

# PLUMBING GENERAL NOTES

- PIPE ROUTING SHOWN ON THESE DRAWINGS IS SCHEMATIC AND IS NOT INTENDED TO INDICATE EXACT ROUTING. PLUMBING CONTRACTOR SHALL PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN PROPER CLEARANCES.
- COORDINATE ALL PIPE ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION. ROUTE ALL PIPING TO AVOID DUCTWORK, PIPING AND BUILDING STRUCTURE.
- ROUTE ALL PIPING CONCEALED ABOVE CEILING, WITHIN CHASES OR ABOVE NON-ACCESSIBLE CEILINGS, REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- INSTALL SHUTOFF VALVES ON ALL WATER LINES IN THE FOLLOWING LOCATIONS:
  - ALL MAJOR BRANCH RUNS SUCH AS BRANCHES SERVING A FLOOR, WING, OR A MAJOR SECTION OF BUILDING.
  - ALL EQUIPMENT CONNECTIONS.
  - OTHER LOCATIONS AS MAY BE INDICATED ON DRAWINGS.
- PLUMBING CONTRACTOR SHALL SUPPLY AND INSTALL A MEANS OF BACKFLOW PROTECTION OF THE POTABLE WATER SYSTEM AS INDICATED ON DRAWINGS AND AS REQUIRED PER 2010 FLORIDA BUILDING CODE - PLUMBING: SECTION 608.
- PLUMBING CONTRACTOR SHALL PROVIDE VALVE DIRECTORY WITH A TAG SCHEDULE SHOWING LOCATION OF EACH VALVE, TYPE, NUMBER, MANUFACTURER, FUNCTION AND ALL OPERATING POSITIONS.
- PLUMBING CONTRACTOR SHALL PROVIDE SLEEVES FOR ALL PIPES PASSING THROUGH FLOORS, WALLS AND CEILINGS. EXTEND SLEEVES 2" ABOVE FLOORS. MAKE ALL SLEEVES FLUSH WITH WALLS AND CEILINGS. CONTRACTOR SHALL FIRE STOP ALL PENETRATIONS OF RATED WALLS, CEILINGS, ETC., INCLUDING ROOF. FLASH AND COUNTER FLASH ALL ROOF PENETRATIONS.
- PLUMBING CONTRACTOR SHALL PROVIDE BELLOW TYPE WATER HAMMER ARRESTORS ON ALL HOT AND COLD WATER LINES. INSTALL IN UPRIGHT POSITION AT ALL QUICK CLOSING VALVES, SOLENOIDS, ISOLATED PLUMBING FIXTURES AND SUPPLY HEADERS AT PLUMBING FIXTURE GROUPS. LOCATE AND SIZE AS SPECIFIED OR AS SHOWN ON THE DRAWINGS AND WHERE NOT SHOWN, LOCATE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND COMPLY WITH THE PLUMBING AND DRAINAGE INSTITUTE STANDARDS WH 201.
- PLUMBING CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT ALL CONNECTIONS OF DISSIMILAR METALS.
- ALL DOMESTIC WATER PIPING 4" AND BELOW SHALL BE INSULATED WITH 1" THICK PRE-SLIT FLEXIBLE UNICELLULAR POLYOLEFIN FOAM PLENUM RATED ARMAFLEX INSULATION. ALL PIPING BELOW 8'-0" SHALL BE PROTECTED WITH AN EMBOSSED ALUMINUM JACKET
- PLUMBING CONTRACTOR SHALL THOROUGHLY INVESTIGATE THE SITE, CAREFULLY STUDY THE PLUMBING DRAWINGS, AND BECOME THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS BEFORE BIDDING. NO CHANGES WILL BE ALLOWED IN CONTRACT PRICE FOR EXTRA WORK CLAIMS BECAUSE CONTRACTOR FAILED TO FOLLOW THESE DIRECTIONS.
- INTERRUPTION OF EXISTING SERVICES SHALL BE MINIMAL AND SHALL BE FULLY COORDINATED WITH OWNER IN ADVANCE. PLUMBING CONTRACTOR SHALL SUBMIT TIME THAT SERVICE WILL BE DOWN, AREA OF PIPING AND ANY EQUIPMENT THAT WILL BE AFFECTED. SCHEDULE ANY INTERRUPTION DURING NON-CRITICAL HOURS OR NOTIFY OWNER AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO INTERRUPTION. PUT INTERRUPTED SERVICES BACK INTO OPERATION AS SOON AS IS PRACTICAL. NO SHUT DOWN CAN BE DONE WITHOUT THE OWNER'S APPROVAL.
- DURING THE PROGRESS OF WORK THE PLUMBING CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF ALL CHANGES MADE TO THE PLUMBING SYSTEM. THE RECORD DRAWINGS SHALL SHOW, CHANGES, DIMENSIONS AND LOCATIONS OF ALL PIPING. CHANGES SHALL BE DONE IN AUTOCAD RELEASE 2007 OR ABOVE AND SUBMITTED TO THE OWNER AND GENERAL CONTRACTOR AT FINAL COMPLETION.

## ROOF DRAIN SIZING SCHEDULE

# OF ROOF DRAINS	ROOF, S.F.	RAINFALL, IN/HR	ROOF S.F./DRAIN	DRAIN, IN
8	6996	5.0	874.5	4x4

## PLUMBING FIXTURE SCHEDULE

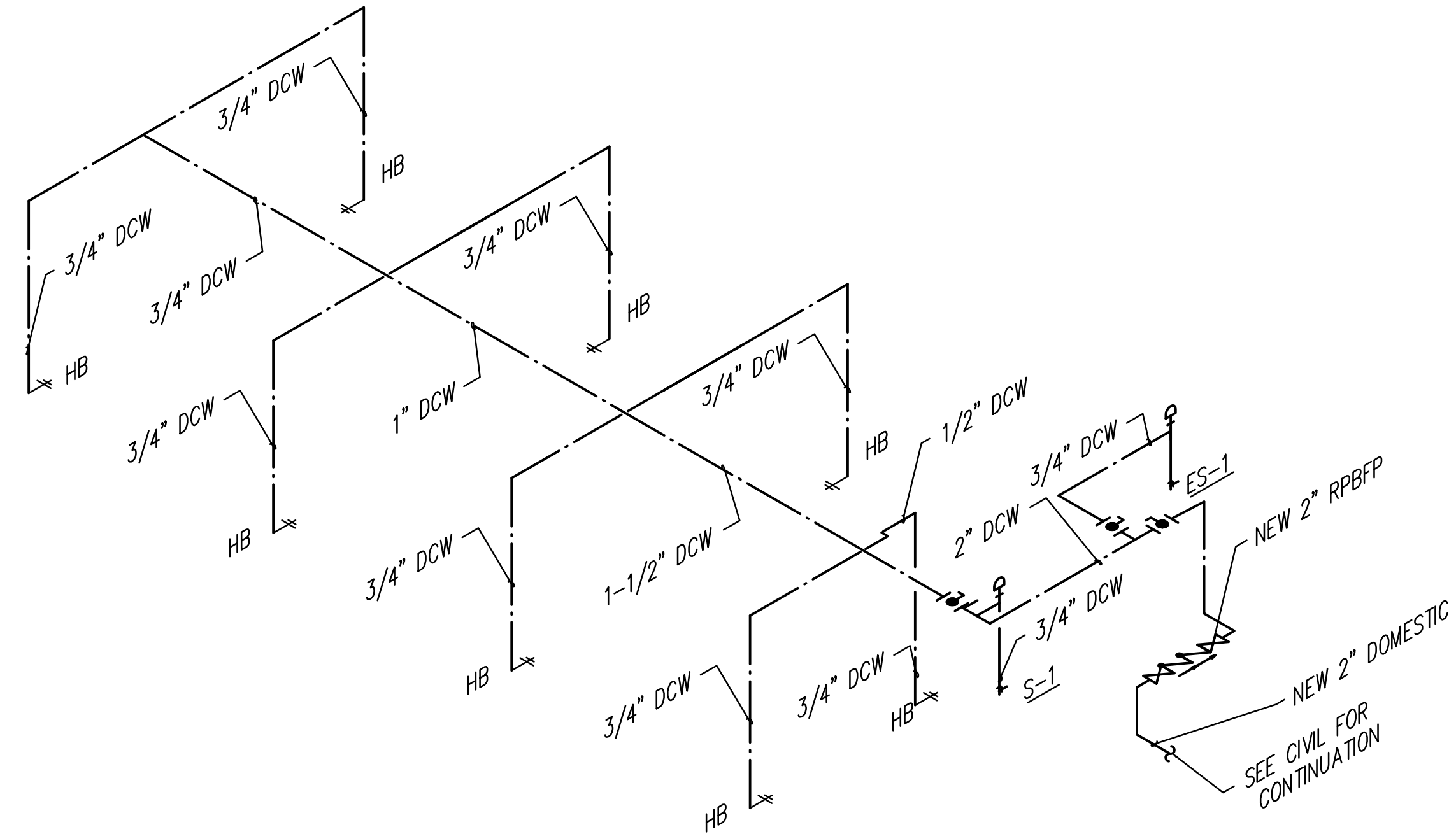
PLAN MARK	DESCRIPTION	MANUF. / MODEL No.
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- S-1 UTILITY SINK:**
- SINGLE MOLDED STONE LAUNDRY TUB WITH BAKED ENAMEL ANGLE LEGS, SELF-LEVELING WITH FLOOR ANCHORS. FITTING: CHROME PLATED DECK MOUNTED FAUCET.
    - MUSTEE 19F OR POWERS FIAT FL-1 OR SWAN MF-1F
  - TRAP: CAST BODY, ADJUSTABLE "P" TRAP WITH CLEANOUT.
  - SUPPLY: 3/8" ANGLE SUPPLY WITH FLEX VERTICAL TUBE, LOOSE KEY STOPS AND ESCUTCHEON., STAINLESS STEEL CAP, CAST BRASS DRAIN WITH NICKEL BRONZE STRAINER, WITH LINT BASKET. 34" STANDING HEIGHT.

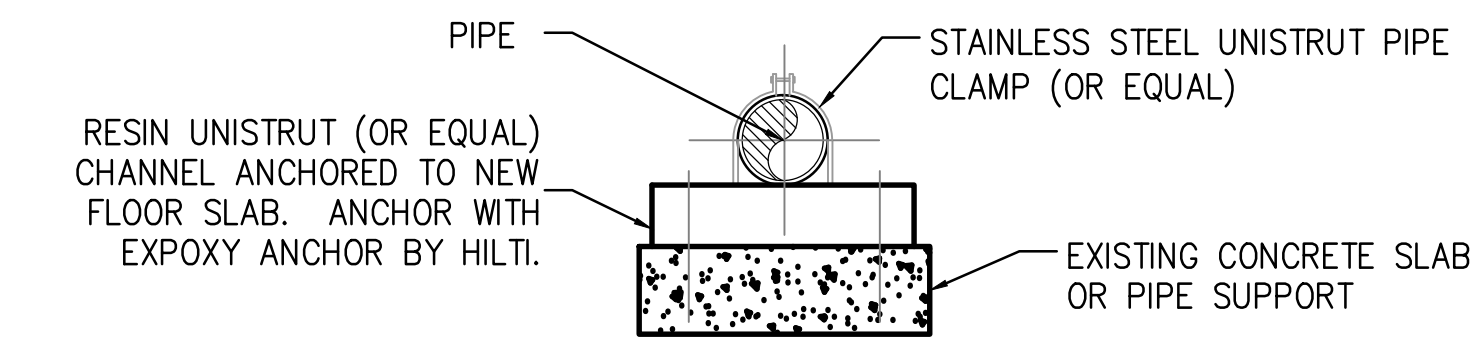
- FD-1 FLOOR DRAIN:**
- DRAIN: CAST IRON BODY WITH BOTTOM OUTLET COMBINATION INVERTIBLE MEMBRANE CLAMP AND DEEP SEAL TRAP ADJUSTABLE TYPE NICKEL CAST BRONZE STRAINER.
    - ZURN ZN-415-P OR JOSAM SERIES 2M OR MIFAB F1100-C-W(D)

- ES-1 COMBINATION EMERGENCY SHOWER/EYEWASH:**
- FLOOR MOUNTED DELUGE SHOWER AND AERATED EYEWASH COMBINATION. SHOWER SUPPLIED WITH 1" NPTF STAY-OPEN FULL FLOW BALL VALVE, ACTIVATED BY TRIANGLE PULL HANDLE. EYEWASH SUPPLIED WITH 1/2" NPTF STAY-OPEN FULL FLOW BALL VALVE, ACTIVATED BY PUSH HANDLE. OPTIONAL ANTI SCALED PROTECTION VALVE TO BE PROVIDED. ADA COMPLIANT.
    - SPEAKMAN SE-697-ADA-SPV OR GUARDIAN GBF1994-TMV OR BRADLEY S19314BF1ABBABR

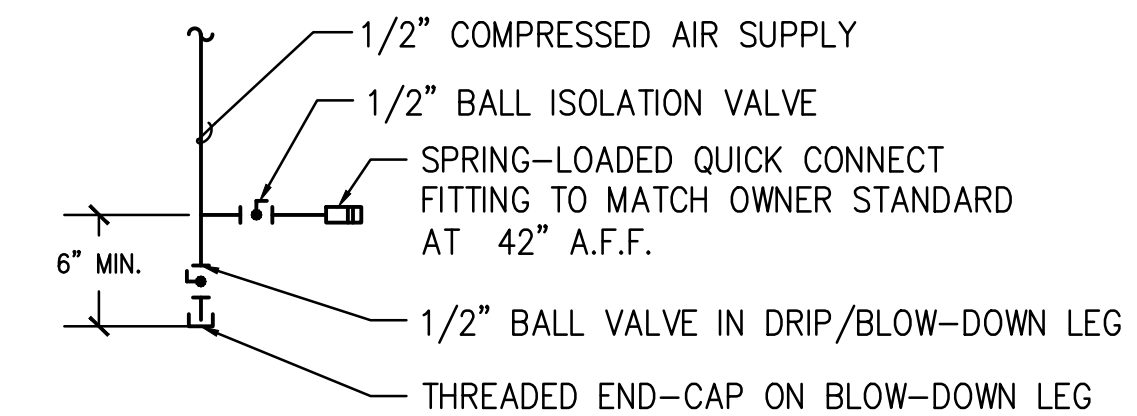
NOTE: PROVIDE WITH HIGHLY VISIBLE UNIVERSAL EMERGENCY SIGNAGE.



