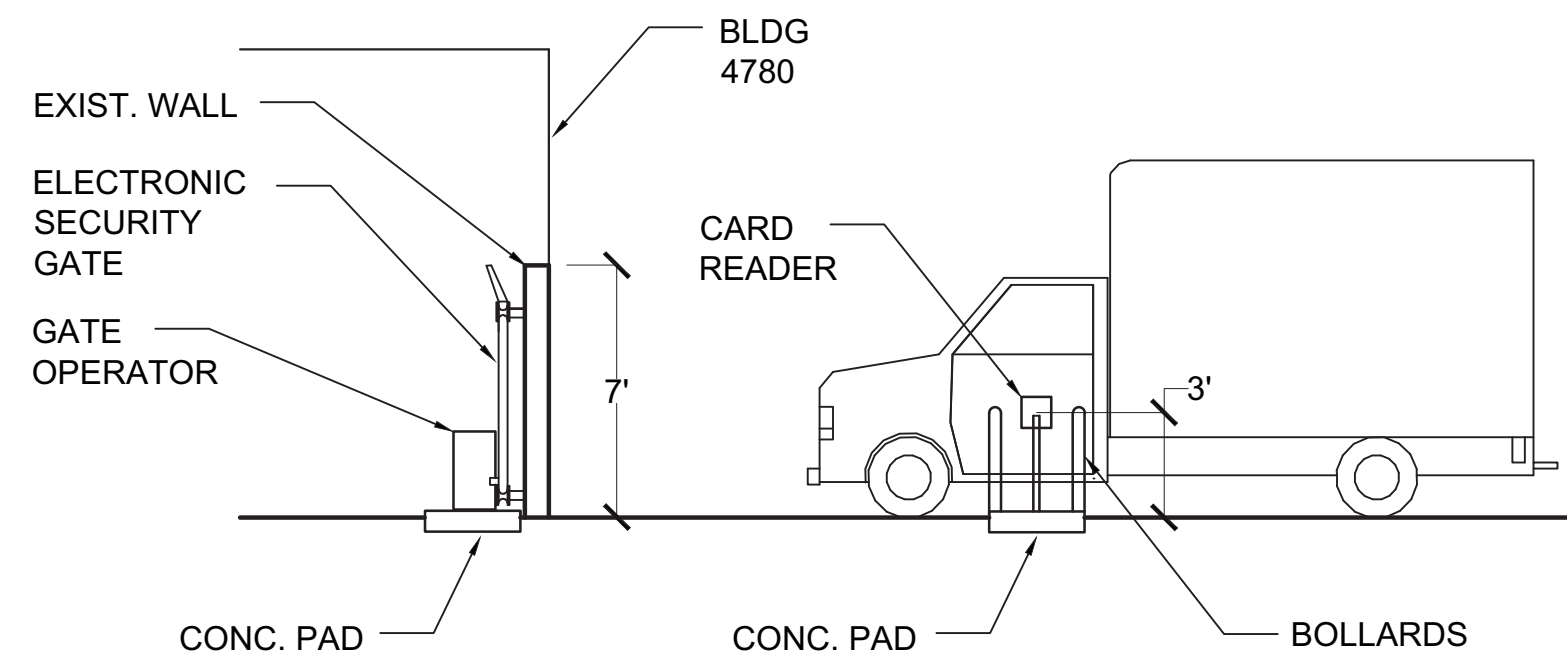
REVISIONS						HNTB CORPORATION 8700 W. FLAGLER ST. SUITE 200 MIAMI, FLORIDA 33174 CA# F92000000884	STATE OF FLORIDA			ELECTRONIC SECURITY GATE CENTRAL REPAIR DEPOT - MP 99 ELECTRICAL S SPECIFICATIONS 2 OF 2	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		DEPARTMENT OF TRANSPORTATION				E-6
							ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						WEST PALM BEACH					

Attachment "A"



1 NORTH ELEVATION OF GATE ENTRANCE
SCALE: 3/16" = 1'-0"

- GENERAL NOTES:**
1. ALL FENCE AND GATES SHALL BE 6 FEET HIGH, NOT INCLUDING BARB WIRE TOPPING.
 2. SEE SHEETS C-3, C-4, C-5, C-6, AND C-7 FOR GATE SPECIFICATIONS.
 3. FENCE SHALL HAVE BARB WIRE TOPPING.
 4. SEE SHEET E-2 FOR POWER AND DATA CONDUCTOR REQUIREMENTS AND ROUTING.



2 WEST ELEVATION OF GATE ENTRANCE
SCALE: 3/16" = 1'-0"

JEFFREY WARMINGTON, AIA.
R.A. LICENSE No.: 13828

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ATKINS
2001 NW 107th Avenue
Miami, FL 33172-2507
Certificate of Authorization No. AA 000723

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	WEST PALM BEACH	

**ELECTRONIC SECURITY GATE
CENTRAL REPAIR DEPOT - MP 99
SECURITY GATE ELEVATIONS**

SHEET NO.
A-1