**DOMESTIC COLD WATER RISER DIAGRAM**  
SCALE: N.T.S.

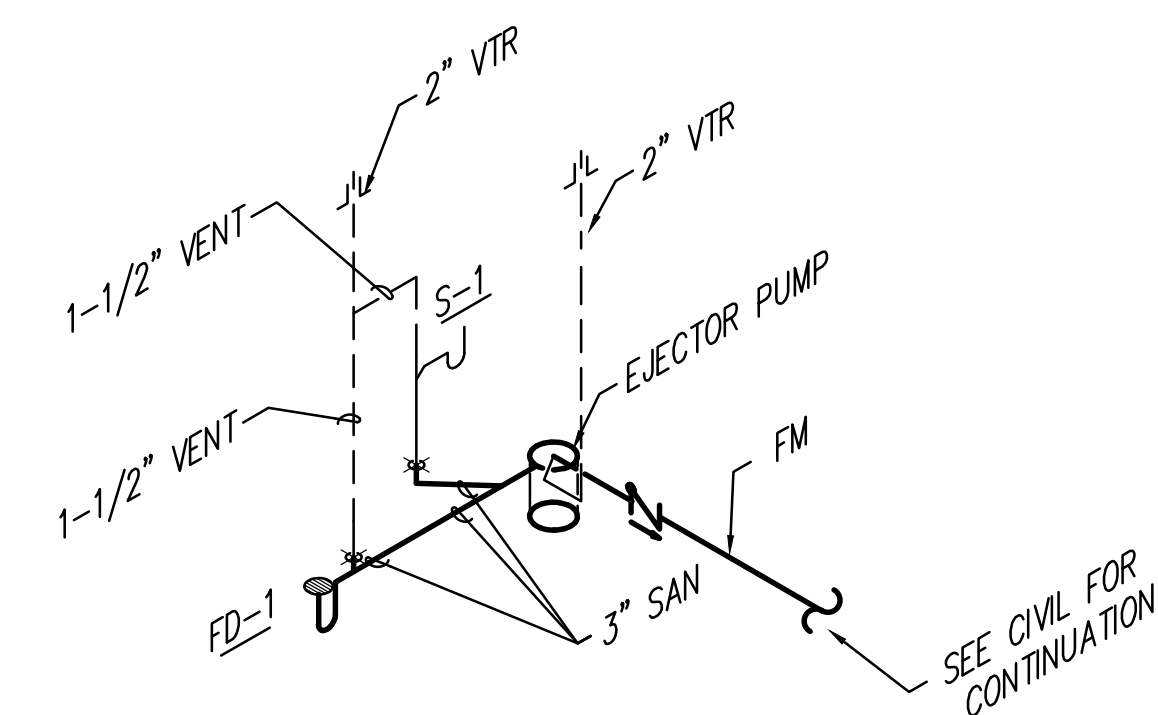


**PIPE SUPPORT DETAIL**  
NOT TO SCALE

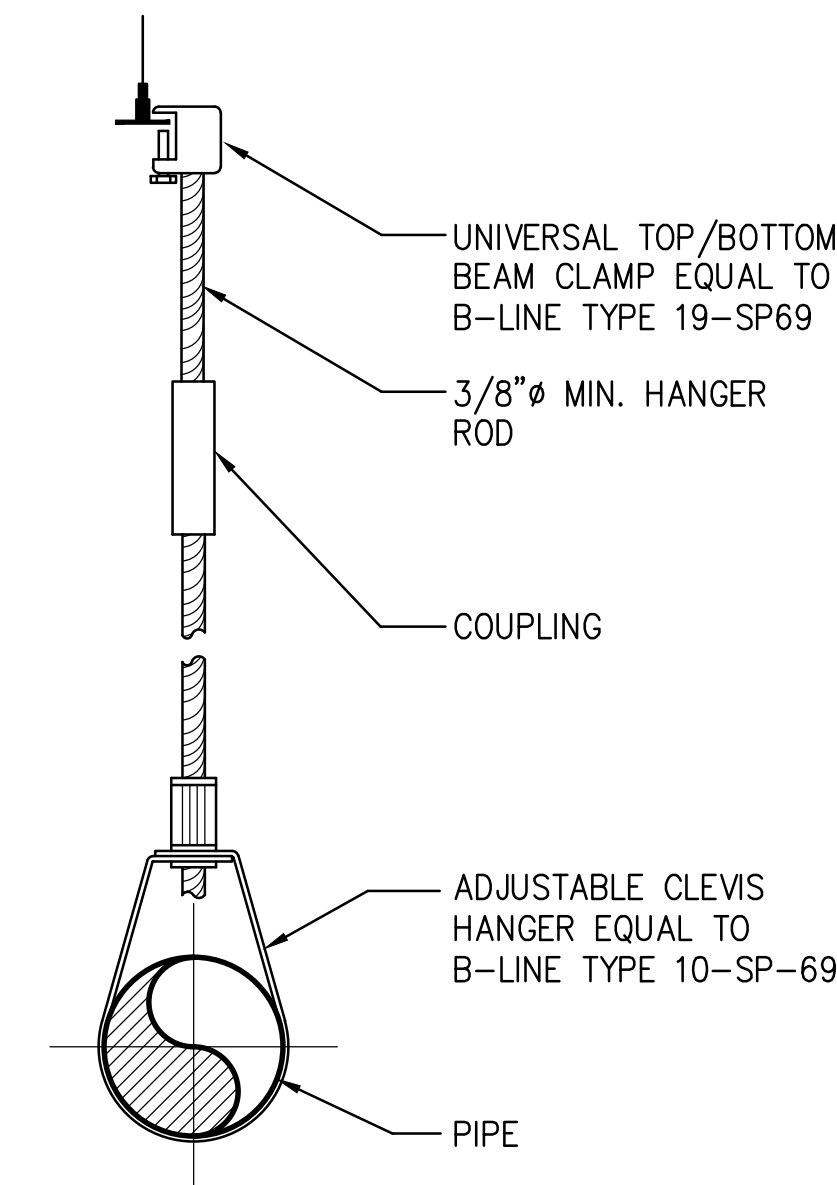


NOTES:  
1. ALL AIR TERMINATIONS WITHIN THE SCOPE OF THIS PROJECT SHALL MEET THE ABOVE DETAIL.

**TYPICAL COMPRESSED AIR TERMINATION DETAIL**  
SCALE: N.T.S.



**SANITARY RISER DIAGRAM**  
SCALE: N.T.S.



NOTES:  
1. SIZE HANGER AND CLAMP TO ADEQUATELY SUPPORT LOAD (REFER TO B-LINE HANGER CATALOG).  
2. FOR COPPER TUBING USE COPPER PLATED OR PAINTED B3170CT, FELT LINED B3170F, OR PLASTIC COATED HANGERS.

**PIPE SUPPORT DETAIL**  
NOT TO SCALE

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JOB#: 13133

CONSTRUCTION DOCUMENTS - MARCH 10, 2014



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FLORIDA REGISTRATION NUMBERS  
#AA-C000146 / #IB-C000909

GENERAL NOTES

THEODORE G. FERY  
FLORIDA REGISTRATION AR0007939

KEYED NOTES

John C. Miller, PE,  
FL Reg. No. 69968

NO. DESCRIPTION DATE

**ORANGE COUNTY STORM-WATER MANAGEMENT BUILDING 5A**  
4200 JOHN YOUNG PKWY  
ORLANDO, FL 32839

LIST OF BOARD MEMBERS:

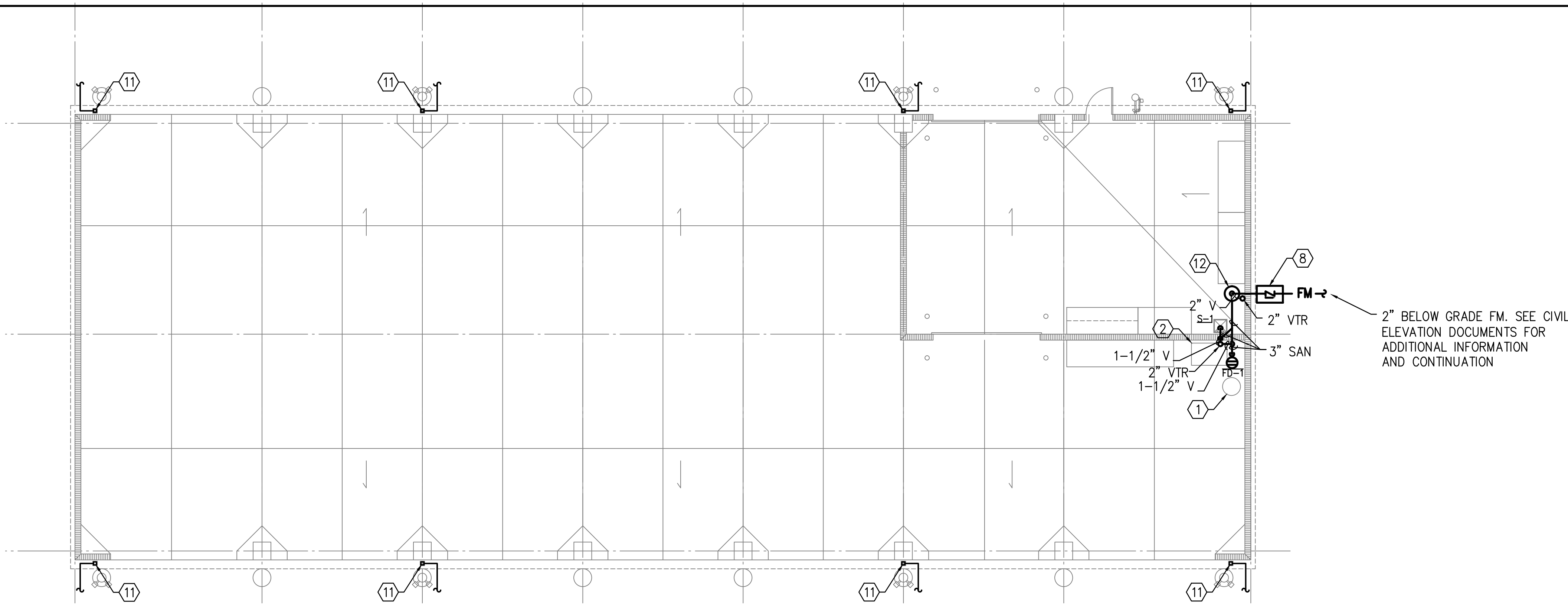
ORANGE COUNTY MAYOR	TERESA JACOBS
DISTRICT 1 COMMISSIONER	S. SCOTT BOYD
DISTRICT 2 COMMISSIONER	FRED BRUMMER
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DISTRICT 4 COMMISSIONER	JENNIFER THOMPSON
DISTRICT 5 COMMISSIONER	TED EDWARDS
DISTRICT 6 COMMISSIONER	TIFFANY MOORE RUSSELL

### PLUMBING NOTES & DETAILS

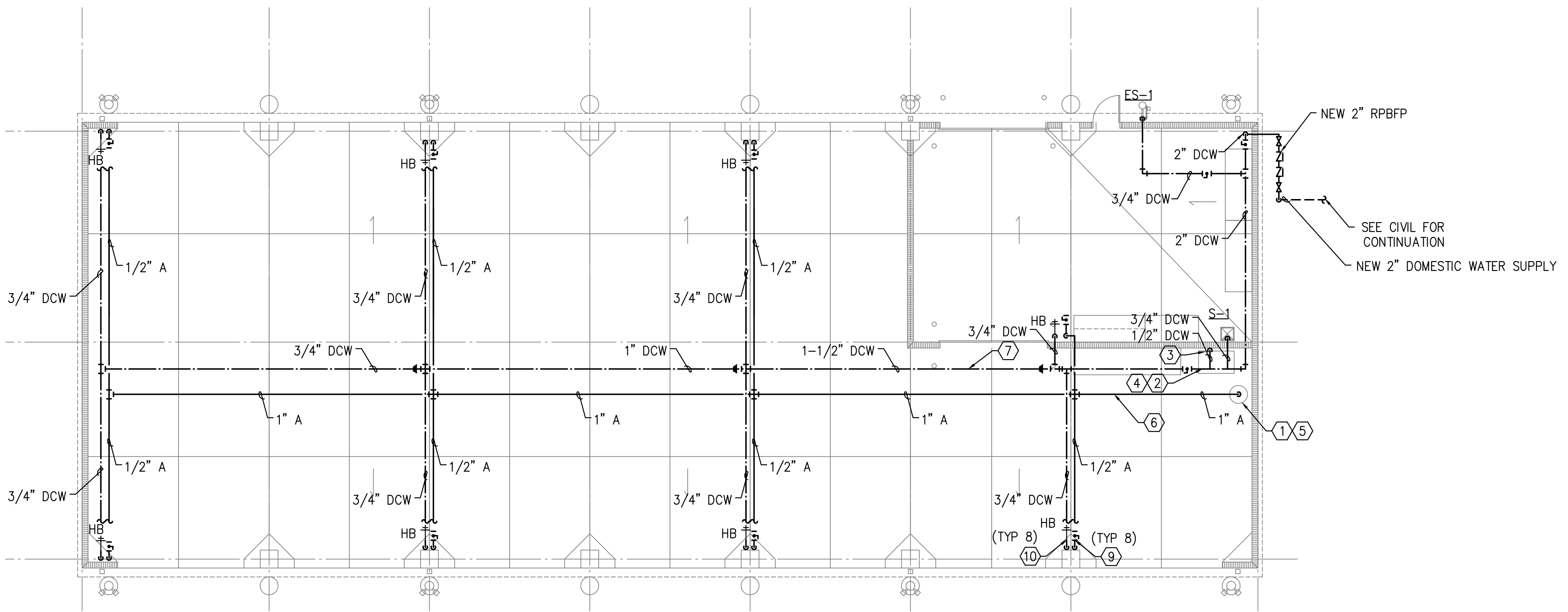
DRAWN BY: JCM/JLW  
CHECKED BY: JCM  
SCALE: 1/8"  
START DATE: 06.12.2013  
PROJECT NO.: 3764A-00

SHEET NO.:

**P-001**



**SANITARY WASTE AND STORM PLAN**  
SCALE: 1/8" = 1'-0"



**DOMESTIC WATER AND COMPRESSED AIR PLAN**  
SCALE: 1/8" = 1'-0"

**PLUMBING GENERAL NOTES**

1. TERMINATE ALL HOSE BIBBS AT 18" A.F.F.
2. TERMINATE ALL COMPRESSED AIR CONNECTIONS AT 42" A.F.F. SEE DETAIL ON SHEET P-001 FOR ADDITIONAL INFORMATION.

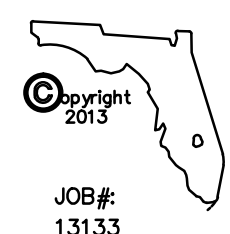
**PLUMBING PLAN NOTES**

- 1 NEW OWNER FURNISHED AIR COMPRESSOR
- 2 NEW OWNER FURNISHED ICE MACHINE
- 3 EXTEND 1/2" DOMESTIC COLD WATER SUPPLY DOWN WALL TO NEW ICE MACHINE. PROVIDE WALL MOUNTED DOUBLE-CHECK BACK FLOW PREVENTER AT TERMINATION BEFORE CONNECTION TO ICE MACHINE.
- 4 EXTEND DRAIN FROM ICE BIN ACROSS FLOOR TO TERMINATE AT NEW FLOOR DRAIN. PIPING TO BE 1" COPPER SUPPORTED 4'-0" O.C. WITH EPOXY EMBEDDED ANCHORS AND UNI-STRUT. SLOPE TO DRAIN MIN 1/8" PER FOOT.
- 5 EXTEND 3/8" DRAIN FROM COMPRESSOR BLOW DOWN TO NEW FLOOR DRAIN.
- 6 DO NOT OFFSET AIR PIPING IN HORIZONTAL RUN TO PREVENT THE ACCUMULATION OF CONDENSATE.
- 7 ROUTE DOMESTIC COLD WATER PIPING AS SHOWN ON THE PLAN VIEW.
- 8 PROVIDE VALVE BOX ON BUILDING EXTERIOR WITH CHECK VALVE AT FM.
- 9 PROVIDE ISOLATION BALL VALVES ON COMPRESSED AIR PIPING AS SHOWN ON THE PLAN VIEW (TYPICAL 8).
- 10 PROVIDE ISOLATION BALL VALVES ON DOMESTIC COLD WATER PIPING AS SHOWN ON THE PLAN VIEW (TYPICAL 8).
- 11 PROVIDE 4"x4" VERTICAL ROOF LEADER AS SHOWN ON THE PLAN VIEW. FROM DOWNSPOUT ADAPTER PROVIDE 6" PVC PIPE PARALLEL TO BUILDING FOR 18" AND RETURN 90° PERPENDICULAR TO BUILDING TO TIE INTO 8" PIPE (TYPICAL 10). SEE CIVIL ENGINEERING CONSTRUCTION DOCUMENTS FOR CONTINUATION.
- 12 NEW PRE-ASSEMBLED SIDE-DISCHARGE SEWAGE SYSTEM. BASIS OF DESIGN ZOELLER PUMP COMPANY 912-0082 WITH WASTE-MATE M264 PUMP CAPABLE OF FLOWING 23 GALLONS PER MINUTE AT 15 FEET WITH INTEGRAL FLOAT OPERATED MECHANICAL SWITCH. PROVIDE WITH FACTORY ALARMS AND PREINSTALLED ALARM FLOAT.

**PLUMBING LEGEND**

SYMBOL	ABBREV.	DESCRIPTION
— SAN —	SAN	SANITARY WASTE
— CW —	CW	COLD WATER
→		DIRECTION OF FLOW
— V —	V	VENT LINE
⊥	VTR	VENT THRU ROOF
⊕	FD	FLOOR DRAIN
⊓	GV	GATE VALVE
⊓	CV	CHECK VALVE
⊕	HB	BALL VALVE (FULL PORT)
⊓	HB	HOSE BIBB
⊓		CAPPED PIPE
⊓		RISER DOWN (ELBOW)
⊓		RISER UP (ELBOW)
⊓		BRANCH - SIDE CONNECTION
— FM —	FM	FORCED MAIN

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GENERAL NOTES

THEODORE G. FERY  
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KEYED NOTES

John C. Miller, PE,  
FL Reg. No. 69968

NO.	DESCRIPTION	DATE
1	REVIEW COMMENTS #B13902208	2014/01/16

**ORANGE COUNTY STORM-WATER MANAGEMENT BUILDING 5A**  
4200 JOHN YOUNG PKWY  
ORLANDO, FL 32839

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**PLUMBING SITE PLAN**

DRAWN BY:	JCM/JLW
CHECKED BY:	JCM
SCALE:	1/8"
START DATE:	06.12.2013
PROJECT NO.:	3764A-00

SHEET NO.: **P-101**

## HVAC GENERAL NOTES

FURNISH ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES REQUIRED FOR THE RENOVATION OF EXISTING MECHANICAL SYSTEMS INCLUDING HEATING, VENTILATION, AIR CONDITIONING, AND MISCELLANEOUS SYSTEMS AS INDICATED ON THE DESIGN DRAWINGS AND AS OUTLINED IN THE SPECIFICATIONS.

THE ENTIRE SYSTEM AND ALL COMPONENTS SHALL HEREIN MEET ALL STATE, COUNTY, AND LOCAL CODES AND ORDINANCES IN EVERY RESPECT.

### APPLICABLE CODES:

- 2010 FLORIDA BUILDING CODE - MECHANICAL
- 2010 FLORIDA BUILDING CODE - EXISTING BUILDING
- NFPA 90A, 2009 EDITION
- NFPA 72, 2007 EDITION (TO COVER THE AIR DUCT DETECTORS)
- NFPA 101, 2009 EDITION
- FLORIDA FIRE PREVENTION CODE (FFPC), 2010 EDITION

MECHANICAL CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ALL FEES REQUIRED FOR HIS PORTION OF THE WORK.

REFER TO DRAWINGS FOR NEW AND REUSED EXISTING EQUIPMENT. ALL NEW EQUIPMENT, ETC. SHALL BE OF THE BEST QUALITY, FREE OF DEFECTS, AS SHOWN ON THE DRAWINGS, AND AS INDICATED IN THE SPECIFICATIONS.

ALL SYSTEMS SHALL BE FABRICATED AND INSTALLED IN A NEAT AND PROFESSIONAL MANNER WITH THE COORDINATION OF ALL INVOLVED TRADES TO AVOID INTERFERENCE AND DELAY DUE TO LACK OF COORDINATION. NO ALLOWANCES WILL BE MADE FOR REWORK DUE TO COORDINATION DIFFICULTIES OR INTERFERENCE BETWEEN INVOLVED TRADES.

EXISTING SYSTEMS SHOWN ON THIS PLAN ARE BASED ON FIELD OBSERVATIONS AND AVAILABLE RECORD DRAWINGS. THIS INFORMATION IS PARTIALLY UNVERIFIED. CONTRACTOR ASSUMES RESPONSIBILITY FOR FIELD VERIFICATION AND INVESTIGATION PRIOR TO SUBMITTING BID. DO NOT SCALE THESE PLANS.

MECHANICAL CONTRACTOR SHALL INCLUDE IN HIS BASE BID THE COST OF PREPARING A FINAL TEST AND BALANCE REPORT. TEST AND BALANCE SHALL BE BY (INDEPENDENT) T&B COMPANY CERTIFIED BY AABC OR NEBB ONLY. EXISTING AIR QUANTITY SHALL BE REBALANCED TO AIR QUANTITY NOTED ON PLAN.

ALL DIMENSIONS ARE INSIDE NET FREE AREA.

ALL EXHAUST AND OUTSIDE AIR DUCTWORK SHALL BE SHEETMETAL.

MECHANICAL CONTRACTOR SHALL EXAMINE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ESTIMATING AND CONSTRUCTION OF THIS PROJECT. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED FOR ANY CORRECTIONS REQUIRED DUE TO CONFLICTS WITH OTHER TRADES WILL NOT BE RECOGNIZED.

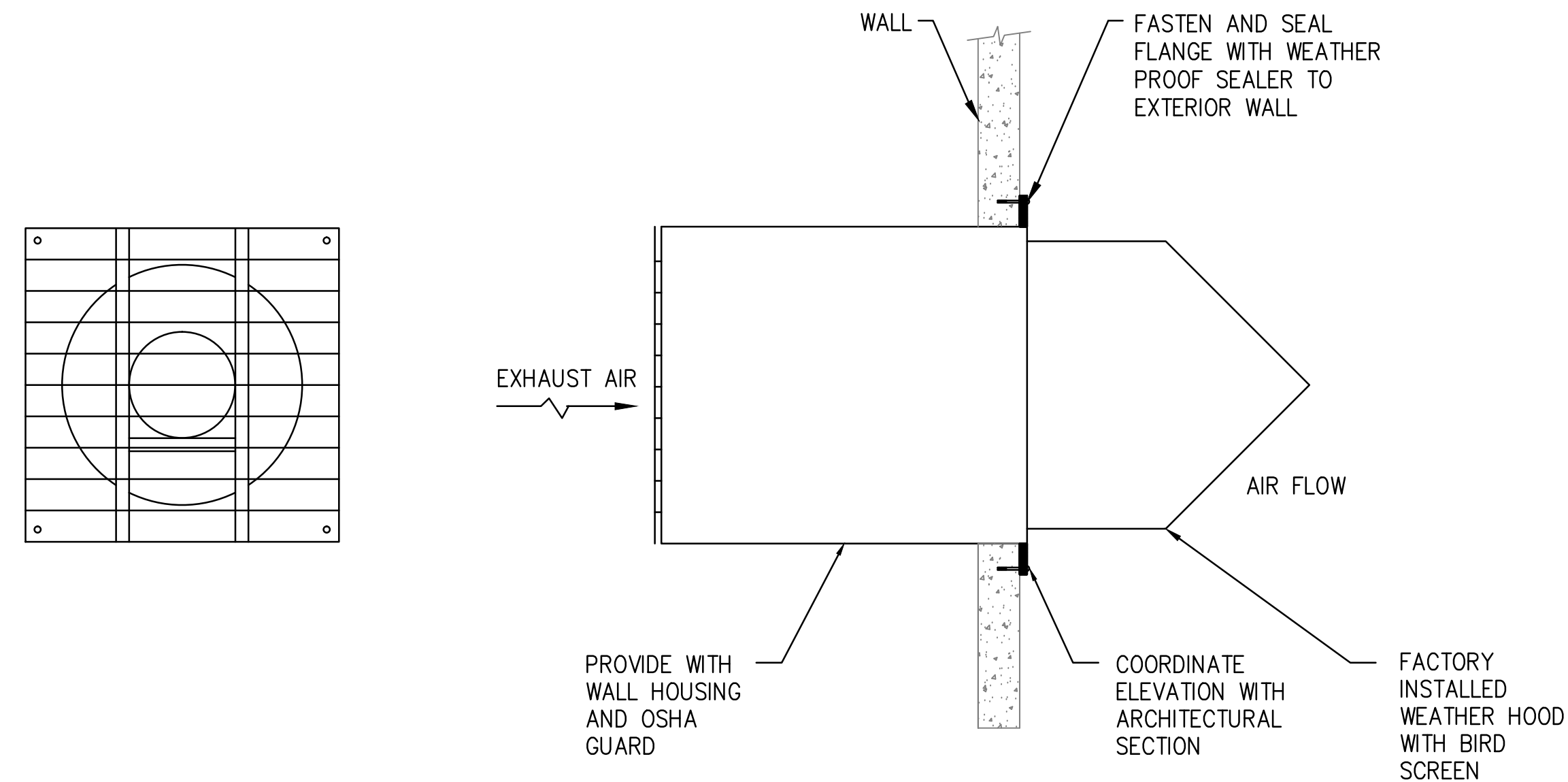
BUILDING OWNER'S SPECIFICATIONS AND CRITERIA FOR MATERIALS AND PROCEDURES SHALL GOVERN WHEN IN CONFLICT WITH MECHANICAL SPECIFICATIONS AND NOTES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THE OWNER'S SPECIFICATIONS PRIOR TO SUBMITTING BID.

## EXHAUST FAN SCHEDULE

TAG	TYPE	AREA SERVED	DRIVE	CFM	ESP.	RPM	MOTOR		MANUFACTURER / MODEL	WEIGHT	MAX SONES	NOTES
							HP	V/PH				
EF-1&2	AXIAL	BUILDING 5A	DIRECT	4813	.05	1750	3/4	277/1	GREENHECK/SE1-18-429-A7	-	17.1	1-6
EF-1&2	AXIAL	BUILDING 5A	DIRECT	4800	.05	1080	3/4	277/1	COOK/24XW28D102	-	9.4	1-6
EF-1&2	AXIAL	BUILDING 5A	DIRECT	5114	.06	1550	3/4	115/1*	PENNBERRY/P18RA	-	20.32	1-6

### NOTES:

1. PROVIDE BACKDRAFT DAMPER, DISCONNECT SWITCH, AND SCR SPEED CONTROL.
  2. INTERLOCK WITH NEW TIME CLOCK.
  3. PROVIDE 45 WEATHERSHIELD WITH BIRD SCREEN.
  4. PROVIDE ENTIRE OSHA HOUSING.
  5. PROVIDE SEPERATE MANUAL SWITCH, NEMA 302 ENCLOSURE WITH THERMAL OVERLOAD PROTECTION AND PRE WIRED JUNCTION BOX.
  6. MULTIPLE VENDORS SHOWN FOR COMPETITIVE BIDDING PURPOSES.
- \* CONTRACTOR SHALL COORDINATE POWER REQUIREMENTS WITH ELECTRICAL ENGINEER AND CONTRACTOR FOR 115V SINGLE PHASE OPTION IF CHOSEN. ADDITIONAL COST ASSESSED WITH THE CHANGES SHALL BE ABSORBED BY THE MECHANICAL CONTRACTOR.



## EXHAUST WALL CAP DETAIL

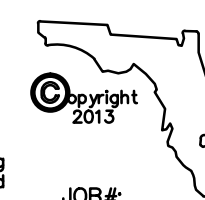
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## H.V.A.C. LEGEND

TYPE	EQUIPMENT TAG
CFM	
8	EXHAUST FAN
→	AIR FLOW

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JOB#:  
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CONSTRUCTION DOCUMENTS - MARCH 10, 2014



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FLORIDA REGISTRATION NUMBERS  
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### GENERAL NOTES

THEODORE G. FERY  
FLORIDA REGISTRATION ARO007939

### KEYED NOTES

John C. Miller, PE,  
FL Reg. No. 69968

NO. DESCRIPTION DATE

ORANGE COUNTY STORM-WATER MANAGEMENT BUILDING 5A  
4200 JOHN YOUNG PKWY  
ORLANDO, FL 32839

### LIST OF BOARD MEMBERS:

ORANGE COUNTY MAYOR	TERESA JACOBS
DISTRICT 1 COMMISSIONER	S. SCOTT BOYD
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### MECHANICAL LEGEND/ SCHEDULES & DETAILS

DRAWN BY:	JCM/JLW
CHECKED BY:	JCM
SCALE:	1/8"
START DATE:	06.12.2013
PROJECT NO.:	3764A-00

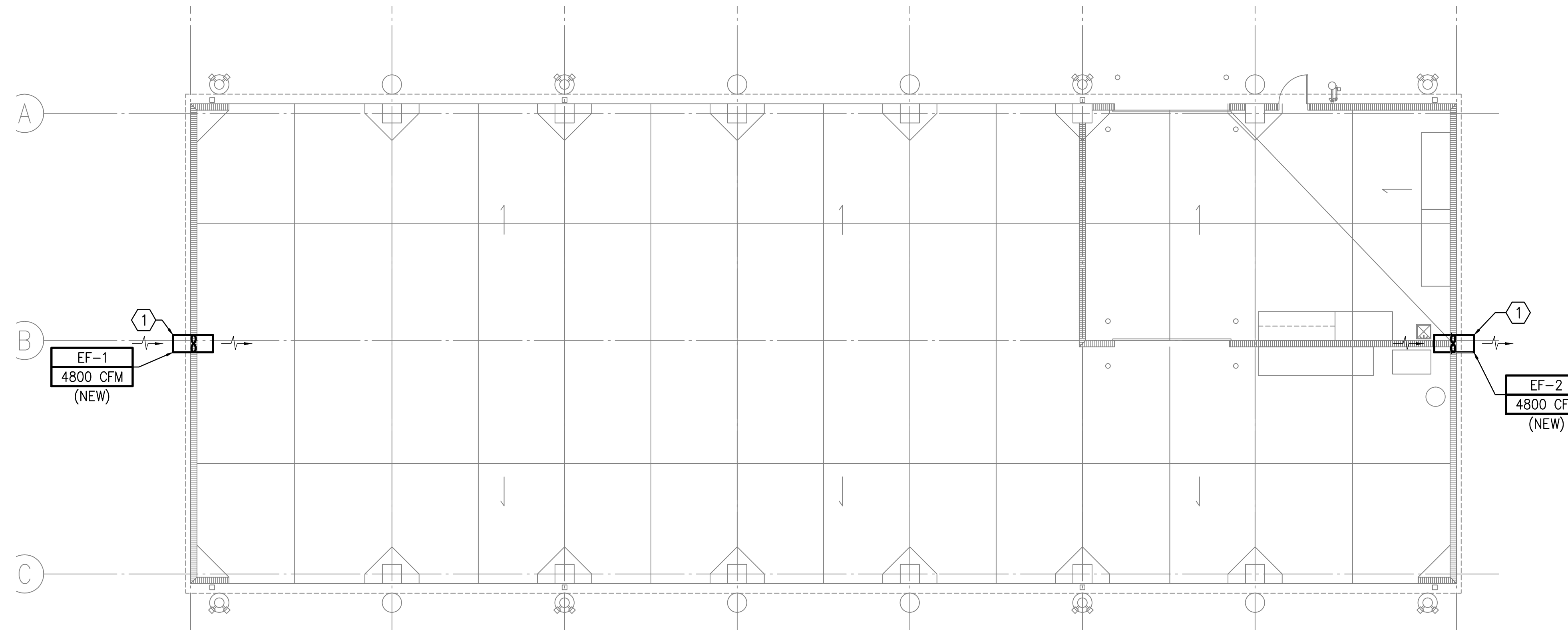
SHEET NO.: **M-001**

**MECHANICAL GENERAL NOTES**

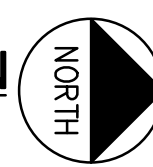
1. CONTRACTOR TO TEST AND BALANCE NEW EXHAUST FANS TO VERIFY THEY ARE PRODUCING 4800 CFM AND PROVIDE AABC OR NEBB REPORT TO OWNER.

**MECHANICAL PLAN NOTES**

- 1 NEW WALL MOUNTED AXIAL SIDE-WALL EXHAUST FAN INSTALLED ABOVE 12'-0". INTEGRATE OPERATION WITH NEW TIME-CLOCK SCHEDULED TO OPERATE DURING OCCUPIED HOURS. SEE ELECTRICAL CONSTRUCTION DOCUMENTS FOR ADDITIONAL INFORMATION. INSTALL PER MANUFACTURER'S INSTALLATION MANUAL.



**MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"



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ORLANDO, FL 32839

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FLORIDA REGISTRATION ARO007939

KEYED NOTES

Gerardo Salar, PE, FL Reg. No. 53259

NO.	DESCRIPTION:	DATE:
1	REVIEW COMMENTS #B13902208	2014/01/16
2	REVIEW COMMENTS #B13902208	2013/08/16



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ORLANDO, FL 32839

LIST OF BOARD MEMBERS:

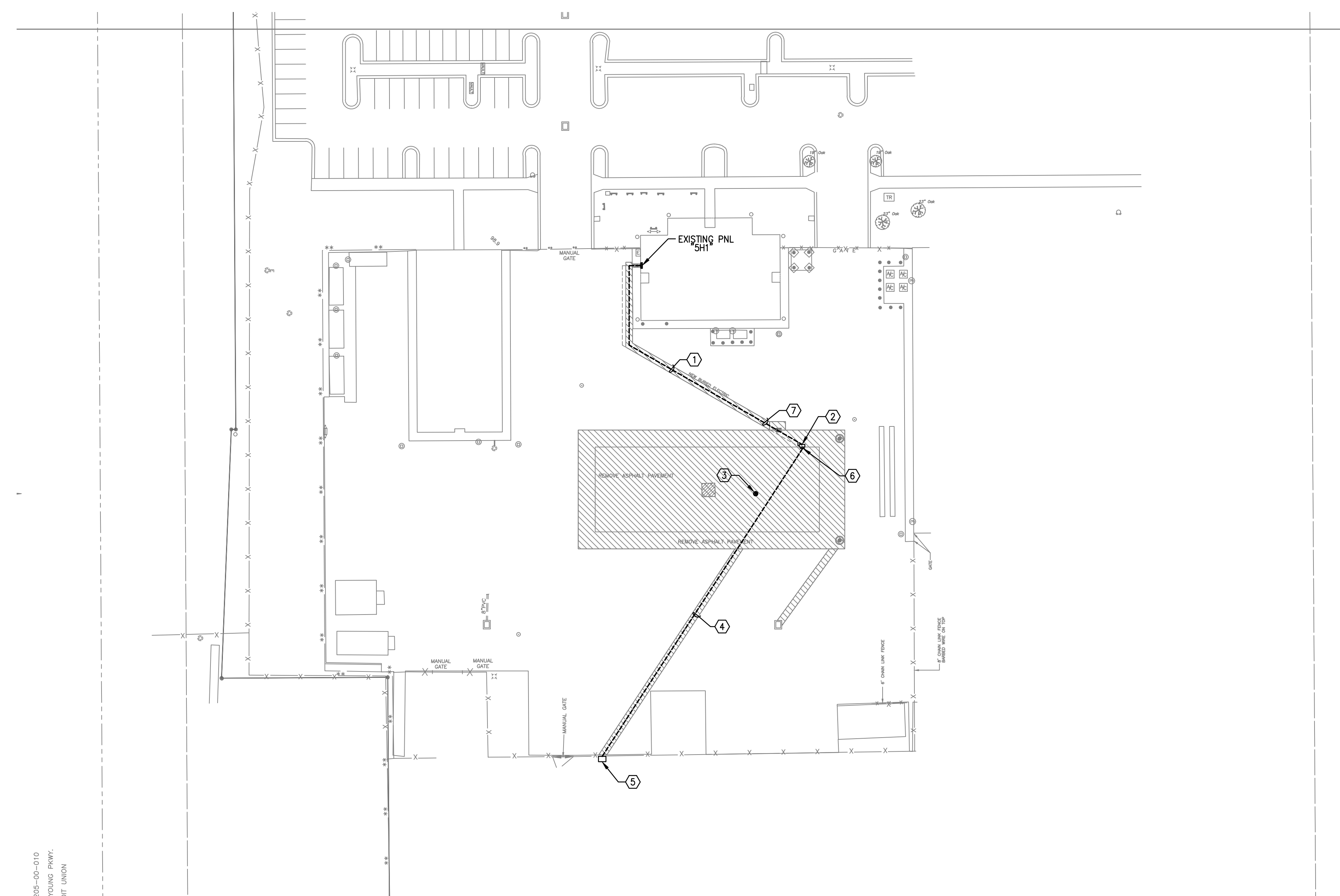
ORANGE COUNTY MAYOR	TERESA JACOBS
DISTRICT 1 COMMISSIONER	S. SCOTT BOYD
DISTRICT 2 COMMISSIONER	FRED BRUMMER
DISTRICT 3 COMMISSIONER	PETE CLARKE
DISTRICT 4 COMMISSIONER	JENNIFER THOMPSON
DISTRICT 5 COMMISSIONER	TED EDWARDS
DISTRICT 6 COMMISSIONER	TIFFANY MOORE RUSSELL

**ELECTRICAL SITE PLAN**

DRAWN BY:	CDH/MJS
CHECKED BY:	GJS
SCALE:	AS NOTED
START DATE:	06.12.2013
PROJECT NO.:	3764A-00

SHEET NO.: **E-101**

CONSTRUCTION DOCUMENTS - MARCH 10, 2014



**PLAN NOTES**

- 1 PROPOSED ROUTING OF ELECTRICAL FEEDER TO PROPOSED BUILDING 5A. REFER TO POWER RISER DIAGRAM SHEET E-106 NOTE 4 FOR SIZING.
- 2 BUILDING 5A SERVICE DISCONNECT LOCATION. REFER TO NOTE 5 OF POWER RISER DIAGRAM NOTES SHEET E-106 FOR REQUIREMENTS.
- 3 EXISTING LIGHT POLE TO BE CAREFULLY REMOVED AND RETURNED TO OWNER. REROUTE UNDERGROUND RACEWAY AND CONDUCTORS AS NECESSARY FOR CIRCUIT CONTINUITY.
- 4 RUN (2) 3" PVC UNDERGROUND CONDUITS WITH PULL STRING TO EXISTING COMMUNICATION BOX. FIELD COORDINATE EXACT ROUTING AND TERMINATION POINT PRIOR TO ROUGH-IN.
- 5 EXISTING 36" x 36" COMMUNICATION GROUND BOX. PROVIDE LAMINATED OR METAL TAG WITH INSCRIPTION: "TO BUILDING 5A WORKSHOP ROOM". ATTACH TO END OF PULL STRING.
- 6 STUB-UP CONDUITS OF NOTE 4 ABOVE, 10" AFF. PROVIDE LAMINATED OR METAL TAG WITH INSCRIPTION: "TO 36" x 36" COMMUNICATION GROUND BOX ON WEST SIDE OF COMPUTER CENTER". ATTACH TO END OF PULL STRING.
- 7 FIELD COORDINATE EXACT ROUTING WITH PLUMBING CONTRACTOR AND PIPES INVERT ELEVATIONS TO AVOID CONFLICTS WITH NEW AND EXISTING UNDERGROUND PIPE WORK PRIOR TO ROUGH-IN.

**ELECTRICAL SITE PLAN**  
SCALE: 1" = 40'-0"  
TRUE NORTH

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CONSULTING ENGINEERS  
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205-00-010  
YOUNG PKWY.  
217 UNION

FILE: S:\P\0\2013\13133\13133elec\13133 E\_101 REV03.dwg

Plot Date: 3/4/2014 9:53:44 AM



VOA ASSOCIATES INCORPORATED  
4798 NEW BROAD STREET, SUITE 100  
ORLANDO, FLORIDA 32814  
VOICE 407.425.2500  
FAX 407.648.4275

FLORIDA REGISTRATION NUMBERS  
#AA-C000146 / #IB-C000909

GENERAL NOTES

THEODORE G. FERY  
FLORIDA REGISTRATION AR0007939

KEYED NOTES

Gerardo Solar, PE, FL Reg. No. 53259

NO. DESCRIPTION DATE

ORANGE COUNTY STORM-WATER MANAGEMENT BUILDING 5A  
4200 JOHN YOUNG PKWY  
ORLANDO, FL 32839

- LIST OF BOARD MEMBERS:
- |                         |                       |
|-------------------------|-----------------------|
| ORANGE COUNTY MAYOR     | TERESA JACOBS         |
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| DISTRICT 5 COMMISSIONER | TED EDWARDS           |
| DISTRICT 6 COMMISSIONER | TIFFANY MOORE RUSSELL |

**ELECTRICAL PHOTOMETRICS SITE PLAN**

DRAWN BY: CDH/MJS  
CHECKED BY: GJS  
SCALE: AS NOTED  
START DATE: 06.12.2013  
PROJECT NO.: 3764A-00

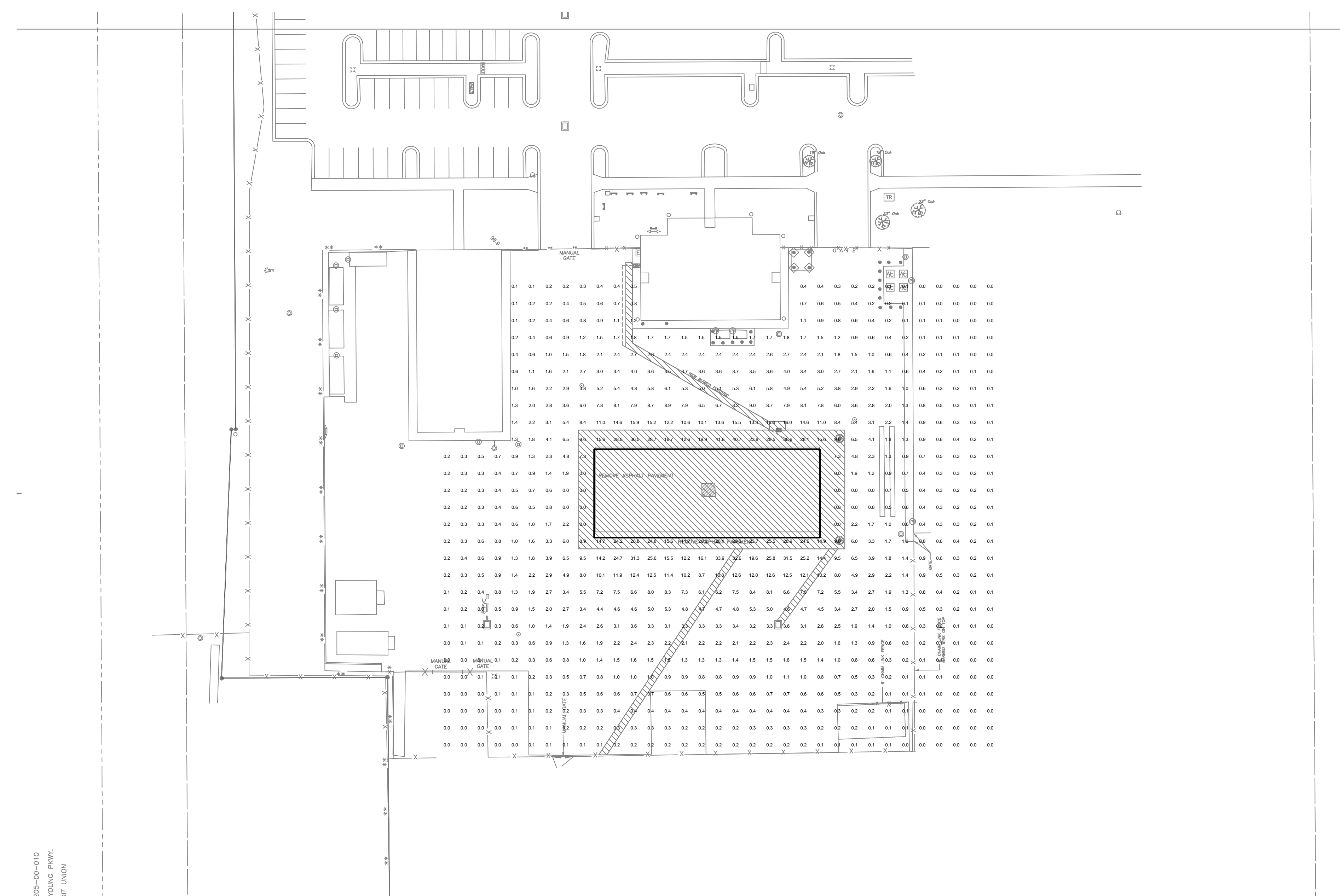
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JOB#: 13133

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Luminaire Schedule											
Label	Symbol	Qty	Arrangement	[MANUFAC]	Description	No. Lamps	Lumens/Lamp	Lum. Lumens	LLF	Lum. Watts	Total Watts
B		8	2 @ 90 DEGREES	Lithonia Lighting	KAD 400M R4 TB SCWA RPD09 LPI; MOUNTED @ 28' AFG ON ROUND TAPERED ALUMINUM POLE	1	38000	21727	0.750	456	7296
C		6	SINGLE	Nulite	EJL 250HPS MT BZ WT; WALL MOUNTED @ 12' AFG	1	29000	17625	0.850	295	1770

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CALC_ZONE	Illuminance	Fc	3.14	41.6	0.0	N.A.	N.A.



205-00-010  
YOUNG PKWY.  
3IT UNION

**ELECTRICAL PHOTOMETRICS SITE PLAN**  
SCALE: 1" = 40'-0"  
TRUE NORTH

FILE: S:\Proj\2013\13133\13133elec\13133 E\_102.dwg

Plot Date: 3/4/2014 9:53:50 AM

CONSTRUCTION DOCUMENTS - MARCH 10, 2014



**FEATURES & SPECIFICATIONS**

**INTENDED USE** - Ideal for parking areas, street lighting, walkways and car lots.  
**CONSTRUCTION** - Bugged, die-cast, soft corner aluminum housing with 0.12" nominal wall thickness. Die-cast door frame is impact-resistant, tempered glass lens that is fully gasketed with one-piece tubular silicone. Finish: Standard finish is dark bronze (DB) polyester powder finish, with other architectural colors available.  
**OPTICS** - Anodized, aluminum reflector; IES full cutoff distributions R2 (asymmetric), R3 (asymmetric), R4 (forward throw) and R5 (square) are interchangeable. High performance anodized, segmented aluminum reflector; IES full cutoff distributions SR2 (asymmetric), SR3 (asymmetric) and SR4 (forward throw, sharp cutoff). High-performance reflectors attach with tool-less fasteners and are rotatable and interchangeable.  
**ELECTRICAL** - Ballast: High pressure sodium: 70-150W is high reactance, high power factor. Constant wattage autotransformer for 200-400W. Metal halide: 70-150W is high reactance, high power factor and is standard with pulse-start ignitor technology. "SCWA" not required. Constant wattage autotransformer for 175-400W. Super CWA (pulse start ballast), 80% efficient and EIA legislation compliant, is required for metal halide 175-400W (SCWA option) for US shipments only. CSA, NEMA or IEC required for pulse-start shipments outside of the US. Pulse-start ballast (SCWA) required for 200W, 320W, or 350W. Ballast is 100% factory tested.  
 Socket: Porcelain, horizontally oriented medium base socket for 70-150W. Mogul base socket for 175W and above and 70-400W, with copper alloy, nickel-plated screw shell and center contact. UL listed 1500W, 600W.  
**LISTINGS** - UL Listed (standard), CSA Certified (see options), UL listed for 25°C ambient and wet locations. IP65 rated in accordance with standard IEC 529.  
**WARRANTY** - 1 year limited warranty. Complete warranty terms located at [www.lithonia.com/Customerservice/terms\\_and\\_conditions.aspx](http://www.lithonia.com/Customerservice/terms_and_conditions.aspx)  
 Note: Specifications subject to change without notice.

Catalog Number
Notes
Type



**Specifications**  
 ERL: 1.2R2  
 \*Weight: 35.9 lbs (16.28 kg)  
 Length: 17-1/2" (44.5)  
 Width: 17-1/2" (44.5)  
 Depth: 7-1/8" (18.1)  
 All dimensions are inches (centimeters) unless otherwise specified.  
 \*Weight as configured in example below.

**METAL HALIDE: 70-400W**  
**HIGH PRESSURE SODIUM: 70-400W**  
**20' TO 35' MOUNTING**

**ORDERING INFORMATION** For shortest lead times, configure product using bolded options. Example: KAD 400M R3 TB SCWA SPD04 LPI

Series	Wattage	Distribution	Voltage	Ballast	Mounting <sup>2</sup>	Arm length
KAD	Metal halide	R2 IES type II asymmetric <sup>1</sup>	120	(blank) Magnetic ballast	Ships in fixture carton	04' 4" arm
	200W <sup>3</sup> 250W <sup>4</sup>		208 <sup>5</sup>	CWI Constant voltage isolated <sup>6</sup>		SPD <sup>7</sup> Square pole
	300W <sup>4</sup> 350W <sup>4</sup>	R3 IES type III asymmetric <sup>1</sup>	240 <sup>5</sup>	SCWA Super CWA pulse-start ballast	RFD <sup>8</sup> Round pole	09' 9" arm
	175W <sup>4</sup> 400W <sup>4</sup>		277 <sup>5</sup>		WBD <sup>9</sup> Wall bracket	12' 12" arm
	175W <sup>4</sup> 400W <sup>4</sup>	R4 IES type IV forward throw	347 <sup>5</sup>	SCWA Super CWA pulse-start ballast	WWD <sup>10</sup> Wood or pole wall	
	200W <sup>4</sup>		480 <sup>5</sup>		Ships separately <sup>11</sup>	
	250S 400S	R5 IES type V square	7300W <sup>12</sup>	DBDZP Degree-arm (pole)		

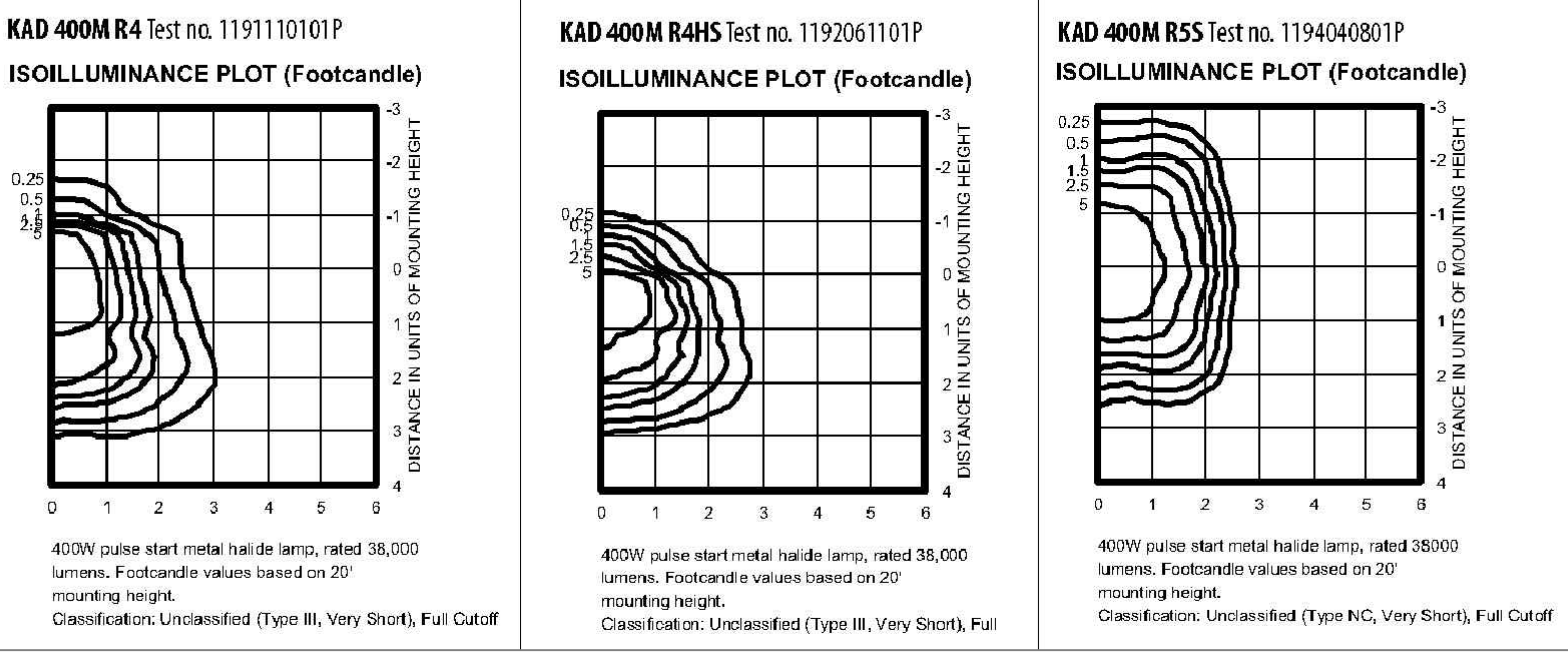
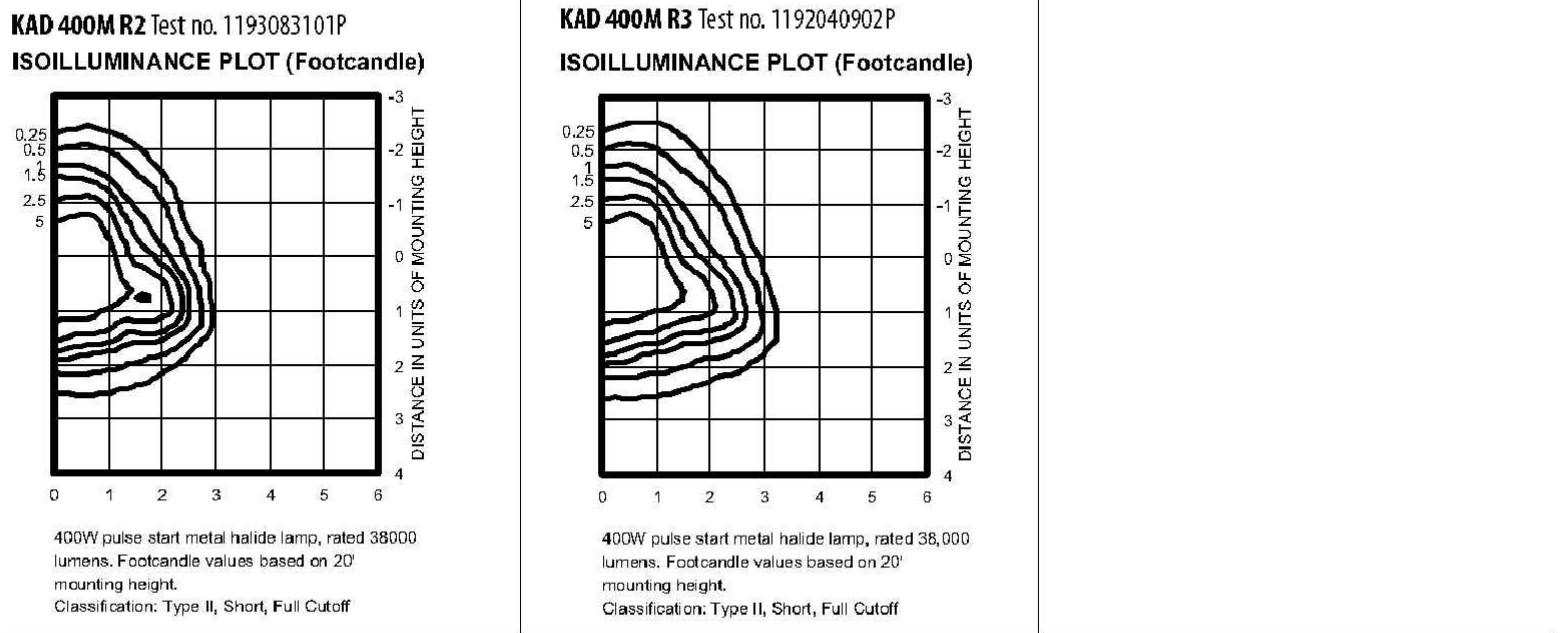
Options	CSA	CSA Certified	Finish <sup>13</sup>	Lamp <sup>14</sup>
Shipped installed in fixture	CSA	Available IAH for probest start shipping outside the U.S.	(blank) Dark bronze	LPI Lamp included
SF Single face (20, 27, 34, 47) <sup>15</sup>	INTL	REG1 California Title 20, effective 1/1/2010	DWH White	LAP Less lamp
DF Double face (20, 240, 40W) <sup>16</sup>	REG1	REG1 California Title 20, effective 1/1/2010	DBL Black	
PD Power tray <sup>17</sup>	REG1	REG1 California Title 20, effective 1/1/2010	DMB Medium bronze	
PER NEMA twist-lock receptacle only (no photocell)	REG1	REG1 California Title 20, effective 1/1/2010	DNA Natural aluminum	
QRS Quartz restrike system <sup>18</sup>	REG1	REG1 California Title 20, effective 1/1/2010	DRK Dark bronze	
QSTD QRS time delay <sup>19</sup>	REG1	REG1 California Title 20, effective 1/1/2010	DRX Black	
WTB Terminal wiring block <sup>20</sup>	REG1	REG1 California Title 20, effective 1/1/2010	DWHG Textured white	

**Accessories: Tenon Mounting Slipfitter (RPX required) Order as separate catalog number. Must be used with pole mounting.**

Number of fixtures	One	Two	Three	Four
2-3/8"	T20-190	T20-280	T20-290 <sup>2</sup>	T20-390 <sup>2</sup>
2-7/8"	T25-190	T25-280	T25-290 <sup>2</sup>	T25-390 <sup>2</sup>
4"	T35-190	T35-280	T35-290 <sup>2</sup>	T35-390 <sup>2</sup>

**KAD Metal Halide, Arm-mounted Soft Square Cutoff**

**Coefficient of Utilization** \_\_\_\_\_  
**Initial Footcandle** \_\_\_\_\_



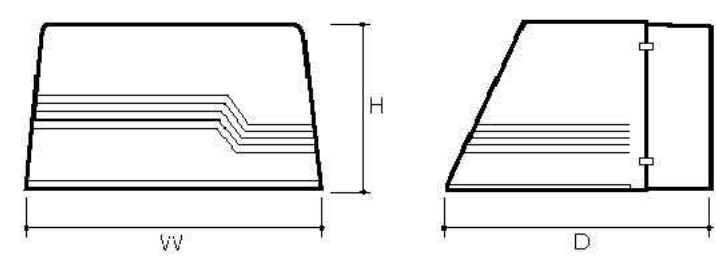
**MULTI™**



**EJL Series**

Project Name: \_\_\_\_\_  
 Type: \_\_\_\_\_ Date: \_\_\_\_\_  
 Catalog #: \_\_\_\_\_

**Dimensions:**  
 70W - 150W HID and CFL  
 14-1/4"W x 9-1/8"H x 11-3/8"D  
 250W - 400W HID  
 18-1/4"W x 9-1/8"H x 17-1/8"D



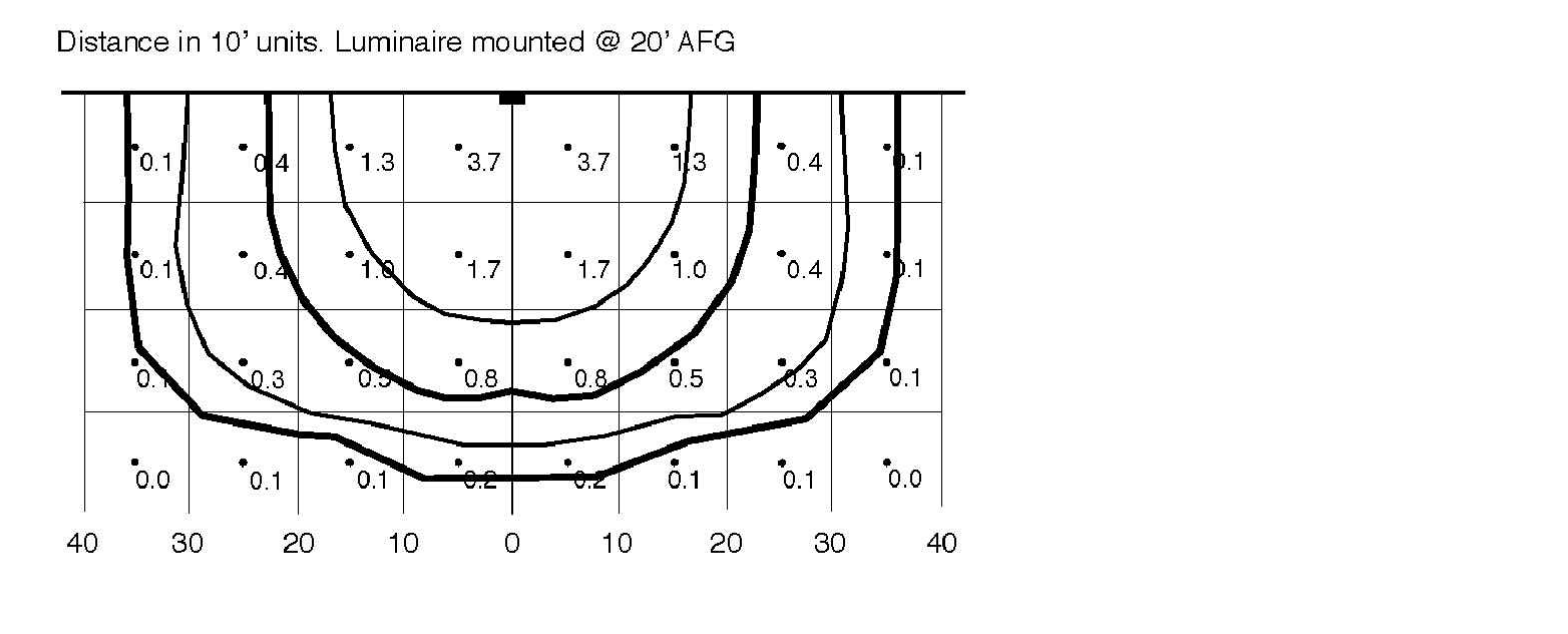
**Ordering Information**  
 Sample: EJL-150MH-MT-BK-PG

Series	Wattage	Voltage	Color	Options
EJL	<b>Compact Fluorescent</b>	UNV <sup>2</sup>	BZ Bronze (Standard)	WT Wide Throw Optics (Standard)
	132CFTR (1) 32WVG X24q-3			FT Forward Throw Optics
	232CFTR (2) 32WVG X24q-3			QRS Quartz Restrike/Relay
	142CFTR (1) 42WVG X24q-4			PC <sup>5</sup> Photocell
	242CFTR (2) 42WVG X24q-4			PG Prismatic Glass Lens
	High Pressure Sodium			WG Vitreguard
	70HPS 70W HPSMED	GLR Fusing		
	100HPS 100W HPSMED	TP Tamper Resistant Hardware (Spanner head screws)		
	150HPS 150W HPSMED	EM <sup>6</sup> Emergency Battery Pack		
	250HPS 250W HPSIMOG	-20 <sup>3</sup> -20°F Cold Start Ballast		
	400HPS 400W HPSIMOG	EMLT-4 <sup>4</sup> Low Temperature -4°F Emergency Battery Pack		

**Photometric Data : EJL Series**

**Characteristics**

IES Classification	Type I
Longitudinal Classification	Very Short
Cutoff Classification	Full Cutoff
Total Rated Lamp Lumens	14000
Maximum Candela	3920
Maximum Candela Angle	175H 25V
Maximum Candela at 90 Vertical	0
Maximum Candela from 0 to 90 Vert.	192 (1.37% Lamp Lumens)
Downward Total Efficiency	42.8%



CONSTRUCTION DOCUMENTS - MARCH 10, 2014



VOA ASSOCIATES INCORPORATED  
 4798 NEW BROAD STREET, SUITE 100  
 ORLANDO, FLORIDA 32814  
 VOICE 407.425.2500  
 FAX 407.648.4275

FLORIDA REGISTRATION NUMBERS  
 #AA-C000146 / #IB-C000909

**GENERAL NOTES**

**Construction:** Die cast aluminum housing, tempered glass lens - clear or optional prismatic, engineered aluminum reflector and powder coat finish - bronze (standard), white or black optional.  
**Reflector / Ballast:** Reflector is semi-specular, hammertone aluminum. Ballast is open core & coil style for HID and electronic for CFL.  
**Lamping:** 1 lamp HID; 1 or 2 lamp CFL. Luminaire can be ordered with lamps, consult factory.  
**Mounting:** Wall mounted for down lighting only. Threaded conduit entries on back and sides of back housing.  
**Labels:** UL / cUL listed, suitable for Wet Locations in down lighting applications only.

THEODORE G. FERRY  
 FLORIDA REGISTRATION AR0007939

**KEYED NOTES**

Gerardo Solar, PE, FL Reg. No. 53259

NO.: \_\_\_\_\_ DESCRIPTION: \_\_\_\_\_ DATE: \_\_\_\_\_



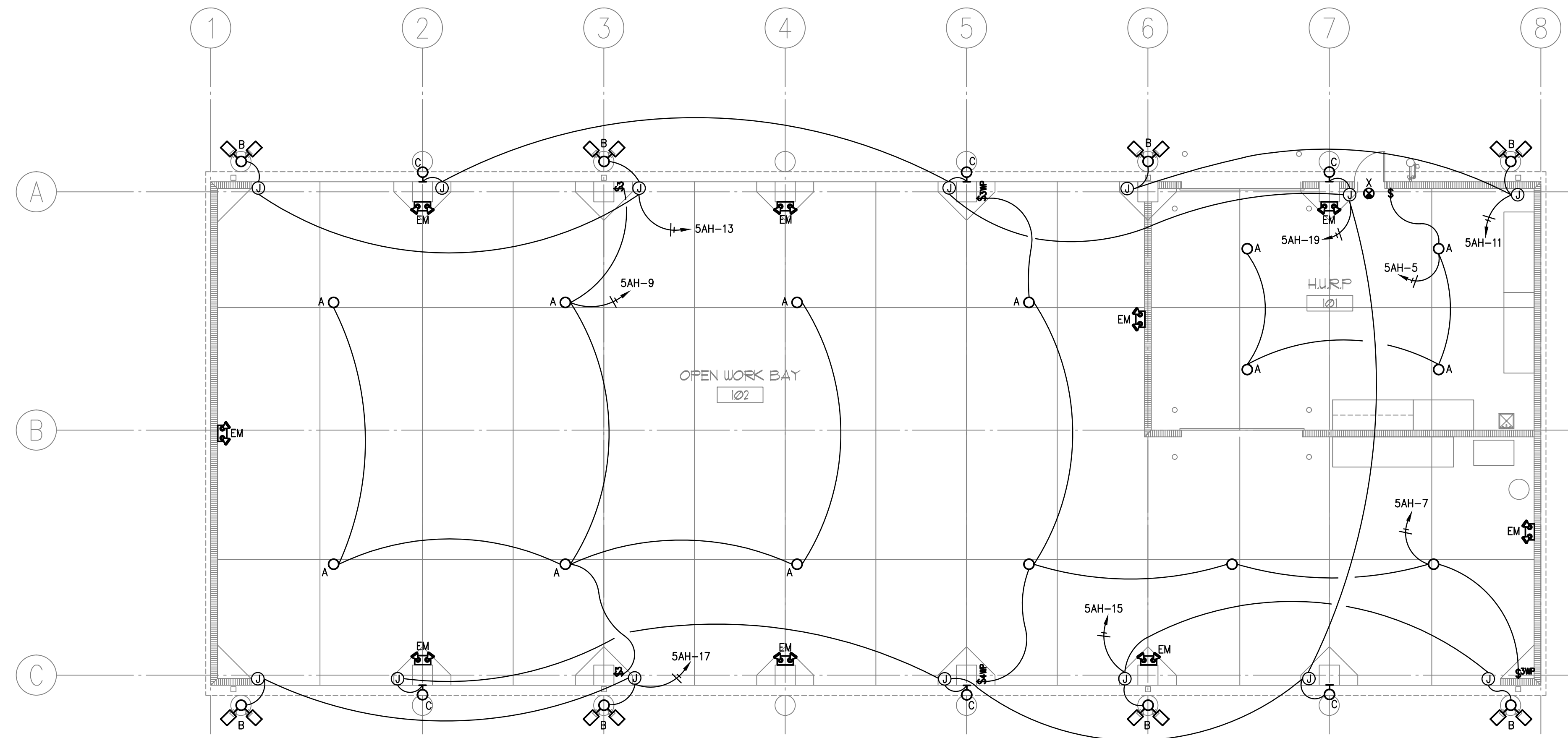
- LIST OF BOARD MEMBERS:**
- |                         |                       |
|-------------------------|-----------------------|
| ORANGE COUNTY MAYOR     | TERESA JACOBS         |
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| DISTRICT 4 COMMISSIONER | JENNIFER THOMPSON     |
| DISTRICT 5 COMMISSIONER | TED EDWARDS           |
| DISTRICT 6 COMMISSIONER | TIFFANY MOORE RUSSELL |

**ELECTRICAL LIGHTING CUT SHEETS**

DRAWN BY: CDH/MJS  
 CHECKED BY: GJS  
 SCALE: AS NOTED  
 START DATE: 06.12.2013  
 PROJECT NO.: 3764A-00

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 JOB#: 13133

SHEET NO.: **E-103**



**LIGHTING PLAN**  
SCALE: 1/8" = 1'-0"

**GENERAL LIGHTING NOTES**

- PULL UNSWITCHED HOT CONDUCTOR FROM LOCAL LIGHTING CIRCUIT TO EMERGENCY EGRESS LIGHTS. RUN 3 #12 - 1 #12 GND - 3/4" C TO INCLUDE UNSWITCHED CONDUCTOR.
- PULL UNSWITCHED HOT CONDUCTOR FROM LOCAL LIGHTING CIRCUIT TO EXIT SIGNS. RUN 2 #12 - 1 #12 GND - 3/4" C.
- DASHED ARCS INDICATE CONTINUATION OF BRANCH CIRCUIT BUT NOT SWITCH CONTROL.
- UNLESS OTHERWISE NOTED, ALL FIXTURES AND DEVICES SHOWN ON THIS PLAN ARE NEW. ALL NEW FIXTURES AND SWITCHES SHALL MATCH EXISTING BUILDING STANDARD.

LIGHTING FIXTURE SCHEDULE										
FIXT TYPE	DESCRIPTION	LIGHT FIXTURE				LAMPS				
		MANUFACTURER	CATALOG NUMBER	MOUNTING	VOLTS	QTY	TYPE	WATTS	COLOR TEMP. K	NOTE
A	LOW BAY, LED LIGHT FIXTURE WITH POWER HOOK AND 15A, 277V TWIST-LOCK PLUG. INCLUDE RECEPTACLE	COLUMBIA	HBL-60LU-5K-W-070-WH-C4HLP4-15A	SUSPENDED FLUSH TO BOTTOM OF BAR JOIST (APPROX. 12 FT. AFF)	277	-	LED	-	-	1
		LITHONIA	IBH11LMVOLT							
		COOPER	HBLEL-LD2-18-W-A-277-L850-ED-3-MP-FH-1-MPC6							
B	TWO HEAD LUMINAIRE AT 90 DEGREE ABOVE GROUND CONCRETE BASE AND 30'-0" FIBERGLASS POLE WITH ANCHOR BASE	LITHONIA	KAD-400M-R4-TB-RPD09 LP1-T20-240/PLP TYPE004 MODEL A730 POLE	CONCRETE BASE / FIBERGLASS POLE	277	1	METAL HALIDE	400	-	1
		COLOMBIA	CR1-A-E40-H4-F-Q1-DB-(2)RPA2/AD30-02-S-3-C-B-38							
		COOPER	MH-TR-4F-400-277V-F1-MA1048-XX/RTFG-30-104-50							
C	WALL MOUNTED WET LOCATION, FLAT BOTTOM GLASS, HD LIGHT FIXTURE	NULITE	TYPE OE MODEL E.JL-250HPS/MOG	WALL	277	1	HPS/MOG	250	-	1
		COLUMBIA	LLC-25058-1-LP							
		COOPER	HP-WP-FC-250-F1-							
EM	TOW-HEAD BATTERY PACK EMERGENCY LIGHT	ISOLITE (LITHONIA)	IMR-12V-50W-WW-L110002	WALL	277	2	MR16	20	-	-
		COOPER SURE-LITES	CC7MRT-2142SM							
		COLUMBIA	-							
X	LED EXIT SIGN WITH EMERGENCY BATTERY	LITHONIA	BWER-EL-N	WALL	277	-	LED	-	-	-
		COMPASS	CER							
		SURE-LITES	APX7-R							

NOTES: 1. PROVIDE WITH ALL THE NECESSARY MOUNTING ACCESSORIES FOR A COMPLETE INSTALLATION.

CONSTRUCTION DOCUMENTS - MARCH 10, 2014



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FLORIDA REGISTRATION NUMBERS  
#AA-C000146 / #IB-C000909

GENERAL NOTES

THEODORE G. FERY  
FLORIDA REGISTRATION ARO007939

KEYED NOTES

Gerardo Salar, PE, FL Reg. No. 53259

NO.	REVISION	DATE
1	REVIEW COMMENTS #B13902208	2014/01/16
2	REVISION	2014/01/16

ORANGE COUNTY STORM-WATER MANAGEMENT BUILDING 5A  
4200 JOHN YOUNG PKWY  
ORLANDO, FL 32839

LIST OF BOARD MEMBERS:

ORANGE COUNTY MAYOR	TERESA JACOBS
DISTRICT 1 COMMISSIONER	S. SCOTT BOYD
DISTRICT 2 COMMISSIONER	FRED BRUMMER
DISTRICT 3 COMMISSIONER	PETE CLARKE
DISTRICT 4 COMMISSIONER	JENNIFER THOMPSON
DISTRICT 5 COMMISSIONER	TED EDWARDS
DISTRICT 6 COMMISSIONER	TIFFANY MOORE RUSSELL

**ELECTRICAL LIGHTING PLAN**

DRAWN BY: CDH/MJS

CHECKED BY: GJS

SCALE: AS NOTED

START DATE: 06.12.2013

PROJECT NO.: 3764A-00

SHEET NO.: **E-104**

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ORLANDO, FLORIDA 32814  
VOICE 407.425.2500  
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FLORIDA REGISTRATION NUMBERS  
#AA-C000146 / #IB-0000909

GENERAL NOTES

THEODORE G. FERY  
FLORIDA REGISTRATION AR0007939

KEYED NOTES

Gerardo Salar, PE, FL Reg. No. 53259

NO.	DESCRIPTION:	DATE:
1	REVIEW COMMENTS #B13902208	2014/01/16
2	REVIEW COMMENTS	2013/10/25



ORANGE COUNTY STORM-WATER MANAGEMENT BUILDING 5A  
4200 JOHN YOUNG PKWY  
ORLANDO, FL 32839

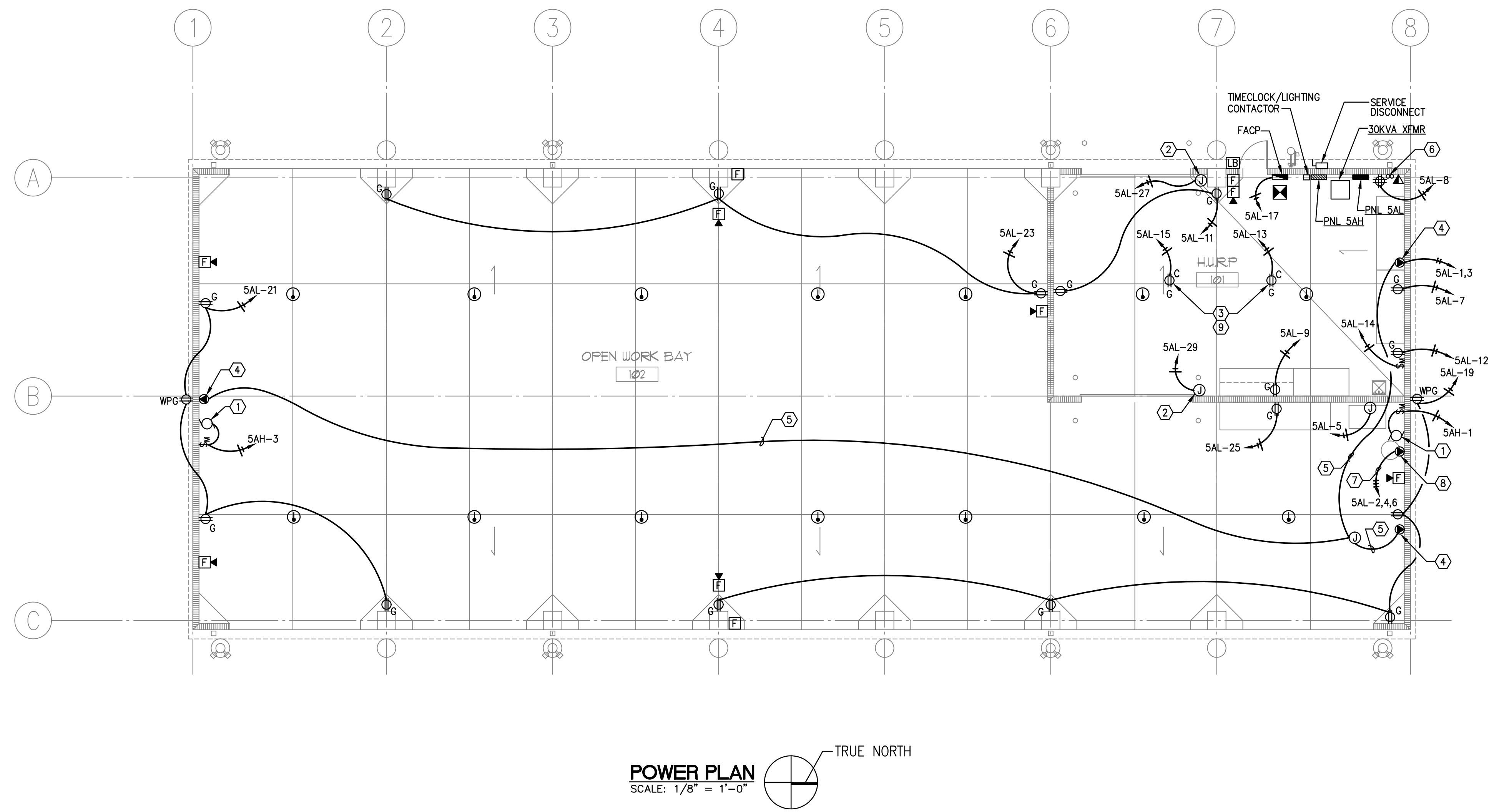
LIST OF BOARD MEMBERS:

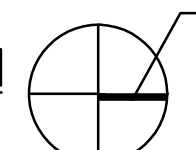
ORANGE COUNTY MAYOR	TERESA JACOBS
DISTRICT 1 COMMISSIONER	S. SCOTT BOYD
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DISTRICT 6 COMMISSIONER	TIFFANY MOORE RUSSELL

ELECTRICAL POWER PLAN

DRAWN BY:	CDH/MJS
CHECKED BY:	GJS
SCALE:	AS NOTED
START DATE:	06.12.2013
PROJECT NO.:	3764A-00

SHEET NO.: **E-105**



**POWER PLAN**  
SCALE: 1/8" = 1'-0" 

**GENERAL POWER NOTES**

- HORN/STROBE TO MEET db AND CANDELA AS PER ADA AND NFPA-72 REQUIREMENTS. UNLESS OTHERWISE NOTED, DEVICES SHALL BE NO LESS THAN 75 CANDELA AND 82 DECIBEL. REFER TO NFPA 72 TABLES 7.5.4.1.1(a) AND 7.5.4.1.1(b).
- RECEPTACLE TO BE MOUNTED APPROXIMATELY 48" AFF.

**POWER PLAN NOTES**

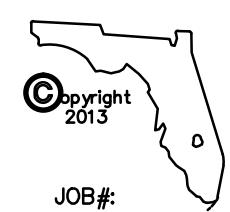
- CONNECT EXHAUST FAN (277V, 1ø, FLA = 6A) PROVIDE INDUSTRIAL, EXTRA HEAVY-DUTY, SPECIFICATION GRADE, 30A, 120/277V, SINGLE POLE SWITCH SUCH AS PASS & SEYMOUR, CAT. NO. PS30AC1 IN 4" SQ. - 2 1/8" BOX. PROVIDE 2 #12 - 1 #12 GND - 3/4"C.
- PROVIDE CONNECTION TO MOTORIZED DOOR (120V, 1ø, 3/4HP). PROVIDE CONNECTION TO MOTOR AND DOOR CONTROL AS PER DOOR VENDOR DIRECTIONS. 2 #12 - 1 #12 GND - 3/4"C.
- PROVIDE CEILING RECEPTACLE MOUNTED TO BOTTOM OF STEEL SUPPORT STRUCTURE FOR RETRACTABLE CORD REEL.
- PROVIDE 30A, 250V, 2-POLE PLUS GROUNDING RECEPTACLE TO MATCH WELDER PLUG.
- PROVIDE 2 #8 - 1 #8 GND - 3/4"C.
- LOCATION OF (2) 3" STUB UP COMMUNICATION CONDUITS. REFER TO NOTES 4, 5 AND 6 OF SHEET E-101.
- PROVIDE 3 #8 - 1 #10 GND - 1"C.
- PROVIDE 50A, 250V, 3-POLE PLUS GROUNDING RECEPTACLE TO MATCH AIR COMPRESSOR PLUG. INCLUDE WITHIN BASE BID OPTION FOR HARD WIRED CONNECTION AND DISCONNECT SWITCH.
- PROVIDE RETRACTABLE CORD REEL AS PER ORANGE COUNTY STANDARDS.

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CONSULTING ENGINEERS  
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JOB#: 13133

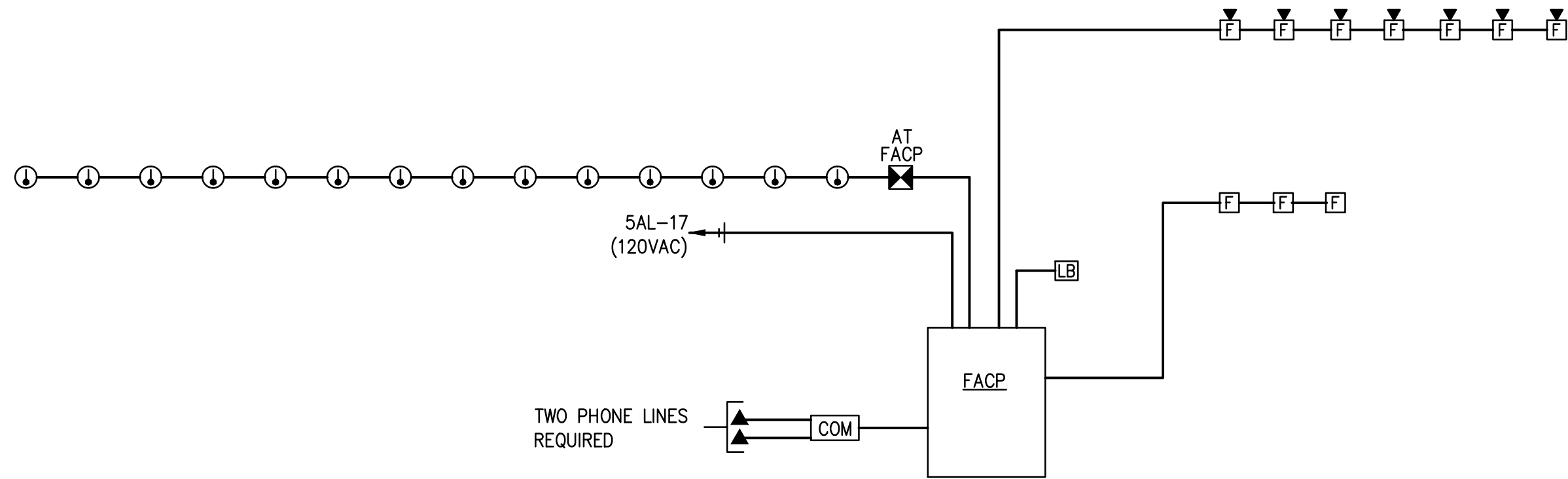


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CONSTRUCTION DOCUMENTS - MARCH 10, 2014



**FIRE ALARM RISER DIAGRAM**  
SCALE: NOT TO SCALE

**FIRE ALARM NOTES**

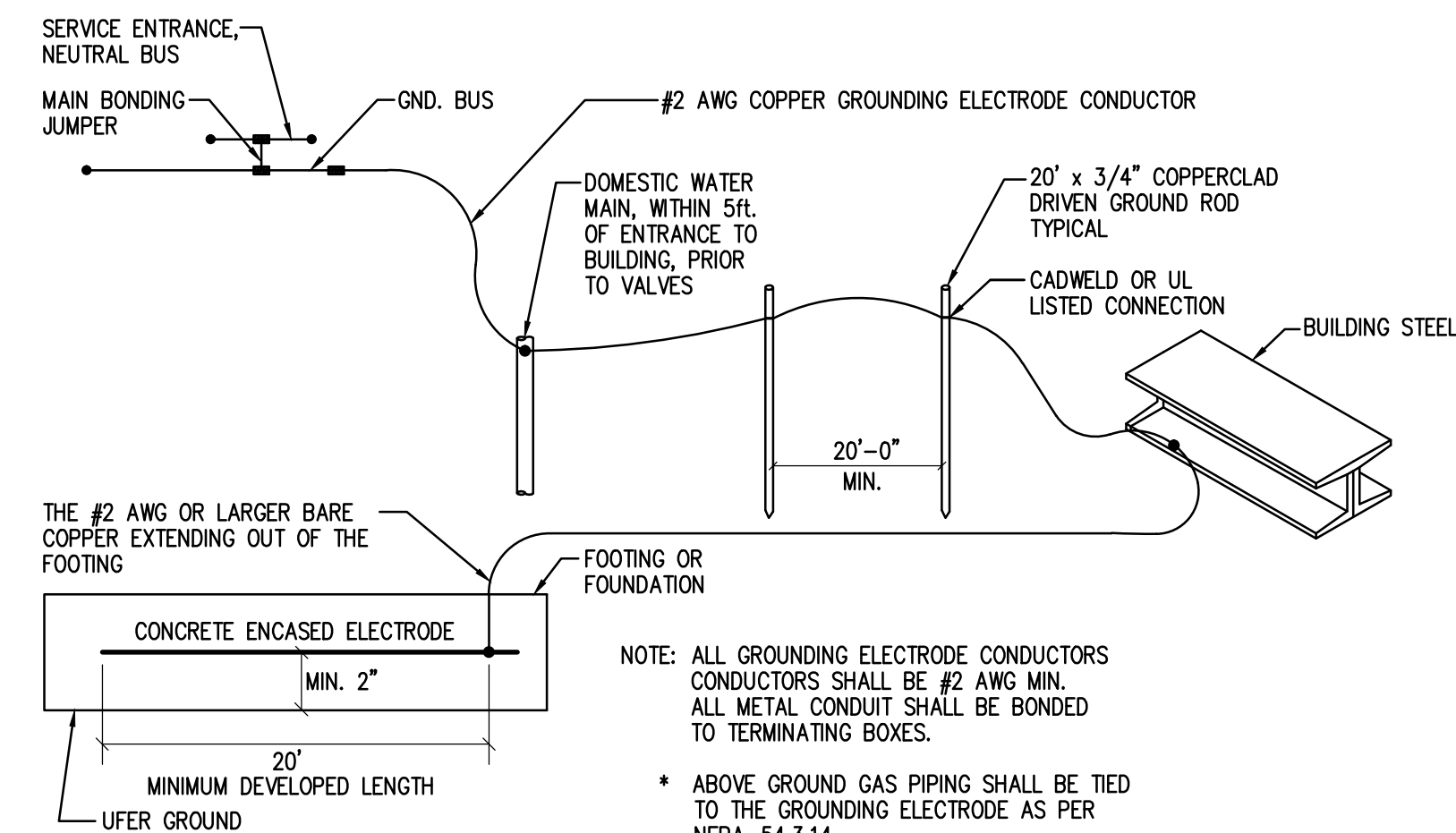
1. PROVIDE A COMPLETE DESIGN-BUILT FIRE ALARM SYSTEM TO COMPLY WITH NFPA 101 2003 EDITION, NFPA 72 2002 EDITION, FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION 2002 EDITION, AND CITY OF ORLANDO REQUIREMENTS. DO NOT BID PER PLANS. DEVICES SHOWN FOR REFERENCE ONLY. FIRE ALARM CONTRACTOR SHALL PROVIDE A FIRE ALARM SYSTEM THAT PASSES ALL APPLICABLE CODES.
2. SPEAKER/STROBE TO MEET db AND CANDELA AS PER ADA AND NFPA-72 REQUIREMENTS. EXCEPT NO LESS THAN 75 CANDELA AND 82 DECIBEL. REFER TO NFPA 72 TABLES 7.5.4.1.1(e), AND 7.5.4.1.1(f).
3. PROVIDE SIGNED AND SEALED FIRE ALARM SHOP DRAWINGS PREPARED BY A LICENSED PROFESSIONAL ENGINEER IN THE EMPLOYMENT OF THIS CONTRACTOR FOR BUILDING DEPARTMENT REVIEW AND PERMIT.
4. AUDIO/VISUAL DEVICES SHALL BE SET AT 0.25W IN COMMON AREAS AND 0.125W IN PRIVATE OFFICES.

**FIRE ALARM SYSTEM GENERAL NOTES**

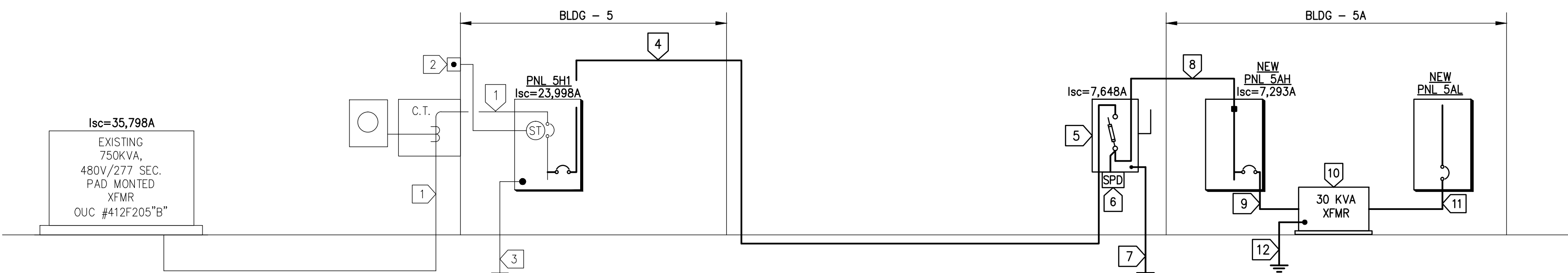
1. BATTERIES SHALL BE SIZED TO ALLOW FOR 24 HOURS OF STANDBY OPERATION FOLLOWED BY 15 CONTINUOUS MINUTES OF OPERATION UPON ACTIVATION OF ALARM.
2. WIRING SHALL CONFORM TO NFPA-72 AND NFPA-70 ARTICLE 760. CLASS B WIRING
3. DETECTION CABLES: 18/4 FPLP.
4. SIGNALING CABLES: 16/4 FPLP.

**FIRE ALARM LEGEND**

- HORN/STROBE
- SMOKE DETECTOR
- HEAT DETECTOR
- PULL STATION
- LOCK BOX
- AUTOMATIC DIGITAL DIALER/COMMUNICATOR



**SERVICE ENTRANCE GROUNDING**  
NO SCALE



**POWER RISER DIAGRAM**  
NOT TO SCALE

**GENERAL POWER RISER NOTES:**

1. ALL PANEL BOARDS, DISCONNECTS, AND TRANSFORMERS SHALL BE INSTALLED IN COMPLIANCE WITH NEC 110-26.
2. ALL CONDUCTORS SHALL BE TYPE CU THWN INSULATED.
3. ALL PANELBOARDS THAT EXCEED 3% CONTRIBUTED MOTOR LOADS SHALL BE FULLY RATED.
4. CONDUCTORS OF ALL PARALLEL FEEDERS SHALL BE OF EQUAL LENGTH TO WITHIN 1% OF EACH OTHER.
5. FIELD VERIFY THAT THERE IS NO DUCT-WORK OR PLUMBING LOCATED ABOVE ANY PROPOSED NEW PANEL LOCATIONS.
6. LOCATE NEW TRANSFORMERS TO COMPLY WITH 10'-0" TAP RULE FOR SECONDARY OVERCURRENT PROTECTION. IF CONDITIONS SATISFYING THE 10'-0" TAP RULE CANNOT BE ACHIEVED, PROVIDE FUSED DISCONNECT SWITCH OR ENCLOSED CIRCUIT BREAKER OF APPROPRIATE SIZE.
7. ELECTRICAL CONTRACTOR SHALL REVIEW ONE LINE POWER RISER DIAGRAM IN CONJUNCTION WITH SWITCHGEAR MANUFACTURER REPRESENTATIVE TO CROSS REFERENCE POWER RISER WITH PANEL SCHEDULES AND VERIFY VOLTAGES, AMPS, LUGS SIZES/NUMBER AND CABINETS DIMENSIONS PRIOR TO SUBMITTING BID.
8. ELECTRICAL CONTRACTOR SHALL PROVIDE INSULATED LUG REDUCERS OR MODULAR POWER DISTRIBUTION BLOCKS WHEN INDICATED CONDUCTORS DO NOT MATCH SWITCHGEAR LUGS. PROVIDE ADDITIONAL CABINETS TO ENCLOSE LUGS/BLOCKS IF NECESSARY.
9. ELECTRICAL CONTRACTOR SHALL NOT ESTIMATE OR PURCHASE CONDUCTORS BASED ON FEEDERS OR BRANCH CIRCUIT LENGTH POSTED ON VOLTAGE DROP SCHEDULE.

**POWER RISER DIAGRAM NOTES:**

- 1 EXISTING 4 #350 MCM - 4"C.
- 2 EXISTING SHUT-TRIP PUSHBUTTON.
- 3 EXISTING 1 #1/0, CU GROUNDING ELECTRODE CONDUCTOR.
- 4 PROVIDE 4 #1 - 1 #6 GND - 2"C. WALK AND COORDINATE EXACT ROUTING WITH ORANGE COUNTY PUBLIC WORKS REPRESENTATIVE PRIOR TO ROUGH-IN.
- 5 PROVIDE 100 AMP, 3 POLE, 240V, N-3R, FUSED, SN, SERVICE RATED DISCONNECT SWITCH WITH (3) 100 AMP, CLASS J FUSES. PROVIDE LUG-KIT FOR SPD CONNECTION. DO NOT BOND NEUTRAL TO GROUND.
- 6 PROVIDE SURGE PROTECTION DEVICE SUCH AS SURGE PROTECTION, INC. MODEL CKLB3Y2X2-56.
- 7 PROVIDE 1 #2 AWG, CU GROUNDING ELECTRODE AS PER DETAIL THIS SHEET.
- 8 PROVIDE 4 #1 - 1 #6 GND - 2"C.
- 9 3 #8 - 1 #10 GND - 1"C.
- 10 30 KVA, 3#, 480Δ - 208Y/120V, DRY-TYPE TRANSFORMER.
- 11 4 #1 - 1 #6 GND - 2"C.
- 12 1 #6 GND TO BUILDING GROUND.

**LOAD CALCULATIONS**

PANEL "5H1" MAXIMUM DEMAND (LAST 24 MONTHS AS PER OUC RECORDS)	114.32 AMPS
ADDED LOAD (PANEL "5AH")	50.6 AMPS
TOTAL LOAD	164.9 AMPS

EXISTING PANEL "5H1" IS RATED AT 300 AMPS, THEREFORE ADDED LOAD FALLS WITHIN PANEL RANGE.

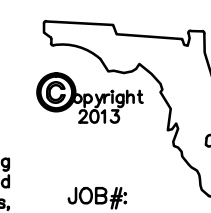
**VOLTAGE DROP SCHEDULE**

FEEDER/BRANCH		CONDUCTOR LENGTH (FEET)	AMP SIZE	VOLTS/PHASE	#SETS/SIZE	VOLTAGE DROP %		CLASSIFICATION
FROM	TO					VOLT	%	
PNL "5H1"	PNL "5AH"	185	100	480/3	4 #1 - 1 #6 GND	5.13	1.07	FEEDER

NOTES: 1. RUNS LESS THAN 45 FT. IN LENGTH HAVE BEEN OMITTED.  
2. CONDUCTORS AMPACITY BASED ON 60 DEGREE RATING.  
3. ALL TERMINATIONS SHALL BE 75 DEGREE RATED, PER N.E.C., INCLUDING TERMINATIONS ON EQUIPMENT.  
4. FEEDERS HAVE BEEN CALCULATED NOT TO EXCEED 2% VOLTAGE DROP, AS PER FBC-505.7.3.1.  
5. BRANCH FEEDERS HAVE BEEN CALCULATED NOT TO EXCEED 3% VOLTAGE DROP. AS PER FBC-505.7.3.2.  
6. VOLTAGE DROPS CALCULATED AT 100% OF OVERCURRENT DEVICE RATING.

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CONSTRUCTION DOCUMENTS - MARCH 10, 2014



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ORLANDO, FLORIDA 32814  
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FLORIDA REGISTRATION NUMBERS  
#AA-C000146 / #IB-C000909

GENERAL NOTES

THEODORE G. FERY  
FLORIDA REGISTRATION AR0007939

KEYED NOTES

Gerardo Salar, PE, FL Reg. No. 53259

REVIEW COMMENTS #B13902208 2014/01/16

NO. DESCRIPTION DATE

ORANGE COUNTY STORM-WATER MANAGEMENT BUILDING 5A  
4200 JOHN YOUNG PKWY  
ORLANDO, FL 32839

LIST OF BOARD MEMBERS:  
ORANGE COUNTY MAYOR TERESA JACOBS  
DISTRICT 1 COMMISSIONER S. SCOTT BOYD  
DISTRICT 2 COMMISSIONER FRED BRUMMER  
DISTRICT 3 COMMISSIONER PETE CLARKE  
DISTRICT 4 COMMISSIONER JENNIFER THOMPSON  
DISTRICT 5 COMMISSIONER TED EDWARDS  
DISTRICT 6 COMMISSIONER TIFFANY MOORE RUSSELL

**ELECTRICAL RISER DIAGRAM**

DRAWN BY: CDH/MJS  
CHECKED BY: GJS  
SCALE: AS NOTED  
START DATE: 06.12.2013  
PROJECT NO.: 3764A-00

SHEET NO.: **E-106**

